WIRB FINAL REPORT

White Oak Watershed

Project 1008-003

Financial Accountability

Watershed Improvement Funds

Grant Agreement Budget Line Item	Total Funds Approved ($)	Total Funds Expended ($)	Available Funds
Engineering-Design	$8,250	$5,369	$2,881
Engineering- Bid Assistance	$1,200	$1,200	0
Engineering-Construction Oversight and Inspection	$12,000	$12,000	0
Sediment Basin	$78,550	$78,550	0
Total	$100,000	$97,119	$2,881

The difference between the approved budget and the amount expended was due to the engineering design component coming in below budget. The Mahaska County Conservation Board did not seek an amendment to re-allocate those funds.

Total Project Funding

Funding Source	Approved Application Budget ($)	Actual ($)
WIRB	$100,000	$97,119
Mahaska CCB	$19,950	$20,229.06
DNR 319	$85,000	$100,000
DNR Fish Habitat Stamp	0	$17,300
Totals	$204,950	$234,648.06

Watershed Improvement Fund contribution: Approved application budget: 49%

Actual: 41%

The difference between the approved application budget and actual expenses are due to the above stated difference in the engineering cost, the fact that there were cost overruns and that a DNR Fish Habitat Stamp Grant was approved after the WIRB Grant Agreement was signed. The above table shows that the final cost of the project to be $234,648.06, an increase of $29,698.06. The difference was made up by the Fish Habitat Stamp Grant, an increase in DNR 319 funding and an increase in the Mahaska County Conservation Board's contribution.

Environmental Accountability

We have not done any water quality monitoring at this time due to the fact that we have been working on repairing the rock gabion structure. We have anecdotal evidence from park users, mainly fishermen and trappers that feel that the water quality and clarity has improved. Monitoring has been a challenge with the spring flooding followed by drought cycles the last two years. We noted this summer that the algae bloom on White Oak Lake was not nearly as pronounced as other area lakes, but can't conclusively link that to the watershed project. Sediment and phosphorus reductions were calculated using the Sediment Delivery Calculator. Sediment delivery to the lake was reduced by 273 tons and phosphorus delivery to the lake was reduced by 470 pounds.

The included map shows the location of the sediment retention basins in the watershed prior to this project in red, whereas this WIRB-funded project is shown in yellow. The two berms, the upstream gabion and the downstream with a grade level slot were both constructed as designed with an at-grade retention basin between them.

I attended two meetings with the Mahaska County SWCD and also met with neighboring landowners. We had an on-site informational meeting for the public with four attendees. There has been signage erected informing the public to the lake protection project.

Program Accountability

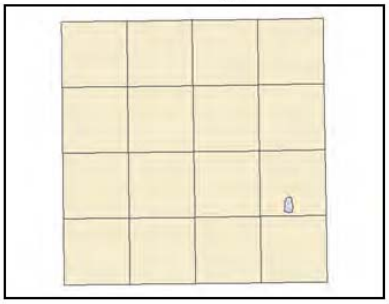
There were many challenges to this project. There was a delay in the permitting process due to Indiana Bat Habitat concerns and delays due to weather.

The biggest challenge was constructing an at grade silt retention basin. The mud and muck were much worse than the contractor anticipated, and then the upstream gabion structure has failed three times. The structure was built to the specifications in the contract, but the design appears to be flawed. The berm and gabion structure have been re-designed using rip rap and wing walls to reduce or eliminate

the current problem. Although the structure has failed, the silt retention basin has been effective to retain the sediment and has prevented sediment deposition into the lake itself. The issue will be that the basin will probably have to be cleaned out sooner than originally anticipated. Using deep rooted, native vegetation is an aesthetically pleasing proposition, but the roots never had a chance to develop enough to hold the soil, especially where the gabion structure and the soil met. We are hopeful that this re-design will allow us to move to the next phase of the project, enjoying improved water quality.

Figure 1

Mahaska County, Iowa



Legend

- Existing Silt structures
- Watershed
- Proposed Lowhead structure

MAHASKA COUNTY CONSERVATION BOARD

Map Created by Ben Hoskinson
June 30, 2010

Figure 2

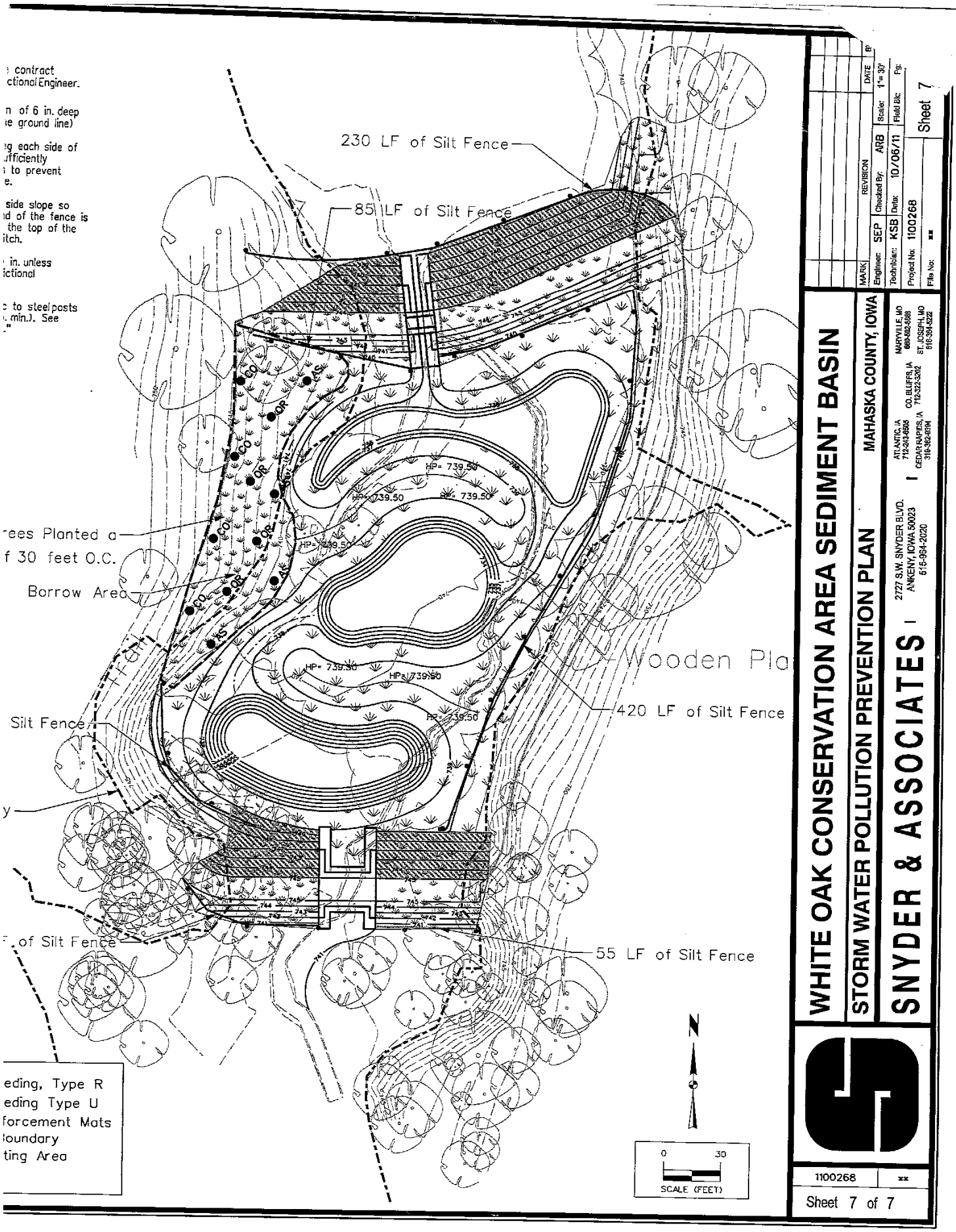

230 LF of Silt Fence
85 LF of Silt Fence
420 LF of Silt Fence
55 LF of Silt Fence
Borrow Area
Silt Fence
HP= 739.50
0
30
SCALE (FEET)
WHITE OAK CONSERVATION AREA SEDIMENT BASIN
STORM WATER POLLUTION PREVENTION PLAN
MAHASKA COUNTY, IOWA
SNYDER & ASSOCIATES
2727 S.W. SNYDER BLVD.
ANKENY, IOWA 50023
515-964-2020
ATLANTIC, IA 712-243-4650
CEDAR RAPIDS, IA 319-362-9394
CO. BLUFFS, IA 712-323-3202
MARYVILLE, MO 660-562-8088
ST. JOSEPH, MO 816-364-3322
Engineer: SEP
Technician: KSB
Checked By: ARB
Date: 10/06/11
Project No: 1100268
Scale: 1"= 30'
Sheet 7
1100268
Sheet 7 of 7

Figure 3

Figure 4

Figure 5