

# Modular Gabion Systems

## Project

Location:

Concho River, San Angelo, Texas

Contractor:

Regency Construction

Engineer:

SK Engineering

Specifier(s):

City of San Angelo

Upper Colorado River Authority

Project Date:

1999

This project addressed poor water quality in the north fork of the Concho River, a tributary of the Colorado River, downstream from the O. C. Fisher Reservoir. Construction of this reservoir in 1952 reduced scouring flows and virtually eliminated flooding along the Concho, however since the 1970s the river has been burdened with urban run-off and non-point source pollution causing fish-kills and foul odor.

The Concho River project consists of two gabion structures constructed at a primary watershed. The secondary structure (image 2) is a gabion wall which bisects an existing retention pond in a downtown San Angelo park. This ½ acre retention basin, which probably dates to the 1930s, had been known to collect 2-4 feet of sediment annually (image 4). This sludge diminished the treatment effectiveness of the pond and, when discharged under heavy water flows, it threatened water quality in the river. Construction of the gabion wall created a filter to remove much of the sediment before it reached the outlet of the pond (image 5) and allowed some of the water to be diverted (image 1) to the second pond created behind the primary gabion structure (image 3) built directly on the river bank to maintain normal water levels in the pond.

The primary BMP structure is a gabion wall and drop structure constructed immediately along the river, creating a new retention pond along the banks. Water is discharged into this pond from the retention basin in the park and seeps through the wall into the river. The gabion wall traps sediment and "floatables" before they can reach the Concho and the debris is removed by city crews.

Reference: North Concho River, Urban Runoff/Non-Point Source Abatement Master Plan and Demonstration Project Final Report. Contract Number 52000000021. Prepared by the UCRA, November 1999.



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