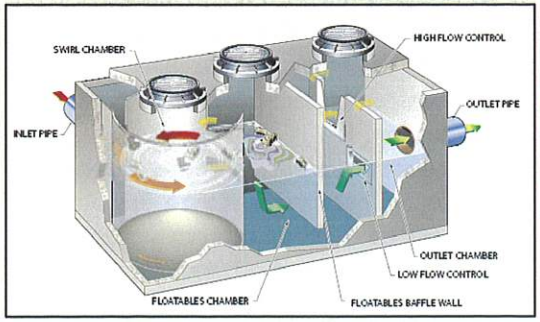
WATER QUALITY UNITS:
Removing Pollutants from Stormwater

A broad range of Best Management Practices (BMPs) have been designed to remove pollutants from runoff in storm sewer systems such as hydro-dynamic separators and water quality units. These BMPs can vary in size and function, but all are generally configured to remove particulate contaminants and pollutants, including coarse sediment, oil and grease, litter, and debris from the stormwater in before it reaches our streams.

Clogged stormwater inlets can create sediment impairments in local streams.

Water Quality Units trap sediment and filter pollutants that flow through the storm sewer system and into waterways, improving water quality.



BIRTH OF A HYDRODYNAMIC SEPARATOR RETROFIT

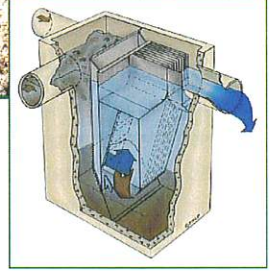
Financial and other support for this project is provided by the Pennsylvania Association of Conservation Districts through a grant from the Pennsylvania Department of Environmental Protection under Section 319 of the Clean Water Act, administered by the U.S. Environmental Protection Agency.

Stormwater
Best Management Practices Interpretive Trail

Nonpoint Source Pollution Reduction Strategy:

HYDRODYNAMIC SEPARATORS

Water Quality Units



Reducing pollution by replacing a stormwater inlet with a water quality unit.

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ABOUT THIS TRAIL

The Berks Conservation District Stormwater Best Management Practices Interpretive Trail was developed to educate visitors about stormwater management; nonpoint source pollution and its impacts; and, strategies for reducing water pollution that can be implemented at home, at work, or in the community.

What is nonpoint source pollution (NPS)? NPS pollution occurs when precipitation flows over lawns, parking lots, farm fields, city streets and forests picking up pollutants and carrying them into our streams, rivers and oceans.

Activities such as littering, oil leaks, lawn over-fertilization, and improper disposal of chemicals contribute to the contamination of our local waters. If left unchecked, these activities eventually increase the level of pollution content in our streams & waterways.

What can we each do? Strategies for managing stormwater and reducing nonpoint source pollution can be accomplished in many ways. Some of those ways are demonstrated on this trail and include Installation of Pervious Surfaces, Water Quality Units, Rain Gardens or Bioretention Areas, and Subsurface Infiltration Systems.

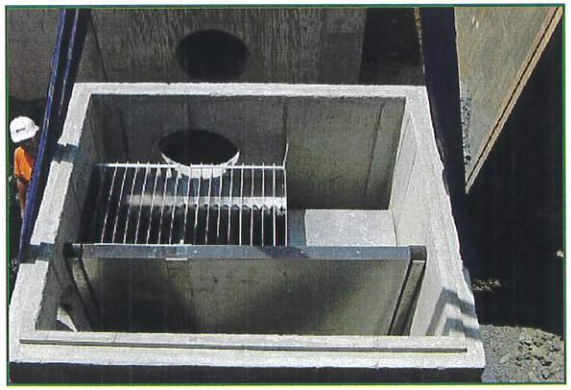
Was this information helpful? Log on to **www.co.berks.pa.us/conservation** to take our Trail Survey and enter to win a prize!

ON THE TRAIL: TERRE-KLEEN WATER QUALITY UNIT

The **Terre-Kleen,** designed by Terre Hill Concrete, is a water quality (WQ) unit that uses incline planes to trap sediment, debris, oils, and grease. The use of incline planes allows for particles to drop, by gravity, faster than the water rising through the unit. Multiple plates stacked on top of each other increase the effectiveness of the unit and reduce the ecological footprint to the landscape. This unit's internal by-pass allows capture of gross pollutants during high flow events. The collected particles fall into a holding area where they are stored until removed for proper disposal.

This unit's design provides a large sedimentation area in a small footprint, prevents re-suspension of captured pollutants or by-pass of untreated stormwater, and continuously captures pollutants from "first flush" until the end of the storm.

TERRE HILL STORMWATER SYSTEMS
Improving your world.



The Terre-Kleen Water Quality Unit placed at the Berks County Agricultural Center removes sediment and oils from stormwater.

QUALITIES & BENEFITS OF WATER QUALITY UNITS

Environmental Benefits:

- Reduces pollutants that flow through the storm sewer system and into waterways
- Improves water quality, including our local drinking water supplies.

Maintenance:

- Site considerations should meet manufacturer's specifications, access to unit should be considered when siting unit.
- Prevent re-suspension of particles by using small drainage areas and regular maintenance. Pollutant loads determine maintenance frequency. Some models require upkeep as little as every 1-2 years.
- Inspect after each rainfall event to ensure debris levels do not exceed the recommended unit capacity.
- Pollutants should be removed by a vacuum truck when debris levels exceed recommended unit capacity.

Application:

- Convenience Stores, Gas Stations, Truck Stops, Athletic Fields, Parking Lots, Schools or anywhere land availability is limited.

Take Note:

- Can be used in conjunction with other stormwater best management practices as part of an overall strategy.
- Reduces overall water treatment costs. Cost ranges from a few hundred dollars for a residential catch basin insert to thousands for a properly-sized commercial system.