



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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Dry Extended Detention Basin STRUCTURAL STORMWATER BMPS

Dry Extended Detention Basins (DEDBs) are detention basins which are designed to provide temporary stormwater storage and water quality benefits. The temporary storage of stormwater prevents downstream flooding. Water quality benefits are achieved through sediment settling out of the stormwater while held in the DEDB. DEDBs are often used in conjunction with other BMPs to maximize stormwater management benefits on site.

The DEDB is a design enhancement from the Dry Detention Basin, which has been popular since the 1970s. The extended detention of stormwater maximizes water quality benefits.

BMP Profile	
Name	Dry Extended Detention Basin
Type	Structural
Grouping	Runoff Quality and Peak Rate BMP
Stormwater Management Benefits	<ul style="list-style-type: none"> ◆ Peak Rate Control ◆ Water Quality ◆ Volume Reduction
Potential Applications	<ul style="list-style-type: none"> ◆ Residential ◆ Commercial ◆ Ultra Urban ◆ Industrial ◆ Retrofit ◆ Highway/Road



The primary stormwater management benefit of dry extended detention basins (left and right) is peak rate control. Water quality benefits can also be achieved when water is held for an extended period.



Fun Fact: Detention basins and retention basins are often confused. A detention basin is designed to temporarily hold water, thus *detaining* it for a specific design period. A retention basin is designed as to hold water until it eventually evaporates or infiltrates into the ground, thus *retaining* the water.

Key Considerations for Dry Extended Detention Basins

- ◆ Require periodic sediment removal
- ◆ Primary function is peak rate control, although some water quality and volume reduction benefits can be achieved
- ◆ Minimum DEDB width is 10 feet
- ◆ Minimum length-to-width ratio is 2:1
- ◆ Forebays are required and should be vegetated
- ◆ Diverse native plants, trees, and shrubs should be used for basin bottom
- ◆ Outlet should be designed to detain stormwater for extended periods

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.

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