Please note the meeting will be held at the Carver County Government Center on the Wednesday, April 17, 2019

LOWER MINNESOTA RIVER WATERSHED DISTRICT

Lower Minnesota River Watershed District

7:00 PM

Wednesday, April 17, 2019

Carver County Government Center

602 East Fourth Street, Chaska, MN 55318

Agenda Item	Discussion
1. Call to order	A. Roll Call
2. Approval of agenda	
3. Citizen Forum	*Citizens may address the Board of Managers about any item not contained on the regular agenda. A maximum of 15 minutes is allowed for the Forum. If the full 15 minutes are not needed for the Forum, the Board will continue with the agenda. The Board will take no official action on items discussed at the Forum, with the exception of referral to staff or a Board Committee for a recommendation to be brought back to the Board for discussion or action at a future meeting.*
4. Consent Agenda	*All items listed under the consent agenda are considered to be routine by the Board of Managers and will be enacted by one motion and an affirmative vote of a majority of the members present. There will be no separate discussion of these items unless a Board Member or citizen request, in which event, the items will be removed from the consent agenda and considered as a separate item in its normal sequence on the agenda.* A. Approve Minutes February 20, 2019 Regular Meetings B. Receive and file February 2019 and March 2019 Financial reports C. Approval of Invoices for payment i. Minnesota Department of Revenue ii. Daniel Hron - February 2019 office rent iii. Rinke Noonan - December 2018 legal services iv. US Bank Equipment Finance February & March 2019 copier lease payment v. Liberty Mutual Insurance - Annual Surety Bond payment vi. Pace Analytical Services, LLC - Sample testing of Ike's Creek for Chloride vii. Scott County SWCD - Q4 2018 monitoring services viii. Dakota County SWCD - Q4 2018 monitoring services ix. HDR Engineering - website maintenance x. Young Environmental Consulting Group, LLC - November 2018 Technical Services for geomorphic assessment of Trout streams xi. Frenette Legislative Advisors - January & February 2019 lobbying expense xii. Pace Analytical Services, LLC - Sample testing of Ike's Creek for Chloride

	xiii. Rinke Noonan - January 2019 legal services xiv. US Bank Equipment Finance - April 2019 copier lease xv. Daniel Hron - March 2019 office rent xvi. Metro Sales, Inc. - copier service agreement payment xvii. Frenette Legislative Advisors - March 2019 lobbying expense xviii. US Bank Equipment Finance - May 2019 copier lease payment xix. Young Environmental Consulting Group, LLC - January 2019 technical services xx. US Geological survey - payment for Fort Snelling stream gauge xxi. Naiad Consulting, LLC - December 2018 & January 2019 Administrative services xxii. TimeSaver Off Site Secretarial - Preparation of February 2019 meeting minutes xxiii. Carver County WMO - 2019 service for monitoring in Carver County xxiv. Carver County Finance - Q1 2019 financial services D. Authorize Agreement between the LMRWD and the Dakota County SWCD for Metro-area Watershed Based Funding E. Authorize Agreement between the LMRWD and the Dakota County SWCD for 2019 monitoring F. Authorize Agreement between the Lower Minnesota River Watershed District and the Scott Soil and Water Conservation District for Monitoring, Technical, Education and Other Conservation Services G. Receive and File 2018 Annual Monitoring Report from Scott SWCD
5. New Business/ Presentations	A. Metropolitan Airport Commission Report B. Presentation of 2019 Dakota County Monitoring Report C. Presentation of 2019 Carver County Monitoring Report D. 2019 Metro Children's Water Festival E. Request from Freshwater Society for sponsorship F. Chimney Pines 2019 Cost Share G. Request from Minnesota River Congress
6. Old Business	A. MAWD Dues B. Dredge Management i. Funding for dredge material management ii. Vernon Avenue Dredge Material Management site iii. Private Dredge Material Placement C. Watershed Management Plan D. 2019 Legislative Action E. Education & Outreach F. LMRWD Projects i. Eden Prairie Area #3 Stabilization ii. Riley Creek Cooperative project/Lower Riley Creek restoration iii. Seminary Fen ravine stabilization project iv. East Chaska Creek (Carver County Watershed Based Funding) v. Schroeder Acres Park (Scott County Watershed Based Funding) vi. Shakopee Downtown BMO Retrofit (Scott County Watershed Based Funding)

	vii. PLOC (Prior Lake Outlet Channel) Restoration (Scott County Watershed Based Funding) viii. Dakota County Fen Gap Analysis and Conceptual Model (Dakota County Watershed Based Funding) ix. Hennepin County Chloride Project (Hennepin County Watershed Based Funding) x. Vegetation Management Plan xi. Sustainable Lake Management Plan - Trout Lakes xii. Geomorphic Assessment of Trout Streams xiii. Spring Creek Cost Share xiv. West Chaska Creek Re-meander G. Local Water Management Plan Reviews i. City of Shakopee ii. City of Savage H. Project Reviews i. City of Burnsville - Industrial Equities - 250 River Ridge Circle North ii. City of Burnsville - United Properties - 12400 Dupont Avenue North iii. City of Burnsville - Kraemer Mining iv. Dakota County - MN River Greenway v. City of Shakopee - Jackson Township AUAR vi. City of Eden Prairie - C. H. Robinson vii. City of Burnsville - Burnsville Sanitary Landfill viii. City of Eden Prairie - Peterson Wetland Bank ix. City of Chanhassen - TH 101 Improvements x. City of Savage - 12113 Lynn Avenue xi. Cities of Richfield/Bloomington - TH 77 & 77th Street underpass xii. MPCA - MN River TSS TMDL xiii. City of Bloomington - MN Valley State Trail xiv. Hennepin County - CSAH 61/Flying Cloud Drive xv. MNDOT - I494/TH 5/TH 55 Mill & Overlay project xvi. MNDOT - I35W Bridge Replacement xvii. MNDOT - I494 from TH169 to Minnesota River xviii. City of Shakopee - Amazon Fulfillment Center drainage xix. MAC/LMRWD/MCWD boundary realignment xx. Fort Snelling - Dominion Housing xxi. USACOE/USFWS - Bass Ponds, Marsh & Wetland I. MPCA Soil Reference Values - No new information since last update
7. Communications	A. Administrator Report B. President C. Managers D. Committees E. Legal Counsel

	F. Engineer
9. Adjourn	Next meeting of the LMRWD Board of Managers is Wednesday, May 2019

Upcoming meetings/Events

- Upper Mississippi River Waterway Association - Thursday, April 18, 2019, 11:30am Lilydale Pool & Yacht Club
- USACE River Resource Forum - April 23-24, 2019 (more information will be provided as it becomes available)
- Eden Prairie Arbor Day Walk/Green Fair - Saturday, May 4, 2019, 9:00am -12:00 noon, Round Lake Park, 16691 Valley View Road, Eden Prairie
- Ice Out/Loon In - Freshwater Annual Gala, May 4, 2019, Metropolitan Club & Ballroom
- 2019 Water Summit-Bridging Science and Society - May 9-10, 2019, 8:30am-4:30pm, Science Museum of Minnesota
- 12th MN River Congress - Thursday, May 16, 2019, St. Peter Minnesota (more information will be provided as it becomes available)
- Bloomington Public Works Open House - Saturday, May 18, 2019, 9:00am - 12:00 noon, Public Works Building, 1700 W. 98th Street, Bloomington

For Information Only

- WCA Notices
  - Notice of Decision - City of Bloomington for MN Valley State Trail
  - Notice of Application - MN DNR for the Cedar Ave. Water Access Site Parking Lot Removal.
- DNR Public Waters Work permits
  - MNDoT - I-494 Rehabilitation btween MN River and South St. Paul for
  - Scott County - US Fish & Wildlife Service Application for Water Level Control Structure, Sediment Removal, Roadway/Pathway Fill (permanent) - Application 2019-0924
  - City of Savage - Riverland Ag (Savage Riverport) - Extension of expiration date of existing permit to dredge slip to historic conditions
- DNR Water Appropriation permits
  - City of Burnsville - Burnsville Quarry - amend water appropriation permit to increase rate of withdrawal from 6,000 gallons per minute to 20,000 gallons per minute.

Future Manager Agenda Items list

- Report on I494 - TH 169 to Minnesota River
- Report on TH 101 realignment
- Report on MN State Trail
- Report on Freeway Landfill
- Report on Burnsville Landfill
- Report of water quality testing of Minnesota River from MPCA
- Report on Flying Cloud Landfill
- Record retention policy
- AIS Policy
- Riverbank stabilization policy

Future TAC Agenda Items List

- LMRWD Draft Rules
- LMRWD Vegetation Management Plan
- LMRWD monitoring plan

Item 4A
LMRWD 3-20-2019

LOWER MINNESOTA RIVER WATERSHED DISTRICT

Minutes of Regular Meeting
Board of Managers
Wednesday, February 20, 2019
Carver County Government Center, 602 East 4th Street, Chaska, MN 7:00 p.m.
Approved _____, 2019

1. **CALL TO ORDER AND ROLL CALL**
On Wednesday, February 20, 2019, at 7:00 PM in the Board Room of the Carver County Government Center, 602 East 4th Street, Chaska, Minnesota, President Hartmann called to order the meeting of the Board of Managers of the Lower Minnesota River Watershed District (LMRWD) and asked for roll call to be taken. The following Managers were present: Managers Adam Frey, and President Jesse Hartmann. In addition, the following were also present: Linda Loomis, Naiad Consulting, LLC, LMRWD Administrator; Della Schall Young, Young Environmental Consulting Group, LLC, Technical Consultant; and Greg Genz, UMWA (Upper Mississippi Waterway Association).

2. **APPROVAL OF THE AGENDA**
Administrator Loomis requested the addition of Item 5. A. New Business - Authorize staff to investigate remote participation at Board meetings.

President Hartmann made a motion to approve the Agenda, as amended. The motion was seconded by Manager Frey. The motion carried unanimously.

3. **CITIZEN FORUM**
There were no citizens who wished to address the board on non-agenda items.

4. **CONSENT AGENDA**
President Hartmann introduced the item.

A. Approve Minutes of the January 7, 2019 Board of Managers meeting
B. Receive and file December 2018 and January 2019 Financial Reports
C. Presentation of Invoices for payment
- **i. Payment of 2nd half per diem & expenses for Managers Frey, Hartmann &Raby**
- **ii. Rinke Noonan - November 2018 legal services**
- **iii. US Bank Equipment Finance - January 2019 copier lease payment**
- **iv. Pace Analytical Services, LLC - Ike's Creek sample Chloride testing**
- **v. Patchin Messner Dodd & Brumm - assistance with special benefit determination**
- **vi. Naiad Consulting, LLC - November 2018 Admin Services & expenses**
- **vii. Time Savers Offsite Secretarial - preparation of November & December 2018 meeting minutes**
- **viii. Young Environmental Consulting Group, LLC - November 2018 Technical Services**

D. 2019 Technical Services Task Order

President Hartmann made a motion to approve the Consent Agenda, as amended. The motion was seconded by Manager Frey. The motion carried unanimously.

5. NEW BUSINESS

A. Authorize staff to investigate remote participation in Board meetings by Managers

Administrator Loomis said Manager Raby had requested the District look into allowing Managers to participate in meetings from a remote location. She said that she consulted legal counsel as to what action the Board should take. Attorney Kolb advised that the Board should direct staff and provided the name of a consultant that has worked with the Rice Creek Watershed District. She also noted that she had discovered that Pelican Rapids Watershed District has developed a policy and has Managers that participate remotely. The LMRWD can reach out to Pelican Rapids too.

President Hartmann made a motion to have staff hire a consultant to investigate remote participation. The motion was seconded by Manager Frey. The motion carried unanimously.

6. OLD BUSINESS

A. MAWD Dues

President Hartmann said he has some thoughts on this. He has looked at the way MAWD calculates dues. He noted that he got some numbers from Emily, MAWD Executive Director. He said that the way the dues are calculated is logical. He said the way it is done is not the worst way to approach.

Administrator Loomis agreed and said that she thinks the cap is the questions. .said the board could table paying the dues. President Hartmann agreed and question is the minimum the right minimum and is the maximum the right maximum. He also questioned what the addition of WMO will look like for the organization. He asked what action the Board needs to take.

Administrator Loomis said action is up to the Board. President Hartmann asked when dues are due. Administrator Loomis said the information she received did not specify a date as no invoice was included. She does not know if there is a consequence for paying late. She noted that WMOs have always been allowed to participate in MAWD events even though they were not members. Managers questioned how MAWD can say that that is something of value to Districts when attendance is not restricted to members or even offered at a reduced cost to members.

Manager Frey asked if there is anything staff can put its finger on that MAWD has done for the LMRWD. Administrator Loomis said Ray Bohn has supported the District in its lobbying efforts in the past and has been very good coordinating lobbying efforts with the LMRWD. They also offer new manager training and other training opportunities at the Annual Conference.

Ms. Young noted Manager Raby might have a strong opinion.

Manager Frey asked what the dues are. Administrator Loomis said she believed the dues were $2500 when she started with the LMRWD in 2014. Dues then went up to $3,500. Then $ 4, 000 and then $7,500 in 2016

The Board tabled the MAWD dues decision to the April meeting.

B. Dredge Management

i. Review Process for funding of maintenance of Navigation Channel

No information to report other than what was included in the Executive Summary.

ii. Vernon Avenue Dredge Material Management site

Administrator Loomis said staff met yesterday with Taylor Luke, LS Marine, site operator. They reviewed the Threatened & Endangered Species evaluation, the Wetland Delineation and the design plan to make sure everyone was on the same track.

At the meeting Administrator Loomis was informed that some material has been sold and he will provided information about the amount sold so the LMRWD can invoice the buyer.

Administrator Loomis noted that an agreement for site operation was included in the packet. Mr. Luke informed her that he felt the calculation for compensation was a little contorted and asked if payment could just be billed hourly. Administrator Loomis let him know that would be acceptable. She will work with Mr. Luke and legal counsel to amend the site operations agreement accordingly.

iii. Private Dredge Material Placement

No information to report other than what was included in the Executive Summary.

C. Watershed Management Plan

Administrator Loomis said staff had planned to have draft rules ready for the Board at this meeting, but they were unable to complete them. The timeline provided at the Last meeting have been moved out a month. Rules will be available to the Board in March for approval at the April meeting.

D. 2019 Legislative Action

Administrator Loomis said she believed that Managers may have received a letter from Jake Hamlin at CHS about accessing money from the Port Development Assistance Program. She said she would speak to Mr. Hamlin to make sure that CHS supports the LMRWD asking for a general appropriation from the state. She said Lisa Frenette and she would speak to Representative Hansen about whether he thinks it is best for the LMRWD to use PDAP or a direct appropriation. She said a bill has not been drafted as Legislative Revisor's office is backed up.

E. Education and Outreach Plan

No new information since last update

F. LMRWD Projects

i. Eden Prairie Area #3 Stabilization

No information to report other than what was included in the Executive Summary.

ii. Riley Creek Cooperative Project with Riley/Purgatory/Bluff Creek WD

No information to report other than what was included in the Executive Summary.

iii. Seminary Fen ravine stabilization project

No information to report other than what was included in the Executive Summary.

iv. East Chaska Creek (Carver County Watershed Based Funding)

Administrator Loomis said they are working on getting cooperative agreements.

v. Schroeder Acres Park (Scott County Watershed Based Funding)

Administrator Loomis said they are working on getting cooperative agreements.

vi. Shakopee Downtown BMP Retrofit (Scott County Watershed Based Funding)

Administrator Loomis said they are working on getting cooperative agreements.

vii. PLOC (Prior Lake Outlet Channel) Restoration (Scott County Watershed Based Funding)

Administrator Loomis said they are working on getting cooperative agreements.

viii. Dakota County Fen Gap Analysis and Conceptual Model (Dakota County Watershed Based Funding)
Administrator Loomis said they are working on getting cooperative agreements.

ix. Hennepin County Chloride Project (Hennepin County Watershed Based Funding)
Administrator Loomis said they are working on getting cooperative agreements.

x. Vegetation Management Plan
No information to report other than what was included in the Executive Summary.

xi. Sustainable Lake Management Plan - Trout Lakes
No information to report other than what was included in the Executive Summary.

xii. Geomorphic Assessment of Trout Streams
No information to report other than what was included in the Executive Summary.

xiii. Spring Creek Cost Share
Administrator Loomis said she talked to the City of Carver and she wants to have a meeting with the city. She said Spring Creek is part of the city of Carver's stormwater conveyance system and she hopes by involving the city, the city will look at the entire Spring Creek Watershed.

xiv. West Chaska Creek Re-meander
Administrator Loomis this project is outside the district. She noted that the Board will be asked to approve this project in the future, once a cooperative agreement has been developed.

G. Project/Plan Reviews

i. City of Burnsville - Kraemer Mining
No information to report other than what was included in the Executive Summary.

ii. Dakota County - MN River Greenway
No information to report other than what was included in the Executive Summary.

iii. City of Shakopee - Jackson Township AUAR
No information to report other than what was included in the Executive Summary.

iv. City of Burnsville - CenterPoint Energy Lyndale Valve Replacement Project
No information to report other than what was included in the Executive Summary.

v. City of Eden Prairie - C. H. Robinson
No information to report other than what was included in the Executive Summary.

vi. City of Burnsville - Burnsville Sanitary Landfill
No information to report other than what was included in the Executive Summary.

vii. City of Carver - Local Surface Water Management Plan
Staff reviewed the Carver Local Water Management Plan. Ms. Young said the city should be commended for adopting the LMRWD Plan. She noted the City's plan referred to memorandums of understanding from 2005-06. She said the LMRWD review made note that the LMRWD process will now require a general permit. LMRWD staff will be working with the cities to make sure they all get the general permit.

President Hartmann made a motion to adopt resolution 19-02. The motion was seconded by Manager Frey. The motion carried unanimously.

viii. **City of Eden Prairie - Peterson Wetland Bank**
No information to report other than what was included in the Executive Summary.

ix. **City of Chanhassen - TH 101 Improvements**
No information to report other than what was included in the Executive Summary.

x. **City of Savage - 12113 Lynn Avenue**
No information to report other than what was included in the Executive Summary.

xi. **Cities of Richfield/Bloomington - TH 77 & 77th Street underpass**
No information to report other than what was included in the Executive Summary.

xii. **MNDOT - I494 Brush removal**
No information to report other than what was included in the Executive Summary.

xiii. **MNDOT - TH 5 Signage projects**
No information to report other than what was included in the Executive Summary.

xiv. **MPCA - MN River TSS TMDL**
No information to report other than what was included in the Executive Summary.

xv. **MN Valley State Trail - EAW (Environmental Assessment Worksheet)**
No information to report other than what was included in the Executive Summary.

xvi. **Hennepin County - CSAH 61 - Flying Cloud Drive**
No information to report other than what was included in the Executive Summary.

xvii. **MNDOT - I494/TH 5/TH 55 Mill & Overlay project**
No information to report other than what was included in the Executive Summary.

xviii. **MNDOT - I35W Bridge Replacement**
No information to report other than what was included in the Executive Summary.

xix. **MNDOT - I494 from TH169 to Minnesota River**
No information to report other than what was included in the Executive Summary.

xx. **City of Shakopee - Amazon Fulfillment Center drainage**
Administrator Loomis said that Staff had a meeting with the city this afternoon. She Option 3 is the preferred option identified in the feasibility report provided in the packet. Option 3 conveys the water across Highway 101 to channel the water to a ditch through a ravine. She said the city is looking for funding.

She said staff feels the cost estimate is low and the contingency is not sufficient. She also said this project is fixing a problem that should have been addressed at the time the project was approved. Therefore, LMRWD staff does not feel the LMRWD should contribute any dollars to this project. Administrator Loomis said if the Board should decide to participate in the program, the District would need to prepare a minor plan amendment.

xxi. **MAC/LMRWD/MCWD boundary realignment**
No information to report other than what was included in the Executive Summary.

xxii. **Fort Snelling - Dominion Housing**
No information to report other than what was included in the Executive Summary.

xxiii. **USACOE/USFWS - Bass Ponds, Marsh & Wetland**
No information to report other than what was included in the Executive Summary.

H. MPCA Soil Reference Values - no change since last update
No new information since last update.

7. COMMUNICATIONS

A. Administrator Report: Administrator Loomis added the next metro MAWD meeting will be Tuesday, April 9th at 7 pm, at the Cap Region Watershed District. She informed the Managers who the MAWD Region 3 representatives are on the MAWD Board: Mary Texer, Cap Region WD, Sherry Davis-White, Minnehaha Creek WD & Jackie Anderson, Comfort Lake/Forest Lake WD.

Manager Hartmann asked about the Freshwater Gala and what time it started. Administrator Loomis said she thought it started at 6:00pm. The Board authorized a table for 8.

Administrator Loomis informed the Board that the LMRWD will work with an LLC formed by the Professors at the U of M rather than the University direclty on the Geomorphic stream assessment

Administrator Loomis commented on an article in the Star Tribune about the TMDL (Total Maximum Daily Load) study for E. coli in the Minnesota River. She noted there were a number of WRAPS (Watershed Restoration and Protection Strategies) and TMDL studies expected in the near future. She said that Managers should think about whether or not they want to comment on any of these reports. She noted the LMRWD has already been working with the MPCA on the MN River TSS TMDL and the Sediment Reduction Strategy, so they will comment on that when it is released. President Hartmann asked where that falls in the Budget. Administrator Loomis noted that is has come from the Administrative Budget and Professional Services.

The LMRWD has been invited to make a presentation to the Scott County Watershed Planning commission. The LMRWD has been invited to either the March 25th or April 22nd. President Hartmann said he is available for either date. Administrator Loomis said she would inform Scott County.

B. President: No report
C. Managers: No report
D. Committees: No report
E. Legal Counsel: No Report
F. Engineer: No report

8. ADJOURN

President Hartmann made a motion to adjourn. Manager Frey seconded the motion. The meeting was adjourned at 7:43pm. The next meeting of the LMRWD Board of Managers will be 7:00, Wednesday, March 20, 2019 and will be held at the Carver County Government Center, 602 East 4th Street, Chaska, MN.

_____
Dave Raby, Secretary

Attest:

_____
Linda Loomis, Administrator

Lower Minnesota River Watershed District
General Fund Financial Report
Fiscal Year: January 1, 2019 through December 31, 2019
Meeting Date: April 17, 2019

(UNAUDITED)

Item 4.B.
LMRWD 4-17-19

BEGINNING BALANCE *	**31-Jan-19**				**$ 1,793,814.96**
ADD:					
General Fund Revenue:					
Interest paid 2018				$ 186,097.61	
Miscellaneous Income				$ 231.91	
Total Revenue and Transfers In					**$ 186,329.52**
DEDUCT:					
Warrants:					
7594	MN Department of Revenue	Payment of sales tax on dredge		$ 1,164.00	
413049	Daniel Hron	February 2019 office rent		$ 650.00	
413066	Rinke Noonan	December 2018 legal expenses		$ 2,402.50	
413080	US Bank Equipment Finance	February/March 2019 copier lease		$ 353.01	
413327	Liberty Mutual Insurance Co.	Surety Bond payment		$ 180.00	
413344	Pace Analytical Services LLC	January 2019 Chloride sample test		$ 80.00	
413351	Scott County SWCD	Q4 2018 monitoring in Scott County		$ 5,661.23	
100008066	Dakota County SWCD	Q4 2018 monitoring in Dakota Co.		$ 1,960.00	
100008177	HDR Engineering, Inc.	Payment for website maintenance		$ 443.50	
100008193	Young Environmental Consulting	December 2018 technical services		$ 128.70	
Total Warrants/Reductions					**$ 13,022.94**
ENDING BALANCE	**28-Feb-19**				**$ 1,967,121.54**

Lower Minnesota River Watershed District
General Fund Financial Report
Fiscal Year: January 1, 2019 through December 31, 2019
Meeting Date: April 17, 2019

FY 2019

EXPENDITURES	2019 Budget	February Actual	YTD 2019	Over (Under) Budget
Administrative expenses	$ 250,000.00	$ 1,183.01	$ 2,001.11	$ (247,998.89)
Cooperative Projects				
Eden Prairie Bank Stabilization Area #3	$ -	$ -	$ -	$ -
Gully Erosion Contingency Fund	$ -	$ -	$ -	$ -
USGS Sediment & Flow Monitoring	$ 19,700.00	$ -	$ -	$ (19,700.00)
Ravine Stabilization at Seminary Fen in Chaska	$ -	$ -	$ -	$ -
509 Plan Budget				
Resource Plan Implementation				
Assumption Creek Hydrology Restoration	$ 30,000.00	$ -	$ -	$ (30,000.00)
Carver Creek Restoration	$ 80,000.00	$ -	$ -	$ (80,000.00)
Groundwater Screening Tool Model	$ 50,000.00	$ -	$ -	$ (50,000.00)
Eagle Creek (East Branch) Project	$ 10,000.00	$ -	$ -	$ (10,000.00)
Minnesota River Floodplain Model Feasibility Study	$ 30,000.00	$ -	$ -	$ (30,000.00)
Schroeder Acres Park Stormwater Mgmt Project	$ 39,555.00	$ -	$ -	$ (39,555.00)
PLOC Realignment/Wetland Restoration	$ 71,727.00	$ -	$ -	$ (71,727.00)
Spring Creek Project	$ 45,000.00	$ -	$ -	$ (45,000.00)
West Chaska Creek	$ 50,000.00	$ -	$ -	$ (50,000.00)
Sustainable Lakes Management Plan (Trout Lakes)	$ -	$ -	$ -	$ -
Geomorphic Assessments (Trout Streams)	$ -	$ -	$ -	$ -
Paleolimnology Study (Floodplain Lakes)	$ -	$ -	$ -	$ -
Fen Stewardship Program	$ 25,000.00	$ -	$ -	$ (25,000.00)
District Boundary Modification	$ -	$ -	$ -	$ -
East Chaska Creek Bank Stabilization Project	$ 50,000.00	$ -	$ -	$ (50,000.00)
East Chaska Creek Treatment Wetland Project	$ 50,000.00	$ -	$ -	$ (50,000.00)
Minnesota River Sediment Reduction Strategy	$ 25,000.00	$ -	$ -	$ (25,000.00)
Seminary Fen - gap analysis	$ -	$ -	$ -	$ -
Data Assessments and Program Review	$ -	$ -	$ -	$ -
Dakota County groundwater modeiling	$ -	$ -	$ -	$ -
Riley Creek Cooperative Project	$ -	$ -	$ -	$ -
Local Water Management Plan reviews	$ 12,000.00		$ -	$ (12,000.00)
Project Reviews	$ 20,000.00	$ -	$ -	$ (20,000.00)
Monitoring	$ 65,000.00	$ -	$ 80.00	$ (64,920.00)
Monitoring Data Analysis				
Technical Assistance				
Watershed Management Plan				
Rule Drafting	$ 25,000.00	$ -	$ 1,292.50	$ (23,707.50)
Plan Amendment	$ -	$ -	$ -	$ -
Vegetation Management Standard/Plan	$ 50,000.00	$ -	$ 527.20	$ (49,472.80)
Public Education/CAC/Outreach Program	$ 30,000.00	$ -	$ -	$ (30,000.00)
Cost Share Program	$ 20,000.00	$ -	$ -	$ (20,000.00)
				$ -
Nine Foot Channel				$ -
Transfer from General Fund	$ 50,000.00	$ -	$ -	$ (50,000.00)
Dredge Site Improvements	$ 240,000.00	$ -	$ 34,751.99	$ (205,248.01)
Total:	$ 1,337,982.00	$ 1,183.01	$ 38,652.80	$ (1,299,329.20)

Lower Minnesota River Watershed District
General Fund Financial Report
Fiscal Year: January 1, 2018 through December 31, 2018
Meeting Date: April 17, 2019

FY 2018

EXPENDITURES	2018 Budget	February Actual	YTD 2018	Over (Under) Budget
Administrative expenses	$ 250,000.00	$ 82.50	$ 258,435.73	$ 8,435.73
Cooperative Projects				
Gully Erosion Contingency Fund	$ -	$ -	$ -	$ -
Ravine Stabilization at Seminary Fen in Chaska	$ -	$ -	$ -	$ -
Eden Prairie Bank Stabilization Area #3	$ -	$ -	$ -	$ -
Eagle Creek	$ -	$ -	$ -	$ -
USGS Sediment & Flow Monitoring	$ 18,500.00	$ -	$ 19,400.00	$ 900.00
509 Plan Budget				
Resource Plan Implementation				
Sustainable Lakes Management Plan (Trout Lakes)	$ 50,000.00	$ -	$ -	$ (50,000.00)
Geomorphic Assessments (Trout Streams)	$ 50,000.00	$ 128.70	$ 2,858.45	$ (47,141.55)
Paleolimnology Study (Floodplain Lakes)	$ 50,000.00	$ -	$ 37,200.00	$ (12,800.00)
Fen Stewardship Program	$ 75,000.00	$ -	$ 383.26	$ (74,616.74)
District Boundary Modification	$ 10,000.00	$ -	$ -	$ (10,000.00)
East Chaska Creek Treatment Wetland Project	$ 10,000.00	$ -	$ 6,448.19	$ (3,551.81)
Minnesota River Sediment Reduction Strategy	$ 25,000.00	$ -	$ -	$ (25,000.00)
Seminary Fen - gap analysis	$ -	$ -	$ -	$ -
Data Assessments and Program Review	$ -	$ -	$ -	$ -
Dakota County groundwater modeiling	$ -	$ -	$ -	$ -
Riley Creek Cooperative Project	$ 50,000.00	$ -	$ 75,075.49	$ 25,075.49
Local Water Management Plan reviews	$ 12,000.00		$ 16,601.43	$ 4,601.43
Project Reviews	$ 16,000.00	$ -	$ 35,501.36	$ 46,985.36
Monitoring	$ 65,000.00	$ 7,451.23	$ 26,598.13	$ (38,401.87)
Monitoring Data Analysis				$ -
Technical Assistance				$ -
Watershed Management Plan				$ -
Plan Amendment	$ 50,000.00	$ -	$ 68,796.05	$ 18,796.05
Vegetation Management Standard/Plan	$ -	$ -	$ 3,831.95	$ 3,831.95
Public Education/CAC/Outreach Program	$ 30,000.00	$ 443.50	$ 25,292.24	$ (4,707.76)
Cost Share Program	$ 20,000.00	$ 250.00	$ 16,630.30	$ (3,369.70)
Carver County Storm Sewer	$ -	$ -	$ -	$ -
Nine Foot Channel				$ -
Transfer from General Fund	$ 50,000.00		$ 50,000.00	$ -
Dredge Site Improvements	$ 240,000.00	$ 3,484.00	$ 95,351.78	$ (144,648.22)
Total:	$ 1,071,500.00	$ 11,839.93	$ 738,404.36	

Lower Minnesota River Watershed District
General Fund Financial Report
Fiscal Year: January 1, 2019 through December 31, 2019
Meeting Date: April 17, 2019

(UNAUDITED)

Item 4.B.
LMRWD 4-17-19

BEGINNING BALANCE *	**28-Feb-19**				**$ 1,967,121.54**
ADD:					
General Fund Revenue:					
Met Council - Eagle Creek WOMP monitoring			$ 4,500.00		
Total Revenue and Transfers In				**$ 4,500.00**	
DEDUCT:					
Warrants:					
413667	Frenette Legislative Advisors	January & February 2019 lobbying	$ 3,333.33		
413690	Pace Analytical Services LLC	February 2019 Chloride testing	$ 80.00		
413696	Rinke Noonan	January 2019 legal expenses	$ 2,639.50		
413708	US Bank Equipment Finance	April 2019 copier lease	$ 168.10		
414126	Daniel Hron	March 2019 office rent	$ 650.00		
414148	Metro Sales, Inc.	Copier service agreement payment	$ 94.89		
414310	Frenette Legislative Advisors	March 2019 lobbying expense	$ 1,666.67		
414330	US Bank Equipment Finance	May 2019 copier lease	$ 184.91		
100008359	Young Environmental Consulting	December 2018 technical services	$ 42,981.35		
100008567	US, Geological Survey	Fort Snelling Stream Gauge	$ 4,947.00		
100008630	Naiad Consulting LLC	Dec. 2018 & Jan. 2019 Admin Service	$ 19,360.91		
100008640	Time Saver Off Site Secretarial	Feb. 2019 mtg. minutes preparation	$ 145.00		
JE	Carver County WMO	2019 Carver County monitoring	$ 24,356.50		
JE	Carver County Finance	Q1 2019 financial services	$ 1,279.52		
Total Warrants/Reductions				**$ 101,887.68**	
ENDING BALANCE	**31-Mar-19**				**$ 1,869,733.86**

Lower Minnesota River Watershed District
General Fund Financial Report
Fiscal Year: January 1, 2019 through December 31, 2019
Meeting Date: April 17, 2019

FY 2019

EXPENDITURES	2019 Budget	March Actual	YTD 2019	Over (Under) Budget
Administrative expenses	$ 250,000.00	$ 22,447.93	$ 24,449.04	$ (225,550.96)
Cooperative Projects				
Eden Prairie Bank Stabilization Area #3	$ -	$ -	$ -	$ -
Gully Erosion Contingency Fund	$ -	$ -	$ -	$ -
USGS Sediment & Flow Monitoring	$ 19,700.00	$ 4,947.00	$ 4,947.00	$ (14,753.00)
Ravine Stabilization at Seminary Fen in Chaska	$ -	$ -	$ -	$ -
509 Plan Budget				
Resource Plan Implementation				
Assumption Creek Hydrology Restoration	$ 30,000.00	$ -	$ -	$ (30,000.00)
Carver Creek Restoration	$ 80,000.00	$ -	$ -	$ (80,000.00)
Groundwater Screening Tool Model	$ 50,000.00	$ -	$ -	$ (50,000.00)
Eagle Creek (East Branch) Project	$ 10,000.00	$ -	$ -	$ (10,000.00)
Minnesota River Floodplain Model Feasibility Study	$ 30,000.00	$ -	$ -	$ (30,000.00)
Schroeder Acres Park Stormwater Mgmt Project	$ 39,555.00	$ -	$ -	$ (39,555.00)
PLOC Realignment/Wetland Restoration	$ 71,727.00	$ -	$ -	$ (71,727.00)
Spring Creek Project	$ 45,000.00	$ -	$ -	$ (45,000.00)
West Chaska Creek	$ 50,000.00	$ -	$ -	$ (50,000.00)
Sustainable Lakes Management Plan (Trout Lakes)	$ -	$ -	$ -	$ -
Geomorphic Assessments (Trout Streams)	$ -	$ 265.85	$ -	$ -
Paleolimnology Study (Floodplain Lakes)	$ -	$ -	$ -	$ -
Fen Stewardship Program	$ 25,000.00	$ -	$ -	$ (25,000.00)
District Boundary Modification	$ -	$ -	$ -	$ -
East Chaska Creek Bank Stabilization Project	$ 50,000.00	$ 967.90	$ -	$ (50,000.00)
East Chaska Creek Treatment Wetland Project	$ 50,000.00	$ -	$ -	$ (50,000.00)
Minnesota River Sediment Reduction Strategy	$ 25,000.00	$ -	$ -	$ (25,000.00)
Seminary Fen - gap analysis	$ -	$ -	$ -	$ -
Data Assessments and Program Review	$ -	$ -	$ -	$ -
Dakota County groundwater modeiling	$ -	$ -	$ -	$ -
Riley Creek Cooperative Project	$ -	$ -	$ -	$ -
Local Water Management Plan reviews	$ 12,000.00	$ 2,066.95	$ -	$ (12,000.00)
Project Reviews	$ 20,000.00	$ 4,812.85	$ -	$ (20,000.00)
Monitoring	$ 65,000.00	$ 80.00	$ 160.00	$ (64,840.00)
Monitoring Data Analysis				
Technical Assistance				
Watershed Management Plan				
Rule Drafting	$ 25,000.00	$ 2,093.40	$ 1,292.50	$ (23,707.50)
Plan Amendment	$ -	$ -	$ -	$ -
Vegetation Management Standard/Plan	$ 50,000.00	$ 5,245.75	$ 527.20	$ (49,472.80)
Public Education/CAC/Outreach Program	$ 30,000.00	$ -	$ -	$ (30,000.00)
Cost Share Program	$ 20,000.00	$ -	$ -	$ (20,000.00)
				$ -
Nine Foot Channel				$ -
Transfer from General Fund	$ 50,000.00	$ -	$ -	$ (50,000.00)
Dredge Site Improvements	$ 240,000.00	$ 26,777.75	$ 88,307.49	$ (151,692.51)
Total:	$ 1,337,982.00	$ 69,705.38	$ 119,683.23	$ (1,218,298.77)

Lower Minnesota River Watershed District
General Fund Financial Report
Fiscal Year: January 1, 2018 through December 31, 2018
Meeting Date: April 17, 2019

FY 2018 - FINAL

EXPENDITURES	2018 Budget	March Actual	YTD 2018	Over (Under) Budget
Administrative expenses	$ 250,000.00	$ 7,825.80	$ 266,261.53	$ 16,261.53
Cooperative Projects				
Gully Erosion Contingency Fund	$ -	$ -	$ -	$ -
Ravine Stabilization at Seminary Fen in Chaska	$ -	$ -	$ -	$ -
Eden Prairie Bank Stabilization Area #3	$ -	$ -	$ -	$ -
Eagle Creek	$ -	$ -	$ -	$ -
USGS Sediment & Flow Monitoring	$ 18,500.00	$ -	$ 19,400.00	$ 900.00
509 Plan Budget				
Resource Plan Implementation				
Sustainable Lakes Management Plan (Trout Lakes)	$ 50,000.00	$ -	$ -	$ (50,000.00)
Geomorphic Assessments (Trout Streams)	$ 50,000.00	$ -	$ 2,858.45	$ (47,141.55)
Paleolimnology Study (Floodplain Lakes)	$ 50,000.00	$ -	$ 37,200.00	$ (12,800.00)
Fen Stewardship Program	$ 75,000.00	$ -	$ 383.26	$ (74,616.74)
District Boundary Modification	$ 10,000.00	$ -	$ -	$ (10,000.00)
East Chaska Creek Treatment Wetland Project	$ 10,000.00	$ -	$ 6,448.19	$ (3,551.81)
Minnesota River Sediment Reduction Strategy	$ 25,000.00	$ -	$ -	$ (25,000.00)
Seminary Fen - gap analysis	$ -	$ -	$ -	$ -
Data Assessments and Program Review	$ -	$ -	$ -	$ -
Dakota County groundwater modeiling	$ -	$ -	$ -	$ -
Riley Creek Cooperative Project	$ 50,000.00	$ -	$ 75,075.49	$ 25,075.49
Local Water Management Plan reviews	$ 12,000.00		$ 16,601.43	$ 4,601.43
Project Reviews	$ 16,000.00	$ -	$ 35,501.36	$ 46,985.36
Monitoring	$ 65,000.00	$ 24,356.50	$ 50,954.63	$ (14,045.37)
Monitoring Data Analysis				$ -
Technical Assistance				$ -
Watershed Management Plan				$ -
Plan Amendment	$ 50,000.00	$ -	$ 68,796.05	$ 18,796.05
Vegetation Management Standard/Plan	$ -	$ -	$ 3,831.95	$ 3,831.95
Public Education/CAC/Outreach Program	$ 30,000.00	$ -	$ 25,292.24	$ (4,707.76)
Cost Share Program	$ 20,000.00	$ -	$ 16,630.30	$ (3,369.70)
Carver County Storm Sewer	$ -	$ -	$ -	$ -
Nine Foot Channel				$ -
Transfer from General Fund	$ 50,000.00		$ 50,000.00	$ -
Dredge Site Improvements	$ 240,000.00	$ -	$ 95,351.78	$ (144,648.22)
Total:	$ 1,071,500.00	$ 32,182.30	$ 770,586.66	

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 4. D. - Authorize Agreement between the LMRWD and the Dakota County SWCD for Metro-area Watershed Based Funding

Prepared By
Linda Loomis, Administrator

Summary
The Dakota County Fen project that the LMRWD is planning using its Dakota County Watershed Based Funding Grant will be administered by the Dakota County SWCD. The county attorney has drafted an agreement between the LMRWD and the SWCD. The agreement is attached, but has not yet been reviewed by legal counsel for the District. The workplan is part of the agreement

Attachments
JOINT POWERS AGREEMENT BETWEEN THE DAKOTA COUNTY SOIL AND WATER CONSERVATION DISTRICT AND THE LOWER MINNESOTA RIVER WATERSHED DISTRICT FOR WATERSHED BASED FUNDING GRANT ADMINISTRATION

Recommended Action
Approve and authorize FY19 Agreement between the LMRWD and Dakota County SWCD

JOINT POWERS AGREEMENT BETWEEN
THE DAKOTA COUNTY SOIL AND WATER CONSERVATION DISTRICT AND
THE LOWER MINNESOTA RIVER WATERSHED DISTRICT
FOR WATERSHED BASED FUNDING GRANT ADMINISTRATION

THE PARTIES TO THIS AGREEMENT are the Dakota County Soil and Water Conservation District (SWCD) and the Lower Minnesota River Watershed District (LMRWD). This Agreement is made pursuant to the authority conferred upon the parties by Minn. Stat. § 471.59.

NOW THEREFORE, the parties, in joint and mutual exercise of their powers, agree as follows:

1. PURPOSE. The purpose of this Agreement is to define the responsibilities and obligations of the SWCD and the LMRWD for grant administration services and disbursement of Board of Water and Soil Resources (BWSR) Wastershed Based Funding Grant monies to be provided by the SWCD to the LMRWD as more fully described herein.

2. TERM. Notwithstanding the dates of signatures of the parties, this Agreement shall be in effect as of March 1, 2019, and shall remain in effect until December 31, 2021, or until all obligations by the parties of their respective obligations under this Agreement have been fulfilled, whichever occurs first, unless earlier terminated by law or according to the provisions of this Agreement.

3. SCOPE OF SERVICES. SWCD agrees to provide LMRWD with the following services:

   Grant Administration for Implementation of Board of Water and Soil Resources (BWSR) Watershed Based Funding Grant from March 1, 2019, until December 31, 2021, as expressed in the *2019-2021 Grant Work Plan and Budget* attached and incorporated into this Agreement as Exhibit 1. In the event of a conflict between the terms of this Agreement and Exhibit 1, the terms of this Agreement shall govern.

4. PAYMENT.

   4.1 The LMRWD shall pay to the SWCD an amount not to exceed $3,600 for grant administration at the rates set forth and more fully described in Exhibit 1. In the event of a conflict between the terms of this Agreement and Exhibit 1, the terms of this Agreement shall govern.

   4.2 The SWCD shall pay on a reimbursement basis to the LMRWD an amount not to exceed $65,450 to complete the LMRWD Tasks more fully described in Exhibit 1. In the event of a conflict between the terms of this Agreement and Exhibit 1, the terms of this Agreement shall govern.

   4.3 The LMRWD shall also contribute a local match as required by the BWSR grant policy in an amount not to exceed $6,545. The LMRWD shall document and account for monies to satisfy the local match requirement.

5. TIME OF PAYMENT. The parties shall make payments within 35 days of the date on which an itemized invoice is received. If an invoice is incorrect, defective, or otherwise improper, the receiving party shall notify the other party within 10 days of receiving the incorrect invoice. Upon receiving the corrected invoice, the receiving party shall make payment within 35 days.

6. PAYMENT FOR UNAUTHORIZED CLAIMS. The parties may refuse to pay any claim that is not specifically authorized by this Agreement. Payment of a claim shall not preclude either party from questioning the propriety of the claim. Each party reserves the right to offset any overpayment or disallowance of claim by reducing future payments.

7. PAYMENT UPON EARLY TERMINATION. In the event this Agreement is terminated before the completion of services, the LMRWD shall pay the SWCD for services provided in a satisfactory manner, in a pro-rated sum of the rates set forth in Exhibit 1 based upon actual time spent. In no case shall such payments exceed the LMRWD's total cost under this Agreement.

8. COMPLIANCE WITH LAWS/STANDARDS. The parties shall abide by all federal, state or local statutes, ordinances, rules and regulations now in effect or hereafter adopted pertaining to this Agreement or to the facilities, programs and staff for which each party is responsible.

9. INDEPENDENT CONTRACTOR STATUS. Nothing in this Agreement is intended or should be construed as creating the relationship of a partnership, joint venture or employer-employee relationship between the parties. Officers, employees or agents of one party shall not be considered officers, employees or agents of the other party.

10. SUBCONTRACTING/ASSIGNMENT. A party shall not enter into any subcontract for the performance of the services contemplated under this Agreement nor assign any interest in this Agreement without prior written consent of the other party and subject to such conditions and provisions as are deemed necessary. The subcontracting or assigning party shall be responsible for the performance of its subcontractors or assignees unless otherwise agreed.

11. LIABLE FOR OWN ACTS. Each party to this Agreement shall be liable for the acts of their own officers, employees, agents, all of the forgoing and the results thereof to the extent authorized by law and shall not be responsible for the acts of the other party, its officers, employees, or agents. It is understood and agreed that the provisions of the Municipal Tort Claims Act, Minn. Stat. ch. 466, and other applicable laws govern liability arising from a party's acts or omissions. In the event of any claims or actions asserted or filed against either party, nothing in this Agreement shall be construed to allow a claimant to obtain separate judgments or separate liability caps from the individual parties. Each party warrants that it has an insurance or self-insurance program and that it has minimum coverage consistent with the liability limits contained in Minn. Stat. ch. 466.

12. AUTHORIZED REPRESENTATIVES. The following named persons are designated the authorized representatives of parties for purposes of this Agreement. These persons have authority to bind the party they represent and to consent to modifications and subcontracts, except that, the authorized representatives shall have only the authority specifically or generally granted by its respective Board. Notification required to be provided pursuant to this Agreement shall be provided to the following named persons and addresses unless otherwise stated in this Agreement, or in a modification of this Agreement.

To SWCD:
Brian Watson, Director
Dakota County SWCD
4100 220th Street West, Suite 102
Farmington, MN 55024
Telephone: (651) 480-7778

To LMRWD:
Linda Loomis, or successor
LMRWD District Administrator
112 E 5th St.
Chaska, MN 55318
Telephone: (763) 545-4659

13. LIAISONS. To assist the parties in the day-to-day performance of this Agreement and to develop service, ensure compliance and provide ongoing consultation, a liaison shall be designated by SWCD and the LMRWD. The parties shall keep each other continually informed, in writing, of any change in the designated liaison. At the time of execution of this Agreement, the following persons are the designated liaisons:

SWCD Liaison:	Curt Coudron
Telephone:	(651) 480-7774
Email:	curt.coudron@co.dakota.mn.us

LMRWD Liaison:	Linda Loomis
Telephone:	(763) 545-4659
Email:	niadconsulting@gmail.com

In addition, notification to the SWCD or the LMRWD regarding termination of this Agreement by the other party shall be provided to the Office of the Dakota County Attorney, Civil Division, 1560 Highway 55, Hastings, MN 55033.

14. DEFAULT: FORCE MAJEURE. Neither party shall be liable to the other party for any loss or damage resulting from a delay or failure to perform due to unforeseeable acts or events outside the defaulting party's reasonable control, providing the defaulting party gives notice to the other party as soon as possible. Acts and events may include acts of God, acts of terrorism, war, fire, flood, epidemic, acts of civil or military authority, and natural disasters.

15. DATA PRIVACY. All data created, collected, received, stored, used, maintained, or disseminated in the performance of this Agreement is subject to the requirements of the Minnesota Government Data Practices Act, Minn. Stat. ch. 13 and the Minnesota Rules implementing the Act now in force or hereafter adopted as well as the federal laws on data privacy.

16. OWNERSHIP OF WORK PRODUCT. If either party uses the copyrighted material of the other party in performing work for this Agreement, it will protect the right, title and interest in the copyrighted material of the other party. Before using a third party's copyrighted material each party will obtain permission from the third-party.

17. RECORDS DISCLOSURE/RETENTION. Bonds, records, documents, papers, accounting procedures and practices, and other evidences relevant to this Agreement are subject to the examination, duplication, transcription and audit by each party to this Agreement and either the Legislative or State Auditor, pursuant to Minn. Stat. § 16C.05, Subd. 5. Such evidences are also subject to review by the Comptroller General of the United States, or a duly authorized representative, if federal funds are used for any work under this Agreement. Each governmental unit agrees to maintain such evidences for a period of six years from the date services or payment were last provided or made or longer if any audit in progress requires a longer retention period.

18. TERMINATION. Either party may terminate this Agreement for cause by giving seven days' written notice or without cause by giving 30 days' written notice, of its intent to terminate, to the other party. Such notice to terminate for cause shall specify the circumstances warranting termination of this Agreement. Cause shall mean a material breach of this Agreement and any supplemental agreements or amendments thereto. Notice of Termination shall be made by certified mail or personal delivery to the authorized representative of the other party. Termination of this Agreement shall not discharge any liability, responsibility or other right of any party, which arises from the performance of or failure to adequately perform the terms of this Agreement prior to the effective date of termination.

    Notwithstanding any provision of this Agreement to the contrary, either party may immediately terminate this Agreement if it does not obtain funding from the Minnesota Legislature, Minnesota Agencies, or other funding source, or if its funding cannot be continued at a level sufficient to allow payment of the amounts due under this Agreement.

19. MODIFICATIONS. Any alterations, variations, modifications, or waivers of the provisions of this Agreement shall only be valid when they have been reduced to writing and signed by the authorized representatives of the parties.

20. MINNESOTA LAW TO GOVERN. This Agreement shall be governed by and construed in accordance with the substantive and procedural laws of the State of Minnesota, without giving effect to the principles of conflict of laws. All proceedings related to this Agreement shall be venued in the County of Dakota, State of Minnesota.

21. SEVERABILITY. The provisions of this Agreement shall be deemed severable. If any part of this Agreement is rendered void, invalid, or unenforceable, such rendering shall not affect the validity and enforceability of the remainder of this Agreement unless the part or parts that are void, invalid or otherwise unenforceable shall substantially impair the value of the entire Agreement with respect to either party.

22. FINAL AGREEMENT. This Agreement is the final expression of the agreement of the parties and the complete and exclusive statement of the terms agreed upon, and shall supersede all prior negotiations, understandings or agreements. There are no representations, warranties, or stipulations, either oral or written, not contained in this Agreement.

23. SURVIVORSHIP. The following provisions under this Agreement survive after the termination date of this Agreement: Sections 11 (Liable for Own Acts), 14 (Force Majeure), 15 (Data Privacy), 16 (Ownership of Work Product), 17 (Records Disclosure/Retention), and 20 (Minnesota Law to Govern).

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date(s) indicated below.

LOWER MINNESOTA RIVER WATERSHED DISTRICT

By_____
Jesse Hartman, President, or successor
Date of Signature_____

DAKOTA COUNTY SOIL AND WATER CONSERVATION DISTRICT

By_____
Laura Zanmiller, Chair, or successor
Date of Signature_____

Approved as to Form:

/s/Margaret M. Horsch 3/18/19
Helen R. Brosnahan
Assistant Dakota County Attorney/Date

SWCD Board Motion No.19.027
KS-19-128

EXHIBIT 1

FY19 Metro Watershed Based Funding

Work Plan and Budget

Prepared for the

Lower Minnesota River Watershed District

DAKOTA COUNTY FEN STUDY – SWCD TASKS
(Payable to SWCD)

	COST ESTIMATE
Grant Administration • Manage the grant and provide overall administration of funds, match requirements, and grant reporting. • Coordinate with State Agency contacts regarding aspects of the grant. • Maintain program and project files to include appropriate documents as reference. Maintain financial records to include all revenue and expenses associated with this grant, as well as expenditures on projects. • Provide entries and status reporting into the eLINK system. Provide website support to follow BWSR website grant reporting requirements.	BWSR billable rate or contractor rate $3,600
Total LMRWD Amount Payable to the SWCD	**$3,600**

DAKOTA COUNTY FEN STUDY – LMRWD TASKS
(Grant Funds held by SWCD and Payable to LMRWD)

	COST ESTIMATE
LMRWD Dakota County Fen Study/Management Plan – Contract Management • Execute and manage contract for services • Ensure deliverables according to approved BWSR work plan.	BWSR billable rate or contractor rate $1,358*
County Fen Study • Complete a comprehensive review of available information on the fens within the Lower Minnesota River Watershed District, specifically the fens in Dakota County according to the approved BWSR work plan. • Provide Fen Study final report. • Provide documentation of actual expenses associated with this grant, as well as expenditures on projects (receipts, invoices, and/or hours with billable wage)	BWSR billable rate or contractor rate $64,092* (grant amount) $6,545* (local match requirement)
Total SWCD Amount Payable to the LMRWD	**$65,450**

Notes:

*The SWCD will reimburse the LMRWD upon receipt of invoices not to occur more frequently than quarterly. Receipt of invoices will require verification of work completed and acceptance by the State agencies overseeing the grant and the Fen Study. For this reason, not all payments to LMRWD will occur within 30 days.

Total payment to the LMRWD will not exceed the grant amount of $65,450. An additional 10% match is required on the grant per BWSR policy, which will be documented and covered by the LMRWD.

Additional items pertaining to the grant may be required of the SWCD during the grant period and individual grant budget amounts may change as the grant progresses. If proposed changes are to exceed the total agreed amount, this work plan will then be amended and re-executed by the LMRWD and SWCD.

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 4. E. - Authorize Agreement between the LMRWD and the Dakota County SWCD for 2019 monitoring

Prepared By
Linda Loomis, Administrator

Summary
The Dakota County Soil and Water Conservation District conducts monitoring of water levels in the Fens in Dakota County. Every year the agreement is updated. The agreement for 2019 is attached. Participation in the SWCD's Landscaping for Clean Water and technical assistance for residents of the LMRWD are included in the agreement this year. All services are invoiced based on a time and material basis.

The SWCD began providing technical assistance and cost share this year. Four projects were completed under the Landscaping for Clean Water Program in 2018 and technical assistance was provided to several homeowners. The LMRWD paid $5,850 for monitoring in 2017 and $10,130 for monitoring, technical assistance and cost share in 2018.

The county attorney has drafted an agreement for 2019 services. The work plan upon which the agreement will be based is part of the agreement.

Attachments
JOINT POWERS AGREEMENT BETWEEN THE DAKOTA COUNTY SOIL AND WATER CONSERVATION DISTRICT AND THE LOWER MINNESOTA RIVER WATERSHED DISTRICT FOR 2019 TECHNICAL ASSISTANCE SERVICES

Recommended Action
Approve and authorize Agreement between the Dakota County Soil and Water Conservation District and the LMRWD for 2019 Technical Assistance Services

JOINT POWERS AGREEMENT BETWEEN
THE DAKOTA COUNTY SOIL AND WATER CONSERVATION DISTRICT AND
THE LOWER MINNESOTA RIVER WATERSHED DISTRICT
FOR 2019 TECHNICAL ASSISTANCE SERVICES

THE PARTIES TO THIS AGREEMENT are the Dakota County Soil and Water Conservation District (SWCD) and the Lower Minnesota River Watershed District (LMRWD), both political subdivisions of the State of Minnesota and "governmental units" as that term is defined in Minn. Stat. § 471.59. This Agreement is made pursuant to the authority conferred upon the parties by Minn. Stat. § 471.59.

NOW THEREFORE, the parties, in joint and mutual exercise of their powers, agree as follows:

1. PURPOSE. The purpose of this Agreement is to define the responsibilities and obligations of the SWCD and the LMRWD for technical assistance services to be provided by the SWCD to the LMRWD as more fully described herein.

2. TERM. This Agreement shall be in effect as of March 1, 2019, notwithstanding the dates of the signatures of the parties, and shall remain in effect until December 31, 2019, or until completion by the parties of their respective obligations under this Agreement, whichever occurs first, unless earlier terminated by law or according to the provisions of this Agreement.

3. SCOPE OF SERVICES. SWCD agrees to provide LMRWD with the following services:
Fen well monitoring services from March 1, 2019, until December 31, 2019, as expressed in the *2019 Dakota County Soil and Water Conservation District Work Plan* attached and incorporated into this Agreement as Exhibit 1.

   In the event of a conflict between the terms of this Agreement and Exhibit 1, the terms of this Agreement shall govern.

4. TOTAL COST. The total amount to be paid by the LMRWD for all services provided pursuant to this Agreement shall not exceed $19,960.00. The LMRWD shall pay SWCD for purchased services at the rates set out in *2019 Dakota County Soil and Water Conservation District Work Plan*.

5. TIME OF PAYMENT. The LMRWD shall make payment to the SWCD within 35 days of the date on which an itemized invoice is received. If an invoice is incorrect, defective, or otherwise improper, the LMRWD shall notify the SWCD within 10 days of receiving the incorrect invoice. Upon receiving the corrected invoice, the LMRWD shall make payment within 35 days.

6. PAYMENT FOR UNAUTHORIZED CLAIMS. The LMRWD may refuse to pay any claim that is not specifically authorized by this Agreement. Payment of a claim shall not preclude the LMRWD from questioning the propriety of the claim. The LMRWD reserves the right to offset any overpayment or disallowance of claim by reducing future payments.

7. PAYMENT UPON EARLY TERMINATION. In the event this Agreement is terminated before the completion of services, the LMRWD shall pay the SWCD for services provided in a satisfactory manner, in a pro-rated sum of the rates set forth in Exhibit 2 based upon actual time spent. In no case shall such payments exceed the LMRWD's total cost under this Agreement.

8. COMPLIANCE WITH LAWS/STANDARDS. SWCD shall abide by all federal, state or local statutes, ordinances, rules and regulations now in effect or hereafter adopted pertaining to this Agreement or to the facilities, programs and staff for which SWCD is responsible.

9. INDEPENDENT CONTRACTOR STATUS. Nothing in this Agreement is intended or should be construed as creating the relationship of a partnership, joint venture or employer-employee relationship between the parties. Officers, employees or agents of one party shall not be considered officers, employees or agents of the other party.

10. SUBCONTRACTING/ASSIGNMENT. A party shall not enter into any subcontract for the performance of the services contemplated under this Agreement nor assign any interest in this Agreement without prior written consent of the other party and subject to such conditions and provisions as are deemed necessary. The subcontracting or assigning party shall be responsible for the performance of its subcontractors or assignees unless otherwise agreed.

11. LIABLE FOR OWN ACTS. Each party to this Agreement shall be liable for the acts of their own officers, employees and/or agents and the results thereof to the extent authorized by law and shall not be responsible for the acts of the other party, its officers, employees and/or agents. It is understood and agreed that the provisions of the Municipal Tort Claims Act, Minn. Stat. ch. 466, and other applicable laws govern liability arising from a party's acts or omissions. In the event of any claims or actions asserted or filed against either party, nothing in this Agreement shall be construed to allow a claimant to obtain separate judgments or separate liability caps from the individual parties. Each party warrants that it has an insurance or self-insurance program and that it has minimum coverage consistent with the liability limits contained in Minn. Stat. ch. 466.

12. AUTHORIZED REPRESENTATIVES. The following named persons are designated the authorized representatives of parties for purposes of this Agreement. These persons have authority to bind the party they represent and to consent to modifications and subcontracts, except that, the authorized representatives shall have only the authority specifically or generally granted by its respective Board. Notification required to be provided pursuant to this Agreement shall be provided to the following named persons and addresses unless otherwise stated in this Agreement, or in a modification of this Agreement.

To SWCD:
Brian Watson, Director
Dakota County SWCD
4100 220th Street West, Suite 102
Farmington, MN 55024
Telephone: (651) 480-7778

To LMRWD:
Linda Loomis, District Administrator
Lower Minnesota River Watershed District
112 E. 5th St.
Chaska, MN 55318
Telephone: (763) 545-4659

13. LIAISONS. To assist the parties in the day-to-day performance of this Agreement and to develop service, ensure compliance and provide ongoing consultation, a liaison shall be designated by SWCD and the LMRWD. The parties shall keep each other continually informed, in writing, of any change in the designated liaison. At the time of execution of this Agreement, the following persons are the designated liaisons:

SWCD Liaison:	Lindsey Albright, Water Resource Specialist
Telephone:	(651) 480-7783
Email:	lindsey.albright@co.dakota.mn.us
LMRWD Liaison:	Linda Loomis, District Administrator
Telephone:	(763) 545-4659
Email:	niadconsulting@gmail.com

14. DEFAULT: FORCE MAJEURE. Neither party shall be liable to the other party for any loss or damage resulting from a delay or failure to perform due to unforeseeable acts or events outside the defaulting party's reasonable control, providing the defaulting party gives notice to the other party as soon as possible. Acts and events may include acts of God, acts of terrorism, war, fire, flood, epidemic, acts of civil or military authority, and natural disasters.

15. DATA PRIVACY. All data created, collected, received, stored, used, maintained, or disseminated in the performance of this Agreement is subject to the requirements of the Minnesota Government Data Practices Act, Minn. Stat. ch. 13 and the Minnesota Rules implementing the Act now in force or hereafter adopted as well as the federal laws on data privacy.

16. OWNERSHIP OF WORK PRODUCT. If SWCD uses LMRWD's copyrighted material in performing work for this Agreement, SWCD will protect LMRWD's right, title and interest in the copyrighted material. Before using a third party's copyrighted material SWCD will get permission from the third-party. Where applicable, work products created by SWCD under this Agreement are "works made for hire" as defined in the U.S. Copyright Act. LMRWD owns the copyright interests in the work product. LMRWD may use, copy and make derivative works of the same, with no duty for an accounting to SWCD. SWCD may use portions or excerpts from the materials prepared under this Agreement.

17. RECORDS DISCLOSURE/RETENTION. Bonds, records, documents, papers, accounting procedures and practices, and other evidences relevant to this Agreement are subject to the examination, duplication, transcription and audit by each party to this Agreement and either the Legislative or State Auditor, pursuant to Minn. Stat. § 16C.05, Subd. 5. Such evidences are also subject to review by the Comptroller General of the United States, or a duly authorized representative, if federal funds are used for any work under this Agreement. Each governmental unit agrees to maintain such evidences for a period of six years from the date services or payment were last provided or made or longer if any audit in progress requires a longer retention period.

18. TERMINATION. Either party may terminate this Agreement for cause by giving seven days' written notice or without cause by giving 30 days' written notice, of its intent to terminate, to the other party. Such notice to terminate for cause shall specify the circumstances warranting termination of this Agreement. Cause shall mean a material breach of this Agreement and any supplemental agreements or amendments thereto. Notice of Termination shall be made by certified mail or personal delivery to the authorized representative of the other party. Termination of this Agreement shall not discharge any liability, responsibility or other right of any party, which arises from the performance of or failure to adequately perform the terms of this Agreement prior to the effective date of termination.

    Notwithstanding any provision of this Agreement to the contrary, either party may immediately terminate this Agreement if it does not obtain funding from the Minnesota Legislature, Minnesota Agencies, or other funding source, or if its funding cannot be continued at a level sufficient to allow payment of the amounts due under this Agreement.

19. MODIFICATIONS. Any alterations, variations, modifications, or waivers of the provisions of this Agreement shall only be valid when they have been reduced to writing and signed by the authorized representatives of the parties.

20. MINNESOTA LAW TO GOVERN. This Agreement shall be governed by and construed in accordance with the substantive and procedural laws of the State of Minnesota, without giving effect to the principles of conflict of laws. All proceedings related to this Agreement shall be venued in the County of Dakota, State of Minnesota.

21. SEVERABILITY. The provisions of this Agreement shall be deemed severable. If any part of this Agreement is rendered void, invalid, or unenforceable, such rendering shall not affect the validity and enforceability of the remainder of this Agreement unless the part or parts that are void, invalid or otherwise unenforceable shall substantially impair the value of the entire Agreement with respect to either party.

22. DISPOSITION OF PROPERTY. Any property purchased with LMRWD money to perform services under this Agreement is owned by LMRWD and will be returned by the SWCD to LMRWD at the termination of this Agreement.

23. FINAL AGREEMENT. This Agreement is the final expression of the agreement of the parties and the complete and exclusive statement of the terms agreed upon, and shall supersede all prior negotiations, understandings or agreements. There are no representations, warranties, or stipulations, either oral or written, not contained in this Agreement.

24. SURVIVORSHIP. The following provisions under this Agreement survive after the termination date of this Agreement: Sections 11 (Liable for Own Acts), 14 (Force Majeure), 15 (Data Privacy), 16 (Ownership of Work Product), 17 (Records Disclosure/Retention), 20 (Minnesota Law to Govern), and 22 (Disposition of Property).

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date(s) indicated below.

LOWER MINNESOTA RIVER WATERSHED DISTRICT

By_____
Jesse Hartmann, President, or successor
Date of Signature_____

DAKOTA COUNTY SOIL AND WATER CONSERVATION DISTRICT

By_____
Laura Zanmiller, Chair, or successor
Date of Signature_____

Approved as to Form:

/s/Helen R. Brosnahan 3/12/19
Helen R. Brosnahan
Assistant Dakota County Attorney/Date

SWCD Board Motion No.19.026
KS-19-116 (EF)

2019 Dakota County SWCD Work Plan and Budget

Prepared for the

Lower Minnesota River Watershed District

TASK – FEN WELL MONITORING (March – December)	**COST ESTIMATE**
Fen Well Monitoring	10 monitoring trips x 5 hrs/trip 50 hours @ $80/hour = $4,000
Data Management, Reporting and Administration	40 hours @ $80/hour = $3,200
Site Maintenance	10 hours @ $80/hour = $800
Supplies	Chalk, rags, batteries, tools = $500
Subtotal	**$8,500**

TASK – EDUCATION AND COMMUNITY ENGAGEMENT	**COST ESTIMATE**
Landscaping for Clean Water Workshops • Conduct 1 Landscaping for Clean Water Introduction Presentation (one evening). • Conduct 1 Landscaping for Clean Water Design Workshop (two evenings).	Introduction Presentation = $0 Design Workshop = $0
• Create promotional materials for classes in partnership with Dakota County Cities and Watershed Orgs, organize course materials, and coordinate with partners. • Push social media posts to promote classes, attend community events to promote classes.	12 hours @ $80/hour = $960
Subtotal	**$960**

TASK - TECHNICAL ASSISTANCE & PROJECT IMPLEMENTATION	**COST ESTIMATE**
Cost Share Program – Landscaping for Clean Water • SWCD staff time for technical assistance for participants • Provide cost share to landowners for up to **6** Landscaping for Clean Water projects including raingardens, native plantings and shoreline stabilization projects consistent with SWCD cost share policies.	Technical Assistance = $3,000 Landowner Incentives: $250/project x 6 projects = $1,500

Technical Assistance As Requested • SWCD staff time for technical assistance for projects *Only as requested by Lower Minnesota River WD*	100 hours @$80/hour = $8,000
Subtotal	**$10,500**

TOTAL AGREEMENT NOT TO EXCEED $19,960

GERNAL INFORMATION REGARDING THE FEN WELL MONITORING PLAN

The Dakota County Soil and Water Conservation District (SWCD) shall conduct well monitoring activities at various fens located within the Lower Minnesota River Watershed District (LMRWD) from March 1, 2019 through December 31, 2019.

Well Monitoring Activities

Twenty eight piezometers of interest are located within the LMRWD (Table 1). The SWCD shall take water level measurements at each of the piezometers described in this project. Measurements will be made using a hand-cranked steel tape graduated in feet, tenths of feet, and hundredths of feet or an electronic water level meter. The equipment for measuring water level will be provided by the SWCD. Results shall be recorded manually and transferred to the Minnesota Department of Natural Resources (MN DNR) well monitoring database following all in-field measurements.

All piezometers will be monitored on a monthly basis, beginning March 2019 through December 2019.

Table 1. Fen Monitoring Locations

Location	Total Number of Piezometers to be Monitored
Fort Snelling Fen	13
Quarry Island Fen	2
Nicols Fen	13
Total	28

Data Analysis and Project Reporting

At the conclusion of the annual well monitoring effort, the SWCD shall provide the LMRWD District Administrator a report summarizing the findings resulting from annual monitoring activities. Monitoring data will be made available on the MN DNR Groundwater Level Data website
http://www.dnr.state.mn.us/waters/groundwater_section/obwell/waterleveldata.html

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 4. F. - Authorize Agreement between the Lower Minnesota River Watershed District and the Scott Soil and Water Conservation District for Monitoring, Technical, Education and Other Conservation Services

Prepared By
Linda Loomis, Administrator

Summary
The Scott County SWCD provides monitoring services for the LMRWD of resources within Scott County. In 2018, the District asked the SWCD to begin monitoring Eagle Creek for Chloride and to conduct additional thermal monitoring of Eagle Creek. The SWCD also administers the Cost Share Program for the LMRWD and provides technical assistance to residents of Scott County within the LMRWD. Services are provided on a time and materials basis.

Well monitoring in Savage fen	$1,966.50
Eagle Creek WOMP Station monitoring	$13,376.12
Dean Lake monitoring	$6,641
Technical Assistance	$2,021.51
Education and Outreach	$4,075.5
Cost Share	$250
Reporting & Administration	$2,565.50
TOTAL:	$30,896.13

The LMRWD receives reimbursement for a portion of the cost to monitor the Eagle Creek WOMP (Watershed Outlet Monitoring Program) station from Metropolitan Council Environmental Services.

The LMRWD participates in the Scott Clean Water Education Partnership (SCWEP). This partnership provides water resource education to residents of Scott County. The 2019 work plan and 2018 Annual Report for the SCWEP are attached for the Board's information.

Attachments
Agreement between the Lower Minnesota River Watershed District and the Scott Soil and Water Conservation District for Monitoring, Technical, Education and Other Conservation Services
2019 SCWEP Work Plan
2018 SCWEP Annual Report

Recommended Action
Authorize Agreement between the Lower Minnesota River Watershed District and the Scott Soil and Water Conservation District for Monitoring, Technical, Education and Other Conservation Services

AGREEMENT BETWEEN THE LOWER MINNESOTA RIVER WATERSHED DISTRICT AND THE SCOTT SOIL AND WATER CONSERVATION DISTRICT FOR MONITORING, TECHNICAL, EDUCATION, AND OTHER CONSERVATION SERVICES

This Contract for Services (Contract) is made and entered into between the Lower Minnesota River Watershed District ("LMRWD"), a body corporate and politic, and the Scott Soil and Water Conservation District, an independent contractor ("Contractor" or "SSWCD").

WHEREAS, the LMRWD is in need of services from SSWCD as set forth in the Statement of Work, attached hereto as Attachment 1, and the SSWCD desires and is capable of providing such services.

NOW, THEREFORE, in consideration of the mutual promises and agreements contained herein the parties agree as follows:

1. TERM

This Contract shall be in effect as of January 1, 2019, notwithstanding the dates of the signatures of the parties, and shall continue through December 31, 2019, unless earlier terminated by law or according to the provisions herein.

2. CONTRACTOR'S OBLIGATIONS

The LMRWD hereby contracts with the SSWCD to provide services related to monitoring (water quality, thermal and well), technical assistance and cost share, education, and other engineering, technical and administrative services, as set forth in Attachment 1 - 2019 Statement of Work.

The Services shall commence immediately upon receipt of notice to proceed from the LMRWD Administrator, who will serve as the LMRWD's agent for such services and will administer this Contract.

3. PAYMENT

3.1 Invoicing. The SSWCD will invoice the LMWRD on a time and materials basis. The maximum amount for which the SSWCD may invoice the LMRWD under this Agreement shall be $40,450, unless otherwise authorized in advance by the LMRWD Administrator. As set forth in Attachment 1, monitoring services shall not exceed $29,400; landowner technical assistance and cost share shall not exceed $6,200, education services shall not exceed $4,100; and other technical and administrative services shall not exceed $750. The SSWCD shall not invoice the LMRWD for any additional or other time or materials without prior authorization by the LMRWD Administrator.

3.2 Compensation. The SSWCD will invoice for services according to the following hourly rates:

Conservation Program Assistant	$47
Resource Conservation Technician; Education Coordinator	$62
Ecological Specialist; Water Resources Specialist	$67
Resource Conservationist I; Engineering Technician; Finance and Accounting Specialist	$72
Resource Conservationist II	$77
District Manager	$85

3.3 Time of Payment. The LMRWD shall make payment to SSWCD within sixty (60) days of the date on which an itemized invoice is received. If the invoice is incorrect, defective, or otherwise improper, the LMRWD will notify The SSWCD within ten (10) days of receiving the incorrect invoice. Upon receiving the corrected invoice from the SSWCD, the LMRWD will make payment within thirty-five (35) days.

3.4 Payment for Unauthorized Claims. The LMRWD may refuse to pay any claim that is not specifically authorized by this Contract. Payment of a claim shall not preclude the LMRWD from questioning the propriety of the claim. The LMRWD reserves the right to offset any overpayment or disallowance of claim by reducing future payments.

3.5 Payment Upon Early Termination. In the event this Contract is terminated before the completion of services, the LMRWD shall pay to the SSWCD, for services provided in a satisfactory manner, a sum based upon the actual time spent at the rates stated in paragraph 3.2. In no case shall such payment exceed the total contract price.

4. COMPLIANCE WITH LAWS/STANDARDS

4.1 General. Contractor shall abide by all Federal, State or local laws, statutes, ordinances, rules and regulations now in effect or hereinafter adopted pertaining to this Contract or to the facilities, programs and staff for which Contractor is responsible.

4.2 Minnesota Law to Govern. This Contract shall be governed by and construed in accordance with the substantive and procedural laws of the State of Minnesota, without giving effect to the principles of conflict of laws. All proceedings related to this Contract shall be venued in the State of Minnesota, County of Scott.

5. INDEPENDENT CONTRACTOR STATUS

The SSWCD is an independent contractor and nothing herein contained shall be construed to create the relationship of employer and employee between LMRWD and the SSWCD. The SSWCD shall at all times be free to exercise initiative, judgment and discretion as to how to best perform or provide services. The SSWCD shall have discretion as to working methods, hours and means of operation. The SSWCD acknowledges and agrees that the SSWCD is not entitled to receive any of the benefits received by LMRWD employees and is not eligible for workers' or unemployment compensation benefits. The SSWCD also acknowledges and agrees that no withholding or deduction for state or federal income taxes, FICA, FUTA, or otherwise, will be made from the payments due the SSWCD and that it is the SSWCD's sole obligation to comply with the applicable provisions of all federal and state tax laws.

6. SUBCONTRACTING

6.1 The parties shall not enter into any subcontract for the performance of the services contemplated under this Contract nor assign any interest in the Contract without prior written consent of all parties and subject to such conditions and provisions as are deemed necessary. The subcontracting or assigning party shall be responsible for the performance of its subcontractors or assignees unless otherwise agreed.

6.2 Any subcontractor approved by the LMRWD will be required to provide proof of insurance to the LMRWD in coverage and amount the same as the SSWCD. Prior to or concurrent with execution of this Contract, the SSWCD shall file certificates or certified copies of its subcontractor(s)' policies of insurance with the LMRWD. All fees for services and all job supervision will remain the obligation of the SSWCD.

6.3 The SSWCD agrees to pay any subcontractor within ten (10) days of the SSWCD's receipt of payment from the LMRWD for undisputed services provided by the subcontractor. The SSWCD agrees to pay interest of 1½ percent per month or any part of a month to the subcontractor on any undisputed amount not paid on time to the subcontractor. The minimum monthly interest penalty payment for an unpaid balance of $100 or more is $10.

7. INDEMNIFICATION

Each party to this Contract shall be liable for its own acts and the results thereof to the extent authorized by law and shall not be responsible for the acts of the other party, its officers, employees or agents. Each party hereby agrees to indemnify, hold harmless and defend the other, its officers, employees or agents, against any and all liability, loss, costs, damages, expenses, claims or actions, including attorney's fees which the other party, its officers, employees or agents, may sustain, incur or be required to pay, arising out of or by reason of any act or omission of the party, its officers, employees or agents, in the execution, performance, or failure to adequately perform its obligations pursuant to this Contract. Minn. Stat. Ch. 466 and other applicable laws shall govern the liability of the LMRWD.

8. INSURANCE

8.1 General Terms. At its own expense and in order to protect the SSWCD and to protect the LMRWD under the indemnity provisions set forth above, The SSWCD shall procure and maintain policies of insurance covering the term of this Contract, as set forth in the Insurance Terms, unless waived or amended by the LMRWD in writing.

8.2 Certificates. Prior to or concurrent with execution of this Contract, the SSWCD shall file certificates or certified copies of such policies of insurance with the LMRWD.

8.3 Failure to Provide Proof of Insurance. The LMRWD may withhold payments or immediately terminate this Contract for failure of the SSWCD to furnish proof of insurance coverage or to comply with the insurance requirements as stated above.

9. FORCE MAJEURE

Neither party shall be held responsible for delay or failure to perform when such delay or failure is due to any of the following unless the act or occurrence could have been foreseen and reasonable action could have been taken to prevent the delay or failure: fire, flood, epidemic, strikes, wars, acts of God, unusually severe weather, acts of public authorities, or delays or defaults caused by public carriers; provided the defaulting party gives notice as soon as possible to the other party of the inability to perform.

10. OWNERSHIP, COPYRIGHTS AND FUTURE USE OF WORK PRODUCT

Upon the completion of this Contract, all work product, data compilations, and materials of any kind, regardless of the format in which they exist will become the sole and exclusive property of the LMRWD. The SSWCD, at the request of the LMRWD, shall execute any necessary documents to transfer ownership rights to the LMRWD. Whenever any invention, improvement, or discovery (whether or not patentable) is made or conceived for the first time, actually or constructively reduced to practice by the SSWCD or its employees or agents in the course of or in connection with this Contract, the SSWCD shall immediately give the LMRWD's authorized representative written notice and complete information thereof.

In all publications or press releases or presentations to the public where data collected or compiled in the performance of this contract is disseminated. The SSWCD shall acknowledge funding by the LMRWD for all or part of the costs of making such information available to the public.

11. TERMINATION

Either party may terminate this Contract for cause by giving seven (7) days' written notice or without cause by giving thirty (30) days' written notice, of its intent to terminate, to the other party. Such notice to terminate for cause shall specify the circumstances warranting termination of the Contract. Cause shall mean a material breach of this Contract and any supplemental agreements or amendments thereto. This Contract may also be terminated by the LMRWD in the event of a default by the SSWCD. In the event this Contract is terminated for cause, the SSWCD shall be entitled to payment determined on a pro rata basis for work or services satisfactorily performed. Notice of Termination shall be made by certified mail or personal delivery to the authorized representative of the other party. Termination of this Contract shall not discharge any liability, responsibility or right of any party, which arises from the performance of or failure to adequately perform the terms of this Contract prior to the effective date of termination.

12. CONTRACT RIGHTS/REMEDIES

12.1 Rights Cumulative. All remedies available to either party under the terms of this Contract or by law are cumulative and may be exercised concurrently or separately, and the exercise of any one remedy shall not be deemed an election of such remedy to the exclusion of other remedies.

12.2 Waiver. Waiver for any default shall not be deemed to be a waiver of any subsequent default. Waiver of breach of any provision of this Contract shall not be construed to be modification for the terms of this Contract unless stated to be such in writing and signed by authorized representatives of the LMRWD and the SSWCD.

13. AUTHORIZED REPRESENTATIVES

The following named persons are designated the authorized representatives of parties for purposes of this Contract. These persons have authority to bind the party they represent and to consent to modifications and subcontracts, except that, as to the LMRWD, the authorized representative shall have only the authority specifically or generally granted by the Board. Notification required to be provided pursuant to this Contract shall be provided to the following named persons and addresses unless otherwise stated in this Contract, or in a modification of this Contract.

To the SSWCD:

Robert Casey, Chair
Scott Soil and Water Conservation District
7151 W. 190th Street, Suite 125
Jordan, MN 55352
Telephone: (952) 492-5425

To the LMRWD:

Jesse Hartmann, President
Lower Minnesota River Watershed District
112 E 5th Street
Chaska, MN. 55318
(612) 232-7820

14. LIAISON

To assist the parties in the day-to-day performance of this Contract and to define services, ensure compliance and provide ongoing consultation, a liaison shall be designated by the SSWCD and the LMRWD. The parties shall keep each other continually informed, in writing, of any change in the designated liaison. At the time of execution of this Contract, the following persons are the designated liaisons:

SSWCD Liaison:

Troy Kuphal, District Manager
Scott Soil and Water Conservation District
7151 W. 190th Street, Suite 125
Jordan, MN 55352
Telephone: (952) 492-5425

LMRWD Liaison:

Linda Loomis, Administrator,
Lower MN River Watershed District
6677 Olson Memorial Highway
Golden Valley, MN 55427
763-545-4659

15. MODIFICATIONS

Any alterations, variations, modifications, or waivers of the provisions of this Contract shall only be valid when they have been reduced to writing, signed by authorized representatives of the LMRWD and SSWCD.

16. SEVERABILITY

The provisions of this Contract shall be deemed severable. If any part of this Contract is rendered void, invalid, or unenforceable, such rendering shall not affect the validity and enforceability of the remainder of this Contract unless the part or parts which are void, invalid or otherwise unenforceable shall substantially impair the value of the entire Contract with respect to either party.

17. MERGER

17.1 Final Agreement. This Contract is the final expression of the agreement of the parties and the complete and exclusive statement of the terms agreed upon, and shall supersede all prior negotiations, understandings or agreements. There are no representations, warranties, or stipulations, either oral or written, not herein contained.

17.2 Attachments. Attachment 1 attached and incorporated herein by reference.

- Attachment 1 – 2019 STATEMENT OF WORK

IN WITNESS WHEREOF, the parties hereto have executed this Contract on the date(s) indicated below.

FOR LOWER MINNESOTA RIVER WATESHED DISTRICT

By: _____
Board Chair

Date:_____

FOR SCOTT SOIL AND WATER CONSERVATION DISTRICT

By: _____
Board Chair

Date: _____

ATTACHMENT 1: 20198 STATEMENT OF WORK

This Statement of Work (SOW) is made pursuant to and governed by the approved 2018 Contract for Services between Lower Minnesota Watershed District ("LMRWD") and Scott Soil & Water Conservation District (SSWCD), and defines the specific monitoring, conservation education and technical assistance, and other technical and field support services the SWCD will perform for the LMRWD in connection with said Contract for Services.

Task I. Monitoring ($25,200)

Scope of Work
The SSWCD will assist the LMRWD with planning and implementing its water quality, thermal and well monitoring programs.

A. Eagle Creek Water Quality and Flow Monitoring ($7,600)
- Collect monthly base-flow samples and storm event composite samples
- Deliver samples to the MCES lab
- Maintain and calibrate sonde
- Collect flow measurements
- Log, process and complete QA/QC of data

B. Eagle Creek Thermal Monitoring ($2,900)
- Collect data from loggers
- Data management and analysis
- Maintain sites and equipment
- Includes additional monitoring per approved 2018 project proposal

C. Eagle Creek – Spring 2019 Chlorides Monitoring ($7,400)
- Bi-weekly and event grab samples
- Lab analysis costs
- Data management and analysis

D. Water Quality and Flow – Dean Lake ($6,900)
- Collect monthly base-flow samples and storm event composite samples
- Deliver samples to the MCES lab
- Maintain and calibrate sonde
- Collect flow measurements
- Log, process and complete QA/QC of data

E. Well Monitoring ($2,300)
- Collect depth-to-water readings monthly
- Enter data into DNR database
- Maintain sites and well monitoring equipment

F. Reporting ($2,300)
- Prepare written annual data and analysis report for all monitoring
- Prepare and deliver summary presentation
- Prepare and present proposed work plan and budget for 2019

Task II. Technical Assistance and Cost Share ($6,200)

Scope of Work

The SWCD will provide technical and cost share assistance to landowners within the DISTRICT in support of implementation of conservation behaviors and best management practices that reduce soil erosion, decrease runoff volume, and improve water quality. The SWCD will assist landowners who contact the SWCD directly or who are referred by the DISTRICT for conservation program information and/or technical assistance. Cost share may be provided for projects that meet eligibility and other relevant criteria in accordance with the SSWCD's cost share program policy docket, subject to available funding.

A. Technical Assistance ($4,000)

a) Project Scoping and Pre-Approval
- Meet with landowners to clarify goals and interests
- Conduct preliminary off- and/or on-site research
- Determine project feasibility and eligibility

b) Project Development
- Complete technical assessment
- Collect and submit soil samples for nutrient analysis, when applicable
- Conduct topographic surveys if necessary
- Meet with landowner to finalize decisions and secure commitments
- Prepare technical and environmental assessments
- Prepare concept plans and cost estimates

c) Administrative Activities
- Prepare and process contract applications, fact sheets, and payment vouchers
- Prepare and send letters of decision (approval or denial)
- Prepare and issue cost share checks, upon certified completion
- Track and report budget activity
- Project/file close out

d) Design Activities
- Conduct surveys
- Prepare and review designs, specifications, and final cost estimates (or coordinate same if engineering services are outsourced)
- Apply for/secure applicable permits
- Prepare Operation and Maintenance agreements
- If requested submit design packet to the DISTRICT for review prior to construction

e) Construction Activities
- Coordinate and lead pre-construction meetings
- Stake projects
- Inspect/supervise construction
- Prepare as-built drawings
- Provide construction certification

f) Cost share
- This is pass- through for landowners that install practices ($2200)
- Stake projects
- Inspect/supervise construction
- Prepare as-built drawings
- Provide construction certification

B. Cost Share ($2,200)

a) This is pass-through to cooperators that install conservation practices
b) Advance cost share application approval and final construction certification is required in accordance with SWCD cost share policies

Task III. Education and Outreach ($4,100)

Scope of Work

The SWCD will provide various educational programming services, as described below.

A. Raingarden Workshop

The SWCD will plan, coordinate and host one Blue Thumb workshop

- Plan and prepare workshop details in coordination with the WMO, PLSLWD and Cities of Prior Lake and Savage
- Develop promotional and informational materials and resources
- Plan and implement media marketing/promotion plan
- Coordinate and manage registrations and venue set-up and take-down
- Prepare and present information
- Post-workshop review and follow up with landowners

B. SCWEP Activities

The SWCD will plan, coordinate and execute events and activities as identified in the 2017 Scott Clean Water Education Program (SCWEP) work plan. These services have multi-jurisdictional benefit and are supported by funding contributions by all SCWEP partners.

C. Other Education Activities

The SWCD will help provide support and assistance with other education efforts as may be requested by the District, including but not limited to developing education and promotion materials and assisting with special event planning and coordination.

Task IV. Other Services ($750)

Scope of Work

The SWCD will provide the following and technical services on an as-needed basis:

- Provide consultation on activities related to soil and water resources within the LMRWD
- Conduct or assist with LMRWD compliance reviews
- Review development plans for compliance with LMRWD standards
- Conduct construction inspections and oversight to ensure compliance with LMRWD standards
- Assist with surveys, construction supervision, and/or project management for capital improvement projects
- Conduct or assist with inventory and/or mapping projects
- Assist with monitoring plan development
- Attend LMRWD-sponsored meetings, including but not limited to Board and TAC meetings
- Assist with development of plans, including but not limited to Comprehensive Water Resources Management Plan and TMDL Implementation Plans
- Assist with planning and development of LMRWD cost share program
- Other services as may be requested

Scott Clean Water Education Program
2019 Work Plan

SCWEP
SCOTT CLEAN WATER EDUCATION PROGRAM

Prepared by:
Sarah Cotton, SCWEP Program Coordinator
Scott Soil and Water Conservation District

Introduction

The Scott Clean Water Education Program (SCWEP) began in 2010. This work plan builds off the progress and momentum that has developed since then, and focuses on improving and expanding activities that the current partnership believes will provide the greatest, most cost-effective impact.

The goal of SCWEP is to make clean water choices second nature for all who live and work in Scott County. SCWEP will utilize the "Clean Water Starts with Me!" message to help create a new "normal" in terms of how citizens of Scott County think of stormwater runoff and their roles in making a difference. The objective throughout implementation of this work plan is to make this message personal. "Clean Water Starts with Me!" can be paired with outreach targeted at agricultural, rural, shoreline, and urban residents, which allows the clean water message to be tailored to reach a wide audience. SCWEP will work towards their goal with both consistent, long-term broad-based messaging and focused, hands-on workshops and citizen engagement events tailored to target-specific audiences.

Scott County has a bountiful share of natural water resources, including more than 90 lakes totaling over 11,600 acres, thousands of wetland basins totaling more than 33,500 acres, and approximately 280 miles of public rivers, stream and creeks, including all of Eagle Creek and headwaters of the Vermillion River, both classified trout streams. SCWEP's partners envision a future where clean water flows throughout Scott County.

Partners

Members of the SCWEP partnership believe more can be accomplished by working together. By collaborating, we eliminate overlapping programs, prevent inconsistent and duplicative messaging, and achieve similar outcomes at lower costs. The 2018 SCWEP partners are:

- Scott Watershed Management Organization
- Scott Soil and Water Conservation District
- Prior Lake-Spring Lake Watershed District
- Vermillion River Watershed Joint Powers Board
- Lower Minnesota River Watershed District
- Spring Lake Township
- Credit River Township
- Jackson Township
- Louisville Township
- Scott County

When and where possible, SCWEP will also collaborate with other agencies and organizations and implement outreach programs with similar goals and objectives in Scott County. This will help to achieve an even greater level of overall consistency, reach, and cost effectiveness. Other entities with which collaboration will be sought include but will not be limited to: the Cities of Prior Lake, Savage, Shakopee, Belle Plaine, Elko New Market, Jordan and New Prague; the University of Minnesota Extension Service; Scott/Carver Extension Master Gardeners; Shakopee Mdewakanton Sioux Community; Three Rivers Park District; and the Natural Resources Conservation Service.

Audiences

As in past years, the SCWEP Work Plan will target and customize its "Clean Water Starts with Me!" campaign to three general audiences. These audience and the respective goals and objectives include the following:

AUDIENCE: Agriculture/Rural Landowners	
Goal	Land management decisions are made with conservation in mind and to minimize detrimental impacts to water resources.
Objectives	1) Educate producers and landowners on local water quality impairments and show them how implementing BMPS can have a positive impact (i.e. improve soil productivity) 2) Provide technical assistance and cost-share opportunities for the adoption of priority practices including but not limited to gully erosion control, cover crops, filter strips and riparian buffers, livestock manure management and appropriate fertilizer use
2019 Emphasis	Soil health and cover crops, runoff volume reduction (native prairie, wetland restoration, etc.), and whole farm conservation planning
AUDIENCE: Community Groups, Schools and Government	
Goal	Enhance the quality of and opportunities for conservation leadership, education and outreach.
Objectives	1) Increase awareness among community leaders and employees about water quality issues and solutions. 2) Provide speaking engagements and educational opportunities that introduce soil and water conservation topics. 3) Encourage volunteerism and foster relationships and networks that will result in improved water quality and personal accountability.
2019 Emphasis	Chloride reduction from smart winter salt use, and natural landscaping in public spaces
AUDIENCE: Urban and Lakeshore Residents	
Goal	Landscape design and maintenance choices protect water quality and reduce runoff.
Objectives	1) Educate residents on how water is managed in urban environments and about ways they can positively impact water quality in their everyday lives. 2) Offer information, workshops, and technical assistance on the adoption of suitable BMPs, such as water-wise lawn care, native shorelines, increased natural landscaping, raingardens and porous pavement.
2019 Emphasis	Homeowner responsibility for stormwater runoff: chloride reduction from smart winter salt use, water-friendly lawn care, raingardens, rain barrels, and native plantings

Programming

SCWEP will apply both passive and active marketing and outreach techniques to connect with the identified audiences in Scott County. Generally speaking, active techniques consist of activities that are targeted, hands-on and engage with very specific audiences. They are point-in-time events that are scheduled according to seasonal relevance. They take significant time and resources to plan and implement, relatively speaking, but are also more likely to have a greater impact in terms of desired outcomes (i.e., changed behaviors). Examples include workshops, field demonstrations, targeted mailings, tours, and one-on-one landowners meetings. Passive activities, by contrast, are intended to reach large audiences and deliver consistent, base messaging. They have a lower impact relative to active techniques, but are also comparatively easy and inexpensive to implement. Examples include news articles and event displays that focus on the effects of how our decisions impact water quality and the positive or negative impacts we are responsible for on Scott County water bodies.

SCWEP will also utilize Community Based Social Marketing (CBSM). The main components of CBSM are: selecting behaviors to change, identifying the barriers and benefits of the change, developing strategies, testing the strategies, and implementing the strategies on a large scale. CBSM is needed because knowledge alone does not cause a change in behavior. Informational campaigns such as brochures, flyers, and mailings can be ineffective if used by themselves. If, however, the information distribution is followed up with hands-on strategies, there is a higher likelihood that the target audience will change their behavior.
CBSM is already a part of SCWEP with its workshops targeted at a specific audience in which a local expert teaches the class. Financial barriers are broken down by cost-share or incentives and all attendees are contacted after the class to further encourage them to follow through with the project. CBSM is also being utilized with educational signs marking conservation projects. The signs give the landowners a sense pride about their project and since it is marked it will help motivate the landowner to maintain the project. The language on the signs include: “Ask Me How!” inviting neighbors to inquire about the project. Once landowners across the county have signs up in their yards, the public will notice that conservation projects are happening everywhere. A new way CBSM will be utilized in 2019 is with a sidewalk salting demonstration. The public will see in person how much salt is really needed on a winter sidewalk, and will be given the opportunity to try it right there on the display. They will also be given a small cup to put in their container of deicer with instructions on how much salt is needed. This will remind them of the demonstration and encourage them to use less salt. These hands-on approaches paired with the broader spreading of information will help SCWEP reach a wide audience and get some of them to make changes. Once some people make the changes, people around them will notice, and the clean water changes will begin to be the new norm.

Listed below are the planned SCWEP activities for 2019. New activities are highlighted.

Events and Activities	Dates	Objective	MS4 Activity
Agriculture/Rural Landowners			
Native Prairie Workshop	March 13	1	X
Cover Crop Workshop	March 14	1	X
Nitrate Water Testing Clinic	April 26	1	X
Tree/Native Seed Mix Order Pickup	April 26	1	
Conservation Leaders/Awards	Fall/Winter	1	
Cover Crop field days	Spring and Fall	1	X
Promote native grass planting	Ongoing	1	X
Promote buffer BMPs	Ongoing	1	X
Promote Cover Crop/Soil Health BMPs	Ongoing	1, 2	X
Promote nutrient and manure management	Ongoing	1, 2	X
Provide technical assistance and cost share for agricultural BMPs	Ongoing	2	
Cover Crop videos	Ongoing	1	
Targeted outreach to producers in areas with high bacteria levels	August	1	X
Conservation Practice Videos & Photo Gallery	Ongoing	1	X
Native Prairie Door Hangers	Ongoing	2	X
Community Groups, Schools, Government			
Scott WMO/SWCD Conservation Tour	September 23	1	
Education presentations to community leaders (WPC, Citizen Advisory Committee, etc.)	Ongoing	1	
Outdoor Education Days	Sept 23-27	2	
Clean-Water Clean-Up, rake the lake event	Spring and Fall	3	X
Sportsmen's Club Relationship Building	Ongoing	3	X
Lake Association Relationship Building	Ongoing	3	X
Share and promote Watershed Stewards Mini-Grants	Ongoing	3	
Send out Smart Salting postcards to faith based organizations and nursing homes	Winter	1	X
Promote chloride reduction (winter salt and softener salt)	Ongoing	3	X
Urban and Lakeshore Residents			
Raingarden workshop	April 18	2	X
University of MN Extension Garden Fever	April 6	1	X
Jordan Showcase	April 7	1	X
Scott County Fair	July 24 to 28	1	X
Prior Lake Community Fest	September 16	1	X
SCWEP Banner Display	Ongoing	1	X

Landowner Success Stories	Bi-monthly	1	X
Conservation Themes/Hallway	Rotated seasonally	1	
Cooperative Media Plan	Ongoing	1	
Storm Drain Stencil Kit	As requested	1	X
Project signage: Raingarden, Native Prairie, Native Shoreline	Ongoing	1	X
Promote "unintentional" pollution and illicit discharge prevention	Ongoing	1	X
Promote proper disposal of hazardous waste via HHW facility	Ongoing	1	X
Mail postcard to residents who recently purchased 2+ acres about services: technical assistance, designing, cost-share, etc.	Send out annually	1	X
Shoreline Workshop	June 11	2	X
Mailing to new lakeshore residents about technical assistance, cost-share, and workshops	Summer	2	
Raingarden Tour	Summer	2	X
Native Shoreline video	Summer	1	
Autumn Fare Demonstration: Smart Salting	October	2	X
Distribute smart salting cups	Winter	1	X

Programming Highlights

Workshops
Workshops on a variety of topics including native prairie, shorelines, raingardens, and cover crops are offered throughout the year. Many of the practices highlighted in the workshops are eligible for technical assistance and cost-share grants or incentives payments. The workshops are free and provide Scott County residents with an opportunity to learn more conservation practices and start the conversation about technical assistance and cost share, which may ultimately lead to conservation practices being installed.

Outdoor Education Day
Every fall middle school students from across Scott County come to Outdoor Education Day to learn about conservation. Students rotate through six stations focused on forestry, wildlife, conservation, soil health, the water cycle, and pond macro-invertebrates. Stations are taught by natural resource professionals from many partner organizations. Outdoor Education Day is the main activity that SCWEP utilizes to directly reach Scott County youth. It gives SCWEP a chance to teach the value of resource conservation to residents at a young age.

Scott WMO/SWCD Conservation Tour
The Scott WMO and SWCD host an annual conservation tour for local county officials to visit conservation projects throughout the county. This tour is a great opportunity to show how conservation is working in Scott County and show how dollars are being spent. By showcasing conservation projects to county officials, we give them have a better understanding of the importance of conservation, and they can see that over time real changes are being made in the county.

Success Stories
News articles, including personal accounts from residents who have installed conservation projects, will be used to promote SCWEP activities and events. For example, in 2018 a success story featured a landowner who received cost-share and technical assistance for a shoreline restoration project. This success story illustrated that community members are already working towards conservation while also letting the reader know that cost-share and technical assistance options are available. Through success stories we will illustrate that everyday citizens are doing their part in keeping the water clean. Success stories highlight those who are doing their part for clean water and begin to create a new normal by showing that residents are changing their behaviors.

Conservation Leaders Program
Each year, a local resident or organization is chosen as a Conservation Leader. Many times, the Conservation Leader is also nominated for the MASWCD Outstanding Conservationist Award. Recognizing conservation leaders each year helps us show Scott County residents that some of their neighbors are already changing their behaviors, thus beginning to create a new normal.

Project Signage
Signs will be provided to interested landowners who installed raingardens, shoreline restorations, and native prairie identifying their projects. These signs give landowners a sense of pride in their project and show others in the community that conservation practices are happening all around them. The first of these signs were installed in 2018, and will continue to be put up as more projects are installed. The more signs that are up, the more the community will notice that something is happening.

Participation in Community Events
SCWEP participates in community expos and other relevant events, including but not limited to Garden Fever, Jordan Showcase, Prior Lake Community Fest and the Scott County Fair by putting up the "Clean Water Starts with Me!" display, staffing a table with rack cards and information, and interacting with the community. Attendance at community events is important because it serves as a reminder to residents that SCWEP partner organizations are available and gives residents that may not visit the offices a chance to talk with staff and start a conversation.

News Articles and Press Releases
News articles and press releases provide an avenue for marketing messages and allow SCWEP to keep a consistent presence in the public eye. A timeline of proposed articles is provided in the appendix. News articles and press releases keep water resource conservation at the top of residents' minds. If someone sees our messaging once, they may ignore it, but the more they see it the more likely they are to think about it which may lead to behavioral change.

Chloride Reduction Strategies
Chloride pollution is a growing concern for Scott County's water resources. Smart salting classes and demonstrations, giving out salt measuring cups, and educating the public about why chloride pollution is a problem through news articles and press releases are ways SCWEP will continue to promote chloride reduction.

MS4 Activity Detail

There are six minimum control measures (MCMs) defined in the MS4 Permit, including:

1. Public Education and Outreach
2. Public Participation and Involvement
3. Illicit Discharge Detection and Elimination
4. Construction Site Storm Water Runoff Control
5. Post-Construction Stormwater Management in New and Redevelopment
6. Pollution Prevention/Good Housekeeping for Municipal Operations

This work plan is designed in part to meet the requirements of MCM 1 for partner MS4 Permitted communities. In addition to the public education and outreach, staff at the SWCD and WMO are available to assist MS4 communities in preparing their annual SWPPP and public meetings and MS4 audits when requested.

Budget

The 2019 SCWEP budget is $104,673. The budget has increased from 2018 primarily due to additional funding from the SWMO for additional chloride outreach and education.

Outcomes, Evaluation and Reporting

The SCWEP goal – to make clean water choices second nature for all who live and work in Scott County – will be reviewed throughout the year. It can be difficult to track progress towards this goal because behavior changes are not easily measured. We cannot count how many people stopped blowing lawn clippings onto the gutter, used less salt in the winter, or chose not to dump waste in a storm water drain as a result of SCWEP activities. There are, however, some metrics that act as indicators of change, and that is what the SCWEP evaluation is based on. These measurements include:

- Number of participants at SCWEP hosted events or workshops
- Number of direct mailings, brochures and flyers distributed
- Number of published press releases and articles
- Number of requests for technical assistance
- Number of best management practices completed through a partner organization

These numbers can be found in SWCEP's Annual Reports. They are important part of SCWEP, as these numbers are used in many partners' MS4 reporting. These measurements many not give a perfect picture of SCWEP's impact, but they be used as indicators of broader behavioral change and help shape future SCWEP programming. Evaluation continues to be an important component in understanding the effectiveness of the "Clean Water Starts with Me!" campaign.

Goals Beyond 2019

The activities outlined in this report are geared toward achieving positive behavior change for the long term. This is an ongoing process and changes in perceptions and lasting behaviors are difficult to measure. Many of these activities will be repeated in future years as a constant reminder to the public that "Clean Water Starts with Me." As new ideas and opportunities emerge, new activities will be added to keep SCWEP relevant and reaching as many people as possible. SCWEP goals beyond 2019 include:

- Changing residents' way of thinking about stormwater runoff and their roles in making a difference to water quality
- Providing support and programming to partner agencies and others
- Showing the public that their everyday decisions do matter by including personal success stories in press releases and outreach
- Increasing workshop participation numbers to create greater impact and personal behavior change
- Building and enhancing partnerships between SCWEP and local citizen groups (i.e., lake associations, lake residents, sportsmen's clubs, existing social networks, community service clubs, etc.)

Scott Clean Water Education Program
2018 Annual Report

SCWEP
SCOTT CLEAN WATER EDUCATION PROGRAM

Prepared By:

Sarah Cotton, SCWEP Coordinator
Scott Soil and Water Conservation District

Background

The Scott Clean Water Education Program (SCWEP) started in 2010, and has been updated continually during the last eight years so the program can affectively educate and inform Scott County residents. The program's goal is to make clean water choices second nature for all who live and work in Scott County. SCWEP has incorporated the goal into the marketing materials using the theme of "Clean Water Starts with Me!"

2018 Highlights

Workshops

In 2018, SCWEP offered native prairie, shoreline, and cover crop workshops. The workshops are promoted by submitting the workshop information to city utility bill mailers and local papers' community calendars, distributing promotional flyers, and utilizing social media. Registration for the workshops is simple using the on-line registration tool, Eventbrite.com.
Due to low attendance numbers in the past few years no raingarden workshop was offered in 2018, but the workshop will be held again in 2019.
2018 Workshop attendance: 21 participants at the Native Prairie Workshop, 6 participants at the Shoreline Workshop, 130 participants at the multi-county Cover Crop workshop.

Conservation Leaders Program

Recognizing conservation leaders each year helps to illustrate to Scott County residents that some of their neighbors are already changing their behaviors, thus beginning to create a new normal. Scott County in Partnership with Three Rivers Park District was chosen as the 2018 Conservation Leader of the Year. They were also nominated for the MASWCD Outstanding Conservationists of the Year award, and were recognized at the MASWCD Annual Convention in December.

WMO Thank You Event

In August the WMO hosted a Thank You Picnic for landowners who had done conservation practices in the WMO in the last five years. The event featured live music, a barbeque dinner and keynote speaker, with around 200 people in attendance. This event served as a way to thank landowners involved in conservation, and for them to see that their neighbors are doing conservation too.

Outdoor Education Days

2018 was the 33rd year of Outdoor Education Days. This year 1,070 students from 13 schools were part of the fall outing for Scott County fifth graders from Belle Plaine, New Prague, Shakopee, and Savage. Student numbers were down because two of the days had to be rescheduled due to rain, and three schools were unable to reschedule. The six OED stations focused on forestry, wildlife, soil health, the water cycle, pond macro-invertebrates, and conservation. The stations were taught by staff from the Scott SWCD, Scott WMO, Prior Lake Spring Lake Watershed District, and Three Rivers Park District. In 2018 the Conservation Station was added replacing the Plant Station. At the new Conservation Station students learned about why it is important to conserve water and how they can do so in their lives. The station was added to emphasize that each student can make a difference in conserving natural resources. At the end of each day, CLIMB Theatre put on a production about recycling and composting. Outdoor Education Day is the main activity that SCWEP utilizes to directly reach Scott County youth.

Scott WMO/SWCD Conservation Tour

This year the Scott WMO/SWCD tour focused on pollutants in our water, with an emphasis on chlorides. Chlorides from road salt are a growing concern for water quality in Scott County because chloride is a permanent pollutant. Twenty-five people attended the tour including: Scott County Commissioners; members of the Scott County Watershed Planning Commission; SWCD Supervisors; Prior Lake-Spring Lake Watershed District Managers; and WMO, PLSLWD and SWCD staff. Stops included the City New Prague Wastewater Treatment Plant, raingardens at New Prague City Hall and St. Wenceslaus Catholic Church, and a presentation on road salt reduction by Fortin Consulting. This annual event allows county officials to view conservation projects throughout Scott County first-hand and see how dollars are being spent. It is also a chance to give them a better understanding of the importance of conservation, showing them that, over time, real changes are being made in the county.

Educational Videos

To keep SCWEP current, we started creating educational videos in 2018. These video can be shared on social media and used during SCWEP workshops. In 2018 many of the videos focused on cover crops and raingardens.

Partners

Members of the SCWEP partnership believe more can be accomplished by working together toward our common goal. By collaborating, we eliminate overlapping programs, prevent inconsistent and duplicative messaging and achieve similar outcomes at lower costs. In 2018, SCWEP partners included:

- Scott Watershed Management Organization
- Scott Soil and Water Conservation District
- Prior Lake-Spring Lake Watershed District
- Vermillion River Watershed Joint Powers Board
- Lower Minnesota River Watershed District
- Spring Lake Township
- Credit River Township
- Jackson Township
- Louisville Township
- Scott County

Whenever practical, SCWEP collaborated with other agencies, organizations and clubs in implementing outreach programs with similar goals and objectives in Scott County. This collaboration achieves an even greater level of consistency, reach and cost effectiveness. In 2018, these agencies included:

- Scott County Library System
    - Libraries throughout the county posted workshop flyers
- Scott-Carver Extension Master Gardeners
    - Available to answer questions about trees and plants at the Scott SWCD tree sale
- Prior Lake Association
    - Helped spread the word about Shoreline workshop
- Cedar Lake Improvement District
    - Helped spread the word about Shoreline workshop
- O'Dowd Lake Association
    - Helped spread the word about Shoreline workshop
- Spring Lake Association
    - Helped spread the word about Shoreline workshop
- Natural Resources Conservation Service
    - Loaned out and delivered their rainfall simulator free-of-charge for use at Outdoor Education Days
- Minnesota Department of Agriculture
    - Loaned out their rainfall simulator free-of-charge for use at Outdoor Education Days
- Three Rivers Park District
    - Allowed Outdoor Education Days to be held free-of-charge at Cedar Lake Farm Park
    - Set up tables and garbage and recycling bins, and offered use of their golf cart for Outdoor Education Days

Accomplishments

The 2018 SCWEP Work Plan targeted and customized its "Clean Water Starts With Me!" campaign to three general audiences: Agriculture/Rural Landowners, Urban and Lakeshore Residents, and Community Groups/Institutions. SCWEP utilized both passive and active marketing and outreach techniques to connect with these audiences in Scott County.

Active techniques generally consisted of activities that were targeted, hands-on and engaged with very specific audiences. They were point-in-time events that were scheduled according to seasonal relevance. They took significant time and budgeted expense to plan and implement, relatively speaking, but were also more likely to have a higher impact in terms of educational outcomes (i.e., changed attitudes and behaviors). Examples included workshops, field demonstrations, tours, and one-on-one landowner meetings. Passive activities, by contrast, were intended to reach large audiences and deliver consistent "base" messaging. They had a relatively low impact compared to active activities, but were also relatively easy and inexpensive to implement. Examples included news articles and event displays that focused on the effects of how our decisions impact water quality and the positive or negative impacts we are responsible for on Scott County water bodies.

Listed below is the suite of activities and targeted audiences SCWEP focused on in 2018:

Audience & Events	Took Place in 2018	MS4 Activity	Accomplishments
Agriculture/Rural Landowners			
Promote Cover Crop/Soil Health BMPs (news releases, fact sheets, workshops, cover crop books for sale, community events/displays, demonstration plots, success stories, cost-share incentives for cover crops)	X	X	• Staff continued to receive training on soil health and cover crops • Sent out monthly "Cover Crop Updates" emails • 130 people attended a cover crop and soil health workshop on March 15 in Le Center. The event was a collaboration between the Scott WMO, Scott SWCD, and Carver and Le Sueur SWCDs. • Hosted a Cover Crop field day June 13, and a Cover Crop tour on November 21 • Scott Conservation Center Hallway display theme: Cover Crops in Scott County • Created cover crop videos to distribute through social media and "Cover Crop Update" emails
Promote nutrient and manure management	X	X	• Provided individual producers with one-on-one assistance
Promote no-till drill rental program, reduced tillage	X	X	• Scott Conservation Center Hallway display theme: Equipment rental program and benefits of no-till • No-till equipment rental article submitted to the SCENE
Promote native grass planting	X	X	• Sent 450 invitations to targeted landowners for March 1 Planting Native Prairie Workshop • 21 residents attended Planting Native Prairie workshop on March 1st • Serviced 40 new requests for prairie restoration assistance • Certified approximately 66 acres of new native prairie • Native Prairie Success Story published in the SCENE • Workshop publicity in county newspapers, on local websites and in the SCENE • Displayed "Plant Native Prairie" banner and rack card at seasonally appropriate events.
Promote riparian buffers and filter strips	X	X	• Serviced 15 new requests for buffer technical assistance • Contacted landowners directly for targeted riparian buffer improvement projects • Shared relevant stories on partner social media pages

Promote tree and native seed program (buffers, windbreaks, soil savings, erosion reduction, screenings, living snow fences, wildlife habitat improvement)	X	X	• Sold 31,365 tree seedlings • Sold 162 Native Seed Mixes • Submitted news articles on tree and native seed mix annual sale • Sent an email blast on tree program to customer/interest list • Tree order form insert in the Feb. SCENE • Scott Conservation Center Hallway display theme: Tree program • Shared relevant stories on partner social media pages
Promote rural residential/hobby farm conservation practices (news releases, community events, direct mailings, one-on-one meetings, success stories, community events/displays)	X	X	• Set up display booth with banners and information rack cards on pastures, manure management, cover crops, erosion, and soil loss at appropriate events including the Scott County Fair • Had "Contact Me" cards available at the Scott County Fair for anyone interested in having the SWCD contact them with more information about how conservation that could be done on their land • Shared relevant stories on partner social media pages • Sent out over 200 postcards to residents who recently purchased 2(+) acres about services: technical assistance, designing, cost-share, etc.
Promote cost-share and conservation assistance	X		• The WMO held a Thank You Event with around 200 guests in attendance. The event was put on to thank everyone who put in a conservation practice in the WMO in the last five years. • Included information on cost-share and technical assistance in appropriate SCENE articles • Created a Conservation Practice of the Month of the Scott SWCD's Facebook page highlighting different conservation practices that have technical assistance and cost-share available
Scott WMO/SWCD Fall Conservation Tour	X		• Held the annual Fall WMO/SWCD Conservation tour with 25 attendees including a Scott County Commissioner; members of the Scott Co. Watershed Planning Commission; SWCD Supervisors; Prior Lake-Spring Lake Watershed District Managers; and WMO and SWCD staff. • Stops included the New Prague Wastewater Treatment Plant, raingardens at New Prague City Hall and St. Wenceslaus Catholic Church, and a presentation on road salt reduction. • This annual event allows county officials to view conservation projects throughout Scott County first-hand and see how dollars are spent, and to better understand the challenges of conservation.
Urban and Lakeshore Residents			
Promote raingardens	X	X	• Raingarden Success Story published in the SCENE • Assisted landowners with installation of 12 new raingardens, including 3 raingardens installed by the Minnesota Conservation Corps Crew • Shared relevant stories on partner social media pages • Created a step by step video
Hold a Shoreline Restoration Workshop	X	X	• 6 residents attended the Restore Your Shoreline workshop on April 17 • Serviced 24 new requests for shoreline protection assistance • Certified 580 lineal feet of new lakeshore stabilization and protection. • Promoted the workshop in SCENE and local media outlets • Submitted workshop announcement to local cities utility bill inserts • Updated workshop packet and funding information • Shoreline Restoration Success Story published in the SCENE
Promote natural landscaping practices	X	X	• Displayed "Plant Native Prairie: Put Down Roots" and "Landscape Naturally" rack cards and banners at community events • Shared relevant stories on partner social media pages
Promote environmentally-friendly snow/ice management	X	X	• Prepared environmentally friendly snow/ice removal news release for the SCENE and other local news media • WMO held 5 smart salting workshops • Smart Salting cups distributed at the Government Center in Shakopee • Shared relevant stories on partner social media pages
Promote environmentally-friendly lawn care	X	X	• Prepared news releases on spring and fall environmentally-friendly lawn care BMPs for The SCENE and local news media • Five information rack cards and display banners focus on this topic

			• Shared relevant stories on partner social media pages • PLSLWD held two Clean Water Clean Up events. During the spring event 65 volunteers raked 1.23 tons of leaves and removed 1.78 tons of buckthorn and other woody debris. During the fall event, 50 volunteers raked 2.5 tons of leaves, pulled a truckload of buckthorn, and the Scouts planted 50 shrubs.
Promote personal stormwater management/responsibility	X	X	• Displayed "The Unfiltered Truth" and "Rain Barrel" rack cards and banners at community events • During Scott County Fair, on-site raingarden was featured with interpretative signage as part of a Scott County fair • Shared relevant stories on partner social media pages
Support Carp Contests	X		• The WMO's Watershed Stewards Grant program supported the Cedar Lake Improvement District's carp tournament.
Interpretive signage installed	X		• Installed 7 raingarden signs, 11 native prairie signs, and 1 shoreline sign at project sights • Additional signs will be installed in 2019
Promote proper disposal of hazardous waste via county HHW facility	X	X	• HHW Facility article in the SCENE • "Don't Throw it Out, Take it to the County" rack cards and banner displayed at community events • Shared relevant stories on partner social media pages
Promote "unintentional" pollution prevention	X	X	• Displayed "The Unfiltered Truth," "Salt Pollutes" and "Don't Throw it Out: Take it to the County" rack cards and banners at community events • News releases on Salt Pollutes • Shared relevant stories on partner social pages, including information on Scott County's "Take it To the Box" program for unwanted medications
Educate citizens about groundwater nitrate	X	X	• 115 water samples analyzed at SWCD tree-pickups days: May 11 and 12 • 15 wells decommissioned
Community Groups, Schools, Government			
Organize and host Outdoor Education Days	X		• Hosted 33rd annual event, attended by 1,000 students from 13 schools (Belle Plaine, New Prague, Shakopee, and Savage) on September 17, 19, 21, 26 and 27. • Six student stations focused on forestry, wildlife, conservation, soil health, the water cycle, and pond macro-invertebrates. There was also a CLIMB Theatre production about recycling and composting. • Created the Conservation Station to replace the Plant Station. • Received $1,000 from MVEC Operation Roundup Grant for waters for students and lunches for presenters
Share and promote information Watershed Stewards Mini-Grants	X		• Posted the announcement and application on the county website • Emailed grant application to schools, churches, and townships • Grant applications available at Government Center • Grants awarded to the Cedar Lake Improvement District for prize money for a carp tournament, to New Prague High School to install a raingarden and interpretative signage, and to Jordan Elementary to purchase binoculars for use in outdoor education
Continue to develop Fish Lake, New Prague, Prior Lake Sportsmen's Club and Pheasants Forever Partnerships	X		• This relationship development is ongoing with SWMO taking the lead • Sold tree seedlings in bulk to local sportsman's clubs • Donated native seed mix and tree seedlings to Scott County Pheasants Forever for a fund-raiser • Distributed 2320 lbs. of corn, 2000 lbs. of soybeans, and 500 lbs. of sorghum to 75 people to plant for food plots through Scott County Pheasants Forever partnership
Continue to educate community leaders and officials about Illicit Discharge Detection and Elimination	X	X	• Presented at Scott County's Right to Know Training about IDDE on May 10. • Displayed IDDE rack cards and banners at community events • Continued to distribute IDDE vehicle visor clips upon request to county and city public works vehicles/employees
General			

Education presentations to WPC	X		• Regular updates and reporting is shared with WPC Board on a monthly basis
Submit MASWCD Conservation Cooperator of the Year Award and Scott SWCD's Conservation Leaders Program	X		• Submitted an award application for Scott County is Partnership with Three Rivers Park District for MASWCD's Outstanding Conservationists of the Year. They were recognized at the MASWCD Annual Convention on Dec. 11. They also received Conservation Leaders Program signage.
Set up Earth Week display at Scott County Government Center	X	X	• The Earth Week display theme was focused on teaching people about compostables and composting food.
Write/edit news articles (educational, events, success stories, testimonials, etc.) in cooperation with other partners via Cooperative Media Plan.	X	X	• SCWEP followed a comprehensive media plan with SCWEP Partners to reduce redundancy and streamline conservation topic focus/impact. • 58 relevant articles were drafted and published
Rotate Scott Conservation Center Hallway Displays	X		• Designed and utilized seasonal themes including tree program, no-till equipment rental, planting cover crops.

Media

SCWEP continues to work with partners and county agencies on a timely, cost-effective manner to market programs and activities. This involves the utilization of a Cooperative Media Plan in which news releases and other promotions are strategically outlined in advance of deadlines. The Cooperative Media Plan allows for more effective communications through timely news releases and less overlap of stormwater runoff, workshops, lawn care, landowner success stories and other topics. Media outlets include county newspapers, The Scott County SCENE, and the county, PLSLWD and SWCD websites. As an added benefit, the plan also allows for more effective cross-marketing of partner programs.

In 2018, 58 news releases were written and distributed. Topics for news releases follow SCWEP goals and objectives. Whether residents owned a business or home, lived on a lake, walked their dog, hunted in our woods or wetland areas, maintained their lawn, landscaped with native plants or raised crops in Scott County, the clean water message was tailored to them.

2018 News Releases

Local farm leads by example in conservation efforts	Boyer Trucks increases recycling efforts
Local residents have been planting trees for 30 years	Cover crop test plots planted in Scott County
Cover Crop Expert to Speak March 15	Lawn converted to prairie provides many benefits
Tree Order Form Insert	Create natural spaces with trees, shrubs
New fee charged to dispose of electronics at HHW Facility	Raingardens need to be maintained
Helping Businesses with Hazardous Waste	Sand Point Beach: Improving water quality on Lower Prior Lake
Recycling grant success story	Free Winter Deicing Applicator Trainings
Draft Comprehensive Plan announcement	HHW ReUSE
McMahon High Lake Levels	Chart Industries Recycling Grant Success Story
Let kids play outdoors	St. Wenceslaus Recycling Grant Success Story
Compost Bins for sale!	Recycle your plastic bags, film
Water Conservation tips / Be Responsible with Sprinklers	HHW accepts Eyeglasses for Recycling
Noxious Weed notice and article	Recycling in Scott County for 2017
Lunds & Byerlys Recycling Success Story	SWCD Accepting Tree Orders
SWCD Tree Pick up Announcement	Keep leaves out of gutters for water quality
Free Walk-in nitrate testing clinic for well water planned	Students learn about conservation at Outdoor Education Days
Free Restore Your Shoreline Workshop	Prior Lake homeowner stabilizes shoreline
Pheasants Forever provides free seed for wildlife food plots	2018 Fall Clean Water Clean-up
Live garden kits available for spring	Tips to Minimize Holiday Waste
Local farmer plants cover crops to improve farm	Businesses generating hazardous waste must be licensed
Volunteers Needs for Spring Clean Water Clean-up Event	Grant Helps Church Double its Recycling
Landowners may sign up for MN CREP	Septic System inspections help protect groundwater
Spiritual Center Raingarden a Success	Tips for maintaining septic systems
Green is My Favorite Color	County offers well test kits, advice on well ownership
Invasive Species Easily Spread; Caution Advised	Elected officials learn about conservation during fall tour
Successful Clean Up Event	SWCD Board Members Reelected
Applicants Sought for Award for Water Quality Improvements	Landowners improve water quality by reducing erosion
Environmental reviews look at impact of projects on resources	Aerial Seeded Cover Crops Keep Soil from Eroding
Does this go in my recycling bin?	Successful Clean Up Event held at Sand Point Beach Park

MS4 Activity

The 2018 Work Plan was designed to ensure member compliance with the educational requirements of their respective Stormwater Pollution Prevention Plans. There are six minimum control measures (MCMs) defined in the MS4 Permit, including:

1. Public Education and Outreach
2. Public Participation and Involvement
3. Illicit Discharge Detection and Elimination
4. Construction Site Storm Water Runoff Control
5. Post Construction Storm Water Management in New and Redevelopment
6. Pollution Prevention/Good Housekeeping for Municipal Operations

Many SCWEP activities helped partners comply with the MS4 MCM1 requirements. Data used for MS4 reporting can be found in the appendix.

Budget

The 2018 SCWEP budget was $ 77,596.95. This includes $73,596.95 for staff time to plan and implement activities and $4,000 for materials, supplies and related expenses. Of this total, Scott WMO contributed $66,896.95, Prior Lake-Spring Lake Watershed District contributed $5,000, Lower Minnesota River Watershed District contributed $1,500, Vermillion River Watershed contributed $1,200, Spring Lake Township contributed $1,000, Jackson Township contributed $1,000 and Louisville Township contributed $1,000.

Outcomes, Evaluation and Reporting

The SCWEP goal – to make clean water choices second nature for all who live and work in Scott County – was reviewed throughout the year. Outcomes were evaluated primarily by number of participants and following-up with program participants. We also tracked follow-up requests for additional information and technical assistance in SWIMS database.

A large part of the Storm Water Pollution Prevention Program (SWPPP) requires identification and documentation of best management practices that will be undertaken to reduce the discharge of pollutants from the MS4 to the maximum extent practicable. A few of the metrics used to measure the impact of marketing strategies include:

- Number of participants at specific SCWEP hosted events or workshops
- Number of direct mailings, brochures and flyers distributed
- Number of submitted press releases articles

Staff recorded and quantified the above metrics to assess the success or benefit of each marketing strategy. Additionally, staff provided evaluations after educational workshops and outreach events (when applicable) to gauge the overall performance and success of the activity, how well presented topics were understood and if adjustments to curriculum were recommended. Once results were received, staff used feedback from the surveys to modify content and presentations as needed.
Evaluation was and continues to be an important component in understanding the effectiveness of reaching our goal of the “Clean Water Starts With Me!” campaign.

Appendix: 2018 MS4 Reporting Information

Workshops

Date	Workshop	Location	# of Attendees	Breakdown of Attendees							
				WMO	PLSLWD	LMRWD	VRWJPO	Credit River TS	Jackson TS	Louisville TS	Spring Lake TS
3/1/18	Plant Native Prairie	Spring Lake Town Hall	21	15	3						6
3/15/18	Cover Crop and Soil Health	Le Center American Legion	130 (22 from Scott Co.)	18	2	1				1	2
4/17/18	Restore Your Shoreline	Spring Lake Town Hall	6	2	4						

Other Events

Date	Event
3/3/2018	U of M Extension Master Gardeners: Garden Fever
4/8/2018	Celebrate Jordan: Expo
4/22/18 & 10/28/2018	PLSLWD Clean Water Clean-Ups
5/10/18	IDDE Presentation at Right to Know Training for Scott County employees
5/11/18-5/12/18	Tree Seedling / Native Seed pickup
5/11/18-5/12/18	Ground Water Nitrate testing clinic (115 water samples tested)
7/25/18 - 7/29/18	Scott County Fair
9/17/2018	Prior Lake Community Fest
9/17, 9/19, 9/21, 9/26, 9/27	Outdoor Education Days

Appendix: 2018 MS4 Reporting Information

Note: For Q8, the circulation numbers are estimates for all of Scott County. The nature of material distribution and outreach does not allow for breakdown of outreach by watershed or township.

Q6. How did you distribute educational materials? (Check all that apply):	Q7. Intended audience? (Check all that apply.)						Q8. Total circulation /audience:
	Residents	Local businesses	Developers	Students	Employees	Other	
☒ Brochure	☐	☐	☐	☐	☐	☐	300
☒ Newsletter	☐	☐	☐	☐	☐	☐	SCENE 57,000
☐ Utility bill insert	☐	☐	☐	☐	☐	☐	
☐ Newspaper ad	☐	☐	☐	☐	☐	☐	
☐ Radio ad	☐	☐	☐	☐	☐	☐	
☐ Television ad	☐	☐	☐	☐	☐	☐	
☐ Cable access channel	☐	☐	☐	☐	☐	☐	
☐ Stormwater-related event	☐	☐	☐	☐	☐	☐	
☐ School presentation or project	☐	☐	☐	☐	☐	☐	
☒ Website	☒	☒	☒	☒	☒	☒	3000
☒ Other (1): describe Social Media	☒	☒	☐	☒	☐	☐	500
☒ Other (2): describe Targeted mailing	☒	☐	☐	☐	☐	☐	200
☒ Other (3): describe Display board at events	☐	☐	☐	☐	☐	☐	2000

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 4. G. - Receive and File 2018 Annual Monitoring Report from Scott SWCD

Prepared By
Linda Loomis, Administrator

Summary
At the March Board meeting, Troy Kuphal and Jon Utecht from the Scott County Soil & Water Conservation District presented the results of monitoring in 2018. There was not a quorum of the Board to receive and file the written report.

Attachments
2018 Annual Monitoring Report prepared by Scott SWCD

Recommended Action
Motion to receive and file 2018 Annual Monitoring Report from Scott SWCD

ANNUAL MONITORING REPORT
2018

Savage Fens summer of 2018

Prepared for:

Lower Minnesota River Watershed District

By: SCOTT SWCD
Jordan, MN

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

SCOTT
SWCD

Table of Contents

Introduction

This report focuses on the summary and comparison of water resources data collected by Scott Soil and Water Conservation District (SWCD) from 2018 and previous monitoring seasons. Like previous years, the monitoring work plan for 2018 included three temperature logging locations in Eagle Creek, one continuous water monitoring station in Eagle Creek (operated in conjunction with Metropolitan Council Environmental Services (MCES) Watershed Outlet Monitoring Program (WOMP)), 18 observation wells located in the Savage Fen and surrounding area, and one water monitoring station on the inlet to Dean Lake (DLI). New to the 2018 monitoring activities included adding three additional temperature loggers and performing chloride sampling in the Eagle Creek watershed.

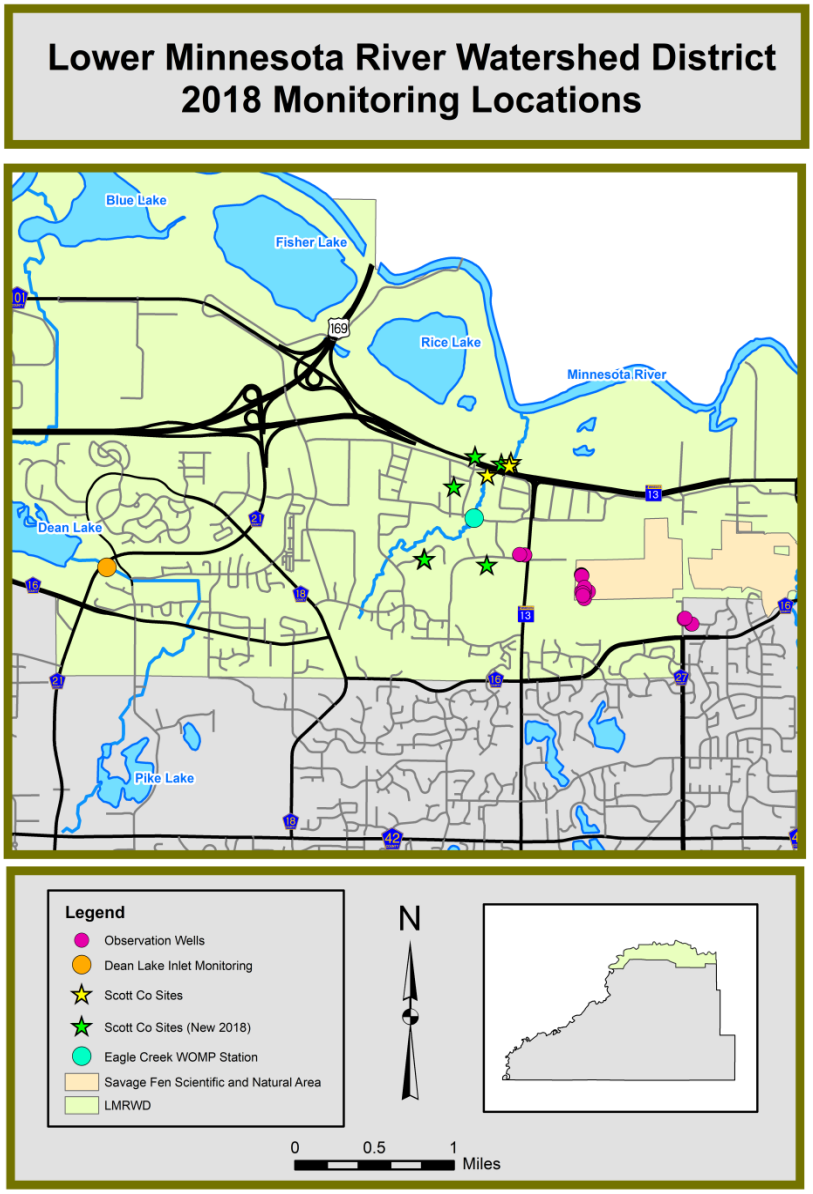

Figure 1. Monitoring Location Map.

I. Thermal Monitoring

This study was initiated by the Lower Minnesota River Watershed District (LMRWD) to evaluate the impact storm water runoff from Highway 101 has on temperatures in Eagle Creek, a DNR designated trout stream. Brown Trout are very sensitive to temperature as it impacts growth rate, habitat, and food resources. The optimal temperature range for adult brown trout is approximately 12.4 – 17.6^{o} Celsius (Bell, 2006).

Methods

Temperature loggers were placed upstream and downstream of Highway 101 in June of 2006 and have been recording stream temperature since that time. In October 2012, a midstream logger was placed just upstream of a pond tributary to monitor its impact on stream temperatures. Three additional loggers have been placed on the outlets of the ponds adjacent to Eagle Creek in late July of 2018 (Figure 2). The goal of the additional pond loggers is monitor water temperatures leaving the ponds, and help zero in on potential warm thermal sources contributing to the creek. All the loggers record continuous temperature data in 15-minute intervals. Scott SWCD contracted with the LMRWD to collect and report the temperature data. Rainfall data used for this report is taken from the Shakopee Mdewakanton Sioux Community (SMSC) rain gauge located in Shakopee.

Results

Under most conditions, stream temperatures trend with atmospheric temperatures. During winter months, the downstream water is cooler because it is exposed to cold air longer than upstream water. During summer months, the downstream water is warmer because it is exposed to warm air longer.

Figure 2. Location of temperature loggers and WOMP station. The new 2018 loggers are represented by the orange triangles.

During warm summer days, water temperatures occasionally exceeded the optimal range for trout but for only a few hours at a time (Figure 3). The maximum daily temperatures exceeded the optimal range 22, 14, and 16 times for the downstream, midstream, and upstream loggers respectively. Significant flooding from the Minnesota River backed up Eagle Creek a few times during 2018. This created deeper more stagnent turbid water in the creek, especially near the mouth. Noticeable warming of water temperatures downstream of highway 101 occured following some rain events. The upstream logger did not respond as drastically (Figure 4). This downstream warming is likely caused by warm

stormwater from the pond located between Highway 101 and the railroad tracks discharging into the stream after a storm event. This pondwater is likely warmed by a combination of solar energy and warm surface runoff from impervious surfaces. Large amounts of warm water may be released during rain events as the pond fills and overflows. The downstream temperature logger is located approximately 30 feet downstream of this input.

An investigation was conducted on August 19, 2009 during a 2-inch rain event at numerous temperature monitoring locations on Eagle Creek. Termperatures were recorded upstream and downstream of the pond tributary and in the tributary itself. The temperature of Eagle Creek rose almost 2°C directly after the tributary discharged into Eagle Creek. The tributary was almost 5°C higher than Eagle Creek. According to this study, temperature spikes in Eagle Creek appear to be from large volumes of solar heated pondwater and warm surface runoff dishcarhging from the pond. The temperature of the pond may not actually increase during storm events, but rather the volume of water discharging into Eagle Creek is perhaps the stronger influence on temperature rise. This greatly exceeds the small increase in temperature that typically occurs during dry periods that could be attributed to atmospheric warming of the stream. The addition of the thermal loggers at the outlets of the ponds adjacent to the creek will provide a longer record of the actual influence of temperature increases from the ponds. Even though the temperature exceeds the optimal range for trout by only a few degrees and for only a short period, these rapid temperature increases could be stressful to fish. The state water quality standard for Class 2A waters maintain there shall be “no material increase” in temperature.

To ensure all the loggers remained functioning and not gaps occurr due to dying batteries, like the downstream logger in 2017, both the upstream and midstream loggers were replaced with new loggers. These loggers had already exceeded their 6 year life expectancy. The pond loggers started recording data in late July and were generally uninterupted except for the logger at the end of Schroeders park pond. Construction near the loggers location resulted in a missing logger. The logger will be replaced following the completion of the construction before the summer of 2019.

Discussion

Multiple flooding events in the Minnesota River appeared to influence the data for all of the loggers early in the season. The late May into June flood levels kept field staff out of the water and the levels also seemed to impact the water temperatures as all three loggers remained above optimal trout temperatures. Following the flooding, all of the thermal monitoring loggers have shown a significant response to precipitation events (Figure 3). The downstream logger continues to show a greater and more sustained response to the events. This is likely due to the combination of the runoff from the crossing highway and overflow from the adjacent pond. All of the loggers showed spikes in maximum daily temperatures outside the opitimal range for the Brown Trout (Figure 4). The pond loggers tracked well with average air temperatures (Figure 5). The logger at Creek Way pond was never submerged so it’s readings are atmospheric temperatures at that location. This logger should track Spring thaw temperatures and significant rain events when the pond fills to capacity. The Hwy 101 pond logger tracked with both the downstream and midstream logger in Eagle Creek (Figure 6). With a limited dataset it is difficult to significantly dicern temperature influences from the Hwy 101 pond, but initial indications show some contribution. This is similar to the results found in the brief investigation in 2009. Continually monitoring of Eagle Creek and the adjacent ponds will allow the tracking of temperature shifts. It also allows for historical background for past and future restoration projects, similar to the MNDNR habitat improvement project in 2013.

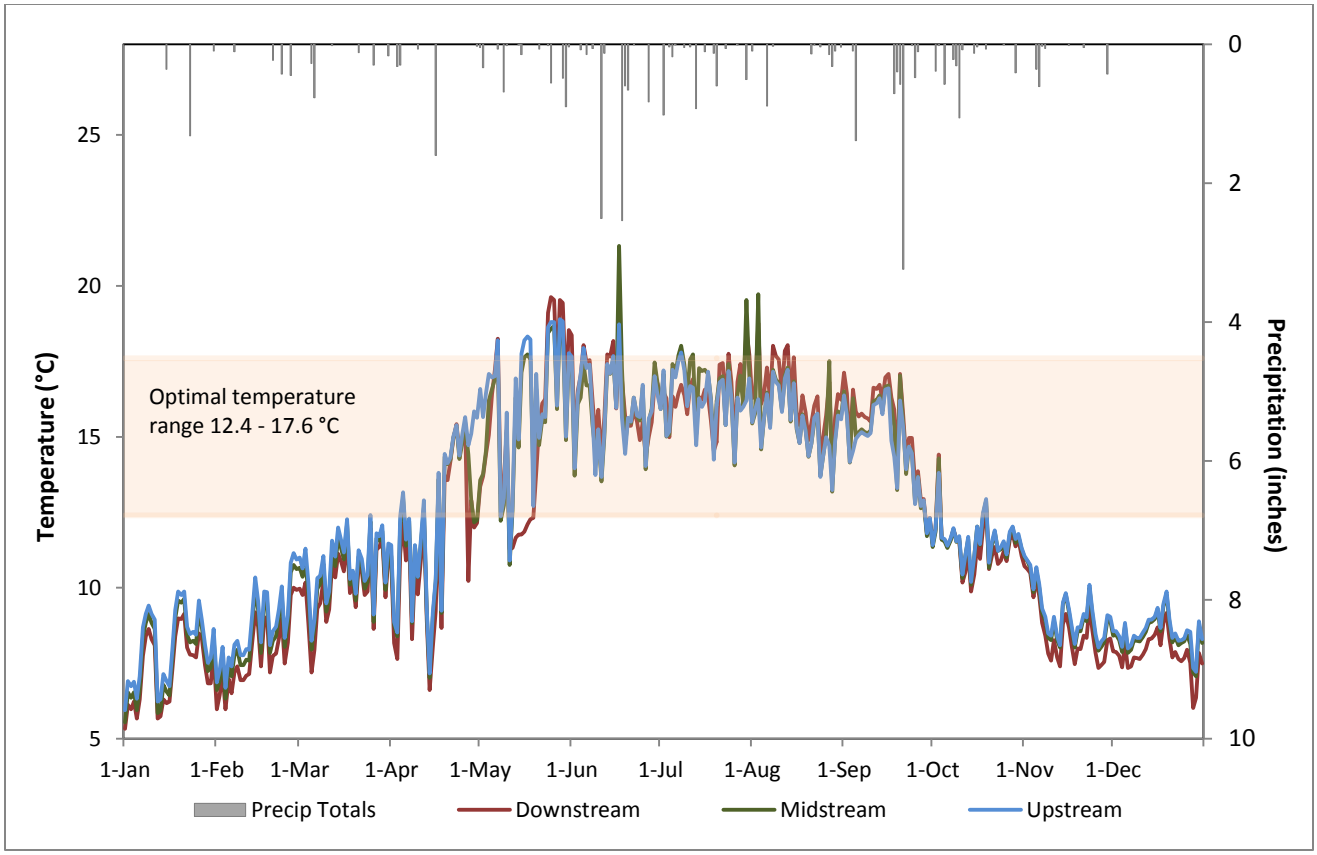

Figure 3. 2018 Maximum daily water temperatures in Eagle Creek.

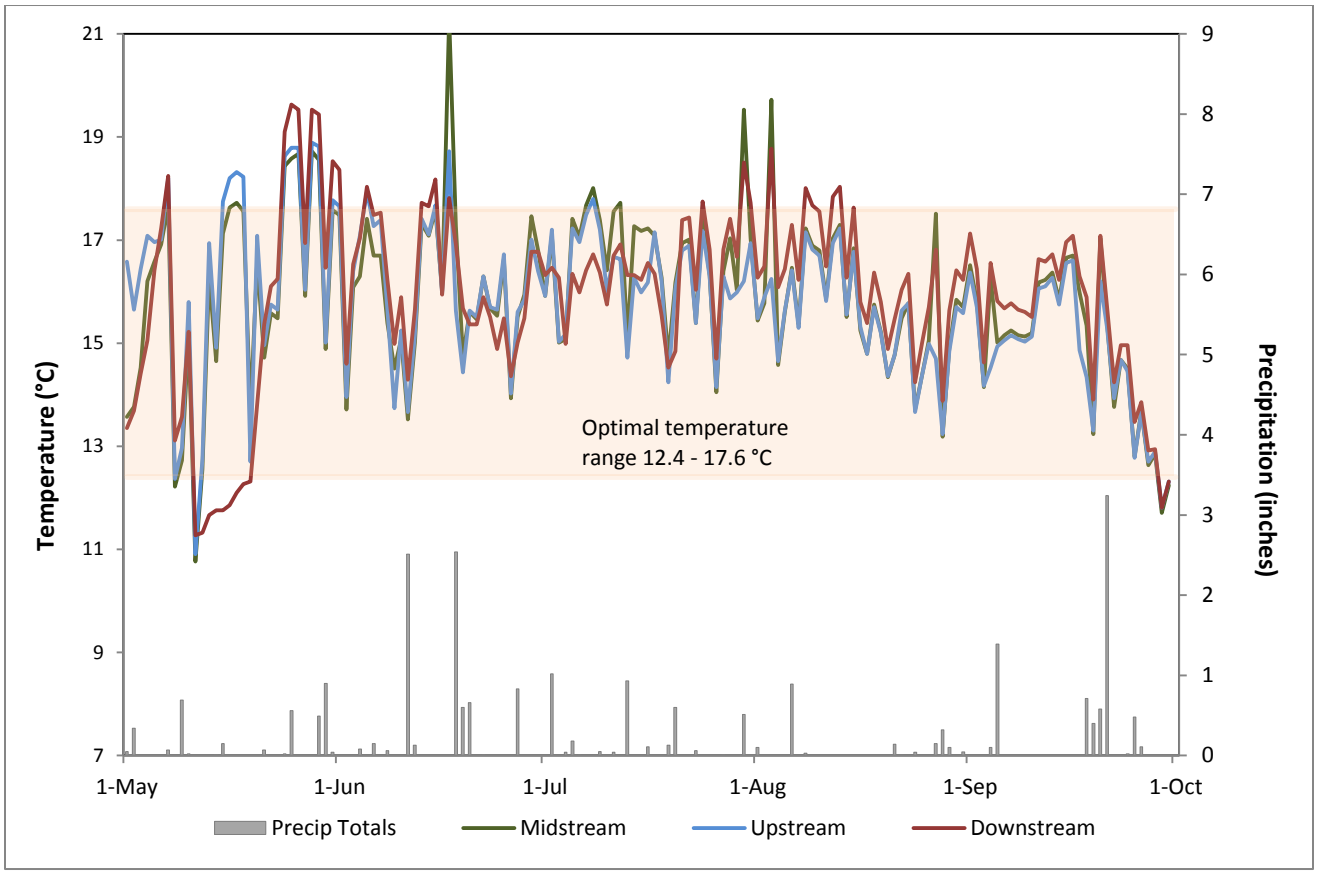

Figure 4. Maximum daily temperatures for the 2018 summer. An increase in temperature separation between the upstream and downstream loggers is noticed especially after precipitation events.

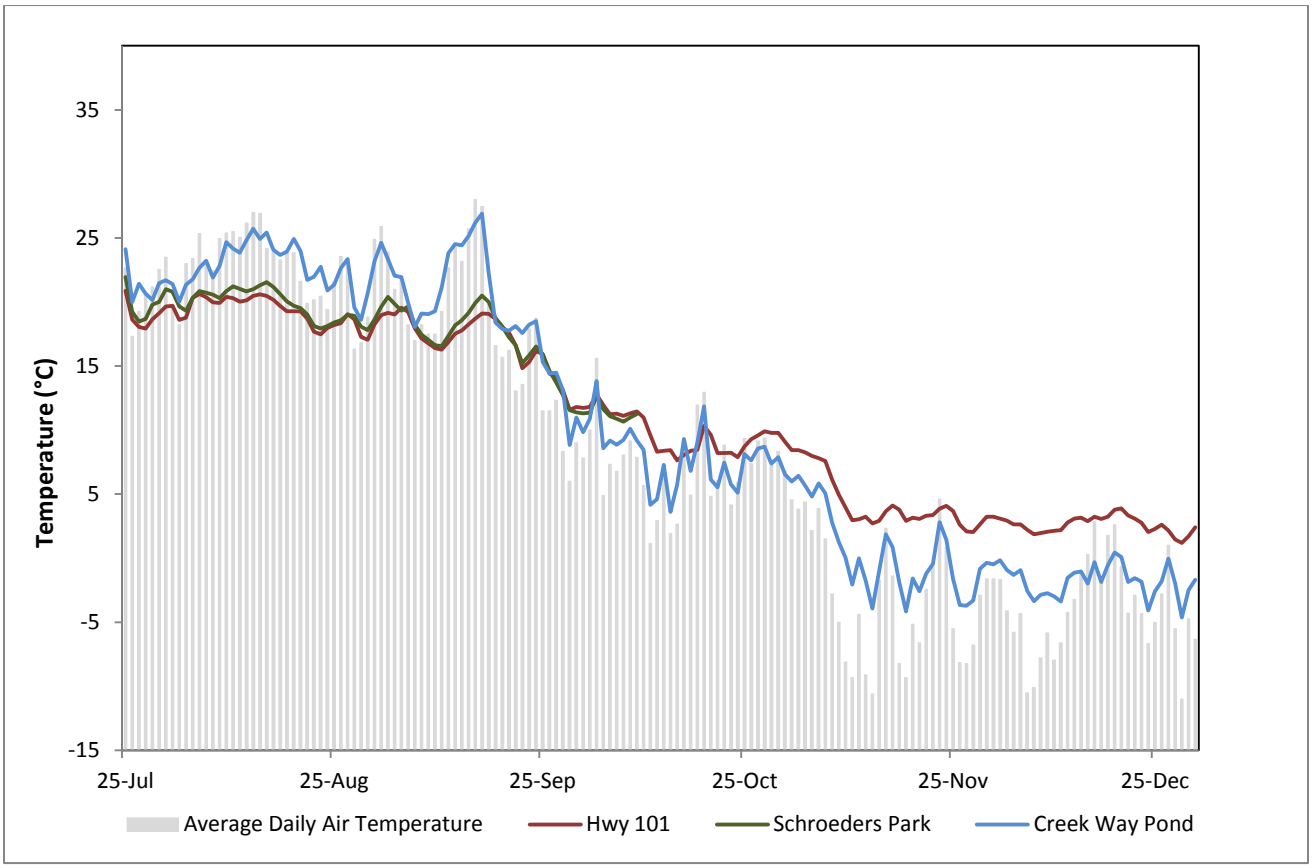

Figure 5. Pond outlet loggers 2018 average daily water temperatures. The Creek Way pond logger failed to be submerged by water during the monitoring period, tracked well with air temperatures. The Schroeder's Park logger was lost after the October download.

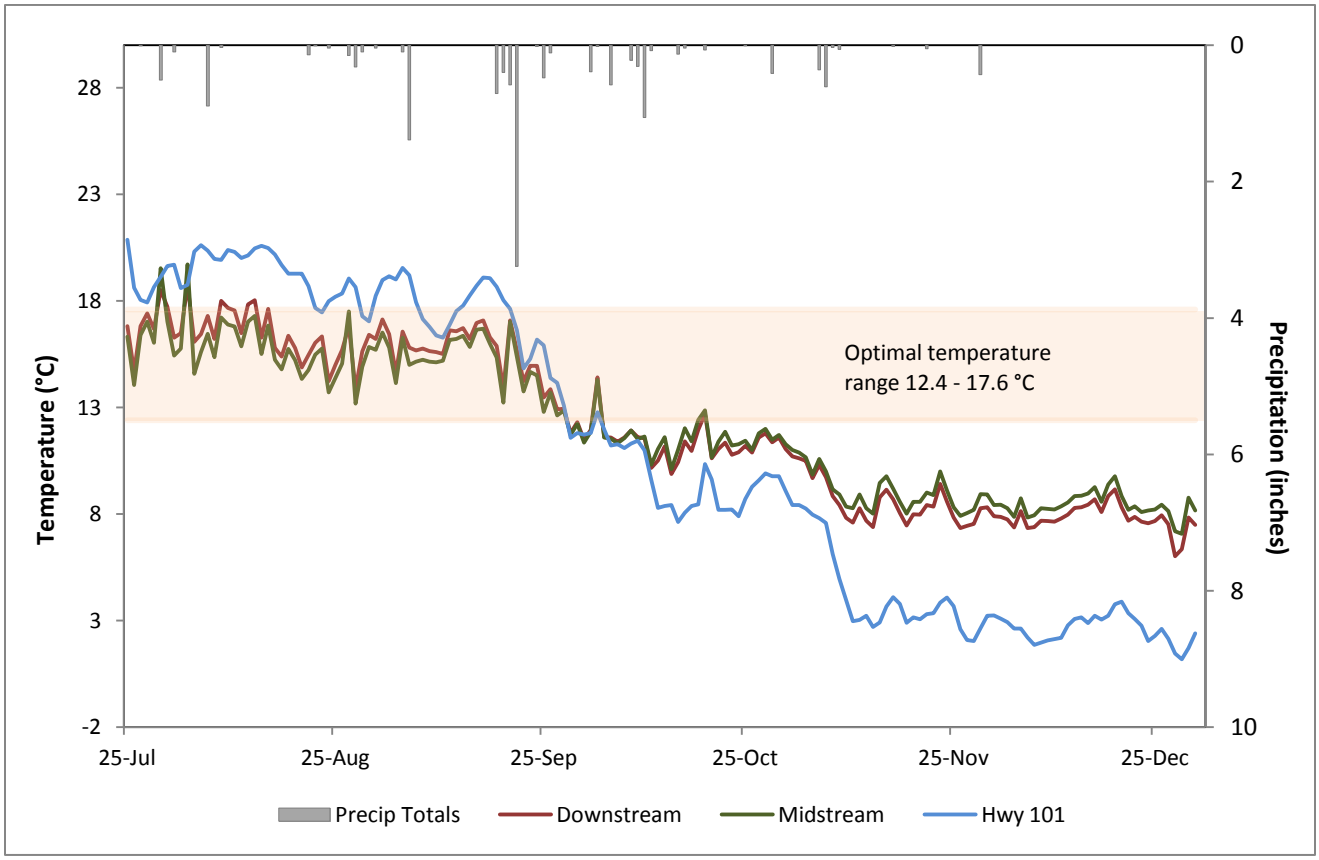

Figure 6. Comparison of 2018 water temperatures at the Hwy 101 pond and Eagle Creek just upstream and downstream of pond confluence.

II. Eagle Creek Monitoring

Eagle Creek is a Class 2A self-reproducing trout stream, a unique water resource in the metropolitan area. The Creek originates at the Boiling Springs (an area considered sacred by the Mdewakanton Sioux Community) and outlets into the Minnesota River. Significant measures have been taken over the past couple of decades to prevent degradation of Eagle Creek, including diverting storm water from the stream, the establishment of a 200-foot natural vegetative buffer along each side of the bank, and most recently in 2013, a habitat improvement project along the west branch of Eagle Creek. These and other steps have helped to significantly minimize impacts from this rapidly growing suburban area.

Chloride Monitoring

Located in a highly developed area, Eagle Creek is a unique metropolitan Brown Trout (*Salmo trutta*) stream that may be susceptible to increased levels of chloride. With over 67% of the watershed "developed" and a road density greater than 18%, the runoff potential from impervious surfaces that can transport deicing products into the creek is significant (MPCA, 2018). High levels of chlorides have been found to impact trout development and reduce their growth (Hintz & Relyea, 2017). Smaller streams in highly urbanized areas, like Eagle Creek, are more susceptible to higher chloride concentrations (SEWRPC, 2013).

Methods

New monitoring to trace potential chloride inputs began in early November of 2018 and is scheduled to conclude at the beginning of May 2019. Samples are collected in three targeted areas around the watershed to capture baseline and runoff chloride concentrations to see if there are areas that are susceptible to higher levels of chloride pollution during the winters (Figure 7). The selected locations will divide the watershed into sections that can help identify areas with the highest inputs. Chloride and *Escherichia coli* (E. coli) samples are collected bi-weekly along with up to eight additional event samples. The event samples are dictated by two consecutive days of above freezing ambient temperatures (32°F). This will capture the greatest potential for chloride runoff into the creek. During each sample run in a sonde reading will be collected at each sample location along with additional sonde sample sites. The goal is to relate chloride concentrations to conductivity levels and translate the correlated chloride values to the sonde only measurements. In addition to chloride, E. coli samples are also collected to help isolate the source of historically high levels observed during the winter months.

Figure 7. Map depicting the locations of the grab samples and sonde readings for the 2018-2019 chloride analysis.

Results

Chloride and E. coli concentrations around the Eagle Creek watershed from early November 2108 to mid-February of 2019 are reported in Table 1. This project is only set to conclude in May of 2019, so this data is only reporting the first half of the project. This dataset still provides an insight into chloride concentration distribution throughout the watershed. Three event samples were collected between December and January. The first event sample on 12/17/18 followed a warm weekend but did not have much snow to melt prior to the event. During the second event (12/27/18) was collected while it was raining and followed a snow event. The final event shown (1/7/19) followed a week of unseasonably high temperatures >32°F, but had small amounts of snow to melt.

Table 1. Results of samples collected for the Eagle Creek chloride project. Data represents samples from 11/7/18 to 2/13/19. Red values are in exceedance of state standards for chlorides and numbers of concern for E. coli.

Site	Parameter	Min	25th %	Median	Avg	75th %	Max	N
Downstream	Chloride (mg/L)	58.9	59.3	63.5	65.4	69.0	84.9	11
	E.Coli (CFU/100ml)	8	11	17	124	242	649	12
Hwy 101	Chloride (mg/L)	102.9	124.8	131.2	142.5	162.1	237.6	11
	E.Coli (CFU/100ml)	16	18	29	46	35	201	12
WOMP	Chloride (mg/L)	4.3	47.8	48.4	43.7	50.4	53.0	8
	E.Coli (CFU/100ml)	9	15	25	175	423	548	9
Upstream	Chloride (mg/L)	48.7	50.0	51.4	51.8	53.9	56.3	11
	E.Coli (CFU/100ml)	8	10	16	33	28	211	12

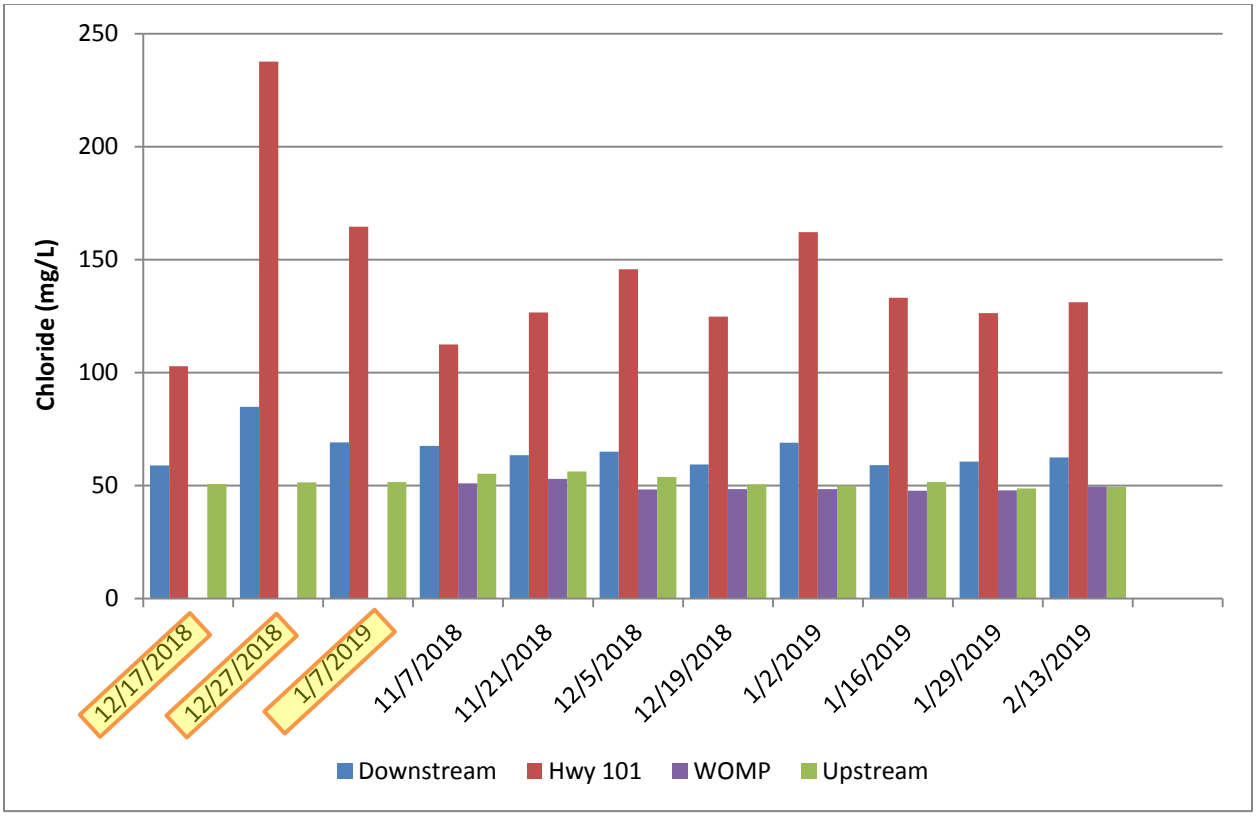

Figure 8. Distribution of chloride concentration for each grab sample. Highlighted dates are event samples and do not include WOMP values.

Watershed Outlet Monitoring Program

The Eagle Creek monitoring station began in 1999 as part of the Metropolitan Council's Watershed Outlet Monitoring Program (WOMP). This program was designed and is currently managed by the Metropolitan Council, for the primary purpose of improving the ability to calculate pollutant loads to the Minnesota River. The Lower Minnesota River Watershed District (LMRWD) is the local funding partner for this station, and contracts with the Scott Soil and Water Conservation District (SWCD) to perform field-monitoring activities. The monitoring station is located in the City of Savage near Highway 13 and Highway 101, approximately 0.8 miles upstream of the confluence with the Minnesota River.

The following water quality and flow data is preliminary and is subject to change until the Metropolitan Council submits the final report for this period.

Table 1. Precipitation near Eagle Creek WOMP Station.

Month	2018 Precipitation* (inches)	30 Year Precipitation Average**
January	1.78	0.73
February	1.22	0.62
March	1.66	1.73
April	2.32	2.53
May	3.41	3.69
June	7.57	4.64
July	3.69	3.49
August	1.82	5.05
September	7.03	3.41
October	3.32	2.47
November	1.56	1.64
December	0.00	0.95
Total	**35.38**	**30.95**

*Precipitation data obtained from Shakopee Mdewakanton Sioux Community weather station.
** The 30 year average (normal) is from 1981-2010, National Climatic Data Center, Station: 214176 JORDAN 1 S, MN.
http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/products/station/USC00214176.normals.text

Methods

Sampling

Many parameters are recorded continuously at the Eagle Creek WOMP station including stage, velocity, conductivity, precipitation, and stream temperature. Samples are collected and analyzed for multiple parameters (Table 2) during base flow conditions and storm events. Base flow samples are taken monthly during periods of time unaffected by rainfall or snowmelt events. Samples are taken directly from the stream and then transported to the Metropolitan Council Environmental Services Laboratory (lab) for analysis. The station is set with a composite sampler to collect a number of samples during peak flow events, but due to equipment issues this piece of equipment was not operational during the 2018 sampling season. Instead of composite samples, event samples were collected in conjunction with significant rain events. The goal is to capture the water quality at or near the peak of the hydrograph. The event samples are treated similar to base flow samples and the grab samples are brought to the lab for analysis. Three event samples and twenty six base flow grab samples were collected in 2018. An E. coli grab sample was taken during each base and event sample.

Flow

There are two means of measuring stage and flow at the WOMP station: a WaterLOG bubbler system and Sontek Argonaut Shallow Water (SW) system. The bubbler system has been used since 1999 to measure stage. To determine the amount of flow related to stage, flow measurements are taken manually by MCES staff with a flow meter while the creek is at different stages and a rating curve is developed. With this data, a stage-flow relationship can be applied to the datalogger program, which then calculates continuous flow values as determined by the measured stage.

The Sontek Argonaut-SW was installed by the Metropolitan Council in 2008. This equipment calculates instantaneous flow based on the cross section area, stage, and velocity of the water. This equipment was determined necessary because of occasional backwater conditions caused by beaver dams or flooding of the Minnesota River. The bubbler system is not able to determine that the water is moving slower, so it automatically calculates higher flow as the stage rises. The Argonaut is able to adjust the flow as velocity changes, making the flow values more accurate during backwater conditions.

Results

The range of sampled water quality parameters are reported in table 2. The minimum, 25th percentile, median, mean, 75th percentile and maximum values are reported along with any state standard or comparable ecoregion range or mean for comparison purposes. Individual TSS and E. coli samples are plotted in figures 7 and 9 respectively. The 5 year trend of monthly TSS values and monthly geometric mean of all E. coli samples taken over the past 10 years are reported in figure 8 and 10 respectively.

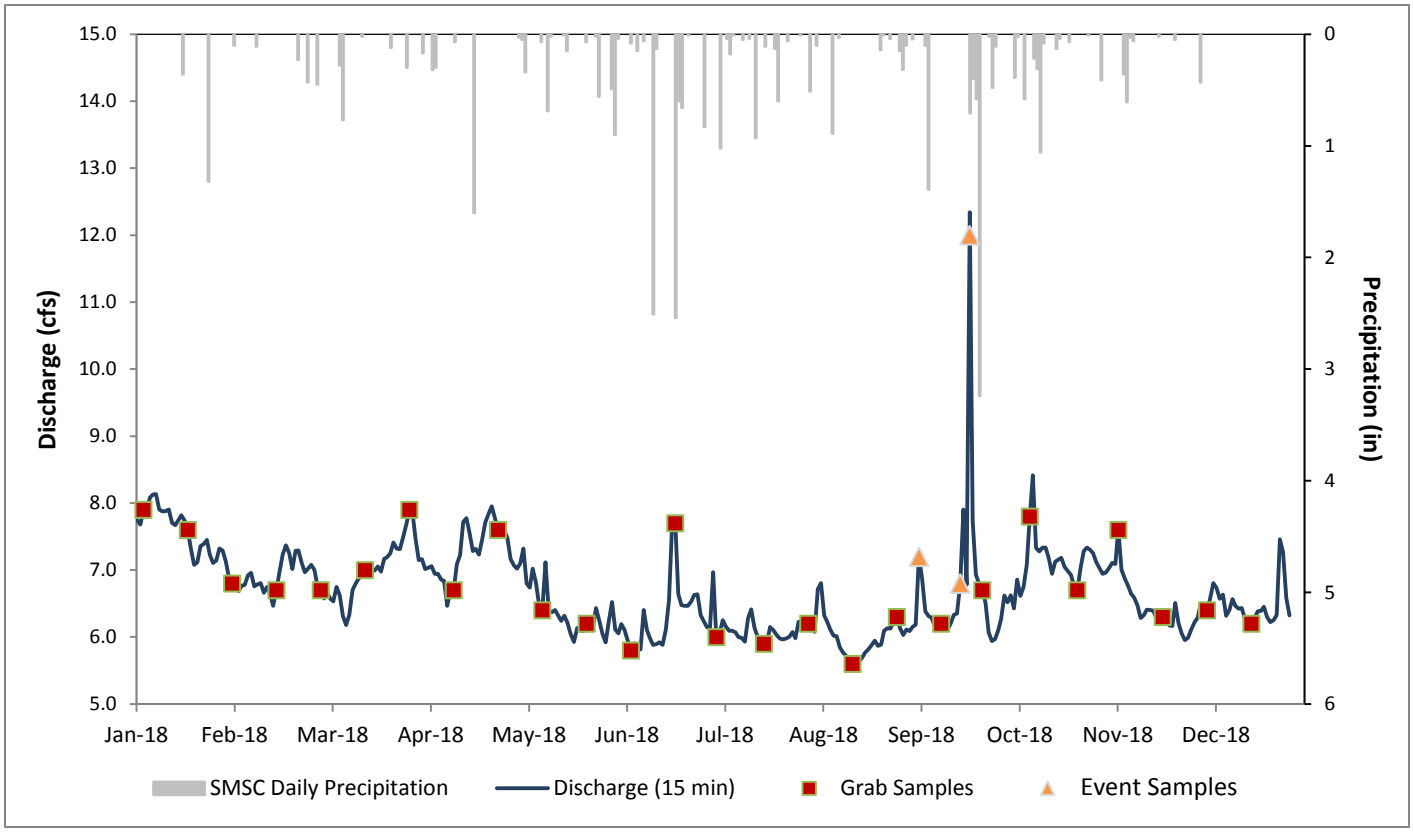

Figure 6: Eagle Creek WOMP Flow, Precipitation, and Sample Schedule (2018). Discharge data is provided by METC and is preliminary.

Table 2. 2018 Water quality preliminary lab results. Red, bolded text indicates exceedance of the state standard or NCHF ecoregion mean.

Parameter	Min	25th %	Median	Avg	75th%	Max	N	Notes
Alkalinity (mg/L_CaCO3)	273	273	280	282	294	294	3	No standard, 20-200 mg/L typical
Chloride (mg/L)	43.9	45.5	48.9	61.5	50.4	436.8	29	Standard = 230 mg/L
Hardness (mg/L_CaCO3)	293	293	298	303.33	319	319	3	
Ammonia (mg/L)	0.02	0.05	0.06	0.07	0.08	0.11	29	
Sulfate (mg/L)	17.6	17.6	18.1	18.3	19.1	19.1	3	
Nitrate (mg/L)	0.07	0.15	0.17	0.18	0.22	0.48	29	Ecoregion mean = 0.04-0.26 mg/L
Nitrite (mg/L)	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	29	Ecoregion mean = 0.04-0.26 mg/L
Total Kjeldahl Nitrogen (mg/L)	0.18	0.26	0.31	0.33	0.40	0.64	29	
Total Phosphorus filtered (mg/L)	0.020	0.020	0.020	0.023	0.020	0.097	29	Ecoregion mean = 0.06-0.15 mg/L EPA recommends < 0.1 mg/L
Total Phosphorus unfiltered (mg/L)	0.020	0.024	0.038	0.047	0.063	0.131	29	Ecoregion mean = 0.06-0.15 mg/L EPA recommends < 0.1 mg/L
Ortho Phosphate (mg/L)	0.005	0.006	0.008	0.008	0.010	0.014	29	
Total Organic Carbon (mg/L)	2.0	2.0	2.2	2.3	2.8	2.8	3	
Suspended Solids (mg/L)	2	4	6	9	12	27	29	Ecoregion mean = 4.8-16 mg/L Standard = 10 mg/L
Volatile Suspended Solids (mg/L)	1	2	2	3	4	7	29	
E. Coli (CFU/100ml)	4	20	110	153	200	727	29	Standard = 126 CFU/100ml as geometric mean

Table 3. 2018 *In situ* water quality measurements taken by Hydrolab MS5 multi-probe mini sonde during 2018 sampling.

Parameter	Min	25th %	Median	Avg	75th%	Max	N	Notes
Temp (deg C)	6.51	8.20	10.75	10.51	12.65	13.32	29	
DO (mg/L)	7.47	8.20	8.51	8.58	9.04	9.81	28	Standard = > 7 mg/L
pH (Units)	7.53	7.69	7.71	7.71	7.74	7.83	29	Standard = 6.5-8.5
Conductivity (umho/cm)	364.8	626.7	638.8	639.4	673.0	676.6	29	

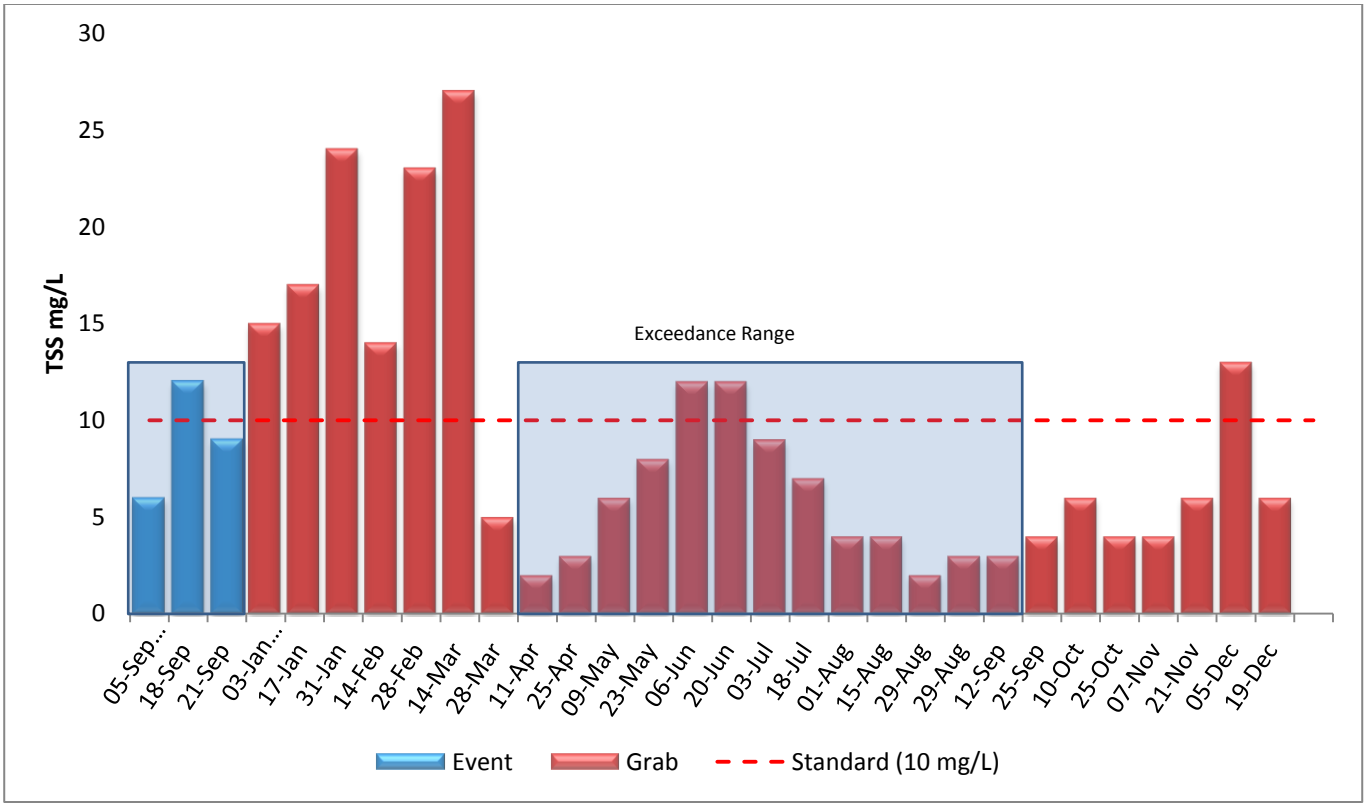

Figure 7. Total Suspended Solids (2018). State Standard for Class 2A Waters = 10 mg/L with no more than 10% exceedance between 1 April and 30 September (indicated by the red dashed line and the blue outlined box).

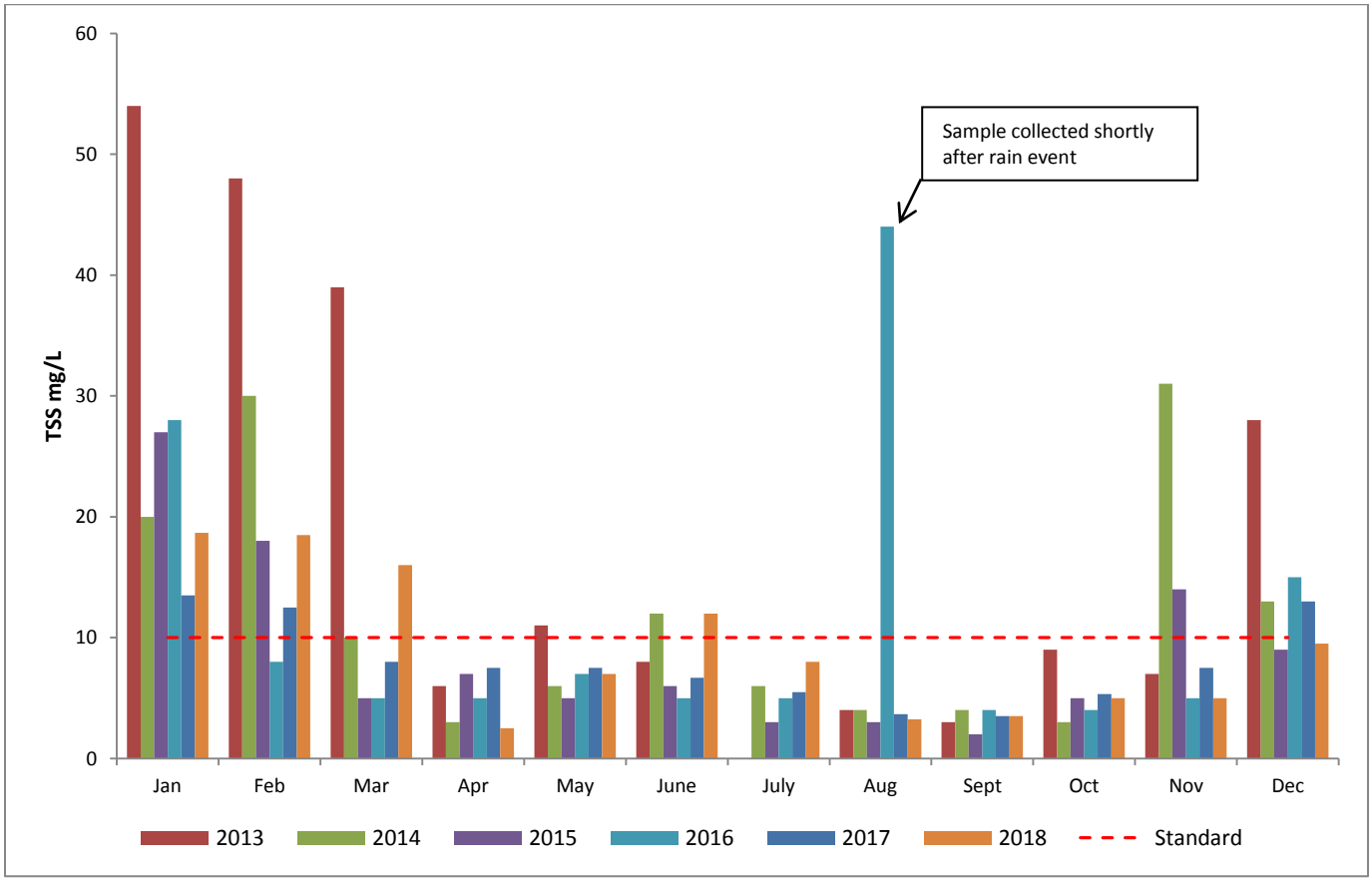

Figure 8. Total suspended solid monthly average over the last 5 years for non-event samples. The state standard is 10mg/L indicated by the dashed red line. No more than 10% exceedance shall occur between 1 April and 30 September.

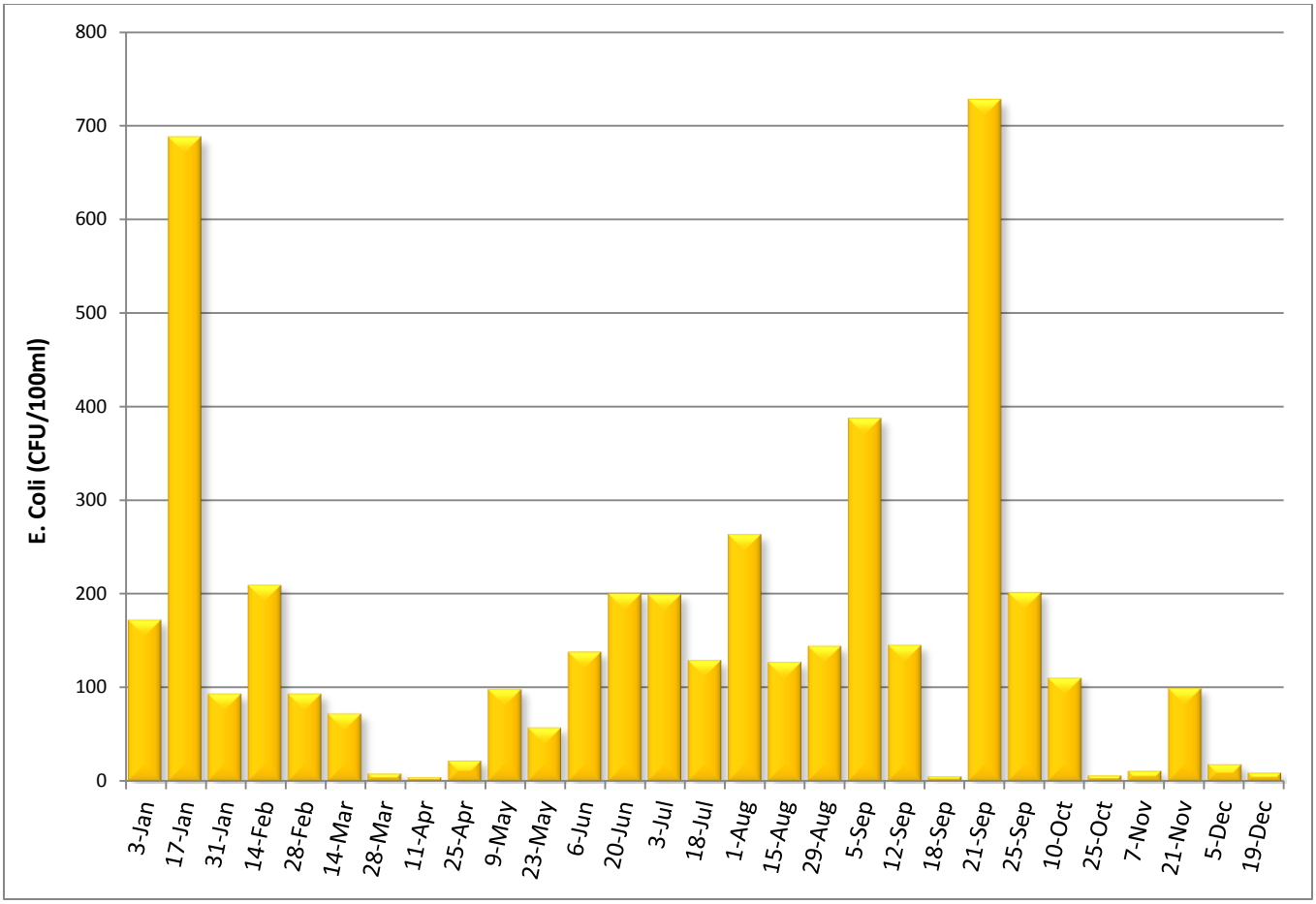

Figure 9. *E. coli* samples (2018). *E. coli* state standard for class 2A waters is not to exceed 126 organisms/100 ml as a geometric mean of not less than 5 samples representative of conditions within any calendar month. Nor shall more than 10% of all samples taken during any calendar month individually exceed 1,260 organisms per 100 ml. The standard applies only between April 1 and October 31.

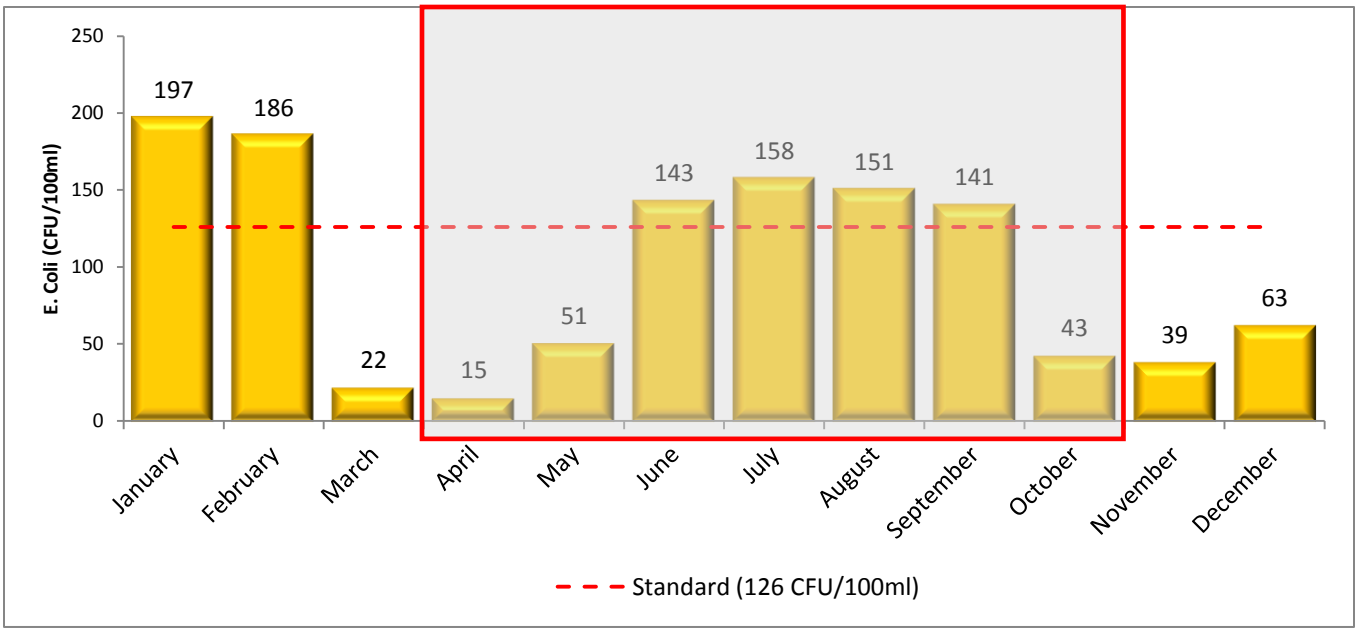

Figure 10. Geometric mean of *E. coli* at Eagle Creek. The geometric mean was calculated using all samples over the past 10 years (2008-2018) for any given month. *E. coli* state standard for class 2A waters is not to exceed 126 organisms/100 ml as a geometric mean of not less than 5 samples representative of conditions within any calendar month. Nor shall more than 10% of all samples taken during any calendar month individually exceed 1,260 organisms per 100 ml. While no individual measurement exceeds 1,260, June thru September exceed the chronic 126 standard.

Discussion

New to the Eagle Creek monitoring activities in 2018 the chloride data is already showing signs of potential areas contributing to higher chloride levels. Although all recorded chloride levels within Eagle Creek are below state standards of 230 mg/L the pond adjacent to the creek has elevated levels (Figure 8). The samples downstream of the pond confluence have also shown to have an uptick in chloride levels, likely due to the ponds influence. As the elevated snow levels around the watershed begin to melt it is likely that chloride contributing areas will become more predominant in the collected samples.

In general, the monitoring data suggests that Eagle Creek consistently meets state water quality standards and ecoregion means[1], with the exceptions being bacteria and suspended solids (Figure 10 and Table 2). The elevated levels of these parameters in winter is characteristic of this stream due to the fact that Eagle Creek is spring fed and does not freeze over in the winter. The open water attracts a large number of waterfowl, which results in historically higher bacteria, sediment, and turbidity levels than observed in summer months (Figures 8 and 10). Elevated levels during the summer are a result of continual waterfowl use and runoff from significant rain events (Figure 7 and 9).

The *E. coli* standard is applicable from April 1 – October 31 and is exceeded when greater than 10% of the samples exceed 1260 Colony Forming Units (CFU) per 100 ml *or* the geometric mean of no fewer than five samples in a calendar month exceed 126 CFUs. None of the samples exceeded 1260 CFU's from April through October (Figure 9). However, the geometric mean of the previous ten years of *E. coli* samples resulted in the exceedance of 126 CFU's for June thru September (Figure 10). January and February also exceeded the 126 CFU threshold leaving six month below the standard.

The previous state turbidity standard was replaced with a Total Suspended Solids (TSS) standard. The new TSS standard for Class 2A waters state that no more than 10% of samples shall exceed 10 mg/L between April 1 and September 30. This year, Eagle Creek exceeded 10 mg/L in 2 of 13 (15%) lab samples during the applicable season (Figure 7). In addition one of the three event samples and all samples from January to mid-March that were collected exceeded the 10 mg/L level.

III. Dean Lake Inlet Monitoring

Dean Lake Inlet was once on the Minnesota Pollution Control Agency (MPCA) 303 (d) list of impaired waters from 2006-2016. It was impaired for Aquatic Recreation due to excess nutrients causing eutrophication. In 2016 the body of water was re-assessed and reclassified as a wetland in the MPCA's Lower Minnesota River Watershed Monitoring and Assessment Report of June 2017. Although the reclassification removes the body of water from the 303 (d) list the nutrient loading still remains. Scott SWCD continues to provide monitoring data on the inlet to Dean Lake to document nutrient loading. The monitoring site is located where CR21 passes over the Prior Lake Outlet Channel to the southeast of Dean Lake. The SWCD monitors water chemistry and continuous stage and flow at this location. This site has been monitored from 2014 to present.

[1] There are seven ecoregions in Minnesota. Ecoregions are classified by geographic areas with similar plant communities, land use, soil, and geology. Eagle Creek is located in the North Central Hardwood Forest (NCHF) ecoregion. Each ecoregion has unique water quality goals as determined by historical monitoring of representative and minimally impacted reference streams within that ecoregion.

Methods

In-stream field measurements of dissolved oxygen, temperature, turbidity, pH, and conductivity were taken using a Hach MS5 Multiprobe Sonde. Field transparency is measured with a 1 meter secchi tube. Bi-weekly scheduled samples and additional event grab samples taken after rain events are taken while the stream channel is open (April-November). In 2018, 17 base grab samples and 4 event grab samples were collected totaling 21 samples. In addition to water quality samples, a total of six periodic flow measurements taken in 2018 and in conjunction with flow measurements taken over the previous years a discharge rating curve is developed. This rating curve is applied to the continuous 15 minute stage measurements collected by Campbell Scientific SR50 Ultrasonic Distance Sensor and CR1000 data logger to calculate continuous discharge data at the site (Figure 11).

Results

The 2018 monitoring data suggest that the inlet to Dean Lake meets MN water quality standards for all measurable categories, but it fell out of ecoregion mean and EPA recommendations for Phosphorus and Nitrate (Table 3). Historically, the inlet has seen spikes in Nitrate and Phosphorus. In the past three years grab samples have shown Phosphorus levels exceeded EPA recommendations an average of 33% of the time, but only exceeded the ecoregion mean 17% of the time. Similarly, Nitrates exceeded ecoregion means 60% throughout the last three years. Suspended solids have also shown signs of values exceeding the state and ecoregion standards 33% and 25% of the time respectively over the last three years.

Table 3. 2018 water quality data from Dean Lake Inlet. Red, bolded text indicates exceedance of the state standard or North Central Hardwood Forest ecoregion mean.

Parameter	Min	25th %	Median	Avg	75th%	Max	N	Notes
Chloride (mg/L)	47.4	50.4	53.6	54.1	58.0	61.2	20	
Nitrate (mg/L)	0.05	0.11	0.19	**0.29**	**0.46**	**0.90**	21	Ecoregion mean = 0.04-0.26 mg/L
Nitrite (mg/L)	0.30	0.03	0.03	0.03	0.03	0.05	21	Ecoregion mean = 0.04-0.26 mg/L
Total Kjeldahl Nitrogen (mg/L)	0.43	0.64	0.77	0.80	0.90	1.30	21	
Total Phosphorus filtered (mg/L)	0.020	0.020	0.025	0.037	0.043	**0.129**	21	Ecoregion mean = 0.06-0.15 mg/L EPA recommends < 0.1 mg/L
Total Phosphorus unfiltered (mg/L)	0.022	0.042	0.060	0.067	0.076	**0.174**	21	Ecoregion mean = 0.06-0.15 mg/L EPA recommends < 0.1 mg/L
Lab Turbidity (NTRU)	2	4	5	7	8	30	21	
Suspended Solids (mg/L)	3	4	7	13	12	**44**	21	Ecoregion mean = 4.8-16 mg/L
Volatile Suspended Solids (mg/L)	1	2	2	4	5	10	21	

Table 4. 2018 *In situ* water quality measurements taken by a YSI EXO1 multi-probe mini sonde for Dean Lake Inlet.

Parameter	Min	25th %	Median	Avg	75th%	Max	N	Notes
Temp (deg C)	2.61	12.34	17.57	16.62	21.68	25.20	21	
DO (mg/L)	4.50	6.75	7.65	8.15	9.24	13.26	21	
pH (Units)	7.44	7.55	7.81	7.77	7.97	8.13	21	
Conductivity (umho/cm)	397.8	423.5	449.4	495.6	576.1	695.1	21	

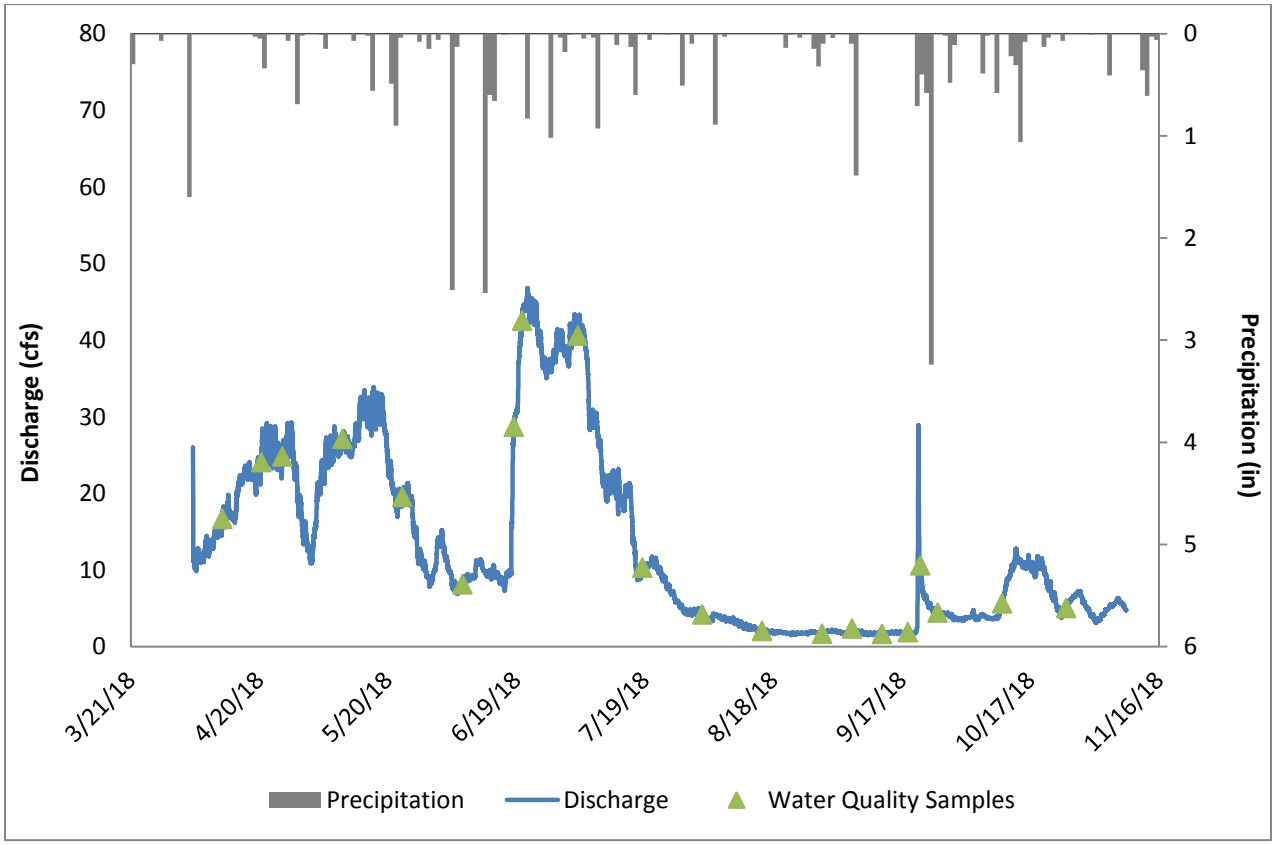

Figure 11. Dean Lake Inlet Flow, Precipitation, and Sample Schedule (2018).

Discussion:

Most of the water quality parameters at the Dean Lake Inlet are within the recommended standards and ecoregion averages. The levels of Phosphorus are generally within the recommended ranges; with concentrations only exceed the standards 17% of the time, on the other hand Nitrates are exceeding 60% of the time in the last three years. In both cases, most exceedance is occurring after precipitation events, droughts, or seasonally influence. Monitoring these levels should continue to track any potential increases or decreases in these levels. Although Dean Lake Inlet is no longer on the 303 (d) list because of its reclassification, it is important to track the amount of nutrients at the site to maintain historical data and track nutrient loading downstream.

IV. Well Monitoring

In 2005 the LMRWD contracted with Scott Soil and Water Conservation District to collect groundwater measurements from 13 wells in the Savage Fen, 4 wells in the Eagle Creek area and 2 Bluff wells. The data from these recordings is used to assess groundwater resources, determine long-term trends and interpret the impacts of pumping and climate. The wells in the Savage Fen were installed by the DNR to monitor development effects and water usage from the City of Savage on the water level in the Fen. All well data is entered into the DNR's groundwater level database and can be accessed at http://www.dnr.state.mn.us/waters/cgm/index.html.

Savage Fen Area Wells

The Savage Fen is a rare wetland complex at the base of the north-facing bluffs in the Minnesota River Valley, the largest calcareous fen of its kind in Minnesota. A plant community of wet, seepage sites with an internal flow of groundwater rich in calcium, magnesium bicarbonates and sulfates result in a thick peat base that is able to support a unique diversity of plants. More than 200 various plant species have been found in the Savage Fen, some of which are rare.

Methods

Scott SWCD monitors 13 wells in the Savage Fen monthly between April and November (Figure 12). The water level fluctuates throughout the year and many of the artesian wells record water levels above ground level. In addition, four wells are monitored in the Eagle Creek portion of Savage Fen on the other side of highway 13 (Figure 14).

The SWCD monitors two additional wells in the Savage Bluff area. In 2010 the Savage Post Office and Fire Department was constructed near the bluff wellheads and as a result, the wellheads were reconstructed and placed below the street, accessible beneath a manhole cover. The SWCD did not read these two wells in 2011 or 2012 as a result of the construction. In 2013, the SWCD resumed monitoring these wells with the City of Savage staff providing access.

In total, the SWCD recorded 129 water level measurements in 2018 from 19 wells for LMRWD.

Results

The Savage Fen water levels started and ended at relatively the same levels even with a spike in June and a drop in late August (Figure 12). Overall, the average Savage Fen water levels for 2018 increased 0.198 feet throughout the year, even with a significant drop in levels during August (Figure 14, 15 &16). Historically, the Fens have shown signs of fluctuation, and besides a dip in 2012 the water levels have shown a general sign of increase. This year the wells continue to rise with an average 0.31 foot gain in water levels over the last 11 years (Figure 13). The 2018 Eagle Creek well levels generally showed an increase throughout the year with all the wells averaging a 0.43ft rise throughout the year (Figure 17). Only EC3 showed a drop in the average yearly water levels dropping 0.29ft throughout 2018, while EC5 had the largest average gain of 1.83ft. Over the past 11 years average water level shows a 0.39ft rise in water elevations with EC3, EC4 and EC6 gaining 0.23, 0.45, 1.13 respectively (Figure 18). The only historical average decrease in elevation was EC5 with a drop of 0.043ft.

The bluff wells both showed signs of dropping water levels throughout the year (Figure 19). The water level in the deep bluff dropped 0.90ft throughout 2018, and the shallow well also dropped 0.91ft. The historic monitoring at the bluff well sites is discontinuous due to construction. However, since the construction water

levels have generally increased and are the highest levels recorded since the initial observation in 1994 (Figure 20). This year is the first year that the wells have shown signs of decreasing water levels since post construction observations, but are still higher than the initial post construction observations. All figures in this section are reported in depth to water (DTW) which is a product of the wells measuring point elevation minus the elevation of the recorded observed elevation.

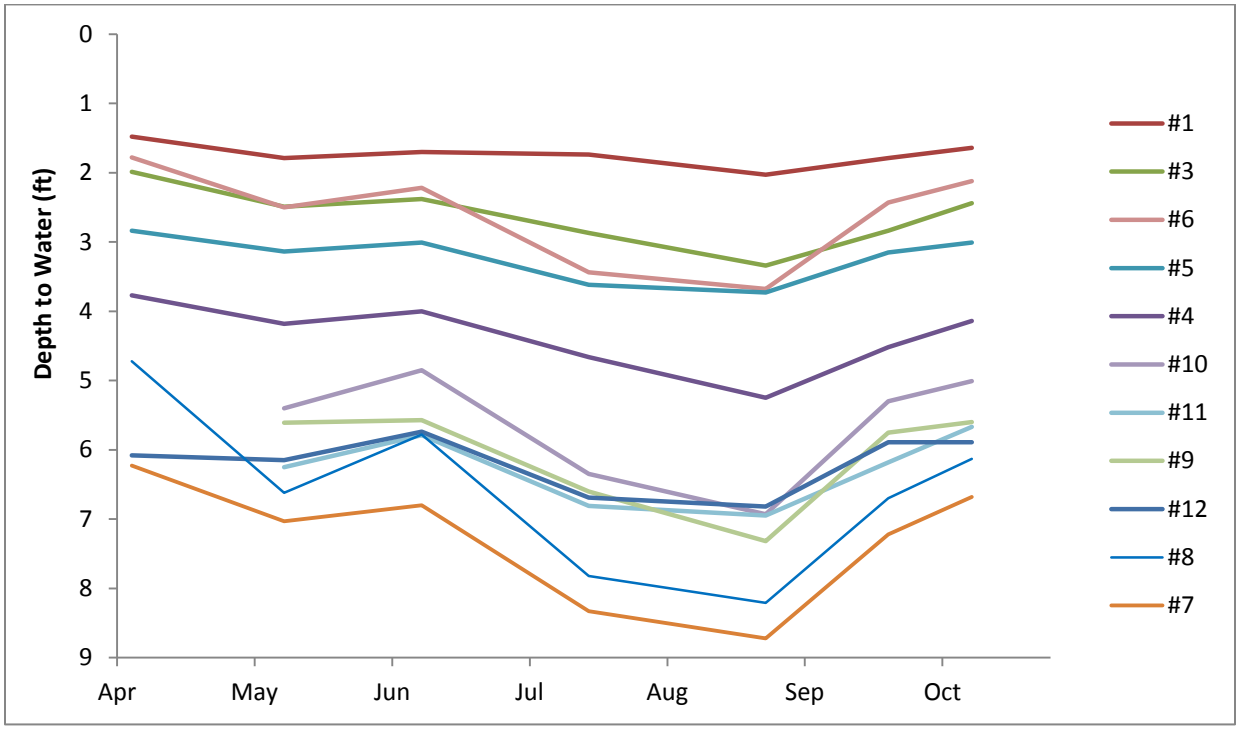

Figure 12. Savage Fen Wells (2018).

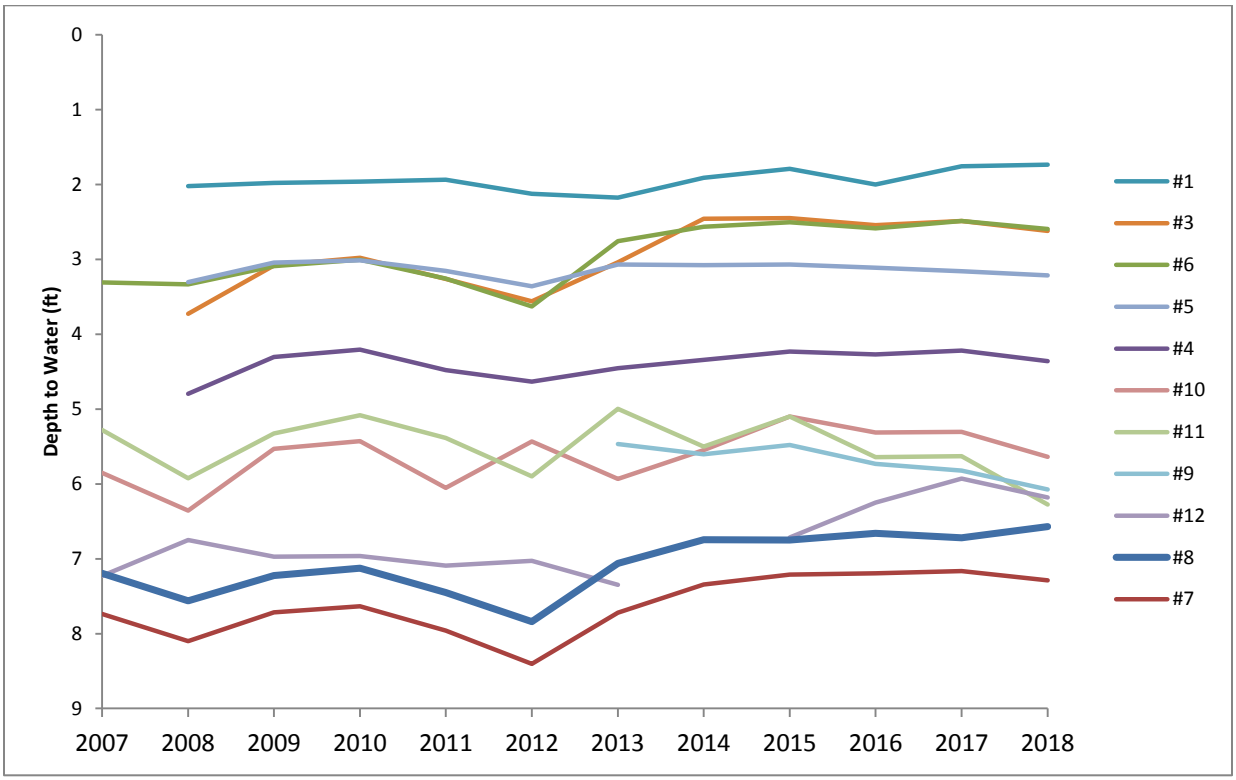

Figure 13. Average annual water level in Savage Fen wells (2007-2018). Averages include all observations in a calendar year.

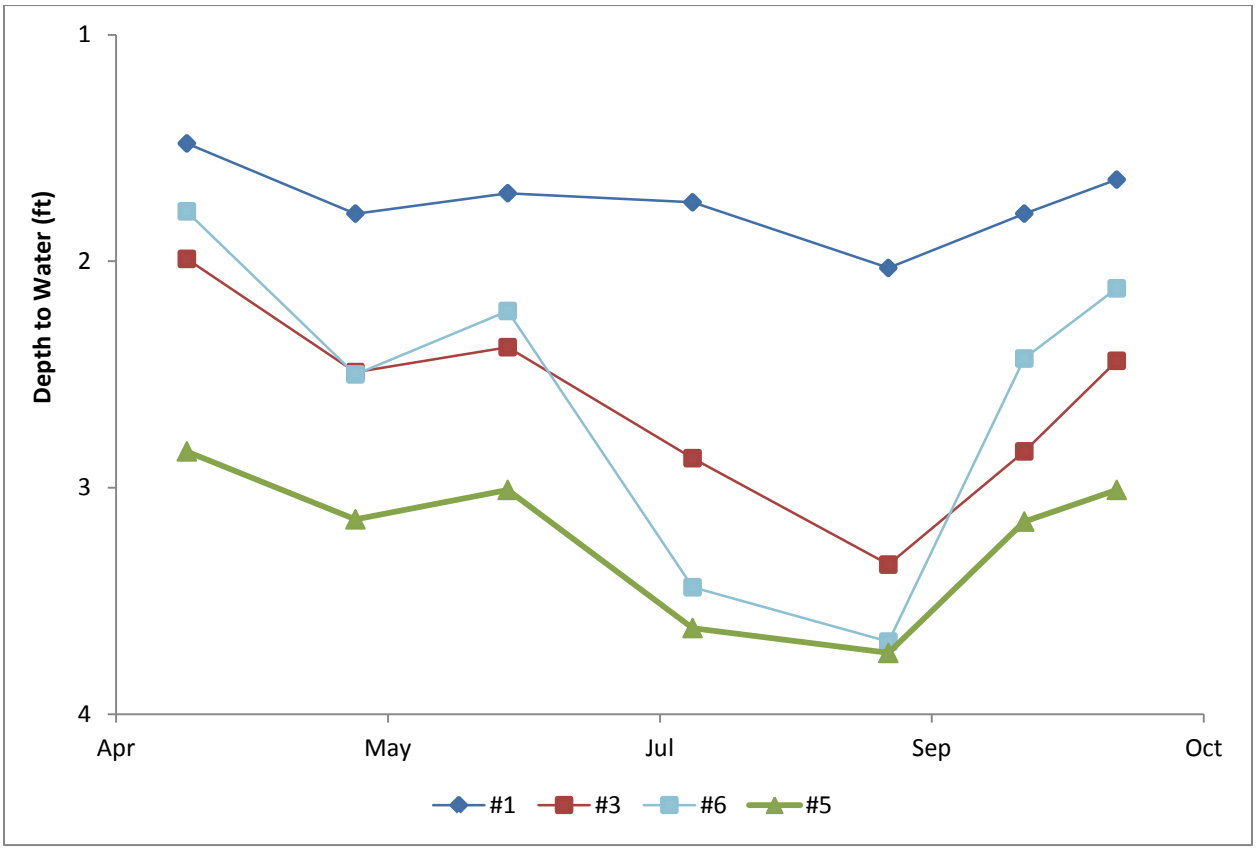

Figure 14. The four Savage Fen wells with the lowest DTW values (2018).

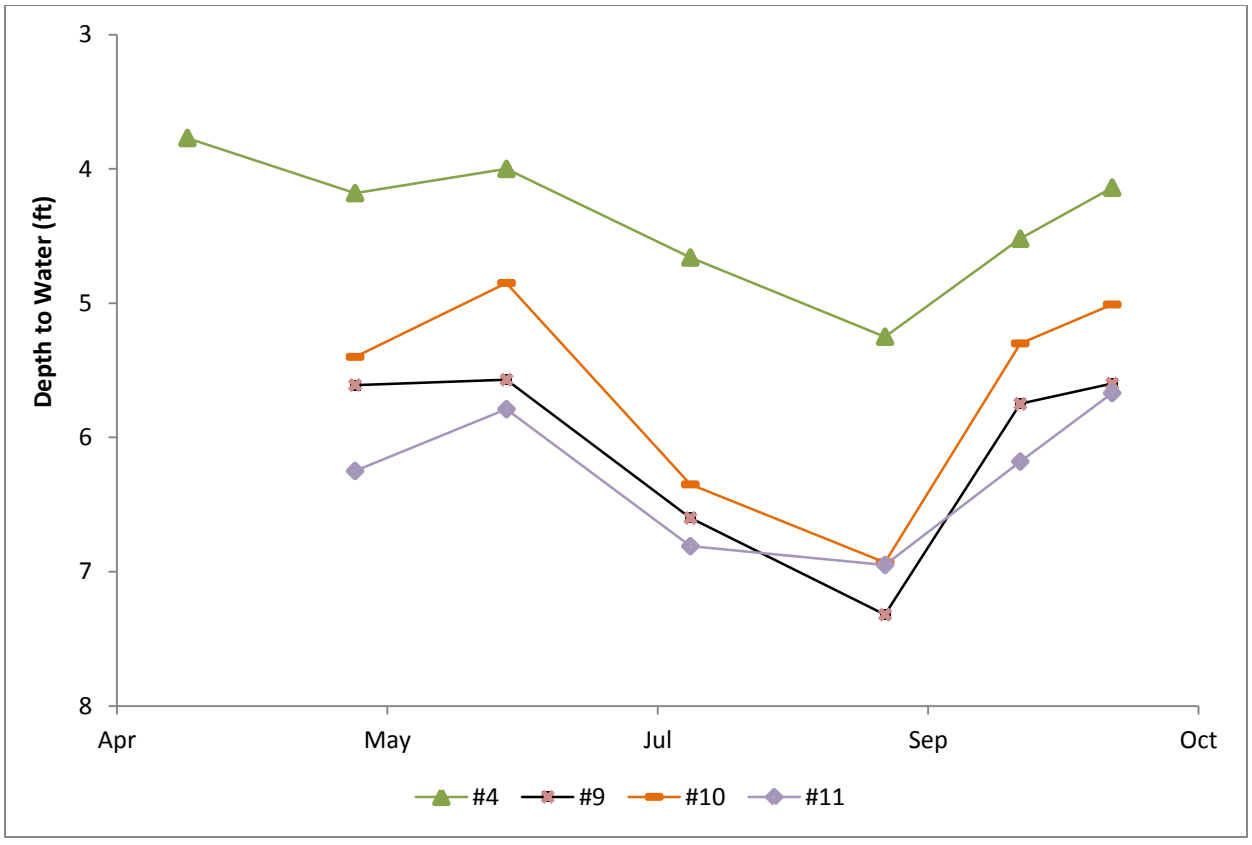

Figure 15. The four Savage Fen wells with the mid-level DTW values (2018).

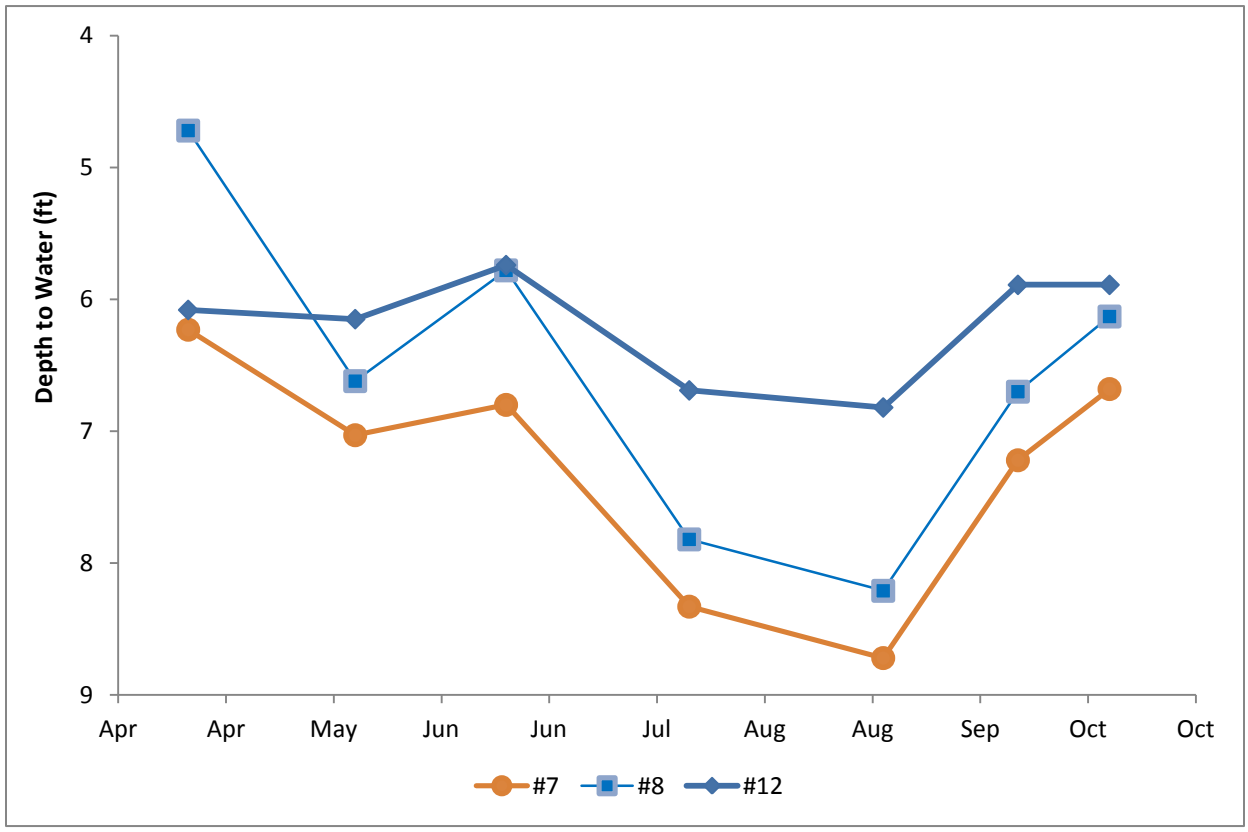

Figure 16. The three Savage Fen wells with the highest DTW values (2018).

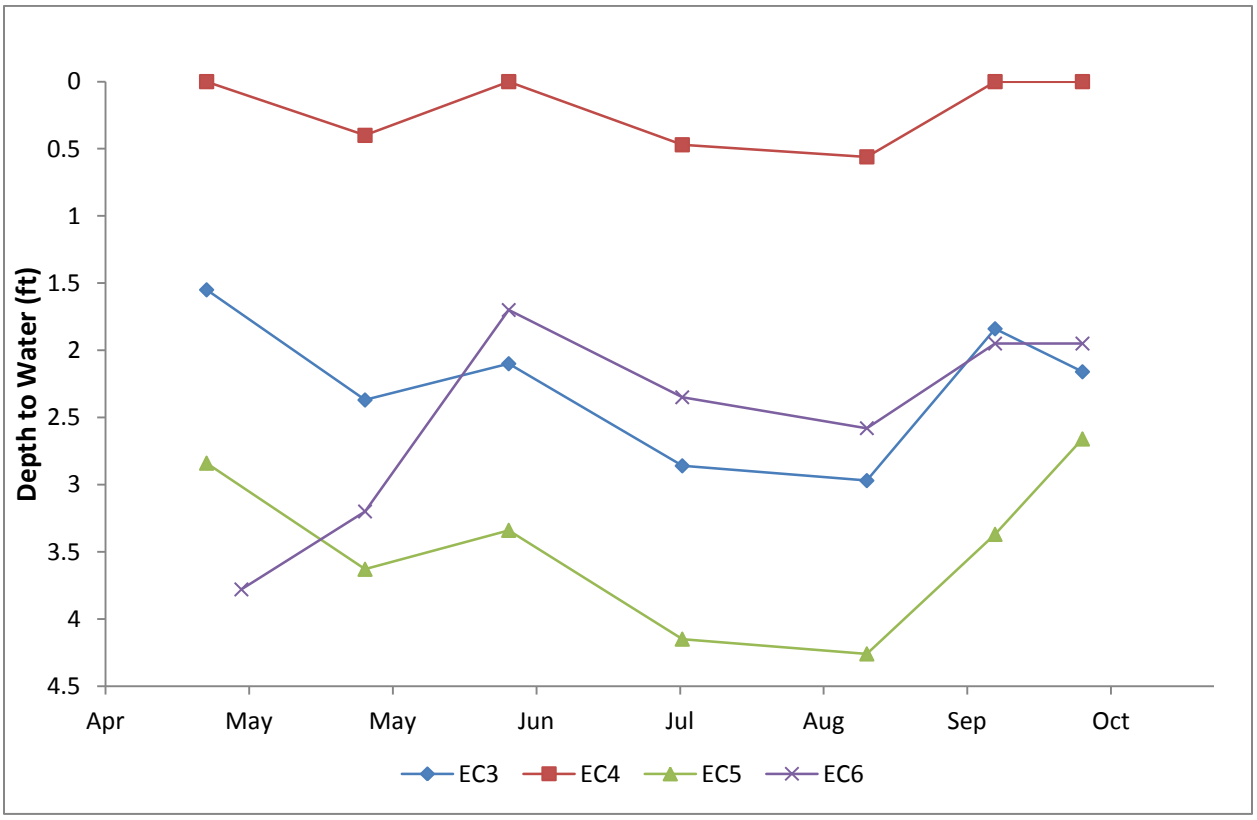

Figure 17. Eagle Creek wells (2018).

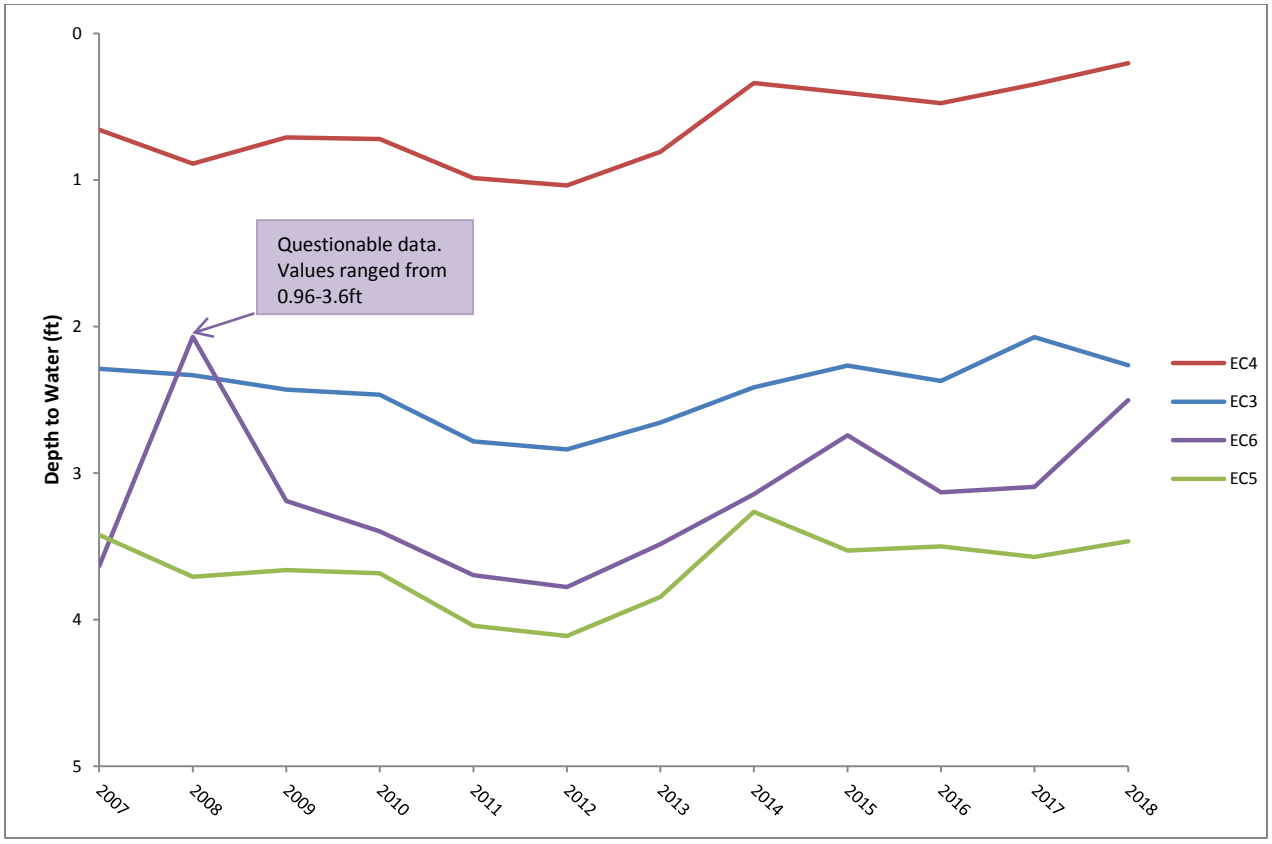

Figure 18. Eagle Creek historical 10 year trend. Values are yearly averages and include all values taken within the year.

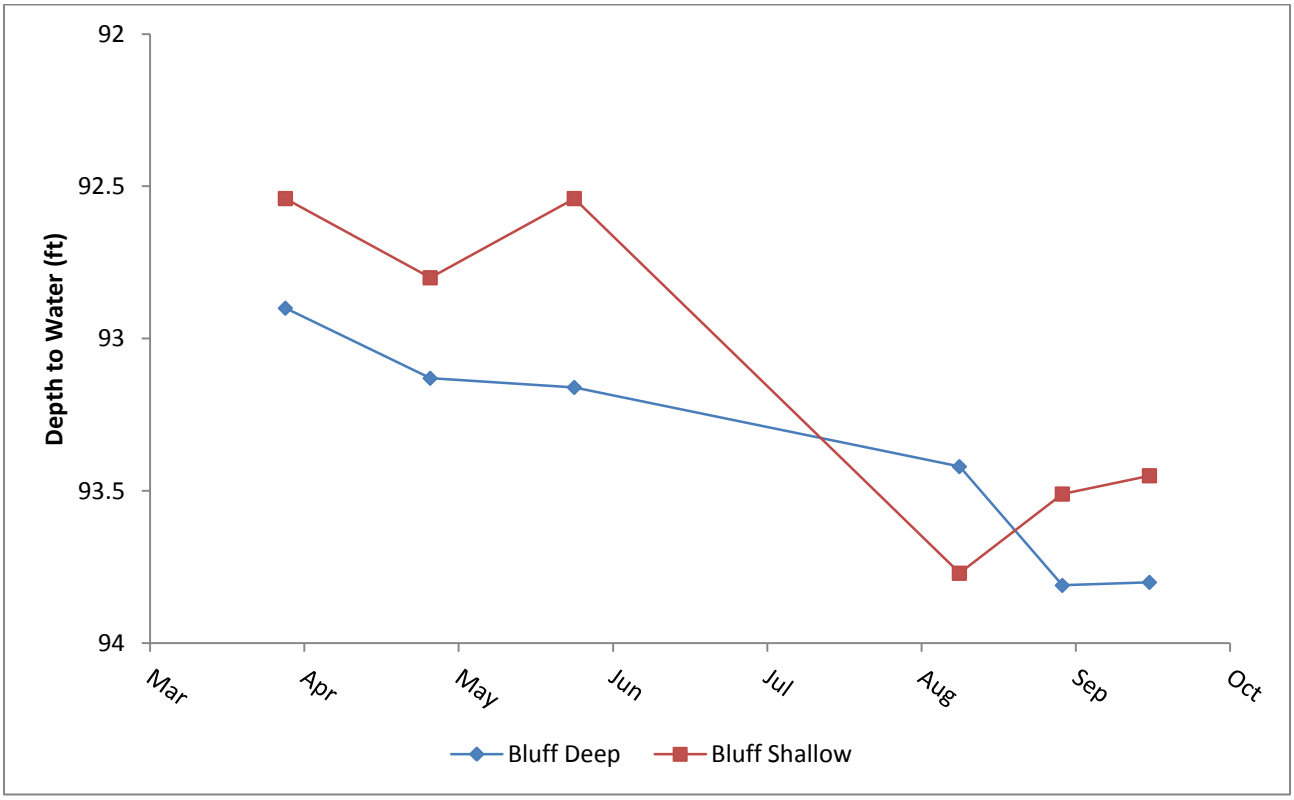

Figure 19: Shallow and deep bluff well data (2018).

Figure 20. Shallow and deep bluff well historic water levels. Scott SWCD began monitoring in 2005. Monitoring was suspended between 2010 and 2013 due to construction in the area. All available data for these two wells are reported.

Discussion:

All the wells in the LMRWD area (except the bluff wells) continue to show signs of increase since a draw down in 2012. For the past 3-5 years the Savage Fen wells have leveled off with only slight increases in their levels. It appears that they are reaching a normalized state. Seasonally, the Savage Fens had a significant draw down period during the summer. There was a moderate dry spell during the middle of the summer in 2018 followed by a very wet fall resulting in a yearly average nearly 5in above the 30yr average (Table 1). This amount of moisture likely allowed the wells to recharge causing an up-tick after the drawdown periods resulting in a yearly net gain in levels. This was the first year since the construction that the Bluff Wells showed a sign of decreasing water levels. The levels showed some signs of recovery during the end of the monitoring season, and are still historically higher than initial and post construction observations. Continual monitoring of all the wells in the LMRWD area will provide information on groundwater levels that can provide information on the impacts of water usage and recharge capabilities.

V. References

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LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 5. A. - Metropolitan Airport Commission Report

Prepared By
Linda Loomis, Administrator

Summary
Mr. Al Dye and Ms. Jennifer Gora will make a presentation to the Board regarding proposed work at the MSP Airport.

Attachments
No attachments

Recommended Action
No recommended action

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 5. B. - Presentation of 2019 Dakota County Monitoring Report

Prepared By
Linda Loomis, Administrator

Summary
Lindsey Albright from the Dakota County Soil & Water Conservation DIstrict will attend the meeting to present the results of resource monitoring in Dakota County.

Attachments
No attachments

Recommended Action
Motion to receive and file report

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 5. C. Presentation of Carver County Monitoring Report

Prepared By
Linda Loomis, Administrator

Summary
Andrew Edgecumbe and others from the Carver County Watershed Management Organization will attend the meeting to present the results of 2018 monitoring to the Board.

Attachments
No attachments

Recommended Action
Receive and file 2018 Carver County Monitoring Report

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 5. D. - 2019 Metro Children's Water Festival.

Prepared By
Linda Loomis, Administrator

Summary
The 2019 Metro Children's Water Festival has requested LMRWD support. The LMRWD has supported this event for more than five years. In 2018, the LMRWD provided $1,650 to the Festival to pay for transportation for 6 classrooms. The cost for transportation in 2019 is the same as 2018. This is a very popular event. For years more classrooms registered than could be accommodated and there is a waiting list every year to attend. In 2017, the Festival was expanded to allow twice as many students to attend.

The LMRWD received a request from the Metro Children's Water Festival to fund the 2019 Festival. The Metro Children's Water Festival is an event held in September of each year. 2019 will be the 21st year for this event and is sponsored by the Metro Conservation Districts. The Event is held at the State Fairgrounds and offers Metro Area fourth and fifth grade Students an opportunity to come to the daylong event and interactively learn about water. Over 30 different educational stations are available for students to visit. More information can be found on the Metro Children's Water Festival website.

The LMRWD has financially supported this event for the past three years and has included $1,650 in its 2018 budget to support this event again this year. Support offered in the past has been to sponsor schools. The cost per classroom and the LMRWD sponsorship amount over the course of the past 5 years follows:

2019	($275 per class)
2018	$1,650 ($275 per class) 6 classrooms
2017	$1,650 ($275 per class) 6 classrooms
2016	$1,500 ($250 per class) 6 classrooms
2015	$1,400 ($250 per class) 6 classrooms
2014	$1,500 ($350 per class) 4 classrooms

Scott County SWCD hosts its own event in September called Outdoor Education Day. 2018 was the 33nd year for the Scott County event. 1,070 student from 13 Scott County Schools attended.

Attachments
Communication from Metro Children's Water Festival

Recommended Action
Motion to authorize expenditure to sponsor 2019 Metro Children's Water Festival

February 2019

Dear Linda Lumis and the Lower Minnesota River Watershed District,

We are kicking off the fund-raising campaign for the 22nd annual **Metro Area Children's Water Festival (CWF).** The past two years we've grown the festival and are now able to accommodate over 1700 students each year.

What is the Children's Water Festival?
The festival is an interactive, hands-on, educational outreach program. The festival educates, motivates and challenges children to understand, conserve and protect water resources. It is one of the premier K12 education events in the metro area and helps teachers achieve state and school district science standards for 4th grade. The festival is one of the largest education collaborations in the metro area and has been increasing awareness of water issues and solutions in students and adults for 22 years. Since it began in 1998 over 26,100 and 1003 teachers have attended.

Why sponsor the Children's Water Festival?

- It provides free education on water resources to 4th graders in the metro area.
- It inspires students to learn more about water resources and protect clean water for future generations.
- It provides science enrichment that helps teachers meet state education standards.
- It creates enthusiasm and awareness around one of our most precious resources.
- Be recognized as a business or entity that supports water and environmental learning. Sponsors are recognized at the festival, in the festival booklet, on www.metrocwf.org, through press releases and articles, and receive a certificate of sponsorship. We can provide the CWF logo to put on your website.

How will funds be used?
The festival is provided free to students. Sponsored funds cover rental charges for the State Fair Grounds where its hosted, presenter fees the Science Museum's water show which every student sees, food & beverages for volunteers and presenters, and materials for the Water Arcade. Sponsorship also covers some busing costs for schools that cannot afford transportation. Most presenters, organizers and the planning committee members are from public and private agencies that volunteer their time and expertise.

How to sponsor
Fill out and return the enclosed sponsor form. Thank you for supporting this event that gives so much to the children of Minnesota and identifies the metro area as a national leader in environmental stewardship.

Learn more at www.metrocwf.org

Thank you,
Madeline Seveland
Metro Children's Water Festival Chair
952-361-1026 or mseveland@co.carver.mn.us

Metropolitan Conservation Districts

2019 METRO CHILDREN'S WATER FESTIVAL

SPONSOR FORM

Sponsors will be recognized in the Festival Program, at Festival site, in press releases, on the website and will receive a certificate of sponsorship. The Festival Program will be distributed to all participants (teachers, presenters, sponsors and volunteers) at and after the Festival.

_____We would like to be a Festival sponsor by funding educational materials, presenters and facility rental: *(Please circle one.)*

$250 $500 $1000 $2000 Other $_____

_____We would like to donate materials (e.g. t-shirts, food, etc), services or volunteers. Please ask a Festival organizer to call_____ at _____
(contact person) *(phone number)*

_____We would like to sponsor a school(s) by paying for transportation costs: (approx. $275/bus.)

_____We would be interested in having a company representative help the day of the event.

If you have any questions about the Children's Water Festival, or where your contribution may best fit, please call: Madeline Seveland (952-361-1026)

- -

Please make check payable to: Metro Conservation Districts

CONTACT NAME_____**DATE**_____

COMPANY_____
(Please print this exactly as you wish it to appear in the program.)

ADDRESS_____
(Street, City or Town, Zip)

PHONE_____ **FAX**_____

E-MAIL _____

PLEASE RETURN TO:

Madeline Seveland
Carver County Water Management Org.
600 e. 4th street
Chaska, MN 55318

"Water Connects Everyone and Everything on Earth!'

www.metrocwf.org

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 5. E. - Request from Freshwater Society for sponsorship

Prepared By
Linda Loomis, Administrator

Summary
Freshwater Society is hosting a Water Summit titled *Bridging Science and Society*. The Minnesota Stormwater Committee and the Minnesota Ground Water Association are partners to the event. Freshwater has asked if the LMRWD would be interested in sponsoring the event. Information regarding sponsorship is attached. If the Board wants to sponsor the Summit funds can come from the Education line of the budget.

Information about the event can be found on the Freshwater Society's website.

Attachments
Sponsorship Opportunity: 2019 Water Summit

Recommended Action
Motion to authorize sponsorship in 2019 Water Summit.

FRESHWATER

PHOTO: ETHAN JACKSON

SPONSORSHIP OPPORTUNITY: 2019 WATER SUMMIT

Why sponsor?

Sponsoring is a prime marketing opportunity for your organization that also gives back to the community. Receive excellent visibility in front of over 200 professionals and active citizens including water resource managers; scientists; engineers; architects; employees of local, regional, and state agencies and government; private business professionals; citizen advocates; and the media. Sponsors are promoted in print and digital marketing channels that reach thousands. Be the first to support education for water resource professionals and citizen advocates by supporting this new convening event in the Twin Cities.

What we do

Freshwater is a nonprofit organization dedicated to clean and reliable water in Minnesota. We are a leading education and policy organization that helps citizens, community groups, and local governments take their next steps for water. We specialize in making Minnesota's groundwater supplies sustainable and preventing polluted runoff from contaminating our lakes and streams.

See reverse for sponsorship levels.

EVENT DETAILS

WHAT: 2019 Water Summit: Bridging Science and Society
A two-day event featuring a day of showcasing local innovation in projects and programs that protect our water, followed by an optional half-day tour highlighting best practices in water management.

Relying on the science and technology behind our work doesn't always lead to successful projects and programs. We often overlook the power of people. Knowing who to involve and when, as well as who is *not* involved and why, are critical pieces of the puzzle if we are to achieve our clean water goals. At the 2019 Water Summit we will explore new and innovative ways to protect our surface and groundwater resources while also highlighting the role people play in determining the outcomes of our work.

Hosted by Freshwater, in partnership with the Minnesota Stormwater Committee* and the Minnesota Ground Water Association.

WHEN: May 9-10, 2019

WHERE: Science Museum of Minnesota, Saint Paul

WHO/AUDIENCE: More than 200 professionals and active citizens including water resource managers; scientists; engineers; architects; employees of local, regional, and state agencies and government; private business professionals; citizen advocates; and the media.

SPONSOR INVESTMENT LEVELS

	CHAMPION ($5,000)	STEWARD ($2,500)	SUSTAINER ($1,000)	ENTHUSIAST ($500)
Logo display print & digital** (invitations***, event program and signage, website, social media)	X	X	X	X
On-screen display at symposium	X	X	X	X
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Resource table	Full table, premier placement	Full table, premier placement	Half table	
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**Logo placement and dimensions commensurate with level
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FRESHWATER

Hosted by Freshwater, in partnership with the Minnesota Stormwater Committee* and the Minnesota Ground Water Association.

*The Minnesota Stormwater Committee is affiliated with the Minnesota Chapter of the Central States Water Environment Association.

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 5. F. - Chimney Pines 2019 Cost Share Application

Prepared By
Linda Loomis, Administrator

Summary
The LMRWD received an application for its 2019 Cost Share Program from the Chimney Pines Homeowners Association in Eden Prairie. This is the fourth phase of a project that planted a buffer of native plants around a storm water pond that serves the Chimney Pines subdivision. The stormwater pond flows into second pond before flowing to the Minnesota River through a series of underground storm water conveyances.

This year the project is larger than previous years (it is Section 1 on the map). This area receives the most sun of any of the areas and is the largest area of all the project phases. The Homeowners Association would like to get started as soon as conditions allow. Volunteer labor will be used as the match for the grant program.

Attachments
2019 Chimney Pines Cost Share Application
Cost Share Worksheet

Recommended Action
Motion to approve Cost Share Application for Chimney Pines Homeowners Association.

Lower Minnesota River Watershed District

Type or handwrite your answers on this form. (For questions, contact Linda Loomis at naiadconsulting@gmail.com or call 763-545-4659.)

Mail the completed application to:
Lower Minnesota River Watershed District
c/o/Linda Loomis, Administrator
112 E. Fifth St.,
Chaska, MN 55318

or Email to:
Linda Loomis, Administrator
naiadconsulting@gmail.com

2019 Cost Share Incentive and Water Quality Restoration Program Application

1) **Name of Organization or Individual Applying for Grant (to be named as Grantee):**
Chimney Pines Homeowners Association

2) **Project Address (street, city and ZIP code):**
Spyglass Drive, Eden Prairie, MN 55347

3) **Name & Address of Contact Person if different from above:**
Judy Berglund

4) **Contact Information (daytime and evening phone numbers, email address**):
Email: Judy@Berglund.com
Telephone: 952-975-1960

5) **Project Type (Best Management Practice [BMP] or Investigation [Study]):**
Best Management Practice

6) **Project Description: (Use Separate Page if necessary)**
- see separate page -

7) **How does the project meet the purpose of the LMRWD Cost Share Incentive and Water Quality Restoration Program?**
It is our hope to improve the water quality through the BMP implementation of our plan to remove invasive species and to plant vegetation that will mitigate erosion and minimize the rate and volume of water from adjacent land and sedimentation to the Minnesota River. The pond serves as an extended detention pond that collects water from both street drains and surrounding land which is then transferred to a drain system that makes its' way to the Minnesota River.

8) **How did you find out about the grant?**
From Leslie Stovring, Environmental Coordinator for City of Eden Prairie

9) **Partners (provide contact information for each partner and his/her expected contribution to the project):**
Homeowners that backup to the pond area, eighteen homes total. Each homeowner will be asked to contribute their time toward established work days to help complete the overall plan.

10) **Grant Funding Request**
$5,703.32

11) **Signature of Applicant:**
Judy Berglund Date: ~~April 8~~ March 14, 2019

Chimney Pines Homeowners Association

Pond Area Improvement Project Narrative

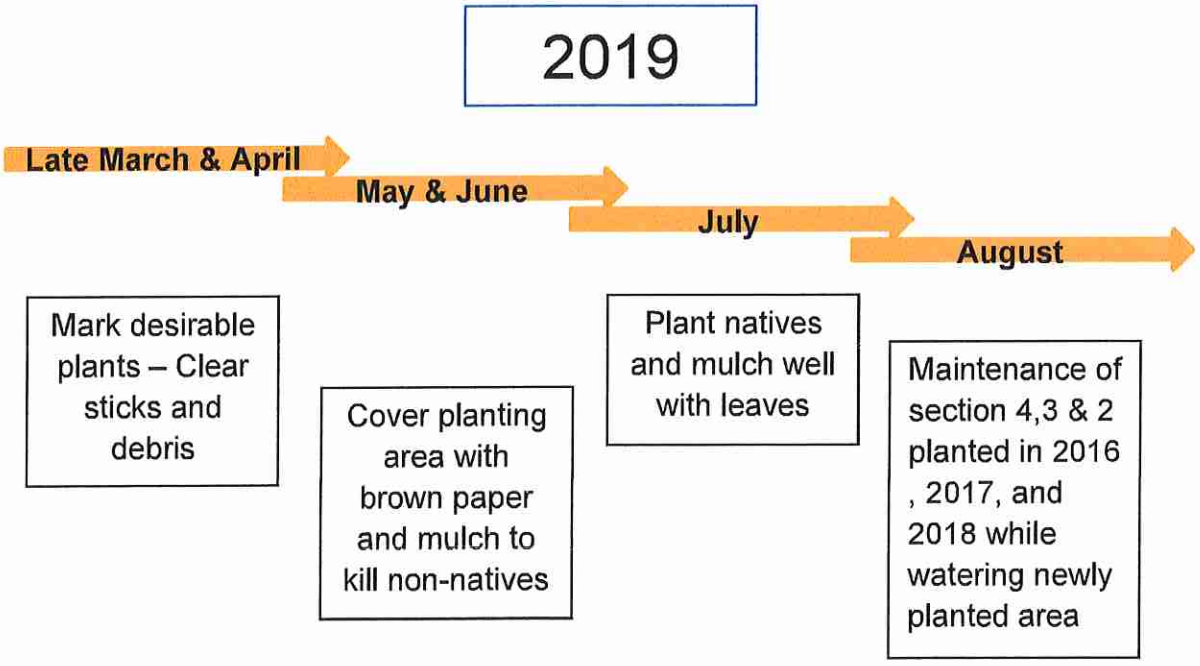
Chimney Pines Homeowners Association of Eden Prairie has eighteen homes backing up to an extended retention pond. Spyglass Drive has fifty homes, in total, in which the driveways and front lawns that have runoff water that is directed to street drains most of which makes its' way into the pond and ultimately into the Lower Minnesota River. The goal of this project is to have a native plant buffer strip surrounding the pond in order to improve water quality and clarity with sediment control and preventing soil erosion. Native plants will absorb runoff from backyards before it reaches the extended detention pond. The choice of native plants should also create habitat for butterflies, dragonflies, pollinators, birds, snakes, toads, frogs, salamanders, and other native wildlife.

Chimney Pines Homeowners Association

Pond Area Improvement Project Work Plan with Timeline

Because this is such a large area, the volunteer committee of seven households that back up to the extended retention pond took the suggestion of consultant Heather Holm and divided the area into four workable sections. We completed work on section four (4) in 2016, section two (2) in 2017, section three (3) in 2018, and will be working on the final section one (1) in 2019. Attached are the suggestions to the committee made by Heather Holm.

Section one (1) is 1000 feet long and an average of 40 feet wide, resulting in an area of 40,000 square feet. We will identify and mark plants worth saving and will be clearing Buckthorn, Garlic Mustard, Canadian Goldenrod, Burning Nettle, Creeping Charlie, and other undesirable invasive species or non-natives in late March through mid-May. As we clear areas we will be laying painter's paper as a barrier and mulching the area with chopped maple leaves collected from the front lawns last fall. July we plan to add plant material suggested by Heather Holm. August will be maintaining watering for new plantings and maintenance of section four (4) planted in 2016, section two (2) planted in 2017, and section three (3) planted in 2018. We plan to finish this section by late July 2019.



Chimney Pines Homeowner Association

Pond Area Improvement Project Plant List

ZONE 1 – 2019

Plant Name	*18 Count Flat*	*Price*
Great Blue Lobelia	2 Flats	$57.90
Monkey Flower	2 Flats	$57.90
Ohio Spiderwort	2 Flats	$57.90
Swamp Milkweed	3 Flats	$86.85
St. John's Wort	1 Flat	$29.95
New England Aster	1 Flat	$28.95
Sensitive Fern	1 Flat	$38.95
Prairie Blazing Star	3 Flats	$86.85
Maidenhair Fern	3 Flats	$116.85
Jacob's Ladder	5 Flats	$144.75
Columbine	1 Flat	$28.95
Virginia Bluebells	1 Flat	$28.95
Celadine Poppy	3 Flats	$86.85
Butterfly Milkweed	4 Flats	$115.80
Prairie Phlox	3 Flats	$86.85
Black Eye Susan	3 Flats	$86.85
Spotted Bee Balm	2 Flats	$57.90
Lupines	1 Flat	$28.95
Wild Petunias	2 Flats	$57.90
Prairie Onion	2 Flats	$57.90
Prairie Coreopsis	2 Flats	$57.90
Blanket Flower	3 Flats	$86.85
Pasqual Flower	2 Flats	$57.90
Prairie Smoke	1 Flat	$28.95
Hoary Vervain	1 Flat	$28.95
Purple Prairie Clover	1 Flat	$28.95
Midland Shooting Star	2 Flats	$57.90
June Grass	2 Flats	$57.90
Pennsylvania Sedge	4 Flats	$115.80
Little Bluestem	4 Flats	$115.80
Prairie Dropseed	4 Flats	$115.80
Pussy Willow	1 Shrub	$49.99
Red Dogwood	2 Shrubs	$42.90
Service Berry	1 Tree	$129.99
Common Witch Hazel	1 Tree	$39.99
Delivery of Plants		$50.00
Subtotal	63	$2,409.32
Builder's Paper 35" x 140'	7	$82.00
Yard Waste Paper Bags (5 count)	15	$35.00
Roundup Weed and Grass	1	$27.00
Subtotal		$144.00

Labor

Work Days (in hours at $18 per hour)		
(*1 session with 8 people for 2 hours*)	16 Hours	$288.00
(*2 sessions with 7 people for 3 hours*)	42 Hours	$756.00
(*6 sessions with 4 people for 3 hours*)	72 Hours	$1,296.00
(*5 sessions with 3 people for 3 hours*)	45 Hours	$810.00
Subtotal	175 Hours	$3,150.00
	TOTAL	$5,703.32

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SPYGLASS DRIVE, EDEN PRAIRIE, MN - RETENTION POND PLANTING

PLANT INVENTORY	SECTION
Invasive or non-native species - Remove	
Morus alba, White mulberry	3
Lonicera, Honeysuckle sp.	2
Rhamnus cathartica, European buckthorn (seedlings)	2,3
Torilis japonica, Japanese hedge parsley	3
Silene vulgaris, Bladder campion	1
Linaria vulgaris, Butter and eggs or common toadflax	3
Convolvulus arvensis, Field bindweed	3
Leonurus cardiaca, Motherwort	2,3
Rumex crispus, Curly dock	1
Coronilla varia, Crown vetch	3,4
Glechoma hederacea, Creeping charlie	1-4
Cirsium arvense, Canada thistle	1
Undesirable native species - Remove	
Solidago canadensis, Canada goldenrod	1,2
Hackelia virginiana, Virginia stickseed	2,3,4
Laportea canadensis, Wood nettle	3
Urtica dioica, Stinging nettle	1,4
Vitis riparia, Riverbank grape	1-4
Desirable native species - Keep/Release	
Panicum virgatum, Switch grass	1
Asclepias syriaca, Common milkweed	1
Onoclea sensibilis, Sensitive fern	1, move to 3
Zizia aurea, Golden alexanders	2
Baptisia sp., Wild indigo	4
Thalictrum dasycarpum, Tall meadowrue	1,2,4
Ageratina altissima, White snakeroot	2-4

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SPYGLASS DRIVE, EDEN PRAIRIE, MN - RETENTION POND PLANTING

PLANT INVENTORY	SECTION
Desirable native species - Keep/Release	
Arisaema tripyllum, Jack-in-the-pulpit	2,3
Symphyotrichum spp., Asters, various species	1,2
Silphium perfoliatum, Cup plant	3, move to 1
Osmorhiza longistylis, Long-styled sweet cicely	3
Asarum canadense, Wild ginger	4
Polygonatum sp., Solomon's seal	4, move to 2,3
Cornus sericea, Red osier dogwood	1
Physalis sp., Ground cherry	1,4
Andropogon gerardii, Big bluestem	1
Monarda fistulosa, Wild bergamot	1,2
Hypericum pyramidatum, Great St. John's wort	1
Eutrochium maculatums, Spotted joe pye weed	1
Iris versicolor, Blue flag iris	1
Physalis sp., Ground cherry	1,4
Parthenocissus inserta, Woodbine	2-4

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SPYGLASS DRIVE, EDEN PRAIRIE, MN - RETENTION POND PLANTING

PERENNIALS TO ADD - Water's Edge	**SECTION**
Physostegia virginica, Obedient plant	1
Anemone canadensis, Canada anemone	1,2,4
Chelone glabra, White turtlehead	1,2,4
Eupatorium perfoliatum, Common boneset	1
Verbena hastata, Blue vervain	1
Lobelia siphilitica, Blue Lobelia	1,2,4
Veronicastrum virginicum, Culver's root	1
Vernonia fasciculata, Common ironweed	1,2

SHRUBS TO ADD - Water's Edge	**SECTION**
Sambucus canadensis, American elderberry	1
Cephalanthus occidentalis, Buttonbush	1
Spiraea alba, Meadowsweet	1
Salix discolor, Pussy willlow	1,2

PERENNIALS TO ADD - Shade	**SECTION**
Mertensia virginica, Virginia bluebells	2-4
Geranium maculatum, Wild geranium	2-4
Maianthemum racemosum, False Solomon's seal	2-4
Polemonium reptans, Jacob's ladder	2-4
Aralia racemosa, Spikenard	2-4
Solidago flexicaulis, Zigzag goldenrod	2-4
Eurybia macrophylla, Large-leaved aster	2-4
Campanula americana, Tall bellflower	2-4
Thalictrum dioicum, Early meadowrue	2-4
Aquilegia canadensis, Wild columbine	2-4

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SPYGLASS DRIVE, EDEN PRAIRIE, MN - RETENTION POND PLANTING

SHRUBS TO ADD - Shade	**SECTION**
Diervilla lonicera, Bush honeysuckle	2-4
Viburnum lentago, Nannyberry	2-4
Viburnum rafinesquianum, Downy Arrowwood Viburnum	2-4
Corylus americana, American hazelnut	2-4

GRASSES AND SEDGES TO ADD	**SECTION**
Schizachyrium scoparium, Little bluestem	1
Carex spregelli, Sprengel's (long-beaked) sedge	2-4
Carex pensylvanica, Pennsylvania sedge	2-4

Native Plant Nurseries

Natural Shore Technologies, Maple Plain, MN www.naturalshore.com
Prairie Restorations Inc, Princeton, MN www.prairieresto.com
Outback Nursery, Hastings, MN www.outbacknursery.com
Ecoscapes, Burnsville, MN www.ecoscapes1.com
Landscape Alternatives, Schafer, MN www.landscapealternatives.com
Prairie Moon Nursery, Winona, MN www.prairiemoon.com

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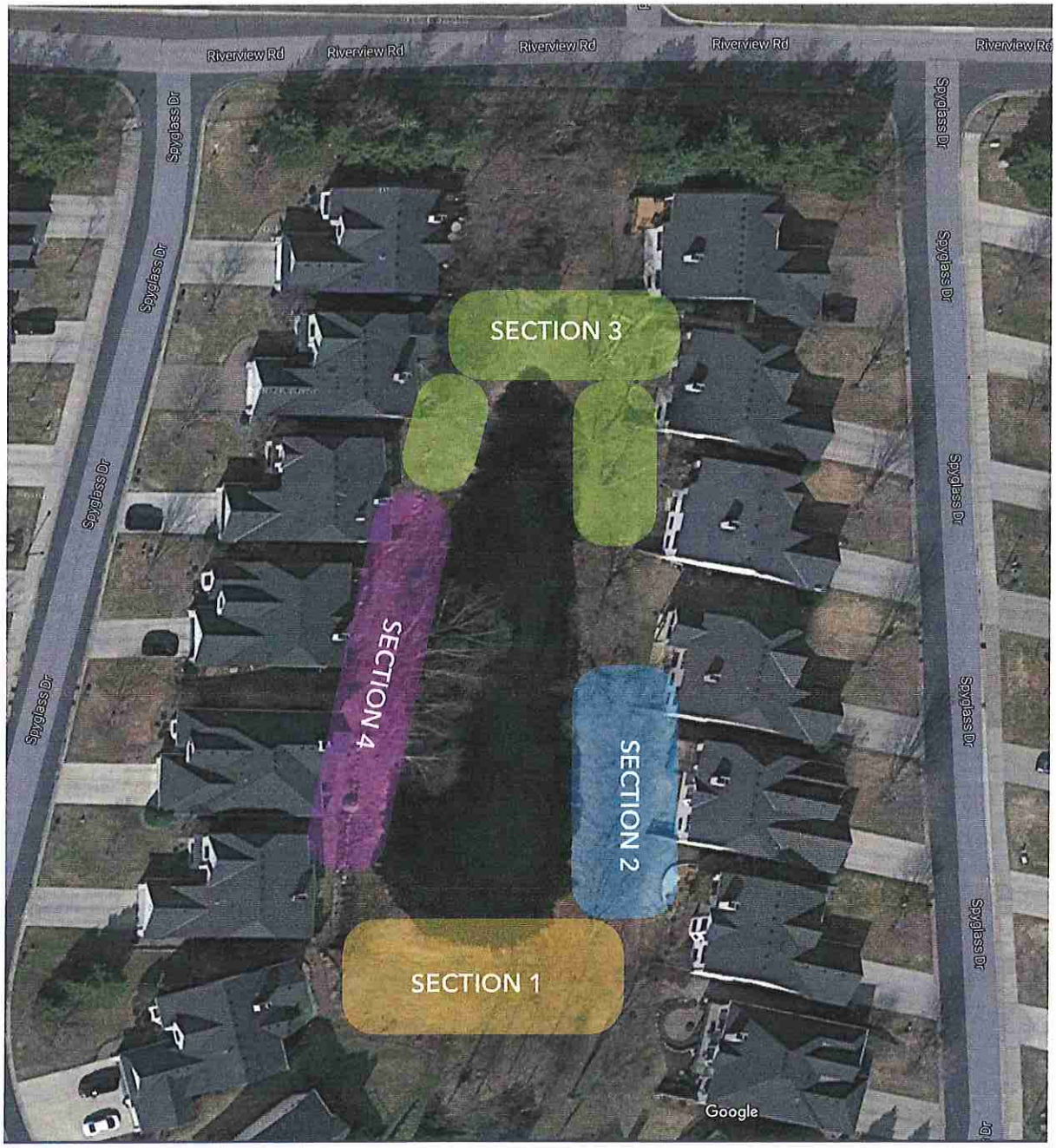
SPYGLASS DRIVE, EDEN PRAIRIE, MN - RETENTION POND PLANTING



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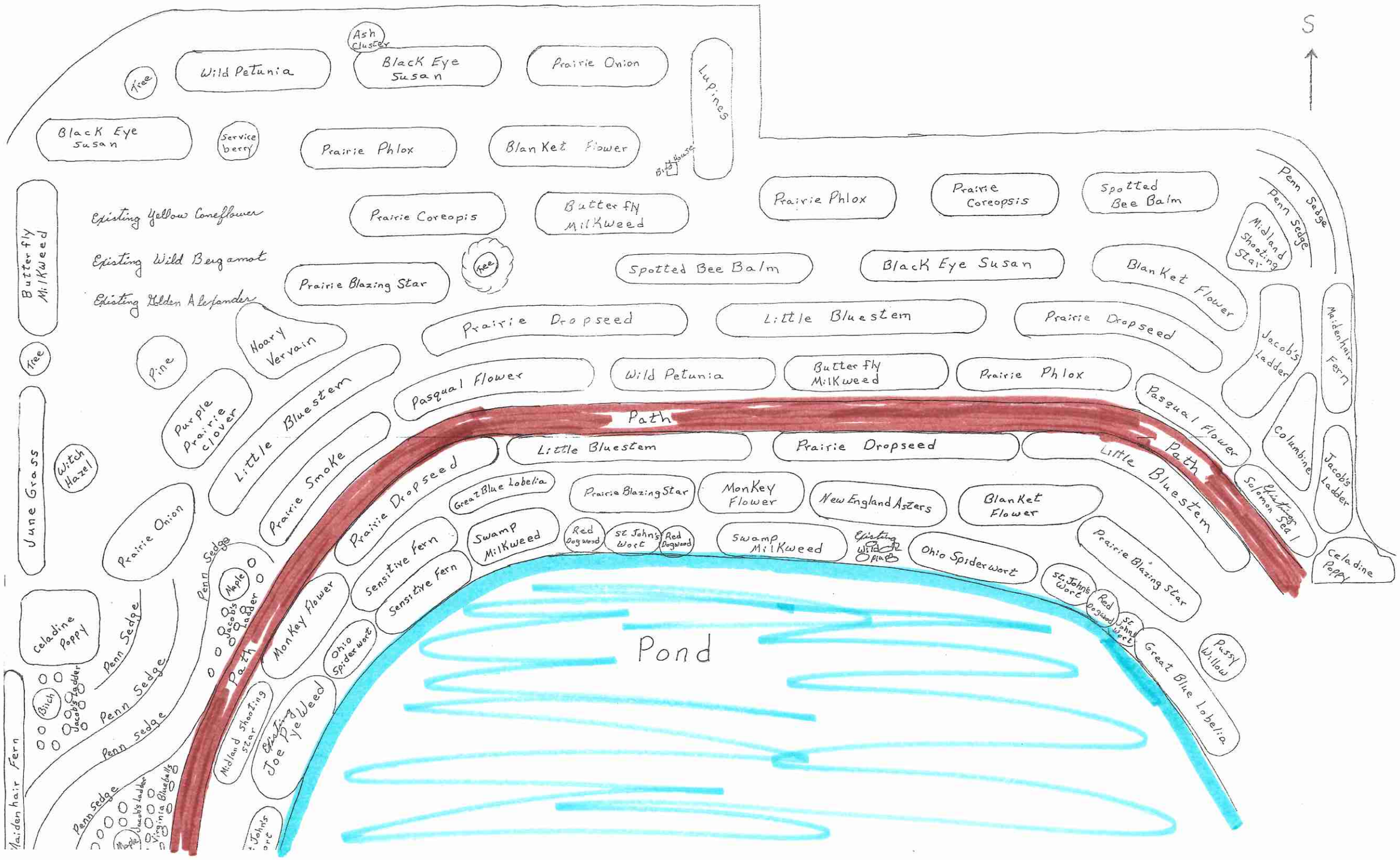
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Ash Cluster
Tree
Wild Petunia
Black Eye Susan
Prairie Onion
Lupines
Black Eye Susan
Service berry
Prairie Phlox
Blanket Flower
Bird House
Butterfly Milkweed
Existing Yellow Coneflower
Existing Wild Bergamot
Existing Golden Alexander
Prairie Coreopis
Butterfly Milkweed
Prairie Phlox
Prairie Coreopsis
Spotted Bee Balm
Penn Sedge
Penn Sedge
Midland Shooting Star
Tree
Prairie Blazing Star
Tree
Spotted Bee Balm
Black Eye Susan
Blanket Flower
Butterfly Milkweed
Tree
Pine
Hoary Vervain
Prairie Dropseed
Little Bluestem
Prairie Dropseed
Jacob's Ladder
Maidenhair Fern
Purple Prairie clover
Little Bluestem
Pasqual Flower
Wild Petunia
Butterfly Milkweed
Prairie Phlox
Path
Pasqual Flower
June Grass
Witch Hazel
Prairie Smoke
Little Bluestem
Prairie Dropseed
Little Bluestem
Prairie Dropseed
Little Bluestem
Path
Columbine
Existing Solomon Seal
Jacob's Ladder
Great Blue Lobelia
Prairie Blazing Star
Monkey Flower
New England Asters
Blanket Flower
Prairie Onion
Prairie Dropseed
Swamp Milkweed
Red Dogwood
St Johns Wort
Red Dogwood
Swamp Milkweed
Existing Wild Plum
Ohio Spiderwort
Sensitive Fern
Sensitive Fern
Penn Sedge
Maple
Jacob's Ladder
Path
Monkey Flower
Ohio Spiderwort
St. Johns Wort
Red Dogwood
St. Johns Wort
Great Blue Lobelia
Pussy Willow
Celadine Poppy
Penn Sedge
Penn Sedge
Penn Sedge
Penn Sedge
Birch
Jacob's Ladder
Maidenhair Fern
Midland Shooting Star
Existing Joe Pye Weed
Maple
Jacob's Ladder
Virginia Bluebells
St. Johns Wort
Pond

2019 Cost Share Worksheet - Chimney Pines Homeowners Association

Labor Costs (Contractors, Consultants, In-Kind Labor)

Service Provider	Task	# Hours	Rate/Hour	Requested Funds from LMRWD	Matching/In-Kind Funds	Total
Volunteer	Clearing, gubbing and planting	175	$12.00		$ 2,100.00	$ 2,100.00
			Total:	$ -	$ 2,100.00	$ 2,100.00

Project Materials

Material description	Unit Cost	Total # of Units	Requested funds from LMRWD	Matching/In-Kind Funds	Total
Plant Materials			$ 2,100.00	$ 309.32	$ 2,409.32
Craft paper, yard waste bags, Round-Up			$ -	$ 144.00	$ 144.00
					$ -
					$ -
					$ -
			Total:	$ 2,100.00	$ 453.32	$ 2,553.32

Total Requested Funds from LMRWD*:	$ 2,100.00	(A)
Total Match/In-Kind Funds:	$ 2,553.32	(B)
Project Total:	$ 4,653.32	(C)

*Please note: total requested funds (A) cannot be more than 50% of the Project Total (C)

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 5. G. - Request from Minnesota River Congress

Prepared By
Linda Loomis, Administrator

Summary
Mr. Scott Sparlin reached out to the LMRWD on behalf of the Minnesota River Congress. He and others from the Congress have been working to get water management agencies to agree to manage flow of stormwater. Specifically, the Minnesota Association of Soil & Water Conservation Districts has been featuring water storage at each of its regional meetings and Area 6 (which includes 11 counties) is considering a resolution that would make water retention and storage a priority for all SWCD's in the region. The resolution would:

- Endorses the initiative of the Minnesota River Congress as it pertains to increasing more water storage on the landscape.
- Promotes water storage projects within districts.
- Advocates, along with the Minnesota River Congress, to secure funding targeted specifically for water storage in the Minnesota River Watershed.

Area 5 is doing looking at similar actions. In many counties, SWCD's are also the drainage authorities. There is a lot of interest in water retention and storage as evidenced by the attendance at the Water Storage Forum in Mankato on April 4th. There were probably 200 people in attendance, many from drainage authorities.

Mr. Sparlin has asked the LMRWD to fund these efforts. He is looking for $5000 (approximately $400/month) for each of the next two years. The money would be used to fund his time coordinating organizational activities and cover meeting expenses to amass support and bring experts on board to create the language.

He will be working to get legislation passed relating to water retention and storage, and funding for projects. His plan is to have a bill with bi-partisan support ready for the 2020-21 legislative session. He has found authors for legislation and will be working on the language, so that it is ready for introduction. The legislation will be aimed at getting funding for retention and storage projects.

The 2019 Budget has $7,600 in Education & Outreach for a project with the Friends of the Minnesota Valley. The Friends project was to hold education meeting in each of the Counties in the Minnesota River Basin. This project fits with the goals and intentions of the project.

Attachments
Agenda from MASWCD Area VI Regional meeting
letter from Scott Sparlin on behalf of the MN River Congress

Recommended Action
Motion to authorize MN River Congress project

Area VI MASWCD

Serving the 11 SWCD's in South Central Minnesota

Renville, McLeod, Sibley, Nicollet, Le Sueur, Brown, Blue Earth, Watonwan, Waseca, Martin, and Faribault.

AREA VI Meeting
Monday. April 22, 2019
American Legion Post 132
13 South Minnesota Street
New Ulm, MN 56073
507-354-4016

DRAFT

OFFICERS

Director
Mark Schnobrich
24209 Unit Ave
Hutchinson, MN 55350
320-583-1460
arborcon@hutchtel.net
McLeod SWCD

Co-Director
Bob Nielsen
19336 331st Ave
Green Isle, MN 55338
bob.nielsen@ufcmn.co
m 507-326-5695
Sibley SWCD

Secretary/Treasure
r **Mark Koenig**
80656 County Rd 8
Buffalo Lake. MN 55314
kingcat80656@live.com
320-833-2313
Renville SWCD

MASWCD's purpose is to provide for education, communication, cooperation, and coordination between and among its member districts and affiliated partners, in order that the quality of the natural resources and environment within our area will be maintained and improved to the greatest possible extent.

9:00 am **Registration**

9:30 **Welcome – Charles Mathews, Vice Chair of the Mcleod SWCD**

9:32 **Call to order, Pledge, Roll Call, Agenda, Minutes, - Mark Schnobrich,**

9:40 **Treasurers Reports:** **Mark Koenig**

9:50 **Area VI update on Conservation Scholarship –** Mark Koenig

10:05 **Reports and MASWCD Update**

BSWR –
NRCS –
MACDE –
MASWCD –

10:20 **Water Storage: Scales, Practices, Partnerships – Al Kean/ Chief Eng., BSWR**

Surface and subsurface water storage (detention and retention) involves various conservation practices at different scales from field to watershed. Local water planning, as well as state and federal technical and financial assistance programs, often involve SWCDs and landowners in partnerships with drainage authorities and other LGUs. An overview for consideration and discussion.

11:00 **Minnesota River Congress – Director Coalition for a Clean Mn River**

Minnesota River Congress is spearheading an effort to secure significant funding specifically for surface water storage in the Minnesota River Watershed. What do they feel we need to do to achieve more storage.

11:15 **Izaak Walton League – Don Arnosti/** Cons. Issues Program Director/ Executive Director

P*rivate Conservation groups are trying to achieve the same results in water storage. Can private / public / non-governmental units all work together. Don will give us an idea as to how they are working to promote more water storage on public and private lands.*

12:00 pm **Lunch**

12:45 **Panel Discussion -** Scott Sparlin, Don Arnosti, Al Kean, Ryan Freitag/ Mcleod SWCD Director, Adam Griebe/ Farmer, Brownton, Minn.

Let us discuss the meat and bones of how we might actually get our separate factions to work together to achieve more water storage on the land.

1:45 pm **Area VI Directors Report– Mark Schnobrich / Adjourn**

Lower Minnesota River Watershed
Linda Loomis, Administrator
112 5th St. East, Suite 102
Chaska, MN 55318

Based on information compiled from numerous input meetings with key individuals and organizations from the entire region, The Minnesota River Congress has begun an important initiative. The MRC is now actively acquiring support from conservation program implementors and a broad coalition of organizations throughout the Minnesota River Basin. This is being done with the ultimate goal of creating a large pool of money to be used specifically to produce surface water storage on the landscape.

Meetings have begun and are in process with state legislators, SWCD's and Watershed Districts across the basin to discuss the potential for a bill to address this specific underfunded yet clearly identified and prioritized conservation initiative.

We appreciate your past support of our collective efforts and are asking for your support to continue our important work. We need funds to see this to its fruition. Would you be willing to be a partner by both endorsing the effort in letter form as well as contributing dollars to see it move forward?

Contact me any time at 507 276 2280 or sesparlin@gmail.com

Thank you for your most serious consideration

Scott Sparlin Coordinator/Facilitator, Minnesota River Congress
Executive Director, the Coalition for a Clean Minnesota River

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 6. A, - MAWD Dues

Prepared By
Linda Loomis, Administrator

Summary
This item was tabled at the February 2019 Board meeting in order to allow Manager Raby to be included in the discussion and decision.

Attachments
No attachments

Recommended Action
No action recommended

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 6. B. - Dredge Management

Prepared By
Linda Loomis, Administrator

Summary

i. **Funding for dredge material management**
The LMRWD is included in the BWSR budget for $480,000 for the biennium. We were surprised (as was BWSR) to find this in the House omnibus bill from the Environment and Natural Resource Finance Committee. Apparently, when the appropriation for the LMRWD was included in 2017 legislation it did not specify that funding was a one time appropriation.

ii. **Vernon Avenue Dredge Material Management site**
The no-rise evaluation and the 60% design plan has been provided to the City of Savage. Staff is meeting with the city staff on Friday, April 12 to discuss the proposed reconfiguration of the site.

I visited the site on Tuesday, April 9 and was not able to get in as Vernon Avenue and the access road into the site were flooded. The river elevation that day was just above 708 feet; flood stage is 702 feet. The berm containing the private dredge material exhibited some minor erosion; however, it appears the flood water did not overtop the berm.

iii. **Private Dredge Material Placement**
Private terminals are in the process of getting DNR permits to dredge this spring. They will have to wait until the flood waters recede in order to remove material currently on site. New material cannot be placed until the prior year's material has been removed.

Attachments
No-rise evaluation
60% design plan set

Recommended Action
No recommended action

resourceful. naturally.
engineering and environmental consultants

BARR

Technical Memorandum

To: Della Schall Young, Young Environmental Consulting Group
From: Jeff Weiss, Barr Engineering Co.
Subject: Minnesota River No-Rise Certification Evaluation - DRAFT
Date: March 8, 2019
Project: 23701082

The purpose of this memorandum is to provide a summary of the evaluation of potential impacts of the proposed modifications to the Cargill East River Dredge Material Site (Dredge Site) on the modeled water surface elevations for 1% Annual Exceedance Probability Flood, commonly referred to as the 100-year flood, on the Minnesota River. The Dredge Site Project will require information that supports a Minnesota "No-Rise" Certification, which certifies the project will have not result in a modification of the flood plain by more than 0.00 feet. The memorandum summarizes the analysis completed to determine the conditions for which a "No-Rise" Certification can be achieved.

Project Overview and Study Area

The purpose of the Dredge Site Project is to establish permanent berms and facilities to store and dewater dredge material generated from the Minnesota River and nearby commercial facilities. Dredge material is current stored at the site on a temporary basis; however, the Dredge Site Project will establish a permanent configuration for stored materials. Background information on the Dredge Site Project is included in a technical memorandum from Burns & McDonnell and Young Environmental Consulting Group, dated February 15, 2017, and the Cargill East River (MN – 14.2 RMP) Dredge Material Site Management Plan (Lower Minnesota River Watershed District, 2013).

The study area is on the floodplain of the Minnesota River, near the Soo Line Railroad Bridge in Savage, MN (Figure 1). The main study area was concentrated between rivers stations 35 and 39; however, as discussed in the hydraulic analysis section below, the analysis reviewed modeling results further upstream of River Station 39.

Hydraulic Analysis

The hydraulic analysis utilized the HEC-RAS model (version 5.0.6) used by the U.S. Army Corps of Engineers (USACE) to develop the effective floodplain for the Minnesota River within the study area. The USACE developed the base model in 2004 (see Attachment A). The original model configuration was preserved as a reference, and to be consistent with other FEMA floodplain analyses the original configuration is referred to as the Duplicate Effective Model.

Barr Engineering Co. (Barr) modified the Duplicate Effective Model to more accurately model existing conditions at and near the Dredge Material Site. The modified model is referred to as the Corrected Effective Model and is used as a basis of comparison for the Proposed Conditions Model. The focused area of study is shown in Figure 1.

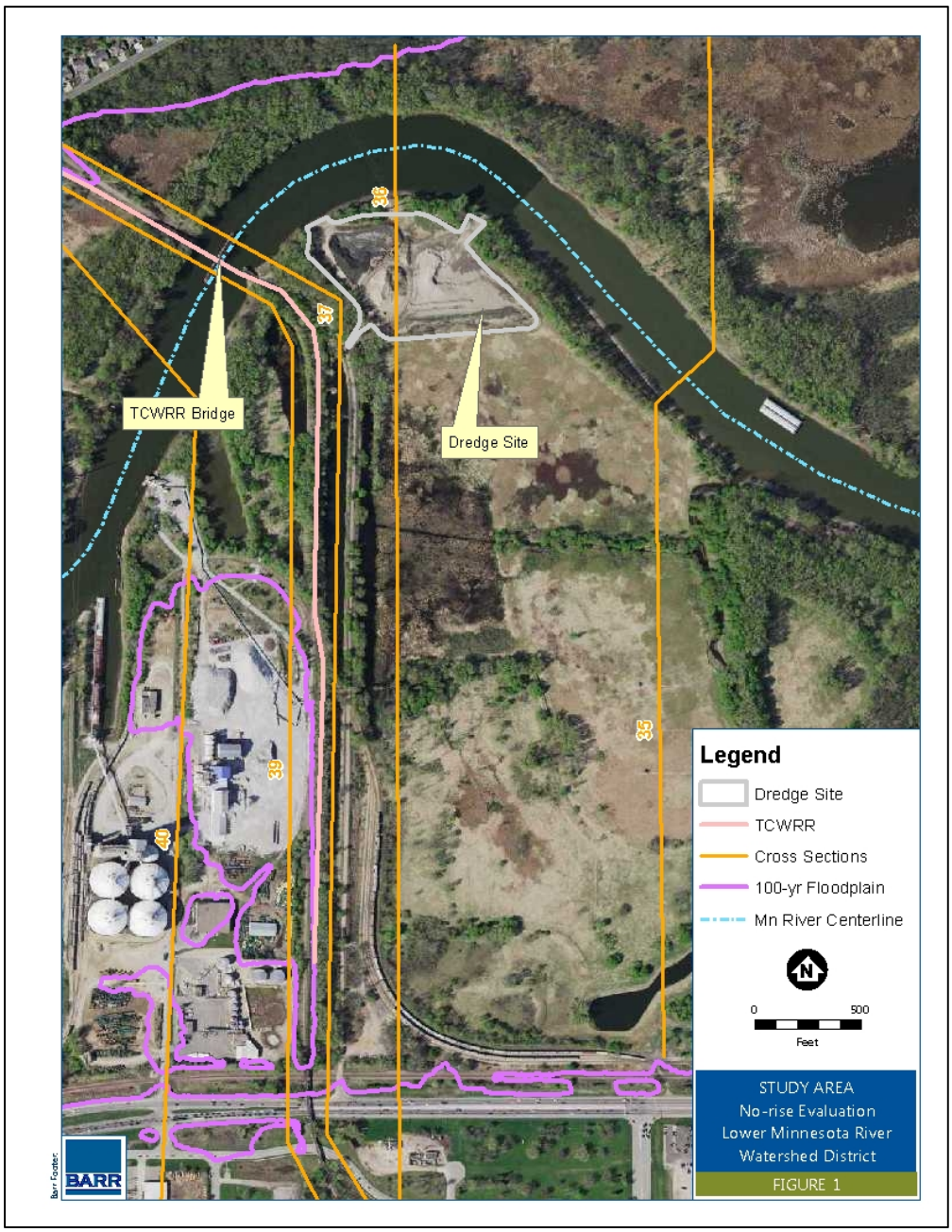

Figure 1 – Dredge site study area between cross sections 35 and 39.

The following bullet points highlight key modifications to create the Corrected Effective Model:

- Ineffective flow areas upstream and downstream of the TCWRR Bridge were modified to more accurately model the flow at the bridge
- Manning's n roughness values were adjusted in some areas to reflect existing vegetation cover.
- Additional cross sections were added in the study area to more accurately model transitions between different topographic features.

All other aspects of the model (e.g. flows, boundary conditions, modeling parameters, etc.) were left unchanged between the duplicate effective and corrected effective models. However, one feature that should be noted is that neither the Duplicate Effective Model nor the Corrected Effective Model include the temporary berms and dredge material that is often on site.

Ineffective flow areas

The modifications to the ineffective flow areas were the most significant change made to the Corrected Effective Model and warrant additional discussion. The ineffective flow areas were initially adjusted by using guidelines in the Bridge Hydraulic Analysis with HEC-RAS (USACE, 1996). The ineffective flow areas were further modified to more accurately account for the specific flow characteristics regarding depth of overtopping flow and the height of the railroad in relation to the floodplain. The top of the railroad is significantly higher (~16 feet) than much of the adjacent floodplain. If flood flows remain below the top of the railroad, then the railroad creates a significant "shadow" where most of the water adjacent to the railroad is effectively backwater and not actively flowing. A portion of the railroad and bridge is overtopped by a relatively small depth (~2.5 feet on average) during the 100-year flood; however the depth of overtopping the railroad is significantly smaller than the elevation difference between the top of the railroad and the adjacent floodplain. To accurately account for the effective flow area upstream and downstream of the bridge, the effective flow and ineffective flow areas were modeled in the following ways:

- The expansion and contraction of the effective flow areas were modeled using guidelines in Bridge Hydraulic Analysis with HEC-RAS (USACE, 1996)
- The area of effective flow above the top of the bridge due to overtopping flows was preserved in upstream and downstream cross sections
- Areas of ineffective flow were preserved if they were too far from the bridge opening to be effective flow or too far below the elevation of the overtopping railroad and bridge to be effective flow.

The difference in the modeled ineffective flow areas for the Duplicate Effective Model and the Corrected Effective Model are illustrated in Figures 2 and 3.

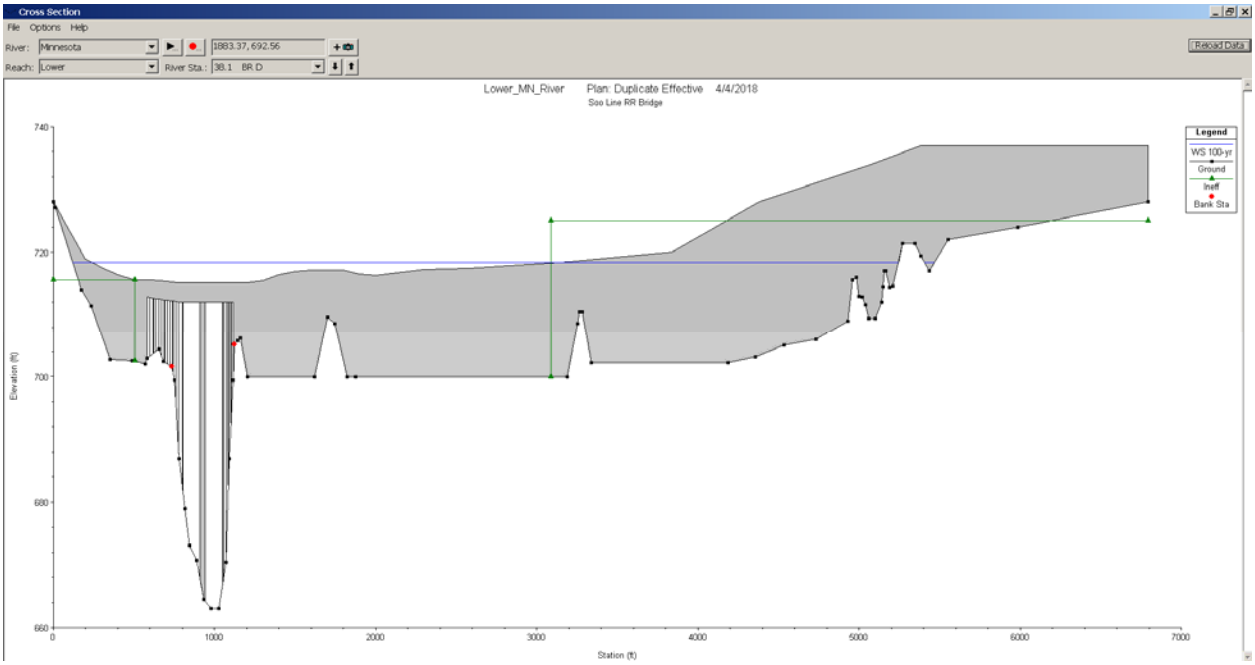

Figure 2 – Cross Section at Railroad Bridge in Duplicate Effective Model. Note little ineffective flow area (inside green outline) below the top of the railroad

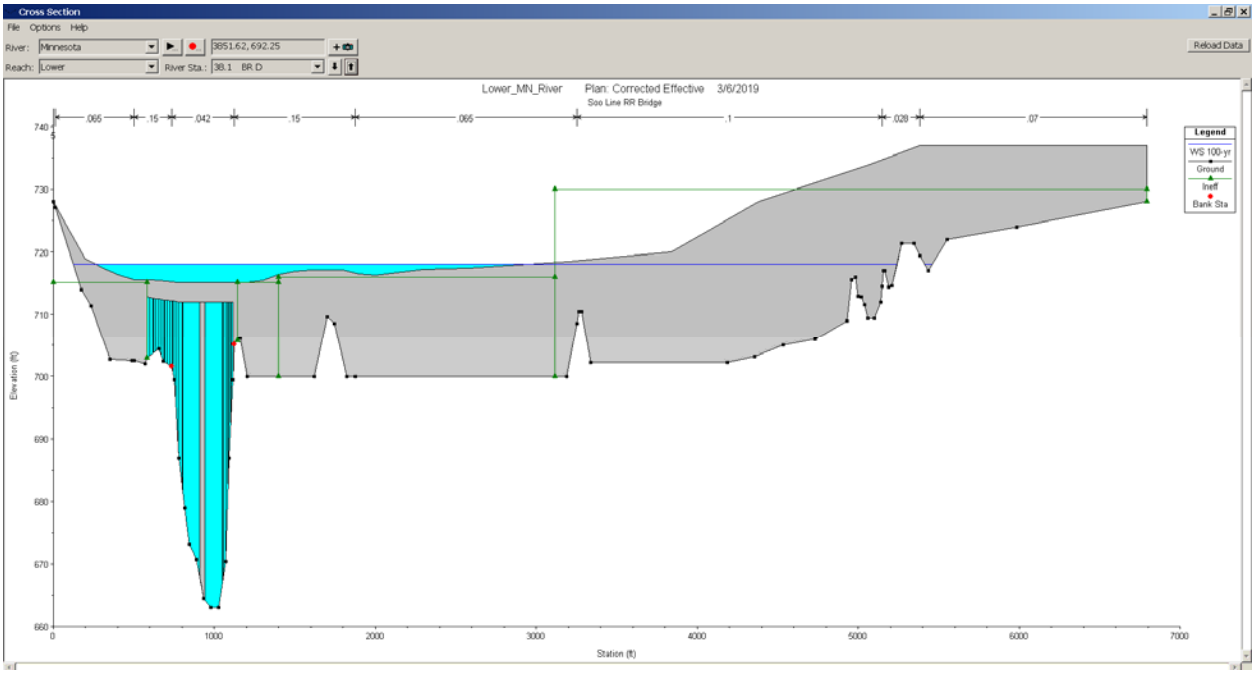

Figure 3 – Cross Section at Railroad Bridge in Corrected Effective Model. Note added ineffective flow area (green outlines) below the top of the railroad

Proposed Conditions Model

The modifications made to create the Corrected Effective Model were carried forward to the Proposed Conditions Model such that the only changes made to the proposed conditions model was to add the proposed permanent storage and dewatering areas for dredge materials. The comparison of existing and proposed cross sections is shown in Figures 4 and 5 on the following page.

Table 1 includes the comparison of modeled water surface elevations for the Corrected Effective and Proposed conditions models. The no-rise certification requires a change of no more than 0.00 for any modeled water surface elevation. The proposed berm elevations are 715.0 for the northtwo western storage areas and 706.0 feet for the eastern storage area. These initial berm elevations were found to create changes to the modeled 100-year floodplain, so the berm elevations were modified iteratively until the maximum elevations were found that would also comply with the criteria to complete a No-Rise Certification. Table 1 shows the modeling results for the project area.

Table 1 HEC-RAS model results for water surface elevations within the study area

	River Station	35	35.5[a]	35.75[a]	36	36.5[a]	37	TCWRR Bridge	39	40
1% AEP Event	Corrected Effective	717.36	717.41	717.45	717.53	717.67	717.75		718.00	718.61
	Proposed	717.36	717.41	717.45	717.53	717.67	717.75		718.00	718.61
	Difference	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Floodway	Corrected Effective	717.58	717.62	717.67	717.73	717.91	717.98		718.18	718.78
	Proposed	717.58	717.62	717.66	717.73	717.91	717.98		718.18	718.78
	Difference	0.00	0.00	-0.01	0.00	0.00	0.00		0.00	0.00

a – Cross section added to more accurately model the project area

The no-rise certification requires no more than a 0.00 change in the water surface elevation for any modeled cross section for both the 1% AEP Event and the Floodway. As can be seen in Table 1, this criteria is met for all cross sections except for cross section 35.75, where the proposed conditions model results have a decrease of 0.01 feet for the Floodway model. When the model results are expanded to more decimal places, the modeled water surface elevations for the corrected effective and proposed conditions for the Floodway model are 717.6660 and 717.6649, respectively. Therefore, the difference in the modeled water surface elevation is only 0.0011 feet and the difference shown in Table 1 is attributed to rounding. The HEC-RAS model results are both the 1% AEP Event and the Floodway model are included as attachments A and B to this memorandum.

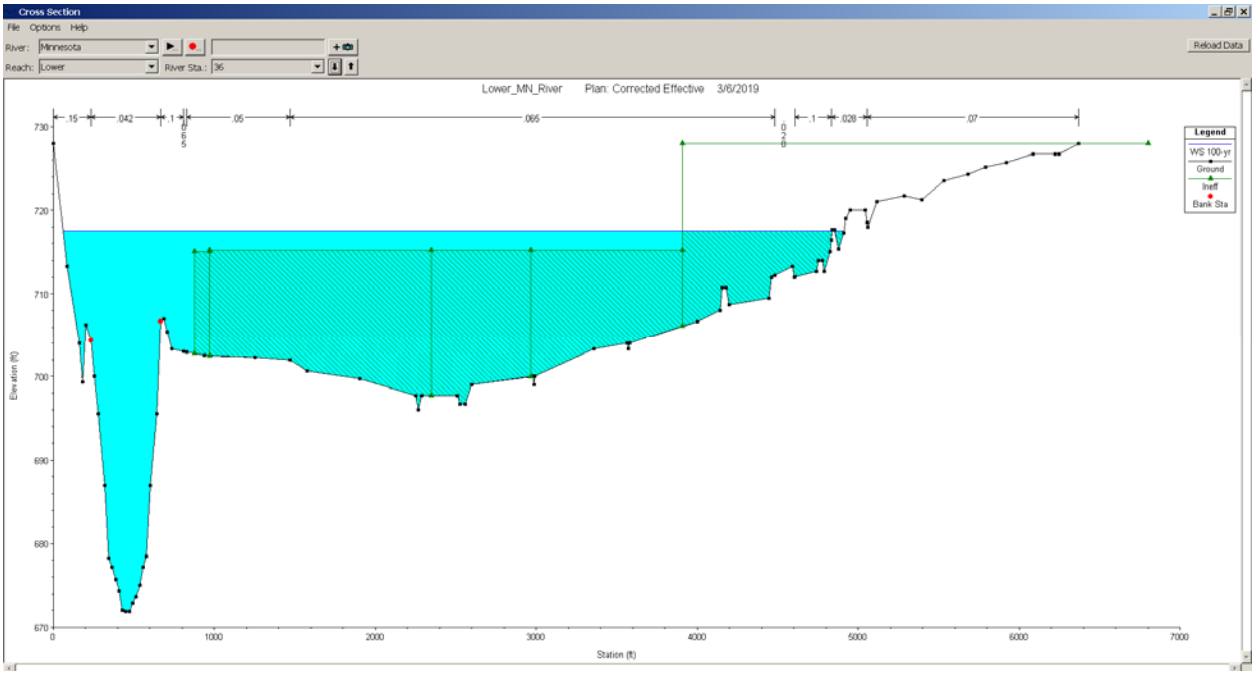

Figure 4 – Cross Section at River Station 36 in Corrected Effective Model. Green hatch areas are ineffective flow areas.

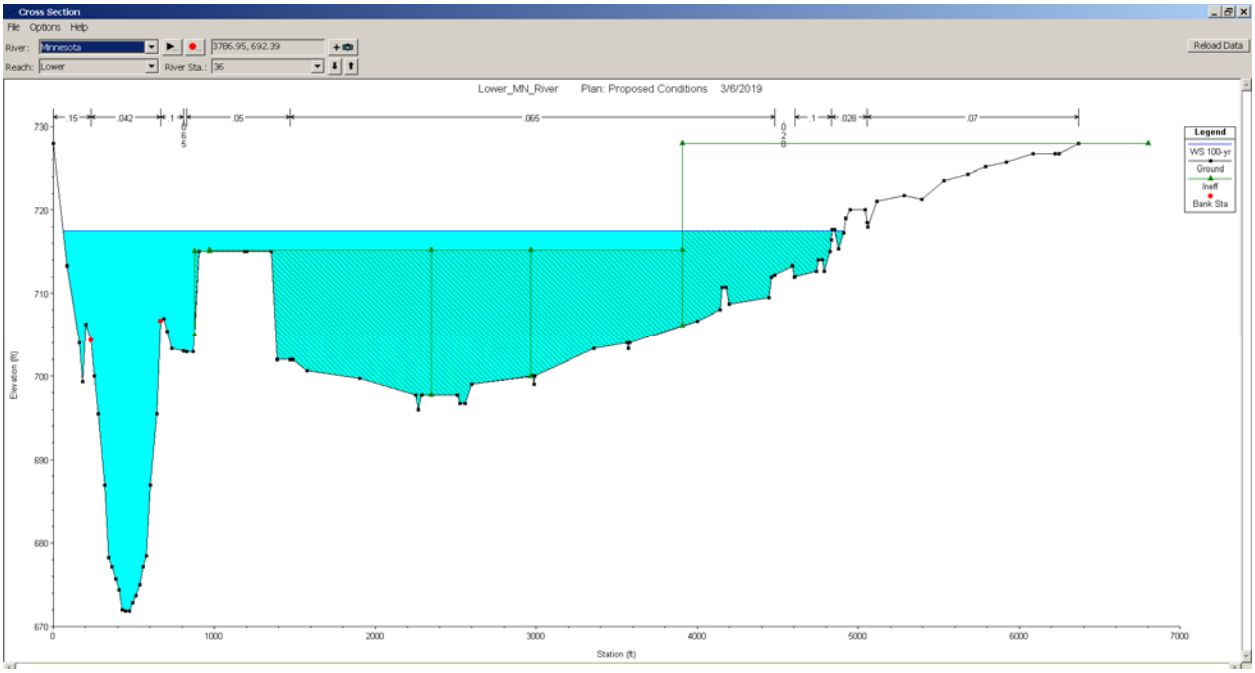

Figure 5 - Cross Section at River Station 36 in Proposed Conditions Model. Green hatch areas are ineffective flow areas. Ground was modified to show proposed berms and storage areas

Conclusion

The proposed project to construct permanent berms within the project area will not cause an increase in modeled flood elevations, and a no-rise certification is justified.

References

Burns & McDonnell, Technical Memorandum, February 15, 2017

LMRWD. January 2013. "Cargill East River (MN – 14.2 RMP) Dredge Material Site Management Plan" Lower Minnesota River Watershed District.

USACE. April 1996. "Bridge Hydraulic Analysis with HEC-RAS" TP – 151. US Army Corps of Engineers Institute for Water Resources, Hydrologic engineering Center, Davis, CA

Attachments:

Attachment A: HEC-RAS model results for the 1% AEP Event
Attachment B: HEC-RAS model results for the Floodway model
Attachment C: Minnesota "No-Rise" Certification

HEC-RAS River: Minnesota Reach: Lower Profile: 100-yr

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Lower	41	100-yr	Corrected Eff	103000.00	670.20	718.94	689.97	719.01	0.000060	3.15	73948.68	4531.93	0.09
Lower	41	100-yr	Ppsd cond	103000.00	670.20	718.94	689.97	719.01	0.000060	3.15	73951.13	4531.95	0.09
Lower	40	100-yr	Corrected Eff	103000.00	672.10	718.61	692.10	718.85	0.000143	4.88	43016.01	4050.11	0.13
Lower	40	100-yr	Ppsd cond	103000.00	672.10	718.61	692.10	718.85	0.000143	4.88	43017.60	4050.15	0.13
Lower	39	100-yr	Corrected Eff	103000.00	663.80	718.00	687.05	718.65	0.000239	6.60	24190.55	3527.52	0.18
Lower	39	100-yr	Ppsd cond	103000.00	663.80	718.00	687.05	718.65	0.000239	6.60	24192.51	3527.60	0.18
Lower	38.1			Bridge									
Lower	37	100-yr	Corrected Eff	103000.00	663.00	717.75		718.29	0.000207	6.03	23791.95	5143.71	0.16
Lower	37	100-yr	Ppsd cond	103000.00	663.00	717.75		718.29	0.000207	6.03	23794.50	5143.76	0.16
Lower	36.500*	100-yr	Corrected Eff	103000.00	667.45	717.67		718.17	0.000225	5.95	26979.89	4943.44	0.17
Lower	36.500*	100-yr	Ppsd cond	103000.00	667.45	717.67		718.17	0.000225	5.94	26982.93	4943.45	0.17
Lower	36	100-yr	Corrected Eff	103000.00	671.90	717.53	692.40	718.06	0.000270	6.13	26797.74	4837.54	0.18
Lower	36	100-yr	Ppsd cond	103000.00	671.90	717.53	692.40	718.06	0.000270	6.13	26788.50	4837.55	0.18
Lower	35.75	100-yr	Corrected Eff	103000.00	671.51	717.45	692.54	717.86	0.000241	5.80	35151.00	4810.16	0.17
Lower	35.75	100-yr	Ppsd cond	103000.00	671.51	717.45	692.54	717.86	0.000241	5.81	33959.60	4810.13	0.17
Lower	35.5	100-yr	Corrected Eff	103000.00	671.33	717.41	692.52	717.68	0.000186	5.09	42580.00	4996.97	0.15
Lower	35.5	100-yr	Ppsd cond	103000.00	671.33	717.41	692.52	717.68	0.000186	5.09	42580.00	4996.97	0.15
Lower	35	100-yr	Corrected Eff	103000.00	671.10	717.36	692.51	717.52	0.000133	4.29	52487.17	5189.26	0.13
Lower	35	100-yr	Ppsd cond	103000.00	671.10	717.36	692.51	717.52	0.000133	4.29	52487.17	5189.26	0.13
Lower	34	100-yr	Corrected Eff	103000.00	672.80	717.27		717.35	0.000077	3.16	67286.31	4056.92	0.10
Lower	34	100-yr	Ppsd cond	103000.00	672.80	717.27		717.35	0.000077	3.16	67286.31	4056.92	0.10
Lower	33	100-yr	Corrected Eff	103000.00	671.20	717.14	697.73	717.25	0.000099	3.63	54708.24	2893.41	0.11
Lower	33	100-yr	Ppsd cond	103000.00	671.20	717.14	697.73	717.25	0.000099	3.63	54708.24	2893.41	0.11
Lower	32	100-yr	Corrected Eff	103000.00	661.10	717.04		717.17	0.000093	3.77	48587.19	2354.22	0.11
Lower	32	100-yr	Ppsd cond	103000.00	661.10	717.04		717.17	0.000093	3.77	48587.19	2354.22	0.11
Lower	31	100-yr	Corrected Eff	103000.00	671.60	716.83	691.62	717.00	0.000122	4.06	53328.17	5752.21	0.12
Lower	31	100-yr	Ppsd cond	103000.00	671.60	716.83	691.62	717.00	0.000122	4.06	53328.17	5752.21	0.12
Lower	30	100-yr	Corrected Eff	103000.00	675.00	716.63	695.59	716.79	0.000132	4.35	60893.74	6500.88	0.13
Lower	30	100-yr	Ppsd cond	103000.00	675.00	716.63	695.59	716.79	0.000132	4.35	60893.74	6500.88	0.13
Lower	29	100-yr	Corrected Eff	103000.00	674.20	716.47	693.35	716.58	0.000091	3.53	56719.04	6860.31	0.11
Lower	29	100-yr	Ppsd cond	103000.00	674.20	716.47	693.35	716.58	0.000091	3.53	56719.04	6860.31	0.11
Lower	28	100-yr	Corrected Eff	103000.00	675.00	716.35	697.48	716.44	0.000089	3.38	66195.98	5448.78	0.10
Lower	28	100-yr	Ppsd cond	103000.00	675.00	716.35	697.48	716.44	0.000089	3.38	66195.98	5448.78	0.10
Lower	27	100-yr	Corrected Eff	103000.00	670.40	716.21	691.90	716.31	0.000083	3.44	57433.64	5465.55	0.10
Lower	27	100-yr	Ppsd cond	103000.00	670.40	716.21	691.90	716.31	0.000083	3.44	57433.64	5465.55	0.10
Lower	26	100-yr	Corrected Eff	103000.00	671.70	715.94	691.50	716.12	0.000130	4.33	45451.97	2437.52	0.13
Lower	26	100-yr	Ppsd cond	103000.00	671.70	715.94	691.50	716.12	0.000130	4.33	45451.97	2437.52	0.13
Lower	25	100-yr	Corrected Eff	103000.00	673.70	715.37	691.59	715.74	0.000226	5.54	35690.85	6438.40	0.17
Lower	25	100-yr	Ppsd cond	103000.00	673.70	715.37	691.59	715.74	0.000226	5.54	35690.85	6438.40	0.17
Lower	23.7	100-yr	Corrected Eff	103000.00	670.40	715.22	691.01	715.65	0.000256	5.68	25785.78	6041.83	0.17
Lower	23.7	100-yr	Ppsd cond	103000.00	670.40	715.22	691.01	715.65	0.000256	5.68	25785.78	6041.83	0.17
Lower	23.6			Bridge									
Lower	23.5	100-yr	Corrected Eff	103000.00	670.40	715.09	691.01	715.52	0.000259	5.69	25807.77	6023.82	0.18
Lower	23.5	100-yr	Ppsd cond	103000.00	670.40	715.09	691.01	715.52	0.000259	5.69	25807.77	6023.82	0.18
Lower	23	100-yr	Corrected Eff	103000.00	671.00	715.04	691.01	715.47	0.000247	5.80	30255.32	4955.19	0.17
Lower	23	100-yr	Ppsd cond	103000.00	671.00	715.04	691.01	715.47	0.000247	5.80	30255.32	4955.19	0.17
Lower	22.5	100-yr	Corrected Eff	103000.00	667.70	715.10	690.11	715.19	0.000077	3.27	58602.93	6984.06	0.10
Lower	22.5	100-yr	Ppsd cond	103000.00	667.70	715.10	690.11	715.19	0.000077	3.27	58602.93	6984.06	0.10
Lower	22	100-yr	Corrected Eff	103000.00	667.10	715.07	691.19	715.09	0.000027	1.96	103498.50	6214.75	0.06
Lower	22	100-yr	Ppsd cond	103000.00	667.10	715.07	691.19	715.09	0.000027	1.96	103498.50	6214.75	0.06
Lower	21	100-yr	Corrected Eff	103000.00	666.00	715.01	692.25	715.04	0.000026	1.96	106168.60	5842.16	0.06
Lower	21	100-yr	Ppsd cond	103000.00	666.00	715.01	692.25	715.04	0.000026	1.96	106168.60	5842.16	0.06
Lower	20	100-yr	Corrected Eff	103000.00	674.30	714.93	693.30	714.96	0.000030	2.04	100034.40	5458.79	0.06
Lower	20	100-yr	Ppsd cond	103000.00	674.30	714.93	693.30	714.96	0.000030	2.04	100034.40	5458.79	0.06
Lower	19	100-yr	Corrected Eff	103000.00	675.40	714.83	694.86	714.87	0.000044	2.41	73574.34	4882.91	0.07
Lower	19	100-yr	Ppsd cond	103000.00	675.40	714.83	694.86	714.87	0.000044	2.41	73574.34	4882.91	0.07
Lower	18.4	100-yr	Corrected Eff	103000.00	670.20	714.74	690.54	714.82	0.000067	3.14	60514.66	4410.26	0.09
Lower	18.4	100-yr	Ppsd cond	103000.00	670.20	714.74	690.54	714.82	0.000067	3.14	60514.66	4410.26	0.09

HEC-RAS River: Minnesota Reach: Lower Profile: 100-yr (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Lower	18	100-yr	Corrected Eff	103000.00	668.80	714.73	689.61	714.81	0.000062	3.03	61698.26	5155.64	0.09
Lower	18	100-yr	Ppsd cond	103000.00	668.80	714.73	689.61	714.81	0.000062	3.03	61698.26	5155.64	0.09
Lower	17	100-yr	Corrected Eff	103000.00	668.50	714.67	691.09	714.74	0.000070	3.16	59891.38	5116.47	0.09
Lower	17	100-yr	Ppsd cond	103000.00	668.50	714.67	691.09	714.74	0.000070	3.16	59891.38	5116.47	0.09
Lower	16	100-yr	Corrected Eff	103000.00	671.30	714.61	690.42	714.66	0.000050	2.65	71164.64	5622.31	0.08
Lower	16	100-yr	Ppsd cond	103000.00	671.30	714.61	690.42	714.66	0.000050	2.65	71164.64	5622.31	0.08
Lower	15	100-yr	Corrected Eff	103000.00	674.50	714.58	695.17	714.59	0.000017	1.46	123899.00	6712.99	0.05
Lower	15	100-yr	Ppsd cond	103000.00	674.50	714.58	695.17	714.59	0.000017	1.46	123899.00	6712.99	0.05
Lower	14	100-yr	Corrected Eff	103000.00	672.90	714.55	696.28	714.56	0.000015	1.43	130247.20	7047.24	0.04
Lower	14	100-yr	Ppsd cond	103000.00	672.90	714.55	696.28	714.56	0.000015	1.43	130247.20	7047.24	0.04
Lower	13.4	100-yr	Corrected Eff	103000.00	668.40	714.45	692.37	714.52	0.000067	2.97	71865.44	7111.87	0.09
Lower	13.4	100-yr	Ppsd cond	103000.00	668.40	714.45	692.37	714.52	0.000067	2.97	71865.44	7111.87	0.09
Lower	13.3			Bridge									
Lower	13.2	100-yr	Corrected Eff	103000.00	668.40	714.41	692.37	714.48	0.000066	2.94	68411.14	7165.72	0.09
Lower	13.2	100-yr	Ppsd cond	103000.00	668.40	714.41	692.37	714.48	0.000066	2.94	68411.14	7165.72	0.09
Lower	12.7	100-yr	Corrected Eff	103000.00	674.00	714.42	697.06	714.44	0.000027	1.85	98992.77	7263.38	0.06
Lower	12.7	100-yr	Ppsd cond	103000.00	674.00	714.42	697.06	714.44	0.000027	1.85	98992.77	7263.38	0.06
Lower	12.5			Bridge									
Lower	12.3	100-yr	Corrected Eff	103000.00	674.00	714.41	696.96	714.43	0.000029	1.94	100027.40	7046.76	0.06
Lower	12.3	100-yr	Ppsd cond	103000.00	674.00	714.41	696.96	714.43	0.000029	1.94	100027.40	7046.76	0.06
Lower	12	100-yr	Corrected Eff	103000.00	671.90	714.40	694.40	714.42	0.000023	1.77	108192.60	7121.24	0.05
Lower	12	100-yr	Ppsd cond	103000.00	671.90	714.40	694.40	714.42	0.000023	1.77	108192.60	7121.24	0.05
Lower	11	100-yr	Corrected Eff	103000.00	669.70	714.37	689.08	714.38	0.000017	1.58	127035.60	7312.78	0.05
Lower	11	100-yr	Ppsd cond	103000.00	669.70	714.37	689.08	714.38	0.000017	1.58	127035.60	7312.78	0.05
Lower	10	100-yr	Corrected Eff	103000.00	673.00	714.32	695.61	714.34	0.000017	1.56	147946.80	8891.12	0.05
Lower	10	100-yr	Ppsd cond	103000.00	673.00	714.32	695.61	714.34	0.000017	1.56	147946.80	8891.12	0.05
Lower	9	100-yr	Corrected Eff	103000.00	671.40	714.27		714.28	0.000013	1.35	149712.40	8740.81	0.04
Lower	9	100-yr	Ppsd cond	103000.00	671.40	714.27		714.28	0.000013	1.35	149712.40	8740.81	0.04
Lower	8	100-yr	Corrected Eff	103000.00	675.90	714.19		714.21	0.000029	1.89	129059.90	8034.65	0.06
Lower	8	100-yr	Ppsd cond	103000.00	675.90	714.19		714.21	0.000029	1.89	129059.90	8034.65	0.06
Lower	7.1	100-yr	Corrected Eff	103000.00	671.20	714.10	689.70	714.12	0.000023	1.83	111312.10	6739.34	0.05
Lower	7.1	100-yr	Ppsd cond	103000.00	671.20	714.10	689.70	714.12	0.000023	1.83	111312.10	6739.34	0.05
Lower	6.7	100-yr	Corrected Eff	103000.00	674.00	714.05	689.78	714.09	0.000053	2.68	70937.00	6893.22	0.08
Lower	6.7	100-yr	Ppsd cond	103000.00	674.00	714.05	689.78	714.09	0.000053	2.68	70937.00	6893.22	0.08
Lower	6.6			Bridge									
Lower	6.5	100-yr	Corrected Eff	103000.00	670.30	714.03	688.67	714.08	0.000049	2.67	72018.45	7007.20	0.08
Lower	6.5	100-yr	Ppsd cond	103000.00	670.30	714.03	688.67	714.08	0.000049	2.67	72018.45	7007.20	0.08
Lower	6.1	100-yr	Corrected Eff	103000.00	672.20	713.98	692.27	714.03	0.000057	2.69	74014.85	6104.78	0.08
Lower	6.1	100-yr	Ppsd cond	103000.00	672.20	713.98	692.27	714.03	0.000057	2.69	74014.85	6104.78	0.08
Lower	5	100-yr	Corrected Eff	103000.00	670.00	713.87	690.14	713.92	0.000043	2.44	76349.61	5516.05	0.07
Lower	5	100-yr	Ppsd cond	103000.00	670.00	713.87	690.14	713.92	0.000043	2.44	76349.61	5516.05	0.07
Lower	4	100-yr	Corrected Eff	103000.00	669.70	713.77		713.81	0.000044	2.52	79582.76	4466.99	0.07
Lower	4	100-yr	Ppsd cond	103000.00	669.70	713.77		713.81	0.000044	2.52	79582.76	4466.99	0.07
Lower	3	100-yr	Corrected Eff	103000.00	668.30	713.62		713.69	0.000057	2.93	71361.66	4071.40	0.08
Lower	3	100-yr	Ppsd cond	103000.00	668.30	713.62		713.69	0.000057	2.93	71361.66	4071.40	0.08
Lower	2	100-yr	Corrected Eff	103000.00	670.10	713.48		713.56	0.000078	3.40	60877.46	3785.07	0.10
Lower	2	100-yr	Ppsd cond	103000.00	670.10	713.48		713.56	0.000078	3.40	60877.46	3785.07	0.10
Lower	1	100-yr	Corrected Eff	103000.00	665.20	713.32	690.87	713.43	0.000097	3.84	60465.26	3275.95	0.11
Lower	1	100-yr	Ppsd cond	103000.00	665.20	713.32	690.87	713.43	0.000097	3.84	60465.26	3275.95	0.11

HEC-RAS River: Minnesota Reach: Lower Profile: 100-yr Fldwy

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Lower	41	100-yr Fldwy	Corrected Eff	103000.00	670.20	719.02	689.96	719.19	0.000109	4.27	52655.25	2541.47	0.12
Lower	41	100-yr Fldwy	Ppsd cond	103000.00	670.20	719.02	689.96	719.19	0.000109	4.27	52656.80	2541.47	0.12
Lower	40	100-yr Fldwy	Corrected Eff	103000.00	672.10	718.78	692.10	719.01	0.000139	4.82	43326.02	2330.05	0.13
Lower	40	100-yr Fldwy	Ppsd cond	103000.00	672.10	718.78	692.10	719.01	0.000139	4.82	43327.44	2330.05	0.13
Lower	39	100-yr Fldwy	Corrected Eff	103000.00	663.80	718.18	687.04	718.82	0.000234	6.55	24465.88	2778.22	0.17
Lower	39	100-yr Fldwy	Ppsd cond	103000.00	663.80	718.18	687.04	718.82	0.000234	6.55	24467.75	2778.22	0.17
Lower	38.1			Bridge									
Lower	37	100-yr Fldwy	Corrected Eff	103000.00	663.00	717.98		718.52	0.000203	5.99	24035.63	2761.69	0.16
Lower	37	100-yr Fldwy	Ppsd cond	103000.00	663.00	717.98		718.52	0.000203	5.99	24038.33	2761.71	0.16
Lower	36.500*	100-yr Fldwy	Corrected Eff	103000.00	667.45	717.91		718.40	0.000218	5.87	27774.36	4947.33	0.17
Lower	36.500*	100-yr Fldwy	Ppsd cond	103000.00	667.45	717.91		718.40	0.000218	5.87	27777.59	4947.35	0.17
Lower	36	100-yr Fldwy	Corrected Eff	103000.00	671.90	717.73	692.40	718.27	0.000273	6.18	24327.51	2574.83	0.18
Lower	36	100-yr Fldwy	Ppsd cond	103000.00	671.90	717.73	692.40	718.27	0.000273	6.18	24317.88	2574.83	0.18
Lower	35.75	100-yr Fldwy	Corrected Eff	103000.00	671.51	717.67	692.54	718.06	0.000232	5.71	35980.51	4817.43	0.17
Lower	35.75	100-yr Fldwy	Ppsd cond	103000.00	671.51	717.66	692.54	718.06	0.000232	5.72	34788.41	4817.39	0.17
Lower	35.5	100-yr Fldwy	Corrected Eff	103000.00	671.33	717.62	692.52	717.89	0.000179	5.01	43428.58	5052.12	0.15
Lower	35.5	100-yr Fldwy	Ppsd cond	103000.00	671.33	717.62	692.52	717.89	0.000179	5.01	43428.58	5052.12	0.15
Lower	35	100-yr Fldwy	Corrected Eff	103000.00	671.10	717.58	692.51	717.74	0.000129	4.24	51229.02	3412.15	0.12
Lower	35	100-yr Fldwy	Ppsd cond	103000.00	671.10	717.58	692.51	717.74	0.000129	4.24	51229.02	3412.15	0.12
Lower	34	100-yr Fldwy	Corrected Eff	103000.00	672.80	717.48		717.57	0.000077	3.18	64534.80	3556.97	0.10
Lower	34	100-yr Fldwy	Ppsd cond	103000.00	672.80	717.48		717.57	0.000077	3.18	64534.80	3556.97	0.10
Lower	33	100-yr Fldwy	Corrected Eff	103000.00	671.20	717.36	697.73	717.47	0.000096	3.59	55358.89	2897.26	0.11
Lower	33	100-yr Fldwy	Ppsd cond	103000.00	671.20	717.36	697.73	717.47	0.000096	3.59	55358.89	2897.26	0.11
Lower	32	100-yr Fldwy	Corrected Eff	103000.00	661.10	717.27		717.40	0.000090	3.73	49122.60	2355.75	0.11
Lower	32	100-yr Fldwy	Ppsd cond	103000.00	661.10	717.27		717.40	0.000090	3.73	49122.60	2355.75	0.11
Lower	31	100-yr Fldwy	Corrected Eff	103000.00	671.60	717.02	691.62	717.22	0.000134	4.27	45016.23	2309.19	0.13
Lower	31	100-yr Fldwy	Ppsd cond	103000.00	671.60	717.02	691.62	717.22	0.000134	4.27	45016.23	2309.19	0.13
Lower	30	100-yr Fldwy	Corrected Eff	103000.00	675.00	716.80	695.59	716.98	0.000148	4.61	52974.34	2745.01	0.14
Lower	30	100-yr Fldwy	Ppsd cond	103000.00	675.00	716.80	695.59	716.98	0.000148	4.61	52974.34	2745.01	0.14
Lower	29	100-yr Fldwy	Corrected Eff	103000.00	674.20	716.65	693.35	716.76	0.000089	3.50	57230.14	2860.23	0.10
Lower	29	100-yr Fldwy	Ppsd cond	103000.00	674.20	716.65	693.35	716.76	0.000089	3.50	57230.14	2860.23	0.10
Lower	28	100-yr Fldwy	Corrected Eff	103000.00	675.00	716.53	697.48	716.62	0.000087	3.35	66795.66	3379.69	0.10
Lower	28	100-yr Fldwy	Ppsd cond	103000.00	675.00	716.53	697.48	716.62	0.000087	3.35	66795.66	3379.69	0.10
Lower	27	100-yr Fldwy	Corrected Eff	103000.00	670.40	716.40	691.90	716.49	0.000081	3.40	58017.46	3932.42	0.10
Lower	27	100-yr Fldwy	Ppsd cond	103000.00	670.40	716.40	691.90	716.49	0.000081	3.40	58017.46	3932.42	0.10
Lower	26	100-yr Fldwy	Corrected Eff	103000.00	671.70	716.13	691.49	716.31	0.000127	4.28	45919.02	2434.25	0.13
Lower	26	100-yr Fldwy	Ppsd cond	103000.00	671.70	716.13	691.49	716.31	0.000127	4.28	45919.02	2434.25	0.13
Lower	25	100-yr Fldwy	Corrected Eff	103000.00	673.70	715.57	691.59	715.93	0.000220	5.48	36053.77	2141.00	0.16
Lower	25	100-yr Fldwy	Ppsd cond	103000.00	673.70	715.57	691.59	715.93	0.000220	5.48	36053.77	2141.00	0.16
Lower	23.7	100-yr Fldwy	Corrected Eff	103000.00	670.40	715.44	691.01	715.85	0.000246	5.60	26032.03	1280.25	0.17
Lower	23.7	100-yr Fldwy	Ppsd cond	103000.00	670.40	715.44	691.01	715.85	0.000246	5.60	26032.03	1280.25	0.17
Lower	23.6			Bridge									
Lower	23.5	100-yr Fldwy	Corrected Eff	103000.00	670.40	715.31	691.01	715.72	0.000248	5.60	26007.74	2361.22	0.17
Lower	23.5	100-yr Fldwy	Ppsd cond	103000.00	670.40	715.31	691.01	715.72	0.000248	5.60	26007.74	2361.22	0.17
Lower	23	100-yr Fldwy	Corrected Eff	103000.00	671.00	715.25	691.01	715.67	0.000240	5.74	30620.96	3060.83	0.17
Lower	23	100-yr Fldwy	Ppsd cond	103000.00	671.00	715.25	691.01	715.67	0.000240	5.74	30620.96	3060.83	0.17
Lower	22.5	100-yr Fldwy	Corrected Eff	103000.00	667.70	715.31	690.11	715.40	0.000075	3.24	59220.81	4663.42	0.10
Lower	22.5	100-yr Fldwy	Ppsd cond	103000.00	667.70	715.31	690.11	715.40	0.000075	3.24	59220.81	4663.42	0.10
Lower	22	100-yr Fldwy	Corrected Eff	103000.00	667.10	715.28	691.19	715.30	0.000026	1.94	103351.70	5566.90	0.06
Lower	22	100-yr Fldwy	Ppsd cond	103000.00	667.10	715.28	691.19	715.30	0.000026	1.94	103351.70	5566.90	0.06
Lower	21	100-yr Fldwy	Corrected Eff	103000.00	666.00	715.23	692.26	715.25	0.000025	1.93	107403.90	5828.60	0.06
Lower	21	100-yr Fldwy	Ppsd cond	103000.00	666.00	715.23	692.26	715.25	0.000025	1.93	107403.90	5828.60	0.06
Lower	20	100-yr Fldwy	Corrected Eff	103000.00	674.30	715.15	693.30	715.18	0.000029	2.01	101210.10	5450.00	0.06
Lower	20	100-yr Fldwy	Ppsd cond	103000.00	674.30	715.15	693.30	715.18	0.000029	2.01	101210.10	5450.00	0.06
Lower	19	100-yr Fldwy	Corrected Eff	103000.00	675.40	715.05	694.86	715.09	0.000043	2.38	74372.60	4880.74	0.07
Lower	19	100-yr Fldwy	Ppsd cond	103000.00	675.40	715.05	694.86	715.09	0.000043	2.38	74372.60	4880.74	0.07

HEC-RAS River: Minnesota Reach: Lower Profile: 100-yr Fldwy (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Lower	18.4	100-yr Fldwy	Corrected Eff	103000.00	670.20	714.97	690.54	715.04	0.000065	3.11	61220.41	4483.86	0.09
Lower	18.4	100-yr Fldwy	Ppsd cond	103000.00	670.20	714.97	690.54	715.04	0.000065	3.11	61220.41	4483.86	0.09
Lower	18	100-yr Fldwy	Corrected Eff	103000.00	668.80	714.96	689.61	715.03	0.000060	3.00	62410.70	4945.31	0.09
Lower	18	100-yr Fldwy	Ppsd cond	103000.00	668.80	714.96	689.61	715.03	0.000060	3.00	62410.70	4945.31	0.09
Lower	17	100-yr Fldwy	Corrected Eff	103000.00	668.50	714.89	691.08	714.97	0.000068	3.13	60602.98	5118.86	0.09
Lower	17	100-yr Fldwy	Ppsd cond	103000.00	668.50	714.89	691.08	714.97	0.000068	3.13	60602.98	5118.86	0.09
Lower	16	100-yr Fldwy	Corrected Eff	103000.00	671.30	714.84	690.41	714.89	0.000049	2.81	72070.45	5553.08	0.08
Lower	16	100-yr Fldwy	Ppsd cond	103000.00	671.30	714.84	690.41	714.89	0.000049	2.81	72070.45	5553.08	0.08
Lower	15	100-yr Fldwy	Corrected Eff	103000.00	674.50	714.80	695.17	714.82	0.000016	1.44	123251.80	6165.95	0.04
Lower	15	100-yr Fldwy	Ppsd cond	103000.00	674.50	714.80	695.17	714.82	0.000016	1.44	123251.80	6165.95	0.04
Lower	14	100-yr Fldwy	Corrected Eff	103000.00	672.90	714.78	696.28	714.79	0.000015	1.41	131745.90	6984.97	0.04
Lower	14	100-yr Fldwy	Ppsd cond	103000.00	672.90	714.78	696.28	714.79	0.000015	1.41	131745.90	6984.97	0.04
Lower	13.4	100-yr Fldwy	Corrected Eff	103000.00	668.40	714.66	692.36	714.74	0.000079	3.25	65478.77	5168.94	0.10
Lower	13.4	100-yr Fldwy	Ppsd cond	103000.00	668.40	714.66	692.36	714.74	0.000079	3.25	65478.77	5168.94	0.10
Lower	13.3			Bridge									
Lower	13.2	100-yr Fldwy	Corrected Eff	103000.00	668.40	714.61	692.36	714.68	0.000071	3.08	64939.44	5115.78	0.09
Lower	13.2	100-yr Fldwy	Ppsd cond	103000.00	668.40	714.61	692.36	714.68	0.000071	3.08	64939.44	5115.78	0.09
Lower	12.7	100-yr Fldwy	Corrected Eff	103000.00	674.00	714.62	697.06	714.64	0.000026	1.83	100008.90	5137.12	0.06
Lower	12.7	100-yr Fldwy	Ppsd cond	103000.00	674.00	714.62	697.06	714.64	0.000026	1.83	100008.90	5137.12	0.06
Lower	12.5			Bridge									
Lower	12.3	100-yr Fldwy	Corrected Eff	103000.00	674.00	714.61	696.96	714.63	0.000029	1.92	101053.70	5180.72	0.06
Lower	12.3	100-yr Fldwy	Ppsd cond	103000.00	674.00	714.61	696.96	714.63	0.000029	1.92	101053.70	5180.72	0.06
Lower	12	100-yr Fldwy	Corrected Eff	103000.00	671.90	714.60	694.40	714.62	0.000023	1.75	109303.40	6841.88	0.05
Lower	12	100-yr Fldwy	Ppsd cond	103000.00	671.90	714.60	694.40	714.62	0.000023	1.75	109303.40	6841.88	0.05
Lower	11	100-yr Fldwy	Corrected Eff	103000.00	669.70	714.58	689.08	714.58	0.000017	1.58	128387.10	7313.63	0.05
Lower	11	100-yr Fldwy	Ppsd cond	103000.00	669.70	714.58	689.08	714.58	0.000017	1.58	128387.10	7313.63	0.05
Lower	10	100-yr Fldwy	Corrected Eff	103000.00	673.00	714.52	695.61	714.54	0.000017	1.58	141601.50	8068.57	0.05
Lower	10	100-yr Fldwy	Ppsd cond	103000.00	673.00	714.52	695.61	714.54	0.000017	1.58	141601.50	8068.57	0.05
Lower	9	100-yr Fldwy	Corrected Eff	103000.00	671.40	714.47		714.48	0.000013	1.34	151450.20	8718.11	0.04
Lower	9	100-yr Fldwy	Ppsd cond	103000.00	671.40	714.47		714.48	0.000013	1.34	151450.20	8718.11	0.04
Lower	8	100-yr Fldwy	Corrected Eff	103000.00	675.90	714.39		714.41	0.000028	1.86	130676.10	8012.80	0.06
Lower	8	100-yr Fldwy	Ppsd cond	103000.00	675.90	714.39		714.41	0.000028	1.86	130676.10	8012.80	0.06
Lower	7.1	100-yr Fldwy	Corrected Eff	103000.00	671.20	714.31	689.70	714.33	0.000023	1.81	112590.60	6731.56	0.05
Lower	7.1	100-yr Fldwy	Ppsd cond	103000.00	671.20	714.31	689.70	714.33	0.000023	1.81	112590.60	6731.56	0.05
Lower	6.7	100-yr Fldwy	Corrected Eff	103000.00	674.00	714.25	689.78	714.30	0.000052	2.66	71808.13	4198.63	0.08
Lower	6.7	100-yr Fldwy	Ppsd cond	103000.00	674.00	714.25	689.78	714.30	0.000052	2.66	71808.13	4198.63	0.08
Lower	6.6			Bridge									
Lower	6.5	100-yr Fldwy	Corrected Eff	103000.00	670.30	714.24	688.67	714.28	0.000048	2.65	72891.29	4196.93	0.08
Lower	6.5	100-yr Fldwy	Ppsd cond	103000.00	670.30	714.24	688.67	714.28	0.000048	2.65	72891.29	4196.93	0.08
Lower	6.1	100-yr Fldwy	Corrected Eff	103000.00	672.20	714.19	692.27	714.24	0.000055	2.66	74808.56	5591.74	0.08
Lower	6.1	100-yr Fldwy	Ppsd cond	103000.00	672.20	714.19	692.27	714.24	0.000055	2.66	74808.56	5591.74	0.08
Lower	5	100-yr Fldwy	Corrected Eff	103000.00	670.00	714.09	690.14	714.13	0.000041	2.41	77169.77	5514.32	0.07
Lower	5	100-yr Fldwy	Ppsd cond	103000.00	670.00	714.09	690.14	714.13	0.000041	2.41	77169.77	5514.32	0.07
Lower	4	100-yr Fldwy	Corrected Eff	103000.00	669.70	713.98		714.02	0.000042	2.49	80549.72	4468.60	0.07
Lower	4	100-yr Fldwy	Ppsd cond	103000.00	669.70	713.98		714.02	0.000042	2.49	80549.72	4468.60	0.07
Lower	3	100-yr Fldwy	Corrected Eff	103000.00	668.30	713.84		713.91	0.000055	2.89	72196.19	4052.74	0.08
Lower	3	100-yr Fldwy	Ppsd cond	103000.00	668.30	713.84		713.91	0.000055	2.89	72196.19	4052.74	0.08
Lower	2	100-yr Fldwy	Corrected Eff	103000.00	670.10	713.70		713.78	0.000075	3.37	61721.76	3779.46	0.10
Lower	2	100-yr Fldwy	Ppsd cond	103000.00	670.10	713.70		713.78	0.000075	3.37	61721.76	3779.46	0.10
Lower	1	100-yr Fldwy	Corrected Eff	103000.00	665.20	713.55	690.80	713.65	0.000094	3.80	61163.47	3247.61	0.11
Lower	1	100-yr Fldwy	Ppsd cond	103000.00	665.20	713.55	690.80	713.65	0.000094	3.80	61163.47	3247.61	0.11

HEC-RAS River: Minnesota Reach: Lower Profile: 100-yr Fldwy

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Lower	41	100-yr Fldwy	Corrected Eff	103000.00	670.20	719.0162	689.96	719.19	0.000109	4.27	52655.25	2541.47	0.12
Lower	41	100-yr Fldwy	Ppsd cond	103000.00	670.20	719.0168	689.96	719.19	0.000109	4.27	52656.80	2541.47	0.12
Lower	40	100-yr Fldwy	Corrected Eff	103000.00	672.10	718.7837	692.10	719.01	0.000139	4.82	43326.02	2330.05	0.13
Lower	40	100-yr Fldwy	Ppsd cond	103000.00	672.10	718.7843	692.10	719.01	0.000139	4.82	43327.44	2330.05	0.13
Lower	39	100-yr Fldwy	Corrected Eff	103000.00	663.80	718.1833	687.04	718.82	0.000234	6.55	24465.88	2778.22	0.17
Lower	39	100-yr Fldwy	Ppsd cond	103000.00	663.80	718.1840	687.04	718.82	0.000234	6.55	24467.75	2778.22	0.17
Lower	38.1			Bridge									
Lower	37	100-yr Fldwy	Corrected Eff	103000.00	663.00	717.9800		718.52	0.000203	5.99	24035.63	2761.69	0.16
Lower	37	100-yr Fldwy	Ppsd cond	103000.00	663.00	717.9810		718.52	0.000203	5.99	24038.33	2761.71	0.16
Lower	36.500*	100-yr Fldwy	Corrected Eff	103000.00	667.45	717.9122		718.40	0.000218	5.87	27774.36	4947.33	0.17
Lower	36.500*	100-yr Fldwy	Ppsd cond	103000.00	667.45	717.9132		718.40	0.000218	5.87	27777.59	4947.35	0.17
Lower	36	100-yr Fldwy	Corrected Eff	103000.00	671.90	717.7318	692.40	718.27	0.000273	6.18	24327.51	2574.83	0.18
Lower	36	100-yr Fldwy	Ppsd cond	103000.00	671.90	717.7321	692.40	718.27	0.000273	6.18	24317.88	2574.83	0.18
Lower	35.75	100-yr Fldwy	Corrected Eff	103000.00	671.51	717.6660	692.54	718.06	0.000232	5.71	35980.51	4817.43	0.17
Lower	35.75	100-yr Fldwy	Ppsd cond	103000.00	671.51	717.6649	692.54	718.06	0.000232	5.72	34788.41	4817.39	0.17
Lower	35.5	100-yr Fldwy	Corrected Eff	103000.00	671.33	717.6241	692.52	717.89	0.000179	5.01	43428.58	5052.12	0.15
Lower	35.5	100-yr Fldwy	Ppsd cond	103000.00	671.33	717.6241	692.52	717.89	0.000179	5.01	43428.58	5052.12	0.15
Lower	35	100-yr Fldwy	Corrected Eff	103000.00	671.10	717.5794	692.51	717.74	0.000129	4.24	51229.02	3412.15	0.12
Lower	35	100-yr Fldwy	Ppsd cond	103000.00	671.10	717.5794	692.51	717.74	0.000129	4.24	51229.02	3412.15	0.12
Lower	34	100-yr Fldwy	Corrected Eff	103000.00	672.80	717.4839		717.57	0.000077	3.18	64534.80	3556.97	0.10
Lower	34	100-yr Fldwy	Ppsd cond	103000.00	672.80	717.4839		717.57	0.000077	3.18	64534.80	3556.97	0.10
Lower	33	100-yr Fldwy	Corrected Eff	103000.00	671.20	717.3616	697.73	717.47	0.000096	3.59	55358.89	2897.26	0.11
Lower	33	100-yr Fldwy	Ppsd cond	103000.00	671.20	717.3616	697.73	717.47	0.000096	3.59	55358.89	2897.26	0.11
Lower	32	100-yr Fldwy	Corrected Eff	103000.00	661.10	717.2680		717.40	0.000090	3.73	49122.60	2355.75	0.11
Lower	32	100-yr Fldwy	Ppsd cond	103000.00	661.10	717.2680		717.40	0.000090	3.73	49122.60	2355.75	0.11
Lower	31	100-yr Fldwy	Corrected Eff	103000.00	671.60	717.0158	691.62	717.22	0.000134	4.27	45016.23	2309.19	0.13
Lower	31	100-yr Fldwy	Ppsd cond	103000.00	671.60	717.0158	691.62	717.22	0.000134	4.27	45016.23	2309.19	0.13
Lower	30	100-yr Fldwy	Corrected Eff	103000.00	675.00	716.7966	695.59	716.98	0.000148	4.61	52974.34	2745.01	0.14
Lower	30	100-yr Fldwy	Ppsd cond	103000.00	675.00	716.7966	695.59	716.98	0.000148	4.61	52974.34	2745.01	0.14
Lower	29	100-yr Fldwy	Corrected Eff	103000.00	674.20	716.6533	693.35	716.76	0.000089	3.50	57230.14	2860.23	0.10
Lower	29	100-yr Fldwy	Ppsd cond	103000.00	674.20	716.6533	693.35	716.76	0.000089	3.50	57230.14	2860.23	0.10
Lower	28	100-yr Fldwy	Corrected Eff	103000.00	675.00	716.5294	697.48	716.62	0.000087	3.35	66795.66	3379.69	0.10
Lower	28	100-yr Fldwy	Ppsd cond	103000.00	675.00	716.5294	697.48	716.62	0.000087	3.35	66795.66	3379.69	0.10
Lower	27	100-yr Fldwy	Corrected Eff	103000.00	670.40	716.3952	691.90	716.49	0.000081	3.40	58017.46	3932.42	0.10
Lower	27	100-yr Fldwy	Ppsd cond	103000.00	670.40	716.3952	691.90	716.49	0.000081	3.40	58017.46	3932.42	0.10
Lower	26	100-yr Fldwy	Corrected Eff	103000.00	671.70	716.1349	691.49	716.31	0.000127	4.28	45919.02	2434.25	0.13
Lower	26	100-yr Fldwy	Ppsd cond	103000.00	671.70	716.1349	691.49	716.31	0.000127	4.28	45919.02	2434.25	0.13
Lower	25	100-yr Fldwy	Corrected Eff	103000.00	673.70	715.5724	691.59	715.93	0.000220	5.48	36053.77	2141.00	0.16
Lower	25	100-yr Fldwy	Ppsd cond	103000.00	673.70	715.5724	691.59	715.93	0.000220	5.48	36053.77	2141.00	0.16
Lower	23.7	100-yr Fldwy	Corrected Eff	103000.00	670.40	715.4418	691.01	715.85	0.000246	5.60	28032.03	1280.25	0.17
Lower	23.7	100-yr Fldwy	Ppsd cond	103000.00	670.40	715.4418	691.01	715.85	0.000246	5.60	28032.03	1280.25	0.17
Lower	23.6			Bridge									
Lower	23.5	100-yr Fldwy	Corrected Eff	103000.00	670.40	715.3146	691.01	715.72	0.000248	5.60	28007.74	2361.22	0.17
Lower	23.5	100-yr Fldwy	Ppsd cond	103000.00	670.40	715.3146	691.01	715.72	0.000248	5.60	28007.74	2361.22	0.17
Lower	23	100-yr Fldwy	Corrected Eff	103000.00	671.00	715.2489	691.01	715.67	0.000240	5.74	30620.96	3060.83	0.17
Lower	23	100-yr Fldwy	Ppsd cond	103000.00	671.00	715.2489	691.01	715.67	0.000240	5.74	30620.96	3060.83	0.17
Lower	22.5	100-yr Fldwy	Corrected Eff	103000.00	667.70	715.3104	690.11	715.40	0.000075	3.24	59220.81	4663.42	0.10
Lower	22.5	100-yr Fldwy	Ppsd cond	103000.00	667.70	715.3104	690.11	715.40	0.000075	3.24	59220.81	4663.42	0.10
Lower	22	100-yr Fldwy	Corrected Eff	103000.00	667.10	715.2792	691.19	715.30	0.000026	1.94	103351.70	5566.90	0.06
Lower	22	100-yr Fldwy	Ppsd cond	103000.00	667.10	715.2792	691.19	715.30	0.000026	1.94	103351.70	5566.90	0.06
Lower	21	100-yr Fldwy	Corrected Eff	103000.00	666.00	715.2257	692.26	715.25	0.000025	1.93	107403.90	5828.60	0.06
Lower	21	100-yr Fldwy	Ppsd cond	103000.00	666.00	715.2257	692.26	715.25	0.000025	1.93	107403.90	5828.60	0.06
Lower	20	100-yr Fldwy	Corrected Eff	103000.00	674.30	715.1508	693.30	715.18	0.000029	2.01	101210.10	5450.00	0.06
Lower	20	100-yr Fldwy	Ppsd cond	103000.00	674.30	715.1508	693.30	715.18	0.000029	2.01	101210.10	5450.00	0.06
Lower	19	100-yr Fldwy	Corrected Eff	103000.00	675.40	715.0464	694.86	715.09	0.000043	2.38	74372.60	4880.74	0.07
Lower	19	100-yr Fldwy	Ppsd cond	103000.00	675.40	715.0464	694.86	715.09	0.000043	2.38	74372.60	4880.74	0.07

HEC-RAS River: Minnesota Reach: Lower Profile: 100-yr Fldwy (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Lower	18.4	100-yr Fldwy	Corrected Eff	103000.00	670.20	714.9663	690.54	715.04	0.000065	3.11	61220.41	4483.86	0.09
Lower	18.4	100-yr Fldwy	Ppsd cond	103000.00	670.20	714.9663	690.54	715.04	0.000065	3.11	61220.41	4483.86	0.09
Lower	18	100-yr Fldwy	Corrected Eff	103000.00	668.80	714.9559	689.61	715.03	0.000060	3.00	62410.70	4945.31	0.09
Lower	18	100-yr Fldwy	Ppsd cond	103000.00	668.80	714.9559	689.61	715.03	0.000060	3.00	62410.70	4945.31	0.09
Lower	17	100-yr Fldwy	Corrected Eff	103000.00	668.50	714.8942	691.08	714.97	0.000068	3.13	60602.98	5118.86	0.09
Lower	17	100-yr Fldwy	Ppsd cond	103000.00	668.50	714.8942	691.08	714.97	0.000068	3.13	60602.98	5118.86	0.09
Lower	16	100-yr Fldwy	Corrected Eff	103000.00	671.30	714.8358	690.41	714.89	0.000049	2.61	72070.45	5553.08	0.08
Lower	16	100-yr Fldwy	Ppsd cond	103000.00	671.30	714.8358	690.41	714.89	0.000049	2.61	72070.45	5553.08	0.08
Lower	15	100-yr Fldwy	Corrected Eff	103000.00	674.50	714.8033	695.17	714.82	0.000016	1.44	123251.80	6165.95	0.04
Lower	15	100-yr Fldwy	Ppsd cond	103000.00	674.50	714.8033	695.17	714.82	0.000016	1.44	123251.80	6165.95	0.04
Lower	14	100-yr Fldwy	Corrected Eff	103000.00	672.90	714.7791	696.28	714.79	0.000015	1.41	131745.90	6984.97	0.04
Lower	14	100-yr Fldwy	Ppsd cond	103000.00	672.90	714.7791	696.28	714.79	0.000015	1.41	131745.90	6984.97	0.04
Lower	13.4	100-yr Fldwy	Corrected Eff	103000.00	668.40	714.6569	692.36	714.74	0.000079	3.25	65478.77	5168.94	0.10
Lower	13.4	100-yr Fldwy	Ppsd cond	103000.00	668.40	714.6569	692.36	714.74	0.000079	3.25	65478.77	5168.94	0.10
Lower	13.3			Bridge									
Lower	13.2	100-yr Fldwy	Corrected Eff	103000.00	668.40	714.6064	692.36	714.68	0.000071	3.08	64939.44	5115.78	0.09
Lower	13.2	100-yr Fldwy	Ppsd cond	103000.00	668.40	714.6064	692.36	714.68	0.000071	3.08	64939.44	5115.78	0.09
Lower	12.7	100-yr Fldwy	Corrected Eff	103000.00	674.00	714.6180	697.06	714.64	0.000026	1.83	100008.90	5137.12	0.06
Lower	12.7	100-yr Fldwy	Ppsd cond	103000.00	674.00	714.6180	697.06	714.64	0.000026	1.83	100008.90	5137.12	0.06
Lower	12.5			Bridge									
Lower	12.3	100-yr Fldwy	Corrected Eff	103000.00	674.00	714.6067	696.96	714.63	0.000029	1.92	101053.70	5180.72	0.06
Lower	12.3	100-yr Fldwy	Ppsd cond	103000.00	674.00	714.6067	696.96	714.63	0.000029	1.92	101053.70	5180.72	0.06
Lower	12	100-yr Fldwy	Corrected Eff	103000.00	671.90	714.5950	694.40	714.62	0.000023	1.75	109303.40	6841.88	0.05
Lower	12	100-yr Fldwy	Ppsd cond	103000.00	671.90	714.5950	694.40	714.62	0.000023	1.75	109303.40	6841.88	0.05
Lower	11	100-yr Fldwy	Corrected Eff	103000.00	669.70	714.5646	689.08	714.58	0.000017	1.56	128387.10	7313.63	0.05
Lower	11	100-yr Fldwy	Ppsd cond	103000.00	669.70	714.5646	689.08	714.58	0.000017	1.56	128387.10	7313.63	0.05
Lower	10	100-yr Fldwy	Corrected Eff	103000.00	673.00	714.5234	695.61	714.54	0.000017	1.58	141601.50	8068.57	0.05
Lower	10	100-yr Fldwy	Ppsd cond	103000.00	673.00	714.5234	695.61	714.54	0.000017	1.58	141601.50	8068.57	0.05
Lower	9	100-yr Fldwy	Corrected Eff	103000.00	671.40	714.4683		714.48	0.000013	1.34	151450.20	8718.11	0.04
Lower	9	100-yr Fldwy	Ppsd cond	103000.00	671.40	714.4683		714.48	0.000013	1.34	151450.20	8718.11	0.04
Lower	8	100-yr Fldwy	Corrected Eff	103000.00	675.90	714.3905		714.41	0.000028	1.86	130676.10	8012.80	0.06
Lower	8	100-yr Fldwy	Ppsd cond	103000.00	675.90	714.3905		714.41	0.000028	1.86	130676.10	8012.80	0.06
Lower	7.1	100-yr Fldwy	Corrected Eff	103000.00	671.20	714.3109	689.70	714.33	0.000023	1.81	112590.60	6731.56	0.05
Lower	7.1	100-yr Fldwy	Ppsd cond	103000.00	671.20	714.3109	689.70	714.33	0.000023	1.81	112590.60	6731.56	0.05
Lower	6.7	100-yr Fldwy	Corrected Eff	103000.00	674.00	714.2526	689.78	714.30	0.000052	2.66	71808.13	4198.63	0.08
Lower	6.7	100-yr Fldwy	Ppsd cond	103000.00	674.00	714.2526	689.78	714.30	0.000052	2.66	71808.13	4198.63	0.08
Lower	6.6			Bridge									
Lower	6.5	100-yr Fldwy	Corrected Eff	103000.00	670.30	714.2350	688.67	714.28	0.000048	2.65	72891.29	4196.93	0.08
Lower	6.5	100-yr Fldwy	Ppsd cond	103000.00	670.30	714.2350	688.67	714.28	0.000048	2.65	72891.29	4196.93	0.08
Lower	6.1	100-yr Fldwy	Corrected Eff	103000.00	672.20	714.1860	692.27	714.24	0.000055	2.66	74808.56	5591.74	0.08
Lower	6.1	100-yr Fldwy	Ppsd cond	103000.00	672.20	714.1860	692.27	714.24	0.000055	2.66	74808.56	5591.74	0.08
Lower	5	100-yr Fldwy	Corrected Eff	103000.00	670.00	714.0867	690.14	714.13	0.000041	2.41	77169.77	5514.32	0.07
Lower	5	100-yr Fldwy	Ppsd cond	103000.00	670.00	714.0867	690.14	714.13	0.000041	2.41	77169.77	5514.32	0.07
Lower	4	100-yr Fldwy	Corrected Eff	103000.00	669.70	713.9819		714.02	0.000042	2.49	80549.72	4468.60	0.07
Lower	4	100-yr Fldwy	Ppsd cond	103000.00	669.70	713.9819		714.02	0.000042	2.49	80549.72	4468.60	0.07
Lower	3	100-yr Fldwy	Corrected Eff	103000.00	668.30	713.8400		713.91	0.000055	2.89	72196.19	4052.74	0.08
Lower	3	100-yr Fldwy	Ppsd cond	103000.00	668.30	713.8400		713.91	0.000055	2.89	72196.19	4052.74	0.08
Lower	2	100-yr Fldwy	Corrected Eff	103000.00	670.10	713.7009		713.78	0.000075	3.37	61721.76	3779.48	0.10
Lower	2	100-yr Fldwy	Ppsd cond	103000.00	670.10	713.7009		713.78	0.000075	3.37	61721.76	3779.48	0.10
Lower	1	100-yr Fldwy	Corrected Eff	103000.00	665.20	713.5500	690.80	713.65	0.000094	3.80	61163.47	3247.61	0.11
Lower	1	100-yr Fldwy	Ppsd cond	103000.00	665.20	713.5500	690.80	713.65	0.000094	3.80	61163.47	3247.61	0.11

MINNESOTA "NO-RISE" CERTIFICATION

This is to certify that I am a duly qualified professional engineer licensed to practice in the State of Minnesota.

It is further to certify that the attached technical data supports the fact that the proposal

to construct a permanent dredge material management site

(*development name / short project description*)

will not impact the floodway width or 100-year flood elevation (will not raise or lower by more than 0.00 feet) on the Minnesota River (*Name of stream*) at published sections in the Flood Insurance Study for Savage (*Name of Community*) dated _____ (*Study Date*) and will not impact the 100-year flood elevation (will not raise or lower by more than 0.00 feet) at unpublished cross-sections in the vicinity of the proposed development / project.

Attached are the following documents that support my findings:

HEC-RAS output tables

summary memorandum

Date: 3/8/19

Signature: _____ PE 48031 **{SEAL}**

Title: Sr. Water Resources Engineer

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 6. C. Watershed Management Plan

Prepared By
Linda Loomis, Administrator

Summary
On April 1, draft rules were provided to the Board. The Board is scheduled to have a workshop preceding the April meeting. The Board should direct staff to share the draft rules with stakeholders and hold a meeting of the Technical Advisory Committee and any city that requests a meeting.

A timeline that will be discussed with the Board at the workshop is attached as are the draft rules. A link to the Statement of Need and Reasonableness (SONAR) is included.

Attachments
Rules timeline
Draft Rules
SONAR for Plan Standards

Recommended Action
Provide direction to staff

Attached are the draft rules produced by Lower Minnesota River Watershed District (District) staff of consultants (Naiad Consulting, Rinke Noonan, and Young Environmental Consulting Group). These rules are supported by the statement of need and reasonableness analysis produced as part of the District's watershed management plan amendment process last year. The rules allow the District to take the following actions:

- issue general permits to municipalities so they can administer the erosion and sediment control, floodplain and drainage alteration, stormwater management, and steep slopes rules
- issue permits for Minnesota Department of Transportation projects as well as projects undertaken in unincorporated areas
- enter into a memorandum of understanding with the Minnesota Department of Natural Resources to assist with the administration of shoreline and streambanks stabilization, water crossing, and water appropriation permits

District staff request authorization to release the draft rules to the technical advisory committee (TAC) and stakeholders for consideration. Staff plan to host a TAC meeting in May 2019 and individual meetings with municipalities, if requested, in May and June 2019. Once District staff have addressed comments (if any) and have generated a final rules draft, they will present the final draft at the June board meeting for authorization of its submittal to the Minnesota Board of Water and Soil Resources (BWSR). Below is the tentative rules adoption schedule:

- May/June 2019: Present final draft rules to the managers and request draft rules release
- June 2019: Submit draft rules to BWSR, all public transportation authorities, TAC, and all statutorily required review entities for the 45-day review period
- September 2019: Address all comments received during the 45-day review period and revise the rules accordingly
- October 2019: Provide notice and hold a public hearing on the revised draft rules
- November 2019:
    - Provide written notice of adopted rules and a copy of the rules to public transportation authorities who have jurisdiction within the District and to the governing body of each municipality affected by the rules
    - File a copy of the adopted rules with the county recorder of each county affected by the District and with BWSR

Lower Minnesota River Watershed District

Draft Rules

April 2019

Table of Figures

Definitions

Regarding these Rules, unless the context otherwise requires, the following terms are defined below. References in these Rules to specific sections of the Minnesota Statutes or Minnesota Rules include amendments, revisions, or recodifications of such sections. The words "shall" and "must" indicate a mandatory rule, and the word "may" indicates a permissive rule. The following definitions and acronyms apply to the District rules and accompanying guidance materials.

Abstractions: Removal of stormwater from runoff by such methods as infiltration; evaporation; transpiration by vegetation; and capture and reuse, such as capturing runoff for use as irrigation water.

Agricultural Activity: The use of land for the growing and/or production of agronomic, horticultural, or silvicultural crops, including nursery stock, sod, fruits, vegetables, flowers, cover crops, grains, Christmas trees, and grazing.

Alteration or Alter: When used in connection with public waters or wetlands, is any activity that will change or diminish the supply, course, current, or cross section of public waters or wetlands.

Atlas 14: Precipitation frequency estimates released by the National Oceanic and Atmospheric Administration's National Weather Service Hydrometeorological Design Studies Center. The information supersedes precipitation frequency estimates in Technical Paper No. 40 (1961), National Weather Service HYDRO-35 (1977), and Technical Paper No. 49 (1964).

Base Flood Elevation: The computed elevation to which floodwater is anticipated to rise during the base flood. Base flood elevations are shown on flood insurance rate maps (FIRMs) and on the flood profiles.

Best Management Practices, or BMPs: Structural or nonstructural methods used to treat runoff, including such diverse measures as ponding, street sweeping, filtration through a rain garden, and infiltration to a gravel trench.

Bioengineering: Various shoreline and stream bank stabilization techniques using aquatic vegetation and native upland plants along with techniques such as willow wattling, brush layering, and willow posts.

Buffer Zone: An area consisting of perennial vegetation, excluding invasive plants and noxious weeds, adjacent to a waterbody that protects water resources from runoff pollution; stabilizes soils, shores, and banks; and protects or provides riparian corridors.

Compensatory Storage: Excavated volume of material below the floodplain elevation required to offset floodplain fill.

Construction Activity: Disturbance to the land that results in a change in the topography, existing soil cover (both vegetative and nonvegetative), or existing soil topography that may result in accelerated stormwater runoff, leading to soil erosion and the movement of sediment into surface waters or drainage systems.

Development: The construction of any public or private improvement project, infrastructure, structure, street, or road or the subdivision of land.

Dewatering: The removal of water for construction activity.

Drain or Drainage: Any method for removing or diverting water from waterbodies, including excavation of an open ditch and installation of subsurface drainage tile, filling, diking, or pumping.

Easement: The right to use another owner's land for a specified use, which may be granted for the purpose of constructing and maintaining walkways, roadways, subsurface sewage treatment systems, utilities, drainage, driveways, and other uses.

Erosion: The wearing away of the ground surface as a result of wind, flowing water, ice movement, or land-disturbing activities.

Erosion and Sediment Control Plan: A plan of BMPs or equivalent measures designed to control runoff and erosion and to retain or control sediment on land during the period of land-disturbing activities in accordance with the applicable Rule.

Excavation: The intentional removal of soil or other earth material.

Existing Conditions: Site conditions at the time of application consideration by the LGU or District before any of the work has commenced, except that, when impervious surfaces have been fully or partially removed from a previously developed parcel but no intervening use has been legally or practically established, "existing conditions" denotes the parcel's previously established developed use and condition.

FEMA: Federal Emergency Management Agency.

Fens: Rare and distinctive wetlands characterized by a substrate of nonacidic peat and dependent on a constant supply of cold, oxygen-poor groundwater rich in calcium and magnesium bicarbonates.

Fill: Any rock, soil, gravel, sand, debris, plant cuttings, or other material placed onto land or into water.

Floodplain: The area adjacent to a waterbody that is inundated during a 100-year flood.

Floodway: The channel of the river or stream and the adjacent land that must remain free from obstruction so that the 100-year flood can be conveyed downstream.

Fully Reconstructed: The reconstruction of an existing impervious surface that involves site grading and subsurface excavation so that soil is exposed. Mill and overlay and other resurfacing activities are not considered fully reconstructed.

Groundwater Recharge: The replenishment of groundwater storage through infiltration of surface runoff into subsurface aquifers.

High Value Resources Area, or HVRA: Portion of land (or a watershed) that contributes runoff to a trout water and/or fen within the Lower Minnesota River Watershed District.

H:V: horizontal:vertical.

Impervious Surface: A constructed hard surface that either prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than before development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, concrete, asphalt, and gravel roads or other areas of compacted gravel.

Infiltration: A passage of water into the ground through the soils.

Infrastructure: The system of public works for a county, state, or municipality, including but not limited to structures, roads, bridges, culverts, and sidewalks; stormwater management facilities, conveyance systems, and pipes; pump stations, sanitary sewers, and interceptors; hydraulic structures, permanent erosion control, and stream bank protection measures; water lines, gas lines, electrical lines, and associated facilities; and phone lines and supporting facilities.

Land-Disturbing Activity: Any change of the land surface to include removing vegetative cover, excavating, fill, grading, stockpiling soil, and constructing any structure that may cause or contribute to eroding or moving sediment into water bodies. Land use for new and continuing agricultural activities shall not constitute a land-disturbing activity under these Rules.

Landlocked Basin: A localized depression that does not have a natural outlet at or below the 100-year flood elevation.

Linear Project: Construction or reconstruction of a public road, sidewalk, or trail or construction, repair, or reconstruction of a utility or utilities that is not a component of a larger contemporaneous development or redevelopment project.

Local Government Unit (LGU): Entity such as a city or county.

Local Water Plan (LWP): A plan adopted by each municipality pursuant to Minnesota Statutes 103B.235.

MNDOT: Minnesota Department of Transportation.

MPCA: Minnesota Pollution Control Agency.

MPCA General Construction Permit: General Permit Authorization to Discharge Storm Water Associated with Construction Activity under the National Pollutant Discharge Elimination System/State Disposal System Permit Program, Permit MN R100001 (NPDES General Construction Permit), issued by the Minnesota Pollution Control Agency, August 1, 2018, and as amended.

Municipality: Any city or township wholly or partly within the Lower Minnesota River Watershed District.

Natural Vegetation: Any combination of ground cover, understory, and tree canopy that, although human activity may have altered it, continues to stabilize soils, retain and filter runoff, provide habitat, and recharge groundwater.

NAVD: North American Vertical Datum.

Nested: A hypothetical precipitation distribution whereby the precipitation depths for various durations within a storm have the same exceedance probabilities. This distribution maximizes the rainfall intensities by incorporating selected short-duration intensities within those needed for longer durations at the same probability level. As a result, the various storm durations are “nested” within a single hypothetical distribution. Nested-storm distribution (or frequency-based hyetograph) development must be completed using the most recent applicable National Weather Service reference data (e.g., Atlas 14), in accordance with

a. the alternating block methodology, as outlined in Chapter 4 of the *HEC-HMS (Hydrologic Engineering Center-Hydrologic Modeling System) Technical Reference Manual* (USACE, 2000);

b. methods in HydroCAD;

c. methods established by the Natural Resources Conservation Service; or

d. otherwise as approved by the District.

Reference: US Army Corps of Engineers. 2000. *Hydrologic Modeling System: HEC-HMS Technical Reference Manual.*

Nondegradation: For purposes of these rules, nondegradation refers to the regulatory policy stated in Minnesota Administrative Rules 7050.0185, and as amended.

NOT: Notice of Termination.

NPDES: National Pollutant Discharge Elimination System.

Ordinary High Water Level (OHWL): Ordinary high water level, as defined by the Minnesota Department of Natural Resources, means the boundary of water basins, watercourses, public waters, and public waters wetlands, and

a. the OHWL is an elevation delineating the highest water level maintained for a sufficient period of time to leave evidence upon the landscape, commonly the point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial;

b. for watercourses, the OHWL is the elevation of the top of the channel bank; and

c. for reservoirs and flowages, the OHWL is the operating elevation of the normal summer pool.

Overlay District: A district established by Lower Minnesota River Watershed District rules/regulations that may be more or less restrictive than the primary District's rules/regulations. Where a property is located within an overlay district, it is subject to the provisions of both the primary rules/regulations and those of the overlay district.

Owner: Any individual, firm, association, partnership, corporation, trust, or other legal entity having proprietary interest in the land.

Person: Any individual, trustee, partnership, unincorporated association, limited liability company, or corporation.

Practical Difficulties: As defined in Minnesota Statutes section 462.357, subdivision 6.

Public Drainage System: Any drainage system as defined in Minnesota Statutes 103E.005, subdivision 12.

Public Project: Land development or redevelopment or other land-disturbing activity for which a District permit is required that is conducted or sponsored by a federal, state, or local governmental entity.

Public Waters: Waters as defined in Minnesota Statutes 103G.005, subdivision 15, and included in the public waters inventory.

Qualified Professional: A person, compensated for her/his service, possessing the education, training, experience, or credential to competently perform or deliver the service provided.

Redevelopment: Any construction or improvement performed on sites where the existing land use is commercial, industrial, institutional, or residential.

Runoff: Rainfall, snowmelt, or irrigation water flowing over the ground surface.

Sediment: The solid mineral or organic material that is in suspension, is being transported, or has been moved from its original location by erosion and deposited at another location.

Sedimentation: The process or action of depositing sediment.

Shoreland District: Shoreland areas regulated by a local municipal or county shoreland ordinance or by Minnesota Statutes 103F. Generally, a shoreland district consists of land located within a floodplain, within 1,000 feet of the ordinary high-water level of a public water or public waters wetland, or within 300 feet of a stream or river.

Shoreline: The lateral measurement along the contour of the ordinary high water level of waterbodies other than watercourses, the top of the bank of the channel of watercourses, and the area waterward thereof.

Site: A contiguous area of land under common ownership, designated and described in official public records and separated from other lands.

Standard: A preferred or desired level of quantity, quality, or value.

Steep Slope: A natural topographic feature having average slopes of 18 percent or greater measured over a horizontal distance of 25 feet or more.

Steep Slopes Overlay District: A district containing steep slope areas established by Lower Minnesota River Watershed District rules/regulations that is subject to the provisions of both the primary rules/ regulations and those of the overlay district.

Stormwater: Water discharged to natural and artificial conveyance or holding systems resulting from precipitation, including rainfall and snowmelt.

Structure: Anything manufactured, constructed, or erected that is normally attached to or positioned on land, including portable structures, earthen structures, water and storage systems, drainage facilities, and parking lots.

Subsurface Sewage Treatment System, or SSTS: A sewage treatment system or part thereof serving a dwelling, other establishment, or group thereof and using sewage tanks followed by soil treatment and disposal or using advanced treatment devices that discharge below final grade. A subsurface sewage treatment system includes holding tanks and privies.

Subwatershed: A portion of land (or a watershed) contributing runoff to a particular point of discharge.

Surface Water: All streams, lakes, ponds, marshes, wetlands, reservoirs, springs, rivers, drainage systems, waterways, watercourses, and irrigation systems regardless of whether natural or artificial, public or private.

Thalweg: A line following the lowest points of a valley, river, stream, or creek bed.

TP: Total phosphorus.

Trout Waters: Lakes or streams that support a population of stocked or naturally produced trout.

TSS: Total suspended solids.

Waterbody: All surface waters, watercourses, and wetlands as defined in these Policies.

Watershed: A region draining to a specific watercourse or water basin.

Wellhead Protection Plan: A document that provides for the protection of a public water supply, submitted to the Minnesota Department of Health, that is implemented by the public water supplier and complies with (a) the wellhead protection elements specified in the 1986 amendments to the Federal Safe Drinking Water Act, United States Code, title 42, chapter 6A, subchapter XII, part C, section 300h-7 (1986 and as subsequently amended) and (b) Minnesota Rules parts 4720.5200 to 4720.5290.

Wetland: Any land as defined in Minnesota Statutes 103G.005, subdivision 19.

1 Rule A: Administrative and Procedural Requirements

Pursuant to Minnesota Statutes chapter 103D, on October 24, 2018, the Lower Minnesota River Watershed District (District) adopted its Board of Water and Soil Resources–approved watershed management plan (Plan). The Plan incorporates management standards that form the foundation of these rules. Implementation of these rules is required by municipalities or local government units (LGUs) on all other projects within their jurisdiction and by the District on projects within unincorporated areas and on Minnesota Department of Transportation (MnDOT) right-of-way, with the exception of the Shoreline and Streambank Alteration, Water Appropriations and Water Crossing rules, which the Minnesota Department of Natural Resources (DNR) will administer with input from the District.

1.1 Municipal (LGU) General Permit

1.1.1 Policy

It is the policy of the District to

a. recognize that control and determination of appropriate land use is the responsibility of LGUs;

b. hold LGUs to the requirement of Minnesota Statutes section 103G.235, subdivision 1, that each adopt the official controls necessary to bring local water management into conformance with the Plan;

c. present minimum threshold requirements and allow LGUs to adopt more restrictive requirements;

d. recognize that the authorities and procedures that LGUs use in implementing these rules will not be identical and that, therefore, some LGUs may occasionally need language and procedures that vary from the language and procedures outlined herein; and

e. coordinate with and cover all LGUs with compliant local controls under a general District permit.

1.1.2 Regulation

All LGUs must obtain a general District permit highlighting how they intend to implement and enforce these rules through official controls, in accordance with Minnesota Statutes 103B.235, on or before May 1, 2020.

1.1.3 Application

An LGU must submit an application packet to the District to obtain a general District permit under these rules on or before February 7, 2020. The submitted permit application must address how the LGU's official controls adhere to these rules. LGUs are encouraged to contact the District on or before January 1, 2020, to begin this process; this allows for nonbinding, informal review to conformity with the District's rules before the May 1, 2020, implementation deadline.

a. Permit application packets are due on or before February 7, 2020. The District has up to 60 business days to take action on a submitted permit application that is considered complete.

b. Application forms can be obtained from the District office or downloaded on the District website at www.lowermnriverwd.org/.

c. Permit applications must be signed by the City Administrator, Water Resources Engineer, or designated City staff upon authorizing action of the LGU's governing board or council.

d. All permit application packets must include a completed application form and all required exhibits. These documents must be electronically submitted to the District in .pdf format. Compliance with these specifications will be used to determine whether an application is complete. The District will not act on an incomplete permit application and will notify LGUs within 15 business days of receiving the application if it is not complete.

1.1.4 Permit Renewal

Permit approval is valid for five calendar years from the permit approval date, with or without conditions, unless otherwise specified. This does not include suspended or revoked permits. Substantive changes, such as updates to official controls that affect the specific standards identified in the Plan, require a new permit application. To renew or assign a permit, the original permittee must notify and provide an explanation to the District, in writing, before the permit expiration date.

When approved by the District, the permittee may assign a permit to another LGU. Approval may be granted if

a. the proposed assignee agrees in writing to assume responsibility for compliance of all terms and conditions of the permit as issued; and

b. at the time of the request, there are no pending violations of the permit or conditions of approval.

If the District finds that the proposed assignee has not demonstrated the ability to fulfill the permit terms, it may impose new or additional conditions or deny the permit renewal or assignment. The assignment of a permit does not extend the permit term.

1.1.5 Audit Process

The District reserves the right to conduct periodic audits and/or inspections of LGU programs, project approvals, permits, and other processes to assess conformance with the general permit, the standards identified in the Plan, and these Rules.

1.1.6 Suspension or Revocation

The District may revoke or suspend an issued permit if the permit was issued based upon inaccurate information provided by the permittee, the permittee has not demonstrated the ability to fulfill the permit terms, or the permittee fails an audit.

1.1.7 Enforcement

LGUs are responsible for implementing and enforcing local water plans (LWPs) covering their jurisdictions. To avoid unnecessary duplication of permitted programs, the District anticipates providing oversight to confirm that LWPs, including these Rules and local controls, are properly implemented and enforced. Oversight will include spot checks of municipal projects and program audits. If the LGU is found noncompliant, the District will work with the LGU to correct the issue. However, if problems persist, the District may revoke or suspend the general permit and require individual permits, issued by

the District, for all activities covered by these Rules. The District may also pursue remedies as provided by law to ensure compliance with these Rules.

The District will not be responsible for liabilities, costs, and damages caused by the LGU's lack of proper implementation.

1.1.8 Variance

It is the District's policy to allow LGUs to grant variances and issue conditional use permits according to processes for such actions contained in existing local controls, except for the professional certification requirement for steep slopes. The District shall be notified of requested variances and conditional use permits and be allowed to provide comment on the requested action. Variances that would circumvent the intent and purposes of these rules shall not be granted.

1.1.9 Permits Subject to Rule F: Steep Slope Rule

Upon showing, to the satisfaction of the District, that the LGU has enacted and is following official controls necessary to meet the intent of these rules, the District may issue an exception to the rule for projects with land-disturbing activities that require a municipal grading, building, parking lot, or foundation permit that impact less than 50 cubic yards or less than 5,000 square feet of surface area or vegetation. The exception, if issued, will be documented in a Memorandum of Agreement, wherein the LGU must agree (1) that it will enforce its official controls; (2) that the exception will terminate if the LGU amends its official controls such that they no longer meet the intent of these rules; and (3) that the LGU will provide notice to the District of all permits issued under the exception.

1.2 Individual Permit

1.2.1 Policy

An individual permit is required for projects proposed by the MNDOT and all projects occurring in unincorporated areas of the District (i.e., where there is no LGU exercising official controls).

Except where a municipal general permit has been issued and remains in effect (i.e., has not been revoked or suspended), a person undertaking an activity for which these rules require a permit must obtain the required permit from the District before commencing the regulated activity.

1.2.2 Application

An application must be submitted to the District to obtain a permit for all projects subject to these rules. Applicants are strongly advised to contact the District early in the project development process. This will allow for a nonbinding, informal review to assess conformity with District rules.

Permit applications are due 20 business days before the monthly board meeting to be considered at that board meeting. The District will act on permit applications in a manner consistent with Minnesota Statutes section 15.99.

a. Application forms can be obtained from the District office or downloaded on the District website at www.lowermnriverwd.org/.

b. The project/property owner must sign all permit applications.

c. All permit application packets must include a completed application form, all required exhibits, and a check (if applicable). These documents can be electronically submitted to the District in .pdf format. Applicable fees should be mailed to the District office. See the District website for the most current fee schedule. Compliance with these specifications will be used to determine whether an application is complete. The District will not act on an incomplete permit application. If the application is not complete, the District will notify applicants within 15 business days of receiving it.

d. A public entity undertaking emergency activity immediately necessary to protect life or prevent substantial physical harm to persons or property may submit an application within 30 days of commencing the work. The emergency activity must be brought into compliance with District rules in a timely manner.

1.2.3 Conditional Approval

The District may conditionally approve an application; however, it will not issue the permit until the applicant has met all approval conditions. The applicant must demonstrate clear intent to comply with these Rules and all conditional approval requirements that the District has outlined. All conditions must be met 12 months from the date conditional approval was granted. After this timeframe, the conditional approval will expire.

1.2.4 Reconsideration

An applicant aggrieved by the District's decision regarding a permit application may file a notice of reconsideration.

a. A notice of reconsideration must be filed with the District within 10 business days of the board meeting at which the original decision was made. The notice must include a statement identifying the specific conditions and findings to be reconsidered.

b. The District will schedule a reconsideration of the matter by the Board of Managers. The applicant will receive a notice of the reconsideration date at least 20 business days in advance.

c. The applicant may supplement existing permit exhibits with additional documentation and submit all additional exhibits to the District no later than 10 business days before the date of the reconsideration.

d. In accordance with Minnesota Statutes section 103D.345, subdivision 2, an applicant will assume the analytical costs incurred by the District while conducting a reconsideration. Costs will not be recovered when the applicant is a local, state, or federal governmental body.

e. Once an applicant has filed a notice for reconsideration, the underlying permit decision will be suspended until the Board of Managers issues a final decision on the reconsideration.

f. The District's decision on the reconsideration constitutes the final decision on the application.

1.2.5 Appeal

Pursuant to Minnesota Statutes section 103D.537, an applicant may appeal a permit decision or order made by the managers by a declaratory judgment action brought under Minnesota Statutes chapter 555.

An applicant must file an appeal of a permit decision or order within 30 days of the managers' decision. An applicant may request a meeting with the dispute resolution committee of the Board of Water and Soil Resources to informally resolve a dispute before initiating a declaratory judgment action.

1.2.6 Permit Assignment and Renewal

Permit approval is valid for one calendar year from the date the permit was approved, with or without conditions, unless otherwise specified. This does not include permits suspended or revoked. To renew or assign permit approval, the original permittee must notify and provide an explanation to the District in writing before the permit expiration date. The District may impose different or additional conditions on the permit renewal or deny the renewal if there is a significant change in the work proposed. The first renewal request will not be subject to new or additional requirements solely because of a change in the District's rules where substantial progress has been made toward the completion of the permitted project. Applicants wishing to continue projects for which permit approval has expired must reapply for a permit and pay associated fees. All District rules in effect at the time of the reapplication will apply.

When approved by the District, the permittee may assign a permit to another party. Approval may be granted if

a. the proposed assignee agrees in writing to assume responsibility for compliance with all terms and conditions of the permit as issued;
b. at the time of the request, there are no pending violations of the permit or conditions of approval; and
c. the proposed assignee has provided any required financial assurance necessary to complete the permitted project.

If the District finds that the proposed assignee has not demonstrated the ability to fulfill the permit terms, it may impose new or additional conditions or deny the permit assignment. The assignment of a permit does not extend the term of the permit.

1.2.7 Suspension or Revocation

The District may revoke or suspend an issued permit under these rules if the permit was issued on the basis of incorrect or erroneous information that the applicant supplied to the District, for failure to meet permit conditions or correct violations of permit conditions, or for failure to meet the requirements of a conditional approval.

1.2.8 Variance

The Board of Managers may consider a request for a variance from compliance with these rules. To grant a variance, the applicant must demonstrate the following:

a. Practical Difficulties

"Practical difficulties" is a legal standard set forth in law that regulatory authorities must apply when considering applications for variances. It is a three-factor test and applies to all requests for variances. To constitute practical difficulties, all three factors of the test must be satisfied.

i. The applicant proposes to use the property in a reasonable manner. This factor means that the applicant would like to use the property in a particular reasonable way but cannot do so under the regulatory rule. It does not mean that the land cannot be put to any reasonable use whatsoever without the variance. Activities causing environmental degradation, creating increased risk of damage to property or public or private infrastructure, or unable to be certified as suitable for site conditions may not be considered reasonable.

ii. The applicant's problem is caused by circumstances unique to the property and are not caused by the applicant. The uniqueness generally relates to the physical characteristics of the particular piece of property, that is, to the land and not to personal characteristics or preferences of the landowner.

iii. The variance, if granted, will not alter the locality's essential character. Under this factor, consider whether the resulting structure or land modification will be out of scale, out of place, or otherwise inconsistent with the surrounding area.

b. Additional Considerations

i. The activity for which the variance is sought will not adversely affect water resources, flood levels, or drainage in the District.

ii. A better natural resource protection or enhancement can be achieved by the proposed project if a variance is approved.

c. Term and Revocation

A variance granted by the District remains valid as long as the activity for which the variance was granted remains consistent with the conditions of the underlying permit. A variance may be revoked if the activity for which the variance was granted is abandoned.

1.2.9 After-the-Fact Permits

Any work requiring a permit that is performed without a permit is subject to enforcement and restoration under Minnesota Statutes 103D. The District may grant an after-the-fact permit in certain situations. The work sought to be permitted by an after-the-fact permit must have been capable of receiving a permit before the work was performed or must be capable of correction to meet the intent or performance standards of these Rules. Because an after-the-fact permit will require increased investigation of the conditions of the unauthorized work, an increased inspection fee may be required before processing the after-the-fact permit. After-the-fact inspection fees are found District website at www.lowermnriverwd.org/.

If the work does not qualify for a permit, no after-the-fact permit shall be issued, and corrective actions may be sought pursuant to Minnesota Statutes 103D.545 and 103D.551. Before considering an after-the-fact permit application, the District may require that the property be returned to the condition that existed before the unpermitted work was performed.

a. Completed Work

If, after inspection, the unauthorized work is found to comply with these Rules or the performance standards herein, the after-the-fact permit shall be issued to the applicant without further cost. If, after inspection, the unauthorized work is found not to comply with these Rules or the performance standards herein, further inspection and permit processing may be required, including additional inspection fees. An after-the-fact permit may require correction work and be subject to additional conditions.

b. Incomplete Work

For work in progress, work must cease and the work site must be stabilized until a permit is issued. Standard administrative procedures shall apply to the application, except for increased inspection fees as described above. For any portion of work completed that does not meet performance standards herein, deficiencies must be corrected as a condition of permit issuance.

c. Emergency Work

An after-the-fact permit may be required after emergency work. If the work is deemed an emergency and otherwise performed in compliance with these Rules or the performance standards herein, the after-the-fact permit shall be issued to the applicant without cost. If the work is deemed an emergency but is not otherwise performed in compliance with these Rules or the performance standards herein, the after-the-fact permit shall be issued to the applicant without any increased cost, rather than that required for a before-the-fact permit. If the work is not deemed an emergency, the standard after-the-fact permit requirements will apply. In all cases, an after-the-fact permit may include conditions to correct any damage caused by the emergency work.

1.2.10 Enforcement

The District may pursue remedies as provided by law to ensure compliance with an issued permit, variance, or permit condition.

1.3 Permit and Inspection Fees

1.3.1 Policy

It is the determination of the Board of Managers that

a. charging a minimal permit application fee will increase public awareness of and compliance with District permitting requirements and will reduce enforcement and inspection costs;

b. the public interest will benefit from inspection by District staff of certain large-scale projects in locations presenting particular risk to water resources to provide the Board of Managers with sufficient information to evaluate compliance with District rules and applicable law; and

c. from time to time, persons perform work requiring a permit from the District without a permit, and persons perform work in violation of an issued District permit. The Board of Managers determines that its costs of inspection and analysis in such cases will exceed costs incurred where an applicant has complied with District requirements.

1.3.2 Requirement

The District will charge applicants permit and inspection fees in accordance with a schedule that will be maintained and revised from time to time by resolution of the Board of Managers to ensure that permit fees cover the District's actual costs of administrating and enforcing permits and the actual costs related to field inspections of permitted projects, such as investigation of the area affected by the proposed activity, analysis of the proposed activity, services of a consultant, and any required subsequent monitoring of the proposed activity. Costs of monitoring an activity authorized by permit may be charged and collected as necessary after permit issuance. The fee schedule may be obtained from the District office or the District's website at http://lowermnriverwd.org/. A permit applicant must submit the required permit fee to the District at the time it submits the relevant permit application. The fee provided by this rule will not be charged to any agency of the United States or any governmental unit or political subdivision of the State of Minnesota.

1.4 Financial Assurances

1.4.1 Policy

It is the District's policy to protect and preserve the water resources within the District by requiring financial performance assurances with a permit application. Such assurances will ensure adequate adherence to District rules when performing authorized activities.

1.4.2 Requirement

The District may require a performance bond, letter of credit, or other financial assurance in a form approved by the District for an activity permitted under these rules. A financial assurance will not be required of any agency of the United States or any governmental unit of the State of Minnesota.

1.4.3 Criteria

Financial assurances required pursuant to this rule must be issued in compliance with the following District criteria:

a. The financial assurance must be a performance bond, letter of credit, cash deposit, or other form acceptable to the District. Commercial financial assurances must be from an issuer licensed and doing business in the State of Minnesota.

b. Any bond issued under this section shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies," as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, US Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.

c. Financial assurances must be issued in favor of the District and are contingent upon the applicant's compliance with the issued permit and payment of District fees. The financial assurance must state that, in the event of financial assurance conditions not being met, the District may make a claim against it. If the District makes a claim against a financial assurance, the full amount of the financial assurance required must be restored within 20 business days.

d. The financial assurance must be effective for a minimum of three years from the date it was issued. The District may require the financial assurance to remain in place until all project components are stabilized and verified to be functioning to permitted specifications. The financial assurance must contain a provision that it may not be released without the District's consent.

e. The permit applicant must submit the financial assurance. The financial assurance principal may be the landowner or the individual or entity undertaking the proposed activity.

f. Financial assurance will be released only under the terms of section 1.4.4.

g. No interest will be paid on financial assurances held by the District.

h. The District Board of Managers will set the amount of financial assurances by resolution. Financial assurance amounts are set to cover potential liabilities to the District, including but not limited to the following:

   i. Field inspections and monitoring

   ii. Maintaining and implementing erosion and sediment control and other protections as the permit requires

   iii. Planting and establishing buffer area

   iv. Remediation of damages resulting from noncompliance with the permit or for which the permittee is otherwise responsible

1.4.4 Financial Assurance Release

Once the District has received written notification of project completion, it will promptly inspect the project to determine whether the project was constructed in accordance with the issued permit and District rules. If the project is found in compliance, all practices and project components are stabilized, all practices and project components are verified to be functioning to permitted specifications, all required documentation has been submitted and approved by the District, and all permit fees have been paid, the District will release the financial assurance.

Further, upon written notice, a portion of the assurance may be released if the District finds that the entire amount is not needed to ensure compliance. After inspection, the District will determine what portion, if any, of the financial assurance can be released. If a portion of the financial assurance is not released, the District will notify the permittee of the outstanding compliance matters to address.

1.4.5 Financial Assurances by Rule

Financial assurance required for a particular permit will include a 10 percent contingency and a 30 percent administrative-costs amount in addition to the amounts calculated according to the schedule above. No financial assurance is required for a project undertaken by or for a resident owner on a single-family home site requiring only a permit under Erosion and Sediment Control, unless the Board of Managers determines that the project presents a significant risk of damage to water resources from erosion. See the fee schedule policy on the District's website for additional information.

1.5 Enforcement

1.5.1 Investigation of Noncompliance

District staff, agents, and contractors may enter and inspect a property within the watershed to determine if a violation of permit conditions or District rules has occurred.

1.5.2 Informal Resolution of Noncompliance

Before initiating formal proceedings (see below), the District and its staff shall attempt to informally resolve incidences of noncompliance (i.e., by voluntary corrective actions or after-the-fact permitting).

1.5.3 Board Hearing; Administrative Compliance Order

The District will provide the permittee or landowner with reasonable notice when a compliance hearing will take place. An opportunity to be heard by the Board of Managers will be allotted at the compliance hearing, during which the permittee or landowner can address the finding of probable violation. At the hearing's conclusion, the District may issue a compliance order.

1.5.4 District Court Enforcement

The District Board of Managers may seek judicial enforcement of an order and recovery of associated legal costs and fees, as provided by Minnesota Statutes chapter 103D.

1.5.5 Liability for Enforcement Costs

The permittee or owner of a property subject to the District's enforcement action will be liable for associated costs incurred by the District. Such costs include but are not limited to inspection and monitoring, engineering, technical analysis, and legal and administrative expenses.

1.6 Coordination Rules

Rules herein pertaining to water appropriations, shoreline and streambank alterations, and water crossings do not require District permits. Rather, these rules set conditions for the District's coordination with the DNR in its consideration of permits for such activities.

2 Rule B: Erosion and Sediment Control Rule

2.1 Policy

It is the District's policy to

a. minimize erosion and sediment transport to lakes, streams, fens, and the Minnesota River;
b. retain or control sediment on land and during land-disturbing activities;
c. prevent resource degradation and loss or damage to property from erosion and sedimentation;
d. protect receiving water bodies, wetlands, and storm sewer inlets; and
e. require the preparation and implementation of erosion and sediment control plans to control runoff and erosion.

2.2 Regulation

An erosion and sediment control permit must be obtained for any land-disturbing work in overlay districts or other areas within the watershed as defined below:

a. General: Land-disturbing activities of one (1) acre or more

b. HVRA: Land-disturbing activities that involve the displacement or removal of 5,000 square feet or more of surface area or vegetation or the excavation of 50 cubic yards or more of earth within the HVRA Overlay District, as shown on the Lower Minnesota River Watershed District—High Value Resources Area Overlay District Map (Figure 1)

2.3 Exceptions

An erosion and sediment control permit is not required for the following land-disturbing activities:

a. Minor land-disturbing activities, such as home gardens contained within a residential lot, landscape repairs, and maintenance work

b. Installation of any fence, sign, telephone or electric poles, or other kinds of posts or poles

c. Emergency activity necessary to protect life or prevent substantial harm to persons or property

d. All maintenance, repair, resurfacing, and reconditioning activities of existing road, bridge, and highway systems that do not involve land-disturbing activities outside of the existing surfaced roadway

e. Agricultural activity

2.4 Criteria

Permit approval for activities that meet all permitted activities must include the following:

2.4.1 Erosion and sediment control plan that provides the following:

a. Protection of natural topography and soil conditions

b. Temporary erosion and sediment control practices consistent with the Minnesota Pollution Control Agency's "Protecting Water Quality in Urban Areas," as amended or updated, and the "Minnesota Stormwater Manual," as amended or updated

c. Minimization of the disturbance's intensity and duration

d. Additional stabilization measures on slopes of 3:1 (H:V) or steeper

e. Protection of all stormwater conveyance systems during construction activities

f. Final site stabilization measures

2.4.2 All waste generated by project activities will be properly managed and disposed of to avoid adverse impacts on water quality.

2.4.3 Site Stabilization

a. Temporary erosion and sediment control BMPs must be in place before the start of construction activities.

b. All soil surfaces that are compacted during construction and remain impervious upon construction completion must be decompacted. Decompaction can be achieved through soil

amendment and/or ripping to a depth of 18 inches. All decompaction measures should be completed before final stabilization.

c. All temporary erosion and sediment control BMPs must be maintained until construction is completed and perennial vegetation is established to sufficiently stabilize the site as the District determines.

d. When final stabilization is achieved, all temporary erosion and sediment control BMPs must be removed from the project site.

e. All disturbed areas must be finally stabilized within 14 days of completing land-altering activities.

2.4.4 Inspection and Maintenance

The permit holder is responsible for inspecting and maintaining the project site until final stabilization is complete, including ensuring that all erosion and sediment control measures are effective.

a. Inspection

Routine inspections shall be conducted at least once every seven (7) days during active construction and within 24 hours after a rainfall event greater than 0.5 inch in 24 hours by the owner or the owner's representative. Following a rainfall inspection, the next inspection shall be conducted within seven (7) days. The inspection schedule will be modified for the following conditions:

i. Where parts of the construction site have permanent cover, but work remains on other parts of the site, inspections shall be reduced to once per month.

ii. Where construction sites have permanent cover on all exposed soil areas and no construction activity is occurring anywhere on the site, monthly inspections shall be performed for 12 months (except during frozen ground conditions). After the 12th month of permanent cover and no construction activity, inspections may cease until construction activity resumes or sooner if notified by the District or the LGU.

iii. Where frozen ground conditions have resulted in suspension of work, the inspection and maintenance schedule shall resume within 24 hours after runoff occurs at the site or upon resuming construction, whichever comes first.

iv. Routine inspections shall include the following:

1. All areas disturbed by construction activity and areas used for storage of materials exposed to precipitation

2. Discharge locations, inaccessible locations, and nearby downstream locations where inspections are practicable

3. Locations where vehicles enter or exit the site for evidence of off-site sediment tracking

v. Records for each inspection and maintenance activity shall be kept on file with the owner and shall contain the following information:

1. Date and time of inspection
2. Name, title, and qualifications of person(s) conducting inspection
3. Date, duration, and amount of all rainfall events that produce more than 0.5 inch of rain in a 24-hour period and whether any discharges occurred
4. Inspection findings, including corrective action recommendations and implementation dates
5. Locations of the following:
    a. Sediment discharges or other pollutants from the site
    b. BMPs that need to be maintained
    c. BMPs that have failed to operate as designed or have proven inadequate for a particular location
    d. Needed BMPs that did not exist at the time of inspection
6. Documented changes to the erosion and sediment control plan
7. Inspector's signature

The owner shall keep an inspection log with the erosion and sediment control plan for a period of three (3) years following the completion of the project and filing of the Notice of Termination (NOT).

b. Maintenance

All maintenance conducted during construction must be recorded in writing, and these records must be kept. All nonfunctional BMPs must be repaired, replaced, or supplemented with functional BMPs within 24 hours after discovery or as soon as field conditions allow access, unless another period is specified below. Maintenance will include the following:

i. Excess sediment behind silt fences and biorolls shall be removed and properly disposed of when sediments reach one third the height of the structure. Such sedimentation shall be corrected by the next business day following discovery.

ii. Construction site vehicle exit locations shall be inspected for evidence of off-site sediment tracking onto paved surfaces. Tracked sediment will be removed from all paved surfaces within 24 hours of discovery or, if applicable, within a shorter time.

iii. Surface waters, including drainage ditches and conveyance systems, shall be inspected for evidence of erosion and sediment deposition. Evidence of erosion and/or sediment deposition will be addressed within seven (7) calendar days.

iv. Infiltration areas shall be maintained to ensure that no compaction or sedimentation occurs.

v. Construction entrances shall be maintained daily.

vi. Turf shall be maintained until final stabilization is established.

The maintenance of temporary erosion and sediment controls and implementation of additional controls shall be performed as soon as possible and before the next storm event, whenever practicable. All remaining temporary erosion and sediment controls and accumulated sediments from silt fences will be removed within 30 days of achieving final stabilization at the site.

2.5 Required Information and Exhibits

The following exhibits must accompany the permit application (one hardcopy set of plans [11 inches by 17 inches] and one set as electronic files in a format acceptable to the District):

2.5.1 A narrative that includes the following:

a. The name, address, and telephone number(s) of all property owners

b. The name, address, and telephone number(s) for all contractors undertaking land-disturbing activities as part of the proposed project

c. The property owner's signature

d. A statement granting the District and its authorized representatives' access to the site for inspection purposes

e. Designation of an individual who will remain liable to the District for performance under this Rule from the time the permitted activities commence until vegetative cover is established and the District has certified satisfaction with erosion and sediment control requirements

2.5.2 An erosion and sediment control plan that includes the following:

a. Topographic maps of existing and proposed conditions that clearly indicate all hydrologic features and areas where grading will expose soils to erosive conditions as well as the flow direction of all runoff (single-family home construction or reconstruction projects may comply with this provision by providing satellite imagery or an oblique map acceptable to the District)

b. Tabulation of the construction implementation schedule for all projects except construction or reconstruction of a single-family home

c. Name, address, and phone number of the individual responsible for inspection and maintenance of all erosion and sediment control measures

d. Temporary erosion and sediment control measures that will remain in place until vegetation is established

e. All final erosion control measures and their locations

f. Staging areas, as applicable

g. Delineation of any floodplain and/or wetland area changes

h. Documentation of the project's NPDES Construction Stormwater Permit status, if applicable

3 Rule C: Floodplain and Drainage Alteration Rule

3.1 Policy

It is the District's policy to

a. regulate alterations within the floodplain and drainageways within the watershed to provide flood protection to natural resources, permanent structures, and private lands, in accordance with Minnesota Statutes 103F;

b. preserve existing water storage capacity below the 100-year high-water elevation of all public waters, wetlands subject to the Wetland Conservation Act, and public drainage systems subject to Minnesota's buffer law in the watershed to minimize the frequency and severity of high water; and

c. minimize development below the FEMA base flood elevation that will unduly restrict flood flows or aggravate known high water problems.

3.2 Regulation

A permit from the District is required for any alteration to or filling of land below the 100-year flood elevation of any wetland, public water, or landlocked subwatershed (as identified by municipalities) shall be subject to the following regulations and shall be completed in accordance with a state-approved floodplain management and shoreland ordinance:

a. No filling is allowed within the 100-year floodplain that causes a rise in the 100-year flood elevation without providing compensatory floodplain storage equal to or greater than the volume of fill. A no-rise certification by a professional engineer satisfies this requirement.

b. No grading of filling is allowed within the 100-year floodplain that reduces the flood-carrying capacity of the watercourse.

c. The lowest floor of the lowest enclosed area of proposed structures must be a minimum of two (2) feet above the 100-year high-water level of nearby surface waters or one (1) foot above the emergency overflow elevation, whichever is greater, unless they have protection through floodproofing or by another approved construction technique.

d. No permanent structure, with the exception of drainage conveyance structures and monitoring equipment, may be constructed in the floodway as it is shown on FEMA flood maps.

3.3 Exceptions

No floodplain and drainage alternation permit from the District is required if all of the following conditions exist:

a. The 100-year flood elevation of a waterbody is entirely within a municipality.

b. The water basin is landlocked.

c. The municipality has adopted a floodplain ordinance regulating floodplain encroachment.

d. The proposed project is entirely within the water basin drainage area.

3.4 Criteria

All permitted projects under this rule shall be subject to the following regulations and shall be completed in accordance with a state-approved floodplain management and shoreland ordinance:

a. Fill shall not cause a net decrease in storage capacity below the projected 100-year high water elevation nor an increase in the 100-year elevation of a waterbody.

b. A professional engineer registered in the state of Minnesota shall calculate the allowable fill area. Creation of floodplain storage capacity to offset fill shall occur before any fill is placed in the floodplain, unless it has been demonstrated to the District and the municipality that doing so is impractical and that placement of fill and creation of storage capacity can be achieved concurrently. Any placement of fill before creation of floodplain storage capacity will be allowed only by a registered professional engineer to ensure that such work will not aggravate high water conditions.

c. Fill or grading shall not cause a decrease in the conveyance capacity of a waterbody below the projected 100-year high water elevation.

d. A professional engineer registered in the state of Minnesota shall calculate the conveyance capacity. The analysis must demonstrate no decrease in conveyance upstream and downstream of the proposed fill or grading.

e. All new residential, commercial, industrial, and institutional structures shall be constructed such that the lowest floor of the lowest enclosed area (including basement or crawl space) is at a minimum of two (2) feet above the 100-year high water elevation.

f. No person shall install or remove a culvert or other artificial means to remove or drain surface water, create artificial pond areas, or obstruct the natural flow of waters without demonstrating that the activity has no adverse impact on upstream or downstream landowners or water quality, habitat, or fisheries.

g. Temporary placement of fill within the floodway for staging or processing of river dredge or fill material, including facilities for such activities, shall be allowed when it is conducted, in whole or part, pursuant to a cooperative or local sponsorship agreement with the United States under the Rivers and Harbors Act and it meets requirements of the LGU.

3.5 Required Information and Exhibits

The following exhibits must accompany the permit application (one hardcopy set of plans [11 inches by 17 inches] and one set as electronic files in a format acceptable to the District):

3.5.1 A site plan showing the following:

a. Property lines

b. Delineation of the work area

c. Existing elevation contours of the work area

d. OHWL or normal water elevation and 100-year flood elevations (all elevations must be reduced to NAVD [1988 datum])

3.5.2 Grading plan showing proposed elevation changes

3.5.3 Preliminary plat of proposed land development

3.5.4 Determination by a licensed professional engineer or registered qualified hydrologist of the 100-year flood elevations for the parcel before and after the project

3.5.5 Computation by a professional engineer of cut, fill, and change in water storage capacity resulting from proposed grading

3.5.6 Erosion control plan

3.5.7 Soil boring information, if requested by the District engineer

3.5.8 Documentation that drainage and flowage easements over all land and facilities below the 100-year flood elevation, if required by the municipality with jurisdiction, have been conveyed and recorded. For public entities, this requirement may be satisfied by a written agreement executed with the District in lieu of a recorded document. The agreement must state that, if the land within the 100-year floodplain is conveyed, the public body will require the buyer to comply with this subsection.

4 Rule D: Stormwater Management Rule

4.1 Policy

It is the District's policy to

a. manage new development, redevelopment, and drainage alternations by requiring each development or land-disturbing activity to manage its stormwater effectively, either on- or off-site;

b. promote and encourage a reduction in runoff rates to encourage infiltration and to promote groundwater recharge;

c. encourage infiltration and stormwater storage in the District's upland areas;

d. maximize groundwater recharge as a means of maintaining drinking water supplies, preserving base flows in streams and water levels in fens, and limiting discharges of stormwater to downstream receiving waters;

e. protect and maintain existing groundwater flow, promote groundwater recharge, and improve groundwater quality and aquifer protection;

f. require that property owners control the rate and volume of stormwater runoff originating from their property so that surface water and groundwater quantity and quality is protected or improved, soil erosion is minimized, and flooding potential is reduced; and

g. protect and improve natural resources within the watershed to prevent further degradation.

4.2 Regulation

A permit from the District that incorporates an approved stormwater management plan is required under this rule prior to the commencement of any activities to which this rule applies. The District may review a stormwater management plan at any point in the development of a regulated project and encourages project proposers to seek the District's early review of plans.

The requirements of this rule apply to any land-disturbing activity that will involve the following:

a. General: Development, redevelopment, and drainage alterations (including roads) creating new impervious areas greater than one (1) acre

b. HVRA: Development, redevelopment, and drainage alternations (including roads) creating new impervious areas greater than 10,000 square feet in an HVRA Overlay District, as shown on the Lower Minnesota River Watershed District—High Value Resources Area Overlay District Map (Figure 1)

4.2.1 Exceptions

The requirements of this rule do not apply to the following:

a. Construction or remodeling on a single-family homesite consistent with a subdivision, development, or redevelopment plan implemented in accordance with a District permit issued after February 1, 2015, and an approved erosion control prevention and sediment control plan

b. Rehabilitation of paved surfaces

c. Trails, sidewalks, and retaining walls that do not exceed 10 feet in width and are bordered down gradient by a pervious area extending at least half the trail width

d. Land-disturbing activities that do not involve creation of new impervious surface, reconstruction of existing impervious surface, or grading that materially alter stormwater flow at a site boundary

4.3 Criteria

Permit approval for activities that meet the general threshold must demonstrate that the implementation of their stormwater management plan will meet the following criteria:

4.3.1 Rate Control

Stormwater runoff rate from development, redevelopment, and drainage alterations shall not exceed the existing runoff rates for the 1 or 2-year, 10-year, and 100-year 24-hour events using Atlas 14 nested distribution.

4.3.2 Volume

a. General: For projects that create one (1) acre or more of new impervious surface on sites without restrictions (such as factors that prevent attainment of the performance goal, like shallow depth to bedrock, presence of contaminated soils, and lack of access because utilities are present [*Minnesota Stormwater Manual*, 2019]), the post-construction stormwater runoff volume retained on-site shall be equivalent to one (1) inch of runoff from impervious surfaces or the MPCA's Construction General Permit abstraction requirements (as amended), whichever is greater.

b. HVRA: Projects that create new impervious areas greater than 10,000 square feet in an HVRA Overlay District have the following volume requirements:

   i. New development: For new, nonlinear developments that create 10,000 square feet or more of new impervious surface on sites without restrictions, the post-construction

stormwater runoff volume retained on-site shall be equivalent to 1.0 inch of runoff from impervious surfaces.

ii. Redevelopment: Nonlinear redevelopment projects on sites without restrictions that create 10,000 square feet or more of new and/or fully reconstructed impervious surfaces shall capture and retain on-site 1.1 inches of runoff from the new and/or fully reconstructed impervious surfaces.

iii. Linear projects: Linear projects on sites without restrictions that create 10,000 square feet or greater of new and/or fully reconstructed impervious surfaces shall capture and retain the larger of the following:

1. 0.55 inch of runoff from the new and fully reconstructed impervious surfaces
2. 1.1 inches of runoff from the net increase in impervious area

To the maximum extent practicable, volume control shall be fully met on-site. Site conditions may make infiltration undesirable or impossible. The owner must make soil corrections and/or investigate other locations on the site for feasible infiltration locations. Infiltration of stormwater should avoid areas of contaminated soil.

c. Infiltration practices are not allowed in the following areas:

i. Areas that receive discharges from vehicle fueling and maintenance facilities

ii. Areas with less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock

iii. Areas that receive discharges from industrial facilities that are not authorized to infiltrate industrial stormwater under an NPDES/SDS Industrial Stormwater Permit issued by the MPCA

iv. Areas where infiltrating stormwater will mobilize high levels of contaminants in soil or groundwater

v. Areas of predominately Hydrologic Soil Group D (clay) soils, unless allowed by an LGU with a current NPDES/SDS Municipal Separate Storm Sewer Systems (MS4) permit

vi. Areas within 1,000 feet up gradient or 100 feet down gradient of active karst features, unless allowed by an LGU with a current MS4 permit

vii. Areas within a Drinking Water Supply Management Area (DWSMA), as defined in Minnesota Administrative Rules 4720.5100, subpart 13., unless allowed by an LGU with a current MS4 permit

viii. Areas where soil infiltration rates are more than 8.3 inches per hour, unless soils are amended to slow the infiltration rate below 8.3 inches per hour or as allowed by an LGU with a current MS4 permit

If the permittee claims that infiltration is not feasible or allowed on-site, sufficient supporting documentation must be provided with the permit application. Filtration technologies may be an

acceptable alternative for types C and D soils and other sites where infiltration is infeasible given the criteria above.

4.3.3 Water Quality

a. General: Projects that create one (1) acre or more of new impervious surface shall have no net increase from existing conditions in total phosphorus (TP) and total suspended solids (TSS) to receiving waterbodies.

b. HVRA: Projects that create new impervious areas greater than 10,000 square feet in an HVRA Overlay District have the following water quality requirements:

i. Total phosphorus and total suspended solids: All projects shall have a net decrease TP and TSS to receiving waterbodies from existing conditions. For new development projects, the decrease in TP and TSS shall be 60 percent and 80 percent, respectively, from existing conditions.

ii. Buffer zone: An undisturbed buffer zone of 100 linear feet from trout waters shall be maintained at all times, both during construction and as a permanent feature after construction, except where a water crossing or other encroachment is necessary to complete the project.

1. Exceptions: The replacement of existing impervious surfaces within the buffer zone is allowed provided that the use of additional or redundant BMPs minimizes all potential water quality, scenic, and other environmental impacts of the activity. Buffer encroachments (circumstance and reason) and minimization activities must be documented.

iii. Temperature controls: Permanent stormwater management facilities shall be designed to minimize any increase in the temperature of trout waters receiving waters resulting from the 1 and 2-year 24-hour precipitation events. This includes all tributaries of designated trout streams within the Public Land Survey System (PLSS) section where a trout water is located. Projects that discharge to trout waters must minimize the impact using one or more of the following measures, in order of preference:

1. Minimize new impervious surfaces
2. Minimize the discharge from connected impervious surfaces by discharging to vegetated areas or grass swales and using other nonstructural controls
3. Use infiltration or other volume reduction practices to reduce stormwater runoff in excess of pre-project conditions (up to the 2-year, 24-hour precipitation event)
4. Design an appropriate combination of measures, such as shading, filtered bottom withdrawal, vegetated swale discharges, or constructed wetland treatment cells, that will limit temperature increases when incorporating ponding. Also, design the pond to be drawn down in 24 hours or less.
5. Use other methods that will minimize any increase in trout water temperature

4.3.4 Maintenance and Easement

The permittee is responsible for developing and adhering to a maintenance plan for the permitted project, including the acquisition of all necessary easements.

a. All stormwater management structures and facilities must be designed for maintenance access and properly maintained in perpetuity so that they continue to function as designed.

b. A maintenance plan shall identify and protect the design, capacity, and functionality of on-site and off-site stormwater management facilities; specify the methods; and schedule responsible parties for maintenance for every stormwater management facility.

c. The maintenance agreement shall be recorded with the applicable county (Carver, Dakota, Hennepin, Scott, or Ramsey) as part of the LGU or other development approval process. The District may require that stormwater management structures and facilities be publicly dedicated or placed in a conservation easement, giving rights of enforcement to an LGU, the District, or other appropriate public authority.

d. A public entity assuming a maintenance obligation may submit a written executed agreement in lieu of the recorded maintenance agreement.

4.3.5 Alternative Measures

At sites where infiltration is infeasible, an applicant must comply with the NPDES General Construction Permit, issued by the MPCA, August 1, 2018, as amended.

4.4 Required Information and Exhibits

The following exhibits must accompany the permit application (one hardcopy set of plans [11 inches by 17 inches] and one set as electronic files in a format acceptable to the District):

4.4.1 A narrative explaining the existing and proposed conditions

4.4.2 Stormwater management system modeling in a form acceptable to the District that utilizes the most recent applicable precipitation reference data (e.g., Atlas 14), for example, HydroCAD, SWMM, MIDS calculator, or P8

4.4.3 A site plan showing the following:

a. Property lines and delineation of lands under ownership of the applicant

b. Existing and proposed elevation contours

c. Identification of existing and proposed normal and ordinary high- and 100-year water elevations on-site.

4.4.4 A stormwater management plan that includes, at a minimum, the following:

a. Proposed and existing stormwater facility locations, alignment, and elevation

b. Delineation of existing wetlands, marshes, shoreland, and/or floodplain areas on-site or to which any portion of the project parcel drains; except where a project will not alter or change the hydrology of a wetland, the plan need only identify the wetland.

c. Geotechnical analysis, including soil borings, at all proposed stormwater management facility locations

d. If infiltration of runoff is proposed, data must be submitted showing the following:

i. No evidence of groundwater or redoximorphic soil conditions within three (3) feet of the bottom of the facility, practice, or system

ii. Soil conditions within five (5) feet of the bottom of any stormwater treatment facility, practice, or system

iii. If requested by the engineer, site-specific infiltration capacity of soils at the bottom of the facility, practice, or system. In addition, the District engineer may require submission of a phase I environmental site assessment and/or other documentation to facilitate analysis by the District of the suitability of the site for infiltration.

e. Construction plans and specifications for all proposed stormwater management facilities, including design details for outlet control structures

f. Stormwater runoff volume and rate analyses for the 2-, 10-, and 100-year 24-hour critical events, existing and proposed conditions, using Atlas 14 nested distribution

g. All hydrologic, water quality, and hydraulic computations completed to design the proposed stormwater management facilities

h. Narrative addressing incorporation of retention BMPs

i. Platting or easement documents showing sufficient drainage and ponding/flowage easements over hydrologic features, such as floodplains, storm sewers, ponds, ditches, swales, wetlands, and waterways, if required by the municipality with jurisdiction

j. Documentation of the project's NPDES Construction Stormwater Permit status, if applicable

k. If a stormwater harvest and reuse practice is proposed to meet applicable requirements, the following materials must be submitted:

i. An analysis using a stormwater reuse calculator or equivalent methodology approved by the District engineer

ii. Documentation of the adequacy of soils, storage capacity, and delivery systems

iii. Delineation of green space area to be irrigated, if applicable

iv. A detailed irrigation or usage plan showing compliance with the District's volume-retention requirements.

4.4.5 Documentation demonstrating that the applicant holds the legal rights necessary to discharge to any off-site stormwater facility/facilities used for compliance and that the facility/facilities are subject to a maintenance document satisfying the requirements of this rule

4.4.6 An erosion and sediment control plan complying with the District's Erosion and Sediment Control Rule

4.4.7 A maintenance plan and applicable maintenance agreements

5 Rule E: Shoreline and Streambank Alternation Rule

5.1 Policy

It is the District's policy to

a. manage stable, intact, and vegetated shorelines and stream banks that provide valuable functions to the associated water resource, including erosion prevention, reinforcement of soils through root structure, trapping of nutrients and sediments, and provision of fish and wildlife habitat;

b. promote the preservation and enhancement of the ecological integrity and natural appearance of shorelines and stream banks with the intent of preventing erosion;

c. encourage practices such as bioengineering and preservation of natural vegetation when alterations are necessary; and

d. preserve water quality and the ecological integrity of the riparian environment, including wildlife and fisheries habitat and recreational water resources.

5.2 Regulation

A Minnesota Department of Natural Resources (DNR) permit must be obtained, in coordination with the District, to make the following shoreline and stream bank alterations:

a. Improvement or alteration below the OHWL of a lake or wetland or the bankfull height of a watercourse, including but not limited to bioengineered installations and placement of riprap, retaining walls, sand blankets, and boat ramps

b. Maintenance of an existing riprap or hard-armored shoreline or stream bank that involves the addition of new material or structural change

5.3 Criteria

All projects under this rule shall consider the following:

5.3.1 Use bioengineering techniques to the extent possible. The use of bioengineering is encouraged as an alternative to traditional engineered stabilization techniques for cost advantage, aesthetic superiority, and ecological integrity. If bioengineering cannot provide a stable shoreline, a combination of riprap and bioengineering may be used to restore or maintain a shoreline. If a combination of riprap and bioengineering cannot provide a stable shoreline within a reasonable period, riprap may be used to restore or maintain shoreline.

a. Live plantings incorporated in shoreline bioengineering must be native aquatic vegetation and/or native upland plants.

b. Riprap used in shoreline erosion protection must be sized appropriately in relation to the erosion potential of the wave or current action of the particular water body, but in no case shall the riprap rock average less than six (6) inches or more than 30 inches in diameter. Riprap shall be durable, natural stone and of a gradation that will result in a stable shoreline embankment. Stone, granular filter, and geotextile material shall conform to standard MNDOT specifications, except that neither limestone nor dolomite shall be used for shoreline or stream bank riprap but may be used at stormwater outfalls. All materials

used must be free from organic material, soil, clay, debris, trash, or any other material that may cause siltation or pollution.

c. Riprap placement shall conform to the natural alignment of the shoreline/stream bank.

d. A transitional layer consisting of graded gravel, at least six (6) inches deep, and an appropriate geotextile filter fabric shall be placed between the existing shoreline and any riprap. The thickness of riprap layers should be at least 1.25 times the maximum stone diameter. Toe boulders, if used, must be at least 50 percent buried.

e. Riprap must not cover emergent vegetation, unless authorized by a DNR permit.

f. Riprap shall extend no higher than the top of the bank or two (2) feet above the 100-year high water elevation, whichever is lower.

5.3.2 Stabilize the shoreline with minimal horizontal encroachment and without interference of water flow or navigation. No riprap or filter material shall be placed more than six (6) feet waterward of the OHWL. Streambank riprap shall not reduce the cross-sectional area of the channel or result in a stage increase of more than 0.01 foot at or upstream of the treatment.

5.3.3 Design of shoreline erosion protection must reflect the engineering properties of the underlying soils and any soil corrections or reinforcements necessary. The design shall conform to engineering principles for wave energy dispersion and resistance to deformation from ice pressures and movement, considering prevailing winds, fetch, and other factors that induce wave energy.

5.3.4 Use of riprap for merely cosmetic purposes is prohibited.

5.3.5 Use retaining walls only when there is no adequate stabilization alternative and in accordance with Minnesota Administrative Rules 6115.0211. Retaining walls extending below the OHWL of a water body are prohibited, except where

a. there is a demonstrable need for a retaining wall in a public improvement project, and

b. a registered engineer has certified the design of the retaining wall.

The District's issuance of a permit for a project meeting this Rule does not preclude the project from needing a DNR Public Waters Work Permit.

5.4 Required Information and Exhibits

The District requires the following exhibits (one hardcopy set of plans [11 inches by 17 inches] and one set as electronic files in a format acceptable to the District):

5.4.1 The site plan, which includes the following:

a. Documentation, including photographs of existing erosion or the potential for erosion

b. A survey locating the existing OHWL contour, existing shoreline, floodplain elevation, and location of property lines

c. Elevation contours of the upland within 15 feet of the OHWL and referenced to accepted datum

d. Plan view of locations and lineal footage of the proposed riprap

The plan must show the location of an upland baseline parallel to the shoreline with stationing. The baseline will be staked in the field by the applicant and maintained in place until project completion. Baseline origin and terminus must each be referenced to three fixed features, with measurements shown and described on the plan. Perpendicular offsets from the baseline to the OHWL must be measured and distances shown on the plan at 20-foot stations. A registered professional engineer or landscape architect will certify the plan.

5.4.2 A construction plan and specifications certified by a registered engineer or landscape architect, showing the following:

a. A sequencing analysis in compliance with the rule

b. Materials to be used, including the size(s) of any riprap to be used

c. Cross section detailing the proposed riprap, if any, drawn to scale, with the horizontal and vertical scales noted on the drawing. The detail should show the finished riprap slope, transitional layer design and placement, distance waterward of the riprap placement, and OHWL

d. Description of the underlying soil materials

e. Material specifications for stone, filter material, and geotextile fabric

For sites involving aquatic plantings, a separate Aquatic Plant Management Permit shall be obtained from the DNR. This provision does not apply to slope protection projects using woody species, such as willow and dogwood.

5.4.3 An erosion control and site restoration plan that includes the following:

a. Topographic maps of existing and proposed conditions that clearly indicate all hydrologic features and areas where grading will expose soils to erosive conditions as well as the flow direction of all runoff (single-family home construction or reconstruction projects may comply with this provision by providing satellite imagery or an oblique map acceptable to the District)

b. Tabulation of the construction implementation schedule for all projects, except construction or reconstruction of a single-family home

c. Name, address, and phone number of the individual responsible for inspection and maintenance of all erosion and sediment control measures

d. Temporary erosion and sediment control measures that will remain in place until vegetation is established

e. All final erosion control measures and their locations

f. Staging areas, as applicable

g. Documentation of the project's NPDES Construction Stormwater Permit status, if applicable

6 Rule F: Steep Slopes Rule

6.1 Policy

It is the District's policy to

a. protect water quality down gradient of steep slopes from sediment, nutrients, bacteria, and other contaminant pollutant loadings;
b. maintain stability of steep slopes, shorelines, and other areas prone to erosion;
c. sustain and enhance the biological and ecological functions of noninvasive vegetation on steep slopes as outlined in the Lower Minnesota River Watershed District Vegetation Management Plan;
d. minimize impacts to and preserve the natural character and topography of steep slopes;
e. protect properties and waterbodies adjacent to steep slopes from erosion, sedimentation, flooding, and other damage; and
f. promote public safety by requiring certification from qualified individuals before land-disturbing activities and other changes to land on steep slopes.

6.2 Regulation

A District permit must be obtained for the following activities:

a. Land-disturbing activities that involve the excavation of 50 cubic yards or more of earth or displacement or removal of 5,000 square feet or more of surface area or vegetation within the Steep Slopes Overlay District, as shown on the Lower Minnesota River Watershed District—Steep Slopes Overlay District Map (Figure 2)
b. Activities requiring municipal/LGU grading, building, parking lot, and foundations permits that result in a net increase in impervious surface or stormwater runoff within the Steep Slopes Overlay District, as illustrated on Figure 2

6.3 Exceptions

A steep slopes permit is not required for the following activities:

a. New impervious areas associated with driveway widenings that drain to the street where a municipal storm sewer system manages runoff water
b. Maintenance, repair, or replacement of existing structures, public roads, utilities, and drainage systems within the Steep Slopes Overlay District
c. Disturbances that are part of an approved LWP to repair, grade, or reslope existing steep slopes that are eroding or unstable to establish stable slopes and vegetation
d. Native plantings that enhance natural vegetation of steep slopes
e. Selective removal of noxious, exotic, or invasive vegetation, using locally recognized methods to control and/or minimize their spread
f. Pruning of trees or vegetation that are dead or diseased or pose a public hazard and removal of vegetation in emergency situations from steep slopes
g. Maintenance of existing lawns, landscaping, and gardens

h. Agricultural and forestry activities

6.4 Criteria

All permitted projects under the Steep Slopes Rule must comply with the following regulations:

6.4.1 Land-disturbing activities as regulated in this section may occur within the Steep Slopes Overlay District provided that a qualified professional/professional engineer registered in the state of Minnesota certifies the area's suitability for the proposed activities, structures, or uses resulting from the activities and that the following requirements are addressed:

a. Minimum erosion and sediment control BMPs include site stabilization and slope restoration measures to ensure the proposed activity will not result in

i. adverse impacts to adjacent and/or downstream properties or water bodies;

ii. unstable slope conditions; and

iii. degradation of water quality from erosion, sedimentation, flooding, and other damage.

b. Preservation of existing hydrology and drainage patterns. Land-disturbing activities may not result in any new water discharge points on steep slopes or along the bluff.

6.4.2 Stormwater ponds, swales, infiltration basins, or other soil saturation–type features shall not be constructed within a Steep Slopes Overlay District.

6.5 Required Information and Exhibits

The following exhibits must accompany the permit application (one hardcopy set of plans [11 inches by 17 inches] and one set as electronic files in a format acceptable to the District):

6.5.1 A narrative that includes the following:

a. The name, address, and telephone number(s) of all property owners

b. The name, address, and telephone number(s) for all contractors undertaking land-disturbing activities as part of the proposed project

c. The signature of the property owner

d. A statement granting the District and its authorized representatives' access to the site for inspection purposes

e. Designation of an individual who will remain liable to the District for performance under this rule from the time the permitted activities commence until vegetative cover is established and the District has certified its satisfaction with erosion and sediment control requirements

f. An explanation of existing and proposed conditions

6.5.2 An erosion and sediment control plan including the following:

a. Topographic maps of existing and proposed conditions that clearly indicate all hydrologic features and areas where grading will expose soils to erosive conditions as well as the flow direction of all runoff (single-family home construction or reconstruction projects may comply with this provision by providing satellite imagery or an oblique map acceptable to the District)

b. Tabulation of the construction implementation schedule for all projects, except construction or reconstruction of a single-family home

c. Name, address, and phone number of the individual responsible for inspection and maintenance of all erosion and sediment control measures

d. Temporary erosion and sediment control measures that will remain in place until vegetation is established

e. All final erosion control measures and their locations

f. Staging areas, as applicable

g. Delineation of any floodplain and/or wetland area changes

h. Documentation of the project's NPDES Construction Stormwater Permit status, if applicable

6.5.3 Stormwater management system modeling in a form acceptable to the District and that uses the most recent applicable precipitation reference data (e.g., Atlas 14), for example, HydroCAD, SWMM, MIDS calculator, or P8

6.5.4 A site plan showing the following:

a. Property lines and delineation of lands under ownership of the applicant

b. Existing and proposed elevation contours

c. Identification of existing and proposed normal and ordinary 100-year and high water elevations on-site

6.5.5 A stormwater management plan, including, at a minimum:

a. Proposed and existing stormwater facilities location, alignment, and elevation

b. Delineation of existing wetlands, marshes, shoreland, and/or floodplain areas on-site or to which any portion of the project parcel drains; except that where a project will not alter or change the hydrology of a wetland, the wetland need only be identified on the plan.

c. Geotechnical analysis, including soil borings, at all proposed stormwater management facility locations

d. If infiltration of runoff is proposed, data must be submitted showing the following:

i. No evidence of groundwater or redoximorphic soil conditions within three (3) feet of the bottom of the facility, practice, or system

ii. Soil conditions within five (5) feet of the bottom of any stormwater treatment facility, practice, or system

iii. If requested by the engineer, site-specific infiltration capacity of soils at the bottom of the facility, practice, or system. In addition, the District engineer may require submission of a phase I environmental site assessment and/or other documentation to facilitate analysis by the District of the suitability of the site for infiltration.

e. Construction plans and specifications for all proposed stormwater management facilities, including design details for outlet control structures

f. Stormwater runoff volume and rate analyses for the 2-, 10-, and 100-year 24-hour critical events, existing and proposed conditions, using Atlas 14 nested distribution

g. All hydrologic, water quality, and hydraulic computations completed to design the proposed stormwater management facilities

h. Narrative addressing incorporation of retention BMPs

i. Platting or easement documents showing sufficient drainage and ponding/flowage easements over hydrologic features, such as floodplains, storm sewers, ponds, ditches, swales, wetlands, and waterways, if required by the municipality with jurisdiction

j. Documentation of the project's NPDES Construction Stormwater Permit status, if applicable

k. If a stormwater harvest and reuse practice is proposed to meet applicable requirements, submission of

iv. an analysis using a stormwater reuse calculator or equivalent methodology approved by the District engineer;

v. documentation of the adequacy of soils, storage capacity, and delivery systems;

vi. delineation of green space area to be irrigated, if applicable; and

vii. a detailed irrigation or usage plan showing compliance with the District volume-retention requirements.

6.5.6 Documentation that the applicant holds the legal rights necessary to discharge to any off-site stormwater facility/facilities used for compliance and that the facility/facilities are subject to a maintenance document satisfying the requirements of this rule

6.5.7 A maintenance plan and applicable maintenance agreements

6.5.8 Construction plans and specifications certifying construction on the steep slope by a registered professional engineer. The certification must indicate that the slope is suitable to withstand proposed construction.

7 Rule G: Water Appropriations Rule

7.1 Policy

It is the District's policy to

a. maintain groundwater recharge and protect groundwater from contamination;

b. promote management practices that protect groundwater recharge and quality;

c. support enforcement of wellhead protection plans, individual sewage treatment systems, and community septic ordinances;

d. support development and implementation of wellhead protection plans;

e. review appropriations requests for groundwater in HVRAs; and

f. evaluate the potential impacts of public or private infrastructure (including private and municipal groundwater appropriations) interference of flows on groundwater recharge, transmission, and discharge.

7.2 Regulation

A DNR permit must be obtained within the HVRA Overlay District, as shown on the Lower Minnesota River Watershed District—High Value Resources Area Overlay District Map (Figure 1), in coordination with the District, for the following:

a. Temporary withdrawal of groundwater for construction dewatering; landscaping; dust control; and hydrostatic testing of pipelines, tanks, and wastewater ponds

b. Permanent withdrawal of more than 10,000 gallons of water per day or one (1) million gallons per year

7.3 Criteria

All projects under this rule shall be subject to the following regulations:

a. In all cases of groundwater appropriation requiring a DNR permit in the District, a copy of the permit application and information on the location of the discharge/withdrawal shall be filed with the District for review.

b. Develop and submit a discharge management plan to the District

c. Demonstrate no net change in groundwater levels to adjacent fens and trout streams

7.4 Required Information and Exhibits

The following exhibits must accompany the permit application (one hardcopy set of plans [11 inches by 17 inches] and one set as electronic files in a format acceptable to the District):

7.4.1 A site plan showing the following:

a. Property lines and delineation of lands under ownership of the applicant

b. Existing and proposed elevation contours

c. Identification of existing and proposed normal and ordinary high- and 100-year water elevations on-site

7.4.2 A discharge management plan showing the following:

a. Alternative sources of water considered and reasons why the groundwater appropriation proposed was selected

b. Well depth, number, and capacity in gallons per minute of pump(s) to be installed

c. Computations by a certified professional engineer showing no net change in groundwater levels adjacent to fen resources

d. Any potential impacts on trout waters, including trout waters not designated by the State of Minnesota, and strategies to reduce potential impacts

7.4.3 Information on any water storage facilities and capabilities and any proposed reuse and conservation practices

7.4.4 A contingency plan or draft agreement with the District to discontinue the appropriation in the event of restriction

8 Rule H: Water Crossing Rule

8.1 Policy

It is the District's policy to

a. prohibit the use of beds and banks of streams and lakes for the placement of roads, driveways, and utilities;

b. regulate crossings of watercourses for driveways, roads, and utilities to maintain stream stability, conveyance capacity, and the ability to transport, without adverse effect, the flows and detritus of its watershed;

c. preserve the ecological integrity of the riparian and aquatic environment, including wildlife and fisheries habitat and recreational water resources; and

d. encourage improvement of wildlife passage and habitat, especially for projects involving culvert and public right-of-way in or near natural corridors.

8.2 Regulation

A DNR permit must be obtained, in coordination with the District, for horizontal drilling under or placement of a road, highway, utility, bridge, boardwalk, or associated structure in contact with the bed or bank of any waterbody, including alteration of a waterbody to enclose it within a pipe or culvert.

8.3 Exceptions

Coordination is not required for ecological restoration of a waterbody that has been significantly altered from its natural state or degraded, for which the proposed application would provide a greater degree of resource protection and restoration than would strict compliance with the rule.

8.4 Criteria

All projects under this rule shall be subject to the following:

8.4.1 Show the effects of the project through analysis completed by a qualified professional on the stream's physical characteristics, hydraulic capacity, and water quality

8.4.2 Time construction by taking advantage of seasons with no or low stream flow as appropriate

8.4.3 Time construction to avoid spawning seasons, if applicable

8.4.4 Demonstrate a public benefit and ensure the crossing will retain adequate hydraulic and navigational capacity for the portion of a road, highway, utility, or associated structure that crosses the bed or bank of any waterbody. If applicable, the project should not adversely affect

water quality and should represent the "minimal impact" solution to a specific need with respect to all other reasonable alternatives.

8.4.5 Projects must follow the DNR manual *Best Practices for Meeting DNR General Public Waters Work Permit GP 2004-0001*, as amended, when applicable.

8.4.6 Size and place stream crossings as follows:

a. Regardless of the stream's width-to-depth ratio (bankfull width/mean depth), minimum culvert width shall match or exceed stream bankfull width (water surface width at discharge associated with the 1.5-year return period). Combined width of multiple culverts is satisfactory.

b. Culvert length shall extend beyond side slope toe and be buried to a depth of one sixth of its height.

c. Slope of culvert shall match stream thalweg (the deepest continuous line along a watercourse) slope.

d. When using multiple culverts, offset culvert inverts. Use the fewest and largest multiples possible. A minimum vertical separation of one (1) foot is required between the lowest placed culvert and multiples.

e. Alignment of culvert shall match stream alignment.

f. Additional consultation is required with DNR, the District, and other regulatory agency staff when the stream is a designated trout stream or contains endangered or threatened species.

8.4.7 Preserve aquatic and upland wildlife passages.

8.5 Required Information and Exhibits

The following exhibits are required (one hardcopy set of plans [11 inches by 17 inches] and one set as electronic files in a format acceptable to the District):

8.5.1 Construction plans and specifications certified by a registered professional engineer

8.5.2 An analysis prepared by a professional engineer or qualified hydrologist showing the effect of the project on hydraulic capacity and water quality

8.5.3 An erosion control and site restoration plan

8.5.4 Provide a maintenance agreement. A declaration or other recordable instrument stating terms for hydraulic capacity maintenance shall be recorded in the County Recorder's or Registrar's office before activity commences. In lieu of recordation, a public body or project proposer without a property interest sufficient for recordation may assume the maintenance obligation by means of a written agreement. The agreement shall state that, if the ownership of the structure is transferred, the public body shall require the transferee to comply with this requirement.

Lower Minnesota River Watershed District

Black Dog Creek

Kennaley's Creek

Lower Minnesota River Watershed District

Eagan-Inver Grove Heights Watershed Management Organization

Nicols Meadow Fen

Unnamed Stream

Black Dog Lake North Fen

Unnamed Stream

Bloomington

Burnsville

Lower Minnesota River Watershed District

Black Dog Watershed Management Organization

Unnamed Stream

77

35W

Black Dog Lake Fen

13

Burnsville

Eagan

35E

2,000 0 2,000

NORTH

Feet

Scale: 1" = 2,000'

High Value Resource Area (HVRA)

- HVRA Overlay District

MNDNR Publicly Available Data

- Calcareous Fen Point
- Trout Stream
- Trout Pond/Lake

Jurisdictional Boundaries

- Municipal Boundary
- Lower Minnesota River Watershed District
- Riley-Purgatory-Bluff Creek Watershed District
- Black Dog Watershed Management Organization

Minnetonka

Eden Prairie

Area Enlarged

LOWER MINNESOTA RIVER WATERSHED DISTRICT

BURNS McDONNELL

Lower Minnesota River Watershed District
High Value Resources Area
Overlay District Map
1 of 5

Source: MNDNR, MN Geospatial Commons, ESRI, and Burns & McDonnell Engineering Company, Inc.

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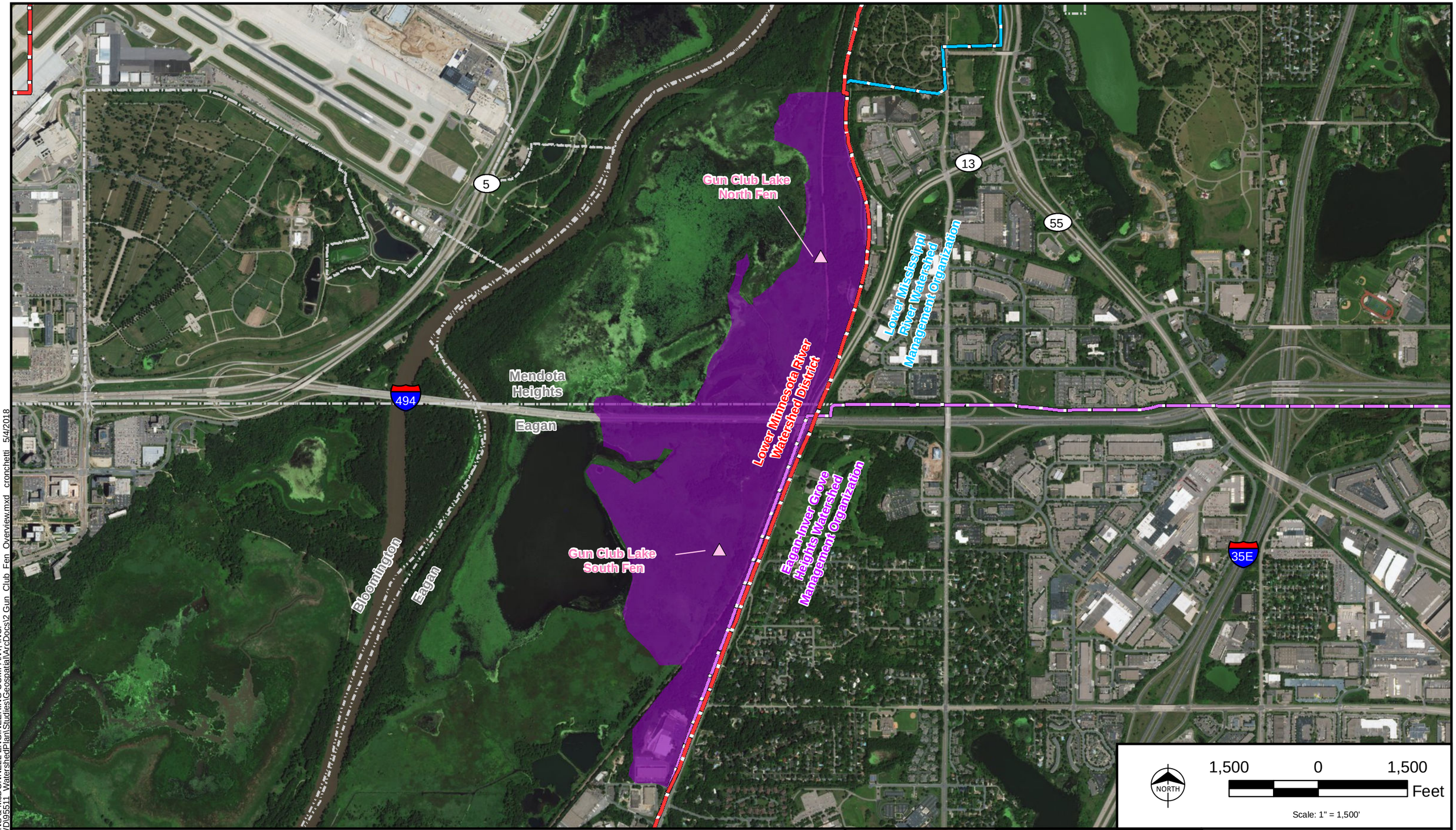
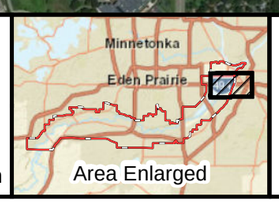


High Value Resource Area (HVRA)
- HVRA Overlay District

MNDNR Publicly Available Data
- Calcareous Fen Point
- Trout Stream
- Trout Pond/Lake

Jurisdictional Boundaries
- Municipal Boundary
- Lower Minnesota River Watershed District
- Riley-Purgatory-Bluff Creek Watershed District
- Lower Mississippi River Watershed Management Organization



LOWER MINNESOTA RIVER WATERSHED DISTRICT

BURNS McDONNELL

Lower Minnesota River Watershed District
High Value Resources Area
Overlay District Map
2 of 5

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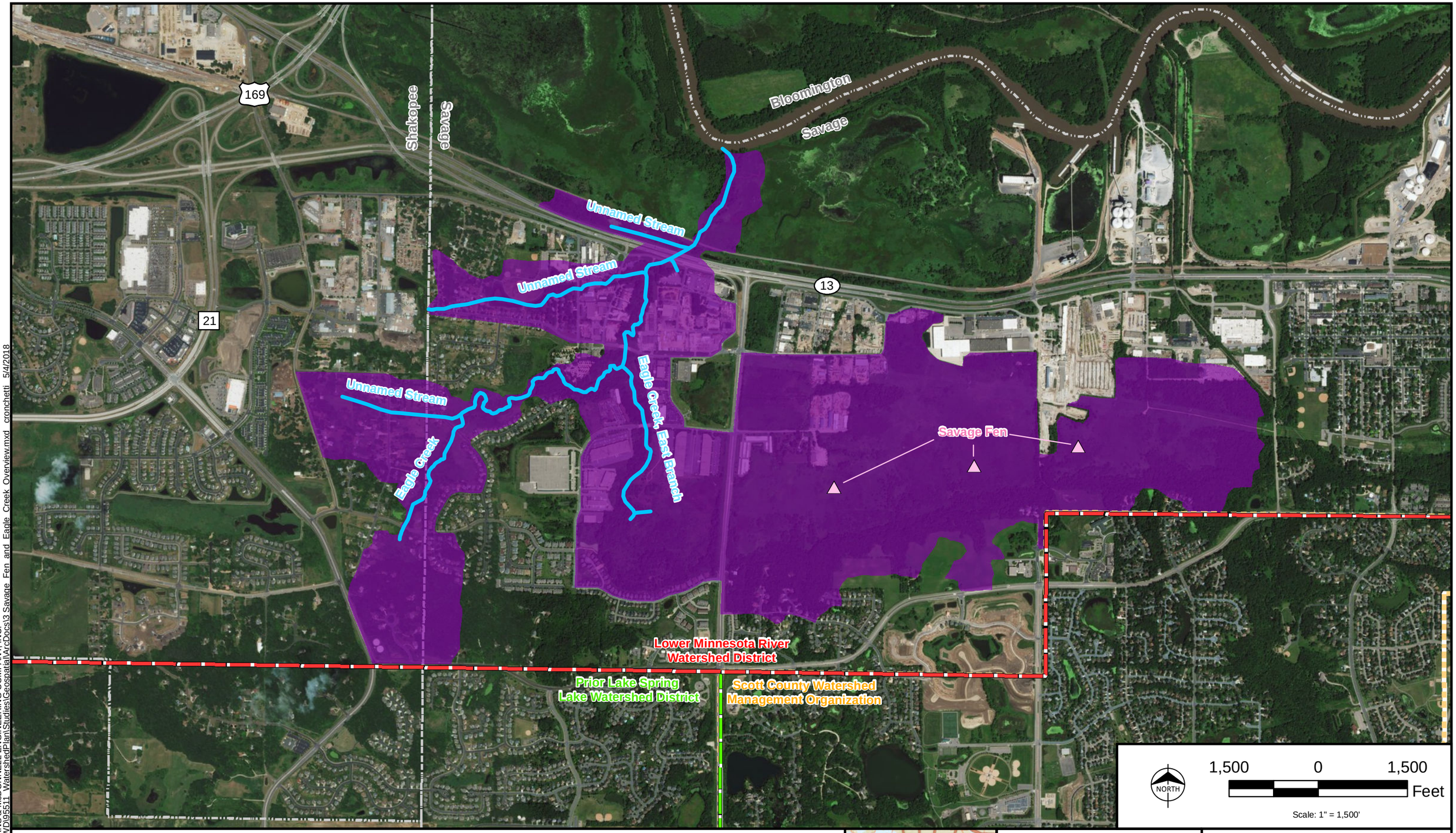
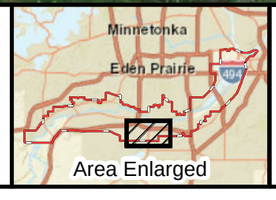


High Value Resource Area (HVRA)
- HVRA Overlay District

MNDNR Publicly Available Data
- Calcareous Fen Point
- Trout Stream
- Trout Pond/Lake

Jurisdictional Boundaries
- Municipal Boundary
- Lower Minnesota River Watershed District
- Prior Lake Spring Lake Watershed District
- Scott County Watershed Management Organization



LOWER MINNESOTA RIVER WATERSHED DISTRICT

BURNS McDONNELL

Lower Minnesota River Watershed District
High Value Resources Area
Overlay District Map
3 of 5

Source: MNDNR, MN Geospatial Commons, ESRI, and Burns & McDonnell Engineering Company, Inc.

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Riley-Purgatory-Bluff Creek Watershed District

Carver County Water Management Organization

212

Riley-Purgatory-Bluff Creek Watershed District

Lower Minnesota River Watershed District

61

101

Seminary Fen

Assumption Creek

Unnamed Stream

Carver County Water Management Organization

Lower Minnesota River Watershed District

Chanhassen

Shakopee

Chaska

Chanhassen

61

1,250 0 1,250 Feet

NORTH

Scale: 1" = 1,250'

High Value Resource Area (HVRA)

HVRA Overlay District

MNDNR Publicly Available Data

Calcareous Fen Point

Trout Stream

Trout Pond/Lake

Jurisdictional Boundaries

Municipal Boundary

Lower Minnesota River Watershed District

Riley-Purgatory-Bluff Creek Watershed District

Minnetonka

Eden Prairie

Area Enlarged

LOWER MINNESOTA RIVER WATERSHED DISTRICT

BURNS McDONNELL

Lower Minnesota River Watershed District
High Value Resources Area
Overlay District Map
4 of 5

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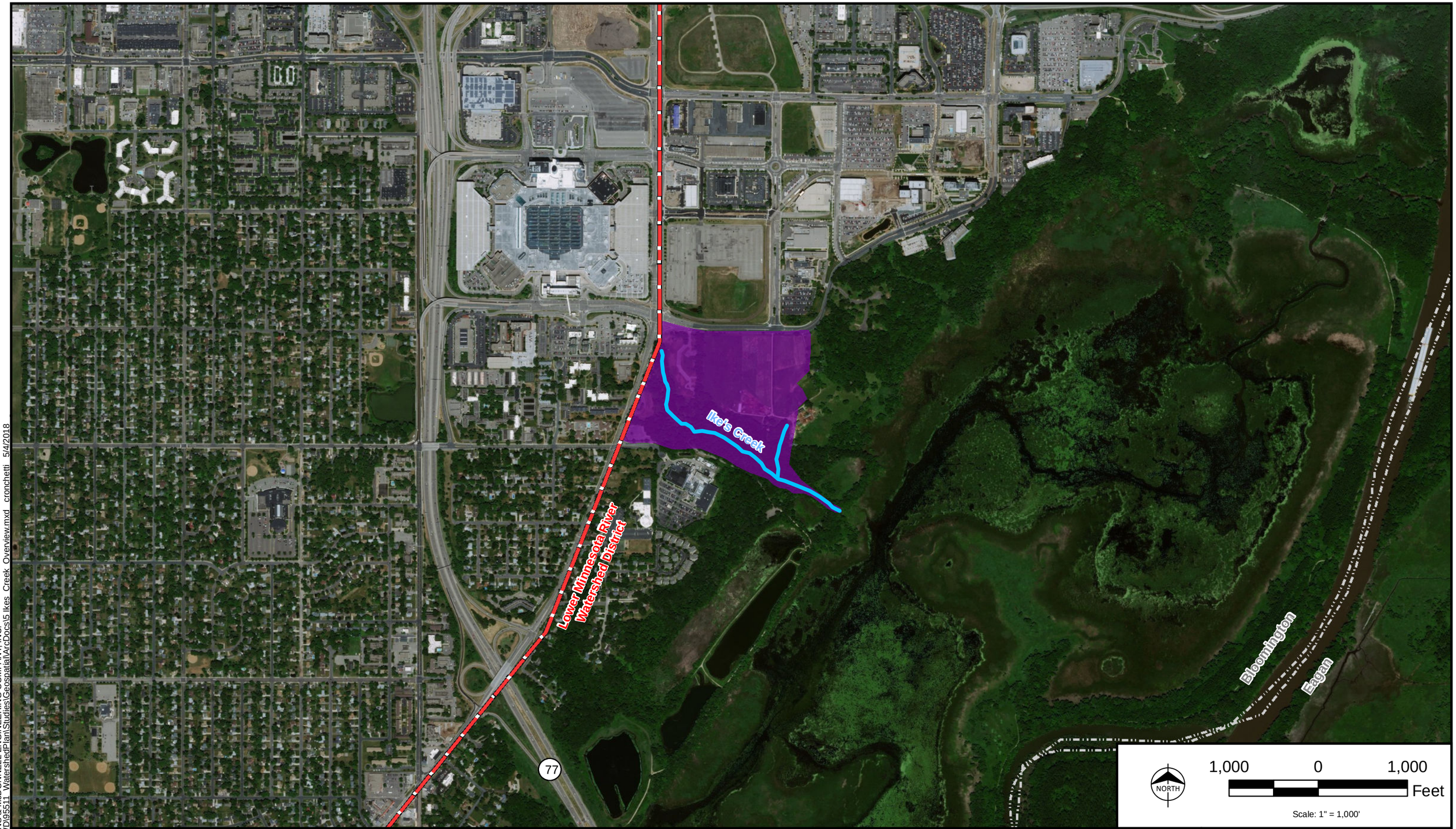

1,000 0 1,000 Feet

NORTH

Scale: 1" = 1,000'

High Value Resource Area (HVRA)
- HVRA Overlay District

MNDNR Publicly Available Data
- Calcareous Fen Point
- Trout Stream
- Trout Pond/Lake

Jurisdictional Boundaries
- Municipal Boundary
- Lower Minnesota River Watershed District

Area Enlarged

LOWER MINNESOTA RIVER WATERSHED DISTRICT

BURNS McDONNELL

Lower Minnesota River Watershed District
High Value Resources Area
Overlay District Map
5 of 5

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Steep Slope

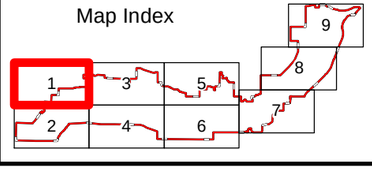
Watershed District Boundary
- Carver County
- Riley-Purgatory-Bluff Creek
- Scott
- Lower MN River

MNDNR Publicly Available Data
- Stream\River
- Impaired River or Stream
- Impaired Lake
- SNA - Fens
- PWI Water
- Trout Stream
- Calcareous Fen Point
- Municipal Boundary

2,000 1,000 0 2,000
Feet

NORTH

Map Index



Lower Minnesota River Watershed District
Steep Slopes Overlay District
1 of 9

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COUNTY ROAD 11
COUNTY ROAD 140
HIGHWAY 212
Brickyard Clayhole
Firemens Clayhole
Chaska East Creek
Courthouse Lake
CHESTNUT ST N
Chaska Creek
CHASKA BLVD
Chaska
Carver
CHESTNUT BLVD
Minnesota River
OLD CARVER RD
JONATHAN CARVER PKWY
4TH ST E
DAHLGREN RD
MAIN ST W
Carver Creek
Sand Creek
Louisville Township
Gifford Lake
Jackson Township
HIGHWAY 169
Shakopee
1ST AVE W
6TH AVE W
10TH AVE W
OLD BRICKYARD RD
ADAMS ST S
APGAR ST S
VIERLING DR W
FULLER ST S
17TH AVE W
KOEPER AVE
COUNTY ROAD 78
130TH ST W
MARYSTOWN RD

Text

Steep Slope

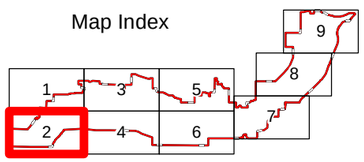
Watershed District Boundary
- Carver County
- Scott
- Lower MN River

MNDNR Publicly Available Data
- Stream\River
- Impaired River or Stream
- Impaired Lake
- SNA - Fens
- PWI Water
- Trout Pond/Lake
- Calcareous Fen Point
- Municipal Boundary

2,000 1,000 0 2,000
Feet

NORTH

Map Index



Lower Minnesota River Watershed District
Steep Slopes Overlay District
2 of 9

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HIGHWAY 212
LYMAN BLVD
RILEY LAKE RD
Lake Riley
GREAT PLAINS BLVD
Riley Creek
DELL RD
BRAXTON DR
PIONEER TRL
EDEN PRAIRIE RD
MITCHELL RD
Red Rock Lake
STARING LAKE PKWY
Staring Lake
Purgatory Creek
COLUMBINE RD
HOMEWARD HILLS RD
PROSPECT RD
SPRING RD
CHARLSON RD
FLYING CLOUD DR
Bluff Creek
Rice Lake
HIGHWAY 101
Chanhassen
Shakopee
Assumption Creek
1ST AVE E
1ST AVE W
4TH AVE E
6TH AVE W
HOLMES ST S
MARSCHALL RD S
SARAZIN ST
EAGLE CREEK BLVD
SHENANDOAH DR
COUNTY ROAD 101
CANTERBURY RD S
VALLEY PARK DR
Eden Prairie
Minnesota River
Fisher Lake Outlet
Fisher Lake

Steep Slope

Watershed District Boundary
- Riley-Purgatory-Bluff Creek
- Scott
- Lower MN River

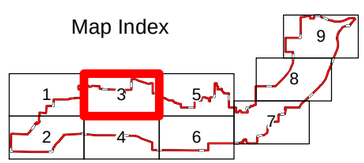
MNDNR Publicly Available Data
- Stream\River
- Impaired River or Stream
- Impaired Lake

- SNA - Fens
- PWI Water
- Trout Stream
- Calcareous Fen Point
- Municipal Boundary

2,000 1,000 0 2,000
Feet

NORTH

Map Index



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Lower Minnesota River Watershed District
Steep Slopes Overlay District
3 of 9

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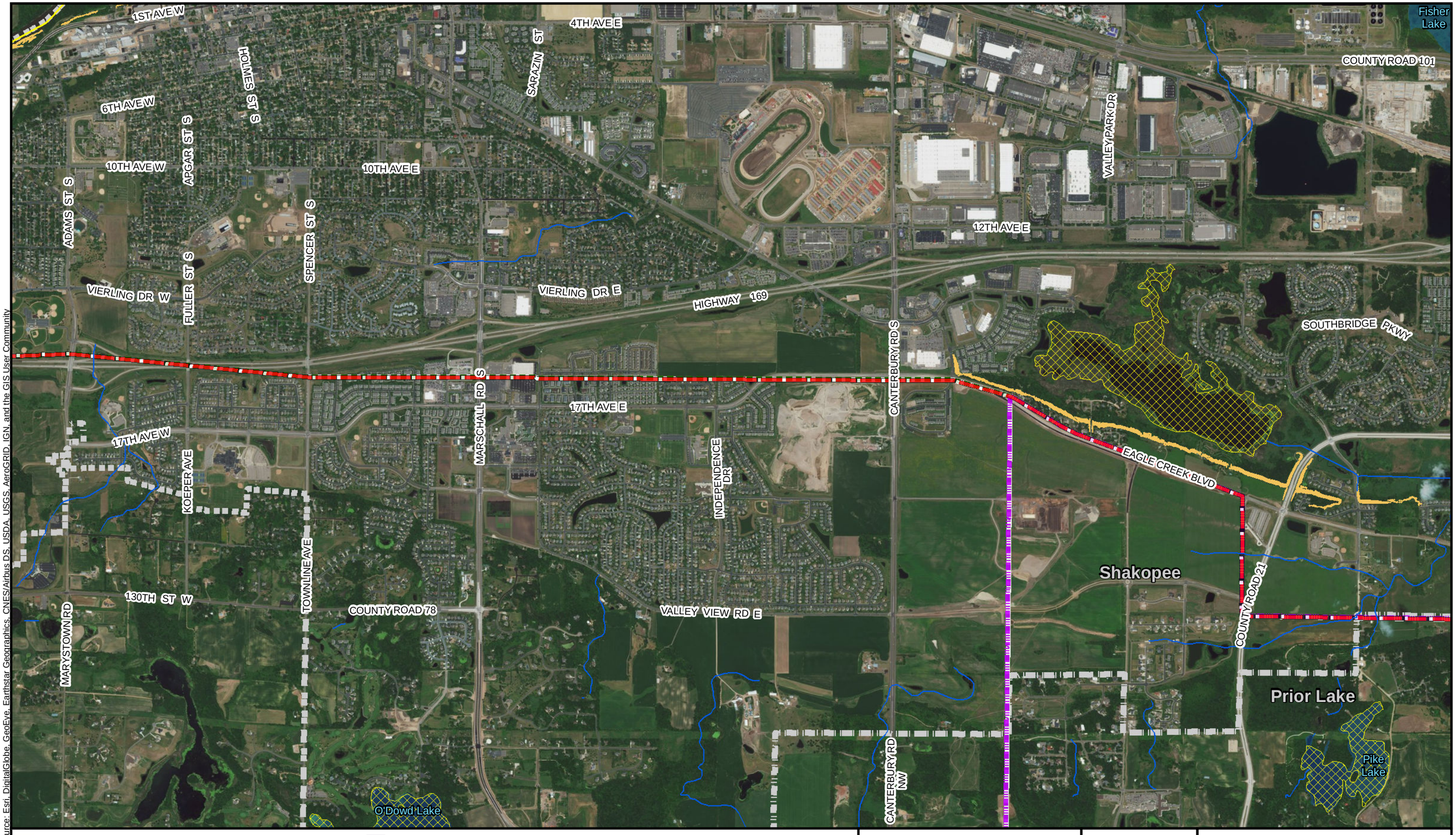


Steep Slope

Watershed District Boundary
- Prior Lake-Spring Lake
- Scott
- Lower MN River

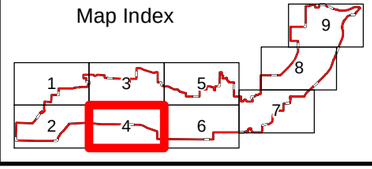
MNDNR Publicly Available Data
- Stream\River
- Impaired River or Stream
- Impaired Lake

- SNA - Fens
- PWI Water
- Calcareous Fen Point
- Municipal Boundary

2,000 1,000 0 2,000
Feet

NORTH

Map Index



Lower Minnesota River Watershed District
Steep Slopes Overlay District
4 of 9

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Steep Slope

Watershed District Boundary
- Riley-Purgatory-Bluff Creek
- Scott
- Lower MN River

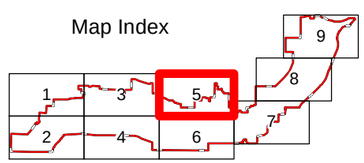
MNDNR Publicly Available Data
- Stream\River
- Impaired River or Stream
- Impaired Lake

- SNA - Fens
- PWI Water
- Calcareous Fen Point
- Municipal Boundary

2,000 1,000 0 2,000
Feet

NORTH

Map Index



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Lower Minnesota River Watershed District
Steep Slopes Overlay District
5 of 9

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Issued: 5/8/2018

Fisher Lake
Fisher Lake Outlet
Savage
NORMANDALE BLVD
OVERLOOK DR
AUTO CLUB RD
Minnesota River
Bloomington
COUNTY ROAD 101
HIGHWAY 169
Credit River
Savage
Burnsville
SOUTHBRIDGE PKWY
Eagle Creek
Eagle Creek
HIGHWAY 13 W
LYNN AVE
Savage Fen
COUNTY ROAD 21
COUNTY ROAD 18
EAGLE CREEK BLVD
WILLIAMS DR
MCCOLL DR
DAKOTA AVE
Prior Lake
Shakopee
Savage
Pike Lake
CREST AVE NE
HIGHWAY 13
GLENDALE RD
BURNSVILLE PKWY W

Steep Slope

Watershed District Boundary
- Black Dog
- Prior Lake-Spring Lake
- Scott
- Lower MN River

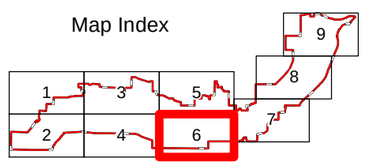
MNDNR Publicly Available Data
- Stream\River
- Impaired River or Stream
- Impaired Lake

- SNA - Fens
- PWI Water
- Trout Stream
- Calcareous Fen Point
- Municipal Boundary

2,000 1,000 0 2,000
Feet

NORTH

Map Index



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Lower Minnesota River Watershed District
Steep Slopes Overlay District
6 of 9

Source:ESRI, MNDNR, Minnesota Geospatial Information Office, Burns & McDonnell Engineering Company, Inc.

Issued: 5/8/2018

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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

OLD SHAKOPEE RD W
106TH ST W
LYNDALE AVE S
FRANCE AVE S
XERXES AVE S
110TH ST W
Ninemile Creek
Ninemile Creek
Black Dog Lake North
CARNELIAN LN
Black Dog Lake
DIFFLEY RD
RAHN RD
NICOLS RD
Bloomington
Minnesota River
INTERSTATE 35W
Black Dog Lake Fen
CLIFF RD E
CLIFF LAKE RD
HIGHWAY 77
CLIFF RD
HIGHWAY 13 E
Eagan
Burnsville
RIVER RIDGE BLVD
CLIFF RD W
DUPONT AVE S
NICOLLET AVE
SLATER RD
126TH ST W
COUNTY ROAD 11
BURNSVILLE PKWY E
INTERSTATE 35E
HIGHWAY 13 W
COUNTY ROAD 5
WILLIAMS DR
BURNSVILLE PKWY W
GALAXIE AVE

Steep Slope

Watershed District Boundary
- Black Dog
- Eagan-Inver Grove
- Scott
- Lower MN River

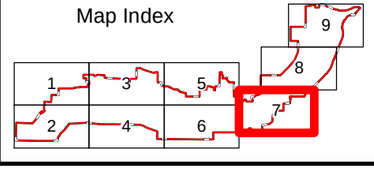
MNDNR Publicly Available Data
- Stream\River
- Impaired River or Stream
- Impaired Lake

- SNA - Fens
- PWI Water
- Trout Stream
- Calcareous Fen Point
- Municipal Boundary

2,000 1,000 0 2,000
Feet

NORTH

Map Index



Lower Minnesota River Watershed District
Steep Slopes Overlay District
7 of 9

Source:ESRI, MNDNR, Minnesota Geospatial Information Office, Burns & McDonnell Engineering Company, Inc.

Issued: 5/8/2018

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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

82ND ST W
86TH ST W
86TH ST E
90TH ST W
90TH ST E
94TH ST W
98TH ST W
98TH ST E
102ND ST W
102ND ST E
106TH ST W
LINDAU LN
24TH AVE S
28TH AVE S
34TH AVE S
OLD CEDAR AVE S
OLD SHAKOPEE RD E
LYNDALE AVE S
NICOLLET AVE S
PORTLAND AVE S
INTERSTATE 35W
HIGHWAY 77
Oxboro Lake
Bloomington
Eagan
Burnsville
Black Dog Lake
Black Dog Lake North
Minnesota River
Black Dog Creek
Kennaley's Creek
Nicols Meadow Fen
Gun Club Lake
Gun Club Lake South
HIGHVIEW AVE
LONE OAK RD
SIBLEY MEMORIAL HWY
FOUR OAKS RD
COACHMAN RD
YANKEE DOODLE RD
BLUE CROSS RD
ASHBURY RD
HIGHWAY 13 E
BLACKHAWK RD
Blackhawk Lake
SILVER BELL RD
NICOLS RD
RAHN RD
INTERSTATE 35E
DEERWOOD DR
CARNELIAN LN

Steep Slope

Watershed District Boundary
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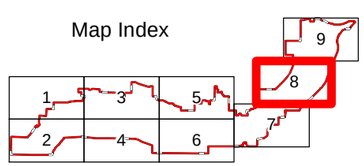
Feet

NORTH

Map Index



Lower Minnesota River Watershed District
Steep Slopes Overlay District
8 of 9

Source:ESRI, MNDNR, Minnesota Geospatial Information Office, Burns & McDonnell Engineering Company, Inc.

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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Steep Slope

Watershed District Boundary
- Eagan-Inver Grove
- Lower MS River
- Scott
- Lower MN River

MNDNR Publicly Available Data
- Stream\River
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- SNA - Fens
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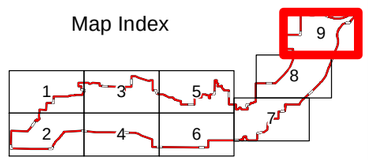
2,000 1,000 0 2,000
Feet

NORTH

Map Index



Lower Minnesota River Watershed District
Steep Slopes Overlay District
9 of 9

Source:ESRI, MNDNR, Minnesota Geospatial Information Office, Burns & McDonnell Engineering Company, Inc.

Issued: 5/8/2018

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 6. D. - 2019 Legislative Action

Prepared By
Linda Loomis, Administrator

Summary
As reported under Item 6.B. the Lower Minnesota River Watershed District is included in the base funding request for BWSR in the House Environmental and Natural Resource Omnibus Bill (HF2209 line 36.15). We were not aware of this and when we saw this, Lisa Frenette, Lobbyist for the LMRWD, spoke to BWSR. They were not aware of it until it showed up in the Bill. When we went back to look at the language that was passed in 2017 (you may remember that was the year of a special session), it was noted that the 2017 legislation language did not indicate that this was a one-time appropriation. When we discovered this, we requested that the bill we had introduced be pulled. We did this the morning the bill was to be introduced in the Senate Environmental and Natural Resource Finance Committee.

Since then, amount was reduced in the Senate Environment and Natural Resource Omnibus Bill (SF2314 line 34.7). Lisa will be working with the authors of the Bill that we had pulled to make sure the amount is reinstated.

We have also been looking for legislation to clean up the Freeway Landfill in Burnsville. Most of the attention on landfill clean has been focused on Anoka County. There seems to be some reluctance by the state to deal with the Freeway site.

The most recent summary from MAWD about other legislation that would impact watershed District's is attached

Attachments
MAWD Legislative Update 2019-04-12

Recommended Action
No recommend action

Legislative Update: April 12, 2019

MN Association of Watershed Districts

What happened this week (April 8-12)?

- The Senate released their **Senate Environment and Natural Resources Omnibus Bill** (SF2314) that includes both policy and finance provisions. A walk through of the bill was completed on Tuesday. Testimony from state agencies and other interested parties began on Tuesday. On Wednesday, testimony continued, and several amendments were introduced and considered. Here are some highlights of the bill:
  - Includes our **coordinated watershed management (SF1063), per diem (SF2451), and carp (SF1677) bills**.
  - The committee cut 25% ($57M) from the Governor's environment and natural resources budget.
  - Proposed cuts (over the biennium) to the MN Board of Water and Soil Resources (BWSR) include $2.896M for general operations, $1.522M for Wetland Conservation Act Enforcement, $332k to Drainage Work Group Technical Assistance, $800k for Natural Resource Block Grants, $2M for Soil and Water Conservation District (SWCD) Service Grants, $400k to SWCD Cost-Share Grants, $200k for County Weed Management Cost-Share Grants, and $230k for MN River Dredge Spoil.
  - Since the House's budget for environment and natural resources budget is drastically different, the two bodies will meet in conference committee to settle the differences. Stay tuned!
- The Senate released a revised **Senate Legacy Omnibus Bill** (SF 836) with several changes to the recommendations of the Clean Water Council's for Clean Water Fund appropriations. The biggest change included a new $24M allocation for SWCD Administrative Grants. Cuts were taken from other programs, but it should be noted that no BWSR programs will receive less money that the amounts allocated in FY18-19.
- The Senate Taxes Committee heard our **Project Levy Bill**.
- The House Legacy Finance completed their work on their **House Legacy Omnibus Bill** (HF 653)

What's happening next week (April 15-19)?

- Nothing! The legislature will be on recess and will return Tuesday, April 23rd. The MAWD office will also be closed during this time.

If you want to follow along with specific bills we are tracking, see below for links and more details. You can also find handouts for some issues on our website: www.mnwatershed.org/policy-issues. Note: the newest details are highlighted in yellow.

BILL TRACKING – MAWD's Top Legislative Priorities

INCREASE GENERAL FUND LEVY LIMIT — MN Statute § 103D.905 subd. 3

Remove (or increase) the $250,000 general fund levy limit while keeping the not-to-exceed levy limit of 0.048 percent of estimated market value.

- Initially, the bill was drafted to eliminate the cap. It has been redrafted to raise the cap from $250k to $500k.
- We have been told in both the House and Senate that they will not be hearing general levy bills this session.

ALLOW PROJECT LEVIES FOR ALL TYPES OF GRANTS — MN Statute § 103D.905 subd. 5, 9

Modify the project tax levy statute to allow this funding option to be applied for ALL types of state and federal grants, not just grants (and loans) associated with the Clean Water Partnership (CWP) program.

- HF 2275 WD construction or implementation fund and project tax levy financing sources expanded
  - House Authors: Jeanne Poppe, Dave Baker
  - 3/07/19 Referred to **Taxes** committee
- SF 1391 WD construction or implementation fund and project tax levy sources of financing expansion
  - Senate Authors: Andrew Lang, Dan Sparks, Kent Eken, Mark Johnson, Bill Weber
  - 2/18/19 – Referred to **Environment and Natural Resources Policy and Legacy Finance** committee.
  - 3/11/19 – Hearing held in **ENR-PLF** committee. Thank you to Middle Fork Crow River WD for testifying!
  - 3/13/19 – Bill re-referred to the **Taxes** committee
  - 4/11/19 – Hearing held in the **Taxes** committee. MAWD testified. Bill was laid over for possible inclusion in the omnibus bill.

INCREASE OUTSTANDING LOAN LIMITS FOR WDs MN Statute § 103D.335 subd. 17

Remove (or increase) the $2M limit on outstanding loans watershed districts, especially for those entities that serve as drainage authorities.

- After further review of this proposal, the borrowing limit does not appear to pertain to 103E drainage projects. MAWD will continue to find clarity on the issue, but for now the MAWD Board of Directors has removed this issue from needing legislative attention and resources.

IMPROVE COORDINATION OF STATE/LOCAL WATERSHED PLANS MN Statutes 114D and 103B

Improve coordination and remove duplicative efforts of water management planning that is being conducted at both the local and state levels.

- HF 875 Clean Water Legacy Act modified and coordinated watershed management provided for.
  - House Authors: Peter Fischer, Paul Torkelson, John Poston, Jeff Brand
  - 2/07/19 – Referred to **Environment and Natural Resources Policy (ENR-P)** committee
  - 2/13/19 – Hearing in **ENR-P** committee. MAWD testified.
  - 2/13/19 – Bill referred to the **Ways and Means** committee
  - 2/14/19 – Bill referred to **Environment and Natural Resources Finance (ENR-F)** committee
  - 2/19/19 – Bill referred to **Water Division** committee
  - 2/25/19 – BWSR, MPCA, and MAWD presented information about the bill to the Clean Water Council.
  - 2/25/19 – Hearing in the **Water Division**. MAWD testified.
  - 2/25/19 – Bill returned to **ENR-F** committee
  - 3/18/19 – An amended version of this bill showed up in the Clean Water Fund appropriations bill (HF1928). Changes to the bill included more references to drinking water.
  - 3/19/19 – Hearing in the **ENR-F** committee. Bill was held over for possible inclusion in the omnibus bill.
- HF 1928 Clean Water fund funding provided, and money appropriated.
  - House Author: Rick Hansen, Leon Lillie
  - 3/19/19 – Amended and sent to **Ways and Means**
  - 3/20/19 – Referred to the **Legacy Finance Division**
  - 4/03/19 – Hearing in the **Legacy Finance Division**
- SF 1063 Clean Water Legacy Act modification; coordinated watershed management establishment
  - Senate Authors: Mark Johnson, Carrie Ruud, Charles Wiger
  - 2/11/19 – Referred to **Environment and Natural Resources Policy and Legacy Finance (ENR-PLF)** committee
  - 2/25/19 – Hearing in the **ENR-PLF** committee. MAWD testified.
  - 2/25/19 – Bill was laid over for possible inclusion in the omnibus bill.
  - 3/21/19 – Bill showed up in the omnibus bill (SF835)
- SF 835 Omnibus Environment Policy Bill
  - Senate Authors: Carrie Ruud, Bill Weber, Bill Ingebrigtsen, Erik Simonson, Kari Dziedzic
  - 3/21/19 – Referred to **ENR-PLF** committee
  - 3/25/19 – Hearing scheduled in the **ENR-PLF** committee.
  - 3/25/19 – Bill was amended and referred to **Environment and Natural Resources Finance** committee

- 4/08/19 – Bill showed up in Senate Environment Policy and Finance Omnibus Bill (SF836)

REINFORCE RIGHTS TO MAINTAIN 103E PUBLIC DRAINAGE SYSTEMS — MN Statute 103E

Reinforce existing rights to maintain/repair drainage systems that operate under **MN Statute 103E**.

- 1/30/19 – Meeting held with DNR to discuss concerns about implementation of the February 2018 guidance document that explained when the DNR had public waters authority over work done in public drainage systems. Javens, Bohn, Rice Creek WD and the Red River Watershed Management Board attended.
- 2/28/19 – Meeting held with DNR to discuss legislation that we drafted to clarify several 103E statute provisions dealing with repair and maintenance work. MAWD and Rice Creek WD attended.
- DNR is currently reviewing our bill and parties have struggled to find a common meeting time to discuss further.

INCREASE MANAGER COMPENSATION (PER DIEMS) — MN Statute § 103D.315 subd. 8

Increase maximum daily manager per diem rates from $75/day to $125/day.

- HF 1837 Soil and water conservation district supervisor and WD manager compensation increased.
  - House Authors: Rick Hansen
  - 2/28/19 – Referred to **Environment and Natural Resources Policy (ENR-P)** committee
- SF 2451 Soil and water conservation district supervisor and watershed district manager compensation increase
  - Senate Authors: Bill Ingebrigtsen, Kent Eken, Dan Sparks, Mark Johnson
  - 3/14/19 – Referred to **Environment and Natural Resources Policy and Legacy Finance (ENR-PLF)**
- MAWD is exploring options for expanding the activities that would be eligible for per diems. For instance, watersheds may be allowed to pay a per diem for meeting prep. More details will come.

REMOVE FISHING MONOPOLY ON COMMON CARP — MN Statute § 97C.815 subd. 2

Remove the area assignments for commercial fishing when removing invasive species, including common carp.

- HF 1882 Commercial fishing areas restrictions to provide invasive species control modified
  - House Authors: Connie Bernardy, Tony Albright, Josh Heintzeman, Kelly Moller, Mary Kunesh-Podein, Todd Lippert (new)
  - 2/28/19 – Referred to **Environment and Natural Resources Policy (ENR-P)** committee
  - 3/14/19 – Hearing held and the bill was passed to the General Register for a floor vote.
- SF 1677 Commercial fishing areas restrictions modification for invasive species control
  - Senate Authors: Eric Pratt, Carrie Ruud, John Hoffman, Rich Draheim
  - 2/25/19 – Referred to **ENR-PLF** committee
  - 3/04/19 – Hearing in the **ENR-PLF** committee. Prior Lake – Spring Lake WD testified.
  - 3/04/19 – Bill was laid over for possible inclusion in the omnibus bill.
  - 3/21/19 – Bill showed up in the omnibus bill (SF835)
- SF 835 Omnibus Environment Policy Bill
  - Senate Authors: Carrie Ruud, Bill Weber, Bill Ingebrigtsen, Erik Simonson, Kari Dziedzic
  - 3/21/19 – Referred to **ENR-PLF** committee
  - 3/25/19 – Hearing in the **ENR-PLF** committee. See section 35 (page 26).
  - 3/25/19 – Bill was amended and referred to **Environment and Natural Resources Finance** committee
  - 4/08/19 – Bill was included in the environmental finance omnibus bill (SF2314)

BILL TRACKING – Legislative Efforts We Support

FLOOD HAZARD MITIGATION PROGRAM — CAPITAL BUDGET BILL (BONDING BILL)

This bill appropriates $75M to the flood hazard mitigation grant program. Note: the Governor did not include funding in his budget for this program.

- HF 2431 Multi-county flood hazard mitigation grant funding provided, bonds issued, and money appropriated.
  - House Authors: Ben Lien, Dan Fabian, Jeanne Poppe, Debra Kiel, Paul Marquart
  - 3/13/19 – Referred to **Ways and Means**

- 3/13/19 – Referred to **Capital Investment Division**
- 3/20/19 – Hearing in the **Capital Investment Division.** Bill was unofficially laid over for possible inclusion in an omnibus bill.

- SF 2450 Flood hazard mitigation grants bond issue and appropriations
  - Senate Authors: Mark Johnson, Kent Eken, Dan Sparks, Bill Weber
  - 3/14/19 – Referred to **Capital Investment Committee**

PROVIDE PROTECTIONS TO COMMERCIAL SALT APPLICATORS — MN Statute 116.2025

Provide limited liability protections for trained commercial salt applicators.

- HF 1502 Salt applicator certification program established, and liability limited.
  - House Authors: Peter Fischer, Rick Hansen, Paul Torkelson, Heather Edelson, Josh Heintzeman, Kelly Moller, Alice Hausman, Robert Bierman
  - 2/21/19 – Referred to **Environment and Natural Resources Policy (ENR-P)** committee
  - 2/28/19 – Bill re-referred to the **Ways and Means** committee
  - 2/28/19 – Bill referred to **Environment and Natural Resources Finance (ENR-F)** committee
  - 3/01/19 – Bill referred to **Water Division** committee
  - 3/06/19 – Hearing in the **Water Division**, returned to **ENR-F** committee
  - 3/12/19 – Hearing in the ENR-F committee. Bill was amended and returned to **Ways and Means**.
  - 3/13/19 – Bill referred to with a request to re-refer to **Judiciary Finance and Civil Law Division**.
  - 4/03/19 – Hearing scheduled in **Judiciary Finance and Civil Law Division**
- SF 1667 Certified salt applicator program establishment
  - Senate Authors: Carrie Ruud, Paul Anderson, Bill Ingebrigtsen, David Tomassoni, Dan Hall
  - 2/25/19 – Referred to **ENR-PLF** committee

From Sue Nissen, Stop Over Salting: "HF1502 passed the Judiciary & Civil Law Committee last Wednesday. At week end it was added to Representative Hanson's Environment & Natural Resources Omnibus Bill and sent back to Ways & Means. My understanding is the bill will remain there, kind of a little siesta, until conference committee time.

Senator Ruud won't have time to hear the salt bill as a stand-alone bill on the Senate side. However, since it's included in the House environment bill, she will accept House language in the conference committee."

DRAINAGE WORK GROUP BILL — MN Statute 103E

This legislation is the output of recommendations made by the Drainage Work Group.

- HF 1244 Public drainage system acquisition and compensation of ditch buffer strips accelerated, and runoff and sediment option provided when charging for public drainage ditch repairs.
  - House Authors: Rick Hansen, Paul Torkelson
  - 2/14/19 – Referred to **Environment and Natural Resources Policy (ENR-P)** committee
  - 2/27/19 – Hearing in **ENR-P** committee.
  - 2/27/19 – Bill was passed out of committee and sent to the General Register.
  - 3/04/19 – Committee report to adopt as amended (with only minor grammatical changes)
  - 3/04/19 – Second reading
  - 3/07/19 – House Rule 1.21, placed on the Calendar for the Day Monday, March 11, 2019
  - 3/11/19 – Bill was passed and sent to the Senate.
- SF 1945 Ditch buffer strips public drainage system acquisition and compensation acceleration; runoff and sediment option under charges for public drainage ditch repairs provision
  - Senate Authors: Bill Weber, Kent Eken
  - 2/25/19 – Referred to **ENR-PLF** committee
  - 3/11/19 – Hearing held. Bill was recommended to pass and be re-referred to **Judiciary and Public Safety Finance and Policy (JPS-FP)** Committee.
  - 3/13/19 – Referred to **JPS-FP** Committee.
  - 3/13/19 – Bill was received from the House and given its first reading.

- 3/20/19 – Hearing in **JPS-FP** Committee. Bill was amended to include a 5-year sunset provision and passed to the General Register for a floor vote.
- 3/21/19 – Bill turned up in the omnibus environmental policy bill (SF835).

- SF 835 Omnibus Environment Policy Bill
  - Senate Authors: Carrie Ruud, Bill Weber, Bill Ingebrigtsen, Erik Simonson, Kari Dziedzic
  - 3/21/19 – Referred to **ENR-PLF** committee
  - 3/25/19 – Hearing in the **ENR-PLF** committee. DWG recommendations are in section 1 (page 1) and section 42 – 47 (pages 32-36)
  - 3/25/19 – Bill was amended and referred to **Environment and Natural Resources Finance** committee

CLEAN WATER FUND

This bill allocates where Clean Water Funds will be spent. This bill (as introduced) matches the recommendations of the Clean Water Council.

- HF 1928 Clean Water fund funding provided, and money appropriated.
  - House Author: Rick Hansen
  - 3/04/19 – Referred to the **Ways and Means** committee
  - 3/04/19 – Referred to **Environment and Natural Resources Finance (ENR-F)** committee
  - 3/07/19 – Hearing in **ENR-F** committee. Bill was laid over for future consideration.
  - 3/21/19 – Hearing held in the **ENR-F** committee. Bill included changes to the recommendations laid out by the Clean Water Council. For a complete list of changes, you can review a **spreadsheet** or the **bill amendment language.**
  - 4/03/19 – Hearing scheduled in **Legacy Finance Division**.
- SF 2262 Clean water fund appropriations
  - Senate Authors: Chris Eaton, Erik Simonson, Steve Cwodzinski, David Senjem, Patricia Torres Ray
  - 3/11/19 – Referred to **Environment and Natural Resources Policy and Legacy Finance (ENR-PLF)**
  - 3/13/19 – Bill combined with other legacy finance bills and can now be found in SF 2444.
- SF 2444 Clean water fund, parks and trails and arts and cultural heritage fund appropriations
  - Senate Authors: Carrie Ruud
  - 3/13/19 – Referred to **Environment and Natural Resources Policy and Legacy Finance (ENR-PLF)**
  - 3/25/19 – Hearing scheduled in the **ENR-PLF** committee. (Bill was not heard.)
  - 3/27/19 – Hearing scheduled in the **ENR-PLF** committee.
  - 3/27/19 – Bill was laid over for possible inclusion in the omnibus bill.

BILL TRACKING – Bills We Oppose

DEVELOPER'S BILL — MN Statute 103D

A bill brought to legislators by developer Mark Lambert, along with a coalition of other interested parties that would modify MN Statute 103D to protect preexisting water rights when developing land. They propose doing this by limiting the ability for watershed district managers to adopt and enforce several types of rules. MAWD met with several legislators in anticipation of this bill being introduced. Efforts to stop this bill will continue.

- HF 1887 Watershed district provisions modified
  - House Authors: Josh Heintzeman, Peggy Scott
  - 2/28/19 – Referred to **Environment and Natural Resources Policy (ENR-P)** committee
  - 3/15/19 – This bill missed the first and second committee deadlines.
- SF 1766 Watershed districts provisions modifications
  - Senate Authors: Rich Draheim, Michael Goggin
  - 2/27/19 – Referred to **Environment and Natural Resources Policy and Legacy Finance (ENR-PLF)**
  - 3/15/19 – This bill missed the first and second committee deadlines.
  - 3/28/19 – MAWD met with Senator Draheim to discuss the bill.

RICE CREEK WD SPENDING IN WASHINGTON COUNTY — MN Statute 103D.951 (new)

This bill dictates that at least 90% of funds collected from Washington County must be spent in Washington County.

- HF 2314 Washington County; Rice Creek Watershed District spending and reporting requirements provided.
  - House Authors: Peter Fischer, Bob Dettmer
  - 3/14/19 – Referred to the **Ways and Means** committee
  - 3/14/19 – Referred to **Environment and Natural Resources Finance (ENR-F)** committee
- SF 2372 Rice Creek watershed district spending and reporting requirements provision
  - Senate Authors: Karin Housley, Chuck Wiger (new)
  - 3/13/19 – Referred to **Environment and Natural Resources Policy and Legacy Finance (ENR-PLF)**

BILL TRACKING – Bills We Are Watching

WMO and WD PLANNING MODIFICATIONS BILL — MN Statute 103B, 103D

This bill would require water management organizations (WMOs) and watershed districts (WDs) to slow the movement of water to protect surface waters and recharge groundwater resources. It was written by Representative Jean Wagenius without any input from watershed entities.

- HF 2011 Watershed management organizations planning requirements modified, and watershed districts modified.
  - House Authors: Jean Wagenius, Peter Fischer, Rick Hansen, Steve Sandell
  - 3/04/19 – Referred to **Environment and Natural Resources Policy (ENR-P)** committee
  - 3/13/19 – Hearing in the **ENR-P** committee. MAWD testified with concerns on some of the language and will share our concerns in more depth with the author before the next committee hearing.
  - 3/14/19 – Re-referred to **Ways and Means** committee
  - 3/15/19 – Referred to **Environment and Natural Resources Finance (ENR-F)** committee
  - 3/20/19 – Hearing scheduled in **ENR-F** committee. MAWD testified with concerns regarding the bill.
  - 3/20/19 – Bill was laid over for possible inclusion in the omnibus bill.
- There is no companion bill in the Senate.

ONE STATE WATER DEPARTMENT — MN Statute 103A

This bill would combine the functions of BWSR, EQB, and water-related responsibilities of other state agencies into one new state water department.

- There is no companion bill in the House, but the House members on the Legislative Water Commission indicated support for this idea and noted they would introduce a bill soon and they hope to discuss it over the summer.
- SF 2102 Water resources department establishment; board of water and soil resources (BWSR) and environmental quality board (EQB) abolishment
  - House Authors: Rich Draheim, Charles Wiger, Chris Eaton, Bill Weber, Mark Koran
  - 3/07/19 - Referred to **Environment and Natural Resources Policy and Legacy Finance (ENR-PLF)**
  - 3/18/19 – Bill was on the agenda to be discussed during the Legislative Water Commission (LWC) meeting. No house members were present because they were still meeting on the floor, so discussion was limited.
  - 4/01/19 – Bill on the agenda at the LWC meeting.

For errors or omissions, please contact Emily Javens at emily@mnwatershed.org.

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 6. E. - Education & Outreach

Prepared By
Linda Loomis, Administrator

Summary
There are two opportunities in May for the District to take advantage of. May 4th, Eden Prairie is holding its Annual Arbor Day Walk/Green Fair and the LMRWD has been invited to have a table to speak with residents. The event runs from 9:00am to 12:00 noon. Managers are invited to staff the table and meet with residents to answer questions about the LMRWD.

The second opportunity is May 18th. The city of Bloomington has invited the LMRWD to be a part of its Public Works Open House. This event runs from 9:00am to 12:00 noon and will give the LMRWD the opportunity to meet with residents of the City of Bloomington. Again, Managers are welcome to help staff the table.

If any Managers are able to staff the table, please let me know.

Attachments
Eden Prairie Arbor Day Walk/Green Fair flyer

Recommended Action
No recommended action

Arbor Day Walk and Green Fair

Celebrate Arbor Day with a walk around Round Lake, and check out a variety of green-themed vendors and activities.

- Concessions
- Family Activities
- Free Seedlings
- Native Plant Vendors and Information
- Renewable Energy Information
- Tree Health Information
- Story Stroll
- Pop-up Library

EDEN PRAIRIE
LIVE • WORK • DREAM

Saturday, May 4
9 a.m.–noon
Round Lake Park
16691 Valley View Road

Minnesota Society of Arboriculture Tree Climbing Championship

Saturday, May 4	Sunday, May 5
8 a.m.–4 p.m.	10 a.m.–4 p.m.

Event details at msa-live.org/events/tcc

edenprairie.org/Calendar

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 6. F. LMRWD Projects

Prepared By
Linda Loomis, Administrator

Summary

i. **Eden Prairie Area #3 Stabilization**
This is an area at RMP (River Mile Post) 19.2 that has seen significant erosion at the toe of the bluff. The LMRWD installed inclonometers in the bluff to measure movement of the bluff. Braun Intertech takes annual readings from the inclonometers (which the LMRWD shares with the city of Eden Prairie). Braun was out to take readings in February. One of the inclinometers had an ice plug in it such that we could not lower the probe could not be lowered. They will go out once the ground has thawed sufficiently to get readings. Braun was able to get a reading from the second meter, which measured little to no movement.

ii. **Riley Creek Cooperative project/Lower Riley Creek restoration**
No new information to report since last update

iii. **Seminary Fen ravine stabilization project**
No new information to report since last update

iv. **East Chaska Creek (Carver County Watershed Based Funding)**
Staff prepared a task order for the East Chaska Creek Project. It was in the meeting packet at the February meeting however, staff neglected to get Board approval of the task order. It is in the packet again this month.

v. **Schroeder Acres Park (Scott County Watershed Based Funding)**
Staff is developing a cooperative agreement between the City and the LMRWD

vi. **Shakopee Downtown BMO Retrofit (Scott County Watershed Based Funding)**
Staff is developing a cooperative agreement between the City and the LMRWD

vii. **PLOC (Prior Lake Outlet Channel) Restoration (Scott County Watershed Based Funding)**
Staff is developing a cooperative agreement between the City and the LMRWD

viii. **Dakota County Fen Gap Analysis and Conceptual Model (Dakota County Watershed Based Funding)**
The agreement between the LMRWD and Dakota County SWCD was on the consent agenda. Now that the agreement is in place, staff will contact the DNR to begin work on the gap analysis.

ix. Hennepin County Chloride Project (Hennepin County Watershed Based Funding)

Riley/Purgatory/Bluff Creek Watershed District, Nine Mile Creek Watershed District, Richfield/Bloomington Water Management Organization and the LMRWD pooled our allocations of Watershed Based Funding from Hennepin County to focus on Chloride reduction. Representatives from each of the organizations met in mid-March and will meet again April 16th. At the March meeting we agreed that we should develop a joint powers or similar agreement and brainstormed some of the uses of funds. It was agreed that sending city staff to training would qualify for funding. We also discussed reaching out to property managers of some of the larger land uses, such as shopping malls (Eden Prairie Center) and churches to offer training for winter maintenance.

x. Vegetation Management Plan

Staff has developed a draft and is preparing a 1-2 page executive summary that is more user friendly, since the target audience for the Vegetation Management Plan is the public.

xi. Sustainable Lake Management Plan - Trout Lakes

No new information to report since last update.

xii. Geomorphic Assessment of Trout Streams

Interns are in place to begin assessment of Trout Streams within the LMRWD. Interns will undergo a week of training in conjunction with training done by Riley/Purgatory/Bluff Creek Watershed District.

xiii. Spring Creek Cost Share

At the February Board meeting it was reported that Carver SWCD was contacted by additional property owners impacted by erosion from Spring Creek and that staff was trying to work with the city to determine the best course of action for managing erosion on Spring Creek. The city is reluctant to get involved with any bank stabilization as it involves work on private property.

The Carver SWCD prepared plans to stabilize the bank. LMRWD staff determined that moving forward on these projects without evaluating the entire watershed does not offer the best cost/benefit for the LMRWD.

A task order detailing the scope of work a study would consider is attached. The Board should make a motion to authorize the study as detailed in the

xiv. **West Chaska Creek Re-meander**

The Carver WMO has informed the LMRWD that it is ready to bid phase 1 of the project. Staff is developing a cooperative agreement between the City and the LMRWD

Attachments

Spring Creek Task Order

Recommended Action

Motion to authorize Spring Creek Task Order

Young Environmental Consulting Group, LLC

Technical Memorandum

Date: April 12, 2019 *(Email transmittal)*

To: Linda Loomis, Administrator

From: Della Schall Young, PMP, CPESC

Subject: Spring Creek Assessment Project Task Order

Two properties in the Carver, Minnesota, which are adjacent to the creek, are experiencing erosion and damages resulting from the encroachment of Spring Creek and an adjacent project. The District has asked the Young Environmental Consulting Group (LLC) team, which includes Barr Engineering Co., to complete an initial assessment of the site and provide recommendations to the District that can be forwarded to the property owners for next steps. The following is the scope of work.

An additional optional task has been provided based on the current understanding of the project. If this optional task and other additional tasks are required, the scope of work and budget may need to be reevaluated.

Task 1: Site visit and background information

We will visit the site to document the current state of the eroding bank; assess the extent of erosion present; and, if possible, determine the cause of erosion. We will take photos and estimate the height and length of erosion sites. We will contact the landowners prior to the visit to schedule a time to meet on-site. We will also contact the City and/or the USACE to inquire about background information on the project installed on the adjacent property.

Deliverable: A summary of observations and data collected will be included in a summary memorandum

Cost: $ 3,200

Task 2: Summary memorandum

We will draft a memorandum to summarize the observations made during the site visit and recommendations the District can provide to the landowners for next steps. The memorandum will also include a discussion regarding prefeasibility concept plans and cost estimates that could be explored for stabilizing the eroding area. We will provide a draft report to the District to review and will incorporate comments into a final memorandum, which will be delivered in PDF format.

Deliverable: Draft and final summary memorandum

Cost: 4,350

Task 3: Concept plan and cost estimate (Optional)

We will develop one (1) concept for stabilizing the eroding bank. This will include the concept plan in GIS and a concept-level cost estimate. The cost estimate from this level of concept design will assist the District and landowners in narrowing the cost estimate and stabilization options.

Deliverable: GIS-based concept plans and cost estimates included in the summary memorandum

Cost: $2,200

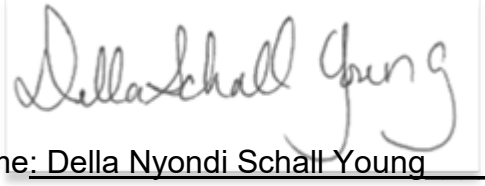
Cost Estimate

Task Description	Estimate
Task 1: Site visit and background information	$3,200
Task 2: Summary memorandum	$4,350
Total:	$7,550

Assumptions

1) Only one visit to the site will be required.
2) The prefeasibility concept plans and cost estimates will be developed for planning purposes only.
3) The current scope of work will not include additional investigations that may be necessary for the completion of the final design and/or permitting, such as:
    a. Topographic survey
    b. Wetland delineation
    c. Cultural/historical investigation
    d. Geotechnical investigation
4) Only one round of comments will be included in the draft memo.

Accepted and Agreed to: Spring Creek Assessment Project Task Order – 404 Broadway

CLIENT	CONSULTANT
Lower Minnesota River Watershed District	Young Environmental Consulting Group, LLC
By: _____	By: 
Name: _____	Name: Della Nyondi Schall Young
Title: _____	Title: Owner and Principal

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 6. G. - Local Water Management Plans

Prepared By
Linda Loomis, Administrator

Summary

i. **City of Shakopee**
Staff reviewed the Local Water Management Plan from the City of Shakopee and provided comments to the City. LMRWD comments are attached. A resolution to approve the plan with conditions will be on the May meeting agenda.

ii. **City of Savage**
The city of Savage released its Comprehensive Plan for public comment, however Chapter 10 - Surface Water. which is the City's Local Surface Water Management Plan, was not ready at the time the Comp Plan was released. The LMRWD will not begin its review until we receive Chapter 10.

Attachments
LMRWD comments on Shakopee Local Water Management Plan

Recommended Action
No recommended action

Young Environmental Consulting Group, LLC

Technical Memorandum

To: Linda Loomis, Administrator

From: Della Schall Young, CPESC, PMP

Date: April 11, 2019

Re: City of Shakopee Local Surface Water Management Plan Review

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The City of Shakopee (City) Local Surface Water Management Plan (SWMP) was reviewed on behalf of the Lower Minnesota River Watershed District (District) for consistency with the District's approved watershed management plan (Plan). The review also identified opportunities for the District and the City to work together to protect, preserve, and manage water and natural resources within the District.

As they relate to protecting water and natural resources, the District's standards presented in Appendix K of the Plan must be followed, or equivalent or more strict standards must be implemented. Current regulations and policies that govern surface water management within the City include its Design Criteria and various ordinances.

We recommend approval of the SWMP, contingent on satisfactory responses to the Metropolitan Council's comments attached and the following District comments:

Comment No.	SWMP Page Number	SWMP Text	Comment
1	SECTION III Page 5	Memorandum of Understanding (MOU) between Lower Minnesota River Watershed District and the City of Shakopee to enforce the District policies through permitting.	The MOU between City and the District was not included in Appendix B. Nevertheless, an updated agreement between the District and the City is required before May 1, 2020.

Comment No.	SWMP Page Number	SWMP Text	Comment
2	SECTION IV Page 2	**Issue 4.1.7:** Dean Lake Wetland has poor overall water quality based on recent monitoring information. **Corrective Action:** Dean Lake Wetland was recently reclassified from a lake to a wetland. The City will work with the District on studies related to the water quality and overall health of Dean Lake Wetland. It is anticipated that the District will be the lead, but the City should assist and provide support to the District.	This presents a coordination opportunity for the District and the City.
3	SECTION IV Page 2	**Issue 4.1.8:** The possibility of contamination exists when there are connections between groundwater and surface water. **Corrective Action:** The Shakopee Public Utilities Commission has developed a Wellhead Protection Plan (WHP) which identifies Drinking Water Supply Management Areas (DWSMAs) and their vulnerability. The City will continue to follow the requirements of the Wellhead Protection Plan to protect groundwater. Guidance from the Minnesota Pollution Control Agency and Minnesota Department of Health will be followed to determine the applicability of infiltration in the DWSMAs.	How does following the requirements of the WHP and the DWSMAs help protect and preserve groundwater-dependent resources like trout streams?
4	SECTION IV Page 7	**Issue 4.3.2:** A concern has been noted regarding the protection of groundwater levels within the Eagle Creek Watershed in order to protect the Boiling Springs and Fen areas. Eagle Creek is a high value resource identified by the District. Eagle Creek is primarily located in the City of Savage; however, part of the creek and watershed is in Shakopee. **Corrective Action:** The City will work with the District and City of Savage regarding groundwater studies contributing to the Eagle Creek Boiling Springs and Fen areas.	This presents a coordination opportunity for the District, City, and City of Savage. The District has identified the Schroeder's Acres Park/Savage Fen Stormwater Management Project in its capital improvement program. The incorporation of the project into the SWMP should be considered

Comment No.	SWMP Page Number	SWMP Text	Comment
5	SECTION IV Page 10	**Issue 4.10.4:** Elevated levels of chloride concentrations have been found in stormwater ponds, surface water bodies, and groundwater throughout the Twin Cities Metropolitan Area. At levels exceeding the water quality standards, chloride can be toxic to aquatic life and can make drinking water sources not economically. **Corrective Action:** One significant contributor to elevated chloride concentrations in surface water and groundwater is road salt application during the winter. The City will continue to implement chloride best management practices such as reducing salt use on roadways and implement prewetting and anti-icing strategies. The City will also continue to educate private business owners and residents about correct salt application, and improve policies designating salt usage.	The City is encouraged to coordinate salt applicators' training programs with the District. The District and several other public entities have received grant funds from Scott County as a part of the watershed-based fund, and they are working on a comprehensive chloride management plan that can be shared with the City once complete.
6	SECTION IV Page 11	**Issue 4.11.3:** There are several governing agencies that overlay the City of Shakopee that influence how water resources are managed in the City. These agencies include three watershed districts, the county, the state, and soil and conservation district. Input is often needed from the City at Technical Advisory Meetings that concern water resources. **Corrective Action:** City Staff will attend Technical Advisory Meetings when attendance of the City of Shakopee is appropriate.	Participation of City staff in the District's technical advisory meetings is an important coordination component. It allows for a combination of technical and financial resources to address water and natural challenges.
7	SECTION V Page 1	Stormwater infrastructure shall be designed using Atlas 14 rainfall data, or most current and best available information.	Commendable
8	SECTION V Page 3	**Water Body:** Dean Wetland. **Water Quality Classification:** Level III. **Desired Water Quality Parameters:** TP: 45-75 ug/L. Chl a: 20-40 ug/L. Secchi: 0.6-1.0 meters. **Goals:** Preserve existing human use of the water body such as fishing	Dean Lake is a classified wetland. As a wetland, are these desired water quality parameters reasonable?

Comment No.	SWMP Page Number	SWMP Text	Comment
9	SECTION V Page 4	The City will investigate opportunities to retrofit the downtown area to provide additional water quality treatment in this fully developed area.	The District is a partner on this project, as well as the state through the watershed-based funding grant, and they should be noted in the SWMP.
10	SECTION V Page 5	Increased public involvement through volunteering with groups such as CAMP (Citizen Assisted Monitoring Program) and CSMP (Citizen Stream Monitoring Program).	How is this information used to inform public works activities or projects?
11	SECTION V Page 6	Erosion and sedimentation control plans and SWPPP's for projects that disturb one acre or more of land shall be reviewed and enforced by the City for all new developments. These plans shall conform to the requirements of the Scott WMO, PLSLWD or LMRWD (depending on location) and the NPDES Construction Stormwater Permit	Noted. The City's official controls must be updated to conform to the District's requirements on or before May 2020.
12	SECTION V Page 6	The City will prohibit work in areas having steep slopes (>12%) and high erosion potential where the impacts of significant erosion cannot be protected against or mitigated in accordance with the City's ordinances.	Commendable. This City's ordinance is more protective of steep slopes than the District's Steep Slopes Standard.
13	SECTION V Page 6	**5.7. Groundwater**	The inclusion of a policy should be considered that would involve working with the District to promote the protection of groundwater resources, which in turn would protect trout waters and fen resources.
14	SECTION V Page 6	With other agencies, the continuation of existing groundwater monitoring, inventorying, or permitting programs.	Information about District led activities in this area should be incorporated. Additionally, how does this tangibly translate to actionable activities?
15	SECTION V Page 7	Efforts to gather further information on the hydrogeology of the region. When such information becomes available, including on the location of groundwater recharge areas and surface water and groundwater interactions, the City will take into consideration these areas for the purpose of maintaining their recharge capabilities in protecting groundwater quality.	Again, given the District's focus on preserving groundwater resources for the protection, preservation, and restoration of trout waters and fens, we are very interested in how the City plans to translate this into actionable activities—funding, technical resources, etc.?

Comment No.	SWMP Page Number	SWMP Text	Comment
16	SECTION V Page 7	**5.8. Wetlands**	The City's wetland ordinance was passed in 2008 and appears to have last been updated in 2013. Was the information in Appendix E reviewed and updated to conform to current requirements, or is this a planned activity? If it is planned, when will it be performed?
17	Section VI Table 6.1	**Possible Funding Sources**	Do any of the projects listed fit the goals, policies, and strategies of the District? If so, it would be helpful to see the items specifically associated with the District.
18	Section VI Table 6.1	Ordinance updates - The City will continually evaluate their adopted ordinances related to floodplain regulation, illicit discharge, surface water management, wetland management, and erosion control. Any necessary revisions will be made as regulations change.	This appears to focus on minor tweaks to ordinances. Is there a planned update before the District May 2020 deadline, when the City's official controls must be updated?

March 14, 2019

Linda Loomis, Administrator
Lower Minnesota River Watershed District
112 East 5th Street, #102
Chaska, Minnesota 55318

RE: Shakopee Local Surface Water Management Plan
Reviews File No. 22203-1

Dear Ms. Loomis:

The Metropolitan Council (Council) has completed its review of the city of Shakopee's Local Surface Water Management Plan (plan). The plan provides a good framework for managing the City's water resources and is consistent with Council policies and the Council's *Water Resources Policy Plan*.

We have one minor comment on the plan: in the water resource water quality classifications table (on page 3 of Section 5), O'Dowd Lake is designated as level 3; supporting fishing, aesthetic viewing activities and observing wildlife. According to Section 2.4.2, (Public Area for Water Based Recreation and Access), O'Dowd Lake is also used for swimming. So, it seems the lake should be designated as Level 1 in the Table.

Thank you for the opportunity to comment on the above plan. If you have any questions regarding these comments, please contact Joe Mulcahy 651-602-1104.

Sincerely,

Sam Paske
Assistant General Manager, MCES, Environmental Quality Assurance Department

cc: Kirby Templin, City of Shakopee
Stephanie Hatten, WSB
Deb Barber, Metropolitan Council District 4
Angela Torres, Metropolitan Council Sector Representative
Peter Grafstrom, Metropolitan Council Community Relations Specialist
Raya Esmaeili, Metropolitan Council Referrals Coordinator
Joe Mulcahy, Water Resources Assessment Section

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LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday April 17, 2019

Agenda Item
Item 6. H. - Project Reviews

Prepared By
Linda Loomis, Administrator

Summary

i. **City of Burnsville - Industrial Equities - 250 River Ridge Circle North**
This project is on a previously developed parcel. Previous structures have been removed and the property has been vacant long enough that the city considered it development rather than re-development. The LMRWD steep slope overlay zone wraps around two edges of the parcel. Comment provided to the city are attached.

ii. **City of Burnsville - United Properties 12400 Dupont Avenue**
This project proposes to subdivide the parcel and construction an office/warehouse building on the new parcel. Staff reviewed this project and had no comments.

iii. **City of Burnsville - Kraemer Mining**
No new information to report since last update.

iv. **Dakota County - MN River Greenway**
No new information to report since last update.

v. **City of Shakopee - Jackson Township AUAR**
No new information to report since last update.

vi. **City of Eden Prairie - C. H. Robinson**
There is work planned to replace/upgrade the parking lot. I spoke to the engineer for the project who inquired about a permit. This is not in a High Value Resource Area so no permit is required. I referred him to the city.

vii. **City of Burnsville - Burnsville Sanitary Landfill**
No new information to report since last update.

viii. **City of Eden Prairie - Peterson Wetland Bank**
No new information to report since last update.

ix. **City of Chanhassen - TH 101 Improvements**
Staff has continued to meet with the city and project engineers. There is no new information to report since last update.

x. **City of Savage - 12113 Lynn Avenue**
No new information to report since last update.

xi. Cities of Richfield/Bloomington - TH 77 & 77th Street underpass

No new information to report since last update.

xii. MPCA - MN River TSS TMDL

The MPCA is planning to release the report for public comment later in 2019. More information on the history of this project and the differences between previous report and the current draft can be found in the attachment .

xiii. City of Bloomington - MN Valley State Trail

This project is moving along. The City of Bloomington issued its Notice of Decision for wetland replace at a 2:1 ratio for the impacts to .67 acres of wetlands caused by this project.

xiv. Hennepin County - CSAH 61/Flying Cloud Drive

LMRWD staff scheduled an inspection of the project area for Wednesday, April 10. When staff arrived on site it had begun to snowing and it was determined that it was not safe to continue with the inspection. Staff expects to begin inspections every two weeks now that the snow pack has melted and ground has thawed.

The City of Eden Prairie is planning to convene a Technical Evaluation Panel for this project shortly. LMRWD contacts for the project informed the District that they have received a letter from USFWS (US Fish & Wildlife Service) regarding remediation of project impacts. The LMRWD has contacted USFWS to get a copy of this letter.

xv. MNDOT - I494/TH 5/TH 55 Mill & Overlay project

Culvert replacement has begun on this project. The public waters work permit was issued March 20, 2019. The project on I-494 from TH 169 to MN River may affect this project. One proposal by MNDoT is looking at this area to address the flood plain storage mitigation.

xvi. MNDOT - I35W Bridge Replacement

The LMRWD was informed that plans are complete for stormwater management for this project. LMRWD staff is working to get the plans for review.

xvii. MNDOT - I494 from TH169 to Minnesota River

LMRWD staff has continued to meet with MNDoT and Engineers for this project. The LMRWD has some history with the project and in 2007 adopted a resolution with some specific requirements for MNDoT. Staff is recommending that the Board rescind this resolution. However, rather than adopting a new resolution rescinding the previous resolution and then adopting another resolution with new requirements, staff recommends waiting until the District has a better understanding of what exactly MNDoT is proposing. Young Environmental has prepared a more detailed explanation, which is attached, for the Board. Staff plans to have a resolution for the Board at the May meeting.

xviii. City of Shakopee - Amazon Fulfillment Center drainage

The City has plans to divert water from the Amazon Fulfillment Center away from the cultural resources, which are currently threatened. The plan looks to convey the water through a ditch along TH 101 to the east toward a ravine to the Minnesota River. Staff is concerned with the ability of the ravine to accept additional water and recommends assessing the ravine's current condition. A task order detailing the scope of work for the assessment is attached.

xix. MAC/LMRWD/MCWD boundary realignment

No new information to report since last update.

xx. Fort Snelling - Dominion Housing

The LMRWD received a new hydrology report for this project and the SWPPP (Storm Water Pollution Prevention Plan). The Engineers for the project have been working with the State Historical Preservation Office to make sure that no areas with historical significance are disturbed. Staff is reviewing the documents. The District was informed that a long term maintenance agreement will be submitted within the next few months. Construction is planned to begin in September

xxi. USACOE/USFWS - Bass Ponds, Marsh & Wetland

The Corps of Engineers discovered that they needed to prepare an EAW. Scott County agreed to act as the Regulating Governmental Unit to prepare and release the EAW. In the mean time, the Corps has applied to the DNR for a permit to work in public waters.

Attachments

Email to City of Burnsville/proponent for 250 River Ridge Circle North
MPCA Minnesota River and Greater Blue Earth River Total Maximum Daily Load Study for Total Suspended Solids
Memo from Young Environmental regarding I-494
TH 101 - Shakopee Task Order

Recommended Action

Motion to authorize TH 101- Shakopee Task Order

Industrial Equities

Linda Loomis <naiadconsulting@gmail.com> Thu, Apr 4, 2019 at 8:18 AM
To: jnanaples@gmail.com
Cc: Sarah Arnold <Sarah.Arnold@burnsvillemn.gov>, Deb Garross <Deb.Garross@burnsvillemn.gov>, Della Young <della@youngecg.com>

Mr. Allen,

Hi Linda,

The Lower Minnesota River Watershed District has reviewed the information provided by the regarding the proposed development at 250 River Ridge Circle North in Burnsville and do not have any comments. There are portions of the project area that have steep slopes. As reflected in the District's standards, the applicant must comply with the following criteria, as noted in the District's standards:

1. Land-disturbing activities as regulated in this section may occur within the Steep Slopes Overlay District provided that a qualified professional/professional engineer registered in the state of Minnesota certifies the area's suitability for the proposed activities, structures, or uses resulting from the activities and that the following requirements are addressed:
    - Minimum erosion and sediment control BMPs include site stabilization and slope restoration measures to ensure the proposed activity will not result in (1) adverse impacts to adjacent and/or downstream properties or water bodies; (2) unstable slope conditions; and (3) degradation of water quality from erosion, sedimentation, flooding, and other damage.

- Preservation of existing hydrology and drainage patterns. Land-disturbing activities may not result in any new water discharge points on steep slopes or along the bluff.

2. Stormwater ponds, swales, infiltration basins, or other soil saturation–type features shall not be constructed within a Steep Slopes Overlay District.

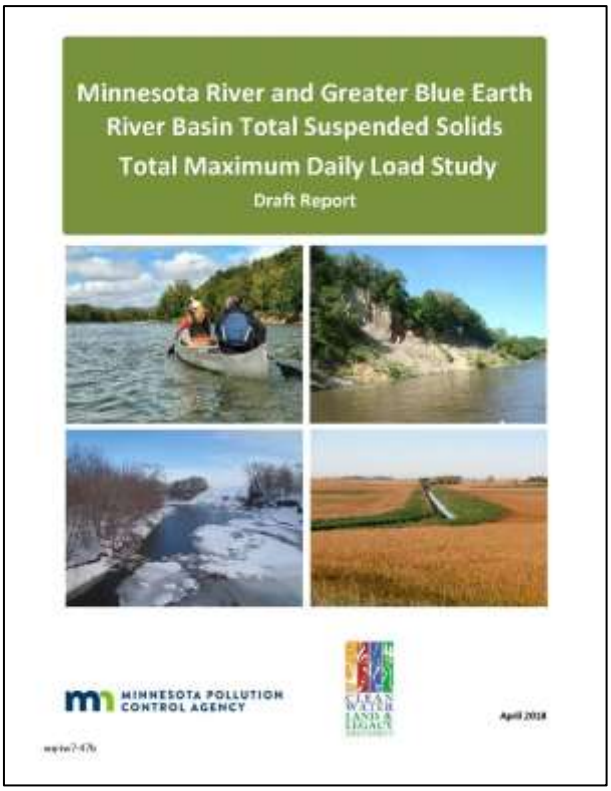
The project disturbs 5.7 acres and creates approximately 4 acres of new impervious surface. Since the project is in a drinking water supply management area, but is it not in the District's high value resource area overlay district, it must comply with the state of Minnesota's NPDES Construction Stormwater Permit's requirements and restrictions. Compliance with that permit is equivalent to compliance with the District's requirements. Electronic copies of the NPDES Construction Stormwater Permit and the project's stormwater pollution prevention plan should be submitted to the District, for our records.

Please let me know if you have any questions. Thanks!

Linda Loomis
Administrator, Lower Minnesota River Watershed District
Naiad Consulting, LLC
612-306-5802 *Cell*
763-545-4659 *Home/Office*
6677 Olson Memorial Highway
Golden Valley, MN 55427

Minnesota River and Greater Blue Earth River Total Maximum Daily Load Study for Total Suspended Solids

Highlighting differences between the current and previous drafts



In 2012 the Minnesota Pollution Control Agency prepared draft Total Maximum Daily Load (TMDL) studies for turbidity (see #1 below) in the Minnesota River and Greater Blue Earth River. During their public notice periods both generated significant comments and requests for contested case hearings.

After prolonged negotiations and responses to the comments and requests for hearings, in 2014 the state adopted new water quality standards for Total Suspended Solids (TSS) that replaced the turbidity standard. This required a recalculation of allocations for the turbidity impairments in the draft TMDLs.

The MPCA decided the best course was to withdraw the 2012 drafts from U.S. EPA consideration under Section 303 (d) of the Clean Water Act, and re-develop the two TMDLs as one combined study using the TSS standard. Following are highlights of significant differences between the 2012 Minnesota River and Greater Blue Earth turbidity TMDLs and the 2018 draft TSS TMDL.

1. Change to Total Suspended Solids water quality standard

The water quality standard in effect during the development of the 2012 drafts of the Minnesota River and Greater Blue Earth Turbidity TMDLs for Class 2Bd and 2B waters was a turbidity standard of 25 nephelometric units (NTUs), which measures the amount of light penetration of water. According to Minn. R. Ch. 7050.0222, turbidity impairment listings occurred when greater than 10 percent of data points collected within the previous 10-year period exceeded the 25 NTU standard. Because turbidity is not a mass-based measurement, a surrogate was required to calculate TMDLs. TSS, which measures sediment and organic material, was used to set TMDLs for the impaired reaches addressed in the 2012 draft TMDLs. In order to determine the TSS numerical equivalent to 25 NTUs, simple linear regressions were used to establish surrogate TSS values. These surrogate values ranged from 50 mg/L TSS for some of the upper major watersheds to 100 mg/L TSS for the lower mainstem reaches of the Minnesota River.

In June 2014 the MPCA adopted a TSS water quality standard to replace the turbidity standard; it was approved by EPA in January 2015. The TSS standards are region-specific and based on a combination of both

biotic sensitivity to TSS concentrations and reference or least impacted streams as supported by data. The Minnesota River basin (including the Greater Blue Earth) is located in the Southern River Nutrient Region . It has a 65 mg/L TSS standard that may not be exceeded more than 10 percent of the time April through September over a number of years. The TSS concentration of 65 mg/L is being used to establish TMDL allocations for the impaired reaches addressed in the 2018 draft TSS TMDL. Historic turbidity listings prior to the 2016 303(d) impaired waters list will continue to be displayed as turbidity impairments. Subsequent impairments are listed as TSS. See Section 2 of the 2018 draft Minnesota River and Greater Blue Earth TSS TMDL for further information on the applicable water quality standard.

2. Consolidating sections and including sections approaching the Mississippi River

The 2012 draft of the Minnesota River Turbidity TMDL addressed nine mainstem impaired sections. These were not all contiguous due to data limitations and section length. The nature of suspended sediment and its ability to be easily transported downstream makes this patchwork of section impairments unlikely. Rather, the sections not listed as impaired were likely an artifact of incomplete data. The MPCA recently has consolidated some of the shorter sections of the Minnesota River resulting in fewer but longer mainstem sections.

Using additional data and professional judgment, the long sections resulting from consolidation of an impaired section and a non-listed section are listed as impaired for turbidity or TSS on the draft 2018 303(d) impaired waters list. As a result, all of the Minnesota River mainstem sections downstream of the Lac qui Parle dam will be listed as impaired for turbidity or TSS and are addressed in the 2018 draft TSS TMDL. This includes the mainstem sections between High Island Creek and the confluence with the Mississippi River that were not included in the 2012 draft Minnesota River Turbidity TMDL. See Table 1 and Appendix A in the 2018 draft TSS TMDL for more information on the impairment listings and section consolidations.

3. Hydrological Simulation Program – FORTRAN (HSPF) model update

Models for six of the Minnesota River's 12 watersheds (HUC8) were originally developed by MPCA and subsequently expanded and calibrated by Tetra Tech in 2002 to include the entire basin from Lac qui Parle to Jordan. In 2008 Tetra Tech refined the models for sediment simulation, and were used in the MPCA's 2012 Minnesota River and Greater Blue Earth Turbidity TMDLs. The basin model since has been refined by RESPEC (2014) and most recently by Tetra Tech (2016) to incorporate new data and increase resolution. The primary differences between the 2008 HSPF model application used in the previous draft TMDLs and the 2016 model used in the current project are:

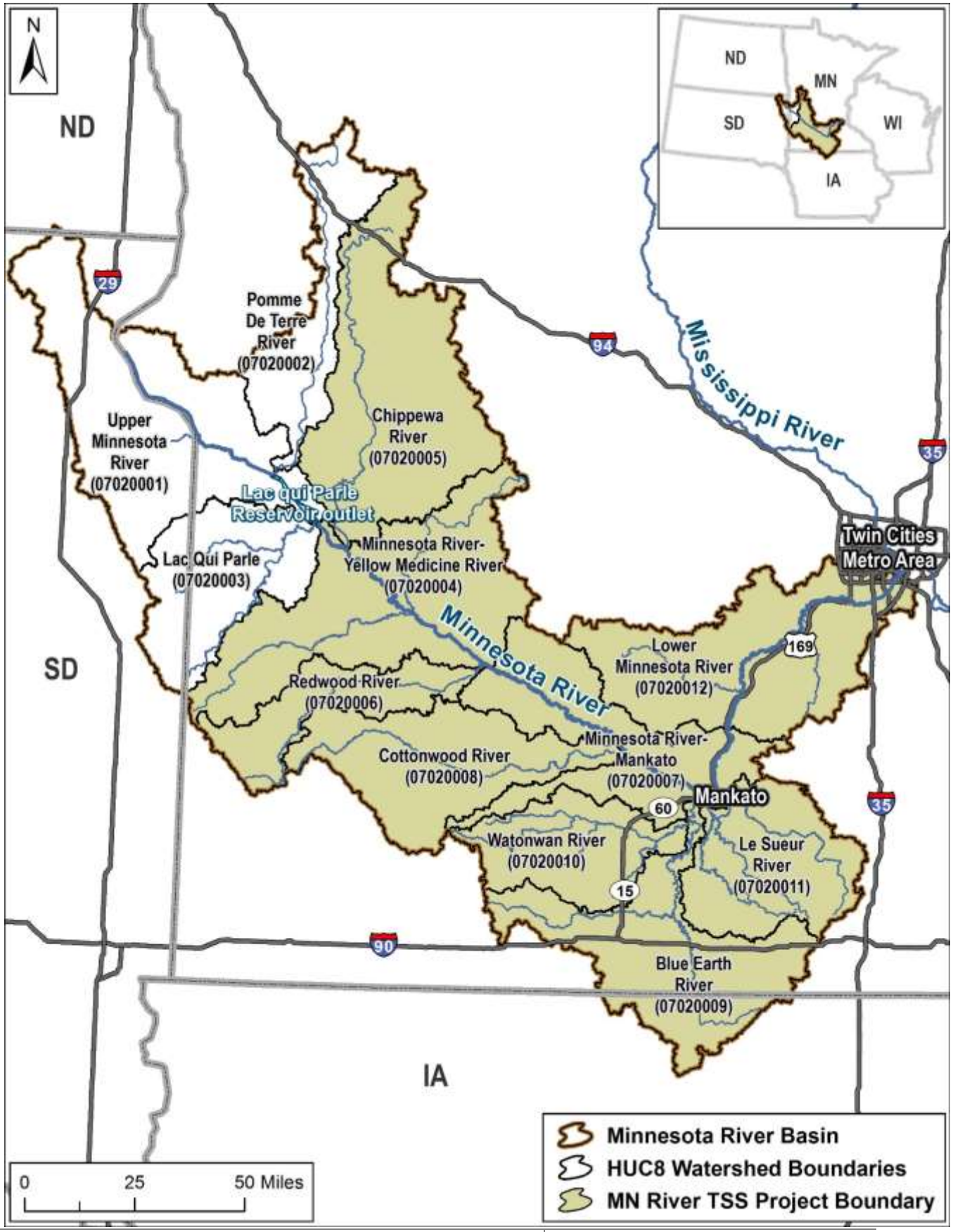
- The 2008 model scale was at approximately the HUC10 scale; the 2016 model is at the HUC12 scale.
- The 2016 model was extended through 2012.
- The entire updated model was recalibrated based on newer observations and additional data on field-derived sediment sources in the remainder of the basin. The simulations were recalibrated to agree with external information on water balance components and sediment sources:
    - Sediment was apportioned among upland, ravine, bluff, and channel erosion based on sediment budget studies of the Le Sueur and Greater Blue Earth River basins.
    - Model parameter adjustments were made to ensure that per-acre upland sediment loading rates are consistent with expected rates based on local and regional monitoring data and modeling studies.

See Section 4.4.1 of the 2018 draft TSS TMDL for further information on the HSPF model.

4. Setting Waste Load Allocations for Municipal Separate Storm Sewer Systems

The method used for setting Municipal Separate Storm Sewer System (MS4) Waste Load Allocations (WLA) has been changed in the 2018 draft TSS TMDL. In the 2012 draft, MS4 WLAs were calculated by multiplying a sediment export coefficient times the regulated MS4 area. The regulated MS4 area was based on the total

developed area within the regulated MS4 boundaries of the 2001 National Land Cover Database (NLCD) layer. In the 2018 draft of the TMDL, MS4 WLAs are calculated as an area-based fraction of the estimated existing TSS load. The area of each permitted MS4 is based on the developed land within MS4 jurisdictional boundaries as indicated in the 2011 NLCD layer. Source assessment indicated *(continued on back page)*



developed areas within permitted MS4s contribute no more than 1% of existing TSS loads (with the exception of the Lower Minnesota watershed). Therefore, it was determined that no reductions to current TSS loading from MS4s are necessary. However, no increases to TSS loading are allowed. MS4s must follow the best management practices and reporting requirements as defined in their permits and Stormwater Pollution Prevention Program (SWPPP). For more information on source assessment and setting MS4 WLAs see Table 7 and Section 5.4.3 of the 2018 draft TMDL.

5. Analysis of conditions for high sediment loading

The HSPF model was used to investigate conditions of high sediment loading in the Minnesota River basin. This work was performed as part of a parallel effort to examine and potentially revise the Sediment Reduction Strategy (MPCA 2015). Seasonality, months of high sediment loads and loading from intense storms were analyzed. This analysis provides insight on critical conditions for sediment delivery in the Minnesota River basin. See Section 4.4.4 of the 2018 draft TSS TMDL for more information.

6. Reasonable assurance

The reasonable assurance section of the new TMDL has been expanded beyond the 2012 draft incorporating the framework for implementation developed for the Chesapeake Bay TMDL project (USEPA 2009). The revised reasonable assurance identifies multiple-scale efforts, from local best management practice implementation to watershed and basin scale plans and strategies. Numerous programs, laws and funding options also are identified as ways to provide reasonable assurance. Finally, the revised reasonable assurance section outlines how progress will be tracked through monitoring and reporting as well as contingency requirements if sediment reduction milestones are not met on schedule. For more information see Section 8 of the 2018 draft TSS TMDL.

References

MPCA (Minnesota Pollution Control Agency). 2012a. *Minnesota River Turbidity Total Maximum Daily Load*. wq-iw7-32b. St. Paul, Minnesota. February 2012. https://www.pca.state.mn.us/sites/default/files/wq-iw7-32b.pdf.

MPCA (Minnesota Pollution Control Agency). 2012b. *Turbidity Total Maximum Daily Load Study: Greater Blue Earth River Basin*. Prepared by Minnesota State University Mankato Water Resources Center for MPCA Mankato, MN. wq-iw7-29b. https://www.pca.state.mn.us/sites/default/files/wq-iw7-29b.pdf.

MPCA (Minnesota Pollution Control Agency). 2015. *Sediment Reduction Strategy for the Minnesota River Basin and South Metro Mississippi River*. wq-iw4-02. St. Paul, Minnesota. January 2015. https://www.pca.state.mn.us/sites/default/files/wq-iw4-02.pdf.

MPCA (Minnesota Pollution Control Agency). 2018. *Minnesota River and Greater Blue Earth River Basin Total Suspended Solids Total Maximum Daily Load Study*. wq-iw7-47b.

USEPA (United States Environmental Protection Agency). 2009. *The Next Generation of Tools and Actions to Restore Water Quality in the Chesapeake Bay, A Draft Report Fulfilling Section 202(a) of Executive Order 13508.* Washington, DC. September 9, 2009. https://federalleadership.chesapeakebay.net/file.axd?file=2009%2F11%2F202a+Water+Quality+Report.pdf

Young Environmental Consulting Group, LLC

Technical Memorandum

To: Linda Loomis, Administrator
Lower Minnesota River Watershed District

From: Della Schall Young, CPESC, PMP

Date: April 10, 2019

Re: I-494 Reconstruction Project from TH169 to the Minnesota River

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The Minnesota Department of Transportation (MnDOT) is developing the environmental documentation and preliminary design for reconstruction of Interstate 494 (I-494) from trunk highway (TH) 169 in the City of Bloomington to the Minnesota River near the Minneapolis/St. Paul International Airport. The proposed project plan will accomplish the following:

- Provide a transit advantage to increase the number of people who can be efficiently moved through the area
- Improve the reliability of the average rush-hour trip, increase safety and reduce localized flooding through drainage, and reduce the amount of stormwater water runoff into the Minnesota River
- Restore pavement to preserve infrastructure and provide a smoother ride

Since October 2018, when MnDOT's project team hosted the kickoff meeting, MnDOT (through its drainage design consultant HZ United) has maintained contact with District staff. It has engaged District staff to gain a better understanding of standards it will have to comply with and to determine whether it will be held to past board resolution.

Standards

Based on information received and discussions with MnDOT's drainage design consultant, the following three options have been preliminarily evaluated by HZ United:

- Option 1: Ultimate Build 12' Stormwater Tunnel with Regional Pond. This option was developed by SEH, Inc as part of the 2014 I-494/I-35W Vision Layout and has been used as a reference during the early stages of preliminary design of the Airport to Highway 169 project. The condensed cost as it appeared in the 2014 Vision Layout report is $194,300,000. The estimated construction cost of Option 1 is $230,439,800.

- Option 2: Parallel Trunk Lines and Xcel Corridor Diversion. Under this option, parallel trunk lines would be constructed from I-35W to the Minnesota River. The flow generated between I-35W and Portland Avenue would be diverted from I-494 using parallel 72" trunk lines to a new drainage system running from north to south in the corridor owned by Xcel Energy located just to the east of Park Avenue. As currently conceived, this new trunk line would be augmented with a series of ponds as well as architectural and landscape features that would serve to turn this functional diversion into a neighborhood amenity. The proposed north-south trunk would connect to the existing storm sewer on 90th Street S. (owned by the City of Bloomington), which drains into Pond C at the southeast quadrant of TH 77 and E. Old Shakopee Road, and ultimately drains into the Minnesota River. The proposed west-east auxiliary trunk line, a parallel 84" line, would relieve the existing 84" trunk line, which is currently undersized for the needs of the I-494 corridor. Although the existing trunk curves northward to Almaz Pond, the proposed auxiliary trunk would continue to follow I-494, eventually discharging to an expanded pond located in the MnDOT-owned property near the Minnesota River. The estimated construction cost of Option 2 is $64,982,484.
- Option 3: Large Parallel Trunk Line with Existing System Modifications. This option features an auxiliary parallel 108" trunk line running the entire distance between I-35W and the Minnesota River. Although the auxiliary trunk will provide relief to the existing 84" trunk, additional modifications and enhancements will be employed to optimize the performance of the overall system. Modifications will include expansion of some portion of the existing trunk line on the east end of the project, and ponds will be designed to manipulate the timing of peak runoff rates during the design storm event, decreasing the required capacity of the combined trunk storm lines. The estimated construction cost of Option 3 is $79,465,773.

MnDOT has selected Option 3 as the preferred option, and it appears the project will have to comply with the Erosion and Sediment Control, Floodplain, and Stormwater Management standards. The current footprint of the project doesn't encompass high value resources areas; however, steep slopes areas will probably be affected. Conclusive evidence on whether steep slopes areas will be affected is expected in May 2019. Nevertheless, we have provided the drainage design consultant a copy of Appendix K, and they have been informed and updated on rules development and adoption process.

Past Board Resolution

In 2007, MnDOT retained Stanley Consultants, Inc., to complete a study on the I-494 Improvements: Penn Avenue to the Minnesota River: I-494 Stormwater Alternatives Study. During the development of the study, which spanned a few years, the Stanley staff met with the managers and then-administrator Terry Schwalbe several times to

discuss and address the District's concerns. On May 16, 2007, the District passed the attached resolution 2007-01; since then, there have been significant changes in how development and redevelopment projects are regulated for water and natural resource protection, preservation, and restoration. A few of those changes include the release of Atlas 14, the continued refinement of the national pollution discharge elimination systems (NPDES) permits (industrial, municipal, and construction), completion of total maximum daily load studies, and the District's shift to addressing its comprehensive organizational mission.

Atlas 14

In 2007, when resolution 2007-01 was passed, design and modeling information for development and roadway reconstruction projects were based on the Technical Paper 40 (TP-40). TP-40 was developed by the National Oceanic and Atmospheric Administration (NOAA) in 1961 and provides rainfall data for every county in every state for a range of rainfall recurrence intervals (1-year through 100-year) and durations (30 minutes to four days) based on a limited data set. In 2013, NOAA's Hydrometeorological Design Studies Center within the Office of Hydrologic Development published Atlas 14 Volume 8. Atlas 14, which is now part of the District's standards, uses denser precipitation data networks with a greater period of record, new statistical approaches, and new spatial interpolation and mapping techniques to develop new precipitation frequency estimates.

NPDES Permits

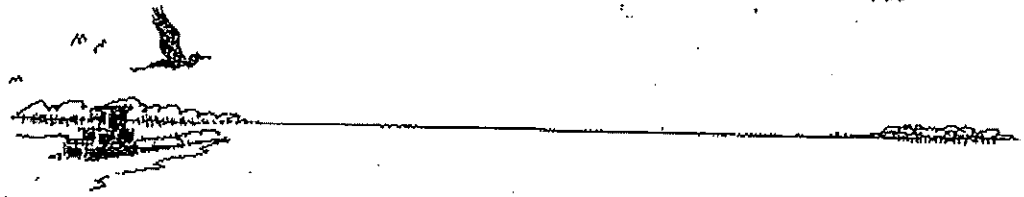
The NPDES permits administered by the Minnesota Pollution Control Agency have consistently been reviewed every five years and modified to include requirements that minimize the potential for pollutants to come in contact with or be transported in stormwater runoff. The municipal and construction permits include provisions for stormwater abstraction, infiltration, and attenuation. These are all beneficial for recharging groundwater and reducing stormwater runoff rate and treating the water quality of stormwater runoff generated by new and redevelopment projects.

District's Direction

The District's adopted watershed management plan moves the organization away from what appeared to be a singular focus on dredge material management to a broad, holistic focus on protecting high value resources (calcareous fens and trout waters) and steep slopes (Minnesota River Bluff). This focus is reflected in the more restrictive development standards for projects proposed in high value resource areas and steep slope overlay districts.

Given the progressive changes described above related to water and natural resource protection, preservation, and restoration, we recommend and ask the board of managers to rescind Resolution 2007-01.

Lower Minnesota River Watershed District



LOWER MINNESOTA RIVER WATERSHED DISTRICT

RESOLUTION NO. 2007-01

Interstate Highway 494 – Penn Avenue to Minnesota River

WHEREAS, the Minnesota Department of Transportation (MnDOT) is studying stormwater drainage alternatives for the portion I-494 from the Penn Avenue low point to the Minnesota River, and has provided information about the alternatives and their effect on the Minnesota River to the Board of Managers and has requested a determination that their Alternative 1C be determined to be eligible for exemption from the District's rate control requirement as documented in a technical memorandum *(Subject: MnDOT – I-494 Stormwater Alternatives Study (Penn Avenue to Minnesota River) Technical support for resolution by Lower Minnesota River Watershed District Board regarding rate control requirements)* dated February 2007 and presented to the Managers at their February 21, 2007 meeting; and

WHEREAS, the existing I-494 drainage system is undersized for present and future conditions; and

WHEREAS, the I-494 drainage investigation is being undertaken as part of long-term planning for a future roadway expansion project and MnDOT is not applying for a LMRWD permit at this time; and

WHEREAS, MnDOT has addressed questions raised by the LMRWD Board of Managers; and

WHEREAS, the information presented to the Board supports a finding that requiring rate control for Alternative 1C would not have a beneficial effect on Minnesota River flood stages, and a rate control pond would displace existing floodplain storage volume and reduce river conveyance; and

WHEREAS, the soils at the West Pond site are poor and incapable of supporting the dike structures necessary to construct a rate control pond; and

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E-mail terrys@lowermn.com; joane@lowermn.com

Lower Minnesota River Watershed District

WHEREAS, the request by MnDOT is limited to this I-494 drainage project, and MnDOT will meet other LMRWD Design Considerations including water quality.

NOW THEREFORE BE IT RESOLVED, the LMRWD Board of Managers conceptually agree at this point in time with the Minnesota Department of Transportation that the Alternative 1C, as will be further developed in the study, could be permitted in the future without meeting rate control requirements of the LMRWD Design Considerations; and

BE IT FURTHER RESOLVED, the above determination that the Alternative 1C could be permitted without meeting rate control requirements of the LMRWD Design Considerations is made under the current regulatory conditions affecting the LMRWD and MnDOT, a future Board may decide not to so permit Alternative 1C under these conditions, and this resolution would not be binding on a future Board during the future permitting of the project, nor would it exempt MnDOT from the requirements of any future regulations or future LMRWD Rules; and

BE IT FURTHER RESOLVED, the I-494 drainage system from Penn Avenue to the Minnesota should be designed to meet all other LMRWD Design Considerations.

Adopted: 05/16/2007

LOWER MINNESOTA RIVER WATERSHED DISTRICT

By: _____
Len Kremer, President

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Terry Schwalbe: 952-227-1037; Joan Ellis: 952-227-1038; Fax: 952-227-1039
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Young Environmental Consulting Group, LLC

Technical Memorandum

To: Linda Loomis, Administrator
Lower Minnesota River Watershed District

From: Della Schall Young, CPESC, PMP

Date: April 10, 2019

Re: County Highway 101 Shakopee – Ravine Assessment Task Order

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The City of Shakopee (City) has requested funding from the Lower Minnesota River Watershed District (District) to assist them with correcting drainage issues (increase flow rates and volume) affecting a cultural resource site. The issues were realized after the 2015 development of the Amazon Distribution Center.

To adequately characterize the condition of the downstream ravine to the Minnesota River, and to present a reasonable funding recommendation for participating in the project, a ravine assessment was requested by the District. Below is the scope of work for the Young Environmental Consulting Group (LLC) team, which includes Barr Engineering Co, to complete the ravine assessment project and produce a feasibility study and funding recommendation memo.

Scope of Work

Task 1: Desktop Analysis

The project team will complete the following subtasks to characterize the watershed that drains to the ravine. We will use available geographic information systems data and development plans from the City to summarize the following items:

- Delineate the watershed that drains to the ravine, including watersheds delineated from developments within the contributing watershed.
- Estimate peak flow rates using a combination of regression equations and any hydrologic models available from the City or the US Geological Survey.

Deliverable: Summary of watershed characteristics and pollutant loading will be in the feasibility report.

Cost: $1,020

Task 2: Field Reconnaissance Investigation

We will complete a field reconnaissance investigation in late April or early May to document the state of the ravine, the extent of erosion, and, if possible, determine the cause the erosion. We will take photos, estimate the height and length of erosion noticed sites, and assess the accessibility of construction equipment.

Deliverable: Summary of data collected will be included in the feasibility report.

Cost: $1,600

Task 3: Concept Plan and Cost Estimate

We will provide one (1) concept for stabilizing ravine and a concept-level cost estimate. The concept plan will only consider the estimated flows that currently drain to the Highway 101 Shakopee ravine and will not consider larger flows proposed by the City. The cost estimate from this level of concept design will assist the District in determining a cost share for stabilizing the ravine if the City moves forward with the diversion plan.

Deliverable: GIS-based concept plan and cost estimate will be included in the feasibility report.

Cost: $2,920

Task 4: Permitting Requirements

We will determine the required permits and other investigations. This may require consultation with regulatory agencies to determine jurisdictional authority and requirements.

Deliverable: Summary of necessary permits will be included in the feasibility report.

Cost: $940

Task 5: Feasibility Report and Funding Recommendations

We will draft a feasibility report summarizing the findings and recommendations for stabilizing the Highway 101 Shakopee ravine. We will provide a draft report to the District for review. Upon receiving written or verbal comments from the District, we will finalize the report and submit it as a pdf file. Once the report has been finalized, we will draft a memo making a project funding recommendation and submit it to the administrator

Deliverable: Draft report, final report, and Funding Recommendation Memo

Cost: $3,470

Cost Estimate

Task Description	Estimate
Task 1: Desktop Analysis	$1,020
Task 2: Field Reconnaissance Investigation	$1,600
Task 3: Concept Plan and Cost Estimate	$2,920
Task 4: Permitting Requirements	$940
Task 5: Feasibility Report and Funding Recommendations	$3,470
Total:	$9,950

Assumptions

1) The estimated flows to the ravine will only consider the current drainage area to the ravine and will not consider any potential increase in flows from the diversion plan.
2) The City can provide any available hydrologic model that includes the ravine.
3) A new hydrologic model for the watershed will not be developed.
4) The current scope of work will not include additional investigations that may be necessary to complete final design and/or permitting, such as the following:
    a. Topographic survey
    b. Wetland delineation
    c. Cultural/historical investigation
    d. Geotechnical investigation
5) Only one round of comments will be included for the draft report.

If you find this scope and cost estimate to be acceptable, please complete the signature block below and return the executed copy of this proposal to the Consultant as notice to proceed.

Accepted and Agreed to: Ravine Assessment Task Order for the County Highway 101 Shakopee Site

CLIENT
Lower Minnesota River Watershed District

By: _____

Name:_____

Title: _____

CONSULTANT
Young Environmental Consulting Group, LLC

By: _____

Name: Della Nyondi Schall Young

Title: Owner and Principal