

# Jefferson County Water and Sewer District

## Jefferson County, Ohio



# 2018 ANNUAL REPORT

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## Table of Contents

Water and Sewer Rates Billing Guide .....	1
Water and Sewer System O&M Highlights For 2018 .....	2
Water: .....	2
Sewer: .....	2
District Fire Hydrant Maintenance Procedures .....	3
Capital Improvement Projects .....	4
Smithfield Sewer Project Sewer System Improvements .....	5
Unauthorized Water Use Is A Crime! .....	6
Amsterdam Sewer Project Sanitary Sewer System.....	7
Amsterdam, Springfield Township and Loudon Township (Carroll County).....	7
Smithfield Water Tank .....	8
Jefferson County Water and Sewer Rules and Regulations.....	9
Senate Bill 2 Asset Management Plans.....	10
Illegal Discharges.....	11
Sewer System 2018 Expense Summary .....	12
Water System 2018 Expense Summary .....	13
2018 Revenue Overview .....	13
Waterline Extensions .....	15



## Jefferson County Water and Sewer Rates Billing Guide

**Basic Water Bill** = \$33.79 (3,000 gallons)

**Basic Sewer Bill** = \$44.75 (3,000 gallons)

**Basic Water & Sewer** = \$78.54 (3,000 gallons)

\* Overage \$7.50 for Water per 1,000 gallons

\* Overage \$7.50 for Sewer per 1,000 gallons

Water Rates			
Meter Size	Min. Bill	Allowance	Overage
3/4"	\$33.79	3,000 Gal.	\$7.50
1"	\$56.77	5,000 Gal.	\$7.50
2"	\$142.59	12,000 Gal.	\$7.50
4"	\$287.22	24,000 Gal.	\$7.50
6"	\$577.13	48,000 Gal.	\$7.50





Sewer Rates			
Meter Size	Min. Bill	Allowance	Overage
3/4"	\$44.75	3,000 Gal.	\$7.50
1"	\$59.75	4,500 Gal.	\$7.50
2"	\$110.75	9,600 Gal.	\$7.50
4"	\$476.75	46,200 Gal.	\$7.50
6"	\$707.75	69,300 Gal.	\$7.50
Georges Run	\$21.75	9,000 Gal.	\$7.50
Century Hills	\$41.75	9,000 Gal.	\$7.50



## Water and Sewer System O&M Highlights For 2018

### Water:

The District repaired 107 water lines in 2018! The repairs are broken down by system as follows:

	Area A	20
	Area O	2
	Area J	2
	Area M	83



- Installed 25 new water taps;
- Took 45 lead and copper samples, 252 total coliform samples, 26 Trihalomethane samples, 26 Haloacetic Acid samples, and 3500 chlorine residual samples.
- There were 2 secondary Operational Evaluation Level excursions for trihalomethane samples in 2018 which were addressed immediately with OEPA through increased system flushing.
- Installed New SCADA Telemetry at J Tank;
- Installed New SCADA Telemetry at Mingo Booster Station;
- Installed three new valves in the Smithfield water system;
- Installed four New Fire Hydrants in Smithfield and Bergholz;
- Exercised over 240 critical and non-critical water valves in accordance with OEPA guidelines;
- Painted, greased, and checked operation of approximately 600 Fire Hydrants;
- Continued GPS mapping of the Water System for County-Wide GIS Utility Map;
- Completed an Asset Management Plan for all four Public Water Systems;
- Completed a new Contingency Plan for all four Public Water Systems;
- Relocated a water line on CR 17 for County Bridge Replacement Project;
- Relocated a water line on SR 213 for construction project;
- Installed a new In-Line Booster Pump Station for Sunshine Park;
- Brought the new Water and Sewer District Website on line.

### Sewer:

- Installed new SCADA Telemetry at Georges Run Lift Station;
- Installed new Pumps at Georges Run Lift Station;
- Continued GPS mapping of Sewer System for County-Wide GIS Utility Map;
- The District Wastewater Treatment Plants (7) Processed and Treated 306,000,000 gallons of sewage;
- Pressed and disposed of 17.2 tons of stabilized sludge generated by the District's seven Sewage Treatment Plants;
- Improved access roads to all District sewage pumping stations;
- Installed a dichlorination system at the Century Hills Wastewater Treatment Plant;
- Installed sixteen (16) manhole risers as part of local street paving projects in Pottery Addition and Crestview;
- Replaced HVAC units and a return sludge pump at the Barbers Hollow WWTP.

## District Fire Hydrant Maintenance Procedures

The Water and Sewer District executes a comprehensive fire hydrant maintenance program to protect these valuable assets of the District and maximize each hydrant's ability to furnish water during times of need, especially during emergencies. This program will ensure that hydrants are inspected twice a year, spring and fall. These inspections will involve:

- Check chains – make sure they allow nozzle cap to turn freely
- Check all caps – make sure they all can be removed
- Check paint – remove all loose paint and repaint if necessary
- Lubricate the hydrant
- Test the hydrant and valves

As part of this program, all hydrants are flushed once per year, typically in the spring or fall. The District is also proceeding with a program to paint all hydrants to make sure they are visible from the road in times of need. Fully functional fire hydrants are crucial for the safety of our customers and their property. This program is designed to make sure every fire hydrant is functioning to the fullest extent possible, especially in times of emergency.





## Capital Improvement Projects

The Jefferson County Water and Sewer District continued to review and refine their Capital Improvement Program to assure that the District's water and sewer infrastructure remain in top operational condition and in a state of good repair. As the District assessed the condition of its infrastructure and assets, it placed a priority on beginning two projects in 2017 that will improve its sewer infrastructure and protect valuable sewer assets. These projects were improvements to the Reeds Mills Sewage Pumping Station and construction of a new utility garage at the Barbers Hollow Wastewater Treatment Plant. Engineering design work on both projects has been completed. Once funding is procured for each project, they will be readied for final permit stage and advertised for bid. This is anticipated later in 2019.

The improvements to the Reeds Mills Sewage Pumping Station will involve the replacement of older sewage pumps and electric control panels with new state of the art pumps and variable frequency drive control technology. Additionally, stand-by electric power in the form of an emergency generator will be added to the station. This pump station serves the residents of Belvedere, Crestview, and eventually Bloomingdale.



The new garage designed for the Barbers Hollow Wastewater Treatment Plant will be similar to the garage built a few years ago at the District's Service Center for the Water Department. All Sewer Department vehicles, including a new Vac-Truck will be housed in the new three-bay garage where they can be protected from the elements and adequately maintained by the Department's staff.





## Smithfield Sewer Project Sewer System Improvements

With the Jefferson County Water and Sewer concluding negotiations in early 2018 with the Village of Smithfield, Ohio EPA, and USDA, the District assumed ownership and official operation of the Village sewer system, including the sewage treatment plant. The District also had the National Pollutant Discharge Elimination System (NPDES) Permit transferred into its name from the Village's name as a last step in this complicated transfer process. The District is now under OEPA Findings and Orders to bring the system into compliance with environmental regulations after years of neglect.

The District will be completing design engineering work on improvements to the existing sewage treatment plant and nine (9) sewage pumping stations early in the second quarter of 2019. A program to pump out septic tanks and evaluate sewer lines is currently underway. This work is intended to bring the system into compliance with OEPA regulatory requirements and NPDES effluent limits. It is estimated that the cost for this effort will be approximately \$4.4 million.







## Unauthorized Water Use Is A Crime!

Unauthorized Consumption can occur in many manners as there are always unscrupulous persons who contrive ways to avoid paying for service. The JCWSD has clearly defined policies and regulations for water service provision, and means to detect common breaches in the supply, metering and billing processes. The JCWSD also understands that sometimes circumstances arise that are beyond a customer's control and therefore has policies for customers who encounter a true inability to pay for water service. Unauthorized consumption results in wasted water resources and billings lost by the water utility. This often results in additional cost being passed along to the paying customer population.

Drinking water is a critical service for customers on the County's public water system, but this service must generate revenue for District to meet their cost of service in maintaining its water infrastructure. Adequate revenue capture relies upon the District's efficient systems of customer metering, meter reading, billing and enforcement that prevent consumption data error – and revenue loss – from occurring. The customer billing system also becomes the de facto customer consumption database, and many functions rely upon the integrity of the customer consumption data that is included here. When consumption data integrity is corrupted by errors or tampering, the effects of water conservation programs might not be accurately assessed. Similarly, demand data for water distribution system hydraulic modeling or planning studies may be corrupted.

Therefore, please report any observed unauthorized use of the public water system of the JCWSD such as turning on fire hydrants, tapping into a neighbor's service line, tampering with the water meter, or unauthorized filling of swimming pools. Additionally, please report any person who is NOT an employee of the JCWSD observed to be turning on water service to a residence or business that has been turned off by JCWSD personnel. Only JCWSD personnel are permitted to turn on and turn off water service to a property.



You as customers of the JCWSD can do YOUR part to keep water rates as low as possible!



## **Amsterdam Sewer Project Sanitary Sewer System Amsterdam, Springfield Township and Loudon Township (Carroll County)**

Design work on the new sewer system for the Village of Amsterdam was completed in January of 2018. An application for a Permit to Install (PTI) from the OEPA was applied for near the end of January. Additionally, design documents were submitted to several funding agencies and the County Soil and Water Conservation District for review and comments. At present, the PTI from OEPA has been issued, and approvals given by the US Army Corps of Engineers and United States Department of Agriculture. Public meetings for the purpose of Community Development Block Grant funding have been held, as have several public meetings for the purpose of getting the necessary rights of way signed by affected property owners. To date, about 88% of the rights of way needed have been obtained.

In summary, the project will include the construction of about 63,000 feet of sanitary sewer lines, three sewage pump stations, and a 50,000 gallon per day sewage treatment plant. The plant will be located on property purchased by the County adjacent to the Village's Rogers Park. The estimated cost of the project is about eleven (11) million dollars, with approximately 68% of this amount paid for by grants from various agencies. This project will serve over 400 new customers in Amsterdam, Springfield Township, and Loudon Township in Carroll County.

Due to the procurement of rights of way and procurement of project funding and grant allocations, the project will be advertised for bids in June or July of 2019. The government shutdown early in 2019 had an adverse impact on the funding process. Construction is expected to commence in the fall of 2019.





## Smithfield Water Tank



The Smithfield Water Tank serves the Village of Smithfield, Piney Fork, and Dillonvale Ridge. Engineering design work for the tank was completed in 2017, with OEPA issuing a Permit to Install (PTI) for the new tank. The old existing water tank in Smithfield is beyond the point of repairs and will be demolished as part of this project.

The federal government shutdown early in 2019 coupled with a change of staff at the State level, delayed the advertisement of this project for bidding due to the impact these events had on the completion of the CDBG grant process. The County is applying for CDBG funds to reduce the amount of debt it will incur to build the new water tank. The tank is being located on property procured by the County adjacent to the County's public works storage facility on Route 152. The tank to be constructed is a 200,000 gallon spheroid water storage tank that has been sized to meet the demands of not only current customers but also future service area expansions. The estimated cost of construction is \$1.64 million dollars. It is expected that the tank will be advertised for bids sometime in early summer of 2019 after the CDBG grant process is finalized.



## Jefferson County Water and Sewer Rules and Regulations



Did you know that the Jefferson County Water and Sewer District has a comprehensive set of Rules and Regulations for its water and sewer systems? These Rules and Regulations include industry standard details for the Water and Sewer division and include 807 sections with three Appendices equaling 140 pages. Why? Because it is the goal of the Water and Sewer District to protect you, the customer, and make certain that water and sewer rates stay as low as possible! These regulations and standards govern all administrative and construction related activities of the District's water and sewer systems and set forth consistent standards to be followed by any party or parties doing business with the Water and Sewer District.

The standards were adopted by the Board of County Commissioners in 2017 and are available for viewing on the District's web site. This was a major administrative achievement for the District and puts it in the position of being at the forefront of water and sewer utilities in the State of Ohio.



## Senate Bill 2 Asset Management Plans

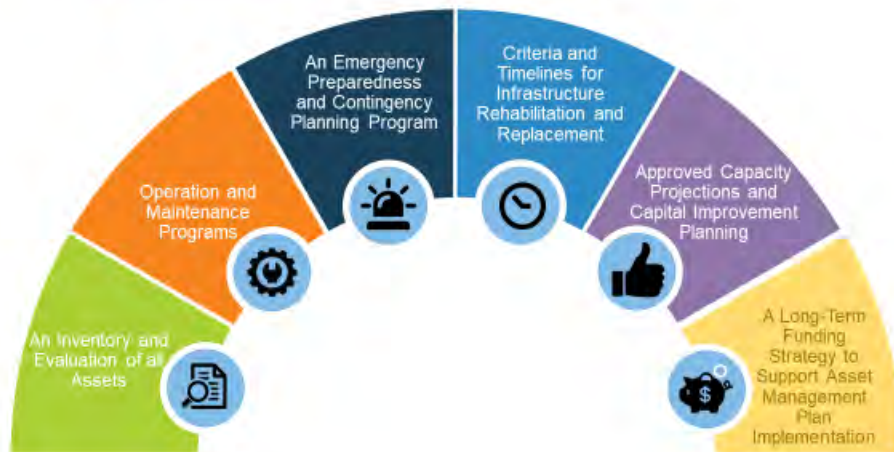
Ohio Senate Bill 2 requires that an Asset Management Plan (AMP) be implemented by all public water systems in Ohio by October 1, 2018. This bill issued general guidance for implementing an asset management plan with more specific rules being developed by the Ohio EPA. The Jefferson County Water and Sewer District fully complied with this State mandate and completed Asset Management Plans for each of the four water systems it owns and operates. These systems are the M System, the A System, the O System, and the J System. These AMPs include the following information:

- Asset Inventory and Evaluation
- Operations and Maintenance Program
- Emergency Preparedness and Contingency Planning
- Infrastructure Rehabilitation and Replacement
- Capacity Projections and Capital Improvement Plan
- Long-Term Funding Strategy

This document incorporates the District’s existing methodologies for assessing the condition, criticality, useful life, and asset valuation of the District’s assets and also sets forth an operating and capital improvement budget to meet the system’s needs in the future.

Maintaining a sound and functional water system will result in reliable and safe drinking water for the District’s customers that meet or exceed federal standards. This is the goal of the District as well as the State of Ohio and Ohio EPA. The AMP is one mechanism used to achieve those goals.

### Ohio EPA Asset Management Plan Requirements (Senate Bill 2)



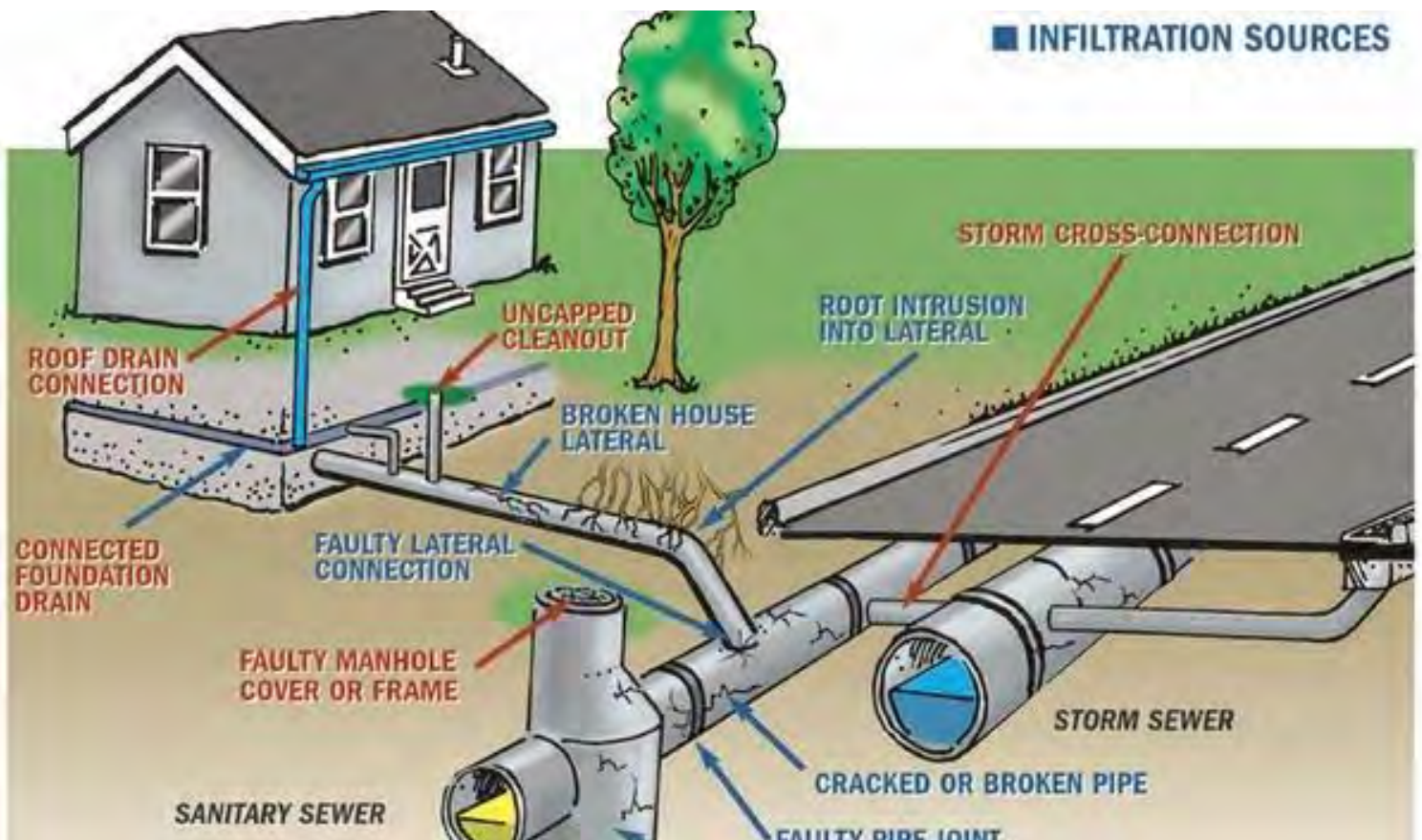
September 16, 2018

September 16, 2018



## Illegal Discharges

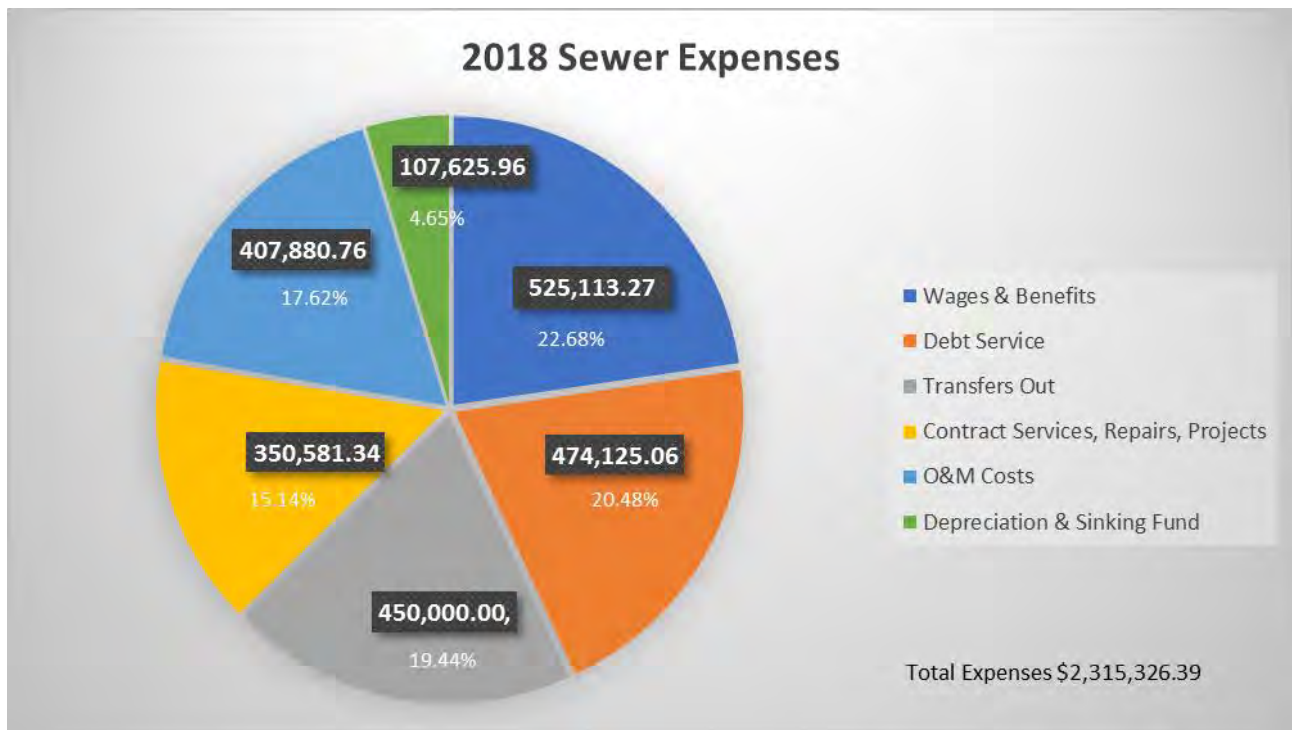
The discharge of storm water runoff, including roof drains, foundation drains, stairwell drains, area drains, or groundwater, including french drains, or sump pumps that pump ground water or storm water from a basement or basement foundation to a sewer line owned by the Jefferson County Water and Sewer District is strictly prohibited. All Persons connected to, or connecting to, the public sanitary sewage system shall provide adequate means for excluding storm water runoff and groundwater from the connection to the sanitary sewer. French drains may not discharge or connect to the trench within which the building or lateral sewer is situated. The provisions are outlined in the District’s Rules and Regulations. Storm water runoff and ground water may be discharged to storm sewers or to natural water courses within JCWSD’s service area. The District reserves the right to enter upon all properties and into all structures receiving sewer service for the purpose of inspecting, observing, measuring, sampling, and testing to ascertain whether or not storm water runoff or groundwater is being discharged to sanitary sewers. Exclusion of these flows from the sewer system helps keep operating costs down and enables the District to hold rates as low as possible.





### Sewer System 2018 Expense Summary

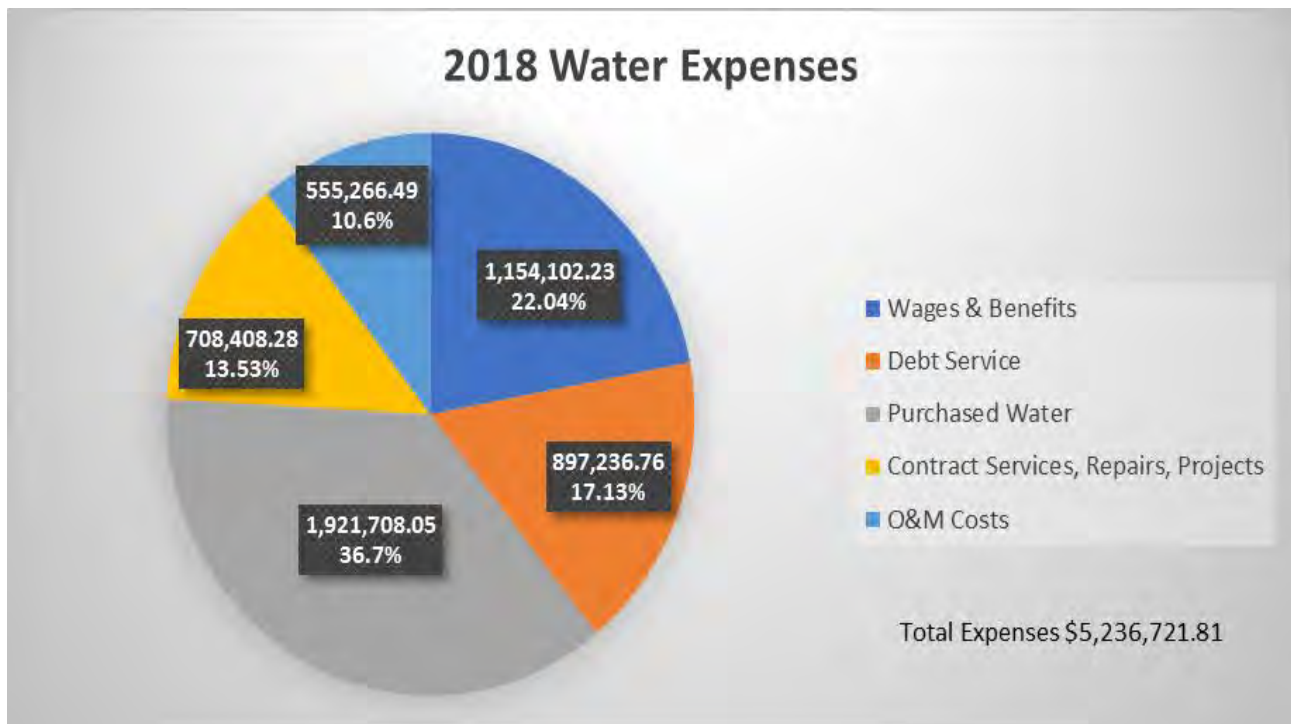
As evident from the chart shown below, the Water and Sewer District operates and extensive sewer system which includes sanitary sewer lines, pumping stations, and seven (7) treatment plants with personnel costing less than 25% of the total cost of running the system. The District also provided for depreciation in administering the sewer system so that funds can be accumulated to handle unanticipated repairs and aging equipment replacements. Debt Service costs in 2018 for the JCWSD equaled about one-fifth of the total money spent in operating and administering the sewer system.





### Water System 2018 Expense Summary

The Jefferson County Water and Sewer District owns and operates a water distribution system that serves nearly 8,000 customers county wide. The District purchases its water from the City of Toronto, the Village of Mingo Junction, the Village of Brilliant, the City of Steubenville, and the Village of Tiltonsville and distributes that water to the customers throughout the County. As can be seen in the chart above, over 36% of the 2018 costs to operate and maintain its water system can be found in the costs to purchase water from these reliable sources. Only 22% of the costs to operate the system, including the purchase of water, are related to operating personnel wages and benefits. This is amazing when one considers the extent of the system operated by the District throughout the County and serves as testimony to the efficiency of the staff doing this work. With the excellent preventive maintenance program employed by the District staff, operating and maintenance costs are a little over 10% of the total cost of running the water system. Preventive maintenance pays dividends!!!

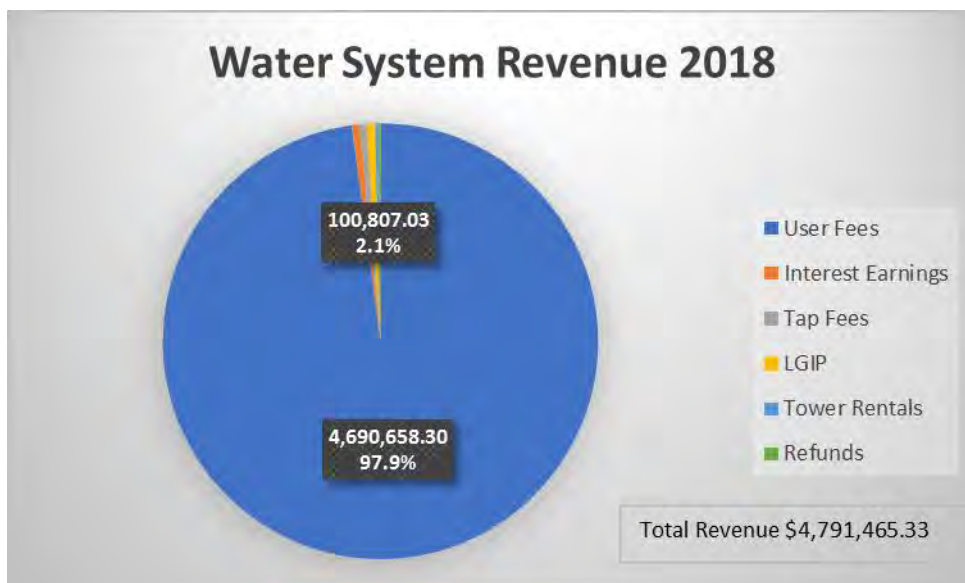
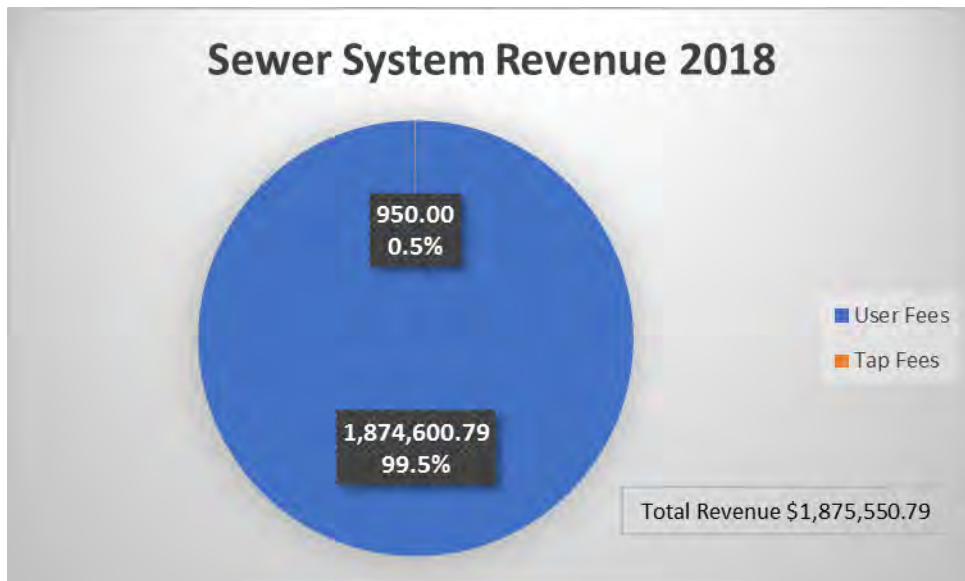






### 2018 Revenue Overview

The JCWSD realizes virtually all of its revenue for the sewer system from user fees charged to existing customers. This is because the areas served by public sewers are populated areas where virtually no available land exists for development. Relative to the water system, while almost 98% of the revenue generated comes from user fees, transmission lines pass through areas of undeveloped land that is developed, thus generated tap fee revenue. The District also realizes modest amounts of income from account interest and cellular companies renting space on water towers for their transmitting and receiving devices.





## Waterline Extensions

The Jefferson County Water and Sewer District recognizes the need for the residents of the County to have safe drinking water. The District's water system, while not serving every County resident, does provide safe and reliable drinking water for thousands of County residents. As such, the District is always evaluating the petitions or requests that are filed by residents desiring public water. While it would be ideal if the District could accommodate every request or petition submitted, it is both financially and physically impossible to honor every request that comes in.

The Management team of the Water and Sewer District devoted time and attention to evaluating the many requests and petitions that have been made to the office requesting public water over the past several years. These requests were revisited in 2017 and 2018 and all requests or petitions were evaluated competitively based upon a variety of criteria including number of customers served, estimated construction cost, and environmental impacts. Accordingly, the District will begin planning for water line extensions over the next two-year period in the following areas:

- County Road 43 Laurel Hills Area
- Trails End Road off Route 213
- County Road 56



2018 Flow Daily Averages, Totals and Chlorine PPM Averages

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals	
Area M	Total	70.42	57.03	58.22	55.44	63.18	60.14	64.57	61.29	59.53	62.88	60.08	60.94	<b>733.72</b>
	Daily Av.	2.272	2.037	1.878	1.848	2.038	2.005	2.083	1.977	1.984	2.028	2.003	1.966	
	Min	2	1.7	1.6	1.66	1.86	1.78	1.87	1.8	1.52	1.83	1.77	1.69	
	Max	2.54	2.25	2.1	2.01	2.32	2.24	2.55	2.15	2.41	2.23	2.55	2.22	
	Free	0.960	0.839	0.642	0.714	0.677	0.627	0.616	0.739	0.881	0.855	0.830	0.832	0.768
	Total	1.100	0.964	0.751	0.857	0.797	0.749	0.721	0.881	0.994	0.940	0.950	0.891	
Area A	Total	17.076	15.653	16.661	15.7	15.711	15.593	16.183	16.262	15.327	15.496	15.561	16.719	<b>191.942</b>
	Daily Av.	0.551	0.559	0.538	0.523	0.507	0.520	0.522	0.525	0.511	0.500	0.519	0.539	
	Min	0.507	0.52	0.487	0.422	0.339	0.426	0.465	0.48	0.407	0.442	0.456	0.505	
	Max	0.66	0.646	0.573	0.571	0.559	0.694	0.584	0.588	0.632	0.573	0.564	0.577	
	Free	0.639	0.661	0.642	0.577	0.594	0.437	0.397	0.477	0.507	0.548	0.690	0.710	0.573
	Total	0.761	0.773	0.774	0.717	0.695	0.554	0.527	0.583	0.620	0.643	0.807	0.856	0.692
Area J	Total	1.295	0.923	1.05	1.04	1.144	1.068	1.147	1.134	1.21	1.044	1.121	1.162	<b>13.338</b>
	Daily Av.	0.042	0.033	0.034	0.035	0.037	0.036	0.037	0.037	0.037	0.034	0.037	0.038	
	Min	0.026	0.01	0.019	0	0.019	0.021	0.013	0.018	0.021	0.016	0.015	0.025	
	Max	0.061	0.047	0.05	0.053	0.067	0.053	0.068	0.064	0.112	0.053	0.071	0.06	
	Free	0.536	0.629	0.671	0.673	0.684	0.630	0.723	0.568	0.583	0.565	0.607	0.526	0.616
	Total	0.652	0.739	0.781	0.775	0.781	0.740	0.837	0.660	0.688	0.657	0.706	0.629	0.720
Area O	Total	1.215	1.098	1.208	1.171	1.174	1.11	0.9	0.85	0.851	0.981	0.86	0.89	<b>12.308</b>
	Daily Av.	0.039	0.039	0.039	0.039	0.038	0.037	0.029	0.027	0.028	0.032	0.029	0.029	
	Min	0.037	0.037	0.037	0.037	0.012	0.022	0.023	0.017	0.02	0.021	0.023	0.026	
	Max	0.041	0.047	0.041	0.041	0.047	0.056	0.038	0.038	0.058	0.048	0.037	0.031	
	Free	1.050	0.768	0.519	0.657	0.629	0.507	0.255	0.611	0.873	0.848	0.800	0.603	0.677
	Total	1.190	0.899	0.706	0.756	0.734	0.607	0.376	0.721	0.987	0.974	0.907	0.708	0.797
													<i>Grand Total</i>	<i>In MG</i>
														<b>951.308</b>

\*Average chlorines for areas M and A, where there is typically more than one analysis performed, are based on the lowest daily value found.



Located at 596 State Route 43 in Wintersville, OH 43953-0579

Proudly serving 7,758 water and 3,278 sewer customers  
throughout Jefferson County.

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