



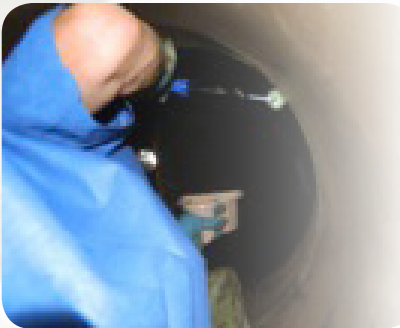
# CARBONSEAL™ INDUSTRIAL COMPOSITE SYSTEMS STEEL PIPE PROJECT



## NATURAL GAS GRID STEEL ELBOW REPAIR

NORTHEASTERN UNITED STATES

Across the United States there are 11 major natural gas transportation corridors operating at high pressure, between 200 to 1500 psi. In this particular case, one of the major interstate pipeline grids sought FRP systems for maintenance and preventative purposes.



### PROBLEM

- » The 24" diameter steel line pipe had been sealed at the joints with a rubber sealing material as part of regular maintenance
- » Due to the angle and footage of the pipeline elbows, additional reinforcement was required
- » Prolonging reinforcement of the elbow could cause significant issues in the future, such as leaking pipes due to corrosion



### INSTALLATION

- » The pipe elbows were degreased and abraded internally using a power grinder, as opposed to sand blasting, which may have infiltrated the gas transmission system
- » After surface prep, primer was applied to the pipe, followed by tack coat
- » The carbon fiber fabric was laid out and saturated, then applied to the pipe, followed by a protective top coat



### CONCLUSION

- » The CarbonSeal system was used in conjunction with the rubber joint seals with no issues whatsoever
- » The system was installed in less than two days and within the timing of the scheduled maintenance
- » The reinforcement should last for years without the need for future excavation of the pipeline elbows, therefore saving the client significantly in future repair and downtime costs

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