



River Road Office Stormwater Planters

The Rivanna Conservation Alliance (RCA) is a non-profit that works with the community to conserve the Rivanna River and its tributaries through water quality monitoring, restoration, education, and advocacy. RCA is a regional leader in water quality monitoring and community science, with two volunteer-supported programs certified to provide data at the same level as the Virginia Department of Environmental Quality. RCA has an award-winning volunteer program, and growing programs in environmental restoration and education.

Project Background:

- RCA moved to the River Road office (shared with The Nature Conservancy) in winter 2018
- The property was more than 80% impervious with no stormwater management
- A potential solution had to work around numerous obstacles:
 - Property is in the 100-year floodplain of the Rivanna River
 - Presence of underground utilities (gas, water, and sewer lines)
 - Legacy of industrial use, including evidence that underground storage tanks likely present
 - Heavy truck traffic adjacent to the building and very limited space available
 - Challenges with permitting and approvals



RCA office prior to project



RCA's office in relation to the Rivanna River

Project Plan and Funding:

- If you can't dig down, go up!
- Three stormwater planters, constructed like bioretention basins, but in above-ground boxes
- New gutters direct ½ of roof surface (1,400 ft²) to the planters, which can hold one inch of rainfall
- 230 ft² asphalt removed in front of building
- Total project cost was \$11,660. \$6,825 funded by Virginia Conservation Assistance Program and City of Charlottesville's Conservation Assistance Program. \$4,835 funded through donated design, installation labor, and materials.
- Educational signs funded by Virginia's Chesapeake Bay Restoration Fund

Project Construction:



1. Remove asphalt and place boxes



2. Install underdrains and gravel



3. Fill with biomix



4. Redirect downspouts and place rocks

5. Fill with native plants



Project Benefits and Replicability:

- Planters collect 40,000 gallons of stormwater a year during average rainfall conditions
- Plants and soil filter out nutrients and hazardous substances that settle out on the roof (e.g., from diesel truck exhaust, nearby asphalt plant emissions, microplastics from tires)
- Building owner eligible to save on stormwater utility fees
- Native plants provide pollinator habitat and seed source for nearby riparian buffer
- Educational signs increase awareness of stormwater issues and options for reducing impacts

Project Replicability:

- Planters can be constructed of different materials and designed to fit in different environments
- RCA installed additional planters in 2020 at the City of Charlottesville's Public Works building using funding from the National Fish and Wildlife Foundation.

