



Conservation Assistance Program Site Visit Report

Date of visit: 5/18/2023

Existing Conditions, drainage and erosion problems: Back of property slopes gently down to Wolftrap Creek floodplain/Town of Vienna's Wildwood Park. Backyard, especially along rear fence line, has puddling water, but there might not be much that can be done since it is a floodplain with high groundwater. Rear downspouts flow down the slope towards park. Much of property has been converted to native plant beds. Front driveway slopes gently towards Alma St. Soil in front yard is Beltsville complex and soil in backyard is Hatboro-Codorus. Both have high groundwater table, but Beltsville has better chance of being suitable for infiltration practices. Will need to do soil and infiltration tests to determine if dry well or permeable paving are suitable for property.

Potential CAP projects

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| ☐ Conservation Landscaping | ☐ Rain garden/Bioretention |
| ☒ Dry Well/Infiltration Trench | ☒ Permeable Pavers |
| ☐ Vegetated Stormwater Conveyance | ☒ Rainwater Harvesting/Cistern |
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Sizing and Location: All VCAP projects must be sized to capture runoff from 1" storm. Downspout located at each corner of house and one at (I believe) back corner of carport. Carport downspout looks to be draining all of carport roof plus triangle-shaped 250 ft² of main roof. See "Roof Drainage Areas" image for estimated square footage draining to each downspout. If any drainage areas seem incorrect, let me know.

See included sizing spreadsheets for approximate sizes of dry well and porous paving. Cistern sizing calculations are included with "Roof Drainage Areas" image.

Detailed Recommendations: For the two sizing spreadsheets, the "Sizing Calculations" sections are the most important for figuring out overall footprint of your project(s). The sections below these help determine the total volumes of material needed for each project. The sections above "Sizing Calculations" are merely checklists to make sure all needed info is included if/when you submit your VCAP application. Ignore for now.

For dry well sizing, I ran two scenarios: a dry well connected to the two rear downspouts off the main roof, and a dry well connected to these plus the carport downspout. For the permeable paving, I estimated the sizing assuming only the driveway section between the front walkway and the driveway apron would become permeable and that the front right downspout flowed to this permeable section.



Next Steps:

- ☒ Infiltration Test
- ☒ Soil Test
- ☒ Miss Utility

Permeable paving and dry well must have suitable soil in order to function. For either practice, call Miss Utility (<https://va811.com>) to get lines marked, then call me to set up the necessary soil and infiltration tests. Results of both tests determine if soil is suitable for either project. Soil test looks at depth to groundwater, bedrock, and other obstructions. If no obstructions present, I will prepare infiltration test at the same location(s) as the soils test, but rely on you to take readings. Typically take one infiltration reading per hour for four hours. I will supply instructions for doing so. Afterwards, email infiltration data to me for review.

If both soil tests and infiltration tests return good data, can then proceed with an application for a permeable driveway or dry well project.

Rainwater harvesting cistern does not require any tests because practice is above ground. Should still contact Miss Utility to see where buried lines are located for proper cistern placement. Larger cisterns do require some excavation to install base pad – usually concrete or packed gravel.

To apply for funding, complete Application Form 1 and use included checklist to ensure all necessary items are in application. May apply for up to two projects but submit separate application for each.

All projects must be maintained for 10-year period during which you are expected to keep the project in good functioning condition.

Please contact me with any questions. Applications are accepted on rolling basis throughout the year.

For more technical information about any of the three possible project types, consult the [VCAP Design Manual](#). Dry wells are on pg 52., cisterns are on pg. 66 and permeable paving is on page 77.

Send completed application to ConservationDistrict@fairfaxcounty.gov

Non-VCAP Notes/Recommendations:

Resource Concern: ☐ Erosion ☐ Poor vegetative cover ☒ Excess stormwater

Address: 609 Alma St SE, Vienna, VA

Prepared by: Dan Schwartz



PY2023 VCAP Cost-Share Rates			
Practice	Lifespan	Reimbursement Rate	Max per Application
Conservation Landscaping (CL) - Meadow - Filter Strip - Tree Planting - Riparian Buffer - Mulched Bed	10 years	80% of actual costs	\$ 7,000.00
Rain Garden (RG)	10 years	80% of actual costs	\$ 7,000.00
Dry Well (DW)	10 years	80% of actual costs	\$ 7,000.00
Rainwater Harvesting (RWH)	10 years	\$4.00 per gallon of treated volume*	\$ 20,000.00
Impervious Surface Removal (ISR)	10 years	\$5.00 per sq. ft.	\$ 20,000.00
Permeable Pavement (PP)	10 years	\$14.00 per sq. ft.**	\$ 20,000.00
Vegetated Stormwater Conveyance (VSC) - Dry Swale - Wet Swale - Step Pool Conveyance System	10 years	80% of actual costs	\$ 20,000.00
Constructed Wetland (CW)	10 years	80% of actual costs	\$ 20,000.00
Bioretention (BR)	10 years	80% of actual costs	\$ 30,000.00
Infiltration (IF)	10 years	80% of actual costs	\$ 30,000.00
Green Roof (GR)	10 years	\$20.00 per sq. ft.	\$ 30,000.00
Living Shorelines (LS)	10 years	80% of actual costs	\$ 30,000.00

*Cost -share rate is applied to the 1-inch volume of runoff collected rounded up to the nearest gallon.

**All costs associated with Impervious Surface Removal (ISR) are considered a component cost of Permeable Pavement (PP).

***All applicants will be limited to \$50,000.00 in total cost-share assistance per calendar year, based on date of application approval.

Northern Virginia Soil & Water Conservation District

www.fairfaxcounty.gov/soil-water-conservation