

Reading the Breaks

Guided Boring Leaves a Putting Green at an Upscale Residence Undisturbed

By Laura Anderson

One of the advantages of using a trenchless alternative is keeping surface disruption and social costs to a minimum. Akkerman Inc., a leading manufacturer of trenchless tunneling equipment, recently partnered with Allied Contracting & Engineering Inc., Sylvania, Ga., on a segment of the City of Atlanta's Broadland Road Sewer Upgrade that required a delicate solution.

The project involved rerouting an existing sewer line by installing 351 ft of 18-in. ID vitrified clay pipe under the golf putting green of former homeowner, Rankin M. Smith, Sr., original owner of the Atlanta Falcons. The project's prime contractor was Southeast Pipe Survey, with Mike Ewing serving as project manager.

This job was part of the City of Atlanta's Large Diameter Sewer Rehabilitation under its Operation Clean Water, whose mission is to "provide Atlanta with the cleanest urban rivers and streams in the country within the next decade." The Broadland Road Sewer Upgrade was located in the Buckhead residential area — an upscale neighborhood featuring \$1 million-plus homes.

Great care was taken to minimize disruption for homeowners who resided close to the project. Smith Sr.'s former five-acre property is beautiful and picturesque, featuring a putting green on a secluded wooded lot with a creek. Minimized surface disruption was a huge factor on this job, so Akkerman's equipment was well suited for the task.

Utilizing the Akkerman guided boring machine (GBM) system, power cutting head (PCH) 20 (fitted with a 22.5-in. increaser kit), 308A latching frame and a P100Q power pack, Allied Contracting & Engineering could install up to 30-in. diameter pipe with ease. The GBM system is used



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for sewer and water utility installations, featuring a unique dual-walled pilot tube lubrication process, therefore making longer drives possible and highly accurate. The compact 308A latching frame was used for this project because the launch and reception shafts were 8 ft in diameter. The size of the shafts was also an important consideration in terms of surface disruptions and social costs.

Akkerman also offers its 240A jacking frame for 8- to 12-ft sized shafts, which can be used as a stand alone frame or in conjunction with an auger boring machine. Each frame is a robust design capable of providing 100 tons of jacking force and 50 tons of pullback force with 10,000 ft-lbs of rotational torque available through the gear box.

At the Broadland Road site, the first step was to install the total length of pilot tubes on line and grade. The pilot tubes are 4.25 in. in diameter and come in 2 ½-ft lengths. The dual-walled pilot tube, unique to Akkerman Inc., houses an illuminated LED target and paves the way for the larger diameter pipe. After the full length of pilot tubes was installed, 11-in. OD casings with augers were thrust across the course the pilot tubes created.

When the casings have reached the reception shaft, the PCH is then installed, the augers reversed and the spoils

deposited in the reception shaft. The operation continues as the 18-in. ID clay pipe is installed directly behind the PCH and the casings and augers are recovered in the reception shaft.

Sandy clay soil and favorable weather were ideal for this job where on the most productive day, workers were able to install 36 lengths of 1-m clay pipe — or a total of 118 ft in seven hours. Akkerman offers a GBM accessory kit of four angled steering heads (which attach to the first pilot tube) for very soft, soft, medium density and very hard soil conditions.

Allied Contracting & Engineering also installed 2,207 ft of 12-in. clay pipe on the McDaniel Basin Combined Sewer Separation Project for the City of Atlanta, Department of Watershed Management, utilizing an Akkerman GBM. Combined sewers in the McDaniel Basin were separated into separate storm and sanitary sewers.

The new sanitary sewer was constructed adjacent to the existing combined sewer line, which, after inspection and cleaning, conveyed stormwater only. The service laterals that connected the homes and buildings were disconnected from the old combined pipe and reconnected to the new sanitary sewer pipe. This project was a joint venture of Rockdale Pipeline Inc. (Dan Stevens, project manager) and Integral Municipal Services Inc. (Mike Corbett, project manager).

Allied Contracting & Engineering is an industry-leading trenchless technology contractor specializing in auger boring, shafts, tunneling and pilot-tube microtunneling.



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Utilizing Akkerman's GBM has allowed Allied to significantly reduce risks associated with conventional auger bored steel casings where accuracy is critical in addition to its use for pilot-tube microtunneling installations. Akkerman and Allied Contracting & Engineering have enjoyed a four-year relationship; in that time they have installed thousands of feet of steel and clay pipe using Akkerman equipment.

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