

## Fox Hills North Stormwater Management Pond Retrofit

Potomac, Maryland



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*The retrofit of an outdated stormwater pond helps Montgomery County, Maryland comply with some of the most stringent MS4 permit requirements in the nation while improving stream conditions downstream.*

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### **SERVICES**

Ecological Restoration  
Infrastructure  
Water

**T**he Fox Hills North Stormwater Management Pond is located in a neighborhood that was developed in the late 1980s, long before the establishment of modern stormwater management practices and MS4 permits. During storm events, runoff from the 27% impervious, 55.4-acre drainage area neighborhood would flow into the pond. The low flow outlet for the dry pond would often become clogged by leaves, trash, and debris. The pond did not meet current design standards, with its embankment top width being less than that required for the dam height.

Given the site's location in a confined valley with steep slopes, pond expansion was not an option. To upgrade the facility to current standards and help the County meet its MS4 permit requirements, which are among the nation's most stringent, Biohabitats converted the pond into an extended detention pond. The design, which focused on providing channel protection volume control, enabled the facility to capture more peak-flow runoff and discharge at a much lower rate, improving stream health. The new low flow riser structure was designed to prevent clogging and alleviate maintenance burden. Improvements to the pond embankment, which included a synthetic clay liner and increased top width, brought the pond into compliance with MD378 regulations. The principal spillway was slip-lined with a fiberglass (BlueTek) liner extending the lifespan of the facility. Native plants within and along the perimeter of the pond basin absorb nutrients, provide habitat, and foster a more balanced aquatic ecosystem.

The retrofit helped the County meet its MS4 permit requirements, which are known to be among the most stringent in the U.S., while also enhancing local and downstream habitat and water quality.