

Three Pipes, Three Projects – Sliplining at Three New Mexico Locations

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In 2014 AUI had the unique opportunity to perform three slipline projects utilizing three different materials. The three pipe replacement materials were centrally cast Fiberglas-reinforced polymer pipe (CCFRPM) manufactured by HOBAS, corrugated metal pipe (CMP) – Ultraliner pipe manufactured by Contech Engineered Solutions, and polyvinyl chloride (PVC) A2 liner pipe also manufactured by Contech.

Each material was installed by the slipline method of construction, which involves installing a slightly smaller pipe inside an existing pipe or box culvert. The three projects were completed at three locations in New Mexico: Kirtland AFB, Artesia and Albuquerque.

The first slipline of the three projects was an emergency interceptor sewer rehabilitation of a collapsed old 48-inch reinforced concrete pipe (RCP) located next to the Tijeras Arroyo at Kirtland Air Force Base and also next to an ammunition storage facility. A sinkhole and a CCTV Inspection of the interceptor line indicated the old RCP was in immediate need of repair. Holes in the pipe, exposed rebar and exposed aggregate were all serious indications that the old pipe was in desperate rehabilitation.

AUI along with the Albuquerque Bernalillo County Water Utility Authority (ABCWUA) immediately went to work with repairing the old RCP. Sliplining was selected as the best method for rehabilitation. CCFRPM pipe manufactured by

HOBAS was chosen as the replacement pipe. The HOBAS pipe selected was 44-inch Flush Relign Pipe that has an outside diameter of 46.5 inches and an inside diameter of 44 inches. Two insertions pits were excavated to push the HOBAS inside the old RCP with the sewer flowing normally. The sewage flow during the slipline process was approximately 16 million gallons per day.

Project Details & Summary

Project Name: Tijeras Interceptor Emergency Slipline

Description: Interceptor 48-inch Sanitary Sewer Sliplining

Location: Kirtland Air Force Base, New Mexico

Slipline Quantity: 1,730 LF of 44-inch Pipe

Pipe Material: 44-inch HOBAS Flush Relign Pipe

Construction: Pipe Clean, CCTV, Slipline, 6'-Diameter Manholes

Our second slipline project was a New Mexico Department of Transportation (NMDOT) job in Artesia. AUI was the low bidder on a storm drain concrete box culvert rehabilitation for the NMDOT. The existing six-by-six-foot storm drain box culverts under US 82 state highway were deteriorating due to corrosion and age. Instead of demolishing, removing and rebuilding the box culverts (which would require several months of construction, major traffic control and expensive costs), the



AUI sliplined 44-inch HOBAS Flush Relign pipe at Kirtland AFB.

NMDOT choose sliplining to rehabilitate the concrete box culverts. The existing box culverts were sliplined with 66-inch-O.D. Ultra-Flow CMP storm drain pipe. A total of 6,440 linear feet of box culvert was sliplined with the Ultra Flow CMP.

The old box culverts were first cleaned out by a small skid steer loader that fit inside the box culvert. After a box culvert was cleaned, the new Ultra-Flow was installed inside it; between the old box culvert and the new pipe was an epoxy-coated high chair. Two new headwalls were formed and poured on each end of the culverts and the annular space was grouted with flowable fill cement.



In Artesia, 66-inch corrugated metal pipe was sliplined to rehabilitate old culverts below a highway.

Project Details & Summary

Project Name: US 82, MP 110.00 to MP 111.00 -Eddy County, NMDOT
Project No: 2100350/CN2100350

Description: 6' x 6' Concrete Box Culvert Slip-Lining

Location: US 82, Artesia, New Mexico

Slipline Quantity: 6,440 LF of 66-inch CMP

Pipe Material: 66-inch Ultra Flow Pipe (CMP)

Construction: Box Culvert Clean, Slipline and Headwalls

The third slipline project was on a small-diameter sewer line located in Albuquerque on a major arterial street called Paseo Del Norte Boulevard. The street was about to take a major \$75-million NMDOT renovation with road widening, retaining walls and major

bridges over the highway (I-25) and Jefferson Boulevard. As NMDOT began construction, the existing 18-inch RCP sewer line was found to be in need of rehabilitation because some of the roads were being filled in earthwork and the new road elevation now made the sewer line more than 20 feet deep in some areas. The old 18-inch sewer line was originally installed in 1963, and hydrogen sulfide gases had eaten up at the pipe to expose aggregate. Since the new urgency



PVC liner pipe was used in an Albuquerque sewer line rehabilitation project.



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to repair the line came up, traditional open-cut construction was too time-consuming and cost-prohibitive. Sliplining was picked as an economical and structural solution to the problem, and we went to work immediately with the NMDOT and ABCWUA to begin construction.

The project began with pipe cleaning and CCTV inspection of the existing sewer line. CCTV video showed typical deterioration of the sewer line and four sewer service connections. We strategically excavated three insertion pits for the replacement of 3,150 LF of pipeline.

Project Details & Summary

Project Name: Paseo Del Norte 18-inch Slipline Emergency

Description: 16-inch PVC Sliplining

Location: Albuquerque, New Mexico

Slipline Quantity: 1,170 LF of 16-inch PVC

Pipe Material: 16-inch A2 PVC Liner Pipe

Construction: Pipe Clan, Slipline, 4' and 6' Diameter Manholes

Special thanks goes out to AUI Project Managers Andre Houle and Erick Garcia, Project Superintendents Archie Lucero and Archie Lucero III, and Project Foremen Chris Benavidez and Jeremie Schaefer.