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## Pipeline Rehabilitation Near High-Risk Utilities – Meadow Lane Collection Sewer Upgrade

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**Abstract:** This project included the upsizing of 5,000 feet of 12-inch sewer main to 15-inch in order to remove a bottleneck in the collection system. Trenchless Technology methods were investigated and pipe bursting was the initial selection.

Electronic detection of the existing utility locations was performed for the project and discovered a 8-inch high-pressure gas main running parallel with the existing 12-inch sewer main and meandering to within five feet of it. The gas main was steel pipe, over 25 years old, and the City and design team were concerned with any impacts to this high-risk utility as a result of sewer rehabilitation activities. The memory was still fresh of neighboring city Walnut Creek's explosion and loss of life due to damage to an adjacent underground fuel line.

Pipe Bursting could disturb the soil around the gas main nearby and it was determined to be too risky. Pipe reaming, which is a relatively new trenchless technology, was investigated. This process uses directional drilling technology and grinds out the existing pipe and adjacent soil. A new HDPE pipe is pulled into place behind the cutter head. Mixed with water and bentonite slurry, the spoil material runs down the existing pipeline in front of the new pipe. The spoiled material is vacuumed out of a manhole, then, hauled away. Pipe reaming caused much less outward pressure and resulted in the successful (but slow) installation of the 15-inch sewer main.