



ROOFTOP DISCONNECTION

The Rooftop Disconnection methods described in the following section are based on the Rooftop Disconnection guidelines found in Chapter 5 of the Maryland Storm Water Design Manual and the ESD Process & Computations Supplement dated July 2010. Where deemed appropriate, the design specifications have been modified by the Montgomery County Department of Permitting Services (DPS).

A. Facility Description

Rooftop Disconnection is a nonstructural method of dispersing roof downspout flows across vegetated areas to reduce runoff volume and pollutants.

B. System Design Considerations

1. Applicability

Rooftop Disconnection is appropriate for both new and redevelopment applications. Each Rooftop Disconnection shall be used to treat runoff from a roof area of 500 square feet or less.

2. Conveyance

Runoff from roof downspouts must discharge directly to relatively flat vegetated areas to receive treatment credit. The average slope of the disconnection path may not exceed 5%. Disconnections must encourage sheet flow. All downspouts shall outfall to splash blocks.

Swales may not be used to modify disconnection flow paths, as they discourage sheet flow.

The entire disconnection flow path must be located on the subject property. Disconnection credit will not be given for flow beyond the property line.

Flow path length shall be at least 15 feet. Credit will not be given for flow path lengths above 75 feet.

Disconnected flow must remain disconnected throughout its entire credited flow length. Credit will not be given beyond the point where flow converges with flow from another source.

3. Soil Suitability

Rooftop Disconnection works best on uncompacted soils that support healthy vegetation and that allow runoff to infiltrate. In areas where the soils are compacted by construction equipment or are unsuitable for other reasons, soil amendments or deconsolidation may be required.

4. Reconnections

Rooftop Disconnections may not flow across impervious areas or connect with flow from other sources for their entire treatment length. The credited flow length must remain separate from other areas of concentrated flow for its entire credited flow length. Downspout flows may be combined so long as the aggregate rooftop drainage area to all combined downspouts does not exceed 500 square feet.

5. Vegetation

Rooftop Disconnection is most commonly proposed for lawn areas with turf grass. However, other types of vegetation such as trees, shrubs or other herbaceous plants are acceptable provided the flow area is a well vegetated area with healthy plants.

C. Specifications and Details

The following table will be used to compute disconnection credits in Montgomery County.

Disconnection Flowpath Length (ft.)	15	30	45	60	75
P_E (in.) =	0.2	0.4	0.6	0.8	1.0

Rooftop Disconnection Sizing Example

Rooftop Disconnection is being proposed to provide treatment for the runoff from a downspout. The target ESD_v for the overall project has already been determined. The total treatment area to the downspout is 500 square feet. The downspout releases flow to a lawn area at an average slope of less than 4%, and the flow length to the property line is 60 feet.

$A = 500$ sq. ft.

$P_e = 0.8$ (from chart)

$R_v = .05 + 0.009(l) = .05 + 0.009(100) = 0.95$

$ESD_v \text{ provided} = (0.8) (.95) (500) / 12 = 32 \text{ cf}$