UNIVERSITY OF VIRGINIA

John Paul Jones Arena Stream Restoration and Daylighting

Charlottesville, Virginia

top: After construction – meandering stream connected to floodplain
bottom left: Initial conditions
bottom right: After construction – step pools

This innovative design provided a stable, natural stream channel while also creating additional floodplain wetlands and riffle and pool habitat that had been missing from the degraded channel.

In order to aid the University of Virginia in its efforts to treat runoff from impervious area created by the construction of a new multipurpose arena/basketball venue, Biohabitats assisted with the design of bioretention facilities on the arena's main plaza, water quality swales throughout the main parking area, and a water quality drainage swale along the south side of the arena.

Biohabitats also designed the restoration of an unnamed tributary to Meadow Creek along the north side of the arena. This design had to minimize impacts to the existing forested buffer, avoid floodplain wetlands and restore a severely eroded channel. Biohabitats accomplished these goals by raising the invert of the channel, realigning the channel pattern and opening the channel cross section. Raising the thalweg reconnected the stream to its floodplain, which minimized the amount of grading, saved trees and reduced construction costs.

SERVICES

Inventory & Assessments,
Design,
Permitting
Construction Oversight
Construction Management
Public Outreach

conservation planning
ecological restoration
regenerative design

Biohabitats

800.220.0919
www.biohabitats.com

Physiographic Province
Piedmont

Bioregion
Chesapeake/Delaware Bays

Watershed
Rivanna