

Construction Method:

Pipe Ramming

Project: Fairwood Emergency Culvert Repair

Location: Fairwood, Washington

Date: 2009

Project Description:

Staheli Trenchless Consultants provided design services for 235 feet of 48-inch diameter steel culvert replacement at the Fairwood Golf and Country Club in Fairwood, WA on an emergency basis. The existing 257 feet of 36-inch corrugated metal storm culvert was constructed at a 3.8 percent grade and was failing. A number of trenchless technologies were considered for replacement of the failing pipe including pipe bursting, pipe ramming around the existing casing, and installing a new pipeline with auger boring adjacent to the failing pipeline.

After performing a risk evaluation for King County, it was determined that pipe ramming offered the lowest risk-cost-impact solution for the construction of the new pipeline. STC designed a 48-inch steel casing that was installed by pipe ramming around the existing 36-inch corrugated metal pipe. The corrugated metal pipeline was then removed from within the new pipe. During construction, the contractor elected to use a hydraulic assist with the pneumatic hammer to dramatically increase the ramming speed. This resulted in less rebound of the hammer and substantially increased ramming rates.



Job Scope:

- ❖ Trenchless Feasibility Study
- ❖ Cost Estimate
- ❖ Trenchless Specification
- ❖ Bid Assistance
- ❖ Input to Plan and Profile
- ❖ Risk Analysis
- ❖ Specialized Construction Management



Reference:

Shannon Kelly, King County (206) 296-1932.