



# CITY OF COVINGTON

## Stormwater Management Program



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### ABOUT WATER QUALITY CONDITIONS IN THE U.S.

Did you know that, today, 40% of streams in the U.S. are not currently clean enough to support activities such as fishing and swimming? That another 8% of streams are listed as “threatened” by pollution? And, that the leading cause of stream pollution is stormwater runoff? Runoff from development and agricultural land causes changes in streams, making them deeper and wider with higher and faster flows, and transporting pollutants from one stream to another.

But, streams were once in even worse condition! For most of the last century, rivers and streams were a dumping ground for oil, chemicals, and raw sewage. This was certainly true of the Cuyahoga River in Cleveland, Ohio, which is remembered as the river that *caught fire!* After about 20 years of river fires, the fire of June 22, 1969 captured the attention of the nation and was instrumental in passing the Clean Water Act of 1972.

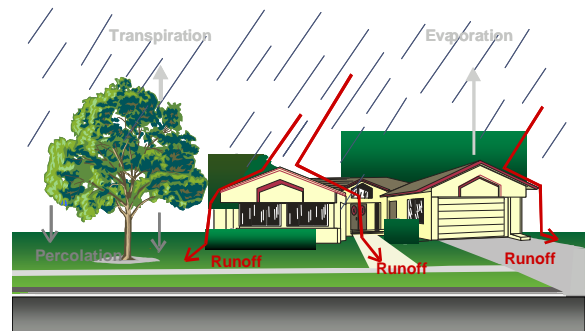


### ABOUT WATER QUALITY REGULATIONS

The 1972 Clean Water Act established a series of regulations governing the way that a person or group discharges anything into streams, rivers, lakes, and any other water bodies. Under the National Pollutant Discharge Elimination System (NPDES) program, every city, county, construction site, and industrial business is required to obtain a permit showing that they are not causing nearby streams

additional harm. During the first 15 years of this program, NPDES permit requirements were aimed at stopping pollution coming from “point” (e.g. wastewater discharge, oil refineries, etc.) sources. With stricter controls and new technology, point source pollution was greatly reduced, resulting in some water quality improvements. Attention then turned to “non-point” (e.g. stormwater runoff) source pollution, and the Clean Water Act was amended in 1987 to expand the NPDES program to specifically address stormwater runoff.

### STORMWATER RUNOFF



Stormwater is rain that hits the earth’s surface. Stormwater runoff is rain that does not infiltrate, or percolate, into the ground but runs off the different surfaces such as driveways, roofs, and parking lots. As natural land is developed, topsoil is removed, soil is compacted, and hardened surfaces are created. These activities have an impact on the hydrologic cycle, increasing the **quantity** of stormwater runoff and decreasing its **quality**. More and more development increases the amount of stormwater runoff by creating more “impervious” or hardened surfaces and eliminating natural areas that give stormwater a chance to slow down and infiltrate into the ground. This increased stormwater flows and high velocities often result in flooding and erosion, and sometimes a loss of property and natural habitat.

The **quality** of stormwater is another problem. Stormwater runs off impervious surfaces and picks up pollutants, such as oils, metal particles, pesticides, and pet wastes, moving them quickly to the nearest stream. These pollutants can harm

STORMWATER UTILITY SUMMARY

aquatic and wildlife, and create adverse conditions to uses of streams for fishing and swimming.



Why is stormwater runoff still a problem today? Little was accomplished between 1987 and 1997, and the problems with degrading stream

health continued. Citizens, like you, forced the federal government to get serious about cleaning up our streams, and they did. Now all counties and cities that have experienced growth and associated environmental impacts, are required to perform certain activities through federal permits, which, in Georgia, are regulated by the state's Environmental Protection Division. A large or highly urbanized city or county must have an NPDES Phase I permit and a smaller city or county must have an NPDES Phase II permit. The federal and state agencies addressed Phase I communities first, and by 2003, Phase II communities were required to be permitted.

#### COVINGTON'S STORMWATER MANAGEMENT PROGRAM

The City of Covington is a Phase II community and was required to begin compliance with the NPDES Phase II permit regulation by March 2003. This regulation requires development of a Stormwater Management Program and lists specific measures that the City must address, which includes implementation of "Best Management Practices," or BMPs, in 6 areas: public education and outreach, public participation and involvement, illicit discharge detection and elimination, construction site runoff control, post-construction runoff control, and pollution prevention and good housekeeping.

But, the **quality** of water is not the City's only concern when it comes to stormwater runoff. Increased water **quantity**, or flooding, can cause costly infrastructure damage when roads are washed away or pipes are ripped by trees that are carried by rushing water. So, the City developed a Stormwater Management Program in 2003 with goals to address both water **quality** and **quantity**:

- ◆ Comply with state and federal regulations;
- ◆ Keep major roadways passable in heavy storm events;
- ◆ Keep streams healthy;
- ◆ Replace aging infrastructure; and
- ◆ Perform periodic maintenance of infrastructure.

BMPs can include structural devices, such as silt fences at construction sites, detention ponds, and sediment basins.

Non-structural practices, such as stricter regulations on development, street sweeping, and educating the



public on pollution prevention practices that can be implemented around the home and business can be just as effective in reducing pollution.

The activities associated with the Stormwater Management Program will not only bring the City into compliance with federal regulations, but will also improve the safety and quality of life for the residents and businesses of Covington.

#### FUNDING THE PROGRAM

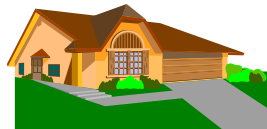
The Program has many components and will take years to implement and achieve success. The City has been proactive in looking for available monies through a US EPA grant program and was awarded over \$300,000. While every bit helps, this is not a recurring, dependable source of funding for the City and will only help to implement certain program components. The City will require additional monies, staff, and equipment.

After evaluating several funding options, establishing a stormwater utility was determined to be the most equitable option because it allocates charges to each property based on its relative contribution or burden to the City's stormwater system.

**WHAT IS A STORMWATER UTILITY?**

Stormwater utilities have been used in several states as a funding mechanism since the mid 1980s, and many have been, and are currently being, established in several cities and counties in Georgia. They operate much the same as water and wastewater utilities, but a stormwater utility charge is based on how much a property contributes to the stormwater runoff problem (i.e., how much runoff a property passes to the City’s stormwater system for either collection, conveyance, or treatment).

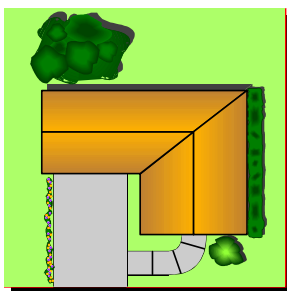
The City has established an Enterprise Fund for a Stormwater Utility similar to the one created for the Sanitation Department. This fund receives revenues from the stormwater utility fees, which is required to be spent on activities related only to the City’s Stormwater Management Program. Stormwater Utilities provide a fair and equitable way to distribute the cost of the Stormwater Management Program through a user fee-based system. In general terms, the amount of impervious surface on each property is considered to be the basis for determining the amount and quality of runoff that can be expected to leave a property when it rains and enter the City’s system.



The City of Covington, in an effort to achieve even greater equity, included the contribution of increased runoff and pollutants from pervious but disturbed lands, such as golf courses and vacant parcels.

**STORMWATER UTILITY FEE**

The first step in determining the charge for each property is to calculate a standard billing unit called an



“Equivalent Residential Unit” or ERU. An ERU is determined by statistically generating the *median* size residential property’s **impervious area** “footprint” – in the City of Covington’s case, approximately 2600 square feet (sf). This area

includes your roof, driveway, garage, and any other hard surfaces on your property. Every city will have a different ERU, depending upon its age, economy, and level of urbanization.

The second step is to calculate the number of ERUs for each individual property. There are two components, **impervious** and disturbed **pervious**.

The impervious area component (buildings, parking, driveways, etc.) is individually measured using recent aerial photography, like that pictured to the right. The pervious area component



is then determined by subtracting the impervious area from the gross area of the parcel. The total pervious area for each property is multiplied by five percent (or .05) to reflect its smaller contribution towards generating stormwater runoff. Both the impervious and pervious areas are divided by the standard ERU area - 2,600 square feet, and added together to determine the total ERU.

The utility rate applied for the total ERUs reflect what is needed to operate the new stormwater management program. In other words, the City will only collect sufficient fees needed to maintain the annual average cost to support the activities of the program. For the next five years, 2005 through 2009, the City has estimated an annual average cost of \$882,000. This cost will require a rate of \$3.23 per month for each ERU measured on residential and non-residential properties. If additional funds are required to implement this new program, they will be provided by the City’s general fund.

The stormwater utility fee will be calculated monthly and billed on a quarterly basis for all property owners beginning March 2005.

**ADJUSTMENTS AND CREDITS**

Adjustments and credits may be made to a property owner’s bill according to guidelines found in the Stormwater Utility Credit and Adjustment Policy Manual, which can be downloaded from the City’s web site ([www.cityofcovington.org](http://www.cityofcovington.org)).

Any property owner can apply for applicable credits or adjustments using the forms provided in the manual.

**Adjustments** are a modification to a billing record to reflect site-specific runoff characteristics that are substantially different from those attributed to the base-billing unit, i.e. natural features such as a forested area or wetland. **Credits** are a percentage reduction in fee for on-site constructed stormwater BMP that perform to standards set in the Georgia Stormwater Management Manual. All properties are eligible to receive a credit of up to a 40%. Additional credits are available for educational institutions, industrial facilities with NPDES Industrial Stormwater permits, and properties that provide 100% retention of stormwater runoff.

**Homeowners** can apply for credits to reduce their bills by constructing rain gardens or other methods of treating stormwater runoff and/or promoting infiltration. Homeowner associations can apply for a credit for a stormwater pond that is properly maintained.

**Commercial, industrial, and institutional properties** can apply for credits to reduce their bills by constructing new storage or treatment facilities or modifying existing facilities. Educational institutions have an additional credit option.

## F E E C A L C U L A T I O N

$$ERU_{total} = ERU_{pervious} + ERU_{Impervious}$$

$$\text{Monthly Fee} = ERU_{total} \times ERU_{rate}$$

$$\text{Quarterly Fee} = ERU_{total} \times 3 \text{ months}$$

$$ERU_{pervious} = (P \times .05) \div 2600$$

$$ERU_{Impervious} = I \div 2600$$

$$ERU_{rate} = \$3.23 \text{ per ERU per month}$$

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$$P = A - I - U$$

A = Total Parcel Area (sf)

I = Impervious Area (sf)

U = Undisturbed (natural) Area (sf)

P = Pervious Area (calculated in sf)

sf = square feet

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### Example

Total Area of the property:

$$A = 0.28 \text{ acres} \times 43,560 \text{ sf per acre} = 12,197 \text{ sf}$$

Measured Impervious Area:

$$I = \text{roof} + \text{driveway} + \text{walkway}$$

$$I = 1,123 + 451 + 226 = 1,800 \text{ sf}$$

Measured Undisturbed (natural) Area:

$$U = 0 \text{ sf}$$

Calculated Disturbed Pervious Area:

$$P = A - I - U$$

$$P = 12,197 - 1,800 - 0$$

$$P = 10,397 \text{ sf}$$

$$ERU_{pervious} = (10,397 \times .05) \div 2600 = 0.2 \text{ ERUs}$$

$$ERU_{Impervious} = 1,800 \div 2600 = 0.7 \text{ ERUs}$$

$$ERU_{total} = 0.2 + 0.7 = 0.9 \text{ ERUs}$$

$$\text{Monthly Fee} = (0.9 \text{ ERUs}) \times (\$3.23/\text{ERU}/\text{month}) = \$2.91$$

$$\text{Quarterly Bill} = \$2.91 \times 3 \text{ months} = \$8.72$$

## P R E V I E W Y O U R F E E

You can preview the information that will be used to calculate your stormwater utility fee at: <http://datasearch.enead.com/covington>

You will need to know your parcel number or property address.