

SSOs Trigger Flow Monitoring Project in Greenwood Metropolitan District

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provided*

The Greenwood Metropolitan District (GMD) is responsible for wastewater and water service in the area of Greenwood County, South Carolina. Interceptor surcharging and SSOs during wet-weather events triggered an extensive flow monitoring program during the late winter and spring of 1998.

RJN provided three rounds of meter service in specific target areas of the GMD system to evaluate wet-weather flows.

The first area was located along Turner Branch, in an area subject to wet-weather overflows. RJN field crews installed 15 meters in pipes ranging from 8- to 12-inches in diameter tributary to the Turner Branch interceptor. The second round of metering covered three district areas:

Rocky Creek, Wilson Creek, and the Hard Labor Creek / Panola Branch area.

This round included 14 meters in pipes ranging from 8 to 24 inches in diameter. During the third round, RJN installed and monitored 13 additional sites ranging in size from 8 to 12 inches in diameter. This round was a further breakdown of areas from the second round. In all, data was collected for 42 sites. The meters used were continuously recording depth and velocity meters from which flow rates were calculated. Two to four rain gauges were installed to provide data for correlation of wet-weather events to metered flows. All metering devices were checked weekly to collect calibration data and to verify proper performance.

RJN engineers evaluated the data and calculated dry-weather flow, and I/I. The rate of I/I was determined based on tributary pipe length and/or volume to each meter site. This enabled RJN to rank specific basins for further field study and investigation. RJN prepared three reports for each round of metering with recommendations for follow-up activities.

The District has undertaken a planning effort to increase sewer capacity in areas known to have hydraulic restrictions. RJN performed focused modeling to pinpoint locations of severe restriction and potential overflow to verify the pipe sizes required to handle present flows, including I/I, as well as future flows. Data from RJN metering work was used to develop input hydrographs for the model. To date, the model includes four primary drainage basins. RJN staff worked with Greenwood staff and other design consultants to verify the pipe sizes for ongoing capital improvement projects based on model results.

