

CITY OF GREENFIELD WASTEWATER UTILITY



YEAR END REPORT

2015



Wastewater Utility

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TREATMENT PLANT & SEWER SYSTEM 2015 YEAR-END REPORT

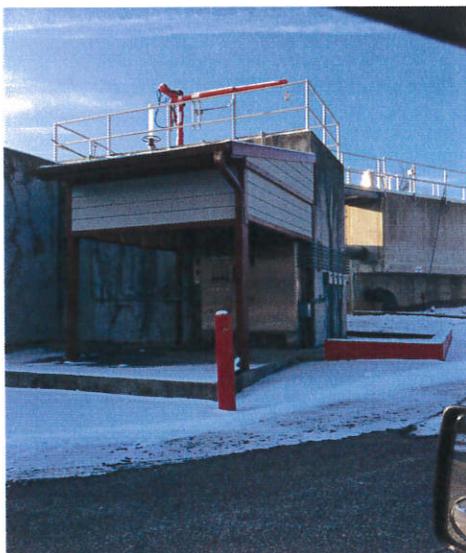
I hope you have time to review the following report, a quick overview of the Wastewater Utility's activities in 2015. We also try to record much of these tasks in the PubWorks Asset Management Program. This program performs better for the Sewer Crew than the Plant, but we try to make things work.

The last few pages of this report deal with precipitation, flow totals and some other stats. The reduction of I & I (inflow & infiltration) of storm water into the sanitary sewer system each year is one of our most important goals. We will also continue to do our best every day to provide the services required from our customers, the City of Greenfield and the environment.

- The polymer pump system for the sludge belt press' was taken apart and rebuilt.
- At the end of 2014 and start of 2015, both storage barns and an enormous outdoor stockpile of Class A Biosolids were hauled away by Caldwell Gravel for their farm fields.
- With outdoor stockpiling of Class A Biosolids being an un-approved storage practice, we changed our procedures once our storage barns were full. Class A materials are no longer produced and the excess material was sent to the landfill.
- The dry fall weather was conducive to the hauling of biosolids. Local farmers as well as a new farmer were quick to clean out both of our storage barns. They took everything we could produce and kept asking for more.
- The belt press' water pump was pulled and replaced as it was determined to be unrepairable.
- We replaced an exhaust fan located on the roof of City Hall.
- The sand pumps in the Actiflo building and the Plant's main air blowers were repainted. They did an excellent job, making them look like new.
- A new emergency generator was installed for the sewer garage. It will improve response time for sewer calls and to gain entry into the Plant during power failures.



- The Plant crews completed maintenance on the advanced waste treatment filters again in 2015. The 6 filters were power sprayed, the spray heads were serviced, grease layers removed and over 15 tons on 50lb. bags were carried in by hand to complete the project.
- Our U.V. (ultraviolet) light disinfection system was placed on-line before April 1st and operated until October 31st. This system is designed to kill harmful bacteria in the Plant effluent. Before the end of the season, the units "control-brain" malfunctioned. It still runs on manual while a replacement control system runs about \$14,000 installed. We are trying to find other less expensive options.
- The Apprentice Program worked well for our department again. 2-Plant and 2-Sewer guys completed the 6,000 hour program. The improvements in work habits and greater abilities tie directly to participating in the program.
- After a few years of setting dormant, the large power broom for our Payloader was repaired and is working well.
- Our 13-year old Scag mower was finally replaced with a new Scag Cheetah mower. It rides much smoother and it will hopefully last just as long as our previous mower.
- As usual, the guys did a good job of keeping the Plant grounds looking good, making repairs to the east side of the Cemetery fence and many other landscaping features around the facility.
- The Street Department and or Parks Department finally wiped out our old John Deere Tractor. We and the Water Utility had to pay for 1/2 of a replacement tractor and Greenfield Power & Light paid for the other half that would be used by the Street Department.
- This was the first year for the mulch gate to be in operation. Local residents are permitted to bring brush, limbs, leaves, etc. here to dispose of them. County people are very un-happy as they aren't allowed the same privileges.
- An excellent employee, Jeff Leffel transferred from Animal Control. He is doing a great job for us on the 3-11pm shift.
- A few "high-bay" lighting fixtures were removed from the Actiflo and blower buildings. New, more efficient fixtures were installed to take their place.
- We proudly scored high enough on the Indiana Water Environment Federation's Safety Committee inspection to win another safety award for 2015.
- The guys built a cover over our return sludge control panel. It was previously difficult to work



- with during rain events and heat from the sunlight was melting the din-rails, which are plastic wiring channels inside the panel.
- A storm blew several large trees on top of our security fence near the headworks building. The crew did a good job of cutting up the debris and repairing our fence.
- For the first time, we had a sequence of storm events that forced the creek into the Plant. It caused a few flooding problems, including our U.V. Disinfection System where some repairs were required.
- One of our RAS (return activated sludge) pumps went down and repairs were about the same cost of a new pump, which came in at \$11,000. The new pump was installed and is pumping at a higher rate than the original unit.

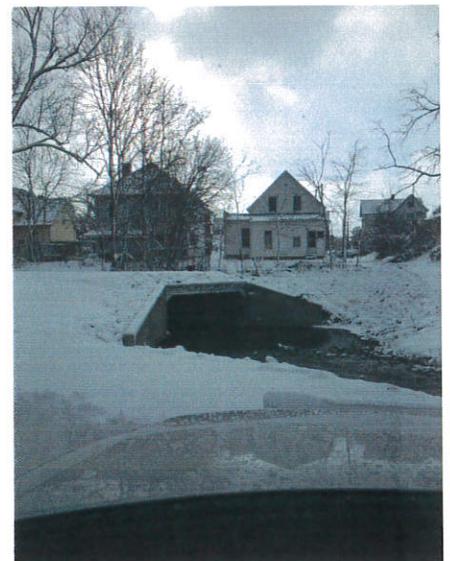
- The starting sensor on our grit collector system failed and we had to replace it with a new unit.
- The grit and screenings discharge conveyor is needing replaced. Several different suppliers were contacted to find a better unit. We will put together a set of specs in early 2016 to get it replaced.
- We designed a way to catch grease from getting through to the Actiflo, our storm water treatment system. Pool skimmers and brackets now catch a majority of grease that gets through the system during start-up. It is a neat little modification.
- The Plant passed our biomonitoring requirement. In this test, small fish and micro-invertebrates are required to grow and reproduce in the Plant effluent. The USEPA and IDEM are looking for any sources of harmful pollutants in our water.
- Covance connected to our sewer system in December of 2014. They send us a lot of flow each day. They removed an animal hair screen on a trial basis. We are currently waiting on them to re-install the screen as we are now choking on this excess hair.
- The #2 sludge holding tank blower motor locked up. Quality Repair Service was called to help us out. New bearings and seals were installed in the blower while the motor was checked for



- problems. The repaired units are back on line.
- As usual, numerous painting projects occurred around the Plant. These projects keep things looking fresh and often improve safety for all of the employees.
- We worked with the Street Department to dig out and patch several holes along the dump road and our parking lot. They also help us with our road cut repairs across the entire city.
- W.W. Williams was able to get the Plant's emergency generators operating again. Several of the control features were found on "E-Bay" as parts are no longer available from electrical suppliers. We need to expedite the design and installation of a new control system. The generators themselves could be re-used, but that is unclear at this time.
- The VFD (variable frequency drive) for our #1 raw

sewage pump failed and had to be replaced. This unit varies the speed of the sewage pump depending on flow. They save a lot of electricity over time.

- A control card in the Actiflo building's paddle drive motor's VFD failed. Since the card was no longer available, the entire VFD was replaced for the cost of the replacement card. This unit is in the storm water treatment building.
- December was a tough month for equipment at the Plant. We lost the Administration buildings HVAC motor, #2 backwash pump and we also had some major communication problems with the Lift Station SCADA System. As usual, the crews pulled together to rectify the situation and keep things operational.
- The storm that dropped over 3" of rain after Christmas caused numerous problems for the Plant and Sewer crews. Plant personnel had to do a lot of clean-up and battle operational issues with the high flow treatment system while trying to run it effectively without Alum, an important additive that helps coagulate waste particles in the sewage. The sewer crew handled several high water complaints, a clogged pump at Criders Lift Station and spent a few days trying to keep the new Potts Ditch tunnel operational.



- The Sewer Crews replaced 6 storm water catch basins as well as 80' of storm pipe under roadways in Sherwood Hills.
- All of the catch basins in Walnut Trace had to be rebuilt. Like many others, they were constructed of substandard materials and poor workmanship.
- They were able to make time to use the Vactor and Camera Truck to hit all of the Holiday Park Addition and Waterview Estates. These projects took weeks to complete due to pipe condition and root removal. In many areas, it was hard to believe the sewers actually worked considering all the obstructions and pipe issues.
- A 200ft. swale along East McKenzie Road in front of Indigo Springs was completely dug out and reseeded. Due to poor workmanship, this area only held water and would not drain prior to our corrective action.
- We had to rebuild the Riley Park Lift Station control panel and re-plumb the station's piping. This should prevent much of the maintenance issues that have plagued this pump station.
- A new mini-lift station was installed at Fisk Excavating & Plumbing. The Franklin Road project made this work necessary for sewer service to their building.
- The Edward Jones property also received a mini-lift station. We hope it can be re-used elsewhere when permanent gravity sewer are extended in the area.



- We were recruited to design, build and set the reinforced concrete footers for the new bridge in Thornwood Preserve. Our crew was also instrumental in setting this large bridge.
- Approximately 40 catch basins and storm water structures were re-built throughout town. Some due to age and others due to workmanship.
- Several hours of backhoe work went into organizing the landfill behind Animal Management. Signs were erected to help



sort the various waste materials and existing piles were covered by sloping mounds. If we can get drivers to read, some headway could be made in keeping it organized.

- Over 40 yards of concrete was poured by our crews for sidewalks, catch basins and street repairs throughout town. Feel free to check out some of their concrete work, it's pretty good.
- Our Sewer Crew is responsible for cleaning off the street drains on SR9 and US40 (we try to clean them before and after each rain). The remainder of the catch basins are the responsibility of the Street Department.
- As seen on this report cover, we were nominated "Plant of the Year" by the S.I.O.A. (Southern Indiana Operator's Association). It was nice to be recognized for our efforts by other Wastewater Plant Operators in this area.
- The 23 major sewer lift stations had both pumps pulled, oil changed and electrical systems checked twice in 2015.
- Plans to extend sanitary sewers into the Hill Grove Addition are nearly complete. Construction should start this spring.

- Although the Steele Ford Road area was annexed several years ago, sewers were not extended to them until spring of 2015.
- Miller Pipeline used the cured-in-place method to rehab the sanitary sewers in nearly all of the Lanecrest Addition. L & S Underground is currently replacing home laterals in that area.
- 10 separate ponds inlets and discharges were dug out and rip-rapped at various locations in the city.
- We had some emergency rehabilitation of 10 manholes done by Culy Contracting near and along West McKenzie. Hydrogen-sulfide gas was weakening the concrete structures. The problem arose from a contractor leaving a plug in the sewer main. 15 brick manholes were also rehabbed by Culy later in the year.



I appreciate your time reviewing our 2015 Year End Report. Please feel free to stop in or call with any questions or concerns. We take great pride in providing unmatched service for our customers and for the clean water we return to the environment. We look forward to working with you in the coming year.

Sincerely,

David Scheiter, Supt.

Greenfield Wastewater Utility

cc: Chuck Fewell, Mayor
Greenfield City Council Members
Board of Works Members
Buzz Krohn, Utility Controller
Michael Fruth, Utilities Director

2015 YEARLY FLOW TOTALS

MONTH	TOTAL FLOW	DAILY MAX	PRECIPITATION	SLUDGE TREATED
JANUARY	104.86 Million Gallons	7.87 MGD	2.73 Inches	949,900
FEBRUARY	75.00 Million Gallons	3.20 MGD	1.95 Inches	978,000
MARCH	130.03 Million Gallons	9.96 MGD	6.64 Inches	1,244,900
APRIL	134.58 Million Gallons	11.07 MGD	5.90 Inches	1,223,200
MAY	82.02 Million Gallons	3.37 MGD	2.49 Inches	1,182,500
JUNE	138.87 Million Gallons	10.6 MGD	6.63 Inches	986,800
JULY	137.71 Million Gallons	9.16 MGD	5.44 Inches	1,143,500
AUGUST	85.49 Million Gallons	4.36 MGD	1.93 Inches	890,300
SEPTEMBER	83.69 Million Gallons	7.84 MGD	2.40 Inches	1,176,100
OCTOBER	67.09 Million Gallons	4.45 MGD	2.67 Inches	515,300
NOVEMBER	73.33 Million Gallons	3.51 MGD	2.50 Inches	742,100
DECEMBER	117.25 Million Gallons	12.86 MGD	6.19 Inches	1,281,700
Total Treated Flow for 2015:		1,229,920,000 Gallons		
Total Recorded Precipitation:		47.47 Inches		
Total Sludge Pressed:		12,314,300 Gallons		
Total Treated Flow for 2014:		1,184,960,000 Gallons		
Total Recorded Precipitation:		52.57 Inches		
Total Sludge Pressed:		12,427,000 Gallons		
Total Treated Flow for 2013:		1,346,710,000 Gallons		
Total Recorded Precipitation:		44.67 Inches		
Total Sludge Pressed:		11,214,100 Gallons		
Total Treated Flow for 2012:		1,213,600,000 Gallons		
Total Recorded Precipitation:		39 Inches		
Total Sludge Pressed:		13,366,690 Gallons		
Total Treated Flow for 2011:		1,483,310,000 Gallons		
Total Recorded Precipitation:		103.55 Inches		
Total Sludge Pressed:		14,630,370 Gallons		

2015 EMERGENCY LATERAL REPAIR & REPLACEMENTS

- 615 N. East Street
- 716 W. Main Street
- 1003 N. Noble Street
- 426 N. State Street
- 855 Walnut
- 310 N. Hendricks

2015 LIMB/BRUSH AREA - DROP OFF LOADS

(drivers license witnessed by employee & resident signs log sheet)

JANUARY	15
FEBRUARY	5
MARCH	88
APRIL	264
MAY	312
JUNE	305
JULY	363
AUGUST	292
SEPTEMBER	238
OCTOBER	238
NOVEMBER	150
DECEMBER	64
TOTAL	2,334