



WASTEWATER DIVISION

Acoustic Monitoring of Sayreville Relief Force Main

In the last 15 years, the MCUA has been actively monitoring and routinely inspecting the Sayreville Relief Force Main (SRFM) to ensure its structural integrity. Since 2003, three internal inspections of the SRFM were conducted by the MCUA's Pipeline Structural

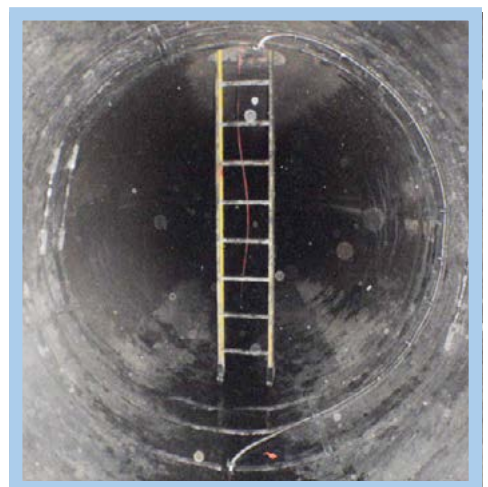
Engineer—Pure Technologies—and will continue to be conducted every five years. These inspections require the SRFM to be shut down and drained to allow for the inspectors to walk through the entire SRFM. In addition to the internal inspections, the MCUA

installed an Acoustic Monitoring System, which is comprised of a Data Acquisition System, Surface Mounted Sensors and an Acoustic Fiber Optic Cable (AFO) installed in the 18,700 linear feet of the SRFM. The Acoustic Monitoring System listens and detects wire breaks within each pipe segment of the SRFM to continuously monitor the structural integrity of each pipe segment. The acoustic fiber information is obtained through the Data Acquisition System located at the Sayreville Pump Station and evaluated by Pure Technologies' engineers to determine if a pipe segment is approaching failure and will require replacement or repair.

AFO Data Acquisition System located at the SPS.



AFO Cable attached to the inside of the SRFM at an entry and exit point.





AFO Cable Splice Box, entry and exit point at an SRFM Inspection Manhole.



Left:
AFO Cable entry and exit point attachment to the inside of the SRFM.

Below:
Typical AFO Splice Box and entry and exit point at an SRFM Inspection Manhole.



Wastewater Division

December 2017 Statistics

- Average Influent flow – 87.66 mgd
- Average Effluent TSS – 23 mg/l
- Average Effluent BOD – 14 mg/l

For the year the average flow was 102.39 mgd and the MCUA recorded a total rainfall of 50.07 inches. The average effluent BOD for the year was 12 mg/l and the yearly average effluent TSS was 17 mg/l. This is the twenty-third consecutive year where both yearly average results have been below the permit levels and the thirty-third consecutive year where the yearly BOD average has been below 30 mg/l. Average monthly flows for the year ranged from 125.03 mgd in April to 87.66 mgd in December.

- Biosolids production – 11,397 wet tons, a 10.8% increase over the five-year average. The entire amount was processed through the dryers.

For the year, the MCUA processed 176,719 wet tons of sludge. Approximately 95% was processed through the dryers.

**Rainfall for December was 3.12 inches as measured at the plant.*

Solid Waste Division

December 2017 Tonnage Figures

	Monthly Tons	Cumulative Tons
2017	38,163	540,064
2016	40,570	525,423

An average of 231 trucks hauled an average of 1,527 tons of waste to the Landfill facility each day.