

CITY OF ANN ARBOR

STORMWATER FAQ'S

Ann Arbor has had a stormwater utility since 1980 to make sure that all users of this stormwater system pay their fair share for the needed maintenance and system upgrades. During 2006 and 2007, a Stormwater Citizen's Advisory Task Force met to review the current rate system and determine how that could be modified to more equitably charge customers.

As a result of those efforts, a new rate system was developed that charges customers based on impervious area, which was determined to be the best indicator of stormwater runoff. The measurement of impervious area is based on a computer analysis of aerial infrared photography. That information is posted online at www.a2gov.org/storm, 7/1/2008 allowing customers to provide feedback on areas that may have incorrectly been identified as impervious.

STORMWATER MANAGEMENT

When it rains, the stormwater that runs off roofs, parking lots, and open ground needs to be conveyed to the Huron River through a series of drainage pipes located under the streets, and through small creeks and storm drains located throughout the city. This system is largely hidden from view, except for the approximately 23,000 catch basins located at the curbs of many streets. In fact, the streets themselves are used to convey and sometimes temporarily store these flows before the stormwater system moves the water away. This stormwater system is largely taken for granted by city residents, but it is an important part of making Ann Arbor a desirable community to live in.

Q. What Is Stormwater?

Stormwater begins as rain or snowmelt that falls on or washes over both pervious (grass, woodlands, gardens and other undeveloped lands) and impervious surfaces (roofs, driveways, parking lots, streets, and other hard surfaces). Stormwater runoff is created from excess water that cannot be absorbed by pervious surfaces or from water flowing off impervious areas. Rather than being absorbed into the ground, rainwater enters the City's Stormwater drainage system, a network of catch basins, yard inlets and pipes that keep water from flooding roads and property. Water is diverted through the network to the City's creeks, lakes, and eventually the Huron River.

Q. What Problems Can Stormwater Cause?

Stormwater can cause quality and quantity problems. Stormwater runoff picks up anything in its path and delivers it to our water resources. Pollutants including oil, yard waste, fertilizers, litter, and sediment can create stormwater of poor quality which can harm our waters. The initial half-inch of stormwater tends to carry the most pollution as it washes fertilizers, automotive fluids, animal waste, deicers, and dirt into the street and down the gutter. Too much stormwater is also harmful. Increased runoff can cause flooding, erosion and property damage if not wisely managed.

Q. What does the stormwater program do?

The stormwater program is charged with the maintenance and improvement of the drainage systems. These systems consist of storm drains, catch basins, underground pipes, open channels, culverts, and creeks. Program activities include:

- The administration, planning, implementation, and maintenance of storm water Best Management Practices (BMPs) to reduce the introduction of sediment and other pollutants into local water resources.
- The installation, operation, maintenance and replacement of public drainage systems.
- Activities necessary to maintain compliance with the National Pollutant Discharge Elimination System (NPDES) Permit requirements established by the U.S. Environmental Protection Agency, including preparation, implementation and management of a Storm Water Pollution Prevention Plan (SWPPP) to address the following control measures:

Public education and outreach on storm water impacts.
Public involvement/participation.
Illicit discharge detection and elimination.
Construction site storm water runoff control.
Post-construction runoff control in new development and redevelopment.
Pollution prevention for municipal operations.

- Other education, engineering, inspection, monitoring, testing and enforcement activities as necessary to maintain compliance with local, state and federal storm water requirements.

Q. Why have cities implemented these programs?

Federal and state regulations require the City of Ann Arbor to address the amount of runoff and the pollution carried by the water that is deposited, untreated, into the Huron River. Stormwater quality management programs are response to regulations from the Environmental Protection Agency (EPA) connected to the federal Clean Water Act. These regulations require cities with more than 100,000 people to obtain a permit under the National Pollution Discharge Elimination System and to create a comprehensive program to seek out and eliminate, to the maximum extent practical, pollutants carried by stormwater.

History

- It all started with the 1972 Clean Water Act (CWA) which prohibited the discharge of any pollutant to waters of the United States from a "point source" unless the discharge is authorized by a National Permit Discharge Elimination System (NPDES) permit. A "point source" is any place that you can say for sure is polluting streams and water supplies such as an industry, business or a sewer system.
- In 1987, the CWA was amended to require implementation of a national program for non-agricultural sources of storm water runoff, because the government said that water quality studies showed that sparse sources of water pollution were also significant causes of pollution. They called these sparse sources of pollutants, "nonpoint source." A "nonpoint source" pollution is water pollution that is difficult to trace to a specific discharge point because it comes from many diverse sources. Examples of common nonpoint source pollutants include fertilizers, pesticides, sediments, oils, salts, trace metals, and litter. They come from farms, yards, roofs, construction sites, automobiles, and streets.

Phase I of the U.S. Environmental Protection Agency's (EPA) stormwater program was promulgated in 1990 under the CWA. Phase I relies on National Pollutant Discharge Elimination System (NPDES) permit coverage to address stormwater runoff from: (1) "medium" and "large" municipal separate storm sewer systems (MS4s) generally serving populations of 100,000 or greater, (2) construction activity disturbing 5 acres of land or greater, and (3) ten categories of industrial activity. Ann Arbor is considered a "medium" MS4 and was permitted under Phase I..

Phase II rules for small municipalities and construction activity were finalized in December 1999 and was implemented in 2003 . Phase II requires permit coverage for all small MS4s located within urbanized areas. An **urbanized area** is a land area comprising one or more places — central place(s) — and the adjacent densely settled surrounding area — urban fringe — that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile.

Q. Why are the stormwater and sewer systems separate?

Unlike wastewater, which is treated before it is released back into the environment, stormwater goes directly into a community's ponds, streams and lakes. Because stormwater comes in large amounts at unpredictable times, treating it as wastewater would be very expensive.

UTILITY FEE

Q. What is a stormwater utility fee?

A stormwater utility fee is similar to a water or sewer fee. In essence, customers pay a fee to convey stormwater from their properties. The utility is the result of unfunded United States Environmental Protection Agency (USEPA) and the Michigan Department of Environmental Quality (MDEQ) mandates that require a stormwater utility of all cities with an urbanized area of 50,000 or more people and a population density of greater than 1,000 residents per square mile. The fee is used to finance annual compliance with the NPDES permitting standards. The National Pollutant Discharge Elimination System (NPDES) is the compliance system for the Clean Water Act and requires that all storm water discharges that enter waters of the United States must meet minimum federal water quality requirements.

Q. Why does the City of Ann Arbor charge a stormwater fee?

The utility fee raises the revenues needed to fund the City's stormwater management program. This program brings us into compliance with federal regulations and safeguards our community through improved drainage and protection of local waters. The fee structure primarily enables the City to make needed improvements to storm drainage infrastructure including stormwater inlets and pipes, culverts, open stream channel systems, and other public drainage ways. These improvements will further help protect surface water quality and minimize flood hazards. The utility fee also enables the City to meet its responsibilities to closely manage the storm drain system, study the contents of stormwater, seek out and eliminate illicit connections and illegal dumping, enforce codes more strictly, and facilitate public awareness.

Q. Is the stormwater utility fee legal?

Yes, stormwater utility fees are legal. State and federal courts have ruled that stormwater utility fees are necessary to maintain the public stormwater system and such fees represent an equitable way for the community to share the cost of a public service. They are becoming more and more common throughout the United States.

Q. Where do your stormwater dollars go?

The stormwater utility fee pays for the operations and maintenance costs of the stormwater program. Some of the services tied to the stormwater program include:

- Flood protection through capital improvement projects
- catch basin cleaning and repair
- Street sweeping
- Shoulder and ditch maintenance within the publicly owned right-of-way
- Pipe cleaning
- Public education and outreach
- Illicit discharge elimination program
- Post Construction Stormwater Management program
- Construction inspection and runoff control
- Project design and management
- Federal regulatory compliance

RATE STRUCTURE

Q. How is the stormwater rate structure changing?

Residential property owners used to all pay the same stormwater charge of \$22.75/quarter. The new stormwater utility fee rates are now based on the total amount of impervious surface on a property (including: buildings, dwelling, parking lots, driveway, sidewalk, etc.). Fees fall into one of two rate categories; single-family or commercial.

The Single-Family and Two-Family Residential rate consists of four tiers:

Tier One – Up to 2,187 square feet = \$19.16 per quarter

Tier Two – 2,187 to 4,175 square feet = \$28.46 per quarter

Tier Three – 4,178 to 7,110 square feet = \$43.94 per quarter

Tier Four – Above 7,110 square feet = \$71.83 per quarter

Commercial and other properties (e.g. multifamily, office, institutional, commercial industrial land uses):
Rate of \$309.79 per acre of impervious area per quarter, plus a customer service charge of \$6.77 per quarter.

Q. Why Is The Stormwater Rate System Changing Now?

The primary reason is that a fee based on impervious surface area is viewed as a more equitable way to charge and collect revenues for this program. This rate system takes advantage of new technology (infrared impervious area analysis) that previously was not cost-effective.

Q. What method is the City using to determine the new stormwater rates?

The stormwater utility fee is based on the estimated use of the stormwater system, calculated through impervious area measurements. Impervious surface is a good gauge of how much runoff your property has during a storm.

Q. How did the City determine how much impervious area is on my property?

The City calculated impervious area based on aerial infrared photography. A computer analysis of that photography then determined which areas on your property were impervious. Customers can download their impervious area analysis through www.a2gov.org/storm to provide feedback on areas that may have incorrectly been identified as impervious.

IMPERVIOUS AREA

Q. What is impervious surface and what does it have to with stormwater

An impervious surface is any area that does not freely absorb water. Impervious surface area is any surface that does not readily absorb water and impedes/inhibits the natural infiltration of water into the soil. Common examples include roofs, driveways, parking areas, sidewalks, patios, decks, tennis courts, concrete or asphalt streets, crushed stone and gravel surfaces.

- Wooden decks with slotted surfaces are deemed pervious unless the underlying surface is impervious
- Graveled driving surfaces generally have been compacted to the point of being impervious.
- Graveled landscaping is generally underlain by an impervious membrane.
- Swimming pools are considered pervious because they typically retain any rainfall which falls on them. Paved decks adjacent to the pools are considered impervious.
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Because rainwater can not be absorbed by these surfaces, the water must be managed through some sort of stormwater system. Furthermore, impervious surfaces are viewed as one of the most problematic factors leading to the degradation of watershed receiving waters by stormwater runoff. Stormwater runoff from impervious surfaces is often polluted with automotive fluids, metals, sediment, or litter. This polluted stormwater runoff eventually ends up in our streams and rivers.

Q. What is considered to be an impervious surface?

An impervious surface is any surface that prevents water from penetrating the ground. Examples include buildings, driveways, parking lots, patios, paved areas, tanks, pads, and other features that are impervious to rainfall.

The following information explains the City of Ann Arbor's position on issues regarding the perviousness of commonly used surfaces and describes the degree to which certain materials, structures and construction methods may be considered pervious.

WHAT IS IMPERVIOUS SURFACE?

Impervious surface area is any surface that does not readily absorb water and impedes the natural infiltration of water into the soil. Common examples include roofs, driveways, parking areas, sidewalks, patios, decks, tennis courts, concrete or asphalt streets, crushed stone and gravel surfaces.

Note: The American Planning Association Dictionary defines impervious surface: "Impervious surface area shall be defined as any material that *substantially reduces or prevents* the infiltration of storm water."

- **Areas that are identified as impervious are:**

- (1) Hardened surfaces on or near the ground: Sidewalks, private roads, private streets, parking lots, walkways, patios, concrete slabs, runways, taxiways, aprons or other hardened surfaces consisting of asphalt, concrete, or other paving material.
- (2) Hardened surfaces above ground: Buildings, foundations, storage tanks, rooftops, athletic courts and tracks
- (3) Gravel and Dirt Driveways, and Pavers that do not meet requirements to be classified as pervious.

~ Like other impervious surfaces, they function as a barrier to water absorption and place a demand on the storm drainage infrastructure.

- **Areas which should not be identified as impervious are:**

- (1) grass,
- (2) gardens,
- (3) landscaped areas,
- (4) natural rock formations,
- (5) wood decks,
- (7) dirt paths,
- (8) public right-of-way including streets and sidewalks

- **Areas that may be classified as pervious include the following materials set in porous fill such as sand, gravel, grass, or dirt. Documentation to determine if these surfaces should be identified as impervious or pervious includes: the submission of pictures, designs, and specifications, by the customer.**

- (1) bricks,
- (2) pavers,
- (3) wood, and
- (4) stone,

- **Additional areas which may not be impervious include porous pavements and similar surfaces that allow water to infiltrate. Documentation to determine if these surfaces should be identified as impervious or pervious includes: the submission of pictures, designs, and specifications, by the customer and possible field investigations by City Administrators.**

IS IT PERVIOUS?

The table below details the construction materials and surfaces that generate the most frequently asked questions regarding perviousness.

Types of surfaces

Type of Structure	Impervious	Pervious	Notes
Deck, special construction	-	x	Spaces between boards, 6" gravel under deck, plantings.
Driveway, asphalt	x	-	-
Driveway, bank run gravel	x	-	Use causes gravel to become compacted over time.
Driveway, blue chip stone	x	-	Use causes stone to become compacted over time.
Driveway, concrete	x	-	-
Driveway, dirt	x	-	Use causes soil to become compacted over time.
Driveway, oyster shell	x	-	Use causes shells to become compacted over time.
Driveway, pavers	-	-	Site-specific evaluation determines perviousness.
Parking lots, gravel overflow	x	-	Use causes gravel to become compacted over time
Patios, brick on sand	x	-	Bricks are impervious and preclude growth of vegetation.
Patios, slate	x	-	-
Sidewalks, concrete	x	-	-
Sidewalks, brick and mortar	x	-	-
Sidewalks, brick on sand	x	-	-
Sidewalk, wood (boardwalk)	-	x	Spaces between boards
Swimming pools, in-ground & above ground	-	x	Paved decks adjacent to pools are considered impervious.
Walkways, gravel	-	x	
Walkways, wood chip	-	x	-

**** Following statements are taken from the Stormwater Regulations as enabled by Section 2:69 of Chapter 29 and Sections 2:213 and 2:217 of Chapter 33 of the City Code. These Regulations specify procedures and requirements for charge adjustments, credits, appeals, enforcement and other matters. ****

Section 2 – Definitions

IMPERVIOUS SURFACE. means a surface which is compacted or covered with material that is resistant to or impedes permeation by water, including but not limited to, most conventionally surfaced streets, roofs, sidewalks, patios, driveways, parking lots, and any other oiled, graveled, graded, or compacted surfaces.

3.2 Adjustment Requests

Owner demonstrates that the City has incorrectly interpreted and/or calculated the impervious area of the property.

Owner demonstrates that on-site gravel is not compacted, not used for vehicular traffic, and not impervious. The City may grant adjustments for non-compacted gravel areas used for landscaping or other purposes. The City considers all compacted gravel areas (drives, storage areas, etc.) as impervious areas, and as such, no adjustment will be granted. The Administrator will make the decision regarding the intended purpose of gravel areas and the degree of imperviousness.

ADDITIONAL QUESTIONS

Q. How can customers apply for an Impervious Area adjustment?

If a customer has reason to believe that their property's impervious area has been incorrectly identified, they should take the following steps:

1. Print the Stormwater Rates Online Impervious Area Analysis image or call Customer Service () and request that a copy of the image be mailed to you.
2. Identify the areas that have been incorrectly identified as impervious (please use a contrasting pen or highlighter and label the features).
3. Email the document to: STORM@a2gov.org or

Mail the document to:

Ann Arbor –Stormwater
Box 8647
Ann Arbor, Mi 48107

Customers should keep in mind that a change in Impervious Area may not change their fee, since rates are grouped into tiers. Therefore, the stormwater fee may not change with a change in Impervious Area.

***There are several types of adjustments that may be needed:

- Impervious Area Additions or Deletions - Construction activities, including demolition work, may necessitate a change in the Impervious Area calculation for a property.
- Wood Decks - As stated in the ordinance, "Runoff Surfaces do not include wood decks located above a pervious (dirt, grass or gravel) surface area...". Wood decks that are located above an impervious area (e.g. concrete) are included in Runoff Surface calculations. Since the GIS maps are unable to show the surface beneath wood decks, it is necessary for customers to call the Stormwater Utility Division and advise them of wood decks above pervious areas in order to have this surface excluded from the calculation.
- Areas in shadows
- Wood chips

NOTE: All surfaces used by vehicles including gravel, dirt, graded surfaces should be included in the Impervious Area calculation. Customers should not contact the City to adjust gravel surfaces used for vehicle use on their property. Please note: the Stormwater Utility Regulations as enabled by Section 2:69 of Chapter 29 and Sections 2:213 and 2:217 of Chapter 33 of the City Code specifies procedures and requirements for charge adjustments, credits, appeals, enforcement and other matters. Section 2 – Definitions reads: "IMPERVIOUS SURFACE. means a surface which is compacted or covered with material that is resistant to or impedes permeation by water, including but not limited to, most conventionally surfaced streets, roofs, sidewalks, patios, driveways, parking lots, and any other oiled, graveled, graded, or compacted surfaces."

Q. Why is gravel considered an impervious surface?

Gravel is an impervious surface because like concrete or asphalt, it functions as a barrier to absorption and places a demand on the storm drainage infrastructure. It is difficult for water to soak into a packed gravel surface. Once gravel is compacted by vehicular traffic, surface water runs off of it much like a

paved surface. In addition, runoff from gravel surfaces carries sediment that is not present in runoff from concrete or asphalt. This sediment is problematic in the stormwater system.

Q. Is the stormwater fee influenced by the amount of rain that falls?

While the stormwater program is in place to manage the pollution and runoff carried by rainwater, the fee is in no way related to the amount of rain that falls. The fee is in place to fund the ongoing maintenance and capital improvements to the entire storm drainage infrastructure, as well as other water quality improvement and flood hazard mitigation programs. The pollution potential is much greater when it has not rained in a long time because pollutants can build up on all impervious surfaces. In any storm, the initial runoff, or first flush, is the most contaminated. Contrary to what some people believe, stormwater charges are not based upon rainfall. Costs are incurred to reduce pollution. Rainwater is simply the carrier that transports the pollutants to open waterways.

Q. Why do I have to pay if I don't contribute to stormwater!

If you own property and the property has been developed with impervious area such as rooftops, sidewalks, driveways, etc., you contribute to stormwater run-off since impervious areas do not allow rain or snow melt to infiltrate as it would do on a natural surface. It is important to note that the stormwater fee will pay for citywide maintenance and improvements to the storm sewer system. These improvements and programs support and apply to the entire City. The approach being taken through this program recognizes that everyone contributes to runoff and pollution problems and everyone will share in the results (improved water quality, reduced flooding, etc.).

Q. I live in a subdivision with a storm drain that drains into a ditch. Why do I pay a stormwater fee if the City isn't collecting the rainwater?

The City's stormwater conveyance system includes much more than storm drains. Ditches, curbs, gutters, culverts and open stream channels all make up the citywide drainage system that conveys stormwater runoff away from structures and sites in a manner that minimizes the potential for flooding and erosion to properties. The City is responsible for maintaining the entire manmade and natural public conveyance system.

Q. The property I live on has a detention pond that collects all of our stormwater runoff. Why is the City still charging me a stormwater fee?

A detention pond is one example of a Chapter 63 compliant stormwater control that serves to improve the quantity and quality of stormwater that exits a property. However, as beneficial as these devices may be, the effectiveness is not absolute and stormwater still exits a property depending on a number of factors, such as the intensity and duration of rainfall. While residents must still pay the stormwater fee, the City recognizes the value of detention ponds and has designed a Stormwater Credit Policy that may offer credits to eligible properties.

Q. If my landscape is designed to minimize run-off by doing things like directing down spouts into grassy areas, why can't my fee be reduced to reflect the steps taken to control the runoff from my property?

If you direct at least 50% of your rooftop runoff into a rain garden that is at least 130 square feet and at least 3" deep, you will qualify for a stormwater credit. Simply directing downspouts into grassy areas will not qualify for a credit, since rainwater from this arrangement will typically find its way into some part of the stormwater system during a heavy rain.

Q. What credits are available to residential property owners?

There are three kinds of residential credits that are available.

- **RiverSafe Homes Program (\$1.24/quarter) –**
 - The RiverSafe Home Program, created and maintained by the Washtenaw County Drain Commissioner, gives you an opportunity to identify water quality protection activities that you do well and consistently around your home. It also provides an opportunity to commit to other proactive and "easy to do" pollution preventing activities that you may not have considered before. Homeowners complete a user-friendly single-page online survey after

reviewing the brief descriptions of the categories of questions in the survey that include: Home Toxics Use and Disposal, Yard Care and Outdoor Housekeeping, Vehicle Care, and Pets and Urban Wildlife Waste. In return for taking the survey and making a commitment to water quality protection, participants receive a RiverSafe Homes marker to display in their home. Participants may also choose to be added to an e-mail list to receive periodic environmental tips and information. The survey is also available by mail by phoning (734) 222-6833. There is no cost to enroll at: www.ewashtenaw.org/riversafe.

- **Rain Barrels (\$1.79/quarter) –**
 - Rain barrels harvest and store water from your rooftop by collecting it from a gutter downspout. The stored water can be used for watering or other purposes that don't require drinking water. Rain barrels offer several advantages. Using rain for watering can reduce your water bill, be better for your plants than city water, and help rain percolate into the ground and recharge groundwater supplies.
- **Rain Gardens, Cisterns, or Drywells (\$2.80/quarter) –**
 - Rain gardens are attractive landscaping features that double as water conservation strategies. A Rain Garden is a planted depression of deep-rooted native vegetation designed to absorb excess rainwater runoff from a house or other impervious area with a purpose (besides being beautiful) of allowing rain water to pool in a low spot just long enough to percolate into the ground.
 - Cisterns are water management devices that provide retention storage volume in above or underground storage tanks. They are typically used for water supply. Cisterns are often larger than rain barrels, with some underground cisterns having the capacity of 10,000 gallons. On-lot storage with later reuse of stormwater also provides an opportunity for water conservation and the possibility of reducing water utility costs.
 - Drywells are small excavated pits, backfilled with aggregate, and used to infiltrate "good quality" stormwater runoff, such as uncontaminated roof runoff. Drywells are not to be used for infiltrating any runoff that could be significantly contaminated with sediment and other pollutants, such as runoff from high potential pollutant loading areas and parking lot runoff.

Q. How accurate are the Stormwater Rates Online Impervious Area Analysis images?

The impervious area analysis images are not 100% correct. We encourage customers to view their images at www.a2gov.org/storm to evaluate whether there have been misinterpretations on their impervious area analysis. However, because one and two family homes have been placed into rate tiers, small adjustments in impervious areas will typically not make a difference in the rate paid.

Q. Who else is paying a stormwater utility fee?

With the exception of properties that drain directly to the Huron River, every parcel in the City of Ann Arbor is responsible for paying a stormwater discharge fee including City of Ann Arbor, University of Michigan, County, State and Federal government parcels and public institutions, commercial and industrial parcel owners. However, these properties are still responsible for paying a stormwater customer service fee.

Q. How is the stormwater utility fee different from a tax? (What is a user-fee?)

The storm water utility fee is not a tax. It is a fee generated to maintain the storm water utility system and fund the NPDES permit compliance. The stormwater utility is a user-fee, much like the fee that you pay for your water utility or sanitation service. Users of these services are charged based on the demand they place on the system. The stormwater that flows off your property places demand on a vast system of infrastructure which is costly to operate and maintain. Stormwater must be channeled through a system of pipes and other devices before it can be safely discharged into local rivers, lakes, and streams. A property's value does not affect runoff, so property taxes are not the most equitable way to pay for stormwater services. While a high-rise building and a shopping mall may have similar property values and similar taxes, the shopping mall probably produces more runoff due to more rooftops and more parking. So, the fee system equitably will ensure that the customer pays only for the runoff that they produce.