



NEWS RELEASE

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Spring Branch sees water quality improvement

Land Management and Stormwater runoff for watershed protection showing signs of success

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MURFREESBORO, Tenn. – A unique renovation project aimed at enhancing the water quality of Spring Branch in Old Fort Park is bearing fruit in measurable ways including increases in the Tennessee Macroinvertebrate Index (TMI), a water quality benchmark used to measure biological metrics in streams. Samples from Spring Branch in 2010, 2013, and 2016 show increasing improvement.

“We are proud of the measurable impact Stormwater controls are having on Spring Branch and area habitat,” said City Stormwater Coordinator Robert Haley. “Structures such as bioretention and grassy swales in Old Fort Park are creating an effective creek protection zone, making a difference in the water quality of the stream and benefiting the plants and wildlife that live in the surrounding habitat.”

The TMI is measured for the City of Murfreesboro by the Nashville-based Aquatic Resources Center, Inc. to determine the quality of habitat in streams. The Tennessee Department of Environment and Conservation (TDEC) established TMI, which involves collecting and analyzing bugs from a stream bed. TDEC officially determines the quality of streams in Tennessee.

Over the past several years, the TMI score for Spring Branch has increased from 12 in 2010 to 32 in June 2016, indicating that the stream quality and aquatic life are steadily improving. A TMI value of 32 indicates good stream quality and 42, the highest possible value—excellent quality.

In 2010, The City of Murfreesboro established the Stream Restoration and Water Quality Enhancement project to create a buffer adjacent to the stream. The project added hundreds of native plants and installed vegetated structures for cleaning runoff from the parking areas and road. The project was designed to restore the stream and help protect the Stones River watershed by implementing several Stormwater quality treatment structures within Old Fort Park. Old Fort Park is home to Spring Branch, a stream fed year round by springs near the park entrance off Old Fort Parkway. The stream is a vital part of the Stones River watershed because it empties into nearby Lytle Creek, which flows into the Stones River.

The Old Fort Park Stream Restoration and Water Quality Enhancement project added several Stormwater quality treatment structures that capture sediment and pollutants that are picked up as rain washes over paved areas and grounds at the park:

- **Grass Filter Strips** help spread out and slow water flow so sediment is collected in the grass.
- **Bioretention** basins utilize sandy soil and rock mulch to encourage filtration.
- **Enhanced Swales** channel water into a prepared bed of sandy soil mix
- **Porous Pavers** allow water to be captured in between paver joints and gravel bed below the surface which slowly filters into the soil.
- **Creek Protection Zones** provide living and organic material in defined areas to help filter the water through the soil before reaching the stream
- **Infiltration Trenches** are excavated and filled with stone aggregate or sand soil mix to capture water and allow infiltration in the bottom and sides of the trench.

“The improved aesthetics, reduction in maintenance and mowing requirements, and functioning features allow for educational opportunities for landowners, developers, and park visitors to understand the benefits of Stormwater management and environmentally responsible techniques,” said ~~Interim~~ Murfreesboro Parks and Recreation Director Angela Jackson. “The project not only increases benefits in efficiencies and energy conservation for Park management but measurable enhances water quality downstream.”

Efforts to educate citizens about the importance of stormwater quality include on-site interpretive signs, the Old Fort Park Water Quality brochure, and online information highlighting Stormwater management guidelines.

Funding for water quality projects like the one improving water quality at Spring Branch in Old Fort Park is provided through the City of Murfreesboro Stormwater user fee. Stormwater quality improvement is a partnership between the City of Murfreesboro Stormwater Program, the MTSU Stormwater Program, the Murfreesboro Water and Sewer Department, Stones River National Battlefield, and the Murfreesboro Parks and Recreation Department.

Old Fort Park was officially dedicated in October 1977 by the City of Murfreesboro.

To watch a YouTube video about Stream Side Buffers, visit <https://youtu.be/1RKlcUWqvhY>.

For City News online, visit www.Murfreesborotn.gov.

Poster attached:

1. *Old Fort Park Water Quality Brochure.jpg*
2. *Spring Branch.jpg*