# CAPITAL IMPROVEMENT PROGRAM

## FY 2024-2025

Bedford Regional Water Authority

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Bedford Regional Water Authority

# Our History

The Bedford Regional Water Authority (“Authority”) was created pursuant to the Water and Sewer Authorities Act Chapter 28, Title 15.1 code of Virginia of 1950, as amended. In accordance with the Reversion Agreement executed in August, 2012, the Authority was created by the Bedford County Board of Supervisors (“Supervisors”) by resolution dated November 14, 2012 and the Bedford City Council (“Council”) by resolution dated November 27, 2012.

Three of the initial members were appointed by the Supervisors on November 14, 2012, and three of the initial members were appointed by the Council on December 11, 2012. The State Corporation Commission approved the Articles of Incorporation on December 13, 2012. The first board meeting was held on December 18, 2012. The seventh board member was interviewed and recommended to the Supervisors and Council by the initial six board members at the January 22, 2013 board meeting. The seventh board member was approved by the governing bodies and sworn in prior to the February 26, 2013 board meeting.

**Vision**

Clean Water. Healthy Environment. Thriving Community.

**Mission**

To provide high quality water and wastewater services to the community.

**Values**

Collaboration, Adaptability, Results, Enthusiasm.

Bedford Regional Water Authority

# Meet Our Board of Directors

**Robert Flynn, Chair**

**Term:** 2024-2027

**Jay Gray, Vice-Chair & Finance Committee**

**Term:** 2021-2024

**Donald Barger, Policies and Projects Committee**

**Term:** 2023-2026

**John Sharp, Personnel Committee**

**Term:** 2023-2026

Bedford Regional Water Authority

**Michael Moldenhauer, Personnel Committee**

**Term:** 2024-2027

**Kevin Mele, Finance Committee**

**Term:** 2021-2024

**Rusty Mansel, Policies and Projects Committee**

**Term:** 2021-2024

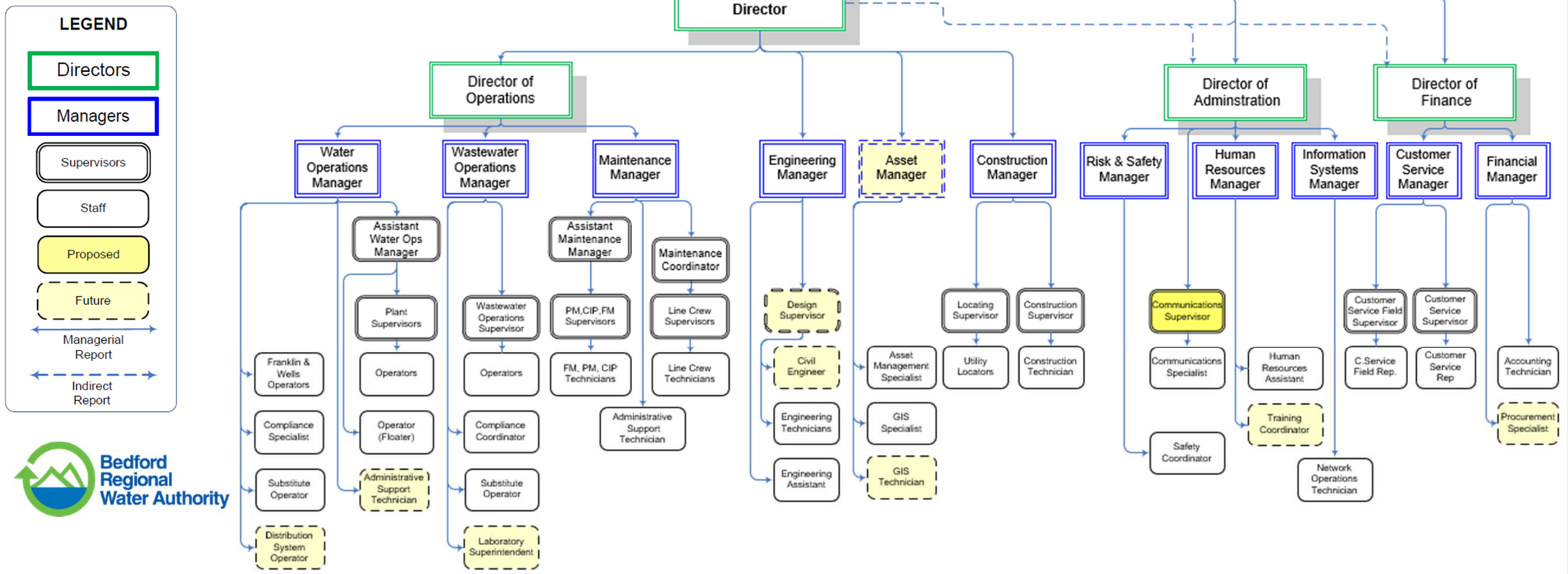
# Our Organization

**Brian M. Key, P.E.**

**Executive Director**

**Rhonda B. English, P.E.**

**Deputy Director**




## In 2023…

- Employed 82 full-time
- Employed 3 part-time

Bedford Regional Water Authority

# Our Water System

**In 2022-2023…**

- **Had 5 Water Treatment Plants**
- **Had 15 Water Storage Tanks**
- **Had 2 Water Pump Stations**
- **Produced 1.3 Billion Gallons**
- **Had 406 Miles of Water Line**
- **Had 14,541 Total Water Connections**
- **Added 161 new water connections**

Bedford Regional Water Authority

## Water Distribution Service Areas:

**1. Bedford Central:** The Authority provides water to the area inside and around the Town of Bedford through the Mountain Water Drive Treatment Plant. The plant uses a surface water reservoir located at the foothills of the Peaks of Otter. The Water Treatment Plant ("WTP") is rated at approximately 3.0 million gallons per day ("MGD"). The Town also receives water from the Smith Mountain Lake Water Treatment Facility.

**2. Forest Central:** The Authority provides water to the Forest, New London, and Boonsboro areas of the County from the Smith Mountain Lake Water Treatment Facility and through purchasing water from the City of Lynchburg; the Authority then sends this water through the Authority's distribution system. Water is treated by Lynchburg from the James River and the Pedlar Reservoir. While there is a minimum purchase requirement of 1 MGD, there is not currently a contract limit to the capacity of the water purchased from Lynchburg, and the City of Lynchburg WTPs are rated at a capacity of 26 MGD.

**3. Lakes:** Jointly owned with Western Virginia Water Authority, the Smith Mountain Lake Water Treatment Facility uses membrane technology to treat water that is withdrawn from Smith Mountain Lake (SML). This water provides the majority of the water for the Lakes Central system around the SML area while also providing water for Franklin County, the Town of Bedford, and Forest. The SMLWTF is rated at 4.0 MGD, and it can easily be expanded to 6.0 MGD. The Authority also owns three (3) independent water systems that use wells as the source and are located in the Mountain View Shores, Valley Mills Crossing, and Paradise Point subdivisions.

**4. Stewartsville:** The Authority owns a water system in the Stewartsville area where water is purchased from the Western Virginia Water Authority ("WVWA") and then distributed by the Authority. There is no contract limit to capacity of water purchased from the WVWA.

# Our Wastewater System

### Wastewater Collection Service Areas:

**1. Bedford Central:** The Authority provides sewer service inside and around the Town of Bedford using a Wastewater Treatment Plant ("WWTP") located on Orange Street in Bedford. The Central WWTP is rated at 2.0 million gallons a day ("MGD").

**2. Forest Central:** The Authority provides sewer service to the Forest and New London areas of the County by collecting the wastewater and transmitting it to the Lynchburg Regional WWTP for treatment. The Authority owns 1.0 MGD capacity in the Lynchburg WWTP.

**3. Lakes Central:** The Authority owns a WWTP in Moneta which provides sewer service to the Lakes community around the 122 corridor. The WWTP is rated at 0.5 MGD.

**4. Montvale:** The Montvale WWTP is located behind the Elementary school. It is rated at 0.05 MGD and provides service to the Montvale Elementary School, the Montvale Library, the Montvale Center for Business, and the central Montvale community.

**5. Cedar Rock:** The Cedar Rock WWTP is located in the Cedar Rock subdivision in Forest, with a service area limited to the Cedar Rock subdivision. It is rated at 0.015 MGD.

Bedford Regional Water Authority

**In 2022-2023…**

- **Had 5 wastewater treatment plants**
- **Had 32 sewer pump stations**
- **Treated 611 million gallons**
- **Had 164 miles of sewer line**
- **Had 5,675 total sewer connections**
- **Added 75 new sewer connections**

# Capital Improvement Program Executive Summary

The Bedford Regional Water Authority's Capital Improvement Program (CIP) is intended to ensure that capital improvements are coordinated, timed to maximize the Authority's financial resources, and promote a measured approach to long-range asset planning. The Capital Improvement Program is a planning document intended to provide an analysis of potential long-range funding needs, specifically addressing the upcoming two to three years in combination with fiscal expectations. Actual appropriations for projects occurring under the plan are made on an annual basis, and the CIP is reviewed annually to address changes in priorities and any funding issues or opportunities. Projects projected beyond FY 2024-2025 will be reviewed during the annual budget process for the given fiscal year and may be revised or rescheduled depending on preliminary cost estimates, changing priorities and the availability of funding in any particular year. Priority criteria will be utilized to further identify project and purchase priorities in the coming fiscal years as funding becomes available.

The Authority serves more than 14,600 customers, with more than 400 miles of water lines and 160 miles of sewer lines. Water and sewer services require extensive capital investment to maintain and periodically upgrade deteriorating infrastructure to support continued service to customers and allow for system growth. Some of the considerations in determining necessary projects and purchases include:

- Purchasing and upgrades of equipment to achieve efficient and reliable operations
- System improvements to address growing demand, potential operational savings, and other operational efficiencies
- General facility maintenance and aged equipment replacements
- Safety and security of facilities and personnel
- Regulatory requirements
- Strategic planning objectives

The Bedford Regional Water Authority has identified over $60 million in capital improvement projects that are needed in its water and sewer systems, not including a large number of water and sewer replacement projects to be managed through separate reserve funding or larger projects underway with alternate funding sources. Some of these investments are crucial to supporting continued service to customers and allowing system growth. Other projects provide for the long-term reduction in operating costs, reduced manpower requirements for repairs, proactive replacements and upgrades, and more dependable and reliable service to the customers.

Proposed projects and purchases for the coming fiscal year are based on the recent receipt of ARPA funds from the County of Bedford and available capital funds as projected in the Fiscal Year Operating Budget. Future years consider changes in debt service and increased appropriations for replacement reserve accounts.

# Capital Improvement Program Projects Listing FYE 25-27

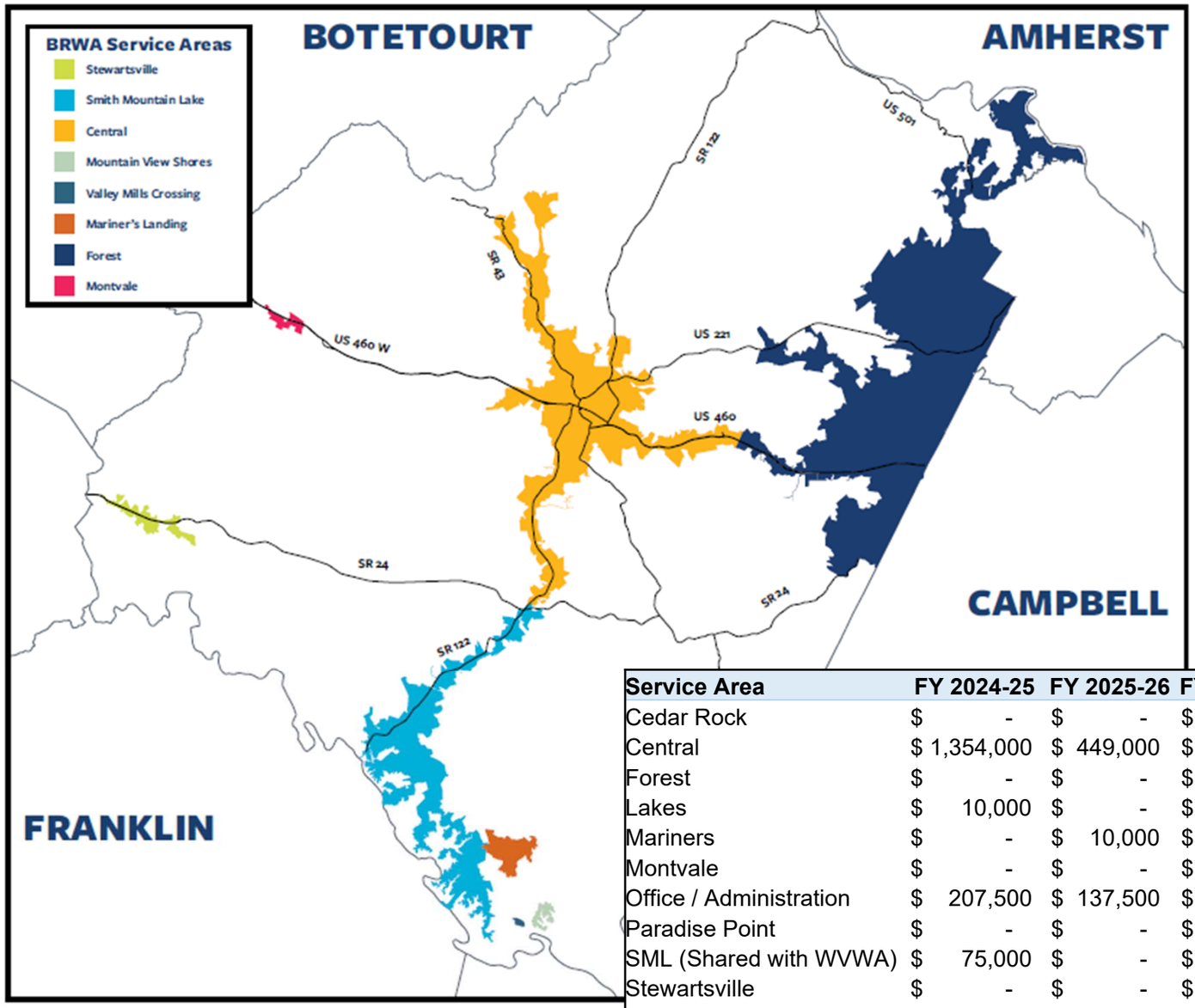
| Projects by Service Area | Fiscal Year 2025 | 2026 | 2027 |
|---|---|---|---|
| **Central** | | | |
| **Operational Needs** | | | |
| Stoney Creek Reservoir - Ph 2B (Cleaning/Design) | $ 124,000 | | |
| Stoney Creek Reservoir - Ph 3A (Rehab Construction - BRWA Portion) | $ 100,000 | | |
| **Central WTP** | | | |
| **Operational Needs** | | | |
| Central WTP - Security Alarms and Fire Alarm System | | $ 29,000 | |
| Central WTP - Inside filter system valves replacement Phase 1 | $ 150,000 | | |
| Central WTP - Phase 1 Electrical Upgrades | $ 350,000 | | |
| Central WTP - Phase 2 Electrical Upgrades | | $ 420,000 | |
| Central WTP - Phase 3 Electrical Upgrades | | | $ 130,000 |
| Central WTP - Booster station for customers directly served (Construction) | $ 400,000 | | |
| Central WTP - Repairs to Elevator | $ 85,000 | | |
| **Central WWTP** | | | |
| **Operational Needs** | | | |
| Central WWTP - Replace railings and chains on primary basin #2 | $ 30,000 | | |
| Central WWTP - Replace Monster Auger | $ 60,000 | | |
| Central WWTP - Replace grit collector #2 | $ 25,000 | | |
| Central WWTP - Replace grinder in raw building | $ 30,000 | | |
| **Forest** | | | |
| **System Structures & Tanks** | | | |
| Altha Grove/Cottontown Tank - Mixer | | | $ 25,000 |
| **Mariners WWTP** | | | |
| **Operational Needs** | | | |
| Mariners WWTP - Install skimmer on clarifier 1 and 2 | | $ 10,000 | |
| **Moneta WWTP** | | | |
| **Operational Needs** | | | |
| Moneta WWTP - Electric pallet lift | $ 10,000 | | |
| **Office** | | | |
| **Office Improvements** | | | |
| Annex Building Renovations | | | $ 125,000 |

# Capital Improvement Program Projects Listing FYE 25-27

Bedford Regional Water Authority

| Projects by Service Area | Fiscal Year 2025 | 2026 | 2027 |
|---|---|---|---|
| **Purchases** | | | |
| **Administration** | | | |
| Phase 1 of Data Visualization | $ 52,000 | | |
| Phase 2 of Data Visualization | | $ 50,000 | |
| Phase 3 of Data Visualization | | | $ 85,000 |
| Key System - Central WWTP | | | $ 100,000 |
| Key System - Various Sites | | $ 50,000 | |
| Key System - Various Plants | | $ 30,000 | |
| **Engineering** | | | |
| Water & Sewer Master Plan - Ph 1 | | | $ 200,000 |
| **Maintenance** | | | |
| Stone and Cold Patch Pad | | $ 7,500 | |
| Sewer SL-RAT | $ 30,500 | | |
| I/I sewer flow meters | $ 30,000 | | |
| CIP Crew - Portable Air Compressor | | | $ 33,000 |
| CIP Crew - Water Service Hog | | | $ 9,000 |
| **Personnel** | | | |
| Facilities Maintenance Crew Vehicle | $ 95,000 | | |
| **SCADA** | | | |
| **Operational Needs** | | | |
| SCADA Hatch Intrusion Switches for Water Tanks | | | $ 36,000 |
| **SML** | | | |
| **SML WTF (shared portion)** | | | |
| Sewer Pump Station 4 Upgrades Ph 2 (Pumps) | | | $ 30,000 |
| Sodium hypochlorite day tank & pipe wall | $ 50,000 | | |
| Raw Water intake valves | $ 25,000 | | |
| **Various** | | | |
| **Operational Needs** | | | |
| Sample Hydrants Phase 2A (8) | $ 22,000 | | |
| Sample Water hydrants - Phase 2B (7) | | $ 19,000 | |
| **Grand Total** | **$ 1,668,500** | **$ 615,500** | **$ 773,000** |

# Capital Improvement Program – Costs By Service Area




| Service Area | FY 2024-25 | FY 2025-26 | FY 2026-27 | FY 2027-28 | FY 2028-29 | Future | Total |
|---|---|---|---|---|---|---|---|
| Cedar Rock | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Central | $ 1,354,000 | $ 449,000 | $ 130,000 | $ 290,000 | $ 520,000 | $ 3,021,000 | $ 5,764,000 |
| Forest | $ - | $ - | $ 25,000 | $ 400,000 | $ 120,000 | $ 11,120,000 | $ 11,665,000 |
| Lakes | $ 10,000 | $ - | $ - | $ - | $ - | $ 23,250,000 | $ 23,260,000 |
| Mariners | $ - | $ 10,000 | $ - | $ - | $ - | $ - | $ 10,000 |
| Montvale | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Office / Administration | $ 207,500 | $ 137,500 | $ 552,000 | $ 201,000 | $ 318,000 | $ 4,484,500 | $ 5,900,500 |
| Paradise Point | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| SML (Shared with WVWA) | $ 75,000 | $ - | $ 30,000 | $ - | $ - | $ 200,000 | $ 305,000 |
| Stewartsville | $ - | $ - | $ - | $ - | $ - | $ 20,400,000 | $ 20,400,000 |
| Valley Mills | $ - | $ - | $ - | $ - | $ - | $ 20,000 | $ 20,000 |
| Various | $ 22,000 | $ 19,000 | $ 36,000 | $ - | $ - | $ 20,000 | $ 97,000 |
| **Total** | **$ 1,668,500** | **$ 615,500** | **$ 773,000** | **$ 891,000** | **$ 958,000** | **$ 62,515,500** | **$ 67,421,500** |

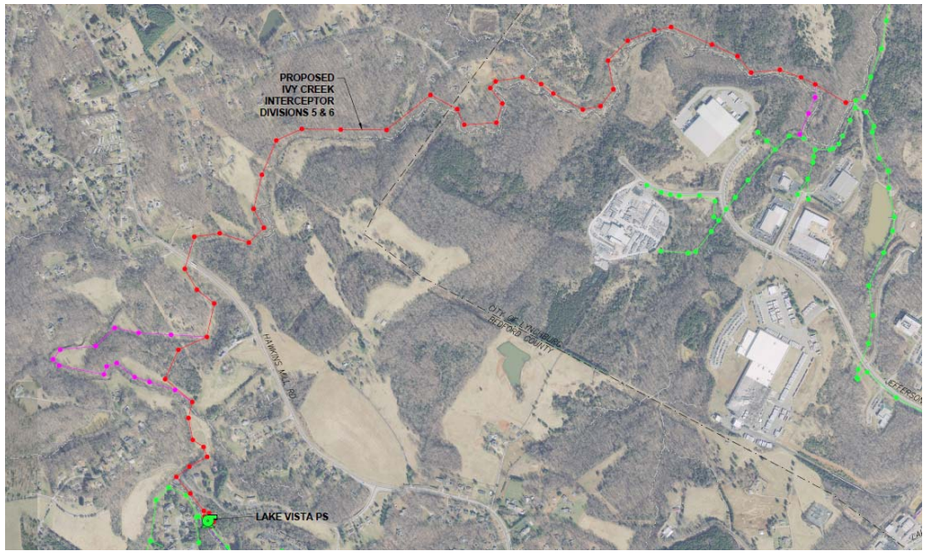
# Projects with Outside Funding

With the American Rescue Plan Act (ARPA), funding was made available to localities for select improvements that had been previously identified, including those necessary for water and sewer infrastructure. In cooperation with the Town of Bedford, the Authority entered into a Grant Subrecipient Agreement on December 1, 2021 with the Town to utilize ARPA funds in addressing select projects noted below:

Helm Street Tank: The existing 1.22 million-gallon round water storage tank at Helm Street was previously taken out of service due to a failing coating system containing lead and a deteriorating concrete structure. With water storage that is central to the water system of significant importance to limit water age and disinfection byproducts, a new 1 million-gallon welded steel water tank has been designed for this site. The project is anticipated to be completed in Summer 2025.

Ivy Creek 5 & 6 Design, Construction & Capacity: This gravity sewer extension into Lynchburg removes the operational requirements and capacity constraints currently present at the Lake Vista Lift Station. Along with Bedford County providing $1.5 million over a period of three years, this project is being funded through Clean Water Revolving Loan funds at a minimal interest rate with some principal forgiveness included. This project is underway and anticipated for completion early 2025.

| Projects and Funding Sources | | Project Costs |
|---|---|---|
| **Helm Street Tank Replacement** | **$** | **3,850,000** |
| ARPA | $ | 3,418,244 |
| Escrow | $ | 162,916 |
| Capital Reserves | $ | 268,840 |
| **Ivy Creek 5 & 6 Design, Construction & Capacity** | **$** | **15,471,092** |
| County | $ | 1,500,000 |
| Debt Service | $ | 13,971,092 |
| **Grand Total** | **$** | **19,321,092** |




# FY 2024-2025 Capital Improvements Listing

Capital projects and purchases identified for FY 2024-2025 include items necessary to meet regulations and assist with operational and maintenance efficiencies. Many of the projects at facilities have been in consideration for several years and have experienced or are reaching the point of failure.

| Projects by Service Area | Fiscal Year Total 2025 | ARPA Funded Projects | CIP Funding |
|---|---|---|---|
| **Central** | | | |
| **Operational Needs** | | | |
| Stoney Creek Reservoir - Ph 2B (Cleaning/Design) | $ 124,000 | $ 124,000 | $ - |
| Stoney Creek Reservoir - Ph 3A (Rehab Construction - BRWA Portion) | $ 100,000 | $ 100,000 | $ - |
| **Central WTP** | | | |
| **Operational Needs** | | | |
| Central WTP - Inside filter system valves replacement Phase 1 | $ 150,000 | $ 150,000 | $ - |
| Central WTP - Phase 1 Electrical Upgrades | $ 350,000 | $ 350,000 | $ - |
| Central WTP - Booster station for customers directly served (Construction) | $ 400,000 | $ 400,000 | $ - |
| Central WTP - Repairs to Elevator | $ 85,000 | $ 85,000 | $ - |
| **Central WWTP** | | | |
| **Operational Needs** | | | |
| Central WWTP - Replace railings and chains on primary basin #2 | $ 30,000 | $ 30,000 | $ - |
| Central WWTP - Replace Monster Auger | $ 60,000 | $ - | $ 60,000 |
| Central WWTP - Replace grit collector #2 | $ 25,000 | $ - | $ 25,000 |
| Central WWTP - Replace grinder in raw building | $ 30,000 | $ 11,000 | $ 19,000 |
| **Moneta WWTP** | | | |
| **Operational Needs** | | | |
| Moneta WWTP - Electric pallet lift | $ 10,000 | $ - | $ 10,000 |
| **Purchases** | | | |
| **Administration** | | | |
| Phase 1 of Data Visualization | $ 52,000 | $ - | $ 52,000 |
| **Maintenance** | | | |
| Sewer SL-RAT | $ 30,500 | $ - | $ 30,500 |
| I/I sewer flow meters | $ 30,000 | $ - | $ 30,000 |
| **Personnel** | | | |
| Facilities Maintenance Crew Vehicle | $ 95,000 | $ - | $ 95,000 |
| **SML** | | | |
| **SML WTF (shared portion)** | | | |
| Sodium hypochlorite day tank & pipe wall | $ 50,000 | $ - | $ 50,000 |
| Raw Water intake valves | $ 25,000 | $ - | $ 25,000 |
| **Various** | | | |
| **Operational Needs** | | | |
| Sample Hydrants Phase 2A (8) | $ 22,000 | $ - | $ 22,000 |
| **Grand Total** | **$ 1,668,500** | **$ 1,250,000** | **$ 418,500** |

# FY 2024-2025 Central Water Projects

A few projects in the Central Water facilities are necessary to meet regulations, address safety, and ensure continued service.

**Stoney Creek Reservoir:**
The Stoney Creek Dam is currently under a Conditional Operating permit due to the inoperability of valves that allow for the control of the reservoir levels. Correcting the issues to meet permitting and safety requirements involves dredging and valve replacement, as well as addressing significant leaks within the drain tunnel through the dam. The funding included in the Authority's FY 2024-2025 capital budget takes into consideration the potential for grant funding for the remaining 65% of the project costs necessary through FEMA's High Hazard Potential Dam Grant Program.

**Central Water Treatment Plant:**
Much of the facilities and valves within the Central Water Treatment Plant are original to its 1968 construction with the exception of improvements made to the facility in the last ten years. As such, many valves lack full function due to deterioration, and the electrical system design and placement do not meet current safety standards. The freight elevator is one of a few remaining of its kind and is used to take chemical deliveries to the second and third floors of the building where they are utilized in the treatment process. The elevator recently reached complete failure and is currently out of service. As full replacement is costly and requires the completion of all electrical upgrade phases within the plant, only the repairs necessary to place the elevator back into operation have been included for the coming year.

The plant also serves several customers directly through the plant's hydropneumatic tank. Work at the Stoney Creek Reservoir as well as some of the electrical upgrade work at the treatment plant will render the plant inoperable for a period of time. In order to provide continued service to these customers while the plant is down, a small booster station will be constructed on site to provide water to these customers from the main distribution system.

| Projects by Service Area | Fiscal Year 2025 |
|---|---|
| **Central** | |
| Stoney Creek Reservoir - Ph 2B (Cleaning/Design) | $ 124,000 |
| Stoney Creek Reservoir - Ph 3A (Rehab Construction - BRWA Portion) | $ 100,000 |
| **Central WTP** | |
| Central WTP - Inside filter system valves replacement Phase 1 | $ 150,000 |
| Central WTP - Phase 1 Electrical Upgrades | $ 350,000 |
| Central WTP - Booster station for customers directly served (Construction) | $ 400,000 |
| Central WTP - Repairs to Elevator | $ 85,000 |
| **Grand Total** | **$ 1,209,000** |

# FY 2024-2025 Central Sewer Projects

Items at the Central Wastewater Treatment Plant have been identified for replacement where equipment has completely failed or where failure is imminent.

- **Railings and Chains on Primary Basin #2**
  *These items have experienced complete failure, rendering the basin out of service until replacements can be made.*

| Projects by Service Area | | Fiscal Year 2025 |
|---|---|---|
| **Central WWTP** | | |
| **Operational Needs** | | |
| Central WWTP - Replace railings and chains on primary basin #2 | $ | 30,000 |
| Central WWTP - Replace Monster Auger | $ | 60,000 |
| Central WWTP - Replace grit collector #2 | $ | 25,000 |
| Central WWTP - Replace grinder in raw building | $ | 30,000 |
| **Grand Total** | **$** | **145,000** |

- **Monster Auger, Grit Collector, and Grinder**
  *The monster auger is used for trash removal in the treatment process. It was rebuilt two years ago, with a life expectancy of two years before complete replacement would be necessary.*

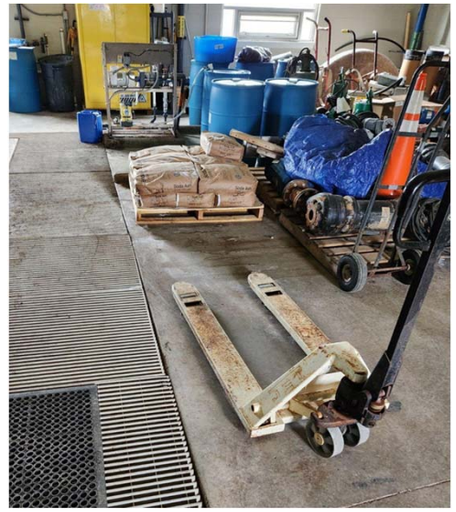
  *The grinder and grit collector have both experienced complete failure.*

# FY 2024-2025 Capital Purchases

Equipment prioritized for capital purchase in FY 2024-2025 includes items that will assist with safety and operational efficiencies.

- Items that will assist with employee safety and security include:
  - Electric pallet lift for chemical transport
- Operational efficiencies to be gained include:
  - Guaranteed operator accessibility for water samples to provide best representation of water quality in the system and remove dependency upon quality plumbing within private homes and the homeowners' availability for sample collections
  - Minimized use by Facilities Maintenance of higher cost crane truck to prolong its use
  - Create visuals to enable easier data review and verifications while also initializing the process for automating accountability reporting in the future
  - Quicker analyses of sewer lines and focused prioritization of sewer improvements in the areas anticipated to gain the most reduction of inflow and infiltration while gaining system capacity

| Projects by Service Area | | Fiscal Year 2025 |
|---|---|---|
| **Moneta WWTP** | | |
| **Operational Needs** | | |
| Moneta WWTP - Electric pallet lift | $ | 10,000 |
| **Purchases** | | |
| **Administration** | | |
| Phase 1 of Data Visualization | $ | 52,000 |
| **Maintenance** | | |
| Sewer SL-RAT | $ | 30,500 |
| I/I sewer flow meters | $ | 30,000 |
| **Personnel** | | |
| Facilities Maintenance Crew Vehicle | $ | 95,000 |
| **Various** | | |
| **Operational Needs** | | |
| Sample Hydrants Phase 2A (8) | $ | 22,000 |
| **Grand Total** | **$** | **239,500** |

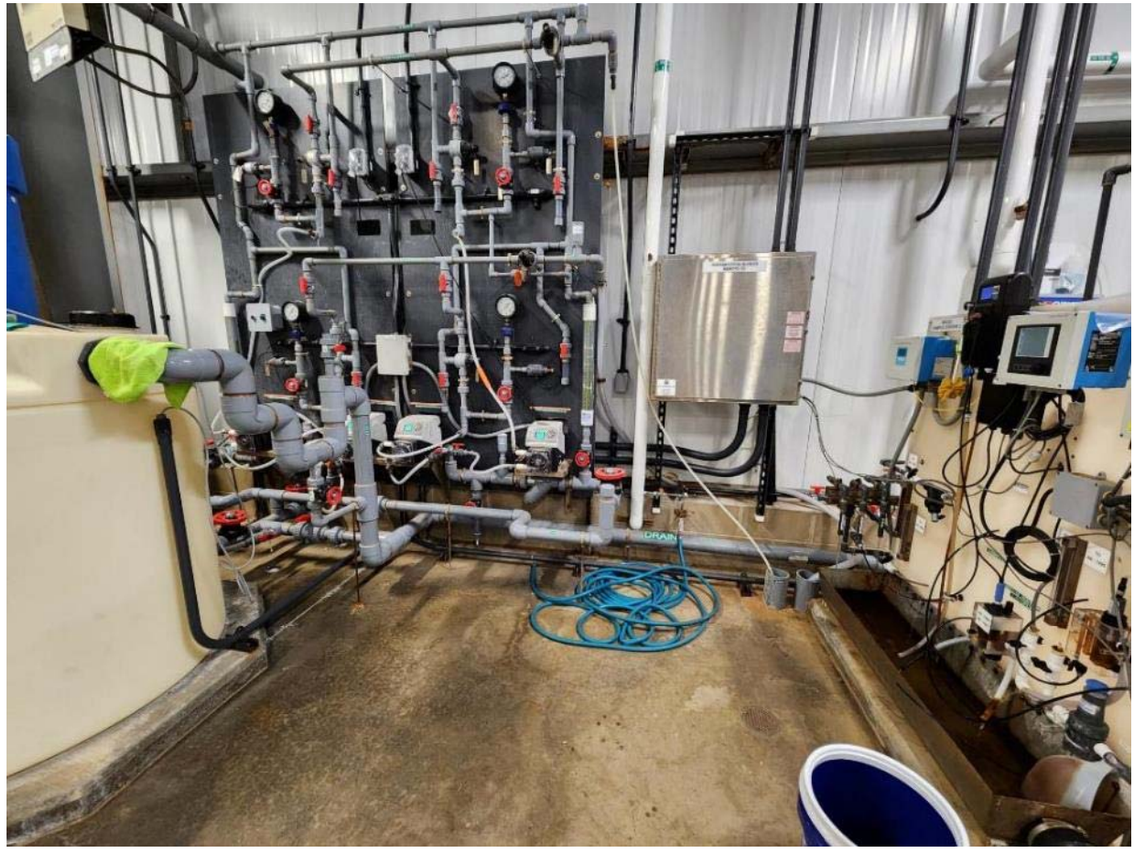



# Smith Mountain Lake Water Treatment Facility Projects

Projects and purchases directly related to the operation of the Smith Mountain Lake Water Treatment Facility reflect shared costs with Western Virginia Water Authority as the joint partner of the facility. Projects identified to assist with water system operation include the following:

- Replacement of sodium hypochlorite day tank that has reached normal lifespan
- Adjustments of chemical piping for sodium hypochlorite for improved accessibility and operational flexibility
- Extensions for control valves at raw water intake to remove confined space entry requirements for operational efficiency after-hours
- Increased pumping capacity at receiving sewer pump station 4 to support a large volume of backwash discharge from the facility
- Permanent standby generator for the raw water intake for improved reliability

| Projects by Service Area | Fiscal Year 2025 | Future |
|---|---|---|
| **SML** | | |
| **SML WTF (shared portion)** | | |
| Sewer Pump Station 4 Upgrades Ph 2 (Pumps) | | $ 30,000 |
| Raw Water Intake Generator | | $ 200,000 |
| Sodium hypochlorite day tank & pipe wall | $ 50,000 | |
| Raw Water intake valves | $ 25,000 | |
| **Grand Total** | **$ 75,000** | **$ 230,000** |



# Water Projects

Various water projects have been identified in the Forest, Central, and Lakes service areas to be addressed over the next few years, with some larger projects projected more into future years based upon anticipated funding. Projects identified to assist with water system operation include the following:

- Replacement of an aging booster station serving the Fox Runn subdivision
- An automated bulk filling station
- Upgrades and maintenance of the Central Water Treatment Plant, including:
  - Phased upgrades of electrical system to address compliance and safety issues, as well as allow for expanded automation capabilities
  - Expanded SCADA implementation for operational efficiencies and performance analysis
  - Alarm system to alert of vandalism or fire emergencies when plant is not in operation
- Actuated control valves to efficiently coordinate flows between Forest, Central and Lakes systems
- Security measures through SCADA communications, as identified in the 2021 Risk and Resilience Assessment
- Additional water sampling stations to guarantee operator accessibility and provide best representation of water quality in the system
- Valley Mills building addition to allow for chemical addition and pH adjustment

# Water Projects

| Projects by Service Area | Fiscal Year 2025 | 2026 | 2027 | 2028 | 2029 | Future |
|---|---|---|---|---|---|---|
| **Boonsboro** | | | | | | |
| **System Structures & Tanks** | | | | | | |
| Fox Runn Booster Station Upgrade | | | | $ 400,000 | | |
| **Central** | | | | | | |
| **Operational Needs** | | | | | | |
| Central Bulk Fill Station (Central WWTP) | | | | | | $ 40,000 |
| Connect Bedford Lowe's to Town Distribution System | | | | | | $ 400,000 |
| Stoney Creek Reservoir - Ph 3B (Rehab Construction) | | | | | | $ 761,000 |
| Bunker Hill Control Valve - Fencing | | | | | | $ 5,000 |
| Stoney Creek Reservoir - Ph 2B (Cleaning/Design) | $ 124,000 | | | | | |
| Stoney Creek Reservoir - Ph 3A (Rehab Construction - BRWA Portion) | $ 100,000 | | | | | |
| **Central WTP** | | | | | | |
| **Operational Needs** | | | | | | |
| Central WTP - Holding Pond Sewer | | | | | | $ 800,000 |
| Central WTP - Overhaul of WTP Elevator | | | | | | $ 350,000 |
| Central WTP - Upgrade chemical feeders to liquid chemical (others) | | | | | | $ 15,000 |
| Central WTP - SCADA Head Loss Monitors for finish filters | | | | | | $ 150,000 |
| Central WTP - Security Alarms and Fire Alarm System | | $ 29,000 | | | | |
| Central WTP - Inside filter system valves replacement Phase 1 | $ 150,000 | | | | | |
| Central WTP - Phase 1 Electrical Upgrades | $ 350,000 | | | | | |
| Central WTP - Phase 2 Electrical Upgrades | | $ 420,000 | | | | |
| Central WTP - Phase 3 Electrical Upgrades | | | $ 130,000 | | | |
| Central WTP - Underdrain air scour system | | | | | | $ 325,000 |
| Central WTP - Upgrade drainage system from holding ponds to VPDES outfall | | | | | | $ 45,000 |
| Central WTP - Booster station for customers directly served (Construction) | $ 400,000 | | | | | |
| Central WTP - Repairs to Elevator | $ 85,000 | | | | | |
| **Forest** | | | | | | |
| **Neighborhood Line Extensions (NLE)** | | | | | | |
| Blackburn Subdivision NLE | | | | | | $ 520,000 |
| **Operational Needs** | | | | | | |
| Lynchburg Entry Point Control Valve (Graves Mill Rd) | | | | | $ 120,000 | |
| **System Loops for Stability** | | | | | | |
| Cottontown Road Loop - Riley Run to Autumn Run | | | | | | $ 1,000,000 |
| Everett Road Loop - Otterview to Walkers Crossing | | | | | | $ 900,000 |
| Goode Waterline Loop - Everett to Ashwood (Rt. 221) | | | | | | $ 4,000,000 |
| **System Structures & Tanks** | | | | | | |
| Altha Grove/Cottontown Tank - Mixer | | | $ 25,000 | | | |

# Water Projects

| Projects by Service Area | Fiscal Year 2025 | 2026 | 2027 | 2028 | 2029 | Future |
|---|---|---|---|---|---|---|
| **Lakes** | | | | | | |
| **Future System Growth** | | | | | | |
| Goodview Waterline - SML to Sycamore Ridge | | | | | | $ 5,500,000 |
| MVS to Valley Mills Ext (Lochwood, Capewood, Trading Post) | | | | | | $ 1,200,000 |
| SML Phase 5 to Mountain View Shores | | | | | | $ 7,200,000 |
| **System Loops for Stability** | | | | | | |
| Whitehouse Road Loop | | | | | | $ 4,500,000 |
| **SCADA** | | | | | | |
| **Operational Needs** | | | | | | |
| SCADA Hatch Intrusion Switches for Water Tanks | | | $ 36,000 | | | |
| **SML** | | | | | | |
| **SML WTF (shared portion)** | | | | | | |
| Raw Water Intake Generator | | | | | | $ 200,000 |
| Sodium hypochlorite day tank & pipe wall | $ 50,000 | | | | | |
| Raw Water intake valves | $ 25,000 | | | | | |
| **Stewartsville** | | | | | | |
| **System Loops for Stability** | | | | | | |
| Stewartsville West Loop - Drewrys Hill Road | | | | | | $ 400,000 |
| **Valley Mills** | | | | | | |
| **Operational Needs** | | | | | | |
| Valley Mills Building addition for chemical addition | | | | | | $ 20,000 |
| **Grand Total** | **$ 1,284,000** | **$ 449,000** | **$ 191,000** | **$ 400,000** | **$ 120,000** | **$ 28,331,000** |

# Sewer Projects

The sewer projects planned for the coming years are primarily within the Central service area, with a few improvements identified in other service areas. Other projects that will utilize capital funding over the next few years include:

- Central Wastewater Pump Station upgrades and replacements with SCADA implementation
- Central Wastewater Treatment Plant upgrades including:
  - Access improvements to the digesters as necessary for cleaning
  - Relocation of sandfilter controls to prevent flooding damage
  - Removal of unused boiler and equipment containing asbestos
- Mariners Landing Wastewater Treatment Plant upgrades including:
  - Addition of skimmers to allow skimming of solids from clarifiers, extending the life of receiving drainfields
- Moneta Wastewater Treatment Plant upgrades, including:
  - Composting sludge capabilities
  - Upgraded disk filter for future septage receiving

# Sewer Projects

| Projects by Service Area | Fiscal Year 2025 | 2026 | 2027 | 2028 | 2029 | Future |
|---|---|---|---|---|---|---|
| **Central** | | | | | | |
| **Operational Needs** | | | | | | |
| Central Pump Station 4 Replacement & SCADA | | | | $ 290,000 | | |
| Central Pump Station 8 Replacement & SCADA | | | | | $ 470,000 | |
| **Central WWTP** | | | | | | |
| **Operational Needs** | | | | | | |
| Central WWTP - Digester Access Improvements (SAFETY) | | | | | | $ 100,000 |
| Central WWTP - Move sandfilter controls from basement to control room | | | | | | $ 35,000 |
| Central WWTP - Replace railings and chains on primary basin #2 | $ 30,000 | | | | | |
| Central WWTP - Replace Monster Auger | $ 60,000 | | | | | |
| Central WWTP - Remove old boiler and equipment | | | | | $ 50,000 | |
| Central WWTP - Replace grit collector #2 | $ 25,000 | | | | | |
| Central WWTP - Replace grinder in raw building | $ 30,000 | | | | | |
| **Forest** | | | | | | |
| **Future Growth - Capacity Purchases** | | | | | | |
| Ivy Creek 1-4 Capacity (1.5 MGD Avg / 3.75 Peak) | | | | | | $ 1,900,000 |
| Lynchburg WWTP Capacity (2.4 MGD) | | | | | | $ 2,800,000 |
| **Mariners WWTP** | | | | | | |
| **Operational Needs** | | | | | | |
| Mariners WWTP - Install skimmer on clarifier 1 and 2 | | $ 10,000 | | | | |
| **Moneta WWTP** | | | | | | |
| **Future System Growth** | | | | | | |
| Moneta WWTP Expansion to 1.0 MGD | | | | | | $ 4,100,000 |
| **Operational Needs** | | | | | | |
| Moneta WWTP - Composting sludge from Central Sewer & Moneta WWTP | | | | | | $ 100,000 |
| Moneta WWTP - New Disk Filter Construction | | | | | | $ 650,000 |
| **SML** | | | | | | |
| **SML WTF (shared portion)** | | | | | | |
| Sewer Pump Station 4 Upgrades Ph 2 (Pumps) | | | $ 30,000 | | | |
| **Stewartsville** | | | | | | |
| **Future System Growth** | | | | | | |
| Stewartsville Sewer | | | | | | $ 20,000,000 |
| **Grand Total** | **$ 145,000** | **$ 10,000** | **$ 30,000** | **$ 290,000** | **$ 520,000** | **$ 29,685,000** |

# Capital Purchases

Several capital purchases are identified for the coming years that will assist with better operational efficiencies, employee safety, and allow for the additional equipment necessary to maintain an expanding service area.  Some of these purchases include:

- Internal improvements and upgrades to assist with efficiencies and security, including:
    - Continued implementation phases of a new key system to provide improved site security options and improve appropriate accessibility
    - Integration of multiple data sources for efficiencies in reporting and effective data forecasting

- Equipment for maintenance personnel to assist with work efficiencies and provide cost savings of completing more tasks internally

- Resource vehicles for use by office staff traveling to meetings or visiting project sites and for field employee use when a vehicle is out of service

- Comprehensive water and sewer master plan to identify facility and line sizes necessary to support existing and future growth

- Additional water sampling stations to provide best representation of water quality in the system, guarantee operator accessibility, and remove dependency upon quality plumbing within private homes and the homeowners' availability for sample collections

# Capital Purchases

| Projects by Service Area | Fiscal Year 2025 | 2026 | 2027 | 2028 | 2029 | Future |
|---|---|---|---|---|---|---|
| **Moneta WWTP** | | | | | | |
| **Operational Needs** | | | | | | |
| Moneta WWTP - Electric pallet lift | $ 10,000 | | | | | |
| **Office** | | | | | | |
| **Office Improvements** | | | | | | |
| New Building - Construction | | | | | | $ 2,600,000 |
| New Building - Design | | | | | | $ 170,000 |
| Sewer Extension to Office Building | | | | | | $ 700,000 |
| Annex Building Renovations | | | $ 125,000 | | | |
| Heated Garage - additional bay | | | | | | $ 160,000 |
| Administration Offices in Conference Room | | | | | $ 126,000 | |
| Small Pole Barn | | | | | | $ 110,000 |
| Large Pole Barn | | | | | | $ 130,000 |
| **Purchases** | | | | | | |
| **Administration** | | | | | | |
| Portable Water Station for Community Events | | | | | | $ 55,000 |
| Phase 1 of Data Visualization | $ 52,000 | | | | | |
| Phase 2 of Data Visualization | | $ 50,000 | | | | |
| Phase 3 of Data Visualization | | | $ 85,000 | | | |
| Phase 4 of Data Visualization | | | | $ 70,000 | | |
| Key System - Central WWTP | | | $ 100,000 | | | |
| Key System - Various Sites | | $ 50,000 | | $ 50,000 | $ 100,000 | |
| Key System - Various Plants | | $ 30,000 | | | | |
| **Customer Service** | | | | | | |
| Operations/Billing/Cartegraph Web Application | | | | | | $ 55,000 |
| **Engineering** | | | | | | |
| Central Sewer Survey Phase 1 | | | | | | $ 100,000 |
| Central Sewer Survey Phase 2 | | | | | | $ 150,000 |
| Water & Sewer Master Plan - Ph 1 | | | $ 200,000 | | | |

# Capital Purchases

| Projects by Service Area | Fiscal Year 2025 | 2026 | 2027 | 2028 | 2029 | Future |
|---|---|---|---|---|---|---|
| **Maintenance** | | | | | | |
| Ductile Pipe Inventory Storage Rack | | | | | | $ 18,500 |
| 4 Inch Drivable Portable CCTV Camera | | | | | | $ 28,000 |
| 4 - 12 Inch Hot Tap Machine / Mueller | | | | | $ 32,000 | |
| Asphalt Hot Box, Compactor and Roller | | | | | | $ 77,000 |
| Paving of 1/4 Rear Parking Area | | | | | $ 12,500 | |
| Stone and Cold Patch Pad | | $ 7,500 | | | | |
| 2DH-2 Concrete Mixer 2 Cubic Yards | | | | | | $ 39,000 |
| Electric Gate Lower Entrance | | | | | | $ 45,000 |
| Sewer SL-RAT | $ 30,500 | | | | | |
| I/I sewer flow meters | $ 30,000 | | | | | |
| CIP Crew - Portable Air Compressor | | | $ 33,000 | | | |
| CIP Crew - Skid Steer Concrete Saw | | | | $ 34,000 | | |
| CIP Crew - Water Service Hog | | | $ 9,000 | | | |
| New Resource SUV | | | | | $ 47,500 | |
| New Resource 1/2 Ton Truck | | | | $ 47,000 | | |
| **Personnel** | | | | | | |
| Facilities Maintenance Crew Vehicle | $ 95,000 | | | | | |
| New 1/2 Ton Truck - Ground Maintenance | | | | | | $ 47,000 |
| **SCADA** | | | | | | |
| **Operational Needs** | | | | | | |
| SCADA Communications Architecture Enhancements | | | | | | $ 20,000 |
| **Various** | | | | | | |
| **Operational Needs** | | | | | | |
| Sample Hydrants Phase 2A (8) | $ 22,000 | | | | | |
| Sample Water hydrants - Phase 2B (7) | | $ 19,000 | | | | |
| **Grand Total** | **$ 239,500** | **$ 156,500** | **$ 552,000** | **$ 201,000** | **$ 318,000** | **$ 4,504,500** |

# Capital Improvement Program Priority Ranking

| Priority Score Color Codes | |
|---|---|
| 20 | <30 |
| 30 | 30-39 |
| 50 | 40-59 |
| 65 | 60+ |

Bedford Regional Water Authority

| Line ID | Service Area | Project | Description | Project Costs | Priority Classification 10 - Mandatory 7 - Maintenance 5 - Efficiency 2 - New Service | Priority Ranking 10 -Very High 7 - High 5 - Medium 2 - Low | Expectful Useful Life 10 - 20+ yrs 7 - 10-19 yrs 5 - 5-9 yrs 2 - < 5yrs | Failure Potential 10- High 7 - Medium 5 - Low 2 - N/A | Benefit/ Failure 10- High 5 - Medium 2 - Low 0 - N/A | Effect on O&M Costs: 10 - Reduce 5 - Unchanged 2 - Increased | Effect on Revenue 10 - Increase 5 - Unchanged 2 - Decrease | Environmental Impact 10 - High 5 - Medium 2 - Low/ None | Total Priority Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Forest | Blackburn Subdivision NLE | Most of subdivision served with public water through privately maintained booster station. NLE would connect them behind the existing Fox Runn booster station. | $520,000 | 5 | 5 | 10 | 2 | 2 | 2 | 10 | 2 | 38 |
| 2 | Lakes | Goodview Waterline - SML to Sycamore Ridge | Routine flushing would be necessary until adequate number of connections. | $5,500,000 | 2 | 2 | 10 | 2 | 2 | 2 | 10 | 2 | 32 |
| 3 | Lakes | MVS to Valley Mills Ext (Lochwood, Capewood, Trading Post) | To provide water service to the Saunders Point Neighborhood from MVS and eliminate Valley Mills well system. | $1,200,000 | 2 | 5 | 10 | 5 | 5 | 2 | 10 | 2 | 41 |
| 4 | Lakes | SML Phase 5 to Mountain View Shores | Will reduce operations requirement at MVS and Valley Mills; will increase flushing needs until sufficient number of customers exist. | $7,200,000 | 5 | 2 | 10 | 5 | 5 | 5 | 10 | 2 | 44 |
| 5 | Forest | Cottontown Road Loop - Riley Run to Autumn Run | Improve turnover / circulation in the area and provide loop. | $1,000,000 | 5 | 2 | 10 | 5 | 2 | 5 | 10 | 2 | 41 |
| 6 | Forest | Everett Road Loop - Otterview to Walkers Crossing | Provides Forest loop and better ability to serve part of Forest system from SML Central. | $900,000 | 7 | 5 | 10 | 5 | 2 | 10 | 5 | 2 | 46 |
| 7 | Forest | Goode Waterline Loop - Everett to Ashwood (Rt. 221) | Provides loop between Goode and Forest along Route 221. | $4,000,000 | 5 | 2 | 10 | 5 | 2 | 5 | 10 | 2 | 41 |
| 8 | Lakes | Whitehouse Road Loop | Needed when more than 4 MGD is flowing to Town/Forest from SMLWTF. | $4,500,000 | 2 | 2 | 10 | 2 | 2 | 5 | 10 | 2 | 35 |
| 9 | Stewartsville | Stewartsville West Loop - Drewrys Hill Road | Provides system loop. | $400,000 | 7 | 5 | 10 | 2 | 0 | 5 | 5 | 2 | 36 |
| 10 | Boonsboro | Fox Runn Booster Station Upgrade | Aging station in need of tank replacements and upgraded equipment. If station is upsized, could also serve Blackburn subdivision water system. Contracted costs difficult to justify for number of customers to be served. (21 lots served with potential of up to 12 more) | $400,000 | 7 | 5 | 10 | 7 | 5 | 5 | 5 | 2 | 46 |
| 11 | Forest | Altha Grove/Cottontown Tank - Mixer | Mixer needed to destratify water and improve DBPs. | $25,000 | 7 | 10 | 5 | 5 | 10 | 10 | 5 | 5 | 57 |
| 12 | Central | Bunker Hill Control Valve - Fencing | Add security fencing around site. | $5,000 | 5 | 2 | 7 | 2 | 2 | 5 | 5 | 2 | 30 |
| 13 | Central | Central Bulk Fill Station (Central WWTP) | Add water filling station in Central service area and limit operator time to provide service | $40,000 | 5 | 5 | 7 | 5 | 2 | 5 | 10 | 2 | 41 |
| 14 | Central | Connect Bedford Lowe's to Town Distribution System | Enables full use of the 460 Pump Station when pumping from the Forest system; Lowe's at Shiloh Church Road loses pressure and fire protection in the current configuration. | $400,000 | 7 | 10 | 10 | 5 | 5 | 5 | 5 | 2 | 49 |
| 15 | Central | Stoney Creek Reservoir - Ph 2B (Cleaning/Design) | Conduit cleaning and design costs for chemical grouting/filter diaphragm based on PER provided by W\|W dated 12/20/2022. (Additional to existing FY22-23 funding) | $124,000 | 10 | 10 | 10 | 7 | 5 | 5 | 5 | 2 | 54 |
| 16 | Central | Stoney Creek Reservoir - Ph 3A (Rehab Construction - BRWA Portion) | Estimated construction cost for Option 1 - Outlet Works Rehab based on PER provided by W\|W dated 12/20/2022. | $100,000 | 10 | 10 | 10 | 7 | 5 | 5 | 5 | 10 | 62 |
| 17 | Central | Stoney Creek Reservoir - Ph 3B (Rehab Construction) | Estimated construction cost for Option 1 - Outlet Works Rehab based on PER provided by W\|W dated 12/20/2022. (Grant Requested portion) | $761,000 | 10 | 10 | 10 | 7 | 5 | 5 | 5 | 10 | 62 |

# Capital Improvement Program Priority Ranking

| Priority Score Color Codes | |
|---|---|
| 20 | <30 |
| 30 | 30-39 |
| 50 | 40-59 |
| 65 | 60+ |

Bedford Regional Water Authority

| Line ID | Service Area | Project | Description | Project Costs | Priority Classification 10 - Mandatory 7 - Maintenance 5 - Efficiency 2 - New Service | Priority Ranking 10 -Very High 7 - High 5 - Medium 2 - Low | Expectful Useful Life 10 - 20+ yrs 7 - 10-19 yrs 5 - 5-9 yrs 2 - < 5yrs | Failure Potential 10- High 7 - Medium 5 - Low 2 - N/A | Benefit/ Failure 10- High 5 - Medium 2 - Low 0 - N/A | Effect on O&M Costs: 10 - Reduce 5 - Unchanged 2 - Increased | Effect on Revenue 10 - Increase 5 - Unchanged 2 - Decrease | Environmental Impact 10 - High 5 - Medium 2 - Low/ None | Total Priority Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | Central WTP | Central WTP - Booster station for customers directly served (Construction) | Design complete. Addresses several customers directly connected to plant that are currently affected by plant maintenance. Value-engineered building to minimize costs. (Approximately 10 lots served) | $300,000 | 5 | 10 | 10 | 5 | 2 | 5 | 5 | 2 | 44 |
| 19 | Central WTP | Central WTP - Inside filter system valves replacement Phase 1 | Replace influent valves (2) inside filter system due to deterioration from end of life. | $150,000 | 8 | 8 | 10 | 10 | 9 | 6 | 5 | 2 | 58 |
| 20 | Central WTP | Central WTP - Overhaul of WTP Elevator | Without the elevator to take chemicals to the top floor, the WTP will be difficult to operate. If 122 waterline not in service, an elevator failure could be critical. | $350,000 | 7 | 10 | 7 | 7 | 5 | 5 | 5 | 5 | 51 |
| 21 | Central WTP | Central WTP - Repairs to Elevator | Elevator is inoperable and unable to get chemicals to top floor. Chemical pallets are temporarily located in pump room, with limited to no room for additional chemical deliveries. | $85,000 | 10 | 10 | 5 | 10 | 10 | 5 | 5 | 5 | 60 |
| 22 | Central WTP | Central WTP - Holding Pond Sewer | Sewer line from holding ponds to public sewer for surge control release; easements would be required. Operational savings every 4 years for dredging holding ponds. | $800,000 | 5 | 7 | 7 | 7 | 5 | 10 | 5 | 2 | 48 |
| 23 | Central WTP | Central WTP - Phase 1 Electrical Upgrades | New generator installation exterior to the building with demo of old generator. Allows room for electric panels to be relocated in Phase 2. | $350,000 | 7 | 10 | 10 | 10 | 10 | 5 | 5 | 5 | 62 |
| 24 | Central WTP | Central WTP - Phase 2 Electrical Upgrades | Install new panels and move primary services | $420,000 | 7 | 10 | 10 | 10 | 10 | 5 | 5 | 5 | 62 |
| 25 | Central WTP | Central WTP - Phase 3 Electrical Upgrades | Install new panels and move secondary services | $130,000 | 7 | 10 | 10 | 10 | 10 | 5 | 5 | 5 | 62 |
| 26 | Central WTP | Central WTP - SCADA Head Loss Monitors for finish filters | This will upgrade the current system and provide measurements for filter run hours. | $150,000 | 5 | 5 | 7 | 2 | 2 | 5 | 5 | 2 | 33 |
| 27 | Central WTP | Central WTP - Security Alarms and Fire Alarm System | Safety - Need security system and fire system upgrades | $29,000 | 10 | 10 | 10 | 10 | 10 | 5 | 5 | 2 | 62 |
| 28 | Central WTP | Central WTP - Underdrain air scour system | Improve filter run hours and prolong filter life | $325,000 | 5 | 5 | 10 | 2 | 2 | 10 | 5 | 2 | 41 |
| 29 | Central WTP | Central WTP - Upgrade chemical feeders to liquid chemical (others) | Liquid chemicals would eliminate the need for daily elevator use and enhance treatment capabilities. With no dry chemicals added to the water, less sediment would need to be cleaned and hauled. | $15,000 | 5 | 10 | 7 | 7 | 5 | 10 | 5 | 2 | 51 |
| 30 | Forest | Lynchburg Entry Point Control Valve (Graves Mill Rd) | First step in being able to control and meter flow at the three major feeds from Lynchburg. Will reduce personnel time from manually adjusting valves, and provide immediate usage data to better manage water purchase from Lynchburg. | $120,000 | 5 | 10 | 10 | 2 | 5 | 10 | 5 | 2 | 49 |
| 31 | Valley Mills | Valley Mills Building addition for chemical addition | Due to age and configuration, the waterworks experiences treatment upsets that require the tank to be dumped for dilution. The pH is very low and no pH adjustment is currently provided. The current building size is not feasible for any treatment additions or reconfigurations. | $20,000 | 5 | 10 | 7 | 7 | 5 | 10 | 5 | 5 | 54 |

# Capital Improvement Program Priority Ranking

| Priority Score Color Codes | |
|---|---|
| 20 | <30 |
| 30 | 30-39 |
| 50 | 40-59 |
| 65 | 60+ |

Bedford Regional Water Authority

| Line ID | Service Area | Project | Description | Project Costs | Priority Classification 10 - Mandatory 7 - Maintenance 5 - Efficiency 2 - New Service | Priority Ranking 10 -Very High 7 - High 5 - Medium 2 - Low | Expectful Useful Life 10 - 20+ yrs 7 - 10-19 yrs 5 - 5-9 yrs 2 - < 5yrs | Failure Potential 10- High 7 - Medium 5 - Low 2 - N/A | Benefit/ Failure 10- High 5 - Medium 2 - Low 0 - N/A | Effect on O&M Costs: 10 - Reduce 5 - Unchanged 2 - Increased | Effect on Revenue 10 - Increase 5 - Unchanged 2 - Decrease | Environmental Impact 10 - High 5 - Medium 2 - Low/ None | Total Priority Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | SCADA | SCADA Hatch Intrusion Switches for Water Tanks | For water system security, as identified in the 2021 Risk and Resilience Assessment for 7 BRWA tanks and 3 SML tanks. | $36,000 | 10 | 10 | 7 | 2 | 10 | 5 | 5 | 2 | 51 |
| 33 | Various | Sample Hydrants Phase 2A (8) | Guarantees accessibility and representative water for compliance samples. (Phased) | $22,000 | 5 | 10 | 5 | 5 | 5 | 5 | 5 | 5 | 45 |
| 34 | Various | Sample Water hydrants - Phase 2B (7) | Guarantees accessibility and representative water for compliance samples. (Phased) | $19,000 | 10 | 10 | 7 | 2 | 2 | 5 | 5 | 5 | 46 |
| 35 | SML | Raw Water Intake Generator | Stand-alone diesel generator to run the intake facility | $200,000 | 5 | 7 | 7 | 7 | 10 | 10 | 5 | 10 | 61 |
| 36 | SML | Raw Water intake valves | Extend access to water control valves to address confined space entry into vault upon valve faults and manual operation. | $25,000 | 7 | 10 | 10 | 2 | 0 | 5 | 5 | 2 | 41 |
| 37 | SML | Sodium hypochlorite day tank & pipe wall | Move, raise & separate Sodium Hypochlorite day tank into temperarure controlled environment/room. Re-build pipe wall on separate skids for pre/post clearwell chlorination for easier/safer access for Preventative Maintenance and regular issues which arise. Additionally, replace day tank with new fiberglass tank due to current tank being at end of life and also needs spill containment | $50,000 | 7 | 5 | 7 | 8 | 10 | 7 | 4 | 7 | 55 |
| 38 | SML | Sewer Pump Station 4 Upgrades Ph 2 (Pumps) | Increase pump capacity as existing station is only able to support 65 gpm with both pumps running. Limitations on capacity causes the SMLWTF to be shut down to prevent overflows. Unused basin next to pump well could be used to modulate backups. | $30,000 | 7 | 10 | 5 | 10 | 2 | 10 | 5 | 5 | 54 |
| 39 | Forest | Ivy Creek 1-4 Capacity *(1.5 MGD Avg / 3.75 Peak)* | Not necessary right away - currently own 1.29 MGD Peak in Ivy 1 & 2, 1.52 MGD Peak in Ivy 3; 1.89 MGD Peak in Ivy 4. | $1,900,000 | 2 | 5 | 7 | 5 | 0 | 5 | 10 | 2 | 36 |
| 40 | Forest | Lynchburg WWTP Capacity (2.4 MGD) | Not necessary until more than 1 MGD needed; $1.4M for 1.68 MGD, $1.6M for 1.808 MGD, and $1.9M for 1.9 MGD. | $2,800,000 | 2 | 5 | 7 | 5 | 0 | 5 | 10 | 2 | 36 |
| 41 | Moneta WWTP | Moneta WWTP Expansion to 1.0 MGD | Future expansion of plant capacity upon development growth in Lakes area. | $4,100,000 | 2 | 2 | 10 | 2 | 0 | 2 | 10 | 2 | 30 |
| 42 | Stewartsville | Stewartsville Sewer | Minimal water customers currently in this service area. PER completed in 2012 reviewing options, with cheapest capital option as a new WWTP estimated at $8.5M at time of report. | $20,000,000 | 2 | 2 | 10 | 2 | 0 | 2 | 10 | 2 | 30 |
| 43 | Central | Central Pump Station 4 Replacement & SCADA | Bring station above ground; water often present in the bottom of the station, presenting concern of safety hazard due to electrical presence. | $290,000 | 10 | 5 | 7 | 5 | 5 | 5 | 5 | 5 | 47 |
| 44 | Central | Central Pump Station 8 Replacement & SCADA | Smith & Loveless pump station with failing steel wet well. | $470,000 | 10 | 5 | 10 | 7 | 5 | 5 | 5 | 10 | 57 |
| 45 | Central WWTP | Central WWTP - Replace grit collector #2 | Grit collector is down due to complete failure. | $25,000 | 10 | 10 | 10 | 10 | 10 | 5 | 5 | 5 | 65 |
| 46 | Central WWTP | Central WWTP - Replace Monster Auger | Replace Monster Auger (trash removal) | $60,000 | 5 | 5 | 7 | 7 | 10 | 5 | 5 | 5 | 49 |

# Capital Improvement Program Priority Ranking

| Priority Score Color Codes | |
|---|---|
| 20 | <30 |
| 30 | 30-39 |
| 50 | 40-59 |
| 65 | 60+ |

Bedford Regional Water Authority

| Line ID | Service Area | Project | Description | Project Costs | Priority Classification 10 - Mandatory 7 - Maintenance 5 - Efficiency 2 - New Service | Priority Ranking 10 -Very High 7 - High 5 - Medium 2 - Low | Expectful Useful Life 10 - 20+ yrs 7 - 10-19 yrs 5 - 5-9 yrs 2 - < 5yrs | Failure Potential 10- High 7 - Medium 5 - Low 2 - N/A | Benefit/ Failure 10- High 5 - Medium 2 - Low 0 - N/A | Effect on O&M Costs: 10 - Reduce 5 - Unchanged 2 - Increased | Effect on Revenue 10 - Increase 5 - Unchanged 2 - Decrease | Environmental Impact 10 - High 5 - Medium 2 - Low/ None | Total Priority Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 47 | Central WWTP | Central WWTP - Replace railings and chains on primary basin #2 | The flights have broken and are inoperable. | $30,000 | 10 | 10 | 10 | 10 | 10 | 5 | 5 | 5 | 65 |
| 48 | Central WWTP | Central WWTP - Digester Access Improvements (SAFETY) | Need ladder with harness system for personnel access; need alternate solution for cleaning; costs unknown. | $100,000 | 10 | 7 | 7 | 7 | 0 | 5 | 5 | 2 | 43 |
| 49 | Central WWTP | Central WWTP - Move sandfilter controls from basement to control room | Remove from basement to prevent future water damage | $35,000 | 10 | 7 | 7 | 5 | 0 | 2 | 5 | 2 | 38 |
| 50 | Central WWTP | Central WWTP - Remove old boiler and equipment | Remove old boiler equipment in digester building. | $50,000 | 5 | 2 | 10 | 2 | 0 | 5 | 5 | 2 | 31 |
| 51 | Moneta WWTP | Moneta WWTP - Composting sludge from Central Sewer & Moneta WWTP | Low priority; costs unknown | $100,000 | 5 | 7 | 7 | 2 | 0 | 10 | 5 | 2 | 38 |
| 52 | Moneta WWTP | Moneta WWTP - Electric pallet lift | Electric pallet lift needed for unloading chemicals, equipment, and distilled water for the lab. | $10,000 | 5 | 5 | 7 | 2 | 0 | 5 | 5 | 2 | 31 |
| 53 | Moneta WWTP | Moneta WWTP - New Disk Filter Construction | Equipment quoted in 2017 at $155k; per Wiley\|Wilson, budget $500k. Needed if septage is accepted at the plant. | $650,000 | 5 | 2 | 7 | 5 | 0 | 5 | 5 | 5 | 34 |
| 54 | Mariners WWTP | Mariners WWTP - Install skimmer on clarifier 1 and 2 | The clarifiers were not designed for skimmers. The skimmers would improve the life on the drainfields by skimming all the solids from both clarifiers and returning back to the anoxic zones for treatment. | $10,000 | 5 | 5 | 7 | 5 | 5 | 5 | 5 | 2 | 39 |
| 55 | Purchases | Key System - Various Plants | Provide fob infrastructure for 2 plants with 1 initial point of access each, allowing for fob access and expansion to other doors in the future. | $30,000 | 5 | 10 | 7 | 10 | 10 | 10 | 5 | 2 | 59 |
| 56 | Purchases | Key System - Various Sites | Provide fob infrastructure for 3 sites with 1 initial point of access each, allowing for fob access and expansion to other doors in the future. | $50,000 | 5 | 10 | 7 | 10 | 10 | 10 | 5 | 2 | 59 |
| 57 | Purchases | Key System - Various Sites | Provide fob infrastructure for 1 site and one electrical gate. | $50,000 | 5 | 10 | 7 | 10 | 10 | 10 | 5 | 2 | 59 |
| 58 | Purchases | Key System - Central WWTP | Provide fob infrastructure at main buildings and electric gate. | $100,000 | 5 | 10 | 7 | 10 | 10 | 10 | 5 | 2 | 59 |
| 59 | Purchases | Key System - Various Sites | Provide fob infrastructure for electric gate(s) and expand fob infrastructure at site(s). | $100,000 | 5 | 10 | 7 | 10 | 10 | 10 | 5 | 2 | 59 |
| 60 | Purchases | Phase 1 of Data Visualization | Proof of concept, prepare dashboard system | $52,000 | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 2 | 34 |
| 61 | Purchases | Phase 2 of Data Visualization | Connect to Customer Service Database and move visualization to the cloud | $50,000 | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 2 | 34 |
| 62 | Purchases | Phase 3 of Data Visualization | Connect to Asset Management & SCADA and prepare reports | $85,000 | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 2 | 34 |
| 63 | Purchases | Phase 4 of Data Visualization | Connect to Financial Database and prepare reports | $70,000 | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 2 | 34 |
| 64 | Purchases | Portable Water Station for Community Events | Water buggy trailer for marketing and public service. Could be used with line breaks. | $55,000 | 2 | 2 | 10 | 5 | 10 | 5 | 5 | 2 | 41 |
| 65 | Purchases | Operations/Billing/Cartegraph Web Application | Integration of Operations data, Billing data, and Cartegraph data. Eliminates individual spreadsheets and allows multi-year analysis with data security and validation. May assist with statistical information and revenue forecasting. Integrates all data needed for the monthly Accountability Report. | $55,000 | 5 | 10 | 10 | 7 | 5 | 10 | 5 | 2 | 54 |

# Capital Improvement Program Priority Ranking

| Priority Score Color Codes | |
|---|---|
| 20 | <30 |
| 30 | 30-39 |
| 50 | 40-59 |
| 65 | 60+ |

Bedford Regional Water Authority

| Line ID | Service Area | Project | Description | Project Costs | Priority Classification 10 - Mandatory 7 - Maintenance 5 - Efficiency 2 - New Service | Priority Ranking 10 -Very High 7 - High 5 - Medium 2 - Low | Expectful Useful Life 10 - 20+ yrs 7 - 10-19 yrs 5 - 5-9 yrs 2 - < 5yrs | Failure Potential 10- High 7 - Medium 5 - Low 2 - N/A | Benefit/ Failure 10- High 5 - Medium 2 - Low 0 - N/A | Effect on O&M Costs: 10 - Reduce 5 - Unchanged 2 - Increased | Effect on Revenue 10 - Increase 5 - Unchanged 2 - Decrease | Environmental Impact 10 - High 5 - Medium 2 - Low/ None | Total Priority Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 66 | Purchases | Central Sewer Survey Phase 1 | Engineering Term Consultant to perform field survey of Central Sewer to be used for Central Sewer Mapping and Modeling. Will assist in identifying appropriate pumps for replacement at Central pump stations, | $100,000 | 5 | 5 | 10 | 7 | 5 | 5 | 5 | 5 | 47 |
| 67 | Purchases | Central Sewer Survey Phase 2 | Engineering Term Consultant to perform field survey of Central Sewer to be used for Central Sewer Mapping and Modeling. Will assist in identifying appropriate pumps for replacement at Central pump stations. | $150,000 | 5 | 5 | 10 | 7 | 5 | 5 | 5 | 5 | 47 |
| 68 | Purchases | Water & Sewer Master Plan | Comprehensive master planning document has not been created since Consolidation; plan would need to coordinate with the Town and County's Comprehensive Plans and zoning. | $200,000 | 7 | 10 | 7 | 5 | 2 | 5 | 5 | 2 | 43 |
| 69 | Purchases | I/I sewer flow meters | Meter and target I/I in BRWA sewer system | $30,000 | 7 | 10 | 7 | 5 | 10 | 10 | 10 | 10 | 69 |
| 70 | Purchases | 2DH-2 Concrete Mixer 2 Cubic Yards | Concrete mixer will be used to replace sidewalks for CIP projects and line crews or water service or main repairs. The purchase of this unit will save time and money by eliminating the need for contractors. | $39,000 | 5 | 7 | 7 | 2 | 0 | 10 | 5 | 2 | 38 |
| 71 | Purchases | 4 - 12 Inch Hot Tap Machine / Mueller | This Mueller machine will allow us to make hot taps which range from 4 inch to 12 inch without disrupting water service or spending full days cutting and sleeving sections of pipe together. This unit is safer and more efficient that traditional cut and building valve assemblies. This will allow for short if no water outages while making new and larger taps. | $32,000 | 5 | 7 | 7 | 2 | 2 | 10 | 5 | 2 | 40 |
| 72 | Purchases | 4 Inch Drivable Portable CCTV Camera | Portable CCTV crawler will allow PM to crawl lines as small as 4 inches in the town. The towns old system has a lot of 4 inch clay pipe which can be inspected with this small portable crawler. This unit can crawl 100 foot lengths and is packed into a suitcase size container for easy use and inspections. | $28,000 | 5 | 5 | 7 | 2 | 0 | 5 | 5 | 2 | 31 |
| 73 | Purchases | Asphalt Hot Box, Compactor and Roller | This equipment will allow the BRWA to begin making our own asphalt repairs when time permits. Currently Patterson Brothers performs our repairs however charges a mobilization fee for their work. This equipment will allow us to BEGIN making some of the asphalt repairs inhouse saving considerable money when time permits. | $77,000 | 5 | 5 | 7 | 2 | 0 | 10 | 5 | 2 | 36 |
| 74 | Purchases | CIP Crew - Portable Air Compressor | Air compressor unit for Capital crew to use with Hole Hawg for service installations, as well as concrete and asphalt removal. | $33,000 | 5 | 10 | 7 | 2 | 0 | 5 | 5 | 2 | 36 |
| 75 | Purchases | CIP Crew - Skid Steer Concrete Saw | Saw attachment for cutting asphalt and concrete to provide better efficiencies, accuracy, and longer cuts. | $34,000 | 5 | 7 | 5 | 2 | 0 | 5 | 5 | 2 | 31 |
| 76 | Purchases | CIP Crew - Water Service Hog | CIP team water service Hole Hog | $9,000 | 2 | 5 | 10 | 5 | 5 | 2 | 5 | 2 | 36 |
| 77 | Purchases | Ductile Pipe Inventory Storage Rack | Storage for multiple sizes of ductile pipe keeping inventory off of the ground and easier to access. Racks will make pulling and cutting pipe safer and more efficient | $18,500 | 5 | 5 | 5 | 2 | 0 | 5 | 5 | 2 | 29 |
| 78 | Purchases | Electric Gate Lower Entrance | This gate will be added to the new lower parking allowing easier access to obtain equipment and better access for delivery of stone, pipe and equipment. | $45,000 | 5 | 2 | 10 | 2 | 0 | 5 | 5 | 2 | 31 |
| 79 | Purchases | New Resource SUV | New resource vehicle to replace Jeep #27 which is being used by maintenance assistant manager | $47,500 | 5 | 10 | 7 | 2 | 0 | 5 | 5 | 2 | 36 |
| 80 | Purchases | New Resource ½ Ton Truck | New resource truck will be used for field work preventing the resource SUVs from being damaged. This will allow the SUV's to be used for travel, not work vehicles. | $47,000 | 5 | 10 | 7 | 2 | 0 | 5 | 5 | 2 | 36 |

# Capital Improvement Program Priority Ranking

| Priority Score Color Codes | |
|---|---|
| 20 | <30 |
| 30 | 30-39 |
| 50 | 40-59 |
| 65 | 60+ |

Bedford Regional Water Authority

| Line ID | Service Area | Project | Description | Project Costs | Priority Classification 10 - Mandatory 7 - Maintenance 5 - Efficiency 2 - New Service | Priority Ranking 10 -Very High 7 - High 5 - Medium 2 - Low | Expectful Useful Life 10 - 20+ yrs 7 - 10-19 yrs 5 - 5-9 yrs 2 - < 5yrs | Failure Potential 10- High 7 - Medium 5 - Low 2 - N/A | Benefit/ Failure 10- High 5 - Medium 2 - Low 0 - N/A | Effect on O&M Costs: 10 - Reduce 5 - Unchanged 2 - Increased | Effect on Revenue 10 - Increase 5 - Unchanged 2 - Decrease | Environmental Impact 10 - High 5 - Medium 2 - Low/ None | Total Priority Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | Purchases | Paving of 1/4 Rear Parking Area | The rear parking lot is have paved and half gravel. During heavy rain events the stone washes to the rear parking lot creating holes and erosion making travel and walking difficult. Paving the sloped portion of the rear lot will allow for easier parking lot maintained and safer walking areas. | $12,500 | 5 | 5 | 7 | 2 | 0 | 5 | 5 | 2 | 31 |
| 82 | Purchases | Sewer SL-RAT | Inspection of all of sewer lines needed to prioritize areas of replacement as part of Strategic Plan funding goal. This equipment allows for quick sewer inspections of lines up to 12" in size, and minimizes areas where more time-consuming CCTV inspection is necessary. | $30,500 | 7 | 10 | 5 | 5 | 5 | 5 | 5 | 10 | 52 |
| 83 | Purchases | Stone and Cold Patch Pad | A larger storage area for stone, soil, cold patch and A-1 rip rap is needed. The funds would allow a concrete pad to be poured making soil, cold patch and other materials used easier to scoop and allows storage in larger quantities. The funds will be used to build longer and wider bins along with a solid floor. | $7,500 | 5 | 5 | 7 | 2 | 0 | 10 | 5 | 2 | 36 |
| 84 | Office | Administration Offices in Conference Room | Buildout of Customer Service offices and cubicles in Conference Room; includes HVAC and lighting modifications, new office cubicle, and desk. | $126,000 | 10 | 10 | 10 | 2 | 2 | 5 | 5 | 2 | 46 |
| 85 | Office | Annex Building Renovations | Flooring and painting as performed in Admin Building in 2019, as well as soundproofing offices and rear Board Room wall. | $125,000 | 7 | 5 | 7 | 5 | 0 | 5 | 5 | 2 | 36 |
| 86 | Office | Heated Garage - additional bay | Additional longer fifth bay added to the lower heated shop for the new Vac Con, The additional bay will better accommodate the new Vac Con's length and allow more room in the lower building for compressors, pumps, hydro equipment, Pipe Hunters and other temperature sensitive equipment. | $160,000 | 5 | 7 | 10 | 2 | 0 | 5 | 5 | 2 | 36 |
| 87 | Office | Large Pole Barn | Additional storage for equipment, trucks and growing inventory. Additional space will allow for storage as we outgrow our inventory building. The space will allow for storage of equipment attachments, Eone pumps, tractors, and bays teams can work out of. | $130,000 | 5 | 5 | 10 | 2 | 0 | 5 | 5 | 2 | 34 |
| 88 | Office | New Building - Construction | New two story building behind Annex building. | $2,600,000 | 2 | 2 | 10 | 2 | 0 | 2 | 5 | 2 | 25 |
| 89 | Office | New Building - Design | Design of new building to address expanding personnel needs. | $170,000 | 2 | 2 | 10 | 2 | 0 | 2 | 5 | 2 | 25 |
| 90 | Office | Sewer Extension to Office Building | Pressure sewer extension, 6000' from gravity line. | $700,000 | 7 | 5 | 10 | 7 | 2 | 2 | 5 | 5 | 43 |
| 91 | Office | Small Pole Barn | Additional storage for equipment, trucks and growing inventory. Additional space will allow for storage as we outgrow our inventory building. The space will allow for storage of equipment attachments, Eone pumps, tractors, and bays teams can work out of. | $110,000 | 5 | 7 | 10 | 2 | 0 | 5 | 5 | 2 | 36 |
| 92 | SCADA | SCADA Communications Architecture Enhancements | Change primary communication at 10 critical water sites from B2X to Verizon VPN Digi Modems for better reliability, particularly during adverse weather events. | $20,000 | 7 | 10 | 7 | 7 | 10 | 5 | 5 | 2 | 53 |
| 93 | Purchases | Facilities Maintenance Crew Vehicle | Upon being fully staffed, the FM crew will need an additional vehicle to allow the crew to separate and go to different job sites. | $95,000 | 10 | 7 | 7 | 2 | 2 | 5 | 5 | 2 | 40 |
| 94 | Purchases | New ½ Ton Truck - Ground Maintenance | The new grounds position will require a truck to perform work. This will be a new truck purchase for this position. | $47,000 | 5 | 7 | 7 | 2 | 0 | 5 | 5 | 2 | 33 |

# Capital Reserve Accounts

The Authority has established several capital reserve accounts to address anticipated needs for large expenditures. These accounts allow funds to accumulate and carry over across fiscal years, and enable routine planning for continued improvements, replacements, or rehabilitation of equipment and infrastructure. Funding to each of these accounts is reviewed annually, taking into consideration existing balances within the accounts and the upcoming needs. Minimum balance requirements for each account are established in a Reserve Accounts policy to ensure enough funding remains available for emergencies or other needs that may arise with short notice. These accounts are funded monthly, allowing the Authority to make contribution adjustments should issues arise that require operational budget alterations.

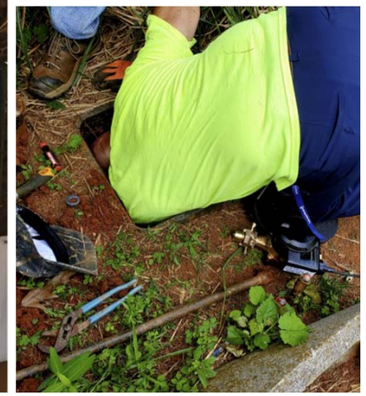
| Capital Projects and Reserve Setasides | Per Month | Annual | Comparisons Prior FY 2023-2024 | Comparisons Future |
|---|---|---|---|---|
| Vehicle and Equipment Replacements | $ 40,000 | $ 480,000 | $ 330,000 | $ 600,000 |
| Computer and SCADA Equipment Replacements | $ 2,500 | $ 30,000 | $ 30,000 | $ 80,000 |
| Meter Replacement (should be 10 year plan, per meter replacement policy) | $ 25,000 | $ 300,000 | $ 300,000 | $ 375,000 |
| Waterline Replacement (needed for older leaking systems) | $ 30,000 | $ 360,000 | $ 300,000 | $ 400,000 |
| Water Facility Set asides Plants and Pump Stations | $ 10,000 | $ 120,000 | $ 50,000 | $ 230,000 |
| Sewerline Replacement (required by consent order, needed in Center District) | $ 28,000 | $ 336,000 | $ 250,000 | $ 350,000 |
| Sewer Facility Set asides Plants and Pump Stations | $ 10,000 | $ 120,000 | $ 50,000 | $ 200,000 |
| Tank Rehabilitation | $ 6,667 | $ 80,000 | $ 80,000 | $ 100,000 |
| SML Facility Depreciation Reserve | $ 17,500 | $ 210,000 | $ 210,000 | $ 250,000 |
| Cell Tower Funds for Economic Development | $ - | | $ - | |
| **Total Replacement Reserved Capital** | | **$ 2,036,000** | $ 1,600,000 | $ 2,585,000 |

# Capital Reserve Accounts – Meters, Technology, and Tanks

**Meter Replacements**:

The Meter Replacement setaside account is used to allow for routine meter replacements throughout the service area. As a meter ages, accuracy slowly declines and the meter registers less flow. Routine replacement prior to significant accuracy decline assists with more accurate billing and water accountability, ensuring less revenue loss. In addition to meter replacements, this account also supports gateway antennas that are utilized for automated meter reading (AMR). For AMR meters within an antenna's signal, readings are captured remotely through software without the requirement for a Customer Service Representative to visit the area. Gateway antennas have initially been targeted at areas that are most remote to the system, or that may pick up the most customers. As the customer base expands, expansion of this remote capability eliminates the need for additional staff that would otherwise be necessary to read all meters. Following are items recently funded through this account and those planned for the coming year.

- Recently completed:
  - Gateway antennas replaced and upgraded at Helm Street and Mountain View Shores
  - Gateway antenna added at Mariners Landing
  - Replacement of some residential meters
- Planned for FY 2024-2025:
  - Gateway antenna installation at Stewartsville
  - Continued residential meter replacements, including some with remote shut-off meters

**Computer and SCADA Equipment (IT/OT) Replacements:**

Electronic equipment is essential to the daily operations of the organization. This includes computers, network servers, phones, printers, and programmable logic controllers (PLCs) that enable facilities to operate within stated parameters while providing remote viewing capabilities through Supervisory Control and Data Acquisition (SCADA) equipment. The Information Technology ("IT") and Operational Technology ("OT") setaside account provides for routine upkeep of these items that allow employees continued and efficient operation and facility monitoring. The inclusion of OT in this account provided for the recent replacement of the control panel at Central Wastewater Pump Station 6.

**Tank Rehabilitation:**

Water storage tanks require occasional rehabilitation to maintain quality water storage that is safely accessible for cleaning and maintenance. Rehabilitation projects may involve recoating the tanks, bringing safety equipment to current standards, updating visual and remote monitoring equipment, or other projects that provide for the continued service of the tanks. As these projects are less frequent but require high costs, the Tank Rehabilitation setaside account has been accruing in recent years to allow multiple projects to be completed most cost-efficiently as tank inspections identify rehabilitation needs.

# Capital Reserve Accounts – Vehicles and Equipment

**Vehicle and Equipment Replacements:**

Vehicles and heavy equipment represent some of the largest operating costs for the Authority. The Vehicle and Equipment reserve setaside account assures the dependability of equipment and vehicles that daily operations and emergency response rely upon. This fund also provides for routine replacement of smaller equipment necessary for daily tasks. As items are replaced utilizing this fund, the items replaced are sold as feasible and proceeds from sales are added to the fund.

These items were replaced and/or sold in FY 2023-2024:

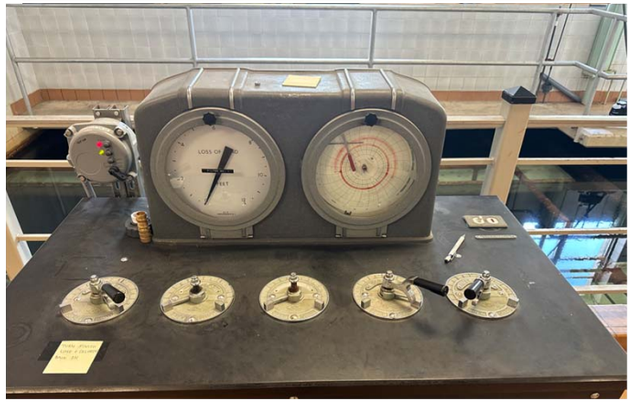
| Type | Description | Item Replaced / Sold | New Purchase Costs | Sale Proceeds |
|---|---|---|---|---|
| **Equipment** | **Boring Machine** | Aged boring machine that is out of service | $ 189,943.00 | |
| | **Electric Pallet Jack** | Damaged pallet jack at Central WTP | $ 3,427.99 | |
| | **Husky Cut-Saw** | Damaged cut-saw | $ 1,703.39 | $ 101.80 |
| | **Replacement Utility Body** | Facilities Maintenance open utility box | $ 12,815.00 | $ 4,000.00 |
| | **Tapping Machine** | Damaged tapping machine | $ 4,243.53 | |
| | **Pole Saw** | Broken pole saw | $ 551.99 | |
| | **Pipe Threader** | Replacement for Facilities Maintenance | $ 1,999.00 | |
| | **Band Saw** | Replacement for Facilities Maintenance | $ 699.00 | |
| | **Pipe Laser** | Replacement for CIP Crew | $ 5,201.82 | |
| | **Safety Wench** | Replacement for safety equipment | $ 2,204.89 | |
| | **Sold - no longer in use or replaced** | 2 Husqvarna riding mowers, out of service; sold for parts | | $ 68.00 |
| | | 60 KW Generator and Tank | | $ 2,800.00 |
| | | Aries Sewer Push Camera | | $ 450.00 |
| **Vehicle** | **Crane Truck** | 2016 Chevy Silverado modified for Crane Truck | $ 186,000.00 | $ 34,000.00 |
| | **Vactor Truck** | 2001 Vac-Con | $ 456,558.00 | $ 30,000.00 |
| | **Customer Service Truck (FY25 Purchase)** | Jeep Wrangler (>160k miles) | | $ 8,100.00 |
| **Grand Total** | | | **$ 865,347.61** | **$ 79,519.80** |

These items are planned for replacement in FY 2024-2025:

| Type | Description | Item to be Replaced | Estimated Cost |
|---|---|---|---|
| **Equipment** | **CCTV Camera Unit & Trailer** | CCTV trailer with aged camera head; regularly down for service | $ 100,000.00 |
| **Vehicle** | **ATV Side-by-side** | Preventative Maintenance Cub Cadet | $ 28,000.00 |
| | **Customer Service Truck - 2WD Hybrid** | Jeep Wrangler (>150k miles) | $ 29,000.00 |
| | | Jeep Wrangler (>160k miles; FY24 sale) | $ 29,000.00 |
| | **Maintenance 1/2 Ton Truck 4WD** | 2015 Compass (>150k miles) | $ 45,000.00 |
| **Grand Total** | | | **$ 231,000.00** |

# Capital Reserve Accounts – Water and Sewer Facilities

In FY 2023-2024, replacement reserve accounts were initiated for water and sewer facility replacements. These will provide routine funding in the future for items necessary to keep treatment plants, booster stations, and lift stations properly and efficiently functioning. With minimum funding provided to the accounts in FY 2023-2024, these accounts will continue accumulating funds for the majority of FY 2024-2025 until sufficient funding is available to begin some of the needed projects below while still maintaining the minimum account balance.



| WATER FACILITY PROJECTS | | |
|---|---|---|
| **Central WTP** | | **Costs** |
| **Operational Needs** | | |
| Central WTP - Replace filter media / rebuild filters | | |
| *Needed to meet filter optimization and reduce volume discharged to holding ponds; new coagulant may delay the need for media.* | $ | 30,000 |
| Central WTP - Filter Control SCADA Interface | | |
| *Replace and upgrade filter control system* | $ | 75,000 |
| Central WTP - Inside filter system valves replacement Phase 2 | | |
| *Replace waste valves (2) inside filter system valves due to deterioration from end of life* | $ | 160,000 |
| Central WTP - Inside filter system valves replacement Phase 3 | | |
| *Replace rewash valves (2) inside filter system valves due to deterioration from end of life* | $ | 170,000 |
| Central WTP - Basin Valves replacement Phase 1 | | |
| *Replace basin wheel valves (11) due to deterioration from end of life* | $ | 77,000 |
| Central WTP - Basin Valves replacement Phase 2 | | |
| *Replace basin wheel valves (8) due to deterioration from end of life* | $ | 65,000 |
| **Lakes** | | |
| **System Structures & Tanks** | | |
| High Point Facility Roof Replacement | | |
| *A new roof is needed on the High Point facility. The current roof has aged and is missing shingles in several locations. Damage to the structure is possible if not replaced.* | $ | 45,000 |
| **Paradise Point** | | |
| **Operational Needs** | | |
| Paradise Point Generator | | |
| *Upgrade the generator to run the well house in the event power is lost.* | $ | 16,000 |
| Pipe and pump replacements | | |
| *Replacement of old piping and pumps inside of well site building* | $ | 22,000 |
| Pressure tank Replacement | | |
| *Inspection in FY 24-25 to determine need for replacement of hydropneumatic tank; concerns noted in VDH sanitary survey.* | $ | 35,000 |
| **Grand Total** | **$** | **695,000** |

# Capital Reserve Accounts – Water Facilities

| Water Facility Replacement Project | FYE 2025 | FYE 2026 | FYE 2027 | FYE 2028 | FYE 2029 | FUTURE |
|---|---|---|---|---|---|---|
| **Central WTP** | | | | | | |
| Central WTP - Basin Valves replacement Phase 1 | | | $100,000.00 | | | |
| Central WTP - Basin Valves replacement Phase 2 | | | | $80,000.00 | | |
| Central WTP - Filter Control SCADA Interface | | | | | $75,000.00 | |
| Central WTP - Inside filter system valves replacement Phase 1 | $150,000.00 | | | | | |
| Central WTP - Inside filter system valves replacement Phase 2 | | | | $160,000.00 | | |
| Central WTP - Inside filter system valves replacement Phase 3 | | $170,000.00 | | | | |
| Central WTP - Overhaul of WTP Elevator | | | | | | $350,000.00 |
| Central WTP - Repairs to Elevator | $85,000.00 | | | | | |
| Central WTP - Replace filter media / rebuild filters | | | | | $30,000.00 | |
| Central WTP - Upgrade drainage system from holding ponds to VPDES outfall | | | | | $45,000.00 | |
| **Lakes** | | | | | | |
| High Point Facility Roof Replacement | | | $45,000.00 | | | |
| **Paradise Point** | | | | | | |
| Paradise Point Generator | | $16,000.00 | | | | |
| Pipe and pump replacements | | | $22,000.00 | | | |
| Pressure tank Replacement | | | $35,000.00 | | | |
| **Grand Total** | **$235,000.00** | **$186,000.00** | **$202,000.00** | **$240,000.00** | **$150,000.00** | **$350,000.00** |

# Capital Reserve Accounts – Sewer Facilities

| SEWER FACILITY PROJECTS | | |
|---|---|---|
| **Cedar Rock WWTP** | | |
| **Operational Needs** | | |
| Cedar Rock WWTP - Recoat influent basin | | |
| *The basins need to be recoated, starting to rust.* | $ | 10,000 |
| **Central** | | |
| **Operational Needs** | | |
| Central Pump Station 3 - Replacement Pump #1 | | |
| *3 pumps are >20 years old; 3rd phase for replacement. Will reduce overflows.* | $ | 45,000 |
| Central Pump Station 3 - Replacement Pump #2 | | |
| *3 pumps are >20 years old; 2nd phase for replacement. Will reduce overflows.* | $ | 45,000 |
| Central Pump Station 3 - Replacement Pump #3 | | |
| *3 pumps are >20 years old; 3rd phase for replacement. Will reduce overflows.* | $ | 45,000 |
| Central Pump Station 10 - Replacement Pump #2 | | |
| *Pumps were rebuilt in 2023* | $ | 50,000 |
| Central Pump Station 10 - Replacement Pump #1 | | |
| *Pumps were rebuilt in 2023* | $ | 50,000 |
| **Central WWTP** | | |
| **Operational Needs** | | |
| Central WWTP - New RAS Pump #2 | | |
| *Existing pumps are 20+ years old.* | $ | 55,000 |
| Central WWTP - New RAS Pump #3 | | |
| *Existing pumps are 20+ years old.* | $ | 55,000 |
| Central WWTP - Replace the air actuator valves to electric valves on sandfilters | | |
| *Electric valves will allow backwashing filters below freezing temperatures as air lines currently freeze in the winter and prevent the ability to backwash.* | $ | 60,000 |
| Central WWTP - Sand and repaint effluent clarifiers | | |
| *Paint is chipping and rusting* | $ | 50,000 |
| Central WWTP - Sand and repaint thickener units | | |
| *Paint is chipping and rusting* | $ | 20,000 |
| Central WWTP - Replace transfer switch in belt press building | | |
| *Install new transfer switch in belt press building. We had the old switch worked on and the contractor stated that the old switch is not waterproof and will need to be replaced in the next 2 years, no later than 2027.* | $ | 27,000 |
| Central WWTP - Lab & Sludge Building Renovations Ph 1 | | |
| *Replace flooring and ceiling panels. Flooring is cracking and coming up.* | $ | 17,000 |
| Central WWTP - Lab & Sludge Building Renovations Ph 2 | | |
| *To upgrade very old facilities. Removes cabinets to provide more space for operators by converting lab to office space & a breakroom.* | $ | 50,000 |

# Capital Reserve Accounts – Sewer Facilities

| SEWER FACILITY PROJECTS | | |
|---|---|---|
| **Mariners WWTP** | | |
| **Operational Needs** | | |
| Mariners WWTP - Recoat train 1 & 2 influent basins | | |
| *The basins need to be recoated, starting to rust.* | $ | 20,000 |
| **Moneta WWTP** | | |
| **Operational Needs** | | |
| Moneta WWTP - New chains on Train 2 BIOWHEELS | | |
| *Chains life is 5 years; will need replacement no later than 2027.* | $ | 20,000 |
| Moneta WWTP - Replace magnetic ballasts & wiring harness | | |
| *Replace with electronic ballasts; magnetic ballasts are no longer available per EPA. If flow increases, will be needed immediately.* | $ | 10,000 |
| Moneta WWTP - Replace trunnions and stub axles | | |
| *Replace trunnions and stub axles on train 1 and train 2* | $ | 170,000 |
| **Montvale WWTP** | | |
| **Operational Needs** | | |
| Montvale WWTP - Recoat influent basin at wastewater plant | | |
| *The basin will need to be recoated before it starts rusting.* | $ | 10,000 |
| **Grand Total** | **$** | **809,000** |

# Capital Reserve Accounts – Sewer Facilities

| Sewer Facility Replacement Project | FYE 2025 | FYE 2026 | FYE 2027 | FYE 2028 | FYE 2029 | FYE 2030 |
|---|---|---|---|---|---|---|
| **Cedar Rock WWTP** | | | | | | |
| Cedar Rock WWTP - Recoat influent basin | | | | | $10,000.00 | |
| **Central** | | | | | | |
| Central Pump Station 10 - Replacement Pump #1 | | | | | | $50,000.00 |
| Central Pump Station 10 - Replacement Pump #2 | | | | | | $50,000.00 |
| Central Pump Station 3 - Replacement Pump #1 | | | $45,000.00 | | | |
| Central Pump Station 3 - Replacement Pump #2 | | | $45,000.00 | | | |
| Central Pump Station 3 - Replacement Pump #3 | | | $45,000.00 | | | |
| **Central WWTP** | | | | | | |
| Central WWTP - Lab & Sludge Building Renovations Ph 1 | | $17,000.00 | | | | |
| Central WWTP - Lab & Sludge Building Renovations Ph 2 | | | | | | $50,000.00 |
| Central WWTP - New RAS Pump #2 | | $55,000.00 | | | | |
| Central WWTP - New RAS Pump #3 | | $55,000.00 | | | | |
| Central WWTP - Replace grinder in raw building | $30,000.00 | | | | | |
| Central WWTP - Replace grit collector #2 | $25,000.00 | | | | | |
| Central WWTP - Replace Monster Auger | $60,000.00 | | | | | |
| Central WWTP - Replace railings and chains on primary basin #2 | $30,000.00 | | | | | |
| Central WWTP - Replace the air actuator valves to electric valves on sandfilters | | | | $60,000.00 | | |
| Central WWTP - Replace transfer switch in belt press building | | $27,000.00 | | | | |
| Central WWTP - Sand and repaint effluent clarifiers | | | | $50,000.00 | | |
| Central WWTP - Sand and repaint thickener units | | | | $20,000.00 | | |
| **Mariners WWTP** | | | | | | |
| Mariners WWTP - Recoat train 1 & 2 influent basins | | | | $20,000.00 | | |
| **Moneta WWTP** | | | | | | |
| Moneta WWTP - New chains on Train 2 BIOWHEELS | | $20,000.00 | | | | |
| Moneta WWTP - Replace magnetic ballasts & wiring harness | | | | $10,000.00 | | |
| Moneta WWTP - Replace trunnions and stub axles | | | | | $170,000.00 | |
| **Montvale WWTP** | | | | | | |
| Montvale WWTP - Recoat influent basin at wastewater plant | | | | | $10,000.00 | |
| **Grand Total** | **$145,000.00** | **$174,000.00** | **$135,000.00** | **$160,000.00** | **$190,000.00** | **$150,000.00** |

# Capital Reserve Accounts – Water and Sewer Lines

As the Authority's water and sewer systems age, it is necessary to prepare for replacements of older lines to maintain continued service to customers. Water line and sewer line replacement or rehabilitation projects are currently covered through Capital Reserve set-asides accounts created for these purposes rather than through the Authority's Capital Improvement Plan. Funding to these accounts is regularly increased where feasible through the annual budget process. These accounts assist with unexpected emergency replacement projects that may arise, as well as allow for planned replacements through the Authority's Maintenance crews or contractors.

The majority of current line replacement projects are located within the Central service area. The Central water and wastewater systems have many older lines that have exceeded their normal life span and are a source of many repairs. Much of the current water focus is on replacement of small-diameter galvanized waterlines with larger and more durable lines to provide dependable, quality service to these areas and support fire suppression. Sewer line replacements remain primarily focused on older lines in the Central Pump Station 1 drainage area that require regular root treatment to prevent overflows, as well as beginning to address many undersized 6-inch gravity sewer lines within the Town service area.

| Anticipated Replacement Projects by Fiscal Year | Estimated Material / Contracted Costs |
|---|---|
| **2024-2025** | |
| Galax Street Sewer Replacement | $ 126,000 |
| Shady Knoll Sewer Replacement *(Begin)* | $ 200,000 |
| Turkey Mountain Water Line Replacement (for Booster Station) | $ 137,000 |
| **Total** | **$ 463,000** |
| **2025-2026** | |
| Baltimore / Walnut Avenue Waterline Replacement | $ 200,000 |
| Shady Knoll Sewer Replacement *(Finish)* | $ 20,000 |
| Western Hills Sewer Replacement *(Begin)* | $ 340,000 |
| **Total** | **$ 560,000** |
| **2026-2027** | |
| Western Hills Sewer Replacement | $ 442,000 |
| **Total** | **$ 442,000** |
| **2027-2028** | |
| Western Hills Sewer Replacement *(Finish)* | $ 102,000 |
| Western Hills Water Replacement | $ 470,000 |
| **Total** | **$ 572,000** |

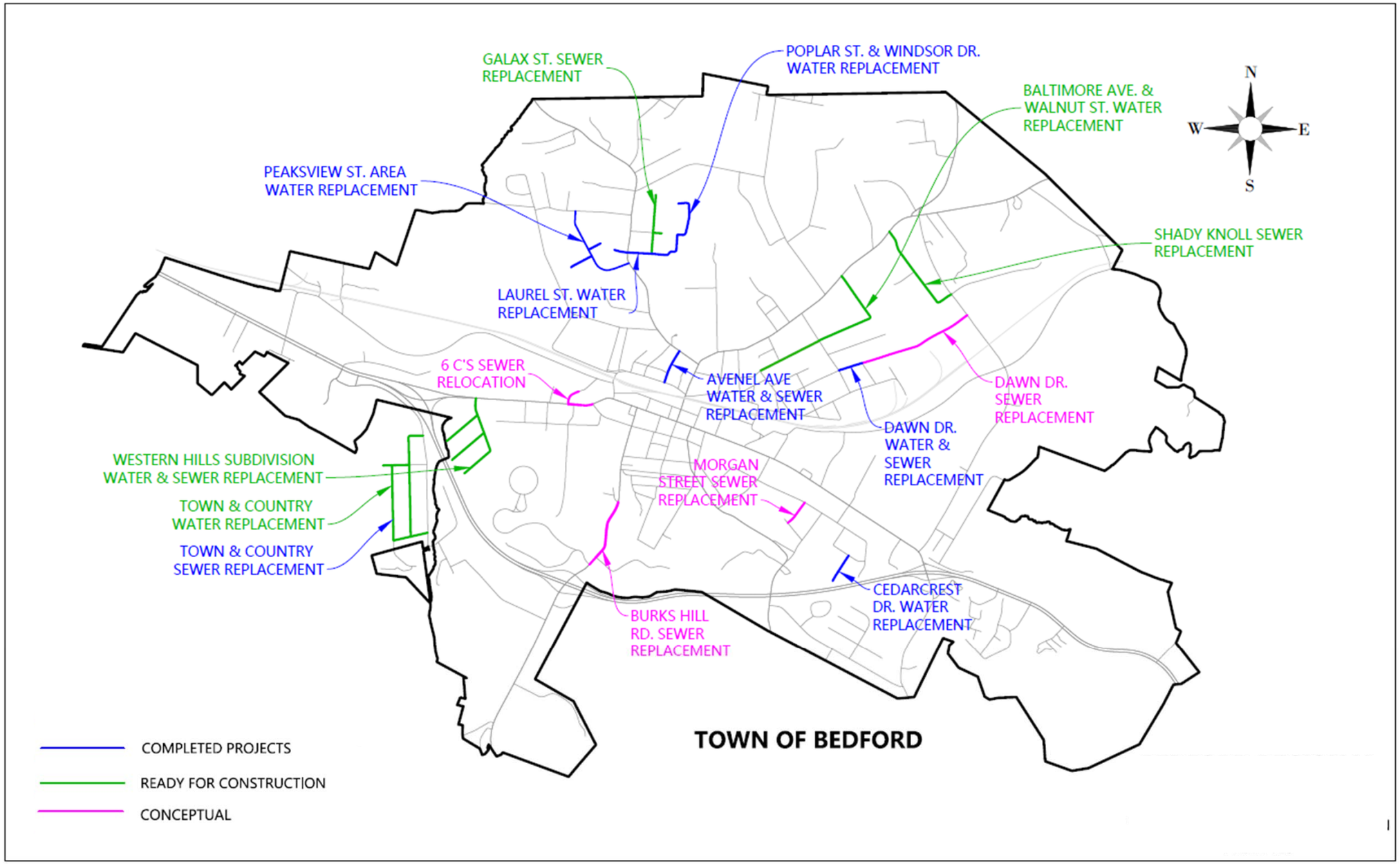
# Capital Reserve Accounts – Water and Sewer Lines

A Consent Order was issued to the City of Bedford in 2010 to address overflows at the Central wastewater plant's equalization basin, grit chamber, and Pump Stations 1, 2, and 3. As part of that Order, a minimum of $100,000 must be appropriated each budget year towards efforts that result in the reduction of inflow and infiltration into the Central sewer system, which is accomplished through the sewer line reserve account. Below is the summary of work reported to DEQ under the 2023 Consent Order Progress Report.

| Vendor | Work | FY 2013-14 | FY 2014-15 | FY2015-16 | FY2016-17 | FY2017-18 | FY2018-19 | FY2019-20 | FY2020-21 | FY2021-22 | FY2022-23 | FY2023-24* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Design Services* | | | | | | | | | | | | |
| Anderson & Associates | Design - Rt 43 Sewer Replacement | $11,046.00 | $19,994.00 | $500.00 | | | | | | | | |
| Hurt & Proffitt | Longwood / Burger King sewer design | | | | $1,970.00 | | | | | | | |
| Hurt & Proffitt | Western Hill Sewer Replacement Design | | | | | | | | | | $7,500.00 | |
| Whitman, Requardt & Assoc. | Sewer Modeling Analysis for PS #1 | | | | | | | | | $9,414.30 | | |
| *Construction Services* | | | | | | | | | | | | |
| Ghent Construction | Construction - Rt 43 Sewer Replacement Ph. 1 | | | $219,375.90 | $12,546.10 | | | | | | | |
| Sunapsys | SCADA for Pump Station 1 | | $11,763.00 | $11,127.00 | | | | | | | | |
| George E. Jones & Sons | Bedford Avenue Sewer Replacement | | | | $141,109.00 | | | | | | | |
| Patterson Brothers | Bedford Ave. Sewer Replacement-paving | | | | $40,008.00 | | | | | | | |
| George E. Jones & Sons | Link Road Sewer Replacement | | | | $81,608.00 | | | | | | | |
| Patterson Brothers | Link Road Sewer Replacement - paving | | | | $22,511.00 | | | | | | | |
| George E. Jones & Sons | Field Trace Lane Sewer - Repair | | | | $40,000.00 | $78,800.00 | | | | | | |
| George E. Jones & Sons | Longwood/Burger King sewer construction | | | | | $44,438.00 | | | | | | |
| George E. Jones & Sons | Campbell Home manhole replacement | | | | $8,480.00 | | | | | | | |
| George E. Jones & Sons | Macon Street Sewer Replacement (105') | | | | | $10,898.00 | | | | | | |
| George E. Jones & Sons | Windy Ridge Sewer Lining (400') | | | | | $33,712.00 | | | | | | |
| George E. Jones & Sons | Walmart Sewer Lining (385') | | | | | $31,728.00 | | | | | | |
| George E. Jones & Sons | Oakcrest Sewer Replacement (130') | | | | | $18,910.00 | | | | | | |
| George E. Jones & Sons | Longwood Ave Sewer Replacement | | | | | $46,200.00 | | | | | | |
| George E. Jones & Sons | Boxwood / Lowry St Sewer Replacement | | | | | | $142,076.00 | | | | | |
| Water Management Solutions | Pump around for Boxwood Sewer | | | | | | $13,796.00 | | | | | |
| Patterson Brothers | Paving for Boxwood Sewer Replacement | | | | | | $4,100.00 | | | | | |
| George E. Jones & Sons | Dawn Dr Sewer (Park to Broad) | | | | | | | $86,280.00 | | | | |
| Patterson Brothers | Paving for Dawn Dr Sewer | | | | | | | $13,000.00 | | | | |
| Pump Station 5 Replacement | | | | | | | | | | | | |
| Wood Equipment | Package system with controls | | | | | | | | $41,403.76 | $23,112.06 | | |
| Electrical Equip, CES, CMC | Materials | | | | | | | | | $557.42 | | |
| Blue Ridge Engineering | Design and permitting | | | | | | | | $2,625.00 | | | |
| Falwell Corporation | Construction | | | | | | | | | $128,866.00 | | |
| *Easements* | | | | | | | | | | | | |
| Property Owner | Longwood/Burger King sewer easement | | | | | $5,600.00 | | | | | | |
| *BRWA Maintenance* | | | | | | | | | | | | |
| | Smoke testing materials | $1,228.00 | | | | | | | | | | |
| | Sewer replacement-materials | $1,311.02 | $3,401.83 | $6,494.23 | $3,801.87 | $1,024.53 | $2,745.18 | $4,395.47 | $2,832.50 | $4,514.94 | $2,519.60 | |
| | Sewer replacement-contracted services | | $10,750.00 | $30,316.67 | | | $10,912.00 | $4,856.70 | $175.00 | $9,100.03 | $24,822.92 | |
| | Manhole rehabilitation - contracted services | | | | | | $35,450.75 | $69,262.25 | $35,197.50 | | | |
| | Tires for sewer camera | | $2,800.00 | | | | | | | | | |
| | Avenel Ave. Sewer Replacement (materials) | | | | | | | | $47,934.50 | $3,260.25 | | |
| | Avenel Ave. Sewer Replacement (paving) | | | | | | | | $12,923.90 | $16,323.60 | | |
| | Galax Street Sewer Replacement (materials) | | | | | | | | | | $23,245.00 | * |
| *Town & Country Subdivision* | | | | | | | | | | | | |
| Hurt & Proffitt | CCTV | | | | | | | | $7,500.00 | | | |
| Hurt & Proffitt | Survey & design | | | | | | | | $33,970.00 | $37,700.00 | $14,213.75 | $31,641 |
| Aaron J. Conner GC | Construction (Town ARPA) | | | | | | | | | | $771,612.00 | |
| Aaron J. Conner GC | Construction (DEQ ARPA SCS Program) | | | | | | | | | | $764,771.47 | $463,617 |
| Aaron J. Conner GC | Construction (Operational Setasides) | | | | | | | | | | | $469,712 |
| Pump Station 7 Replacement | | | | | | | | | | | | |
| Blue Ridge Engineering | Design and permitting | | | | | | | | | $3,950.00 | $1,700.00 | |
| Smith & Loveless | Package system | | | | | | | | | | $56,599.00 | |
| | Total Spent: | **$13,585.02** | **$48,708.83** | **$267,813.80** | **$352,033.97** | **$271,310.53** | **$209,079.93** | **$177,794.42** | **$184,562.16** | **$236,798.60** | **$1,666,983.74** | **$964,970.00** |
| | Annual Operational Set Asides: | $100,000.00 | $120,000.00 | $120,000.00 | $240,000.00 | $240,000.00 | $250,000.00 | $260,000.00 | $270,000.00 | $270,000.00 | $276,000.00 | $250,000.00 |

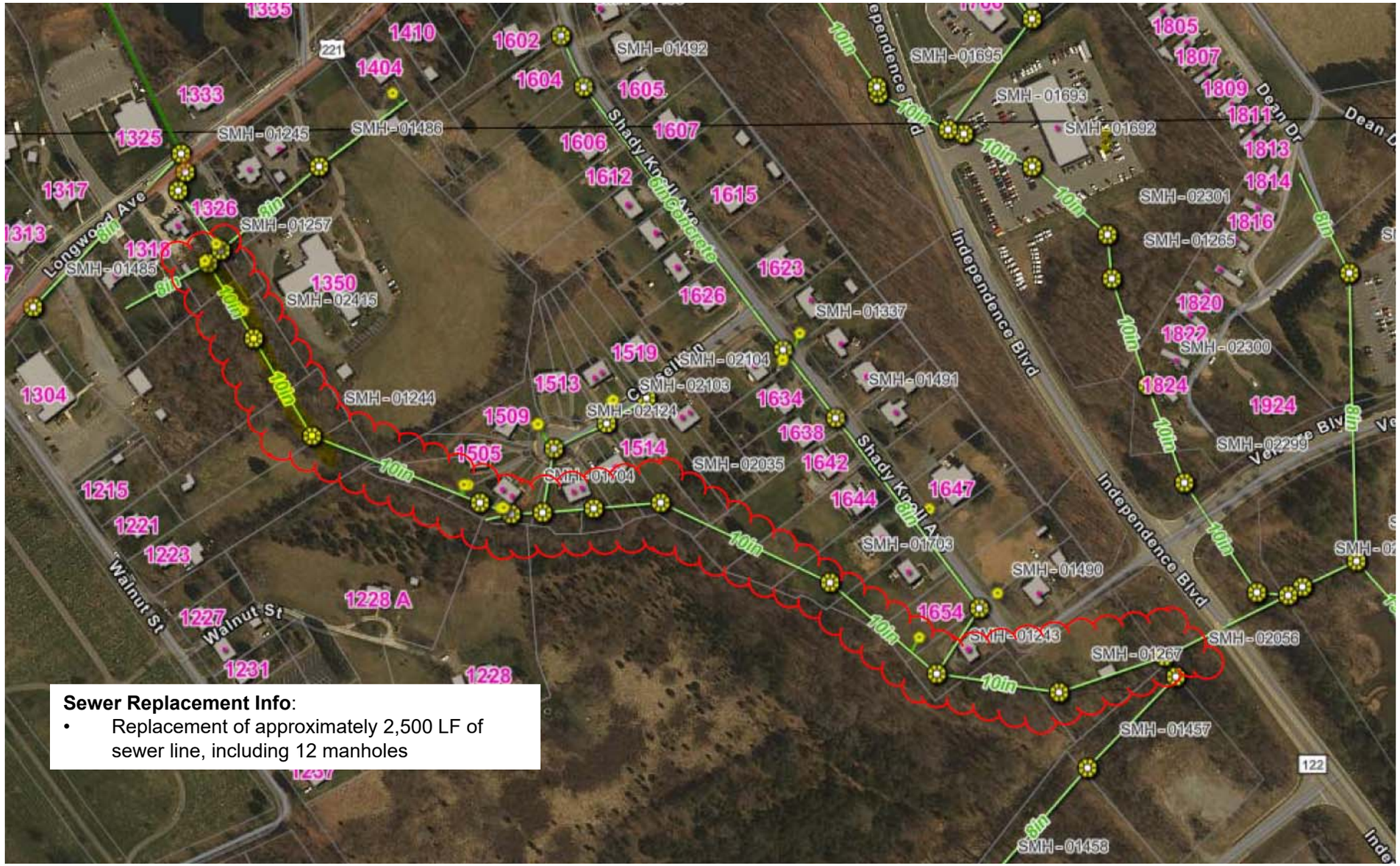
**FY23-24 Reporting not yet confirmed*

# Capital Reserve Accounts – Water and Sewer Lines



# Capital Reserve Accounts – Water and Sewer Lines

## Project Map: Shady Knoll Sewer Replacement Project

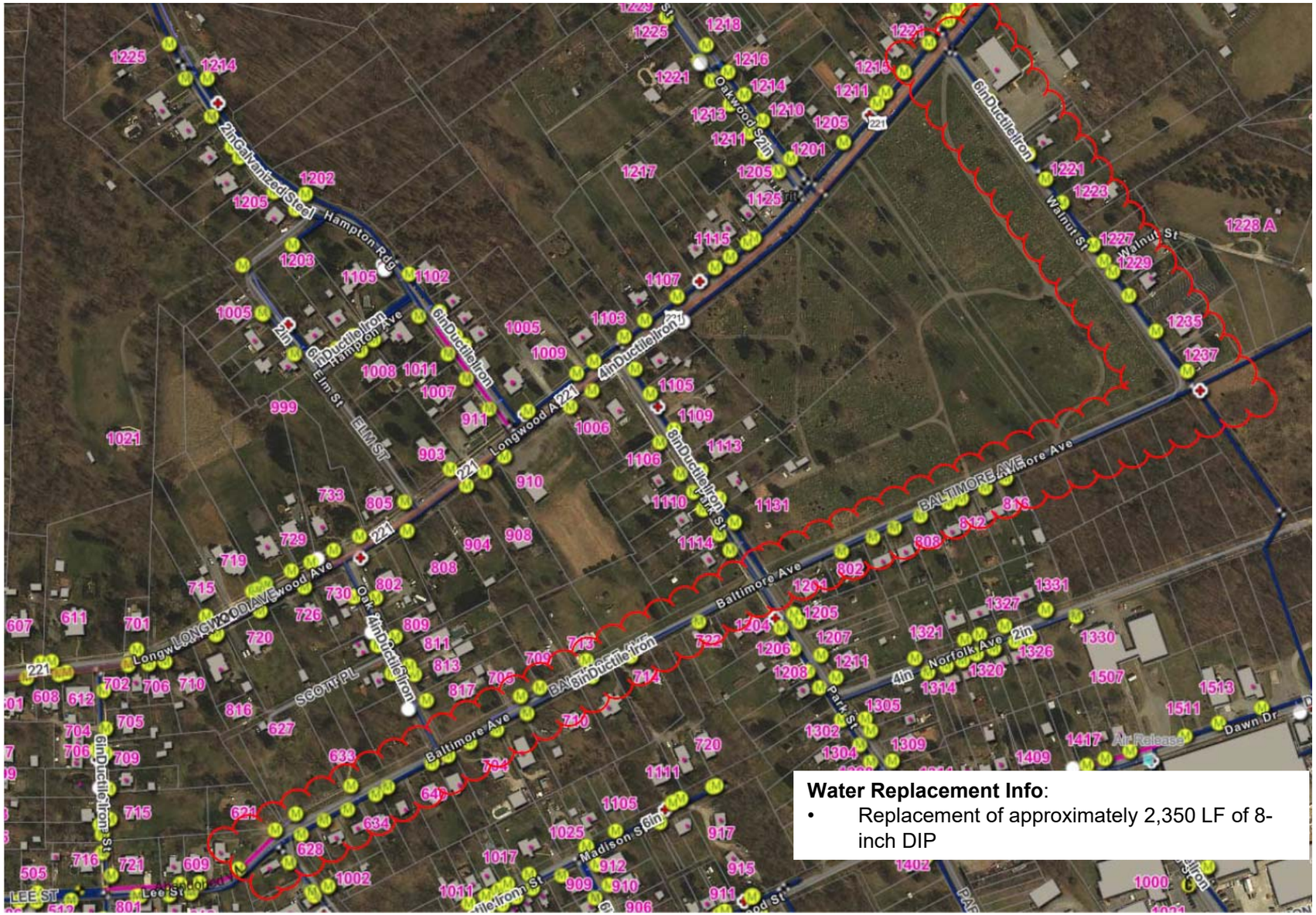



**Sewer Replacement Info**:

- Replacement of approximately 2,500 LF of sewer line, including 12 manholes

# Capital Reserve Accounts – Water and Sewer Lines

## Project Map: Baltimore & Walnut Avenue Water Replacement Project

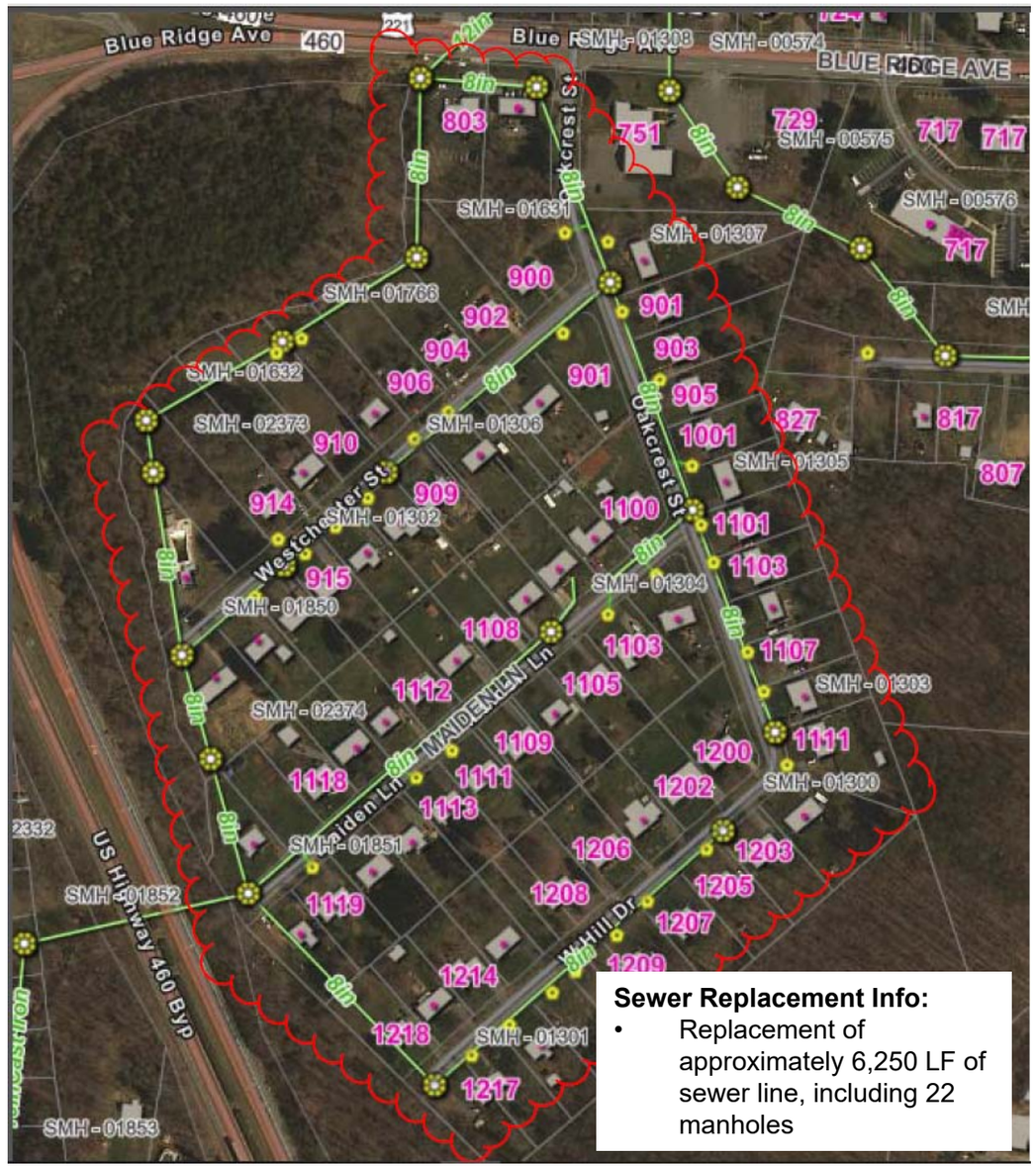



**Water Replacement Info**:

- Replacement of approximately 2,350 LF of 8-inch DIP

# Capital Reserve Accounts – Water and Sewer Lines

## Project Map: Western Hills Subdivision Water & Sewer Replacement Projects

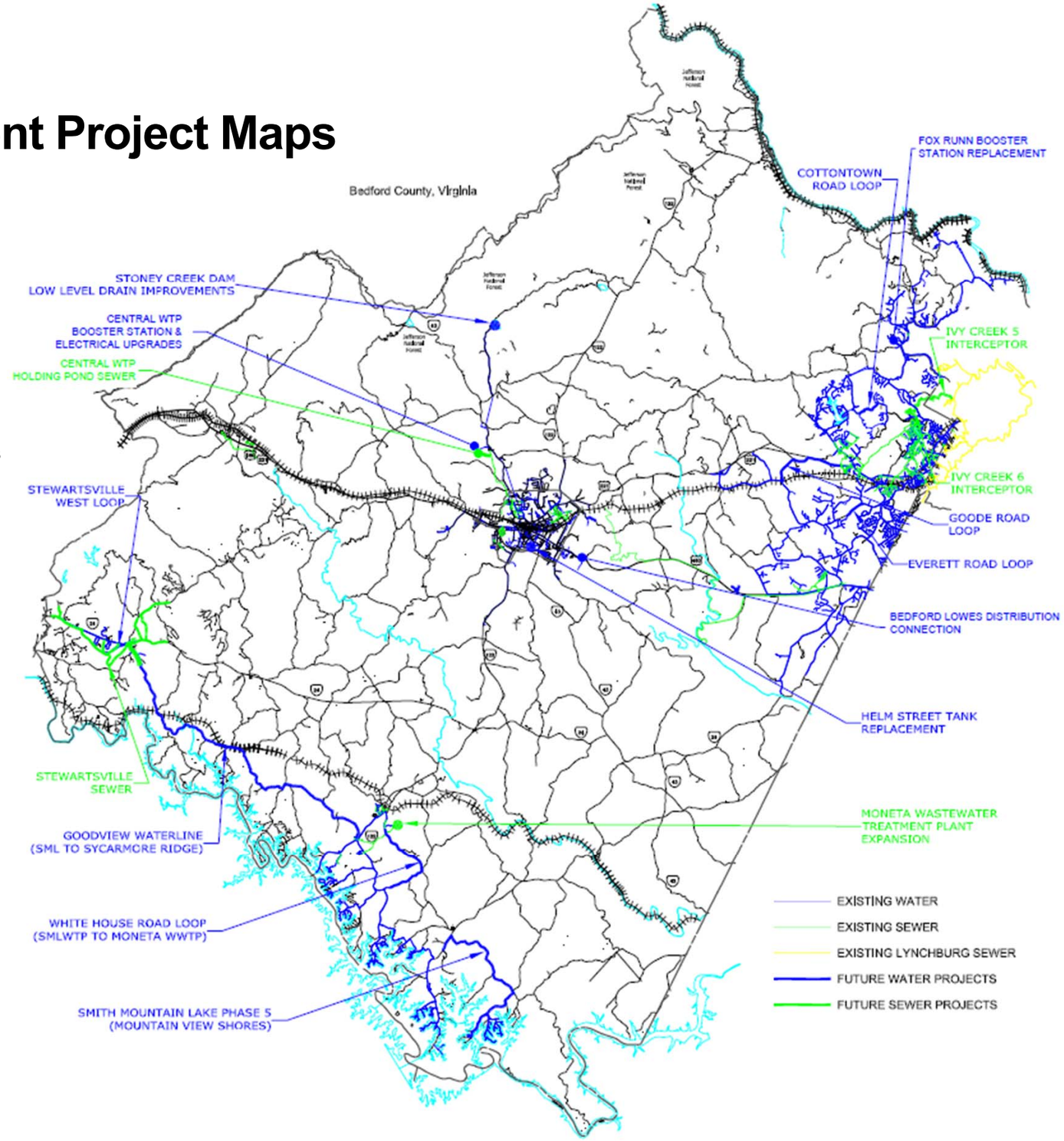
# Future Capital Improvement Project Maps

**Current CIP Projects Underway:**

- Ivy Creek Sewer Phase 5 & 6 Interceptors
- Helm Street Tank Replacement
- Stoney Creek Dam Low Level Drain Improvements
- Central WTP Booster Station & Electrical Upgrades

**Future CIP Projects (not yet funded):**

- Moneta Wastewater Treatment Plant Expansion
- Fox Runn Booster Station Replacement
- Bedford Lowes Connection to Distribution
- Central WTP Holding Pond Sewer
- Goodview Waterline – SML to Sycamore Ridge
- Smith Mountain Lake – Phase 5 Waterline
- Cottontown Road Waterline Loop
- Everett Road Waterline Loop
- Goode Waterline Loop
- White House Road Waterline Loop
- Stewartsville-West Waterline Loop
- Stewartsville Sewer




Bedford Regional Water Authority

# Goodview Waterline - SML to Sycamore Ridge

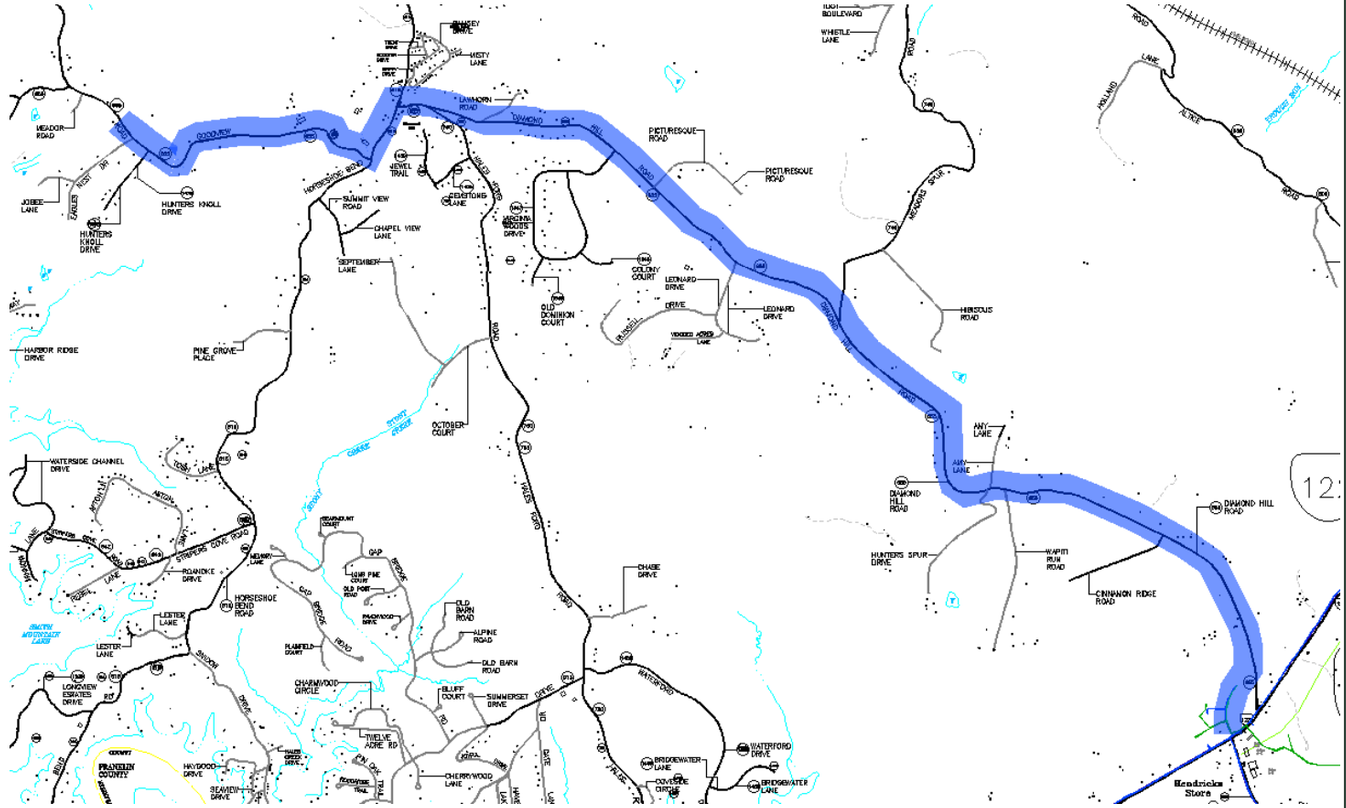
**Project Description:**

This project will extend waterline from Moneta Road along Diamond Hill Road to Eagles Nest Drive at the Sycamore Ridge subdivision off of Goodview Road. Multiple requests have been made for the waterline extension by current well system owners in the Goodview area. This extension would provide public water to the area and make connections more feasible.

**Estimated Cost:** $5,500,000

**Estimated Length/Size:** >5 miles of 12-inch

**Status:** Not yet funded




Bedford Regional Water Authority

# Smith Mountain Lake Waterline – Phase 5

**Project Description:**

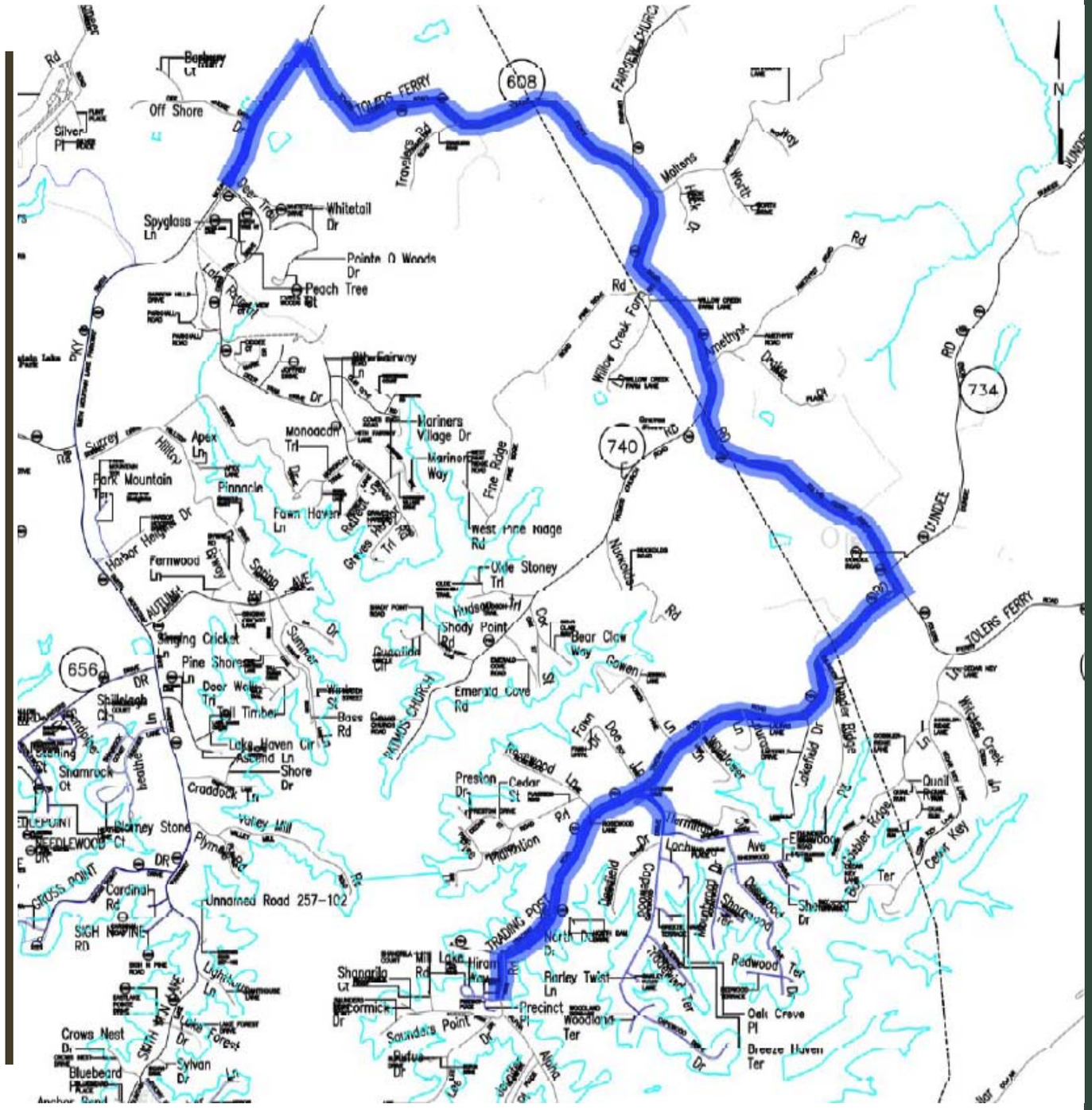
Waterline extension from Smith Mountain Lake Parkway along Tolers Ferry Road and Trading Post Road to Saunders Point Road.

The BRWA currently operates well systems in the Mountain View Shores and Valley Mills subdivisions that are located in a remote location in comparison to other facilities. Serving these subdivisions through the Mountain View Shores water system would create more cost efficiencies in the Authority's operations, eliminating two well systems and connecting them to the Lakes Central Water System. This area of the County has seen the most growth over the last year, and providing water to the area can increase the growth and tax revenue to the County, making future development around the southeastern portion of Smith Mountain Lake Parkway more feasible.

**Estimated Cost:** $7,200,000

**Estimated Length/Size:** >6.5 miles of 8"-12"

**Status:** Not yet funded




Bedford Regional Water Authority

# Cottontown Road Waterline Loop

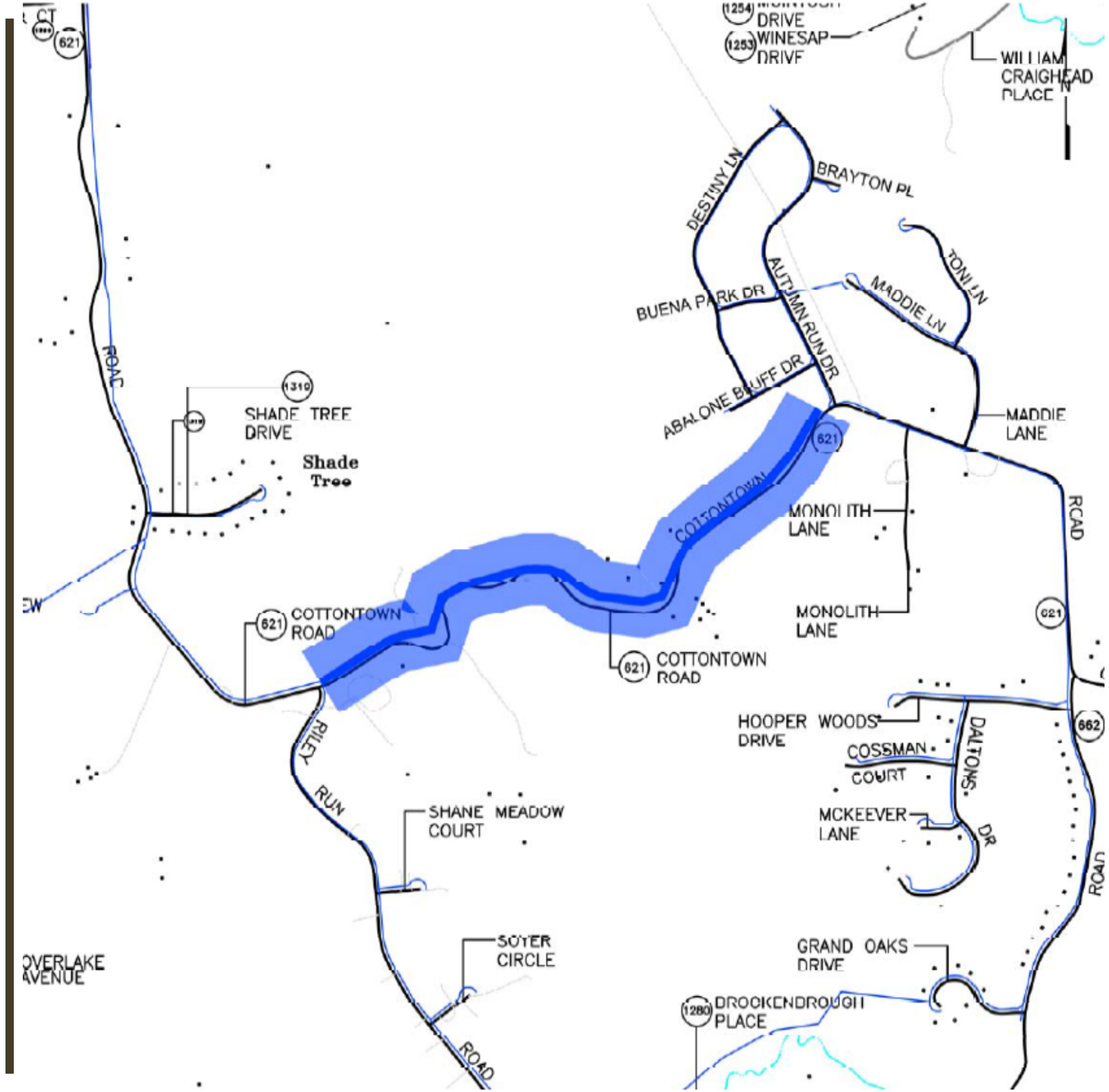
**Project Description:**

This project will include a waterline extension along Cottontown Road from Riley Run Road to Autumn Run Drive. This water extension will consist of over 4,800 LF looping the existing 12-inch waterline providing more stable pressures, flow, and fire suppression for the surrounding community. This loop will provide water service availability to approximately 15 existing parcels, many with the potential to develop resulting in additional customers.

**Estimated Cost:** $1,000,000

**Estimated Length/Size:** >4,800 LF of 12-inch

**Status:** Not yet funded




Bedford Regional Water Authority

# Everett Road Waterline Loop

**Project Description:**

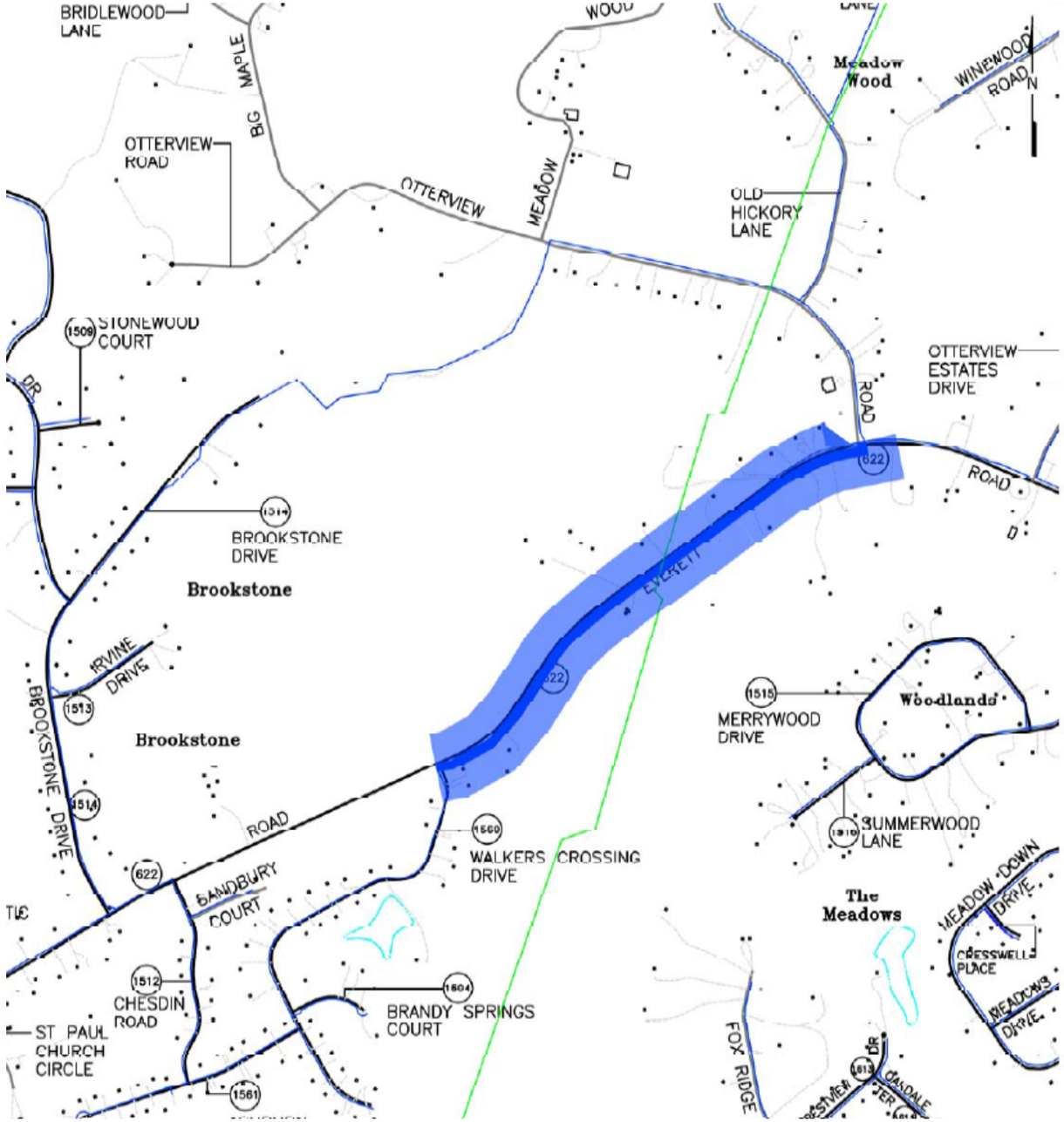
Connection of waterlines along Everett Road between Walkers Crossing Drive and Otterview Drive.

Waterlines have been extended from each direction, leaving a gap in this area along Everett Road. This project finishes a needed waterline loop for the system for greater stability. Currently there are only two water main feeds to this area, and if one must be closed for repair, additional loops are necessary to keep the system stable.

**Estimated Cost:** $900,000

**Estimated Length/Size:** <4,000 LF of 12-inch

**Status:** Not yet funded




Bedford Regional Water Authority

# Goode Waterline Loop

**Project Description:**

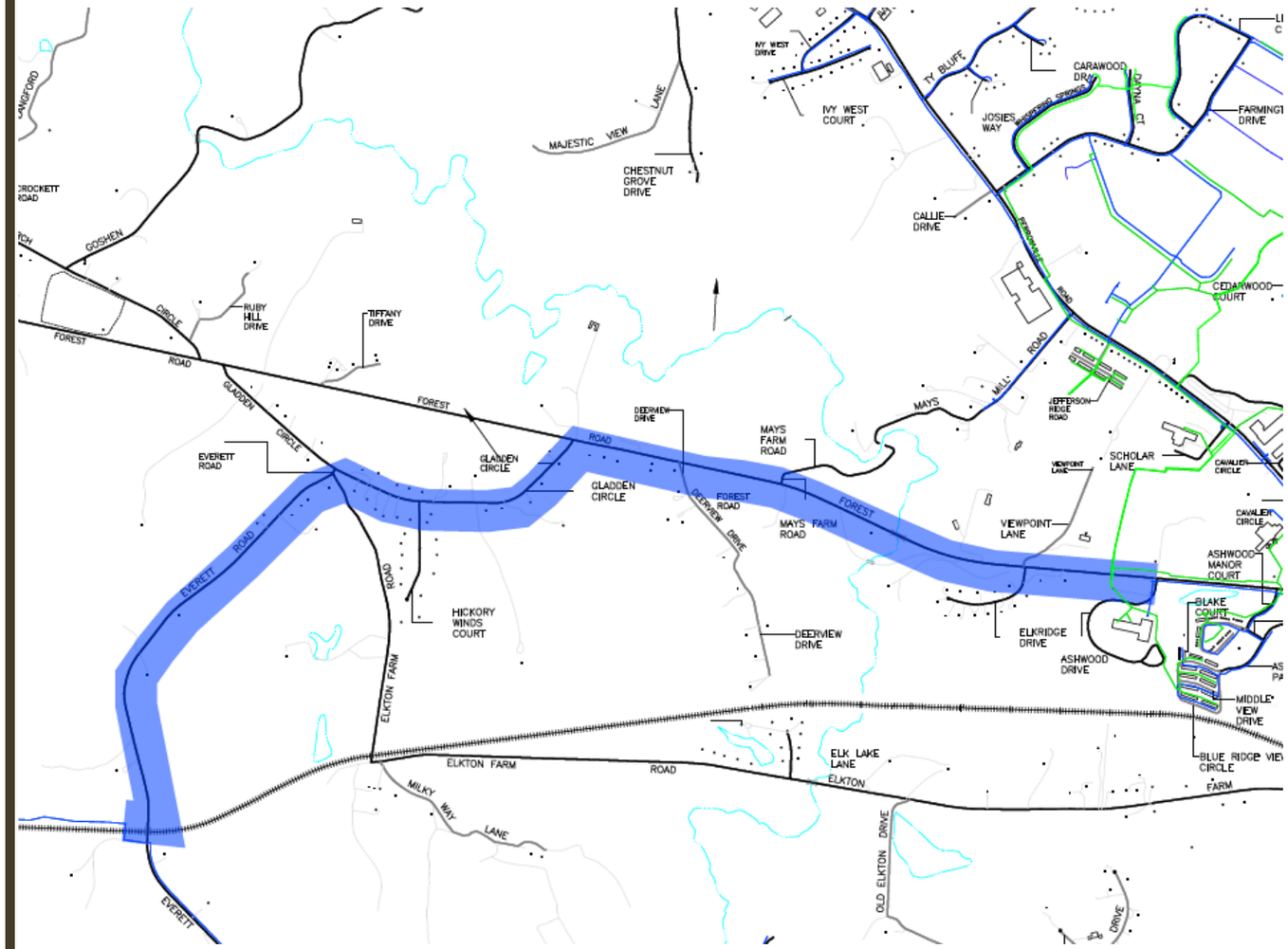
Looping waterlines at Everett Road and Canary Street to Ashwood Drive along Everett Road, Gladden Circle, and Forest Road (Route 221).

Waterlines have been extended from each direction, leaving a gap in this area along Everett Road. This project finishes a needed waterline loop for the system for greater stability. Currently there are only two water main feeds to this area, and if one must be closed for repair, additional loops are necessary to keep the system stable.

**Estimated Cost:** $4,000,000

**Estimated Length/Size:** >3 miles of 12” – 16”

**Status:** Not yet funded




Bedford Regional Water Authority

# White House Road Waterline Loop

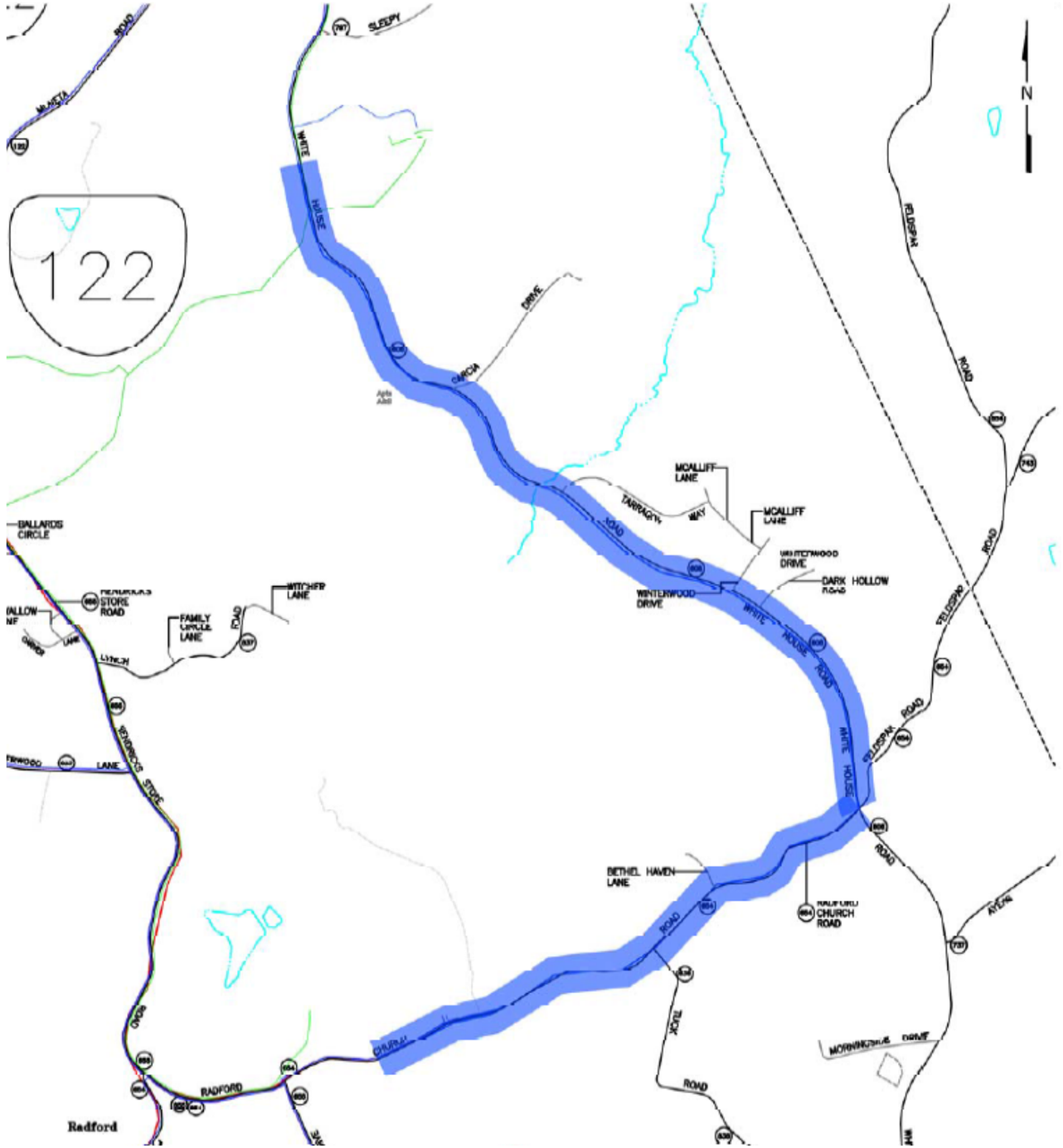
**Project Description:**

This project will complete the waterline loop from the SMLWTP along Radford Church Road and White House Road to the Moneta WWTP near Moneta Road (Route 122). This waterline loop will provide water service availability to over 100 existing parcels. This loop will also allow for further looping south along White House Road to Smith Mountain Lake State Parkway.

**Estimated Cost:** $4,500,000

**Estimated Length/Size:** >3.5 miles of 8-inch

**Status:** Not yet funded




Bedford Regional Water Authority

# Stewartsville-West Waterline Loop

**Project Description:**

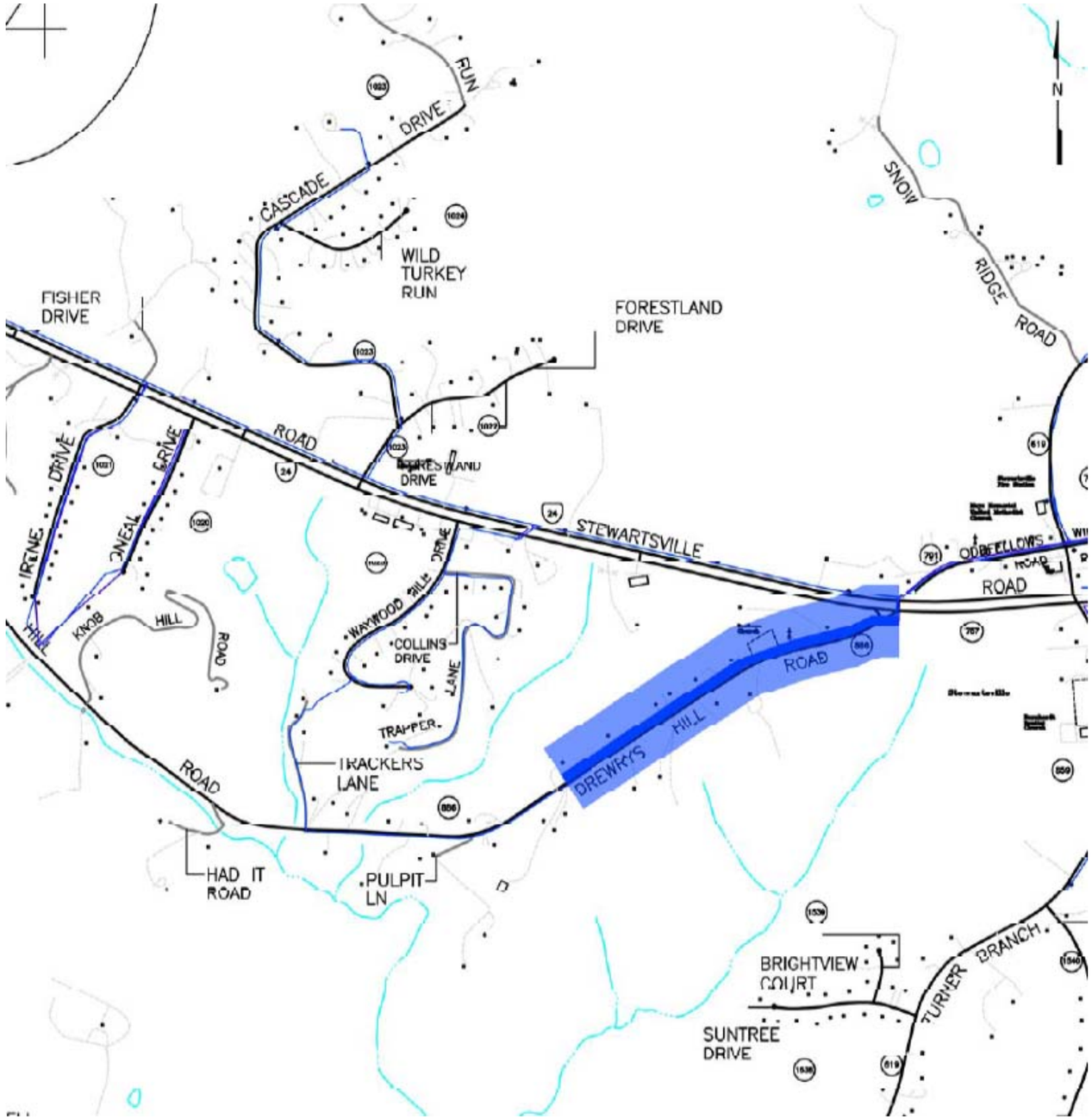
Waterline extension along Drewrys Hill Road from Pulpit Lane to Route 24 – Stewartsville Road.

This project will provide a system loop for the Waywood Hills waterline extensions. With a limited number of customers currently connected to the Stewartsville Consecutive water system, the loop is needed to assist with turnover in the lines and fresh water to the homes.

**Estimated Cost:** $400,000

**Estimated Length/Size:** <2,400 LF of 6-inch

**Status:** Not yet funded




Bedford Regional Water Authority

# Stewartsville Sewer

**Project Description:**

This project would help promote growth of water and sewer customers in the Stewartsville and Goodview areas by providing sewer availability to rural areas currently on septic systems, including residential and commercial customers.

**Estimated Cost:** $20,000,000

**Estimated Length/Size:** TBD

**Status:** Not yet funded