Howard County Bureau of Environmental Services

Brentwood Manor Stream Restoration

Jessup, Maryland

A previously widened and degraded channel was relocated away from private properties and stabilized using a riffle-pool sequence and floodplain bench to further process nutrients.

Stream restoration stabilizes and revitalizes an eroded channel while protecting infrastructure and private properties and helping a highly developed county meet its water quality regulatory requirements.

SERVICES
Ecological Restoration

As part of ongoing efforts to improve water quality and meet regulatory requirements such as Chesapeake Bay TMDL and MS4 Phase I NPDES permits, Howard County's Stormwater Management Division initiated the restoration of a severely incised channel that flows behind a mobile home community. Stormwater from surrounding development had caused the channel to incise 8 feet, intercept a sewer trench, and expose 200 feet of sewer, which threatened water quality in Dorsey Run, a tributary to the Little Patuxent River and ultimately the Chesapeake Bay. The degraded channel provided little habitat or ecological function and it threatened existing infrastructure and private properties.

After assessing the site, Biohabitats developed three restoration concepts aimed at reducing erosion and stabilizing the stream while creating opportunities for ecological uplift and nutrient processing that would yield credits in the context of MS4 and Chesapeake Bay TMDL requirements. The final design, which incorporated elements of all three concepts, increased floodplain storage while maintaining stable conveyance through the steep stream valley with highly erodible soils. Since the sewer had failed twice, the County established an aggressive schedule for design and permitting. Biohabitats met the challenge and work was completed on time and within budget.

Post construction, the restored channel has been continuously monitored to adhere to Maryland Department of Environment and United States Army Corp of Engineers permit requirements. These ongoing monitoring efforts have indicated the restored stream network continues to maintain its design intent by reducing erosion and sediment, while improving ecological function.