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LEADING THE WAY

Missouri's Hill and Hill Maintenance and Excavation takes on the tough onsite challenges and isn't afraid to employ the latest technologies to satisfy customers and regulators **PAGE 10**



LEADING THE WAY

Missouri's Hill and Hill Maintenance and Excavation takes on the tough onsite challenges and isn't afraid to employ the latest technologies to satisfy customers and regulators

By Gil Longwell

Ease of maintenance. It's the first consideration Jeff Hill gives to every onsite installation job he tackles.

"Before we select component locations, we consider how those locations will facilitate long-term maintenance. It is a given that the wastewater treatment technology selected must match the site's soil and slope conditions," Hill says. "So we start from this somewhat unusual but most important vantage point."

Hill is president of Hill and Hill Maintenance and Excavation Inc., which he founded 30 years ago. The company serves residential, commercial, institutional and government clients from its headquarters in Shell Knob, Mo. The lake resort community is about 20 miles west of Branson, Mo., on Table Rock Lake.

The company's primary market sectors are site preparation, excavation, onsite systems, disaster cleanup and concrete fabrication.

Dale Jenkins, installer, describes much of the company's service area as

Hill and Hill Maintenance and Excavation Inc., Shell Knob, Mo.



OWNER:	Jeff Hill
YEARS IN BUSINESS:	30
EMPLOYEES:	10
SERVICE AREA:	50-75 mile radius
SERVICES:	Onsite system installation, site preparation, excavation, disaster cleanup and concrete fabrication
AFFILIATIONS:	Table Rock Better Business Bureau, Missouri Smallflows Organization
WEBSITE:	www.hillandhill.biz

<< **OPPOSITE PAGE:** The crew at Hill and Hill Maintenance and Excavation Inc. includes, from left, Chance Sherfy, Dale Jenkins, Jeff Hill, Steve Campbell and Lorraine Brauer.

>> **RIGHT:** Jeff Hill is shown at Hill and Hill's screening plant operation, which creates soil suitable to use in their installation projects. (Photos by Bruce Stidham)

“topsoil deprived.” There just isn’t that much in so many places, and solid rock is as prevalent as deep soil is scarce, he explains. Excavations for treatment tanks are typically hydraulically hammered into the bedrock.

The company operates its own screening plant. This allows production of a soil material that satisfies the county regulators. “We can screen down to 1/4-inch, which gives us an advantage,” Hill says. Readily available suitable cover material in proximity to a job site reduces haul distances and costs.

“New installation of conventional box-and-rocks systems are few and far between. They are just 10 percent of all systems we install. This is partly because of the shallow soils and partly because there’s not much flat ground available,” Jenkins adds.

EMBRACING TECHNOLOGY

It is important for Hill to be familiar with a variety of advanced treatment technologies, and he started filling this market niche long ago. Table Rock Dam, completed in 1958, created its namesake lake. About 20 years ago, the Army Corps of Engineers recognized the importance of advanced treatment for onsite systems in the lake’s soil-deprived drainage area. When the Corps sought contractors to install those early systems, Hill was one of the first successful project bidders.

“I guess I was in the right place at the right time. We got involved with those early systems and learned how to match technology to the site,” he recalls.

Hill has embraced each emerging technology. To be sure, he favors some, but “matching the system to the site is the first priority,” he says.

Effluent dispersal is as important as effluent quality, and with only 18 inches of heavy clay sitting on bedrock, Hill and Jenkins rely on drip irrigation and low-pressure pipe systems. Jenkins explains that “typical linear loading for these is about 0.2 gpd, and that’s a bit less than half the 0.45 gpd for conventional systems.” They believe there is a substantial evapotranspiration rate, perhaps as high as 80 percent. “Some of [the effluent] must go up – it can’t go down into the bedrock,” they reason.

LEARNING CURVE

Hill’s careful site layout and installation detail are compatible with his “do it right the first time” philosophy. “I will not throw a system in quick so I can get to the next job and the next ...,” Hill says.



Jenkins points to the learning opportunities inherent in repairing other installers’ systems. “We have picked up many ideas on what to avoid or do differently by seeing others’ work.” They use lessons from the field to avoid duplicating mistakes in their jobs. Perhaps their greatest learning opportunity came when they had to build a new system simply to facilitate future maintenance.

“One common mistake is that installers fail to adequately educate the homeowner or system user,” Hill says. A properly sited and installed system may be at greatest risk from an uninformed user. Advanced system users need advanced instruction; it goes beyond the traditional “what not to flush” briefing. Hill believes a high number of homeowners who fail to take

Dale Jenkins removes a Polylok lid at a job site on Table Rock Lake.



Something positive can come out of a lawsuit

Caught in the middle of a lawsuit between a customer and his neighbor, Jeff Hill, president of Hill and Hill Maintenance and Excavation Inc., now insists on documented property surveys before he turns the first shovel of dirt for an onsite system project.

Hill's company, located in an area dominated by vacation homes, is perhaps more vulnerable to escalated property disputes than the typical residential construction area. He explains:

"In our service area, there are many absentee landowners," Hill says. Once, a Hill and Hill crew installed a system under the careful direction of the friend of an absentee landowner.

"Sometime after the installation and use of this seasonal home, the neighboring landowner took issue with the system's location," installer Dale Jenkins says. To prove his argument, the neighbor hired a surveyor. "When the surveyor proved the neighbor's contention that the system was indeed partly on the neighbor's property, things got interesting," Hill says.

The courts have not yet rendered a decision in the civil suit. Hill knows he is in the clear because he explicitly followed the agent's instructions. Nevertheless, he has changed his ways, adding language to his installation contracts requiring the client have a surveyor delineate property lines taking into account the system's proposed footprint.

Hill believes he is a better businessman because of the experience. County regulators are now looking at a new permit requirement that all property lines be professionally delineated.

care of basics like filter cleaning and pump monitoring proves this point.

And both men agree that the prior absence of a robust installer credential enabled "anybody with a backhoe to sell their services as an installer." Hill says, "Our company is building its ongoing service contract clientele one trouble call at a time." The company is willing to take on service agreements for systems others have installed.

RAISING THE BAR

Jenkins and Hill agree that the Missouri Smallflows Organization's education program has had a huge impact on the onsite program in Missouri. They credit state and county health department basic and continuing education requirements for raising the bar. "We see college pros, county regulators and Department of Natural Resources' staff teaching the courses," Hill says. This shows a strong commitment to more rigorous basic training and reasonable continuing education standards.

Hill's employees participate in basic annual training as appropriate for their respective duties and credentials, generally 10-15 hours more than required, he estimates.

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Because of the company's experience with new technology, it's common for its work to be presented in Missouri training. Often they are the go-to guys when installers have questions outside the formal training environment, according to Hill. He does not resist this, saying all parties benefit from better-informed installers.

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Dale Jenkins

CREW & EQUIPMENT

Additional crew members include Lorraine Brauer, office manager; Tony Merritt and Steve Campbell, technicians; Steve Loflin, equipment operator; Gene Hill, truck driver; and Chance Sherfy and Cody Durossette, laborers.

Established with his brother, the company was first named Hill and Hill. When his brother left, Jeff Hill retained the name – his son worked with him and it made things simple. Hill's son left to start a directional boring company, but father and son continue to work together on many jobs.

Equipment for onsite projects is purposefully selected to make work flow smoother and enhance the completed projects. "The machines we use on or near the absorption areas are all tracked," Jenkins says. "Our goal is to have a compaction loading of less than 7 pounds per square inch. This is also a threshold that our regulators believe is appropriate for the systems and soils we work with."

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Workers use a Hitachi 50 mini-excavator with a Kent (Furukawa Rock Drill USA) attachment to excavate for a septic tank installation project.



ABOVE: Dale Jenkins performs an inspection of a AdvanTex Treatment System manufactured by Orenco.

RIGHT: Dale Jenkins, left, and Chance Sherfy use a Spectra Precision Laser Model LL300 to take measurements at a job site.



A variety of equipment includes a Bobcat T300, John Deere 200 and Hitachi 50 excavators with Kent (Furukawa Rock Drill USA) hammer attachments, and a New Holland D100 dozer. Four service trucks move men and materials while a Freightliner dump truck with a box from Davis Dump Bodies moves soil from the screening plant or other aggregates to job sites. Most of the mechanical prep work is completed in a 60- by 90-foot fabrication and maintenance shop.

“Our company is building its ongoing service contract clientele one trouble call at a time.”

Jeff Hill

A FINISHED PRODUCT

Hill takes pride in offering a service that includes putting the landscaping in good condition before his crew leaves the job site.

“When a job is complete and after we leave the site, all the new owner will have to do is mow the grass,” comments Hill. Every job is sodded or hydro-seeded and mulched to preserve the installation and to provide erosion control. A finished product and well-matched distribution systems bring both homeowner and Hill a good feeling.

Hill and Jenkins say they will not install any component they wouldn’t put in their own backyards. If they have concerns about performance, they do not want to let themselves or their clients down. So Hill and Jenkins have learned how to install, manage, troubleshoot and repair each advanced treatment unit type that can be permitted in their service area.

“When we installed the first ATUs, tank precasters did not have a good idea of how to meet our needs. Before pumps were common, float trees were not known to be a viable system component,” Jenkins says.

“We learned by doing; we did the best we could on every job site and we still do,” Hill says. □

MORE INFO:

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