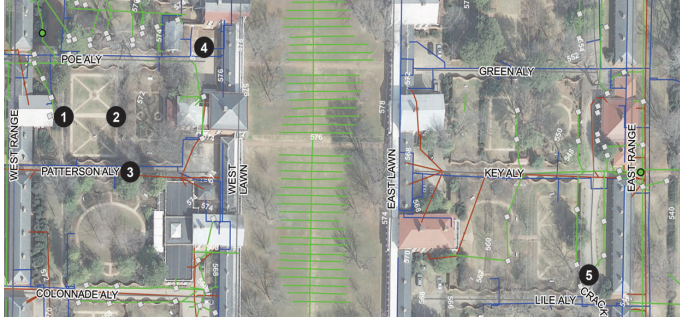


UVA Campus Utilities Stormwater Master Plan

Charlottesville, Virginia



from top: Campus Utilities Stormwater Master Plan (detail); Existing stormwater wet pond at UVA

The past decade has been one of tremendous growth for the University of Virginia. At the same time, the University holds a strong commitment to sustainability, one that is demonstrated in its governance, culture, academics, and operations, and backed by aggressive goals such as a 25% reduction in greenhouse gases and nitrogen from 2009 levels by 2025.

In working towards those goals, the University of Virginia seeks to improve the performance and sustainability of campus utility facilities. As part of a larger utility master planning effort led by Affiliated Engineers, Inc., Biohabitats identified infrastructure pinch points and opportunities to address

conservation planning
ecological restoration
regenerative design



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An integrated stormwater management plan helps ensure that as the University of Virginia grows, the efficiency and environmental sustainability of campus utilities will increase.

ineffective and inefficient systems in ways that yield higher performance and greater sustainability, and engender environmental stewardship. In the process, Biohabitats is helping the University to meet newer, more stringent Municipal Separate Storm Sewer System (MS4) permitting requirements tied to local watershed and Chesapeake Bay Total Maximum Daily Loads (TMDLs).

Biohabitats began by performing hydrologic modeling of the campus and conducting nutrient loading analysis and quantification. Field reconnaissance efforts identified potential retrofit opportunities. This, coupled with analysis of future redevelopment scenarios, enabled Biohabitats and the University to shape an implementation strategy for the University to pursue into the future to meet and exceed stormwater permit

requirements. This information was then integrated into the University's utilities GIS layers to facilitate and optimize coordination of capital projects across all utilities. In this way, the utilities master plan is a live, interactive, GIS-based tool that can be updated in real time to reflect the University facilities' progression toward true sustainability.

Biohabitats also prepared a water budget analysis at both campus and district scales, looking at opportunities for integrated water strategies that explore the potential for rainwater harvesting and onsite wastewater treatment as potential sources for energy system water demands.

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