



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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# PROTECT NATURAL FLOW PATHWAYS

## NON-STRUCTURAL STORMWATER BMPS

**Protect / Utilize Natural Flow Pathways in Overall Stormwater Planning and Design** is a non-structural best management practice (BMP) that can minimize stormwater impacts associated with site development. Protecting natural drainage features such as swales, depressions, and ephemeral streams during site development can provide a variety of stormwater management functions, including reducing peak runoff, improving water quality, and reducing runoff volume. Benefits beyond stormwater management can include protection of open space and wildlife habitat, as well as the potential to increase property values and improve aesthetics.

Utilizing natural flow pathways for stormwater management can greatly reduce the need for engineered stormwater systems. Natural flow pathways typically require little maintenance as long as they are incorporated properly into a site design (e.g., protected from erosive stormwater flows).



Preserving and utilizing natural features such as depressions (left) and ephemeral streams (right) during site development can minimize stormwater impacts associated with site development.



BMP Profile	
Name	Protect / Utilize Natural Flow Pathways in Overall Stormwater Planning and Design
Type	Non-Structural
Grouping	Protect Sensitive and Special Value Resources
Stormwater Management Benefits	<ul style="list-style-type: none"> <li>◆ Peak Rate Control</li> <li>◆ Volume Reduction</li> <li>◆ Water Quality</li> </ul>
Potential Applications	<ul style="list-style-type: none"> <li>◆ Residential</li> <li>◆ Commercial</li> <li>◆ Industrial</li> <li>◆ Retrofit</li> <li>◆ Highway/Road</li> </ul>

### Key Considerations for Protecting/Utilizing Natural Flow Pathways

- ◆ Natural drainage features should guide site design
- ◆ Planting native vegetation buffers around natural drainage features can enhance their stormwater management performance
- ◆ Natural flow pathways should be protected from disturbance (such as clearing or filling) during construction
- ◆ Performance of natural drainage features may be enhanced through a variety of ways, such as planting a native vegetation buffer to slow flow, improve water quality, and increase evapotranspiration; installing check dams to slow flow; and/or creating berms around the features to increase storage capacity

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: townhall.townofchapelhill.org & sciencenordic.com