

Dakota Crossing Vegetative Retaining Wall

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Problem:

For twenty years, a prime 20-acre parcel of land in DC sat undeveloped due to concerns about being able to effectively manage stormwater runoff. The parcel is located atop a steep hill, adjacent to the Anacostia river, in a gateway area of DC.

Solution:

When the Dakota Crossing mixed-use project was designed, developers created innovative solutions to keep polluted runoff out of the Anacostia River. Site design includes flow channels from parking lots and roofs that direct water into a series of cisterns, where water is pumped through a “SmartSlope” retaining wall via drip-irrigation tubing. Native grasses planted on the terraces of the retaining wall act as a vertical wetland, treating stormwater through bioretention and filtration. The system won a “Best Innovative BMP” award in the Chesapeake Stormwater Network’s 2015 Best Urban BMP in the Bay Award (BUBBA) competition. Dakota Crossing has benefitted the surrounding community by creating hundreds of jobs at onsite retailers, while minimizing impact to local water quality.



The retaining wall being installed in steep, non-porous clay earth site. Photo Credit: BUBBA Awards



Terraces in the living wall are drip-irrigated with storm water from the development.

Key Project Facts

Type of Project: Bioretention

Scale: 45,000 square feet treating 0.5 gallons per square foot per day (and 1.2 million gallons annually)

Cost: \$30 per SF, approx \$5 more per SF than standard retaining wall.

Funding Sources: privately funded

Partners: Furbish Company, Chesapeake Bay Seed Capital Fund, Maryland Industrial Partnership

Video: https://www.youtube.com/watch?v=ijUtj6_5c-s

More Info: <http://furbishco.com/wp-content/uploads/2014/03/SmartSlope-Brochure.pdf>

What is Polluted Runoff?

The growth of our cities has resulted in too many paved surfaces, which prevent rain water from being absorbed by the ground. Instead, the water runs off streets and buildings, collecting trash and dangerous chemicals on its way. This contaminated water overflows into our streams and rivers, creating public health hazards and toxic waters.

Storm water projects create safe paths for polluted runoff to be captured and filtered before it reaches our waterways. They keep communities healthy and the environment clean.

When communities and their local governments work together to solve big problems like storm water runoff, that’s a story worth telling!