

**Wolf Pen Creek Upper Trails Project
College Station, Texas**

**Revised Mitigation Plan for
Section 404 Nationwide Permit 14
Application No. 200200723**

15 April 2005

INTRODUCTION

The Wolf Pen Creek Upper Trails Project involves the construction of a pedestrian trail system through the heavily wooded floodplain of Wolf Pen Creek in College Station. The trail meanders through the floodplain from the George Bush Drive Bridge on the west to the Dartmouth/Holleman Drive intersection on the east. The plan calls for six stream crossings over the length of the project, four over the main channel and two over a tributary that joins the main channel within the project area. The plans also call for seven bank stabilization projects to address localized erosion problems in the vicinity of the trail. One is directly associated with the trail and six others are isolated from the trail in nearby areas along Wolf Pen Creek.

The mitigation plan described below is submitted in conjunction with Application No. 200200723 for the Wolf Pen Creek Upper Trails Project in College Station, Texas. The USACE has determined that this project falls under the authorization of Nationwide Permits 14 (Linear Transportation Projects) and 13 (Bank Stabilization). A condition of NW 14 requires the submission, implementation, and adherence to a mitigation plan to compensate for adverse project impacts to waters of the United States.

AVOIDENCE AND MINIMIZATION OF IMPACTS TO WATERS OF THE U.S.

During initial planning of this project, the stream crossings were of particular concern due to the high water levels that could be experienced in the Wolf Pen Creek floodplain over the design life of the project. Computer models of the stream indicated that water levels could rise as much as eight feet above the top of the stream bank in some locations. The City's initial option was to install pre-fabricated pedestrian bridges over the stream and avoid any disturbance of the streambed or its associated habitat. However, there were two significant problems with this option that could not be easily overcome. First, large debris, such as fallen trees, would be carried down the stream during heavy rainfall events and lodge against these bridges causing high lateral loads to the structure. Light pedestrian bridges such as those being considered are generally not designed for

high lateral loads and could be severely damaged under these conditions. Secondly, the bridge footings on either side of the stream would have to be elevated above flood stage to prevent flowing water and debris from dislodging the structure. These elevated ends would require long ramps to be constructed in order for pedestrians to use the bridges. It was determined that these ramps would adversely affect the appearance of the trail system and detract from the natural setting found in this densely wooded area. The solution was to install reinforced box culverts in the stream and allow the trail to cross at approximately the same level as the top-of-bank on either side. Large floating debris carried by floodwaters would either pass over the crossing or lodge against the culvert with little or no damage to the structure.

Under the proposed design, sections of the streambed would be impacted by the installation of the reinforced concrete structures. To minimize these impacts, the crossings were designed to be only long enough for the trail and a ten-foot clear zone on either side of the trail to prevent pedestrians from falling into the stream. A ten-foot section of rock rubble is also planned at the outfall of the box culverts to minimize erosion in the stream adjacent to the structures. The length of streambed impacted by the stream crossing varies from 47 to 56 feet for the six crossings. Individual lengths are described in the Pre-Constructed Notice. That document computes the total length of impacted streambed to be 299 feet for the stream crossings. It also describes a segment of stream that must be realigned to address a localized erosion problem that threatens an adjoining business. This realignment shortens the stream length by approximately 30 feet. The total length of streambed that is impacted by the stream crossings and realignment is 329 feet.

The width of the streambed between banks at the ordinary high water mark varies significantly throughout the project, but averages approximately 27 feet. For estimation purposes, a 50' wide section adjacent to each bank was assumed to have influence on the aquatic habitat of the stream. Using these figures, the computation for impacts to Waters of the U.S. is as follows:

$$329' \times (27' + 50' + 50') = 41,783 \text{ s.f. or } 0.959 \text{ acres (rounded to } 1.0 \text{ ac.)}$$

MITIGATION AREA

The City of College Station proposes to mitigate impacts to the Wolf Pen Creek streambed through the Steele Creek Mitigation Bank in Robertson County, Texas. This is a USACE approved mitigation area whose primary service area covers all of Brazos County, including College Station and the Wolf Pen Creek drainage basin.

Contact Information:

Steele Creek Mitigation Bank
Robertson County, Texas
Owner: Steel Creek Properties
Contact: Larry Byrd
(903) 845-4094
(903) 845-1805 (fax)

Computations for the credit area needed in this mitigation bank are as follows:

Service Area Multipliers for Steele Creek Mitigation Bank

Primary Service Area	1.0
Secondary Service Area	1.5

Impact Multipliers for Steel Creek Mitigation Bank

For permanent impacts on:

High quality habitat	6.8
Medium quality habitat	4.8 *
Low quality habitat	2.8

* *Medium quality habitat was assumed based on conversations with USACE officials who have visited the site.*

Credit Area = (Impacted Area) x (Service Area Multiplier) x (Impact Multiplier)

Credit Area = 1.0 acre x 1.0 x 4.8
= 4.8 acres

The City of College Station will secure 4.8 acres of credit from the owners of the Steele Creek Mitigation Bank to be reserved for aquatic and riparian habitat similar to that impacted by the Upper Trails Project on Wolf Pen Creek. Documentation of this transaction will be submitted to the USACE as soon as it is completed, which is expected to be within 30 to 60 days following approval of this mitigation plan. All maintenance and oversight of the 4.8 acres will be the responsibility of the owner and operators of the Steele Creek Mitigation Bank.

REPORTING

The City of College Station shall establish and implement a self-monitoring program that includes the following actions:

1. Notification to the USACE of the schedule of construction activities for each phase of the project at least 30 days prior to the start of soil-disturbing activities,

2. Designation of a responsible party to coordinate with the Regulatory Branch, Fort Worth District, USACE concerning on-site inspections and compliance with permit conditions.

That party shall be:

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The reporting program shall include annual, written compliance reports to the USACE, due October 1 each year, beginning in October, 2005. The City of College shall report any schedule changes and a summary of all activities that occurred during the reporting period, including compliance with NW 14 and 13 conditions, documentation of the progress and/or completion of all authorized work, and any maintenance activities that occurred the previous year. The City of College Station shall detail in the first report the pre-construction conditions of the project area. The City of College Station shall include in each report photographs, maps, and a description of the impacts to the waters of the United States. Compliance reports are required even if no work is conducted during the reporting period. The City of College Station shall submit compliance reports until the USACE verifies that it has successfully completed all conditions of NW 14 and 13, and all authorized activities in the mitigation plan.