

**FLOOD SALES TAX COMMITTEE**  
**AGENDA FOR MARCH 19, 2012**

Cass County Commission Room

11:00 AM

1. Call to Order
2. Approve minutes from previous meeting
3. Flood sales tax fund update
4. Review of projects and selection of projects to be funded in 2012
5. Other business
6. Adjournment

cc: Local Media

**FLOOD SALES TAX COMMITTEE  
MAY 18, 2011—3:35 PM**

**1. MEETING TO ORDER**

Commission Chairman Darrell Vanyo called a meeting of the Flood Sales Tax Committee to order on Wednesday, May 18, 2011, at 3:35 PM in the Commission Room, Cass County Courthouse, with the following present: County Commission Chairman Darrell Vanyo; County Engineer Keith Berndt; County Auditor Michael Montplaisir; Water Resource District Representative Rodger Olson and County Commissioner Ken Pawluk.

Also present were Jim Nyhof, Oxbow Mayor, and members of the local media.

**2. MINUTES APPROVED**

***MOTION, passed***

**Mr. Montplaisir moved and Mr. Berndt seconded to approve the meeting minutes from March 2, 2011, as presented. Motion carried.**

**3. LIST OF PROJECTS REVIEWED**

Mr. Vanyo said after the last meeting several other project requests were received from local entities and residents.

Mr. Vanyo received an email from an individual asking about a county-funded ring dike program. Mr. Olson said funds are available through the State Water Commission and the National Resources Conservation Service (NRCS) to help individuals who may need assistance with costs associated with ring dikes.

The committee discussed how to proceed with the list of projects. Mr. Vanyo said sales tax dollars most likely will not be available until the spring of 2012. He said any projects submitted after the county solicited requests from local entities should be considered by the committee. He asked Mr. Berndt to update the list including the new projects discussed today. Mr. Berndt suggested individual requests be kept on the list, but the county would need a formal letter from each person.

The committee also discussed how to prioritize the list of projects as they relate to protection from the proposed diversion. Mr. Olson said anyone negatively impacted by the diversion will be part of the mitigation process. Mr. Vanyo suggested a tier of prioritization be considered for the first round of sales tax dollars.

The committee reviewed the flood sales tax policy, which outlines the criteria to be used for projects. The consensus was that road-related projects are not considered flood protection, and any road raises or culvert installation project should be reviewed by the water resource districts.

The committee reviewed the list of projects as follows:

- #1 and #2 from Argusville City (levee and dike projects) – remain on the list;
- #3 through #12 from Harwood Township – asked Mr. Berndt to determine whether the projects are protected by the diversion and provide a GIS map of each one;
- #13 from Harwood Township (road raise)– eliminated from the list as it does not meet the criteria for sales tax funds;
- #14 from Arthur City (re-ditching water) – eliminated from the list as it does not meet the criteria;
- #15 from Oxbow City (flood control improvements) – remain on the list; the city is requesting 50% of \$200,000 cost;
- #16 from Pleasant Township (addition of culverts) – eliminated from the list as it does not meet the criteria;
- #17 and #18 from Mapleton City (levee and slope repair) – remain on the list;
- #19 from Argusville City (levee closure) – remain on the list;
- #20 from Kindred City (dike) – remain on the list;
- #21 for drainage improvements to Horace Diversion – eliminated from the list as it does not meet criteria and a flood improvement district is in place to cover these costs;
- #22 through #26 home acquisitions, levees and ring dikes in the Forest River, Round Hill and North Chrisan Subdivisions – remain on the list; Mr. Berndt asked Houston Engineering to look at the projects, which he plans to discuss with the county commission for consideration;
- #27 for road raise in Raymond Township – eliminated from the list as it does not meet criteria;
- #28 for road raise and bridge replacement in Lake Shure Estates – eliminated from the list as it does not meet criteria;
- #29 from Willow Creek Subdivision – remain on the list at a lower priority because according to Mr. Berndt, no homes had flood damage in 2009 or 2011;
- #30 from Rush River Water Resource District (study of retention projects) – remain on the list;
- #31 from Maple River Water Resource District (water retention plan) – remain on the list;
- #32 from Harwood City (several flood protection projects) – remain on the list;
- #33 from Kensington Subdivision (ring dike and road raise) – ring dike to remain on the list, but eliminate road raise as it does not meet criteria;
- #34 from Tower Township near Buffalo (road raise) – eliminate from the list as it does not meet criteria.

Mr. Montplaisir said the county owes \$2.9 million to the City of Fargo for costs associated with the proposed diversion. He said next month the county should receive the first sales tax money and anticipates it will take four or five months to accrue funds needed to reimburse Fargo.

**4. FIELD TRIP TO TOUR PROJECTS**

Mr. Vanyo suggested the committee tour the projects on the list and possibly meet with representatives to briefly discuss their requests. There was discussion on projects where additional information is needed regarding costs and engineering studies. Mr. Montplaisir suggested the committee ask about timelines associated with each project to help determine when funds would be needed.

Mr. Vanyo suggested letters be sent to each entity letting them know the county will be considering the first disbursement of sales tax dollars in the spring of 2012 and ask for more detailed costs and engineering studies if they were not already submitted. He suggested entities be given a couple of months to gather any additional information needed by the committee and then a tour could be arranged.

**5. ADJOURNMENT**

***MOTION, passed***

**On motion by Mr. Montplaisir, seconded by Mr. Pawluk, and all voting in favor, the meeting was adjourned at 5:03 PM.**



**M E M O**

**TO:** Sales Tax Committee  
**FROM:** Michael Montplaisir, Cass County Auditor  
**DATE:** March 14, 2012  
**SUBJECT:** Sales Tax Funds

**Auditor**

Michael Montplaisir, CPA  
701-241-5601

**Treasurer**

Charlotte Sandvik  
701-241-5611

**Director of  
Equalization**

Frank Klein  
701-241-5616

Attached is the activity of the Sales Tax Fund for 2011 and 2012. As you can see our current balance is \$6,656,009 – this includes \$1.1 million in collections we received on March 14<sup>th</sup>. In addition we have about \$2 million included in a request for reimbursement with Fargo to the State Water Commission (SWC). Sales tax receipts are averaging about \$1 million per month for a total of about \$17 ½ million available by the end of this year.

Costs this year are expected to be about \$30 million for design work, with 50% of that being local dollars that we share with the local agencies, some of those dollars may be reimbursed through the SWC. For next year it appears the Corps may have up to \$7 million that we will have to match, again sharing that match among the local agencies.

**2012**

Current Balance	\$6.6 million
Due from SWC	2.0 million
Estimated added sales tax 2012 (9 months)	<u>9.0 million</u>
Estimated available in 2012	\$17.6 million
Estimated design costs for 2012	<u>(\$7.5 million)</u>
Estimated available	<u>\$10.1 million</u>

**2013**

Estimated sales tax 2013	\$12.0 million
Estimated design costs for 2013	<u>(\$3.5 million)</u>
Estimated available	<u>\$8.5 million</u>

The unspent funds from 2012 and 2013 will be depleted rapidly once acquisitions of right of way begins.

In addition to the Sales Tax Funds, the county also levied three mills for emergency and flood control purposes for 2012. The county enacted an ordinance very similar to the sales tax ordinance to govern the dollars in the emergency and flood control fund. The 3 mill levy will generate almost \$1.5 million this year, and about \$225,000 of that will be needed to offset emergency flood fighting from 2011. During budget time the county will consider a target amount to maintain as a fund for emergency responses that will most likely be built over a number of years.

Box 2806  
211 Ninth Street South  
Fargo, North Dakota 58103

Fax 701-241-5728

www.casscountynd.gov

Cass County Sales Tax Activity  
Cash Basis - 2012

Date	Description	Amount	Balance
	Balance Forward		3,651,091.13
2012	Sales Tax	3,733,349.89	7,384,441.02
2012	Interest	2,139.26	7,386,580.28
1/4/2012	Diversion Board of Authority	(39,878.78)	7,346,701.50
1/25/2012	City of Fargo - Houston Engineering Costs - Basin-wide Modeling Approach	(8,644.43)	7,338,057.07
1/25/2012	City of Fargo - Moore Engineering - Diversion Alternatives	(50,190.74)	7,287,866.33
1/25/2012	City of Fargo - Houston Engineering Costs - Phase 3 Unsteady Modeling	(82,228.22)	7,205,638.11
1/25/2012	City of Fargo - Houston Engineering Costs - Phase 2 SWMM Modeling	(1,541.14)	7,204,096.97
1/25/2012	City of Fargo - TKDA - Railway bridge and yard costs review	(28,477.28)	7,175,619.69
1/25/2012	City of Fargo - URS Corporation - Cultural Resources Investigations	(8,851.89)	7,166,767.80
1/25/2012	City of Fargo - Merrick Company LIDAR	(246,769.85)	6,919,997.95
1/31/2012	City of Fargo - credit for Diversion Board of Authority costs	11,284.98	6,931,282.93
2/15/2012	The Forum - Living with Water Display Ad	(5,550.00)	6,925,732.93
2/29/2012	Diversion Board of Authority - CH2M Hill	(269,723.54)	6,656,009.39

Cass County Sales Tax Activity  
Cash Basis - 2011

Date	Description	Amount	Balance
4/14/11 - 12/15/11	Sales Tax	7,613,004.23	7,613,004.23
4/15/11 - 12/15/11	Interest	6,282.32	7,619,286.55
7/6/2011	Fargo Corps of Engineer Costs	(818,750.00)	6,800,536.55
6/29/2011	Survey Mailing Costs	(132.00)	6,800,404.55
8/15/2011	Fargo Corps of Engineer Costs	(675,000.00)	6,125,404.55
9/12/2011	CC Joint WRD right of Entry and Soil Boring Costs	(2,693.02)	6,122,711.53
10/3/2011	City of Fargo - Houston Engineering Costs - Phase 2 SWMM Modeling	(142,848.12)	5,979,863.41
10/3/2011	City of Fargo - Midwest Testing Costs	(23,917.50)	5,955,945.91
10/25/2011	City of Fargo - Houston Engineering Costs - Basin-wide Modeling Approach	(465,306.55)	5,490,639.36
10/25/2011	City of Fargo - Houston Engineering Costs - Phase 3 Unsteady Modeling	(54,437.87)	5,436,201.49
11/8/2011	City of Fargo - Moore Engineering - Diversion Alternatives	(1,562,597.01)	3,873,604.48
11/8/2011	City of Fargo - URS Corporation - Cultural Resources Investigations	(169,652.06)	3,703,952.42
11/22/2011	CC Joint WRD right of Entry	(38,531.67)	3,665,420.75
12/6/2011	Diversion Board of Authority	(14,329.62)	3,651,091.13

	Sales Tax	Interest
<b>2011</b>	<b>7,613,004.23</b>	<b>6,282.32</b>
4/14/2011	126.65	
5/13/2011	451.77	0.06
6/14/2011	662,085.55	0.36
7/15/2011	1,039,416.79	
8/15/2011	894,282.89	493.85
9/15/2011	1,356,047.65	465.51
10/15/2011	1,421,407.45	916.93
11/15/2011	1,163,910.03	3,552.23
12/14/2011	1,075,275.45	853.38

	Sales Tax	Interest
<b>2012</b>	<b>3,733,349.89</b>	<b>2,139.26</b>
1/17/2012	1,049,639.38	622.90
2/14/2012	1,580,563.52	
2/17/2012		1,516.36
3/14/2012	1,103,146.99	



**Berndt, Keith**

Project No. 1

**From:** Brandon Oye [BOye@mooreengineeringinc.com]  
**Sent:** Tuesday, March 13, 2012 1:03 PM  
**To:** Berndt, Keith  
**Subject:** RE: Small City Flood Control Projects  
**Attachments:** Proposal.pdf

Keith,

Our intent is that the Argusville Levee project would be constructed this year. There are just some outstanding things that may need to be done to recertify the levee by the December 1, 2012 deadline.

We are moving forward on the realignment of the levee along County Highway 4. This is the project we will submit by tomorrow for possible funding. I am preparing an Estimate of Probable Cost, Funding Breakdown (City, NDSWC, County request) and will also include the preliminary layout drawings for this project.

The outstanding items for the recertification include the following:

- 1) Relocating power poles on the south and east segments of the levee
  - a. We are working with the Cass County Highway Department on the south segment adjacent to CH 4, and talking with the Corps about possibly grandfathering in the power poles on the east segment. This could be a very large cost to the city that we have not quantified yet.
- 2) Repairing a slide in the detention pond
  - a. We are waiting from the geotechnical analysis from Braun Intertec, which they will be giving recommendations on how to make the repair. We should be receiving the report this week.
- 3) Relocating fencing along I-94 that is located on the west segment of the levee
  - a. We need to identify if the fence can remain or if it needs to be relocated. We are preparing a right-of-way map with easements to determine our options.
- 4) Possible tree removal in areas
  - a. Waiting for the right-of-way map to be prepared to identify trees to be removed.

There is also cost for engineering costs (geotechnical and recertification report) that we would like to submit for. I have attached the geotechnical proposal since this has been approved by the city and is almost complete. The estimated cost is \$42,386 for the geotechnical work. The NDSWC approved a cost-share for 60% of this expense, or \$25,431.60. The local cost is currently \$16,954.40. Any assistance in the local share would help the city.

The engineering cost for the recertification report would need to be submitted in the next month or so for consideration, since the cost is dependent on the outcome of the outstanding items.

There are other miscellaneous items the city will need to do before we can recertify the levee. But the above items are the most significant ones.

Does the committee plan to allocate the entire funds available at this next meeting, or will there be possible considerations at meetings later this year??

Brandon Oye, PE  
moore engineering, inc.  
925 10th Ave E  
West Fargo, ND 58078  
Direct: (701) 499-5835

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**City of Oxbow**

708 Riverbend Road  
Oxbow, ND 58047

Jim Nyhof, Mayor  
Greg Anderson, City Council  
Arden Breimeier, City Council  
Frank Pearson, City Council  
Dan Zink, City Council  
Alex Bindas, City Auditor

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RECEIVED

NOV 21 2011

CASS COUNTY COMMISSION

November 17, 2011

Project No. 15

Cass County Government  
Keith Berndt  
Cass County Administrator  
Box 2806  
211 Ninth Street South  
Fargo, ND 58108

Dear Mr. Berndt:

I would like to confirm that the City of Oxbow is still on the flood risk reduction project funding assistance list.

We appreciate your consideration.

If you should require any additional information or have questions, please do not hesitate to contact me at (701) 361-4479.

Sincerely,



Jim Nyhof  
Mayor



Project No. 32

**COPY**

P.O. Box 65  
108 Main Street  
Harwood, ND 58042-0065

Email: [auditor@cityofharwood.com](mailto:auditor@cityofharwood.com)  
(701) 281-0314 (Phone)  
(701) 282-0543 (Fax)  
[www.cityofharwood.com](http://www.cityofharwood.com)

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OCT 17 2011

CASS COUNTY COMMISSION

October 14, 2011

Todd Sando State Engineer  
ND State Water Commission  
900 East Boulevard Avenue  
Bismarck, ND 58505-0850

Dear Mr. Sando:

As you are likely well aware, the potential for significant flood damage to the city of Harwood is unfortunately nearly an annual event (i.e. 2009, 2010, 2011...). The city of Harwood is at risk of flooding from many sources such as overland flow from the Sheyenne River and the Red River of the North, as well as Clay County Drains 40 and 45. Essentially, each year the city has had to undertake emergency measures to protect the lives and property of its citizens. This has strained local budgets and required multiple applications to state and federal agencies for possible reimbursement of disaster relief expenses.

Flood threat to the city of Harwood has been experienced mostly during spring runoff. In these events, emergency dikes, ditch blocks, pumps, road raises, railroad track removal/diking and sandbagging are needed measures for flood protection, resulting in substantial costs. These efforts require emergency authorization and action from the North Dakota Department of Transportation to work within the right-of-way for the construction of ditch blocks, dikes, and pumps, which in turn interrupts traffic on Interstate 29; from Cass County for the raising and closure of County Highway 81 and Chapin Drive; and also from BNSF for the removal of track to construct a dike and shut down the rail transportation for an extended period of time. Many of these efforts, along with the actual flood water, make the city of Harwood an island with limited (or no) access. Safety and wellbeing of its citizens is then also a concern.

Flooding has also occurred during the summer months (i.e 1975, 1993...) from breakout flows from the Sheyenne River that inundate County Drains 40 and 45, which also is combined with backwater from the Red River.

Significant major damage to the city has only been avoided through emergency efforts from the U.S. Army Corps of Engineers, State of ND, Cass County, and though courageous efforts by city staff and local residents under strenuous emergency conditions.

The city of Harwood engineer, Jeff LeDoux of Houston Engineering, has provided preliminary schematics of flood mitigation alternatives, but completing a detailed feasibility plan has been cost prohibited. It is in all likelihood that a project will need to be considered a special project since it will

Todd Sando State Engineer  
October 14, 2011  
Page 2

involve acquisition of homes located along the Sheyenne River, increasing the height of the city's existing dikes, adding additional dikes to the northwestern side of Harwood, significant improvements/raising to Highway 81 (which serves as a dike), and other infrastructure improvements. However, a detailed feasibility study is needed to determine the most cost-effective/best solution for the city of Harwood. Preliminary estimates indicate a probable cost of \$4M - \$5M for an effective flood control project.

This letter is our request for funding assistance to complete the needed feasibility study to investigate flood damage reduction alternatives for construction of a flood risk reduction project. Due to budget constraints at the local level, it is the city's desire that the cost of the feasibility study be split between Cass County (Flood Sales Tax Review Committee) and the State Water Commission. It is estimated that the cost to complete a detailed study is approximately \$100,000 - \$150,000. Please note that on March 11, 2011, the city submitted a request to Cass County for assistance, but as of today's date has not received a response.

The city of Harwood has the authority pursuant to N.D.C.C. § 40-22-01 to construct flood control improvements within and outside of the city. The city intends to cover its share of the costs of project construction through a combination of sales tax revenue and special assessments.

Your consideration into this vital matter is greatly appreciated.

Sincerely,

CITY OF HARWOOD, NORTH DAKOTA

A handwritten signature in black ink that reads "Bill Rohrich". The signature is written in a cursive, slightly slanted style.

Bill Rohrich, Mayor

**Attachments**

cc: Cass County Commission (Flood Sales Tax Review Committee)



City of Harwood, 2011. Looking north during the spring flood.



# PRELIMINARY CONCEPTUAL PLAN

<p>Houston Engineering Inc.</p>	<p>Fargo P: 701.237.5065 F: 701.237.5101</p>	<p>Drawn by KAC</p>	<p>Date 3-3-11</p>	<p>HARWOOD FLOOD PROTECTION CITY OF HARWOOD HARWOOD, NORTH DAKOTA</p>	<p>SHEET 1 of 4</p>
	<p>HARWOOD FLOOD PROTECTION PROJECT NO. 2401-121</p>	<p>Checked by BTV, JRL</p>	<p>Scale AS SHOWN</p>		

No.	Revision	Date	By

1345091010, Job: 11751000000, PLAN SHEET 048 - 11-17-07/2011 3 27 PM (048-048)



Project No. 35

March 7, 2012

Southeast Cass  
Water Resource  
District

Scott Wagner  
Chairman  
Cass County Commission  
P.O. Box 2806  
Fargo, ND 58108-2806

RECEIVED

MAR 8 2012

CASS COUNTY COMMISSION

Mark Brodshaug  
Chairman  
Fargo, North Dakota

Dan Jacobson  
Manager  
West Fargo, North Dakota

Lance Yohe  
Manager  
Fargo, North Dakota

Dear Chairman Wagner:

RE: Cass County Flood Sales Tax for Flood Risk Reduction and Recovery  
Upper Red River Watershed Retention Plan

The Southeast Cass Water Resource District (District) is in the process of developing a study that would determine the extent of a distributed floodwater storage system required to meet peak flow reduction goals at locations along the Red River upstream of Halstad, MN. The foundation for this study is the HEC-HMS model developed through the "*Hydrologic Modeling- HEC-HMS Model Development – Various Tributaries Above the Red River of the North at Halstad, MN*" project. This project was commissioned by the Corps of Engineers with local sponsorship from the City of Fargo, ND, and Moorhead, MN, and completed in December of 2011.

With the recent completion of the Phase 1 HEC-HMS hydrologic models, the Upper Red River Watershed Retention Plan (URRWRP) is the next step in the process of identifying retention areas in the Red River Basin that will provide flood reduction benefits for the Red River along with local benefits along its tributaries. The URRWRP encompasses the entire watershed area upstream of the Halstad, MN, USGS gage on the mainstem of the Red River. With the inclusion of synthetic hydrologic events, the HEC-HMS models provide a consistent basis for analyzing all of the watersheds in the upper basin and allow for the impacts of potential retention sites to be quantified and compared at multiple locations.

Carol Harbeke Lewis  
Secretary-Treasurer

1201 Main Avenue West  
West Fargo, ND 58078-1301

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FAX 701-298-2397  
[wrд@casscountynd.gov](mailto:wrд@casscountynd.gov)  
[www.casscountynd.gov](http://www.casscountynd.gov)

With the analysis tools in place, stakeholders in the Red River Basin are now looking to identify the floodwater storage necessary to meet a goal of a 20% reduction in the peak flow at the USGS gages on the Red River at Halstad, MN, Fargo, ND, and Wahpeton, ND. Retention areas will be identified with a goal of reaching the flow reduction goal at each location, but an emphasis will be placed on retention areas that provide benefits to more than one location. The ultimate goal of the URRWRP is to determine where the distributed storage facilities should be located and how large they will need to be to meet the flow reduction goals.

Scott Wagner  
Page 2  
March 7, 2012

The District is in the early stages of developing this study and a team of technical experts is currently developing the scope of work for study, after which a cost for the study can be determined. At this point, it is expected that the study will be approximately \$1 million, depending on the final scope of the study. The District is anticipating that this study will be a cooperative effort between agencies on both sides of the Red River. One potential funding scenario is presented below:

Estimated Project Cost*	\$1,000,000	
	North Dakota	Minnesota
ND State Water Commission	\$250,000	
MNDNR/Legislature (?)		????
Red River Joint Water Resource Dist.	\$162,500	
RRWMB/Local Watershed Districts		???
Southeast Cass WRD	\$ 43,750	
Cass County	\$ 43,750	
<b>TOTAL=</b>	<b>\$500,000</b>	<b>\$500,000</b>

\*Project cost is dependent upon scope of work selected

The District is respectfully requesting that the Cass County Commission consider cost sharing in this important study that has the potential to result in significant flood risk reduction benefits for Cass County. If you have any questions on this study or require any additional information at this time, please do not hesitate to contact me or Mike Opat, Moore Engineering, Inc., at (701) 282-4692.

Sincerely,

SOUTHEAST CASS WATER RESOURCE DISTRICT



Carol Harbeke Lewis  
Secretary-Treasurer

Enclosures



Project No. 36

March 7, 2012

RECEIVED

MAR 8 2012

CASS COUNTY COMMISSION

Maple-Steele  
Joint Water  
Resource District

Scott Wagner  
Chairman  
Cass County Commission  
P.O. Box 2806  
Fargo, ND 58108-2806

Dear Chairman Wagner:

RE: Cass County Flood Sales Tax for Flood Risk Reduction and Recovery Projects  
Upper Maple River Dam Environmental Assessment Phase II

The Maple-Steele Joint Water Resource District (District) has been developing a flood water retention facility on the upper reaches of the Maple River for some time. The District has identified a location for a retention facility in southeastern Steele County that would provide 4,688 acre-feet of storage at the emergency spillway elevation and create significant flood risk reduction benefits for landowners in northwestern Cass County and reaches farther downstream. A preliminary design for the Upper Maple River Dam has been completed and the project is currently in the environmental assessment and permitting phase.

From the beginning of the environmental assessment process, the hope has been that an Environmental Impact Statement (EIS) would not be required for this project, as this would entail a much more involved and expensive process than the current Environmental Assessment (EA) documentation. At this point in time, Phase I of the EA has been substantially completed and there are no indications that an EIS will be required. With that in mind, the District has elected to move forward with Phase II of the EA and follow through with the permit process.

The District's consultants working on the EA have developed a final scope of work for Phase II, which is expected to result in the completion of the EA required for this project. The estimated cost for Phase II is \$230,000, of which \$225,000 would be eligible for 50% cost-share consideration from the State Water Commission. The District is anticipating cost-share participation from the Red River Joint Water Resource District equal to 65% of the local share. That leaves a remaining local cost of \$41,125.

If constructed, the proposed Upper Maple River Dam would provide significant benefits to landowners in Cass County and the environmental review process is a necessary step in bringing this project to fruition. The District feels that this project meets the requirements for cost-share participation through the County's one-half percent flood sales tax and respectfully requests cost-share in the amount of \$20,562.50, which is equal to 50% of the remaining local share.

Jurgen Suhr  
Chairman  
Page, North Dakota

Josh Ihry  
Manager  
Hope, North Dakota

Rodger Olson  
Manager  
Leonard, North Dakota

Tor Bergstrom  
Manager  
Finley, North Dakota

Gerald Melvin  
Manager  
Buffalo, North Dakota

Greg Thykeson  
Manager  
Portland, North Dakota

Carol Harbeke Lewis  
Secretary-Treasurer

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Scott Wagner  
Page 2  
March 7, 2012

Enclosed are copies of the cost proposal for this phase and a map showing the dam location and benefit area. Should the project proceed to construction, the District would fully anticipate making a subsequent cost-share request to help fund the local share of the construction costs. At this time, we anticipate construction would start in late 2012 or early 2013. If you have any questions or require further information, please contact me or the project engineer, Mike Opat, Moore Engineering, Inc., at (701) 282-4692. Thank you.

Sincerely,

MAPLE-STEELE RIVER WATER RESOURCE DISTRICT



Carol Harbeke Lewis  
Secretary-Treasurer

Enclosures

**UPPER MAPLE RIVER DAM  
ENVIRONMENTAL ASSESSMENT-PHASE II**

MAPLE-STEELE JOINT WATER RESOURCE DISTRICT

**PROPOSAL**

February 2, 2012

**Phase I Summary:**

Development of "Purpose & Need" and "Alternatives" sections of the Environmental Assessment (EA) document. Preparation of draft version "Affected Environment" section of EA. Consultation with USACE to determine if an EA is adequate or if an Environment Impact Statement (EIS) will be required.

Phase 1 Estimated Cost (October 2010):	\$100,000
Amount Billed to Date (February 1, 2012):	\$95,000

**Phase II Scope:**

Assuming an EA will be adequate for this project \*, Phase II will involve the completion of the EA document, including: impact analysis, field surveys, environmental assessment and FONSI preparation, agency review and coordination, public meetings and final document preparation.

Phase II Estimated Cost :	
Consultants:	\$200,000
Engineering Support:	\$25,000
Legal & Administration:	\$5,000
<b><i>Estimated Phase II Total:</i></b>	<b><i>\$230,000</i></b>

\* At this point, a final determination on the requirement for an EIS has not been made, but all indications are that an EA will be sufficient for this project. If an EIS is required at some point, an entirely new scope of services and proposal will need to be considered due to the extensive involvement with the preparation of an EIS.

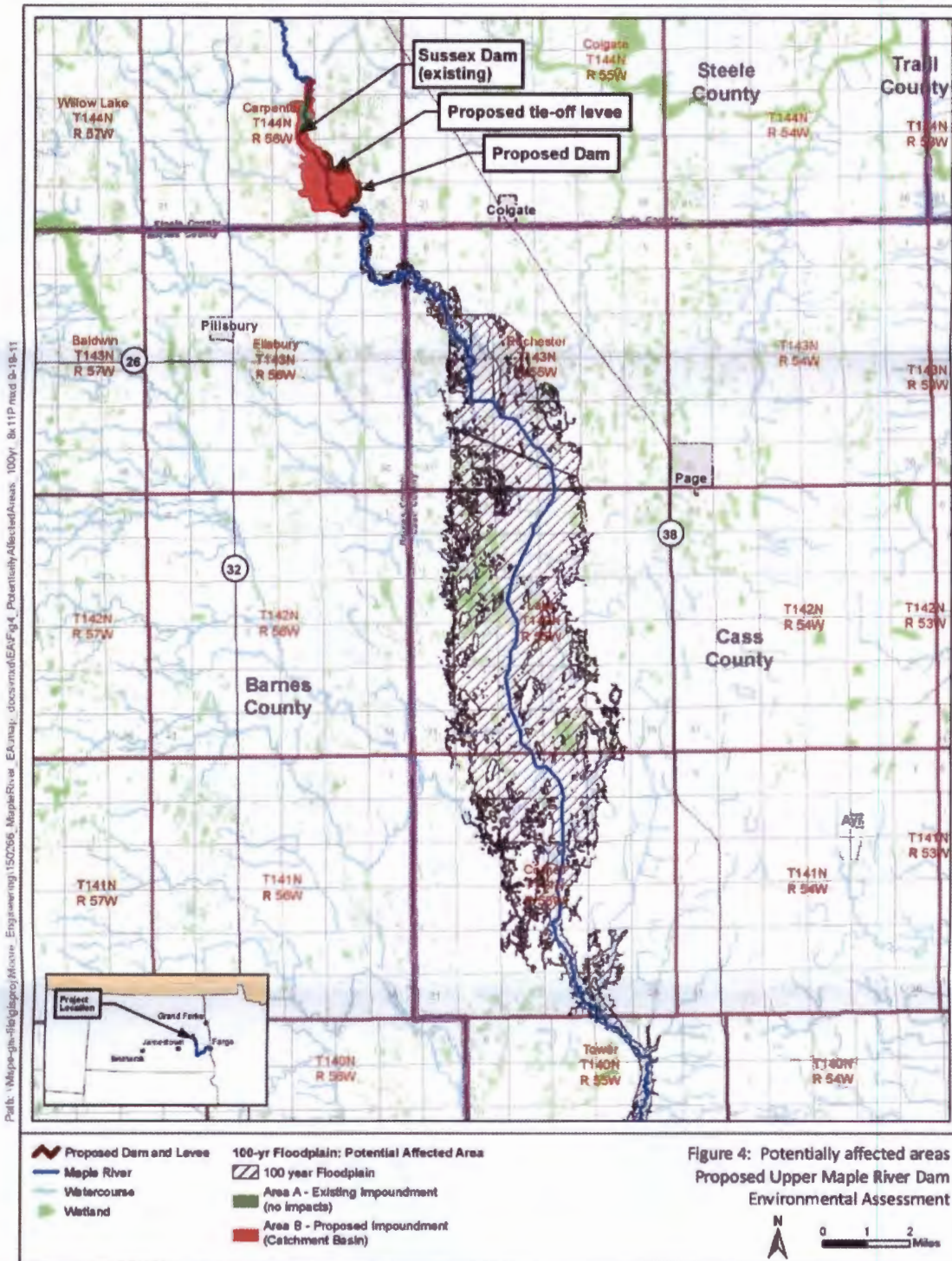
**Possible Funding Scenario:**

ND State Water Commission (50%)=	\$	112,500.00	(excludes Legal & Administration)
Red River Joint WRD (65% Non-State) =	\$	76,375.00	
Local =	\$	41,125.00	
<b>Total=</b>	<b>\$</b>	<b>230,000.00</b>	

**Timeline:**

Assuming local approval is received prior to February 7, 2012, it is anticipated that the State Water Commission will consider and approve the cost-share request at their March 7, 2012 meeting. Work would begin immediately, with field surveys and wetland delineations taking place as weather and growing conditions allow. It is anticipated that the final EA document would be completed by fall 2012. It is also anticipated that the Section 404 permit and application will be submitted in the spring of 2012 and comment periods will run concurrent with the EA document.

Figure 1.3-1. Potentially Affected Areas



Path: \\Maple-gis-01\gisproj\Maple\_Environment\150256\_MapleRiver\_EA\maple\docs\mde\EA\Fig\_4\_PotentiallyAffectedAreas\_100yr\_Bk11P.mxd 9-19-11

Prepared by HDR Engineering for Moore Engineering. Data: North Dakota: ESR

Figure 4: Potentially affected areas  
Proposed Upper Maple River Dam  
Environmental Assessment



Project No. 37

RECEIVED

DEC 7 2011

CASS COUNTY COMMISSION

North Cass  
Water Resource  
District

December 6, 2011

Michael R. Buringrud  
Chairman  
Gardner, North Dakota

Robert Thompson  
Manager  
Page, North Dakota

Wesley Ecker  
Manager  
Grandin, North Dakota

Darrell Vanyo  
Chairman  
Cass County Flood Sales Tax Committee  
P.O. Box 2806  
Fargo, ND 58108-2806

Dear Chairman Vanyo:

RE: Containment of overland flooding from breakouts of the Elm River in Bell Township

The North Cass Water Resource District is looking into a project to contain overland flooding from the Elm River in Bell Township. The project consists of extending Drain #55 through Sections 19 and 20 in Bell Township. This would prevent the Elm River from breaking out and washing out township roads, which serve as school and mail routes and are needed for access and emergency services.

At this time, the Water Resource District respectfully requests the consideration of the Cass County Flood Sales Tax Committee to fund the local cost of the project. A copy of the Drain #55 assessment district is enclosed for your information.

If you have any questions, please feel free to contact us. Thank you.

Sincerely,

NORTH CASS WATER RESOURCE DISTRICT

Carol Harbeke Lewis  
Secretary-Treasurer

Carol Harbeke Lewis  
Secretary-Treasurer  
  
1201 Main Avenue West  
West Fargo, ND 58078-1301

701-298-2381  
FAX 701-298-2397  
[wrд@casscountynd.gov](mailto:wrд@casscountynd.gov)  
[www.casscountynd.gov](http://www.casscountynd.gov)

## Worden, Heather

---

**From:** Lewis, Carol  
**Sent:** Monday, March 12, 2012 4:04 PM  
**To:** Worden, Heather  
**Subject:** RE: North Cass WRD - Elm River/Bell Township Project

Heather,

No, the Board is just in the early stages of discussion on the project. At the February 1, 2012, meeting, the North Cass WRD authorized Moore Engineering, Inc. to analyze Drain #55 and develop a cost estimate to extend and improve the channel. I haven't seen anything back from Moore yet.

Carol

---

**From:** Worden, Heather  
**Sent:** Monday, March 12, 2012 4:01 PM  
**To:** Lewis, Carol  
**Subject:** North Cass WRD - Elm River/Bell Township Project

Carol,

I am reviewing the list of sales tax project requests. Your letter dated December 6, 2011, from North Cass WRD for the above project does not include the project cost and the local share cost.

Do you have these figures available?

Heather Worden, Administrative Assistant  
Cass County Commission  
211 9th Street South  
PO Box 2806  
Fargo ND 58108-2806  
(701) 241-5609  
[wordenh@casscountynd.gov](mailto:wordenh@casscountynd.gov)



# City of Mapleton

P O Box 9 - 651 2<sup>nd</sup> Street, Mapleton, ND 58059  
701-282-6992 phone 701-282-0080 fax  
[city.mapletonnd@midconetwork.com](mailto:city.mapletonnd@midconetwork.com)  
[www.mapletonnd.com](http://www.mapletonnd.com)



February 24, 2012

*Project No. 38*

**RECEIVED**

**FEB 26 2012**

Keith Berndt, P.E.  
Cass County  
P.O. Box 2806  
Fargo, ND 58108-2806

**CASS COUNTY COMMISSION**

**RE: Storm Sewer Lift Station Improvements  
Mapleton, North Dakota**

Dear Mr. Berndt:

The city is respectfully requesting funding assistance from the Cass County Flood Risk Reduction funds for a new storm sewer lift station to improve the operation of our levee system and prevent flooding of Cass County Highway 11. We have attached the Preliminary Engineering Report which explains the project history, need and proposed financing. Please read through the report so you understand the importance of the project not only for the city, but also for the county.

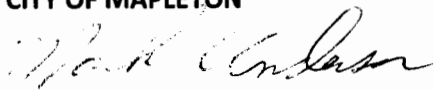
The City of Mapleton was just awarded a Community Development Block Grant of \$172,492 through Lake Agassiz Regional Council on February 17, 2012. Please see the enclosed award letter from LARC. This is a large step in the right direction, but we still need additional funding assistance to fund the project.

The city is tentatively requesting \$77,508 from the Cass County Flood Risk Reduction funds, or approximately 23.5% of the total estimated project cost of \$330,000. We are currently working with Jason Benson on the additional \$40,000 we are requesting from the Cass County Highway Department. We understand that those highway funds may only be available if the county receives favorable bids this spring. For that reason, the city is also requesting an additional \$40,000 from the Flood Risk Reduction funds contingent upon if the highway funds do not become available. If the city is able to secure both of these funds, we will be able to construct the new lift station this summer, which will greatly help us fight future floods.

Due to the timing of environmental clearance required by the CDBG funds, the project cannot be awarded until June. This should give adequate time to determine if those highway funds will be available or not prior to awarding the project.

Please contact myself or our City Engineer, Brandon Oye, if you have any questions about the project.

Sincerely,  
**CITY OF MAPLETON**

  
Mark Anderson  
Mayor

Enclosures

Cc: Brandon Oye - Moore Engineering, Inc.  
Jason Benson - Cass County Highway Department

**PRELIMINARY ENGINEERING REPORT  
STORM SEWER LIFT STATION  
MAPLETON, NORTH DAKOTA**

**REPORT PREPARATION**

Brandon Oye, PE  
Moore Engineering, Inc.  
925 10<sup>th</sup> Avenue East  
West Fargo, ND 58078  
Office: 701-282-4692  
Email: [boye@mooreengineeringinc.com](mailto:boye@mooreengineeringinc.com)

**DATE**

Revised January 24, 2012

**CONDITION OF EXISTING FACILITY**

In 2009 the City of Mapleton and Cass County reconstructed a segment of Cass County Highway 11 (county highway), which runs through the City of Mapleton from Carl Olsen Street north to the BNSF tracks. Along with the new county highway, a new storm sewer system was installed. The new storm sewer system collects all storm flow off of the county highway as well as some storm flow from the east and west sides of the road which then discharges into the Maple River through a 36" diameter pipe. The storm sewer system includes a sluice gate closure structure on the northwest corner of the county highway and First Street in line with the 36" diameter storm sewer outlet pipe. The closure structure was installed at the levee, which protects the City of Mapleton from the Maple River during floods. This closure structure is designed to be closed to prevent water from backing up into the city during periods when the Maple River is at flood stage.

**DESCRIPTION OF PROBLEMS**

During periods of flooding, the closure structure needs to be shut, but the City has no permanent pumps to remove internal storm water from within the levee. This requires the City to set up temporary pumps to discharge the storm water around the sluice gate. The temporary pumps that they use are sometimes unable to keep up with the storm water flow. The amount of flow is dependent on rate of melting snow in the spring and intensity of rain events.

There has been several times when storm water has started to flood the county highway because the temporary pumps have not been able to keep up with the internal drainage. This can cause the county highway to be impassable at times



depending on the depth of flooding in the road. The design life of the new county highway is reduced whenever water floods the road due to water saturating the subgrade and aggregate base. When the subgrade and aggregate base become saturated with water, the strength of the road is reduced causing it to be susceptible to early failure.

In addition to the potential damage to the road, the City has to use valuable resources and time to operate the temporary pumps during floods. The pumps need to be constantly monitored and refilled with fuel. These resources could be used in other areas of town during flood operations.

The City has future plans to extend the storm sewer system to the east along First Street when it is reconstructed in the near future. The size of the 36" diameter storm sewer outlet piping is designed to handle the additional flows. When the City does expand the storm sewer system, the temporary pumps at the closure structure will need to handle more storm water flow and will be relied on more heavily to protect the county highway and the City from internal flooding.

A permanent storm sewer lift station was included in the original design for the county highway storm sewer system, but was removed due to city budget constraints. The original county highway project was completed under budget, so the city is looking to provide a permanent solution to the problem with the remaining funds they have on hand.

## **DISCUSSION OF ALTERNATIVES AND SCOPE OF WORK OF THE PROPOSED ACTIVITY**

1. **Do Nothing** –The city can continue to manually operate temporary pumps during floods as they currently do, but operating issues will remain. As the City of Mapleton develops, the pumping capacity problem will continue to grow and cause additional issues. The do nothing alternative is not recommended due to the increased frequency of floods the city has seen in the last decade. This will be an issue the city will need to deal with on a yearly basis, with spring floods and sporadic summer floods.
2. **Purchase Larger Temporary Pump** – This option would solve the issue of capacity, but not the issue of manual operation by city staff. By purchasing a larger temporary pump, the City would be able to prevent storm water from flooding the county highway and the City. This alternative still requires the City to manually place the pumps into the closure structure and operate them during floods. This is not desirable due to the fact that large rain events could come suddenly in the middle of the night during flooding periods with the closure structure is shut. The City's resources and time should be utilized more efficiently during flooding operations. A larger pump would provide some relief from the problem, but it is not recommended alternative.

3. Install Storm Sewer Lift Station – This option will consist of installing a storm sewer lift station just northeast of the existing sluice gate closure structure. It will include installing an underground 10'x10' concrete wet well with two 5,000 gpm axial flow pumps. The piping that will be installed include a short section of 36" diameter inflow pipe that will collect the flow from inside the closure structure, and two 18" force mains that will discharge the flow from the pumps to the wet side of the closure structure which will then discharge to the Maple River. To allow adequate access to the lift station, a concrete access pad will be installed from the county highway to the lift station.

### **DETAILED COST ESTIMATES**

See attached Cost Estimate

### **MAP ILLUSTRATING PROPOSED LOCATION**

See attached Maps

1. Aerial
2. Proposed Plan

### **LONG-TERM OPERATION AND MAINTENANCE PLAN FOR THE PROPOSED FACILITY INCLUDING FUTURE O & M COSTS**

The City has a public works superintendent who will be responsible for operating and maintaining the storm sewer lift station.

The storm sewer lift station will require the same maintenance and yearly inspections as the other storm sewer lift stations throughout the City of Mapleton. The operation and maintenance will be low since the lift station will only be used during flooding events when the closure structure is closed. The public works superintendent is responsible to the City Council, who oversees the financial aspects of maintaining the total system.

### **PROJECT FINANCING**

The City's share for this project will be financed with city funds on hand remaining from the Cass County Highway 11 Reconstruction project. The Cass County Highway Department also has funds remaining from the county highway project that could be used towards this project. The City is currently working with the highway department to secure those funds. Lastly, the City was awarded a

community development block grant of \$172,492 from Lake Agassiz Regional Council on February 17, 2012.

The proposed funding breakdown is shown in the table below:

<b>Funding Source</b>	<b>Amount</b>	<b>Percent</b>
City of Mapleton	\$40,000	12.1%
Cass County Highway	\$40,000	12.1%
Cass County Flood Funds	\$77,508	23.5%
CDBG	\$172,492	52.3%
<b>Total</b>	<b>\$330,000</b>	<b>100.0%</b>

Without the additional financial assistance from the Cass County Flood Risk Reduction Funds, the city will not be able to pay for the project without creating additional financial burden on the citizens of Mapleton.

**STORM SEWER IMPROVEMENT DISTRICT NO. 2012-1  
STORM SEWER LIFT STATION  
MAPLETON, ND**

*Engineer's Preliminary Cost Estimate*

<i>ITEM</i>	<i>UNIT</i>	<i>QUANTITY</i>	<i>UNIT PRICE</i>	<i>TOTAL</i>
1. Lift Station - Underground Structure	L.Sum	1	\$80,000.00	\$80,000.00
2. Lift Station - Pump & 30 HP Motor	Each	2	\$35,000.00	\$70,000.00
3. Lift Station - Electrical	L.Sum	1	\$35,000.00	\$35,000.00
4. Core Structure	Each	2	\$2,000.00	\$4,000.00
5. Storm Sewer Forcemain - 18"	L.F.	75	\$85.00	\$6,375.00
6. Subgrade Preparation	S.Y.	225	\$2.00	\$450.00
7. Reinforcement Fabric	S.Y.	225	\$2.00	\$450.00
8. Aggregate Base Course - 6"	C.Y.	40	\$35.00	\$1,400.00
9. Concrete Pavement - 6" Reinforced	S.Y.	225	\$60.00	\$13,500.00
10. Turf Establishment	L.Sum	1	\$3,000.00	\$3,000.00
11. Stormwater Management	L.Sum	1	\$2,000.00	\$2,000.00
12. Material Testing	L.Sum	1	\$2,000.00	\$2,000.00

<b>Total Construction</b>	<b>\$218,175.00</b>
Funding Administration	\$15,000.00
Design Engineering	\$29,550.00
Construction Inspection	\$12,300.00
Construction Administration	\$10,850.00
Legal	\$3,000.00
Publishing	\$1,500.00
Soil Borings	\$2,000.00
CDBG Administration	\$15,000.00
Contingencies	\$22,625.00
<b>TOTAL PROJECT</b>	<b>\$330,000.00</b>

Proposed Funding Breakdown	Total Share
Community Development Block Grant	\$172,492.00
Cass County Flood Risk Reduction Funds	\$77,508.00
Cass County Highway Department	\$40,000.00
City of Mapleton	\$40,000.00
<b>Total</b>	<b>\$330,000.00</b>

36TH ST SE

10

# PROJECT LOCATION

MAIN ST

2ND ST

MAPLE DR

6TH AVE

6TH AVE

CARLSEAD AVE

1ST ST

MERIDIAN RD

SEQUOIA DR

Maple River

LEVEE

11

CARL OLSEN ST

ASHLEY BLVD

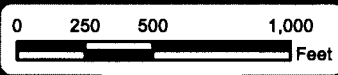
BIRDIE CT

SUNSET DR

163RD AVE SE

94

37TH ST SE



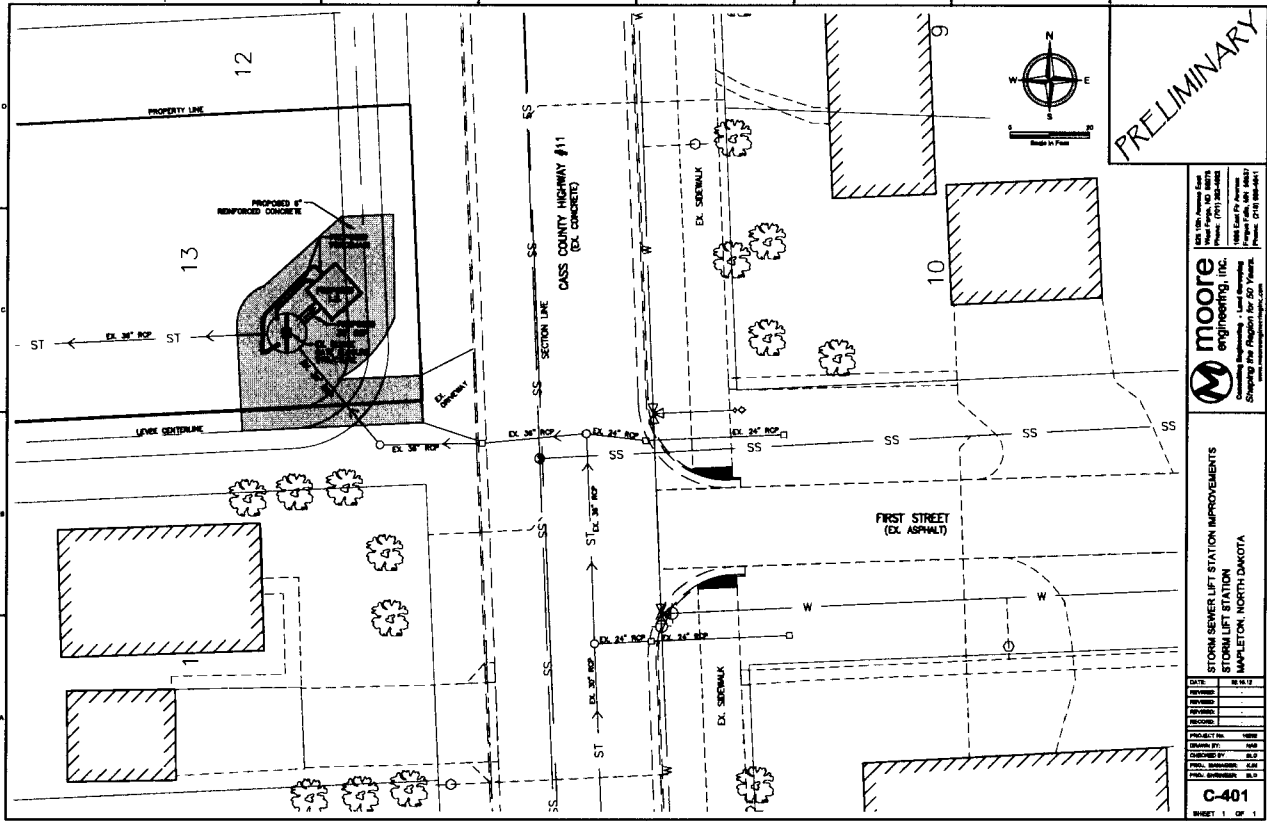
1 in = 700 feet

## STORM SEWER LIFT STATION IMPROVEMENTS MAPLETON, NORTH DAKOTA



**moore**  
engineering, inc.

Created By: CAC Date Saved: 02/16/2012 Date Printed: 11/16/2011  
 Aerial Image: 2010 County SIDS Elevation Data:  
 Horizontal Datum: NAD 1983 StatePlane North Dakota South FIPS 3302 Feet Vertical Datum: NAVD1988  
 T:\Numbered Projects\116292\Proposed Mapleton LRT Station.mxd



PRELIMINARY

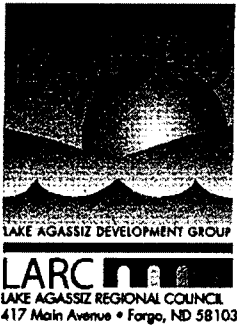

**moore**  
 engineering, inc.  
 Consulting Engineers - Land Surveyors  
 1000 East 10th Avenue  
 Rapid City, South Dakota 57701  
 Phone: (605) 342-1111  
 Fax: (605) 342-1112  
 Website: www.mooreeng.com

STORM SEWER LIFT STATION IMPROVEMENTS  
 STORM LIFT STATION  
 MAPLETON, NORTH DAKOTA

DATE	08.14.12
BY	
CHECKED	
APPROVED	
PROJECT NO.	
DATE PLOTTED	12.08.12
SCALE	AS SHOWN
PLANTING	AS SHOWN
STATIONING	AS SHOWN
CONSTRUCTION	AS SHOWN
REVISIONS	
NO.	DESCRIPTION

C-401  
SHEET 1 OF 1

- Cass County • Ransom County • Richland County
- Sargent County • Steele County • Trail County



February 20, 2012

Mark Anderson  
City of Mapleton  
PO Box 9  
Mapleton, ND 58059

Dear Mayor Anderson,

I am pleased to inform you that the Lake Agassiz Regional Council Board of Directors voted on February 17, 2012 to recommend funding for the City of Mapleton's Community Development Block Grant (CDBG) storm sewer lift station project. The board has recommended funding in the amount of \$172,492 to assist with construction costs. As advised in the pre-application notice, \$15,000 will be requested for project administration of this project.

The next step is preparation of the full application and submittal to the North Dakota Division of Community Services. We assume you wish to go forward, but request that you provide us with written confirmation of your intentions **no later than March 16, 2012**. You may take the first step in the full application process by passing a resolution of sponsorship at your March Council meeting. This will help expedite the process. I have attached the resolution for your convenience. Please return this resolution along with your written confirmation.

Please don't hesitate to call with any questions. We look forward to working with you on your project.

Sincerely,

Amber Schaan  
CDBG Program Manager

[www.lakeagassiz.com](http://www.lakeagassiz.com)

Telephone: (701) 235-1197 • Fax (701) 235-6706 • TDD: (800) 366-6889

Lake Agassiz Development Group • LARC is an equal opportunity provider, employer and lender.

• Local/Regional Planning & Development • Business Loan Programs • Business Incubator • Small Business Assistance • Housing Development

Project No. 39

RECEIVED

NOV 21 2011

Subject: Flood Risk Reduction Projects

CASS COUNTY COMMISSION

1. Project Description: Upper Swan Creek channel improvements
2. Point of Contact: Harvey Morken, Casselton township supervisor 799-2811 or Chad Engels, Moore Engineering 499-5810
3. Estimated total project cost: \$3,400,000.00
4. Amount of County funding requested for project: 100%. We have talked to the water resource district and on December 5th, we will be talking to the city of Casselton, but, we are not expecting any available financing for several years. Even partial funding of the \$3,400,000.00 would allow work on part of the area that would reduce breakouts and road damage.
6. Who will own and be responsible for maintenance of the project: The Maple River and Rush River joint water resource district.
7. Other information: I will send a copy of the General Layout from Moore Engineering.

Since 1993 spring time flooding in the upper Swan Creek area causes the creek to break out of its channel in Section 18 of Casselton Township. These break outs cause uncontrolled water flow downstream and severe damage to township roads. This uncontrolled flow and the road damage create a severe public safety hazard for local residents, volunteer first responders, ambulance and fire personnel; who many times have to respond on moonless nights in far less than clear visibility. The township has been working with the water resource district to solve this, but, the money to do the improvement may not be available for several years as the district just finished a flood control project through the city of Casselton. Any help you can give us with this project would be greatly appreciated and may save the life of a resident or volunteer.

Harvey Morken, Chairman  
Casselton Township

---

*Darrell,*  
*As per your letter*  
*of 11-1-11, I am sending*  
*the enclosed info for*  
*your consideration.*

*Thank you!*

*Harvey Morken*



**Upper Swan Creek Channel Improvements  
Maple River-Rush River Joint Water Resource District  
Cass County, North Dakota**

Engineer's Opinion of Probable Cost

**Federal Project Extent Channel Improvement - With Crossings**

ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL	FUNDING SOURCES			
					NDSWC	COUNTY	LOCAL	
<b>Section Line Crossings</b>								
1.	Ex. Crossings - Remove (All Types & Sizes)	Each	3	\$10,000.00	\$30,000.00	\$13,500.00	\$6,600.00	\$9,900.00
2.	New Crossings	Each	3	\$200,000.00	\$600,000.00	\$270,000.00	\$132,000.00	\$198,000.00
3.	Select Backfill	C.Y.	3,000	\$25.00	\$75,000.00	\$33,750.00	\$16,500.00	\$24,750.00
4.	Riprap - All Sizes	C.Y.	450	\$60.00	\$27,000.00	\$12,150.00	\$5,940.00	\$8,910.00
5.	Riprap Filter Blanket	S.Y.	675	\$3.00	\$2,025.00	\$911.25	\$445.50	\$668.25
				\$734,025.00	\$330,311.25	\$161,485.50	\$242,228.25	
<b>Remaining Construction</b>								
6.	Excavation - Channel	C.Y.	260,000	\$1.25	\$325,000.00	\$146,250.00	\$0.00	\$178,750.00
7.	Spoil Bank Leveling	Mile	7	\$2,500.00	\$17,500.00	\$7,875.00	\$0.00	\$9,625.00
8.	Culvert - Remove (All Types & Sizes)	L.F.	750	\$10.00	\$7,500.00	\$3,375.00	\$0.00	\$4,125.00
9.	Sheet Pile Drop Structure	L.Sum	1	\$75,000.00	\$75,000.00	\$33,750.00	\$0.00	\$41,250.00
10.	CMP - 18"	L.F.	800	\$25.00	\$20,000.00	\$9,000.00	\$0.00	\$11,000.00
11.	CMP - 24"	L.F.	600	\$30.00	\$18,000.00	\$8,100.00	\$0.00	\$9,900.00
12.	CMP - 30"	L.F.	400	\$35.00	\$14,000.00	\$6,300.00	\$0.00	\$7,700.00
13.	CMP - 36"	L.F.	200	\$40.00	\$8,000.00	\$3,600.00	\$0.00	\$4,400.00
14.	Flared End Section - 18" CMP	Each	16	\$150.00	\$2,400.00	\$1,080.00	\$0.00	\$1,320.00
15.	Flared End Section - 24" CMP	Each	12	\$200.00	\$2,400.00	\$1,080.00	\$0.00	\$1,320.00
16.	Flared End Section - 30" CMP	Each	8	\$300.00	\$2,400.00	\$1,080.00	\$0.00	\$1,320.00
17.	Flared End Section - 36" CMP	Each	4	\$350.00	\$1,400.00	\$630.00	\$0.00	\$770.00
18.	Flap Gate - 18" Steel	Each	16	\$250.00	\$4,000.00	\$1,800.00	\$0.00	\$2,200.00
19.	Flap Gate - 24" Steel	Each	12	\$300.00	\$3,600.00	\$1,620.00	\$0.00	\$1,980.00
20.	Flap Gate - 30" Steel	Each	8	\$400.00	\$3,200.00	\$1,440.00	\$0.00	\$1,760.00
21.	Flap Gate - 36" Steel	Each	4	\$500.00	\$2,000.00	\$900.00	\$0.00	\$1,100.00
22.	Riprap - All Sizes	C.Y.	800	\$60.00	\$48,000.00	\$21,600.00	\$0.00	\$26,400.00
23.	Riprap Filter Blanket	S.Y.	1,600	\$3.00	\$4,800.00	\$2,160.00	\$0.00	\$2,640.00
24.	Rock Check - Temporary	Each	3	\$1,000.00	\$3,000.00	\$1,350.00	\$0.00	\$1,650.00
25.	Storm Water Management	L.Sum	1	\$15,000.00	\$15,000.00	\$6,750.00	\$0.00	\$8,250.00
26.	Material Testing	Invoice	Allowance	\$2,000.00	\$2,000.00	\$900.00	\$0.00	\$1,100.00
27.	Seeding	Acre	30	\$750.00	\$22,500.00	\$10,125.00	\$0.00	\$12,375.00
				\$601,700.00	\$270,765.00	\$130,765.00	\$200,170.00	\$170,770.00
				Total Construction	\$1,335,725.00	\$601,076.25	\$161,485.50	\$573,163.25
				Preliminary Engineering	\$40,000.00	\$0.00	\$4,835.89	\$35,164.11
				Engineering - Design & Construction	\$210,000.00	\$0.00	\$25,388.43	\$184,611.57
				Contingencies	\$261,775.00	\$117,798.75	\$31,647.88	\$112,328.37
				Legal Fees	\$10,000.00	\$0.00	\$0.00	\$10,000.00
				Administrative Fees	\$5,000.00	\$0.00	\$0.00	\$5,000.00
				Right-of-Way - Land Acquisition	\$105,000.00	\$0.00	\$0.00	\$105,000.00
				Engineering - Right-of-Way	\$7,500.00	\$0.00	\$0.00	\$7,500.00
				Easements & Monuments	\$15,000.00	\$0.00	\$0.00	\$15,000.00
				Utilities - Construction	\$50,000.00	\$22,500.00	\$0.00	\$27,500.00
				Engineering - Utilities	\$5,000.00	\$0.00	\$0.00	\$5,000.00
				Fiscal	\$55,000.00	\$0.00	\$0.00	\$55,000.00
				<b>TOTAL PROJECT COST</b>	<b>\$2,100,000.00</b>	<b>\$741,375.00</b>	<b>\$223,367.70</b>	<b>\$1,135,267.30</b>

**Upper Swan Creek Channel Improvements  
Maple River-Rush River Joint Water Resource District  
Cass County, North Dakota**

*Engineer's Opinion of Probable Cost*

**Entire Channel Improvement - With Crossings**

ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL	FUNDING SOURCES			
					NDSWC	COUNTY	LOCAL	
<b>Section Line Crossings</b>								
1.	Ex. Crossings - Remove (All Types & Sizes)	Each	5	\$10,000.00	\$50,000.00	\$22,500.00	\$11,000.00	\$16,500.00
2.	New Crossings	Each	5	\$200,000.00	\$1,000,000.00	\$450,000.00	\$220,000.00	\$330,000.00
3.	Select Backfill	C.Y.	5,000	\$25.00	\$125,000.00	\$56,250.00	\$27,500.00	\$41,250.00
4.	Riprap - All Sizes	C.Y.	750	\$60.00	\$45,000.00	\$20,250.00	\$9,900.00	\$14,850.00
5.	Riprap Filter Blanket	S.Y.	1125	\$3.00	\$3,375.00	\$1,518.75	\$742.50	\$1,113.75
					\$1,223,375.00	\$550,518.75	\$269,142.50	\$403,713.75
<b>Remaining Construction</b>								
6.	Excavation - Channel	C.Y.	460,000	\$1.25	\$575,000.00	\$258,750.00	\$0.00	\$316,250.00
7.	Spoil Bank Leveling	Mile	11	\$2,500.00	\$27,500.00	\$12,375.00	\$0.00	\$15,125.00
8.	Culvert - Remove (All Types & Sizes)	L.F.	1,000	\$10.00	\$10,000.00	\$4,500.00	\$0.00	\$5,500.00
9.	Sheet Pile Drop Structure	L.Sum	2	\$75,000.00	\$150,000.00	\$67,500.00	\$0.00	\$82,500.00
10.	CMP - 18"	L.F.	1,000	\$25.00	\$25,000.00	\$11,250.00	\$0.00	\$13,750.00
11.	CMP - 24"	L.F.	750	\$30.00	\$22,500.00	\$10,125.00	\$0.00	\$12,375.00
12.	CMP - 30"	L.F.	500	\$35.00	\$17,500.00	\$7,875.00	\$0.00	\$9,625.00
13.	CMP - 36"	L.F.	250	\$40.00	\$10,000.00	\$4,500.00	\$0.00	\$5,500.00
14.	Flared End Section - 18" CMP	Each	20	\$150.00	\$3,000.00	\$1,350.00	\$0.00	\$1,650.00
15.	Flared End Section - 24" CMP	Each	15	\$200.00	\$3,000.00	\$1,350.00	\$0.00	\$1,650.00
16.	Flared End Section - 30" CMP	Each	10	\$300.00	\$3,000.00	\$1,350.00	\$0.00	\$1,650.00
17.	Flared End Section - 36" CMP	Each	5	\$350.00	\$1,750.00	\$787.50	\$0.00	\$962.50
18.	Flap Gate - 18" Steel	Each	20	\$250.00	\$5,000.00	\$2,250.00	\$0.00	\$2,750.00
19.	Flap Gate - 24" Steel	Each	15	\$300.00	\$4,500.00	\$2,025.00	\$0.00	\$2,475.00
20.	Flap Gate - 30" Steel	Each	10	\$400.00	\$4,000.00	\$1,800.00	\$0.00	\$2,200.00
21.	Flap Gate - 36" Steel	Each	5	\$500.00	\$2,500.00	\$1,125.00	\$0.00	\$1,375.00
22.	Riprap - All Sizes	C.Y.	1,000	\$60.00	\$60,000.00	\$27,000.00	\$0.00	\$33,000.00
23.	Riprap Filter Blanket	S.Y.	2,000	\$3.00	\$6,000.00	\$2,700.00	\$0.00	\$3,300.00
24.	Rock Check - Temporary	Each	5	\$1,000.00	\$5,000.00	\$2,250.00	\$0.00	\$2,750.00
25.	Storm Water Management	L.Sum	1	\$15,000.00	\$15,000.00	\$6,750.00	\$0.00	\$8,250.00
26.	Material Testing	Invoice	Allowance	\$2,000.00	\$2,000.00	\$900.00	\$0.00	\$1,100.00
27.	Seeding	Acre	50	\$750.00	\$37,500.00	\$16,875.00	\$0.00	\$20,625.00
					\$989,750.00	\$445,387.50	\$0.00	\$544,362.50
	Total Construction			\$2,213,125.00	\$995,906.25	\$269,142.50	\$948,076.25	
	Preliminary Engineering			\$50,000.00	\$0.00	\$6,080.60	\$43,919.40	
	Engineering - Design & Construction			\$350,000.00	\$0.00	\$42,564.19	\$307,435.81	
	Contingencies			\$421,875.00	\$189,843.75	\$51,305.05	\$180,726.20	
	Legal Fees			\$10,000.00	\$0.00	\$0.00	\$10,000.00	
	Administrative Fees			\$5,000.00	\$0.00	\$0.00	\$5,000.00	
	Right-of-Way - Land Acquisition			\$175,000.00	\$0.00	\$0.00	\$175,000.00	
	Engineering - Right-of-Way			\$10,000.00	\$0.00	\$0.00	\$10,000.00	
	Easements & Monuments			\$20,000.00	\$0.00	\$0.00	\$20,000.00	
	Utilities - Construction			\$50,000.00	\$22,500.00	\$0.00	\$27,500.00	
	Engineering - Utilities			\$5,000.00	\$0.00	\$0.00	\$5,000.00	
	Fiscal			\$90,000.00	\$0.00	\$0.00	\$90,000.00	
	<b>TOTAL PROJECT COST</b>			<b>\$3,400,000.00</b>	<b>\$1,208,250.00</b>	<b>\$369,092.34</b>	<b>\$1,822,657.66</b>	

Project No. 40  
through  
No. 43

Normanna Township

RECEIVED

DEC. 2 2011

CASS COUNTY COMMISSION

November 30, 2011

Board of Cass County Commissioners  
211 Ninth Street South  
Fargo, ND 58108

Board of Cass County Commissioners

We are requesting funding assistance on 4 flood related projects within our township. They are as follows:

**Project 17:**

**Proposal:** We are proposing that we move and reconstruct 700' stretch of 167<sup>th</sup> avenue approximately 20' and 40' to the west, away from the Sheyenne River.

**Purpose:** The need for this project is due to the river eroding away the road to the point that the road is hazardous to use during times of flooding.

**Cost:** Cost on this project is yet to be determined.

**Attached:** Please see attached pictures and maps labeled: P17-1, P17-2, P17-3, and P17-4.

**Project 18:**

**Proposal:** We are proposing that we add 15' of culvert and embankment on both the east and west end of the culvert traversing 167<sup>th</sup> avenue near the intersection of 50<sup>th</sup> ST.

**Purpose:** The purpose of this project is to improve the safety of using this road during times of flooding. Currently, during Sheyenne flooding, water flowing under this road creates a hazard because the road is too narrow during these events.

**Cost:** Cost on this project is yet to be determined.

**Attached:** Please see attached pictures and maps labeled: P18-1, P18-2, P18-3, P18-4, P18-5, and P18-6

**Project 19:**

**Proposal:** We are proposing that we raise 300' stretch of road approximately 1' on 49<sup>th</sup> St that is between 166<sup>th</sup> avenue and 167<sup>th</sup>.

**Purpose:** The purpose of this project is to continue to allow access for 6 residences during times when the Sheyenne is flooding. The need for this project is due to flood waters backing up from highway 16, and inundating this 300' stretch of road we would like to raise. In the past this has been a problem, but we feel that after the raising of county road 16 with its resurfacing that 49<sup>th</sup> St will become impassible during times of flooding.

**Cost:** Cost on this project is yet to be determined.

**Attached:** Please see attached pictures and maps labeled: P19-1 and P19-2

**Project 20:**

**Proposal:** We are proposing that we gravel 2 miles of 169<sup>th</sup> avenue from 52<sup>th</sup> street to 50<sup>th</sup> street. This stretch is now a minimum maintenance road.

**Purpose:** The purpose of this project is to provide all weather access for 20 family's during flooding events. In the past we have had to gravel this road during flood events. The results have been less than satisfactory due to the condition of the road when the gravel was applied. If this road could be shaped and graveled when dry we feel the results would be much better.

**Cost:** Cost on this project is yet to be determined.

**Attached:** Please see attached pictures and maps labeled: P20-1

We appreciate your consideration of our proposed projects.

The point of contact for these projects should be:

Mark Ottis

Normanna Township Supervisor

5350 166<sup>th</sup> Ave SE

Kindred ND 58051

(701) 371-3237

Sincerely,

Mark Ottis

Aerial Map

P 17-1



**CENTROL.**  
CROP CONSULTING

Maps provided by:



©AgriData, Inc. 2011

www.AgriDataInc.com

**34-137N-50W**  
**Cass County**  
**North Dakota**

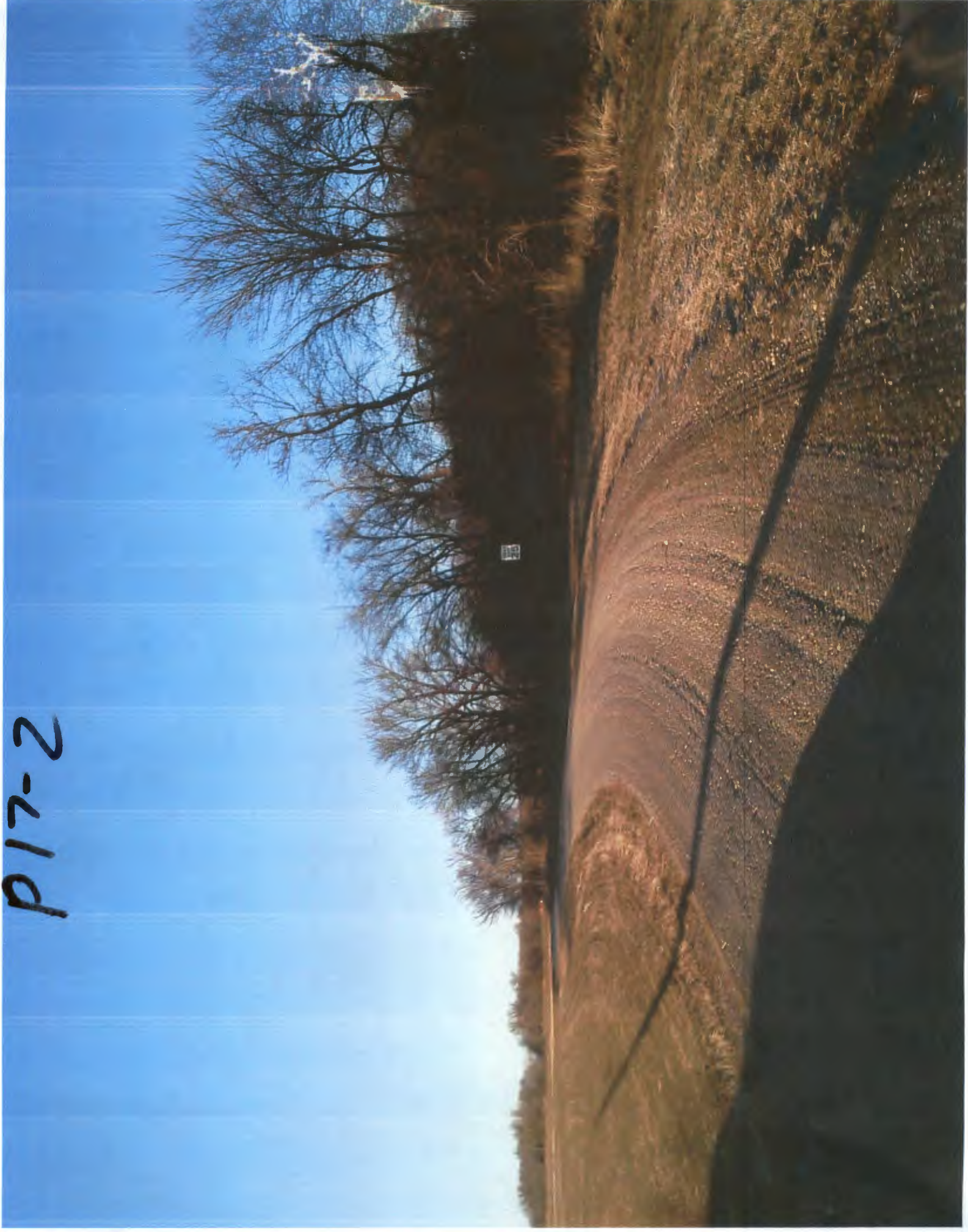
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scale: 5579

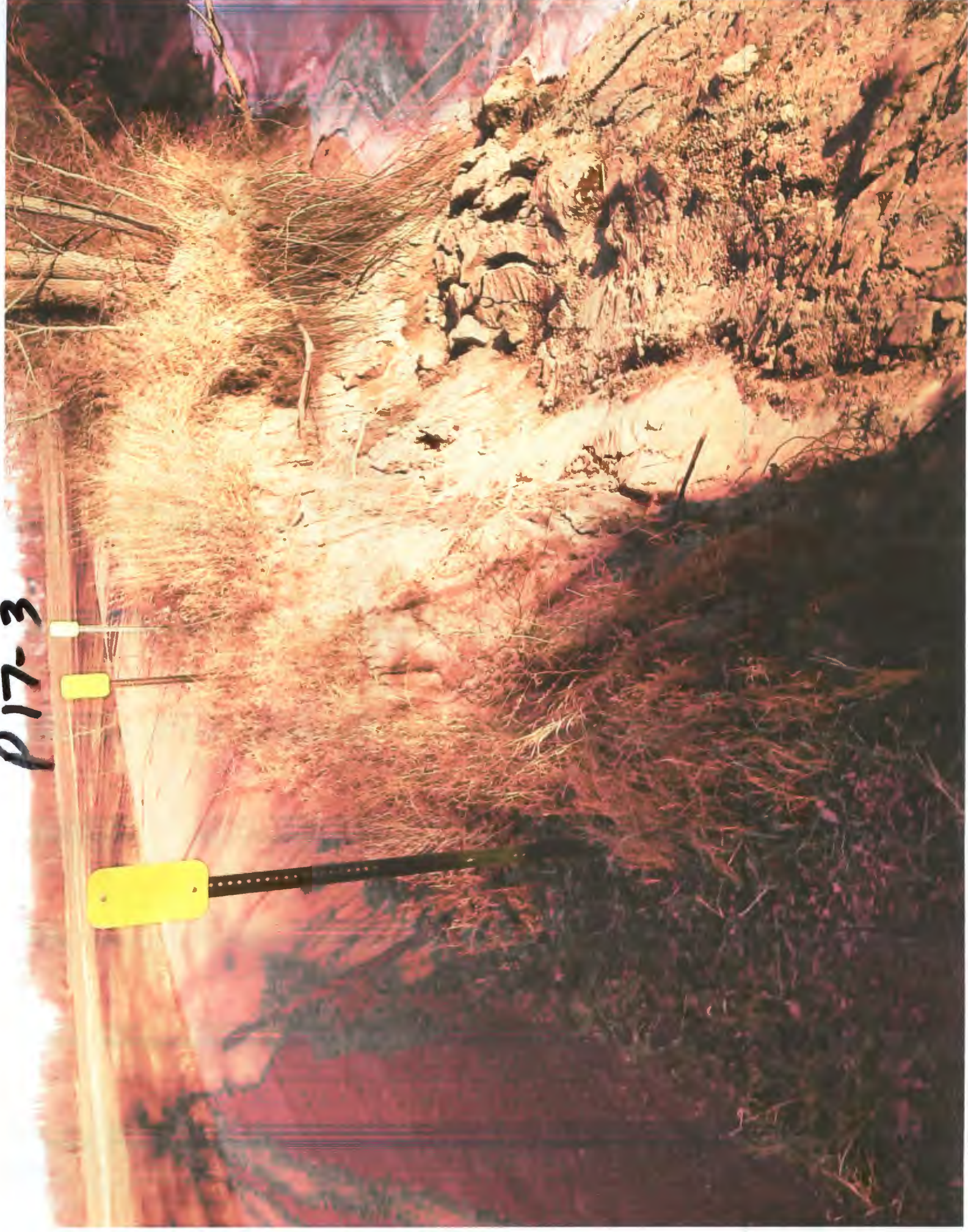


12/1/2011

P17-2



P17-3



P17.4





# Aerial Map P18-1



**CENTROL.**  
CROP CONSULTING

Maps provided by:  
  
CUSTOMIZED ONLINE MAPPING

©AgriData, Inc. 2011  
www.AgriDataInc.com

**10-137N-50W**  
**Cass County**  
**North Dakota**

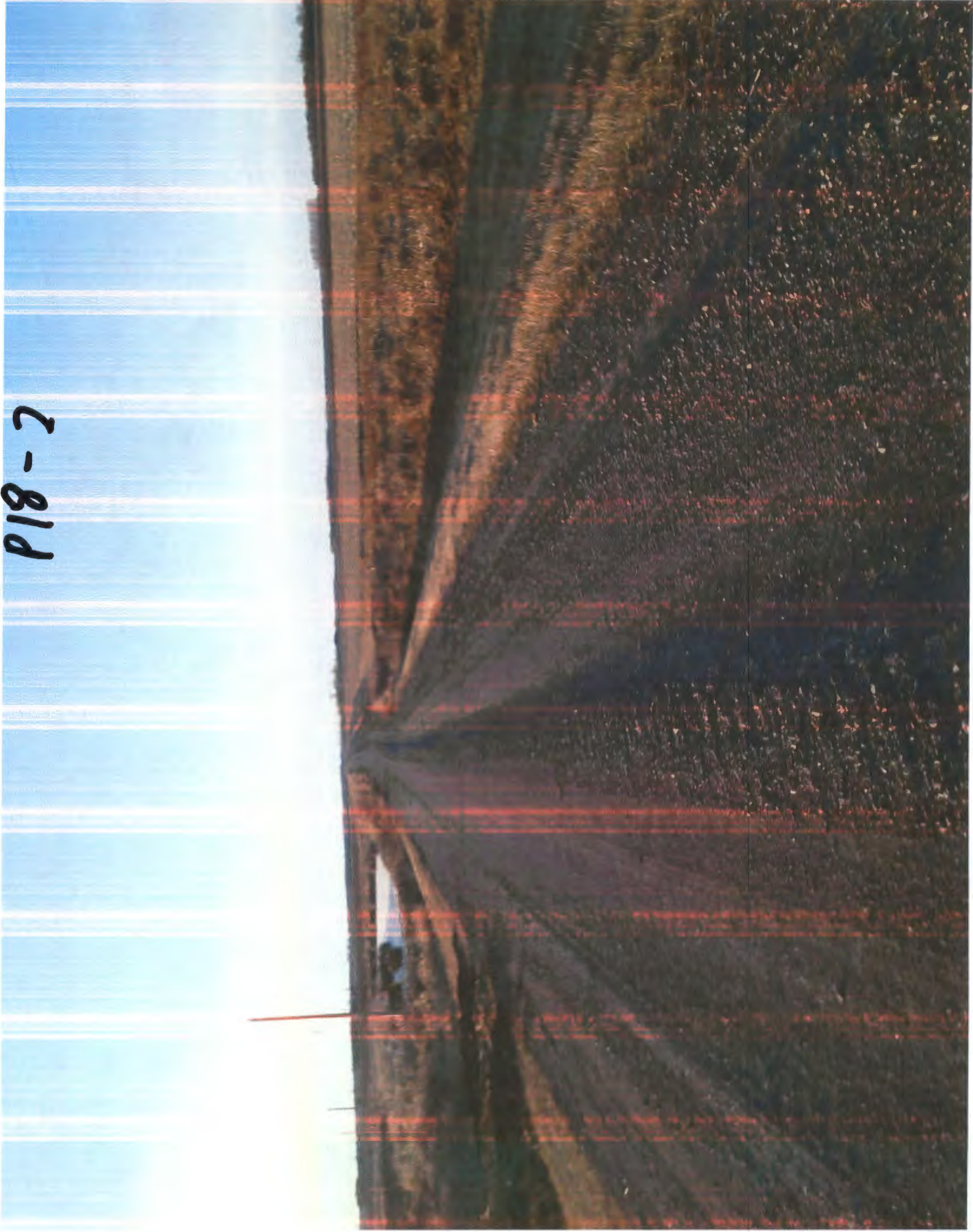
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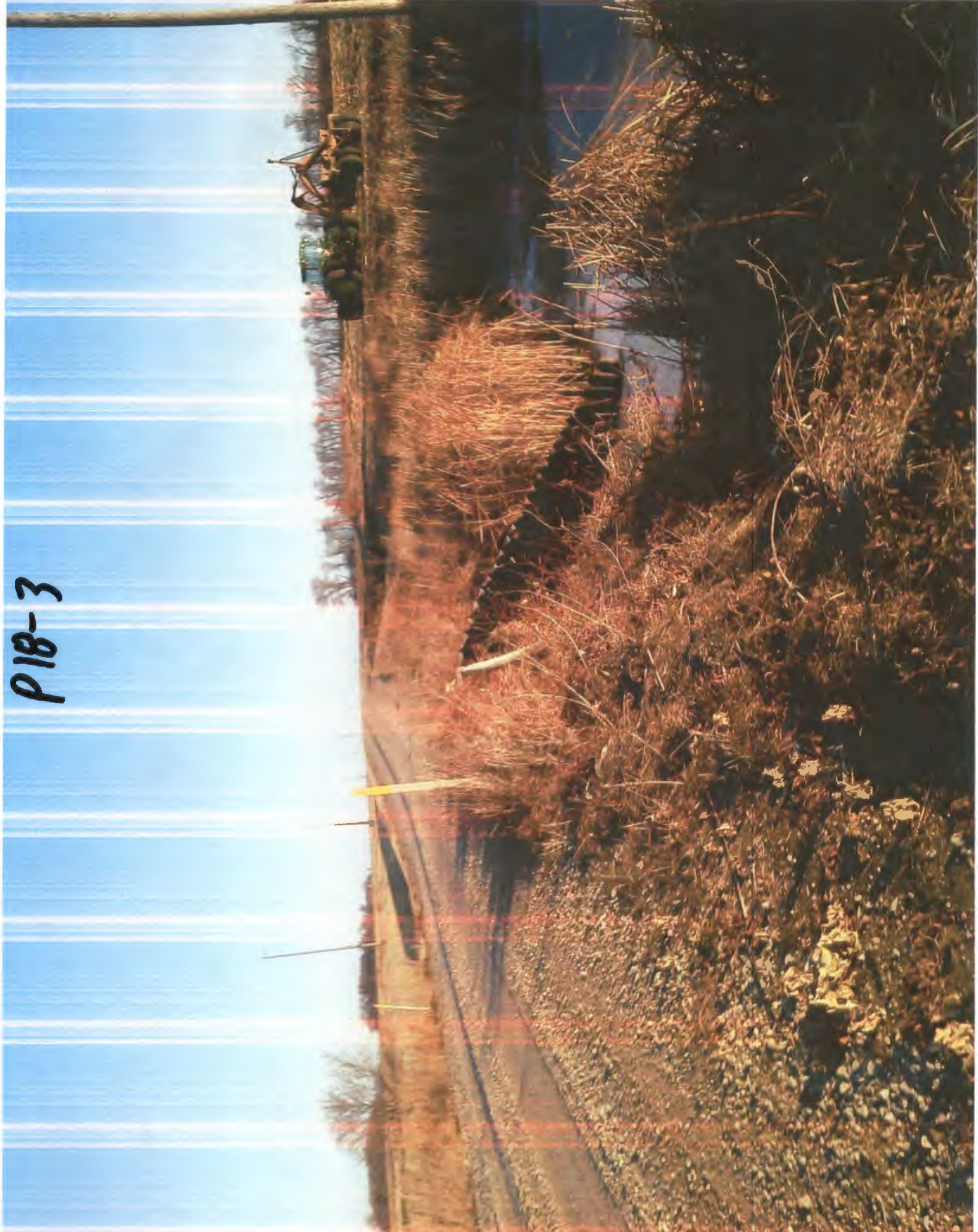
12/1/2011

Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photography Field Office.

P18-2



P18-3





P19-4

P18-5



P18-6



Aerial Map

P 19-1



**CENTROL.**  
CROP CONSULTING

Maps provided by:



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www.AgriDataInc.com

**3-137N-50W**  
**Cass County**  
**North Dakota**

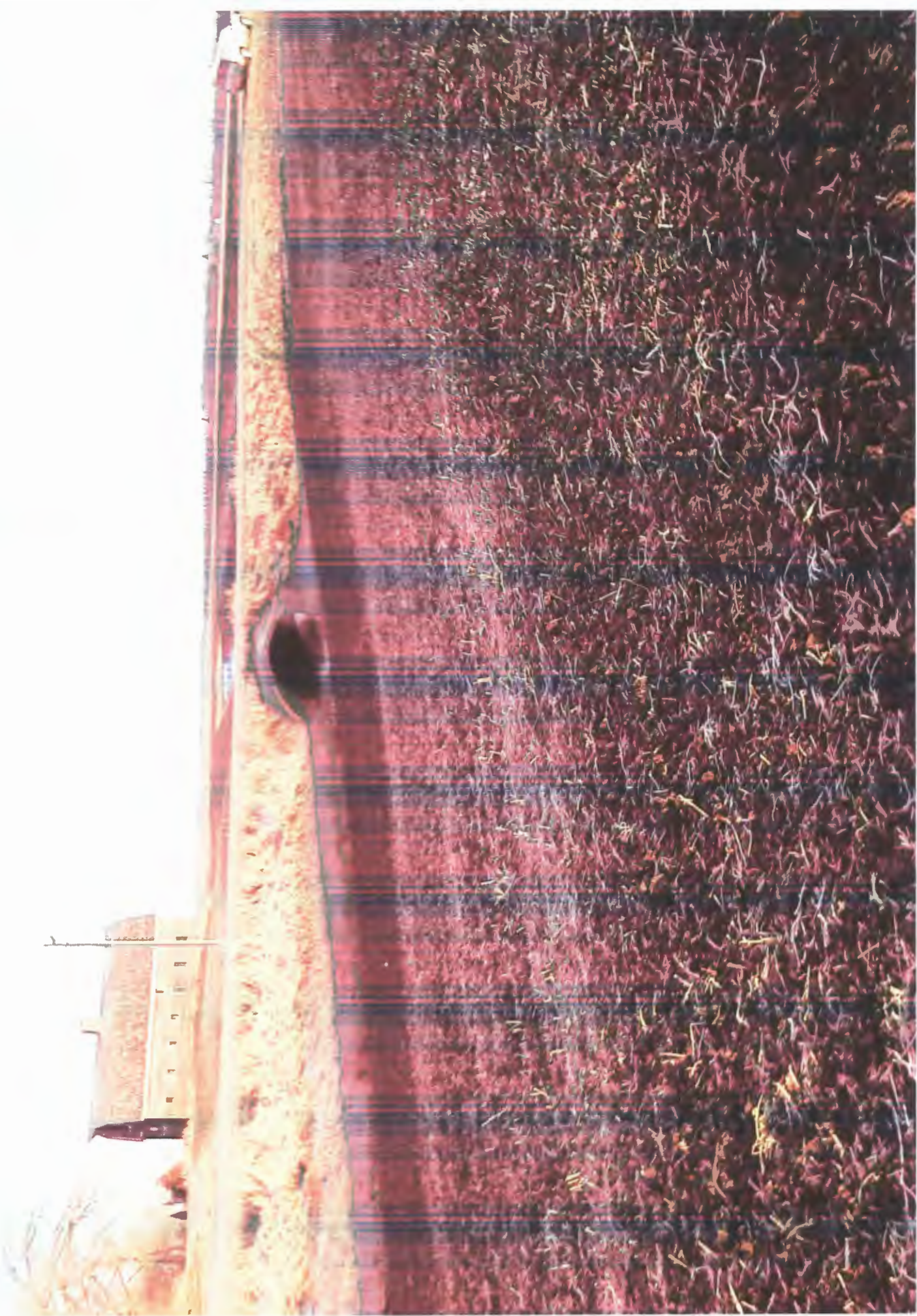
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scale: 7593



12/1/2011

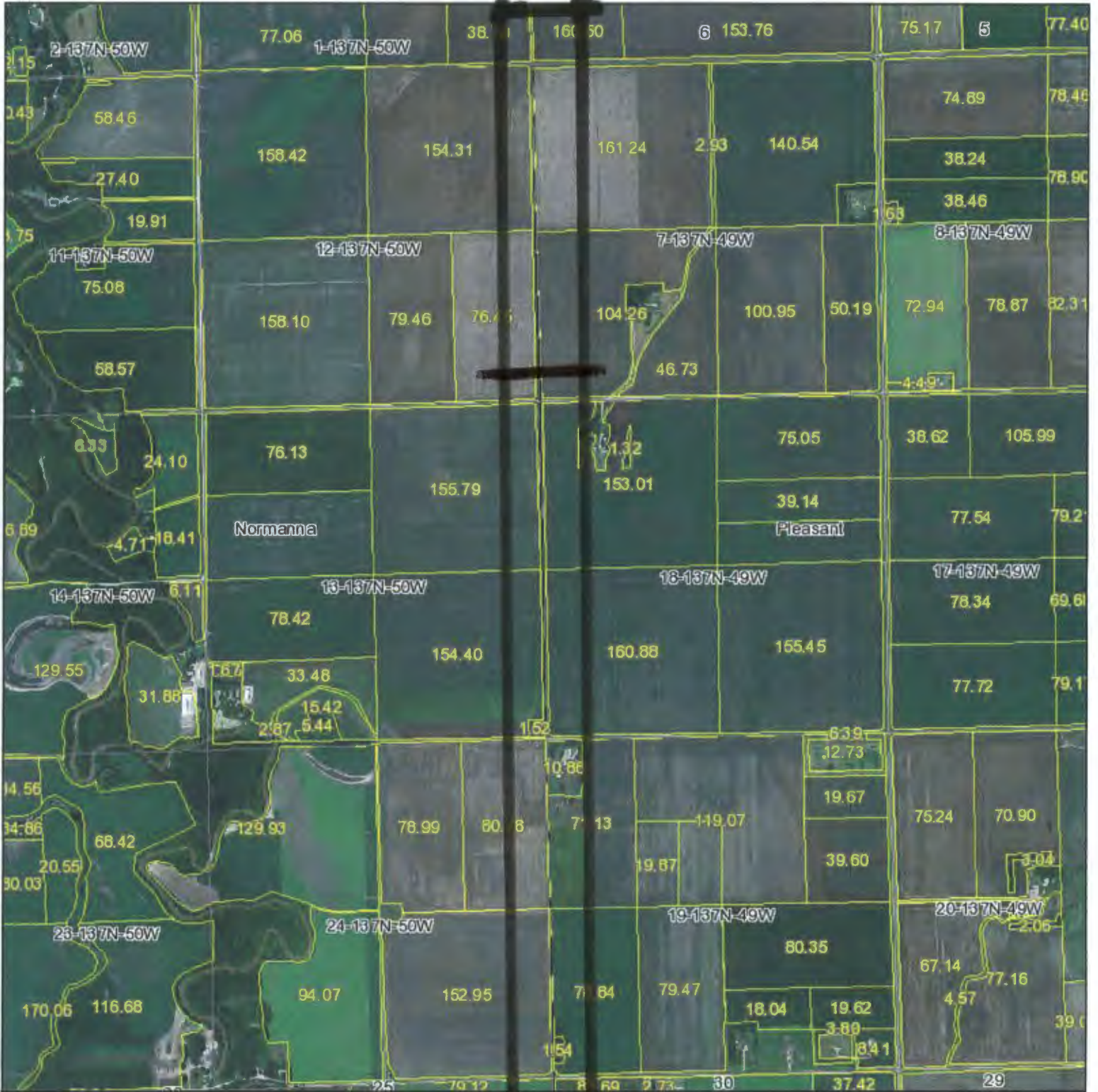
P 19-2





P 20-1

# Aerial Map



**CENTROL.**  
CROP CONSULTING

Maps provided by:



©AgriData, Inc. 2011  
www.AgriDataInc.com

**18-137N-49W**  
**Cass County**  
**North Dakota**

map center: 46° 40' 55.41, 96° 55' 33.73  
scale: 29657



12/1/2011

Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photography Field Office.



Project No. 44

March 7, 2012

RECEIVED

MAR 8 2012

CASS COUNTY COMMISSION

Maple River  
Water Resource  
District

Rodger Olson  
Chairman  
Leonard, North Dakota

Jurgen Suhr  
Manager  
Page, North Dakota

Gerald Melvin  
Manager  
Buffalo, North Dakota

Scott Wagner  
Chairman  
Cass County Commission  
P.O. Box 2806  
Fargo, ND 58108-2806

Dear Chairman Wagner:

RE: Cass County Flood Sales Tax for Flood Risk Reduction and Recovery  
Pontiac Township Improvement District No. 73

On November 10, 2011, the Cass County Commission received a letter from Pontiac Township Chairman Gary Lindemann advising the Commission that landowners in Pontiac, Clifton, Highland and Eldred Townships were developing a flood reduction project in that area to remove high water from flooded county and township roads. Mr. Lindemann noted that they had received support from the Cass County Highway Department and the Maple River Water Resource District (District) for a plan developed by Moore Engineering, Inc. to drain water from the isolated depressions causing the flooding and outletting it into the Maple River at a location upstream of the Maple River Dam. He further indicated that they were anticipating making a request for cost share from the County's one-half percent sales tax to fund a portion of the local cost of the project. At that time, the preliminary cost estimate for the project included a total local cost of about \$1.25 million. Moore Engineering, Inc. has recently completed a more refined cost estimate for the project, which includes an adjustment to the anticipated cost share contribution from the State Water Commission. The total local cost for the project is now expected to be \$1.56 million.

Mr. Lindemann and other impacted landowners had originally initiated the effort to develop this project and put up the money to fund the initial study. The District has determined that the proposed project is feasible and has elected to proceed with the project on behalf of the landowners. This will include the creation of an assessment district to fund a portion of the local cost of the project. At this time, the District is following through on the initial request made by Mr. Lindemann for a cost share agreement with the Commission. Consistent with the Commission's policy on such requests, the District is requesting a cost share equal to 50% of the local cost. It is anticipated that this request will amount to \$780,000. With the need for an assessment district to fund a portion of the local cost, the District will need to take the project to the landowners for a vote before the project can proceed.

Carol Harbeke Lewis  
Secretary-Treasurer

1201 Main Avenue West  
West Fargo, ND 58078-1301

701-298-2381  
FAX 701-298-2397  
[wrд@casscountynд.gov](mailto:wrд@casscountynд.gov)  
[www.casscountynд.gov](http://www.casscountynд.gov)

Scott Wagner  
Page 2  
March 7, 2012

The amount that would be potentially assessed to each landowner needs to be known at the time of the vote. For that reason, the District would need to know the amount that the Cass County Commission would contribute to the project on a cost share basis. It is anticipated that the project would be taken to a vote shortly after receiving a commitment from the Commission. Provided the project passed and the timing and weather conditions worked out, it is possible that construction of the project would proceed within this construction season.

This project would provide much needed relief for many residents and landowners in southwest Cass County, along with added benefits to Cass County roadways affected by the high water. The proposed design includes control gates throughout the system that offer the potential for retention capabilities once the excessively high water has been removed which would provide additional benefit to downstream landowners. The District would greatly appreciate any consideration the Commission may make towards funding the local cost of this project. Enclosed is a copy of the *Engineer's Opinion of Probable Cost* and a map of the project. If you have any questions on this project or need any additional information, please do not hesitate to contact us.

Sincerely,

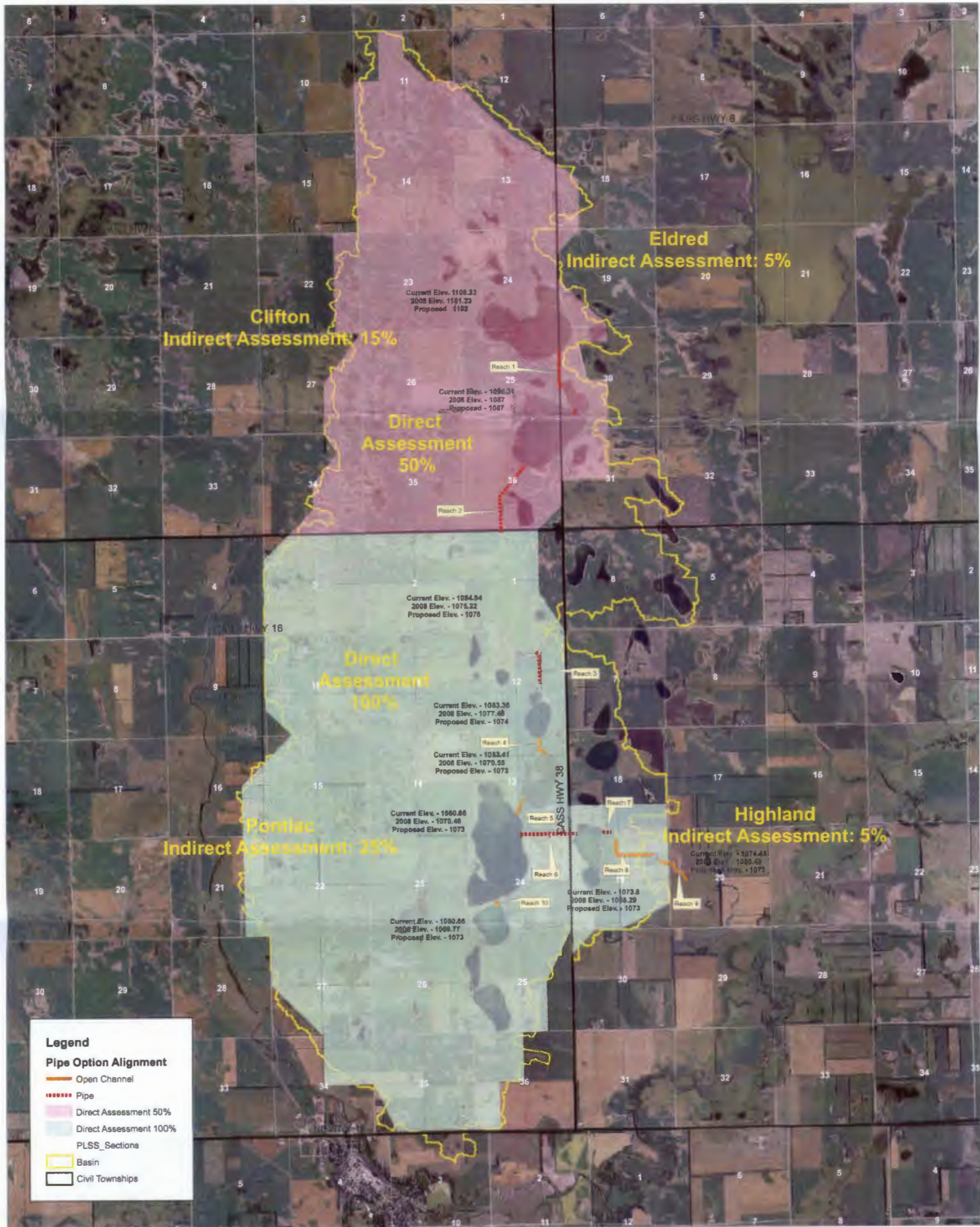
MAPLE RIVER WATER RESOURCE DISTRICT



Carol Harbeke Lewis  
Secretary-Treasurer

Enclosures

cc: Jason Benson, Cass County Engineer



Pontiac Township Improvement District No. 73  
 Proposed Outlet Watershed  
 Lake and Slough Elevations - 88 Datum



1 inch = 1,500 feet



**Pontiac Township Improvement District No. 73  
High Water Outlet Project**

Project # 15667  
Date Created: July 1, 2011  
Date Updated: February 1, 2012

Maple River Water Resource District  
Cass County, ND

Engineer's Opinion of Probable Cost  
Pipe Option: (w/Pipe Through Wetlands)

ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL	FUNDING SOURCES		
					NDSWC	LOCAL	
<b>Reach 1</b>							
1. 30" HDPE Dual-Wall Pipe	L.F.	1,800	\$55.00	\$99,000.00	\$44,550.00	\$54,450.00	
2. 30" x 30" HDPE Dual-Wall Tee w/Cap	Each	3	\$6,000.00	\$18,000.00	\$8,100.00	\$9,900.00	
3. 30" Corrugated Metal End Section w/Trash Guard	Each	4	\$850.00	\$3,400.00	\$1,530.00	\$1,870.00	
4. Control Structure	Each	1	\$25,000.00	\$25,000.00	\$11,250.00	\$13,750.00	
5. Temporary Cofferdam/Dewatering	L.Sum	1	\$10,000.00	\$10,000.00	\$4,500.00	\$5,500.00	
6. Riprap - All Sizes	C.Y.	80	\$80.00	\$6,400.00	\$2,880.00	\$3,520.00	
7. Riprap Filter Blanket	S.Y.	160	\$3.00	\$480.00	\$216.00	\$264.00	
<b>Reach 2</b>							
8. 30" HDPE Dual-Wall Pipe	L.F.	4,500	\$55.00	\$247,500.00	\$111,375.00	\$136,125.00	
9. 30" x 30" HDPE Dual-Wall Tee w/Cap	Each	9	\$6,000.00	\$54,000.00	\$24,300.00	\$29,700.00	
10. 30" Corrugated Metal End Section w/Trash Guard	Each	2	\$850.00	\$1,700.00	\$765.00	\$935.00	
11. Control Structure	Each	1	\$25,000.00	\$25,000.00	\$11,250.00	\$13,750.00	
12. Temporary Cofferdam/Dewatering	L.Sum	1	\$10,000.00	\$10,000.00	\$4,500.00	\$5,500.00	
13. Riprap - All Sizes	C.Y.	40	\$80.00	\$3,200.00	\$1,440.00	\$1,760.00	
14. Riprap Filter Blanket	S.Y.	80	\$3.00	\$240.00	\$108.00	\$132.00	
<b>Reach 3</b>							
15. 30" HDPE Dual-Wall Pipe	L.F.	2,000	\$55.00	\$110,000.00	\$49,500.00	\$60,500.00	
16. 30" x 30" HDPE Dual-Wall Tee w/Cap	Each	3	\$6,000.00	\$18,000.00	\$8,100.00	\$9,900.00	
17. 30" Corrugated Metal End Section w/Trash Guard	Each	2	\$850.00	\$1,700.00	\$765.00	\$935.00	
18. Control Structure	Each	1	\$25,000.00	\$25,000.00	\$11,250.00	\$13,750.00	
19. Temporary Cofferdam/Dewatering	L.Sum	1	\$40,000.00	\$40,000.00	\$18,000.00	\$22,000.00	
20. Riprap - All Sizes	C.Y.	40	\$80.00	\$3,200.00	\$1,440.00	\$1,760.00	
21. Riprap Filter Blanket	S.Y.	80	\$3.00	\$240.00	\$108.00	\$132.00	
<b>Reach 4</b>							
22. Excavation - Channel	C.Y.	6,200	\$1.25	\$7,750.00	\$3,487.50	\$4,262.50	
23. Spoil Bank Leveling	Mile	0.4	\$5,000.00	\$2,000.00	\$900.00	\$1,100.00	
24. Control Structure	Each	1	\$40,000.00	\$40,000.00	\$18,000.00	\$22,000.00	
25. Temporary Cofferdam/Dewatering	L.Sum	1	\$5,000.00	\$5,000.00	\$2,250.00	\$2,750.00	
26. Riprap - All Sizes	C.Y.	200	\$80.00	\$16,000.00	\$7,200.00	\$8,800.00	
27. Riprap Filter Blanket	S.Y.	400	\$3.00	\$1,200.00	\$540.00	\$660.00	
<b>Reach 5</b>							
28. Excavation - Channel	C.Y.	31,200	\$1.25	\$39,000.00	\$17,550.00	\$21,450.00	
29. Spoil Bank Leveling	Mile	0.3	\$5,000.00	\$1,500.00	\$675.00	\$825.00	
30. Temporary Cofferdam/Dewatering	L.Sum	1	\$5,000.00	\$5,000.00	\$2,250.00	\$2,750.00	
31. Control Structure	L.Sum	1	\$40,000.00	\$40,000.00	\$18,000.00	\$22,000.00	
32. Riprap - All Sizes	C.Y.	200	\$80.00	\$16,000.00	\$7,200.00	\$8,800.00	
33. Riprap Filter Blanket	S.Y.	400	\$3.00	\$1,200.00	\$540.00	\$660.00	
<b>Reach 6</b>							
34. 30" HDPE Dual-Wall Pipe	L.F.	2,920	\$55.00	\$160,600.00	\$72,270.00	\$88,330.00	
35. 30" x 30" HDPE Dual-Wall Tee w/Cap	Each	5	\$6,000.00	\$30,000.00	\$13,500.00	\$16,500.00	
36. 30" Corrugated Metal End Section w/Trash Guard	Each	2	\$850.00	\$1,700.00	\$765.00	\$935.00	
37. 30" Boring & Casing	L.F.	5	\$400.00	\$2,000.00	\$900.00	\$1,100.00	
38. Temporary Cofferdam/Dewatering	L.Sum	1	\$40,000.00	\$40,000.00	\$18,000.00	\$22,000.00	
39. Control Structure	L.Sum	1	\$25,000.00	\$25,000.00	\$11,250.00	\$13,750.00	
40. Riprap - All Sizes	C.Y.	40	\$80.00	\$3,200.00	\$1,440.00	\$1,760.00	
41. Riprap Filter Blanket	S.Y.	80	\$3.00	\$240.00	\$108.00	\$132.00	
<b>Reach 7</b>							
42. 30" HDPE Dual-Wall Pipe	L.F.	420	\$55.00	\$23,100.00	\$10,395.00	\$12,705.00	
43. 30" Corrugated Metal End Section w/Trash Guard	Each	2	\$5,000.00	\$10,000.00	\$4,500.00	\$5,500.00	
44. Temporary Cofferdam/Dewatering	L.Sum	1	\$10,000.00	\$10,000.00	\$4,500.00	\$5,500.00	
45. Control Structure	L.Sum	1	\$25,000.00	\$25,000.00	\$11,250.00	\$13,750.00	
46. Riprap - All Sizes	C.Y.	40	\$80.00	\$3,200.00	\$1,440.00	\$1,760.00	
47. Riprap Filter Blanket	S.Y.	80	\$3.00	\$240.00	\$108.00	\$132.00	
<b>Reach 8</b>							
48. Excavation - Channel	C.Y.	56,500	\$1.25	\$70,625.00	\$31,781.25	\$38,843.75	
49. Spoil Bank Leveling	Mile	1	\$5,000.00	\$5,000.00	\$2,250.00	\$2,750.00	
50. Temporary Cofferdam/Dewatering	L.Sum	1	\$10,000.00	\$10,000.00	\$4,500.00	\$5,500.00	
51. Control Structure	L.Sum	1	\$40,000.00	\$40,000.00	\$18,000.00	\$22,000.00	
52. Riprap - All Sizes	C.Y.	200	\$80.00	\$16,000.00	\$7,200.00	\$8,800.00	
53. Riprap Filter Blanket	S.Y.	400	\$3.00	\$1,200.00	\$540.00	\$660.00	
<b>Reach 9</b>							
54. Excavation - Channel	C.Y.	2,200	\$1.25	\$2,750.00	\$1,237.50	\$1,512.50	
55. Spoil Bank Leveling	Mile	1	\$5,000.00	\$5,000.00	\$2,250.00	\$2,750.00	
56. Riprap - All Sizes	C.Y.	250	\$80.00	\$20,000.00	\$9,000.00	\$11,000.00	
57. Riprap Filter Blanket	S.Y.	500	\$3.00	\$1,500.00	\$675.00	\$825.00	
58. Culvert - 1 - 36" 100'	L.F.	100	\$60.00	\$6,000.00	\$2,700.00	\$3,300.00	
59. FES - 36"	Each	2	\$500.00	\$1,000.00	\$450.00	\$550.00	
<b>Reach 10</b>							
60. Excavation - Channel	C.Y.	400	\$1.25	\$500.00	\$225.00	\$275.00	
61. Spoil Bank Leveling	Mile	0.2	\$5,000.00	\$950.00	\$427.50	\$522.50	
62. Riprap - All Sizes	C.Y.	200	\$80.00	\$16,000.00	\$7,200.00	\$8,800.00	
63. Riprap Filter Blanket	S.Y.	400	\$3.00	\$1,200.00	\$540.00	\$660.00	
<b>Part II - All Other Construction</b>							
64. Rock Checks - Temporary	Each	4	\$1,500.00	\$6,000.00	\$2,700.00	\$3,300.00	
65. Rock Checks - Permanent	Each	1	\$1,500.00	\$1,500.00	\$675.00	\$825.00	
66. Storm Water Management	L.Sum	1	\$10,000.00	\$10,000.00	\$4,500.00	\$5,500.00	
67. Seeding	Acre	32	\$750.00	\$24,000.00	\$10,800.00	\$13,200.00	
<b>R.O.W. Summary</b>							
Permanent R.O.W.	26 ac. @ \$3,000		\$78,000.00				
Temp. Const. Ease.	105 ac. @ \$250		\$26,250.00				
			\$104,250.00				
<b>NOTES</b>							
* NDSWC cost-share= 45% of eligible construction							
* Wetland impacts & mitigation costs are unknown							
* Assumes no further NRCS or USFWS mitigation							
* Utility impacts and relocation costs are unknown							
				<b>Total Construction</b>	\$1,468,215.00	\$660,698.75	\$807,516.25
				Preliminary Engineering	\$40,000.00	\$0.00	\$40,000.00
				Engineering - Design & Construction	\$235,000.00	\$0.00	\$235,000.00
				Contingencies	\$337,535.00	\$147,803.25	\$189,731.75
				Legal Fees	\$10,000.00	\$0.00	\$10,000.00
				Administrative Fees	\$5,000.00	\$0.00	\$5,000.00
				Right-of-Way - Land Acquisition	\$104,250.00	\$0.00	\$104,250.00
				Wetland Mitigation	\$15,000.00	\$0.00	\$15,000.00
				Engineering - Right-of-Way	\$10,000.00	\$0.00	\$10,000.00
				Easements & Monuments	\$20,000.00	\$0.00	\$20,000.00
				Utilities - Construction	\$70,000.00	\$31,500.00	\$38,500.00
				Engineering - Utilities	\$10,000.00	\$0.00	\$10,000.00
				Fiscal	\$75,000.00	\$0.00	\$75,000.00
				<b>TOTAL PROJECT COST</b>	<b>\$2,400,000.00</b>	<b>\$840,000.00</b>	<b>\$1,560,000.00</b>

RECEIVED

Pontiac Township  
Gary Lindemann

NOV 10 2011

Cass County Commission  
Darrell W. Vanyo

CASS COUNTY COMMISSION

Subject; Flood Risk Reduction Projects

In regard to you letter dated Nov. 1, 2011 regarding various water related projects in rural Cass County, I would like to bring you up to date on a project involving Pontiac, Clifton, Highland, and a small tract in Eldred Townships. In July we (a group of concerned landowners and a representative from the Cass County Highway Department) approached the Cass County Drain Board and visited about a possible solution to the extremely high water on a chain of lakes that run from just southwest of Alice North Dakota Southward to section 36 of Pontiac Township. Many of these lakes have joined together and for a good part of the summer had county road # 16 and 38 impassible. The Cass County Highway Department has since built bypass roads around these water covered roads. However, there still are no township roads that can be traveled east or west bound through either Pontiac or Clifton township. There also is good farmland that has several feet of water sitting on it and farmsteads that are in grave danger.

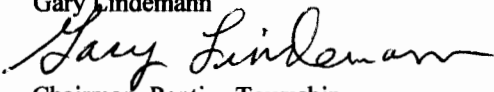
The Cass County Drain Board thought it a worthwhile project to try and lower these lakes to there July 1, 2008 levels, which would lower the majority of them approximately nine feet. At this point we gave Chad Engel of Moore Engineering the go ahead to produce a preliminary plan to lower this water. Chad produced a plan taking the water east (by pipe) from section 24 of Pontiac to sections 19 and 20 of Highland to a natural drain that dumps into the Maple River "above" the Maple River Dam.

At this point more money was needed. The concerned landowners from the area produced a \$40,000.00 bond and at the present time Moore Engineering is working on final plans and final costs. When the plan and costs are final the landowners will vote yes or no. If a yes vote prevails, it is quite possible that we would ask for a portion of funds from the Cass County ½ cent sales tax fund. The larger portion of funds would come from an direct and indirect assessment on land from the four affected townships.

The total cost (early estimate) is \$2,383,000.00. If the North Dakota State Water Commission participates with \$1,133,280.00 it will leave a total local cost of \$1,249,720.00.

Thank you in advance for your possible cooperation with this important project for southwest Cass County.

Gary Lindemann



Chairman, Pontiac Township

Project No. 45  
through No. 56

RECEIVED

DEC - 1 2011

Reed Township sales tax funding request

CASS COUNTY COMMISSION

- 1) Home buy out for houses south of 19<sup>th</sup> Ave west of county 17. These homes cannot be diked as they are too close to the river. They must be sandbagged every year. There is no emergency access to the homes during a flood event. Also because they cannot be diked they put other homes in the development as risk of flooding. With a buyout of these properties a dike could be constructed to allow access and protection for the remaining homes.

Parcel number	Value	2011 value	20% increase correctior	total value	
60-0000-02432-000	\$ 187,800.00	\$ 191,556.00	\$ 38,311.20	\$ 229,867.20	Woodley, Randal
60-0000-02431-000	\$ 20,000.00	\$ 20,400.00	\$ 4,080.00	\$ 24,480.00	Woodley, Randal
60-0800-03340-000	\$ 109,400.00	\$ 111,588.00	\$ 22,317.60	\$ 133,905.60	Dahl, Charles
60-0800-03330-000	\$ 8,400.00	\$ 8,568.00	\$ 1,713.60	\$ 10,281.60	Dahl, Charles
60-0800-03350-000	\$ 8,400.00	\$ 8,568.00	\$ 1,713.60	\$ 10,281.60	Donavan
60-0800-03320-000	\$ 8,400.00	\$ 8,568.00	\$ 1,713.60	\$ 10,281.60	Donavan
60-0800-03360-000	\$ 8,400.00	\$ 8,568.00	\$ 1,713.60	\$ 10,281.60	Donavan
60-0800-03310-000	\$ 8,400.00	\$ 8,568.00	\$ 1,713.60	\$ 10,281.60	Donavan
60-0800-00050-000	\$ 8,600.00	\$ 8,772.00	\$ 1,754.40	\$ 10,526.40	Berg Cory
60-0800-03300-000	\$ 109,400.00	\$ 111,588.00	\$ 22,317.60	\$ 133,905.60	Quaschnick, Duane
60-0800-03290-000	\$ 8,400.00	\$ 8,568.00	\$ 1,713.60	\$ 10,281.60	Quaschnick, Duane
60-0850-00040-000	\$ 118,500.00	\$ 120,870.00	\$ 24,174.00	\$ 145,044.00	Scheidegger, Sandra
60-0850-00030-000	\$ 90,400.00	\$ 92,208.00	\$ 18,441.60	\$ 110,649.60	Berg Arnold
60-0850-00020-000	\$ 117,600.00	\$ 119,952.00	\$ 23,990.40	\$ 143,942.40	Hanson, Janice
60-0000-02470-000	\$ 118,700.00	\$ 121,074.00	\$ 24,214.80	\$ 145,288.80	Sedevie, Robert
60-0000-02460-000	\$ 93,700.00	\$ 95,574.00	\$ 19,114.80	\$ 114,688.80	Maertens, Joseph
60-0000-02490-000	\$ 48,900.00	\$ 49,878.00	\$ 9,975.60	\$ 59,853.60	Iverson, Peter
60-0000-02500-020	\$ 127,400.00	\$ 129,948.00	\$ 25,989.60	\$ 155,937.60	Goldade, Stephen
60-1500-00090-000	\$ 83,800.00	\$ 85,476.00	\$ 17,095.20	\$ 102,571.20	Mohr, James
60-0850-00010-000	\$ 162,300.00	\$ 165,546.00	\$ 33,109.20	\$ 198,655.20	HOWARD S & HARRIET F SMEDSH
60-0000-02480-000	\$ 105,200.00	\$ 107,304.00	\$ 21,460.80	\$ 128,764.80	RODNEY R & CAROLYN L DRAEGER
60-0000-02455-000	\$ 129,300.00	\$ 131,886.00	\$ 26,377.20	\$ 158,263.20	KIM L & BRENDA L SCHRADER
60-0000-02430-000	\$ 104,200.00	\$ 106,284.00	\$ 21,256.80	\$ 127,540.80	CYRUS QUAM
	\$ 1,785,600.00	\$ 1,821,312.00	\$ 364,262.40	\$ 2,185,574.40	

These are the homes that would have to be purchased. The cost is estimated around \$1,572,350.00. We would ask that the county be in charge of the buyout process, but the township would agree to maintain the land as in mowing. Also including in this would be the diking project that Jason Benson has worked on. The complete cost for the diking project was about 1.2 million dollars.

- 2) The next Item would be creating 2 spill ways on 19<sup>th</sup> Ave NW. The first would be off of County Rd 17 to the west. This would be 500ft of concrete poured 9" thick. This would hold up to the continual flooding and any truck traffic. The estimated cost for this would be \$130,000.00 with fixing the base material. The next section would be east of the 9<sup>th</sup> St and 19<sup>th</sup> Ave intersection. This section would need to be 500 ft. as well. The estimated cost on this section is \$105,000.00. These 2 spill ways would give access to the homes listed below as well as to the West Fargo Airport. Total cost would be \$235,000.00. The houses that would gain benefit from the above projects have a taxable value of \$12,188,592.00. It would also serve to protect and access the West Fargo Airport as well as Land to the North of Sunrise acres that may be developed.
- 3) Concrete spillway on 57<sup>th</sup> St South of County Rd 20. 550ft of Concrete estimated cost \$110,000.00. This section is on a floodway so there is no other solution to fix the road. It washes out during every flood costing Fema, the county and township money every year. It also cuts the access to 2 homes and causes trouble for the farmer getting equipment in and out to plant his fields.

- 4) 200 ft. concrete spillway on 52<sup>nd</sup> Ave N to fix the problem of washout. Every flood this section washes out and has cause damage to the farm fields. It is also the last road out of the water to access Lake Shure development. When the flood gets high it would still be under water requiring a long term solution to be found for Lake Shure. The county is currently applying to Fema for a grant to construct a bridge. If Fema fails we would ask the sales tax commission to help us at that point.
- 5) 64<sup>th</sup> Ave N west of 57<sup>th</sup> St raise the road and possibly add culverts. We would ask for a hydrology study to be done to check the impact for this. The estimated cost for the study would be \$7500.00. The estimated cost of an 8" road raise and adding 4 36" culverts would be \$30,000.00 the culverts may change based on the hydro study.
- 6) 57<sup>th</sup> St S of 64<sup>th</sup> road raise. Estimated cost is \$75000.00 this would raise 3000 feet of road by 8". These 2 projects would allow access for the 3 houses on 64<sup>th</sup> ave and also gain access longer for Lake Shure. This would also need to be done once the bridge is installed to have access. It being done ahead of time still has many benefits to the area.
- 7) West of Cty 37 between section 2 and 11 on 64<sup>th</sup> Ave Road raise 8" estimated cost is \$20,000.00 This would insure access to Highland Park during a flood.
- 8) Install a lift station in Highland Park to remove pump rentals which are not always available would offer protection to the homes. Estimated cost \$200,000.00. The subdivision would take over maintenance on the lift station after it is installed
- 9) Road raise on by overlay of blacktop on 62<sup>nd</sup> ave, 64<sup>th</sup> ave and 13<sup>th</sup> st. These roads have to be sandbagged every flood to protect the center houses in the development. It would need to be 4 to 6" thick. The overlay would add security by ensuring protection. About 4300 feet of road at 26ft wide. The estimated cost would be \$332,400. The subdivision would be reasonable for all maintenance after the installation. This would serve to protect \$30,264,000.00 of property.
- 10) Certify the dike at Selsberg's subdivision. This would ensure that the dike would provide adequate protection to about 40 homes. Estimated Cost is \$ waiting for quote . This would serve to protect about \$4,000,000.00 worth of property.
- 11) Install a lift station in Selsberg's development. They rent pumps ever year and this would ensure availability and protection. Estimated cost is \$200,000.00. The subdivision would take over maintenance on the lift station after it is installed.
- 12) Install a lift station in Sunrise acres subdivision. The pump located to the south of them helped to keep their roads out of the water providing access for them. As the subdivision to the south is discussing reditching the area the pump would no longer be helpful. The addition of this pump would allow access for about 20 homes. Estimated cost \$200,000.00. The subdivision would take over maintenance on the lift station after it is installed. This would serve to protect \$3,866,100 worth of property.

If there is required cost share on some of the projects the township will ask the county commission to help us setup any assessment districts that we need. The township will control, maintain and setup all the road projects. The county would control all the buyout projects. Feel free to contact me with any questions or comments.

Mark McAllister  
Reed Township Chairman  
Cell 306-3400



Suggested March  
2012 funding

POTENTIAL AND REQUESTED SALES TAX MITIGATION PROJECTS

5/18/2011

NO.	PROJECT DESCRIPTION	POINT OF CONTACT	TOTAL EST. COST	COUNTY \$ REQUESTED	OTHER FUNDING	OWNERSHIP	COUNTY NOTES
\$ 100,000	1 Argusville Levee Recertification	Brandon Oye, Moore Eng.	\$20,000 - \$150,000	50%	State Water Commission (50%)	City of Argusville	Argusville has requested assistance with a number of items related to their recertification of their levee system. If the County participates, perhaps we should look at the project in total and provide some funding but total County participation not to exceed City contribution for project
	2 Argusville Leonard's Way Dike	Brandon Oye, Moore Eng.	\$95,000	50%	None	City of Argusville	
	3 Harwood Township Dike at Siebels Subdivision	Douglas Warnecke, Harwood Twp Flood Plain Admin	TBD		All Available		
	4 Larger Culverts at Cass 32 near Siebels Subdivision	Douglas Warnecke, Harwood Twp Flood Plain Admin	TBD		Cass County Highway Dept.	Cass County	
	5 Elevate and Install Culverts Cass 32 immediately west of I29	Douglas Warnecke, Harwood Twp Flood Plain Admin	TBD		Cass County Highway Dept.	Cass County	
	6 Construct earthen dike along west side of Lloyd Amundson Farmstead east of 28th St culverts	Douglas Warnecke, Harwood Twp Flood Plain Admin	TBD		SWC Ring Dike program, WR District, Land owner	Various	
	7 Elevate private roadway/dike in NW 1/4 of Section 28, Harwood Twp.	Douglas Warnecke, Harwood Twp Flood Plain Admin	TBD		SWC Ring Dike program, WR District, Land owner	Various	
	8 Elevate, straighten, & replace culverts with bridge structure 170th Ave, Section 29, Harwood Twp., Rush River Crossing	Douglas Warnecke, Harwood Twp Flood Plain Admin	TBD		Rush River WRD, Cass County, Harwood Twp, SWC	Various	
	9 Elevate low section of 170th Ave, 1/2 mile N from 30th St, Section 32, Harwood Twp.	Douglas Warnecke, Harwood Twp Flood Plain Admin	TBD		All Available	Various	
	10 Brooktree Park Ring Dike Raise and Interior Pump System	Douglas Warnecke, Harwood Twp Flood Plain Admin	TBD		All Available	Various	
	11 Raise and Install Culverts in 171st Avenue between 29th Street and 27th Street to Sheyenne River and Construct ring dikes.	Douglas Warnecke, Harwood Twp Flood Plain Admin	TBD		All Available	Various	
	12 Individual ring dikes on properties in Sections, 16, 15, 14, 11, 12, 13, 24, 25, 35, 36, & 34	Douglas Warnecke, Harwood Twp Flood Plain Admin	TBD		Cost share among all available sources	Various	
	13 Spot Location Raises of All County Township Roads within Harwood Twp.	Douglas Warnecke, Harwood Twp Flood Plain Admin	TBD			Various	
	14 Reditching water through the City of Arthur.	Steve Perry, Mayor	\$130,000.	1/3 of cost - \$43,333	Special Assessment, local business- & grant funding	City of Arthur	
\$ 200,000	15 City of Oxbow Flood Control Improvements	Southeast Cass Water Resource District	\$530,000	All or a part of the non-State share	SEC WRD, 50% of non-State share up to \$87,500. WRD loan	City of Oxbow	
	16 Adding culverts (minimum of 2) on Cass 17, north of State 46	Brett Odegaard, Pleasant Twp Supervisor				State of ND/Cass Co.	
\$ 100,000	17 City of Mapleton Levee Raise	Brandon Oye, Moore Eng.	\$500,000	50%	State Water Commission (50%)	City of Mapleton	Total County Fund Participation not to exceed City contribution for project (Similar to Argusville approach)
	18 Maple River Slope Protection & Repair	Brandon Oye, Moore Eng.	\$450,000	50%	State Water Commission (50%)	City of Mapleton	
	19 Levee Closure Structures	Brandon Oye, Moore Eng.	\$150,000	50%	State Water Commission (50%)	City of Argusville	
	20 Diking around City of Kindred	Nick Gludt, Moore Engineering	\$300,000	50%	State Water Commission	City of Kindred	
\$ 450,000	21 Southside Drainage Improvements, Horace Diversion	Kevin Bucholz, Barry Johnson	\$1,740,000-00		City of West Fargo, Southeast Cass- WRD	City of West Fargo	
	22 Round Hill Home Acquisitions and Levee	Keith Berndt	\$450,000			Cass County	
	23 Forest River (27 Maple Prairie Homes) Ring Dike	Keith Berndt	TBD - \$500,000+/-			Cass County	
	24 Forest River and South Chrisan Home Acquisitions (18 homes)	Keith Berndt	\$5.8 Million			Cass County	
	25 North Chrisan Subdivision Home Acquisitions	Keith Berndt	\$1.8 Million			Cass County	
	26 North Chrisan Subdivision Ring Dike	Keith Berndt	TBD \$400,000+/-			Cass County	
	27 14th Street Road Raise in Raymond Township	Keith Berndt/Raymond Twp	TBD \$300,000 +/-			Raymond Twp	
	28 Lake Shore area Road Raise and Bridge Replacement	Keith Berndt	TBD \$1 Million +/-			Reed Twp	
	29 Willow Creek Subdivision Ring Dike	Keith Berndt	TBD \$200,000 +/-				
	30 Rush River WRD study of retention projects	Rush River WRD/Carol Harbeke Lewis	\$115,000	\$8,050.00	State Water Commission (60%) Red River Joint WRD (65% non-state) SE Cass WRD (Possible)		
	31 Maple River WRD water retention plan	Maple River WRD/Carol Harbeke Lewis	\$165,000	\$11,550.00	State Water Commission (60%) Red River Joint WRD (65% non-state) Maple River WRD		

	32	City of Harwood Flood Protection	John Shockley, Ohnstad Twichell	\$6,368,845		City sales tax & special assessments		updated request for Cass County and State Water Commission to split \$150,000 cost of feasibility study; total project cost between \$4 and \$5 million
	33	Kensington Subdivision Box culvert on 100th Ave, east of C-81	Kirk Cossette, John Erickson, & Scott Handy	n/a				
	34	Large Culvert Installation and Road Raise located South of Section 35, Tower Township	Mark Johnson, Tower Township Director	n/a			Tower Township	

POTENTIAL AND REQUESTED SALES TAX MITIGATION PROJECTS

FALL 2011-SPRING 2012

Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9
\$ 43,750	35	Upper Red River Watershed Retention Plan	Southeast Cass WRD/Carol Harbeke Lewis	\$1,000,000	\$43,750.00	State Water Commission \$250,000; Red River Joint WRD \$162,500; Southeast Cass WRD \$43,750; State of Minnesota \$500,000 (dependent on MN Legislature)		
\$ 20,562	36	Upper Maple River Dam environmental assessment	Maple-Steele Joint WRD/Carol Harbeke Lewis	\$230,000	\$20,562.50	State Water Commission (50%) Red River Joint WRD (65% non-state) Maple-Steele Joint WRD 50% local share		
	37	Elm River/Bell Township containment of breakouts	North Cass WRD/Carol Harbeke Lewis	TBD	local share			
	38	City of Mapleton storm sewer lift station	Brandon Oye, Moore Eng.	\$330,000	\$77,508 or 23.5%	CDBG \$172,492	City of Mapleton	Total County Fund Participation not to exceed City contribution for project
	39	Upper Swan Creek channel improvements	Harvey Morken/Chad Engels, Moore Eng.	\$3,400,000	\$3,400,000	not anticipating any funding from city or water district for several years	Maple River-Rush River Joint WRD	
	40	Move/reconstruct 700' stretch of 167th Avenue in Normanna Township	Mark Ottis, Normanna Twp Supervisor	TBD			Normanna Twp	
	41	Add 15' of culvert and embankment traversing 167th Ave near intersection of 50th St in Normanna Township	Mark Ottis, Normanna Twp Supervisor	TBD			Normanna Twp	
	42	Raise 300' stretch of road by one foot on 49th St between 166th Ave and 167th Ave in Normanna Township	Mark Ottis, Normanna Twp Supervisor	TBD			Normanna Twp	
	43	Gravel 2 miles of 169th Ave from 50th St to 52nd St in Normanna Township	Mark Ottis, Normanna Twp Supervisor	TBD			Normanna Twp	
	44	Pontiac Township Improvement District No. 73	Maple River WRD/Carol Harbeke Lewis	\$1,560,000	\$780,000 or 50% of local cost			
	45	Reed Township home buyouts (south of 19th Avenue and west of Co Rd 17)	Mark McAllister, Reed Twp Chairman	\$1,572,350				
	46	Creation of two spillways on 19th Ave NW	Mark McAllister, Reed Twp Chairman	\$130,000			Reed Twp	
	47	Creation of concrete spillway at 57th St South of Co Rd 20	Mark McAllister, Reed Twp Chairman	\$110,000			Reed Twp	
	48	Creation of 200' concrete spillway on 52nd Ave N	Mark McAllister, Reed Twp Chairman	applying to FEMA for grant to construct bridge			Reed Twp	
	49	Hydrology study on raising road and adding culverts at 64th Ave N, West of 57th St N	Mark McAllister, Reed Twp Chairman	\$30,000	\$7,500 for cost of study		Reed Twp	
	50	Road raise at 57th St south of 64th Ave	Mark McAllister, Reed Twp Chairman	\$75,000			Reed Twp	
	51	Road raise west of Co Rd 31 between Section 2 and 11 on 64th Ave	Mark McAllister, Reed Twp Chairman	\$20,000			Reed Twp	
	52	Install lift station in Highland Park	Mark McAllister, Reed Twp Chairman	\$200,000			Reed Twp	
	53	Road raise/overlay of blacktop on 62nd Ave, 64th Ave, and 13th St	Mark McAllister, Reed Twp Chairman	\$332,400			Reed Twp	
	54	Certify dike at Selberg's Subdivision	Mark McAllister, Reed Twp Chairman	TBD			Reed Twp	
	55	Install lift station in Selberg's development	Mark McAllister, Reed Twp Chairman	\$200,000			Reed Twp	
	56	Install lift station in Sunrise Acres Subdivision	Mark McAllister, Reed Twp Chairman	\$200,000			Reed Twp	

\$ 914,312 Total

**LEVEE IMPROVEMENT DISTRICT NO. 2011-1  
ARGUSVILLE, NORTH DAKOTA**

**ENGINEER'S ESTIMATE OF PROBABLE COST  
March 15, 2012**

	ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL	FUNDING SOURCES	
						NDSWC 60%	LOCAL
	<b>Part 1 - Levee Realignment</b>						
1	House - Remove	L.Sum	1	\$20,000.00	\$20,000.00	\$12,000.00	\$8,000.00
2	Topsoil Stripping & Replacement	S.Y.	2400	\$3.00	\$7,200.00	\$4,320.00	\$2,880.00
3	Topsoil Leveling	C.Y.	290	\$25.00	\$7,250.00	\$4,350.00	\$2,900.00
4	Tree - Remove	Each	10	\$500.00	\$5,000.00	\$3,000.00	\$2,000.00
5	Cribwall - Remove	S.F.	1250	\$10.00	\$12,500.00	\$7,500.00	\$5,000.00
6	Excavation & Embankment	C.Y.	460	\$15.00	\$6,900.00	\$4,140.00	\$2,760.00
7	Borrow	C.Y.	1,550	\$20.00	\$31,000.00	\$18,600.00	\$12,400.00
8	Seed & Hydromulch	Acre	1.5	\$3,500.00	\$5,250.00	\$3,150.00	\$2,100.00
9	Material Testing	Invoice	1	\$3,000.00	\$3,000.00	\$1,800.00	\$1,200.00
	<b>Part 2 - Detention Pond Repair</b>						
10	Excavation & Embankment	C.Y.	1,335	\$6.00	\$8,010.00	\$4,806.00	\$3,204.00
11	Aggregate - Rock Trench	C.Y.	70	\$80.00	\$5,600.00	\$3,360.00	\$2,240.00
12	Seed & Straw Mulch	S.Y.	1,300	\$1.00	\$1,300.00	\$780.00	\$520.00
13	Fencing - Salvage & Reset	L.F.	155	\$20.00	\$3,100.00	\$1,860.00	\$1,240.00
14	Material Testing	Invoice	1	\$1,500.00	\$1,500.00	\$900.00	\$600.00
	<b>General Items</b>						
15	Seed & Straw Mulch	Acre	2	\$2,000.00	\$4,000.00	\$2,400.00	\$1,600.00
16	Tree - Remove	Each	5	\$500.00	\$2,500.00	\$1,500.00	\$1,000.00
17	Bollard	Each	4	\$350.00	\$1,400.00	\$840.00	\$560.00
	<b>Total Construction</b>				\$125,510.00	\$75,306.00	\$50,204.00
	<b>Geotechnical Analysis</b>				\$42,386.00	\$25,431.60	\$16,954.40
	<b>Geotechnical Admin &amp; Survey</b>				\$1,500.00	\$0.00	\$1,500.00
	<b>Easement &amp; Right-of-Way Survey &amp; Staking</b>				\$12,000.00	\$0.00	\$12,000.00
	<b>Funding Administration</b>				\$5,000.00	\$0.00	\$5,000.00
	<b>Recertification Report</b>				\$35,000.00	\$16,500.00	\$18,500.00
	<b>Studies and Reports - Levee Realignment</b>				\$15,000.00	\$0.00	\$15,000.00
	<b>Basic Services - Engineering</b>				\$20,000.00	\$0.00	\$20,000.00
	<b>Construction Inspection &amp; Staking</b>				\$10,000.00	\$0.00	\$10,000.00
	<b>Utility Company Relocations</b>				\$100,000.00	\$60,000.00	\$40,000.00
	<b>Storm Lift Station Inspection</b>				\$2,500.00	\$0.00	\$2,500.00
	<b>House Buyout</b>				\$80,000.00	\$0.00	\$80,000.00
	<b>Right of Way Purchase</b>				\$15,000.00	\$0.00	\$15,000.00
	<b>Assessments</b>				\$7,500.00	\$0.00	\$7,500.00
	<b>Publishing</b>				\$2,000.00	\$0.00	\$2,000.00
	<b>Legal</b>				\$7,500.00	\$0.00	\$7,500.00
	<b>Bond Counsel</b>				\$6,500.00	\$0.00	\$6,500.00
	<b>Temporary &amp; Permanent Bond Discount</b>				\$12,750.00	\$0.00	\$12,750.00
	<b>Capitalized Interest</b>				\$5,000.00	\$0.00	\$5,000.00
	<b>Contingencies (20%)</b>				\$24,854.00	\$14,912.40	\$9,941.60
	<b>Total Project Cost</b>				\$530,000.00	\$192,150.00	\$337,850.00



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feet  
meters



PART 2 - DETENTION POND REPAIR  
LEVEE IMPROVEMENT DIST. # 2011-1  
ARGUSVILLE, ND



Google earth

feet  
km



PART 2 - DETENTION POND REPAIR  
LEVEE IMPROVEMENT DIST. #2011-1  
ARGUSVILLE, ND

Google earth