



# Engineering & Property Management Sustainability Newsletter

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**IN THIS ISSUE: The Sustainability Benefits of Properly Managed Stormwater**



Storm Water Services conducts a variety of important work including flood control projects, water quality improvement projects, and storm drainage system maintenance. Public safety is an obvious benefit of the Division’s work– reducing flooding can save lives. Many projects have a much broader spectrum of benefits, including environmental, social, and financial. Linda Lake in east Charlotte is one such project.



**BEFORE**

The Linda Lake project began like many, when a citizen reported severe erosion in the drainage channel on their property. A dangerously deep gully had formed and began to jeopardize property. Staff saw an opportunity to repair the problem using a fairly new engineering method called regenerative stormwater conveyance, or RSC for short. RSC uses a series of step pools to detain and infiltrate stormwater flow. Materials such as rock, plants, sand and woodchips are used to create a more natural system as opposed to a traditional concrete pipe channel and outfall.



**AFTER**

**PLANET:** Though there are many benefits to the project, the environmental benefits of the Linda Lake project are the most obvious. An estimated 1,400 tons of sediment had previously washed from the site and deposited into Reedy Creek. When sediment settles in creek beds, it destroys aquatic habitat, increases erosion and flooding, and deposits other pollutants like nutrients and heavy metals attached to the sediment. This project stabilized the outfall drainage channel, greatly reducing sediment discharges, and filtered out other stormwater pollutants.

**PEOPLE:** From a social perspective, think about what clean creeks mean to a community and the social benefits become clearer. By reducing pollutants to the creek, it becomes more enjoyable for citizens, especially for kids who love to play in them and observe and learn about the critters that inhabit the creeks. The RSC project itself adds great aesthetic value to the property with its waterfall-type design and use of natural materials.

**PROFIT:** Clean creeks are more aesthetically pleasing, which also provides an economic benefit in terms of property values for homes along creeks. The RSC project provides other numerous economic benefits. It’s part of Storm Water Services’ Pilot Program where structural control measures are installed and tested to determine their effectiveness. Having a suite of treatment measure options also allows developers to choose the option that best fits a development scenario, thus providing the best “bang for the buck”.

Creeks eventually lead to lakes that are a source of drinking water, so having a clean water source means less money spent to treat the water for drinking. Water recreation is also a vital part of our economy when you think of all the fishing, boating and swimming that take place in our local lakes.

For any questions you may have about this project, contact *Isaac Hinson* 704-336-4495 [ihinson@charlottenc.gov](mailto:ihinson@charlottenc.gov)