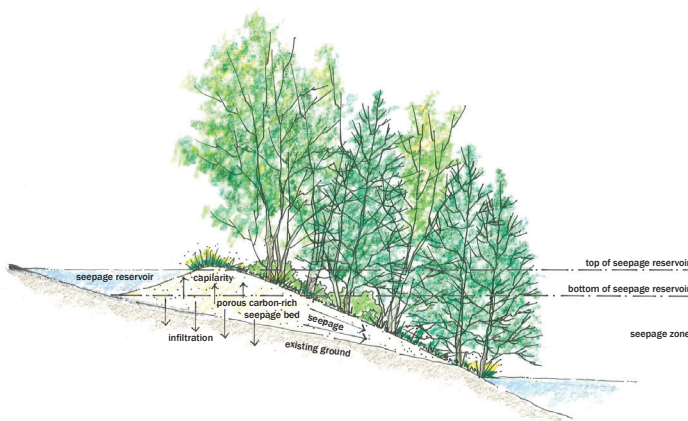


Wissahickon Sand Seepage Stormwater BMP

Montgomery County, Pennsylvania



top: Typical sand seepage stormwater BMP detail
bottom: Constructed sand seepage BMP

Biohabitats designed a unique sand seepage wetland BMP for the Wissahickon Valley Watershed Association (WVWA). A multipurpose trail on the Wissahickon floodplain maintained by WVWA crosses a stormwater tributary to Wissahickon Creek. Due to the trail's location on the

Biohabitats designed a unique, regenerative stormwater management system that elevates and improves a multiuse trail, filters sediment, debris, and pollutants, and captures 90% of the annual runoff from a tributary to Wissahickon Creek.

floodplain and its proximity to the stormwater tributary, it is frequently muddy and impassable.

The project involved designing an elevated riffle weir grade control structure]] at the upstream edge of the trail crossing, raising the stream invert elevation approximately 3-ft. A layer of sand and green mulch was placed on top of the existing trail on either side of the repaired stream channel and run on the trail for several hundred feet to tie into the existing grade, creating a low-head sand berm. This permeable, elevated trail/seepage berm will raise the trail and improve its walkability by preventing muddiness, while also capturing approximately 90% of stormwater runoff from the local neighborhood.

In addition to capturing runoff, the trail/seepage berm improves local wetland habitat by raising the water surface of the tributary and allowing water to form pools on the upstream side of the trail. The improved wetland habitat and permeable trail/seepage berm also filter sediment, debris, nutrients and other pollutants from the water before they enter Wissahickon Creek. A shallow arched weir designed as part of the trail/seepage berm will safely convey stormwater to Wissahickon Creek. This technique has been shown to improve water quality in the receiving streams.

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