



WATER RESOURCE CENTER

FACT SHEET

Southwestern Pennsylvania Commission

WATER RESOURCE CENTER

Mission

To promote regional collaboration on water topics; be a leader in facilitating coordination and education; and provide technical assistance to its member governments.

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STRUCTURAL BMPs

STORMWATER MANAGEMENT

Structural Stormwater Best Management Practices (BMPs) are engineered systems that are designed to mitigate the impacts of stormwater. Structural BMPs are effective tools for stormwater management in both development and retrofit situations.

Structural BMPs include systems that rely on the natural processes of soil and vegetation (e.g. vegetated swale) as well as systems that rely on manufactured components (e.g. water quality filters). Structural BMPs can be utilized to reduce volume and peak flows, and to improve water quality.

The Pennsylvania Best Management Practices Manual divides Structural BMPs into the following groups:

- Volume & Peak Rate Reduction by Infiltration BMPs
- Volume & Peak Rate Reduction BMPs
- Runoff Quality & Peak Rate Control BMPs
- Restoration BMPs
- Other BMPs & Related Structural Measures



Volume & Peak Rate Reduction by Infiltration BMPs

- Infiltration Basin
- Subsurface Infiltration Bed
- Infiltration Trench
- Rain Garden / Bioretention
- Dry well / Seepage Pit
- Constructed Filter
- Vegetated Swale
- Vegetated Filter Strip
- Infiltration Berm & Retentive Grading
- Pervious Pavement with Infiltration Bed

Volume & Peak Rate Reduction BMPs

- Vegetated Roof
- Runoff Capture & Reuse

Other BMPs & Related Structural Measures

- Level Spreader
- Special Detention Areas



Constructed wetlands (above) and vegetated swales (top right) remove pollutants, and reduce peak flow rates and runoff volume.

Restoration BMPs

- Riparian Buffer Restoration
- Landscape Restoration
- Soil Amendment & Restoration
- Floodplain Restoration

Runoff Quality & Peak Rate Control BMPs

- Constructed Wetland
- Wet Pond / Retention Basin
- Dry Extended Detention Basin
- Water Quality Filters & Hydrodynamic Devices

This information was adapted from the Pennsylvania Stormwater Best Practices Manual. Check out SPC's other fact sheets to learn more about specific BMPs, flooding, and more.

Photos: lowimpactdevelopment.org & ashmedia.org