

**FLOOD SALES TAX COMMITTEE  
AGENDA FOR OCTOBER 1, 2018**

Cass County Commission  
Conference Room  
12:00 PM

1. Call to Order
2. Approve minutes from previous meeting
3. Flood sales tax fund update
4. Status of previously approved projects
5. Additional project requests for 2018
6. Discussion on county flood sales tax allocations for projects
7. Other business
8. Adjournment

cc: Local Media

**FLOOD SALES TAX COMMITTEE  
MAY 7, 2018—1:00 PM**

**1. MEETING TO ORDER**

Commissioner Mary Scherling called a meeting of the Flood Sales Tax Committee to order on Monday, May 7, 2018, at 1:00 PM in the Commission Conference Room, Cass County Courthouse, with the following present: County Commissioner Mary Scherling; County Commissioner Rick Steen; and County Administrator Robert Wilson. County Auditor Michael Montplaisir and Joint Water Resource District Representative Rodger Olson were absent.

Also present were County Commissioner Vern Bennett; Accountant Sarah Heinle; County Engineer Jason Benson; Harwood Mayor Bill Rohrich; Hunter Mayor Ben Olson; Arthur City Manager Adam Bode; Red River Basin Commission Executive Director Ted Preister; Engineer April Walker, A. Walker Consulting; and Engineers Mike Opat, Andrew Aakre, and Cavin Berube, Moore Engineering.

**2. MINUTES APPROVED**

*MOTION, passed*

**Mr. Steen moved and Mr. Wilson seconded to approve the meeting minutes from November 20, 2017, as presented. Motion carried.**

**3. COMMITTEE APPOINTMENT**

*MOTION, passed*

**Mr. Steen moved and Mr. Wilson seconded to appoint County Engineer Jason Benson to the Cass County Flood Sales Tax Committee. Motion carried.**

**4. FLOOD SALES TAX FUND UPDATE**

Accountant Sarah Heinle reviewed the Flood Sales Tax Fund, which has a current balance of \$6.4 million. Sales tax revenues have declined in recent years and the trend is expected to continue.

**5. STATUS OF PREVIOUSLY APPROVED PROJECTS**

Mrs. Heinle said there are \$972,589.14 in encumbrances yet to be requested for reimbursement for previously approved projects. The unencumbered fund balance is \$4.8 million.

Mike Opat of Moore Engineering gave brief updates on the status of several open projects of which he is involved.

Mr. Benson said he will contact the Cass County Joint Water Resource District (CCJWRD) to see if reimbursement requests can be submitted to close out any of the projects in which they are involved.

**6. REVIEW AND SELECTION OF PROJECTS TO BE FUNDED IN 2018**

Arthur Flood Risk Reduction Project

Engineer Cavin Berube of Moore Engineering was present to discuss the Arthur Flood Risk Reduction Project. Mr. Berube said a section of Arthur's aging storm

sewer began failing last fall, and the city was also notified by FEMA that an updated Flood Insurance Rate Map would add additional structures into the floodplain, requiring flood insurance for those homes. The city worked with Moore Engineering to review the proposed floodplain and it was determined that a larger storm sewer replacement pipe would reduce the floodplain area and the number of homes in need of flood insurance. The total cost of the project is \$532,500, and the city is requesting a 50% cost share, which is \$266,250. Funds have been requested from other sources and any additional funds received will reduce the local share and the final request from the Flood Sales Tax Fund.

***MOTION, passed***

**Mr. Steen moved and Mr. Wilson seconded to approve the Arthur Flood Risk Reduction Project up to \$266,250, with the amount to be reduced if additional funding becomes available. Discussion: Mrs. Scherling asked where additional funds have been requested. Mr. Berube said funds have been requested from the Governor's Fund and the Community Development Block Grant Urgent Need Fund. Mr. Steen asked that an updated request amount be submitted once final funding has been identified. On roll call vote, the motion carried unanimously.**

Mrs. Scherling said the recommendations of this committee will be forwarded to the Cass County Commission for final approval.

Hunter Dam Projects

Hunter Mayor Ben Olson said the city is requesting assistance for two separate projects at the Hunter Dam, which is considered a high hazard dam. The State Water Commission notified the city that they are required to complete an Emergency Action Plan (EAP) and the city also needs to complete repairs to the dam. The city is requesting \$8,645.25 for funding assistance for the EAP and \$15,000 for the dam repairs.

***MOTION, passed***

**Mr. Steen moved and Mr. Wilson seconded to approve the Hunter Dam Projects in the amounts of \$8,645.25 and \$15,000.00. On roll call vote, the motion carried unanimously.**

FEMA Floodplain Mapping Efforts Project

Mr. Opat said the CCJWRD has been assisting communities since 2013 by reviewing technical information produced by FEMA and ensuring its accuracy before the information was recorded. This review effort has resulted in FEMA re-scoping their study on more than one occasion due to significant errors identified by CCJWRD's efforts. Total costs to date for these efforts is \$141,346.08, and estimated future costs are \$25,000 to assist with mapping efforts for Arthur and townships in northern Cass County. CCJWRD is requesting full reimbursement for these costs.

Mr. Steen said as the county funds the water resource districts through a dedicated mill levy, it seems like they are requesting funding twice for work encompassed by their regular operations.

Mr. Benson said the work in question is outside of the normal scope of work and

the regular budget of CCJWRD. In 2013, the Western Cass Flood Insurance Study requested that CCJWRD take part in reviewing the information provided by FEMA and it has proven to be very beneficial.

Mrs. Scherling said she understands the importance of the work provided by CCJWRD, but she would like to know why a request for reimbursement has not been brought forth until this time. Mrs. Scherling would also like to know the current fund balance for the water resource districts.

Mr. Steen asked what the main function of the water resource districts is. Mr. Opat said it is to manage water. Typically, the floodplain mapping efforts should go through a department that handles planning and zoning or floodplain management.

***MOTION, passed***

**Mr. Steen moved and Mr. Benson seconded to table the FEMA Floodplain Mapping Efforts Project until further information can be provided. Discussion: Mrs. Scherling said a representative of CCJWRD should be present for the discussion and to answer questions relating to the timing of the request and the water resource districts fund balance.**

**Mrs. Scherling asked why the work is not run through the County Planner. Mr. Benson said each township has its own zoning authority and floodplain manager, so there is not one person who is suited to complete this work in Cass County other than CCJWRD.**

**Mrs. Scherling asked if it has been difficult to work with FEMA in this capacity. Mr. Benson said no and much of the work has been educational. While most information is accurate, a very large effort is required to meet with communities to ensure accuracy.**

**Mr. Steen said while the work being done is beneficial, he is not sure it falls under the mission of the Flood Sales Tax Committee or if the county should be funding the work separately.**

**On roll call vote, the motion carried unanimously.**

Harwood Levee Improvements Project Update

Engineer Andrew Aakre of Moore Engineering said this committee approved the Harwood Levee Improvements Project in 2015. One component of the project included the buyout of a property next to the levee. The property owner and the city were unable to come to an agreement at that time and the buyout did not take place. The landowner has now contacted the city and is ready to negotiate a deal to finish the buyout process.

Mr. Aakre said after the property is bought out the structure will be removed and the property will be restored to a vacant lot to reconstruct the levee off the shoulder of the riverbank as the levee is sliding.

Mrs. Scherling asked how the current proposed plan for the F-M Diversion will affect the issue. Mr. Aakre said the diversion would reduce water levels by two to three feet, but the sliding is still an issue as it starts below the lowered threshold.

Harwood Mayor Bill Rohrich said the levee needs to be redirected away from the riverbank.

Mr. Steen said as the buyout is a part of a previously approved project that is still open and there are enough funds to cover the requested cost share of \$201,000, no additional action is needed from this committee.

Mr. Aakre asked if commission approval must be granted to proceed with the buyout. Mrs. Scherling said no; the project may proceed immediately as it still falls under the previously approved project and the funds are available.

#### Red River Basin Commission Long Term Flood Solutions Update Project

Red River Basin Commission (RRBC) Executive Director Ted Preister said the Long Term Flood Solutions plan was created in 2011. Although it was meant to be a living document, it has not been updated in eight years and much has changed due to the completion of flood damage reduction projects and improved technology. It is now time for a deliberate update to the plan. The update will cost \$500,000 and the RRBC is seeking a 42% cost share from the Flood Sales Tax Fund in the amount of \$210,000.

Mr. Preister described the funding model, which includes contributions from USACE, Minnesota, North Dakota, and joint water resource district boards in North Dakota and Minnesota.

Mrs. Scherling asked how the funding for the original plan was distributed in 2011. Mr. Preister said North Dakota and Minnesota each contributed \$500,000.

Mrs. Scherling said she is supportive of the project as it will be the blueprint for many other projects.

Mr. Benson said the 2011 plan was focused up and down the Red River, including the southern valley and up to the Canadian border. Mr. Benson asked if this plan will focus on the southern valley. Mr. Preister said yes.

Mr. Benson said the plan will provide valuable retention information and help identify future retention projects.

April Walker of A. Walker Consulting is a consultant for the plan. Ms. Walker said there is still a lot of misunderstanding about the numbers from previous floods and much of the information was second-hand. The updated plan will provide a better basis for education and will also look more closely at small communities.

Mr. Steen said the funding request is for Cass County alone to fund over 40% of the project and Minnesota to fund only 20%. Mr. Steen asked why there is such a disparity in the funding model.

Mr. Preister said Cass County is the primary focus of the study and has the largest populated area. Multiple attempts have been made to pursue funds from the Minnesota Legislature and opportunities will continue to be sought.

Mr. Steen said if Cass County provides the full requested amount of funding at this time the urgency for other entities to provide funding may disappear.

***MOTION, passed***

**Mr. Steen moved and Mr. Wilson seconded to approve the Red River Basin Commission Long Term Flood Solutions Update Project up to \$125,000. Discussion: Mr. Benson asked if the full funding amount is not secured at this time if additional funds can be sought from this committee in the future. Mr. Steen said additional funds can be sought in the future and asked if the proposed level of funding will stop the project from getting started. Mr. Preister said it will not and the RRBC is thankful and appreciative of any funding received. Mrs. Scherling said the contributions of Cass County can be used as leverage to secure additional funding from other sources.**

**Mr. Steen asked if Cass County will still see significant benefits from the study if the diversion project moves forward. Mr. Benson said small communities not protected by the diversion will benefit.**

**On roll call vote, the motion carried unanimously.**

**7. ADJOURNMENT**

There being no further business, the meeting was adjourned at 1:57 PM.

Cass County Sales Tax Activity (420)			
Cash Basis - 2018			
9/20/2018			
Date	Description	Amount	Balance
	Balance Forward		6,866,648.04
2018	Sales Tax	11,529,691.10	18,396,339.14
2018	Interest	17,865.82	18,414,204.96
1/3/2018	Diversion Board of Authority	(1,108,758.03)	17,305,446.93
2/5/2018	County Projects	(246,619.50)	17,058,827.43
2/5/2018	County Projects	(2,472.45)	17,056,354.98
2/6/2018	Diversion Board of Authority	(841,164.99)	16,215,189.99
2/12/2018	County Projects	(131,355.70)	16,083,834.29
2/27/2018	Diversion Board of Authority	(1,703,217.66)	14,380,616.63
4/3/2018	Diversion Board of Authority	(992,606.68)	13,388,009.95
5/8/2018	Diversion Board of Authority	(649,148.03)	12,738,861.92
6/5/2018	Diversion Board of Authority	(1,372,840.67)	11,366,021.25
7/2/2018	County Projects	(5,310.00)	11,360,711.25
7/3/2018	Diversion Board of Authority	(1,040,006.40)	10,320,704.85
8/7/2018	Diversion Board of Authority	(948,836.93)	9,371,867.92
8/10/2018	County Projects	(1,327.50)	9,370,540.42
8/27/2018	County Projects	(1,239.00)	9,369,301.42
9/5/2018	Diversion Board of Authority	(1,634,861.00)	7,734,440.42
			7,734,440.42
			7,734,440.42

Reserved for County Projects - Cash	6,382,329.13	
Reserved for Diversion Project	1,352,111.29	7,734,440.42

**Summary**

2018 Receipts

Transfer	-
Sales Tax Revenue	11,529,691.10
Interest Revenue	17,865.82
Total Receipts	<u>11,547,556.92</u>

2017 Expenditures

Diversion Board of Authority	(10,291,440.39)
City of Fargo - Cash Flow Other Sources	-
County Projects	(388,324.15)
Land Purchase	-
Total Expenditures	<u>(10,679,764.54)</u>

Receipts over Expenditures 867,792.38

Balance from 2017 6,866,648.04

Balance Current 2018 7,734,440.42

### Sales Tax by Year

Year	Amount	Change
2011	\$ 7,612,423	
2012	\$ 14,494,309	
2013	\$ 14,964,867	\$ 470,558
2014	\$ 15,986,941	\$ 1,022,074
2018	\$ 16,929,904	\$ 942,963
2016	\$ 16,179,223	\$ (750,681)
2017	\$ 15,530,079	\$ (649,143)
2018*	\$ 15,643,938	\$ 113,858

\*2018 is actuals through September and estimated at a 3% increase for the remainder of the year



<b>Current County Projects</b>			
9/20/2018			
Project	Total Approved	Paid	Left to Pay
Round Hill Project	\$ 350,696.00	\$ 350,696.00	\$ -
City of Oxbow Diking	\$ 105,284.29	\$ 105,284.29	\$ -
2012 City of Argusville Diking	\$ 168,925.00	\$ 168,925.00	\$ -
2012 Maple-Steele WRD Study	\$ 20,562.00	\$ 20,562.00	\$ -
2012 City of Mapleton - Lift Station	\$ 52,500.00	\$ 52,500.00	\$ -
2013 Pontiac Township - Project No 73	\$ 448,000.00	\$ 448,000.00	\$ -
2013 City of Argusville - Levee improvement	\$ 23,874.73	\$ 23,874.73	\$ -
2013 City of Casselton - Levee Repairs	\$ 23,750.00	\$ 18,710.95	\$ 5,039.05
2013 Maple-Steele - Dam Project	\$ 17,500.00	\$ -	\$ 17,500.00
2014 City of Mapleton Levee Recertification 2012-1	\$ 543,324.58	\$ 543,324.58	\$ -
2014 Pontiac township Project no 73 additional	\$ 52,000.00	\$ 52,000.00	\$ -
2014 Upper Maple River Dam	\$ 706,000.00	\$ 706,000.00	\$ -
2014 Lake Bertha Flood Water Detention (reduced from 242500)	\$ 66,215.45	\$ -	\$ 66,215.45
2014 Detention project Development	\$ -	\$ -	\$ -
2015 Normanna Township Slide Repair and Road Move	\$ 40,500.00	\$ 40,500.00	\$ -
2015 Upper Maple River Detention Study Phase II	\$ 45,500.00	\$ -	\$ 45,500.00
2015 Rush River Detention Study Phase II	\$ 45,500.00	\$ -	\$ 45,500.00
2015 Swan Creek Detention Study Phase II	\$ 45,500.00	\$ -	\$ 45,500.00
2015 Harwood Levee Improvements	\$ 556,935.00	\$ 324,985.74	\$ 231,949.26
2015 Casselton Industrial Park Improvements	\$ 255,000.00	\$ 246,619.50	\$ 8,380.50
2015 Reed Township Road Raise	\$ 60,308.18	\$ 60,308.18	\$ -
2016 City of Mapleton Levee Raise	\$ 99,812.68	\$ 88,057.80	\$ 11,754.88
2016 City of Mapleton Levee Recert change order	\$ 14,867.00	\$ 14,867.00	\$ -
2016 Erie Dam Repairs (25,000 removed)	\$ -	\$ -	\$ -
2016 Absaraka Dam Repairs	\$ 11,183.50	\$ 11,183.50	\$ -
2016 Garsteig Dam Repairs	\$ 12,202.64	\$ 12,202.64	\$ -
2016 Embden Dam Repairs	\$ 10,263.87	\$ 10,263.87	\$ -
2016 Drain 77 Study Maple River Water Resource	\$ 20,000.00	\$ 20,000.00	\$ -
2017 Upper Maple River Dam Project	\$ 361,500.00	\$ 361,500.00	\$ -
2017 Erie Dam Project (10,000 removed)	\$ -	\$ -	\$ -
2017 Casselton Map Revision Project	\$ 12,472.45	\$ 12,472.45	\$ -
2017 Davenport Flood Risk Reduction Project	\$ 32,500.00	\$ -	\$ 32,500.00
2017 Sheldon Addition Ring Levee Project	\$ 462,750.00	\$ -	\$ 462,750.00
2017 Casselton Storm Water Improvments Projects	\$ 131,355.70	\$ 131,355.70	\$ -
2018 City of Arthur Storm Sewer	\$ 266,250.00	\$ -	\$ 266,250.00
2018 City of Hunter Dam Projects	\$ 23,645.25	\$ 7,876.50	\$ 15,768.75
2018 Red River Basin Commission	\$ 125,000.00	\$ -	\$ 125,000.00
Total	\$ 5,211,678.32	\$ 3,832,070.43	\$ 1,379,607.89

**Reserve for County Projects 2018 Activity**

Balance of Cash Carried forward from 2017	\$ 5,731,373.16
2018 Reserves (9%)	1,039,280.12
Total	<u>6,770,653.28</u>
Paid in 2018	388,324.15
Encumbrances	<u>1,379,607.89</u>
Un-encumbered Balance	<u><u>\$ 5,002,721.24</u></u>



# City of Mapleton

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RECEIVED  
CASS COUNTY COMMISSION

JUL 12 2018

July 11, 2018

Robert Wilson  
Cass County Flood Risk Reduction Sales Tax Committee  
211 Ninth Street South  
PO Box 2806  
Fargo, ND 58108

RE: Cass County Flood Risk Reduction Cost-Share Request  
Recertification of Flood Control Levee System  
City of Mapleton, North Dakota

Dear Mr. Wilson:

We are respectfully requesting additional cost-share for our project to recertify our flood control levee system. We were previously approved for \$543,325 on May 5, 2014 and \$114,679.68 on May 2, 2016 for a current total of \$658,004.68 in funds to date.

As you may know, the main reason for the long timeline regarding this project is due to FEMA's ongoing Flood Insurance Study that started many years ago. The 100-year Maple River profile has been changing as the study has progressed and it would be unwise to complete the certification report before the elevations are finalized. FEMA is due to release updated preliminary results within the next couple of months and we've been able to assess the elevation of the current levees compared to the current models. As of today, we are confident that any additional changes to water surface elevations will be very minor and we can finalize and submit the recertification report to FEMA in the fall of 2018.

With that said, we have made good progress on finalizing the project since our last update provided to you in May 2016. Since then we have received approval from FEMA to allow an exception for 2.0' of freeboard above the 500-year event, rather than the standard 3.0' above the 100-year event, since there would have been substantially more levee raise improvements required using 3.0' above the 100-year. The construction for this levee raise work to meet this requirement is now complete. This was a significant cost savings for our community. We have also acquired the BNSF License Agreement and built the required improvements on BNSF property to meet FEMA's tie-back requirements along the railroad embankment for the levee.

Now that those two critical items are complete, we are finalizing the recertification report to be submitted to FEMA for approval to accredit the levee system. We are also updating our Operations and Maintenance Manual for the levee system, which was originally created in 2001. When the recertification effort began in 2011, only minor updates to the O&M manual were necessary. Since then, the USGS and NOAA have updated how they report flood elevations and predictions for the gage upstream of Mapleton. This change, as well as the addition of several new ponds and lift stations to accommodate adjacent development have made the current O&M severely out of date.

Now that estimated final cost for construction and engineering are better known, we are respectfully requesting additional cost-share that may be available for the additional improvements we have been required to complete for the recertification of the levee system. We have already been approved for additional cost-share of \$213,670 from the ND State Water Commission.

We have enclosed an Engineer's Statement of Estimated Final Cost for your review. We have been previously approved for up to \$658,004.68 in cost share. We are now respectfully requesting a total of \$688,327.58 in cost share, which is an increase of \$30,323 to the previously approved amount. A portion of the request includes additional engineering for the additional work required for the recertification report, which included additional internal drainage analysis, additional freeboard survey and analysis, and a technical memorandum to FEMA for the 2.0' freeboard exception.

We understand that the Committee typically meets in the spring and will ask that you consider this request at your next scheduled committee meeting. We will plan to attend to provide an update to the committee.

Please let us know if you have any questions or concerns with the project. You can also contact Brandon Oye, our City Engineer, at 701-282-4692 or [boye@mooreengineeringinc.com](mailto:boye@mooreengineeringinc.com).

Sincerely,

A handwritten signature in cursive script, appearing to read "Barry Lund".

Barry Lund  
Mayor, City of Mapleton

*Cc: Brandon Oye – Moore Engineering, Inc*

**LEEVE IMPROVEMENT DISTRICT NO. 2012-1  
Mapleton, North Dakota**

Summary of Engineer's Statement of Estimated Final Cost - 6/1/2018

Category	Total	FUNDING SOURCES		
		NDSWC	COUNTY	CITY
Base Bid	\$1,769,034.14	\$691,219.38	\$538,907.38	\$538,907.38
Levee Closure Structures	\$202,000.00	\$100,200.00	\$50,900.00	\$50,900.00
North Side Storm Sewer Replacement	\$197,733.38	\$0.00	\$0.00	\$197,733.38
Levee Raises	\$159,208.00	\$78,724.80	\$40,241.60	\$40,241.60
Pump Station Outlet Flood Improvements	\$38,977.60	\$0.00	\$19,488.80	\$19,488.80
Railroad Levee Tie-Back	\$133,949.00	\$56,369.40	\$38,789.80	\$38,789.80
<b>Total Project Cost</b>	<b>\$2,500,902.12</b>	<b>\$926,513.58</b>	<b>\$688,327.58</b>	<b>\$886,060.96</b>

**LEVEE IMPROVEMENT DISTRICT NO. 2012-1  
Mapleton, North Dakota**

Engineer's Statement of Estimated Final Cost - 6/1/2018

ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL	FUNDING SOURCES			
					NDSWC	COUNTY	CITY	
<b>BASE BID</b>								
1.	Topsoil Stripping	SY	5,717	\$3.50	\$20,009.50	\$12,005.70	\$4,001.90	\$4,001.90
2.	Clearing and Grubbing - Sites 14 and 18	LS	1	\$21,000.00	\$21,000.00	\$12,600.00	\$4,200.00	\$4,200.00
3.	Ditching	LF	2,980	\$13.00	\$38,740.00	\$23,244.00	\$7,748.00	\$7,748.00
4.	Tree Removal - 12"	EA	20	\$550.00	\$11,000.00	\$6,600.00	\$2,200.00	\$2,200.00
5.	Tree Removal - 18"	EA	2	\$650.00	\$1,300.00	\$780.00	\$260.00	\$260.00
6.	Tree Stump Removal	EA	2	\$135.00	\$270.00	\$162.00	\$54.00	\$54.00
7.	Gravel - Remove	SY	1,750	\$6.50	\$11,375.00	\$6,825.00	\$2,275.00	\$2,275.00
8.	Riprap - Salvage & Reinstall	CY	50	\$100.00	\$5,000.00	\$3,000.00	\$1,000.00	\$1,000.00
9.	Televise - Culvert	LF	852	\$2.00	\$1,704.00	\$1,022.40	\$340.80	\$340.80
10.	Storm Sewer Catch Basin - 48" - Grate Inlet	EA	1	\$12,000.00	\$12,000.00	\$7,200.00	\$2,400.00	\$2,400.00
11.	Storm Sewer Manhole - 60"	EA	1	\$10,000.00	\$10,000.00	\$6,000.00	\$2,000.00	\$2,000.00
12.	Perforated Pipe - 4" PVC	LF	90	\$31.50	\$2,835.00	\$1,701.00	\$567.00	\$567.00
13.	Culvert - Salvage & Reset	LF	41	\$31.50	\$1,291.50	\$774.90	\$258.30	\$258.30
14.	Culvert - 15" PVC	LF	53	\$58.00	\$3,074.00	\$1,844.40	\$614.80	\$614.80
15.	Storm Sewer - 36" RCP	LF	172	\$163.00	\$28,036.00	\$16,821.60	\$5,607.20	\$5,607.20
16.	Flap Gate - 36" RCP	EA	1	\$11,000.00	\$11,000.00	\$6,600.00	\$2,200.00	\$2,200.00
17.	FES - 24" CSP - Remove & Replace	EA	1	\$600.00	\$600.00	\$360.00	\$120.00	\$120.00
18.	Catch Basin - Adjust Existing	EA	3	\$2,000.00	\$6,000.00	\$3,600.00	\$1,200.00	\$1,200.00
19.	Excavate and Recompact	CY	44	\$12.60	\$554.40	\$332.64	\$110.88	\$110.88
20.	Excavation and Embankment	CY	1,045	\$20.00	\$20,900.00	\$12,540.00	\$4,180.00	\$4,180.00
21.	Subgrade Preparation - 6"	SY	171	\$16.00	\$2,736.00	\$1,641.60	\$547.20	\$547.20
22.	Reinforcement Fabric	SY	171	\$5.00	\$855.00	\$513.00	\$171.00	\$171.00
23.	Aggregate Base Course - 6"	SY	171	\$10.00	\$1,710.00	\$1,026.00	\$342.00	\$342.00
24.	Asphalt Base Course - 3"	SY	402	\$32.00	\$12,864.00	\$7,718.40	\$2,572.80	\$2,572.80
25.	Asphalt Wearing Course - 2"	SY	402	\$25.00	\$10,050.00	\$6,030.00	\$2,010.00	\$2,010.00
26.	Sheet Pile - PR SCZ 14	SF	3,040	\$24.00	\$72,960.00	\$43,776.00	\$14,592.00	\$14,592.00
27.	Sheet Pile - PR AZ 12 - 770	SF	14,664	\$32.00	\$469,248.00	\$281,548.80	\$93,849.60	\$93,849.60
28.	Sheet Pile Cap	LF	563	\$140.00	\$78,820.00	\$47,292.00	\$15,764.00	\$15,764.00
29.	Fence - 3'-6"	LF	562	\$21.00	\$11,802.00	\$7,081.20	\$2,360.40	\$2,360.40
30.	Sign - Right-of-Way	EA	24	\$45.00	\$1,080.00	\$648.00	\$216.00	\$216.00
31.	Lilac Shrub	EA	250	\$45.00	\$11,250.00	\$6,750.00	\$2,250.00	\$2,250.00
32.	Topsoil Replacement	SY	4,507	\$6.00	\$27,042.00	\$16,225.20	\$5,408.40	\$5,408.40
33.	Topsoil - Import	CY	317	\$19.00	\$6,023.00	\$3,613.80	\$1,204.60	\$1,204.60
34.	Erosion Control Blanket - Type III	SY	2,269	\$2.10	\$4,764.90	\$2,858.94	\$952.98	\$952.98
35.	Seed - Type I	SY	161	\$2.10	\$338.10	\$202.86	\$67.62	\$67.62
36.	Seed - Type I	AC	1.68	\$1,030.00	\$1,730.40	\$1,038.24	\$346.08	\$346.08
37.	Seed - Type III	SY	928	\$1.60	\$1,484.80	\$890.88	\$296.96	\$296.96
38.	Seed - Type III	AC	1.42	\$1,103.00	\$1,566.26	\$939.76	\$313.25	\$313.25
39.	Mulch - Type A	SY	608	\$0.80	\$486.40	\$291.84	\$97.28	\$97.28
40.	Mulch - Type A	AC	0.49	\$475.00	\$232.75	\$139.65	\$46.55	\$46.55
41.	Mulch - Type B	SY	1,919	\$1.05	\$2,014.95	\$1,208.97	\$402.99	\$402.99
42.	Mulch - Type B	AC	2.08	\$1,950.00	\$4,056.00	\$2,433.60	\$811.20	\$811.20
43.	Sedimentation Control Wattle - 9"	LF	880	\$2.65	\$2,332.00	\$1,399.20	\$466.40	\$466.40
44.	Inlet Protection Device	EA	6	\$135.00	\$810.00	\$486.00	\$162.00	\$162.00
45.	Watering	MG	0	\$21.00	\$0.00	\$0.00	\$0.00	\$0.00
46.	Railroad Insurance	LS	1	\$5,005.00	\$5,005.00	\$3,003.00	\$1,001.00	\$1,001.00
47.	Railroad Flagging	ALLOWANCE	1	\$1,000.00	\$1,000.00	\$600.00	\$200.00	\$200.00
48.	Traffic Control	LS	1	\$17,500.00	\$17,500.00	\$10,500.00	\$3,500.00	\$3,500.00
49.	Floating Silt Curtain	LS	1	\$4,200.00	\$4,200.00	\$2,520.00	\$840.00	\$840.00

**LEEVE IMPROVEMENT DISTRICT NO. 2012-1  
Mapleton, North Dakota**

Engineer's Statement of Estimated Final Cost - 6/1/2018

ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL	FUNDING SOURCES		
					NDSWC	COUNTY	CITY
50. Stormwater Management	LS	1	\$10,000.00	\$10,000.00	\$6,000.00	\$2,000.00	\$2,000.00
51. Material Testing	ALLOWANCE	1.176300	\$10,000.00	\$11,763.00	\$7,057.80	\$2,352.60	\$2,352.60
52. Remove and relocate tree (CO3)	EA	2	\$262.50	\$525.00	\$315.00	\$105.00	\$105.00
53. Remove and reinstall flap gate (CO3)	EA	1	\$315.00	\$315.00	\$189.00	\$63.00	\$63.00
54. CSP - 18" (CO3)	EA	20	\$47.25	\$945.00	\$567.00	\$189.00	\$189.00
55. Riprap - Class III (CO4)	CY	30	\$105.00	\$3,150.00	\$1,890.00	\$630.00	\$630.00
56. Relocate Existing Trees (CO7)	EA	2	\$420.00	\$840.00	\$0.00	\$420.00	\$420.00
57. Install Haroldson Apple Tree 1" (CO7)	EA	1	\$262.50	\$262.50	\$0.00	\$131.25	\$131.25
58. Install Northern Red Oak 1.5" (CO7)	EA	1	\$367.50	\$367.50	\$0.00	\$183.75	\$183.75
59. Interest for late payments (CO7)	LS	1	\$870.68	\$870.68	\$0.00	\$435.34	\$435.34
60. Sign - Right-of-Way (CO9)	EA	10	\$50.00	\$500.00	\$300.00	\$100.00	\$100.00
Total Base Bid Construction				\$990,189.64	\$592,709.38	\$198,740.13	\$198,740.13
Studies and Reports				\$35,000.00	\$0.00	\$17,500.00	\$17,500.00
Engineering				\$200,181.00	\$0.00	\$100,090.50	\$100,090.50
Right-of-Way Survey				\$31,601.00	\$0.00	\$15,800.50	\$15,800.50
Right-of-Way Purchase				\$400.00	\$0.00	\$200.00	\$200.00
FEMA Levee Certification Report				\$118,500.00	\$71,100.00	\$23,700.00	\$23,700.00
Operations and Maintenance Manual Update				\$47,500.00	\$0.00	\$23,750.00	\$23,750.00
Geotechnical Admin and Survey				\$15,000.00	\$0.00	\$7,500.00	\$7,500.00
Geotechnical Evaluation Report				\$45,000.00	\$24,410.00	\$10,295.00	\$10,295.00
Utility Company Relocations				\$5,000.00	\$3,000.00	\$1,000.00	\$1,000.00
Funding Administration				\$25,000.00	\$0.00	\$12,500.00	\$12,500.00
Assessments				\$17,500.00	\$0.00	\$8,750.00	\$8,750.00
Publishing and Admin				\$1,000.00	\$0.00	\$500.00	\$500.00
Railroad Permits				\$7,500.00	\$0.00	\$3,750.00	\$3,750.00
Legal				\$26,500.00	\$0.00	\$13,250.00	\$13,250.00
Bond Counsel				\$26,500.00	\$0.00	\$13,250.00	\$13,250.00
Bond Discount & Fees				\$69,625.00	\$0.00	\$34,812.50	\$34,812.50
Capitalized Interest				\$92,037.50	\$0.00	\$46,018.75	\$46,018.75
Contingencies				\$15,000.00	\$0.00	\$7,500.00	\$7,500.00
<b>Base Bid Total Cost</b>				<b>\$1,769,034.14</b>	<b>\$691,219.38</b>	<b>\$538,907.38</b>	<b>\$538,907.38</b>

ALTERNATE 1 - CLOSURE STRUCTURES								
1.	Closure Structure 1	LS	1	\$20,875.00	\$20,875.00	\$12,525.00	\$4,175.00	\$4,175.00
2.	Closure Structure 2	LS	1	\$20,875.00	\$20,875.00	\$12,525.00	\$4,175.00	\$4,175.00
3.	Closure Structure 3	LS	1	\$20,875.00	\$20,875.00	\$12,525.00	\$4,175.00	\$4,175.00
4.	Closure Structure 4	LS	1	\$20,875.00	\$20,875.00	\$12,525.00	\$4,175.00	\$4,175.00
5.	Closure Structure 5	LS	1	\$20,875.00	\$20,875.00	\$12,525.00	\$4,175.00	\$4,175.00
6.	Closure Structure 6	LS	1	\$20,875.00	\$20,875.00	\$12,525.00	\$4,175.00	\$4,175.00
7.	Closure Structure 7	LS	1	\$20,875.00	\$20,875.00	\$12,525.00	\$4,175.00	\$4,175.00
8.	Closure Structure 8	LS	1	\$20,875.00	\$20,875.00	\$12,525.00	\$4,175.00	\$4,175.00
Total Base Bid Construction				\$167,000.00	\$100,200.00	\$33,400.00	\$33,400.00	
Engineering				\$35,000.00	\$0.00	\$17,500.00	\$17,500.00	
<b>Alternate 1 Total Cost</b>				<b>\$202,000.00</b>	<b>\$100,200.00</b>	<b>\$50,900.00</b>	<b>\$50,900.00</b>	

**LEVEE IMPROVEMENT DISTRICT NO. 2012-1  
Mapleton, North Dakota**

Engineer's Statement of Estimated Final Cost - 6/1/2018

ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL	FUNDING SOURCES			
					NDSWC	COUNTY	CITY	
<b>ALTERNATE 2 - STORM SEWER REPLACEMENT</b>								
1.	Topsoil Stripping	SY	950	\$3.15	\$2,992.50	\$0.00	\$0.00	\$2,992.50
2.	Storm Sewer Catch Basin - Remove	EA	1	\$925.00	\$925.00	\$0.00	\$0.00	\$925.00
3.	Pipe - Remove (All Types & Sizes)	LF	114	\$18.50	\$2,109.00	\$0.00	\$0.00	\$2,109.00
4.	Storm Sewer Catch Basin - 30"	EA	0	\$1,950.00	\$0.00	\$0.00	\$0.00	\$0.00
5.	Storm Sewer Catch Basin - 48"	EA	2	\$4,700.00	\$9,400.00	\$0.00	\$0.00	\$9,400.00
6.	Storm Sewer Catch Basin - 54"	EA	1	\$6,400.00	\$6,400.00	\$0.00	\$0.00	\$6,400.00
7.	Storm Sewer Manhole - 60"	EA	1	\$6,800.00	\$6,800.00	\$0.00	\$0.00	\$6,800.00
8.	Storm Sewer - 24" HDPE	LF	381	\$69.00	\$26,289.00	\$0.00	\$0.00	\$26,289.00
9.	Storm Sewer - 24" RCP	LF	78	\$89.00	\$6,942.00	\$0.00	\$0.00	\$6,942.00
10.	Jacking - 24" RCP	LF	80	\$400.00	\$32,000.00	\$0.00	\$0.00	\$32,000.00
11.	Ditching	LF	335	\$12.50	\$4,187.50	\$0.00	\$0.00	\$4,187.50
12.	Perforated Pipe - 6" PVC	LF	886	\$15.50	\$13,733.00	\$0.00	\$0.00	\$13,733.00
13.	Topsoil Replacement	SY	950	\$5.25	\$4,987.50	\$0.00	\$0.00	\$4,987.50
14.	Seed - Type I	AC	0.70	\$1,000.00	\$700.00	\$0.00	\$0.00	\$700.00
15.	Mulch - Type B	AC	0.70	\$1,900.00	\$1,330.00	\$0.00	\$0.00	\$1,330.00
16.	Sedimentation Control Wattle - 9"	LF	20	\$5.10	\$102.00	\$0.00	\$0.00	\$102.00
17.	Inlet Protection Device	EA	3	\$130.00	\$390.00	\$0.00	\$0.00	\$390.00
18.	Watering	MG	0	\$21.00	\$0.00	\$0.00	\$0.00	\$0.00
19.	Railroad Insurance	LS	1	\$525.00	\$525.00	\$0.00	\$0.00	\$525.00
20.	Traffic Control	LS	1	\$3,000.00	\$3,000.00	\$0.00	\$0.00	\$3,000.00
21.	Stormwater Management	LS	1	\$1,200.00	\$1,200.00	\$0.00	\$0.00	\$1,200.00
22.	Material Testing	ALLOWANCE	0	\$1,000.00	\$0.00	\$0.00	\$0.00	\$0.00
23.	Utility Crossing Manhole (CO4)	LS	1	\$16,590.00	\$16,590.00	\$0.00	\$0.00	\$16,590.00
24.	Water Main Lowering (CO6)	LS	1	\$6,001.28	\$6,001.28	\$0.00	\$0.00	\$6,001.28
25.	Root removal for televising (CO8)	LS	1	\$2,129.60	\$2,129.60	\$0.00	\$0.00	\$2,129.60
Total Base Bid Construction					\$148,733.38	\$0.00	\$0.00	\$148,733.38
Engineering					\$31,500.00	\$0.00	\$0.00	\$31,500.00
Bond Discount & Fees					\$6,500.00	\$0.00	\$0.00	\$6,500.00
Capitalized Interest					\$5,000.00	\$0.00	\$0.00	\$5,000.00
Railroad Permit					\$6,000.00	\$0.00	\$0.00	\$6,000.00
<b>Alternate 2 Total Cost</b>					<b>\$197,733.38</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$197,733.38</b>

<b>LEVEE RAISES (CO9)</b>								
1.	Topsoil Stripping	SY	10,535	\$1.00	\$10,535.00	\$6,321.00	\$2,107.00	\$2,107.00
2.	Excavation and Embankment	CY	2,890	\$34.00	\$98,260.00	\$58,956.00	\$19,652.00	\$19,652.00
3.	Topsoil Replacement	SY	10,211	\$1.50	\$15,316.50	\$9,189.90	\$3,063.30	\$3,063.30
4.	Seed - Type III	SY	7,885	\$0.35	\$2,759.75	\$1,655.85	\$551.95	\$551.95
5.	Mulch - Type A	SY	7,885	\$0.55	\$4,336.75	\$2,602.05	\$867.35	\$867.35
Total Construction					\$131,208.00	\$78,724.80	\$26,241.60	\$26,241.60
Engineering					\$28,000.00	\$0.00	\$14,000.00	\$14,000.00
<b>Levee Raises Total Cost</b>					<b>\$159,208.00</b>	<b>\$78,724.80</b>	<b>\$40,241.60</b>	<b>\$40,241.60</b>

**LEVEE IMPROVEMENT DISTRICT NO. 2012-1  
Mapleton, North Dakota**

Engineer's Statement of Estimated Final Cost - 6/1/2018

ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL	FUNDING SOURCES			
					NDSWC	COUNTY	CITY	
<b>PUMP STATION OUTLET FLOOD IMPROVEMENTS (CO10)</b>								
1.	Mobilization	LS	1	\$3,000.00	\$3,000.00	\$0.00	\$1,500.00	\$1,500.00
2.	Topsoil Stripping	SY	440	\$2.00	\$880.00	\$0.00	\$440.00	\$440.00
3.	Concrete Apron - Remove	SY	10	\$100.00	\$1,000.00	\$0.00	\$500.00	\$500.00
4.	Riprap - Remove	LS	1	\$1,500.00	\$1,500.00	\$0.00	\$750.00	\$750.00
5.	Concrete - Reinforced - 6"	SY	20	\$475.00	\$9,500.00	\$0.00	\$4,750.00	\$4,750.00
6.	Topsoil Replacement	SY	440	\$3.00	\$1,320.00	\$0.00	\$660.00	\$660.00
7.	Ditching	LF	220	\$45.00	\$9,900.00	\$0.00	\$4,950.00	\$4,950.00
8.	Seed - Type III	SY	871	\$1.35	\$1,175.85	\$0.00	\$587.93	\$587.93
9.	Erosion Control Blanket - Type III	SY	871	\$4.25	\$3,701.75	\$0.00	\$1,850.88	\$1,850.88
Total Construction					\$31,977.60	\$0.00	\$15,988.80	\$15,988.80
Engineering					\$7,000.00	\$0.00	\$3,500.00	\$3,500.00
<b>Pump Station Outlet Flood Improvements Total Cost</b>					<b>\$38,977.60</b>	<b>\$0.00</b>	<b>\$19,488.80</b>	<b>\$19,488.80</b>
<b>RAILROAD LEVEE TIE-BACK (CO12)</b>								
1	Topsoil Stripping	SY	735	\$2.00	\$1,470.00	\$882.00	\$294.00	\$294.00
2.	Excavation and Embankment	CY	515	\$16.00	\$8,240.00	\$4,944.00	\$1,648.00	\$1,648.00
3.	Topsoil Replacement	SY	735	\$3.50	\$2,572.50	\$1,543.50	\$514.50	\$514.50
4.	Seed - Type III	SY	735	\$2.00	\$1,470.00	\$882.00	\$294.00	\$294.00
5.	Mulch - Type B	SY	735	\$2.00	\$1,470.00	\$882.00	\$294.00	\$294.00
6.	Weed Control - Type B	SY	735	\$0.50	\$367.50	\$220.50	\$73.50	\$73.50
7.	Remove Existing Gravel Surface	SY	1,547	\$6.00	\$9,282.00	\$5,569.20	\$1,856.40	\$1,856.40
8.	Clay Import	CY	635	\$34.00	\$21,590.00	\$12,954.00	\$4,318.00	\$4,318.00
9.	Separation Fabric	SY	1,547	\$5.00	\$7,735.00	\$4,641.00	\$1,547.00	\$1,547.00
10.	Crushed Concrete - 12"	SY	1,547	\$26.00	\$40,222.00	\$24,133.20	\$8,044.40	\$8,044.40
11.	Railroad Flagging	ALLOWANCE	1	\$1,000.00	\$1,000.00	\$600.00	\$200.00	\$200.00
Total Construction					\$93,949.00	\$56,369.40	\$18,789.80	\$18,789.80
Engineering					\$20,000.00	\$0.00	\$10,000.00	\$10,000.00
Railroad Permits					\$15,000.00	\$0.00	\$7,500.00	\$7,500.00
Contingencies					\$5,000.00	\$0.00	\$2,500.00	\$2,500.00
<b>Railroad Levee Tie-Back Total Cost</b>					<b>\$133,949.00</b>	<b>\$56,369.40</b>	<b>\$38,789.80</b>	<b>\$38,789.80</b>
<b>Total Project Cost</b>					<b>\$2,500,902.12</b>	<b>\$926,513.58</b>	<b>\$688,327.58</b>	<b>\$886,060.96</b>





RECEIVED  
CASS COUNTY COMMISSION

JUL 16 2018

July 16, 2018

Maple River  
Water Resource  
District

Rodger Olson  
Chairman  
Leonard, North Dakota

Gerald Melvin  
Manager  
Buffalo, North Dakota

Chad Miller  
Manager  
Buffalo, North Dakota

Rick Steen  
Chairman  
Cass County Commission  
P.O. Box 2806  
Fargo, ND 58108-2806

Dear Chairman Steen:

RE: Davenport Flood Risk Reduction  
City of Davenport, ND

Over the past year, the City of Davenport and the Maple River Water Resource District (WRD) have jointly discussed the need for permanent flood protection for the City of Davenport. Discussion at past meetings has included historical flood events, past emergency flood protection measures, a recent study of the watershed in western Cass County and anticipated future changes to floodplain maps. FEMA's preliminary maps show much of the city in the future may be within Zone AE, which means flood insurance would be required on structures that have federally-backed mortgages. The City of Davenport is particularly interested in preventing changes that may map structures into the regulatory floodplain and require residents to acquire flood insurance, as well as reduce the effort in fighting overland flooding like that experienced in 2009 and 2011.

A feasibility study was authorized by the WRD and completed in June 2018. The feasibility study examined various options and an earthen ring levee around the city was found to be the most cost effective. The WRD and the city have both elected to move forward by seeking funding for the design and construction of an earthen ring levee around the city.

The WRD will be the project sponsor and will enter into a joint powers agreement with the City of Davenport once funding is approved. It is anticipated that the project would be designed and constructed in 2018 and 2019.

Geotechnical work, permitting, design work, right of way acquisition, and FEMA coordination would be conducted after funding agreements are completed. Final plans and construction could commence upon receiving all required approvals.

Carol Harbeke Lewis  
Secretary-Treasurer

1201 Main Avenue West  
West Fargo, ND 58078-1301

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

Rick Steen  
Page 2  
July 16, 2018

The WRD is anticipating that the North Dakota State Water Commission will fund 60% of the construction costs and various percentages for other related project activities in accordance with the current cost-share policy. With this letter and submission of supporting data, the WRD respectfully requests cost-share from the Cass County Flood Sales Tax Committee in the amount of \$1,425,000, which is 75% of the estimated local share.

Enclosed is a map showing the location of the project and an *Engineer's Opinion of Probable Cost*. If you have any questions, please feel free to contact us or our project manager, Mike Opat, Moore Engineering, Inc., 701-499-5867 or mopat@mooreengineeringinc.com.

Sincerely,

MAPLE RIVER WATER RESOURCE DISTRICT



Carol Harbeke Lewis  
Secretary-Treasurer

Enclosures  
cc: City of Davenport



**Davenport Flood Risk Reduction**

**City of Davenport, ND**

**Maple River Water Resource District**

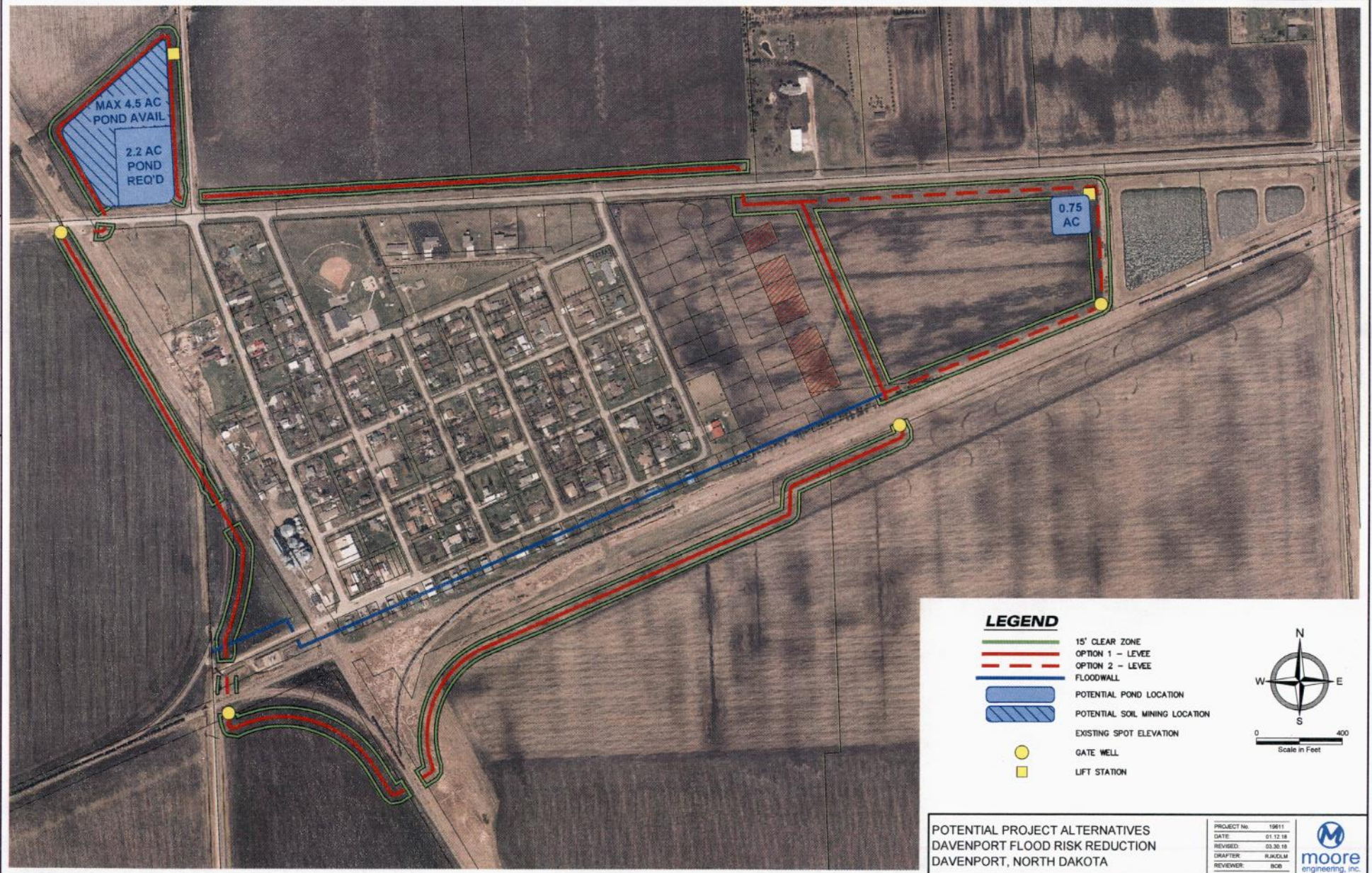
**7/5/2018**

**Engineer's Preliminary Opinion of Probable Cost**


**Alternate 2, Option 1- Certified Levee Around Current Developed Area & East Addition**

ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL	POTENTIAL FUNDING SOURCES	
					ND SWC	LOCAL
<b>Levee</b>						
1. Relocate Ditch	CY	10,000	\$5.00	\$50,000.00	\$30,000.00	\$20,000.00
2. Inspection Trench	CY	31,552	\$5.00	\$157,760.00	\$94,656.00	\$63,104.00
3. Excavation - Pond	CY	58,000	\$10.00	\$580,000.00	\$348,000.00	\$232,000.00
4. Embankment - Import	CY	36,100	\$15.00	\$541,500.00	\$324,900.00	\$216,600.00
5. Gatewell Structure	EA	1	\$150,000.00	\$150,000.00	\$90,000.00	\$60,000.00
6. Lift Station - 1	LS	1	\$450,000.00	\$450,000.00	\$270,000.00	\$180,000.00
<b>Road Crossing</b>						
7. Remove Pavement All Thickness Asphalt	SY	200	\$15.00	\$3,000.00	\$1,800.00	\$1,200.00
8. Gravel - Stripping and Spreading	CY	27	\$30.00	\$810.00	\$486.00	\$324.00
9. Geotextile Fabric	SY	80	\$3.00	\$240.00	\$144.00	\$96.00
10. Concrete Pavement - 8"	SY	75	\$100.00	\$7,500.00	\$4,500.00	\$3,000.00
11. Sleeper Slab	LS	1	\$5,000.00	\$5,000.00	\$3,000.00	\$2,000.00
12. Storm Sewer - 72"x36" RCB	LF	50	\$250.00	\$12,500.00	\$7,500.00	\$5,000.00
13. Storm Sewer - 72"x36" RCB Sloped End Sec	EA	2	\$2,000.00	\$4,000.00	\$2,400.00	\$1,600.00
<b>General Items</b>						
14. Railroad Crossing	EA	5	\$5,000.00	\$25,000.00	\$15,000.00	\$10,000.00
15. Mobilization	LS	1	\$10,000.00	\$10,000.00	\$6,000.00	\$4,000.00
16. Sanitary Sewer Gate Valve & Box - 6"	EA	2	\$3,500.00	\$7,000.00	\$4,200.00	\$2,800.00
17. Water Main Gate Valve & Box - 1-1/2"	EA	4	\$2,000.00	\$8,000.00	\$4,800.00	\$3,200.00
18. Water Main Gate Valve & Box - 3"	EA	4	\$2,500.00	\$10,000.00	\$6,000.00	\$4,000.00
19. Water Main Gate Valve & Box - 6"	EA	2	\$3,500.00	\$7,000.00	\$4,200.00	\$2,800.00
20. Riprap - Class III	CY	100	\$100.00	\$10,000.00	\$6,000.00	\$4,000.00
21. Riprap Filter Blanket	SY	200	\$5.00	\$1,000.00	\$600.00	\$400.00
22. Topsoil Stripping and Spreading	AC	45	\$1,500.00	\$67,500.00	\$40,500.00	\$27,000.00
23. Rock Check - Temporary	EA	5	\$2,000.00	\$10,000.00	\$6,000.00	\$4,000.00
24. Seeding - Type III	AC	45	\$760.00	\$34,200.00	\$20,520.00	\$13,680.00
25. Silt Fence - Standard	LF	1,000	\$3.00	\$3,000.00	\$1,800.00	\$1,200.00
26. Storm Water Management	LS	1	\$5,000.00	\$5,000.00	\$3,000.00	\$2,000.00
27. Traffic Control	LS	1	\$5,000.00	\$5,000.00	\$3,000.00	\$2,000.00
28. Material Testing	Invoice	Allowance	\$25,000.00	\$25,000.00	\$15,000.00	\$10,000.00
<b>Total Construction</b>				<b>\$2,190,000.00</b>	<b>\$1,310,000.00</b>	<b>\$880,000.00</b>
Contingencies (20%)				\$440,000.00	\$131,000.00	\$309,000.00
Feasibility Study				\$100,000.00	\$35,000.00	\$65,000.00
Project Development/Funding				\$30,000.00	\$0.00	\$30,000.00
Engineering - Civil Design				\$180,000.00	\$63,000.00	\$117,000.00
Geotechnical Engineering				\$75,000.00	\$26,250.00	\$48,750.00
Structural Engineering				\$15,000.00	\$5,250.00	\$9,750.00
Electrical Engineering				\$6,000.00	\$2,100.00	\$3,900.00
Construction Engineering				\$180,000.00	\$108,000.00	\$72,000.00
Land Surveying				\$40,000.00	\$14,000.00	\$26,000.00
CLOMR/LOMR				\$130,000.00	\$45,500.00	\$84,500.00
Right-of-Way Acquisition				\$220,000.00	\$132,000.00	\$88,000.00
Legal & Adm. Fees				\$50,000.00	\$0.00	\$50,000.00
Utility Relocation				\$120,000.00	\$72,000.00	\$48,000.00
Right-of-Way Negotiations				\$20,000.00	\$7,000.00	\$13,000.00
Permitting				\$5,000.00	\$1,750.00	\$3,250.00
Fiscal				\$50,000.00	\$0.00	\$50,000.00
<b>TOTAL PROJECT COST</b>				<b>\$3,850,000.00</b>	<b>\$1,950,000.00</b>	<b>\$1,900,000.00</b>

FILE LOCATION: R:\C\4\ 3D Project\19811\06\ANALYSIS\PRESENTATION\19811\EXHIBIT\WITH\EXTRA\LOTS.dwg



**LEGEND**

-  15' CLEAR ZONE
-  OPTION 1 - LEVEE
-  OPTION 2 - LEVEE
-  FLOODWALL
-  POTENTIAL POND LOCATION
-  POTENTIAL SOIL MINING LOCATION
-  EXISTING SPOT ELEVATION
-  GATE WELL
-  LIFT STATION



POTENTIAL PROJECT ALTERNATIVES  
DAVENPORT FLOOD RISK REDUCTION  
DAVENPORT, NORTH DAKOTA

PROJECT No: 19811  
DATE: 01.12.18  
REVISED: 03.30.18  
DRAFTER: RJKOLM  
REVIEWER: BCB

