

# Pit-Launched HDD Unit Solves Power, Footprint Problem

by Jeff Griffin ■ Senior Editor

There are times when bigger isn't better. Compact pit-launched horizontal directional drill (HDD) models have been around for more than a decade, making it possible for trenchless installations to be made in areas too small for conventional track machines, or when space isn't sufficient for making the angled surface entry typical of most directional-drilled utility installations.

Placed in an excavation, the pit-launch unit begins the pilot bore at exactly the required depth. Other than the set up for beginning an installation, pit-launch models operate the same way as larger HDD machines: a pilot hole is made using the same slant-nose guidance technology currently used by bigger machines doing utility work. When necessary, the pilot hole is enlarged by backreaming. The product pipe is then pulled back through the bore hole to complete the installation.

In the past year and a half, pit-launch equipment has become visible on FTTP projects, making service installations under streets, driveways and sidewalks in areas where even the most compact track units cannot be used.

However, the value of pit-launch HDD models isn't limited to telecommunications construction – they are suited to virtually any project where directional drilling is needed but conditions prohibit use of larger, track models.

For example, George Kennedy Construction, West Chicago, IL, recently completed a project to install 14,000 linear feet of 8-inch water mains and 160 1½-inch copper services in the village of Orland Park, IL.

The longer services that had to be placed beneath streets – about half the total number – were installed with a McLaughlin McL-10H pit-launch drill unit.

Kennedy wanted to make the installations by directional drilling, but the company's pipe pusher that had been used on similar projects in the past, lacked the power to work in the hard-packed clay and cobble on the Orland Park project, and the smallest surface-launch HDD unit could not operate in available right-of-way.

## No room

Limited set up space was between the sidewalk and curb in the area, and it was determined that the five-foot version of the McL-10H could work in available space.

"Had we not used the pit machine," said Kennedy, "we would have had excavations on private property which would have created more legal paperwork and added to the cost of the project to restore surface damages."

Typically, the compact HDD unit was placed in a pit by the building, and the bore proceeded under the yard and across the street to the new water main.

For its compact size, the McLaughlin machine is powerful, producing 17,000 pounds of thrust and pullback force of 13,250 pounds, more than twice the ratings of some small track drill models. The McL-10H develops 1,030 foot pounds of torque, and has a maximum spindle speed of 125 rpm.

The drill unit was set in a pit. Easy-to-handle 28-inch drill stem was accommodated in the launch pit. Power was provided by a 36 horsepower diesel power pack positioned on the surface. A McL-230 fluid mixing and pumping unit, also operating on the surface near the pit, provided necessary drilling fluids for the installations. Power pack and fluid system are mounted on a trailer for flexibility of movement and set up.

A 3½-inch backreamer was used to enlarge the pilot hole for pullback. A loader backhoe worked ahead of the drilling crew, preparing the next pit while an installation was being made.

Kennedy said he is pleased with the productivity achieved.

"We installed five services at lengths of 45 linear feet each in one 8-hour day," he said.

Consulting engineering firm for the Orland Park project was Christopher B. Burke Engineering Ltd., Rosemont, IL. "Directional drilling is quite common in the Chicago area," said Project Engineer Pat Kilde. "However, this is the first time we have been involved on a project using compact pit-launched equipment. It did a very nice job in the areas where it was used. We are impressed."

Kennedy said the pit launch unit has been used extensively since completion of the Orland Park project, including installation of a section of 8-inch water main and numerous sewer laterals.

"It has been an excellent investment for us," Kennedy added. "We've used rod pushers for years, but with this machine we can guide the pilot bore, and we're never off [target]. This saves an enormous amount of time."

FOR MORE INFO:

### Contractor:

George Kennedy Construction,  
(630) 231-3880

### Pit-Launched Drill:

McLaughlin, (800) 435-9340,  
mightymole.com

