

# IN THE PIPE



## NEWSLETTER

Winter/Spring 2016

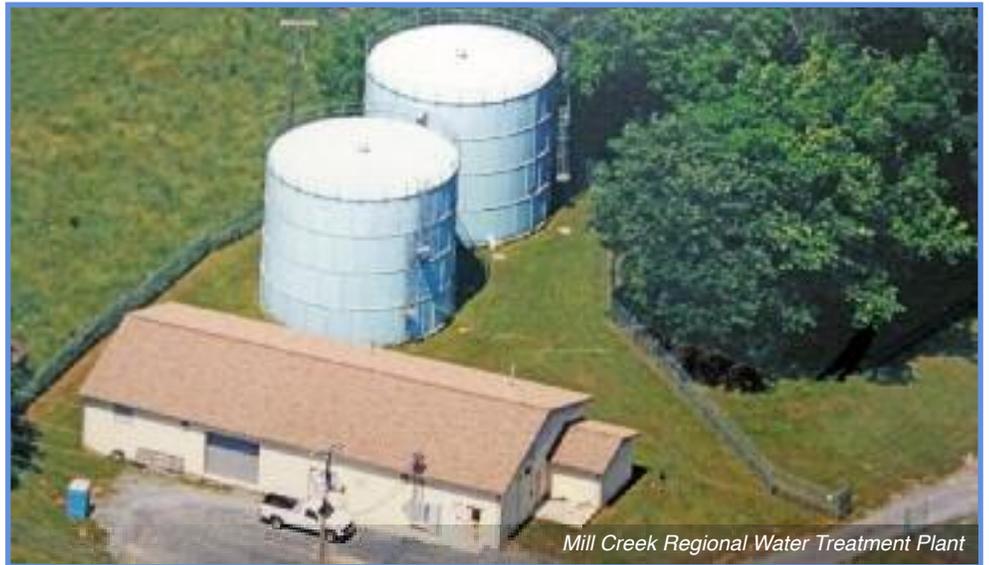
No. 13

### Quick Action Prevented Plant Failure from Impacting Customers

In early 2015, springtime brought unstable weather conditions to the mountains of Smyth and Washington county. Heavy rains, along with meltwater from past snows, rushed down out of the highlands and combined to create a quiet emergency for the Mill Creek Regional Water Treatment Plant in Chilhowie, Virginia.

Jointly owned and operated by WCSA and the town of Chilhowie, the Mill Creek Plant takes in water from three springs, filters the supply, and pumps the treated water to Wideners Valley, Friendship, Glade Spring, Meadowview and Emory, as well as the town of Chilhowie. The plant has a capacity to provide 2.5 million gallons of water per day (MGD), and the town of Chilhowie and surrounding Smyth County residents require about 1.1 MGD.

During the first week of March, plant employees noticed a sudden increase in sediment in the lines. Three sets of filtration membranes, or skids, are employed at the site to filter out material, but staff discovered that because the level of turbidity was so high, a buildup of sand, dirt and naturally occurring organic material had entered the system, and



Mill Creek Regional Water Treatment Plant

was stretching the membranes to the point of rupture.

“This is a situation you never want to face,” says Robbie Cornett, general manager of WCSA. “The filtration

membranes that protect potable water supplies are at the heart of any system. They require constant monitoring and care to operate properly. In this instance, because of the heavy burden of particulate that reached the plant, all three skids of membranes were stretched and, in some cases, ruptured.”

Thanks to the watchfulness of employees, the situation was discovered in time to prevent contamination from entering the supply of drinking water.

“Due to their attentiveness, the problem was spotted by the Mill Creek operators

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Mill Creek Plant Membrane Filtration System

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# WCSA Project Updates

To learn more about WCSA projects, visit [www.wcsawater.com](http://www.wcsawater.com).

## Recently Completed Projects:

The **Hidden Valley Phase 1 Water System Extension Project** extends water service along Porterfield Highway to the Hidden Valley Road intersection, and northward along Hidden Valley Road to an approximate elevation of 2,500 feet (near Chestnut Grove Community Church). Water service is now provided beyond this location via a follow-up extension project that required a booster pump station and water storage tank. The Russell County Public Service Authority is now the water provider for this area. Construction was completed in January.



Site of the upcoming Exit 13 Phase 2A Sewer Project



Construction on the recently completed Hidden Valley Phase 1 Water System Extension Project

## Ongoing Projects:

The **Galvanized Water Line Replacement — Phase 2 Project** is the second step in a three-phase project to replace all galvanized pipe in WCSA's distribution system over the next several years. The fourth division of Phase 2 was recently completed. A fifth division is expected to begin construction this spring and be completed by the fall of 2016.

## Upcoming Projects:

The **Childress Hollow Road Water Line Extension Project** will extend water service along Childress Hollow Road from Spring Valley Road to Black Hollow Road. The project will consist of an estimated 9,600 linear feet of new water line and provide water service to approximately 12 residential

connections. Construction is expected to begin this spring and continue through the summer of 2016.

The **Exit 13 Phase 2A Sewer Project**, located off I-81 at Exit 13, is the second step in a multi-phase project to extend wastewater treatment service to the Lee Highway area of Exit 13. Phase 2A will consist of installation of a sewer main from Spring Creek Road to the Virginia Highlands Airport, as well as some branch lines or laterals to provide service for customers who are not directly adjacent to the Oak Park Sewer Project. Construction is expected to begin this spring and continue through the fall of 2016.



Site of the ongoing Galvanized Water Line Replacement — Phase 2 Project

The **Route 58 Corridor Water System Improvements Project** will include improvements for the water system serving the town of Damascus, Alvarado and areas east of South Holston Lake. A major upgrade will include the installation of a new water storage area tank that will stabilize water system pressure for these areas. Construction is expected to begin in the fall of 2016 and continue until early 2017. 💧

## Capital Projects Provide Water Service for Dozens of County Residents

Collaboration among a number of local, state and federal organizations recently brought water connections to dozens of residents in the Sutherland community of Washington County. The scope of this WCSA capital project included more than 40 homes and businesses, including those along South Shady Street in Damascus, the recreational area at Backbone Rock, and a portion of Johnson County, Tennessee.

Damascus resident Don Griffin says the Sutherland project has benefited many of his neighbors, as well as the Sutherland Community Church, a beloved area landmark.

“I grew up in Damascus, and my wife and I have lived in this area a long time,” he says. “The well at the church had a lot of rust in the water, so anytime someone turned on a faucet, everything coming out was brown. You couldn’t cook or do much with it. The water we have now has been cleaned up, and it helps us a lot to have that source right there.”

The project required the installation of thousands of feet of water line, along with the necessary generators, storage tank stations, booster pumps, and other equipment to provide ideal supply and pressure to each customer. Participating members



*Sutherland community residents Don Griffin (left) and Harold Manuel stand in front of the Sutherland Community Church.*

included WCSA, Johnson County officials, the Tennessee Department of Economic and Community Development, the U.S. Environmental Protection Agency, and the U.S. Forest Service.

“This project has helped everyone who relied on a well here,” Griffin says. “It’s an asset. It has made our properties more valuable, and I really appreciate the efficient job the WCSA guys did.” 💧

## Line Extensions Provide Services to North Fork and Tumbling Creek Areas

Two recently completed WCSA projects delivered first-time water connections to more than a dozen residents in the Tumbling Creek and adjacent North Fork River Road communities.

Together, the North Fork River Road and Tumbling Creek projects required the installation of nearly 4,000 linear feet of line. Begun in 2013, the line extensions supplied water to customers who previously relied on wells, cisterns and springs for their supply. While many rural areas depend on such sources, they sometimes do not provide enough flow and are susceptible to bacteriological contamination.

Washington County native Bertha Cardwell, a longtime resident of North Fork River Road, says the recent installation of the lines is a tremendous improvement to her daily life, providing her with a reliable water source for the first time in decades.

“I’ve lived on this property for 40 to 45 years, and out of three wells we drilled at the house, two didn’t have enough supply and the third became contaminated,” she says. “I

noticed that the water coming out of the tap had a bad odor, and shortly after that, I received a notice telling me I needed to boil whatever I used.”

Following the loss of the wells, Cardwell’s best option for clean drinking water was located on property owned by her brother. With his help, she routinely filled 20-gallon jugs from an outdoor spigot and hauled them home. When it came to tasks like cooking or washing clothes, she relied on what rainwater she could capture in barrels set on her front porch.

Cardwell says she’s grateful for the safety and convenience of the new lines, as well as the efficient, timely way they were installed.

“After everyone got together and talked about putting the water down through here, it didn’t take very long,” she says. “I love it. I put two gallon jugs in the fridge now to keep them real cold, and it’s good and clear and tastes excellent. When one runs down, I switch to the other and just fill them right back up.” 💧





Mill Creek Plant Membrane Filtration System

before it could escalate,” Cornett says. “Catching it in time allowed us to avoid any further damage of equipment, and we did not have to inconvenience customers with any loss of service or boil alerts.”

Once the magnitude of the problem was realized, the Mill Creek plant was immediately shut down. WCSA and the town of Chilhowie’s Public Works Department quickly teamed up to remedy the situation.

“There’s no fast or easy fix when something like this occurs, and repairs or replacement equipment can be extremely costly,” Cornett says. “You’re looking at decisions that add up to hundreds of thousands of dollars. Because of the specialized nature of the filters and the circumstances of the rupture, consulting and insurance firms had to be brought in. We wanted to make sure that we enacted quick, cost-effective repairs that provided the best solution moving forward, but we also wanted to put measures in place to ensure that this kind of event doesn’t happen again.”

Discussion among organizations and advisors led to agreement on a short-term solution — diverting flow from WCSA’s Middle Fork Water Treatment Plant to replace Mill Creek’s lost supply until equipment could be repaired or replaced. Using the permanent interface system that links WCSA and Mill Creek, the switch was made, and the Middle Fork Plant began supplying water for

WCSA’s Chilhowie and Smyth County customers.

Over the next few months, nearly half a million dollars in funding was approved by the Virginia Municipal League Insurance Program to repair and replace equipment. Three new skids of membranes were installed over the summer, and Mill Creek was brought back online in August.

In a report on the event, John Clark, Jr., interim town manager for Chilhowie, commended Jay Keen, Chilhowie’s director of public works, and Robbie Cornett at WCSA, along with their staff and crews, “for their coordination work during this very critical downtime ... the public has barely been inconvenienced by the catastrophic failure of the plant on March 4 and no boil water notice has been issued.”

Cornett says that while the circumstances surrounding the incident are indeed categorized as catastrophic failure, most customers were, fortunately, unaware of the event.

“It was important to us to maintain service to all of our customers across Washington and Smyth counties, and to restore the Mill Creek Plant to full operational capacity,” he says. “We’re very grateful for the collaboration of everyone involved and proud of the way it was handled. The best kind of emergency is the one nobody notices.”

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WCSA  
Calendar

WCSA offices will be closed on the following holidays:

- Presidents Day Feb. 15
- Good Friday March 25



### Board Meetings

#### UPCOMING BOARD MEETING DATES

Feb. 22, 2016

March 28, 2016

April 25, 2016

Board meetings are held at WCSA in the E.W. Potts Board Room at 6 p.m. The public is welcome to attend.

*Actual dates may vary. Please contact our office to confirm meeting schedule.*

#### REMINDER

**AVOID THE TIME AND EXPENSE OF MAILING AND POSTAGE WITH WCSA’S AUTO-DRAFT, ONLINE BILLPAY OR 24/7 PAY BY PHONE.**

**CALL OUR CUSTOMER SERVICE DEPARTMENT AT 276-628-7151 FOR DETAILS.**

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