



Fire & Water



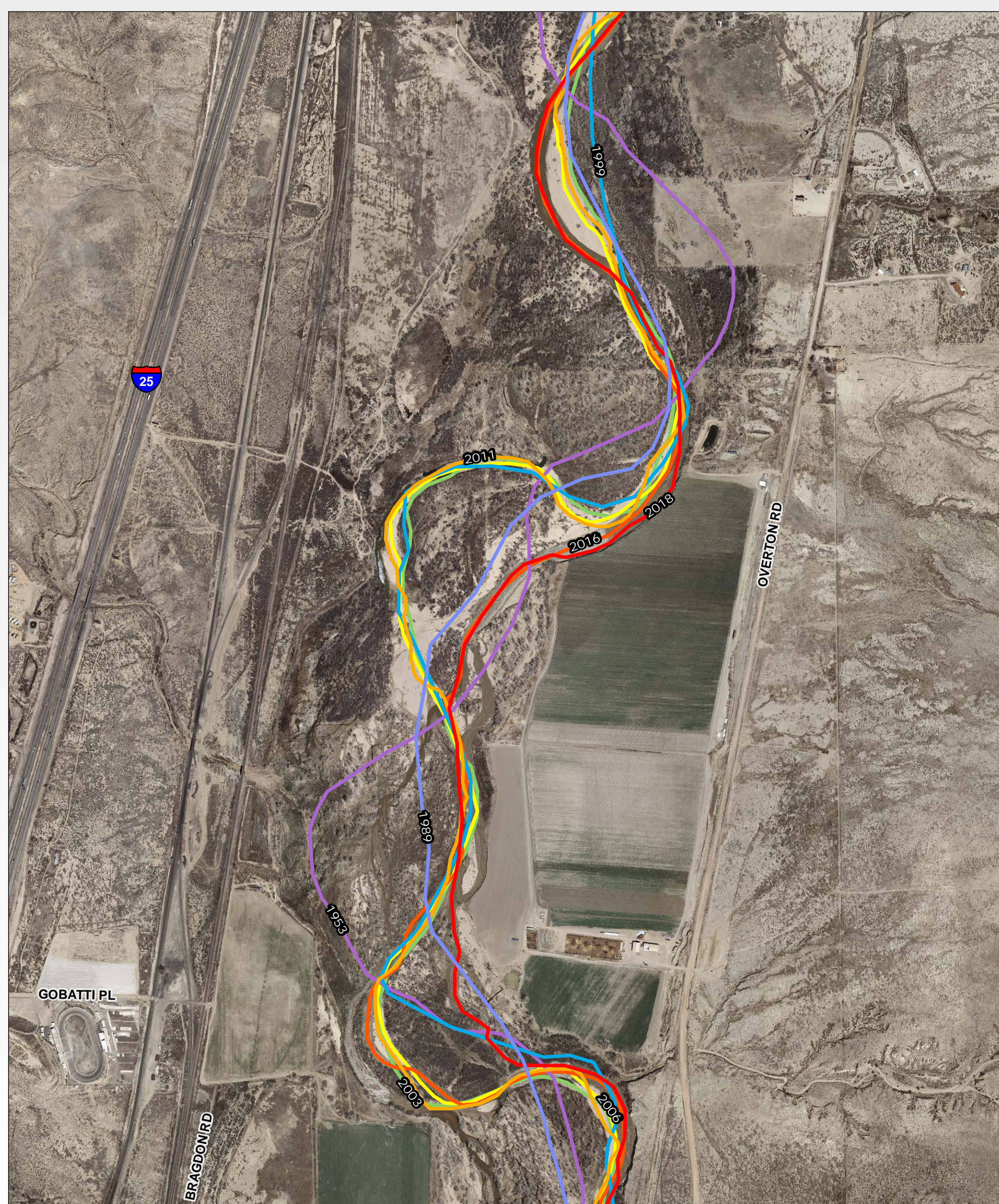
Harvesting Burn Scar Material for Nature-Based Bank Protection

The Challenge

Barr Farm, located in Pueblo County, covers a one mile reach of Fountain Creek. The project scope included a combination of stream restoration and post-fire forest management.



Pre-project conditions



A 2017 WARSSS study showed that degrading channel banks were contributing significant sediment loads into Fountain Creek. 7,245 feet of eroding banks contributed to an estimated 11,482 tons of sediment per year.

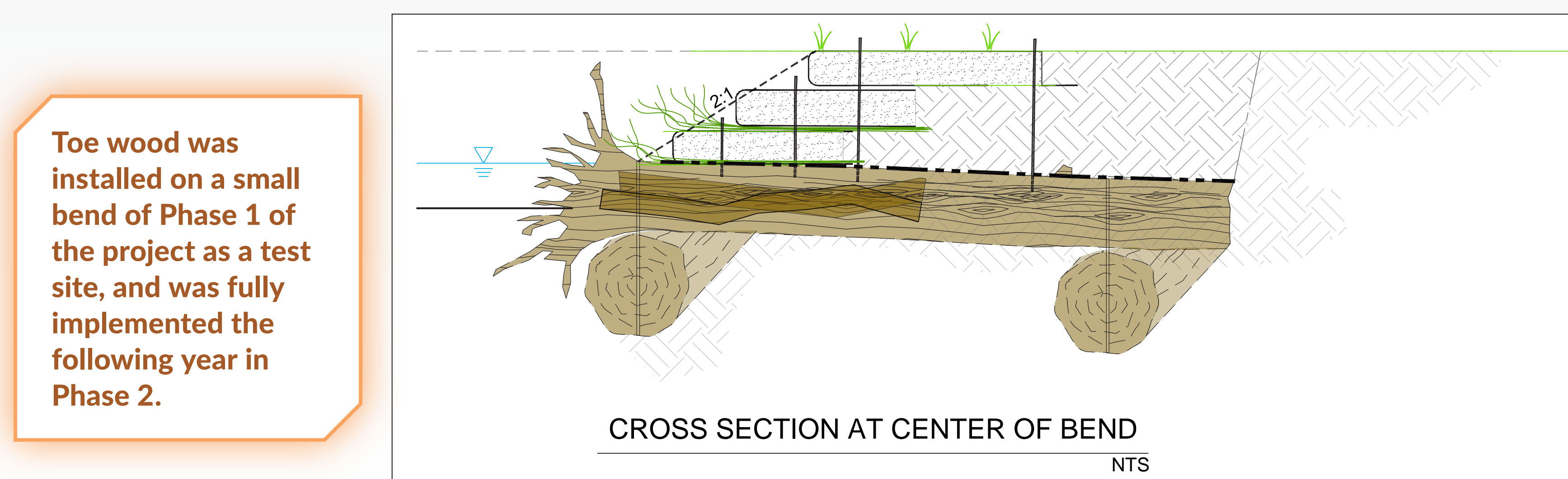
Fountain Creek Watershed Flood Control and Greenway District hired Matrix to develop alternatives to stabilize the adjacent cliff wall, and reduce sediment loading in Fountain Creek. This work included platform adjustment, bank protection, and revegetation.

Innovative Solution

To reduce cost, the team developed a solution to utilize logs and materials from the 2018 Spring Creek Fire burn scar.



Toe wood design included structural analysis, wood saturation and buoyancy analysis, and analysis of the life expectancy of woody materials.



Toe wood was installed on a small bend of Phase 1 of the project as a test site, and was fully implemented the following year in Phase 2.

Value Added

By harvesting burn-scar materials for toe wood, the project provided benefits to the stream, forest, and downstream residents of Pueblo.



By installing toe wood instead of riprap, this nature-based bank protection saved 40,000 tons of riprap and reduced project cost by 40%.