

INFILTRATION ANALYSIS

Project Name: St. John's College High School Cafeteria Service Road
 Address: 2607 Military Road NW
 State: DC

Annual Cubic Feet Infiltrated 79,748

Annual Gallons Infiltrated 596,516

Project Size: 8,000 SF

Water Storage Factors	
Void space of #57 Clean Stone ¹	35.00%
Void space of #2 Clean Stone ¹	40.00%
Depth of #57 Clean Stone (inches)	6.00
Depth of # 2 Clean Stone (inches)	24.00
Rainwater per Year in State (inches) ²	39.35
Gallons per Square Foot Factor ("GF")	0.62001
Gallons per Square Foot based on Above	24.40
Storage Space per Pavedrain Block ³	0.095

Rain Event Calculation & Annual Stormwater Infiltration		
State Capital Largest Daily Rainfall - 2011 ⁴	Washington D.C. 3.33	Inches
Infiltration Rate per Hour Based on Soil		0.50
Target Rainfall Event (Inches/Hour)		3.33
Indicated Gallons of Water on Pavedrain		16,517.07
Excess (Deficit) of Water Storage (Gallons)		50,537.12
Hours to Infiltrate Event in Soil (Rain Event)		6.66
Annual Gallons Infiltrated of Runoff from Direct Rainfall		195,179.15
Cubic Feet of Runoff Infiltrated		26,093.47

Storage Calculation	
Storage (CF) [Clean Stone + Pavedrain]	8,632.91
Gallons per Cubic Feet	7.48
Total Storage In Gallons [Clean Stone + Pavedrain]	64,574.14
Total Storage - Infiltration [Rate x SF x GF]	2,480.04
Total Storage in Gallons	67,054.18
Maximum Rain Event Storage [Storage + Infiltration]	13.52

Supplemental Surface	
Roof (SF)	16,450
Impervious Surface (SF)	-
Total Supplemental Surface	16,450
Total Gallons for Year	401,337.12
Cubic Feet of Runoff Infiltrated	53,654.70
Capacity Required during Targeted Rain Event	33,963.22