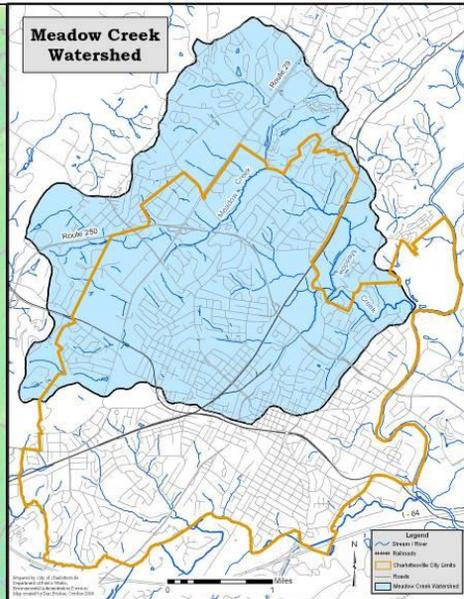
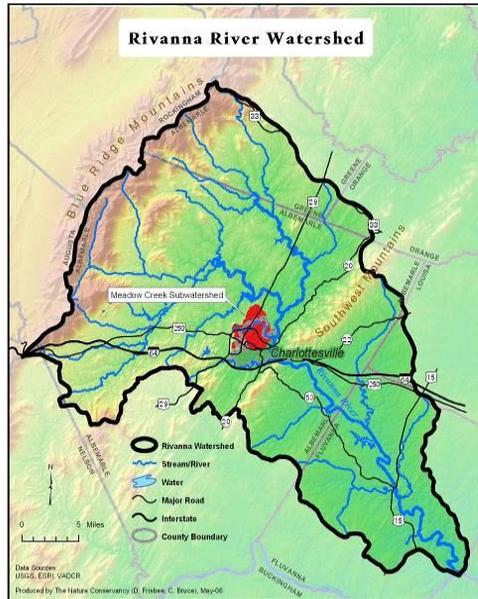


Meadow Creek Stream Restoration Project

Charlottesville, Virginia



Meadow Creek is one of Charlottesville's major waterways

Meadow Creek Facts:

Meadow Creek lies within the Rivanna River watershed, which is part of the larger Chesapeake Bay watershed. The drainage area for Meadow Creek is about 5,800 acres in size. Meadow Creek originates at Observatory Hill on the grounds of the University of Virginia and flows east through the northern part of Charlottesville until it joins the Rivanna River at Charlottesville's Pen Park.

Restoration Goals:

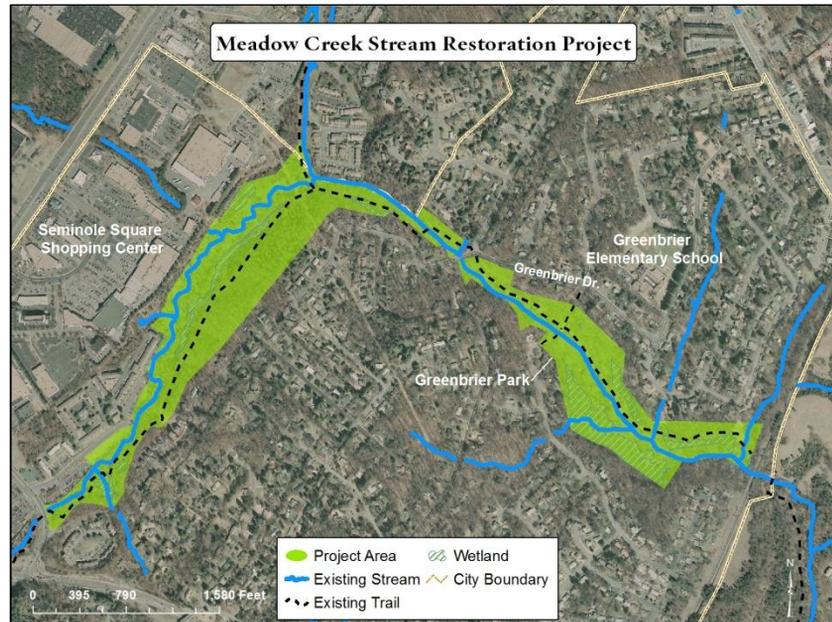
To reduce stream bank erosion and sedimentation, enhance and establish forested riparian buffers, improve water quality and stream stability, and protect and enhance wildlife habitat.

Project Facts:

- Restoration of 9,000 feet of Meadow Creek
- Protection of 72 acres of forest and wetlands
- \$3.95 million project, funded by the Virginia Aquatic Resources Trust Fund

Project Summary

Increased sedimentation, due in part to uncontrolled stormwater runoff, stream bank erosion, and the lack of forested buffers in riparian areas, poses a serious threat to the health of Meadow Creek and the Rivanna River. Meadow Creek has been selected to undergo a major restoration to address this threat. The restoration will begin at Hydraulic Road and will extend through Greenbrier Park. The restoration will result in a stabilized stream and improved water quality, as well as enhanced aquatic and forest habitats and aesthetic values.



Why Meadow Creek?

Numerous local assessments have documented the deteriorated state of Meadow Creek and identified the need for its restoration. In addition, the Virginia Department of Environmental Quality has listed Meadow Creek and a segment of the Rivanna River downstream as "impaired waterways." Impairment in these waters is due in large part to excessive sedimentation from stream bank erosion. Restoring Meadow Creek and preserving the forested buffer and wetlands along the creek will aid in reducing sedimentation and filtering runoff entering Meadow Creek and the Rivanna River. This project also builds on investments that the University of Virginia has made to improve the headwaters and upper reaches of Meadow Creek, including the stream daylighting project completed at the Dell and restoration work at the John Paul Jones Arena.



Existing condition of Meadow Creek

Existing Conditions

In a natural setting, rivers create meanders and floodplains that slow their flow during storm events, dissipating energy and reducing erosion. But in urban environments, watersheds often contain large areas of impervious surfaces such as rooftops and roads. As a result, water cannot infiltrate into the ground, and instead drains into stormwater systems, and then into waterways, much faster than it naturally would. This rapid drainage and increased quantity of runoff results in high peak flows and high volumes and velocities of water in streams and rivers. In Meadow Creek, these conditions are made worse by the fact that the stream was once straightened, reducing the natural capacity of the waterway to slow down and dissipate the water's energy. The result is severe erosion of stream banks, scouring of stream beds, and excessive sedimentation. Sediment carries pollutants into waterways, suspends in the water column and blocks sunlight needed for the growth of aquatic vegetation, clogs the gills of fish (sometimes suffocating them) and eventually destroys aquatic habitat in streambeds when it settles.

Restoration Activities

Restoration work will likely begin in the spring of 2012 and will entail reducing the steep height of the stream banks, realigning the stream channel, adding meanders and in-stream habitat structures, and planting trees to enhance the buffer along the stream. A similar stream restoration project was completed by the City of Charlottesville in 2000 on Moores Creek in Azalea Park. To permanently protect Meadow Creek and its riparian wetlands and buffer, conservation easements will be placed over the project area. The conservation easements will also protect over a mile of the Rivanna Trail located along Meadow Creek. A trails plan is being developed that will work in concert with the new easements and stream alignment. The restoration project has been coordinated with the Rivanna Water and Sewer Authority, which has undertaken a sanitary sewer interceptor upgrade at the same location, to ensure protection for both the stream and the interceptor.



Restoration of Moores Creek in Azalea Park

For more information and project updates visit:

www.charlottesville.org/meadowcreek