



Virginia Conservation Assistance Program

Presented by Virginia Association of Soil & Water Conservation Districts

Application Number _____

APPLICATION VCAP Form 1

Part A. Application

I, _____ (PRINT) hereby make application to _____ Soil & Water Conservation District for cost-share assistance to purchase and install a best management practice as described in part B below.

I agree that all best management practice(s) approved will be installed, operated, and maintained in accordance with the practice(s) standard(s) and the Landowner Agreement (VCAP Form 3). I agree not to use the BMP for purposes of Nutrient Trading or regulatory compliance. I shall indemnify and save the District harmless from any and all claims for damages to persons or property arising from the installation, maintenance, repair, operation or use of the BMP(s).

I understand that it is my responsibility to pay in full all bills for work completed under this agreement prior to submission of eligible bills for reimbursement.

I understand that VCAP cost-share funds may be combined with other grant or cost-share resources, but may not exceed one hundred percent (100%) of total costs for the practice.

Mailing Address:	Phone:
Address of Practice (if different from mailing address):	Email:
Applicant Signature:	Are you receiving any other funding assistance for this project? Yes or <input checked="" type="radio"/> No
SSN / Tax ID (Attach IRS Form W-9):	

The local Soil and Water Conservation District (SWCD) is required to issue a 1099-MISC to the Internal Revenue Service (IRS) for any individual to whom it issues a check for \$600.00 or greater. Because the IRS uses the Social Security number or Federal Tax ID number as a unique identifier, the SWCD must collect that information from any individual to whom it issues a check. The SWCD does not use the Social Security number or Federal Tax ID number for any purpose other than that stated above.

Part B. Technical Determination and District Approval (To be completed by District Staff)

Practice Code & Title	Practice Size (sq. ft, lin. ft., gal)	Total Estimated Cost	Approved Estimated Cost-Share	Required Completion Date
Rain Garden (RG)	165 sq. ft.	\$5,640.87	\$3,500.00	Dec. 31, 2020

I have reviewed this application and all supporting documentation and have indicated the quantity authorized based on technical need. This practice must be installed and certified by the completion date.

X _____

District Employee Signature

_____ Date

Approval to Forward Application:

X _____

District Director Signature

_____ Date

Application Number

Design and Specification: Include sizing calculations, practice dimensions, soil evaluation results, other specifications used. **(Describe or attach.)**

Drainage area is mostly impervious roof and patio. Area collected is 982 square feet.
Treatment Volume = $982 * 0.95/12 = 78$ cubic feet
Ponding Depth is 9 inches.
Surface area required = $78/0.75 = 104$ square feet
Surface Area provided = 165 sq. ft.

Overflow weir will be a minimum of 2 feet wide.
See attached drawings for details.

Construction and Installation: Construction schedule and timeline; site preparation plan, pretreatment measures, outlet and overflow, cross section and profile, planting plan (with scientific names), and itemized cost estimates, including estimated volunteer labor time. **(Describe or attach.)**

Excavation of 18 inches of soil in the Rain Garden footprint.
Excavate 6 inches for the gravel channel pretreatment.
Add soil amendment to a depth of 12 inches.
River jack gravel is added to the gravel channel pretreatment.
Bury and daylight downspouts into the gravel channel pretreatment.
Contour side slopes to create 9 inches ponding.
Add 3 inches of wood mulch.
Use 8 to 12 inch stone boulders for overflow weir.
Install plantings per landscape plan.
See attached plan and cost estimate for more details.

Permits: Confirm local policies, such as land disturbance, grass heights, etc. **(Describe or attach.)**

No Permits necessary.

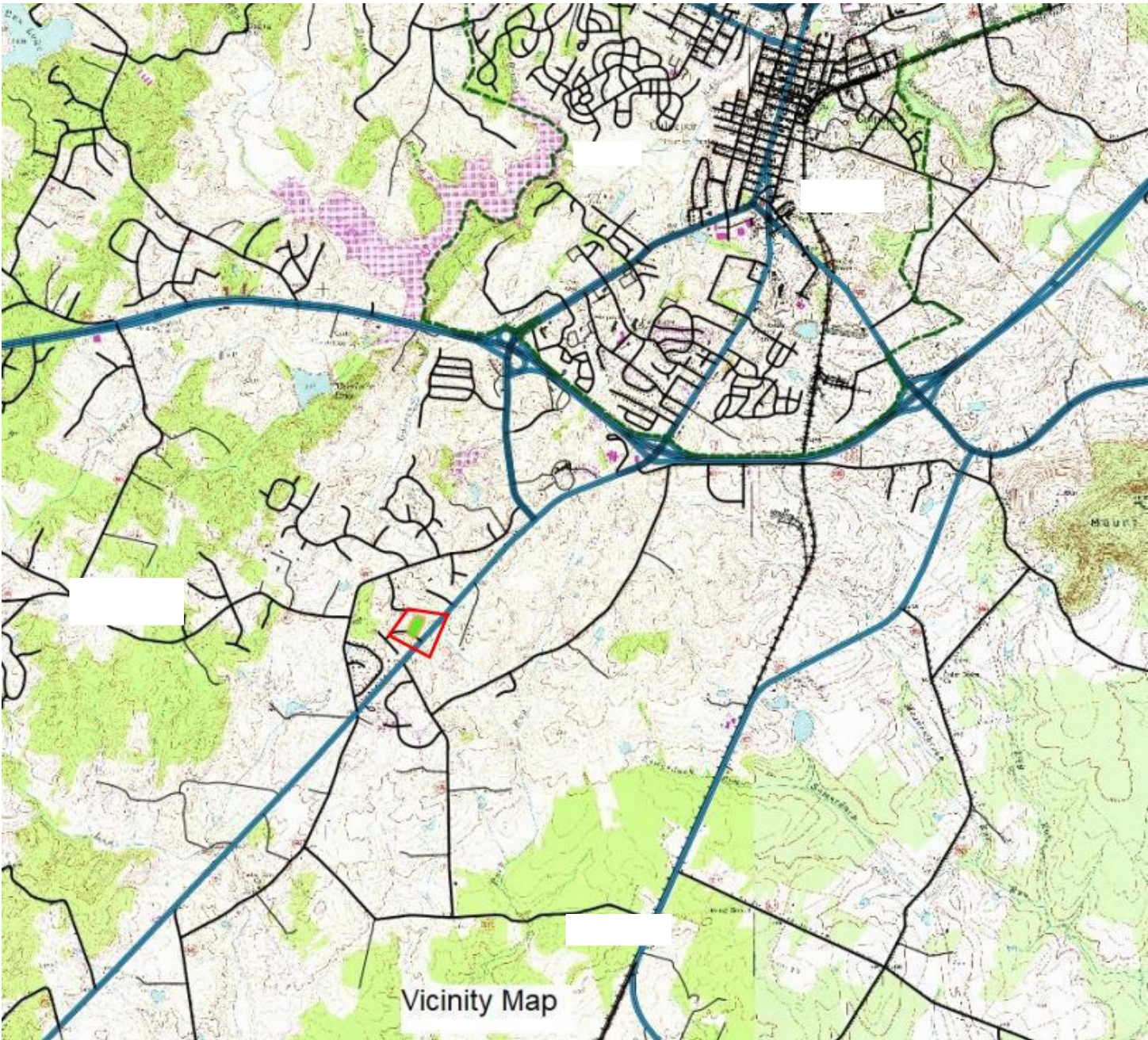
Operation and Maintenance Plan: (Describe or attach.)

First Year of Operation:
- Ensure that the plants are watered at least 1 inch per week;
- Stabilize bare or eroding areas; and
- Remove and Replace dead plants.

Perform annual inspections to ensure the facility is operating within design parameters. Inspect the following:
- the gravel channel for debris clogging or erosion;
- the side slope for sloughing;
- the berm for erosion or settlement; and
- the downstream receiving area for erosion or deposition.

Spot weeding, erosion repair, and debris removal at least twice a year or as needed. Recommend pruning vegetation in the spring to accommodate new growth.

Supplement wood mulch to maintain a 3-inch layer, as needed.



Vicinity Map

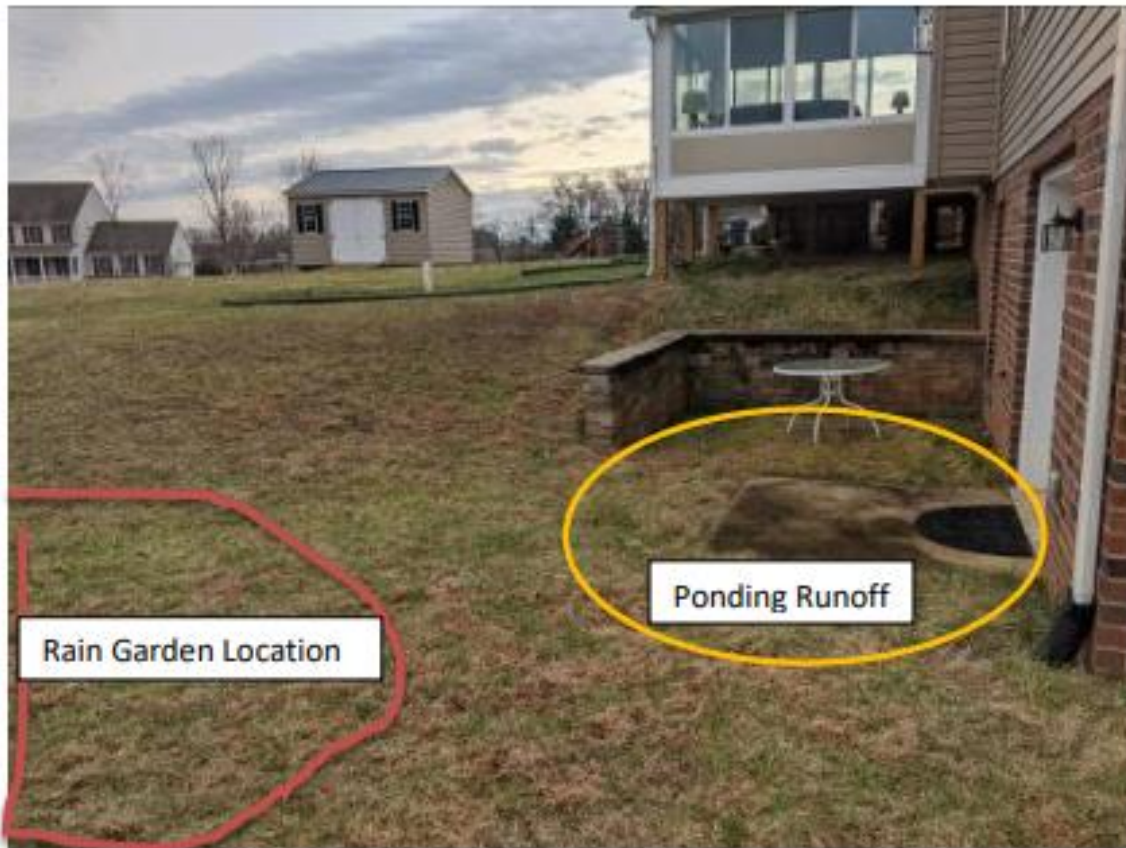




Downspout collection (#1 and #2)



Downspout Collection (#3 and #4)



Resource Concern: Impervious Surface Runoff ponding next to house.

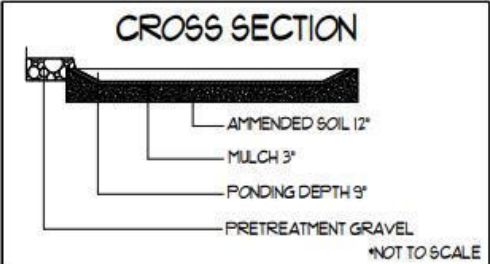
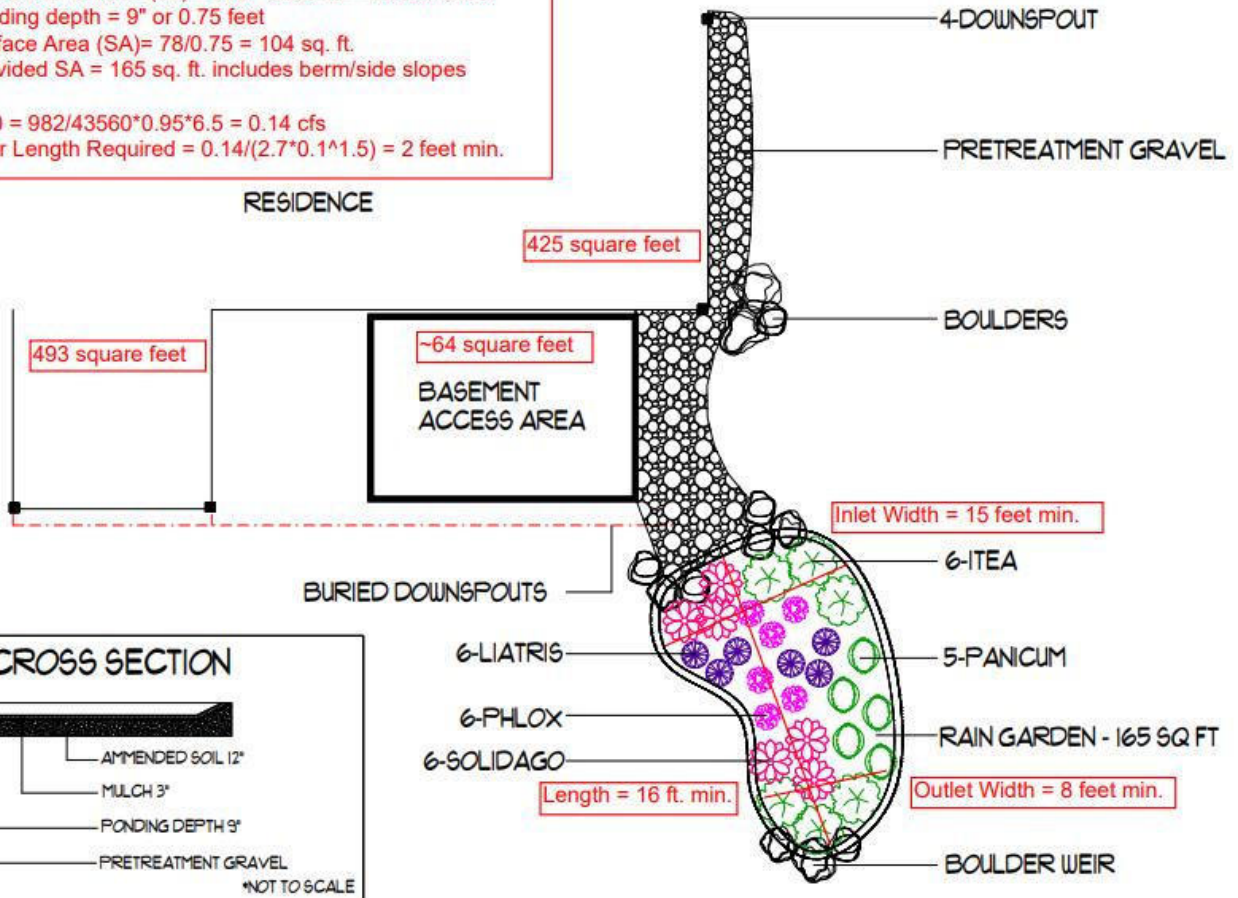


Outlet to broad swale

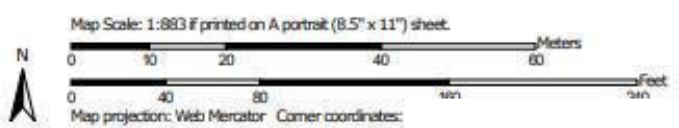
Design Plan:

CDA = 982 square feet impervious
 Treatment Volume (Tv) = $982 \times 0.95 / 12 = 78$ cubic feet
 ponding depth = 9" or 0.75 feet
 Surface Area (SA) = $78 / 0.75 = 104$ sq. ft.
 Provided SA = 165 sq. ft. includes berm/side slopes

$Q_{10} = 982 / 43560 \times 0.95 \times 6.5 = 0.14$ cfs
 Weir Length Required = $0.14 / (2.7 \times 0.1^{1.5}) = 2$ feet min.



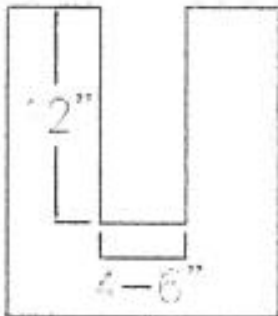
Revision #:	Scale:	Landscape Plan: 1
Date: 6/17/2020	1/8" = 1'	Rain Garden



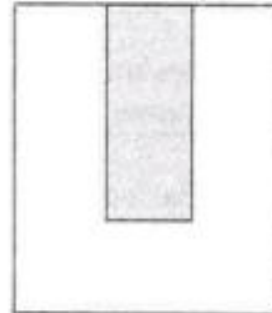
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
11B	Codorus and Meadowville soils, 2 to 7 percent slopes, occasionally flooded	0.6	31.5%
22C	Fauquier silt loam, 7 to 15 percent slopes	1.4	68.5%
Totals for Area of Interest		2.0	100.0%

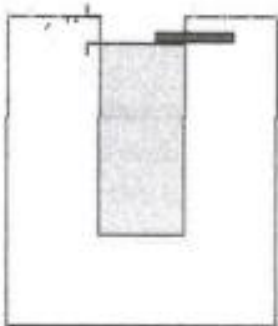
Mandatory Minimum Infiltration Test Procedure



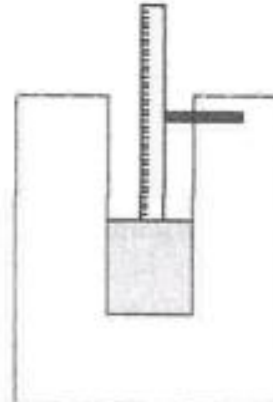
1. Dig a hole in the proposed location, approximately 12 inches in depth and four to six inches in diameter. An auger or posthole digger is the typical tool of choice.



2. Presoak the hole. Fill with water to saturate the soil and then let stand until all the water has drained into the soil. If presoak drains away within 1 hour, repeat presoak.



3. Once the water has drained, refill the empty hole again with water so that the water level is about one inch from the top of the hole. Use a stick to indicate the location of the starting water level. Record the time using a watch.



4. Measure the distance from the stick to the water surface at least every hour for four hours or until hole is dry. If presoak drains within 1 hour, measure every 10 minutes or less.

5. Record measurements. Drop, d , is the difference between measurements. Infiltration rate is the drop, d , divided by the time interval, 1 hour or less. For the final rate, use the lowest steady state infiltration rate or the average of all infiltration rates, whichever is lower.

5/12/2020

Time (hours)	Measurement, m (inches)	Drop, d (inches)	Infiltration rate, i (inches/hour)
11:35 0	0.00	0.00	-----
12:35 1	1.00	1.00	1.00
1:35 2	1.50	.50	.75
2:35 3	2.00	.50	.67
3:35 4	2.50	.50	.63
4:35 5	3.00	.50	.60
		Final rate	.60" / hour

Falling Head Infiltration Test

This is the approved infiltration test for the Virginia Conservation Assistance Program. Use this method for Rain Gardens, Dry Wells and any practice without an underdrain. This is a 3-dimensional flow percolation test. Actual vertical infiltration rates may be less. Divide the final rate by 2 if the failure of the practice will exacerbate existing resource concerns or create new ones. Infiltration rates should generally be greater than 0.5 inches per hour.

Itemized Cost Estimate

Description	Qty	Rate	Total
2020 RAIN GARDEN			
Plant Material:			
Itea Henry's Garnet #3	6	28.99	173.94T
Shenandoah Switch Grass #3	5	20.99	104.95T
Liatris Kobold #1	6	9.99	59.94T
Phlox David #1	6	9.99	59.94T
Solidago #1	6	10.99	65.94T
Hardgood Material:			
Bulk River Jack 1-3"	2	189.99	379.98T
Boulder 2 Man Canadian River/pallet	1	1,299.99	1,299.99T
Fabric Landscape 6'	150	0.20	30.00T
ADS Drain 4" Solid	45	0.80	36.00T
NORM Downspout Adapt 3x4x4"	2	6.99	13.98T
ADS Snap Tee 4" 8/box	1	8.99	8.99T
Bioretention Soil Mix	7	65.00	455.00T
Premium Dyed Brown Mulch	2	39.99	79.98T
Labor Landscape:			
proposes to excavate approximately 12" to create area for amended soil in rain garden location. Pretreatment will include boulders and river jack to slow the movement of water and direct water into bioretention area. Select downspouts will be buried and daylight at pretreatment area. Garden will be approximately 165 sq ft. Garden will have a stone boulder weir with vegetation to allow for overflow. Edges of garden will be contoured to create proper ponding depth within garden area. Site will be left clean after completion.	1		3,750.00
Nursery agrees to provide plant material, hard materials (such as mulch, seed, sod etc.), and labor to install these items as set forth in this estimate. For these services, we require a			
Thank you for the opportunity to estimate your landscape project.			0.00T
Total			

Only the Boulders used for the weir is eligible. Half the Cost is Eligible. \$649.50

Labor was reduced by 10% to account for the extra Boulders. \$3,375.00

Description	Qty	Rate	Total
			0.00T
Company Representatives Signature & Date: Sales Tax		5.30%	146.74
Total			\$6,665.37

Total Eligible Costs = \$5,640.87

This form is to be filled out by District Staff for each application submitted for funding approval to the VC&P Steering Committee.
 Include the Contract Number (District## - CY## - Application Number###), Practice Code (abbreviation), Estimated Cost (if applicable), Cost Share Requested and Resource Concern.

Contract #
 Practice
 Estimated Cost
 Cost Share Requested
 What is the Resource of Concern?

RG	
	\$5,640.87
	\$3,500.00
Too Much Impervious Runoff	

****Please only enter data in the "Input" column. "Points Earned" will be automatically generated.****

RANKING CRITERIA	Input (1/0)	POINT VALUE	TOTAL POINTS EARNED	NOTE
Resource Concern Identified and Addressed by the Selected BMP - Select One				
Erosion Impact Area (visible erosion and/or deposition); or	0	20	0	
Poor Vegetative Cover (Density <=75%); or	0	15	0	
Impervious surface runoff; or	1	10	10	
managed turf runoff.	0	5	0	
Ownership - Select One				
The practice is for an individual Private Residence; or	1	10	10	
The practice is for a HOA or Business or Non-Profit ; or	0	7	0	
The practice is for a Public Park or School or Facility.	0	5	0	
Presence of Stormwater Management Facilities Downstream of the Site				
The site runoff is currently untreated	1	10	10	
Proximity to Stormwater Conveyance System or Waterway - Select One if applicable				
Resource Concern within 40 feet; or	0	20	0	
Resource Concern within 100 feet; or	0	10	0	
Slope - Select One if applicable				
The practice treats poorly vegetated or eroding slope equal to or greater than 15 %	0	10	0	
The practice mitigates concentrated runoff to a slope equal to or greater than 15 %	0	5	0	
TMDL Implementation Plan, MS4 Locality, or Comprehensive Stormwater Management Plan				
Practice addresses local sediment or nutrient goals	0	10	0	
BMP Selection				
BMP Type - Select One if applicable				
Is the proposed BMP structural (e.g. RG, DW, CW, VSC, RH, BR, IF, PP, GR)?, or	1	10	10	
Converting Impervious Surface to Conservation Landscaping, or	0	10	0	
Impervious Surface Removed, or	0	5	0	
Living Shoreline proposed on unprotected lands, or	0	10	0	
Living Shoreline replaces failing stabilization practices, or	0	5	0	
Forested Riparian Buffer (minimum 35 feet wide); or	0	10	0	
Vegetated Filter Strip (minimum 35 feet wide)	0	5	0	
Proposed BMP provides Alternative Disconnection				
Selected BMP disconnects and disperses impervious runoff	0	10	0	
Treatment Area (Does Not apply to LS or CL unless configured as Filter Strip with 35 feet minimum length)				
Input Impervious Area Treated in square feet; and	925	0.925	0.9	
Input Total Contributing Drainage Area in square feet	925	20.0	20.0	
Installed Area - Select One				
Input Surface Area of the Practice; or	165	0.3	0.3	
Input Gallons Storage, or	0	0.0	0.0	
Input Linear Foot of Practice installed	0	0.0	0.0	
Application Strength				
Partnership				
Applicant is working with a partner agency or NonProfit	0	5	0	
Educational Value				
Practice is publicly accessible; or is part of an educational program	0	10	0	
Cost Effectiveness				
Cost per Impervious Area Treated (\$/SF), and	6.10	9.8	9.8	
Cost per Installed Area (\$/SF or \$/Gal or \$/LF)	34.19	0.3	0.3	
Pollutant Removal				
BMP Pollutant Removal Efficiency (EFF)	0.5			
Contributing Drainage Area Weighted Runoff Value (Rv)	0.95			
Pollutant Load (PL), Lbs Phosphorus per year	0.05	0.5	0.5	
TOTAL RANKING POINTS			71.8	

*Resource Concern Now considered "Excess Runoff", receiving 10