

# Guide to MS4

## Municipal Separate Storm Sewer System

January 2024 Edition



## Are Non-Structural BMP's a Thing?

Yes, non-structural best management practices do exist. Pennsylvania Department of Environmental Protection has provided a manual which lists approved structural and non-structural best management practices. Municipalities can refer to this manual when implementing resolutions for credits pertaining to BMP's. Currently, Lower Allen Township does not have a credit program for non-structural BMP's. The Lower Allen Township Stormwater Authority is considering adopting credits for non structural BMPs.

## Structural BMP: What Is That?

Property owners in Lower Allen Township could apply for a credit on their stormwater fee if they have a structural BMP. But what is a structural BMP?

A Structural BMP (Best Management Practice) is a permanent structure on a property designed to prevent pollutants in stormwater run off from leaving the property and entering a storm drain or waterway. Some properties could have more than one structural BMP. Examples of structural BMP's are infiltration trenches, bioretention basins, permeable pavement, or water quality inserts, to name a few. Other structural BMP's can also qualify for a credit, for more information visit the Township MS4 page on the website.

## Inspections



A structural BMP on a property in Lower Allen Township is required to be inspected annually in order to maintain a credit on the stormwater fee. Lower Allen Township maintains online inspection forms for the convenience of property owners. Property owners are mailed letters reminding them of the annual inspection in December with inspection reports due early the following year. Property owners have the option of completing the inspections themselves or hiring someone to complete the inspections.



Lower Allen Township's

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February 2024 Edition



## Lower Allen Twp Staff Hold Clean Up

On January 15th, 2024 Lower Allen Township staff spent some time outside picking up trash from Cedar Spring Park. Some employees donned hipwaders and removed items from the Cedar Spring while others worked throughout the park to pick up the litter that had accumulated over the past few months.

With temperatures in the 30's that afternoon, staff spent roughly 45 minutes outside and were able to collect 8-12 bags of trash. The most prevalent item found were cigarette butts while the most interesting find was the BUICK emblem from a vehicle. Eight staff members from four different departments were able to join together to make the clean up a success.

## Quarterly Clean Ups

Lower Allen Township will be hosting cleanups quarterly throughout the year.

Through the Township MS4 Permit requirements, a litter event and/or clean up provides immediate service to the stormwater and waterways of the watersheds in the Township. Look for more information regarding clean up events hosted by the Township on Facebook, the Township newsletter, or on the website. To be considered as a clean up site within the Township, contact the Environmental Coordinator.

Supplies for clean up events are available from the Township.

## Host a Clean Up

Are you hosting a clean up event for your neighborhood, business, or HOA? Be sure to notify the Environmental Coordinator at Lower Allen Township before and after the event. Clean up events can be added to the Lower Allen Township MS4 permit report that is required annually.



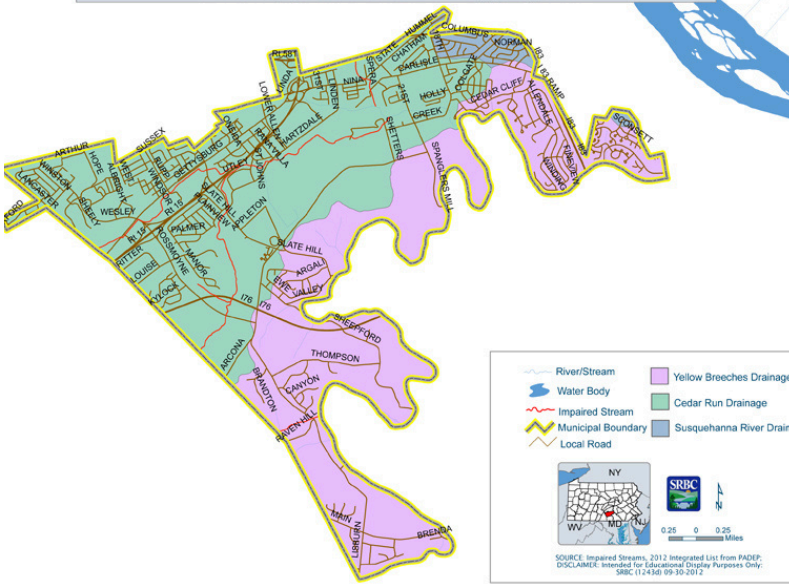
# Lower Allen Township's

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## Municipal Separate Storm Sewer System

March 2024 Edition

Impaired Waterways and Watershed Areas for Lower Allen Township, Cumberland County, PA, 2012



## What to Expect?

Bids were accepted in early 2024 for the basin projects. Currently, contracts are being awarded and agreements are being signed. Construction for the projects will begin for some locations in April or May of 2024.

Residents in the area of the basin projects will see the full effects of the retrofit projects in a 2-3 years. This allows plants to grow and mature to show their fullest potential.

## 2024 Basin Retrofit Projects

In 2023 Lower Allen Township bid three locations within the Township. These locations would have basin retrofits and upgrades made to meet the Township's MS4 permit and the Pollution Reduction Plan. When the bids were received, all were exceedingly over the budgeted line item for the basin projects. It was decided in 2023 to rebid the projects separately to encourage different bidders and possibly reduce the cost of the projects. Bidding the projects separately resulted in lower bid prices and more bidders interested in submitting bids for the projects. The Township's NPDES Phase 2 MS4 permit period has been extended by the Pennsylvania Department of Environmental Protection until September of 2025. New permit requirements will dictate the stormwater budget and determine if the fee structure will require analysis at that time.

## Basin Updates

For more information and to follow the progression of the 2024 Basin Projects, please scan the QR code. Updates will be posted throughout the project.





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April 2024 Edition



## What to do with all those grass clippings?

Grass clippings can sometimes be the bane of our existence! What do we do with all those grass clippings? No longer is it simple to toss them in the trash. Grass clippings left on roads are an MS4 violation and hazardous to bicyclists and motorcyclists. Whether you have a small lawn or a large lawn, finding an alternative method of disposing of your grass clippings can be difficult. Consider the 6 suggestions of alternatives to throwing your grass clippings away. Cutting your grass at the proper frequency and length is better for your lawn, restoring nutrients and mulching your grass clippings without the need to find an alternative use for them.

## Suggested Uses

Grass clippings can sometimes feel like a never-ending battle between you, your lawn and where to put them after they are cut. Consider these 6 suggestions for your grass clippings:

1. Add to Compost - Grass clippings are a source of nitrogen. Consider it your **green!**
2. Lawn Clipping Tea - Brew your tea for 4 days in a bucket of water. Consider a net bag to hold the clippings. Beneficial nutrients are released into the water. Use it to water gardens, potted plants, and spray the leaves of plants.
3. Leave them Lay - Grass clippings can add up to 25% of the nutrients needed for growth back to the soil.
4. Container Mulch - Use a thick layer grass clippings to hold moisture in container plants.
5. Livestock Feed - Many animals eat grass. Be sure you are contributing grass clippings without pesticides or herbicides when feeding animals.
6. Layer in a Raised Garden Bed - A thick layer of grass clippings can provide nutrients and build up the bed. This allows for less compost needed in the raised bed.



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May 2024 Edition



### Do you know the MS4 Permit requirements for Lower Allen Township?

Lower Allen Township is required to obtain an MS4 permit with Pennsylvania Department of Environmental Protection. This permit requires an annual report to be filed every September. The current permit cycle is 5 years in length. In 2023, the annual permit submission was nearly 2500 pages in length. Lower Allen Township completes inspections of 80+ outfall locations along Cedar Run and Yellow Breeches Creek. Staff for the Township provide outreach to residents, businesses, and groups regarding stormwater upgrades, discharges, fee explanations and the impact humans have on the watershed. For information or to schedule a speaker please email [barnold@latwp.org](mailto:barnold@latwp.org).

### Minimum Control Measures

There are 6 Minimum Control Measures that need to be met within each permit. Each MCM requires documentation and education to property owners, residents, businesses, builders, and LAT employees.

1. Public Education and Outreach
  - a. Providing training, education, and outreach to citizens within Lower Allen Township
2. Public Involvement & Participation
  - a. Stream Clean Up events and engaging in healthy watershed activities
3. Illicit Discharge Detection & Elimination
  - a. Responses to illicit discharges in the waterways and mapping locations of concern
4. Construction Site Stormwater Controls
  - a. providing guidance preconstruction for stormwater controls
5. Post Construction Stormwater Measures
  - a. includes BMP's for residents
6. Pollution Prevention & Good Housekeeping
  - a. inhouse training and education for employees



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June 2024 Edition



Yellow Breeches Creek Park was planted late Fall of 2023. With the assistance of Public Works Staff, Lower Allen Township was able to convert nearly an acre of mowed turf to a pollinator meadow.

An interactive pollinator garden was established in the Cedar Run Park. As both locations mature, plants will change providing a different look to the area.



## Turf Conversions & Pollinators

*The birds and the bees and the flowers and the trees...* Is the song stuck in your head now? In 2023 Lower Allen Township was awarded a grant from PA American Water to complete 2 turf conversions within the Township. Turf conversions have multiple benefits for the environment. Converting grass to a meadow like state reduces your carbon footprint through reduced mowing, increases habitat and food sources for insects, birds, and small animals, and reduces runoff rates. Yellow Breeches Creek Park and Cedar Run Park are homes to the most recent turf conversions in Lower Allen Township.





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July 2024 Edition



## June was National Rivers Month The Susquehanna River provides the Chesapeake Bay with 50% of its water.

If the Susquehanna River is providing the Chesapeake Bay with 50% of its water, then the water that flows to the Susquehanna River will eventually make it to the Chesapeake Bay. If the water makes it to the Chesapeake Bay, then everything in the water could make it to the Chesapeake Bay. Have you ever lost a flip flop or a pair of sunglasses in the Yellow Breeches Creek while wading or tubing in the creek? Consider all the trash in the Yellow Breeches Creek making it to the Chesapeake Bay. Join Yellow Breeches Watershed Association for a creek clean up event. Spend the afternoon on the creek!

**Save the Date:**  
**July 28th, 2024**  
**For more information:**

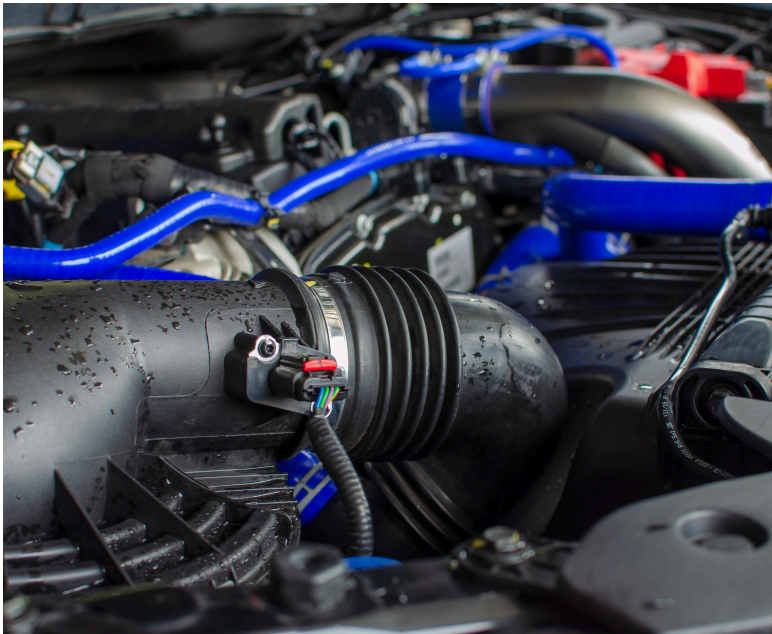


Lower Allen Township's

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August 2024 Edition



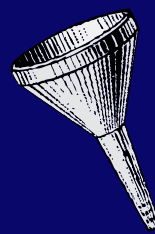
## Gearing up for summer adventures!

**Before we take the last road trip of the 2024 summer season vehicle owners need to check the fluids on their vehicles.**

Some residents look to save money by changing the fluids on their vehicles themselves. It is a fairly simple process, check the levels, add more if needed, or climb under the vehicle with a pan and pull the plug. We wait until all of the oil drains from the vehicle, replace the plug, and refill the oil, checking the level once again. Once the oil is changed, then the task becomes where to put the used oil. The storm drain is not the answer! Proper disposal of used oil should be to recycle the oil with a car parts store. Many businesses in the area will recycle used oil for free from residents. Check with your local business for proper disposal of material.

## You are not the only one!

- Every year in the United States approximately 200 million gallons of used motor oil is disposed of improperly each year.
- Recycling 2 gallons of oil can generate enough electricity to power the average house for 24 hours
- Motor oil does not wear out, it just gets dirty!



- The world's largest waste oil processing plant is located in East Chicago, Indiana. The facility is to recycle 75 million gallons per year of crankcase and industrial oil and 20 million gallons per year of oily wastewater.



# Guide to MS4

## Municipal Separate Storm Sewer System

September 2024 Edition



### Flooding Precautions

#### **Late summer heavy rains and remnants of tropical storms can cause flooding on streets in Lower Allen Township.**

Lower Allen Township has its share of areas prone to flooding. Whether it is a partial overflow on a street or a complete closure due to the Yellow Breeches Creek cresting above flood stage, Lower Allen residents are familiar with the areas to avoid during substantial rains. In August, Tropical Storm Debby brought flooding and high-water areas to multiple locations in the Township. Residents and commuters would have seen road closures at Lower Allen Drive when exiting US 15 North, along with closures on Valley Road, Creek Road, and other areas in the Township. As with any high-water event, caution should be practiced. Do not enter water with vehicles if you are unsure of the depth. Drive slowly and allow for extra time when traveling during storm events.

### **What can residents do to prevent flooding?**

- Residents who have storm grates near their properties could clear the tops of the storm drains with a rake.
- If more debris is inside the storm drain please do not attempt to remove the debris. Please call Lower Allen Township Public Works Department and report the location.



- **There are 3 types of flooding:**
  - **Rainfall Runoff**
    - occurs from a precipitation event
  - **River Flooding**
    - significant precipitation event at or upstream
  - **Coastal Flooding**
    - adjacent to coastal waters



# Guide to MS4

Municipal Separate Storm Sewer System

October 2024 Edition



photo credit: B.P. Arnold

## Karst Topography

**Central Pennsylvania, more specifically eastern Cumberland County, is prone to sinkholes due to the karst topography of the area.**

Sinkholes are prevalent in Lower Allen Township which can lead to uneven ground and even dangerous areas in a landscape. Karst topography develops over time from the weathering of rocks in the ground. This weathering causes cavities and voids in the rocks. Over time, the soils around these cavities give way and result in dips, depressions, or holes in the ground above. Residents who think they may have a sinkhole on their property can contact DEP or DCNR to investigate their sinkhole. If the sinkhole is not related to an activity regulated by DEP, the sinkhole is the resident's responsibility to repair. Property owners are responsible for their own sinkhole repairs.

## Sinkholes are all about water.

- Water dissolves minerals in the rock, weathering
- water washes away the soil leaving voids in the rocks
- groundwater changes can change the amount of soil around rocks in the ground quickly
- increased rains or droughts can make soils unstable
- freeze and thaw processes can cause ground changes and sinkholes

## Am I looking at a sinkhole?

- a hole or depression appears after a heavy rain event or after the ground thaws in spring
- hole keeps reappearing after being filled
- ground is broken at the surface
- water is disappearing into the hole

For more information regarding sinkholes visit:  
[Sinkholes \(pa.gov\)](https://www.pa.gov/sinkholes)



Lower Allen Township's

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November 2024 Edition



## Leaf Collection Continues

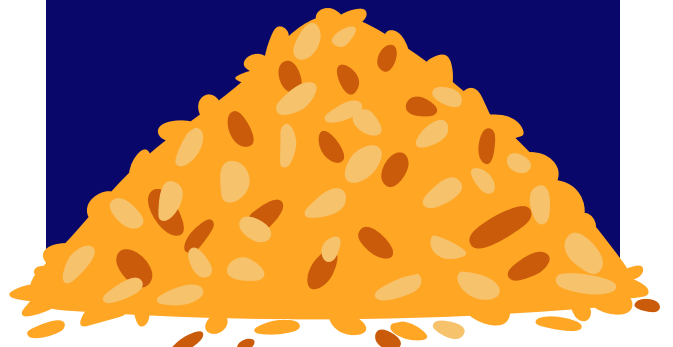
Lower Allen Township will continue leaf pick up curbside by the Public Works Department. Crews will be out for 2-3 more weeks to collect leaves that are piled curbside. The Public Works Department is equipped with leaf picking machines that have a hose to vacuum leaves into the back of the truck. Only leaves should be placed curbside for pick up. Leaves should be raked to piles that extend into the roadway not more than 3 feet.

## Track the Truck

Lower Allen Township website allows residents to track the leaf pick up truck throughout the week at [www.latwp.org](http://www.latwp.org). Residents can see the roads that are completed and the locations of the Township that have received leaf collection. While this is a guide for residents to follow, know the Township Public Works Crew works diligently to service all locations during the leaf collection season. If they did not make it to your property yet, they will be there soon!

## Where do the leaves go?

Curbside leaf collection takes place within the Township with leaves collected going to the Compost Facility at the Public Works Site. Leaves are windrowed, turned throughout the winter and spring, and eventually form compost available for pick up in the spring. Leaf compost is a beneficial additive to gardens and flowerbeds in the spring.





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December 2024 Edition

### UMHC/Weis Basin

The basin retrofit located behind the Weis store has a drainage area of more than 36 acres. This basin is pictured on the right. The large square area in the foreground is the wet well. This area collects the excess water to pump out of the basin. There are 2 pumps in this basin that will work in tandem. Underdrain covers the bottom of the basin with pipes that are accessible for cleanout locations.

### Bethany Village Basin

The basin project at Bethany Village is located off Wilson Avenue in Lower Allen Township. This basin encompasses the largest drainage area at 37.65 acres. Unlike the other two basins, the Bethany Village Basin has more pervious coverage than impervious coverage in its drainage area.

### BJ's Wholesale Basin

The basin retrofit at the BJ's Wholesale Club location on Hartzdale Drive is the most visible of the three basins that were completed in 2024. The smallest of the three projects, this basin has a drainage area of 10.9 acres, more than 75% of which is impervious coverage.



UMHC basin progress, September 2024

### Your Stormwater Fees At Work

In 2024 Lower Allen Township completed three basin retrofit projects. These projects were part of a public/private partnership developed between Lower Allen Township and the property owners. The Township bid the contracts separately and work began on the projects in spring 2024 with a completion date of August 2024.

Days before Hurricane Debby made its way to Central Pennsylvania, all three basins were hydroseeded. Some minor reseeded was necessary after the rain event. These basin projects were part of the Township's Pollution Reduction Plan required by the Pennsylvania Department of Environmental Protection and will reduce pollutants that enter the Township's stormwater system and ultimately the Yellow Breeches Creek and Cedar Run. The Township will maintain the stormwater infiltration basin projects as part of our commitment to our Pollution Reduction Plan requirements.