

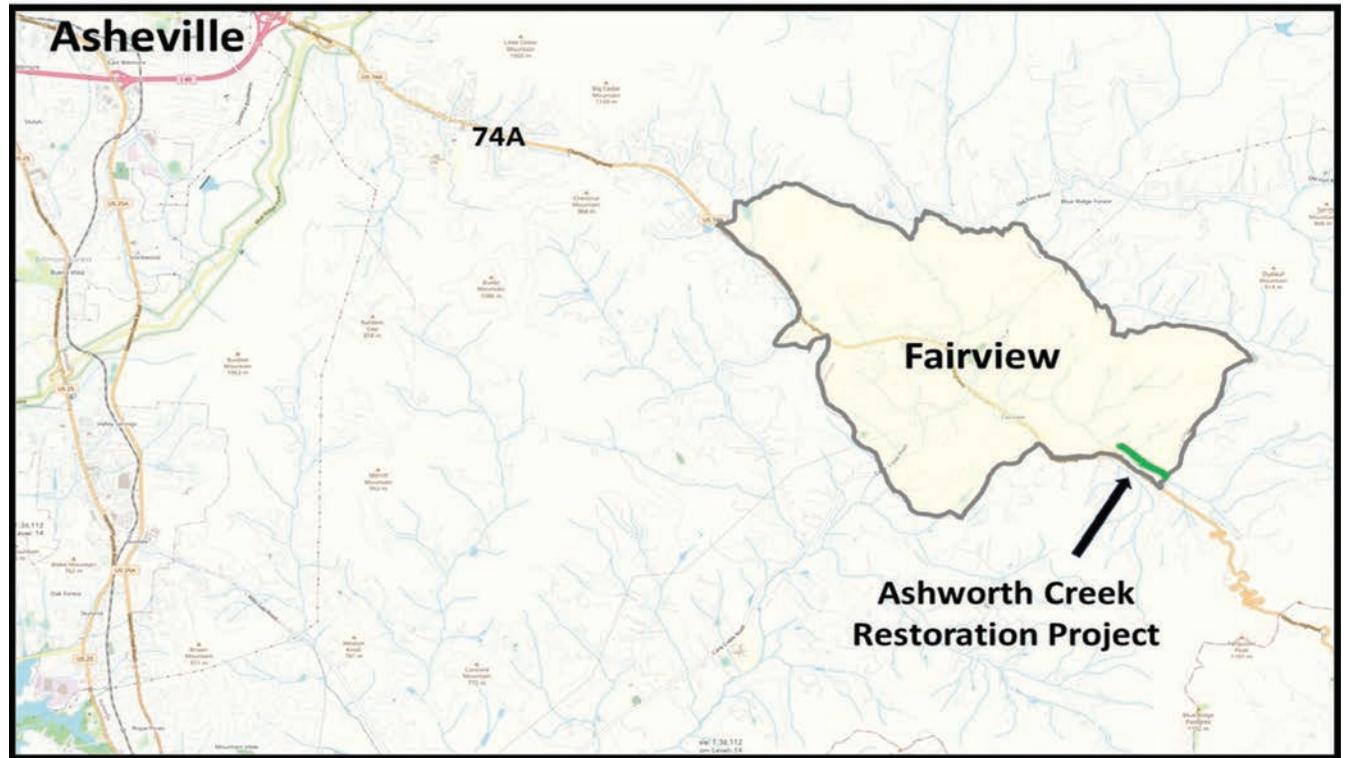
Repairing Long-Past Damages to Ashworth Creek

What comes to mind when you think of a healthy, undisturbed creek—a straight channel, or a curving, meandering channel that winds its way through the landscape’s hills and valleys? In all of nature, straight lines are rare and usually human-made; curves are the natural pattern of most streams and rivers. Streams meander and curve as water seeks to flow through the lowest path in the landscape. Even when streams flow across flat valleys, they don’t flow in a straight line and still tend to meander back and forth.

“Straightened” Channels

This natural meandering pattern posed a dilemma for early settlers and farmers in our area, who had very limited flat land available in the first place. A common practice many decades ago was to “straighten” stream channels to enable more acreage in flat areas to be farmed. Although this practice did temporarily increase the arable acreage in some areas, it also came at a price—a never-ending battle to maintain the straightened stream channels against the natural tendency of streams to erode back into their original meandering patterns. Along with all the extra maintenance, additional problems often occurred. Straightened channels would flood more easily and damage adjacent crops. Fish habitats became degraded. The faster, more powerful flow in a straightened channel would erode tons more soil from the stream bottom and banks, harming water quality downstream. And in some areas, the erosion carving the streambed would also drop the water table deeper and deeper, making the farmland drier.

Fast forward to now, when stream dynamics and soil erosion are better understood than 100 years ago. Stream straightening is a far less common practice and is even prohibited in most areas. But



Location of the Ashworth Creek Restoration Project

many historically straightened streams still exist. One local example in Fairview is the section of Ashworth Creek that passes through Flying Cloud Farm (see map) between Hollywood and Wilson Roads. This section was channelized and straightened in the 1800s to create easier farming. Over time, this part of the creek eroded badly, damaging its banks and sending sediment down through Cane Creek, the French Broad River and beyond.

A Win-Win

As active farmers that aim to be environmentally friendly as well as agriculturally productive, Flying Cloud’s owners Annie

and Isaiah Perkinson and area landowners including the Lynch and Hamilton families looked into the possibility of creek restoration to halt their soil loss and improve water quality. When initial studies revealed that the property was losing 150 tons of soil per year as sediment washed downstream, they were convinced that restoring a more stable and natural stream channel would be a win for their farming and for the water quality downstream.

Key Partners

A restoration proposal involved the US Department of Agriculture, the State of

North Carolina, and Buncombe County Soil and Water as funding partners under coordination provided by The Resource Institute. The restoration design and fieldwork are being carried out from mid-2023 through winter 2024 by Jennings Environmental and their subcontractor, North State Environmental—both experienced specialists in stream restoration.

Project Goals

Project goals are: reduce soil erosion by stabilizing streambanks; bring the creek back to a more natural, meandering pattern; and improve water quality locally and downstream. In other words, the



The new, curving channel and more gently sloping banks were created by the heavy equipment in the background. Although many trees were removed, the new plantings will all be native trees and shrubs of much better diversity than the former vegetation.



The brush toe technique protects the erosion-prone bottom of the near bank by anchoring stumps and roots all along the water’s edge. Layers of straw and coconut fiber fabric reduce erosion on the upper slopes while new vegetation gets started.



In this log-and-rock vane design, the log (right shore) protects the bottom of the sloped bank while the curve of large rock slabs across the stream directs flow to create a deep pool in the center.



Grasses sprouting through the bank stabilization fabric are just the first of more vegetation plantings yet to come, including a variety of native trees and shrubs.

project is going to transform about a half-mile of old, straightened creek channel to a natural meandering pattern with more gently sloped banks revegetated by native trees and shrubs.

Have Faith, Fairview!

This isn't simple. Restoring a formerly straightened stream requires permits, highly technical engineering designs, correct choice of restoration techniques used, and the use of heavy equipment to move earth and reroute water flow. Fortunately, the opportunity to control so much soil erosion and improve water quality in one project attracted the funding agencies and the experienced restoration firms that were needed. Ironically for a project that will eventually result in a more natural creek setting, the site will look very scoured before the new bank vegetation becomes established.

Much to their credit, Flying Cloud Farm has reached out to reassure onlookers that this is just a temporary appearance and a healthier, more natural-looking creek corridor will soon develop. Have faith, Fairview—it will look better and better each year. I've seen speedy recovery on my own property along Cane Creek, where a streambank denuded by the August 2021 floods is already completely revegetated, including saplings up to 8 feet tall.

I was able to walk the restoration project site in October with Flying Cloud's Annie Perkinson after the most

dramatic earthmoving had already reestablished a new, curving path for Ashworth Creek. Why, I asked Annie, did you take on this large restoration effort? For conservation-minded farmers, reducing soil loss and improving water quality were evident benefits, for themselves and the communities downstream. But beyond that, restoration was consistent with the philosophy of her multi-generational, local farming family—and in particular, it would honor the memory of her late relatives William and Dr. Will Hamilton.

Disturbance is Temporary

Photos capture the complexity of this project better than words alone. Because of my own past experience in streambank restoration, I knew it would be hard to see denuded streambanks and several trees removed. But I was reassured to know that the disturbance is temporary, and it's always worth it to replace an erosion-prone straight channel with the natural stream pattern that was created long ago.

Here's to the ongoing rebirth of Ashworth Creek, and thank you to the landowners, organizations and agencies that are helping to make it happen.

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