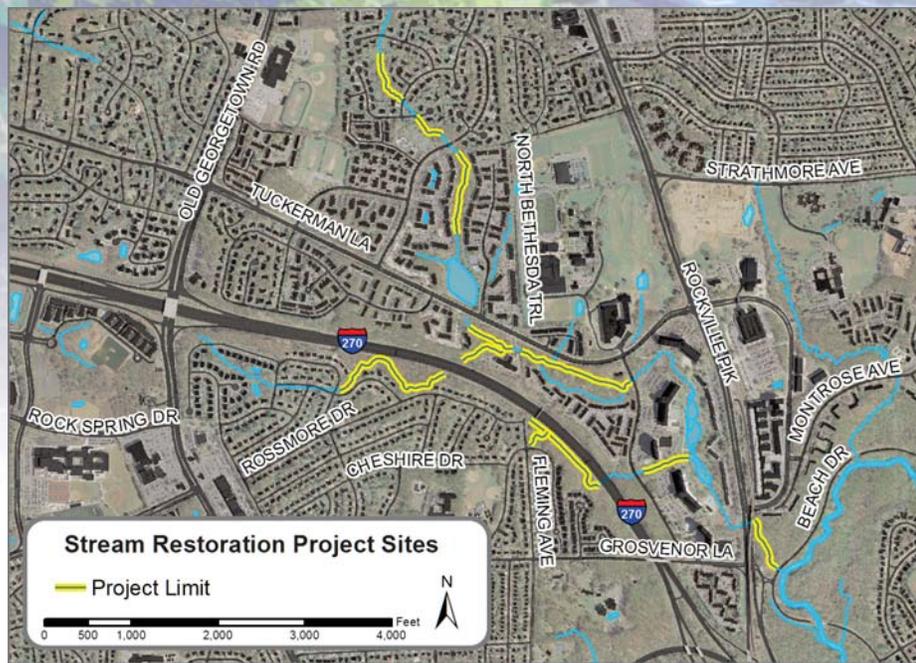




Watershed Restoration FACT SHEET

Grosvenor Stream Restoration



Stream Restoration Projects in Grosvenor Area, Located in Rock Creek Watershed.

Watershed Facts

Subwatershed Drainage Area: 1,116 Acres

Subwatershed Imperviousness: 40%

Property Ownership

Private, M-NCPPC, and SHA

Restoration Goals

To stabilize eroding stream banks to reduce sediment entering the stream, improve aquatic habitat, enhance pool and riffle fish habitat, and reforest stream banks for added bank stability and overhead cover.

Restoration Project Facts

Project Length : 8,000 Linear Feet

Drainage Area Captured: N/A

Estimated Costs:

Construction \$3,650,000 funded by DEP

Project Status:

Construction Planned Spring/Summer 2016 through Winter/Spring 2017

Monitoring Facts

Pre- and Post- Restoration Monitoring will be conducted following MCDEP Protocols.

Project Selection

Montgomery County has a continuing commitment to protect and improve its water resources. The Countywide Stream Protection Strategy, (CSPS, 1998, updated 2003), published by the Department of Environmental Protection (DEP), evaluated biological, chemical, and habitat conditions of streams in the County, and identified impaired "priority" subwatersheds for restoration, including the Lower Rock Creek subwatershed that includes Luxmanor Branch and its tributaries (Grosvenor Project Area). The Maryland Department of the Environment (MDE) has identified the waters of the Rock Creek watershed on the State's 2008 Integrated Report as impaired by sediments (1996), nutrients -phosphorus (1996), bacteria (2002), and impacts to biological communities (2006) (MDE 2008).

Following the CSPS, The Rock Creek Implementation Plan (January 2012) evaluated more than 61.5 square miles of Rock Creek Watershed to identify specific stream restoration and stormwater management opportunities. The Study identified 3.8 miles of streams for restoration in Rock Creek including the Grosvenor project area.



Heavy stormwater flows have eroded the stream banks undercutting trees and damaging private property.



Severe stream bank erosion causing failure to storm drain outfall on Rudyard project area.



Step pools function as grade control gently routing stream flow through steep sections slowing erosion processes and sediment transport.



Cross vanes function is to direct the stream flow toward the center of the stream minimizing stream bank erosion and forming pools for fish habitat.

Pre-Restoration Conditions

Much of the Rock Creek Watershed, including the Grosvenor Subwatershed, was developed prior to regulations requiring stormwater management control and contains a high percentage of impervious surfaces (approximately 40%) in the drainage area. Uncontrolled stormwater runoff from highly impervious areas creates erosive, high velocity or “flashy” flows that cause channel incising, down cutting, bank erosion and reduced in-stream habitat throughout the watershed. The streams have been straightened and impacted by roadways, and utilities.

Over time, the stream channels down-cut and widen which limit stream flow access to the original floodplain. Sediment from eroded banks and road grit accumulated in the stream, further degrading stream habitat conditions. The portions of the stream that do not have floodplain access or are not stabilized with rock or vegetation are experiencing moderate erosion and channel incision.

Restoration Actions

The Grosvenor Project will use restoration techniques and reforestation to help stabilize stream banks, storm drain outfalls, and enhance riparian habitat. Newly built instream structures include step pools, cross vanes, imbricated rip-rap walls, stone toe protection, vegetated soil lofts, and stream bank grading. The project attempts to save undercut stream bank trees with supportive rock packing. Damaged trees can be flush cut, allowing the root systems to remain in the bank for stabilization.

Boulder rocks installed at the toe of the stream bank slope (stone toe protection) stabilized the area of the stream channel subject to the greatest erosive or “shear” stress. The slopes above the reinforced toe are graded back and reinforced to allow for plantings with native trees and shrubs to further stabilize the stream banks. Step pools will be used to gently traverse steep sections of the stream. Cross vanes will direct water away from unstable stream banks, form downstream scour pools, and enhancing aquatic and fish habitat.

Restoration activities planned for approximately 8,000 linear feet.

Project Website: <http://www.montgomerycountymd.gov/DEP/Restoration/grosvenor-luxmanor-stream.html>



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