



2016 WASTEWATER DEPARTMENT YEAR END REPORT

- The wastewater plant treated a total of 363 million gallons this year. This averages out to 0.99 million gallons per day and is a decrease in flow from the previous year. The percent capacity of the plant used for the year was 50%. We recorded 48.1 inches of precipitation this past year compared to 51.7 inches for 2015. The wettest month of the year was June which we recorded 8.76" of rain. Also notable were August and September, which had over 6 inches each.
- The yearly average removal efficiency of the treatment plant in regards to Total Suspended Solids remained steady at 98%. The BOD percent removal efficiency stayed the same from 2015 to 2016 at 97%. Ammonia removal also remained steady at 99% with the removal of phosphorous increasing slightly from 89.2% to 90.3%. Our phosphorus discharge average for the year was 0.58 mg/L and ammonia was 0.23 mg/L.
- The wastewater department had one violation of our operating permit this past year compared to three in 2015 and two in 2014. This violation was caused by rain events in the wet month of June. It occurred on June 22nd after receiving 2.7 inches of rain for the day and was a high bacteria count from solids washing out of the secondary clarifiers. We were back in compliance the very next day.
- Since establishing the yearly sewer rehabilitation program back in 2002, the department has repaired and/or replaced 66,332 lineal feet of sanitary sewers. This year's project was the lining of 3,475 LF of 8" sewer main, 1,718 LF of 12" sewer and 679 LF of 10" sewer main by Miller Pipeline in Irongate and Hunter's Point. Next year's rehabilitation project involves the lining of segments of sewer main on Bloor Lane and Isenhour Hills.

- In 2016, we continued a lift station rehabilitation program with the replacement of a panel and pumps at Cedar Bend. We replaced the existing panel with the department's first Arc Armor panel, which provides arc flash protection. Also we updated the Clifden Pond lift station panel with new back panel including all new components. We replaced the old existing pumps in April. Straeffler Pump & Supply provided the work and the equipment on both projects.
- Gaylor Electric replaced the automatic transfer switch, 2 breakers, and the electric panel at the Main Lift Station on Tuesday 1/26. The replaced equipment had been active since 1987. The department could no longer purchase replacement parts and the equipment had started to fail the last couple of years. The ATS is what controls the emergency generator and therefore the lift station during power outage situations.
- Gaylor Electric replaced the automatic transfer switch, breaker and the electric panel at the Wastewater Treatment Plant on February 3rd. The original equipment was put into service at the same time as the Main Lift Station in 1987. The department could no longer purchase replacement parts and no longer had security that the transfer switch would do its job. The automatic transfer switch is what controls the emergency generator and power to the treatment plant during power outage situations.
- Maddox Industrial Group removed and replaced two 3000 gal tanks used to store sodium hypochlorite (bleach) for disinfection on 3/9. The tanks were in service since 2004 and had been slowly deteriorating to the point of leaking.
- The department's first vac truck was delivered on 6/30/16. Participated in the Pleasant View Elementary "Touch a Truck Day" on Tuesday July 12th. Had the new Vactor truck on site for the children to look at and sit in.
- The fine screen at the plant was upgraded and will allow for the plant to handle more flow through the screen in wet weather conditions. The screen can now be left in position while the gate is open to 100%. Maddox Industrial Group performed the work on 8/12/16. The upgraded equipment was provided by Lakeside.
- A new hoist truck was picked up on 8/23/16 from Palfleet Truck Equipment. The truck was purchased through Pearson Ford and Palfleet installed the platform body, Palfinger crane, Miller EnPak generator, and compressor. The Palfinger crane will allow the utility to lift some of the heaviest pumps, such as the ones installed in Irishman's Run lift station in 2015. This had become necessary as the Irishman's Run pumps were too heavy for the old hoist truck to lift safely.
- Improvements to the collection system: Replaced or repaired 13 pumps at lift stations

this year. Nine were new pumps and four were repairs. Had to repair 2 emergency generators for lift stations in 2016 due to damage caused by rodents. Costs to repair each were around \$5,000. Installed 2 new bigger Toshiba VFDs at Thornhill lift station, because the old VFD's were smaller and were failing.

- Added 1 new piece of technology in 2016. Purchased a push camera for televising lines that are 4" and smaller in the collection system.
- Improvements to the treatment plant: Precision Controls replaced the effluent flow meter in January. Added 1 new air cylinder, 2 belt sensors with paddles for belt tracking for the filter belt press. Replaced EQ pump #2 of 3. Replaced 2 grit dumpsters. Replaced hot water heater in admin building. Added 1 new Toshiba drive on RAS Station 1 and repaired a broken electrical conduit underground. Replaced a 12" plug valve on primary clarifier #2 also in 2016. Converted 1 bay of the old pole barn into winter storage for the Vactor truck including insulation, walls, ceiling, lights, and radiant heating. Gaylor Electric moved power to the building, because there was not sufficient power in the barn. Converted 1 bay of the sludge storage barn into an area for dumping the vac truck. We built a wall for separation and added steel sheets for protection during sludge hauling. Purchased a custom built dewatering box that is 17.5 yds and 44" tall that sits in that space. We are utilizing the existing drain system that recycles the water from the dumpster back through the plant and the solids are left behind in the dumpster.
- Costs for the Wastewater Department were monitored and contained within the approved operating budget for 2016.