SPR™EX CASE STUDY

LINING UNDER I-40



SPR™EX Handles Changes in Pipe Diameter



PROJECT SCOPE

AUI, Inc, SEKISUI's Spiral Wound installation partner in New Mexico recently completed a pipeline rehabilitation project for Albuquerque Bernalillo County Water Utilities Authority (ABCWUA). The project description included the rehabilitation of approximately 304 linear feet of interceptor sewer ranging in diameter from 20-inch to 24-inch including all connecting manholes. The interceptor sewer consisted of approximately 265 feet of 20-inch CI and 39 feet of 24-inch CP located under I-40 between manholes H17861 and H17874. I-40 is one of the two major interstates in Albuquerque consisting of five lanes of traffic East and West Bound. This interceptor section included 2 manholes that required rehabilitation and MH H17871 would be abandoned. Due to the sensitive location of the work, the Contractor had to make all efforts to control odor release as outlined in project supplemental technical specifications.

For this project, ABCWUA specified Sliplining, CIPP, Fold and Formed and SPR™EX Spiral Wound liners.



The contractor could select the rehabilitation lining system that would best meet the project design and constructability requirements. As part of their selection criteria the contractors needed to address the following questions:

- 1) Does the rehabilitation method selected require annular space grouting?
- 2) Does the rehabilitation method selected require access pits or site modification?
- 3) Does the rehabilitation method selected require pre lining point repairs or obstruction removal?
- 4) Does the rehabilitation method require de-watering or by-passing either for the cleaning, CCTV and/or installation process?

Project Length

Pipe Diameters

SPR™EX

- 6" 42'
- Tight fitCircular shapes

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PROJECT CHALLENGES AND INSTALLATION

Due to the location of pipe segments located along the I-40 Interstate, it was determined that SEKISUI's SPR™EX PVC Spiral Wound liners were the best structural repair solution for this project. SPR™EX is a tight-fitting lining solution that does not require annular space grouting. The SPR™EX installation equipment fits through existing manholes without any access pits or alteration of the current structures. As it is a mechanical installation process, SPR™EX does not produce any chemicals or odors that would be in non-compliance with the project supplemental technical specifications citing odor control.

Additionally, the contractor would not have to perform pre-lining point repairs or remove obstructions to install SPR™EX. More importantly, since setting up a bypass pumping system on the freeway proved to be impossible, SPR™EX, which can be installed in live flow, was the most cost effective solution.

Southwest Sewer Service Inc., AUI's subcontractor, spent weeks cleaning these pipelines to remove years of debris and grease build up. Mechanical cleaning equipment was used to clean the sewer line with a series of chain cutters to break up the tuberculation inside the pipeline and then the lines were jetted just prior to the SPR™EX liner being installed.

However, once the lining had begun, it was determined that the as-builts provided had incorrectly identified the diameters of the host pipes. Instead of having 21" and 24" pipelines, the sewers were actually 18" and 21" respectively. With any rehabilitation method, this would have meant a costly change order with new pipe liners having to be ordered.

However, with SPR™EX, AUI, Inc. was able to make on site corrections by downsizing the winding cage and installed a smaller diameter liner for both pipe segments. The end result was a structural liner that met the agency's hydraulic capacity requirements on time and on budget despite the changed conditions.











