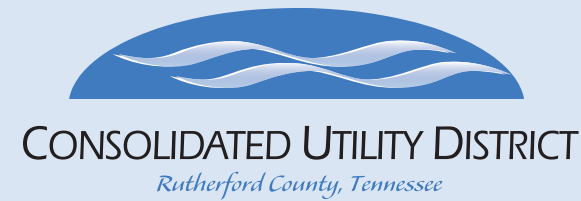


# 2019-2020 ANNUAL REPORT

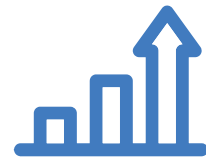


## ESSENTIAL TRUTHS ABOUT CUD

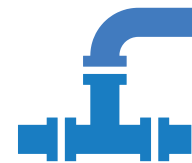


- We exist to serve our ratepayers.
- We are funded by tap fees and monthly bills. We receive no tax dollars.
- CUD is nonprofit and considered part of county government.
- State law allowed for the creation of CUD.
- CUD is subject to all Tennessee state government meeting laws.
- We operate by EPA and state conservation regulations.

## DID YOU KNOW ?



Today, CUD serves more than 170,000 people in Rutherford County. We are growing at a rate of roughly 3.5 to 4 percent in terms of new customers annually.



CUD has installed more than 1,400 miles of pipe in Rutherford County. That's greater than the distance from Murfreesboro to Albuquerque, New Mexico.



CUD has received requests for advice about utility infrastructure from as far away as Canada, Guam, the United Kingdom, and Israel.



CUD was first established to provide safe drinking water to rural customers whose water supplies had become unreliable and contaminated.



## OUR RESPONSE TO COVID-19

- CUD uses chlorine in its daily treatment processes. Chlorine is highly effective in removing or inactivating viruses that are even more resistant than COVID-19.
- Our typical daily range of chlorine is 2 - 2.5 parts per million, which eliminates viruses.
- CUD tests at least 120 samples of water each month in compliance with state and federal law.
- The COVID-19 virus has not been detected in drinking water.
- Conventional filtration methods used by water utilities either remove or inactivate the COVID-19 virus.
- Tap water is more regulated than bottled water. By the time treated water reaches ratepayers' homes, chlorine is in the water protecting against any viruses or bacteria it contacts.

## CAPITAL IMPROVEMENT PLAN 2019-2020

During our fiscal year, CUD spent over \$32 million to manage the water distribution system. That number includes the operation of our water treatment plant, salaries and wages, consumables, depreciation, and the costs of meters and other equipment. Below are our top 10 capital improvement projects.

K. Thomas Hutchinson Water Treatment Plant Expansion	\$3,102,000	Plant maximum capacity grows from 16 million gallons per day to 30 million gallons per day. (in service)
Manchester Highway/Epps Mill Water Line Replacement	\$1,715,000	Replaces outdated, undersized water mains. The new lines provide better flow and pressure with lower maintenance costs. (in service)
Rocky Fork - Almadale Line Replacements	\$712,000	Replaces outdated water mains with larger mains that offer a longer life expectancy. This will result in better flow and pressure and lower maintenance costs. (in service)
Rocky Fork Pump Station	\$350,000	Relocates the pump station for efficiencies in conjunction with the water main replacement projects along Rocky Fork - Almadale Road. (in progress)
East Compton Road Line Replacement	\$894,000	Replaces outdated water mains with larger and longer-lasting pipes to provide better flow and pressure and lower maintenance costs. (in service)
Walnut Grove - Midland - Armstrong Valley	\$450,000	Replaces existing water mains with larger, longer-lasting pipes that deliver better flow and pressure with lower maintenance costs. (in progress)
Rocky Fork - Almadale Line Replacement - Phase 2	\$200,000	Replaces outdated water mains with larger, longer-lasting mains that deliver better flow and pressure and lower maintenance costs. (in progress)
St. Andrews Water Main Relocation	\$222,000	Relocated a water main to minimize risk to a nearby residential structure. (in service)
District Metered Areas (DMAs) Development	\$250,000	Groups the entire county's water system into smaller zones for smarter monitoring of water loss and quicker, easier leak detection. (in progress)
Wastewater Facilities Rehab	\$250,000	Covers the cost of improvements planned for the Gatewood Section 1 Wastewater System and excavation and rehab of buried risers related to operation of STEP system tanks. (in progress)



CUD services more than 56,000 residential meters and more than 1,400 commercial and industrial meters throughout Rutherford County. Our average daily water demand is roughly 12.4 million gallons.

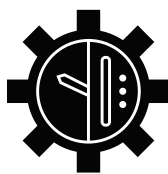


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CUD produces a free, quarterly e-newsletter. To subscribe, visit [cudrc.com/newsletter](http://cudrc.com/newsletter) ... Like CUDRC on Facebook.



In 2019, CUD signed a \$1.3 million contract with Itron Inc., an energy and water resource management company, to improve metering capabilities for the county's water distribution system. This agreement will improve connections with customers' meters, monitor water loss, and transform meter reading to an ongoing data feed. This means CUD will also be able to gather data from our office without deploying a vehicle.



### CUSTOMER SERVICE

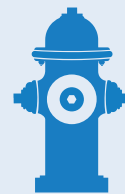
Managed an average of 300 calls per day (for six CSRs) and 1,500 calls per week. During the busiest times, each CSR could average 75+ calls per day. ● Processed an average of 150-175 new applications for service per week. ● During the COVID-19 pandemic, Customer Service managed between 25 and 85 new tap applications per week during the 90 days our lobby was closed. ● CUD's Facebook audience increased by 41 percent from the previous fiscal year.



### OPERATIONS

As of June 30, CUD operated 61 recirculating sand filter treatment systems in Rutherford County, with 6,452 STEP tanks. This is an increase of 9 percent over fiscal year 2018-2019 when CUD operated 5,905 tanks. STEP stands for Septic Tank Effluent Pump. ● The county's newest STEP system entered into service during February 2020 in the Pembroke Farms subdivision with a capacity of 100 tanks. ● CUD's Maintenance Team installed 2,811 taps, compared to 2,201 in fiscal year 2018-2019 – an increase of 27 percent. ● The CUD Maintenance Team also repaired 983 water line leaks, compared to 759 during the previous year – an increase of 29 percent.

In the second quarter of 2020, CUD provided water service to the 5,000th fire hydrant in its distribution network. Individuals or groups wanting to have a hydrant installed must fill out an application form, which is available on our website at [www.cudrc.com](http://www.cudrc.com).



### ENGINEERING

Water main replacement projects totaling 71,400 feet (13.5 miles) of pipe were completed along various roads throughout Rutherford County. ● Service area adjustments with Smyrna transferred 683 acres to CUD and 66 acres from Murfreesboro Water Resources Department to CUD. ● Engineering fulfilled 221 service orders, compared to 169 the previous fiscal year. ● Tested 449 fire hydrants versus 415 the previous fiscal year and flushed 6,797,589 gallons of water – an increase of roughly 4 percent over the previous fiscal year. ● Engineering managed water availability requests for 78 commercial lots and 4,367 residential structures and completed 2,409 bacteriological sampling tests. ● Performed 593 run tests at STEP tank installation sites, compared to 438 the previous fiscal year – an increase of 35 percent.



### INFORMATION TECHNOLOGY

Maintained 99.9 percent uptime for servers. ● Repelled an average of 1,000 spoof attempts per month and two malware attempts per week. ● 250,180 attacks on CUD's online firewall last year (685 attempts per day or 20,848 attempts per month). None were successful. ● Completed upgrade from 20M internet to 1G internet. ● Installed two kiosks for customer service. ● Partnered with Operations to install Baseform app for online water leak detection and alerting. ● Completed over 4,000 GPS shots for asset management. ● Added drones for imagery and tank inspections. ● Used a testing tool to teach employees how to fend off cyberattacks.



### INDIVIDUAL ACHIEVEMENTS

During fiscal year 2019-2020, CUD employees continued their professional development as shown by these accomplishments ...

- 59 employees renewed Grade II Distribution System Operator Certification
- Tennessee Water Distribution System Operator Grade II Certificate of Competency (earned in July 2019): Ethan Cornelison, Robert Hann, Donald Long, Scott Lowman, Ridge Nunley
- Tennessee Wastewater Collections Grade II Certificate of Competency (earned in July 2019): Shane Jackson, Brandon Wheeler
- FAA license for drone piloting (obtained in October 2019): Pamela Sykes



### K. THOMAS HUTCHINSON WATER TREATMENT PLANT EXPANSION

- The newly expanded water treatment plant delivers a capacity of up to 30 million gallons of water per day.
- Twelve new filters are now in service. Each measures 16.5 feet by 16.5 feet and 272.25 square feet. Each

can handle 1.5 million gallons of water flow per day.

- The plant's new pipe gallery measures 320 feet in length and contains all piping for the filters.
- The new backwash basin will handle a maximum of 600,000 gallons twice each day.
- Four tanks inside the plant each hold 9,600 gallons of bleach used for disinfection. The plant's generator can produce up to 20 gallons of bleach per minute.
- During fiscal year 2019-2020, the plant's highest flow total month was September 2019 (487 million gallons, a 10.7 percent increase over the same month previous year). The lowest flow total occurred during March 2020 (310 million gallons, a decrease of 1.5 percent compared to the same month previous year).
- The expansion added 16 new flocculators, which doubles the plant's capacity. Each measures 18 feet by 18 feet.
- Holidays, landscaping (mainly in summer), droughts, and cold weather are typically the periods of highest demand for water.
- The plant's expansion cost \$15.5 million overall. Construction had no effect on the plant's budget, aside from expenses related to maintenance. The expansion has been accounted for in each year's Capital Improvement Plan.