

RJN Performs Flow Monitoring in the Onion Creek Tunnel — Austin

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The City of Austin Water and Wastewater Division initiated a program to identify and rehabilitate areas of the City that contribute excessive I/I to the collection system. The program also included efforts to identify sources of I/I in areas with excessive I/I and development of a plan to reduce peak wet-weather flows.



The tunnel serves the southern and southeastern part of the City and collects wastewater flow from four drainage areas (approximately 3 million linear feet of sewer). In order to verify and quantify the I/I in each area, RJN conducted a project which included:

- Installation and maintenance of 9 temporary flow monitors
- Installation and maintenance of 11 permanent flow monitors
- Radar derived rainfall monitoring
- Data analysis



Many of the monitoring sites are in remote locations and several are very deep. The downstream monitoring site in the tunnel is an 84-inch diameter sewer located 70 feet below the surface.

During the project, RJN assisted the City in locating suitable flow monitoring sites. Site conditions and flow conditions were assessed at each site to evaluate the type of

metering equipment best suited to accurately measure flow. Wherever possible on the large diameter sewers, one meter was utilized to measure flow in two different pipes. In addition, redundant probes were used to minimize meter downtime due to probe fouling.

In order to monitor the flows on a continuous basis from the City's offices, phone service was provided for all of the permanent flow meters. In the remote areas, cellular phone service was utilized. Solar power panels were installed at these sites to provide power. This method of collecting data provides a cost-effective alternative to manual data retrieval.

The City will use the data collected to prioritize the tributary areas for additional investigation. The permanent flow meters will also allow the City to continuously monitor flow in the tunnel and tributary areas.