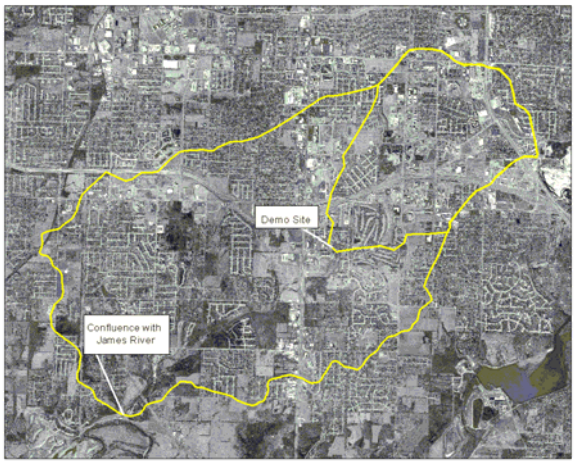
Ward Branch Channel Preservation, Restoration & Enhancement

Introduction

The Ward Branch watershed (11 square miles), a tributary of the James River, has experienced rapid urban development over the past 20 years, as a result stream channel erosion threatens homes, utilities, bridges and poses an unsightly and costly maintenance problem. Sediment eroded from stream channels contributes to pollution problems in the James River and Table Rock Lake located downstream.



Current stream restoration protocol emphasizes the use of bioengineering techniques addressing fluvial geomorphic processes as a sound management tool for stabilizing urban streams. However, these techniques must be adapted to local conditions and local consultants and contractors must understand when and where to install these practices. This project will be the first in this area that brings together a local interdisciplinary team of experts to develop and design appropriate bioengineering techniques to stabilize an urban stream in the Ozarks region.

Project Goals

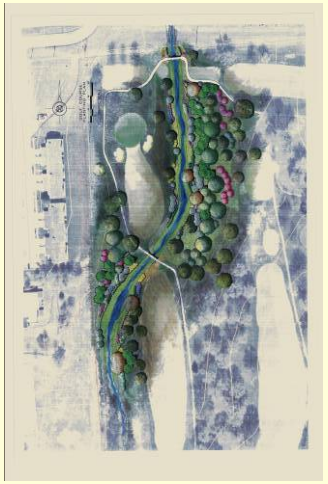
(1) Develop, install and monitor alternative stream stabilization techniques for urbanizing Ozarks Streams

(2) Evaluate stream stabilization techniques based on cost, availability of materials and effectiveness

(3) Educate area residents, developers, contractors and community leaders on the importance of stream channel erosion in the transport of nutrients linked to water quality in the James River Basin

Field Data Collection

Field data and measurements will be performed by Missouri State University students and staff, and utilized by the hydrologist, engineer, and planting specialist in determining the proper selection and placement of stabilization practices. A basin hydrologic model will be utilized to estimate and compare stream flows for storms of varying duration and rainfall. The number of practices to be installed were determined based upon the completion of data collection and assessment of the watershed.



Stabilization Practices

The following bioengineered channel restoration practices will be installed:

- Riparian corridor planting
- Reshaping streambank
- Vegetation stabilization through live planting
- Toe protection using large stones
- Root wads placed in channel
- Flexible vertical bank armoring

Project Team

Watershed Committee of the Ozarks

Technical Assistance
Volunteer Coordination
Educational Materials

Technical Assistance
Stream Morphology
Stream Biology
Streambank Stabilization
Landscape/Planting Plan

Technical Assistance
Stream Morphology
Field Measurements
Data Collection
Monitoring

Technical Assistance
Stream Morphology
Field Measurements
Data Collection
Monitoring

Project Management
Technical Assistance
Engineering and Design
Property Owner Outreach

Project Team

Project Funding
Technical Assistance

Volunteer Coordination

Contact Information

Greene County, Missouri
Resource Management Department
940 Boonville Avenue
Springfield, MO. 65802
Phone: (417) 868-4015
Fax: (417) 868-4175

"U.S. Environmental Protection Agency Region VII, through the Missouri Department of Natural Resources, has provided partial funding for this project under Section 319 of the Clean Water Act."

Ward Branch Channel Preservation, Restoration & Enhancement

Greene County Missouri
Resource Management Department
Fall 2006