UNIVERSITY OF VIRGINIA

Stream Restoration at UVA's College at Wise

Wise, Virginia

top: Initial conditions; above: Immediately after construction

Regenerative design transforms a degraded, ditched stream into an ecologically functioning system and a campus amenity.

The scenic 369-acre campus of University of Virginia's College at Wise is situated amid the Appalachian Mountains in Southwest Virginia. Originally founded to bring postsecondary and higher education to communities in Virginia's mountainous western and southwestern regions, the College now enrolls over 2,000 students.

In 2009, when the College began a two-phase project to renovate and expand its Science Center, they also wanted to restore a ditched and degraded stream that flowed through a mowed lawn area and into a campus lake. The lake was designed not only for aesthetics, but also for managing stormwater from the Science Center and surrounding campus development.

Using a regenerative design approach, Biohabitats restored the stream by raising the channel bed and reconnecting the stream with its floodplain. The final design, which mimics a beaver meadow system and incorporates riparian vegetation, enhances local ecology while also enabling the stream to process nutrients and pollutants. The restoration also allows the stream to further polish pollutants from upstream strip mining operations. The design had to consider numerous constraints due to utilities, roads, and buildings as well as not disturbing existing trees on the site.

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