



2018 WASTEWATER DEPARTMENT YEAR END REPORT

- The wastewater plant treated a total of 397 million gallons this year. This averages out to 1.086 million gallons per day and is almost identical in flow from 2017. The percent capacity of the plant used for the year was 54%. We recorded 53.7 inches of precipitation this past year compared to 51.2 inches for 2017. The wettest month of the year was September, which we recorded 8.44” of rain. Also notable was August, with 7.30”. February, March, April had over 4” for each month and November, December had about 4” for each of those months to end the year.
- The yearly average removal efficiency of the treatment plant in regards to Total Suspended Solids remained steady at 97%. The BOD percent removal efficiency decreased from 99% in 2017 to 98% in 2018. Ammonia and phosphorous removals (nutrients for algae growth) remained steady from 2017 to 2018. Ammonia removal at the plant was 99% and phosphorus removal was 89%. The phosphorus discharge average for the year was 0.70 mg/L and ammonia was 0.23 mg/L, which are way under the limits allowed by IDEM.
- The wastewater department had one violation of its operating permit this past year. Also had one violation in 2017. It occurred at the old existing structure for the Boone Village lift station, which has no current capacity when the line fills up. It only over flowed for an hour and a half, which was the shortest time ever at this structure. As per the permit, a report was filed with IDEM describing the incident. This violation was caused by a 2 week period of 6” of rainfall at the end of March and the first week of April. At the time of the overflow at the lift station, the total flow going through the plant was 7.2 MGD which lasted for 5 hours. This has been a frequent problem lift station in the past with heavy rainfall. The lift station panel has since been upgraded and replaced with an arc armor panel.

Also, a permanent back up system (Thompson pump) has been added with its own power source to help eliminate any future issues due to mechanical, electrical, or weather.

- This year's sewer rehabilitation projects, for the collection system, were in 3 alley sewer main segments in the Village. All 3 were determined to need replaced and only 2 were able to be completed, with the third and final hopefully completed in the spring of 2019.
- Once the treatment process has concluded, the solids remaining or biosolids, which are rich sources of Nitrogen and Phosphorus, are placed in a biosolids storage area at the plant under roof. When this area is full it is necessary to contact our contractor Merrell Bros, who will haul away the biosolids to their collector facility where they are permitted to distribute on specific fields that are owned and operated by Merrell Bros. They hauled 3 times in 2018 for the Department and hauled a total of 731 wet tons.
- Added some additional security at the plant including another camera and some door mechanisms in 2018. Security Pros performed the work.
- Began preliminary engineering and accounting work for the 3 main sewer projects to be performed in 2019 and 2020. Attended several accounting (Crowe) and engineering meetings (BLN) and worked alongside them to try and get the best and most use of the sewer mains in these areas. We are planning to serve these areas regionally and not for just new subdivisions.
- Vectren replaced gas meters at the Clarkston lift station and the WWTP.
- Also added 2 new gas meters for emergency generators at Ravinia and Oakridge lift stations. Added 3 more generators at the 3 new development lift stations during the year, so will be adding 5 more to the current preventative maintenance program provided to us by Cummins Crosspoint in 2019.
- Added 3 new lift stations to the total inventory of the collection system of the Town during the year. This brings our total to 26 lift stations that the WW Department has to monitor, manage, and take care of. The last new lift station, up to this year, was Zionsville Rd lift station in 2009.

- Collection system repairs included 2 generators that had mice damage from chewed wiring. They were Thornhill and the WWTP on 12/31. Replaced 3 transfer switches in the system – 1 at Bloor Woods, 1 at Ford Rd, 1 at Zionsville Rd. Two were after power surges from different severe Thunderstorms in August. Repaired lift station pumps at the Main twice and Oakridge. Bought new pumps at Beechwood and Colonial Heights.
- Added 2 new pumps and rails to Thornhill and Raintree lift stations and 3 new pumps and rails to Boone Village lift station during the year. Also increased the power at Boone Village lift station from 100A service to 150A and added a phase monitor. The power upgrade was done by Gaylor Electric.
- Upgraded the EQ basin area to include a primary clarifier bypass to help treat extra water in wet weather flows and overflow the EQ basin less.
- Repaired a 1” water main break at the plant that was caused by a boring machine that was adding some underground conduit for a bleach poly line upgrade/improvement project. The boring bit caught a hidden water line under the road and wrapped up 20 feet of copper line around the boring bit. Had to have the main water feed to the plant shut off for a while, which did not hurt anything. Was repaired in house.
- Precision Controls began upgrading the PLC’s, in different areas within the plant, from an outdated SCADA system from 2003. The department could no longer purchase replacement parts, which prompted the action. Precision Controls installed the original equipment from the 2003/2004 plant expansion. Further equipment replacement will occur in 2019.
- Clawson installed a fiber optic line from the Town Hall to the wastewater treatment plant during the month of September. This will give the department a great internet connection for the SCADA System and finally be connected to the Town’s network.
- The Town’s IT Director completed a phone system upgrade in the Admin building of the WWTP with new phones, a new options menu that allows callers to contact the billing department directly with account questions, and voicemail.

- Started and completed the effluent outfall project on 9/17 and 9/18. This is only a small part of the much larger stream bank restoration project with DNR and the Parks Department. More work was completed before the weather turned poor and work will begin again once the rains subside in the spring. The old concrete head wall was removed and the bank was moved back approximately 9 feet. Also, 2 concrete precast end sections were installed for both the sanitary effluent line and the storm line for this project. Rip rap was then added along the hillside surrounding both concrete end sections to deter erosion.
- Straeffler performed a lift station upgrade of Clarkston lift station with new pump rails, pumps, and a new control panel with Variable Frequency Drives.
- Completed the NPDES Permit renewal for the wastewater treatment plant during the year of 2018. The new one is good until December 31, 2023.
- The Wastewater Operating Budget came in under budget in 2018. Despite the initial work on the FOG Program and increased engineering fees from the 3 main projects.
- Added one new piece of technology in 2018, which is a trailer mounted portable Thompson pump that can be used to pump out a failed lift station. Just another tool that can be used in emergency situations.

