

Case Study: Utilities

PROJECT DETAILS

Rehabilitation of 5,300 feet
(Phase 1 & 2) of existing 30"
Cast Iron Water
Transmission Main

LOCATION

Amarillo, Texas

ALLIANCE PARTNER

Murphy Pipeline Contractors

Challenge

- Rehabilitate 5,300 feet (Phase 1 in 2011 & Phase 2 in 2012) of existing 30" Cast Iron Water Transmission Main, originally installed in 1927.
- While the host pipe was in sound condition, several leaks had occurred at the lead joints on the pipeline causing significant disruption and inconvenience to residents and businesses. Therefore any rehabilitation method used must minimise any further disruption.
- Pipeline runs through very tight easement, under homes and beneath busy roads.
- The system could only be shut down for a limited period of time during dry weather conditions.
- Maintain flow capacity as the pipeline is a critical artery of the system, running from a pump station to feed another major area in town.

Solution

- Several construction methods were evaluated, with Swagelining™ being selected to maximize flow capacity, limit excavation, follow the existing utility path and speed of installation.
- 5,300 feet of the pipeline was renewed using the Swagelining™ technology with 32" O.D. DR 32.5 HDPE PE 4710 pipe.
- Murphy Pipelines were able to design the project with Swagelining Limited's assistance to maximize the pull distances. Continuous pulls over 1,800 feet were achieved.

Impact

- The small footprint of utilizing the Swagelining™ technology resulted in a significant reduction in social and environmental costs.
- The amount of excavation required was 90% less than what would have been required using open cut trenching.
- Rapid installation allowed the project to be completed within the tight time constraints of the dry weather shut down period.
- 'Tight' fitting polyethylene will extend the lifetime of the pipeline, provide a barrier against corrosion protection barrier and prevent further leaks on the pipeline.



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