

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

455 HAYWARD AVENUE, OAKDALE, MINNESOTA 55082
Phone 651.330.8220 x22 fax 651.330.7747 www.mscwmo.org



Regular Meeting of the Middle St. Croix Watershed Management Organization

HELD REMOTELY DUE TO COVID -19 PANDEMIC

Attend ONLINE VIA ZOOM by clicking this link: <https://zoom.us/j/99514378910>

OR

Attend by CONFERENCE CALL by dialing +1 312 626 6799 – Meeting ID 995 1437 8910

Thursday, February 11th, 2021

6:00PM

1. Call to Order – 6:00PM
 - a. Approval of Agenda
2. Approval of Minutes
 - a. Draft minutes – January 14th, 2021 **pg. 1-6**
3. Treasurer’s Report
 - a. Report of savings account, assets for February 11th, 2021
 - b. Approve payment of bills for February 11th, 2021
4. Public Comment
5. Old Business
6. New Business
 - a. RFQ for Legal and Engineering Services **pg. 7-59**
 - b. 2020 Permit Fee Overage Invoicing **pg. 60**
7. Grant and Cost Share Applications
 - a. Lake St. Croix Direct South Phase II CWF Award-**INFORM**
8. Plan Reviews/Submittals
 - a. Plan Review and Submittal Summary **pg. 61-73**
 - i. Hills of Spring Creek-**ACTION**
 - ii. 1175 Quinlan Ave-**INFORM**
 - b. Erosion and Sediment Control Inspection Reports-**NONE**
9. Staff Report **pg. 74-75**
10. 1W1P Updates
 - a. WBIF Workplan Approval **pg. 77-87**
11. Other
12. Adjourn

DRAFT MINUTES
Regular Meeting of the Middle St. Croix Watershed Management Organization
HELD REMOTELY DUE TO COVID -19 PANDEMIC

Thursday, January 14th, 2021

6:00PM

Present: Joe Paiement, City of Lakeland; John Fellego, Baytown Township; Mike Runk, Oak Park Heights; Tom McCarthy, Lake St. Croix Beach; Beth Olfelt-Nelson, St. Mary's Point; Brian Zeller, Lakeland Shores; Dan Kylo, West Lakeland Township; John Dahl, Bayport; Ryan Collins, Stillwater; Administrator Matt Downing; Cameron Blake, WCD; Dawn Bulera, Lake St. Croix Beach alt., Christopher Smith, Public.

Call to Order

Manager Zeller called the meeting to order at 6:00 PM. Manager McCarthy dropped off the call and came back on.

Approval of Agenda

The date on the agenda was changed to 2021 and item 11b. Audit discussion was added under "other".

Manager Fellego motioned to approve the agenda as amended and Manager Runk seconded the motion. The motion passed on a roll call vote with all in favor.

Approval of Minutes

Manager Fellego motioned to approve the January 14th minutes and Manager Runk seconded the motion. The motion passed on a roll call vote with Manager Kylo abstaining.

Treasurer's Report

The treasurer's report was presented by Manager Kylo. The remaining checking account balance on January 14th 2021 for the month of December 2020 was \$412,800.16. First State Bank CDs were valued at \$38,549.15. The ending balance in the RBC savings account for October 2020 was \$71,107.08.

Bills to be approved this month are: Emmons & Oliver: \$3,491.38; Emmons & Oliver \$1,311.50; Washington Conservation District (Administration): \$3,272.00; Washington Conservation District (Technical Services): \$6,882.00; Washington Conservation District (Grant Hours): \$6,709.41; Washington Conservation District (Water Monitoring): \$6,968.55; Washington Conservation District (EMWREP): \$1,575.00; Total: \$30,209.84.

Manager Zeller motioned to approve the December treasurer's report and Manager Dahl seconded the motion. The motion passed on a roll call vote. Manager Zeller motioned to pay the bills and Manager McCarthy seconded this motion. The motion passed on a roll call vote.

Public Comment

There was no public comment.

3M PFAS Reimbursement Request

Our consultant at EOR has been reviewing documents and providing technical input on the development of the water supply groundwater model as part of the 3M PFAS settlement. Staff is

requesting reimbursement from MPCA totaling \$2,241.00 (EOR October, November, and December). Manager Fellegy motion to approve submittal of 3M PFAS Reimbursement Request totaling \$2,241.00 and Manager Collins seconded this motion. The motion passed on a roll call vote.

Manager Fellegy asked Administrator Downing if there would be more information or action on this topic coming up. Administrator Downing said there would be and Mr. Grubb was still going to be attending the meetings on behalf of the MSCWMO. This is being paid for by a \$40,000 grant from the MPCA and he anticipates there being more work coming up. Manager Olfelt-Nelson reminded the board that at the last meeting they had asked Mr. Grubb to create reports to update board member on what was occurring. Administrator Downing agreed and said there had been nothing new since the last meeting.

Officer Appointments

Manager Fellegy asked if anyone was interested in taking over the policy committee role in the 1W1P group. Manager Fellegy suggested carrying the same officer appointments over to 2021. Manager Zeller stated that he believes a change in leadership of the board is overdue. He said the role of chair doesn't take a lot of energy and if anyone else is interested he encourages them to come forward. Manager Fellegy spoke to the amount of information Manager Zeller brings to the role of Chair. Manager Olfelt-Nelson agreed that Manager Zeller is a great chair, but understands his point that the board needs to be cultivating the next round of leadership roles for the long term. Manager Dahl said he wasn't sure if he would even be keeping his role on the MSCWMO board through his community. Manager Paiement said he still felt like he was still on the learning curve and there were others with more experience. Manager Kyлло felt he had enough to do in the treasurer's position. Manager Olfelt-Nelson said she had taken on an active role as vice-chair of the LSC Valley Fire Department and so does not have time to be chair for this group.

Manager McCarthy clarified that he was happy to take over as vice chair as he has done in 2020 when Manager Perkins is absent. The group confirmed that Managers Kyлло, Zeller and McCarthy are check signers.

Manager Fellegy motioned for the 2021 MSCWMO officer roles to be filled as such:

Chair: Manager Zeller

Vice Chair: Manager McCarthy

Treasurer: Manager Kyлло

Secretary: Manager Perkins

This motion was seconded by Manager McCarthy and passed on a roll call vote.

Liability Insurance Renewal

Administrator Downing recommends renewing the same coverage and had already asked for an extension as the deadline was tomorrow in case the board decided they wanted physical signatures from the managers. The motion he needs from the board is if they would like to waive the liability limit as usual. Manager Fellegy asked what the cost difference was in not purchasing the additional insurance and Administrator Downing said it was very little. Usually there was a refund based on the costs across the metro area and this information will be included in the year end summary.

Manager Fellegly motioned to proceed with renewing the insurance and not purchasing additional coverage and Manager Runk seconded this motion. The motion passed on a roll call vote. Manager Zeller said he felt comfortable with Administrator Downing signing this, and Manager's Fellegly and Runk agreed to the friendly amendment on their motion to include this.

2020 Savings Deposit

The 2020 MSCWMO Budget included \$5,750 for deposit into savings for future costs including water monitoring equipment replacement and repair, and watershed management plan update costs. None of these funds were expended in 2020 and the entire balance can be deposited. Administrator Downing is requesting board approval to deposit the funds into the RBC savings account.

Manager McCarthy moved to approve staff to deposit \$5,750 from the 2020 budget to savings and Manager Dahl seconded that motion. The motion passed on a roll call vote.

2021 Community First Half Contribution Request

Administrator Downing is seeking approval from the board to request the first half of 2021 community contributions. Manager Zeller noted that the MSCWMO usually confirmed the 2022 budget in April and asked if communities needed this sooner. Managers Fellegly and Kylo both said their communities look at their 2022 budgets at the beginning of February and vote on the 2022 budget in the first half of March. Manager Downing said he will check the budget numbers but the MSCWMO usually tries to keep the same budget for 5 years and 2021 is only the second year in this most recent stretch. So the numbers should be the same as 2020 but he will check and let them know for 2022.

Manager Zeller moved to approve Administrator Downing's request for 1st half 2021 community contributions and Manager Fellegly seconded this. The motion passed on a roll call vote.

2020 Year End Budget Summary

Administrator Downing presented the 2020 year end budget summary. They were slightly over budget but technically not due to a separate value. They had encumbered \$15k from the city and \$5k cost share for the Lily Lake project. The total admin overall was under budget. The audit was more than what was budgeted. The minute taking was over budget due to some new notetakers who faced a learning curve.

The plan reviews were the biggest reason the MSCWMO budget went over. They had not yet recouped all time from those fees. Manager Olfelt-Nelson asked about how the spreadsheet was structured and Administrator Downing explained that the values shown accounted for some fees collected and showed that they spent 36% more than what was budgeted. Administrator Downing said he started a pre-emptive analysis to see how they are spent because they can ask to collect overages. Manager Zeller said he deferred to Administrator Downing on what overages were worth asking for, as some that are too small are not worth it. Administrator Downing explained that some of the overage for that area was due to the high number of pre-application meetings that were never submitted, and so there is no way to recoup that cost. He also said he recommended collecting some of the overages because the actual cost overrun is worse than what the numbers currently show due to the receiving a fee recently for a project that they had barely started reviewing. Manager Zeller asked Administrator Downing to bring them that breakdown.

Manager Olfelt-Nelson recalled that St. Mary's Point had discussed the MSCWMO's permit fee structure from the perspective of how the community could protect themselves from incurring unexpected costs from a high amount of river way project reviews. Administrator Downing explained that the MSCWMO billed back to the community as the permit entity and it is their choice whether or not to bill that back to the permit applicant. Of the three sent in 2020, two communities chose to collect from the applicant while one didn't as a judgement call due to the anticipated costs of collecting the payment. Manager Dahl asked if cities had considered subsidizing the review fees and Administrator Downing said the one community basically chose to do this when they didn't seek payment from the applicant. Administrator Downing said the MSCWMO sets aside some money for this program with the main goal of doing the review, but that the MSCWMO doesn't charge public entities.

Administrator Downing said he wanted to analyze the program to determine a clear threshold amount at which overages are charged back to the communities. This should help communities understand more clearly what to expect. Manager Zeller noted that some of the times there is an overage with the permit review is due to the applicant causing the delay or issue. This was just an informative agenda item with no action needed.

Lake St. Croix Direct South Phase II CWF Award

Administrator Downing informed the board that the MSCWMO had received this grant and is working on the workplan with BWSR. The targeted area is Lakeland and south with the goal of completing 4-8 more of the mid-tier identified projects identified in the Subwatershed Analysis for the area. They are one of only 3 recipients in the St. Croix Watershed. Formal approval of the plan will come later.

Curell Native Planting Cost Share Reimbursement

Last January, the MSCWMO board approved a Landscaping for Habitat grant of \$250 for Gabriel Curell to install native plantings at 1771 Racine Ave S, Lake St Croix Beach. Last year, Curell completed coursework to become certified as a Minnesota Water Steward and installed native plants and a bee-lawn at his home as part of his capstone project. Additional grant funds for the project were provided by the Washington Conservation District. Curell is currently requesting final reimbursement from MSCWMO in the amount of \$41.67 for expenses not covered by the WCD grant.

Manager Zeller motioned to reimburse Gabriel Curell \$41.67 for installation of native plants to support habitat and clean water and Manager McCarthy seconded this motion. The motions passed on a roll call vote.

Fox-ACTION

The construction of a new trail down the bluff on a residential property is proposed at 1485 Rivercrest Road N. in Lakeland. A project application for review was received on October 22nd, 2020. A variance for construction within the bluff line was granted from the City of Lakeland. Apart from grading on the bluff, the project meets all performance standards for erosion and sediment control plans. The project does not add any impervious surface and therefore does not trigger any permanent stormwater management standards. MSCWMO staff recommends project approval with the condition that the applicant use prudence in respect to

timing of the construction activity with relate to the weather forecast and makes every practicable effort to stabilize disturbed bluff areas as soon as possible.

Manager Zeller asked if he knew what contractor they were going to use and said he should let them know about Buell Landscape as they had done his similar project and were experienced. He welcomed them to look at his project as an example, noting that he didn't have erosion issues based on how it was designed/built.

Manager Fellegly motioned to advise Lakeland to approve the project with the conditions noted, and Manager Runk seconded this motion. The motion passed on a roll call vote.

200 Chestnut St –ACTION

Incomplete materials were received for a proposed development of a 73-unit apartment structure at 200 Chestnut Street East in Stillwater on December 1, 2020. Complete review materials were received on December 22, 2020. Stormwater is proposed to be managed utilizing green roofs meeting MSCWMO performance criteria. MSCWMO staff recommend approval with two conditions. Manager Olfelt Nelson explained that she had experience with Green roofs and asked if there was a permitting mechanism to ensure the long term function. She explained that St. Mary's Point had a location that will require annual inspections due to a raingarden being overbuilt to accommodate the overage of impervious surface and she wants to see these mechanisms in place elsewhere. Administrator Downing explained the MSCWMO has no authority for long term maintenance and inspections as they are not the permitting authority. Manager Collins said he did not know if this project had gone before the Stillwater planning commission and he would bring them these notes. Administrator Downing and Manager Zeller both spoke to their trust in the developer as someone who has demonstrated a willingness to go above and beyond. The green roofs will likely be a selling point of the development so they have an incentive to keep them functioning. During the pre-application meeting the developer was cognizant of project quality and their impact on Stillwater.

Manager Zeller asked if the MSCWMO could tour this project when compete and Administrator Downing said he will try and set that up. Manager Olfelt Nelson moved to approve this project with two conditions and Manager Collins seconded this motions. Motion passed on a roll call vote.

Hills of Spring Creek-INFORM

Materials were received for a proposed 195 acre single family residential development in Baytown Township on December 17, 2020. MSCWMO staff reviewed the H/H modeling and upon finding numerous technical errors and methodologies inconsistent with MSCWMO performance standards requested the applicant revise and resubmit materials. MSCWMO staff are currently awaiting resubmittal. Manager Fellegly said he thought they may have had a meeting that he was unable to attend. Administrator Downing said he had not seen any new files yet but they were using a file share service which could be sending them straight to the WCD engineer, Rebecca Nestingen. Manager Zeller asked if the MSCWMO was reviewing the Dewart project yet and Administrator Downing said he hadn't received anything new yet but needed to try reconnecting with them.

1175 Quinlan-INFORM

Incomplete materials were received for a proposed shoreline stabilization project at 1175 Quinlan Ave South in Lakeland on December 21, 2020. A variance from the City of Lakeland for construction within the bluff line will likely be required for the project. MSCWMO staff are awaiting receipt of a complete application package to review the project for conformance with MSCMWO standards. Manager Zeller asked if the project would involve riprap and Administrator Downing said it was not clear yet with the materials that had been submitted.

Staff Report

Administrator Downing presented the staff report. The water monitoring report was coming soon. There have been more ore-application meetings. There has been time spent on grant reporting. The Lily Lake project was going smoothly until recently when parking lot improvement activity started by the neighboring complex without a permit on the property which will affect the basin. He has tried contacting the building owner repeatedly and has a meeting with Stillwater Engineer Shawn Sanders next week. This will need to be addressed in the design to account for the flow or the project will fail.

1W1P Updates

There is no update yet. The next meeting will be the end of January. There was an Advisory Committee meeting today to work on the 1W1P workplan.

Minnesota Campaign Finance Board Request

He reminded the board that their forms were due by January 25th or they could be fined. Manager Zeller noted that it was worth reaching out to elected representatives to remind them that this is not applicable to WMO's who don't have taxing authority.

Audit

Administrator Downing said he received the request to bind services to collect the audit for \$3,000. The MSCWMO had budgeted \$2,100 so he reached out to ask why the value was so high. They said in 2018 there were accounting inconsistencies which led to more work than expected and that this price will go down if those accounting issues related to grant reporting were addressed. Administrator Downing needs the board's approval to move forward with the auditor and sign the agreement with them.

Manager Zeller moved to approve moving forward with the auditor and Manager Fellegly seconded the motion. The motion passed on a roll call.

Adjourn

Manager Fellegly motioned to adjourn the meeting and Manager Runk seconded this motion. Motion passed on a roll call vote with all in favor. Meeting adjourned at 7:05PM



Offices in 150 South Fifth Street
Suite 700
Minneapolis Minneapolis, MN 55402
(612) 337-9300 telephone
Saint Paul (612) 337-9310 fax
www.kennedy-graven.com
St. Cloud Affirmative Action, Equal Opportunity Employer

TROY J. GILCHRIST
Attorney at Law
Direct Dial (612) 337-9214
Email: tgilchrist@kennedy-graven.com

Also: St. Cloud Office
501 W. Germain Street, Suite 304
St. Cloud, MN 56301
(320) 240-8200

January 4, 2021

Matt Downing
Middle St. Croix Watershed
Management Organization

VIA E-MAIL
(mdowning@mnwcd.org)

**Re: Letter Proposal to Continue Providing Legal Services
(2021-2022)**

Dear Matt:

Please accept this letter as the proposal of Kennedy & Graven, Chartered to continue to provide legal services to the Middle St. Croix Watershed Management Organization (“MSCWMO”).

I. KENNEDY & GRAVEN, CHARTERED QUALIFICATIONS

Kennedy & Graven has made a commitment to the representation of public bodies as a mainstay of its practice. More than 90% of the revenues of the firm are derived from the practice of municipal law. We currently serve as city attorney for civil matters for the following 50 cities: Biscay, Belle Plaine, Brooklyn Center, Brooklyn Park, Cokato, Cottage Grove, Crystal, Faribault, Franklin, Fridley, Greenwood, Holdingford, Hopkins, Independence, Kenyon, Lake City, Lake Elmo, Lauderdale, Mantorville, Maple Lake, McGrath, Maplewood, Medina, Minnetonka Beach, Minnetrista, Mound, Mounds View, Nerstrand, New Brighton, New Prague, Nicollet, Oak Grove, Oakdale, Osseo, Pine Island, Rice, Richfield, Robbinsdale, Rogers, Rosemount, Sandstone, Shakopee, Spring Park, Tonka Bay, Victoria, Wahkon, Watson, West Concord, White Bear Lake, and Woodbury.

We also represent a large number of housing and redevelopment authorities, economic development authorities, port authorities, charter commissions, towns, joint powers organizations, watershed management organizations, school districts, and other special purpose political subdivisions as general counsel. We have represented a large number of Minnesota cities as special counsel on specific projects on a broad range of municipal law matters. These

have included Minneapolis, St. Paul, the Minneapolis Park and Recreation Board, and St. Anthony as well as Bloomington, Burnsville, Duluth, Minnetonka and scores of others.

Over the years we have developed considerable experience in nearly all of the legal issues faced by cities and other units of local government. The experience of the firm that relates most directly to the work of the MSCWMO is our practice in the representation of joint powers watershed management organizations, which include the Lower Rum River Watershed Management Organization, the Bassett Creek Watershed Management Commission, the Shingle Creek Watershed Management Commission, the Mississippi Watershed Management Organization, the Vadnais Lakes Area Watershed Management Organization, and the West Mississippi Watershed Management Commission. However, our ability to provide services to such organizations is significantly enhanced by our experience in serving other governmental clients. As city attorney for a large number of municipalities and special counsel for many others, we advise our clients on the full range of local government issues on a daily basis. Additionally, the firm is nationally recognized as approving bond counsel. In this connection, we have given approving opinions and provided services relating to municipal finance matters (including financing of storm sewer facilities and county ditches) for several hundred cities, counties, school districts, and other such organizations throughout the state and, to a lesser extent, outside of the state of Minnesota.

This experience has not only allowed us to develop considerable experience in all matters relating to the activities of WMO's, but has given us a good understanding of the problems and concerns of cities. We believe that this understanding has helped in continuing a harmonious relationship between our WMO clients and their member cities and avoiding the problems and conflicts that can occur between cities and watershed districts. We take pride in the firm's broad understanding of the legal, economic, and political environment facing the public sector in Minnesota.

II. PROJECT TEAM QUALIFICATIONS

We follow a team approach in representing our clients so that the considerable expertise and experience of all of the 34 attorneys of the firm can be brought to bear on the problems or issues of any one client. However, we propose that Troy Gilchrist continue to be primarily responsible for the work for the MSCWMO. I have been practicing law since 1992. My practice is devoted exclusively to representing local government clients. I am currently the attorney for the Shingle Creek Watershed Management Commission, the Lower Rum River Watershed Management Commission, the Mississippi Watershed Management Organization, the Middle St. Croix Watershed Management Organization, the Vadnais Lakes Area Watershed Management Organization, and the West Mississippi Watershed Management Commission. I am the City Attorney for the cities of Brooklyn Center, Crystal, White Bear Lake, Mound, Rice, Biscay, and Watson, I have provided special services to others cities at the request of the League of Minnesota Cities, serve as the Town Attorney or Special Counsel to over 250 towns across the state, and I represent the Lake Minnetonka Conservation District, economic development

authorities, the Greater Bemidji Area Joint Planning Board, the Walker Area Joint Fire Department, Hastings Rural Fire Association, and other joint powers entities.

Although my work for other joint powers WMOs is most directly related to the legal needs of the MSCWMO, my representation of cities, towns, and of the Lake Minnetonka Conservation District has given me the opportunity to be involved in many other ways in surface water management issues, the Wetland Conservation Act, public contracting, the state open meeting law, local land use issues, joint powers organizations, financing of public improvements, intergovernmental relations, environmental law and public liability for storm water damages.

For the 15 years prior to joining Kennedy & Graven in 2006, I was the Director of Operations and General Counsel for the Minnesota Association of Township Insurance Agency and an attorney with the Minnesota Association of Townships. During that time I conducted training sessions, drafted articles, memos, and risk management materials for elected officials on legal matters, represented towns before state agencies and the legislature, and established and ran the self-insurance programs for towns.

III. RATES

For 2021, we propose to keep the current rate of \$183 per hour for attorneys, \$103 hour for clerks, and \$108 per hour for paralegals. For 2022, we propose to increase each of those rates by \$3. Different rates apply for specialty services such as litigation, property acquisitions, and bonding.

IV. INSURANCE

The firm maintains coverage in the amount of \$5,000,000 for professional liability and in excess of that amount (including umbrella coverage) for general commercial liability.

V. CONCLUSION

If we can provide you with any additional information that would be helpful to you in selecting legal counsel, please do not hesitate to give me a call.

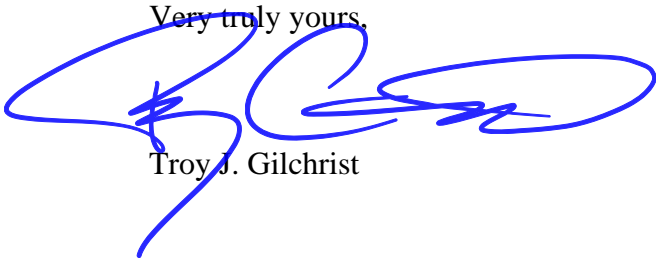
We would be happy to provide references on request. However, we would also encourage you to feel free to call representatives of any of the watershed management organizations or the city managers or administrators of any of the cities noted above that we represent as legal counsel, about the services provided by our firm.

We believe that Kennedy & Graven is uniquely suited to serve the MSCWMO. We know of no other firm that has the depth and breadth of experience in representing local government units in Minnesota as Kennedy & Graven, and we pride ourselves in providing quality service to our public clients.

MSCWMO
January 5, 2021
Page 4 of 4

At Kennedy & Graven, our commitment to representing local government units represents not only an interest in such work but a firm belief that the work of local government units is important. We would very much appreciate being given the opportunity to continue to serve as legal counsel to the MSCWMO.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Troy J. Gilchrist", is written over the typed name. The signature is stylized with large loops and a prominent initial.

Troy J. Gilchrist



Mendota Consultants PLLC

Neutral Independent Investigation and Facilitation

February 5, 2021

Administrator Matt Downing
Middle St. Croix Watershed Management Organization

Via e-mail to: mdowning@mnwcd.org

Dear Mr. Downing:

I am submitting this Letter of Interest Proposal for legal consulting services. My company, Mendota Consultants PLLC is a one-woman sole proprietorship providing neutral independent investigation, mediation and facilitation services. I conduct various types of legal investigations involving workplace misconduct, whistleblower complaints, harassment, and other issues. I also provide informal facilitation services and formal mediation.

I have been a Minnesota licensed attorney in good standing for more than twenty years. I am a qualified Neutral under Rule 114 of the Minnesota Rules of practice and have conducted numerous mediations. I have also completed more than 200 independent investigations.

Having served as a state agency manager and general counsel, I have expert knowledge of the Minnesota Government Data Practices Act (Minnesota Statutes Chapter 13), State Procurement (Minnesota Statutes Chapter 16C), the Minnesota Human Rights Act (Minnesota Statutes, Chapter 363A), the Minnesota Administrative Procedure Act (Minnesota Statutes Chapter 14), and the Code of Ethics for Employees in the Executive Branch (Minnesota Statutes, section 43A.38), as well as other state and federal employment laws.

In addition, I may be available to assist your organization with drafting legislation or conducting administrative rulemaking. I have significant experience in these areas, having drafted several bills and successfully completed 7 rulemaking projects on behalf of state agencies.

My typical hourly rates are \$170 for investigation, mediation and facilitation, and \$120 for legislation, lobbying and rulemaking. I would be happy to submit a proposal on a specific project for you at any time. Please feel free to contact me at (651) 398-1893 or patty@mendotaconsultants.com. You can also find out more about my company at www.mendotaconsultants.com.

Sincerely,

Patricia M. Sifferle
Mendota Consultants PLLC

Proposal for 2021-2022 Engineering Consulting Services



February 4, 2021

Matt Downing, Administrator
Middle St. Croix Watershed Management Organization
455 Hayward Ave.
Oakdale, MN 55128

Subject: Proposal for Engineering Services

Dear Matt:

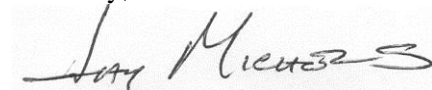
It is with great pleasure that we submit our proposal to provide engineering services to the MSCWMO for fiscal years 2021 and 2022. We welcome the opportunity to continue and build on the work and relationships we have developed with the MSCWMO communities over the past six years. Our efforts have ranged from working one on one with each of these communities to review, update and implement ordinances, policies and programs to protect and improve water quality through the Integration of MIDS into Local Ordinance and Zoning Code project to the development and grant application for the Lily Lake Stormwater Retrofit Feasibility and Design to Achieve State Water Quality Standards project. Now we are excited to be involved in the construction of this project as we put the final touches on designs and specifications for the infiltration basin and in-lake alum treatment before going out to bid this spring. These are benchmark projects, and we are proud to have played a role in improving an area many of us call home.

EOR takes great pride in the work we have done with and for you and the individual communities that make up the MSCWMO. With most of us living in the St. Croix Valley, we are part of the fabric of these communities and intimately involved in water resource management throughout the St. Croix Basin. We continue to provide engineering services to Brown's Creek, Carnelian Marine-St. Croix, Comfort Lake Forest Lake watershed districts as well as the Chisago Lakes Lake Improvement District. The St. Croix River is "our" river. We are dedicated to providing future protection and improvements to the watershed.

Building on our long working relationship, I will continue to act as the Client Representative, drawing from the experience of our EOR staff as the need arises. Kevin Biehn will lead our Design Group working with Kyle Crawford and Britta Hansen on the design and implementation of water quality projects; Stu Grubb will continue to track groundwater issues in relation to the 3M PFAS settlement; Mike Majeski will provide his expertise in wetland and natural resource protection; and several of our top water resources engineers are available to work on water quality projects. The depth and experience of this group in watershed engineering within the St. Croix Valley is unrivaled.

Again, thank you for the opportunity to work with the MSCWMO through the next two years. We look forward to the challenge and the opportunity. Please feel free to contact me with any questions.

Sincerely,



Jay Michels, CPESC, NGICP
Partner, Senior Project Manager
651-261-4546
jmichels@eorinc.com

Executive Summary

Ever since Brett Emmons and Cecilio Olivier hung out the Emmons & Olivier Resources (EOR) shingle at the Joshua Taylor building in Lake Elmo in 1997, EOR has been a fixture in the protection and improvement of water quality in the St. Croix Valley. Our first client was the South Washington Watershed District. Since that time, providing services to Watershed Districts and Water Management Organizations across the State has remained a significant part of the fabric of EOR. Providing comprehensive engineering services to these clients draws from our talents across the company in watershed planning, policy development, groundwater, limnology, wetland and natural resource protection and water resource engineering based in the concepts of Low Impact Development (LID) to capture and treat runoff at its source.

Over the past 23 years, we have expanded our company to include offices in Wisconsin, Iowa, Toronto and Edmonton. Using the expertise, we have gained to help others. As we have grown, we have remained true to our roots, most of us calling the St. Croix Valley home. We have built our success on providing services to the MSCWMO as well as the Browns Creek, Carnelian Marine St. Croix and Comfort Lake Forest Lake Watershed Districts as well as the Chisago Lakes Improvement District. We take great pride in our accomplishments and visible improvements to water quality in the St. Croix Valley.

MSCWMO Experience

Our relationship with the MSCWMO started in 2015 with a 2-year project working with each of the communities in the MSCWMO to review, update and implement ordinances, policies and programs to protect and improve water quality and stormwater management through the adoption of the Minimal Impact Design Standards (MIDS) Community Assistance Package. Many of the communities were shackled with ordinances that were decades old and out of date. By working one on one with each of the communities we were able to customize their ordinances to address their specific needs and to match and compliment the policies of the MSCWMO.

Our next effort focused on Lily Lake, where we played a role in the feasibility study and successful grant application to design and construct an infiltration basin on the southern part of the Lily Lake recreational area that will redirect runoff from a very dirty subwatershed to the south and Greeley Street that currently goes directly into Lily Lake. This project is currently in its final design stage with construction expected this summer. After this project is completed, we will be overseeing an alum treatment of the lake that will reduce summer algae blooms and improve water quality with the goal of removing the lake from the impaired waters list.

This is a project that we are all very excited about. Lily Lake, the ballfields and hockey arena have played a significant role in many of our personal histories; from swimming lessons for our children when the beach was still open to decades of little league and softball games on the ballfields to watching our grandchildren learn to skate and play hockey in the arena. To have the opportunity to be a part of this historic project in our own community and to leave a legacy of improved water quality is truly an honor.

Future opportunities

As we look to the future, we face new problems with groundwater contamination within the MSCWMO for chemical contamination from the 3M landfill and other areas in Lake Elmo. Our groundwater team, led by Stu Grubb, is unique in our history and experience with these issues. Stu will continue to provide his expertise as requested by the MSCWMO Board.

Our experience, local knowledge, and dedication to improving and protecting the waters and natural resources of the St. Croix Valley is unrivaled. The challenges are many and we look forward working closely with the MSCWMO Board and staff on providing solutions for future generations.



Description of Firm

Emmons & Olivier Resources (EOR) is a collaborative group of environmental and design professionals passionate about protecting our waters, restoring healthy ecosystems, and enhancing our community's unique sense of place. We are an employee owned, multi-disciplinary water resource-based firm that specializes in:

- water-resources engineering, watershed planning, and surface water and groundwater modeling
- environmental compliance, biological surveying, and ecological restoration
- sustainable civil site design, municipal planning, and landscape architecture

History

Formed in 1997, Brett Emmons and Cecilio Olivier recognized the critical need for sustainable, alternative approaches to resources management that would provide long-term, holistic solutions. Having developed many unique applications and advanced sustainable technologies, EOR continues to monitor and refine our designs to address multiple functions.

Approach

At EOR, scientific study and design are inherently intertwined in the pursuit of sustainability. The analytical and creative richness of our solutions derives from this integration and results in the highest social, environmental and economic returns for our clients.

Mission + Values

we care for the earth and its inhabitants

- we collaborate with environmentally conscious customers
- we attract passionate, creative professionals
- we work in an aspiring and healthy environment
- we foster a culture of ownership
- we support the communities we serve
- we believe now is the time to act



Services & Awards

Water

floodplain management • geologic and hydrogeologic investigations • groundwater modeling, planning, and mgmt • hydrologic and hydraulic modeling • lake and wetland mgmt. plans • policy & ordinance development • stormwater management and outreach • stream assessment, restoration, and monitoring • TMDL and watershed protection studies • water quality monitoring and modeling

Ecology

ecological restoration design • environmental compliance • environmental planning and management • invasive species documentation • vegetation assessment and classification • wetland regulatory activities • wildlife surveys and monitoring

Community

campus and community planning • civil design, construction mgmt, and land surveying • green infrastructure • low impact development & conservation design • parks & trails planning • public participation, input, and project awareness • sediment control and conservation practices • sustainable site design (SITES) & LEED strategies • sustainability planning

Recent Awards

2020 AWRA Integrated Water Resource Management Award

2020 WEF Water Quality Improvement Award

2020 MN-ASLA Landscape Merit Award

2017 MN-ASLA Landscape Architect Award

2017 USGBC Wisconsin Leader Award for Innovative Design

2017 Sustainable St. Paul Award

2016 FIDIC International Consulting Engineer Merit Award

2016 Freshwater Society Clean Water Champion Award

2015 ACEC-National Excellence in Engineering Grand Award

2015 MN-ACEC Grand Water Resources Award

2014 MN-ASLA People's Choice Award

2013 MN-ACEC Research Award

2012 MN-ASLA Communication Design Award

2011 MN-ASLA Landscape Architect Award

2010 MN-ACEC Consulting Award

2010 WI -ASLA Landscape Architect Award

2010 Environmental Initiative Award

2010 MN-ACEC Water Resources Grand Award + Nat'l. Finalist



Expertise & Experience

Dedicated to protecting water resources, restoring healthy ecosystems and enhancing our community's unique sense of place, EOR's multi-discipline team forms the core of our approach. EOR's diverse team includes 23 professionals with Master degrees or higher and 24 professionals with over 20 years of experience.

Education + Expertise

Degrees

- Water Resource + Civil Engineering
- Agricultural + Bio-systems Engineering
- Geological Engineering
- Environmental Engineering
- Mining + Mechanical Engineering
- Water + Natural Resources Sciences
- Forestry + Plant Physiology
- Ecology (freshwater, forest, environmental)
- Biology (aquatic, conservation, environmental)
- Environmental Design
- Landscape Architecture
- Architecture

Specialties

- Stormwater Best Management Practices
- Low Impact Development & Green Infrastructure
- Natural Resources Management & Planning
- Watershed, Water Quality and Quantity Modeling
- Total Daily Maximum Load Studies (TMDLs)
- Environmental Compliance (EAW, EIS, SEIS,)
- Sustainable Site Development + Low Impact Design
- Fluvial Geomorphology & Stream Stabilization
- Eco-Restoration and Conservation Management
- Sustainability Planning
- Stormwater Policy, Permitting & Utility Guidance
- Watershed Planning and Rules Development
- Field Surveying (rare plants, threatened species, etc.)
- Educational and environmental signage
- Geographic Information Systems

Related Experience

Lily Lake Final 45 BMPs

Date: 2018

Location: Stillwater, MN

Client: Middle St. Croix WMO

Lily Lake has been on the State's impaired waters list since 2002. A planned TMDL in 2021 was to be avoided if practices could be implemented that would reduce phosphorus levels in the lake by an additional 45 pounds per year.

EOR performed a feasibility study to identify possible locations for water quality improvement best management practices (BMPs) to reach this goal. Input was garnered from the public and local officials, and two projects were chosen for further design. The projects included a 18,000 square-foot bioretention basin and a 52,000 cubic-foot underground infiltration trench. Design of the features and an accompanying report was used to seek grant funding to construct the BMPs.



City of Cumberland

Stormwater Master Plan Projects

Date: 2010 - present

Location: Cumberland, WI

Client: Beaver Dam Lake Management District

EOR worked with the BDLMD and City of Cumberland to develop qualitative and quantitative goals for the City's water resources. The team constructed StormNET (hydrology /hydraulic) and P8 (water quality) models to better understand the hydraulics of the storm sewer network and the water quality of stormwater discharging to surface water resources. These models were used to identify priority management areas to meet the water resource goals. EOR then developed a Stormwater Management Plan to address and help guide the City's administrative and programming initiatives.

EOR has been working with the BDLMD to implement recommended stormwater improvement projects, leveraging of \$2M in state and local funds to do so.



Moody Lake Alum Treatment

Date: 2015

Location: Chisago County, MN

Client: Comfort Lake-Forest Lake Watershed Dist.

EOR completed a feasibility study that identified a whole lake alum treatment of Moody Lake sediments to achieve the internal phosphorus load reductions needed for Moody Lake to meet water quality standards.

EOR completed the dosing and bidding for the application of aluminum sulfate (commonly known as alum) to Moody Lake in order to bind suspended phosphorus in the water column and trap it in the lake bottom sediment. Once bound to the alum, the phosphorus will no longer be biologically available for algae, thus improving water clarity. A split dose of alum was used for Moody Lake, with the first half applied in October of 2018 and the second half in fall of 2019.

The Moody Lake alum treatment is the final step of a systematic, multi-year diagnostic and implementation planning process that the District began in 2011. Total project cost was \$235,000 with an expected lifespan of 10 years.



Crosby Memorial Park Stormwater Improvements

Date: 2016 - 2018

Location: Crosby, MN

Client: City of Crosby

EOR developed a design to intercept and filter runoff from over 13 acres of highly impervious area in downtown Crosby. This runoff had previously been piped directly into Serpent Lake, a pristine regional recreation resource.

EOR's work involved redirecting and replacing storm sewer pipes, restoring roadway, implementing a water quality unit and multiple rain gardens in the community park located adjacent to Crosby City Hall. Project improvements significantly reduced pollutants entering Serpent Lake, and also added pollinator habitat as well as aesthetic improvements to the lakeshore and City Hall grounds.



Marine Village Stormwater Improvements

Date: 2017 - present

Location: Marine on St. Croix, MN

Client: Carnelian Marine St. Croix Watershed Dist.

EOR planned and designed a series of low impact, stormwater management features to implement in conjunction with a state aid funded road improvement project in this historic small town.

The improvements focused on achieving maximum water quality benefit for the picturesque Mill Stream and the St. Croix River, while at the same time maintaining and expanding existing pedestrian connections and outdoor community event spaces. Some roadway stretches were abandoned and replaced with rain gardens and native plantings, while other roadways were improved for water quality with curb cuts and sump manhole structures. Custom rain garden pre-treatment devices were designed using native limestone harvested from excavation, and a ravine restoration project used bioengineering techniques to stabilize loose soils and open up views from the town to the river.



MSCWMO Community Ordinance Assistance

Date: 2015-2017

Location: Washington County, MN

Client: Middle St. Croix WMO

Through funding provided by a Clean Water Legacy Accelerated Implementation Grant, EOR led an effort to help communities within the Middle St. Croix watershed update their existing stormwater ordinances and incorporate Minnesota's Minimal Impact Design Standards (MIDS).

The MIDS Community Assistance Package was developed by EOR in partnership with the Washington Conservation District, the MPCA, and the MIDS Workgroup under a separate grant. Using this guidance, the project team reviewed existing ordinances and policies, identified necessary updates, provided model ordinance language, and met with city staff, elected officials and the public to implement changes.





Key Personnel

Kevin Biehn, ASLA, CPESC, LEED AP BD+C

Role: Landscape Architect

Kevin has 25 years of experience as a landscape architect and stream specialist, which affords him the opportunity to exercise his analytical and artistic sensibilities. Kevin has managed a diversity of challenging projects including the \$1.6 million Harriet Island Park Rehabilitation, the Rice Creek Meander Restoration - one of the largest stream restoration projects in the Midwest, and Organic Valley's LEED Certified Headquarters.

Camilla Correll, PE

Role: Water Resources Engineer

Camilla Correll is a Water Resources Engineer with 24 years of experience who specializes in stormwater infiltration, integrated watershed management, and sustainable engineering design. Camilla's detailed knowledge and extensive experience in the development of various watershed management plans, watershed rulemaking, and application of low impact development techniques have allowed her to successfully implement innovative stormwater and watershed management plans, all supported by her rigorous scientific approach and thorough research. Her excellent communication skills & ability to facilitate and lead large, multiple interest group discussions have led to her success as an efficient project manager for EOR.

Kyle Crawford, PE

Role: Civil Engineer

Kyle Crawford is a Water Resources Engineer with nine years of broad experience in civil engineering, stormwater management and ecosystems restoration. He is well versed in design and assessment platforms (ArcGIS, HydroCAD, Bentley FlowMaster, CulvertMaster, and AutoCAD Civil 3D). Kyle has been directly involved in a wide range of projects in stormwater conveyance design, stormwater management plans, residential and commercial site design, and implementation of eco-restoration. These projects have utilized his background in land and construction surveying, civil engineering design, erosion and sediment control, and construction observation and administration.



Brett H. Emmons, PE, ENV SP, LEED AP

Role: Water Resources Engineer

Brett Emmons is a founding principal of EOR with 34 years of experience in civil and water resources engineering, natural resources management, green infrastructure, and watershed planning – with an emphasis on innovative stormwater management techniques. He has been instrumental in developing EOR as a leader in low impact design and BMP implementation. Brett has led the planning and design of various projects ranging from small residential efforts to large multi-million-dollar projects. He is experienced in leading project teams involving multiple consultants, public interest groups, and government committees at every jurisdictional level.

Britta Hansen, PLA

Role: Landscape Architect

Britta has 11 years of experience as a landscape architect and project manager designing and constructing public spaces, parks, school and corporate campuses, and stormwater management features. Britta specializes in site design that weaves together elements of conservation, sustainability, education, performance, and art. She is experienced and capable at all levels of design from iterative concept design to master planning. In addition, Britta designs and facilitates public input processes, and she is a trained visual artist who creates renderings and interpretive signage. She is experienced at permit review of landscape restoration plans, and she has developed and implemented many successful ecological restoration projects across Minnesota and the Upper Midwest.

Jay Michels, CPESC, NGICP

Role: Stormwater Mgmt. & Erosion Control Specialist

Jay has over 40 years of experience in construction, stormwater management and erosion control. The emphasis of his work is in low impact development (LID) and stormwater pollution prevention. Jay has served as a program adviser to a number of communities and state agencies in the development of stormwater programs, regulations and ordinances. A successful grant writer, Jay has administered over \$5,000,000 in grant funding for educational, shoreland and stormwater management projects.



Stuart Grubb, PG

Role: Senior Hydrogeologist

Stu has 32 years of experience in environmental consulting and has served as the lead hydrogeologist and project manager for many large, multi-disciplinary environmental permitting projects and regional groundwater studies. He has worked extensively with groundwater infiltration and recharge both on local and regional scales. Stu has also designed stormwater infiltration basins and modeled aquifer recharge for water resource management organizations.

Mike Majeski

Role: Conservation Biologist

Mike Majeski has 20 years of experience as a biologist with a focus on wildlife and aquatic ecology. His work includes stream assessment and design, water quality studies, biological monitoring, and wildlife surveys. Mike has managed a variety of projects including invasive species detection and management, rare species surveys, stream habitat enhancements, large scale water quality monitoring and flow studies, and stressor identification. Mike is also EOR's emergency management and first aid leader, ensuring that all EOR staff are trained and appropriately prepared to deal with emergency situations.

Paula Kalinosky, EIT

Role: Water Resources Engineer

Paula Kalinosky is a water resources engineer with 17 years of science & engineering- related experience. Her work includes stormwater modeling, development review assistance, TMDL studies, water quality monitoring and assessment, and street sweeping management. The later was the focus of Paula's research in graduate school. As part of her master's thesis she developed a spreadsheet application tools to aid in the estimation of potential nutrient recovery through street sweeping. Paula's technical background includes experience with water quality laboratory and field methods, spatial analysis, programming, statistical analysis, and water treatment.

EOR Team Summary

Staff <i>(alphabetical by last name)</i>	Advanced Degree	Minnesota Registration and / or Certification	Years of Experience	SERVICE AREAS											
				1 Watershed Mgmt. & Planning	2 Lake, Wetland & Stream Restoration & Mgmt.	3 H/H & Water Quality Modeling	4 Stormwater BMP Design & Construction Management	5 Culvert Design, Repair, Installation	6 Bank Erosion Design & Repair	7 Dam/Control Structures	8 Water Resources Permitting	9 Geographic Info. Systems (GIS)	10 Education & Outreach	11 Landscape Design & Constr.	12 Carp Barriers
Carl K. Almer			25	■	X	X	X	X	X	X	■		X		X
Kevin Biehn	Master	PLA, CPESC	25		■		■		■			X		■	
Sonya Carel	Master	RA, CID	24									X	X		
Pat Conrad			30	X	X										
Camilla Correll	Master	PE	24	X							X				
Kyle Crawford		EIT	9				X	X	X	X					X
Brett Emmons	Master	PE	34	X						■	X				X
Ryan Fleming		PE	20			X	X	X		X	X				
Paul Fritton	Master	EIT	2	X		X	X				X	X			
Meghan Funke	PhD	PE	15	X	■	X									
Sarah Grandstrand	Master		3	X								X	X		
Greg Graske		PE	22							X	X				■
Stu Grubb	Master	PG	32	X		X					X				
Britta Hansen	Master	PLA	11		X		X						X	X	
Paula Kalinosky	Master	PE	17		X	X							X		
Derek Lash		PE, CPESC	24		X		X	X		X				X	
Chris Long		CMWP	6		X								X		
Mike Majeski			20		X					X				X	
Jimmy Marty		CMWP	6		X										X
Jay Michels		CPESC, NGICP	42								X		■		
Dan Mossing		PE	6		X		X	X	X						
Jason Naber		WDC	32	X	■					X					
Cecilio Olivier	Master	PE	35			■	X	■		X	X				X
Joe Pallardy			12	X	X	X					X				
Brian Rucker			5		X		X								
Trevor Rundhaug	Master	EIT	5			X					X	X			
Rosalind Russell			3	X	X						X		X		
Mike Talbot	Master	EIT, CFM	14			X		X			X	X			

KEY: ■ = service area lead(s) X = key personnel

EOR 2021 Schedule of Hourly Rates

<u>Classification</u>	<u>Hourly Rate (*)</u>
Professional 1	\$103.00
Professional 2	\$129.00
Professional 3	\$153.00
Professional 4	\$174.00
Technician 1	\$74.00
Technician 2	\$90.00
Technician 3	\$109.00
Principal Partner	\$209.00
Support Staff	\$70.00

Professionals:

Includes licensed and nonlicensed engineers, landscape architects, geologists, scientists, surveyors, field professionals, and geospatial professionals with bachelor’s or advanced degrees.

Technicians:

Work requires a combination of basic scientific knowledge and manual skills which can be obtained through two years of post high school education, such as is offered in technical schools, community colleges, or through equivalent on-the-job training.

Principal Partners:

Officers and departmental managers at the highest level of EOR staff classification performing technical and quality control supervision.

Support Staff:

Non-manual clerical work performed by office administrators, administrative assistants, bookkeepers, messengers, office helpers, and clerks.

Additional Notes:

- *Reimbursable expenses (Reproduction, Printing, Duplicating, Mileage at current government rates, DGPS equipment, field supplies, use/rental of special equipment, etc.) will be billed at cost.*
- *Subcontracted services will be billed at cost plus 15% to cover overhead expenses.*
- *Expert witness trial and deposition testimony will be billed at the above hourly rates times 1.5.*
- *Payment is due upon receipt of invoice. If the invoice is not paid within thirty (30) days after invoice date, Client will also pay a finance charge thereon of 1.5 percent or the maximum rate allowed by law, whichever is less, for each month thereafter or portion thereof that an invoice remains unpaid.*

(*) Rates reviewed and adjusted on an annual basis.

References

Mike Isensee

Administrator
Carnelian Marine St. Croix Watershed District
21150 Ozark Ave. N., P.O. Box 188
Scandia, MN 55073
651-433-2150
mike.isensee@cmscwd.org

Karen Kill

Administrator
Brown's Creek Watershed District
455 Hayward Ave. N.
Oakdale, MN 55128
651-330-8220 ext. 26
kill@mnwcd.org

Melissa Barrick

District Manager
Crow Wing Soil and Water Conservation District
322 Laurel Street #22
Brainerd, MN 56401
218-828-6197
melissa@cswcd.org

APPENDIX A: Team Résumés



Select Project Experience

Parks & Natural Resource Restoration

Kevin has developed a niche in the design of natural-resourced based park systems; based on his unique blend of experience in landscape architecture, ecology, and water resources. Kevin has managed and/or contributed to over 30 parks and greenway systems. A summary of his recent work includes the following:

Lake Byllesby Master and Natural Resource Management Plans
Dakota County via Hoisington Koegler Group, Inc. Landscape Architect and Ecologist.

Contributing author to both planning documents and provided the critical bridging between natural resources and park topics for the consultants and stakeholders.

Brown's Creek Conservation Area

Brown's Creek Watershed District / Project Manager

Developed the natural resource management plan and park master plan for 13-acre park in rural Washington County, MN. Led the citizen as well as the technical advisory committee engagement and garnered plan support for the District's first land holding. Balanced the stakeholder and resource conflicts between traditional park uses and conservation ideals.

St. Cloud River Walk Master Plan

City of St. Cloud via Confluence / Landscape Architect & Fluvial Geomorphologist

Provided key analytical and artistic riverfront contributions to the development of a regional recreation and economic hub on the banks of the Mississippi River.

Harriet Island Park Improvements

St. Paul Parks and Recreation Department/ Design and Construction Manager

Managed 1.6 million dollar Mississippi River waterfront renovation. Modernized trail and utility infrastructure, stabilized the degraded shoreline, integrated sustainable and restorative elements, and reconnected this historic park to the river.

Mill Park Remediation & Master Plan

City of Little Falls and MN Historical Society / Project Manager

Managed development of a park master plan for the Hennepin Paper Complex, a historic, contaminated, and ecologically sensitive parcel along the Mississippi River. Responsible for garnering necessary buy-in from opposing interests groups and stakeholders.

Library Lake Master Plan

Beaver Dam Lake Association and City of Cumberland, WI / Project Landscape Architect

Managed the design of a four million dollar investment in a rural Wisconsin community to revitalize its downtown while restoring the beauty and ecology of an adjacent Lake. Currently supporting: fundraising, grant writing, and property acquisition efforts.

Bruce Vento Nature Sanctuary

St. Paul Parks and Recreation Department/ Design Landscape Architect

Designed the park elements (trail system, created wetlands and groundwater-fed brook) of this reclaimed urban brownfield. Worked with citizens groups, Native American community, and various LGU's to preserve site's culture, landmarks, and environmental resources.



Kevin Biehn

ASLA, CPESC
LEED AP BD+C

Partner,
Landscape
Architect

Years of experience: 25

Availability: 20%

Office Location: Saint Paul, MN

Kevin has 25 years of experience as a landscape architect and stream specialist, which affords him the opportunity to exercise his analytical and artistic sensibilities. Kevin has managed a diversity of challenging projects including the 1.6 million dollar Harriet Island Park Rehabilitation, the Rice Creek Meander Restoration - one of the largest stream restoration projects in the Midwest, and Organic Valley's LEED

Education

1998 Bachelor of Environmental Design,
University of Minnesota

2000 Master of Landscape Architecture
Minor: Water Resources Science,
University of Minnesota

Additional Training

2001- continuous:
numerous Rosgen & various
stream restoration courses

2004 Kinship Conservation
Institute Fellowship, Montana

2005 Systematic Development of
Informed Consent

2008 Natural Step

2010 Certified Water Harvesting
Practitioner , Watershed
Management Group

Professional Registrations

#42529 MN Reg. Landscape Architect

#623-014 WI Reg. Landscape Architect

#00634 IA Reg. Landscape Architect

Certified Professional in
Erosion & Sediment Control

Areas of Expertise

Sustainable Site Design/Research
Parks & Natural Resources Restoration
Stream Assessment & Restoration
Ravine, Bluff, & Lakeshore Restoration

Stillwater Natural Areas Management Plan

City of Stillwater / Project Manager

Managed the development of a buffer (wetland & cold-water stream) and natural areas management plan for a new park in Stillwater, MN. Plan addressed cold-water stream opportunities and sensitivities and the myriad of invasive species present.

Nokomis-Hiawatha Regional Park Master Plan

Minneapolis Park & Recreation Board via HKGI / Landscape Ecologist

Led water and natural resource elements on this 660-acre park master plan, the first master plan update since original in 1934. Reflecting community desires the master plan envisions reversing a landscape dominated by turf to concentrated areas of lawn enclosed by robust native plant communities providing habitat and stormwater management.

Moorhead River Corridor Master Plan

City of Moorhead via HKGI / Landscape Ecologist

Provided water and natural resource expertise to integrating habitat restoration and public recreation with flood mitigation efforts and associated recommendations for sustainably managing the parkland.

Stream Assessment & Restoration

Kevin is one of the region's leading stream restoration practitioners. In a young and rapidly-evolving industry, Kevin's nearly two decades of experience puts him near the top of the field. Kevin leads EOR's team of stream restoration/stabilization professionals. His experience ranges from design-build habitat restoration for Trout Unlimited to watershed-scale assessments for the Environmental Protection Agency.

Middle Rice Creek Restoration Project [Phase 1 & 2]

Rice Creek Watershed District / Project Manager

Managed the design, permitting and construction of one of the largest stream restoration projects in MN to date. Over 2-miles of formerly ditched suburban Rice Creek was restored to a natural meandering flow path.

Expansion Blvd Flood Reduction

City of Storm Lake, IA / Stream Geomorphologist

Assisted in the design of a flood reduction project for a frequently inundated business park. Backbone of the project includes a 2-stage ditch with saturated buffers and adjacent created wetlands.

Zumbro River Stabilization

Olmsted County SWCD / Project Manager

Diagnosed cause and stabilized 2000' of rapidly eroding stream bank, which threatened numerous structures. Responsive design responded to inaccessibility of site and modest available budget.

Cold Water Stream Improvements for Golf Course

Brown's Creek Watershed District / Project Manager

Assisted in pre-project monitoring & modeling to document cost/benefit. Garnered grant dollars and necessary buy-in from Golf Course. Led design, permitting, construction, extended maintenance, and post-project monitoring.

Poplar River Stabilization

Lutsen Mountains / Fluvial Geomorphologist

Managed river and bluff stability assessment. Designed stabilization plans for a 100 foot, nearly vertical, clay bank slope. Facilitated stake-holder meetings for the multiple peer-review and interest groups.

Brown's Creek Fish Passage Improvements

Brown's Creek Watershed District / Project Manager

Identified barrier via routine natural resource assessment and garnered buy-in from bridge owner (DOT) to correct condition. Oversaw modeling, permitting and design.

Camp Creek Enhancement

Minnesota Trout Unlimited / Project Manager

Facilitated all aspects of assessment, design, permitting, bidding, construction and stakeholder coordination. 400k enhancement was initiated and completed within 6 months.

East Indian Creek Design-Build

Minnesota Trout Unlimited / Project Manager & Contractor

Served as contractor and design consultant for 200k habitat enhancement of premier Brook Trout fishery.

East Indian Creek - Phase II

Minnesota Trout Unlimited / Project Manager

Responding to success of preceding design-build project, currently rehabilitating an additional mile of stream immediately upstream.

Outlet Channel Realignment/Stabilization

Prior Lake Spring Lake Watershed District / Project Manager

In response to potential litigation, expedited stabilization of an unstable reach and realigned channel to easement boundaries.

Select Project Experience

Watershed Management Planning

Camilla has led the development of many watershed management plans ranging from the State of Minnesota's strategy to develop prioritized, targeted and measurable implementation plans to multi-generational plans for watershed districts and watershed management organizations located in the Twin Cities Metropolitan Area.

Prior Lake-Spring Lake 2020-2029 Watershed Management Plan (on-going)

Prior Lake-Spring Lake Watershed District/Project Manager & Primary Author

Responsible for leading the development of the PLSLWD's fourth generation watershed management plan. Development of this Plan is unique in that none of the District's Managers or Staff were involved in the development of the last Plan. While this metropolitan watershed has clear issues related to flooding and water quality, it was decided that this planning process should take a step back to evaluate all of the potential water resource related issues facing the District. As a result, this planning process used the Zonation Tool to assess natural resource features and land use plans in making decisions about priority issues and concerns. Use of the Zonation Tool has resulted in greater emphasis being placed on recreational value, wildlife habitat and the protection/restoration of streams and drainage systems. This plan is currently in development and is scheduled to be approved by the Board of Water and Soil Resources and the PLSLWD Board of Managers by the end of 2019.

Cannon River 1W1P (on-going)

Dakota County / Project Manager and Primary Author

Developing a Comprehensive Watershed Management Plan for a watershed that drains approximately 1,460 square miles of predominantly agricultural land. This One Watershed, One Plan is being developed to meet legislation that permits the State of Minnesota's Board and Water Soil Resources to allow comprehensive plans, local water management plans, or watershed management plans to serve as substitutes for one another; or to be replaced by a comprehensive watershed management plan. Development of One Watershed, One Plans results in prioritized, targeted and measurable implementation plans by conducting an extensive public engagement process and using prioritization tools that highlight restoration and protection needs in the watershed.

Pomme de Terre River 1W1P (on-going)

Pomme de Terre River Assoc. / Project Manager & Primary Author
Developing a Comprehensive Watershed Management Plan for a watershed that drains approximately 875 square miles of predominantly agricultural land. This One Watershed, One Plan is being developed to meet legislation that permits the State of Minnesota's Board and Water Soil Resources to allow comprehensive plans, local water management plans, or watershed management plans to serve as substitutes for one another; or to be replaced by a comprehensive watershed management plan. Development of One Watershed, One Plans results in prioritized, targeted and measurable implementation plans by conducting an extensive public engagement process and using prioritization tools that highlight restoration and protection needs in the watershed.



**Camilla
Correll**
PE

**Partner
Water Resources
Engineer**

Years of experience: 24

Availability: 10%

Office Location: Saint Paul, MN

Camilla Correll is a Water Resources Engineer with 24 years of experience who specializes in stormwater infiltration, integrated watershed management, and sustainable engineering design.

Camilla's detailed knowledge and extensive experience in the development of various watershed management plans, watershed rulemaking, and application of low impact development techniques have allowed her to successfully implement innovative stormwater and watershed management plans, all supported by her rigorous scientific approach and thorough research.

Education

1995 Bachelor of Civil and Environmental Engineering, University of Wisconsin

1997 Master of Civil and Environmental Engineering, University of Wisconsin

Professional Registration

#43990 MN Professional Engineer: civil

#39480-6 WI Professional Engineer: civil

Professional Affiliations

2008 Minnesota Climate Adaptation Partnership

2002-2004 Minnesota Green Roof Council

Additional Training

2002 P8 Urban Catchment Modeling

2004 Green Roof Design 101

2005 Using the Source Loading and Management Model for Urban Stormwater Management

2006 Green Roof Design 201

Areas of Expertise

Hydrologic/Hydraulic Modeling
Watershed Management + Plans
Sustainable Engineering Design
Watershed Rule Making
Surface Water/Groundwater Interaction

St. Louis County 1W1P Scoping Document

St. Louis County / Project Manager

Developed a scoping document for St. Louis County to identify an approach for participation in the One Watershed, One Plan development process. Given that there are six 1W1P planning boundaries in St. Louis County, it was recommended that the County evaluate opportunities to consolidate planning boundaries in an effort to reduce the number of comprehensive watershed management plans developed in the county.

Lake Superior North - One Watershed, One Plan

Cook and Lake County SWCD / Project Lead and Primary Author

Developed one of the first One Watershed, One Plan documents for the Board of Water and Soil Resource's (BWSR) statewide water initiative pilot program. The LSN One Watershed, One Plan was developed for one of the most highly valued natural resource areas in the State of Minnesota and is unique in its commitment to both restoration and protection strategies. Facilitated development of the plan, participated in technical committee meetings and drafted the Plan.

Fourth Generation Watershed Management Plan

Brown's Creek Watershed District / Project Manager and Primary Author

Responsible for leading the development of the BCWD's fourth generation watershed management plan. This plan was one of the first to meet the amendments of Minnesota Rules, Chapter 8410 which became effective on July 13, 2015. The implementation plan developed for 2017-2026 includes prioritized, targeted and measurable outcomes thereby enabling the District and its member communities to qualify for State funding opportunities.

Watershed Rules, Ordinances & Environmental Policy

Camilla has authored and facilitated public involvement for the development of, or revisions to several watershed district rules and municipal ordinances. She has also facilitated the development of watershed standards, rules and regulations as well as any supporting documentation such as a Statement of Need and Reasonableness.

City of Fitchburg Catalytic Stormwater Project

City of Fitchburg / Project Coordinator

Assisted the City of Fitchburg and the Capital Area Regional Planning Commission in an evaluation of volume control standards. This evaluation consisted of an evaluation of current regulations, a literature review of volume control Best Management Practices, modeling analysis using P8 and XP-SWMM to compare the impact of adopting higher volume control standards for medium-density residential development and transit-oriented development sites and conducting a design charrette to review the proposed stormwater management plans with the local development and design community.

Brown's Creek Watershed District Rulemaking

Brown's Creek Watershed District / Project Manager and Primary Author

In 2006, the Brown's Creek Watershed District initiated a rule revision process which resulted in modifications to existing rule language, new standards, and the development of a Statement of Need and Reasonableness. One of the more progressive standards adopted by the Brown's Creek WD during this rule revision process is the standard designed to protect groundwater dependent natural resources from future development pressure.

Carnelian-Marine St. Croix Watershed District Rulemaking

Carnelian-Marine-St. Croix Watershed District / Project Manager and Primary Author

In 2007 the Carnelian-Marine St. Croix Watershed District initiated its rule development process following the merger of these two watershed districts. This on-going project expands upon an adjoining watershed district's rules (the BCWD) to address watershed issues. A strong component of this project involves public involvement with an active Technical Advisory Committee and a Citizens Advisory Committee.

Washington County – Comparative Review of Watershed District Rules and Recommendations for Standardization

Washington County Water Consortium / Project Manager and Primary Author

The objective of this project was to summarize the existing rules, regulations and performance based standards developed by the watershed districts and watershed management organizations located in Washington County. Upon summarizing this information, recommendations for future rules standardization were made.

Washington County Model Groundwater Rules

Washington County Water Consortium / Project Manager and Primary Author

In the spring of 2004, the Washington County Water Consortium initiated the process of developing model groundwater rules for future adoption by the water management organizations (WMOs) located within the County. This effort addresses a number of the policies identified in the Washington County 2005 Groundwater Work Plan aimed at developing guidelines and standards to protect groundwater resources.

Minnesota Stormwater Manual

Minnesota Pollution Control Agency / Contributing Author

Working with the Minnesota Stormwater Steering Committee and the Center for Watershed Protection, EOR developed the Minnesota Stormwater Manual to provide guidance on the design, construction and maintenance of stormwater management practices for professional stormwater managers and those associated professionals who also integrate with stormwater issues. Camilla was involved in drafting sections of the manual addressing volume control and stormwater infiltration.

Select Project Experience

Site Development

7 Vines Winery

Bismark Builders, Civil Engineer

Designed and modeled site plans for a private winery and wine-processing building utilizing rain gardens and other water quality BMP's to protect adjacent onsite wetlands.

CRWD Office Building and Campus

CRWD via MSR, Saint Paul, Design Engineer

Office space redevelopment of 15,000sf industrial building reflective of the owner's pioneering environmental stewardship & social justice missions. A focal point of the LEED Gold (pending) campus is an interactive community water garden, which is fed by harvested water.

Forest Hills Golf Club Irrigation Reuse

CLFLWD, Forest Lake, Design Engineer

Primary design engineer for an innovative irrigation reuse project utilizing a large stormwater wetland and automated valves integrated into existing golf course infrastructure. Coordinated design discussions between Golf Club, Watershed District and system designer. This project will remove large amount of phosphorus from entering downstream impaired Shields and Forest lakes.

Lily Lake "Final 45"

MSCWMO, Stillwater, Project Engineer

Lead engineer for Lily Lake, a regional recreational resource that has been severely degraded due to stormwater pollution over the last century. The Lily Lake "Final 45" plan was a project to implement LID stormwater practices that would eliminate the final 45 lbs of phosphorus from the lake loading in order to remove the lake from state's impaired water's list. Performed feasibility analysis and developed concept designs for multiple stormwater features within the Lily Lake Watershed.

Community Solar Gardens

Private Solar Developer, Minnesota, Design Engineer

Work with a private solar developer to design solar garden projects throughout Minnesota. After approval of the proposed project, the site design and construction documentation phase includes developing stormwater management site plans, procuring permits, and producing site restoration plans that provide native pollinator habitat, mitigate chemical contamination, and contribute to the stormwater management goals for the site.

Corcoran Solar Garden

Sunrise Energy Ventures, Project Engineer, SWPPP Supervisor

Designed stormwater quality BMP's for a large 5MW solar panel campus to protect large onsite wetlands and the headwaters of Rush Creek. Performed site inspections to ensure contractor compliance with NPDES permit requirements.

Summer Place Stormwater Facilities Improvements

Crow Wing Soil and Water Conservation District / EIT

Designed and drafted construction plans and specifications for a biofiltration basin and iron enhanced sand iron filter project in Deerwood, MN. Drafted easement documents and Operations and Maintenance Manual.

Transforming Central Site Improvements

St. Paul Public Schools / EIT

Designed and drafted construction plans for stormwater and landscape renovations that will reshape Minnesota's oldest school



**Kyle
Crawford**
PE

Civil Engineer

Years of experience: 9

Availability: 30%

Office Location: Saint Paul, MN

Kyle Crawford is a Water Resources Engineer with nine years of broad experience in civil engineering, stormwater management and ecosystems restoration.

He is well versed in design and assessment platforms ArcGIS, HydroCAD, Bentley FlowMaster, CulvertMaster, and AutoCAD Civil 3D.

Kyle has been directly involved in a wide range of projects in stormwater conveyance design, stormwater management plans, residential and commercial site design, and implementation of eco-restoration. These projects have utilized his background in land and construction surveying, civil engineering design, erosion and sediment control and construction observation.

Education

2012 Bachelor of Science
Civil Engineering
University of North Dakota

Professional Registration

#54906 MN Professional Engineer: civil
#P24812 IA Professional Engineer: civil

Areas of Expertise

Site/Construction Surveying
Construction Management
Stormwater Design & Management
Erosion & Sediment Control

Additional Training

2014 AutoCAD Civil 3D – Advanced
2015 CPR/First Aid
2015 OSHA 8-hour Safety Course
2015 SWPPP Design Certification
2015 SWPPP Construction Site Management

to improve student's daily experience, address environmental impacts and connect with the vibrant community that embraces the school. A first of its kind, the campus will become a living laboratory, from which the students will witness the development of and activity monitoring the performance of the site's varied BMP's.

Public Infrastructure

Sutton Lake Outlet Retrofit

Prior Lake-Spring Lake Watershed District - Jordan, MN / Project Engineer

Lead engineer for a large lake outlet retrofit on Sutton Lake for the local Watershed District. Once constructed, the project will provide real-time controls for maintaining flood storage to minimize flood damage downstream. Designed storm sewer structures, gates and outlet controls to achieve watershed goals within strict permitting and ordinance constraints.

Cleary Lake Outlet Replacement

TRPD, Prior Lake, Lead Engineer

Lead engineer for replacement of a large lake outlet on Cleary Lake within Cleary Lake Regional Park. The project, completed for the Three Rivers Park District, utilized large (88" span) reinforced concrete storm sewer and a concrete drop structure (120" diameter manhole) to both convey large quantities of water and prevent invasive species migration upstream into Cleary Lake. This project was selected for a case study by the concrete supplier.

North Washington Street Renovations*

North Dakota Dept. of Transportation, City of Bismarck, ND / EIT

Modeled and analyzed large scale preliminary drainage area for proposed widening of a major arterial street in Bismarck. Composed a Preliminary Engineering Report, modeled and designed a stormwater routing system.

McVicar Creek LIDs

City of Thunder Bay / Civil Engineer

Drafted and designed stormwater quality BMP's within the City of Thunder Bay to improve water quality for a large creek bisecting the city.

Winnipeg Avenue LID's

City of Thunder Bay / Civil Engineer

Designed stormwater quality BMP's as part of the City's reconstruction of the entrance and parking lot for a large athletic complex.

Emerging BMP's & Stormwater Structures

Bixby Park Water Quality Improvements

Comfort Lake Forest Lake Watershed District / EIT

Designed a lightweight aggregate filter berm to promote water quality and wetland improvements in Forest Lake.

Forest Hills Golf Club Irrigation Reuse

CLFLWD, Forest Lake / Design Engineer

Primary design engineer for an innovative irrigation reuse project utilizing a large stormwater wetland and automated valves integrated into existing golf course infrastructure. Coordinated design discussions between Golf Club, Watershed District and system designer. This project will remove large amount of phosphorus from entering downstream impaired Shields and Forest lakes.

Goose Lake Iron Enhanced Sand Filter

CMSCWD, Scandia / Project Engineer

Lead engineer for design and implementation of iron-enhanced sand filter and biofiltration basin upstream of Goose Lake, an MPCA impaired water.

Pine Robert Iron Enhanced Sand Filter

CMSCWD, Marine on St Croix / Project Engineer

Lead engineer for design and implementation of iron-enhanced sand filter and rain gardens along Mill Creek, a designated trout stream in Marine on St Croix.

Summer Place Stormwater Facilities Improvements

Crow Wing Soil and Water Conservation District / EIT

Designed biofiltration improvements and an iron enhanced sand iron filter on a residential project in Deerwood, MN. Drafted Operations and Maintenance Manual for the biofiltration and filter.

Project Experience

Watershed Management and Comprehensive Planning/ Analysis (flooding, water quality and resource protection)

Comprehensive Plan Update - Sustainability and Water/Natural Resources

City of Burnsville, MN / Project Manager

Brett led the EOR team as they worked with the city to update its Land-use Guide Plan and System Plans for the next 30 years. City challenges included a 90% developed community, changing climates, and the ever increasing expectations of it residents for green spaces and sustainability initiatives. EOR previously developed an internal sustainability plan for the City (the first-of its kind in the region) including a sustainability matrix based on a community-wide approach. This matrix is used to guide all aspects of city policy and decision-making. Recently, 'Stormwater and Open Space Management' sections were revisited to incorporate new LID/GI concepts to address historic flooding issues and water quality concerns in local lakes. In using this process, the City's Comprehensive Plan was the first-of-its kind in the region to incorporate sustainability throughout the plan.

Waukee Comprehensive Plan - Water Resources & Natural Resources

City of Waukee, IA / Project Manager

Brett led the EOR team in working with the City to take a visionary step forward in the development of their 30-year Comprehensive Plan. The Plan merges both the stormwater and open space portions to emphasize the preservation of above-ground drainage features as part of a community corridor system, called urban streamways. Modernizing the city's stormwater codes and intermingling in GI into the urban fabric, the community can see the benefits of green infrastructure and the ability to provide quality-of-life benefits with their infrastructure investments.

Third Generation Watershed Management Plan

Capitol Region Watershed District / Sr. Advisor/Planner & QA/QC
Responsible for overseeing the design of the public participation process, reviewing performance standards and CIP development, and overseeing the amendment process.

Third Generation Watershed Management Plan

Mississippi Watershed Mgmt. Org. / Sr Advisor/Planner & QA/QC
Responsible for overseeing the public participation process, reviewing performance standards and CIP development, and overseeing the amendment process.

Second Generation Watershed Management Plan

South Washington WD / Engineer and Technical Advisor

Led the plan writing process which included standards, a wetland management framework, and a CIP.

Second Generation Watershed Management Plan

Brown's Creek Watershed District / Project Manager

Performed QA/QC and was responsible for overseeing the public participation process, volume standards, and CIP development.

Local City Stormwater Plan and Regulations

Inver Grove Heights, MN / Senior Engineer

Developed standards for new stormwater regulations based on water cost analysis to guide development in a sensitive watershed. Part of a multi-disciplinary team that also included innovative land use patterns.



Brett H. Emmons

PE, P.Eng.
ENV SP, LEED AP

Principal, Civil &
Water Resources
Engineer

Years of experience: 34

Availability: 10%

Office Location: Saint Paul, MN

Brett H. Emmons is a founding principal of EOR with 34 years of experience in Civil and Water Resources Engineering. Natural resources management, preservation, and planning – with an emphasis on innovative stormwater management techniques – has been his specialty. Brett has been instrumental in developing EOR as a regional leader in low impact design and sustainability planning.

Brett has led the planning and design of various projects ranging from small residential efforts to large multi-million dollar projects. He is experienced in leading project teams involving multiple consultants, public interest groups, and various government committees at every jurisdictional level.

Education

1986 Bachelor of Science
in Forest Sciences
University of Illinois

1993 Master of Sciences in Civil
and Environmental Engineering
University of Wisconsin

Professional Registration

#25053 MN Professional Engineer: civil

#36866-6 WI Professional Engineer: civil

#20642 IA Professional Engineer: civil

#11963 SD Professional Engineer: civil

#252040 AB Professional Engineer

#100540346 ON Professional Engineer

Areas of Expertise

Hydraulic/Hydrologic Modeling

Watershed Management + Design

Natural Resources Management

Regulatory Issues and Public
Involvement

Watershed Management Plans

Capitol Region Watershed District / Senior Engineer

Developed the first stormwater standards and the writing of the watershed's first watershed management plan. Facilitated public input, budgeting, and a 5-year CIP. Work includes both the watershed's 2nd Generation and 3rd Generation Plans.

Comprehensive Wetland Management Plan

Rice Creek Watershed District / Project Manager and Senior Engineer

Developed a comprehensive wetland planning methodology to solve a difficult drainage and environmental protection problems. Based on special considerations outlined in the Wetland Conservation Act, this approach meets legal obligations of Drainage Law, WCA and 404 - providing a natural resource-based framework for future land-use decisions and as a tool in the implementation of TMDL projects.

Heritage Village Park

Inver Grove Heights, MN / Senior Engineer and Advisor

Interpretation of parks master plan including phasing, grading, and prairie restoration work.

Main Street Park

Shell Rock River Watershed District / Senior Engineer

Coordinate a stormwater based park along main street in high profile location. Use of innovative BMPs and artistic elements to serve as demonstration project.

Como Lake Strategic Lake Management Plan

Capitol Region Watershed District / Senior Engineer

Managed a extensive project involvement process and strategic plan development that identified follow up implementation needs.

Mississippi Big River Study

Mississippi Watershed Management Organization / Project Manager

Oversaw a comprehensive literature review and reports analysis to update and modernize the organization's monitoring protocols for big river systems, namely the Mississippi River. Addressed challenge of synthesizing diverse data sources in to a coherent body of knowledge.

Design of Surface Water Quality/Quantity Systems

Highway 26 Upgrade and Green Infrastructure (GI) Design

City of Inver Grove Heights, Eagan, and Dakota County, MN / Project Manager

Brett oversaw the team and led the design of this challenging project which falls within the City's strict zero-net increase in volume standards. Recognizing that an extensive LID/GI treatment was needed, EOR partnerd with road design consultants to provide a major roadway expansion design including the use of modern GI stormwater techniques. The design includes many innovative GI BMPs in tight spaces and along steeper slopes, along with relocation of a network of large, natural infiltration basins. Ultimately, the final design will mimic natural hydrology in continuing to preserve the zero-discharge setting.

Pheasant Ridge Drive Culvert Replacement

Rice Creek Watershed District / Project Manager and Senior Engineer

Oversaw development of design for a retrofit culvert upgrade including site assessment, survey, and borings as part of a law suit settlement agreement. Addressed culvert replacement, utility conflicts, and road reconstruction under very rapid time line.

Ditch 53-62 Repair Report

Rice Creek Watershed District / Project Manager and Senior Engineer

Reviewed an assessed 100 year old ditch records, analysis of key elevation data such as soil borings in order to establish the ditch as-built profile per state law. Established a cost-benefit analysis and innovative repair method.

Lake Watershed Restoration Projects

Capitol Region Watershed District / Senior Engineer

Performed design supervision and project management during design and bidding phase. Led design approach to optimize benefits for the City and the Watershed including use of specialized design approaches. Projects included the Hamline Underground Storage Infiltration Facility and the Arlington-Pascal Stormwater Improvements to conserve water.

Judicial Ditch 2 Repair Report

Rice Creek Watershed District / Project Manager and Senior Engineer

Reviewed old ditch records to establish the ditch profile and extent per state law. Developed several alternative repair scenarios including stream restoration options. Provided cost-benefit analysis, environmental requirements and water quality implications for various options in a management matrix.

Select Project Experience

Central High School Stormwater Improvements & Landscape Plan

St. Paul, Minnesota / Landscape Architect

Developed landscape and stormwater design for Minnesota's oldest high school. Worked closely with students, staff, community members and parents to create a unique and inviting campus space that was more sustainable, green, and equitable than the existing concrete plaza. Incorporated stormwater management features throughout the design to meet watershed district goals and protect urban water resources. Provided construction documentation, cost estimating, construction administration services, and illustrated interpretive signage.

Capitol Region Watershed District Office Renovation

St. Paul, Minnesota / Landscape Architect

Designed site and stormwater features for the new home office of the Capitol Region Watershed District. The site was transformed from an urban brownfield to a lush, green, and vibrant landscape featuring multiple formal and informal gathering areas, including a public pocket park with an interactive watershed-themed educational exhibit. The design strove to express the mission of the CRWD to visitors and neighbors while also capturing and treating nearly all stormwater runoff on the site. The project is currently seeking LEED Gold Certification.

Lily Lake "Final 45"

Stillwater, Minnesota / Landscape Architect

Lily Lake is a regional recreational resource that has been severely degraded due to stormwater pollution over the last century. The Lily Lake "Final 45" plan was a project to implement LID stormwater practices that would eliminate the final 45 lbs of phosphorus from the lake loading in order to remove the lake from state's impaired water's list. Performed feasibility analysis and developed concept designs for multiple stormwater features within the Lily Lake Watershed. Contributed writing to a report about the project, and the past, present, and future of Lily Lake.

Crosby Memorial Park - Stormwater Improvements

Crosby, Minnesota / Project Landscape Architect

Executed planning and design process to integrate stormwater improvement features such as permeable paver parking stalls, rain gardens, and vegetated swales into a heavily-used community park. Worked closely with Civil Engineer to design a stormwater improvement project that treats 13 acres of urban runoff and improves the wildlife habitat value and aesthetics of the park space adjacent to City Hall. Oversaw construction of roadway improvements including stormwater piping and underground treatment units, along with park space restoration with rain gardens and shoreline access.

Eagle Point Park Environmental Restoration Project

Dubuque, Iowa / Landscape Architect

Led design for environmental restoration and stormwater management features to be implemented in a unique and historically significant regional park located on a bluff overlooking the Mississippi River. The park has been in decline due to environmental pressures, and the proposed plan will mitigate heavy erosion issues and invasive species within the park through implementation of landscape management activities, soil quality restoration, native plant establishment, and bioretention features. Developed and facilitated public input process to foster interest and garner local support for the project.



**Britta
Hansen,
PLA**

**Landscape
Architect**

Years of experience: 11

Availability: 40%

Office Location: Saint Paul, MN

Britta has 11 years of experience as a landscape architect and project manager designing and constructing public spaces, parks, school and corporate campuses, and stormwater management features. Britta specializes in site design that weaves together elements of conservation, sustainability, education, performance, and art. She is experienced and capable at all levels of design from iterative concept design to master planning. In addition, Britta creates visual renderings and interpretive signage for water quality improvement projects. She is experienced at permit review of landscape restoration plans, and has developed and implemented many successful ecological restoration projects across Minnesota and the Upper Midwest.

Education

2011 Master of Landscape Architecture,
University of Texas at Austin

2006 Bachelor of Arts in Studio Art,
Saint Catherine University

Professional Registration

#53307 MN Reg. Landscape Architect

#436-14 WI Reg. Landscape Architect

#00696 IA Reg. Landscape Architect

#157-1714 IL Reg. Landscape Architect

#401 AB Reg. Landscape Architect

Additional Training

2019 Erosion and Stormwater
Management Certification:
Construction Site Management,
University of Minnesota

2019 National Green Infrastructure
Certification Program (NGICP)

Areas of Expertise

Urban Stormwater BMPs

Native Landscape Restoration

Sustainable Land Management

Photography & Rendering

Community Solar Gardens - Site Planning & Landscape Design

Statewide, Minnesota / Landscape Architect

Work with a private solar developer to plan and design solar garden projects throughout Minnesota. The planning phase involves communicating and negotiating with local landowners and municipal officials and designing community engagement materials to assist in the city or county approval process for new solar garden sites. After approval of the proposed project, the site design and construction documentation phase includes developing stormwater management plans, procuring permits, and producing site restoration plans that provide native pollinator habitat, mitigate chemical contamination, and contribute to stormwater management.

Big Brothers Big Sisters - Twin Cities Headquarters

Minneapolis, MN. Landscape Architect

Designed site improvements for the new headquarters of Big Brothers Big Sisters - Twin Cities. Added green stormwater management features to a nearly 100% developed site, leveraging watershed district grant funds to create a teaching tool that program coordinators will use to educate boys and girls about the importance of stormwater management and green infrastructure adjacent to the nearby Mississippi River.

Burnsville Sustainability Guide Plan Update 2020

Burnsville, Minnesota. Landscape Architect

Built on the work of the original Sustainability Guide Plan of 2009 that was developed by EOR as a first-of-its-kind document. Worked with city staff to identify critical areas of focus for the city over the next 10-20 years. Developed sustainability goals for each area, and workshopped a variety of actions to help the city achieve each goal.

Field of Dreams and West 9th Park

Storm Lake, Iowa. Landscape Architect

Designed combined flood-control and stormwater treatment features to manage and clean stormwater runoff within the park, while also creating over 20 acres of restored native prairie habitat for local wildlife and migratory birds. Miles of trails and a large stormwater basin within the park including multiple limestone crossings and perches allow visitors to engage with this functional landscape, and add valuable passive recreation space to the community park system.

6th Street Corridor - Stormwater & Landscape Improvements

Cedar Rapids, Iowa. Landscape Architect

Provided conceptual design and landscape renderings to illustrate both “grey” and “green” landscape improvement scenarios for Cedar Rapids, Iowa. Envisioned green infrastructure site improvements including linear bioswales, tree trenches, rain gardens, and trails. Estimated municipal costs for multiple iterations of “grey” and “green” improvement projects. After acceptance of green infrastructure concept by City, worked with engineers to design a fully functional, aesthetically pleasing, and low maintenance landscape and stormwater management plan for the 6th Street corridor.

Edmonton Pilot Demonstration Rain Gardens

Edmonton, Alberta, Canada. Landscape Designer

Worked with city officials and a local engineer to design four pilot demonstration rain gardens for the city’s ‘Rain Garden in a Box’ program. The program is intended to encourage future rain garden installation on private, residential lots within the city. In addition to rain garden design, this project included designing informational and educational materials for homeowners about rain garden design, implementation, and maintenance including a step-by-step installation plan and a universal rain garden maintenance checklist. Both materials are now available through the City of Edmonton for all residents interested in installing their own rain garden.

Sunset Hills Park

Prior Lake, Minnesota. Landscape Architect

Designed multiple programmatic and LID stormwater concepts for a 1-acre community park in a suburban setting, and prepared public input materials to share designs and gather feedback from local residents. The goal of the project was to address a failing stormwater management system in the park while also updating park amenities and recreational opportunities for the current user population. Concepts included active and passive recreation options and stormwater features including bioswales, bioretention basins, and created wetlands.

Library Lake Northeast and Southwest Wetlands

Cumberland, Wisconsin. Project Landscape Architect

Created concept designs and supporting documents for Wisconsin DNR grant application process. Once grants were received, designed grading and landscape plans for two stormwater treatment wetland projects. Developed construction plan sets, executed bidding processes, and performed construction site management and administration throughout the construction process for both sites. These projects were Phase II and III in a four-phase masterplan for improving water quality in Library Lake, a community amenity in downtown Cumberland, Wisconsin. Currently working on the planning stage of Phase IV of the masterplan.

Select Project Experience

Manual, Policy, and Program Development

CVC Municipal LID Practice Assumption Protocols

Credit Valley Conservation Authority / Project Manager.

In 2014, EOR was retained to develop policy guidance for the assumption of LID practices based on two private developments and two highway projects. This effort began with a review and summary of all relevant documentation to develop a complete understanding of how the design is intended to perform, and what impacts may result from improper construction and/or maintenance. The EOR Team then identified priority areas that required corrective action for LIDs to meet performance standards. Looking at each BMP, and using the provided information, develop a list of areas needing correction to meet design intentions, permit requirements, and developer obligations. The final product of this effort was been integrated into the CVC Assumption Protocol Guidance Manual.

Minimal Impact Design Standards (MIDS), Community Assistance Package (CAP)

MN Pollution Control Agency through Washington Conservation District, Saint Paul, MN / Project Manager (PM).

Project lead in the development of this guidance document that includes model ordinances, checklists and program development training materials to help communities achieve the MIDS performance goals based on treatment of the 90th percentile storm using LID practices for stormwater volume control and pollutant removal. Has led projects in dozens of communities throughout Minnesota, Wisconsin, Iowa and Ontario utilizing the CAP a framework for stormwater policy and program development.

Lake Simcoe Policy Development

Lake Simcoe Region Conservation Authority (LSRCA), ON / PM.

Working closely with LSRCA Staff and Municipal Stakeholders developed and implemented a program based on MIDS to protect Lake Simcoe from the dramatic effects of new development within the watershed through monthly stakeholder meetings and training sessions with elected officials, municipal staff and stakeholders. This program was implemented in September of 2017 and provides a critical link to the LSRCA's Phosphorous Offset Program that requires developers to achieve zero phosphorous discharge from their site or pay a fee in lieu of to fund improvements to existing infrastructure. The result of this effort also provides the backbone of the MOECC LID Guidance policy.

MOECC LID & Stormwater Guidance Manual

Ontario Ministry of the Environment & Climate Change (MOECC) - in cooperation with *Aquafer Beech* / Contributor & Editor.

As a member of the project team, provided technical expertise and review services in the development of this long awaited guidance document that will lead the implementation of LID throughout Ontario.

LID Construction Guide/Contractors & Inspector Guide for LID

Credit Valley Conservation Authority, Toronto / Project Manager.

Led the project team in the development of the award winning LID Construction Guide and companion Contractor and Inspector Guide to provide state-of-the-art information on construction of LID practices.. Developed a well-received full day training course on the information and trained hundreds of practitioners in the Greater Toronto Area.



**Jay
Michels**
CPESC, NGICP
**Stormwater
Management &
Erosion Control
Specialist**

Years of experience: 42

Availability: 50%

Office Location: Saint Paul, MN

Jay Michels is a Certified Professional in Erosion and Sediment Control with over 40 years of experience in construction management, stormwater management and erosion and sediment control.

The emphasis of his work is in Low Impact Development and stormwater pollution prevention. His experience in planning, design, and construction management includes projects ranging from residential and commercial development to shoreline and streambank stabilization; from highway and golf course construction to prairie and wetland restoration.

Jay has also served as a program adviser to a number of communities and agencies in the development of stormwater policy and programs. He is a proven leader and an outspoken advocate for stormwater and erosion and sediment control education. He is a key member on any project which involves the need for well - coordinated public outreach and educational program campaigns.

Professional Certification

Certified Professional in Erosion and Sediment Control

National Green Infrastructure Certification Program

Professional Affiliations

MN Erosion Control Association

MN Seeding Contractors Assoc.

Int'l Erosion Control Assoc.

Areas of Expertise

Erosion and Sediment Control

Stormwater Management

Low Impact Development

Education and Outreach

Minnesota Stormwater Manual

MN Pollution Control Agency, MN / Contributing Training Lead.

Played an integral role in the development of the critically acclaimed manual and developed a full day training course to train over 750 practitioners through Minnesota on the use of the manual. Has continued involvement with the evolution of the manual through ongoing efforts to update and refine information.

Minnesota Urban Small Site BMP Manual

Minnesota Pollution Control Agency and Metropolitan Council, MN / Contributing Editor & Technical Review.

Contributed to the development of the MPCA's "Protecting Water Quality In Urban Areas" as primary author of the erosion and sediment control sections. Served as a member of the Technical Advisory Committee in the development of Metropolitan Council's "Minnesota Urban Small Sites BMP Manual". Both manuals served as precursors to the Minnesota Stormwater Manual.

Project Management

Library Lake Restoration Project

Beaver Dam Lake Management District / Project Manager.

In 2009, the Beaver Dam Lake Management District and the City of Cumberland, Wisconsin set out on a bold new journey to reconnect the city with the lake that it had turned its back on for decades. Jay has been leading the EOR Team that began with the development of a master plan that includes parks, boardwalks and scenic overlooks, but more importantly disconnects 13 storm sewers that were dumping hundreds of tons of sediment and phosphorus into the waters through the extensive use of LID practices to capture, filter and infiltrate runoff before discharge to the lake. As a part of this effort EOR has developed Lake Management Plans that include extensive modeling efforts, a Citywide Stormwater Management Plan, concept plans and grant applications to secure funding through the Wisconsin Department of Natural Resources, permit applications, final plans, construction documents and construction management for dozens of retrofit and dredging projects that are ongoing.

Storm Lake Stormwater Management Assistance

City of Storm Lake, Iowa / Project Manager.

Since 2012, EOR has been working closely with the City of Storm Lake, Iowa to resolve localized flooding issues and improve water quality from stormwater runoff. This effort began with a training program on Low Impact Development and Green Infrastructure taught by Jay and sponsored by the Iowa Economic Development Authority. The last of a series of 10 workshops across the state was in Storm Lake, with the entire city and a number of elected officials in attendance. The next week, Jay and the EOR Team met with city officials which started a new era in stormwater management in the city that has grown across the state. EOR's involvement began with a planning effort to identify potential projects with concept plans and modeling to determine their feasibility and funding sources. At the same time, the city adopted and implemented an effective stormwater ordinance based on the MIDS Community Assistance Package. In 2015, the city was awarded \$8.6 million in Federal funding for design and construction for a number of projects identified in these studies. In all, EOR has worked closely with city staff to secure over \$11 million in Federal, State and private funding for construction of these projects which is currently underway and will continue over the next 3 years. In 2017, our effort was rewarded with the State of Iowa identifying Storm Lake as its model city for stormwater management.

Mississippi Jewel - Residential Development

Lake City, MN / Project Manager.

After being fined one of the largest amounts ever levied by the Minnesota Pollution Control Agency, Jay and EOR were retained to oversee the effort to protect two trout streams from heavy loads of sediment generated from the construction of a 986 acre golf course community. Jay coordinated the retrofitting of several traditional stormwater system elements to create a low impact design and completed a total redesign of the stormwater treatment system to meet NPDES Phase II requirements. He was also responsible for the development of a Phase II Stormwater Pollution Prevention Plan and implemented a "Builders Program" to minimize erosion problems during home construction.

Amery Regional Medical Center

Amery, WI / Project Manager.

Responsible for coordinating the partners in the design of an award winning benchmark Low Impact Design project which incorporates the use of bioretention/ filtration cells, reduced and efficient use of impervious surfaces and minimized wetland impacts and tree loss. Comparing pre- and post-construction, the plan reduced peak runoff rates and volumes for the 2, 10, and 100 year storms and reduced sediment discharge to the Apple River by over 97%.

Poplar River Restoration Project

Lutsen, MN / Project Manager.

Lead the design and construction teams for this precedent setting project to redirect the flow of the Poplar River in an effort to eliminate the impact on a near vertical 700' long, 100' high red clay slope known as the Mega Slump. This approach included toe protection, bendway weirs and live willow staking. Thanks to the coordinated effort of the design and construction teams, the project was brought in well under budget and has resulted in the very rare delisting of the Poplar River from the Minnesota Impaired Waters List.

Select Project Experience

Groundwater Modeling and Aquifer Analysis

Small scale and regional groundwater flow models used:

- Finite difference models (e.g. MODFLOW)
- Analytic element models (e.g. GFLOW, MLAEM)
- Analytic models for specific solutions to questions about:
 - Well hydraulics and design
 - Groundwater levels and well interference
 - Groundwater mounding below drainfields and stormwater basins
 - Groundwater/surface water interactions
 - Agricultural drainage from ditches and draitiles

Watershed MLEAM Model

South Washington County / Project Hydrogeologist
Developed a MLAEM model of the watershed district. Model is based on the Northeast Province model developed by the MPCA, with more detailed information added for bedrock and quaternary aquifers above the Prairie du Chien/Jordan aquifer. Model has been used for wellhead protection planning, infiltration management, and pollution tracking.

Trout Stream MLAEM Model - Valley Creek

Woodbury and Afton, MN / Project Manager & Senior Hydrogeologist
Created a MLAEM model to study ground water/surface water interactions. Model was part of a study of high nitrate levels in Valley Creek by the St. Croix Watershed Research Station. Model was later used to evaluate effects of proposed municipal pumping wells on the springs that feed the headwaters of Valley Creek.

County Wellhead Protection Modeling

MN Dept. of Health / Ramsey, Anoka, and Washington Counties.
Developed regional groundwater flow models of the Twin Cities Area to be used for wellhead protection planning.

Highway 55/62 Interchange

Bloomington, MN / PM and Senior Hydrogeologist
Calculated potential impacts from construction at the Minneapolis/St. Paul Airport and the reviewed construction plans and ground water models. Worked with planners to develop construction alternatives that were less harmful and presented results to the press and public audiences.

Septic System Evaluation

Hutchinson, MN / Project Manager and Senior Hydrogeologist
Evaluated potential for infiltration in low-permeability soils below septic systems.

Landfill SLAEM Model

Bemidji, MN / Senior Hydrogeologist
Analyzed ground water flow and contaminant transport of the Kummer Landfill and surrounding area.

Groundwater Modeling

Cold Spring, MN / Senior Hydrogeologist
Created ground water model and wellhead protection plan for five high-capacity wells.

Groundwater Model and Software Development

- Wrote fundamental equations describing groundwater flow toward a well (Grubb, S.E., 1993, "Analytical Model for Estimation of Steady-State Capture Zones in Confined and Unconfined Aquifers". Ground Water, v. 31, no. 1.)
- Developed and sold groundwater modeling software to calculate well drawdown and capture areas.



**Stuart E.
Grubb**

PG

Senior
Hydrogeologist

Years of experience: 32

Availability: 35%

Office Location: Saint Paul, MN

Mr. Grubb has 32 years of experience in environmental consulting and has served as the lead senior hydrogeologist and project manager for large, multi-disciplinary environmental permitting projects and regional groundwater studies. He has designed stormwater infiltration basins and modeled aquifer recharge for water resource management organizations.

Mr. Grubb has served as project manager for over 15 sites with leaking underground storage tanks or petroleum spills. He has conducted remedial investigations for sites polluted by petroleum, heavy metals, PCB's and volatile organic compounds, and has designed and conducted various remediation actions, including site closure.

Education

- | | |
|------|--|
| 1985 | Bachelor of Science in Geology,
Carleton College |
| 1989 | Master of Science in Water
Resources Science,
University of Michigan |
| 2004 | Master of Business
Administration
University of Saint Thomas |

Professional Registration

#30051 MN Professional Geologist

Professional Affiliations

MGWA Minnesota Ground Water Assoc.
Past President
National Ground Water Assoc.
Society of Mining Engineers
Freshwater Society
Board of Directors

Areas of Expertise

Hydrogeology
Groundwater Modeling &
Hydraulics
Pollution Remediation
Wellhead Protection &
Assessments

Ramsey, Anoka, and Washington County Wellhead Protection Modeling

Minnesota Department of Health /Senior Hydrogeologist

Developed regional groundwater flow models used for wellhead protection planning. Modeled capture zones for all municipal wells in a three-county metropolitan area.

South Washington Watershed Infiltration Model

South Washington Watershed District /Senior Hydrogeologist

Created a regional MLAEM groundwater model to evaluate stormwater infiltration effects on groundwater.

Surface Water-Groundwater Interaction Study (North Washington Groundwater Study)

Washington County, MN /Senior Hydrogeologist

Managed this project which involved groundwater and surface water modeling, field measurements, groundwater elevation contouring, groundwater-dependent natural resource inventories, groundwater-surface water interactions in lakes and streams, monitoring well installation, and public education

Valley Creek Groundwater Model

St. Croix Watershed Research Station /Senior Hydrogeologist

Mapped groundwater resources and created a mathematical model of groundwater flow in the Valley Creek Watershed. Model was used to demonstrate potential effects of proposed municipal water supplies on trout habitat.

Groundwater Related Studies

Various Minnesota Watershed Districts, Various Locations, MN /Senior Hydrogeologist

Responsible for evaluating many groundwater-related issues including Hardwood Creek total maximum daily load (TMDL), Brown's Creek trout habitat protection infiltration ponds, Kismet Basin Outlet infiltration areas, storm water permit reviews involving infiltration.

White Bear Lake Surface Water/Groundwater Interactions

White Bear Lake Business Owners Group /Senior Hydrogeologist

Provided analysis and expert testimony regarding low water levels in White Bear Lake. Analyzed pumping and drawdown in area wells. Made revisions to the North and East Metro Groundwater Model developed by USGS to analyze the effects of various pumping rates on lake levels.

Aquifer Testing and Well Design

White Bear Lake Surface Water/Groundwater Interactions

- Pump tests in unconfined, leaky, confined, and fractured bedrock aquifers
- Slug tests
- Grain size analysis to estimate permeability
- Laboratory permeability testing

Well Design Experience:

- Monitoring wells and monitoring well networks
- Municipal production wells
- Smaller production well for potable water or pollution remediation
- Piezometers to gauge groundwater/surface water interactions

Groundwater Sampling and Analysis Experience:

- Landfills, industrial sites, petroleum sites, Superfund sites
- Agricultural nutrients
- Potable water
- Tritium, stable isotopes, major anions and cations for regional groundwater flow analysis
- Humidity cell testing

Expert Testimony

White Bear Lake, Minnesota. *Cerisi Conlin Law Firm.* Lead expert witness in support of lawsuit regarding permitting of municipal wells and falling lake levels.

Devils Lake, North Dakota. *Rinke-Noonan Law Firm.* Provided modeling and expert testimony in support of a lawsuit regarding wetland loss and rising water levels in Devils Lake.

Portage La Prairie, Manitoba. Testified at an Environment Canada hearing on impacts of potato farming on local and regional groundwater resources.

Lake Elmo, Minnesota. Testified in a contested case hearing on septic systems and cumulative impacts to regional groundwater resources.

Forest Lake, Minnesota. Testified at a mediation hearing regarding basement flooding.

Alexandria, Minnesota. Provided expert testimony on treatment technologies for phosphorous removal from municipal wastewater

Select Project Experience

Stream Assessment & Restoration

Mike's role in stream projects includes geomorphic assessment, natural channel design, permitting, construction oversight, bank erosion analysis, soil bioengineering, vegetation maintenance, and riparian buffer re-establishment.

Rice Creek Remeander Project

Rice Creek Watershed Dist./ Fluvial Geomorphologist & Supervisor
Directed the construction of new stream meanders along a historically ditched section of Rice Creek. Work included the construction of new meanders, riparian vegetation establishment, and installation of woody material to provide instream habitat for fish and other aquatic organisms.

Dakota Prairie Grasslands PFC Stream Survey

United States Forest Service / Supervisor
Conducted field assessments on streams in the Medora Ranger District portion of the Dakota Prairie National Grasslands using the Proper Functioning Condition protocol. Led the field effort to complete surveys on over 400 miles of streams to evaluate the condition of riparian corridors with particular attention to vegetation, stream stability, and habitat quality to assist USFS staff with managing federal grasslands.

Trout Habitat Improvement – Mill Creek

MN Trout Unlimited / Fluvial Geomorphologist & Supervisor
Co-designed and directed construction on a two-mile long stream enhancement project using a natural channel design. Work included construction of stream meanders, riparian vegetation establishment, and installation of woody material to increase available instream habitat for trout and non-game species.

Trout Habitat Improvement – Trout Brook

MN Trout Unlimited / Project Manager & Supervisor
Designed and directed construction on a trout stream to increase overwintering refuge, foraging opportunities, and spawning habitat for brook trout. The project included the re-connection of the stream with its floodplain, narrowing the stream channel and improving sediment transport, and incorporation of woody material for trout and non-game species.

Trout Habitat & Fish Passage – Valley Creek

Afton Land Limited / Fluvial Geomorphologist
Conducted a stream assessment and directed improvements to a 4,000-foot reach of Valley Creek to reintroduce instream habitat and improve fish passage through former impoundments along the creek. The design afforded upstream fish passage via installation of rock step-pools downstream of a historic mill/water diversion dam.

Zumbro River Stabilization

Olmsted County SWCD / Supervisor
Conducted site assessments, diagnosed cause, and stabilized 2000 feet of rapidly eroding riverbank which threatened numerous homes and structures. Responsive design responded to inaccessibility of site and modest available budget.

Restoration Audit/Evaluation

MN Dept of Natural Resources / Fluvial Geomorphologist
Completed third party evaluations of three stream rehabilitation projects on MN north shore streams. Critiqued project approach and outcome, and presented white paper and anecdotal findings to the state audit panel comprised of leading industry professionals.



**Mike
Majeski**

**Conservation
Biologist**

Years of experience: 20

Availability: 20%

Office Location: Saint Paul, MN

Mike has 20 years of experience as a conservation biologist and project manager designing and overseeing stream and ravine restoration projects. His focus on wildlife and water resources has included rare species surveys, biological sampling & monitoring, pollinator habitat restoration, invasive species detection & management, and implementing diagnostic water quality projects. Mike's knowledge and experience with local flora and fauna makes him an excellent advisor on ecological restoration

Education

2002 Bachelor of Arts in
Environmental Biology
Saint Mary's University

Continuing Education

2004 Advanced Wetland Delineation
2008 MnDNR Stream Assessment
& Monitoring
2008 MnDNR Fluvial Geomorphology
& Stream Classification
2009 Confined Space Entry
2012 MnDNR Field Guide Training For
Native Plant Classification
2012 MnDNR Natural Channel Design in
Dam Removal & Fish Passage
2015 MnDNR Diagnosing Streams:
Symptoms, Underlying Causes,
& Remedies
2018 Rosgen Level I- Applied Fluvial
Geomorphology
2019 Rosgen Level II- River
Morphology and Applications

Areas of Expertise

Stream Assessment & Restoration
Natural Resource Management &
Planning
Water Quality Studies
Wildlife Surveys-DNR Pre-
Qualified Rare Species (Birds &
Herps) Surveyor

Trout Stream Restoration – Southeast Minnesota

MN Trout Unlimited / Project Manager

Conducted geomorphic assessments, developed construction plans, obtained permits and supervised construction of habitat improvement projects in 10 area trout streams across Winona, Wabasha and Fillmore counties. The projects included bank shaping and floodplain re-connectivity, reestablishment of a low flow channel, riffle and pool enhancements, restoring native riparian vegetation and pollinator habitat, and creation of oxbow wetlands, vernal pools, slack water refugia, and brush piles for non-game species.

Natural Resources Management and Planning

Mike is committed to preserving the integrity of our natural resources for future generations. His work involves protecting our natural resources by improving ecosystem resiliency and biodiversity. His vast experience in natural resource assessments and management enable him to be an excellent contributor to multi-faceted planning projects.

Unique Species Management Planning

Brown's Creek Watershed District / Biologist

Conducted wildlife surveys and documented unique species along the Brown's Creek corridor in eastern Minnesota. This information was used to prioritize activities in the watershed district's watershed management plan.

Adaptive Management Plans for MNDNR Scientific & Natural Areas

MN Department of Natural Resources - Scientific & Natural Areas / Biologist

Conducted field inventories and assisted in adaptive management plans for multiple Scientific & Natural Areas across Minnesota.

Baseline Documentation Reports for Ducks Unlimited

Ducks Unlimited / Project Manager & Biologist

Conducted field assessments and wrote baseline documentation reports for several Ducks Unlimited conservation easements to restore and protect waterfowl habitat in north-central Minnesota.

Riverine Turtle Nesting Habitat Assessment

University of MN & MNDNR / Biologist

This grant-funded project was initiated to develop a better understanding of the nesting habitat utilized by two species of state-listed riverine turtles; the wood turtle and smooth softshell. The hypothesis of the study was that hydraulic and hydrologic manipulations to riverine hydrology have an impact on near-stream nesting habitat and egg hatching success.

Riverine Turtle Hydrology/Hydrologic Assessment

MN Department of Natural Resources / Biologist

This project was awarded a State Wildlife Grant through MNDNR to study hydrologic effects on known nest sites for two species of state-listed riverine turtles; the wood turtle and smooth softshell. Work included detailed river cross-section surveys, nest site monitoring, and population surveys.

Surface Water Monitoring

Mike has vast experience designing and implementing water quality monitoring programs, and conducting BMP performance monitoring, lake diagnostic studies and stressor identification.

Lake Diagnostic Studies

Comfort Lake-Forest Lake Watershed District / Hydrologist

Designed and implemented stream monitoring networks for five lake diagnostic studies including Moody Lake, Bone Lake, Shield's Lake, Forest Lake, and Little Comfort Lake. Work also included development of rating curves, water quality sampling, data analysis, and report writing.

Trout Habitat Preservation Project

Brown's Creek Watershed District / Hydrologist

Conducted infiltration monitoring over an 18-year period to determine system performance and longevity. Work included infiltration analysis, report writing, and vegetation maintenance through the use of prescribed burns and invasive species removal.

Other water quality projects completed throughout the state include:

- ***Carnelian-Marine-St. Croix Watershed District*** - Sand Lake iron-enhanced sand filter performance monitoring
- ***Comfort Lake-Forest Lake Watershed Dist.*** - Broadway Avenue regional sand-iron filter performance monitoring
- ***Rice Creek Watershed District*** - Installed and operated watershed-wide monitoring network
- ***Prior Lake Watershed District*** - Installed and operated watershed-wide monitoring network
- ***South Washington Watershed District*** - Surface water infiltration, groundwater monitoring, and sampling
- ***Shingle Creek Watershed District*** - Chloride and flow monitoring
- ***Grass Lake Watershed Management Organization*** - Stormwater pipe outfall monitoring study

Select Project Experience

Total Maximum Daily Load Studies (TMDLs)

Paula has served a technical lead or team member and contributing author on numerous TMDL studies. Her work contributions include point & non-point pollutant source inventories, water quality trend analyses, stream load duration curve development, lake water quality modeling, load & wasteload allocation development, TMDL report writing, and participation in public meetings for the following completed or in-progress TMDL projects:

Sauk River Chain of Lakes TMDL

Minnesota Pollution Control Agency/Technical Lead
Developed lake phosphorous TMDLs for a system of 14 riverine and upland lakes in central Minnesota based on modification of William Walker's original 11-lake BATHTUB model and development of additional TMDLs. Modified, created, and calibrated lake water quality models. Evaluated and summarized sources of phosphorus in the watershed. Executed all technical work. Presented findings at public meeting. Lead technical writer.

Little Fork River TMDL

Minnesota Pollution Control Agency/Technical Lead
Developed 4 stream TSS TMDLs in a forested watershed in the Rainy River Basin. Summarized sources of sediment in the watershed. Executed all technical work. Presented findings at public meeting. Lead technical writer.

Grand Marais Creek Watershed TMDL

Red Lake Watershed District /Technical Team, Led Technical Writer
Investigated and analyzed potential stressors to low dissolved oxygen in two streams in an agricultural watershed in the Red River Basin. Developed 4 stream E. coli the TMDLs. Executed all technical work. Lead technical writer

Crow Wing River Watershed TMDL

Minnesota Pollution Control Agency/Technical Team
Developed 10 stream E. coli, 2 stream thermal loading, and 1 stream phosphorus TMDL for a watershed in the Upper Mississippi River Basin. TMDL development. Contributing technical writer.

Goose River Watershed TMDL

Chisago Soil & Water Conservation District/Technical Team
Developed 3 stream E. coli TMDLs for a watershed located in the Lower St. Croix River Major Watershed
TMDL development. Contributing technical writer.

Long Prairie River Watershed TMDL

Minnesota Pollution Control Agency/Technical Team
Developed 3 stream E. coli TMDLs for a watershed in north central Minnesota. TMDL development. Contributing technical writer.

Red Eye River Watershed TMDL

Minnesota Pollution Control Agency/Technical Team
Developed 11 stream E. coli TMDLs for a watershed in north central MN. TMDL development. Contributing technical writer.

Mississippi River-Winona Watershed TMDL

Minnesota Pollution Control Agency/Technical Team
Developed 12 stream E. coli, 4 stream nitrate, and 12 stream total suspended solids TMDLs for a watershed in the Lower Mississippi River Basin. TMDL development. Contributing technical writer.

Mustinka River Watershed TMDL

Minnesota Pollution Control Agency/Technical Team
Developed 7 stream E. coli, 4 stream phosphorus, & 5 stream total suspended solids TMDLs for an agricultural watershed in Red River of the North Basin. TMDL development. Contributing technical writer.



**Paula
Kalinosky,
PE**

**Water Resources
Engineer**

Years of experience: 17

Availability: 20%

Office Location: Saint Paul, MN

Paula Kalinosky is a water resources engineer with 17 years of science & engineering-related experience. Paula's work includes stormwater modeling, development review assistance, TMDL studies, water quality monitoring and assessment, and street sweeping management. The latter was the focus of Paula's research in graduate school. As part of her master's thesis she developed a spreadsheet application tools to aid in the estimation of potential nutrient recovery through street sweeping. Paula's technical background includes experience with water quality laboratory and field methods, spatial analysis (GIS), programming (VBA), statistical analysis (R, Statistica), and water treatment.

Education

2005 Bachelor of Science in
Secondary Science Education
Bemidji State University

2013 Master of Science in Bioproducts
and Biosystems Engineering,
University of Minnesota.

Professional Registration

#57104 MN Professional Engineer: civil

Areas of Expertise

Impaired Waters Regulation
Statistical Analysis
Hydraulic & Hydrologic Modeling
Development and Permit Review
Watershed Assessment
and Management
Street Sweeping Management
Stormwater Engineering
and Design

Ohio Maumee River Mainstem TMDL

U.S. Environmental Pollution Agency Region V / Technical Team
Developed 3 large river nitrate, phosphorus, and E. coli TMDLs for a watershed in the Western Lake Erie Basin.
TMDL development. Contributing technical writer.

Watershed Monitoring and Assessment

Paula provides technical recommendations & background data to support sound Management Plans and Rules; and has reviewed local surface water management plans for compliance with state law and watershed district rules and plans.

Watershed District Progress to Goals Plan/Report

Brown’s Creek Watershed District / Water Resource Engineer
Completed statistical analysis of annual and seasonal trends in stream flow and baseflow; stream water quality ; and climatic variables (FLUX, Statistica, R). Evaluated co-dependence and causal factors for observed trends and provides recommendation for future monitoring.

Grand Marais Creek Watershed Conditions Report Addendum

Red Lake River Watershed District / Water Resource Engineer
Completed statistical analysis of recent and historic water quality data to identify trends and conditions influencing water quality in the watershed (Statistica, R).

Prior Lake Spring Lake Watershed Monitoring Summary

Prior Lake Spring Lake Watershed District / Water Resource Engineer
Estimated annual TSS and TP pollutant loading at monitoring stations throughout the watershed (FLUX); evaluated and summarized spatial and temporal trends in pollutant loading; and provided recommendation for future monitoring.

Street Sweeping Management

Paula evaluates the efficiency and water quality benefits of existing and proposed street sweeping practices and provides recommendations for effective implementation of street sweeping.

City of Forest Lake Street Sweeping Management Plan

Comfort Lake-Forest Lake Watershed District / Consultant
Estimated the pollutant load reduction potential of street sweeping for Lake Management Zones in the City of Forest Lake. Summarized the expected cost-efficiency of sweeping for varying levels of effort and funding scenarios. Developed recommendations for street sweeping to assist in meeting defined water quality goals.

City of Edina Street Sweeping Management Plan

City of Edina / Consultant
Estimated the pollutant load reduction potential of street sweeping for the City of Edina’s priority watersheds. Summarized the expected cost-efficiency of sweeping for varying levels of effort and sweeper types. Developed recommendations for street sweeping to assist in meeting defined water quality goals.

BCWD Recommendations for Enhanced Street Sweeping

Brown’s Creek Watershed District / Consultant
Estimated the pollutant load reduction potential of enhanced street sweeping for BCWD subwatershed areas within the City of Stillwater boundaries. Summarized the expected cost-efficiency of sweeping for varying levels of effort.

Lake St. Clair, Street Sweeping Implementation Guidance

Minnesota Pollution Control Agency / Consultant
Evaluated potential phosphorus and solids recovery and developed a phosphorus tracking worksheet for enhanced street sweeping within the City of Detroit Lakes.

City of Edina Street Sweeping Management Plan

City of Edina, MN / Water Resources Engineer
Estimated the pollutant load reduction potential of street sweeping within subwatersheds of the City of Edina’s priority watersheds; summarized the expected cost-efficiency of sweeping for varying levels of effort, and developed recommendations for street sweeping to assist in meeting defined water quality goals.

BCWD Recommendations for Enhanced Street Sweeping

Browns Creek Watershed District / Water Resources Engineer
Estimated the pollutant load reduction potential of enhanced street sweeping for BCWD subwatershed areas within the City of Stillwater boundaries; summarized the expected cost-efficiency of sweeping for varying levels of effort.

Lake St. Clair, Street Sweeping Implementation Guidance

Minnesota Pollution Control Agency / Water Resources Engineer
Evaluated potential phosphorus and solids recovery and developed a phosphorus tracking worksheet for enhanced street sweeping within the City of Detroit Lakes, MN.



RESPONSE TO REQUEST FOR PROPOSAL

Statement of
Qualifications for
Engineering
Consulting Services
2021-2022



now part of



February 4, 2021

Prepared for:

Middle St Croix Watershed Management Organization
Matt Downing, Administrator
455 Hayward Ave North
Oakdale, MN 55128

February 4, 2021

Middle St Croix Watershed Management Organization

Matt Downing, Administrator
455 Hayward Ave North
Oakdale, MN 55128

RE: Statement of Qualifications for Engineering Consulting Services 2021-2022

Dear Mr. Downing and Board of Managers:

Wenck, a Stantec company, (Wenck) appreciates the opportunity to present to the Managers of Middle St. Croix Watershed Management Organization (MSCWMO) our qualifications to provide Engineering Consulting Services for your organization. We are committed to providing you with the highest level of quality and service, driving maximum value into your projects and conducting business with your best interests in mind - all at a very competitive price.

The enclosed Statement of Qualifications provides an overview of our extensive experience and expertise. We can provide the following unique qualifications to MSCWMO.

- **Watershed Management through More Than Just Water.** Our approach incorporates wholistic management of runoff, groundwater, lake & stream water quality, wetlands, fish, and vegetation.
- **Local Experts Ready to Serve.** Wenck has a proven track record with over 30 years of experience serving watershed districts. We are located just 5 miles from the MSCWMO office.
- **Extensive Depth of Service.** Wenck has expertise in all aspects of watershed and natural resource management. Our access to worldwide experts expanded in January when we joined Stantec, boosting our capabilities in areas such as trout stream management and use of environmental DNA for aquatic species monitoring.

We thank you for this opportunity to work with MSCWMO. Should you have any questions or need clarification of anything presented in the attached proposal, please do not hesitate to call me at 573-797-0499.

Sincerely,

Wenck, a Stantec company



Anne Wilkinson, EIT, PhD
Water Resources Engineer
7500 Olson Memorial Highway, Ste 300
Golden Valley, MN 55427
awilkinson@wenck.com



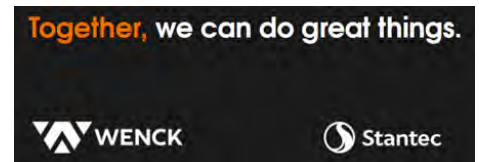
Todd Shoemaker, PE, CFM
Principal-in-Charge

FIRM AND BACKGROUND INFORMATION

On January 1, 2021, Wenck joined Stantec (Wenck), a community of designers, scientists, engineers, and planners who collaborate across disciplines and markets to develop innovative solutions. Together we will work to advance the quality of life in your community and across the globe.

Client relationships have always been our number one priority at Wenck. That will not change as we become part of Stantec. We understand the Middle St. Croix Watershed Management Organization's (MSCWMO's) mission and strive to be not only a responsive partner but a strategic advisor. While the name of our business will change, you will continue to see the same people delivering your projects. As always, our goal remains to deliver exceptional outcomes on all your projects and constantly exceed your expectations.

Together, we will work to deliver innovation and continuous improvement for the long-term. This means bringing you specialized expertise at a price that maintains your competitive advantage. And it means creative and custom solutions that will provide efficient, reliable, and flexible services.



We're excited to become part of a company that cares about creating communities as much as we do. Through this merger, our local team and reputation for quality watershed management services will remain.

We are a united team of engineers, scientists, and construction professionals prepared to deliver integrated watershed management services. We are known and trusted for our technical excellence, and our experienced team can help manage every aspect of your most complex projects. Working jointly with all stakeholders, we are your responsive partner committed to producing exceptional outcomes for your organization.

WATER IS IN OUR DNA

Several team members identified to serve the MSCWMO have dedicated their entire careers to watershed/natural resource engineering for watershed district clients locally and nationally. We bring our experience from all over North America to produce better outcomes for MSCWMO. Our watershed clients include agricultural watersheds in greater Minnesota, Metro-area urban watersheds, and a watershed in the Boundary Waters Canoe Area Wilderness. Wenck's focus on exceptional outcomes has led to our work being nationally recognized for innovation and value by our peers.

Our focus is to foster strong relationships and develop technical solutions which achieve outcomes that lead to further success in our communities. Through a partnership approach to planning and implementation, our clients see success on the landscape and in their communities. Through this lens, our team has implemented thousands of programs and projects throughout the nation.



OUR WATER WHY – Our purpose is to help protect the most important natural resource the world has: its water. Our mission is to collaborate with our clients to protect and improve water quality and availability.

We help build healthy, resilient legacies. Not only does the team we have assembled understand watershed management and facilitation, but we also have on-the-ground experience with agricultural BMP planning/design, floodplain management, riparian buffers and drainage, stream restoration, lake and wetland management, wastewater management, forest management, groundwater modeling, water supply studies, and subsurface investigations. We have worked with and for local units of government and watershed management organizations around the state and understand their programmatic, organizational and governmental processes.

The main point of contact for our team is Anne Wilkinson.

Anne Wilkinson, EIT, PhD
Water Resources Engineer
Wenck Associates, Inc now a part of Stantec
7500 Olson Memorial Highway | Suite 300 | Golden Valley, MN 55427
awilkinson@wenck.com



MSCWMO SELECTION CRITERIA AND WENCK QUALIFICATIONS

Wenck understands that the MSCWMO will use the criteria listed in bold below to evaluate consultant qualification statements. For each, we have provided justification and project examples on how Wenck exceeds each criterion.

1. Experience with watershed management organizations within the metropolitan area.

Wenck routinely works for many Minnesota watershed districts and organizations, and our water team has worked with nearly all the WMOs in the Metro area in some capacity. More specifically, members of the Wenck Woodbury team regularly work for:

- Capitol Region WD (rule writing & revisions, permit reviews, capital projects);
- Minnehaha Creek WD (rule revisions, capital projects, water quality & quantity modeling);
- Pelican River WD (rule revisions, permit reviews, water quality & quantity modeling); and
- Vermillion River WMO (water quality & quantity modeling).

Water Quantity & Quality Computer Modeling. Wenck views models as tools to help solve problems and has taken an adage that the bigger the toolbox the better the solution. Our approach to modeling is that there isn't one solution, but there is a right solution for your problem. This is why our team continually looks for improvements to traditional modeling methods, which can help drive better decision-making.

One example of our modeling experience is our creation of a PC-SWMM model to identify potential projects that improve water quality and provide flood control within the Lower Cannon and Vermillion River Watersheds for Dakota County. After identifying and prioritizing projects, we then provided a half-day tutorial for County staff, so they have review model results and edit as desired.

Diligent Project Management. As a project manager, Anne Wilkinson ensures that projects and studies are delivered on-schedule, on-budget, and with successful outcomes. We strive for open communication with our clients, so there are no surprises regarding project scope, schedule, and budget. To accomplish this, Dr. Wilkinson uses a tool to track a project's "earned value", which tracks budget expended and percent complete.

Limnology. Our team thoroughly understands the study and diagnosis of lakes in urban and rural environments, and we excel in recommending appropriate and cost-effective rehabilitation methods to meet stakeholder interests. We have every aspect of limnology expertise (fresh water physical, chemical, meteorological, and biological sciences) available.

Two recent examples of our work include two plans written for Como Lake in St. Paul on behalf of the Capitol Region WD: the Como Lake Long-Term Aquatic Vegetation Management Plan and the Como Lake Fisheries Management Plan. The goal of the vegetation plan is to establish an adaptive management approach for restoring and enhancing the aquatic vegetation community in Como Lake. The plan is relatively specific for the first 5-year implementation cycle while providing the appropriate tools to manage to multiple potential outcomes.



The goal of the Fishery Management Plan is to manage the lake's resident fish community to complement water quality improvement and vegetation initiatives while enhancing Como Lake's value as an urban recreational fishery. It employs a systematic plan to manage Como Lake and over time shift the lake to a largemouth bass fishery.

2. Experience with innovative and alternative watershed management approaches that integrate water resources engineering with natural resource management.

Our comprehensive, integrated approach has informed our preparation of over 75 watershed management plans. We help build healthy, resilient legacies. Development of innovative and collaborative projects requires an understanding of goals and objectives at not only a local but national perspective. Wenck's 35 years of experience working not only with Federal partners (US Army Corp of Engineers, EPA, FEMA) but state partners (Minnesota DNR, MPCA, BWSR) allows projects to have greater impact on the landscape. Bringing together the goals of each of these entities creates synergy which propel projects and programs to launch.

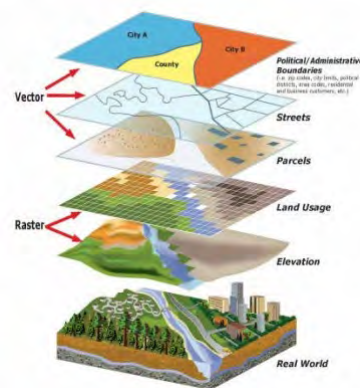
Understanding how partner agencies work also unlocks funding for implementation of projects. Wenck has developed a distinguished track record for retaining grant funds for our clients through partner agencies. For the recently announced 2021 Clean Water Fund Grants, we assisted our clients in securing nearly \$2M of the \$11M awarded (18%).

Iron-Enhanced Sand & Biochar. Wenck continues to assist the Coon Creek WD and Shingle Creek WMO with the implementation of iron-enhanced and biochar filters. Biochar added to iron-sand filters has been shown in lab experiments to effectively remove bacteria such as *E. coli* from stormwater; these applications are the first field demonstrations of this new technology in the nation. Wenck's familiarity with cutting-edge science and understanding of the funding criteria resulted in an innovative solution that can be implemented in situations with limited opportunities for reducing bacteria from urban sources.

Natural Resources Drive the CIP. We used a more complex approach for the City of Eagan where we developed 14 management plans for lakes in the City. Through Bathtub and XP-SWMM, we were able to guide the City's Capital Improvement Plan for the next 10 years to help form a comprehensive plan that would improve or protect water quality and biological health, while significantly reducing implementation costs and permitting hurdles by taking a forward-looking approach.

Since development of that plan, we have been implementing practices to achieve goals outlined in the plan. To date, Wenck has assisted the City with construction of three iron-enhanced sand filters, an underground infiltration trench, and a manufactured treatment device.

Drone Technology. Wenck utilizes small Unmanned Aircraft Systems (sUAS, aka “drones”) to capture aerial property views, conduct topographic surveys, and collect crop data for agribusiness clients. We deliver high end video and photography presentations to document our findings. Our clients utilize these visuals for marketing and public relations opportunities. The use of sUAS saves time, money, and limits risk, in addition to adding tremendous visual value to our clients’ portfolios.



Geographic Information Systems. Wenck utilizes GIS to efficiently manage our projects. Applications range from simple database management and mapping to complex GIS-based hydraulic and water quality modeling. We use GIS extensively in preparing TMDLs and water resource management plans. The data we collect allows us to provide a thorough analysis and recommendations that can be readily implemented. In addition, we provide ongoing GIS contract support and database development.

Stormwater Reuse. Wenck has assisted our clients with several stormwater reuse projects. Our team members have intimate knowledge of the reuse systems at Allianz and CHS Fields through the Capitol Region WD permitting process.

Wenck has also designed or assisted with reuse systems connected to stormwater ponds. Perhaps the largest reuse system in the state is one that Wenck designed for an industry in the Twin Cities. The pond collects all runoff up to a 100-year storm and then a pump system sends it to be reused as process water.

Sand Filter Research. Led by Mr. Shoemaker, Wenck was selected by the Minnesota Stormwater Research Council (MSRC) to assess the performance of underground sand filters. Surface sand filters are well understood and have been used for decades to treat stormwater in areas that have poor or contaminated soils. In urban settings, though, an increasing number of designers opt for underground filtration systems, which are designed with the same principles as surface systems but take up less space. However, they are harder to maintain and therefore tend to be treated with the “out of sight, out-of-mind” principle. This study will investigate if these systems are appropriate to install and if they have similar performance as their above ground counterparts. Phase 1 occurred in 2020 with Phase 2 to continue in 2021.

MTD Research. Wenck systematically reviewed five manufactured treatment devices (MTDs) with the goal of providing Capitol Region WD with a recommended credit value that could be applied toward their volume management standard. This evaluation process considered phosphorus removal efficiencies, third-party verification, and climate/precipitation data.

MTD performance was evaluated based on pollutant removal efficiencies, with a specific focus on total phosphorus (TP) removal; particulate phosphorus (PP), which is attached to or a component of particulate matter; and dissolved phosphorus (DP) which is soluble. We recommended 55-68% volume credit based on the level of DP removal documented by third-party review agencies.

With Wenck’s merger with Stantec, MSCWMO now has immediate access to international experts. Two examples specifically applicable to MSCWMO include:

Stantec eDNA. Environmental deoxyribonucleic acid (eDNA) is DNA that is naturally shed by organisms into their environment, such as streams, rivers, oceans, soils, even in fecal matter. By sampling the habitat in which species live, we can detect their presence without having to capture, handle, or even see the organisms we are looking for.

From conserving biodiversity to aquaculture monitoring, environmental DNA (eDNA) tools are proving to be reliable, sensitive, species-specific, and safe for the organisms being studied and

the habitats in which they live. We have a growing number of DNA laboratory partners so that we can provide eDNA services where you work.

Compared to conventional survey methods involving capture or observation, eDNA tools are more cost-effective, safer for field staff, and can provide rapid results in the field to detect the species being studied, with the potential to shave substantial time off of your project schedule.

Hatchery Creek, Jamestown, KY. Hatchery Creek is unique because the source flow is cooled by the depths of Lake Cumberland and flows through the Wolf Creek Dam National Trout Hatchery near Jamestown, Kentucky, where rainbow, brook, and brown trout are hatched and raised.

The challenge with this design/build project was to provide mitigation credits for our client (Kentucky Department of Fish and Wildlife) while creating a 6,000-foot-long self-sustaining trout stream. Because many streams in Kentucky are too warm, self-sustaining trout streams are very scarce. Although the water just below Lake Cumberland dam is cold enough to support trout, water level fluctuations from the operation of the dam prevent successful spawning.

Trout began using the stream instantly and, within two weeks of turning flows into the channel, we had evidence of trout spawning. The movement of trout into the channel has been so swift that stocking the channel wasn't necessary – we already have an abundance of trout for fishing!

3. Engineering design and timely construction management and inspection.

Wenck collaborates with our clients from concept through completion and beyond. We take the time to understand not only your immediate need but your organization's overall goals. In addition to keeping your scope, schedule, and budget in alignment, we also place great emphasis on another critical project component – safety. We know that people are an organization's greatest asset, and our team is mindful of our client, subcontractors, and the general public on every project site.

Wenck will strive to partner with the MSCWMO on each capital improvement project. We represent you by working with regulators through the jurisdictional permitting process and with contractors to oversee your project from concept through construction. We offer civil engineering, design, specifications, bidding, and construction management expertise.

One recent project was completed for the City of Crystal, which is now home to one of the largest underground stormwater infiltration systems in the state of Minnesota. A study evaluating ways to add stormwater quality treatment to a fully developed commercial and residential area identified the City's flagship park, Becker Park, as an ideal location for a regional water quality improvement project. The opportunity to house the system underground, aided by \$1.475 million in non-City grant funds, inspired the City to scale up the project and seize the opportunity to redesign the park to better serve the community.



Wenck's multi-disciplinary team was involved throughout the entirety of the project and provided a range of services including project identification, grant writing, surveying, environmental due diligence, design, construction observation, and post-construction system monitoring. The project was retrofit into the City's storm sewer network and diverts stormwater into a 1.45-mile network of 6-foot diameter perforated pipes beneath the park. The perforations in the pipe allow for captured stormwater to seep into and filter through surrounding soils. Prior to the project, the stormwater from

the mixed commercial/residential landscape was untreated and routed directly through the storm sewer network to the impaired Upper Twin Lake. The project also provided an ancillary benefit of increasing flood storage, resulting in slight reductions of localized street flooding. When underground work was complete, there was room for new recreation facilities including an accessible playground, splash pad and a performance space.



Construction Management Experience. Wenck manages over \$200 million in construction projects annually. Our experience ranges from small stormwater ponds to 84-inch water transmission lines. Our team understands how to implement and manage construction projects to limit client liability and long-term operation and maintenance. We also take great pride in ensuring a safe work environment. Wenck is continuously improving our understanding on the best practices for construction and technologies when constructing projects.

Erosion & Sediment Control Inspections. Wenck conducts erosion and sediment control inspections on behalf of MnDOT, Capitol Region WD, Coon Creek WD, and the Cities of Dayton and Lakeville. Inspections are performed to ensure project compliance with the MPCA general construction stormwater permit (MNR100001). Project types include urban mixed-use developments, single family home developments, road and highway reconstruction, bridge rehabilitation, parks and trails rehabilitation, and industrial site remediation.

Inspections include observing BMP functionality, inspecting surface waters, drainage ditches and conveyance systems for sediment deposition and erosion, and inspecting for temporary and permanent stabilization compliance. Other responsibilities include writing and disseminating reports documenting the observed findings and corrective actions, and communicating/ coordinating inspections and corrective actions with contractors and owners.

Wenck has developed digital applications to improve inspection and reporting efficiency, and to facilitate clear, consistent communication among stakeholders. These tools can be customized to meet your needs.

4. Locally-based firm with the ability to respond to emergency situations in the watershed or situations that would require immediate attention.

Our proximity to MSCWMO results in no travel charges to MSCWMO.

In addition to the Wenck Woodbury office's proximity to MSCWMO, several Wenck Woodbury staff live in Washington County, within a few miles of the MSCWMO. This allows our staff, including the senior engineer (Mr. Shoemaker), to be on-site within minutes so we can assess the situation, determine the level of risk, and recommend a course of action. The response may include evaluating compliance with District Rules, mobilizing contractors to perform emergency repairs, notifying duty officers of spills or leaks, or simply documenting conditions.

5. Ability to work with the public, regulatory agencies (including DNR) and other stakeholders and the ability to communicate effectively with the MSCWMO Board of Managers, Watershed Management Organization Attorney and SWCD staff.

Wenck staff have extensive experience communicating effectively with stakeholders at all levels. The Wenck Woodbury team is acquainted with key agency staff and works regularly with USACOE, state and local agencies to ensure that engineering and permitting solutions meet regulatory requirements.

Effective communication with the public is a must when considering options for protecting and improving water and natural resources that may be literally right outside their back door. We have facilitated public meetings, worked one-on-one with property owners, met with school children, and

provided web-based and social media communications. Our work as watershed engineers for several watershed districts as well as our project and permit review work with a variety of watershed, city, and county clients have us regularly communicating with staff, Managers, and attorneys. We are well acquainted with the monthly dash to get agenda items done and assembled into the meeting packet and have considerable experience preparing Board memos, agreements, and other reports.

6. Permitting, plan review, and environmental assessment experience.

Permitting & Plan Review. Wenck has developed a strong reputation with Minnesota watershed organizations for our ability to effectively develop, implement, and oversee water resource permitting programs. Wenck understands the importance of effective permit programs, which is why we emphasize timely response to applicants, develop innovative solutions, and effectively communicate with both District staff and applicants to meet Watershed goals.

We understand the harmony needed to blend economic development and livable communities with protecting natural resources. The Wenck Woodbury team reviews approximately 100 development reviews annually for watershed district clients, and Mr. Shoemaker and Anne Wilkinson have personally performed thousands of development reviews in his career. We understand how municipalities and government entities interact with agencies like watershed districts.

While “protecting the resource” is of utmost importance, we are keenly aware of the cost of permit programs and review timeframes. Despite increases in staff billing rates, we have worked more efficiently and refined our review process to decrease costs. Most of our watershed district clients expect reviews to be returned within seven days. The Wenck Woodbury team strives for a four-day review period and many times it’s less than that. We do not want Wenck or our client to be the reason a project is delayed!

For Capitol Region WD development sites, we review and guide projects from “cradle to the grave.” We review the proposed project according to CRWD rules; we observe construction to ensure the stormwater system is installed as specified; and we review record plans to ensure compliance through construction completion.

Evaluation of a Site Specific Standard and Aquatic Life Use Designation for Trout Designated Sections of the Vermillion River. Wenck was retained by the Vermillion River Watershed Joint Powers Organization (VRWJPO) to support their efforts to develop site specific biological endpoints and a specific class under Tiered Aquatic Life Use Class (TALU) for warm-water streams that support cold-water fisheries. Wenck has been conducting fish and stream monitoring in the Vermillion River to develop a baseline condition for the establishment of a cool water trout stream. Wenck is also assessing the data in light of the State’s cold water stream Index of Biologic Integrity (IBI) to determine applicable metrics for the development of a unique biological class under TALU. Results from these studies support the VRWJPO’s efforts to develop appropriate and attainable endpoints for trout streams that are not true cold water fisheries. These studies are also being used to develop appropriate restoration efforts to continue to support the current biological community including brown trout.



7. Interdisciplinary group of water resources professionals that can provide full range of services to the watershed (i.e. surface water, ground water, natural resources, water quality, engineering).

Wenck is unique in the variety and depth of services that we provide; for just about every discipline, we don't just have one person but a team and each person brings a little bit different perspective and experience. Ultimately, we have found this greatly benefits our clients because we can match their

challenge to our staff rather than just a few staff having to learn something new to address each challenge.

Groundwater & Hydrogeology Expertise. Wenck completes numerous hydrogeological and geological investigations and studies each year. The developing issue of surface water and groundwater interactions and understanding of how they interact is critical for future projects.

Lake Nokomis. Wenck is working with the Minnehaha Creek WD and numerous partners to create a “white paper” that documents, explains, and recommends next steps regarding high groundwater concerns in the Lake Nokomis area. The white paper synthesizes the issues, technical data, and findings previously established by the District and its partners into one document; if necessary, it will also provide next steps for further study or implementation activities.

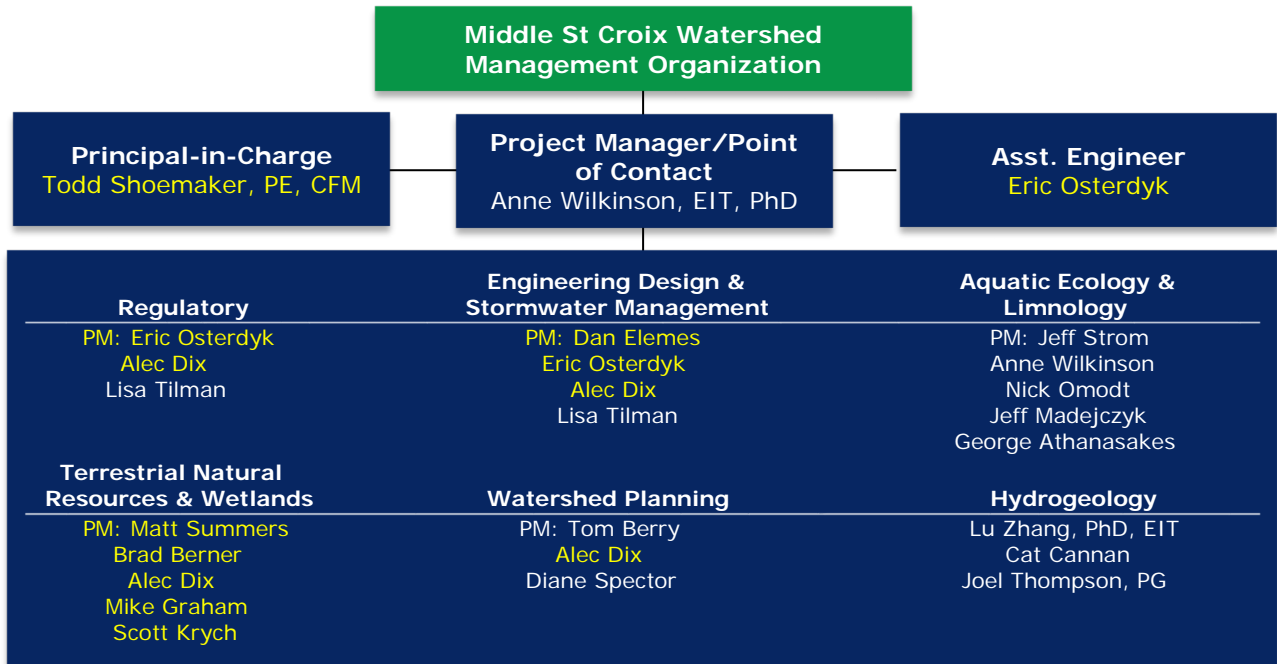
Little Mississinewa River Impact Assessment & Remedial Strategy. Joel Thompson of Stantec provided environmental engineering and project management services to a client where the historic discharge of process waters from a manufacturing facility reportedly contributed to the elevated levels of polychlorinated biphenyls (PCBs) first detected in the fish and floodplain sediments along the banks of the Little Mississinewa River during the 1980's. Mr. Thompson has worked with the client since 1993 to evaluate groundwater and surface water interaction, characterize the extent of PCB contamination within the river and floodplain sediments, identify the migration pathways, assess the contaminant contributions for additional potentially responsible parties (PRPs), and assist in the development and investigation of prescriptive alternative remedial strategies.

Wetland and Soil Science & Wetland Restoration. The Wenck Woodbury team includes three staff that are certified wetland delineators and previously worked for the U.S. Army Corps of Engineers (USACE) and two soil scientists. They have extensive experience managing controversial and technically challenging projects that require in-depth analysis of federal, state, and local regulations. Each has expertise in the field of wetland science, including delineation, restoration and functions / values assessments that were gained through practical experience as well as formal training.

Our team has performed wetland delineations throughout Minnesota, as well as in South Dakota, Wisconsin, North Dakota, Iowa, and Oklahoma. They are skilled at identifying and classifying wetland vegetation, hydric soils, and indicators of wetland hydrology. In the last few years, we have developed wetland bank plans for clients and conducted annual monitoring on wetland banks and mitigation wetlands, prescribing annual maintenance activities to improve the quality of the wetlands on these sites.

WENCK PROJECT TEAM

The Wenck project team for MSCWMO is detailed below. We expect most services to be provided by Anne Wilkinson, Todd Shoemaker, Dan Elemen, Eric Osterdyk, Alec Dix, Lisa Tilman, and Matt Summers. However, we have over 50 local water resources staff ready to support MSCWMO. Project managers will include Anne Wilkinson, Todd Shoemaker, Dan Elemen, Eric Osterdyk, Lisa Tilman, Matt Summers, and Tom Berry. Anne Wilkinson is noted below as the main point of contact, but MSCWMO may contact any Wenck staff at any time to ask questions or initiate work orders. Staff located in our Woodbury office are noted in the yellow text.



Anne Wilkinson, PhD, EIT

Water Resources Engineer | Golden Valley, MN

- 5 years of experience focused on water resource engineering and stormwater management.
- PhD in Civil Engineering, Environmental Fluid Mechanics, Minor in Microbial Biology
- Water Resource Engineer serving, Minnehaha Creek WD, City of Eden Prairie, Riley Purgatory Bluff Creek WD, Basset Creek WD, City of Eagan, Capital Region WD and South Washington WD.
- Specialties include, physical limnology, microbial ecology, harmful algal bloom research & monitoring, water management, stormwater permitting, watershed engineering, grant procurement, and hydrology.



Todd Shoemaker, PE (MN, IA), CFM

Principal Water Resources Engineer | Woodbury, MN

- 20 years professional experience in the water resources and environmental engineering fields.
- Water Resources Engineer currently or previously serving Capitol Region, Minnehaha Creek, Shingle Creek, Coon Creek, Carnelian-Marine-St. Croix, and South Washington Watershed Districts.
- Specialties include hydrologic, hydraulic and water quality modeling; feasibility studies; review of proposed developments for watershed clients; design of stormwater management facilities; and watershed-wide floodplain studies.



WENCK PROJECT TEAM (CONT.)

Dan Eames, PE (MN)

Water Resources Engineer | Woodbury, MN

- 8 years of experience in water resources and municipal engineering.
- Bachelor's in Civil Engineering and Economics
- Specialties include hydrology and hydraulic modeling and analysis, stormwater management plan development, plans and specifications creation, funding and permitting agency coordination, and construction management.



Eric Osterdyk, EIT

Water Resources Engineer | Woodbury, MN

- 4 years of experience on projects including municipal, topographic and boundary surveys.
- Bachelor's in Environmental Engineering and Wildlife Ecology
- Specialties include hydrologic and hydraulic monitoring, water quality modeling, watershed permitting, stormwater design, and wildlife ecology.



Alec Dix

Water Resource Engineer & Planner | Woodbury, MN

- 2 years of experience on water resources projects
- Master's in Civil Engineering, and Master of Urban and Regional Planning
- Specialties include lake and stream monitoring, hydrologic and hydraulic modeling, data analysis, technical report writing and stormwater permit review.



Lisa Tilman, PE

Water Resources Engineer | Golden Valley, MN

- 14 years of experience in managing and conducting watershed and sustainability planning, surface water quality analysis, stormwater permit reviews, hydrologic modeling, facilitating public input, presenting scientific information to technical and public audiences, and analyzing technical data.
- Master's in Civil Engineering and Water Resources Science
- Specialties include helping government agencies conduct watershed and sustainability planning, develop, and implement standards and rules for water resource protection and improvement, and evaluate and implement projects that protect and improve water resources.



Jeff Strom

Water Resource Scientist | Golden Valley, MN

- 12 years of experience focusing on water quality modeling, data processing and analysis, Geographic Information Systems (GIS), and technical report writing to support various watershed plans.
- Master's in Water Resource Science
- Specialties include lake management plans, TMDL projects and implementation plans, and WRAPS studies.



Nick Omodt

Environmental Scientist | Golden Valley, MN

- 2 years of experience focusing on wildlife monitoring and surveys, both terrestrial and aquatic invasive species management, water quality monitoring and lab analysis.
- Bachelor's in Environmental Science
- Specialties include wildlife surveys, endangered species background permitting, wetland and waterbody delineations, tree surveys, fisheries surveys, water quality monitoring, and aquatic plant surveys.



Jeff Madejczyk

Principal Biologist | Maple Plain, MN

- 20+ years of experience in fisheries biology and aquatic ecology where he has conducted research on fish and invertebrate communities in lakes, streams, and rivers.
- Master's in Fisheries Biology
- Specialties include ecological monitoring, TMDL, and environmental permitting efforts, including fish and macroinvertebrate monitoring, endangered species analysis, wetland and mitigation projects, ecological assessments, utility corridor studies, stormwater permitting, and construction permitting activities.



George Athanasakes

Environmental Scientist | Louisville, KY

- 30 years of experience in civil engineering, stream restoration, wetland restoration, and watershed planning.
- Master's in Civil Engineering
- Specialties include conceptual level planning, preliminary and final design, permitting, assistance during construction, and post-construction monitoring.



Matt Summers

Environmental and Soil Scientist | Woodbury, MN

- 10 years of experience in wetland delineations/determinations and wastewater treatment community assessments, soil investigations, wetlands, community onsite wastewater, GIS, GPS, and project management.
- Bachelor's in Environmental Science, Policy, and Management; specializing in Conservation Resource Management



Brad Berner

Natural Resources Scientist | Woodbury, MN

- 4 years of experience in environmental oversight projects, soil and soil vapor sampling projects, SVE system maintenance, and wind farm bird/bat surveys.
- Bachelor's in Ecology and Field Biology



Joel Thompson, PG

Senior Hydrogeologist | Stillwater, MN

- 25 years of professional experience in hydrogeology. Analysis of hydrogeologic systems, applied hydrogeology, subsurface environmental investigations, groundwater flow and contaminant transport modeling, and groundwater monitoring system design.

Mike Graham

Principal Wetland Scientist | Woodbury, MN

- 30 years of experience as a Regulatory Specialist with the U.S. Army Corps of Engineers (USACE) and as a private consultant.
- Expertise in the field of wetland science, including delineation, restoration, and functions/values assessments.
- Extensive knowledge of federal and state laws, including the Clean Water Act, National Environmental Policy Act, the Minnesota Wetland Conservation Act.



Scott Krych, PWS

Senior Ecologist | Woodbury, MN

- 30 years of experience in environmental compliance services and regulatory oversight.
- Bachelor's in Biology
- Specialties include data collection techniques and preparation of documents necessary to comply with local, state, and federal regulatory permitting programs.



Tom Berry

Senior Planner | Golden Valley, MN

- 20 years of experience in project planning, development, and management in both the public and private sectors.
- Master in Community and Regional Planning
- Specialties include public process, program administration, hazard mitigation planning, and floodplain management



Diane Spector

Senior Water Resources Planner | Golden Valley, MN

- 20+ years of experience in project planning and management.
- Master's in Environmental Science and Policy
- Specialties include watershed and local water management plans, stream assessments, stream stressor identification studies, total maximum daily load (TMDL) studies, educational program development, and public participation planning.



Lu Zhang, PhD, EIT

Environmental Engineer | Austin, TX

- 6+ years of experience in both urban stormwater and agricultural drainage systems.
- Master's in Natural Resources Science & Management, Forest Hydrology; PhD in Bioproducts and Biosystems Sciences, Engineering and Management
- Specialties include hydrologic & hydraulic modeling and water quality modeling, Phase II MS4 work, TMDL studies, agricultural BMPs design and ditch repair work.



Cat Cannan

Hydrogeologist | Fort Collins, CO

- 6+ years of experience providing geologic and hydrogeologic services.
- Master's in Groundwater Hydrogeology, Geoscience
- Specialties include groundwater modeling, water supply studies, and subsurface investigations.



PROFESSIONAL FEE SCHEDULE

Since we are located so close to MSCWMO, we won't charge travel costs for meetings and projects throughout the watershed.

Classification	Hourly Rate	Key Personnel
Administrative Support/Technician	\$65 - \$90	
Professional I	\$103 - \$128	Berner, Cannan, Dix, Omodt, Osterdyk
Professional II	\$141 - \$165	Berry, Elemes, Summers, Strom, Wilkinson, Zhang
Professional III	\$175 - \$195	Graham, Krych, Madejczyk, Tilman
Professional IV, V and Officer	\$205	Shoemaker, Spector, Athanasakes, Thompson

- *Classifications listed above refer to the firm's internal system for billing purposes. The term "Professional" refers to engineers, scientists and business professionals.*
- *Subcontracted services will be billed at cost plus 15 percent.*
- *Invoices are due upon presentation. Invoice balances not paid within thirty (30) days of invoice date are subject to 1-1/2% (18% annual) interest or finance charge.*
- *Rates to be adjusted annually.*

REFERENCES

Tim Kelly, District Administrator
 Coon Creek Watershed District
 763-755-0975 | tkelly@cooncreekwd.org

Forrest Kelley, PE, Regulatory Division Manager
 Capitol Region Watershed District
 651-644-8888 | forrest@capitolregionwd.org

James Wisker, Planning and Projects Director
 Minnehaha Creek Watershed District
 952-471-0590 | jwisker@minnehahacreek.org

Judie Anderson, Executive Secretary
 Shingle Creek Watershed Management Commission
 763-553-1144



now part of



MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

455 Hayward Avenue N. Oakdale, MN 55128
Phone 651.330.8220 x22 fax 651.330.7747 www.mscwmo.org



MEMORANDUM

TO: Middle St. Croix WMO Board of Managers
FROM: Matt Downing, Administrator
DATE: February 4th, 2021

RE: 6d.) 2020 Permit Review Fee Overages

The 2020 MSCWMO Budget and Receivables ended the year at 136% spent. In light of this, the MSCWMO Managers directed me to assess overages and provide a recommendation for recouping losses pursuant to the Joint Powers Agreement. 18 permits had time spent providing comments or guidance in 2020. Upon review of the hours spent, it is my recommendation that any review that was more than \$500 over the fee collected be invoiced to the respective community. If the board approves this approach, 4 commercial and two single lot reviews will be invoiced. This would result in the recovery of \$5,665 of time not covered by review fees.

I am requesting board approval to proceed with requesting reimbursement as outlined above.

Recommended Board Action- Approve Staff to send fee overage reimbursement requests for all reviews exceeding \$500 in overage for 2020

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

455 Hayward Avenue N. Oakdale, MN 55128
Phone 651.330.8220 x22 fax 651.330.7747 www.mscwmo.org

MEMORANDUM



TO: Matt Downing, Administrator
FROM: Rebecca Nestingen, PE
DATE: February 8, 2021

RE: 8a) Plan Reviews/Submittals

The following is a summary of recent activity on projects submittals which qualify for plan review under the MSCWMO 2015 Watershed Management Plan (WMP):

- **Hills of Spring Creek.** Materials were received for a proposed 195 acre single family residential development in Baytown Township on December 17, 2020. Revised materials were received between January 8, 2021 and February 7, 2021. Stormwater is proposed to be managed utilizing infiltration basins/re-use ponds for irrigation meeting MSCWMO performance criteria. *MSCWMO staff recommend approval with eight conditions.*
- **1175 Quinlan Ave.** Incomplete materials were received for a proposed shoreline stabilization project at 1175 Quinlan Ave South in Lakeland on December 21, 2020. A variance from the City of Lakeland for construction within the bluff line will likely be required for the project. MSCWMO staff are awaiting receipt of a complete application package to review the project for conformance with MSCWMO standards.

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

455 HAYWARD AVENUE OAKDALE, MINNESOTA 55128
Phone 651.330.8220 x22 fax 651.330.7747 www.mscwmo.org



February 8, 2021

Nancy Healey
Baytown Township
4020 McDonald Dr.
Stillwater, MN 55082

RE: Hills of Spring Creek

Dear Ms. Healey,

The Middle St. Croix Watershed Management Organization (MSCWMO) received initial submittals on December 18, 2020 and revised materials between January 8, 2021 and February 7, 2021 for the proposed Hills of Spring Creek single family residential development, located within MSCWMO boundaries in the Township of Baytown. The proposed project qualifies for full review under the MSCWMO 2015 Watershed Management Plan (WMP).

The project provides sufficient information to determine compliance with applicable Performance Standards contained within Section 7.0 of the 2015 MSCWMO WMP.

The MSCWMO recommends approval with 8 conditions:

1. Update the SWPPP to meet the National Pollutant Discharge Elimination System (NPDES) requirements.
 - a. BMP inspection frequency and record requirements are not provided in the SWPPP.
 - b. Describe methods to minimize soil compaction and preserve topsoil in SWPPP.
 - c. Indicate locations of construction site exits in Erosion Control Plan.
2. Revise plans and analysis to reduce the proposed discharge for basin E which exceeds the existing discharge during the 10-year, 24-hour event.
3. Correct inconsistencies between plan details and modeling analysis.
4. Provide flowage easements up to the 100-yr flood level for stormwater management facilities.
5. Identify as build survey and method to demonstrate infiltration or filtration basin is functioning.
6. Provide adequate infiltration basin construction guidance to prevent clogging or compaction and demonstrate performance.
7. Provide a minimum 8.0' maintenance access to all stormwater facilities.
8. Lowest floor elevations of structures built adjacent to stormwater management features and other water bodies are a minimum of two feet above the 100-year flood elevation and a minimum of two feet above the natural overflow of landlocked basins.

This recommended approval is based on the technical review of the MSCWMO performance standards and does not constitute approval by the Township of Baytown. MSCWMO review process information can be downloaded from www.mscwmo.org. The project review checklist is attached. Please contact me at 651-330-8220 x22 or mdowning@mnwcd.org if you have any questions regarding these comments.

Sincerely,



Matt Downing
MSCWMO Administrator



PROJECT REVIEW

MSCWMO Project Review ID: 20-010

Project Name: Hills of Spring Creek

Applicant: Derrick Custom Homes

Purpose: New Single Family Residential Development

Location: Baytown Township

Review date: 2/8/21

Recommendation:

Approve with 8 conditions:

1. Update the SWPPP to meet the National Pollutant Discharge Elimination System (NPDES) requirements.
 - a. BMP inspection frequency and record requirements are not provided in the SWPPP.
 - b. Describe methods to minimize soil compaction and preserve topsoil in SWPPP.
 - c. Indicate locations of construction site exits in Erosion Control Plan.
2. Revise plans and analysis to reduce the proposed discharge for basin E which exceeds the existing discharge during the 10-year, 24-hour event.
3. Correct inconsistencies between plan details and modeling analysis.
4. Provide flowage easements up to the 100-yr flood level for stormwater management facilities.
5. Identify as build survey and method to demonstrate infiltration or filtration basin is functioning.
6. Provide adequate infiltration basin construction guidance to prevent clogging or compaction and demonstrate performance.
7. Provide a minimum 8.0' maintenance access to all stormwater facilities.
8. Lowest floor elevations of structures built adjacent to stormwater management features and other water bodies are a minimum of two feet above the 100-year flood elevation and a minimum of two feet above the natural overflow of landlocked basins.

Applicability:

- Any project undertaking grading, filling, or other land alteration activities that involve movement of 100 cubic yards of earth or removal of vegetation on greater than 10,000 square feet of land
- Any project that creates or fully reconstructs 6,000 square feet or more of impervious surface
- All major subdivisions or minor subdivisions that are part of a common plan of development. Major subdivisions are defined as subdivisions with 4 or more lots.
- Any project with wetland impacts
- Any project with grading within public waters

- Any project with grading within buffers
- Any project with grading within 40-feet of the bluff line
- Development projects that impact 2 or more of the member communities
- New or redevelopment projects within the St. Croix Riverway that require a building permit that adds five hundred (500) square feet or more of additional impervious surface
- Any project requiring a variance from the current local impervious surface zoning requirements for the property
- Any land development activity, regardless of size, that the City determines is likely to cause an adverse impact to an environmentally sensitive area or other property, or may violate any other erosion and sediment control standard set by the member community.

SUBMITTAL ITEMS:

Electronic submittals are highly encouraged

- A completed and signed project review application form and review fee
- Grading Plan/Mapping Exhibits
 - a. Property lines and delineation of lands under ownership of the applicant.
 - b. Delineation of existing on-site wetlands, shoreland and/or floodplain areas (including any buffers).
 - c. Ordinary High Water (OHW) elevations and datum, as determined by the MDNR (if applicable).
 - d. Existing and proposed site contour elevations related to NAVD 1988 datum (preferred) or NGVD, 1929. Datum must be noted on exhibits.
 - e. Drainage easements covering land adjacent to ponding areas, wetlands, and waterways up to their 100-year flood levels and covering all ditches and storm sewers. Access easements to these drainage easements and to other stormwater management facilities shall also be shown.
 - f. Minimum building elevation for each lot.
 - g. Identification of downstream water body.
- Permanent Stormwater Management System in compliance with the requirements of the NPDES SDS Construction Stormwater Permit and MSCWMO Performance Standards.
 - a. Impervious areas (Pre- and Post-Construction).
 - b. Construction plans and specifications for all proposed stormwater management facilities.
 - c. Location(s) of past, current or future onsite well and septic systems (if applicable).
- Other exhibits required to show conformance to these Performance Standards

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary's Point, Stillwater and West Lakeland Township

- A Stormwater Pollution Prevention Plan in compliance with the requirements of the NPDES SDS Construction Stormwater Permit
- Grading Plan/Mapping Exhibits:
 - a. Delineation of the subwatersheds contributing runoff from off-site, proposed and existing on-site subwatersheds, and flow directions/patterns.
 - b. Location, alignment, and elevation of proposed and existing stormwater facilities.
 - c. Existing and proposed normal water elevations and the critical (the highest) water level produced from the 100-year 24-hour storms.
 - d. Location of the 100-year flood elevation, natural overflow elevation, and lowest floor elevations.
- Hydrologic/Hydraulic Design Exhibits:
 - a. All hydrologic and hydraulic computations completed to design the proposed stormwater management facilities shall be submitted. Model summaries must be submitted. The summaries shall include a map that corresponds to the drainage areas in the model and all other information used to develop the model.
 - b. A table (or tables) must be submitted showing the following:
 - i. A listing of all points where runoff leaves the site and the existing and proposed stormwater runoff rates and volumes.
 - ii. A listing of the normal water levels under existing and proposed conditions and the water levels produced from the storm and runoff events listed above for all on-site wetlands, ponds, depressions, lakes, streams, and creeks.
- Dedications or easements for the portions of the property which are adjacent to the facility and which lie below the 100 year flood level. For sites within public right-of-way, no easement is required.
- A proposed maintenance agreement, which may be in the format of Appendix K, or other form approved by the city.

HISTORY & CONSIDERATIONS:

SPECIAL OR IMPAIRED WATER

- NA This site drains to, and is within one mile of special or impaired water and complies with enhanced protections.
- a. Scenic or Recreational river C.1., C.2., C.3.
 - b. Scientific and Natural area C.1., C.2., C.3.
 - c. Waterbody with a TMDL C.1., C.2.
 - C.1. Stabilization initiated immediately and all soils protected in seven days/provide temp basin for five acres draining to common location.
 - C.2. Treat water quality volume of one inch of runoff by retaining on site unless not feasible due to site conditions (See Part III.D.1. design requirements).

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary's Point, Stillwater and West Lakeland Township

C.3. Maintain buffer zone of 100 linear feet from Special Water.

EROSION AND SEDIMENT CONTROL [*A checked box indicates compliance*]

- A Stormwater Pollution Prevention Plan (SWPPP) that meets the National Pollutant Discharge Elimination System (NPDES) requirements.

Narrative

- Identify the person knowledgeable and experienced who will oversee the implementation of the SWPPP; the installation, inspection, and maintenance of the BMPs.
- a. Identifies the person who will oversee the BMP inspection and maintenance.
 - b. Identify the training requirements are satisfied.
 - c. Inspections performed once every 7 days.
 - d. Inspections performed within 24 hours of a rain event greater than 0.5 in/24 hours.
 - e. Inspection and Maintenance records include:
 - i. Date and time of inspection.
 - ii. Name of person(s) conducting inspections.
 - iii. Finding of inspections, including the specific location where corrective actions are needed.
 - iv. Corrective actions taken (including dates, times, and party completing maintenance activities).
 - v. Date and amount of rainfall events greater than 0.5 in/24 hours.
 - vi. Rainfall amounts must be obtained by a properly maintained rain gauge installed onsite, or by a weather station that is within one mile or by a weather reporting system.
 - vii. Requirements to observe, describe, and photograph any discharge that may be occurring during the inspection.
 - viii. All discovered nonfunctional BMPs must be repaired, replaced, or supplemented with functional BMPs within 24 hours after discovery, or as soon as field conditions allow.
- Describes procedures to amend the SWPPP and establish additional temporary ESC BMPs as necessary for site conditions.
- Describes the installation timing for all Erosion Sediment Control (ESC) Best Management Practices (BMPs).
- Describes final stabilization methods for all exposed areas.
- Methods used to minimize soil compaction and preserve topsoil must be described.
- Describes dewatering technique to prevent nuisance conditions, erosion, or inundation of wetlands?
- Identifies any specific chemicals and the chemical treatment systems that may be used for enhancing the sedimentation process on the site, and how compliance will be achieved with the permit requirements.
- Describes pollution prevention management measures

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary's Point, Stillwater and West Lakeland Township

- a. Storage, handling, and disposal of construction products, materials, and wastes.
- b. Fueling and maintenance of equipment or vehicles; spill prevention and response.
- c. Vehicle and equipment washing.
- d. No engine degreasing allowed on site.
- e. Containment of Concrete and other washout waste.
- f. Portable toilets are positioned so that they are secure.

Plan sheets

*Temporary Sediment Basins required (10 acres draining to common location or 5 acres App. A)
Basin design meets the following criteria:*

- a. Adequately sized – 2-year, 24-hour storm, minimum 1,800 feet/acre; or no calculative minimum 3,600ft³/acre.
- b. Designed to prevent short circuiting.
- c. Outlets designed to remove floating debris.
- d. Outlets designed to allow complete drawdown.
- e. Outlets designed to withdraw water from the surface
- f. Outlets have energy dissipation.
- g. Have a stabilized emergency spillway.
- h. Situated outside of surface waters and any natural buffers.

Locations and types of all temporary and permanent Erosion Control BMPs.

- a. Exposed soils have erosion protection/cover initiated immediately and finished within 14 days.
- b. Wetted perimeters of ditches stabilized within 200 feet of surface water within 24 hours.
- c. Pipe outlets have energy dissipation within 24 hours of connecting.

Locations and types of all temporary and permanent Sediment Control BMPs.

- a. Sediment control practices established on down gradient perimeters and upgradient of any buffer zones.
- b. All inlets are protected.
- c. Stockpiles have sediment control and placed in areas away from surface waters or natural buffers.
- d. Construction site entrances minimize street tracking
- e. Plans minimize soil compaction and, unless infeasible to preserve topsoil.

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary's Point, Stillwater and West Lakeland Township

f. 50 foot natural buffers preserved or (if not feasible) provide redundant sediment controls when a surface water is located within 50 feet of the project's earth disturbances and drains to the surface water.

- Tabulated quantities of all erosion prevention and sediment control BMPs.
- Stormwater flow directions and surface water divides for all pre- and post-construction drainage areas.
- Locations of areas not to be disturbed (buffer zones).
- Location of areas where construction will be phased to minimize duration of exposed soil areas.

NA Blufflines are protected from construction activities in urban (40 foot buffer) areas and rural areas (100-foot buffer).

LAKE, STREAM AND WETLAND BUFFERS

- A buffer zone of unmowed natural vegetation is maintained or created upslope of all water bodies (wetlands, streams, lakes).
 - A 50 foot natural buffer or (if a buffer is infeasible) provide redundant sediment controls when a surface water is located within 50 feet of the project's earth disturbances and stormwater flows to the surface water.
- NA If adjacent to a Special or Impaired Water an undisturbed buffer zone of not less than 100 linear feet from the special water is maintained both during construction and as a permanent feature post construction.

STORMWATER MANAGEMENT *[A checked box indicates compliance]*

- Water quality treatment is provided prior to direct discharge of stormwater to wetlands and all other water bodies.

Rate and Flood Control Standards

- The peak rate of stormwater runoff from a newly developed or redeveloped site shall not exceed the 2-, 10-, and 100-year 24-hour storms with respective 2.8, 4.2, and 7.3-inch rainfall depths with MSCWMO approved time distribution based on Atlas 14 for existing and proposed conditions. The runoff curve number for existing agriculture areas shall be less than or equal to the developed condition curve number. The newly developed or redeveloped peak rate shall not exceed the existing peak rate of runoff for all critical duration events, up to and including the 100-year return frequency storm event for all points where discharges leave a site during all phases of development. **The proposed discharge exceeds the existing discharge during the 10-year, 24-hour event for basin E.**
- Predevelopment conditions assume "good hydrologic conditions" for appropriate land covers as identified in TR-55 or an equivalent methodology. Runoff curve numbers have been increased where predevelopment land cover is cropland:
 - Hydrologic Soil Group A: Runoff Curve Number 56
 - Hydrologic Soil Group B: Runoff Curve Number 70
 - Hydrologic Soil Group C: Runoff Curve Number 79
 - Hydrologic Soil Group D: Runoff Curve Number 83

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary's Point, Stillwater and West Lakeland Township

Computer modeling analyses includes secondary overflows for events exceeding the storm sewer systems level-of-service up through the critical 100-year event. **Correct inconsistencies between plan details and modeling analysis for:**

- Wet pond 1 – 24” pipe slope and 4’ weir wall not modeled
- Wet pond 4 – 18” culvert slope and invert
- Wet pond 5 – culvert diameter
- Wet pond 6 – weir wall elevation, 48” horiz. Orifice not modeled, splitter structure exceeds wet pond elevation
- Wet pond 2 and Inf. Basin 2B – no OCS detail
- Inf. Basin 4A – EOF invert

NA In sub-areas of a landlocked watershed, the proposed project does not increase the predevelopment volume or rate of discharge from the sub-area for the 10-year return period event.

Flowage easements up to the 100-yr flood level have been secured for stormwater management facilities (such as ditches and storm sewers). **Outlot D should encompass all of Wet Pond 4 up to HWL. Outlot B should encompass all of Infiltration Basin 6A up to HWL. Flowage easements over ditches required.**

Lowest floor elevations of structures built adjacent to stormwater management features and other water bodies are a minimum of two feet above the 100-year flood elevation and a minimum of two feet above the natural overflow of landlocked basins. **Check BFE/LOE of Block 5 Lot 11, Block 10 Lot 77, Block 9 Lot 78, Block 15 Lot 42, Block 13 Lot 43, Block 19 (no BFE/LOE labeled), Block 18 Lot 96, and Block 23 Lot 81.**

Volume Control Standards

- Calculations/computer model results indicate stormwater volume is controlled for new development and redevelopment requirements per the MSCWMO Design Standards.
1. New Nonlinear Development 1.1” * new impervious surfaces
 2. Reconstruction/Redevelopment Projects 1.1” * reconstructed impervious surfaces
 3. Linear Projects 0.55” * new and/or fully reconstructed impervious surface and 1.1” from net increase in impervious area
 4. Sites with Restrictions- flexible treatment options documentation has been provided.

Volume Retention Required (cu. ft.)		Volume Retention Provided (cu. ft.)	
900,401 sf * 1.1”/12”/’ = 82,536 cu. ft.		BMP	Volume
		Inf. 2A	5,790 cu. ft.
		Inf. 2B	4,492 cu. ft.
		Inf. 3A	8,984 cu. ft.
		Inf. 4A	9,184 cu. ft.
		Inf. 6A	8,984 cu. ft.
		Re-use 1/1A	33,082 cu. ft.
		Re-use 5	12,778 cu. ft.
Total Required	82,563 cu. ft.	Total Proposed	83,294 cu.ft.

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary’s Point, Stillwater and West Lakeland Township

Flexible Treatment Options (when applicable)

- NA Applicant demonstrated qualifying restrictions as defined in Section 7.2.2 (4) of the 2015 MSCWMO Watershed Management Plan that prohibits the infiltration of the entire required volume.
- NA MIDS calculator submission removes 75% of the annual total phosphorous.

Infiltration/Filtration Design Standards

- Proposed stormwater management features meet or exceed NPDES General Construction Permit requirements are designed in conformance with the most recent edition of the State of Minnesota Stormwater Manual.
- None of the following conditions exist that prohibit infiltration of stormwater on the site
 - a. Areas where vehicle fueling and maintenance occur.
 - b. 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.
 - c. Areas where industrial facilities are not authorized to infiltrate industrial stormwater under an National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Industrial Stormwater Permit issued by the MPCA.
 - d. Areas where contaminants in soil or groundwater will be mobilized by infiltrating stormwater.
 - e. Areas of Hydrologic Soil Group D (clay) soils
 - f. Areas within 1,000 feet up-gradient, or 100 feet down-gradient of active karst features unless allowed by a local unit of government with a current MS4 permit.

- Minimum setbacks from the Minnesota Department of Health for infiltration practices are met

Setback	Minimum Distance (ft)
Property line	10
Building foundation*	10
Private well	35
Public water supply well	50
Septic system tank/leach field	35
*Minimum with slopes directed away from the building	

- Pretreatment device(s) remove at least 50% of sediment loads. If downstream from a potential hot spot, a skimmer is in place to facilitate cleanup.
- Water quality volume will be discharged through infiltration or filtration media in 48 hours or less.
 - a. For bioretention (biofiltration and bioinfiltration) volume control management facilities above ground with vegetation the period of inundation shall be calculated using the maximum water depth below the surface discharge elevation and the soil infiltration rate.

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:
 Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary’s Point, Stillwater and West Lakeland Township

b. For infiltration basin volume control management facilities the period of inundation shall be calculated using the maximum water depth below the surface discharge elevation and the soil infiltration rate.

Appropriate soil borings have been conducted that meet the minimum standards.

- a. A minimum of one boring was conducted at the location of the infiltration facility for facilities up to 1,000 ft²; between 1,000 and 5,000 ft², two borings, between 5,000 and 10,000 ft², three borings and greater than 10,000 ft² 4 borings plus an additional boring for every 2,500 ft² beyond 12,500 ft²
- b. Soil borings extend a minimum of five feet below the bottom of the infiltration practice. If fractured bedrock is suspected, the soil boring goes to a depth of at least ten feet below the proposed bottom of the volume control facility.
- c. A minimum of three feet of separation to the seasonal water table and/or bedrock.
- d. Identify unified soil classification.

The least permeable soils horizon identified in the soil boring dictated the infiltration rate.

Additional flows are bypassed and are routed through stabilized discharge points.

NA Filtration basin demonstrates a basin draw down between 24 hours and 48 hours.

NA Filtration system Iron Enhanced Sand Filter is sized to bind soluble phosphorous removal for 30 year functional life of the system using the published value of 17lbs.phosphorous removal per 20 yards of 5% by weight iron filings to 95% sand.

Identify as build survey and method to demonstrate infiltration or filtration basin is functioning.

Construction plans provide adequate construction guidance to prevent clogging or compaction and demonstrate performance.

- a. Excavation within 2.0 feet of final grade for infiltration/filtration systems is prohibited until contributing drainage areas are constructed and fully stabilized.
- b. Rigorous sediment and erosion controls planned to divert runoff away from the system.
- c. Installation of volume control facilities must occur in dry soil conditions. Excavation, soil placement and rapid stabilization of perimeter slopes must be accomplished prior to the next precipitation event.
- d. Excavation shall be performed by an excavator with a toothed bucket. Use excavator bucket to place materials. Construction equipment shall not be allowed into the basin.
- e. Prior to the release of any remaining fee or security, the permit holder must provide documentation that constructed volume control facilities perform as designed.

There is a way to visually verify the system is operating as designed.

A minimum 8.0' maintenance access is provided to all stormwater facilities.

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary's Point, Stillwater and West Lakeland Township

WETLAND PERFORMANCE STANDARDS

- Direct discharge of stormwater to wetlands and all other water bodies without water quality treatment is prohibited.
- Any potential changes to the hydrology of the wetland (i.e. changes to the outlet elevation or contributing drainage area) must be reviewed to evaluate the impact of both the existing and proposed wetland conditions and approved by the MSCWMO.
- Land-altering activities shall not increase the bounce in water level or duration of inundation from a 2.0-inch 24-hour storm for any downstream wetland beyond the limit specified in Table 7.2 for the individual wetland susceptibility class.

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary's Point, Stillwater and West Lakeland Township

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

455 HAYWARD AVENUE, OAKDALE, MINNESTOA 55082
Phone 651.330.8220 x22 fax 651.330.7747 www.mscwmo.org



Staff Report- January 2021

Administration

- Prepared January meeting materials
- Coordination of Grant and Permit Program

Project Reviews

- Hills of Spring Creek-ACTION

Lily Lake Phosphorus Reductions for Delisting – CWF Grant C20-6055

Description: Awarded \$513,500 for in-lake alum treatment and filtration basin to remove 120lbs of phosphorus from Lily Lake.

Activities This Month: Met with Emmons, Olivier Resources (EOR) for design meeting for the Lily Lake Park basin. Draft 90% plans were completed and reviewed by MSCWMO staff. City of Stillwater staff have been engaged and will review the final plans once more. Awaiting reply from Apartment landowner behind the site to integrate their runoff issues with our site improvements. That solution will be part of the final design.

Staff: Bryan Pynn-WCD; Matt Downing-MSCWMO

Watershed Based Funding- Lily Lake Raingardens

Description: \$39,636 CWF Watershed Based Funding allocation to improve water quality. The funding is approved to provide the design and installation of two raingardens on Lily Lake in Stillwater.

Activities This Month: No activities other than 2020 grant reporting in Elink.

Staff: Bryan Pynn - WCD

Lake St. Croix Small Communities Phosphorus Reduction Grant – PHASE I

Description: \$200,000 grant for stormwater quality improvement south of Bayport (2019-2021). Planning to work in partnership with City of Lake St. Croix Beach to stabilize the bluff on the north side of town.

Activities This Month: Interim reporting per BWSR requirements has been completed. Requested 40% payment. Reconciled grant with BWSR to receive 40% payment approval. Payment in processing. Work will resume in the spring and grant will be closed upon completion.

Staff: Bryan Pynn - WCD; Matt Downing – MSCWMO

Lake St. Croix Small Communities Phosphorus Reduction Grant – PHASE II

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

455 HAYWARD AVENUE, OAKDALE, MINNESOTA 55082
Phone 651.330.8220 x22 fax 651.330.7747 www.mscwmo.org



Description: \$158,000 grant for stormwater quality improvement south of Bayport (2021-2023). Implement practices in the LSCD South SWA area to achieve a load reduction of up to 7lbs of TP/yr.

Activities This Month: Awarded grant in January 2021. Working with BWSR to develop workplan for grant. Once workplan is approved, contract will come to board and first payments from BWSR to MSCWMO will be processed in April.

Staff: Bryan Pynn - WCD; Matt Downing - MSCWMO

3M PFAS Settlement MPCA Staff Reimbursement Grant

Description: Up to \$40,000 reimbursement of staff time for both the Administrator and consultant (Stu Grub with EOR) to participate in the development of the groundwater model for the PFAS contamination in the southern portion of the watershed.

Activities This Month: None.

Staff: Matt Downing, MSCWMO; Stu Grub, EOR

Microbial Source Tracking of *E. coli* in Perro Creek

Description: The MSCWMO and the City of Bayport agreed to partner on an effort to identify the source of *E. coli* contamination of Perro Creek. 4 locations on the creek were sampled for the presence or absence of human DNA in the bacteria. This effort is above and beyond the concentration monitoring already being conducted by the MSCWMO.

Activities This Month: Sampling has concluded and results will be reported in the 2020 Annual Monitoring Summary.

Staff: Rebecca Oldenburg Giebel, WCD

Water Monitoring Program

Description: The MSCWMO water monitoring program includes the monitoring of flow at three sites. These sites have that equipment serves to collect data on the total volume of water flowing into Lily Lake at the Greeley Street Inlet, through Perro Creek at the Diversion Structure, as well as, the Perro Creek Diversion Structure Overflow. Water quality is also collected at the Greeley Street Inlet and the Perro Creek Diversion Structure on a monthly basis, as well as during storm events.

Additionally, the MSCWMO monitors two lakes, Lily and McKusick for several parameters from April-October. Data is collected on both lakes on a biweekly basis and includes: water level, clarity, pH, temperature and dissolved oxygen profiles, an aesthetics and user profile, and field conditions. Additionally, water quality samples are collected from the surface of the lakes and analyzed for total phosphorus, total Kjeldahl nitrogen, and chlorophyll.

Activities This Month: Quality assurance and control of data collected during the monitoring season is ongoing. Post season testing and maintenance of equipment has identified one stage-velocity sensor to be evaluated by the manufacturer.

Staff: Rebecca Oldenburg Giebel, WCD, Aaron DeRusha, WCD

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

455 HAYWARD AVENUE, OAKDALE, MINNESOTA 55082
Phone 651.330.8220 x22 fax 651.330.7747 www.mscwmo.org



Erosion and Sediment Control Inspections

Description: The MSCWMO has contracted with the WCD to conduct erosion and sediment control inspections for construction projects that have been reviewed and recommended for permit approval by partner communities.

Activities This Month: None

Staff: Aaron DeRusha WCD

BMP Maintenance

Description: The MSCWMO has a maintenance obligation for its Capital Improvement Projects and projects funded by Clean Water Fund grants. The MSCWMO partners with the Washington Conservation District to fulfill this maintenance requirement.

January Activities: No update.

Staff: Cameron Blake, WCD

Meetings

- Floodplain Vulnerability Assessment-January 5th
- LSC1W1P Steering -January 14th
- CWF Pre-Workplan Meeting – January 21st
- Lily Lake Basin – January 22nd
- Cahanes EAW- January 25th
- Lily Lake Basin – January 26th
- LSCB Bluff Maintenance – January 29th

Lower St. Croix 1W1P
 Watershed Based Implementation Funding
 Work Plan

Approved by Policy Committee on January 25, 2021

Grant Activities

BWSR requires a narrative for each Grant Activity and a summary of persons conducting the work and their qualifications. The Grant Activities as identified in the Grant Work Plan are detailed in the table below. Two tables follow the Grant Activity descriptions: a budget and a table of measurable outcomes and milestones.

Activity #	Grant Activity	eLINK Activity Category
1	Basin Ag Outreach Program	Project Development
2	Structural Ag BMP Implementation	Agricultural Practices
3	Shared Services Educator	Education/Information
4	Non-Structural Ag/Urban Implementation	Non-Structural Management Practices
5	Structural Urban BMP Implementation	Urban Stormwater Practices
6	Wetland Restoration Implementation	Wetland Restoration/Creation
7	Internal Analyses	Planning and Assessment
8	Targeting Analyses	Planning and Assessment
9	Technical/Engineering	Technical/Engineering Assistance
10	Administration/Coordination	Administration/Coordination

[Activity 1: Basin Ag Outreach Program](#)

eLINK Activity Category: Project Development

Grant: \$200,000

Match: \$0

Match Source(s): N/A

Lead Agency(ies): Washington Conservation District

Staff qualifications: TBD (new hire)

Priority areas: Agronomy outreach specialist will focus on priority areas described in Structural Ag BMP Implementation and Non-Structural Ag/Urban Implementation

CWMP Reference: Page 61

Activity Description: Agronomy outreach specialist. (A) Shared Services: Hire or contract with an agricultural conservationist/agronomist (one individual) for basin wide assistance with agronomy, outreach, and technical assistance to agricultural producers including conservation planning and nutrient management plans. [Approximately 80% of this position's time will be directly working with agricultural producers in the LSC Watershed to identify economical farming practices with water quality benefits to make them a routine part of farm operations. A target is to interact with operators of both large and small operations with a cumulative total of at least 3,000 acres. 20% of the position will be support of implementation of BMPs led by others.]

This would allow for 1 full time agronomy outreach specialist to work basin-wide. Staff will work basin-wide and may have more than one office space. The hiring process for this position (e.g., development of the position description, posting of the position announcement, participation on the candidate interview panel, etc.) will be coordinated among multiple LSC partners. LSC partners will ensure duties assigned to this new staff member will be in alignment with WBIF funding intent and requirements.

[Activity 2: Structural Ag BMP Implementation](#)

eLINK Activity Category: Agricultural Practices

Grant: \$160,000

Match: \$75,000

Match Source(s): Federal NRCS programs, local funds

Lead Agency(ies): Chisago SWCD (subcontracts with local partners for specific projects)

Priority areas: Tier 1: Rock Lake, Rock Creek, Sunrise River, St. Croix River tribs with direct discharge to the St. Croix River. Tier 3: lakes that drain to St. Croix tribs. Projects may also occur at other priority waters in the LSC CWMP.

CWMP Reference: Page 61

Activity Description: Provide cost share for installing or implementing structural agricultural best management practices (e.g. feedlot improvements, buffers, WASCObS, diversions, lined waterways, grade stabilization structures, vegetative swales, etc.). NRCS or other BWSR approved standards will be followed for all practices installed. Projects to be chosen through targeting and prioritization process described in Section VII.B. The target phosphorus load reduction for this Activity is 300 lb/yr.

[Activity 3: Basin Water Outreach Program](#)

eLINK Activity Category: Education/Information

Grant: \$125,000

Match: \$4,800

Match Source: Parties to the LSC JPC

Lead Agency(ies): Washington Conservation District

Staff qualifications: Angie Hong, Emily Johnson, new hire

Priority areas: Basin-wide

Measurable outcomes/milestones: See table below

CWMP Reference: Page 65

Activity Description: Facilitate shared education and outreach program across basin to provide education; engage residents, businesses, and local officials; and promote and market programs and practices. [80% = develop, distribute and implement outreach programs that result in behavioral changes achieving water quality benefits; 10% = AIS prevention outreach and education; 10% = solicit willing landowners to install BMPs that are goals within this plan. [0.5 FTE to expand EMWREP basin wide; \$50,000/yr or \$100,000/2 yrs]. Outreach will specifically include MIDS promotion to communities. Outreach will also include preliminary work with LGUs to set shoreline "view corridors" to 25% of lot width or maximum 35' width and maximum vegetation clearing standards or adopt innovative shoreland standards to protect buffers, native ecosystems, and habitat corridors. This work will provide water quality benefits through the protection of shoreline and streambank buffers. LSC partners will ensure duties assigned to this new staff member will be in alignment with WBIF funding intent and requirements.

Activity 4: Non-Structural Ag/Urban BMP Implementation

eLINK Activity Category: Non-Structural Management Practices

Grant: \$200,000

Match: \$0

Match Source(s): Federal NRCS programs, local funds

Lead Agency(ies): Chisago SWCD (subcontracts with local partners for specific projects)

Priority areas:

- **Ag:** Tier 1: Rock Lake, Rock Creek, Sunrise River, St. Croix River tribs with direct discharge. Tier 3: lakes that drain to St. Croix tribs. Projects may also occur at other priority waters in the LSC CWMP.
- **Urban:** Rush City, Harris, North Branch, Taylors Falls, Marine on the St. Croix, Stillwater, and MSCWMO cities. Projects may also occur at other priority waters in the LSC CWMP.

CWMP Reference: Pages 61 and 65

Activity Description: Provide cost share for implementing non-structural *agricultural* best management practices (e.g., soil health BMPs, reduced tillage, cover crops, nutrient management planning, forage/biomass plantings). NRCS or other BWSR approved standards will be followed for all practices installed. Projects to be chosen through targeting and prioritization process described in Section VII.B of CWMP.

Provide cost share for implementing non-structural *urban* best management practices (e.g., enhanced street sweeping). BWSR approved standards will be followed for all practices implemented. Projects to be chosen through targeting and prioritization process described in Section VII.B of CWMP. Specific enhanced street sweeping targeting analyses will be performed for priority areas. CLFLWD's [2018 Forest Lake Enhanced Street Sweeping Study](#) may be used as an example for these studies.

The target phosphorus load reduction for this Activity is 400 lb/yr.

Activity 5: Structural Urban BMP Implementation

eLINK Activity Category: Urban Stormwater Practices

Grant: \$200,000

Match: \$50,000

Match Source(s): Local funds

Lead Agency(ies): Chisago SWCD (subcontracts with local partners for specific projects)

Priority areas: St. Croix River direct drainage, Sunrise River watershed, Fish Lake, Big Carnelian, Big Marine, Forest Lake. Projects may also occur at other priority waters in the LSC CWMP.

CWMP Reference: Page 65

Activity Description: Provide cost share for implementing structural urban best management practices (e.g. vegetated swales, pervious pavement, gully stabilization, rain gardens, and other urban practices). BWSR approved standards will be followed for all practices installed. Projects to be chosen through targeting and prioritization process described in Section VII.B. The target phosphorus load reduction for this Activity is 200 lb/yr.

Activity 6: Wetland Restoration Implementation

eLINK Activity Category: Wetland Restoration/Creation

Grant: \$39,531

Match: \$0

Match Source(s): N/A

Lead Agency(ies): Chisago SWCD (subcontracts with local partners for specific projects)

Priority areas: Priority wetland restorations will result in measurable improvements to rivers/streams in Table 5-2 and/or lakes in Table 5-3 of the LSC CWMP. Areas of particular concern include the St. Croix River direct drainage area, Sunrise River corridor, Rock Creek corridor and subwatersheds identified in Figure 5-5 of the LSC CWMP.

CWMP Reference: Page 70

Activity Description: This Activity will involve implementation of wetland restoration project(s) as needed to achieve a phosphorus reduction of at least 15 pounds per year for target waterbodies. The primary purpose of the wetland restoration project(s) will be for the improvement of water quality in receiving lakes/streams. Secondary benefits of wetland restoration projects will be considered as well, such as floodplain storage and habitat creation/enhancement. Wetland restorations will not be used to mitigate wetland impacts. LSC Partners will ensure proposed wetland restorations are consistent with WBIF eligibility requirements. LSC Partners will target specific restorations through utilization of existing studies and targeting analyses (e.g., drained wetland inventories, diagnostic studies, subwatershed assessments), performance of additional modeling analyses using existing data from said studies, and completion of additional targeting analyses as necessary to fill data gaps. Work pertaining to targeting strategies is included as part of other grant Activities.

At this time, three LSC Partners have identified potential wetland restoration projects:

- Anoka County: Hesse Property in Oxford Township of Isanti Co lateral ditch plug. Anoka and Isanti SWCDs are working together on this project. It is currently at the concept phase. Cost estimate: \$55,000. Planned non-State match is \$0 so far, but USFWS is a possibility.
- Chisago County: Checkerboard Park Restoration. Cost estimate: \$40,000 match to acquire the Lutz property.
- CLFLWD: The [WJD-6 Wetland Restoration Project](#) is located in the Washington Judicial Ditch 6 subwatershed draining to Forest Lake. This project may result in a phosphorus reduction of up to 96 lb/yr to the east basin of Forest Lake; Forest Lake is listed in table 5-3 of the CWMP. [Cost estimate: \\$450,000](#)

The target phosphorus load reduction for this Activity is 15 lb/yr.

[Activity 7: Internal Analyses](#)

eLINK Activity Category: Planning and Assessment

Grant: \$50,000

Match: \$0

Match Source: N/A

Lead Agency(ies): Chisago County

Staff Qualifications: Work is likely to be performed by an outside consultant which will be vetted for staff qualifications.

Activity Description: Calculate internal loading of phosphorus on 2 lakes estimated at \$25,000 each. Two lakes will be awarded through the project evaluation process identified in the plan. The group will develop a timeline for evaluating internal load evaluation for lakes. Internal load evaluation should only occur after external loading is substantially addressed.

Potential projects identified include:

- Linwood Lake and Martin Lake Anoka. Both are priority A for internal loading analysis in LSC CWMP Table 5-4.
- Goose Lake Washington. Priority B for internal loading analysis in CWMP Table 5-4. Water monitoring indicates watershed loads are addressed. Internal load reduction is the last step to delisting from MPCA Impaired waters list.
- Priority "A" lakes with Rush (E & W) and Goose Lakes as our preferred top three.
- Several basins in VBWD will analyzed over the next 2 years. Priority A Basin listed in Table 5-4, Downs Lake will be studied.
- Wallmark, Pioneer and North Goose Lakes in Chisago all priority A

[Activity 8: Targeting Analyses](#)

eLINK Activity Category: Planning and Assessment

Grant: \$150,000

Match: \$0

Match Source: N/A

Lead Agency(ies): Washington Conservation District (subcontracts with local partners for each subwatershed project)

Staff Qualifications: This task will be completed by existing qualified staff members of LSC Partner organizations.

Activity Description: All requested waterbodies are listed in tables 5.2 and 5.3 Regionally Significant Lakes, Rivers and Streams for Pollutant Reductions (ballpark cost estimate)

- Linwood Lake Anoka County (\$10,000)
- St. Croix Direct Washington County (\$15,000)
- Desktop Analysis and Prioritized Catchments of the Sunrise River Watershed Chisago (\$10,000)
- Rock Lake Pine and St. Croix Direct Pine County (\$20,000)
- Capacity building and information exchange (\$5,000)

Targeted Street Sweeping Analysis for the following Cities with direct discharge to waterbodies listed in table 5.2. The initial estimate is this task will require approximately \$40,000 for the following communities:

- Rush City
- Taylors Falls
- Harris
- North Branch
- Marine on St. Croix
- Stillwater
- Bayport
- Lakeland
- Lake St. Croix Beach
- Afton

[Activity 9: Technical/Engineering](#)

eLINK Activity Category: Technical/Engineering Assistance

Grant: \$40,000

Match: \$0

Match Source: N/A

Lead Agency(ies): Chisago SWCD (subcontracts with local partners for specific projects)

Staff Qualifications: This task will be completed by existing qualified staff members of LSC Partner organizations.

Activity Description: This Activity will include technical site assessment, surveys, preliminary analysis and design, final design, construction supervision, installation, inspection, and completion of projects. Funds may be used to contract with a third-party consultant for technical/engineering assistance. Funding allocation will be prioritized in areas where there are not local funds to support design work.

[Activity 10: Administration/Coordination](#)

eLINK Activity Category: Administration/Coordination

Grant: \$100,000

Match: \$0

Match Source: N/A

Lead Agency(ies): Chisago SWCD, EMWREP, CLFLWD (see role assignments below)

Activity Description: This Activity will include the following tasks (performed by the organizations listed in parentheses):

- Program and work plan coordination (New hire – see Basin Ag Outreach Program Activity)
- Grant and progress reporting (Comfort Lake-Forest Lake Watershed District)
- Work plan activity subcommittee coordination – note that subcommittees will perform project ranking as described by the associated work plan Activities (East Metro Water Resources Education Program)
- Policy Committee coordination (East Metro Water Resources Education Program)
- Website upkeep (East Metro Water Resources Education Program and Comfort Lake-Forest Lake Watershed District)
- Fiscal agent administration and contract coordination (Chisago SWCD)

Budget

Activity #	Grant Activity	eLINK Activity Category	Grant Budget	Match Budget
1	Basin Ag Outreach Program	Project Development	\$200,000	\$0
2	Structural Ag BMP Implementation	Agricultural Practices	\$160,000	\$75,000
3	Shared Services Educator	Education/Information	\$125,000	\$4,800
4	Non-Structural Ag/Urban Implementation	Non-Structural Management Practices	\$200,000	\$0
5	Structural Urban BMP Implementation	Urban Stormwater Practices	\$200,000	\$50,000
6	Wetland Restoration Implementation	Wetland Restoration/Creation	\$39,531	\$0
7	Internal Analyses	Planning and Assessment	\$50,000	\$0
8	Targeting Analyses	Planning and Assessment	\$150,000	\$0
9	Technical/Engineering	Technical/Engineering Assistance	\$40,000	\$0
10	Administration/Coordination	Administration/Coordination	\$100,000	\$0
TOTAL			\$1,264,531	\$129,800

Measurable Outcomes/Outputs and Milestones

Activity #	Grant Activity	Overall Measurable Outcome/Output	Year 1 (2021) Milestones	Year 2 (2022) Milestones
1	Basin Ag Outreach Program	Output: Engage agricultural landowners (of both large and small operations) with a cumulative total of at least 3,000 acres of land to implement structural and nonstructural BMPs as outlined in other Activities	Agronomy outreach specialist hired	
2	Structural Ag BMP Implementation	Outcome: reduce phosphorus loading to target waterbodies by 300 lb/yr		Implement 20 best management practices, or enough to achieve a 300 lb/yr phosphorus reduction
3	Shared Services Educator	Output: 0.5 FTE	New education staff hired, develop basin-wide outreach	Implement basin-wide outreach plan

			plan for 2021-22	
4	Non-Structural Ag/Urban Implementation	Outcomes: reduce phosphorus loading to target waterbodies by 400 lb/yr		Implement 2,000 acres of non-structural best management practices, or enough to achieve a 400 lb/yr phosphorus reduction
5	Structural Urban BMP Implementation	Outcomes: reduce phosphorus loading to target waterbodies by 200 lb/yr		Implement 20 best management practices, or enough to achieve a 200 lb/yr phosphorus reduction
6	Wetland Restoration Implementation	Outcomes: reduce phosphorus loading to target waterbodies by 15 lb/yr		Wetland restoration(s) construction
7	Internal Analyses	Outputs: Complete 2 internal loading analyses		Complete 2 internal loading analyses
8	Targeting Analyses	<p>Outputs: Complete the following analyses</p> <ul style="list-style-type: none"> • Linwood Lake Anoka County • St. Croix Direct Washington County • Desktop Analysis and Prioritized Catchments of the Sunrise River Watershed Chisago • Rock Lake Pine and St. Croix Direct Pine County • Capacity building and information exchange • Enhanced street sweeping analyses for Rush City, Taylors Falls, Harris, North Branch, Marine on St. Croix, Stillwater, Bayport, Lakeland, Lake St. Croix Beach, and Afton 		
9	Technical/Engineering			

10	Administration/ Coordination	Complete eLINK annual reporting as required	Complete annual report	Complete annual report
Sum of outcomes:		915 lb/yr TP reduction		

Implementation Category Budget Breakdown

The following text appears on [page 16](#) of the Lower St. Croix Comprehensive Watershed Management Plan:

In general, WBIFs are expected to be allocated across program areas with a distribution similar to:

- 70% Implementation (approximately 25% shared services + 45% BMPs & restoration/protection activities)
- 25% Prioritization and Analysis
- 5% Administration

The following tables summarize how this work plan compares to the estimated percentages in the CWMP.

Activity #	Grant Activity	eLINK Activity Category	Grant Budget	Match Budget
1	Basin Ag Outreach Program	Project Development	\$200,000	\$0
2	Structural Ag BMP Implementation	Agricultural Practices	\$160,000	\$75,000
3	Shared Services Educator	Education/Information	\$125,000	\$4,800
4	Non-Structural Ag/Urban Implementation	Non-Structural Management Practices	\$200,000	\$0
5	Structural Urban BMP Implementation	Urban Stormwater Practices	\$200,000	\$50,000
6	Wetland Restoration Implementation	Wetland Restoration/Creation	\$39,531	\$0
7	Internal Analyses	Planning and Assessment	\$50,000	\$0
8	Targeting Analyses	Planning and Assessment	\$150,000	\$0
9	Technical/Engineering	Technical/Engineering Assistance	\$40,000	\$0
10	Administration/Coordination	Administration/Coordination	\$100,000	\$0
TOTAL			\$1,264,531	\$129,800

	LSC CWMP (Page 16)	Work Plan (Grant Funds)
Implementation - BMPs/Restoration Activities	45%	47%
Implementation - Shared Services	25%	29%
Prioritization & Analysis	25%	16%
Administration	5%	8%
	100%	100%