

Rockburn Branch Park Stream Restoration Design-Build

Elkridge, Maryland



Natural channel design protects natural and recreational resources by reducing erosion, improving water quality, and restoring floodplain connectivity to a degraded suburban stream.



from top: Riffles with deep backwater pools immediately after construction; Assessing initial, severely eroded conditions

Located along the densely-populated Baltimore-Washington corridor, Rockburn Branch Park is a 400-acre wooded oasis containing freshwater marshes, stream valleys, miles of trails, several multipurpose athletic fields, and numerous recreational facilities. When stormwater from surrounding development began degrading and severely eroding an un-named tributary to Rockburn Branch, a tributary to the Patapsco River that flows through the park, the

Howard County Stormwater Management Division took action. With funding through the County's Watershed Protection and Restoration Fund and the Chesapeake Bay Trust, the County initiated a project to restore stability and function to Rockburn Branch.

Working alongside the County and construction contractor Angler Environmental throughout the design and construction process, Biohabitats crafted and implemented a design to reduce erosion while creating opportunities for ecological uplift and nutrient processing. The design incorporated constructed riffles to raise the stream invert using soil from nearby Bonnie Branch stream restoration, saving money on both projects. The riffles also formed deep backwater pools to drive hyporheic and riparian exchange and restore hydrology to adjacent wetlands.

In addition, coarse woody debris was salvaged and placed in both the in-stream and riparian areas to improve structural complexity and reduce haul off during construction.

The restoration not only stabilized the eroding channel, but enhanced the stream and riparian corridor and yielded nutrient and sediment removal credits toward the County's MS4/TMDL requirements. Recognizing opportunities for potential uplift coupled with our efficient design process delivered a shovel-ready project in less than one year, saving the County approximately 20% of the allotted budget.

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