

# HDPE PIPE: REPLACES CORRODED IRON SEWER

## Case Study



## WATER LOSS, ODOR AND FUTURE LEAKAGE ELIMINATED IN WEST MONROE

### THE PROJECT:

The West Ouachita Parish in West Monroe, Louisiana is in the second phase of replacing a corroded 18" ductile iron forced main sewer pipeline with 24" DIPS high density polyethylene pipe (HDPE). In 2005, the first phase replaced the northern section of the 18" sewer due to severe corrosion leakage from the area's highly corrosive soils. The original ductile iron system was installed in 1976-77, about 35 years ago, but in less than 30 years maintenance repairs for corrosion leaks became a routine and costly exercise. This force main system returns 1 to 1.5 million gallons of treatable water to the sewer treatment facility in West Monroe. The system serves approximately 8000 people in the West Monroe District. Additional people in surrounding areas are served by systems that feed into the new forced main sewer pipeline.

### THE SPECIFICATIONS:

West Ouachita Parish Water District No. 5 in West Monroe, LA required the rehabilitation of an 18" ductile iron forced main sewer system due to corrosive leaking. Lazenby and Associates, Inc. was the principle consulting engineering and land surveying firm that designed, managed and contracted this project. Joshua Hays (PE., MSCE) said, "Due to the corrosive nature of the soils and the boring required under road and rail ways, HDPE was the product of choice for the job". Phase 1 of the project has already been replaced with 24" DIPS HDPE. J.S. Haron Company won the Phase 2 HDPE installation contract. Phase 2 will install approximately 7500 feet of 24" DIPS DR 11 PE4710 pipe through an industrial park section of town. Two main installation techniques will be utilized, Horizontal Direct Drilling (HDD) and open trench.

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POLYETHYLENE PIPE

## PLASTICS

*The Ideal Piping Solution*

The HDD technique will be utilized under existing roads and railways. Open trench will parallel the existing 18" iron line. Phase 2 will be joined to Phase 1 HDPE and a remaining 18" ductile iron section on the southern end of the system.

### THE BENEFITS:

West Monroe maintenance issues, leakages, and aromatics in the area were a growing concern for this forced main sewer system. The West Ouachita Parish has realized the benefits of a reliable, corrosion resistant, leak free, odor-free HDPE forced main sewer system. Although fewer leaks are found in the remaining section of 18" ductile iron, future leaks are expected and ultimately the line will have to be replaced.



During installation Ken Downey, Superintendent of Installation for JS Haron commented that HDPE pipe provides toughness, durability and flexibility for his installations. This allows him to pre-assemble large sections of the line in a central staging area and move them into position for installation. This saves time and money as well as creating project scheduling versatility, especially when weather conditions are not favorable for HDD or trenching.

This new HDPE forced main sewer will serve more than 8000 people with an enhanced water management system that eliminates water loss, odors and future leakage due to corrosion.

“Taking advantage of the HDD for installs under roads and railways saves money in the long run, but for this particular area HDD is found to be relatively expensive because of availability of the equipment for this size of pipe”, say Joshua, “however, not disrupting road or rail right-of-ways justifies the cost.”

Lazenby Eng. believes HDPE is the best product for this application especially with the corrosive soils in the area. Joshua looks forward to replacing the last segment of this line in the near future so leakage and maintenance issues in this forced main sewer line in his Parish will be eliminated.