



CASE STUDY: PCCP SELECTED BEST PIPE FOR DIFFICULT INSTALLATION CONDITIONS



PROJECT OVERVIEW

Maintaining a dry trench in Miami-Dade County is difficult. This sea-level community is prone to flooding and the ground is porous. The area receives approximately 66 inches of rain annually. As the owner of more than 7,700 miles of underground water lines, the Miami-Dade County Water and Sewer Department performed a comprehensive review of pipe options for a new 6-mile pipeline.



KEY FACTORS

Installation

Steel, ductile iron, and HDPE, are flexible and rely heavily on properly compacted bedding and backfill during installation. Due to the difficulty of obtaining soil support needed for these products, both options were eliminated.

Corrosion

The region's soil is highly corrosive. Steel or ductile iron pipe require cathodic protection.

Joints

Standing water in the trench makes welding difficult, time consuming and costly.

SELECTION

Why Prestressed Concrete Cylinder Pipe?

Prestressed Concrete Cylinder Pipe (AWWA C301) combines the high compressive strength of concrete and the high tensile strength of steel.

Four primary reasons led to the selection of 48" lined PCCP.

1. Rigidity. As a rigid pipe, the strength of the pipe is inherent and no special bedding or backfill is required.
2. Ease of installation. Snap Rings[®], Thompson Pipe Group's mechanically restrained joint system, require no welding.
3. Costs. No welding required means lower labor costs and an accelerated timeline.
4. Past experience. The Miami-Dade County Water and Sewer Department owns and maintains more than 100 miles of PCCP. After an extensive review, they selected a pipe that has served them for decades.

Snap Rings[®]

In the 1970s Price Brothers Company began manufacturing pipe with this mechanically restrained joint. Today Thompson Pipe Group is the only manufacturer of this one-bolt tightening system. The time-tested installation method includes several advantages:

- ▶ Assembled at the plant, the joint arrives at the trench self-contained and ready to lay. There are no separate pieces.
- ▶ Contractors tighten one 3/8-in bolt and fill the joint diaper with mortar.
- ▶ No welding required. No need to track down welders in a scarce labor market.
- ▶ Financial savings due to efficient installation.

Zinc Metalized Coating

Since 1949 zinc metalized coating has offered corrosion protection. The proven process eliminates the need for interior joint coating and speeds up installation.

RESULTS

Time-tested and proven, Miami-Dade County saved money and time with PCCP.