

Jefferson County Water and Sewer District

Jefferson County, Ohio



2019 ANNUAL REPORT

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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 bills can be paid online at www.jcwatersewer.com/pay-your-bill-online/



Water and Sewer System O&M Highlights For 2019

Water

During 2019, the District spent a considerable amount of time tending to updating the mapping for the water system and performing preventative maintenance on water system components. The District inspected and painted virtually all the fire hydrants in their four service areas, Area A, Area O, Area J, and Area M. In conjunction with RCAP, the District also completed the GPS mapping of its water system so that RCAP could update the County-wide GIS map of the water system. The District applied for funding to acquire as part of this program with RCAP a GPS unit and tablets to use in keeping the water system mapping up to date.

The Jefferson County Water and Sewer District along with the Ohio EPA completed an evaluation and inspection of all water tanks in the County and identified minor maintenance issues that were to be addressed in 2020. Additionally, the JCWSD had a comprehensive inspection conducted on the Norton Hill Water Tower and is planning a project for 2020/2021 to repair and repaint this important water tank. The District also continued negotiations with the Village of Richmond for taking over ownership of the Village water system.

The District conducted over 2,800 daily, weekly, monthly, and quarterly test to ensure water quality. 26 water taps were installed for new customers. Two waterlines were relocated for ODOT projects along State Route 151 and State Route 213.

The District repaired 106 water lines in 2019! The repairs are broken down by system as follows:

Area A: 27

Area O: 1

Area J: 3

Area M: 75

Sewer

In 2019, the Jefferson County Water and Sewer District continued to operate and maintain its seven (7) wastewater treatment plants and planned for improvements at two of those treatment plants. With the aid of RCAP, the District completed GPS mapping of its sewer system with the data entered onto a GIS sewer system map. Funding for a GPS unit and tablets was also obtained with the equipment scheduled for delivery in 2020. The District also conducted over 1,000 laboratory tests of wastewater for EPA compliance and to ensure proper treatment.

The District continued to perform routine infiltration and inflow investigative work on parts of its sewer system and perform important preventive maintenance on its sewage treatment plants, pump stations, and manholes on an as needed basis.

- The District's seven Wastewater Treatment Processed and Treated 306,000,000 gallons of sewage
- Pressed and disposed of 17.2 tons of stabilized sludge generated by the District's Sewage Treatment Plants

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 and each project is undergoing final preparations before being advertised for bids.

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 District originally had planned to defer this project until 2021 or 2022 but recent mechanical issues with the pumps at this major station necessitated the Water and Sewer District advancing the project to bidding in 2020.

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. Work on this garage will be paired with the construction of a new Ultraviolet Disinfection Unit at the treatment plant. This state of the art Ultraviolet Disinfection System will replace the existing chlorine gas wastewater disinfection system at the plant. The District has been finding that the purchase and delivery of chlorine gas is challenging as more and more facilities switch to disinfection using ultraviolet technology or alternative chemical disinfection methods like peracetic acid.

On the water side of things, the Water and Sewer District had a comprehensive internal and external inspection done on the Norton Hill Water Tank on Route 43 next to the District Service Center. This one (1) million gallon prestressed concrete ground storage tank is a major component of the District's county-wide water system. The inspection determined that the tank was in need of structural repairs and painting to maintain its operational status for many years to come. Design work on this tank is scheduled for mid-year 2020.



Smithfield Sewer Project Sewer System Improvements

With the Jefferson County Water and Sewer District concluding negotiations in early 2018 with the Village of Smithfield, Ohio EPA, and USDA, the District assumed 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 Design engineering work for improvements to the existing sewage treatment plant and nine (9) sewage pumping stations has been completed. The project is ready to be advertised for public bid pending the resolution of a property ownership issues. 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.



The exterior of one of the nine sewage pump stations in the Smithfield Wastewater System



The inside of the pump station as seen to the left. Visible in this photo are two discharge force mains, chain for pump removal, access steps, and pump control equipment.



One of the two aerated lagoons located at the Smithfield Wastewater Treatment Plant. These lagoons create an aerobic environment which promotes the natural breakdown of wastewater solids.



Smithfield Water Tank



Demolition of the old Smithfield Water Tank took place in December of 2019



The new painted water tank with the Jefferson County identification on the side



Various custom pieces of metal were shipped to the site, where they were then welded together to create the new tank bowl and tank base.

The Smithfield Water Tank serves the Village of Smithfield, Piney Fork, and Dillonvale Ridge. Construction of this new 200,000 above ground spheroid tank is scheduled to be completed in the early fall of 2020. The contractor for the project was McGuire Iron from Sioux Falls, South Dakota. With construction approximately 80% complete as of this writing, the project work completed in 2019 and 2020 has gone very smoothly with very few issues.

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 applied 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 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 cost of construction is \$1.60 million dollars. Construction is currently underway, and the tank is expected to be completed and operational by November 2020.



Amsterdam Area Sanitary Sewer Project

Construction work on the new sewer system for the Village of Amsterdam in Springfield Township (Jefferson County) and Loudon Township (Carroll County) commenced in early 2020 after the public bidding process was executed in late 2019. Approvals were obtained from the US Army Corps of Engineers and United States Department of Agriculture. Low bid contractors for this large project include Workman’s Industrial for the Sewage Treatment Plant, Rudzik Excavating for all sewers and pump stations in Jefferson County, and Alex Paris for the sewers located in Carroll County. The project will include the construction of about 63,000 feet of sanitary sewer lines, two sewage pump stations, and a 50,000 gallon per day sewage treatment plant. The plant is located on property purchased by the County adjacent to the Village’s Rogers Park. The cost of the project is in excess of 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. To date, over 45% of the total sewer lines (piping and sanitary manholes) have been installed in Jefferson County, and over 50% of the total sewers in Carroll County have been installed. Both line contractors work personally with residents to determine the most optimal placement of each property’s sewer service lateral. The project is expected to be completed by early 2021.



A newly placed sanitary manhole



Trench boxes are used to protect workers against cave ins while laying pipes and setting manholes



GPS Surveying equipment is used to ensure accurate locations and elevations of all pipes and manholes



Excavators digging out and backfilling trenches for pipeline installation



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 2019, with every request or petition evaluated competitively based upon a variety of criteria including number of customers served, estimated construction cost, and environmental impacts. Accordingly, the District has begun 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

As is the case with all projects undertaken by the Water and Sewer District, funding in the form of grants will be sought for these projects.

Additionally, the District had discussions with the Village of Richmond throughout 2019 concerning the Village transferring all water system assets over to the County and Water and Sewer District. While the official transfer of assets has not been completed as of this writing, discussions are ongoing and the District is looking forward to expanding its customer base and maintaining the Village water system with its water department personnel and equipment. The Richmond system was constructed in 1952.



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 website. 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.





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.

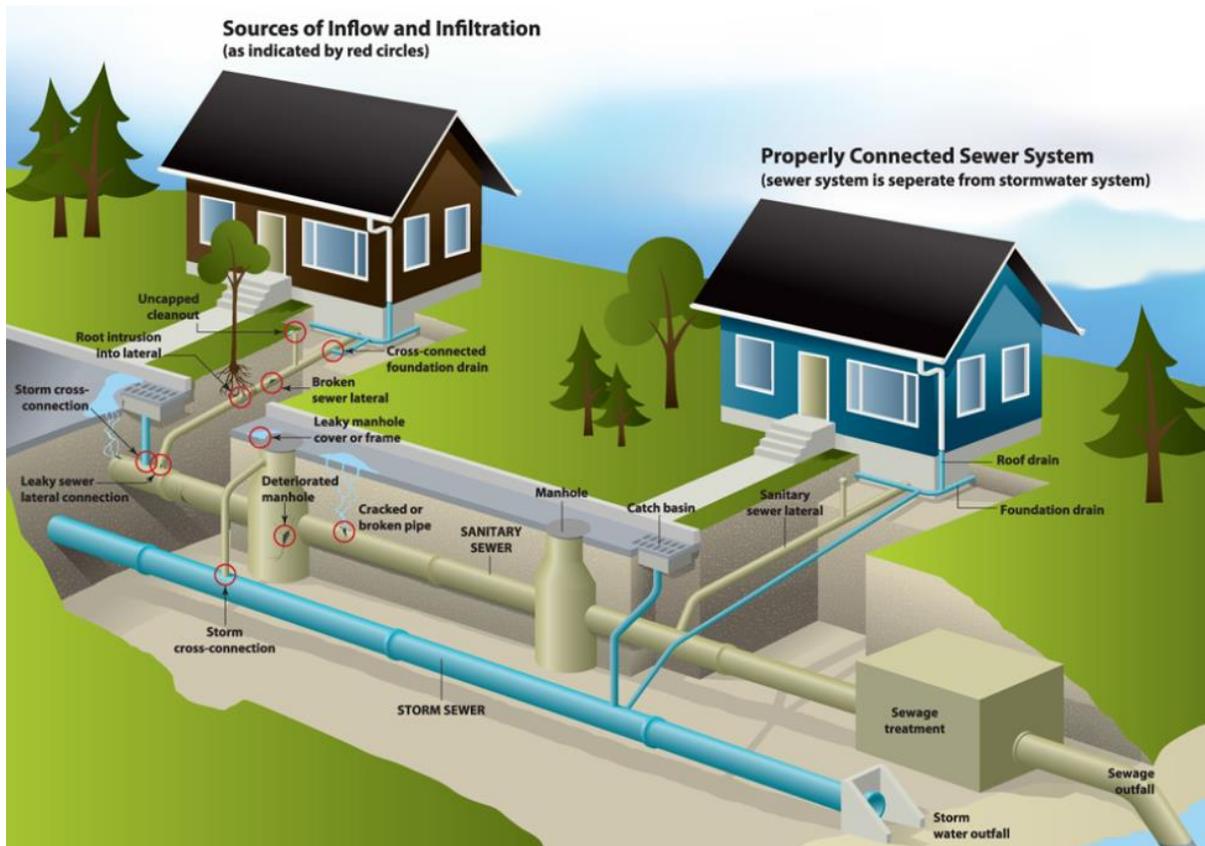
Therefore, please report any observed unauthorized use of the public water system of the JCWSD such as turning on fire hydrants, tapping into a neighbor's service line, tampering with the water meter, or unauthorized filling of swimming pools. Additionally, please report any person who is NOT an employee 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!



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.





Senate Bill 2 Asset Management Plans

Ohio Senate Bill 2 required 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. That plan is currently being updated for the current year, with the addition of assets to the plan. The AMP will continue to be updated as new assets are refurbished and built. The District will be updating the AMP prepared in 2018 during 2020 to comply with mandates issued by the Ohio EPA.

Ohio EPA Asset Management Plan Requirements (Senate Bill 2)

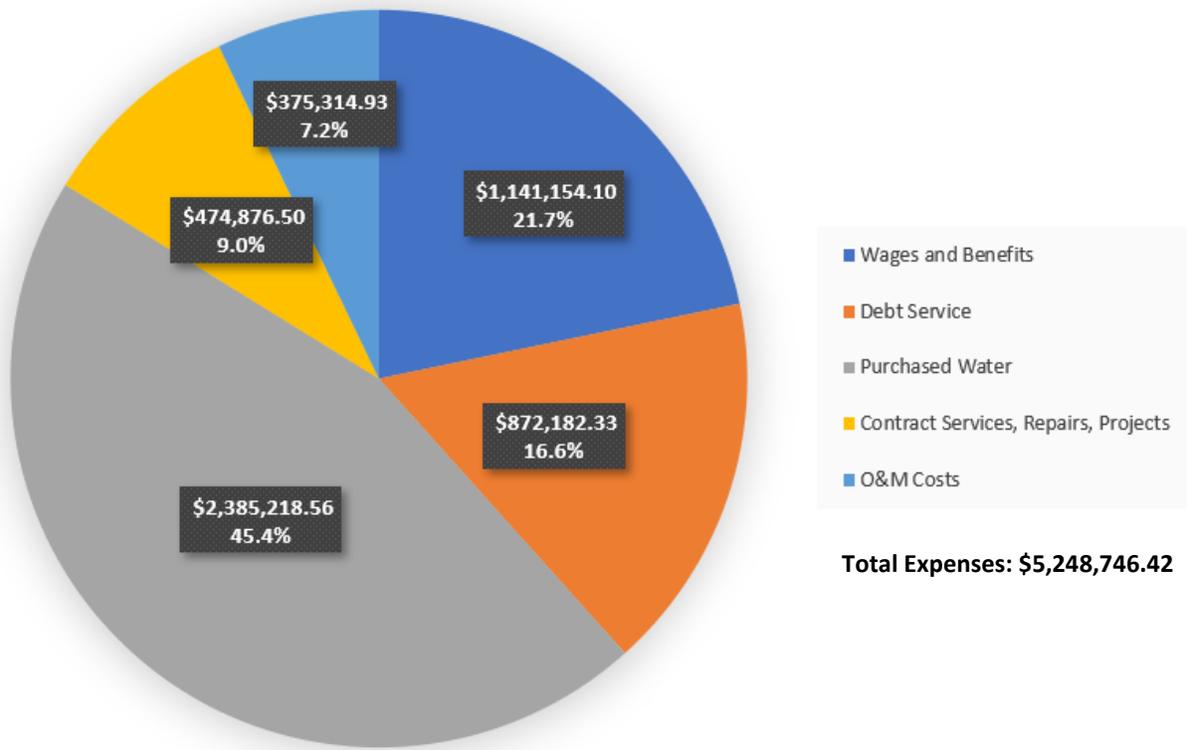




Water System 2019 Expense Summary

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 45% of the 2019 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 7% of the total cost of running the water system. Preventive maintenance pays dividends!!!

2019 Water System Expenses

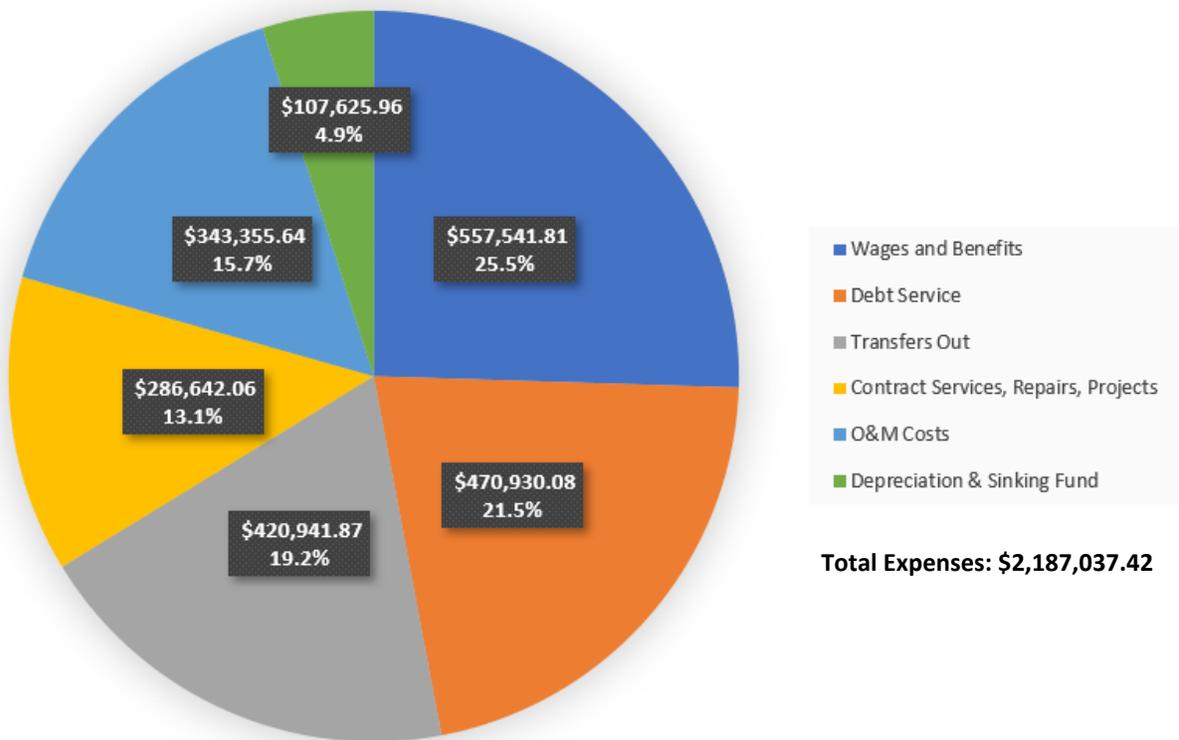




Sewer System 2019 Expense Summary

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 26% 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 2019 for the JCWSD equaled about one-fifth of the total money spent in operating and administering the sewer system.

2019 Sewer System Expenses

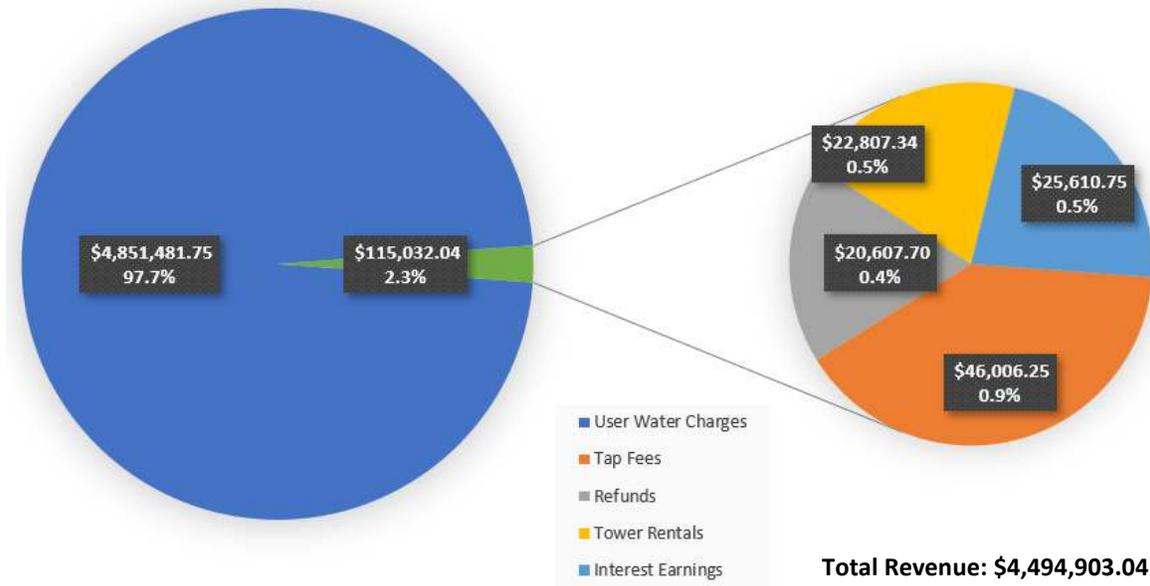




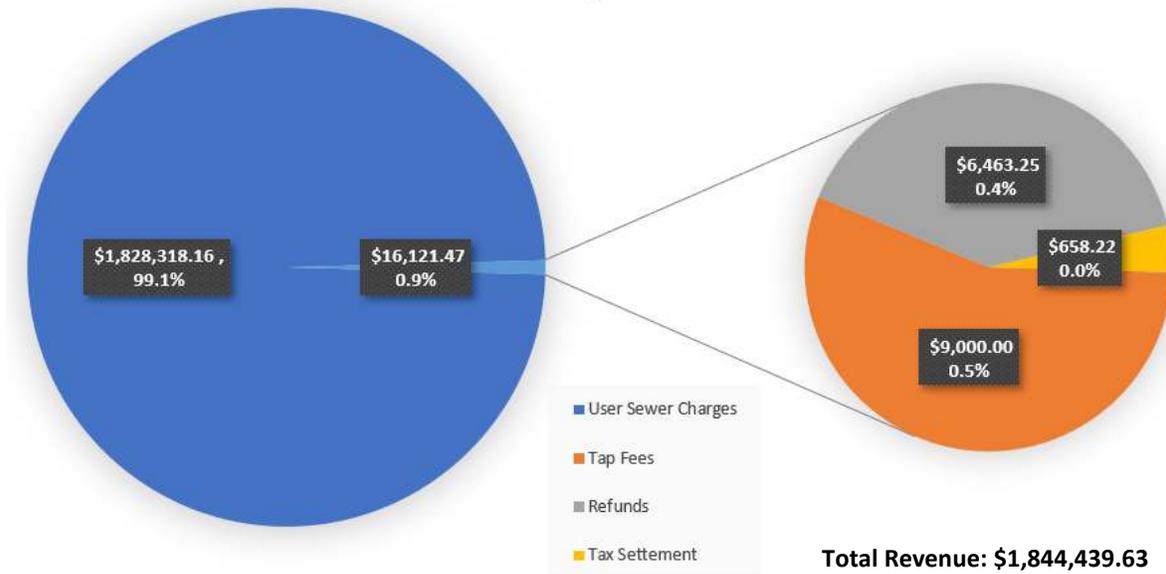
2019 Revenue Overview

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.

2019 Water System Revenue



2019 Sewer System Revenue



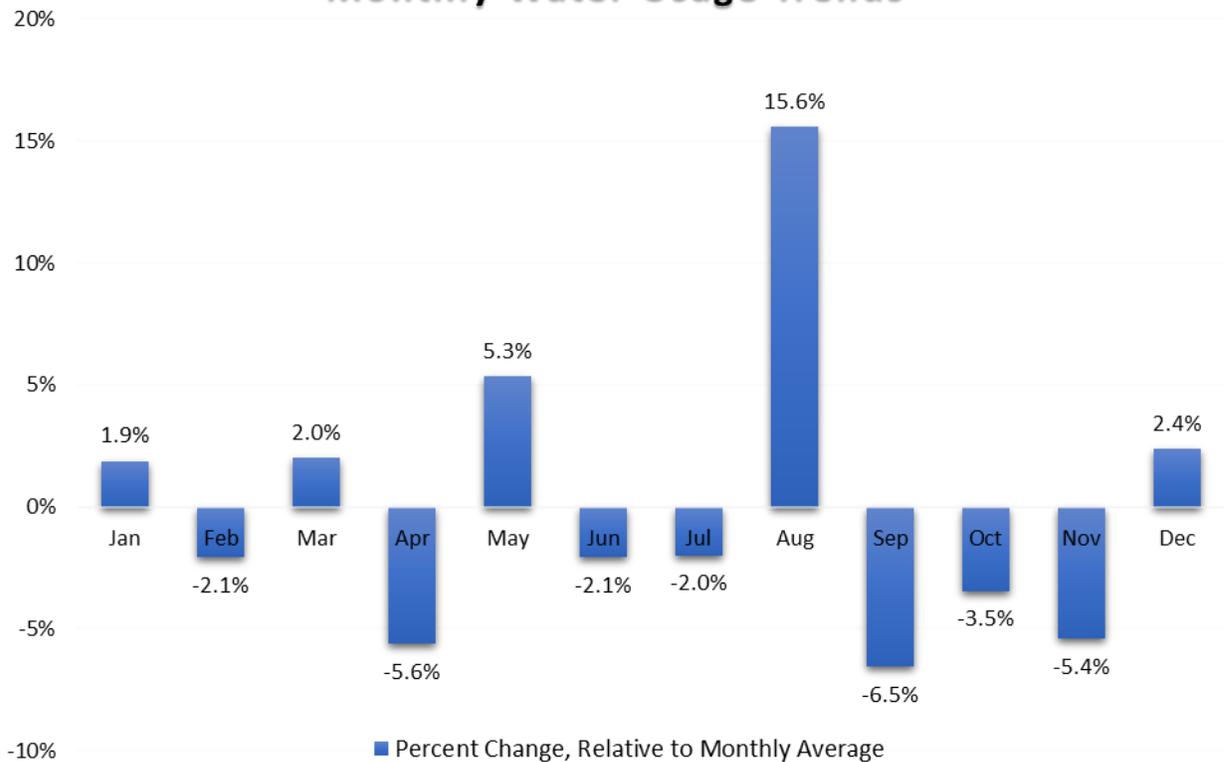


2019 Water Total Usage

The Jefferson County Water and Sewer District distributed almost one billion gallons of water in 2019. They are broken down by system usage below.

- Area M:** 743,500,000 Gallons
- Area A:** 196,000,000 Gallons
- Area O:** 11,750,000 Gallons
- Area J:** 13,250,000 Gallons
- Total:** 964,500,000 Gallons

Monthly Water Usage Trends



*Based on Area M Trends



JEFFERSON COUNTY
WATER AND SEWER DISTRICT



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

Proudly serving 7,784 water and 3,278 sewer customers throughout
Jefferson County.

Please visit our website at:

www.jcwatersewer.com