Sanitary Sewer Maintenance Annual Report for 2011

The York City Sewer Maintenance division is responsible for the maintenance and repair of over 520,000 linear feet of sanitary sewer line located within the City. The sewer system is a critical component in the operations of the York City WWTP. The system conveys the wastewater generated by sewer users in the City, and portions of seven (7) other municipalities, to the WWTP for treatment. A properly maintained sewer system is required to convey the contaminated wastewater from the users in our community to treatment in a manner that protects human health and the environment. Blockages in the sewer system cause sewage overflows and unsanitary living conditions for the users. The maintenance of sewers includes the cleaning and televising of sewer lines, and repairs to mains, laterals, and manholes. The division is also responsible for the maintenance of the City's five flood pump stations. In addition, the Sewer Maintenance division is required to provide PA One call markings for underground sanitary and storm sewer utilities. The division is headed by the Sewer Maintenance Supervisor and has six (6) full time employees.

Activity Summary for 2011

The division recorded 165 sewer-related actions or complaints, excluding calls received during the Tropical Depression Lee event summarized at the end of this report. Sluggish or blocked mains generated 13 complaints. There were 83 complaints related to actual lateral blockages. Twelve (12) of these were where a plumber was unable to restore service or reported a defect. The department restored service by using sewer-cleaning rods or a Harben. Plumbers addressed the other 67 lateral complaints, 8 complaints required a plumber for reasons unrelated to the lateral . Seventeen (17) laterals were inspected with the CCTV equipment. The other complaints resulted in a general investigation or were unrelated to lateral or main malfunctions. A total of 148 trouble reports occurred while on-duty and 17 were call-outs. The call-outs are as follows: 7 due to main blockages, 10 due to reports of lateral blockages.

The division repaired two laterals during 2011. Two laterals were repaired by other contractors due to damage resulting from other utility work. This represents a lower than typical repair frequency. (2010: 5 repairs, 2009: 9 repairs, 2008: 4 repairs, 2007: 6 repairs, 2006: 4 repairs, 2005: 3 repairs, 2004: 6 repairs).

The division had one main repair during 2011. The department repaired section of 8" TCP damaged by the York Water Co. during an emergency repair on Boundary at Dallas St.

The department cleaned 257,091 lineal feet of sanitary sewer during 2011. (2010: 182,500; 2009: 245,200; 2008: 163,058; 2007: 135,567). This increase resulted from having a full staff, and less manhole replacement work.

During 2011, HRG completed the Poorhouse Run Siphon Replacement project. This project consisted of four components:

1. PHR Siphon Replacement: 4 tube (505lf/each) creek crossing and 176 lf of connecting pipe.
2. Arch Street Replacement: 860 lf
3. Poorhouse Run Replacement: 1460 lf (includes ~90 lf of 8"relocation).
4. Willis Run Crossing: modifications to improve hydraulic performance and access.

This project included the installation 5 large structures and 10 manholes.

Main Sewer pipe replacement/rehabilitation: 2011: 3001 lf; 2010: 2707 lf; 2009: 1322 lf; 2008: 817 lf.

The crew televised 1,500 lineal feet of sanitary sewer mains in 2011. (2010: 6,491'; 2009: 1,278': 2008: 7817'; 2007: 5,024)

In 2011, 1996 manholes were inspected during cleaning and maintenance activities.

A total of 17 sanitary sewer manhole frame and covers were replaced or adjusted to grade, and 5 adjusted to grade. An additional 19 manholes frames and covers were installed as part of the PHR project. The department assisted Highway in replacing or adjusting 3 storm sewer manholes. No manhole cushions were installed. (2010: 63 SS manholes, 10 SWS manholes, 2009 – 35 SS manholes, 10 SWS manholes)

The chemical root control program for laterals continued in 2011. Root control was applied to 21 service laterals where homeowners indicated or the division found root problems. (2010: 50 laterals; 2009: 29 laterals). Root control was applied to 391' of sewer in problem areas.

The department continued its multi-year contract with CSL. This firm collected data and prepared reports from the 15 inter-municipal flow meters and two rain gauges. This information was used for sewer billing. The performance of the vendor remains excellent. This contract has provided the City with increased value at a lower cost, when compared to the previous service provider.

The department responded to 1,888 requests for PA-One Call utility markings. This is a slight increase from previous year. (2010: 1709: 2009: 1826: 2008: 2115; 2007: 2113; 2006: 2,066; 2005: 1,727).

Five (5) Flood Pump Stations were inspected and maintained. All five stations were operational and ready for a flood emergency.

Tropical Storm Lee precipitation raised the creek levels to historically high levels. As a result, the City prepared for the possibility of significant flooding in the Flood Pump Station service area. Sandbags were prepared, and pump stations were readied for an flood event. The stations automatically started and were in stand-by mode, however,

precipitation moved out of the area and the units were not needed. The event allowed for an increased awareness of the purpose and application of the Flood Pump Station system. A post-event meeting was provided to brief multiple PW division managers on the system components.

The department continues to use a database management system for tracking activities within the department.

The Sewer Emergency Response Team continued to operate for serious sewer related backups.

The department continued to update the comprehensive sewer maps and lateral detail sheets.

The Superintendent continued to work on the mapping and attribute components of the GIS system for sanitary sewers and storm sewer system. Inventorying and inclusion of the storm water outfalls to the Codorus Creek and tributaries continued as part of the City's ongoing MS4 program. A storm sewer inlet inspection and inventory program was initiated as part of the MS4 program.

The department assisted the Highway crew in paving and excavation projects. It also assisted the Parks Bureau in several projects.

In turn, the Highway Bureau assisted Sewer Maintenance on several patching projects and during the manhole replacement project.

The department continues to assist the WWTP in cleaning and inspection projects.

The department staffing reached its normal level by September 2011.

<u>TD Lee Event</u>:
Precipitation from TD Lee caused significant impact to the York City Sanitary Sewer System by hydraulically overloading the collection system with extraneous rain and groundwater I&I. The precipitation event was primarily on 9/7-8/2011, however, the system continued to experience high volumes of flow for the following week.

During 9/7-9/2011, the WWTP received 45 calls related to sewage/water in basements. The WWTP also received many calls regarding claim procedures after the event. Initially, the WWTP directed calls to the Emergency Management Center for logging, and subsequently to HR for any potential insurance claims.

The TD Lee event provided valuable information regarding the impact severe rain events can have on the York sanitary sewer collection system. This information and other data is being evaluated to determine methods and options to lessen future impacts.