

# Installation of a Conservation Landscaping Project

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Final Products for Task 57 of NOAA Grant #13NOS4190135

Northern Virginia Regional Commission

April 2016



This project was funded in part by the Virginia Coastal Zone Management Program at the Department of Environmental Quality through FY 13 Task 57, Grant # NA13NOS4190135 of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, under the Coastal Zone Management Act of 1972, as amended. This report satisfies the deliverable requirements set forth for FY13 Task 57, NOAA Grant # NA13NOS4190135

## 1 Introduction

As development continues to increase in Northern Virginia, important native plant communities and habitats that support wildlife and provide valuable ecosystem services are becoming fragmented, depleted, and altered. Maintaining intact, connected natural areas and areas that serve as stepping stones between large, intact habitat cores is essential for basic ecosystem and watershed services, such as clean air and water and sustaining biodiversity.

Since 2010, the Northern Virginia Regional Commission (NVRC) has been engaged in a series of projects, studies, and efforts related to helping the region identify green infrastructure or conservation corridors, and promote the use of native plants in the urban and suburban landscape. These efforts have been funded in part by the National Oceanic and Atmospheric Administration (NOAA) through the Virginia Coastal Zone Management Program (VCZMP). This work resulted in three Conservation Corridors reports which identify a network of the most regionally-significant and ecologically-sensitive open and forested green spaces across the region as well as an on-going native plant campaign known as Plant NoVA Natives. An additional issue that was identified during the Collaborative Summit to Protect Water Quality through Actions on Urban-Suburban Properties held in Williamsburg in February 2013, was the lack of landscape industry professionals that were knowledgeable about native plants and qualified to implement conservation landscaping practices such as rain gardens, bio-swales, conversion of turf into native plantings, pervious pavement, buffer plantings, and rain barrels. In light of the recent development of local stormwater incentive programs in some Northern Virginia communities that encourage homeowners to construct and maintain voluntary stormwater management techniques on their own property, there was a need to educate landscape industry professionals and the general public about conservation-based landscaping practices.

In 2013, VCZMP awarded NVRC two grants (FY13 Task 56, NOAA Grant # NA13NOS4190135 and FY13 Task 57 of NOAA Grant # 13NOS4190135) to select a turf or hardscape site for restoration using conservation landscaping, conduct a workshop focused on teaching landscape professionals (designers, architects, contractors, stormwater inspectors), how to select and design conservation landscape practices for homeowners in Northern Virginia, and how to install and maintain them in landscape.

NVRC formed a collaborative partnership between the City of Falls Church, Arlington County, the Northern Virginia Soil and Water Conservation District, and George Washington University Sustainable Landscapes Program, Chesapeake Stormwater Network, and Wetlands Watch. By working together as partners, each organization was able to fulfill mutual goals. The Conservation Landscaping Workshop was divided into two parts. Part 1 was funded under Task 56 and took place on July 16 at the Fairfax County Herrity Building located at 12055 Government Center Parkway, Fairfax, VA 22035 from 9:30 am – 2:30 pm. Forty-two landscape

professionals and municipal stormwater inspectors attended the workshop. The final deliverables of FY13 Task 56 can be found at:

<http://deq.state.va.us/Programs/CoastalZoneManagement/Funds,Initiatives,Projects/2013Projects/2013VirginiaCZMGrantProjectTask5613.aspx> .

This report satisfies requirements set forth for FY13 Task 57 of NOAA Grant # 13NOS4190135, which includes the following deliverable:

Product #1: Title: Installation of a Conservation Landscape Technical Workshop

## **2 Installation of a Conservation Landscape Technical Workshop**

The second and final part of the workshop, ‘Installation of a Conservation Landscape Technical Workshop’ was held on October 7, 2014.

The target audience was landscape professionals and local government staff. The workshop was on residential best management practices for stormwater management. The curriculum was focused on installation and maintenance of conservation landscapes and featured a hands-on component. The agenda from the workshop is attached as Appendix A.

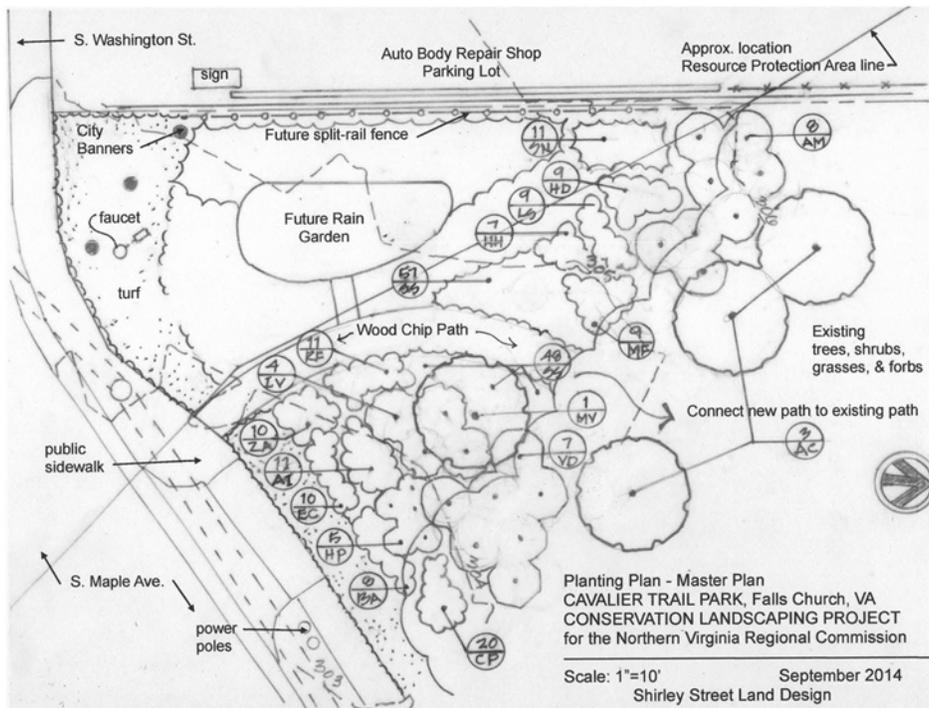
The classroom portion of the workshop contained presentations from the Northern VA Soil and Water Conservation District, City of Falls Church and Arlington County on pre-installation planning, permitting, and construction sequencing. There was also a session on maintenance of conservation landscapes as well as proper disposal of waste related to landscape maintenance.

For the hands-on component, participants travelled to the small, city-owned parcel in Falls Church. The site had previously been paved and the City had recently removed the pavement and put down mulch and grass seed. Where vegetation was growing on the site, it was dominated by alien invasive plants such as winged euonymous and Japanese honeysuckle (Photo 1).



Photo 1. Site for field exercise in Falls Church

During the field exercise, participants learned about restoring riparian buffers, soil amendment and site preparation, native plant identification, proper planting techniques, mulch requirements landscape maintenance, and how to follow a design plan. Figure 1 is the design plan for the riparian buffer area.



The participants also removed invasive plants, spread mulch, and planted hundreds of native grasses, perennials, shrubs, and trees at the carefully selected demonstration site (Photos 2 -5)



Photo 2. Workshop participants installing plants



Photo 3. Workshop participants installing plants



Photo 4. Workshop participants installing plants and spreading composted leaf mulch as a soil amendment



Photo 5. Workshop participants installing plants and spreading composted leaf mulch as a soil amendment



Photo 5. Workshop participants and Falls Church City staff watering newly planted trees



Photo 6. Site immediately after planting

The demonstration site not only enhanced and enlarged the adjacent park and trail to provide more connectivity for wildlife, but also captures and treats runoff from the neighboring paved parking lot in a rain garden. In addition, the City installed an irrigation system, and maintains the site in accordance with their maintenance standards.

The following Northern Virginia native plants were planted on the site in the conservation landscape and riparian buffer:

*Magnolia virginiana*  
*Viburnum dentatum*  
*Aronia melanocarpa*  
*Hypericum prolificum*  
*Ilex verticillata*  
*Sorghastrum nutans*  
*Schizachrium scoparium*  
*Carex pensylvanica*  
*Rudbeckia fulgida*  
*Baptisia australis*  
*Liatris spicata*  
*Zizia aurea*  
*Heliopsis helianthoides*  
*Asclepias incarnata*  
*Helianthus divaricatus*  
*Eupatorium coelestinum*

During a maintenance event in Fall of 2015, the City accidentally damaged some of the plants. The damaged plants were replaced at the City's expense in Winter of 2016.

A small rain garden was also installed at the site. The following plants were installed in the rain garden:

<b>CAVALIER TRAIL PARK RAIN GARDEN PLANTING PLAN</b>						
<b>Type Plant</b>	<b>Quant.</b>	<b>Key</b>	<b>Botanical Name</b>	<b>Common</b>	<b>Size/Spacing</b>	<b>Comments</b>
<b>Shrub</b>						
	1	CV	<i>Chionanthus virginicus</i>	Fringe tree	3-4' ht. B&B	
	3	VN	<i>Viburnum nudum</i>	Possum-haw viburnum	24-30" cont.	

						NOTE: *Plant 1 male compatible with 2 adjoining females and those elsewhere in this area
	3	IV	Ilex verticillata*	Winterberry	24-30" cont.	
<b>Perennials</b>						
	10	VV	Veronicastrum virginicum	Culver's-root	2 qt./2' o.c.	
	9	HH	Helianthus helianthoides	Oxeye sunflower	2 qt./2' o.c.	
	25	PA	Packera aurea	Golden ragwort	2 qt./18" o.c.	
	125	PS	Phlox subulata	Moss Phlox	2 qt./15" o.c.	
	3	BA	Baptisia australis	False indigo	1 gal./2' o.c.	
	11	LP	Liatris pilosa v. pilosa	Grass-leaf blazing star	2 qt./15" o.c.	
<b>Grasses</b>						
	140	ES	Eragrostis spectabilis	Purple love grass	1 gal./18" o.c.	
	28	PV	Panicum virgatum or Sorgasrum nutans	Switch grass or Indian grass	1 gal./2' o.c.	
	Seed for approx. 200 sq. ft.		Sun-moist/dry meadow native grasses and forbes mix in local ecotypes + seasonally appropriate annual grass mix			Note: Keep area of seeding off-line until annual mix is fully established; establish temporary measures for stormwater flow.

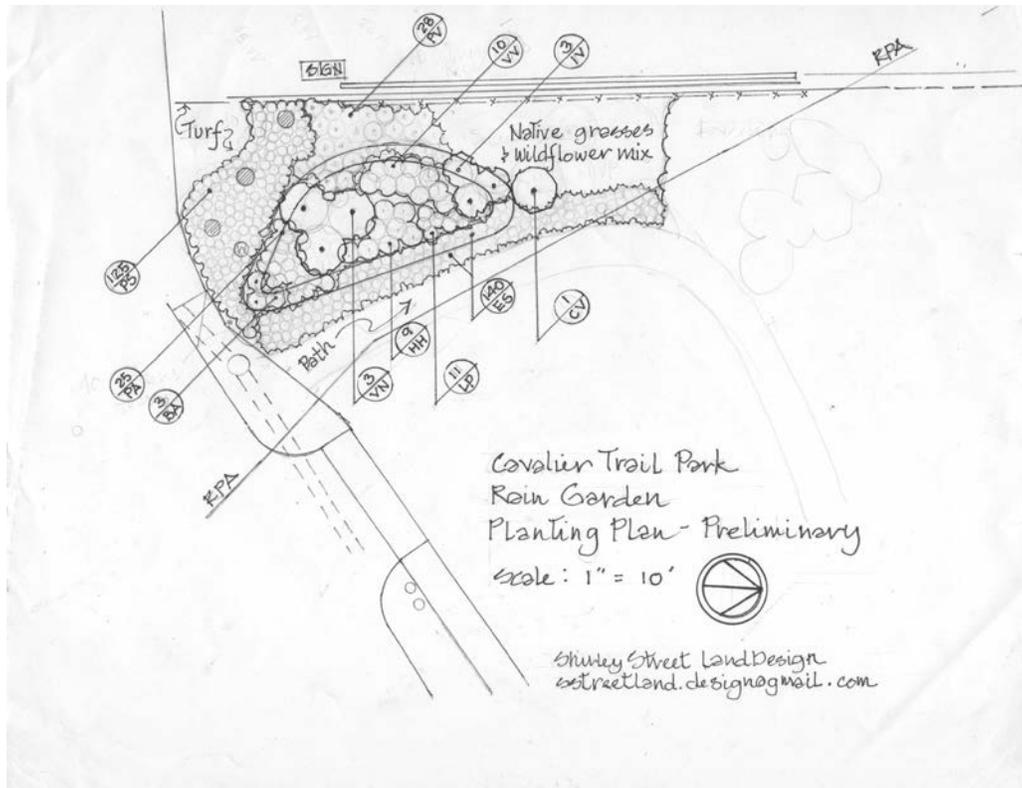


Photo 6. The site after installation but before the seed mix and smaller perennials have grown in and become established

Interpretive signage has also been designed for the site. The City plans to install the signage during other park improvements in Summer or Fall of 2016. It includes facts about why native plants were used in the landscape, and information about how conservation landscapes and rain gardens work to reduce and filter stormwater runoff (Photo 7).

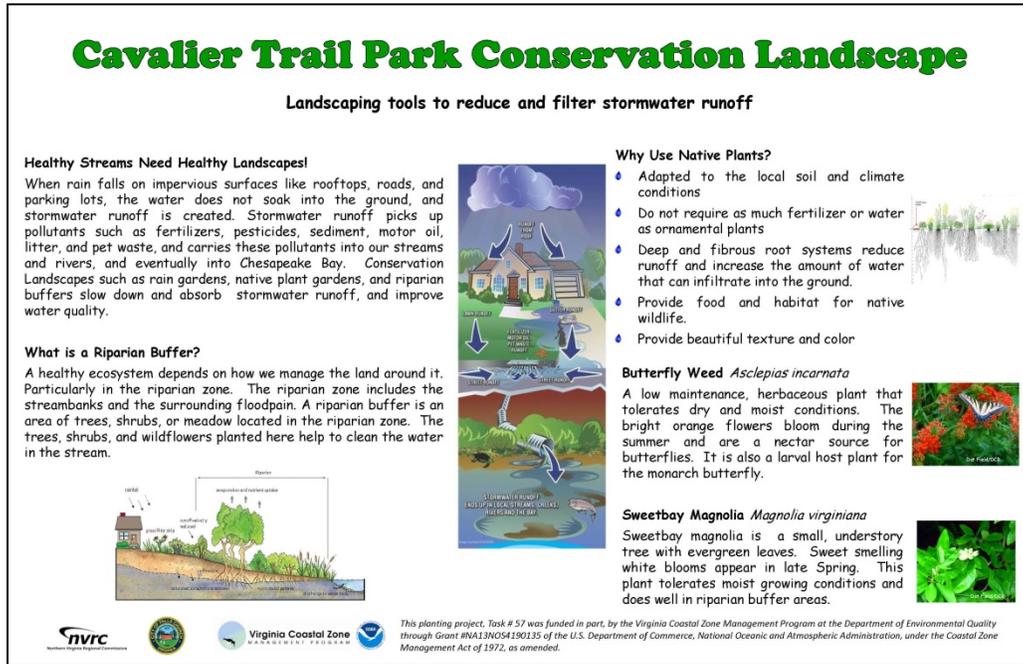


Photo 7. Sign developed for site.

The photo below is representative how the sign will look when installed.



Photo 8. Representative of how sign will look when installed

### **3 Conclusion**

In conclusion, the Installation of a Conservation Landscaping Project was a successful way to train local landscape designers and others about the benefits associated with residential Best Management Practices (BMP) such as restoring riparian buffers, using native plants, and constructing rain gardens. The workshop successfully conveyed the hands-on concepts associated with conservation landscape installation such as pre-installation planning, permitting, construction sequencing, maintenance, as well as proper disposal of waste related to landscape maintenance.

The project is in a highly visible public location and over time the professionally designed gardens will mature into a vibrant demonstration of how different BMP's can reduce stormwater runoff in attractive ways. In addition, through the use of plants native to Northern Virginia and restoring a link in a riparian corridor, this project leveraged the efforts of other projects funded by the VA Coastal Zone Management Program such as the Northern Virginia Native Plant Campaign and the Northern Virginia Conservation Corridors Project. The landscape and signage is expected to be viewed by local residents who use the park as well as motorists who are waiting at the intersection.

### **4 Appendix A**

# RESIDENTIAL BMP TRAINING FOR THE LANDSCAPE PROFESSIONAL

## Part 2 of 2

Wednesday October 8, 2014  
9:30 AM – 3:00 PM

Classroom portion from 9:30 to 11:30 AM  
Falls Church Community Center  
223 Little Falls St.  
Falls Church, VA 22046  
Phone:703-248-5077 (TTY 711)

Hands on portion from 12:30 to 3:00 PM  
Cavalier Trail Park  
600 S Maple Ave.  
Falls Church, VA 22046

### AGENDA

#### Welcome 9:30

*Corey Miles, Senior Environmental Planner, Northern Virginia Regional Commission*

#### Pre-Installation Planning:

- **Drawing and Permit Requirements by Jurisdiction 9:30-10:00**  
*Aileen Winquist, Watershed Outreach Program Manager, Arlington County*  
*Jason Widstrom PE, CFM, Civil Engineer, City of Falls Church*  
*Asad Rouhi PhD, Urban Conservation Engineer, Northern Virginia Soil & Water Conservation District*
- **Construction Standards and Sequence 10:00 – 10:45**  
*Shirley Street, Principal, Shirley Street Land Design*  
*Jason Widstrom PE, CFM, Civil Engineer, City of Falls Church*

#### Maintaining Stormwater Systems 10:45 – 11:15

*Shirley Street, Principal, Shirley Street Land Design*  
*Jason Widstrom PE, CFM, Civil Engineer, City of Falls Church*

#### Managing Landscaping Debris in Northern Virginia 11:15-11:30

*Debbie Spiliotopoulos, Senior Environmental Planner, Northern Virginia Regional Commission*

#### Lunch Break and Travel to Cavalier Park 11:30 - 12:30

*Lunch is not provided*  
*Purchase lunch or bring your own*

#### Field Exercise at Cavalier Trail Park 12:30-3:00\*

Participants will learn about disturbed soils, riparian buffer zones, transitional habitats, native plants, conservation landscaping, and plant installation

*\*Please wear sturdy shoes and outdoor clothing. Please bring a shovel if you have one*



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