Swan Lake Sediment Basin

Final Report

Swan Lake Watershed Project Number: 1241-018IJ

Date: 8/27/2014

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Financial Accountability

Watershed Improvement Funds

Grant Agreement Budget Line Item	Total Funds Approved	Total Funds Amended	Total Funds Expended	Funds Available
Wetland Enhancement	39,940	33,416.67	33,416.67	0

Total Project Funding

Cash **In-Kind Contributions** **Total**

Funding Source	Approved Budget	Actual	Approved Budget	Actual	Approved Budget	Actual
WIRB	33,416.67	33,416.67			33,416.67	33,416.67
Iowa DNR			0	7,000	0	7,000
Carroll County Conservation			2,500	6,688.24	2,500	6,688.24
NRCS			7,500	0	7,500	0

Environmental Accountability

WIRB funds were used to create a sediment basin on an inlet into Swan Lake. The main pollutant of concern in Swan Lake is Phosphorous. As noted in the Swan Lake Watershed Management plan completed in 2010, the phosphorous load from the watershed our structure is being constructed in is the highest of all the watersheds that drain into Swan Lake. By constructing the sediment basin, we will increase detention time of water coming into Swan Lake. This will reduce sediment delivery by allowing the sediments to drop out. This will also reduce soluble nutrient delivery by allowing aquatic vegetation to take up these nutrients before entering the lake.

The structure built was engineered by Sundquist Engineering to meet NRCS specifications. The original application had an Agri-drain control structure that was paired with a sheet piling weir structure as the main overflow. In the future we will be able to raise and lower water levels for management purposes of the wetland. All plans and construction practices meet NRCS specifications. The NRCS has been working on getting cover crops installed in the Swan Lake watershed but with no one signing up as of yet. New and rebuilt terraces did go in last fall in parts of the watershed this project is located in. This should also help slow run-off and sediments coming in through this watershed. A letter was sent out to landowners in this watershed explaining this project and what the goals of this project are. No comments were returned. A landowner meeting was also set up to view the construction site and to talk about the project which no one showed up to. We were surprised by this as we have felt landowners around Swan Lake are concerned with the water quality of Swan Lake. Hopefully they will

continue or implement terraces, cover crops and no till farming practices as the NRCS works with them to potentially cost share some of these practices.

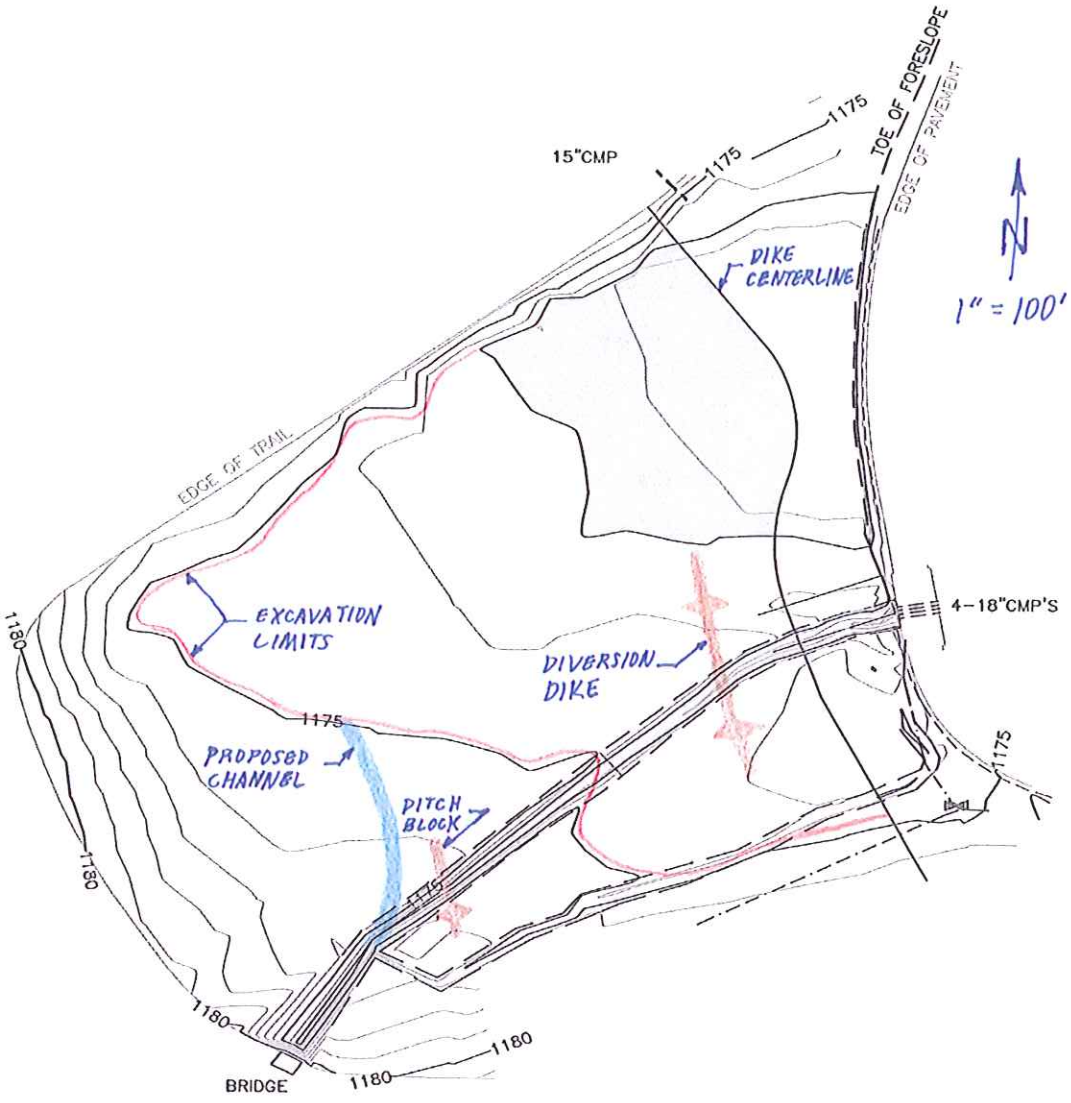
Program Accountability

Engineering was a major issue for this project. Originally the NRCS was going to do the engineering as part of in kind contributions. They had assured us all along that they would do the engineering as we were hopeful to get the project completed last fall. Late in September 2013, they backed out of the project. As a result, the Conservation Board had to hire and engineering firm and absorb most of the costs for the engineering. This placed major setbacks on the project as we were hoping to get it done last fall but instead had to wait for engineering to be done. Also the section 404 permit process from the US Army Corps of Engineers was delayed due to government shut-down last fall and their failure to reassign the project after the person in charge went on maternity leave. After applying for the permit in September of 2013, we finally got our permit on June 6, 2014 which made a construction deadline of June 30, 2014, a short time frame for completion.

The Conservation Board had to fund engineering costs which significantly increased our in kind contributions. The Iowa DNR Lakes Restoration program did put $7,000 towards helping with engineering costs. Since WIRB funds were estimated to be just enough to cover construction costs, we did not use them for engineering costs. As of July 1, 2013 when I took over as Director for Mark River, who applied for the grant, nothing had been done for the project. So getting the permit processes started, engineering issues and learning what WIRB was all about was critical to that time frame. Looking back, getting these things in order when the grant was approved would have been helpful. It was unfortunate that the NRCS backed out on this project. That really delayed the time frame for getting this project done. For future projects, if the NRCS is involved make sure they are going to follow through.

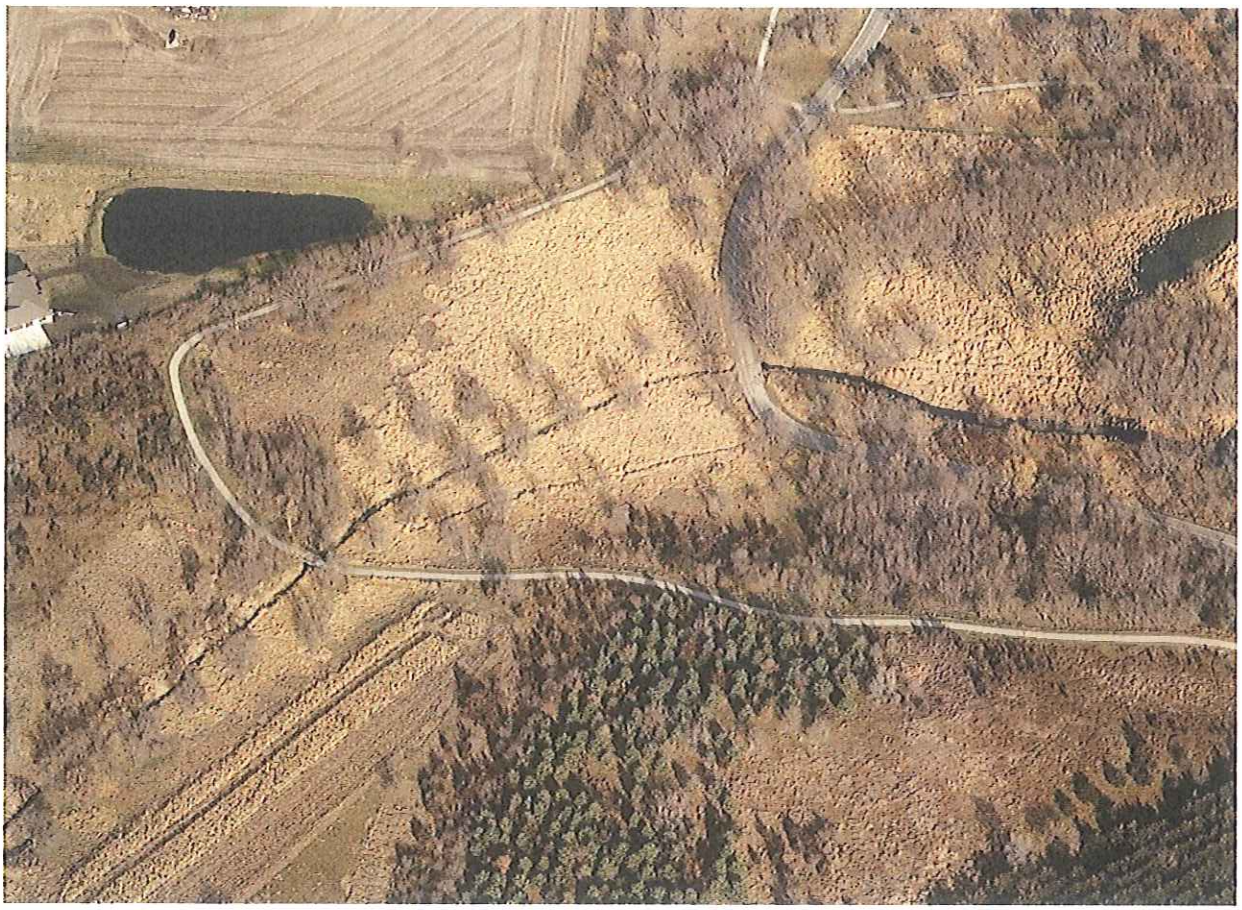
The Carroll County Conservation Board's in-kind for this project was $6,688.24. This included $4,500 for engineering costs, $1,356.24 in labor costs, $332 in equipment costs and estimated $500 for seeding. The NRCS in-kind of $7,500 was actually $0 because they didn't do the engineering for this project as originally agreed upon. So the total amount requested from WIRB was $33,155.04 with in-kind contributions from the Carroll County Conservation board of $6,688.24 in engineering, labor, equipment and seeding costs; also from the Iowa DNR with $7,000 to help with engineering costs.

Thank you to the WIRB Board and Staff for helping make this project happen. Following are plans and pictures of the project.



Plan showing dike, channel diversions and elevations. Red line is water level when full.

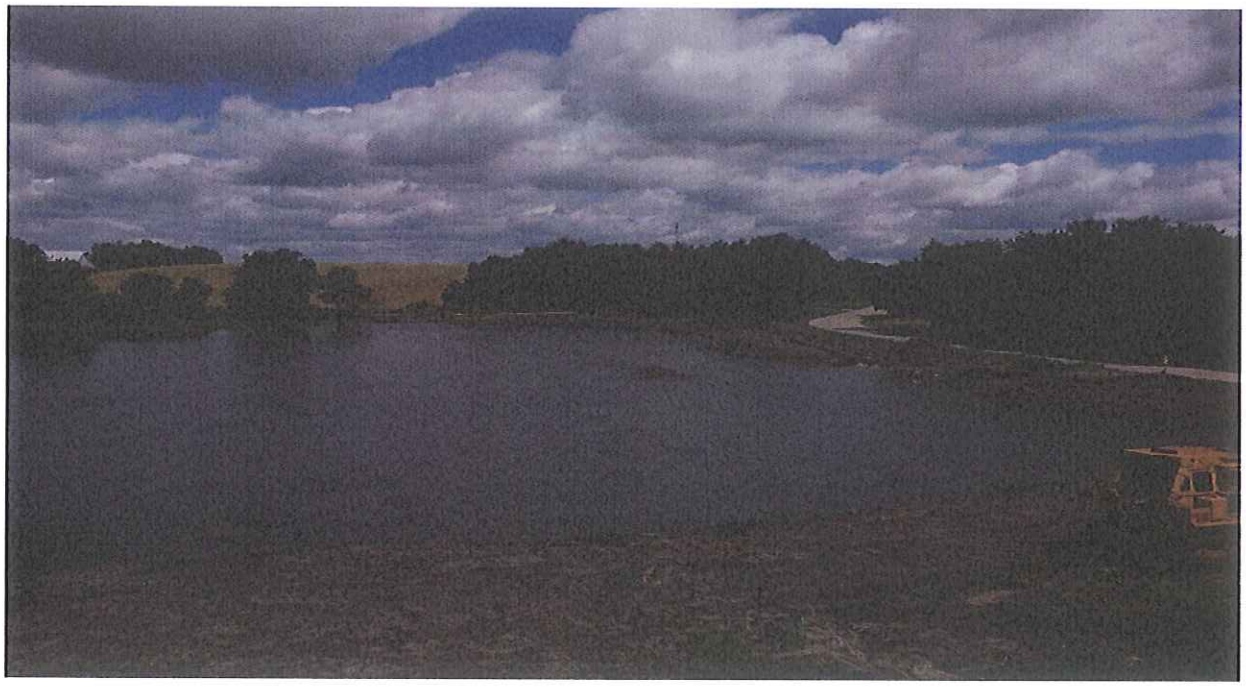
Aerial photo with trees removed from excavation area.



Aerial Photo before construction.

Sheet Piling outlet structure

Looking across the berm to the Northwest



Looking down on the berm and basin

Looking towards the back of the basin where the channel diversion is

Looking from the back of the basin to the east