

Georgia's 2017

CLEAN WATER HEROES

Georgia Tech

TANYARD CREEK

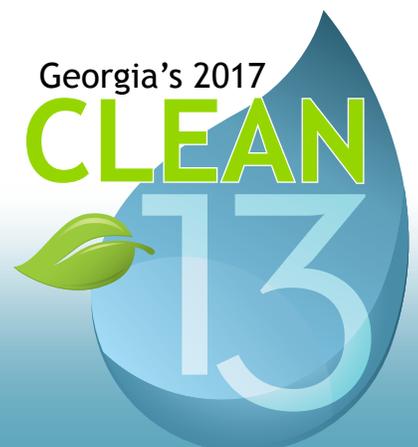
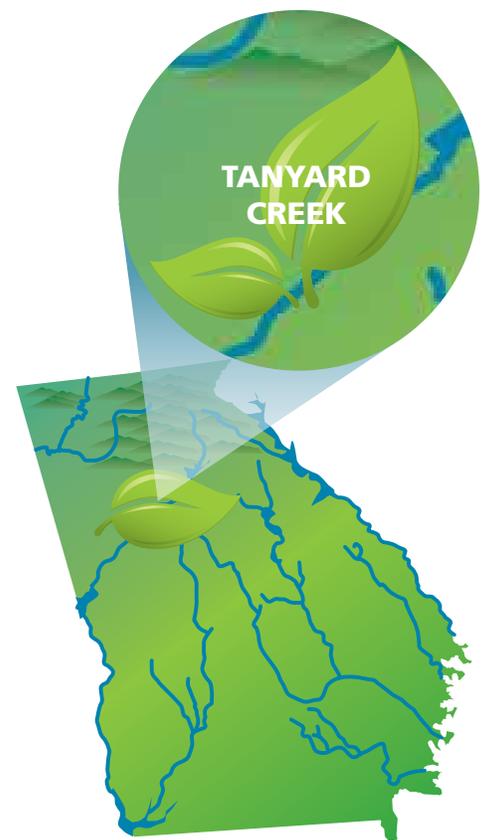
Georgia Tech Campus Captures Stormwater to Conserve Water and Protect Urban Stream

INTRODUCTION:

When Chattahoochee Riverkeeper was looking for a way to show a group of intown Atlanta residents how to use green infrastructure to manage stormwater at a proposed neighborhood park, they had to look no further than the campus of the Georgia Institute of Technology. Georgia Tech has been a leader in green infrastructure since it built its first LEED certified building in 2003. Since then, the Institute has taken on the challenge of managing the rain that falls on the campus. Now that rain is collected and conserved, and the campus has become a veritable zoo of green infrastructure projects that save water and keep pollution out of local streams. The campus' green solutions to stormwater runoff are so numerous, faculty and students have even developed a smartphone app that allows anyone to take a virtual tour of Tech's innovative approaches to managing stormwater.

THE WATER BODY:

In 1888, when Georgia Tech opened its doors, Tanyard Creek flowed through what was then undeveloped property west of Georgia Tech's iconic Tech Tower building. When thunderstorms rattled over Tech students in those days, the rain hit the ground and seeped slowly into it and eventually to Tanyard Creek. Over the course of the next century as the Institute and Atlanta grew in unison, Tanyard was slowly piped and buried. Today, almost 70 percent of the land surrounding Tanyard Creek is covered in concrete, asphalt and buildings. Now, when rain hits the ground, instead of soaking in and moving slowly to the creek, it rushes off these hard surfaces picking up pollutants and spilling into the creek in torrents. For the creek, that change has been devastating. The resulting stormwater runoff is one of the biggest threats to Tanyard Creek, causing erosion and harming the stream's health. In larger storms, this rain water runoff can also strain Atlanta's underground combined sewer system. As development in the watershed increases, the volume of runoff and its impacts do the same. But, over the last decade, Georgia Tech has attempted to make its urban campus behave like the wooded landscape that existed when the school was founded.





THE CLEAN:

With a campus filled with 25,000 of some of the smartest undergraduate and graduate students in the country instructed by national experts in far-ranging fields of engineering, it's no surprise that Georgia Tech is on the cutting edge of green infrastructure projects. But, can the campus achieve its goal of restoring the historic function of Tanyard Creek as it set out to do when it adopted its 2004 Campus Master Plan?

More than a decade into the effort, the engineers are off to a hell of a start.

The Institute is restoring Tanyard Creek by creating an Eco-Commons, a series of connected greenspaces that mimic what happens to rain when it hits the ground in a natural setting. The goal is to reduce the campus' contribution to Atlanta's Tanyard CSO Treatment Facility by 50 percent.

Around the campus are other projects that help protect Tanyard Creek. The Clough Undergraduate Learning Commons features a green roof and the building's cisterns capture up to 1.4 million gallons of rain water and air-conditioning condensate for reuse throughout the building; the Klaus Advanced Computing Building captures rainwater in 120,000 gallon cisterns for reuse and is surrounded by infiltration rain gardens that decrease the building's stormwater runoff by 34 percent; and Roe Stamps Athletic Field features 332,000 gallons of below-ground stormwater infiltration capacity.

In 2013, the Institute adopted a stormwater master plan that sets the goal of using green infrastructure to manage the first 1.2 inches of stormwater runoff from any redeveloped areas, a standard nearly 20 percent better than what's required by law.

And, coming soon, administrators expect to begin construction on what will be Atlanta's first Living Building, a structure that will produce more energy than it uses and that collects, treats and uses all water on site. Among the expected features of this classroom building will be composting toilets, a solar array, radiant floor heat, and a rooftop garden with honeybee apiary and pollinator garden.

Georgia Tech's holistic approach to water management on campus is an impressive model for others to follow, and the cumulative impacts of Tech's green infrastructure projects mean a healthier Tanyard Creek. Downstream of the campus, Atlantans are returning to the creek along recreational trails in Tanyard Creek Park that is part of Atlanta's ambitious Beltline multi-use trail system.

Though Tanyard Creek may never see the light as it did when students first walked through Tech's doors in 1888, nearly 130 years of engineering has brought solutions that may one day restore it to a semblance of what it once was.

Top: Landscaping on the Georgia Tech campus is designed to allow rainwater to soak into the ground. The designs also trap sediment and other pollutants before they flow to stormwater systems and on to nearby creeks. Left: Porous brick pavers on the Georgia Tech campus allow rainwater to seep into the ground, helping eliminate stormwater runoff surges to nearby Tanyard Creek.



For More Information Contact:

Jason Gregory, Senior Educational Facilities Planner, Georgia Institute of Technology, 404-385-0834, jason.gregory@cpsm.gatech.edu
Erik Fyfe, Chattahoochee Riverkeeper, 404-352-9828, efyfe@chattahoochee.org