

Workplan / Grant Application / Project Summary Report
Upper South Branch BMP Implementation Plan

Submitted by: **Buffalo-Red River WSHED**

Grant Fund Type: CWF Runoff Reduction

Fund Year: 2011

| | | | | | | | |
|----------------------------|---------------------|---|---------------------|--|---------------|---|---------------------|
| <i>Total Grant Amount:</i> | \$112,694.00 | <i>Amount Budgeted for this Workplan:</i> | \$112,694.00 | <i>Amount Spent for this workplan:</i> | \$0.00 | <i>Amount Not Spent on this workplan:</i> | \$112,694.00 |
|----------------------------|---------------------|---|---------------------|--|---------------|---|---------------------|

BMP Detail Summary

| Number of BMP's Installed | BMP Name | Shape Type | Linear Ft. | Total Acres | Total Mapped BMPs | Soil Loss Reduction Tons/Yr | Sediment Reduction Tons/Yr | Phosphorus Reduction Lbs/Yr |
|---------------------------|----------|------------|------------|-------------|-------------------|-----------------------------|----------------------------|-----------------------------|
| | | | | | | | | |
| Total # installed BMPs: | | | | | | Tons/Yr | Tons/Yr | Lbs/Yr |
| Total # mapped BMPs: | | | | | | | | |



Initiative Name: **2011 CWF Upper South Branch BMP Project – Grant Admin.**Initiative Type: Admin/CoordinationYear: 2011Description

The Buffalo-Red River Watershed District Engineer (Erik Jones, Houston Engineering) will be responsible for all general eLINK, website, and semi-annual and final reporting documents for the project. The West Otter Tail SWCD (Brad Mergens, District Manager) will be responsible for entering eLINK site specific information for cooperator BMP implementation in Otter Tail County and the Wilkin County SWCD (Donald Bajumpaa, District Manager) will be responsible for entering eLINK site specific information for cooperator BMP implementation in Wilkin County. Cost share dollars provided through this grant will be paid directly from the Watershed District to the landowner. The SWCDs (as TAAs) will itemize/determine the cost-share dollars required for the BMP installed and these dollars will be paid directly to the cooperating landowner. Local match for this grant is anticipated to come from the BRRWD's 103D.905 subd. 3 Fund. These are funds raised locally through an ad valorem tax over the entire Watershed District.

Actual ResultsComments

Grant Agreement PO # 17941 includes the funding for two projects (Upper South Branch BMP Implementation Plan and 2011 CWF Wolverton Creek Restoration). The grant's grand total is \$388,592 with the following details:
 Upper South Branch BMP Implementation Plan: \$135,363 total (\$112,694 Runoff Reduction + \$22,669 Restoration Technical Assistance)
 2011 CWF Wolverton Creek Restoration: \$253,229 entirely Runoff Reduction funds.

FUND(s)

| | <u>Budgeted</u> | <u>Approved</u> | <u>Spent</u> | <u>First Spend Date</u> | <u>Last Spend Date</u> |
|--|-----------------|-----------------|--------------|-------------------------|------------------------|
| 1. 2011 - Restoration Technical Assistance - Buffalo-Red River (WSHED) | 907.00 | 0.00 | 0.00 | | |
| 2. 2011 - Runoff Reduction - Buffalo-Red River (WSHED) | 4,508.00 | 0.00 | 0.00 | | |
| Totals: | 5,415.00 | 0.00 | 0.00 | | |

Initiative Name: 2011 CWF Upper South Branch BMP Project – Project Dev.Initiative Type: Project DevelopmentYear: 2011Description

The Watershed District will set up a meeting (tentatively in end of June 2011) with landowners in 2011 to discuss the results of the BMP Implementation Planning. West Otter Tail and Wilkin SWCDs will be in attendance as project partners and to allow some face-to-face marketing interaction with the landowners. The West Otter Tail and Wilkin SWCDs will market BMPs and conservation programs by meeting with individual landowners in the watershed (June 2011-November 2011). In excess of 100 individual meetings are anticipated. The West Otter Tail and Wilkin SWCDs will work with landowners to line up construction of up to 6 sediment basins. Additional USDA \$ (CRP, AWEP, EQIP) are anticipated to be brought into the project through landowner participation. The SWCDs will be reimbursed for their costs. The SWCDs will bill their costs to the BRRWD.

Actual ResultsCommentsFUND(s)

| | <u>Budgeted</u> | <u>Approved</u> | <u>Spent</u> | <u>First Spend Date</u> | <u>Last Spend Date</u> |
|--|------------------|-----------------|--------------|-------------------------|------------------------|
| 1. 2011 CWF Upper South Branch CWF - Local Match | 10,818.00 | 0.00 | 0.00 | | |
| 2. 2011 - Runoff Reduction - Buffalo-Red River (WSHED) | 44,874.00 | 0.00 | 0.00 | | |
| Totals: | 55,692.00 | 0.00 | 0.00 | | |

Initiative Name:

2011 CWF Upper South Branch BMP Project – BMP Construction T&E

Initiative Name: **2011 CWF Upper South Branch BMP Project – BMP Construction T&E**

Initiative Type: Technical and Engineering

Year: 2011

Description

The West Otter Tail and Wilkin SWCDs will design and construct up to 6 sediment basins. Technical assistance for up to 6 sediment basins or other applicable BMP practices (side Inlets, bufferstrips, etc.). The SWCDs have the TAA for the anticipated BMPs. BRRWD will provide technical assistance through the District Engineer (PE) to SWCD in the event that additional technical assistance is needed.

Actual Results

Comments

FUND(s)

| | <u>Budgeted</u> | <u>Approved</u> | <u>Spent</u> | <u>First Spend Date</u> | <u>Last Spend Date</u> |
|--|------------------|-----------------|--------------|-------------------------|------------------------|
| 1. 2011 - Runoff Reduction - Buffalo-Red River (WSHED) | 9,996.00 | 0.00 | 0.00 | | |
| 2. 2011 CWF Upper South Branch CWF - Local Match | 5,671.00 | 0.00 | 0.00 | | |
| Totals: | 15,667.00 | 0.00 | 0.00 | | |

Initiative Name:

2011 CWF Upper South Branch BMP Project – LiDAR based BMP Strategic Plan

Initiative Name: **2011 CWF Upper South Branch BMP Project – LiDAR based BMP Strategic Plan**

Initiative Type: Technical and Engineering

Year: 2011

Description

The Watershed District through their District Engineer (Houston Engineering) will develop a BMP Strategic Plan for the Upper South Branch of the Buffalo River Watershed in Wilkin and Otter Tail Counties using LIDAR data and available soils and Land use data. District Engineer will complete a hydrologically corrected DEM, Upland Depression Evaluation, and determine inflow point hydrologic characteristics. A stream power index evaluation as well as a spatial RUSLE analysis will be completed. Preferred BMPs will be determined and potential benefits quantified. All of this will result in a strategic BMP Implementation Plan (Tentative Completion in June 2011). Additional Technical and Engineering will be completed on site-specific BMP design.

Actual Results

Comments

Grant Funding for this initiative (\$22,669) will come from 2011 CWF RTA dollars.

| <u>FUND(s)</u> | <u>Budgeted</u> | <u>Approved</u> | <u>Spent</u> | <u>First Spend Date</u> | <u>Last Spend Date</u> |
|--|------------------|-----------------|--------------|-------------------------|------------------------|
| 1. 2011 - Restoration Technical Assistance - Buffalo-Red River (WSHED) | 21,762.00 | 0.00 | 0.00 | | |
| 2. 2011 - Runoff Reduction - Buffalo-Red River (WSHED) | 0.00 | 0.00 | 0.00 | | |
| 3. 2011 CWF Upper South Branch CWF - Local Match | 5,668.00 | 0.00 | 0.00 | | |
| Totals: | 27,430.00 | 0.00 | 0.00 | | |

L&W Project Name: **2011 CWF Upper South Branch BMP Project – Anticipated BMP Construction**

| <u>BMP(s)</u> |
|---------------|
| 0. None |

| <u>POLLUTION REDUCTION ESTIMATE(s)</u> |
|--|
| None |

| <u>FUND(s)</u> | <u>Budgeted</u> | <u>Approved</u> | <u>Spent</u> | <u>First Spend Date</u> | <u>Last Spend Date</u> |
|--|------------------|-----------------|--------------|-------------------------|------------------------|
| 1. 2011 - Runoff Reduction - Buffalo-Red River (WSHED) | 53,316.00 | 0.00 | 0.00 | | |
| 2. 2011 CWF Upper South Branch CWF - Local Match | 11,684.00 | 0.00 | 0.00 | | |
| Totals: | 65,000.00 | 0.00 | 0.00 | | |

Program Specific Workplan Items

Needed TMDL Load Reduction (If Applicable):

What is the estimated amount of hydrologic benefit?

By what mechanism is this project affecting hydrology? 2.00

8 Digit HUC Code (81 Majors) 58.00

Water Plan Reference:

The proposed project specifically meets the several goals highlighted in the Buffalo River Revised Watershed Management Plan. Several of these goals are listed below, as well as how the proposed project meets each goal:

1. WQ-4 "Use innovative methods and techniques to maintain and improve water quality when appropriate." LiDAR is a newly available tool for this region of the Red River Basin. Using LiDAR topographic data to determine the propensity for erosion within the watershed will provide a new way of identifying problem areas and develop BMP implementation plans.
2. WQ-6 "Promote the use of BMPs in areas of agricultural land use, especially those with sensitive ground water and surface water resources." A key phase of this project is involvement of landowners. Because the LiDAR terrain analysis is completed in a GIS spatial environment, maps can be presented to individual landowners showing locations where erosion issues are occurring and how to mitigate the issues being experienced.
3. ESC-1 "Establish, develop or endorse consistent methods, procedures, and criteria for sediment control." This project will provide a new approach using LiDAR data to determine priority areas for BMP implementation.
4. ESC-2 "Manage erosion and sediment delivery from ag lands in accordance with allowable levels." This project will reduce sediment loading on the South Branch and Deerhorn Creek, both of which are listed on the 2010 Draft 303d list as being impaired for turbidity.
5. ESC-3 "Estimate and quantify the effect of District lead projects on sediment supplies within the District." The Revised Universal Soil Loss Equation (RUSLE) will be implemented within a GIS environment with the aid of the LiDAR topographic data, available landuse and soil data to estimate benefits of BMP implementation.

TMDL Reference:

Two primary waterways in the watershed, Deerhorn Creek and the South Branch, are listed on the 2010 Draft 303d list as impaired for turbidity. No formal TMDL has been completed to date

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|---|--|
| <i>Project Description:</i> | LiDAR terrain analysis will be used to determine BMP locations to reduce sediment loads and runoff contamination. BMPs will be implemented at these locations, where applicable. |
| <i>Primary Pollutant Targeted:</i> | Sediment |
| <i>Estimated Amount of Primary Pollutant Reduction:</i> | 16 tons/year |
| <i>Secondary Pollutant Targeted:</i> | Phosphorus |
| <i>Estimated Amount of Secondary Pollutant Reduction:</i> | 16 lbs/year |
| <i>Additional Pollutant Targeted:</i> | |
| <i>Estimated Amount of Additional Pollutant Reduction:</i> | |
| <i>Estimated number of plans/designs to be completed (if applicable):</i> | 6 sediment basins |