What is a rain garden? A rain garden is a landscaped shallow basin in the ground that collects storm water and gradually allows it to absorb into the ground. The rain garden works to prevent erosion and flooding, to recharge the ground water, and clean it of pollutants.

A rain garden is also a haven for wildlife, a beautiful landscape feature, and a step many of us can take toward easing the damage and cost of excess stormwater runoff.

A rain garden is similar to a traditional garden with a few specific differences. Key details to consider when planning a rain garden including the garden size, location, and design, and soil and plant types.

Rain gardens use native plants that can withstand both dry weather as well as having their feet in standing water for short periods of time. Why use native plants? Native species evolved to fit our local environment. They may be naturally drought, flood, and pest resistant. They tend to thrive which means less work for once the initial installation is completed.

The native flowers, sedges, grasses, bushes and trees planted in the rain garden can attract wildlife of all kinds. The butterflies, frogs, turtles, toads, and birds depend on the native landscape for their food and homes. The rain garden becomes a backyard habitat for you and your family to watch, enjoy and learn from year after year.

Benefits of Rain Gardens. In addition to reducing and filtering stormwater runoff and increasing groundwater recharge, rain gardens provide many other benefits including:

- Filter and clean pollutants from the stormwater runoff (nonpoint source pollution).
- Intercept stormwater runoff before it reaches the drainage system or watershed, holding up to 200 gallons of water per rain event for a normal installation.
- Recharge our groundwater supply. Compared to a conventional lawn, rain gardens allow 30% more water to soak into the ground.
- Reduce storm drain overload and flooding when adopted on a community or neighborhood scale.
- Provide habitat for wildlife and, with the proper plants, increase the number and diversity of birds and butterflies for those who enjoy watching them.
- Provide an attractive and creative alternative to traditional lawn landscapes.
- Require less maintenance than lawns because they do not need to be mowed, fertilized, or watered once established.
- Enhance the beauty and increase the value of any property with creative landscaping designs.

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Garrett Hill Coalition and project partners:
Radnor Township ● Radnor Memorial Library ● Aqua America ● Bryn Mawr Boy Scout Troop 19 ● Chanticleer Garden ● Delaware Riverkeeper Network ● Villanova University Urban Stormwater Partnership

What is stormwater? When it rains, the rain water flows over the land and especially over waterproof surfaces (such as roads, driveways, roofs, and even lawns). Storm water runoff is the water that the ground cannot absorb. Eventually, it flows into nearby streams or into drains that lead to streams. Along its way, the water picks up sediments and pollutants. It often flows into streams and rivers without any treatment.

How does stormwater affect my community? The flow of storm water can lead to flooding because there is more water traveling over paved or compacted surfaces than the natural ground can absorb. As the flow increases, it concentrates in low areas which become prone to flooding.

The increased volume of water flowing into local streams during a rain storm may carry sediment and cause stream bank erosion, destroying habitat and altering the natural landscape. The storm water itself can carry pollutants such as fertilizers, pesticides, herbicides, oils, sediments, and other substances that collect on roads, soils, and driveways. The pollutants flow with the storm water directly into streams or through storm drains into the watershed. This kind of pollution is termed "non-point source pollution" because it derives from the daily activities of people everywhere rather than from any single polluting source.

Examples of Non-point Pollution:

- Soil sediments
- Oil, grease and toxic chemicals from motor vehicles
- Pesticides and nutrients from lawns and gardens
- Viruses, bacteria and nutrients from pet waste and failing septic systems
- Road salts
- Heavy metals from roof shingles, motor vehicles and other sources
- Thermal pollution from dark impervious surfaces such as streets and rooftops

Increasing frequency of extreme weather events is costing government agencies an increasing proportion of their resources for renewal and repair of local storm water management infrastructure. Often municipalities and states are mandating water discharge fees for users due to the escalating costs of stormwater management.

What can I do to make a difference? To decrease polluted runoff from paved surfaces, households can develop alternatives to areas traditionally covered by impervious surfaces. Porous pavement materials are available for driveways and sidewalks, and rain gardens with native vegetation and mulch can replace high maintenance grass lawns. Homeowners can use fertilizers sparingly and sweep driveways, sidewalks and roads instead of using a hose. Instead of disposing of yard waste, they can use the materials to start a compost pile. And homeowners can learn to use Integrated Pest Management (IPM) to reduce dependence on harmful pesticides.

Households can prevent polluted runoff by picking up after pets and using, storing and disposing of chemicals properly. Drivers should check their cars for leaks and recycle their motor oil and antifreeze when these fluids are changed. Drivers can also avoid impacts from car wash runoff (e.g., detergents, grime, etc.) by using car wash facilities that do not generate runoff.