City of Newark, Ohio Division of Water and Wastewater 2022 Hind Sight Annual Report











Division of Water and Wastewater

City of Newark, OH



"To provide essential services that protect public health, preserve the environment and support sustainable growth of the community"

Sometimes the importance of our day to day work of providing clean drinking water and discharging clean wastewater back into the environment gets lost in all of our project work. Our mission of providing essential services was certainly a struggle during this pandemic. But even with the continuing projects and other difficulties, we continue to meet our mission of providing essential services to our customers. Yet new projects have progressed and we continue to improve the City infrastructure. So, in these unprecedented times, we continue to struggle to keep employees so that we can provide those essential services to our customers, and to continue daily operations as well as major projects. I certainly would like to offer kudos to our essential workers who work under difficult circumstances in order to keep the water clean and flowing.

This past year, work has continued to progress on the 4th Street Project. This project is replacing existing combined sewer lines with new sanitary and storm sewers along State Route 13 from National Drive to Granville Street. New water lines will be installed as part of this project as well. The work is finally out the State Route 13 which is now open with two new roundabouts. Another major project nearly completed this past year was the installation of a new UV Light Disinfection process. Work on two projects to upgrade the existing control system at both plants was on-going this past year and will continue into 2023.

A project that was started near the end of 2022 was the replacement of lead service lines. Thanks partly to funding from the American Recovery Plan, the City will be able to replace all lead service lines within the City including the private lines into the house. Currently there are two contracts working the first set of upgrades. Once a loan is secured for the remaining work, replacements will be bid in lots over the next several years. Design for additional sewer separation to meet the Long-Term Control Plan requirements is underway for the area north of State Route 16 and on South Second Street and will continue through 2023 and those projects will hopefully be ready for bidding near the end 2023 or early 2024.

Throughout all this craziness over the past few years we feel confident that our goal of quality and reliable service at an affordable rate will be attainable with a little good planning and personnel dedicated to providing top quality service. All of our projects are to improve infrastructure which ultimately will provide support to the community for sustainable growth. Long-term planning on the execution of our large capital projects is vital to this affordability. We must continue to be effective and efficient in our utility operation so that we can continue to provide quality, reliable service at rates citizens can afford, which remains our primary goal.

Roya Loomie

Roger Loomis, Water Administrator

2022 Annual Report

Financial Pages

Wastewater Department

Water Department

Active Customers	17416	Active Customers	18,866
Million Gallons Treated	2,764	Total Volume Billed (MG)	1,587
Miles of Sewer Line	182	Total Water Produced (MG)	2,798
Miles of Combined Line	57	Miles of Water Line	244
Lift Stations	16	Booster Stations	3
		Storage Facilities	2

Expenses: (excluding capital items and projects)

Wastewater – Oper	rating Expenses	Water – Operating	Water – Operating Expenses		
Administration Treatment	\$2,102,776 \$2,505,577	Administration Treatment	\$2,593,230 \$2,949,773		
Sewer Maintenance	\$ 557,094	Distribution	\$1,335,619		
Environmental Lab Debt Retirement	\$ 355,843 \$3,917,953	Meter Shop Debt Retirement	\$ 234,249 \$1,421,395		
Total	\$9,439,243	Total	\$8,534,266		

Revenues:

Sewer		Water	
Rental (sewer service)	\$3,230,923	Sales	\$6,021,223
Administration	\$1,591,412	Bulk Water	\$ 10,233
Debt Retirement	\$3,988,483	Delinquent	\$ 196,871
Surcharge	\$ 519,010	Meters	\$ 25,115
Capacity Fees	\$ 92,421	Permits	\$ 222,003
Trucked Wastes	\$ 505,380	Capacity Fees	\$ 57,579
Transfers	\$ 350,000	Deposits	\$ 154,382
Miscellaneous*	\$ 805,752	On Account	\$ 426,865
		Miscellaneous*	\$1,595,404
Totals	\$11,083,381	Totals	\$8,709,675

Includes~\$1,068,136~in~transfers~from~sewer~fund~and~\$194,639~from~stormwater~for~water~administration~costs.

Debt Service Cover Ratio/% Debt/Working Capital Days Wastewater -1.49, (42%), 228 Water -1.42, (17%), 105 Water Rate Comparison for 6000 Gallons of Usage (8 Units):

	Granville	Heath	Johnstown	SWLCWS	Cols	Lancaster	Newark
Water	\$37.56	\$50.56	\$63.57	41.38	37.30	\$56.55	\$27.28
Wastewater	\$44.82	\$52.81	\$42.38	80.96	49.67	\$73.47	\$38.10
Total	\$82.38	\$103.37	\$105.95	122.34	83.20	\$130.02	\$65.38







[&]quot;How you pay for it matters"

Major Facilities

The Division of Water and Wastewater is made up of six departments at four different base locations throughout the City. Other Facilities include 16 Sanitary Lift Stations, 3 Water Booster Stations, 2 Water Storage Facilities and 2 Auxiliary Water Wells.



Water Treatment Plant: North Newark on the North Fork of the Licking River, 164 Waterworks Road.

Wastewater Treatment Plant:
East Newark on the Licking River at East
Main Street and Ecology Row.



Water Distribution & Sewer Maintenance Complex:
East Newark, 1275 East Main Street.

Water Administration Office & Meter Shop:

Downtown Newark, 34 South 5th Street



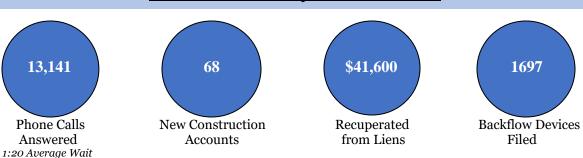


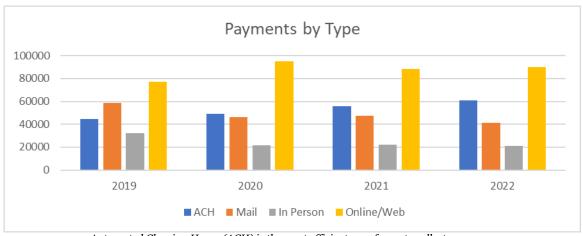




Time

Achievements by the Numbers





Automated Clearing House (ACH) is the most efficient way for us to collect revenue.



Top 5 Consumers

Owens	614,610 gpd
Anomatic	452,743 gpd
Tamarack Farms Dairy	184,090 gpd
Licking Memorial Hospital	136,532 gpd
Mobile Power Wash (Industrial Water)	77,815 gpd

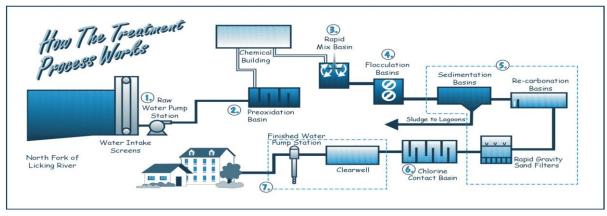
Account Delinquency Report

Amount Delinquent as of 12-31-2022 (>90 days) \$127,000 Amount Delinquent as of 12-31-2021 (>90 days) \$138,000

Delinquent amounts are being collected through withholding of services, placing liens on properties and in-house collections.

2023 Goals

- Further promote self-service habits to customers for increased efficiency.
- Relocate Newark Ice Rink and Reddington Road DCU's.
- Select a new Customer Information System and begin the transition to new billing software.
- Continue with our focus on larger meters and create meter testing SOP and schedule.



Ohio EPA Chemical Monitoring Averages for 2022

Fluoride	0.94	mg/L
рН	8.49	S.U.
Phen. Alkalinity	1.75	mg/L
Total Alkalinity	47.6	mg/L
Stability	-8.3	mg/L
Hardness	107	mg/L
Phosphate	0.19	mg/L
Free Chlorine	1.37	mg/L
Combined Chlorine	0.12	mg/L
Nitrate	1.47	mg/L
Turbidity	0.12	NTU
TOC (raw)	2.33	mg/L
TOC (finished)	1.14	mg/L
Lead (90th percentile)	0	ug/L
Copper (90th percentile)	0	mg/L

Major Projects Completed in 2022

- Fiber optic cable project completed
- VFD controllers upgrade to chemical pumps
- PLC upgrade (~90% completed)
- Rebuilt UV Wiper Systems 9 of 10
- Source Water Monitoring Equipment Installed
- Backwash Recycle Pump Repairs
- Replace Soft Starts for Rapid Mixers
- Lime Sludge Removed #3 lagoon, 12,815.5 Tons
- Plant Water Flow Meter Replaced
- Entry Point Turbidity Inline Meter Replaced
- Floc Basin Drive Shaft Replacement & Major Sludge Removal

Visit our website for more information on your water https://www.newarkohio.gov/water-wastewater/

Production Data for 2022

Daily Average Production 7.35 MGD Yearly Total Production 2,679.3 MG

Major Project Goals for 2023

- Lime Sludge #3 lagoon hauling (Cont.)
- Triennial Lead and Copper Sampling.
- River Dredging
- PLC/SCADA upgrade
- #3 Outfall Structure Rebuild Project
- Filter/CT Basin Inline Meter Replacements
- Backwash Recycle Pump Repairs (Cont.)
- Metal Roof Replacement, Admin buildings
- CO2 System Replacement Project
- New Inline Fluoride Analyzer Installation
- Filter Turbidity Meter Replacement 10 of 10
- Lime Silo Power wash/Painting

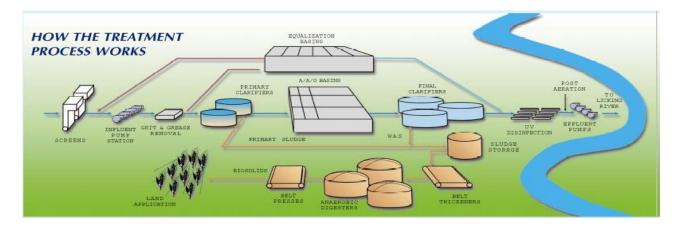








Wastewater Treatment Plant



2022 Plant Operation Data

Annual Average

Ave. Flow MGD	Raw Suspended Solids mg/l	Final Suspended Solids mg/l	% Removal Suspended Solids	Raw CBOD mg/l	Final CBOD mg/l	% Removal CBOD	Raw Ammonia mg/l	Final Ammonia mg/l	% Removal Ammonia
MGD	IIIg/I	mg/i		IIIg/I	IIIg/I		IIIg/I	mg/i	
8.8	151.5	2.6	98.3%	109.1	3.0	97.3%	10.5	0.87	91.7%

Major Projects Completed in 2022

- Replaced 1998 Trojan UV 4000 disinfection unit with new Trojan Signa unit.
- Added covers to the final clarifier laundering troughs.
- Replaced 4 out of 10 obsolete Programmable Logic Controllers (PLC) along with upgrading associated SCADA screens.
- Recommissioned #2 Thickener New PLC.
- Replaced mag meter for sludge storage pumping.
- Replaced/repaired several entryway doors around the plant.
- Inspected building roofs and in the process of replacing or repairing.
- Painted bridges over the Sludge Storage tank and 2 WAS holding tanks.
- Painted floors in Filter building.
- Painted floor in Environmental Lab.
- Rebuilt several pumps and motors.

Major Project Goals for 2023

- Replace roof on the Influent pump building.
- Minor repairs to several of the plant roofs.
- Add radar level indicators to influent wet well.
- Continue repairing and/or replacing all doors that are showing signs of wear after 30 plus years of use.
- Replace impellers on Return Activated Sludge pumps.
- Paint Environmental Lab cabinets.
- Replace last of 3 aging Mixed Liquor Suspended Solids meter.
- Replace #1 Influent pump wear rings.
- Replace mag meters for #1 and #2 thickeners.
- Continue painting projects.
- Continue replacing obsolete PLCs.
- Continue replacement of aging equipment.







Trojan Signa Ultraviolet Disinfection

During this year we replaced our 24 year old Trojan 4000 UV system. The new Trojan Signa contains fewer lamps than the old system and should use about 1/3 as much energy as the previous system. The system has been in place since the beginning of the disinfection season (May 1^{st}) and has performed without flaw achieving Ecoli test results well below the limits set by the Ohio EPA.



Trojan Signa







Final Clarifier Laundering Trough Covers

During the upgrade of the ultraviolet disinfection system, we had covers put on the final clarifier troughs. These troughs were notorious for growing lots of algae in the summer and the operators would have to clean them weekly. The algae would then collect on the UV lamps and need to be removed. With the covers in place algae does not grow and the disinfection of the effluent is not affected.













Water Distribution

2022 Accomplishments:

- > Renewed 101 water services.
- > Installed 8 new water taps.
- > Discontinued 27 water services.
- > Repaired 42 water main breaks.
- ➤ Replaced 7 fire hydrants.
- ➤ Repaired 98 fire hydrants.
- ➤ Annual flushing program Flushed 1,182 fire hydrants.
- Painted 0 fire hydrants, due to lack of summer help.
- ➤ Helped with 4th street project, line stops, new valves, etc.
- ➤ Leak detection 8,990.91feet of water main completed.
- ➤ Worked valve maintenance program Repaired 9 valves, worked 947 Valves, installed 8 new valves.

2023 Goals:

- > Upgrade water main on Pierce Ave.
- ➤ Continue to upgrade old galvanized water services.
- ➤ Continue fire hydrant flushing.
- > Resume valve maintenance program.
- Continue valve and leak detection program.
- Continue high quality service to water customers of Newark.







Sewer Maintenance

2022 Accomplishments:

- Responded to 18 plugged sewer orders on city mains.
- Responded to 70 plugged orders on private owners.
- > Televised 13.3 miles of sewer main.
- ➤ Cleaned 23.95 miles of sewer main.
- ➤ Inspected CSO overflows 65 times after rain events.
- ➤ Manholes worked 16 repaired or replaced.
- ➤ Manhole inspections 246 completed.

2023 Goals:

- ➤ Continue televising sewer mains to determine if repairs are needed in an effort to reduce the chances of catastrophic sewer failure.
- ➤ Complete upgrade of sanitary and storm lift stations with SCADA monitoring system.
- ➤ Continue to monitor for long term control plan.
- Continue with preventive maintenance work on manholes and sewers to provide customers with reliable and uninterrupted service.







Construction/Design

Current Projects:

Fourth Street Combined Sewer Separation Project

Estimated Construction Cost: \$ 24,500,000.00 Estimated Completion: November, 2023

Project Scope:

The existing combined (sanitary and storm) brick sewer will be replaced with new separated sanitary and storm sewers. Due to the scope of the excavation required for the sewer replacement, this project will also include waterline, roadway, sidewalk and green infrastructure work. The project will begin on National Dr. between 4th St. and 5th St., continue on 4th St. to Locust St., then onto Granville St. to S.R. 16.

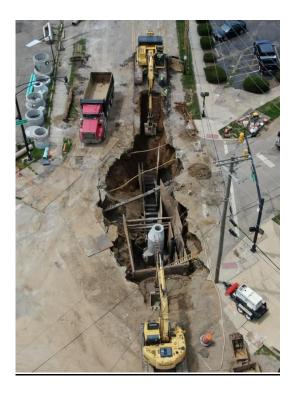
Project Progress:

Buried piping and roadway work was completed on SR 13 (4th St.) including the opening of two new roundabouts. To date over six miles of new buried piping has been installed on SR 13 in addition to asphalt, sidewalks, street lighting, landscaping and green infrastructure.

2023 Projection:

The project is expected to complete all work and be completed in late 2023.











40th Street Transmission Line

Estimated Construction Cost: \$ 6,400,000.00

Estimated Completion: May, 2023

Project Scope:

A new 16" water transmission line extending from Country Club Dr. at Granville St. to W. Main St. and Coffman Rd. This project also included the reconstruction of 40th St. including new storm sewers along 40th St. and the installation of additional storm sewer piping to accommodate future storm sewer projects in this area.

Project Progress:

All work, except a small portion of retaining wall and sidewalk on 40^{th} Street, was completed on this project.

2023 Projection:

The project is expected to complete all work and be completed in spring of 2023.











Wastewater Plant UV Project

Estimated Construction Cost: \$ 3,700,000

Estimated Completion: July 2023

Project Scope:

Installation of a new Ultraviolet Light disinfection system to replace the existing system, PLC replacements and final clarifier weir covers.

Project Progress:

UV system was functional May 2022 and weir covers were completed September 2022. Pending final PLC work.

2023 Projection:

Remaining PLC modifications are expected to be completed.











Lead Service Line Replacement Project #1

Estimated Construction Cost: \$ 800,000

Estimated Completion: June 2023

Project Scope:

As part of EPA requirement replacing 100 non-copper or galvanized City and Customer service lines within Ward 1. Identification of service line material is an on-going process and a map of service line material has been developed.

Project Progress:

Approximately 70 services were completed in 2022.

2023 Projection:

Finish remaining 30 services and restore disturbed landscaping, concrete and asphalt areas.











Water Treatment Plant Instrumentation

Estimated Construction Cost: \$ 2,100,000 Estimated Completion: August 2023

Project Scope:

Updating plant monitoring system with new PLC's and SCADA system. Additional instrumentation and controls for water treatment processes are being added as well as storage tank monitoring on Horns Hill and River water quality monitoring.

Project Progress:

SCADA upgrades were completed. Minor PLC and instrumentation work remaining in 2023.

Raccoon Creek Streambank Restoration

Estimated Construction Cost: \$ 1,426,000

Estimated Completion: May 2023

Project Scope:

This is a cooperative project with the Army Corp of Engineers to rebuild a low head dam on the Raccoon Creek. The dam is starting to fail and is need of repair. This dam is designed to protect existing water and sanitary lines as well as prevent erosion along State Route 16. This project also impacts the closure of the bike path along SR 16.

Project Progress:

Construction started November 2022 with anticipated completion by 2nd Quarter 2023.

Waterline Relocations

Waterlines on Jefferson Street, Moull Street, and Church Street bridges were relocated to accommodate ODOT bridge replacements in 2023. Total cost was approximately \$200,000 for all three projects.

6-inch waterline servicing Licking Memorial Health was replaced due to age. Installed new tap and valve and LMH replaced private water main to hospital.

Sewer line extension

Approximately 300 feet of Sanitary sewer on Kelley Lane was installed to provide service to customers on south side of Kelley Lane.







Future Projects:

East Side Transmission Main

A new 16" water transmission main is planned from Alston Ave. to Dayton Rd. along New Haven Ave and Butler Rd. This new transmission line will provide additional flow and better chlorine protection to the east end of Newark. This new water main may also provide for future water needs east of Newark. This project is 90 Percent designed and being funded by a grant from the Ohio Department of Development and is scheduled to bid in 2nd Quarter 2023.

Thornwood and Faye Drive Booster Stations

Two new water booster stations are planned for the west side, one on Faye Dr. and one to replace the existing station on Thornwood Dr. These new stations will replace the aging Thornwood Dr. station and provide additional capacity and reliability. This project was awarded to Downing Construction in October 2022 for \$4.1M with anticipated construction to start 2nd Quarter 2023.

South Second Street Sewer Separation

This project is required by EPA to comply with our NPDES permit. The existing combined (sanitary and storm) brick sewer will be replaced with new separated sanitary and storm sewers. Due to the scope of the excavation required for the sewer replacement this project will also include waterline, roadway, sidewalk and green infrastructure work. The project will begin at Ohio St. and extend to E. Walnut St. along S. 2nd St. Design of this project began in 3rd Quarter 2022 with anticipated bid date of September 2023.

16 North Sewer Separation

This project is required by EPA to comply with our NPDES permit. The existing combined (sanitary and storm) sewer will be replaced with separated sanitary and storm sewers. This project will be located from St. Clair St. to Stevens St. between Mt. Vernon Rd. and Hudson Ave. and from Moull St. to Rugg Ave. between Mt. Vernon Rd. and 12th St. Detailed design of this project is expected to begin March 2023 with construction starting in 2025.

River Road Sewer

Installation of 3,400 feet of gravity sewer line on River Road connecting Park Trails to Reddington Road that will replace a sanitary lift station and force main with a gravity system. Design is 90 Percent complete with anticipated bid in 3rd Quarter 2023. This project is being coordinated with the Thornwood Drive/Cherry Valley Bridge Project.

Water tower painting

Replace aging and corroded coating on interior and exterior of water tower. Tower has not been painted since 2008. Tank will be sand blasted and painted 3rd Quarter 2023.







Licking River Dam Spillway Improvements

Address deficiencies identified by the State of Ohio Dam Safety Authorities. Create overflow channel on east side of dam to direct flows to a control structure that will discharge to the river approximately 200 ft downstream. Design is complete, pending ODNR approval to move forward.

Lead Service Line Replacement #2

Continue with replacement of 200 non-copper or galvanized service lines within the system. Project will be awarded in February 2023. Identification of line material is an on-going process and a map of service line material has been developed. Part of the Ohio EPA mandate to remove all lead from the drinking water system.

Lead Service Line Replacement #3

Continue with replacement of 400 non-copper or galvanized service lines within the system. Project will be awarded in July 2023. Identification of line material is an on-going process and a map of service line material has been developed. Part of the Ohio EPA mandate to remove all lead from the drinking water system.







Stormwater

Small Drainage Projects completed in 2022

- Hollander St. outfall repair
- Normandy Dr. dead end catch basin rehab, curb, ditch maintenance
- Log Pond Run Diversion Ditch rehab and clean out near bike path
- Londondale Pkwy. at Normandy Dr. install pipes to catch basins
- Donovan Dr. to Sleepy Hollow Ditch regrade yard and install pipe to outfall
- Goosepond Rd. at Independence Dr. catch basin and pipe install
- W. Church St. at Day Ave. catch basin and pipe install

Fleek Ave. Pipe Repair through Levee Project

- Tree/brush removal
- Manhole installation
- Pipe lining to be completed in 2023

Sink Hole Repairs completed in 2022

- Riley St.
- 5th St. and W. Main St. intersection

Log Jam Removals completed in 2022

- N. 21st St. over Raccoon Creek
- SR13/National Dr. over South Fork Licking River
- Cherry Valley Rd. over Raccoon Creek
- Three locations on Owens Corning property

Planned Small Drainage Projects for 2023

- S. 25th Street catch basins and pipe
- O'Bannon Ave. alley catch basins and pipe
- Miller/Wells Ave. alley to S 30th St. catch basins and pipe

Education/Outreach in 2022

- Backyard Conservation Day
- Liberty Middle School 6th grade science day/creeking in Raccoon Creek
- Legend Elementary School 3rd grade science day in classroom
- Legend Elementary School 3rd grade Wastewater Treatment Plant Tour
- YMCA day camp creeking
- Hartford Fair booth
- Downtown Newark Association STEMfest

Stormwater Credits Program Activity in 2022

- 21 business credit recipients in 2022
- 11 school credit recipients in 2022
 - o Nine educator trainings offered









Licking River Round Up Clean Up – September 10, 2022

- Three base locations in Newark
- 83 participants
- 26,000 lbs. of trash, 2,500 lbs. of scrap metal, and 185 tires removed
- 22 poster contest entries
- One presentation to Newark City School Board



Levee Maintenance in 2022

- Stop log gate closure at SR13/National Dr. exercised on April 6, 2022
- Design work began for gate and levee improvements
- Vegetation maintenance, including mowing and spraying, continued in 2022



Watson Road Landfill Maintenance in 2022

- Explosive Gas Monitoring was conducted in the spring and fall
- Revised Explosive Gas Monitoring Plan approved by Ohio EPA
- Mowing continued in 2022
- Monthly sampling continued in 2022

Other 2022 Accomplishments:

- 298 households participated in leaf pick up program
- 74 construction sites inspected
- 63 dry weather screening inspections of outfalls
- 42 plans reviewed, with 25 of them requiring SWPPP review and approval
- 17 city employees attended illicit discharge training
- One sanitary sewer cross-connection eliminated
- Stormwater Management Program plan approved by Ohio EPA







Human Resources

Over 30 Years of Service

25-29 Years of Service

Don Dyar	Water Plant	77 & 11
Roger Loomis	Water Office	1985
John Kreager	Dist./Collection	1986
Randy McDaniel	Wastewater	1988
Jon Moulton	Wastewater	1989
Trent Johnson	Meter Shop	1990
Nancy Taylor	Wastewater	1990
Jeff Krauskopf	Wastewater	1992

Bryan Curry	Wastewater	1993
Jeff Postle	Distribution	1996
Paula Carpenter	Water Office	1996
Andrea Beichler	Water Office	1997
Lori Bane	Water Office	1997
Ed Metzger	Water Plant	1997

20 to 24 Years of Service

15 to 19 Years of Service

Catherine Austin	Water Office	2000
Keith Hampshire	Water Plant	2000
Ed Clark	Stormwater	2000
Mary Hull	Water Office	2001
Jay Fisher	Wastewater	2002

Drew Forgrave	Dist./Collection	2003
Bill Charles	Water Plant	2004
Jeremy Moore	Distribution	2004
James Robb	Collection	2004
Angela Reischman	Wastewater	2004
Trophy Iler	Water Office	2005
Shawn Wagner	Water Plant	2005
Mark Patznick	Water Office	2006
Josh Wilson	Dist./Collection	2006
John Lee II	Water Plant	2007

10 to 14 Years of Service

Kevin Rodeniser	Distribution	2008
Patrick Thompson	Water Plant	2008
Mike Troyer	Water Plant	2010
Fred Nance	Wastewater	2011
Bob Walton	Water Office	2011
Cole Tharp	Water Plant	2011
Lindsey Brighton	Stormwater	2009

New Hires

Cory Brehm	Dist./Collection
Cody Howe	Dist./Collection
Kyle Squires	Dist./Collection
Troy Burden	Dist./Collection
Drew Ryan	Dist./Collection
Roger Hottinger	Dist./Collection
Eric Walters	Dist./Collection
Dillion Dawson	Water Plant
Vincent Hickman	Wastewater
Brandon Fox	Water Office

Retired

Joe Hickman John Moulton

Avg. Age as of 1/2023 - 49.4

Avg. Years of Service with the City -13.5





