

Title: Guided Boring Application Variety: Extended Diameters and Harder Geology

Guided Boring Machine (GBM) systems or the guided boring method offers contractors the ability to achieve accurate and extended trenchless gravity flow installations for 4-48-inch (102 - 1,219 mm) OD pipe in a range of geology within a small site footprint. The standard GBM three-step method has greatly evolved in the last decade, as each year brings new tooling innovations for further application variety.

In order to negotiate many scenarios of surface and sub-surface obstacles, new pipe installations have to go further and take place at greater depths. As enhanced digital camera technology has evolved over the years, so has the potential for target clarity at greater distances. Our complex utility landscape requires that pipe is installed below this multitude of buried utilities on line and grade.

Guided auger boring, the most common GBM application in the U.S., is the method of accurately installing pilot tubes with a GBM jacking frame and guidance system, followed by steel casing advanced by an auger boring rig for accuracy, longer drive lengths, and expedited installations.

The variety of jacking frames on the market have made it possible for contractors to jack pipe from a minimum eight foot shaft with one frame and mimic the powerful capabilities of a auger bore rig for up to 36-inch steel casing pipe with another.

The most recent and notable GBM innovation is pilot tube rock drilling, which has achieved success in 10,000 psi rock conditions. This method follows the same step for pilot tube installation, but is coupled with the latest cutting tool technology to install an accurate course for subsequent upsizing to the final casing diameter.

Additionally, this presentation will address guided pipe ramming, and gas line, fiber optic cable and HDPE and PVC pullback installations with the GBM system.