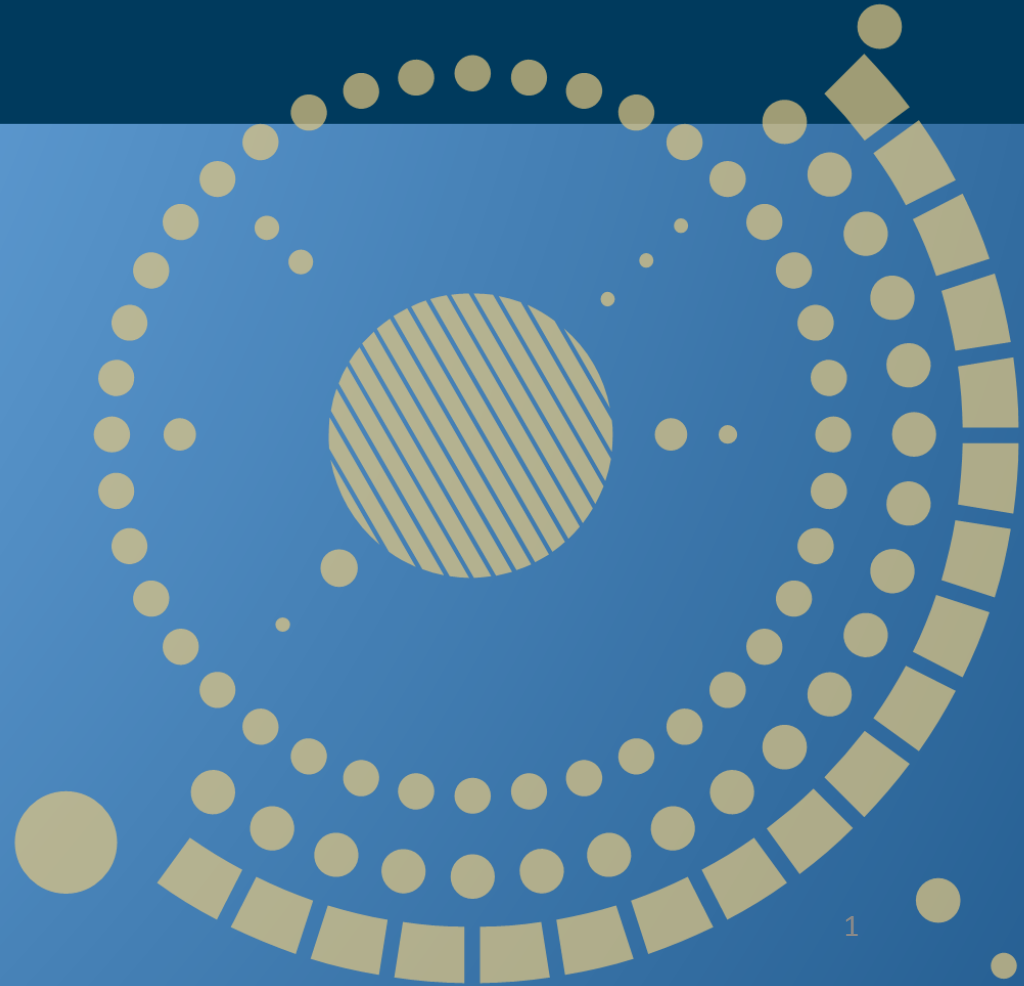




ROCKY MOUNT, NC
THE CENTER OF IT ALL

WATER QUALITY & WATER INFRASTRUCTURE UPDATE

August 26, 2019
Brenton Bent, Director of Water Resources





WATER RESOURCES-WHAT IS OUR MISSION?

- Produce and distribute highest quality potable water for domestic and commercial use
- Collect, transport and treat, domestic, industrial, and commercial wastewater to permitted levels with no impact on our environment
- Support future economic development and preserve public health and safety through responsible utilization of natural resources
- Meet and/or exceed state and federal regulatory standards





EXCELLENT WATER SOURCE = EXCELLENT WATER QUALITY

Tar River Water Supply Reservoir

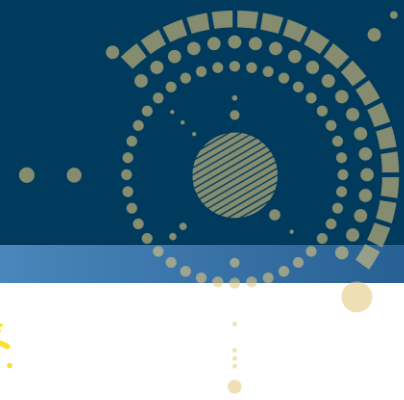
- The reservoir impounds approximately 1650 acres (2.6 square miles) and 3 billion gallons of water
- Dam has 2 bascule gates, each 223 ft in length
- Gate extends 5ft above the concrete surface of the dam and full upright is 125 ft above sea level
- Each gate weighs about 70,000 lbs.
- 3 cylinders on each gate pushes the bascule to the upright position



WATER TREATMENT PROCESS

Water Treatment is a **physical** and **chemical** process that involves:

- **Coagulation**- Process of adding chemicals to raw water to assist with the removal of solids/contaminants
- **Sedimentation**- Physical water treatment process using gravity to remove suspended solids from water.
- **Filtration**- System that treats water by passing it through granular media such as sand to remove impurities
- **Disinfection**- The removal, deactivation, or killing of pathogenic microorganisms using a disinfectant such as chlorine.



WATER QUALITY RECOGNITIONS & MILESTONES

- ✓ 1st place for “**Best Tasting Drinking Water**” in the State of NC (2004 & 2010)
 - ✓ 2nd place (2009 & 2011)
 - ✓ 3rd place (2005)
- ✓ City continues to submit water samples every year because of our confidence in the quality of our water.
- ✓ No public boil water notice in over 12 years
- ✓ Reduced lead monitoring to every 3 years and 30 samples
- ✓ Water Treatment Plants pass all State mandated annual inspections
- ✓ Publishes Annual Drinking Water Quality Reports to inform customers on test results





WATER REGULATIONS Federal (EPA) & State (PWS)

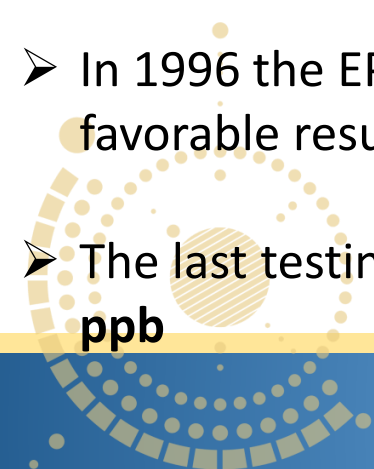
Monthly (60 Homes Tested)	Quarterly	Yearly	Every 3-9 Years
Chlorine	THM/HAA	Inorganic Spectrum	Full SOC
Bacteriological	Ammonia	Nitrates	Lead & Copper
Ammonia	Nitrates	Volatile Organics	Asbestos
Nitrates	pH	UCMR	Radiological
pH	TOC/Alkalinity	Simazine	Cryptosporidium
TOC/Alkalinity	Chlorine	Atrazine	
VOC		Carbon Tetrachloride	
		Di(2 ethylhexyl) Adipate	
		VOC	

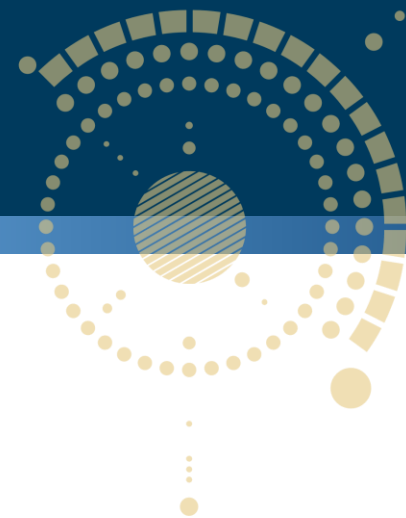




LEAD MONITORING

- Lead typically gets into treated water through pipes that convey water to the customer
- Plumbing inside older homes (built prior to 1986) can also be a source of lead
- Around 1986 the Environmental Protection Agency (EPA) set regulations that minimize the use of materials that contribute to the possibility of lead getting into the water supply
- Rocky Mount has been testing for lead for the past 25 years under EPA's regulation.
- In 1996 the EPA allowed the city to reduce sampling frequency to every 3 years and 30 samples because of favorable results
- The last testing cycle was 2017 and all results were **<3 ppb** (parts per billion) which is well below the limit of **15 ppb**





MAJOR ASSETS OF THE WATER SYSTEM

ASSETS	CAPACITY
Tar River Water Supply Reservoir and Dam	Storage -3 billion gallons
Sunset Avenue Water Treatment Plant	Production - 14 MGD
Tar River Reservoir Water Treatment Plant	Production -12 MGD
Seven (7) elevated water tanks	Storage -6 million gallons
Four (4) clear wells	Storage -4 million gallons
Water distribution lines	506 miles
Three Booster pump stations	N/A
Average daily demand	9 MGD

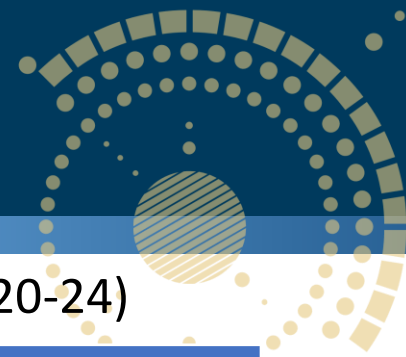
Note: Water supply standard requires the city to maintain water storage greater than 50% of daily use



WATER INFRASTRUCTURE CAPITAL PROJECTS UPDATE (2016-CURRENT)

Project	Cost (\$)	Status
TRR Plant Filter Rehabilitation	954,000	Completed
SAP Influent to Filter Valves	100,000	Completed
SAP Bar Screen Replacement	59,000	Completed
6 Bascule Gate Cylinders Replaced	160,000	Completed
Mud Valve Replacement	140,000	Completed
Water Tank Maintenance	690,000	Ongoing
2" Water Line Replacement	740,000	Ongoing
SAP High Duty Pump Replacement	750,000	Ongoing
Total	\$3,593,000	





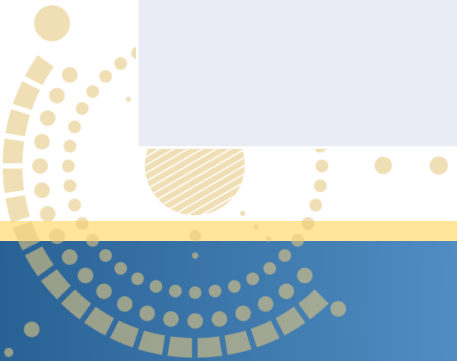
SIGNIFICANT WATER TREATMENT & DISTRIBUTION INFRASTRUCTURE PROJECTS (FY 20-24)

Project	Fiscal Year	Estimated Cost (\$)
Relining existing water mains > 6"	FY 20-24	1,250,000
2" water main replacement	FY20-24	1,850,000
Sedimentation basin sludge clarifiers (concrete work)	FY 20-21	500,000
Water tank maintenance (annual contract)	FY 20-24	1,200,000
Water automated meter reading	FY20-24	1,150,000
SAP backwash piping improvement	FY 20-21	250,000
SAP & TRR valve replacement	FY 20-24	500,000
SAP-Replacement of high duty pump	FY 21-22	700,000
SAP-Concrete repairs to basin	FY21-23	550,000
Raw water screen replacement	FY21-22	360,000
Hypochlorite Conversion Project	FY20	997,000
TRR-Bulk chemical storage tank	FY 21	120,000
TOTAL		\$9,427,000



SCENARIO COMPARISON FOR UNMET NEEDS

Jacobs Report (FY 19-23 CIP)	Actual based on FY 20-24 CIP
Wastewater-\$32.9M	Wastewater-\$2.5M
Water-\$17.4M	Water-\$2.5M
Stormwater-\$12M	Stormwater-\$468,000
TOTAL=62.3M	TOTAL=\$5.468M





“The pessimist complains about the wind. The optimist expects it to change. The leader adjusts the sails.”

John Maxwell

