

Stormwater

The Public Works - stormwater department performs a wide variety of tasks: stormwater drainage complaints and investigations, stormwater quality monitoring, stormwater planning, National Pollutant Discharge Elimination System (NPDES) permit administration and stormwater utility management and implementation.

The City of Johnson City is required by the U.S. Environmental Protection Agency to monitor, control, and investigate all aspects of the municipal storm drainage system (which also includes the various creeks and streams). A NPDES permit was initially issued to the City of Johnson City in February 2003, and requires that the city make annual progress reports to the Tennessee Department of Environment and Conservation (TDEC). A new type of federal regulation is the establishment and enforcement of Total Maximum Daily Loads (TMDLs) for any impaired creeks or streams. Currently the following creeks are considered impaired and will fall under this regulation: Boones Creek, Brush Creek, Carroll Creek, Cash Hollow Creek, Cobb Creek, Knob Creek, Reedy Creek, and Sinking Creek. This program is also administered by TDEC.

Water Quality Hotline: 423-975-2854

The Water Quality Hotline can be called anonymously 24 hours a day to report illicit connections or illegal dumping in the creeks, streams, catch basins, storm sewer or any area draining into the creeks or storm sewer system. The hotline is usually manned during working hours on weekdays (depending on the number of calls). The hotline is not manned during weekends; please call the 911 emergency dispatch center in the event of an emergency.

Calls will be investigated by personnel from the Stormwater department. Urgent or emergency calls involving hazardous materials, human safety, or severe environmental damage must also be reported to the fire department (call 911). The responsible party for the spill or leak is responsible for all costs incurred by the Johnson City Fire Department, Public Works Department, and other public agencies involved.

Brief History of National Pollutant Discharge Elimination System (NPDES) Program

The National Pollutant Discharge Elimination System (NPDES) originally began as part of the 1972 Clean Water Act (CWA). The U.S. Environmental Protection Agency (USEPA) initially targeted point-source pollution (industrial plants, sewage plants) with sampling, monitoring, water treatment, improved material handling, better manufacturing technology, etc. This portion of the NPDES program has been very effective at improving water quality for lakes and streams in urban areas. However, as more data was gathered, it was learned that most pollution comes from nonpoint sources where it is difficult to identify the source and responsible party. Nonpoint pollution sources include: soil erosion, aerially-deposited particles, roadside trash, leaves and sticks, automotive fluids from leaking vehicles, products of incomplete combustion, food processing wastes, animal waste and transportation spills of chemicals and other pollutants. The Clean Water Act was amended in 1987 to include provisions for reducing nonpoint pollution sources. The NPDES permit system is managed by the Tennessee Department of Environment and Conservation (TDEC), with federal oversight maintained by USEPA.

In 1990, the USEPA implemented the MS4 (municipal separate storm sewer system) Phase I stormwater mandate, in urban areas with a population of 100,000 or more (Chattanooga, Knoxville, Memphis, and Nashville). In 1999, USEPA adopted the MS4 phase II rules, which included all urban areas having of a total population of at least 50,000, and a population density of 1,000 people per square mile as determined by the Bureau of the Census. The CWA amendments provided regulatory permit authority under the NPDES program for USEPA to address urban stormwater discharges. A listing of governmental entities that is located either fully or partially within an urban area and subject

to the stormwater MS4 Phase II rule is published in the Federal Register (64 FR 687220), and includes the City of Johnson City. There are **85 cities and counties** in Tennessee subject to the MS4 Phase II mandate

The NPDES MS4 permits are renewable for a period of 5 years. A stormwater management program must be developed to reduce stormwater pollution, with several elements for which demonstrable progress must be achieved each year. The original NPDES permit for the City of Johnson City was approved on February 27, 2003 by TDEC for a period of 5 years. It is currently in the process of being reissued by TDEC.

Example of NPDES Activities

NPDES activities are reported annually to TDEC as required by the NPDES permit. NPDES activities are grouped into the following six programs:

- Post Construction Stormwater Management
- Illicit Discharge Detection and Elimination
- Public Involvement
- Construction Site Runoff
- Public Education and Outreach
- Pollution Prevention and Good Housekeeping

GIS\GPS Mapping Program

The Stormwater Department is conducting a study over the coming months in order to complete the first step of the city's ongoing stormwater management program. This study is being conducted as part of the City's requirement by the U.S. Environmental Protection Agency to participate in Phase II of the National Pollutant Discharge Elimination System (NPDES) Stormwater Permit Program.

The City has stormwater inspector/s that will be walking the streams throughout Johnson City to collect data in a handheld Geographic Positioning System (GPS) device. The data will then be entered into the City's Geographic Information System. City staff requests that all Johnson City citizens respect these employees as they will traverse both public and private property to complete this analysis.

Stormwater Utility

The new Stormwater Utility comes as a result of the USEPA Stormwater Phase II program. The federal agency requires cities throughout the US, including Johnson City, to obtain National Pollutant Discharge Elimination System (NPDES) stormwater permit coverage because stormwater discharges are now considered a "point source" of pollution.

Even though cities may differ in the types of stormwater problems, the result are the same - rainwater mixes with many pollutants (oil, detergents, pesticides), runs along impervious surfaces, flows through a drainage system, and ends up in waterways.

The major stormwater problems faced by Johnson City include a drainage system permeated with old pipes, periodic flooding, erosion along area creeks, and contaminants flowing into our drinking water source, Watauga River.

Brief Stormwater Utility History

- **October 2004:** Stormwater Task Force composed of citizens, staff, and professional consultants formed. The group identified specific problem areas and agreed additional funds would be needed to repair the problems and recommended that best option would be a utility.
- **November 2005-May 2007:** City works with consultants to create a stormwater management utility and a system to measure the impervious surfaces in Johnson City. This system would be used to calculate per month charges for residential, business, industry, and nonprofit properties.
- **January 2007:** City Council approves a Stormwater Utility and user fee formula starting at \$1.50 per 3315 square feet of impervious surface and increasing incrementally to a fee of \$3.00 per 3315 square feet of impervious surface in 2009.
- **April 2007:** City of Johnson City hires a Stormwater Management Engineer whose office is located in the Street Department.

Why Create a Stormwater Utility?

- The fairest and most equitable solution since all property generates runoff.
- An adequate and stable funding mechanism to meet ongoing USEPA requirements.
- Unlike a tax, the Stormwater User Fee can only be used for stormwater projects and programs such as erosion control, sediment control, periodic flooding areas, pollution control and public education. This includes repairing old pipes, maintaining the system and capital improvements.
- Cleaner water in streams and ponds.
- A cleaner looking city.

Customers & Rates

Customers:

- All developed residential, business, industry or nonprofit properties located within the Johnson City city limits will be charged.
- **Residential:** Single family homes, multi-family homes, apartments and condominiums.
- **Non-Residential:** Any property that is not classified as residential. This includes business, industry and non-profit properties such as churches, schools, and community service organizations.

Rates:

- Effective June1, 2007 \$1.50/month/SFU*
- Effective June1, 2008 \$2.25/month/SFU
- Effective June1, 2009 \$3.00/month/SFU

Residential Rate Determination:

Small Single Family - (< 1,691 sq. ft.)	0.51 SFU = \$0.77* = \$ 9.24/year*
Average Single Family - (1,692 sq. ft. to 5,574 sq. ft.)	1.00 SFU = \$1.50* = \$18.00/year*
Large Single Family - (> 5,575 sq. ft.)	1.68 SFUs= \$2.52* = \$30.24/year*
Multi-Family per unit	0.71 SFU = \$1.07* = \$12.78/year*

Non-Residential Rate Determination:

Measured in SFU units. 1 SFU unit = 3315 square feet of impervious surface. Each SFU is charged a rate of \$1.50 per month*.

Example: A business with 33,150 sq. ft. of impervious surface would pay the following:

$$33,150 \text{ sq. ft.} / 3315 \text{ sq. ft.} = 10 \text{ SFUs} \times \$1.50 = \$15.00 \text{ per month*}$$

How Will Stormwater Fee Be Used?

- **Erosion Control:** Stream bank erosion can wear away the banks of our waterways while old drainage pipes can crack and even collapse roadways. Planting natural vegetation and replacing stormwater pipes will help to prevent future occurrences.
- **Sediment Control:** Sediment buildup can create problems to the downstream environment. The water is murky or cloudy and prevents sunlight penetration needed by aquatic and marine plant life. Removing the sediment will rejuvenate the life needed to maintain healthy waters and streams as well as improving the visual clarity of the waterways.
- **NPDES Permit Administration:** The City of Johnson City is required by the U.S. Environmental Protection Agency to monitor, control, and investigate all aspects of the municipal storm drainage system (which also includes the various creeks and streams). This fee will be used to fund these federal mandates.

Questions & Answers

Does every property in Johnson City have to pay?

Every property with impervious surface on it must pay a stormwater user fee including all Johnson City single family homes, business, industries, non-profit organizations, churches and schools. This approach promotes equity - the more impervious area located on the property, the higher the user fee.

How do I apply for a credit or adjustment?

Please click [here](#) for more information and for a copy of the City's *Stormwater Management Utility Adjustment and Credit Manual*.

Can I do any stormwater-related work on my single-family home property to receive a discount?

No. Only larger non-residential properties are eligible for credits on their monthly bills.

Will homes that are located in a subdivision that have a detention/retention pond be eligible for a credit?

No. Only property contained in the commons area of the subdivision could possibly receive a credit if they are currently a water customer (for pools, tennis courts, clubhouse). Please call our office for further information.

What types of credits can we apply for?

There are certain conditions that must be met and applications that must be completed that will determine what properties qualify for a credit and for what amount of credit. The Stormwater manager should be contacted for specific questions regarding credit. *Click here for a copy of the City's Stormwater Credit Manual*.

What about a development that borders the County line?

All properties that are located in the City of Johnson City will be treated the same way in terms of the stormwater utility's service and fees. The City has Federal and state mandated responsibilities for the control of the public stormwater that discharges within the City limits, which have led to the need for an improved stormwater management program and stormwater utility fee.

How will we be able to see where our money has been going, and what will the priorities be?

The money gathered through the user fee will go toward better stormwater management, and you should gradually see results in terms of better flood management, stormwater maintenance and regulatory compliance. In the field, we will be keeping a photographic log of areas when work is done. We will also be posting signs, providing releases, etc. Capital Improvement Projects including right-of-way safety (due to standing water) and roads frequently closed due to flooding will be priority areas. Better floodplain/floodway management and GPS/GIS mapping of the system and problem areas will be another tangible product.

Will a list of projects be made to the public?

Yes. The City began compiling a list of needed stormwater repair projects as the stormwater utility has been developed. Projects will be prioritized based on a number of factors, including safety hazards, extent of flooding and anticipated cost. Since many of the problems involve regional drainage issues, solutions may require multiple smaller projects. It will take the City a number of years to complete every project. However, the City will begin to perform stormwater repair and maintenance projects as soon as the utility funds become available. Projects performed initially will likely focus on street and right-of-way areas where frequent flooding causes a safety and emergency response problem. The public will certainly be advised as stormwater projects begin.

How Can I Help?

As part of the City of Johnson City's commitment to The Clean Water Act, we are placing warning labels on our storm drains to caution the public not to put anything into the drains except rainwater.

We are in need of volunteers to help us with this project in our subdivisions. If you are a service organization interested in becoming part of the solution to the stormwater problem, this is an easy project for your neighborhood associations, churches, civic clubs, school groups, scouts, families or individuals. Please call 423-975-2854 to volunteer.

Contact Information

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<http://eerc.ra.utk.edu/divisions/wrrc/BMP/bmp.htm>
<http://cfpub.epa.gov/npdes/>
<http://www.state.tn.us/environment/permits/conststrm.shtml>
http://www.state.tn.us/environment/wpc/sed_ero_controlhandbook/
<http://www.state.tn.us/environment/wpc/stormh2o/MS4II.shtml>
<http://www.state.tn.us/environment/wpc/publications/303d2006.pdf>







