



What is a Municipal Stormwater Fee?

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Stormwater gushes into a storm drain after a rain event.

Photo: Andy Yench, Penn State

Even before recent years where it seems that rainfall is in abundance, stormwater management was a growing financial burden for many communities across Pennsylvania. To pay for the increasing costs, at least 27 municipalities¹ have implemented user fees for stormwater management services and a growing number are considering them. These new charges are called

stormwater fees or stormwater utility fees because they are modeled after the way municipalities have historically billed residents for other utility services like water and sewer. Stormwater fees provide local governments with a stable source of revenue to pay for their growing stormwater management costs, but, as you may have heard or experienced, they have generated controversy in some PA communities.

Stormwater is simply the precipitation – either rain, snow or ice – that becomes surface water drainage instead of soaking into the ground. When Pennsylvania was undeveloped there was very little stormwater. Today, of course, it's a different story. Large areas of the state that were once spongy forest have been replaced by

croplands, growing suburban developments, and densely populated cities. Developed land generate tremendous amounts of stormwater that causes property damage and water pollution if it's not managed properly. On an acre-per-acre basis, developed areas generate more stormwater runoff than rural areas because they contain more hard structures like rooftops, driveways, parking lots, sidewalks and roads. These hard surfaces are called impervious, because they prevent precipitation from soaking into the ground.

Why does stormwater management cost money?

To manage all the stormwater they generate, municipalities build and maintain stormwater management systems consisting of ditches, catch basins, inlets, underground pipes, and other interconnected structures designed to move stormwater out of inhabited areas. These water transportation networks are technically called municipal separate storm sewer systems, or MS4s, because they are "separate" from the sanitary sewer systems municipalities also build and maintain. Stormwater systems are easy to overlook because they are largely underground, but they keep the neighborhoods and commercial areas where we live and work dry.

The stormwater systems most of us take for granted are getting more expensive to design, construct and maintain. Many MS4s contain aging structures that need repair or retrofitting to meet modern engineering standards. Other infrastructure needs to be expanded to handle increased stormwater loads from new development and more frequently occurring large rainstorms. And finally, an increasing number of urban municipalities are now required to obtain stormwater discharge permits to comply with state and federal laws. These "permitted communities" must develop stormwater management programs and implement best management practices, including public education, to reduce pollution levels in the stormwater they discharge into local creeks and rivers. Meeting permit requirements is another significant cost.

Communities have traditionally used a mix of funding sources to pay for stormwater management including general tax revenue, grants and bonds. This piecemeal funding approach still works for unpermitted municipalities but is proving insufficient to meet the more rapidly increasing cost communities with stormwater permits face. These municipalities require additional revenue from stable sources which basically leaves two options: raising taxes or implementing fees. New fees are the preference because compared to new tax dollars, fee revenue is easier to:

1. Protect from competing community needs,
2. Apply to all properties that generate stormwater runoff, and
3. Calculate fairly.

Stormwater fees are considered dedicated funds. This means the money they raise can only go toward stormwater management related activities. Tax money on the other hand is subject to competition from other municipal programs. Fee programs apply to everyone who uses the billed service. So, under a user fee program, all stormwater producing properties, even those owned by tax exempt organizations like public schools, universities, churches and other nonprofits, must still pay the fee. Finally, stormwater rates are easier to calculate fairly using a fee structure instead of relying on tax criteria like assessed property values, which don't correlate well to the actual amount of stormwater a property generates.

How are stormwater fees calculated?

Different communities use different methods to calculate what to charge for the stormwater services they provide. Because it's beyond the scope of this article to highlight these differences, which can quickly get complex, the following explanation provides a simplified overview of a common fee calculation process that addresses the most important elements other methods share. Readers should keep in mind the stormwater fee in their community may be structured slightly differently from what is presented here.

Most, if not all, stormwater fees in Pennsylvania are based on the amount of impervious cover a property contains. Roofs, driveways, patios and parking lots all usually count towards the total, but public sidewalks and roadways are not factored in. Properties with more impervious cover generate more stormwater runoff which puts a greater demand on the municipal stormwater system, compared to properties with less impervious cover. Because properties with lots of impervious surface require more stormwater service, they pay larger stormwater fees.

Municipalities use different approaches to estimate the impervious cover on each of the residential, commercial and institutional properties their MS4 serves. In some instances, they will visit properties to take measurements in the field but, more often, they use aerial imagery and computer software to calculate coverages from the office. Municipalities often calculate a representative value to represent the runoff from their residential properties. They do this by carefully measuring the impervious cover from a sample of typical single-family residential parcels to

determine a median area measured in square feet. This value is called an ERU, short for Equivalent Residential Unit.

The ERU essentially represents a base billing unit. Properties with very little impervious cover may be charged some fraction of an ERU, whereas properties with lots of impervious cover may be charged multiple ERUs. Municipalities take many factors into account when setting their base ERU billing rate, but the basic process involves two steps:

- 1. Adding up the impervious cover totals for each of the properties in their community and dividing this number by the ERU size they calculated earlier to determine the total number of ERUs in their service area and then**
- 2. Dividing their estimated annual stormwater budget by the total number of ERUs to reveal how much they need to charge per ERU to cover their annual stormwater costs. State law prohibits communities from charging more than this amount. Stormwater fee for residential properties in PA currently range between \$5 and \$11 monthly¹.**

Can fees be reduced?

Property owners in most, if not all, communities with stormwater fees, can lower their bills by installing or adopting best management practices that reduce stormwater runoff, improve stormwater quality, or both. Contact your municipality, or visit their website, to learn which best management practices are approved for credits and to get a copy of the credit application. By taking advantage of credit options property owners can typically reduce their bill between 20 and 30 percent. Perhaps more important, credit programs reinforce the fact that each of us has a role to play improving the stormwater runoff in our communities.

Reference

¹Western Kentucky University Stormwater Utility Survey 2019, C. Warren Campbell