WILD RICE WATERSHED DISTRICT

11 Fifth Avenue East
Ada, MN 56510
Phone: 218-784-5501

SPECIAL MEETING

1. A special meeting of the Wild Rice Watershed District Board of Managers was held on **Tuesday, April 26, 2005**, at the Felton Community Center, Felton, Minnesota. The purpose of the special meeting was to discuss the proposed repairs to Project No. 9.

2. The following members were present: Steve Dalen, Joe Spaeth, Warren Seykora, and James Wagner Sr. The following members were absent: Diane Ista and Jim Skaurud. In addition the following persons were also in attendance: Engineer Jerry Bents, Attorney Elroy Hanson, Administrator Jerry Bennett, Viewers Eddie Bernhardson, Ken Holum and Eddie Johnson, Recording Secretary Loretta Johnson, and those whose names appear at the end of these minutes. Note that Bob Wright is included in the members of the audience.

3. Chairman Seykora called the meeting to order at 7:05 p.m.

4. Chairman Seykora stated that the purpose of the first half of the meeting is to discuss the proposed repairs to Project No. 9, in Sections 31-35 of Winchester Township.

REPAIR REQUEST PROJECT NO. 9, SECTIONS 31-35, WINCHESTER TOWNSHIP, NORMAN COUNTY

5. Attorney Hanson stated that the repair request does not mandate a hearing, however Managers decided to hold an informational meeting for the purpose of presenting the Viewers' Report and the Engineer's Report to property owners on the ditch system. Hanson stated that from the Engineer's Report it was determined that additional right of way is necessary for the project. Viewers were appointed by the Board of Managers and have filed a Viewers' Report.

6. Engineer Bents gave a PowerPoint presentation on the proposed repair, of which a hard copy is attached at the end of these minutes and on file at the District office. The location of the proposed repair is on Project No. 9 in Sections 31-35 of Winchester Township, Norman County, beginning two miles east of Minnesota Highway #9 and ending three miles west of Highway #9. The proposed repair consists mainly of the following: restoring original constructed gradeline and bottom width; resloping side slopes; leveling spoil material; reseeding and mulching; and minimal riprap protection on bends in the lower reach. The Engineer's Repair Report was submitted to the Board of Water and Soil Resources and the Minnesota DNR. A DNR permit is not required and no comments were received from either agency. Estimated cost for construction is $499,500 and total cost of the repair at $576,965. These costs do not include temporary spoil disposal area right-of-way and costs incurred to date.

7. Herman Lee questioned what would happen to the logs on the side of the channel. Bents stated that they would be buried. Wayne Stevenson asked the status of the fund balance in the Project No. 9 account Jerry Bennett stated that the current balance is $167,000.

8. Kenny Holum, Viewer on the project gave the Viewers' Report, stating that he, Eddie Bernhardson and Eddie Johnson visited with landowners on the project and determined that the cash rent for farmland in the area is between $60 and $90 dollars per acre; therefore they established the payment for temporary right of way for the 171.24 acres of tillable land at $80 per acre over a period of two years for a total of $180 per acre to the property owner. Holum stated that there is a 2.85-acre parcel of land in the CRP program, which

requires reseeding according to the program guidelines, and mandates that work cannot be done prior to May 15 and seeding must be completed prior to August 1 or a temporary crop cover established after the time frame. Holum stated that the rate of pay to the property owner for the CRP acres is $162 per acre. Total costs for the 174.09 acres of temporary right of way are $27,860.10.

9. Jerry Bennett distributed information on the financing of the project and stated that the estimated repair costs including land acquisition is $604,000; bond costs estimated at $15,100 for a total of $619,100. Levied over a ten-year period at 3.5 % interest, the annual payment on the project would be $74,441.43. Cost per acre per year for the property owner would be $.72 in the high benefiting area and $.48 in the low benefiting area.

10. Engineer Bents stated that awarding the bid couldn't be done until after the 30-day appeal period. Property owners were concerned that construction would begin on the project and the entire length of five miles would be open and black, leaving a chance of severe sloughing if there was a major rainfall event. Wayne Lee asked if he thought it was a possibility that the bids could come in under the engineer's estimate. Jerry Bennett stated that bids could not be awarded if the costs were above the engineer's estimate by 30%.

11. Zenas Baer, attorney representing property owner A.C. Heiraas, located in Section 8 of Hagen Township, Clay County, project, gave a Power Point presentation of which a hard copy is attached at the end of these minutes and available at the District office. Baer stated that he thinks the Winchester repair is a good and necessary project, however without doing it in conjunction with Section 8, Hagen Township, will not be effective. To maximize the effectiveness of the Winchester site, it has to include the repair in Section 8 of Hagen Township. Baer stated that erosion is eating away at the raw banks of the river if you compare survey data from 1983 to 2000. The bank has lost about four feet of cover on the river in Section 8, Hagen Township. Baer provided a 1939 area photo of the site.

Baer stated that the Board of Managers should take a strong look at the definition of the word repair and if the Winchester project is deepening the project by two feet in some spots, it cannot be defined as such. The repair requested by A.C. Heiraas in Section 8, Hagen Township, can be defined the same. The Clay County bridge with a span of 51 feet, was destroyed by the flood event of 2002, and served as a regulator, as to how much water can enter into the channel. It was replaced by a 191-foot span bridge, which increases the flow capacity considerably. What Heiraas is requesting in the repair is to cut a little of the north bank to stabilize the south bank. Baer asked the board to consider this as a repair, rather than an improvement. Baer urged the Board of Managers to consider the two projects as integrated and requested that a full repair of Section 8, Hagen Township, be approved along with the Winchester site.

12. Manager Wagner stating that this is the landowners' project and asked for input from them.

13. Attorney Hanson stated that none of the project proposed in Sections 31-34 of Winchester Township constitutes an improvement, this is a repair, not an improvement.

14. Wayne Stevenson stated that there is a need to stop the sediment on the project and more important to stop the breakouts. Water is coming down from the east, with too much velocity, the sandy silt is his concern, it is getting more costly and where is it going to end. How much of the sediment is there now as a result of the last five years? Engineer Bents replied that this is the only repair in this area; the reason for these five miles being surveyed is because there was a request from landowners for this specific area.

15. Chairman Seykora suggested that due to the discussion of both projects, it might be prudent to go into the Repair Request in SE ¼ Section 8, Hagen Township, Clay County, at this time.

REPAIR REQUEST, PROJECT NO. 9, SE ¼ SECTION 8, HAGEN TOWNSHIP, CLAY COUNTY

16. Engineer Bents gave a PowerPoint presentation on the repair request of which a hard copy is attached at the end of these minutes and on file at the District office. The location of the proposed repair is on Project No. 9, in the SE ¼ of Hagen Township, Clay County, along County Road #40, four miles east of MN State Highway No. 9 and four miles south of County Road #39. The proposed repair generally consists of backsloping and installing riprap slope protection throughout the entire reach between Station 100+00 and the bridge on CSAH No. 40 (122+50).

Bents stated that the estimated construction costs are $198,880, with total cost of the proposed repair at $236,780. This estimate does not include additional right-of-way acquisition, permanent and temporary, hydraulic analysis and costs incurred to date. Current FEMA funding from the 2002 flood event is at $85,000 with the balance of the costs being covered by the project. These costs are for the south side of the riverbank, the only part in his opinion that is a repair.

17. Wayne Stevenson asked if rock riprap is the answer, as he feels that he finds it downstream. Stevenson also asked if the rock is recoverable. Bents replied that not all, but a part of the riprap could be recoverable.

18. Engineer Bents stated that in doing the repair, the downstream channel is designed for a 16-year event and landowners should be aware that the 2002 flood was a 100-year event. The current channel has a greater capacity than originally constructed. Regarding the request by Mr. Heiraas and Attorney Baer for work on the north side of the channel; under Minnesota Statutes, you are straightening the channel by removing a part of the north side and placing it on the south side. Bents went on to further say that there is a way to accomplish this clearly under Minnesota statutes, which would constitute an improvement. Bents said that you couldn't move the channel and call it a repair.

19. Attorney Baer commented on the fact of improvement versus repair and asked Engineer Bents to look at his definition of a repair. Baer felt that Bents is taking too narrow a view of the definition of a repair and the argument can be made that the work on the north side of the riverbank can be a repair.

20. Alan Christensen asked for an estimated cost of further riprap to be placed for an additional 2,250 feet for extra protection on the south side of the channel. Chairman Seykora questioned the cost and asked how much money landowners want to spend. Christensen stated that he is not trying to increase the costs to the project, and there are no guarantees, but felt it might provide increased protection. Engineer Bents estimated approximately $5,000 per hundred feet or roughly $10,000.

21. Attorney Baer had additional comments regarding the repair versus improvement to which Engineer Bents replied that his interpretation remains the same, the repair request was submitted to Minnesota Board of Water and Soil Resources and the District received no replies.

REPAIR REQUEST PROJECT NO. 9, SECTIONS 31-35, WINCHESTER TOWNSHIP, NORMAN COUNTY

22. Chairman Seykora stated that it is prudent to complete the hearing on the Winchester site at this time. Seykora stated that the channel will be put back to its original design, and if everyone understands the costs requested action by the Board of Managers.

23. A motion was made by Manager Dalen and seconded by Manager Wagner to adopt the Engineer's Report and the Viewers' Report for the repair of Project No. 9, Sections 31-25 of Winchester Township, Norman County. Carried.

REPAIR REQUEST PROJECT NO. 9, SE ¼ SECTION 8, HAGEN TOWNSHIP, CLAY COUNTY

24. Eddie Bernhardson presented the Viewers' Report for the SE ¼ of Section 8, Hagen Township, Clay County. Bernhardson stated that there are seven (7) acres of permanent right of way which consists of one and one tenth (1.1) acres of tillable at $1,250 per acre and five and nine tenths (5.9) acres of untellable at $1,000 per acre. There are five (5) acres of temporary right of way that consists of two and eight tenths (2.8) tillable acres at $80 per acre for two years or a total of $160 per acre and two and two tenths (2.2) acres of untellable at $80 per acre for two years or a total of $160 per acre. The complete cost of the right of way is $8,075.

25. Jerry Bennett distributed information on the financing of the project and stated that the estimated repair costs including land acquisition is $244,855, bond costs estimated at $3,996 lest FEMA funding in the amount of $85,000 for a total cost to the project at $163,851. Levied over a ten-year period at 3.5 % interest, the annual payment on the project would be $19,701.67. Cost per acre per year for the property owner would be $.19 in the high benefiting area and $.13 in the low benefiting area.

26. The question was raised if the benefiting area on the project could be changed. Jerry Bennett stated that it can be done, however the costs for viewers going out on the entire ditch system and re-determinating the benefits are considerable and would be levied back to the property owners on the system. Attorney Hanson discussed re-determination of benefits procedure, stating that under statutes the drainage authority can do this, if more than 50 percent of property owners in the benefiting area request it.

27. Manager Dalen asked landowners present for input on additional riprap being placed on the south side of the riverbank; would they approve the supplementary cost of $10,000 to $15,000 for the riprap? Attorney Baer commented that moving the point from the north side to the south side of the riverbank would be an estimated cost of $85,000 to $90,000.

28. The question was raised on who has the right to appeal the proposed repair. Attorney Hanson replied that anyone landowner on the ditch system has the right of appeal.

29. John Germolus said that what he wants is retention. Manager Wagner agreed but stated that each individual property owner doesn't want a retention project on his/her property, rather east of him/her. A.C. Heiraas stated that unless the restriction is removed the purpose of the project is defeated. Heiraas made the claim that in discussions with a contractor, what he termed restriction could be moved from the north side of the river to the south side of the riverbank for approximately $40,000. The additional riprap proposed would be just a band aide. The problem is that he has lost riverbank that he shouldn't have lost, and the engineer is hung up on terminology. Heiraas felt it would be foolish to do the repair without moving the restriction on the north side of the riverbank to the south side; it should be done properly.

30. Manager Dalen left the meeting at 9:35 p.m.

31. Chairman Seykora stated that without a quorum, Managers would be unable to make a decision; therefore he scheduled 3:00 p.m. on the May 11, 2005, regular meeting of the Board of Managers for further discussion and action by the Board.

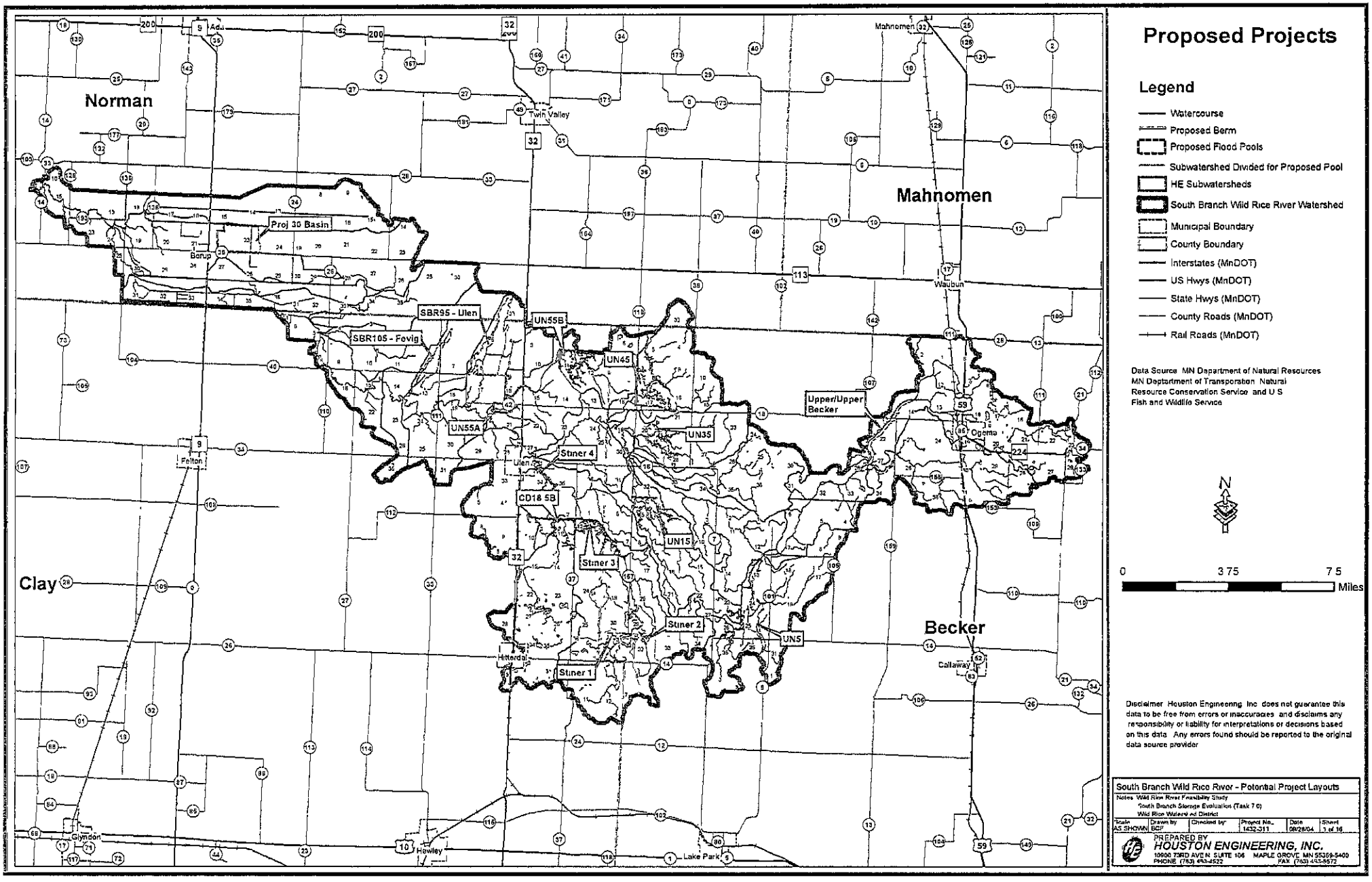
32. Chairman Seykora adjourned the meeting at 9:45 p.m.

Jim Skaurud, Secretary

Name	Phone
1 James M. Hastings	218-494-3306
2 Mark Weber	218-582-3260
3 CHUCK CARSON	218-784-2000
4 Zonas Baer	218-483-3372
5 [illegible]eiraas	218-494-3454
6 Jerry Mjolsness	218-236-7534
7 MARK HAKLEGS	218.494.3330
8 Lenora Lee	218-494-3330
9 Herman Lee	218.494-3330
10 Kevin Ande[illegible]	218 784 4015
11 Ray Renfrew	218 582 3246
12 Helen Renfrew	218-582-3246
13 Alan Christensen	218-494-3745
14 Brent Kappes	218-582-3239
15 Ronald Setterman	218-582-3316
16 John Heimeken	218-784-4557
17 [illegible]	218 494-3655
18 Dennis Kapowski	218-494-3678
19 Wayne Stevenson	218-494-3658
20 Robert Wright	218-494-3314
21 Doug Franke	218-494-3770
22 Ed Dallard	218 494.3631
23 Joe Prosby III	218 233-4359
24 Charlie Richards	701 237-0539
25 Steve Joubler	218 861-6155
26 Raymond Dahl	218 494-3413

Wild Rice River Watershed District
U.S. Army Corps of Engineers
South Branch of the Wild Rice River – Storage Evaluation - Summary
1/17/2005

Name	Drainage Area	Potential Storage	Runoff-Capacity	Approx. Pool Area (ac)	Est. Enviro $/ac-ft	Estimated Environmental Mitigation Cost	Other Concerns
UPPER/UPPER BECKER	30.1	3378	2.1	407	$148.03	$500,050	SBWRR - On-Channel
UN5	12.4	2907	4.4	535	$140.54	$408,477	A large portion of the pool is a National WMA
UN15	7.5	1630	4.1	326	$6.46	$10,538	none
UN35	6.4	1493	4.4	299	$5.28	$7,883	none
UN45	7.9	2829	6.7	532	$13.39	$37,887	none
STINER 1	6.9	985	2.7	406	$292.33	$287,836	Most of pool is current lake
STINER 2 - INCREMENTAL DA	2.4	115	0.9	115	$981.17	$112,375	Most of pool is DNR Wetland - Summer oper. lim.
STINER 3 - INCREMENTAL DA	12.5	994	1.5	177	$139 00	$138,236	Fish passage?
STINER 4 - INCREMENTAL DA	8.0	485	1.1	79	$148.47	$72,074	Fish passage?
CD18_5B	11.7	2367	3.8	409	$83.83	$198,403	Public Ditch
UN55B	5.0	1774	6.6	346	$4.74	$8,410	none
UN55A	10.7	1227	2.2	189	$58.60	$71,905	Fish passage - protected water
SBR105 - FEVIG DETENTION	5.5	2990	10.2	481	$32.89	$98,346	Fish passage?
PROJ30BASIN	11.7	3903	6.3	873	$1.08	$4,223	none



Proposed Projects

Legend

- Watercourse
- Proposed Berm
- Proposed Flood Pools
- Subwatershed Divided for Proposed Pool
- HE Subwatersheds
- South Branch Wild Rice River Watershed
- Municipal Boundary
- County Boundary
- Interstates (MnDOT)
- US Hwys (MnDOT)
- State Hwys (MnDOT)
- County Roads (MnDOT)
- Rail Roads (MnDOT)

Data Source MN Department of Natural Resources
MN Deptartment of Transporation Natural
Resource Conservation Service and U S
Fish and Wildlife Service

N

0 3 75 7 5 Miles

Disclaimer Houston Engineering Inc does not guarantee this data to be free from errors or inaccuracies and disclaims any responsibility or liability for interpretations or decisions based on this data Any errors found should be reported to the original data source provider

South Branch Wild Rice River - Potential Project Layouts

Notes Wild Rice River Feasibility Study
South Branch Storage Evaluation (Task 7 0)
Wild Rice Watershed District

Scale	Drawn by	Checked by	Project No.	Date	Sheet
AS SHOWN	BEP		1432-311	09/28/04	1 of 16

PREPARED BY
HOUSTON ENGINEERING, INC.
10900 73RD AVE N SUITE 106 MAPLE GROVE MN 55369-5400
PHONE (763) 493-4522 FAX (763) 493-5572

Wild Rice River Watershed District
U.S. Army Corps of Engineers
South Branch of the Wild Rice River – Storage Evaluation

Site No. Upper/Upper Becker
County: Becker
Twp: Spring Creek
Sections: 14,15,21,22,27,28

Table 1. Environmental Mitigation Cost Estimate

	Pool Impacts						
	High Impact	*Low Impact*	*Direct Impacts*	*Total Impacts*	*Estimated Mitigation*	*Estimated Cost*	*Permitting Agency*
Wetlands (private)	126.7	82.4	1	210.1	123.65	$497,320.30	USCOE, SWCD
Wetlands (public)	0	0	0	0	0	$0.00	USFWS
Woodlands	0	0	0	0	0	$0.00	USCOE
CRP	0	4.2	0	4.2	4.2	2730	NRCS/FSA
Total Cost				214.3	127.85	$500,050.30	

Table 2. Estimated Wetland Restoration Potential

Acres of New Wetland Credits Within the Flood Pool	*Type of Restoration*	*Acres of New Wetland Credits Adjacent to the Flood Pool*	*Type of Restoration*
0	Ditch plugs, Vegetative Restoration	0	Ditch Plugs, Vegetative Restoration

Table 3. Additional Permitting and Design Considerations			
	Amount or Number	*Lead Agency*	*Summary of Issue*
State Lands	0 acres	MNDNR	NA
Federal Lands	0 acres	NA	NA
Farmsteads	2	Residents/Landowners	Adjust pool elevation or add a small levee near the site
Fish Passage	Not an issue	MNDNR	NA

List of Assumptions:

1) Estimated private wetland acres was obtained from the NWI, available NRCS wetland determinations.
2) Estimated public wetland acres was obtained from land use data and consultation with SWCD staff
3) Estimated native upland prairie acres was obtained from the land use data, air photography and consultation with the SWCD staff.
4) Estimated woodland acres was obtained from the land use data, air photography, and consultation with SWCD staff.
5) Estimated CRP acres was obtained from consultation with SWCD and NRCS staff.
6) Estimated RIM acres was obtained from consultation with SWCD staff.
7) Estimated State and Federal lands were obtained from the land use data and consultation with SWCD staff.
8) Wetland impacts are based on their location within the pool. Wetland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Wetland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
9) Woodland impacts are based on their location within the pool. Woodland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Woodland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
10) Estimated Mitigation - wetland replacement within the flood pool is based on 70% replacement for "High Impact" wetlands and 40% replacement for low impact wetlands. A 200% replacement (2:1) is used for direct impacts (i.e filled by levee construction).
11) Estimated mitigation costs for CRP is based on an average buyout cost of $65 per acre times the years remaining on the contract after 2007. The estimated buyout cost was determined by consultation with the Clay SWCD to estimate a typical CRP contract for Clay County
12) Estimated mitigation cost for wetlands is based on a cost of $4,022 per acre. This was determined by using a 1995 per acre construction cost of $3,094, (Minnesota Wetland Replacement/Mitigation Cost Summary Survey published in 1995 by the Minnesota Board of Water and Soil Resources), and projecting a summer 2005 construction cost using the US Army Corps of Engineers Civil Works Construction Cost Index System, published March 31, 2000.
13) Estimated mitigation cost for woodlands is based on an estimated cost of $1,500 per acre.

Wild Rice River Watershed District
U.S. Army Corps of Engineers
South Branch of the Wild Rice River – Storage Evaluation

Site No. UN5
County: Becker
Twp: Atlanta
Sections: 13,24,25,26

Table 1. Environmental Mitigation Cost Estimate

	Pool Impacts						
	High Impact	*Low Impact*	*Direct Impacts*	*Total Impacts*	*Estimated Mitigation*	*Estimated Cost*	*Permitting Agency*
Wetlands (private)	14.5	32.5	0.2	47.2	23.55	$94,718.10	USCOE, SWCD
Wetlands (public)	0	182.3	0	182.3	72.92	$293,284.24	USFWS
Woodlands	0	0	0	0	0	$0.00	USCOE
CRP	0	31.5	0	31.5	31.5	20475	NRCS/FSA
Total Cost				261	127.97	$408,477.34	

Table 2. Estimated Wetland Restoration Potential

Acres of New Wetland Credits Within the Flood Pool	*Type of Restoration*	*Acres of New Wetland Credits Adjacent to the Flood Pool*	*Type of Restoration*
0	Ditch plugs, Vegetative Restoration	40	Ditch Plugs, Vegetative Restoration

Table 3. Additional Permitting and Design Considerations			
	Amount or Number	*Lead Agency*	*Summary of Issue*
State Lands	A large portion of the pool is protected waters	MNDNR	MNDNR may want to reduce retention after snowmelt, will need a DNR Permit
Federal Lands	A large portion of the pool is a National WMA	USFWS	USFWS may want to reduce retention after snowmelt, will need a USFWS Permit
Farmsteads	0	Residents/Landowners	NA
Fish Passage	Not an issue	MNDNR	NA

List of Assumptions:

1) Estimated private wetland acres was obtained from the NWI, available NRCS wetland determinations.
2) Estimated public wetland acres was obtained from land use data and consultation with SWCD staff.
3) Estimated native upland prairie acres was obtained from the land use data, air photography and consultation with the SWCD staff.
4) Estimated woodland acres was obtained from the land use data, air photography, and consultation with SWCD staff.
5) Estimated CRP acres was obtained from consultation with SWCD and NRCS staff.
6) Estimated RIM acres was obtained from consultation with SWCD staff.
7) Estimated State and Federal lands were obtained from the land use data and consultation with SWCD staff.
8) Wetland impacts are based on their location within the pool. Wetland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Wetland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
9) Woodland impacts are based on their location within the pool. Woodland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Woodland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
10) Estimated Mitigation - wetland replacement within the flood pool is based on 70% replacement for "High Impact" wetlands and 40% replacement for low impact wetlands. A 200% replacement (2:1) is used for direct impacts (i.e. filled by levee construction).
11) Estimated mitigation costs for CRP is based on an average buyout cost of $65 per acre times the years remaining on the contract after 2007. The estimated buyout cost was determined by consultation with the Clay SWCD to estimate a typical CRP contract for Clay County.
12) Estimated mitigation cost for wetlands is based on a cost of $4,022 per acre This was determined by using a 1995 per acre construction cost of $3,094, (Minnesota Wetland Replacement/Mitigation Cost Summary Survey published in 1995 by the Minnesota Board of Water and Soil Resources), and projecting a summer 2005 construction cost using the US Army Corps of Engineers Civil Works Construction Cost Index System, published March 31, 2000.
13) Estimated mitigation cost for woodlands is based on an estimated cost of $1,500 per acre.

Wild Rice River Watershed District
U.S. Army Corps of Engineers
South Branch of the Wild Rice River – Storage Evaluation

Site No. UN15
County: Becker
Twp: Atlanta
Sections: 4,5

Table 1. Environmental Mitigation Cost Estimate

	Pool Impacts						
	High Impact	*Low Impact*	*Direct Impacts*	*Total Impacts*	*Estimated Mitigation*	*Estimated Cost*	*Permitting Agency*
Wetlands (private)	2.2	2.7	0	4.9	2.62	$10,537.64	USCOE, SWCD
Wetlands (public)	0	0	0	0	0	$0.00	USFWS
Woodlands	0	0	0	0	0	$0.00	USCOE
CRP	0	0	0	0	0	0	NRCS/FSA
Total Cost				4.9	2.62	$10,537.64	

Table 2. Estimated Wetland Restoration Potential

Acres of New Wetland Credits Within the Flood Pool	*Type of Restoration*	*Acres of New Wetland Credits Adjacent to the Flood Pool*	*Type of Restoration*
5	Ditch plugs, Vegetative Restoration	20	Ditch Plugs, Vegetative Restoration

Table 3. Additional Permitting and Design Considerations			
	Amount or Number	*Lead Agency*	*Summary of Issue*
State Lands	0 acres	NA	NA
Federal Lands	0 acres	NA	NA
Farmsteads	0	Residents/Landowners	Adjust pool elevation or add a small levee near the site
Fish Passage	Not an issue	MNDNR	NA

List of Assumptions:

1) Estimated private wetland acres was obtained from the NWI, available NRCS wetland determinations.
2) Estimated public wetland acres was obtained from land use data and consultation with SWCD staff.
3) Estimated native upland prairie acres was obtained from the land use data, air photography and consultation with the SWCD staff.
4) Estimated woodland acres was obtained from the land use data, air photography, and consultation with SWCD staff.
5) Estimated CRP acres was obtained from consultation with SWCD and NRCS staff.
6) Estimated RIM acres was obtained from consultation with SWCD staff.
7) Estimated State and Federal lands were obtained from the land use data and consultation with SWCD staff.
8) Wetland impacts are based on their location within the pool Wetland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Wetland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
9) Woodland impacts are based on their location within the pool. Woodland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Woodland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
10) Estimated Mitigation - wetland replacement within the flood pool is based on 70% replacement for "High Impact" wetlands and 40% replacement for low impact wetlands. A 200% replacement (2:1) is used for direct impacts (i.e. filled by levee construction).
11) Estimated mitigation costs for CRP is based on an average buyout cost of $65 per acre times the years remaining on the contract. The estimated buyout cost was determined by consultation with the Clay SWCD to estimate a typical CRP contract for Clay County.
12) Estimated mitigation cost for wetlands is based on a cost of $4,022 per acre. This was determined by using a 1995 per acre construction cost of $3,094, (Minnesota Wetland Replacement/Mitigation Cost Summary Survey published in 1995 by the Minnesota Board of Water and Soil Resources), and projecting a summer 2005 construction cost using the US Army Corps of Engineers Civil Works Construction Cost Index System, published March 31, 2000.
13) Estimated mitigation cost for woodlands is based on an estimated cost of $1,500 per acre.

Wild Rice River Watershed District
U.S. Army Corps of Engineers
South Branch of the Wild Rice River – Storage Evaluation

Site No. UN 35
County: Becker
Twp: Walworth
Sections: 20,21,28,29

Table 1. Environmental Mitigation Cost Estimate

	Pool Impacts		*Direct Impacts*	*Total Impacts*	*Estimated Mitigation*	*Estimated Cost*	*Permitting Agency*
	High Impact	*Low Impact*					
Wetlands (private)	0	4.9	0	4.9	1.96	$7,883.12	USCOE, SWCD
Wetlands (public)	0	0	0	0	0	$0.00	USFWS
Woodlands	0	0	0	0	0	$0.00	USCOE
CRP	0	0	0	0	0	0	NRCS/FSA
Total Cost				4.9	1.96	$7,883.12	

Table 2. Estimated Wetland Restoration Potential

Acres of New Wetland Credits Within the Flood Pool	*Type of Restoration*	*Acres of New Wetland Credits Adjacent to the Flood Pool*	*Type of Restoration*
10	Ditch plugs, Vegetative Restoration	20	Ditch Plugs, Vegetative Restoration

Table 3. Additional Permitting and Design Considerations			
	Amount or Number	*Lead Agency*	*Summary of Issue*
State Lands	0 acres	NA	NA
Federal Lands	0 acres	NA	NA
Farmsteads	0	Residents/Landowners	NA
Fish Passage	Not an issue	MNDNR	NA

List of Assumptions:

1) Estimated private wetland acres was obtained from the NWI, available NRCS wetland determinations.
2) Estimated public wetland acres was obtained from land use data and consultation with SWCD staff.
3) Estimated native upland prairie acres was obtained from the land use data, air photography and consultation with the SWCD staff.
4) Estimated woodland acres was obtained from the land use data, air photography, and consultation with SWCD staff.
5) Estimated CRP acres was obtained from consultation with SWCD and NRCS staff
6) Estimated RIM acres was obtained from consultation with SWCD staff.
7) Estimated State and Federal lands were obtained from the land use data and consultation with SWCD staff.
8) Wetland impacts are based on their location within the pool. Wetland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact" Wetland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
9) Woodland impacts are based on their location within the pool. Woodland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Woodland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
10) Estimated Mitigation - wetland replacement within the flood pool is based on 70% replacement for "High Impact" wetlands and 40% replacement for low impact wetlands. A 200% replacement (2:1) is used for direct impacts (i.e. filled by levee construction).
11) Estimated mitigation costs for CRP is based on an average buyout cost of $65 per acre times the years remaining on the contract after 2007. The estimated buyout cost was determined by consultation with the Clay SWCD to estimate a typical CRP contract for Clay County.
12) Estimated mitigation cost for wetlands is based on a cost of $4,022 per acre. This was determined by using a 1995 per acre construction cost of $3,094, (Minnesota Wetland Replacement/Mitigation Cost Summary Survey published in 1995 by the Minnesota Board of Water and Soil Resources), and projecting a summer 2005 construction cost using the US Army Corps of Engineers Civil Works Construction Cost Index System, published March 31, 2000.
13) Estimated mitigation cost for woodlands is based on an estimated cost of $1,500 per acre.

Wild Rice River Watershed District
U.S. Army Corps of Engineers
South Branch of the Wild Rice River – Storage Evaluation

Site No. UN45
County: Becker
Twp: Walworth
Sections: 8,16,17

Table 1. Environmental Mitigation Cost Estimate

	Pool Impacts						
	High Impact	*Low Impact*	*Direct Impacts*	*Total Impacts*	*Estimated Mitigation*	*Estimated Cost*	*Permitting Agency*
Wetlands (private)	9	5	0	14	8.3	$33,382.60	USCOE, SWCD
Wetlands (public)	1.6	0	0	1.6	1.12	$4,504.64	USFWS
Woodlands	0	0	0	0	0	$0.00	USCOE
CRP	0	0	0	0	0	0	NRCS/FSA
Total Cost				15.6	9.42	$37,887.24	

Table 2. Estimated Wetland Restoration Potential

Acres of New Wetland Credits Within the Flood Pool	*Type of Restoration*	*Acres of New Wetland Credits Adjacent to the Flood Pool*	*Type of Restoration*
40	Ditch plugs, Vegetative Restoration	40	Ditch Plugs, Vegetative Restoration

Table 3. Additional Permitting and Design Considerations			
	Amount or Number	*Lead Agency*	*Summary of Issue*
State Lands	Approximately 1.5 acres in the pool.	MNDNR	Channel relocation near levee, MNDNR may want to reduce retention after snowmelt, will need a DNR Permit
Federal Lands	0 acres	NA	NA
Farmsteads	1	Residents/Landowners	Adjust pool elevation or add a small levee near the site
Fish Passage	Not an issue	MNDNR	NA

List of Assumptions:

1) Estimated private wetland acres was obtained from the NWI, available NRCS wetland determinations.
2) Estimated public wetland acres was obtained from land use data and consultation with SWCD staff.
3) Estimated native upland prairie acres was obtained from the land use data, air photography and consultation with the SWCD staff.
4) Estimated woodland acres was obtained from the land use data, air photography, and consultation with SWCD staff.
5) Estimated CRP acres was obtained from consultation with SWCD and NRCS staff.
6) Estimated RIM acres was obtained from consultation with SWCD staff.
7) Estimated State and Federal lands were obtained from the land use data and consultation with SWCD staff.
8) Wetland impacts are based on their location within the pool. Wetland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Wetland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
9) Woodland impacts are based on their location within the pool. Woodland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Woodland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
10) Estimated Mitigation - wetland replacement within the flood pool is based on 70% replacement for "High Impact" wetlands and 40% replacement for low impact wetlands. A 200% replacement (2:1) is used for direct impacts (i.e. filled by levee construction).
11) Estimated mitigation costs for CRP is based on an average buyout cost of $65 per acre times the years remaining on the contract after 2007. The estimated buyout cost was determined by consultation with the Clay SWCD to estimate a typical CRP contract for Clay County.
12) Estimated mitigation cost for wetlands is based on a cost of $4,022 per acre. This was determined by using a 1995 per acre construction cost of $3,094, (Minnesota Wetland Replacement/Mitigation Cost Summary Survey published in 1995 by the Minnesota Board of Water and Soil Resources), and projecting a summer 2005 construction cost using the US Army Corps of Engineers Civil Works Construction Cost Index System, published March 31, 2000.
13) Estimated mitigation cost for woodlands is based on an estimated cost of $1,500 per acre.

Wild Rice River Watershed District
U.S. Army Corps of Engineers
South Branch of the Wild Rice River – Storage Evaluation

Site No. Stiner 1
County: Becker, Clay
Twp: Atlanta, Highland Grove
Sections: 31,32, 1, 12

Table 1. Environmental Mitigation Cost Estimate

	Pool Impacts						
	High Impact	*Low Impact*	*Direct Impacts*	*Total Impacts*	*Estimated Mitigation*	*Estimated Cost*	*Permitting Agency*
Wetlands (private)	33.1	80.1	0	113.2	55.21	$222,054.62	USCOE, SWCD
Wetlands (public)	0	37.7	0	37.7	15.08	$60,651.76	MNDNR
Woodlands	3.8	1.9	0	5.7	3.42	$5,130.00	USCOE
CRP	0	0	0	0	0	0	NRCS/FSA
Total Cost				156.6	73.71	$287,836.38	

Table 2. Estimated Wetland Restoration Potential

Acres of New Wetland Credits Within the Flood Pool	*Type of Restoration*	*Acres of New Wetland Credits Adjacent to the Flood Pool*	*Type of Restoration*
0	Ditch plugs, Vegetative Restoration	5	Ditch Plugs, Vegetative Restoration

Table 3. Additional Permitting and Design Considerations			
	Amount or Number	*Lead Agency*	*Summary of Issue*
State Lands	Most is Public Waters	MNDNR	MNDNR may want to reduce retention after snowmelt, will need a DNR Permit
Federal Lands	0 acres	NA	NA
Farmsteads	0	Residents/Landowners	NA
Fish Passage	Fish passage is an issue	MNDNR	Need to discuss design considerations

List of Assumptions:

1) Estimated private wetland acres was obtained from the NWI, available NRCS wetland determinations.
2) Estimated public wetland acres was obtained from land use data and consultation with SWCD staff.
3) Estimated native upland prairie acres was obtained from the land use data, air photography and consultation with the SWCD staff.
4) Estimated woodland acres was obtained from the land use data, air photography, and consultation with SWCD staff.
5) Estimated CRP acres was obtained from consultation with SWCD and NRCS staff.
6) Estimated RIM acres was obtained from consultation with SWCD staff.
7) Estimated State and Federal lands were obtained from the land use data and consultation with SWCD staff.
8) Wetland impacts are based on their location within the pool. Wetland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Wetland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
9) Woodland impacts are based on their location within the pool. Woodland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Woodland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
10) Estimated Mitigation - wetland replacement within the flood pool is based on 70% replacement for "High Impact" wetlands and 40% replacement for low impact wetlands. A 200% replacement (2:1) is used for direct impacts (i e. filled by levee construction).
11) Estimated mitigation costs for CRP is based on an average buyout cost of $65 per acre times the years remaining on the contract after 2007. The estimated buyout cost was determined by consultation with the Clay SWCD to estimate a typical CRP contract for Clay County.
12) Estimated mitigation cost for wetlands is based on a cost of $4,022 per acre. This was determined by using a 1995 per acre construction cost of $3,094, (Minnesota Wetland Replacement/Mitigation Cost Summary Survey published in 1995 by the Minnesota Board of Water and Soil Resources), and projecting a summer 2005 construction cost using the US Army Corps of Engineers Civil Works Construction Cost Index System, published March 31, 2000.
13) Estimated mitigation cost for woodlands is based on an estimated cost of $1,500 per acre.

Wild Rice River Watershed District
U.S. Army Corps of Engineers
South Branch of the Wild Rice River – Storage Evaluation

Site No. Stiner 2
County: Becker
Twp: Atlanta
Sections: 29, 32

Table 1. Environmental Mitigation Cost Estimate

	Pool Impacts						
	High Impact	*Low Impact*	*Direct Impacts*	*Total Impacts*	*Estimated Mitigation*	*Estimated Cost*	*Permitting Agency*
Wetlands (private)	7.4	3.1	0	10.5	6.42	$25,821.24	USCOE, SWCD
Wetlands (public)	0	53.8	0	53.8	21.52	$86,553.44	MNDNR
Woodlands	0	0	0	0	0	$0.00	USCOE
CRP	0	0	0	0	0	0	NRCS/FSA
Total Cost				64.3	27.94	$112,374.68	

Table 2. Estimated Wetland Restoration Potential

Acres of New Wetland Credits Within the Flood Pool	*Type of Restoration*	*Acres of New Wetland Credits Adjacent to the Flood Pool*	*Type of Restoration*
0	Ditch plugs, Vegetative Restoration	15	Ditch Plugs, Vegetative Restoration

Table 3. Additional Permitting and Design Considerations			
	Amount or Number	*Lead Agency*	*Summary of Issue*
State Lands	Most is Public Waters	MNDNR	MNDNR may want to reduce retention after snowmelt, will need a DNR Permit
Federal Lands	0 acres	NA	NA
Farmsteads	1	Residents/Landowners	Adjust pool elevation or add a small levee near the site
Fish Passage	Fish passage is an issue	MNDNR	Need to discuss design considerations

List of Assumptions:

1) Estimated private wetland acres was obtained from the NWI, available NRCS wetland determinations.
2) Estimated public wetland acres was obtained from land use data and consultation with SWCD staff.
3) Estimated native upland prairie acres was obtained from the land use data, air photography and consultation with the SWCD staff.
4) Estimated woodland acres was obtained from the land use data, air photography, and consultation with SWCD staff.
5) Estimated CRP acres was obtained from consultation with SWCD and NRCS staff.
6) Estimated RIM acres was obtained from consultation with SWCD staff.
7) Estimated State and Federal lands were obtained from the land use data and consultation with SWCD staff.
8) Wetland impacts are based on their location within the pool. Wetland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Wetland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
9) Woodland impacts are based on their location within the pool. Woodland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Woodland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
10) Estimated Mitigation - wetland replacement within the flood pool is based on 70% replacement for "High Impact" wetlands and 40% replacement for low impact wetlands A 200% replacement (2:1) is used for direct impacts (i.e. filled by levee construction).
11) Estimated mitigation costs for CRP is based on an average buyout cost of $65 per acre times the years remaining on the contract after 2007. The estimated buyout cost was determined by consultation with the Clay SWCD to estimate a typical CRP contract for Clay County.
12) Estimated mitigation cost for wetlands is based on a cost of $4,022 per acre. This was determined by using a 1995 per acre construction cost of $3,094, (Minnesota Wetland Replacement/Mitigation Cost Summary Survey published in 1995 by the Minnesota Board of Water and Soil Resources), and projecting a summer 2005 construction cost using the US Army Corps of Engineers Civil Works Construction Cost Index System, published March 31, 2000.
13) Estimated mitigation cost for woodlands is based on an estimated cost of $1,500 per acre.

Wild Rice River Watershed District
U.S. Army Corps of Engineers
South Branch of the Wild Rice River – Storage Evaluation

Site No. Stiner 3
County: Clay, Becker
Twp: Goose Prairie, Atlanta
Sections: 12, 7

Table 1. Environmental Mitigation Cost Estimate

	Pool Impacts						
	High Impact	*Low Impact*	*Direct Impacts*	*Total Impacts*	*Estimated Mitigation*	*Estimated Cost*	*Permitting Agency*
Wetlands (private)	38.3	18.4	0.1	56.8	34.37	$138,236.14	USCOE, SWCD
Wetlands (public)	0	0	0	0	0	$0.00	NA
Woodlands	0	0	0	0	0	$0.00	USCOE
CRP	0	0	0	0	0	0	NRCS/FSA
Total Cost				56.8	34.37	$138,236.14	

Table 2. Estimated Wetland Restoration Potential

Acres of New Wetland Credits Within the Flood Pool	*Type of Restoration*	*Acres of New Wetland Credits Adjacent to the Flood Pool*	*Type of Restoration*
40	Ditch plugs, Vegetative Restoration	80	Ditch Plugs, Vegetative Restoration

Table 3. Additional Permitting and Design Considerations			
	Amount or Number	*Lead Agency*	*Summary of Issue*
State Lands	Public Waters	MNDNR	Creek is a public water, DNR permitting is required.
Federal Lands	0 acres	NA	NA
Farmsteads	1	Residents/Landowners	Adjust pool elevation or add a small levee near the site
Fish Passage	Fish passage is an issue	MNDNR	It is a low priority fish passage area.

List of Assumptions:

1) Estimated private wetland acres was obtained from the NWI, available NRCS wetland determinations.
2) Estimated public wetland acres was obtained from land use data and consultation with SWCD staff.
3) Estimated native upland prairie acres was obtained from the land use data, air photography and consultation with the SWCD staff.
4) Estimated woodland acres was obtained from the land use data, air photography, and consultation with SWCD staff.
5) Estimated CRP acres was obtained from consultation with SWCD and NRCS staff.
6) Estimated RIM acres was obtained from consultation with SWCD staff.
7) Estimated State and Federal lands were obtained from the land use data and consultation with SWCD staff.
8) Wetland impacts are based on their location within the pool. Wetland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Wetland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact"
9) Woodland impacts are based on their location within the pool. Woodland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Woodland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
10) Estimated Mitigation - wetland replacement within the flood pool is based on 70% replacement for "High Impact" wetlands and 40% replacement for low impact wetlands. A 200% replacement (2:1) is used for direct impacts (i.e. filled by levee construction).
11) Estimated mitigation costs for CRP is based on an average buyout cost of $65 per acre times the years remaining on the contract after 2007. The estimated buyout cost was determined by consultation with the Clay SWCD to estimate a typical CRP contract for Clay County.
12) Estimated mitigation cost for wetlands is based on a cost of $4,022 per acre. This was determined by using a 1995 per acre construction cost of $3,094, (Minnesota Wetland Replacement/Mitigation Cost Summary Survey published in 1995 by the Minnesota Board of Water and Soil Resources), and projecting a summer 2005 construction cost using the US Army Corps of Engineers Civil Works Construction Cost Index System, published March 31, 2000.
13) Estimated mitigation cost for woodlands is based on an estimated cost of $1,500 per acre.

Wild Rice River Watershed District
U.S. Army Corps of Engineers
South Branch of the Wild Rice River – Storage Evaluation

Site No. Stiner 4
County: Clay
Twp: Ulen
Sections: 34,35

Table 1. Environmental Mitigation Cost Estimate

	Pool Impacts						
	High Impact	*Low Impact*	*Direct Impacts*	*Total Impacts*	*Estimated Mitigation*	*Estimated Cost*	*Permitting Agency*
Wetlands (private)	19.2	10.7	0.1	30	17.92	$72,074.24	USCOE, SWCD
Wetlands (public)	0	0	0	0	0	$0.00	NA
Woodlands	0	0	0	0	0	$0.00	USCOE
CRP	0	0	0	0	0	0	NRCS/FSA
Total Cost				30	17.92	$72,074.24	

Table 2. Estimated Wetland Restoration Potential

Acres of New Wetland Credits Within the Flood Pool	*Type of Restoration*	*Acres of New Wetland Credits Adjacent to the Flood Pool*	*Type of Restoration*
0	NA	0	NA

Table 3. Additional Permitting and Design Considerations			
	Amount or Number	*Lead Agency*	*Summary of Issue*
State Lands	The creek is a protected waters	MNDNR	Will need a MNDNR permit.
Federal Lands	0 acres	USFWS/WPA	NA
Farmsteads	2	Residents/Landowners	Adjust pool elevation or add a small levee near the sites
Fish Passage	Fish Passage is an issue.	MNDNR	Need to discuss design considerations.

List of Assumptions:

1) Estimated private wetland acres was obtained from the NWI, available NRCS wetland determinations.
2) Estimated public wetland acres was obtained from land use data and consultation with SWCD staff.
3) Estimated native upland prairie acres was obtained from the land use data, air photography and consultation with the SWCD staff.
4) Estimated woodland acres was obtained from the land use data, air photography, and consultation with SWCD staff.
5) Estimated CRP acres was obtained from consultation with SWCD and NRCS staff.
6) Estimated RIM acres was obtained from consultation with SWCD staff.
7) Estimated State and Federal lands were obtained from the land use data and consultation with SWCD staff.
8) Wetland impacts are based on their location within the pool. Wetland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Wetland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
9) Woodland impacts are based on their location within the pool. Woodland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Woodland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
10) Estimated Mitigation - wetland replacement within the flood pool is based on 70% replacement for "High Impact" wetlands and 40% replacement for low impact wetlands. A 200% replacement (2:1) is used for direct impacts (i.e. filled by levee construction).
11) Estimated mitigation costs for CRP is based on an average buyout cost of $65 per acre times the years remaining on the contract after 2007. The estimated buyout cost was determined by consultation with the Clay SWCD to estimate a typical CRP contract for Clay County.
12) Estimated mitigation cost for wetlands is based on a cost of $4,022 per acre. This was determined by using a 1995 per acre construction cost of $3,094, (Minnesota Wetland Replacement/Mitigation Cost Summary Survey published in 1995 by the Minnesota Board of Water and Soil Resources), and projecting a summer 2005 construction cost using the US Army Corps of Engineers Civil Works Construction Cost Index System, published March 31, 2000.
13) Estimated mitigation cost for woodlands is based on an estimated cost of $1,500 per acre.

Wild Rice River Watershed District
U.S. Army Corps of Engineers
South Branch of the Wild Rice River – Storage Evaluation

Site No. CD18-5B
County: Becker
Twp: Goose Prairie
Sections: 10, 11, 14

Table 1. Environmental Mitigation Cost Estimate

	Pool Impacts						
	High Impact	*Low Impact*	*Direct Impacts*	*Total Impacts*	*Estimated Mitigation*	*Estimated Cost*	*Permitting Agency*
Wetlands (private)	46.5	17	4.6	68.1	48.55	$195,268.10	USCOE, SWCD
Wetlands (public)	0	1.1	0	1.1	0.44	$1,769.68	USFWS
Woodlands	0.5	1.4	0	1.9	0.91	$1,365.00	USCOE
CRP	0	0	0	0	0	0	NRCS/FSA
Total Cost				71.1	49.9	$198,402.78	

Table 2. Estimated Wetland Restoration Potential

Acres of New Wetland Credits Within the Flood Pool	*Type of Restoration*	*Acres of New Wetland Credits Adjacent to the Flood Pool*	*Type of Restoration*
10	Ditch plugs, Vegetative Restoration	40	Ditch Plugs, Vegetative Restoration

Table 3. Additional Permitting and Design Considerations			
	Amount or Number	*Lead Agency*	*Summary of Issue*
State Lands	0 acres	NA	NA
Federal Lands	Approximately 5 acres in the pool.	USFWS	USFWS may want to reduce retention after snowmelt.
Farmsteads	1	Residents/Landowners	Adjust pool elevation or add a small levee near the site
Fish Passage	Not an issue	MNDNR	NA

List of Assumptions:

1) Estimated private wetland acres was obtained from the NWI, available NRCS wetland determinations.
2) Estimated public wetland acres was obtained from land use data and consultation with SWCD staff.
3) Estimated native upland prairie acres was obtained from the land use data, air photography and consultation with the SWCD staff.
4) Estimated woodland acres was obtained from the land use data, air photography, and consultation with SWCD staff.
5) Estimated CRP acres was obtained from consultation with SWCD and NRCS staff.
6) Estimated RIM acres was obtained from consultation with SWCD staff
7) Estimated State and Federal lands were obtained from the land use data and consultation with SWCD staff.
8) Wetland impacts are based on their location within the pool. Wetland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Wetland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
9) Woodland impacts are based on their location within the pool. Woodland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Woodland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
10) Estimated Mitigation - wetland replacement within the flood pool is based on 70% replacement for "High Impact" wetlands and 40% replacement for low impact wetlands. A 200% replacement (2.1) is used for direct impacts (i.e. filled by levee construction).
11) Estimated mitigation costs for CRP is based on an average buyout cost of $65 per acre times the years remaining on the contract after 2007. The estimated buyout cost was determined by consultation with the Clay SWCD to estimate a typical CRP contract for Clay County.
12) Estimated mitigation cost for wetlands is based on a cost of $4,022 per acre. This was determined by using a 1995 per acre construction cost of $3,094, (Minnesota Wetland Replacement/Mitigation Cost Summary Survey published in 1995 by the Minnesota Board of Water and Soil Resources), and projecting a summer 2005 construction cost using the US Army Corps of Engineers Civil Works Construction Cost Index System, published March 31, 2000.
13) Estimated mitigation cost for woodlands is based on an estimated cost of $1,500 per acre.

Wild Rice River Watershed District
U.S. Army Corps of Engineers
South Branch of the Wild Rice River – Storage Evaluation

Site No. UN55B
County: Clay
Twp: Ulen
Sections: 11,12,13,14

Table 1. Environmental Mitigation Cost Estimate

	Pool Impacts						
	High Impact	*Low Impact*	*Direct Impacts*	*Total Impacts*	*Estimated Mitigation*	*Estimated Cost*	*Permitting Agency*
Wetlands (private)	0.93	3.6	0	4.53	2.091	$8,410.00	USCOE, SWCD
Wetlands (public)	0	0	0	0	0	$0.00	USFWS
Woodlands	0	0	0	0	0	$0.00	USCOE
CRP	0	0	0	0	0	0	NRCS/FSA
Total Cost				4.53	2.091	$8,410.00	

Table 2. Estimated Wetland Restoration Potential

Acres of New Wetland Credits Within the Flood Pool	*Type of Restoration*	*Acres of New Wetland Credits Adjacent to the Flood Pool*	*Type of Restoration*
100	Ditch plugs, Vegetative Restoration	100	Ditch Plugs, Vegetative Restoration

Table 3. Additional Permitting and Design Considerations			
	Amount or Number	*Lead Agency*	*Summary of Issue*
State Lands	0 acres	NA	NA
Federal Lands	0 acres	NA	NA
Farmsteads	1	Residents/Landowners	Adjust pool elevation or add a small levee near the site
Fish Passage	Not an issue	MNDNR	NA

List of Assumptions:

1) Estimated private wetland acres was obtained from the NWI, available NRCS wetland determinations.
2) Estimated public wetland acres was obtained from land use data and consultation with SWCD staff.
3) Estimated native upland prairie acres was obtained from the land use data, air photography and consultation with the SWCD staff.
4) Estimated woodland acres was obtained from the land use data, air photography, and consultation with SWCD staff.
5) Estimated CRP acres was obtained from consultation with SWCD and NRCS staff.
6) Estimated RIM acres was obtained from consultation with SWCD staff.
7) Estimated State and Federal lands were obtained from the land use data and consultation with SWCD staff.
8) Wetland impacts are based on their location within the pool. Wetland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Wetland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
9) Woodland impacts are based on their location within the pool. Woodland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Woodland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
10) Estimated Mitigation - wetland replacement within the flood pool is based on 70% replacement for "High Impact" wetlands and 40% replacement for low impact wetlands. A 200% replacement (2:1) is used for direct impacts (i.e. filled by levee construction).
11) Estimated mitigation costs for CRP is based on an average buyout cost of $65 per acre times the years remaining on the contract. The estimated buyout cost was determined by consultation with the Clay SWCD to estimate a typical CRP contract for Clay County
12) Estimated mitigation cost for wetlands is based on a cost of $4,022 per acre. This was determined by using a 1995 per acre construction cost of $3,094, (Minnesota Wetland Replacement/Mitigation Cost Summary Survey published in 1995 by the Minnesota Board of Water and Soil Resources), and projecting a summer 2005 construction cost using the US Army Corps of Engineers Civil Works Construction Cost Index System, published March 31, 2000.
13) Estimated mitigation cost for woodlands is based on an estimated cost of $1,500 per acre

Wild Rice River Watershed District
U.S. Army Corps of Engineers
South Branch of the Wild Rice River – Storage Evaluation

Site No. UN55A
County: Clay
Twp: Ulen
Sections: 16, 21

Table 1. Environmental Mitigation Cost Estimate

	Pool Impacts						
	High Impact	*Low Impact*	*Direct Impacts*	*Total Impacts*	*Estimated Mitigation*	*Estimated Cost*	*Permitting Agency*
Wetlands (private)	1.3	17.9	0	19.2	8.07	$32,457.54	USCOE, SWCD
Wetlands (public)	0	0	0	0	0	$0.00	USFWS
Woodlands	23.9	14.2	1.5	39.6	25.41	$38,115.00	USCOE
CRP	20.5	0	0	20.5	20.5	1332.5	NRCS/FSA
Total Cost				79.3	53.98	$71,905.04	

Table 2. Estimated Wetland Restoration Potential

Acres of New Wetland Credits Within the Flood Pool	*Type of Restoration*	*Acres of New Wetland Credits Adjacent to the Flood Pool*	*Type of Restoration*
8	Ditch plugs, Vegetative Restoration	8	Ditch Plugs, Vegetative Restoration

Table 3. Additional Permitting and Design Considerations			
	Amount or Number	***Lead Agency***	***Summary of Issue***
State Lands	The creek is a protected water.	MNDNR	Will need a MNDNR permit.
Federal Lands	0 acres	NA	NA
Farmsteads	1	Residents/Landowners	Adjust pool elevation or add a small levee near the site
Fish Passage	Fish passage is an issue	MNDNR	It is a low priority fish passage area.

List of Assumptions:

1) Estimated private wetland acres was obtained from the NWI, available NRCS wetland determinations.
2) Estimated public wetland acres was obtained from land use data and consultation with SWCD staff.
3) Estimated native upland prairie acres was obtained from the land use data, air photography and consultation with the SWCD staff.
4) Estimated woodland acres was obtained from the land use data, air photography, and consultation with SWCD staff.
5) Estimated CRP acres was obtained from consultation with SWCD and NRCS staff.
6) Estimated RIM acres was obtained from consultation with SWCD staff.
7) Estimated State and Federal lands were obtained from the land use data and consultation with SWCD staff.
8) Wetland impacts are based on their location within the pool. Wetland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Wetland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
9) Woodland impacts are based on their location within the pool. Woodland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Woodland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
10) Estimated Mitigation - wetland replacement within the flood pool is based on 70% replacement for "High Impact" wetlands and 40% replacement for low impact wetlands. A 200% replacement (2:1) is used for direct impacts (i.e. filled by levee construction).
11) Estimated mitigation costs for CRP is based on an average buyout cost of $65 per acre times the years remaining on the contract after 2007. The estimated buyout cost was determined by consultation with the Clay SWCD to estimate a typical CRP contract for Clay County.
12) Estimated mitigation cost for wetlands is based on a cost of $4,022 per acre. This was determined by using a 1995 per acre construction cost of $3,094, (Minnesota Wetland Replacement/Mitigation Cost Summary Survey published in 1995 by the Minnesota Board of Water and Soil Resources), and projecting a summer 2005 construction cost using the US Army Corps of Engineers Civil Works Construction Cost Index System, published March 31, 2000.
13) Estimated mitigation cost for woodlands is based on an estimated cost of $1,500 per acre

Wild Rice River Watershed District
U.S. Army Corps of Engineers
South Branch of the Wild Rice River – Storage Evaluation

Site No. SBR105 - Fevig
County: Clay
Twp: Hagen, Ulen
Sections: 12,13, 6

Table 1. Environmental Mitigation Cost Estimate

	Pool Impacts						
	High Impact	*Low Impact*	*Direct Impacts*	*Total Impacts*	*Estimated Mitigation*	*Estimated Cost*	*Permitting Agency*
Wetlands (private)	7.2	15.3	0	22.5	11.16	$44,885.52	USCOE, SWCD
Wetlands (public)	0	0	0	0	0	$0.00	USFWS
Woodlands	42	6.6	1.8	50.4	35.64	$53,460.00	USCOE
CRP	0	0	0	0	0	0	NRCS/FSA
Total Cost				72.9	46.8	$98,345.52	

Table 2. Estimated Wetland Restoration Potential

Acres of New Wetland Credits Within the Flood Pool	*Type of Restoration*	*Acres of New Wetland Credits Adjacent to the Flood Pool*	*Type of Restoration*
0	NA	0	NA

Table 3. Additional Permitting and Design Considerations			
	Amount or Number	*Lead Agency*	*Summary of Issue*
State Lands	0 acres	NA	NA
Federal Lands	0 acres	NA	NA
Farmsteads	3	Residents/Landowners	Adjust pool elevation or add a small levee near the site
Fish Passage	Fish Passage is an Issue	MNDNR	It is a low priority fish passage area.

List of Assumptions:

1) Estimated private wetland acres was obtained from the NWI, available NRCS wetland determinations.
2) Estimated public wetland acres was obtained from land use data and consultation with SWCD staff.
3) Estimated native upland prairie acres was obtained from the land use data, air photography and consultation with the SWCD staff.
4) Estimated woodland acres was obtained from the land use data, air photography, and consultation with SWCD staff.
5) Estimated CRP acres was obtained from consultation with SWCD and NRCS staff.
6) Estimated RIM acres was obtained from consultation with SWCD staff
7) Estimated State and Federal lands were obtained from the land use data and consultation with SWCD staff.
8) Wetland impacts are based on their location within the pool. Wetland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Wetland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
9) Woodland impacts are based on their location within the pool. Woodland areas that were located near the levee (inundated more frequently and with more water) were estimated to be "high impact". Woodland areas that were located near the pool boundary away from the levee (inundated less frequently and with less water) were estimated to be "low impact".
10) Estimated Mitigation - wetland replacement within the flood pool is based on 70% replacement for "High Impact" wetlands and 40% replacement for low impact wetlands. A 200% replacement (2:1) is used for direct impacts (i.e. filled by levee construction).
11) Estimated mitigation costs for CRP is based on an average buyout cost of $65 per acre times the years remaining on the contract after 2007. The estimated buyout cost was determined by consultation with the Clay SWCD to estimate a typical CRP contract for Clay County.
12) Estimated mitigation cost for wetlands is based on a cost of $4,022 per acre. This was determined by using a 1995 per acre construction cost of $3,094, (Minnesota Wetland Replacement/Mitigation Cost Summary Survey published in 1995 by the Minnesota Board of Water and Soil Resources), and projecting a summer 2005 construction cost using the US Army Corps of Engineers Civil Works Construction Cost Index System, published March 31, 2000.
13) Estimated mitigation cost for woodlands is based on an estimated cost of $1,500 per acre.

Wild Rice River Watershed District
U.S. Army Corps of Engineers
South Branch of the Wild Rice River – Storage Evaluation

Site No. Project 30
County: Norman
Twp: Winchester
Sections: 22, 23

Table 1. Environmental Mitigation Cost Estimate

	Pool Impacts						
	High Impact	*Low Impact*	*Direct Impacts*	*Total Impacts*	*Estimated Mitigation*	*Estimated Cost*	*Permitting Agency*
Wetlands (private)	1.5	0	0	1.5	1.05	$4,223.10	USCOE, SWCD
Wetlands (public)	0	0	0	0	0	$0.00	USFWS
Woodlands	0	0	0	0	0	$0.00	USCOE
CRP	0	0	0	0	0	0	NRCS/FSA
Total Cost				1.5	1.05	$4,223.10	

Table 2. Estimated Wetland Restoration Potential

Acres of New Wetland Credits Within the Flood Pool	*Type of Restoration*	*Acres of New Wetland Credits Adjacent to the Flood Pool*	*Type of Restoration*
0	Ditch plugs, Vegetative Restoration	0	Ditch Plugs, Vegetative Restoration

Table 3. Additional Permitting and Design Considerations			
	Amount or Number	*Lead Agency*	*Summary of Issue*
State Lands	0 acres	NA	NA
Federal Lands	0 acres	NA	NA
Farmsteads	0	Residents/Landowners	NA
Fish Passage	Not an issue	MNDNR	NA

List of Assumptions:

1) Estimated private wetland acres was obtained from the NWI, available NRCS wetland determinations.
2) Estimated public wetland acres was obtained from land use data and consultation with SWCD staff.
3) Estimated native upland prairie acres was obtained from the land use data, air photography and consultation with the SWCD staff.
4) Estimated woodland acres was obtained from the land use data, air photography, and consultation with SWCD staff.
5) Estimated CRP acres was obtained from consultation with SWCD and NRCS staff.
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12) Estimated mitigation cost for wetlands is based on a cost of $4,022 per acre. This was determined by using a 1995 per acre construction cost of $3,094, (Minnesota Wetland Replacement/Mitigation Cost Summary Survey published in 1995 by the Minnesota Board of Water and Soil Resources), and projecting a summer 2005 construction cost using the US Army Corps of Engineers Civil Works Construction Cost Index System, published March 31, 2000
13) Estimated mitigation cost for woodlands is based on an estimated cost of $1,500 per acre.