Calculation for Underground Infiltration Basin

Project Name:_____

Date Submitted:_____

Property Address:_____

Development/Property Name:_____

GMP Number:_____

Design Firm:_____

Design Engineer:_____Telephone:_____Email:_____

KY PE No.:_____

MSD Reviewer:_____	
WM No._____	

Step A. Site Planning Recommendation

Define goals and primary function of underground infiltration basin based on the Underground Infiltration Basin fact sheet in section 18.4.9. Refer to this section as needed throughout the remainder of this calculation sheet.

Step B. Calculate the Water Quality Volume Required (VR) of water to be removed by the underground infiltration basin

1. A = Contributing drainage area to underground storage area: _____ ft^2
2. RE = Required Water Quality Volume Rain Event in inches (minimum 0.6 in): _____ inches
3. I = Impervious cover of the contribution drainage area in percent: _____ %
4. $VR^* = (1/12)(RE)(A)(0.05+(0.009)(I)) =$ _____ ft^3

Step C. Determine the area needed for the underground infiltration basin:

1. Determine the depth of the storage area: D _____ ft
2. Find the area of the storage area: A=VR/D _____ ft^2

Step D. Calculate the Water Quality Volume Provided (VP), or storage capacity of underground infiltration basin.

1. A = Area of the infiltration basin _____ ft^2
2. M = depth of the media _____ ft
3. p = media porosity (% void) 40 %
4. VP = (A)(M)(p) _____ ft^3

Note: This is a general formula, refer to manufacturer's guidelines.

Step E. Prepare exhibits A and B for long-term maintenance and operation agreement.

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