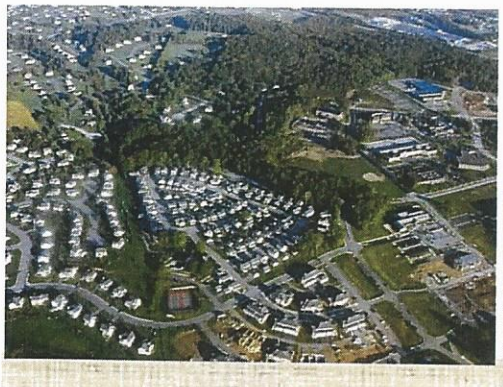
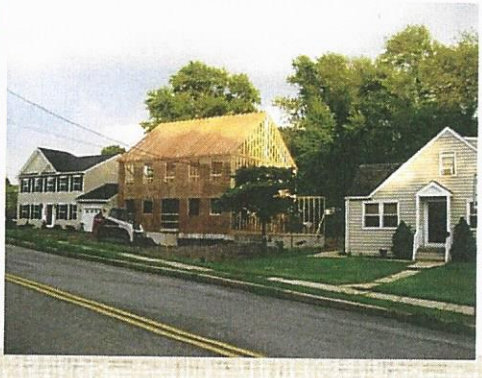



STORMWATER MANAGEMENT FOR SMALL PROJECTS: What a Homeowner Needs to Know

What is stormwater and why is it a problem?

Stormwater is rainfall that runs off of roofs, driveways, lawns, roads, parking lots, sidewalks, farm fields, and other surfaces created or disturbed by manmade activities. This runoff picks up pollutants (such as dirt, oil, litter, pesticides, fertilizer, etc.) as it flows across these surfaces, and eventually enters local streams. While rainfall is natural, stormwater is manmade.

84% of Chester County's watersheds are sources of public drinking water.

55% of Chester County's streams are listed as "impaired" (polluted) by stormwater.

Large volumes of stormwater overwhelm, erode and pollute local streams, and flood low lying areas. To lessen these destructive stormwater impacts and help ensure any existing problems do not worsen, municipalities across Chester County have adopted new stormwater management ordinance standards. These new standards are a key tool in reducing these stormwater impacts, safeguarding properties from flooding and erosion, and protecting streams and local water quality.

Why is stormwater management important?

The purpose of **stormwater management** is to protect property, infrastructure and streams from destructive stormwater impacts by ensuring rain can be absorbed close to where it falls, thereby reducing the volume of runoff. By controlling stormwater runoff from new impervious and disturbed surfaces on individual properties, we can:

- protect downstream properties, roads and infrastructure – from increased erosion and flooding.
- protect water quality – in our streams and reservoirs to provide clean water for drinking, businesses, farming, and swimming, and for fish and other aquatic living resources.

Without effective stormwater management, problems caused by too much runoff, erosion and pollutants (such as sediment, nutrients and bacteria) become very difficult and costly for property owners and communities to fix.

How will the updated stormwater standards help reduce these problems?

In decades past, local stormwater management was designed without regard to the cumulative impact of runoff on downstream properties and streams. To address this and the future increase in population and development across Chester County's watersheds, updated stormwater management ordinance standards were necessary to meet state and federal requirements. The updated standards require new development and redevelopment projects (large and small) to be constructed in a way that maintains or reduces the amount of stormwater that leaves the site; this will help reduce the cumulative impacts of flooding and erosion on downgradient properties and streams. It will also help keep our waters clean that serve as a critical source of public drinking water.

The best approach to minimize flooding and improve water quality is to allow rain to be absorbed close to where it falls – reducing stormwater runoff.

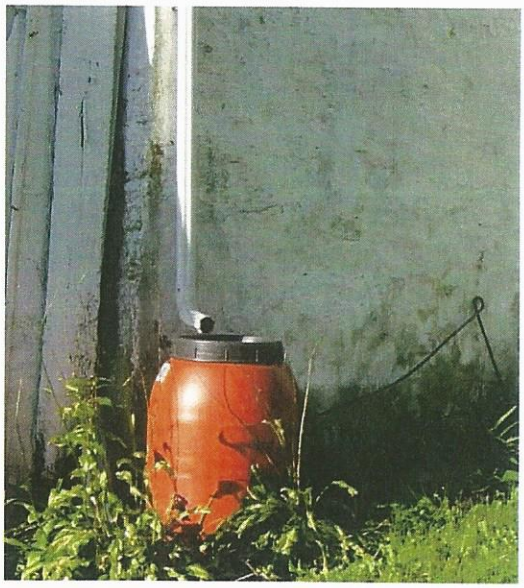
How can stormwater runoff be minimized for a small project?

The first step is to discuss your planned project with your municipal engineer or zoning officer to determine what requirements apply to your project. Then, design your small project with the least amount of impervious surface and the minimum amount of area to be disturbed (or compacted during construction). The third step is to mimic nature by allowing the rain to be absorbed close to where it falls. This is accomplished by installing one or more stormwater best management practices (BMPs) that will capture and absorb the stormwater generated by the proposed project, and minimize any increase in the amount of stormwater runoff flowing off of the property.

This rain garden helps absorb more stormwater than the mowed lawn that surrounds it. (photo credit – Chester-Ridley-Crum Watersheds Association)

What stormwater BMPs can be used for small projects?

Examples of BMPs that are generally suitable for small projects can include features such as infiltration trenches, an attractive rain garden, permeable pavers for patio installations, rain barrels or a cistern, or a rainwater infiltration border along a driveway planted with attractive wildflowers. More than one of these BMPs may be used in combination to address other more significant drainage or stormwater problems on the property.



Rain barrels capture roof runoff. With a soaker hose attached, this BMP can also help your garden survive drier periods.

How should a stormwater BMP be chosen?

Before choosing a BMP, consult with your municipality, as they may prefer one type of BMP or not allow a particular BMP. Homeowners will need to understand the function of the chosen BMP and homeowners will be responsible for completing ongoing inspections and maintenance. Just as a house requires routine inspection and upkeep, so too will your chosen BMP(s). Without proper maintenance these BMPs will not function effectively, or they may stop functioning. A BMP can be costly to repair and its failure will contribute to downstream flooding, erosion and pollution.

Where can I learn more about stormwater BMPs for homeowner projects?

The first step is to speak with your municipality to better understand all requirements and limitations regarding small projects. The internet has many excellent resources. A collection of some of these helpful resources and links can be found on the following webpage: **www.chesco.org/water/stormwater_management**.

Chester County Board of Commissioners
Ryan Costello
Kathi Cozzone
Terence Farrell

Chester County Water Resources Authority
601 Westtown Road, Suite 260 | P.O. Box 2747
West Chester, PA 19380
(610) 344-5400
wauth@chesco.org
www.chesco.org/water

WATERSHEDS