

FLOYD COUNTY
SOIL & WATER CONSERVATION DISTRICT

641-228-2725

623 BECK STREET

CHARLES CITY IOWA 50616-3722

To: Mark Rosenbury, Chair
 Watershed Improvement Review Board

From: Jon Gisleson, Chairperson

RE: WIRB Agreement No. 7033-013 Dry Run Creek Sub Watershed
 Final Project Report for Watershed Improvement Fund Project

The following information summarizes the completion of the Dry Run Creek Watershed improvement project being administered by the Floyd County Soil & Water Conservation District:

Term of Grant Agreement: June 1, 2008 to June 31, 2010

Financial Ledger for Project: Included at end of final project report

Financial Accountability:

SUMMARY: WATERSHED IMPROVEMENT FUNDS

Grant Agreement Budget Line Item	Original WIRB Funds Approved (\$)	Total Funds Approved (\$), as amended by WIRB Board	Total Funds Expended (\$)	Available Funds (\$)
Engineering Assistance	6,000.00	0	0	0
Legal/Publications/Easements	2,250.00	2,250.00	376.50	1,873.50
SWCD Expenses – Technical Assistance, Information/Education, Administration	4,050.00	1,950.00	1,476.00	474.00
Alternative Drainage Outlet	61,350.00	61,350.00	60,146.25	1203.75
Well Closure	1,350.00	1,350.00	1,125.00	225.00
Crop Damage	0	8,100.00	3,540.00	4,560.00
TOTAL	\$75,000.00	\$75,000.00	\$66,663.75	\$ 8,336.25

The difference in WIRB funded original estimated costs versus the amendment costs was related to the engineer's estimated costs used for the initial estimate and the contractor bid amount (summer construction) utilized for the amended costs. The estimated costs were developed almost two years prior to the letting of bids for the project. Manufactured items and installation costs had decreased in price due to a decrease in fuel price. The tile outlet installation was completed during ideal soil conditions. Also, NRCS staff was available to offset the cost of paid engineering assistance because of the summer construction installation.

SUMMARY: TOTAL PROJECT FUNDING

Grant Agreement Budget Line Item	WIRB FUNDS SPENT & PERCENTAGE OF TOTAL PROJECT COSTS ()	LANDOWNER/SWCD/NRCS FUNDING FOR PROJECT & % OF TOTAL PROJECT COSTS ()	TOTAL PROJECT COSTS
Engineering - Assistance	0 *(0%)	**2,200.00 (100%)	2,200.00
Legal/Publications/Easements	376.50 *(75%)	125.50 (25%)	502.00
SWCD Expenses – Technical Assistance, Information/Education, Administration	1,476.00 *(74%)	500.00 (26%)	1,976.00
Alternative Drainage Outlet	60,146.25 *(75%)	20,048.75 (25%)	80,195.00
Well Closure	1,125.00 *(75%)	375.00 (25%)	1,500.00
Crop Damage	3,540.00 *** (100%)	0 (0%)	3,540.00
TOTAL	\$66,663.75	\$23,249.25	\$89,913.00

* --These items could pay a maximum of 75% of cost as per agreement with WIRB Board.

** -- USDA Natural Resources Conservation Service in-kind engineering assistance.

*** -- This item could pay 100% of crop damage not to exceed \$1000/acre for corn and \$700/acre for soybeans.

FUNDING SOURCES FOR THE PROJECT

Funding Source	Project Proposal/% of Project	Actual Amount/% of Project
WIRB	\$75,000 67%	\$66,673.75 74%
Landowner	\$23,200	\$20,549.25
Natural Resource Conservation Service EQIP and In-Kind	\$12,000	\$2,200.00 In-Kind
Floyd SWCD	\$ 700	\$500 In-Kind Admin. Assist.
Floyd County	\$ 450	0
Total	\$111,350	\$89,913.00

Changes in Funding: County funds were not available at time of construction. Landowners applied nutrient and pest management at their expense without EQIP Funding.

Environmental Accountability

Pre-Project Water Quality Concerns:

The Floyd SWCD completed an assessment of Dry Run Creek Watershed in the southeastern part of Floyd County. The intent of the assessment was to determine current land use, current farming practices, potential resource problems, and solutions to the resource issues.

The assessment showed that the majority of the land (95%) is in continuous row crop production of either corn-soybean or corn-corn-soybean rotation. Fertilizer application rates (N-P-K) are applied to maximize yields. The landscape is nearly level to gently sloping. Soil loss is less than "T." The Creek is correctly named Dry Run Creek as it only has flowing water during spring runoff or after a substantial rainfall. There are three active Agricultural Drainage Wells (ADW) located in the watershed which are a direct water quality concern for drinking water in the area.

The Devonian aquifers are important regional sources of groundwater for drinking water and other uses throughout eastern Iowa. Prior investigations suggest they supply water to over 90 percent of the private wells in Floyd County. Numerous ADWs of varying depth are injecting tile-line effluent and surface water into the underlying Devonian aquifers, delivering agricultural non-point source contaminants into the aquifer; notably nitrate, pesticides, sediment, and possibly animal wastes.

The landowners in this watershed apply nitrogen fertilizer prior to planting corn at the highest rates to maximize corn production. Fifty percent of the landowners applied nitrogen as anhydrous in the fall of 2007.

Post Water Quality:

Activities and practices completed were:

- 7,215 feet of alternative outlet was installed through four landowners according to NRCS specifications.
 - 1,450 Ft. Ditch Improvements
 - 800 Ft. 24-Inch Tile
 - 2,245 Ft. 18-Inch Tile
 - 2,770 Ft. 12-Inch Tile
 - 100 Ft. 10-Inch Tile
- 0.3 acres of wetland was constructed.
- 431.6 acres of Nutrient and Pest Management Plans were developed and implemented by landowners and operators.
- Three agricultural drainage wells were abandoned and sealed according to State requirements.
- News articles were published in the Globe Gazette and Floyd SWCD Newsletter concerning the project accomplishments.
- Plan map of project practice location attached.

The closing of the three agricultural drainage wells will result in a groundwater Nitrate-N loading reduction of 20 lb./acre/year or a total of 7,740 lb/year for the project area.

The reductions of Nitrate-N loading based on the 431.6 acres of Nutrient Plans developed will be 1,295 lbs/year.

The landowners met the IDNR 2009 Sunset Clause for providing an alternative outlet for tile water draining into Ag drainage wells.

Program Accountability

The largest challenge this project had to deal with was working around the schedules of tile drainage contractors. The normal installation season for tile is from harvest of the crop until spring planting is completed; basically a month and a half in the fall and a month in the spring.

Contractors are reluctant to compete for jobs like this one during that time frame because they can make more profit installing pattern tile. Floyd County had also experienced short construction seasons the past two years due to wet fields. A large backlog of pattern tile jobs existed for the tiling contractors.

The summer construction allowed this project to be completed in a timely manner (within WIRB requirements), at a substantial savings (more contractors needing work in summer), because more contractors were interested in making a competitive bid.







Dry Run Creek - Sub Watershed

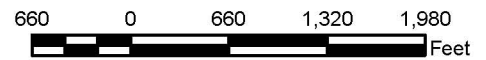
Customer(s): HAROLD C BEGEMANN
District: Floyd SWCD

Field Office: CHARLES CITY SERVICE CENTER
Agency: Natural Resources Conservation Service
Assisted By: M.Hicks
State and County: IA, FLOYD



Legend

-  Ag Drainage Wells
-  Alternate tile outlet
-  Ditch excavation
-  Ag Drainage Well - Previously closed (1)
-  Dry Run Creek Sub-Watershed
-  Floyd Co - Section Lines





Begemann Ag Drainage Well prior to WIRB project closure.



Shown here is the large outlet for the project. As can be seen on the cleaned out road ditch, the grade is extremely flat. It was loaded with wetland vegetation before the cleanout and those plants will quickly reestablish in the new wider bottom. This will allow for some nutrient and pesticide reduction of the tile water as it heads downstream.



Installation of the alternative outlet took place before crops were harvested. This allowed for reduced installation costs for the project. Crop damages payments were made to compensate for the crop loss. This photo shows the route taken through the corn field.