



*Delivering innovative trenchless technology solutions
to rehabilitate the world's diverse infrastructure*

► HDPE SLIPLINING FORCE MAIN

Project:

72" Sewage Force Main Sliplining Rehabilitation
(Cuban American Association of Civil Engineers Project
of the Year)

Location:

Miami Gardens, FL

Profile:

This emergency rehabilitation of a critical 72" force main required the sliplining of more than 8500 linear feet of 72" prestressed concrete cylinder pipe with 63" high density polyethylene liner (HDPE). The unique canal side repair earned Lanzo Trenchless Technologies the Project of the Year Award from the Cuban American Association of Civil Engineers (CAACE).

The Miami-Dade County Water and Sewer Department (MDWASD) operates a 72" diameter force main pipeline that, on an average day, conveys approximately 75 MGD of raw sewage collected from the northern end of Miami-Dade County to the North District Wastewater Treatment Plant. The Pre-Stressed Concrete Cylinder Pipe (PCCP) conduit, was placed in service in 1978.

In April of 2011, MDWASD experienced a sudden rupture in one segment of the pipeline. Shortly after the emergency repair was completed, MDWASD commissioned an in-depth inspection of the entire pipeline to assess the overall condition and risk of future failures. The inspection revealed a significant number of broken pre-stressed wires in non-contiguous pipe segments along the entire pipeline. This is considered a critical pipeline and its state of disrepair posed a significant risk of future sudden and catastrophic failure.

Sliplining Offers Best Long Term Solution

Lanzo Trenchless Technologies was hired to structurally rehabilitate the pipeline. The timing was considered critical. The slipline method of repair required Lanzo to insert 1 1/2 miles of smaller diameter HDPE structural liner into the existing damaged pipeline. Lanzo fused the sectioned HDPE tube into 2000 linear foot strings and pulled each into the concrete pipe. A sliplining project requiring this diameter and length of fused HDPE had never been attempted anywhere in the world. The project was made more difficult because all construction had to be completed within the narrow project window of 90 days. The successful rehabilitation of the "high risk failure" pipe was unique in its construction method, limited by its available schedule and challenging in every phase. To date this remains the largest singular use of HDPE slipline technology in the world.

