



The Illinois Department of Transportation (IDOT) needed a product that would provide additional mechanical protection for its buried fiber optic network. When installing electrical cable at highway crossings, rigid galvanized pipe is generally used, and the mindset was to use that product in this instance.

As an alternative, Draka GILA-Duct which is an armored flexible HDPE duct generally used for direct buried fiber optic cable in gopher infested areas was suggested. During runway extensions, Draka's Gila-Duct is also used as it provides excellent additional mechanical protection for runway lighting cable. Draka's Gila-Duct is a cost effective, time saving way to provide protection where it's needed. Manufactured by Draka Cableteq USA, the Gila-Duct offers superior cable protection. Our robust Gila-Duct uses a 25 mil interlocked steel armor to shield cable from severe physical forces and the threat of intrusion.



IDOT agreed to a trial installation using Draka Gila-Duct on an IDOT traffic interconnect on Illinois Route 47 at I-90. The objective was to use 2 inch GILA Duct for the fiber optic interconnect cables and 1inch GILA Duct for the loop detectors.



Day one: At 8AM, the contractor installed 1500ft. of 2 inch GILA-Duct on the east side of Route 47. The method of installation was **plow pull** with actual installation time at 3 hours 15 minutes. An additional 45 minutes was used in set-up time. (the job was stopped at noon, due to heavy rains, *see pictures 2-3*)

Plow Pull places duct/cable in the ground by dragging it behind a modified plow blade which makes a compacted tunnel in the earth. The tunnel is formed by a tunneling missile with a diameter of at least 1 inch larger than the outside diameter of the duct/cable. The plow was mounted on a small crawler tractor.



Day two: In extremely muddy conditions, the contractor placed 1,000ft. of 1inch Gila duct for loop detectors using a combination backhoe/vibratory **chute plow** in four different 250ft. sections. The rubber tired tractor had difficulty getting traction in the mud. In better conditions, the duct could have been installed in considerably less time. (*see pictures 4-5*)

Chute Plow places duct/cable by using a hollow plow shear with a removable rear gate. As the plow shear cuts through the earth, the duct/cable feeds through its hollow opening and is installed in the furrow/cut made by the plow.



Day 3: The crew completed two short bores about 250ft. each of 2 inch GILA-Duct before 10AM. Directional boring was necessitated by the sharp sloping terrain at the base of the overpass.

The contractor was able to install 2,000ft. of 2 inch and 1,000ft. of 1inch GILA-Duct in approximately 13 hours under difficult conditions. The contractor, as well as visiting IDOT personnel were very impressed with the installation and labeled it a successful trial as it saved a great deal of time while providing a premium installation.

For More Information Call

800-233-3190

or

570-385-4381