

## STORMWATER RETENTION CREDIT PRICE LOCK PROGRAM

### APPLICATION

This form is provided as a PDF document for planning purposes. You must submit your application through DOEE's [Stormwater Database](#).

<b>Name:</b> Angela Jones
<b>E-mail:</b> <a href="mailto:aj@email.org">aj@email.org</a>
<b>Phone:</b> 555-123-4567
<b>Title:</b> Executive Director
<b>Organization:</b> Stormwater Retrofits International
<b>Mailing Address:</b> 100 Water Quality Lane Ellicott City, MD 21043

<b>Property Address on which Green Infrastructure (GI) will be located:</b> 500 Smith Street NE
<b>Property Owner Contact Name:</b> Jane Smith
<b>Property Owner Email:</b> <a href="mailto:janesmith@stadschool.org">janesmith@stadschool.org</a>
<b>Property Owner Telephone:</b> 555-765-4321

<b>Professional Engineer who will seal Stormwater Management Plan (SWMP):</b> Angela Jones
<b>Professional Engineer License Number:</b> PE999321

**GOVERNMENT OF THE DISTRICT OF COLUMBIA**  
Department of Energy and Environment

<b>SWMP # of an approved SWMP completed by a team member:</b>
<b>OR</b>
<b>Date of attendance at DOEE Training: General Compliance: 5/18/17</b>
Name of team member in attendance: Angela Jones
<b>Date of attendance at DOEE Training: Using the Stormwater Database: 6/8/17</b>
Name of team member in attendance: Angela Jones
<b>Date of attendance at DOEE Training: Generation and Certification of Stormwater Retention Credits: 7/13/17</b>
Name of team member in attendance: Angela Jones

<b>Proposed GI Type(s): Bioretention</b>
<b>Current Project Status:</b> <ul style="list-style-type: none"><li><input checked="" type="checkbox"/> <b>Concept Design</b></li><li><input type="checkbox"/> <b>SWMP Submitted to DOEE for Review</b></li><li><input type="checkbox"/> <b>SWMP Approved</b></li></ul>

## St. Aidan School Bioretention Narrative

### Contributing Drainage Area

Currently, approximately 30,000 square feet from the St. Aidan School is collected by storm sewers and drains, untreated, to an unnamed tributary of the Anacostia River. At the storm sewer outlet, there is ample space and sufficient depth available to install a standard bioretention area that will provide significant stormwater retention benefits. The contributing drainage to the proposed standard bioretention area, which is made up entirely of the school property, is 80% impervious, with the remaining 20% classified as compacted cover.

### Inlet and Outlet Points

As mentioned above the inlet to the bioretention area will be an existing storm sewer outfall. The outlet will be an underdrain that connects to an existing channel that leads to the tributary, along with an earthen overflow berm that will direct higher flows to the same channel.



Figure 1. Proposed location of bioretention area. The unmowed area is the location of the existing storm sewer outfall.



Figure 2. Proposed location of bioretention area. The buildings and parking lot in the background make up the contributing drainage area to the practice.

#### Preliminary Sizing

There is an approximately 100' by 30' area available for construction of the bioretention area. The depth from inlet point to underdrain outlet at the tributary is over six feet. Sizing calculations are provided on the following page.

#### Potential Impediments or Constraints

No utilities have been observed in the vicinity of the proposed site. This site is adjacent to a tributary of the Anacostia River, but is not located within a 100-year floodplain. The property owner has expressed some concern regarding future maintenance of the bioretention area plantings. These concerns will be addressed with a low-maintenance planting plan including mainly native clump-forming grasses.

## St. Aidan School Bioretention Aerial Photo



Figure 3. Aerial photo (Google Maps) of St. Aidan School.



## St. Aidan School Bioretention Preliminary Volume Calculations

Contributing Drainage Area = 30,000 sf

% Impervious Cover = 80%

% Compacted Cover = 20%

% Natural Cover = 0%

Equation 3.5 Bioretention Storage Volume

### Equation 3.5 Bioretention Storage Volume

$$Sv = SA_{bottom} \times [(d_{media} \times \eta_{media}) + (d_{gravel} \times \eta_{gravel})] + (SA_{average} \times d_{ponding})$$

$$SA_{top} = 100' \times 30' = 3,000 \text{ sf}$$

$$SA_{bottom} = 94' \times 24' = 2,256 \text{ sf}$$

$$SA_{average} = 2,628 \text{ sf}$$

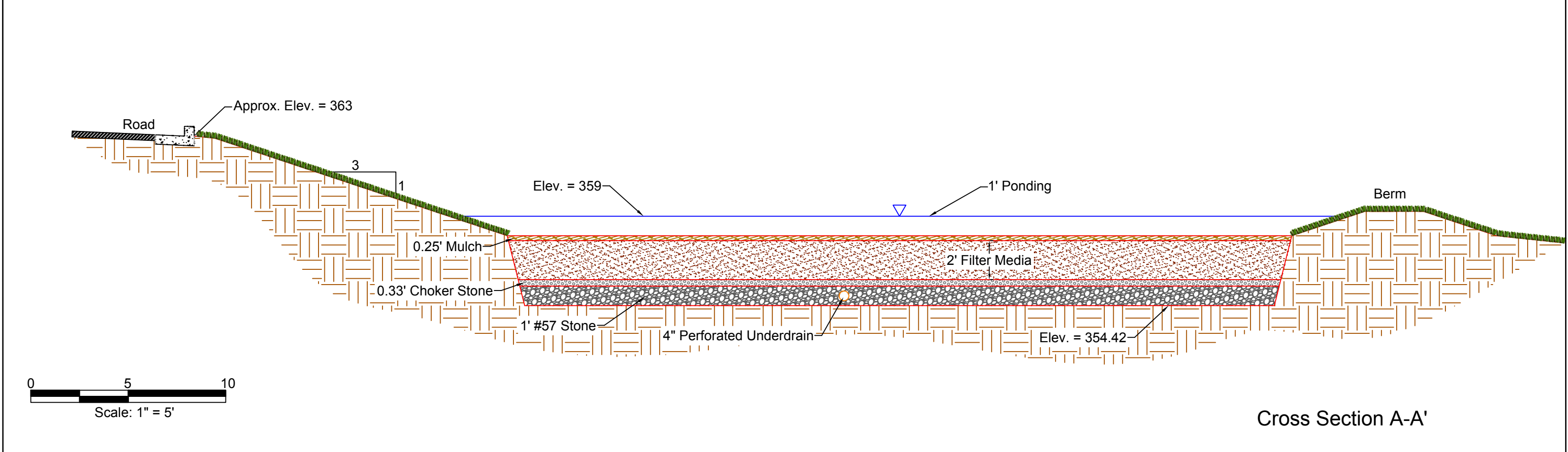
$$d_{ponding} = 1 \text{ ft}$$

$$d_{media} = 2 \text{ ft}$$

$$d_{gravel} = 1 \text{ ft}$$

$$Sv = 2,256 \times [(2 \times .25) + (1 \times .4)] + (2,628 \times 1) = 4,658.4 \text{ cf} = 34,845 \text{ gallons}$$

$$Rv = 0.6 \times Sv = 20,907 \text{ gallons}$$



	PREPARED BY: Stormwater Retrofits International 100 Water Quality Lane Ellicott City, MD 21043 (555) 123-4567	PREPARED FOR: St. Aidan School 5000 Smith St NE Washington, DC	Bioretention Concept Design - Not for Construction St. Aidan School February 2017	Drawing By: GPH
				Design By: AJ
				Checked By: AJ
				Project ID: DC-038
				Page 1 of 1

# St. Aidan School

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**July 15, 2017**

To Whom It May Concern:

St. Aidan School would like to express its support for the SRC Price Lock Program Application submitted by Stormwater Retrofits International for construction of a bioretention area on St. Aidan School property. St. Aidan School has been working on opportunities to “green” its campus, and construction of this bioretention area would be a great addition. Angela Jones, with Stormwater Retrofits International has met with the St. Aidan School Board to present her proposed concept and explain the SRC Price Lock Program process. The Board is fully in support of the project.

Should the SRC Price Lock Program Application be approved, Stormwater Retrofits International will be fully responsible for designing the bioretention area. Once construction plans are complete and approved by both St. Aidan School and the Department of Energy and Environment., St. Aidan School intends to enter a lease agreement with Stormwater Retrofits International for the space required for the bioretention area. The initial term of the lease will be for six years, with an option to extend if both organizations agree. Stormwater Retrofits International will be responsible for maintenance of the bioretention area during the term of the lease.

Sincerely,

Jane Smith  
*Principal*  
*St. Aidan School*



**St. Aidan School Bioretention**

<b>Design and Engineering Costs</b>	
Survey	\$ 5,000.00
Geotech	\$ 3,000.00
Design	\$ 20,000.00
Permit Fees	\$ 1,584.00
Inspection	\$ 4,000.00
	<b>\$ 33,584.00</b>

<b>Construction Costs</b>					
ITEM NO.	ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITY	UNIT PRICE	EXTENDED PRICE
1	Mobilization	LS	1	\$ 8,000.00	\$ 8,000.00
2	Stabilized Construction Entrance	EA	1	\$ 1,800.00	\$ 1,800.00
3	Construction Fence (Limit of Disturbance)	LF	2,000	\$ 2.50	\$ 5,000.00
4	Silt Fence	LF	100	\$ 3.50	\$ 350.00
5	Permanent Site Stabilization w/ Topsoil, Seed, and Mulch	SF	50,000	\$ 0.25	\$ 12,500.00
7	Riprap	CY	13	\$ 134.00	\$ 1,742.00
8	Excavation	CY	238	\$ 15.00	\$ 3,570.00
9	Hauling	CY	238	\$ 30.00	\$ 7,140.00
10	Double Washed #57 stone	CY	60	\$ 95.00	\$ 5,700.00
11	Choker Stone	CY	20	\$ 95.00	\$ 1,900.00
12	Bioretention Media	CY	119	\$ 110.00	\$ 13,090.00
14	Mulch	CY	15	\$ 30.00	\$ 450.00
14	Bioretention Plants	SY	178	\$ 20.00	\$ 3,555.56
15	4" Solid Wall PVC Pipe	LF	50	\$ 30.00	\$ 1,500.00
15	4" Perforated PVC Pipe	LF	70	\$ 30.00	\$ 2,100.00
16	4" PVC Cleanouts and Fittings	LS	1	\$ 500.00	\$ 500.00
<b>Subtotal</b>					\$ 68,897.56
<b>15% Contingency</b>					\$ 10,334.63
<b>Total Estimate</b>					<b>\$ 79,232.19</b>