



**US Army Corps
of Engineers®**
Fort Worth District

Sponsor: City of Gainesville

Local flood damage reduction of Pecan Creek

Project Fact Sheet
Continuing
Authorities
Program (CAP)

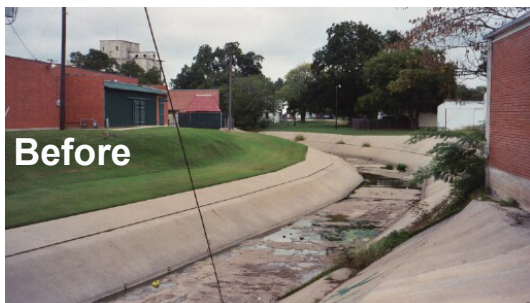
July 14, 2015

Type of Project: Section 205, Local Flood Damage Reduction

Authorization: 1948 Flood Control Act

Status: Construction of the \$15 million project was completed in July 31, 2013.

Background: The project is in Gainesville, Texas, a city of 16,000 located 65 miles north of Dallas-Fort Worth. Pecan Creek, a tributary of the Trinity River's Elm Fork, flows south through the center of the city, draining a 15.5-square-mile watershed. Periodic flooding cut off one side of the city from the other. Damages occurred even from two-year storms. Annualized flood damages were \$783,300. Major floods occurred in 1981, 1989, 1990, 1993 and 2007. The most damaging storm, June 18, 2007, delivered 7 inches of rain, resulting in three fatalities and damaged several hundred residential and commercial structures. Existing creek capacity, a trapezoidal channel 15 feet wide at the bottom, was insufficient to pass these flows. Much of the flagstone-lined channel was built in the 1930s by the Civilian Conservation Corps, with some stretches later updated with concrete. Channel



capacity was only 25 percent of the 100-year peak runoff. The project tripled flow capacity by widening the channel bottom to 30 feet along a 7,860-foot stretch of Pecan Creek. Grass-lined banks had less steep 3.5-1 ratio side slopes. Utilities were relocated and bridges rebuilt. Naturally occurring rock layers were used for the channel bottom and some side slopes. Ecological mitigation was accomplished within the project on 22 acres. The natural look and property acquisitions dovetail with city master plans for a recreational greenbelt in the heart of the city.

Passing the test: The Pecan Creek project successfully passed heavy spring rains totalling 18.6 inches in May 2015. That's half of Gainesville's average *annual* precipitation of 36.9 inches per year.



Creek bedrock blends in naturally with this new gabion wall to give a park-like feel.