

North Stirrup Run Stream Restoration

Project Overview 



Site Location:
Harford County, MD



Client / Owner:
Harford County Soil
Conservation District



Status:
Complete



Design/Build Cost:
\$620,408.00

The stream, North Stirrup Run is located in Harford County, MD, and is a tributary to Deer Creek. This project was accomplished with funding from the Harford Soil Conservation District as part of the Department of Natural Resources Trust Fund Grant.

Prior to restoration, the stream showed significant signs of accelerated bed and bank erosion as well as meander migration. Potential causes of the degradation to the channel originate from long term flow regime change and a lack of riparian and streambank vegetation. The stream also was exhibiting signs of significant damage from livestock accessing the stream at multiple locations.

Approximately 2,600 linear feet of North Stirrup Run was re-aligned to a more stable planform according to natural channel design concepts. Salvaged materials were incorporated within the restoration of North Stirrup Run, including brush, sod, root wads and stream material. Ecotone designed a naturally sinuous stream pattern to allow access to the existing floodplain, add diversity to the system, and create habitat within the riffles and pools. To achieve this, the floodplain was lowered, using legacy sediment removal methodology to allow for rooting depth to reach groundwater.

Ecotone used bioengineering practices to further stabilize the banks, including live stake installation, warm season grass plantings, and sod and coir fiber stabilization matting.

Project Highlights:

- Extensive use of salvaged materials to decrease haul on/off and increase project sustainability
- Legacy sediment removal
- Integrated stream and wetland restoration practices



Prior to construction, stream banks were severely incised. The stream was overly-sinuuous, with many eroded meanders such as the one pictured above.



During construction, the invert of the stream was raised and banks graded back to facilitate floodplain reconnection.



Now, North Stirrup Run exhibits a stable state with a robust riparian buffer and ample in-stream habitat. The stream's banks are no longer severely eroding and posing a threat to water quality.