Infiltrating Bioretention Worksheet

(For use on HSG A or B Soils without underdrains)

WQv ≤ VSM + VDL + (DP x ARG)

VSM = ARG x DSM x nSM

VDL (optional) = ARG x DDL x nDL

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
3	0.40	0.30	0.75	0.73	1473.78	1.40	Bioretention
Enter Impervious Area Reduced by Disconnection of Rooftops		0.00	75%	0.73	1,474	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.					0	*ft^3*	

Infiltrating Bioretention Parameters				
Treatment Volume	WQv	1,474	*ft^3*	
Enter depth of soil Media	DSM	2.50	*ft*	*2.5 - 4 ft*
Enter depth of drainage	DDL	0.50	*ft*	*≥ 0.5 ft*
Enter ponding depth above surface	DP	0.5	*ft*	*≤ 0.5*
Enter porosity of Soil Media	nSM	0.20		*≥20%*
Enter porosity of Drainage	nDL	0.40		*≥ 40%*
Required Bioretention Area	ARG	1228	*sf*	
Bioretention Area Provided		1230	*ft2*	
Native Soil Infiltration Rate		0.50	*in/hr*	*Okay*
Are you using underdrains?		No		
Total Volume Provided		1,476	*ft^3*	*Sum of storage Volume Provided in each layer*

Determine Runoff Reduction			
Runoff Reduction	1474	***ft^3***	***This is 100% of storage volume provided or WQv whichever is less***
Volume Treated	0	*ft^3*	*This is the portion of the WQv that is not reduced in the practice*
Sizing √	*OK*		*Check to be sure Area provided ≥ Af*