EST 1983
VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E East, Vadnais Heights, MN 55127
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BOARD OF DIRECTORS MEETING AGENDA

7:00 PM December 13, 2017
Vadnais Heights City Hall, Council Chambers
800 County Road E, East, Vadnais Heights

I. **Call to Order**, Chair, Dan Jones

II. **Approval of Agenda**

III. **Approval of Minutes** from October 25, 2017

IV. **Visitors and Presentations**

V. **New Business**
- A. Annual Report Card 2017 – Stephanie & Nick
- B. Certification of 2017 Fund balance - Res. 04-2017 Stephanie
- C. Consideration of office lease 2018-2020. – Res. 05-2017 Stephanie
- D. Employee Handbook changes – Res. 06-2017

VI. **Old Business**
- A. Lambert Creek – Maintenance responsibility and funding consideration–
  1. Consideration of maintenance contract with State of MN, Institution Community Work Crew contract, Brian
  2. Consideration of survey of targeted portions of Lambert Creek; Engineers analysis RFP Res. – 07-2017 Stephanie, Brian, Tyler

VII. **Operations and Administration - Reports**
- A. TEC Report – December – Mark Graham
- B. Financial Report
- C. Project updates
  1. Whitaker Wetlands - Brian
  2. Sucker Channel restoration - Kris
  3. Goose Lake and Oak Knoll pond study - Kris
  4. Birch Lake filter project - Kris
- D. Charley Lake SLMP - Kris

VIII. **Discussion**
- A. Agenda – Jones

IX. **Administration Communication –**

XI. **Adjourn**

Next regular meeting: February 28th

The Vadnais Lake Area Water Management Organization
800 East County Road E, Vadnais Heights, 55127 651-204-6070
Website: www.vlawmo.org; Email: office@vlawmo.org

MINUTES OF THE BOARD OF DIRECTORS
October 25, 2017

Attendance		Present	Absent
Dan Jones, Chair	City of White Bear Lake	X	
Jim Lindner, Vice Chair	City of Gem Lake	X	
Rob Rafferty, Secretary-Treasurer	City of Lino Lakes		X
Ed Prudhon	White Bear Township	X	
Rick Kingston - alternate	City of North Oaks	X	
Terry Nyblom	City of Vadnais Heights	X	
Stephanie McNamara	Administrator	X	
Kristine Jenson	Program Mgr.	X	
Brian Corcoran	Water Resources Mgr.	X	
Nick Voss	Education & Outreach Cord.	X	
Tyler Thompson	Water Resource Tech.	X	

Others in attendance: Margaret Behrens (Ramsey Conservation District), Mark Graham (City of Vadnais Heights Engineer & TEC Chair); Paul Duxbury (White Bear Township TEC representative); Troy Gilchrist, VLAWMO legal counsel (Kennedy & Graven Ltd)

I. **Call to Order**

The meeting was called to order at 7:02 pm by Chair Jones. A quorum is present for the meeting.

II. **Approval of Agenda**

A motion was made by Nyblom and seconded by to Lindner approve the agenda as presented. Vote: all aye. Motion passed.

III. **Approval of Minutes from August 23, 2017**

Nyblom stated that on Page 7, it says the 2018 budget has $30,000 for ditch maintenance but the July minutes said $35,000 was to be in the budget. Nyblom asked for clarification. Stephanie said we budgeted $30,000 and that is what we approved for the 2018 budget.

A motion was made by Prudhon and seconded by Lindner to approve the minutes from the August 23, 2017 Board of Directors Meeting. Vote: all aye, Motion passed.

IV. **Visitors and Presentations**

V. **New Business**

VI. **Old Business**

A. **Storm Sewer Utility Certification to the Counties – Resolution 03-2017**

This is the final step in our annual process to complete the Storm Sewer Utility for 2018. The budget, with its anticipated income from the SSU was set in July that drove the rates for residential and non-residential properties which were approved in August. Staff has been working with our SSU consultant and the counties to review property divisions and other updates since then. The charges to each non-exempt parcel are now ready to be certified as we do each October.

RESOLUTION 03-2017

A RESOLUTION CERTIFYING STORM SEWER UTILITY CHARGES TO THE COUNTY AUDITOR TO BE ASSESSED ON REAL ESTATE TAXES PAYABLE IN 2018.

WHERAS, Minnesota Law 2008, Chapter 366, Article 6, Section 47 provides that the Vadnais Lake Area Water Management Organization may certify to the County Auditors the amounts of storm sewer utility charges to be collected on said premises the ensuing year; and

WHEREAS, the Storm Sewer Utility (SSU) Rule of the Vadnais Lake Area Water Management Organization, provides that the watershed may certify to the County Auditors the amounts of unpaid utility charges to be collected as part of the tax levy/special assessments on said premises the ensuing year;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF THE VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION, AS FOLLOWS:

1. Attachments 1 and 2 attached hereto and made a part thereof by reference is a list of parcels of real property lying within the VLAWMO limits of which have surface water runoff and on which there are service charges payable in 2018.
2. The Board hereby certifies said list and requests the Ramsey County Auditor and Anoka County Auditor to include in the real estate taxes/assessments due the amount set forth in Attachments 1 and 2 with taxes/assessments due and payable in 2018.
3. The VLAWMO Administrator is directed to tender a certified copy of this Resolution to the Ramsey and Anoka County Departments of Property Records and Revenue.

Director Lindner introduced the resolution and moved its adoption. The motion for adoption of the foregoing resolution was duly seconded by member Director Prudhon and upon vote being taken thereon, the following voted in favor thereof:
Directors: Lindner, Kingston, Nyblom, Jones and Prudhon
and the following voted against the same: *None*

Whereupon the resolution was declared passed and adopted.

B. Consideration of Local Plan Approval

Last year at this time VLAWMO finished its 10-year Comprehensive Water Plan with approval from BWSR. Under State statute all of the local (municipal) governments have until December 31, 2018 to update their local water plans to be consistent with the watershed plans. It has the positive effect of insisting cities and watersheds talk to each other about water management, clarifying priorities and setting implementation steps and timelines for reaching our common goals. As VLAWMO, a non-permitting watershed, looks to our municipalities to enforce our standards, it provides a chance to talk about where we have updated our standards and how they are going to ensure those protections are in place. VLAWMO is charged with reviewing all six local water plans of the communities within VLAWMO for consistency with the VLAWMO plan. If they are found to be consistent, then the VLAWMO Board will approve them. The first two plans have come in. By statute, a 60 day clock started for VLAWMO action. November 4th is the deadline.

Staff has reviewed both the Gem Lake and Vadnais Heights plans for consistency with the VLAWMO plan. Preliminary comments have been provided to both cities. The Metropolitan County and Ramsey County have an opportunity to comment and VLAWMO is required to consider their comments. Met Council has found the Capital Improvement portion of the implementation plan to fully meet the requirements set out in MN Rules Ch. 8410: "a capital improvement program that sets forth, by year, details of each contemplated capital improvement that includes the schedule, estimated cost, and funding source." The communities have not had an opportunity to respond and possibly make changes. VLAWMO has not seen the updated Water Plans for either community.

Recommendation: Staff will request both communities allow an extension of time to allow changes to be made to the local water plans, VLAWMO to review the updated Plans and make a recommendation at an upcoming Board meeting.

The communities have asked for an extension and staff requests we table this agenda item until the next meeting.

It was moved by Lindner and seconded by Nyblom to table the approval of Local Water Plans until the December VLAWMO Board meeting or when the plans are available. Vote: all aye. Motion passed.

C. Lambert Creek

Background: The following is the question discussed at the August Board meeting: does being the ditch authority mean VLAWMO is also responsible for paying for maintenance or improvement projects? Here is the response from Troy Gilchrist who will be attending our meeting to facilitate Board discussion of this question and others.

"My view is that the WMO is more directly responsible for the repair and maintenance of the accepted ditch system than it is over other waterways in its area. As such, I recommend the WMO work to program some funds into its Plan for future work as it determines is appropriate. That is really in the best interests of the WMO since it has a duty related to this ditch system that does not exist with respect to other waterways in the area. With the more direct duty comes a greater risk of liability if an alleged failure by the WMO to maintain the ditch results in damage to property.

That is not to say the city in which the ditch is located cannot, or should not, assist with keeping the ditch maintained. The maintenance and improvement of ditches managed under Minnesota Statutes, Chapter 103E contemplates those benefited (including local governments) from such work need to pay their share of that work. While the WMO is not operating under Chapter 103E, the policy concept of paying for a project that benefits the local government and its residents is as valid in this situation as it is under Chapter 103E.

It strikes me that a conversation should occur between the WMO and the city as part of developing a future amendment to the Plan to provide funding for ditch projects on ways the WMO and city can cooperate to get the work done. I have not been directly involved in how your WMO handles its projects, but I suspect it is like my other WMOs in that the member communities typically undertake projects with funding support from the WMO. The same process can be developed for funding and completing projects on this ditch."

Board Discussion:

Gilchrist gave an introduction to the process thus far for the ditch authority question including which portion of State Statutes that may be used manage the creek/ditch. There are 3 options under which a WMO may manage a ditch: 103B.205-255 (WMO authority), 103D (watershed district authority), 103E (traditional drainage ditch authority – typically used with agricultural fields). 103B, watershed law, says we can accept ditches and that we can decide which authority we want to operate them under.

This was discussed before the adoption of the current JPA because it says we can accept ditches and will operate them under 103B. Gilchrist thinks that is the best choice – is less cumbersome. 103B means we program the work in like we program other work (CIP, monitoring, etc.). It doesn't give much direction/rules in regards to how we determine what to do and how to pay for it. It says we need to operate under our Water Plan. VLAWMO has been operating under 103B.

Prudhon asked who owns the ditch and who is responsible for taking care of the ditch. Gilchrist responded that the buck stops here with the watershed. Prudhon asked if the watershed has recourse to go to the SPRWS to ask them to pay for repairs. Gilchrist offered the opinion that 'they should be partners. Those who benefit from the project should pay but we don't have the authority to require it, we can only ask for it. The ditch is yours and therefore the WMO has liability if it isn't maintained.'

Jones asked if getting a survey and assessment of the creek would help VLAWMO determine more exactly what we need to do. He asked the Board if they should acknowledge that VLAWMO is the ditch authority, with the responsibility to determine what the issues are on the creek.

Kingston asked how the ditches are managed in other places so how have they done it. Gilchrist responded he hasn't had to deal with this before but he spoke with another lawyer who had a similar issue and the authority took it over under 103E. He thinks we ARE on the right track if we follow what he described. Gilchrist wishes we hadn't taken on the ditch authority in 1986 but it's too late to change that now.

Prudhon noted that in the township their Public Works just goes in to clean up public land. Gilchrist indicated that ditch maintenance costs may be budgeted just like we do for other CIP projects. Our JPA gives the intention that our member communities will work together to do these projects. He said it doesn't mean that everyone pays the same amount.

Nyblom agreed that the City should take care of branch 5A, even though it is technically VLAWMO's responsibility. The City of VH has stepped up to pay to pay for maintenance of 5A however to then ask the city to pay 66% of main stem of Cty Ditch 14 cleaning is offensive. He asked if a City could sue VLAWMO for negligent ditch maintenance. Gilchrist said if it damaged a city road or property, then yes. He said if we are approaching the 4th decade of not maintaining the ditch, then we run the risk of being considered negligent.
Stephanie noted the sub-watershed map shows all the drainage areas that contribute to the creek. The subwatershed could be considered as benefiting. When we re-did Whitaker Pond, the 3 involved governments (Ramsey Co, City of WBL and WB Township) analyzed how much area they contribute to that pond and assessed their maintenance shares accordingly. Gilchrist said it is up to the VLAWMO Board to determine who gets assessed.
Nyblom noted we need to make sure that people shouldn't have their basements flooded but we don't need to change things on a large scale. Jones said the 1986 survey isn't up to date due to how it the land has changed over the years. Lindner stated that the area used to be a large lake and was drained by the ditch. We have a legal responsibility to maintain these ditches and we need to determine as a board what level of improvement and maintenance. But what the lawyer is saying that if we don't do something, we could be negligent. Lindner also noted that VLAWMO is doing our due diligence to understand the situation and determine how we need to proceed. Kingston said we need to have a standardized approach that the communities need to be part of it. He says all the communities should pay for it rather than just VLAWMO's bill.

Corcoran clarified the idea that we haven't done anything isn't correct. We installed Lambert Lake, installed weirs, etc. and those addressed water quality and flooding. Gilchrist – yes the work that has been done shows that VLAWMO hasn't been negligent and has been working on maintaining the creek/ditch.

Gilchrist – your two immediate steps should be:
1. figure out what you've got – do the survey and develop short term and long term plans
2. determine how are you are going to pay for it – don't think of it differently than you do a CIP

Nyblom asked Graham about the work to be done on Branch 5A and if it has been determined if the material taken from the creek has to be trucked out or not. Nyblom was concerned because the costs were double if it had to be trucked out. Graham thinks we should truck it out – the DNR says that, the Corps of Engineers will require a permit if we truck it out. The City is paying $96,000 towards this and he thinks it is a good project and we should be doing it.

1. Consideration of survey of targeted portions of Lambert Creek; Engineers RFP
Background: Estimates for survey work from the Koehler flume to Lambert Lake have been received. VLAWMO received 3 estimates for the survey work with E.G Rud being the lowest at $4,490. This is for work to survey the creek stretch in yellow on the below map, including cross-sections, creek elevations and pipe inverts.

Estimates received:

Survey Work	Cost
Lake & Land Surveying	$6,000
E.G Rud	$4,490
Wenck	$12,100-$15,300*

*$15,300 includes optional "Task 1" from Wenck Survey Scope ($3,200 on top of $12,100) to compile collected survey data and comparing it with historical data to show ditch aggradation, erosion, and how it compares to the ditch's condition after the last time the ditch was maintained and surveyed in the 1980s. Essentially, the Wenck survey would give us a more useable engineer's technical memo disseminating exactly how much the ditch has filled in and where, as well as recommendations for repair and restoration that are consistent with BWSR Drainage Database requirements.

The Wenck proposal came in at packet publication time but we wanted to include it for your consideration as it does take us another step in the direction the Watershed may want to go. Comparing it to the other straight survey proposals is a bit like comparing apples and oranges. The basic engineers report provides the additional information in the previous paragraph and the survey information is in a format that can be entered into the state BWSR database. There is a third step the Board may wish to consider in 2018. This would utilize the above information and put it into a hydraulic model to really understand the capacity of the creek and its branches. This would allow us to understand why high water levels are happening in certain places and what could be done to respond to it. It would probably allow VLAWMO to do more long term planning.

The following options are offered for Board consideration:

Option 1 No action
Option 2 Approve the lowest survey proposal for implementation within the next few months.

Option 3 Approve the highest survey proposal to get all the information needed and beyond for moving forward in the future. This would produce a basic engineering report consistent with 103E.
Option 4 Send a Request for Proposal (RFP) and advertise as appropriate to secure bids for engineer services. The engineer would utilize existing information to model the capacity of the creek, the as-built profiles, and recommend a future maintenance schedule. The engineer could also potentially inspect existing structures for upcoming maintenance needs.

An RFP for engineering services may include the following scope:

- Reviewing records of the ditch to establish original ditch profile and capacity to the extent possible.
- Review records of the ditch cleaning in 1987 to establish ditch profile and capacity to the extent possible.
- Review area where high water concerns have been identified.
- Utilize available information to produce a updated hydraulic model of Lambert creek and updated current profile information for the creek
- Identify potential areas of maintenance needs and potential improvement practices
- Recommend plan of routine ditch assessment including evaluation of existing structures along the creek. This would be used to identify and schedule future maintenance needs.

Proposed action:
It was moved by Prudhon and seconded by Nyblom to publish/distribute a RFP for engineering services – scope to include reviewing existing information to model the original capacity of the creek, generate as-built profiles of the creek, model the current flow capacity and recommend a future maintenance schedule. The work would include the survey of the targeted area of the creek. The engineer could also potentially inspect existing structures for upcoming maintenance needs. Proposals will be brought back to the December meeting. Vote: all aye. Motion passed.
Board Discussion:
Stephanie noted that using an engineering firm to do the survey and modeling can provide VLAWMO with maintenance needs, project and the information necessary in order to obtain permits and funding to properly maintain the ditch for the future.
Lindner asked if the other two surveyors could do all this. Stephanie they would survey only, with no analysis, modeling and project identification. Jones said there is a benefit to having it done by one place.
Nyblom expressed concerned that if we go for the larger project, it might take money away from the clearing of the ditch. Stephanie explained the survey work was coming out of different budget lines than the cleaning so it wouldn't affect that budget item.

2. Lambert Creek main stem – Consideration of Maintenance Funding
Estimates for maintenance work from the Koehler flume to Lambert Lake have been received. VLAWMO received 2 estimates for the maintenance work with Outdoor Labs being the lowest at $32,250. This is for work to remove logs and debris within the creek and truck out for the stretch in yellow on the Lambert Creek map, approx. 1 mile.

Maintenance Work	Cost
Bolander	$53,530
Outdoor Labs	$32,250

The Board discussed how best to accomplish this work and possible options below. As larger maintenance projects on the creek are identified, the projects will need to be added to the VLAWMO Water Plan through the plan amendment process. They will also need to be added to the budget. Larger CIP maintenance projects are at least 2 years out to accommodate plan amendment and budgeting.

Below are options for Board consideration:

Option 1 No action
Option 2 Request a funding partnership from the City of Vadnais Heights
With current funds in the VLAWMO maintenance budget, VLAWMO could pay for a portion of this effort. You might consider VLAWMO paying one third of the cost ($10,650) in this request. Advantage – VLAWMO stays within budget. Disadvantage – Vadnais Height must agree for this to move forward.
Option 3 Delay work until 2018 maintenance work until 2018
Advantage - there is funding available in 2018. Disadvantage – work is delayed and bids will expire. The costs may go up in 2018. The Board may want to use the 2018 Lambert funds to do an engineering study, see discussion below.

Also, the Board may want to use 2018 funding to hire engineering help to model the hydraulic capacity of the whole system, establish profile elevations that could be used for future work and start to develop a maintenance schedule.

It could be noted that VLAWMO has secured proposals for the work but does not have enough funding for the project to proceed without a fiscal partner. It might also be noted that all of the work in this portion of Lambert Creek would be done on City Property.
Board Discussion
Kingston – how imminent is the need to clear this out? If it is an emergency, then that is one thing. But can this wait until next season so that we can have a plan in place? He thinks we should go with Option 3 and determine how these costs should be divided among the cities. Jones agrees that we need to develop a policy. And also noted that branch 5A is the City's responsibility – only Vadnais Heights flows into it. But Lambert Creek is different because more than one community feeds into it.
Nyblom noted there was cost sharing set up when the ditch was dredged in 1987 so why can't we use that now. Stephanie said that was a County-led project so it isn't the same scenario as we are facing now. The VLAWMO allows for assessing the subwatershed area but we don't have a collection method set up so we'd assess the Cities and then the Cities would collect the money from their residents. Jones noted the other option is that VLAWMO pays for everything and we raise our SSU rates considerably in order to get the work done.

Nyblom felt we should hire Outdoor Labs for this project and VLAWMO pays for it all and then we move ahead with the survey and engineering work. Kingston doesn't think that is the way to go – it is setting a precedent that would put VLAWMO in a bad place in the future. Unless there was some imminent risk to not doing it right now, then we should do this in a planned way. He said that residents are going to come to the City with these complaints first and they bear responsibility in this situation. Kingston thinks the whole city should be assessed rather than specific areas. He thinks all residents benefit.
Jones feels the subwatershed area should be assessed with the City billed for it and handling funds collection. And then we could go to the State at some point to determine how to put it in with the regular VLAWMO SSU.

Kingston thinks this is an important project but he wants to be sure it is done fairly. Jones said we could defer actual work because there isn't imminent danger and plan for this work to be done in 2019 so we can budget for it and determine how we should pay for it.

Stephanie noted that staff has found the creek to be currently flowing freely. Staff agrees that it needs to be cleaned out but that there isn't critical danger right now. Lindner - no action is an option so that we can properly and fairly figure out what to do. Does it matter if it has been 29 years or 31 years? If we get the work done in 2019, is it going to make that big of a difference? At least if we wait until then, we can have a proper procedure in place that makes sense and is fair rather than setting a precedent that we can't keep up with.

Prudhon suggested one more bid source for the clean, the Community corrections work crew. He said the Township had used them in their parks for a variety of outdoor work and had been very happy with the results.

Jones - we should hold off to do the planning. He said he acknowledges and respects Nyblom's concerns and that Nyblom represents people who have issues with water from the ditch. Nyblom said their yards are flooding and thinks work should be done now rather than later.

It was moved by Jones and seconded by Lindner to direct staff to form a policy team to develop a ditch maintenance and funding policy and procedure and have it ready for the Board to officially review by June 1, 2018. Vote: all aye. Motion passed.

VII. Operations and Administration - Reports

A. TEC Report

Jones asked how the alum/lime research has been going. Tyler was out with a Barr engineer today to collect sediment samples which will be used to develop dosing treatment levels for alum and lime.

VIII. Discussion

A. Agenda

Jones wants the Board knows that when the agenda is considered at a meeting, a Board member may request to add an item at that time. He will also be moving up staff reports to earlier in the meeting so that they don't feel so rushed when they try to deliver their reports later in the meeting when people are wanting to go home. Jones also added that the Discussion subject on the agenda is for items that Board members would like to discuss but not necessarily vote on. They can be a vote item IF it is necessary.

IX. Administration Communication

Stephanie will be convening a policy and personnel committee in the near future.

X. Public Comment

XI. Adjourn

A motion was made by Nyblom and seconded by Prudhon to adjourn at 8:33pm. Vote: all aye. Motion passed.

Minutes compiled and submitted by Kristine Jenson.

12/1/2017		Actual 12/1/17	Actual to Date	2017 Budget	2016 carry over/Grants	Remaining in Budget	2017 available (B+C/O)	Act vs. Budget
BUDGET #	**INCOME 5.1**							
5.11	Storm Water Utility	$296,016	$655,124	$650,521	$0	($4,603)	$650,521	101%
5.12	Service Fees	$0	$100	$500	$0	$400	$500	20%
5.13	Interest	$152	$1,581	$200	$0	($1,381)	$200	791%
5.14	Misc. income - WCA admin grant	$0	$4,360	$5,000	$0	$640	$5,000	87%
5.15	Other Income Grants	$148	$202,264	$0	$0	($202,264)	$0	
5.16	Transfer from reserves		$90,000	$75,000	$0	($15,000)	$75,000	120%
	TOTAL	$296,316	$953,429	$731,221	$0	($222,208)	$731,221	130%
	EXPENSES							
3.1	**Operations & Administration**							
3.110	Office - rent, copies, post tel supplies	$1,723	$23,001	$22,660	$0	($341)	$22,660	102%
3.120	Information Systems	$1,383	$14,911	$19,500	$2,500	$7,089	$22,000	68%
3.130	Insurance	$0	$5,110	$5,200	$500	$590	$5,700	90%
3.141	Consulting - Audit	$0	$6,170	$6,800	$0	$630	$6,800	91%
3.142	Consulting - Bookkeeping	$0	$1,420	$1,500	$0	$80	$1,500	95%
3.143	Consulting - Legal	$975	$4,020	$3,000	$5,000	$3,980	$8,000	50%
3.150	Storm Sewer Utility	$2,640	$12,449	$16,000	$0	$3,551	$16,000	78%
3.160	Training (staff/board)	$308	$3,016	$4,000	$0	$984	$4,000	75%
3.170	Misc. & mileage	$478	$4,026	$7,000	$4,000	$6,974	$11,000	37%
3.191	Administration - staff	$22,983	$298,761	$303,000	$10,000	$14,239	$313,000	95%
3.192	Employer Liability	$6,188	$79,939	$70,000	$0	($9,939)	$70,000	114%
3.2	**Monitoring and Studies**							
3.210	Lake and Creek lab analysis	$0	$23,523	$18,000	$2,000	($3,523)	$20,000	118%
3.220	Equipment	$0	$1,454	$2,500	$2,500	$3,546	$5,000	29%
3.3	**Education and Outreach**							
3.310	Public Education	$96	$6,136	$7,000	$1,500	$2,364	$8,500	72%
3.320	Marketing	$0	$1,204	$7,000	$1,500	$7,296	$8,500	14%
3.330	Community Blue Ed Grant	$0	$700	$20,000	$12,000	$31,300	$32,000	2%
Total Core functions: Ops, Monitoring, Education		*$36,775*	*$485,840*	*$513,160*	*$41,500*	*$68,820*	*$554,660*	*88%*
Capital Improvement Projects and Programs								
3.4	**Subwatershed Activity**							
3.410	Gem Lake	$0	$0	$0	$0	$0	$0	
3.420	Lambert Creek	$0	$323,384	$401,000	$28,675	$106,291	$429,675	75%
3.425	Goose Lake	$2,842	$12,534	$14,900	$55,000	$57,366	$69,900	18%
3.430	Birch Lake	$0	$12,469	$2,200	$15,000	$4,731	$17,200	72%
3.440	Gilf Black Tam Wilk Amelia	$0	$17,915	$23,100	$0	$5,185	$23,100	78%
3.450	Pleasant Charley Deep	$0	$0	$3,700	$0	$3,700	$3,700	0%
3.460	Sucker Vadnais	$0	$0	$0	$65,000	$65,000	$65,000	0%
3.48	**Programs**							
3.481	Landscape 1	$2,250	$19,094	$24,000	$4,000	$8,906	$28,000	68%
3.482	Landscape 2	$0	$10,000	$30,000		$20,000	$30,000	33%
3.483	Project Research & feasibility	$1,440	$20,223	$17,000	$20,000	$16,777	$37,000	55%
3.484	Facilities Maintenance	$0	$2,290	$10,000	$18,000	$25,710	$28,000	8%
3.5	**Regulatory**							
3.510	Engineer Plan review			$5,000	$10,000	$15,000	$15,000	0%
	Total CIP & Program	*$6,532*	*$417,909*	$530,900	$215,675	*$328,666*	*$746,575*	*56%*
	Total of Core Operations & CIP	**$43,307**	$903,749	$1,044,060	$257,175	**$397,486**	$1,301,235	**69%**

Fund Balance	11/7/2017	12/4/2017
4M Account	$148,012	$321,534
4M Plus Savings	$100,366	$100,453
Total	$248,378	$421,986

Restricted funds	12/4/2017
Mitigation Savings	$29,641
Term Series (NA)	

Vadnais Lake Area Water Management Organization
Custom Transaction Detail Report
October 30 through December 7, 2017

	Type	Date	Num	Name	Memo	Account	Clr	Split	Amount	Balance
Oct 30 - Dec 7, 17										
	Credit Card Charge	11/01/2017		Google*SVCAPPS_VLAWM		US Bank CC		WEB	20.83	20.83
	Credit Card Charge	11/02/2017		MAWD	MAWD Conference Fees	US Bank CC	√	3.160 · Training (staff/board)	310.00	330.83
	Credit Card Charge	11/02/2017		Arrowwood Resort		US Bank CC		3.160 · Training (staff/board)	291.96	622.79
	Credit Card Charge	11/04/2017		Adobe "Creative Cloud		US Bank CC		Software	53.68	676.47
	Credit Card Charge	11/14/2017		MAWD	MAWD Conference Fees - Kristine	US Bank CC		3.160 · Training (staff/board)	285.00	961.47
	Credit Card Charge	11/16/2017		Fresh Thyme	TEC refreshments	US Bank CC		3.170 · Misc. & mileage	23.39	984.86
	Transfer	11/20/2017			Funds Transfer	US Bank CC		Checking - 1987	-983.34	1.52
	Credit Card Credit	11/22/2017		MAWD	Refund for part of Kristine's MAWD Fees	US Bank CC		3.160 · Training (staff/board)	-85.00	-83.48
	Credit Card Charge	12/01/2017		Hampton Inn & Suites	MAWD Hotel for Kristine	US Bank CC		3.160 · Training (staff/board)	98.24	14.76
	Credit Card Charge	12/02/2017		Arrowwood Resort		US Bank CC		3.160 · Training (staff/board)	294.69	309.45
Oct 30 - Dec 7, 17									**309.45**	**309.45**

	Type	Num	Date	Name	Item	Account	Paid Amount	Original Amount
	Check	**EFT**	**11/21/2017**	**Reliance Standard**		**Checking - 1987**		**-160.95**
						Insurance Benefit	-160.95	160.95
TOTAL							-160.95	160.95
	Check	**EFT**	**11/22/2017**	**SelectAccount**		**Checking - 1987**		**-5.00**
						Insurance Benefit	-5.00	5.00
TOTAL							-5.00	5.00
	Check	**4429**	**11/30/2017**	**Nicholas Voss**		**Checking - 1987**		**-124.89**
						3.170 · Misc. & mileage	-28.89	28.89
						3.310 · Public Education	-96.00	96.00
TOTAL							-124.89	124.89
	Check	**4430**	**11/30/2017**	**City of Vadnais Heights**		**Checking - 1987**		**-1,723.30**
						Rent	-1,450.00	1,450.00
						Phone/Internet/Machine Overhead	-175.00	175.00
						Phone/Internet/Machine Overhead	-60.00	60.00
						Copies	-24.78	24.78
						Copies	-1.87	1.87
						Postage	-11.65	11.65
TOTAL							-1,723.30	1,723.30
	Check	**4431**	**12/08/2017**	**Stephanie McNamara**		**Checking - 1987**		**-206.24**
						3.170 · Misc. & mileage	-206.24	206.24
TOTAL							-206.24	206.24
	Check	**4432**	**12/08/2017**	**Kristine Jenson**		**Checking - 1987**		**-207.05**
						3.170 · Misc. & mileage	-207.05	207.05
TOTAL							-207.05	207.05
	Check	**4433**	**12/08/2017**	**Brian Corcoran**		**Checking - 1987**		**-36.28**
						3.170 · Misc. & mileage	-36.28	36.28
TOTAL							-36.28	36.28
	Check	**4434**	**12/08/2017**	**Jill Thomsen**		**Checking - 1987**		**-750.00**
						3.481 · Landscape 1 - cost-share	-750.00	750.00
TOTAL							-750.00	750.00
	Check	**4435**	**12/08/2017**	**John Reed**		**Checking - 1987**		**-1,500.00**

	Type	Num	Date	Name	Item	Account	Paid Amount	Original Amount
						3.481 · Landscape 1 - cost-share	-1,500.00	1,500.00
TOTAL							-1,500.00	1,500.00
	Check	**4436**	**12/08/2017**	**City Of Roseville**		**Checking - 1987**		**-782.92**
						IT Support	-782.92	782.92
TOTAL							-782.92	782.92
	Check	**4437**	**12/08/2017**	**Barr Engineering Co**		**Checking - 1987**		**-2,842.32**
						3.425 · Goose Lake	-2,842.32	2,842.32
TOTAL							-2,842.32	2,842.32
	Check	**4438**	**12/08/2017**	**Burns & McDonnell**		**Checking - 1987**		**-1,439.69**
						3.483 · Project Research & feasibility	-1,439.69	1,439.69
TOTAL							-1,439.69	1,439.69
	Check	**4439**	**12/08/2017**	**City of White Bear Lake**		**Checking - 1987**		**-29,005.03**
						3.1913 · Water Resources Technician	-4,286.40	4,286.40
						3.1912 · Program Coordinator	-5,059.71	5,059.71
						3.1911 · Administrator	-6,816.00	6,816.00
						3.1914 · GIS Watershed Technician	-3,244.80	3,244.80
						3.1915 · Education & Outreach	-3,576.00	3,576.00
						Administration FICA	-1,690.96	1,690.96
						Administration PERA	-1,723.72	1,723.72
						Insurance Benefit	-2,145.82	2,145.82
						Admin payroll processing	-44.92	44.92
						Insurance Benefit	-416.70	416.70
TOTAL							-29,005.03	29,005.03
	Check	**4440**	**12/08/2017**	**Ehlers & Associates, Inc.**		**Checking - 1987**		**-2,640.00**
						3.150 · Storm Sewer Utility	-2,640.00	2,640.00
TOTAL							-2,640.00	2,640.00
	Check	**4441**	**12/08/2017**	**Kennedy & Graven, Chartered**		**Checking - 1987**		**-975.10**
						3.143 · Legal	-975.10	975.10
TOTAL							-975.10	975.10
	Check	**4442**	**12/08/2017**	**Houston Engineering, Inc**		**Checking - 1987**		**-600.00**
						GIS Support & updates	-600.00	600.00
TOTAL							-600.00	600.00

	Type	Date	Num	Name	Memo	Original Amount	Paid Amount
Ordinary Income/Expense							
Income							
Mitigation Interest							
	Deposit	11/30/2017		U.S. Bank	Deposit	1.46	1.46
Total Mitigation Interest							1.46
5.1 · Income							
5.11 · Storm Water Utility							
	Deposit	12/01/2017		Anoka County	Deposit	3,221.70	3,221.70
	Deposit	12/01/2017		Ramsey County	Deposit	292,794.41	292,794.41
Total 5.11 · Storm Water Utility							296,016.11
5.13 · Interest							
	Deposit	11/30/2017		U.S. Bank	Deposit	64.78	64.78
	Deposit	11/30/2017		U.S. Bank	Deposit	87.04	87.04
Total 5.13 · Interest							151.82
Total 5.1 · Income							296,167.93
Total Income							296,169.39
Gross Profit							296,169.39
Expense							
3.1 · Administrative/Operations							
3.110 · Office							
Copies							
	Check	11/30/2017	4430	City of Vadnais Heights	color copies	24.78	24.78
	Check	11/30/2017	4430	City of Vadnais Heights	B/w copies	1.87	1.87
Total Copies							26.65
Phone/Internet/Machine Overhead							
	Check	11/30/2017	4430	City of Vadnais Heights	phone/computer connection	175.00	175.00
	Check	11/30/2017	4430	City of Vadnais Heights	copy/postage/fax fees	60.00	60.00
Total Phone/Internet/Machine Overhead							235.00
Postage							
	Check	11/30/2017	4430	City of Vadnais Heights	postage	11.65	11.65
Total Postage							11.65
Rent							
	Check	11/30/2017	4430	City of Vadnais Heights	rent - Dec 2017	1,450.00	1,450.00
Total Rent							1,450.00
Total 3.110 · Office							1,723.30
3.120 · Information Systems							
GIS Support & updates							
	Check	12/08/2017	4442	Houston Engineering, Inc	$600 annual Web hosting and ma	600.00	600.00
Total GIS Support & updates							600.00
IT Support							
	Check	12/08/2017	4436	City Of Roseville	Inv 0223849 - Nov IT Services	782.92	782.92
Total IT Support							782.92
Total 3.120 · Information Systems							1,382.92
3.143 · Legal							
	Check	12/08/2017	4441	Kennedy & Graven, Chartered	Legal through 10/31/17	975.10	975.10
Total 3.143 · Legal							975.10
3.150 · Storm Sewer Utility							
	Check	12/08/2017	4440	Ehlers & Associates, Inc.	Invoice 75432	2,640.00	2,640.00
Total 3.150 · Storm Sewer Utility							2,640.00
3.160 · Training (staff/board)							
	Credit Carc	11/22/2017		MAWD	Refund for part of Kristine's MAWI	-85.00	-85.00
	Credit Carc	12/01/2017		Hampton Inn & Suites	MAWD Hotel for Kristine	98.24	98.24
	Credit Carc	12/02/2017		Arrowwood Resort	Stephanie hotel for MAWD Confer	294.69	294.69
Total 3.160 · Training (staff/board)							307.93
3.170 · Misc. & mileage							
	Check	11/30/2017	4429	Nicholas Voss	Nov mileage	28.89	28.89
	Check	12/08/2017	4431	Stephanie McNamara	Oct-Nov mileage	206.24	206.24
	Check	12/08/2017	4432	Kristine Jenson	November mileage	207.05	207.05
	Check	12/08/2017	4433	Brian Corcoran	Mileage	36.28	36.28
Total 3.170 · Misc. & mileage							478.46

	Type	Date	Num	Name	Memo	Original Amount	Paid Amount
3.191 · Employee Payroll							
Total 3.191 · Employee Payroll							22,982.91
3.192 · Employer Liabilities							
Admin payroll processing							
	Check	12/08/2017	4439	City of White Bear Lake	Nov 2017	44.92	44.92
Total Admin payroll processing							44.92
Administration FICA							
	Check	12/08/2017	4439	City of White Bear Lake	Nov 2017	1,690.96	1,690.96
Total Administration FICA							1,690.96
Administration PERA							
	Check	12/08/2017	4439	City of White Bear Lake	Nov 2017	1,723.72	1,723.72
Total Administration PERA							1,723.72
Insurance Benefit							
	Check	11/21/2017	EFT	Reliance Standard	Short-term Disability - December	160.95	160.95
	Check	11/22/2017	EFT	SelectAccount	HSA fee - Nov 2017	5.00	5.00
	Check	12/08/2017	4439	City of White Bear Lake	Ins	2,145.82	2,145.82
	Check	12/08/2017	4439	City of White Bear Lake	Nov 2017	416.70	416.70
Total Insurance Benefit							2,728.47
Total 3.192 · Employer Liabilities							6,188.07
Total 3.1 · Administrative/Operations							36,678.69
3.3 · Education and Outreach							
3.310 · Public Education							
	Check	11/30/2017	4429	Nicholas Voss	November Reimbursement	96.00	96.00
Total 3.310 · Public Education							96.00
Total 3.3 · Education and Outreach							96.00
3.4 · Capital Imp. Projects/Programs							
3.425 · Goose Lake							
	Check	12/08/2017	4437	Barr Engineering Co	23621238.00-7 sediment monitori	2,842.32	2,842.32
Total 3.425 · Goose Lake							2,842.32
Total 3.4 · Capital Imp. Projects/Programs							2,842.32
3.48 · Programs							
3.481 · Landscape 1 - cost-share							
	Check	12/08/2017	4434	Jill Thomsen	LL1-2017-10 Grant Reimburseme	750.00	750.00
	Check	12/08/2017	4435	John Reed	LL1-2017-11 Grant Reimburseme	1,500.00	1,500.00
Total 3.481 · Landscape 1 - cost-share							2,250.00
3.483 · Project Research & feasibility							
	Check	12/08/2017	4438	Burns & McDonnell	Lambert Creek Bacterial Source S	1,439.69	1,439.69
Total 3.483 · Project Research & feasibility							1,439.69
Total 3.48 · Programs							3,689.69
Total Expense							43,306.70
Net Ordinary Income							252,862.69
Net Income							**252,862.69**

Income Contract No. _____
(Provided by Department of Administration)

STATE OF MINNESOTA
INCOME CONTRACT

This contract is between the State of Minnesota, acting through its Commissioner of Corrections, Institution Community Work Crew ("State"), and the (Purchaser").

Recitals

1. Under Minn. Stat. §241.278 the State is empowered to enter into income contracts.
2. The Purchaser is in need of an Institution Community Work Crew (ICWC).
3. The State represents that it is duly qualified and agrees to provide the services described in this contract.

Contract

1 Term of Contract

1.1 ***Effective date*:** or the date the State obtains all required signatures under Minnesota Statutes Section 16C.05, subdivision 2, whichever is later.

1.2 ***Expiration date*:** or until all obligations have been satisfactorily fulfilled, whichever occurs first.

2 State's Duties

The State will:

2.1 Provide crew leader(s) who will supervise up to ten (10) offender crewmembers per ten (10) hour days of work on dates mutually agreed between parties, including the hour's crew leaders spend for daily preparation and communication.

2.2 In coordination with the Purchaser, train each work crew in safety principles and techniques set forth by the Purchaser and applicable federal, state and local agency requirements. Purchaser agrees that the State has the responsibility and authority to refuse selected projects if it considers the projects beyond the skill level of the crewmembers and/or unsafe to perform.

2.3 Provide required personal safety equipment and clothing needed for specific work.

2.4 Screen projects to ensure that appropriate staff are assigned.

3 Purchaser's Duties

The Purchaser will

3.1 Obtain all necessary permits or licenses or special authority for all projects that utilize ICWC labor.

3.2 Assign all work and coordinate material purchases and delivery through the ICWC crew leader for projects to be performed by the State.

3.3 Hire any subcontractors utilized in the project.

3.4 Provide utilities at the work site and set up accounts for the purchase of materials and rental of specialized tools or equipment needed for the work.

3.5 Meet with the State as necessary to provide project information needed by the State in the performance of its' duties.

4 Payment

4.1 The Purchaser agrees to pay Four hundred seventy-five dollars and 00/100 ($475.00) per day worked Monday thru Thursday and Seventy-five dollars and 00/100 ($75.00) for each overtime hour worked and hours worked on Friday thru Sunday by the ICWC crew, as its share of the cost of providing a crew leader and placing the work crew into service on the ICWC program during the term of this agreement. Payment will be made no later than the 23rd day following the last day of the billing period.

5 Authorized Representatives

The State's Authorized Representative is Scott Miller, ICWC Supervisor or his successor.

The Purchaser's Authorized Representative is, , or his/her successor**.**

6 Liability

Each party will be responsible for its own acts and behavior and the results thereof.

7 Amendments, Waiver, and Contract Complete

7.1 ***Amendments.*** Any amendment to this contract must be in writing and will not be effective until it has been executed and approved by the same parties who executed and approved the original contract, or their successors in office.

7.2 ***Waiver.*** If the State fails to enforce any provision of this contract, that failure does not waive the provision or its right to enforce it.

7.3 ***Contract Complete.*** This contract contains all negotiations and agreements between the State and the Purchaser. No other understanding regarding this contract, whether written or oral, may be used to bind either party.

8 Government Data Practices

The Purchaser must comply with the Minnesota Government Data Practices Act, Minn. Stat. Ch. 13, as it applies to all data provided by the State under this contract. The civil remedies of Minn. Stat. § 13.08 apply to the release of the data referred to in this clause by either the Purchaser or the State.

If the Purchaser receives a request to release the data referred to in this Clause, the Purchaser must immediately notify the State. The State will give the Purchaser instructions concerning the release of the data to the requesting party before the data is released.

9 Publicity

Any publicity regarding the subject matter of this contract must not be released without prior written approval from the State's Authorized Representative.

10 Audit

Under Minn. Stat. Section 16C.05, subd. 5, the Purchaser's books, records, documents, and accounting procedures and practices relevant to this contract are subject to examination by the State and/or the State Auditor or Legislative Auditor, as appropriate, for a total of six years.

11 Governing Law, Jurisdiction, and Venue

Minnesota law, without regard to its choice-of-law provisions, governs this contract. Venue for all legal proceedings out of this contract, or its breach, must be in the appropriate state or federal court with competent jurisdiction in Ramsey County, Minnesota.

12 Termination

Either party may terminate this agreement at any time, with or without cause, upon 30 days' written notice to the other party.

1. PURCHASER

The Purchaser certifies that the appropriate person(s) have executed the contract on behalf of the Purchaser as required by applicable articles, bylaws, resolutions, or ordinances.

By
Title
Date

By
Title
Date

2. STATE AGENCY

With delegated authority

By
Title
Date

3. Commissioner of Administration

As delegated to Materials Management Division

By
Date

Distribution
DOC Financial Services Unit – Original (fully executed) contract
Purchaser
State's Authorized Representative
Budget Officer of Authorized Representative
Department of Administration – Materials Management Division

TEC Report to the Board
December 2017

Programs & Projects	Effort Level LOW MED HIGH	Completion Date	Comments
Projects			
Priority Lakes		2017	Sediment cores done on East Goose, West Goose, and Oak Knoll Pond/Wood Lake. Awaiting report from Barr.
Sucker Lake Channel		2018	2017 Construction is complete. Spring 2018 will include installation of native plants, signage, and fencing.
Lambert Creek - Koehler		2017	Project complete, grant finalized
Birch Lake		2017	The automated sampler is uninstalled at 4th & Otter. We should hear on grant request in December.
Whitaker Wetlands		2017	Project about 90% complete, solar panels, plantingd and battery packs will be installed next spring
Programs			
Outreach		ongoing	Installing Whitaker Treatment Wetlands signage, coordinating WAV events to double as outreach tools.
Education		ongoing	Partnerships with H2O for life, WB Schools, and AFSA are actively planning. November 21st is scheduled for a road salt/parking lot training in partnership with Fortin Consulting and Ramsey Washington MWD.
Website		ongoing	Continued blog and news posts, Lambert Creek RFP posted along with supporting document page, and Charley SLMP hosted on site
WAV		ongoing	Volunteer events occured on October 28th and November 11th: labeling drains with "no dumping" signs, and informing residents of nearby projects to where the events are taking place. I.e. Goose Lake improvement and the Sucker channel restoration. Outdoor interpretive signs were also designed for these projects. Smart Salting Workshop took place November 21st for MS4's.
Cost Share		ongoing	Cost share program is wrapped up for 2017, $4000 will be carried into 2018 for open grants.
GIS		ongoing	VLAWMO online Projects map, ArcCollector, Ditch 14 RFP, desktop maps
Monitoring		ongoing	Working on year end monitoring report, continuing chloride samples on birch lake
Admin & Operation			
SLMPs		2017	Charley SLMP draft is complete and posted for stakeholder review.
Audit & annual reporting		May 2017	The 2017 Annual audit is scheduled for Feb. 2018
Administration		2017	The SSU fees for next year have been certified to the counties at the October Board mtg. Dec. pymts have been received from the counties. The Fund bal recommendations are ready for Board action.

WCA		ongoing	Working on year end WCA reporting for BWSR.

TEC Report to the Board
December 2017

FINANCIAL SUMMARY as of 12/4/2017			
4M Account (.73)		4M Plus (.78)	Total
$321,534		$100,453	$421,987

CD's	4M Term Series		
	Amount	Maturity	Rate
Term series	NA		

Budget Summary	Actual Expense YTD	2017 Budget amended	Remaining in Budget	% YTD
Operations	$485,840	$554,660	$68,820	88%
CIP	$417,909	$746,575	$328,666	56%
Total	$903,749	$1,301,235	$397,486	69%

VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E E, Vadnais Heights, MN 55127
www.vlawmo.org; Office@vlawmo.org

To: Board of Directors

From: Stephanie McNamara, Administrator

Date: December 2017

Re: Annual Report Card 2017

VLAWMO is wrapping up its first year under the new Water Plan which means it's time to fill in our first Report Card under this plan. The format of this Report Card is still being finalized so we can assess how things went this year, what next year should look like but still keep it simple and readable.

Toward that end the TEC went through an exercise that starts with our 2017 Work Plan. That can be found online in our Annual Report for 2016 on page 27. There was an attempt to set some kind of a measurable goal in each area of effort whether it was a project in a subwatershed or a core program that keeps us working. We have been talking about what is going on at Board meetings of course, and the TEC report to the Board will have information for you every time you meet.

I would like to invite you to look at the table on the next two pages, and as the meeting progresses tonight jot down thoughts on how well things went in some of our projects and programs. You might also have some ideas on what we should be evaluating or using for a goal. I hope you will be willing to share the sheet with me at the end of the meeting.

Otherwise, please watch for a survey request by the beginning of the year. Board input is essential for setting our Work Plan for 2018.

Thank you.

VLAWMO
Vadnais Lake Area
Water Management Organization

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Capital Improvement Projects	Measurable outcome (2017 project goals)	Outcome (2017 project goal completion)	Keep / Change	Direction for 2018
Sucker Channel	Work with 3 partners; install most			
Whitaker wetlands	Install wetlands; comply w/grant			
Lower Kohler restoration	Plant and install final elements; monitor			
Studies				
Goose Lake feasibility	Complete study; action plan w/partners			
Wilkinson feasibility	Complete study; action			
Birch – 4th & Otter project	Complete study; action plan w/partners			
Cost – share				
Landscape 1	Install 10 projects; remove .25 lbs TP			
Landscape 2	1 project; remove .25 lbs. TP			
Community Blue Education grant	1 project; 2 applications			
Education & Outreach				
WAV/ Community	2 vol help @ event; 5 mtgs; 3			

involvement	stenciling events; 1 video			
Workshops	25 participants; 3 follow-up installations			
Community events/ Communications	5 events; 200 rainbarrel entries; 3 news articles; 4 city news; 200 website views			
K-12	Reach 10% of school pop			
Monitoring & analysis				
Monitoring Lake / Creek	Chemistry on 12 lakes; 6 sites on creek			
Chloride monitoring	Annual lakes & creek; Birch			
E. coli & special monitoring	4th year			
Administration & Planning				
Budget & SSU	Stay within budget; establish 2018 SSU			
Regulation: WCA/Standard	Respond to applications-comply			
Charlie Lake SLMP	complete			

800 County Road E East, Vadnais Heights, MN 55127
www.vlawmo.org

RESOLUTION 04-2017
Of the Vadnais Lake Area Water Management Organization (VLAWMO)

December 13, 2017

The Board of Directors of the Vadnais Lake Area Water Management Organization met in a regular meeting at the Vadnais Heights City Hall on Wednesday, the 13th day of December, 2017 at 7:00 o'clock p.m.
The following members were present:

Marty Long, City of North Oaks
Terry Nyblom, City of Vadnais Heights
Ed Prudhon, White Bear Township
Dan Jones, City of White Bear Lake
Jim Lindner, City of Gem Lake
Rob Rafferty, City of Lino Lakes
The following members were absent:

Director _____ introduced the following resolution and moved its adoption. Director _____ seconded the motion.

A RESOLUTION FOR COMMITTING THE FUND BALANCE FOR SPECIFIC PURPOSES

WHEREAS, the Board of Directors of the Vadnais Lake Area Water Management Organization, does hereby find as follows:

WHEREAS, the Governmental Accounting Standards Board's Statement No. 54 defines committed fund balance as amounts that can only be used for specific purposes pursuant to constraints imposed by formal action of the Board,

WHEREAS, Board action is required before year end to formalize the commitment of fund balance to specified purposes,

WHEREAS, those committed amounts cannot be used for any other purpose unless the VLAWMO removes or changes the specified use by taking the same type of action it employed to previously commit those amounts.

THEREFORE, BE IT RESOLVED by the VLAWMO, that the specific portions of fund balance in the identified funds are committed as follows:

Committed

Fund	Description	Purpose	Amount
General	Information systems	Purchase of IT equipment & help	$2,500
General	Insurance	Additional liability insurance per 10/16 Board	$500
General	Legal assistance	Project contracting assistance	$3,900

EST 1983
VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E East, Vadnais Heights, MN 55127
www.vlawmo.org

General	Storm Sewer Utility	Administrative exp of program	$3,000
General	Training	Staff, TEC & Board training	$500
General	Misc & mileage	Mileage reimburse, mtg expense	$4,000
General	Admin-Payroll	Assist with staffing adjustment;	$4,000
General	Equipment	Canoe replacement	$3,500
General	Education & Marketing	Program materials & swag replacement	$700
General	Community Blue	Ongoing projects	$5,000
General	Lambert Creek	Whitaker wetland grant; engineering	106,290
General	Goose Lake	Fund for implementation; feasibility	$57,365
General	Birch Lake	Match funds for iron filter project	$4,700
General	Gil, Black, Tam, Wilkin	Encumbered for surveys	$5,185
General	Pleasant Charley	Encumbered for surveys	$3,700
General	Sucker Vadnais	Sucker channel & others	$65,000
General	Landscape 1 cost-share	Approved projects not complete	$4,500
General	Project research & feasibility	Spent lime study; Lambert creek engineering	$16,500
General	Facilities Maintenance	Ongoing maintenance of creek and VLAWMO installations	$25,710
	Total		$315,932

The foregoing resolution was passed by the Board of Directors of the Vadnais Lake Area Water Management Organization, Minnesota this 13th day of December, 2017.

CHAIR (or authorized): _____ Date: _____

ATTEST: Signed: _____ Date: _____

VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E E, Vadnais Heights, MN 55127
www.vlawmo.org; Office@vlawmo.org

December 2017
To: The Board of Directors
From: Stephanie McNamara, Administrator

Re: V.A. 2016 Fund Balance designation

Operations Fund balances in specific areas need to be encumbered to pay for already approved 2017 expenses or to build a special purpose fund balance.

Capital budget. In 2017 VLAWMO implemented programs and projects as identified in the 2017 – 2026 Comprehensive Water Management Plan adopted in October of 2016. The following budget items, their purpose and amount are reflected in the table below. This table is included in Resolution 04-2017 for Board consideration.

Resolution 04-2017 is recommended for Board consideration that includes the following carry over funds.

Fund	Description	Purpose	Amount
General	Information systems	Purchase of IT equipment & help	$2,500
General	Insurance	Additional liability insurance per 10/16 Board	$500
General	Legal assistance	Project contracting assistance	$3,900
General	Storm Sewer Utility	Administrative exp of program	$3,000
General	Training	Staff, TEC & Board training	$500
General	Misc & mileage	Mileage reimburse, mtg expense	$4,000
General	Admin-Payroll	Assist with staffing adjustment;	$4,000
General	Equipment	Canoe replacement	$3,500
General	Education & Marketing	Program materials & swag replacement	$700
General	Community Blue	Ongoing projects	$5,000
General	Lambert Creek	Whitaker wetland grant; engineering	106,290
General	Goose Lake	Fund for implementation; feasibility	$57,365
General	Birch Lake	Match funds for iron filter project	$4,700

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General	Gil, Black, Tam, Wilkin	Encumbered for surveys	$5,185
General	Pleasant Charley	Encumbered for surveys	$3,700
General	Sucker Vadnais	Sucker channel & others	$65,000
General	Landscape 1 cost-share	Approved projects not complete	$4,500
General	Project research & feasibility	Spent lime study; Lambert creek engineering	$16,500
General	Facilities Maintenance	Ongoing maintenance of creek and VLAWMO installations	$25,710
	Total		$315,932

EST 1983
VLAWMO
Vadnais Lake Area
Water Management Organization

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To: Board of Directors

From: Stephanie McNamara

Re: V.B Office space lease

VLAWMO has leased office space in the Vadnais Heights City Hall for the last 9.5 years. This new lease would extend that agreement for another three years. There is a increase of $85/month the first year and $35 after that. or $420/year after the first year. The monthly lease would be $1,780, $1,815, and $1,850 for 2018, 2019, and 2020 respectively. This affords VLAWMO the main VLAWMO office, four cubicles, internet and telephone, storage space and access to conference rooms and other common space. The lease language is the same as the last three years otherwise.

Recommendation: Approval of the 2018- 2020 Office space agreement with the City of Vadnais Heights.

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RESOLUTION 05-2017

Of the Vadnais Lake Area Water Management Organization (VLAWMO)
Office Lease

December 13, 2017

The Board of Directors of the Vadnais Lake Area Water Management Organization met in a regular meeting at the Vadnais Heights City Hall on Wednesday, the 13th day of December, 2017 at 7:00 o'clock p.m.

The following members were present:

Marty Long, City of North Oaks
Terry Nyblom, City of Vadnais Heights
Ed Prudhon, White Bear Township
Dan Jones, City of White Bear Lake
Jim Lindner, City of Gem Lake
Rob Rafferty, City of Lino Lakes

The following members were absent:

Director _____ introduced the following resolution and moved its adoption. Director _____ seconded the motion.

A RESOLUTION FOR **APPROVAL OF THE 2018 – 2020 OFFICE LEASE** with the City of Vadnais Heights.

Whereas VLAWMO must maintain an office, with required facilities within the VLAWMO jurisdiction and the accommodations within the Vadnais Heights city hall meet those needs, and

Whereas, VLAWMO finds the location, accommodations and personnel at city hall to be a good fit with VLAWMO needs,

Therefore be it resolved to approve the 2017 – 2020 lease agreement with the City of Vadnais Heights.

The foregoing resolution was passed by the Board of Directors of the Vadnais Lake Area Water Management Organization, Minnesota this 13th day of December, 2017.

_____ Board Chair _____ Date

_____ Attest _____ Date

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RESOLUTION 06-2017
Of the Vadnais Lake Area Water Management Organization (VLAWMO)
Employee Handbook Update

December 13, 2017

The Board of Directors of the Vadnais Lake Area Water Management Organization met in a regular meeting at the Vadnais Heights City Hall on Wednesday, the 13th day of December, 2017 at 7:00 o'clock p.m.
The following members were present:

Marty Long, City of North Oaks
Terry Nyblom, City of Vadnais Heights
Ed Prudhon, White Bear Township
Dan Jones, City of White Bear Lake
Jim Lindner, City of Gem Lake
Rob Rafferty, City of Lino Lakes
The following members were absent:

Director _____ introduced the following resolution and moved its adoption. Director _____ seconded the motion.

A RESOLUTION FOR APPROVAL of the Employee Handbook relative to health benefits.

Whereas the VLAWMO Board of Directors has a long standing policy of providing some form of health benefits to its employees and since 2017 has offer a group health insurance policy and a health savings account, and

Whereas the Employee Handbook reflects employee policy for VLAWMO, and

Whereas it is the intention of VLAWMO to provide commensurate health benefits to all its employees the following change in language is adopted for the Employee Handbook:

5.1 Insurance

"It is the policy of VLAWMO to offer health insurance coverage to all full time employees. The Watershed offers a group Health insurance policy to its employees. The policy is reassessed by the Administrator and the Policy and Personnel committee annually during the open enrollment period.

If any coverage offered under the VLAWMO insurance program not accepted by an employee, the Watershed will not be obligated to pay the employee the premium amounts. However, if an employee is eligible and accepting the federal health coverage program, Medicare, VLAWMO will provide premium coverage at least commensurate with other employee's coverage."

The foregoing resolution was passed by the Board of Directors of the Vadnais Lake Area Water Management Organization, Minnesota this 13th day of December, 2017.

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_____ Board Chair _____ Date

_____ Attest _____ Date

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Vadnais Lake Area
Water Management Organization

800 County Road E E, Vadnais Heights, MN 55127
www.vlawmo.org; Office@vlawmo.org

To: Board of Directors

From: Stephanie McNamara, Administrator

Date: December 13, 2017

Re: V.D. Employee Handbook update

The Policy and Personnel committee met Nov. 16th to discuss the health insurance benefit for employee for 2018. There has been fairly extreme volatility in the market as most are probably aware. The policy for employees that is almost the same as what was offered last year will cost about 15.2% more than last year. Fortunately the Board added more funds to the 2018 health insurance budget and we can stay within budget while still offering health coverage. The committee is recommending we continue and as enrollment needed to progress this has been done.

There is an opportunity for savings as Stephanie will utilizing Medicare and a supplemental insurance starting March 1st. This also means that after the first two months VLAWMO will not contribute to a Health Savings Account as they are not allowed under Medicare. This will save VLAWMO about $8,729 + $833 = $9,562. As I do not plan to retire just yet I would like to ask VLAWMO to help me pay for the modified health insurance. I have not chosen a supplemental policy so I don't know the exact cost yet but I am anticipating monthly cost in the neighborhood of $280. If the Board approves this could still realize a significant savings: $9,562-$2800 = $6,762 / yr.

1. This could be done through an update to the Employee Handbook language. The Employee Handbook which reflects VLAWMO policy is in need of updating to reflect current practice and perhaps the update suggested above. There is a fair amount of change so I've given you a clean version right below. The last two sentences will apply only to me if approved. Policy and Personnel is recommending approval.

5.1 Insurance

~~At this time t~~ It is the policy of VLAWMO to offer health insurance coverage to all full time employees. The Watershed ~~does not~~ offers a group Health insurance ~~program~~ policy to its employees.~~, however it will pay the employee a health benefit stipend in the amount to be determined by the Board~~. ~~This stipend will be prorated by pay period and included as a health benefit.~~The policy is reassessed by the Administrator and the Policy and Personnel committee annually during the open enrollment period.
~~If an~~ If any coverage offered under the VLAWMO insurance program ~~is~~ not accepted by an ~~offered in the future and the~~ employee ~~does not enroll in a health, dental, life insurance plan offered in the Program~~, the Watershed will not be obligated to pay the employee the premium amounts. However, if an employee is eligible and accepting the federal health coverage program, Medicare, VLAWMO will provide premium coverage at least commensurate with other employee's coverage.

New Language:

"It is the policy of VLAWMO to offer health insurance coverage to all full time employees. The Watershed offers a group Health insurance policy to its employees. The policy is reassessed by the Administrator and the Policy and Personnel committee annually during the open enrollment period.

If any coverage offered under the VLAWMO insurance program not accepted by an employee, the Watershed will not be obligated to pay the employee the premium amounts. However, if an employee is eligible and accepting the federal health coverage program, Medicare, VLAWMO will provide premium coverage at least commensurate with other employee's coverage."

2. Pol & Personnel is further recommending that the savings be rolled back into benefits for the staff. One benefit contribution the Board may wish to consider is increase the H.S.A. contribution for those receiving it. If the employer H.SA contribution for 4 employees is increased to $2000 that would cover half of the single deductible, a significant increase to the employees. The net increase would be $3000. VLAWMO would paying $8000 from the current $5000. The administrator would recommend proceeding with this change in the HSA.

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Date: December 13, 2017

To: the Board of Directors

From: Brian Corcoran & Stephanie McNamara

Re: VI.A.1 Lambert Creek – Consideration of maintenance contract with MN Work Crew

At the October 25, 2017 BOD meeting, the Board directed that more efforts be pursued for debris removal services in Lambert Creek. At the suggestion of Director Prudhon because of WB Township's experience with the State of MN Institution Community Work Crew program (ICWC), staff met with ICWC supervisor Scott Miller for possible assistance in the creek clean-up. After talking with Scott in the office as well as taking him to the site, he feels confident this would be a great project for the ICWC.

VLAWMO originally pursued private companies to do the work and costs ranged from roughly $30K to over $60K for the proposed work. If the ICWC were to be used it would cost $750.00 a day for a crew of up to ten guys. Scott was confident the work could be done in 2-3 days.

The ICWC would remove the debris from the creek and drag to specific sites (to be determined) and VLAWMO would have to partner with possibly the City of Vadnais Heights for removal and chipping. The ICWC would provide all the equipment needed (chain saws, waiters, etc.) to clear the creek and move debris to the specific sites.

Each crew is run by a crew leader employed by the MN Department of Corrections. The workers on each crew volunteer to work on the ICWC and the Department of Corrections only allow a total of 80 workers to participate in the service. There is high demand to work on the ICWC and those who are selected to work receive hours that will reduce their work release requirements.

A contract with the ICWC would need to be in place before any work could start (sample contract attached), once contract is in place a crew can be requested any Friday-Sunday. Contract is good for a year, crews can be used as often as needed and VLAWMO would be under no financial responsibility unless a crew actually does work for us.

The attached contract with ICWC was brought to the November 2017 Technical Evaluation Committee and was recommended for approval to the Board.

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RESOLUTION 07-2017

Of the Vadnais Lake Area Water Management Organization (VLAWMO)

Acceptance of Lambert Creek Engineering Proposal

December 13, 2017

The Board of Directors of the Vadnais Lake Area Water Management Organization met in a regular meeting at the Vadnais Heights City Hall on Wednesday, the 13th day of December, 2017 at 7:00 o'clock p.m.

The following members were present:

Marty Long, City of North Oaks
Terry Nyblom, City of Vadnais Heights
Ed Prudhon, White Bear Township
Dan Jones, City of White Bear Lake
Jim Lindner, City of Gem Lake
Rob Rafferty, City of Lino Lakes

The following members were absent:

Director _____ introduced the following resolution and moved its adoption. Director _____ seconded the motion.

A RESOLUTION FOR APPROVAL of the Engineering proposal from _____.

Whereas, VLAWMO is the ditch authority for Lambert Creek (Ramsey County ditch #14) and Dillon ditch (Ramsey County ditch #13) and as such is responsible for the operation and maintenance of the ditch, and

Whereas, VLAWMO has been doing restoration and enhancement projects along the creek since accepting ditch authority in 1987, and

Whereas, changes in the drainage of the creek since it was established and changes in weather patterns affect the operation of the creek, requiring a more in depth understanding of the elevations, hydrology and hydraulics of the creek,

Therefore be it resolved that the VLAWMO Board of Directors will accept the Proposal for Engineering assistance from _____ at cost of _____. Staff is authorized to approve change orders up to $5,000 as needed. Otherwise change orders will require Board approval.

EST 1983
VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E East, Vadnais Heights, MN 55127
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Date: December 13, 2017

To: the Board of Directors

From: Stephanie McNamara, Tyler Thompson & Brian Corcoran

Re: VI.A.2 Lambert Creek – Consideration of survey of targeted portions of Lambert Creek; RFP

Per direction from the October 25, 2017 Board meeting, staff sent out a RFP for engineering analysis on Lambert Creek and the branch ditches. The services requested will allow VLAWMO, the ditch authority, to understand both the historical and current capacity of the ditch system as well as areas along the system that could benefit from potential projects. A model of the system will be created identifying the current condition of the creek and this model would be used to target areas of the system that would benefit from projects to increase the effectiveness of the system.

Historical and current data would be used to calibrate the model along with an updated survey of the system. Information we are looking for from the engineers to guide future work and routine maintenance of the system below:

- Reviewing records of the ditch to establish original ditch profile and capacity to the extent possible.
- Review records of the ditch cleaning in 1987 to establish ditch profile and capacity to the extent possible.
- Review area where high water concerns have been identified.
- Survey Lambert Creek from Whitaker pond and Goose Lake to Vadnais Lake.
- Utilize available information to produce a updated hydraulic model of Lambert creek and updated current profile information for the creek
- Identify potential areas of maintenance needs and potential improvement practices
- Recommend plan of routine ditch assessment including evaluation of existing structures along the creek. This would be used to identify and schedule future inspection and maintenance needs.

The Request for Proposal along with the timeline for anticipated deliverable service to completed is attached. The Lambert Creek budget for 2018 is $57,000.

VLAWMO received 6 proposals and interest from across the Midwest. Prices ranged from $47,826 to $105,000. Proposals included cost for main ditch 14 analysis as well as options to include detailed branch ditch analysis. All proposals are from reputable firms with staff experienced in ditch modeling and maintenance and project work. Staff is reviewing and scoring each proposal. Because the proposals came in just before the packet deadline we will need to send you the summary early next week. The Board may wish to approve the lowest responsible bidder per VLAWMO policy. Toward that end a Resolution 07-2017 is also attached. The name of the firm to be hired, if the Board chooses, may be discussed at the meeting and included in the Resolution.

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7 December 2017

Ms. Stephanie McNamara
Vadnais Lakes Area WMO
800 East Co. Rd. E
Vadnais Heights, MN 55127

Dear Ms. McNamara,

Thank you for the opportunity to provide you with this proposal for engineering assistance on Lambert Creek (Ramsey County Ditch 14 – CD14). We are excited to partner with you to achieve your goals.

We have extensive expertise with drainage system inspections, surveys and all aspects of system repairs including regulatory requirements. Beyond that, we are one of the few companies that integrates drainage with natural resource protection and restoration.

Wenck manages drainage systems across the state and has significant expertise with FEMA mapping updates as they intersect with drainage systems in urban areas. A recent example of this ongoing work is a ditch survey, hydrologic and hydraulic modeling and updated flood mapping for the Coon Creek Watershed District. A project example is attached. Additional project expertise is discussed in the attached staff resumes.

Why Wenck

1. Our involvement in VLAWMO's Comprehensive Plan and TMDL Studies means we understand the goals and challenges of VLAWMO. This, coupled with our experience and expertise, puts us in the best position to identify projects and programs to achieve conveyance, water quality benefits and natural resource protection. Because of this 360-degree understanding of water and natural resources within VLAWMO, the regulatory context of drainage issues we can best leverage drainage and natural resource funding opportunities to achieve goals.
2. We provide drainage system records modernization- without added software costs. We bring drainage system management data into alignment with current regulatory and technological platforms using the software you already have. Our method uses existing open source software to visually and geospatially link stream details (like elevation, cross sections, etc.) with still and dynamic photographic records in your existing GIS software. This combination becomes a powerful tool for natural resource management going forward, without the added (and ongoing) cost of additional software. Our innovative practice in this regard sets us apart. A demonstration of this technology is available at your convenience including aerial survey with drone technology.
3. Our project staff has extensive expertise in balancing the needs and regulatory requirements associated with public drainage and natural resource protection.

Project Understanding & Approach

From your request for proposals and our conversations we understand that you seek to assess the current condition of the public drainage system and identify the repairs that may be needed

-

by collecting the survey data and building the hydrologic and hydraulic models required to make these determinations. We also understand that the information generated by this study will be likely be used for updated FEMA mapping and that we will need to coordinate with the DNR. We understand that localized areas of flooding along the county ditch are, in part, the driver for this work.

We also understand that the municipalities with land in the watershed of the drainage system will require close coordination, first to ensure that data regarding historical infrastructure is obtained, and second to ensure that alternatives identified contemplate their needs. Coordination with state and federal stakeholders will also be necessary.

Project coordination is critical, five meetings in total are included in the base proposal, with alternatives to add meetings as necessary. Meetings will be conducted at project kickoff to obtain all data and discuss work flow and coordination with VLAWMO staff and stakeholders. Meetings will also be conducted at key points to review and get staff and stakeholder feedback on initial findings, draft work products, and planned next steps.

To keep costs low, the base proposal offers using one Wenck survey staff member and one VLAWMO staff member to complete the survey. Because we have worked with your field staff, we know that VLAWMO has highly experienced field staff. During this field work, the VLAWMO staff member will not only see the channel and entire drainage system, but also receive valuable training in Drainage System Management that will benefit VLAWMO moving forward in your role as the Drainage Authority. We also offer an alternative that provides all the staff to complete the surveys.

The proposed tasks, associated costs and schedule are described below.

Scope of Work

The scope of work includes the following:

1. Review records of the ditch to establish original ditch profile and capacity to the extent possible. This task will include initial coordination meetings and phone calls with VLAWMO and stakeholders including the municipalities, MNDOT, USACE and the DNR to obtain all relevant data on reliable culverts (required by the USACE to determine ACSIC), CIP, and opportunities and concerns regarding the drainage system and potential repairs.

2. Review records of the ditch cleaning in 1987 to establish ditch profile and capacity to the extent possible. This will include establishing the full scope of work needed to identify the ACSIC (As Constructed and Subsequently Improved Condition- also known as the repair grade). Soil borings can be helpful in establishing the ACSIC. Soil borings are the most effective in areas that are not wetland soils, cost estimates for the survey include necessary soil borings. Produce map and shapefiles showing historical documentation. Shape files and geodatabases will be consistent with BWSR guidelines.

3. Review area where high water concerns have been identified. The calibrated model will be used to identify 1-3 alternatives to alleviate flooding in the areas identified. Alternatives may include upstream storage, modification of culvert sizes, and other stormwater BMPs. Preliminary alternatives will be discussed with VLAWMO and other stakeholders to identify final recommendations are feasible and cost effective.

4. Produce an updated survey of the entire main stem of Lambert Creek. They survey includes existing center line elevations every 100 feet as well as the recommended ACSIC, and cross-sections every 500 lineal feet. The survey will identify significant changes in stream morphometry, channel condition, bridge/culvert crossings and other infrastructure geospatially and through photographs. Photo documentation of channel conditions including restoration opportunities are cataloged and provided in a geospatially linked format. Culverts and infrastructure in the drainage system will be surveyed, described and photographed. Channel cross sections will include top of bank, centerline, top of slope, and fully define channel morphometry.

Surveying of areas within the creek that are deep, with steep side slopes and mature tree cover will typically require use of total station equipment. The use of total station increases cost, but is necessary when tree canopy is mature and dense, even after leaf off.

To provide VLAWMO flexibility, our base proposal provides one Wenck staffer and assumes one VLAWMO staff would assist in the survey. The cost of replacing the VLAWMO staff with one field staff from Wenck is included as an optional task if staff is not available.

5. All data will be provided in a format consistent with BWSR drainage database requirements. We also provide the data (including photographs) in a geo-spatially linked open source software platform so that the data is maximally useful, and purchase or maintenance of additional software platforms is not necessary to fully access the data collected and leverage it for restoration. Drone footage, if selected as an alternative, is also provided in this manner. A demonstration of how this data is provided is available upon request at your convenience.

6. Utilize available information to produce a hydrologic and hydraulic model of Lambert creek and the branch ditches and updated current profile information for the creek. Calculate peak flood discharges in for 10%, 4%, 2%, 1%, and 0.2% annual chance events using a FEMA accepted hydrologic and hydraulic model. EPA-SWMM, an open source model, is the model recommended at this time though we will coordinate closely with your staff, stakeholders and with the DNR prior to making a final recommendation on model selection. Models and peak flow rates shall be calibrated and/or validated if reliable measured data is available.

7. Identify potential areas of maintenance needs and potential improvement practices. Areas requiring stabilization due to high shear stress or erosion will be indexed and prioritized. Areas of additional repairs including excavation down to ACSIC profile, culvert repair, canopy thinning will be identified and indicated on the plan sets. The photos used in the ditch survey can be used to clearly lay out the proposed repairs. Enhanced habitat and water quality opportunities will also be identified, along with flooding mitigation opportunities.

8. We will provide an Engineer's Report which includes a plan of recommend repairs, alternatives, costs and funding strategies. As the cost of repairs can often exceed budgets available, recommended repairs are prioritized. We will also coordinate recommendations with CIP of other stakeholders to leverage maximum potential match dollars. The plan will include a recommendation for routine ditch assessment including evaluation of existing structures along the creek. This would be used to identify and schedule future maintenance needs. This report will meet the requirement under Minnesota State Statute 103E.015.

Optional Tasks

OPTION A: Provide new survey data, cross-sections and modeling of the Lambert Creek branch ditches. Data provided is consistent with data collected for Lambert Creek.

OPTION B: Drone Survey for Main Ditch – Aerial drone video of the drainage system provides unique tool through which to assess and prioritize current and ongoing needs for the resources. We also provide these data in a geo-spatially linked database so, while others may provide you with hours of footage, the geospatial link allows you to view the sections based on a map link. This tool is helpful not only in the current project, but also as issues arise in the future.

OPTION C: Drone Survey for Ditch Branches- consistent with deliverable in Option B but for branches.

OPTION D: Main Ditch Survey- add one Wenck staff member. Because we've worked with VLAWMO staff and understand their capabilities, we offer the base scope with one of the two survey crew members required. While that alternative keeps the cost low and provides training for VLAWMO staff, we also understand that staff time is in high demand and that it may not be feasible to provide one VLAWMO staffer for this work. Option D allows for the surveys to be fully staffed by Wenck, in lieu of one member of VLAWMO's staff being available to assist with the surveys.

OPTION E: Branch Ditch Survey- add one Wenck staff member. This alternative allows for the surveys to be fully staffed by Wenck, in lieu of one member of VLAWMO's staff being available to assist with the surveys.

OPTION F: Additional Meetings. This task is the unit price to attend additional meetings as necessary. We anticipate and recommend that some stakeholder engagement and involvement among the municipalities, as well as the agencies. Three meetings are included in the base scope. This allows for additional meetings associated with additional stakeholder coordination.

Proposed Project Staff:

Many of the proposed project staff are well known to you, the following staff will be coordinating with you on this project. Ed Matthiesen, PE will provide senior level review. As you know, he is the District Engineer for Coon Creek Watershed District and has extensive experience and expertise in providing practical technical advice in managing public drainage systems in an urban setting and he is familiar with Lambert Creek.

Todd Shoemaker, PE, CFM is a Certified Floodplain Manager. His resume listing relevant expertise is attached. He works from our Woodbury office and will be conducting the modeling for this project. Todd will be supported in modeling work by me and by Eileen Weigel, PE (MN), her resume is also attached. I will be your project manager, and will be supported by GIS, and field engineers and a drone pilot if that alternative is selected. Resumes for additional staff are available upon request.

Cost and Schedule:

Ideally, work is done after leaf off in the fall and before frozen conditions limit access to the channel bottom. Alternatively, work can also be performed in the early spring if flow conditions are safe for access, or in late summer. The attached schedule lays out dates based on a spring survey. The dates can be adjusted to accommodate field conditions. The initial data collection and review can begin immediately. The survey work will require appropriate field conditions and will take about 18 days. Subsequent modeling, alternatives analysis, reporting, and regulatory/stakeholder coordination will occur in the months following field work. The proposed schedule and costs are listed in the tables below.

Table 1. Project Scope and Costs

Tasks		Principal Engineer	Senior Engineer	Engineer	Engineer/ CAD/GIS	Expenses	Total
1	Using existing records to establish the original ditch profile and capacity		3		12	$50	$2,126
2	Use 1987 records to est ACSIC. Deliverable is BWSR Drainage DB Compatible Shape Files and Database.		3		12		$2,076
3	Review area where high water concerns have been identified		8		16		$3,712
4	Survey Creek, CL, cross sections & infrastructure, and perform soil borings (~21,135 lf)	2		2	120	$1,200	$15,496
5	Submit data in Drainage DB format		2		8	$50	$1,434
6	FEMA Ready H&H Model Lambert Creek. Peak flood discharges.	8		24	60	$100	$11,372
7	ID maintenance needs and improvement projects	8	2	16	8	$150	$4,982
8	Engineer's Report (consistent with 103B requirements)	8		40	2		$6,628
							$47,826
Opt A	Branch survey (18,550 lf)	4		4	50	$1,000	$7,932
Opt B	Drone Survey Main Ditch	1			16	$500	$2,509
Opt C	Drone Survey Branches	1			10	$250	$1,575
Opt D	Main Ditch Survey- add one Wenck staff				120		$13,680
Opt E	Branch Survey- add one Wenck staff				50		$5,700
Opt F	Additional Meetings (ea)	4			2	$50	$1,018

Ms. McNamara
Vadnais Lakes Area WMO
7 December 2017

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Table 2. Proposed 2018 Schedule

	Tasks	January 1	8	15	22	February 1	5	12	19	March 1	5	12	19	April 2	9	16	23	May 1	7	14	21	June 4	11	18	25	July 2	9	16	23
1	Using existing records to establish the original ditch profile and capacity	x	x	x																									
2	Use 1987 records to est ACSIC. Deliverable is BWSR Drainage DB Compatible Shape Files and Database.	x	x	x																									
3	Review area where high water concerns have been identified	x	x	x	x																								
4	Survey Creek, CL, cross sections & infrastructure (~21,135 lf)									x	x	x	x	x	x														
5	Submit data in Drainage DB format															x	x	x	x										
6	FEMA Ready H&H Model Lambert Creek. Peak flood discharges.																		x	x	x	x	x						
7	ID maintenance needs and improvement projects																					x	x	x	x				
8	Engineer's Report (consistent with 103B requirements)																									x	x	x	x
	Total																												
Opt A	Branch survey (18,550 lf)													x	x	x	x												
Opt B	Drone Survey Main Ditch													x	x	x	x												
Opt C	Drone Survey Branches													x	x	x	x												
Opt D	Main Ditch Survey- add one Wenck staff													x	x	x	x												
Opt E	Branch Survey- add one Wenck staff													x	x	x	x												
Opt F	Additional Meetings (ea)																												
			*indicates project meeting																										

On behalf of the 300+ employee-owners of Wenck, thank you for this opportunity to work with the Vadnais Lakes Area WMO. Should you have any questions, if you would like a demonstration of the unique data delivery we provide, or need clarification of anything presented here, please do not hesitate to call me at 763-252-6824 or e-mail rcarlson@wenck.com.

Sincerely,

Rebecca Carlson

Rebecca Carlson, PE (MN)
Wenck Associates, Inc.
Principal

Attached:
1. Coon Creek Project Example

2. Resumes for Todd Shoemaker, PE (MN, IA), CFM & Eileen Weigel, PE (MN), Ed Matthiesen, PE (MN) and Rebecca Carlson, PE (MN)

Project Example

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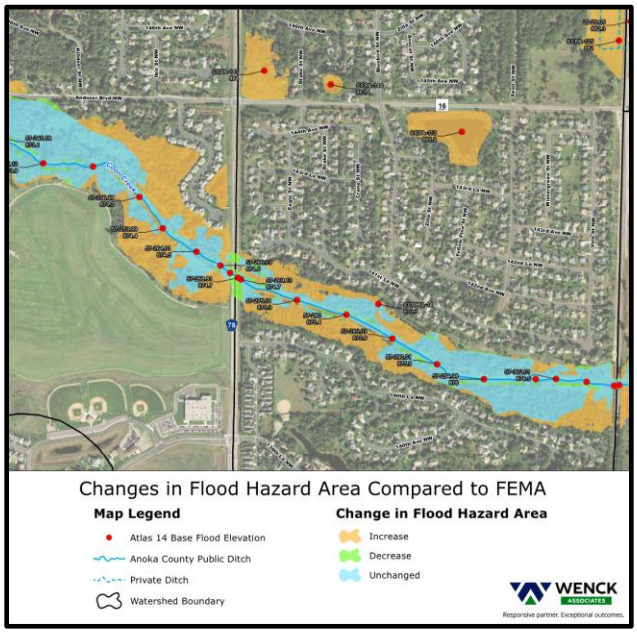
Tools to understand and manage infrastructure in the face of a changing climate: Coon Creek Watershed District XP-SWMM Hydrologic and Hydraulic Model of Public Drainage Systems



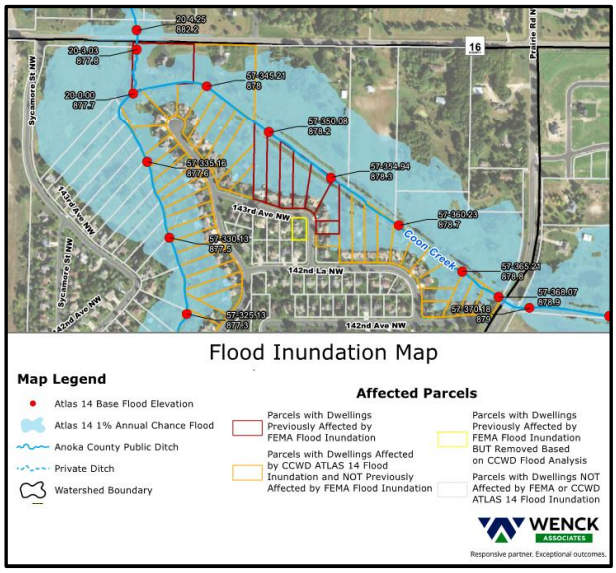
When decision makers can visualize and quantify risk to homes and infrastructure in the face of changing rainfall patterns, they can adapt to a changing climate efficiently. Wenck and Coon Creek Watershed District created a tool to support such planning by integrating

- Drainage system management
- Geospatial databases,
- LiDAR, Aerial Drone Video
- Atlas 14
- Hydrologic and hydraulic modeling
- FEMA Mapping

Wenck created such a tool for the Coon Creek Watershed District to manage their drainage systems. They can use it to better assess floodplain risks, stormwater asset performance, identify and prioritize restoration opportunities, and assess best management practice performance. Wenck developed GIS tools to facilitate the organization of the available data and to create a link between the hydrologic/ hydraulic model, visual documentation and a geodatabase. The geodatabase contains not only model specific information but a suite of information about the features within the model such as channel condition, culvert condition, and survey metadata information. Wenck staff have been the District Engineer for the 107 square mile urban watershed with public drainage systems since 1988.

Related Topics

- Climate Change Adaptation
- GIS geodatabase management tool
- Geo-referenced to real world coordinates
- Update stream morphometry and urban storm sewer infrastructure
- Drainage system management
- Process facilitation with stakeholders
- Draft FEMA-quality floodplain map products



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Todd E. Shoemaker, PE, CFM

Principal Water Resources Engineer

WENCK ASSOCIATES

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Areas of Expertise:
Watershed management, design and planning
Hydrologic and hydraulic computer modeling
Floodplain management and regulation
Stream stabilization and restoration
Watershed permitting and development rules

Education:
MS, Civil and Environmental Engineering, University of Wisconsin at Madison, 2002

BS, Civil Engineering, Environmental Engineering Certificate, University of Wisconsin at Madison, 2000

Registration:
Professional Engineer in Minnesota & Iowa
Certified Floodplain Manager (CFM)

Professional Memberships:
MN Association of Floodplain Managers
IA Floodplain & Stormwater Management Assoc

Professional Experience:
2012 – Present
Wenck Associates, Inc.
Water Resources Engineer

2011-2012
City of Dubuque, IA
Environmental Engineer

2002 - 2011
Wenck Associates, Inc.
Water Resources Engineer

Introduction

Mr. Shoemaker has 15 years of experience in water resources and environmental engineering. His water resources experience includes watershed and stormwater management; hydrologic, hydraulic and water quality computer modeling; floodplain management and regulation; wetland restoration and permitting; and streambank stabilization. His environmental engineering experience includes establishing and managing a $5 million inflow and infiltration program for the City of Dubuque, IA.

Selected Experience

Hydrologic, Hydraulic, and Water Quality Computer Modeling

FEMA Letter of Map Revision (LOMR). Mr. Shoemaker created an XP-SWMM computer model to revise FEMA floodplain boundaries within a large portion of the Lower Rum River watershed. The watershed area consisted of approximately 15 square miles and was previously studied by FEMA as a non- detailed Zone A floodplain. The study numerically defined the floodplain boundary and assigned base flood elevations throughout the watershed.

Mr. Shoemaker delineated subwatershed boundaries; obtained ditch, culvert, and topographic survey information from various sources; created and executed the computer model; and mapped the predicted flood elevations to confirm the model accuracy.

The Lower Rum River Watershed Management Organization, Minnesota Department of Natural Resources, and FEMA each conducted independent reviews of the study to confirm its accuracy. Mr. Shoemaker participated in public information, Planning Commission, and City Council meetings as a part of the review process.

FEMA Conditional Letter of Map Revision (CLOMR). Mr. Shoemaker obtained a CLOMR for a developer who desired to fill within the FEMA-designated floodway. According to FEMA rules, Mr. Shoemaker used the computer model HEC-RAS to evaluate the impact of the proposed fill. The computer

model indicated a shift in the 100-year and 500-year floodplain and the 100-year floodway for Moccasin Creek in Aberdeen, SD. This shift allowed for the residential development to occur without FEMA requiring flood insurance for each future homeowner.

Metropolitan Council Environmental Services (MCES). South Saint Paul Forcemain Improvement (SSPFI) Project. Mr. Shoemaker completed the engineering hydraulic analysis resulting in issuance of a No-Rise Certificate for the proposed air release valve south of the Pigs Eye Wastewater Treatment Plant. The certification process followed guidance by the Federal Emergency Management Agency (FEMA) under the National Flood Insurance Program (NFIP). The HEC-RAS models were obtained from MnDNR and modified to reflect the structure modeled as an obstruction.

City of Delano. The City has a history of severe flooding problems due to poor drainage and the effects of the Crow River, which bisects the town. Mr. Shoemaker developed an XP-SWMM computer model covering approximately 600 acres. The model evaluated three conditions: existing agricultural land use, proposed residential development, and improvements to the watershed following residential development. City planners and developers used this model to manage stormwater and future development.

Mr. Shoemaker is currently working on the design of a stormwater pumping station for the City. He is developing an XP-SWMM model for the east side of the city to determine what pump size is required to achieve the project goals.

Coon Creek Watershed District (CCWD). Mr. Shoemaker worked with Wenck GIS staff to update the existing CCWD HydroCAD model subwatershed maps and integrated the new GIS maps with an XP- SWMM model. The XP-SWMM model allows the CCWD to more accurately predict the high water elevations due to additional capabilities of XP-SWMM compared to HydroCAD. The XP-SWMM model is a "living" model that is updated as new development is proposed and better information becomes available.

Watershed clients. Mr. Shoemaker is familiar with a variety of rainfall-runoff computer models. Through his work with watershed districts, Mr. Shoemaker has used and is able to efficiently evaluate output from HydroCAD, XP-SWMM, P8, PondNet, HydraFlow, PondPack, and TR-55 computer models.

City of Fort Dodge, IA. Mr. Shoemaker created HEC-RAS, HydroCAD, P8 and XP-SWMM models for the Soldier Creek, bioretention and Badger Creek projects. HEC-RAS was used for the Soldier Creek project to certify "no-rise" in the 100-year flood elevation. HydroCAD was used for hydraulic design of two bioretention basins. P8 was used to evaluate pollutant removal of two bioretention basins and an expanded wet pond. XP-SWMM was used to evaluate high water levels before and after installation of in-line channel weirs within Badger Creek.

City of Dubuque, IA. Mr. Shoemaker developed a 600-acre hydrology and hydraulics model using XP-SWMM to investigate flooding of a land-locked basin. He used 1D and 2D elements of the model to simulate surface flow into and out of the land-locked basin, which was used to show neighbors the source of flooding and where water went when it overflowed. Mr. Shoemaker evaluated several alternatives to reduce flooding: pumping, gravity flow, filling the low area, and using earthen berms to cut-off contributing flow paths. The recommended solution was a gravity flow system with a backflow preventer.

Stream Stabilization and Bioengineering

City of Fort Dodge, IA. Mr. Shoemaker led a multi-disciplinary team to stabilize a massive slope failure on Soldier Creek. The slope failure was approximately 100 feet long and 75 feet high. Mr. Shoemaker coordinated field work, hydraulic and water quality modeling, preparation of design plans, permitting and stakeholder involvement.

Lower Minnesota River Watershed District (LMRWD). Mr. Shoemaker completed HEC-RAS models for the Eden Prairie Bluff Stabilization project. Mr. Shoemaker incorporated newly surveyed river cross-sections into the existing HEC-RAS model to more accurately predict flood elevations and water velocities. This information aided in the design and selection of the recommended option.

Eileen Weigel, PE
Water Resources Engineer

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Areas of Expertise:
Water Resources
Hydrologic and Hydraulic Modeling
Stream Restoration
TMDLs

Education:
BS Geological Engineering 2009, University of Minnesota – Twin Cities, Minneapolis, MN

MS Geological Engineering
Minor in Water Resources 2010, University of Minnesota - Twin Cities, Minneapolis, MN

Flux & BATHTUB Training, 2009

ArcView GIS Training, 2009, 2013

Professional Registrations:
Minnesota #54204

Certifications:
Stream Restoration 2010, University of Minnesota – Twin Cities, Minneapolis, MN

Professional Experience:
2011 – 2013/ 2014- Present
Wenck Associates, Inc.
Maple Plain, MN
Water Resources Engineer

2010 - 2011
Conestoga-Rovers & Associates
St. Paul, Minnesota
Environmental Engineer, EIT

2009 – 2010
University of Minnesota
Minneapolis, Minnesota
Research Assistant/Teacher Assistant

2009 (May) - 2009 (September)
Metropolitan Council
St. Paul, Minnesota
Water Modeling Intern

Introduction

Ms. Weigel has seven years of experience in the fields of water resources and environmental engineering. Ms. Weigel graduated from the University of Minnesota-Twin Cities in 2010 with an MS in Geological Engineering with an emphasis in water resources. Ms. Weigel also received a certificate of stream restoration from the University of Minnesota-Twin Cities in 2010. Her project and technical experience includes: hydraulic modeling, groundwater and surface water quality modeling and analysis, stream and lake restoration, soil and groundwater remediation, field data collection and processing, and geographic information systems (GIS) Services. Ms. Weigel has experience using the P8 Urban Catchment Model, HydroCAD, HEC-RAS, HEC-HMS, XP-SWMM, EPA-SWMM, PC-SWMM, ArcMap (GIS), Pondnet and BATHTUB. Ms. Weigel also has field experience with surveying, BMP inspections, and construction oversight.

Selected Experience

Water Resources Planning and Design

City of Eagan. Responsible for design of multiple iron enhanced sand filters into existing City ponds to meet load reduction requirements. Included evaluating impacts to existing utilities and structures using a PC-SWMM model. Developed a P8 model to determine load reduction for various projects.

Streambank Stabilization Projects Provided design engineering and hydrologic and hydraulic modeling to determine the design of suitable stabilization practices for various streams throughout the greater Twin Cities. Areas included both urbanized and rural streams.

Coon Creek Watershed District. Assisted with the comprehensive hydrologic and hydraulic model in XP-SWMM of the district wide model for the Coon Creek Watershed. The comprehensive model

encompasses approximately 70,000 acres and includes over 10 public ditch systems and numerous private ones.

Minnehaha Creek Watershed District (MCWD). Assisted with the Six Mile Marsh Diagnostic study. Included developing and calibrating XP-SWMM model to determine water budget and P8 model to determine nutrient loading for Six Mile Creek watershed. The models were used to develop water quality improvement goals and determine possible load reduction scenarios.

City of Plymouth. Assisted with a Feasibility Study for water quality improvements for the North Branch subwatershed. Included evaluating a suite of BMPs and capital projects to reduce TSS and TP loading to meet State standards in a downstream impaired lake. Developed a P8 model to determine load reduction scenarios for various projects.

Coon Creek Watershed District Permit Reviews. Reviews permit applications for linear projects and developments to ensure project plans are in compliance with Coon Creek Watershed District requirements. Reviews erosion control plans, water quality impacts, and rate and volume control requirements.

Shingle Creek Watershed District Permit Reviews. Reviews permits applications for linear projects and developments to ensure project plans are in compliance with Shingle Creek Watershed District requirements. Reviews erosion control plans, water quality impacts, and rate and volume control requirements.

West Mississippi Watershed Management Permit Reviews. Reviews permit applications for linear projects and developments to ensure project plans are in compliance with West Mississippi Watershed Management requirements. Reviews erosion control plans, water quality impacts, and rate and volume control requirements.

Water Quality Studies and BMP Assessments

City of Eden Prairie Basin Inventory. Worked on the annual basin inventory project with the City of Eden Prairie. Responsibilities included organizing as-built information, field inspecting the basins to identify maintenance needs, surveying the basins to collect information for hydraulic and water quality purposes, modeling the drainage system using P8 Urban Catchment Model, and inventorying and reporting of the results. The inventoried basin information was used in a city-wide P8 model where undertreated watersheds can be identified for future projects to reduce watershed total phosphorus loading to lakes and streams.

Snake River TMDL – Wright County Soil and Water Conservation District. Used ArcView to construct a Generalized Watershed Loading Function (GWLF) model for Snake River watershed. The model was used to predict phosphorus loading to local rivers and lakes and help identify priority areas for best management practice (BMP) implementation. Also developed fecal coliform allocations and total maximum daily loads for two rivers within the Snake watershed. Assisted with modeling efforts to estimate bacteria sources throughout the watershed and develop load duration curves to help understand the linkages between sources and stream loads.

Shingle Creek Routine Monitoring and Reporting. Conducted routine monitoring for streams within the Shingle Creek watershed boundaries. Responsibilities include collecting water quality samples, routine maintenance of field equipment, measurement of stream discharge, and analysis of field data. Responsibilities included writing annual water quality reports for the Shingle Creek Watershed Management Organization.

Rebecca Carlson, PE (MN)

Project Manager, Principal

WENCK ASSOCIATES

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Areas of Expertise:
Watershed Engineering
Drainage System Management
Water Quality Data Analysis & Modeling
Hydrologic & Hydraulic Modeling
(XP & EPA-SWMM, Hydrocad, HEC-RAS,
HEC- HMS)
Watershed Management,
Rules Development & Permit Review
TMDL Study Design and Implementation
Groundwater Modeling (MLEAM),
Groundwater/ Surface Water Interaction
Volume Management, LID, Urban and Agricultural
Stormwater BMPs

Education:
BS, Geologic Engineering with environmental
emphasis; minor in Geology
PSMJ, Project Manager Boot Camp Training &
Regular Refreshers
ArcView GIS Training
XP-SWMM Hydrologic and Hydraulic Model Training
Analytic Element Groundwater Modeling (MLEAM)
Training
Dale Carnegie Course, Wenck Public
Speakers Training

Professional Experience:
2000-Present
Wenck Associates, Inc.

1998 - 2000
Leggette, Brashears & Graham, Inc.
Environmental Engineer

1997 - 1998
Delta Environmental, Inc.
Environmental Engineer

1995 – 1997
University of Minnesota
Undergraduate Teaching Assistant
Lab Assistant

1993 – 1994
Bay West
Intern

Introduction

Ms. Carlson's work is focused on water resource management and protection with a specialty in watershed -based resource management. Her areas of interest and expertise include hydrologic, hydraulic and water quality modeling. She continues to volunteer her time to develop and participate in public education programs about water resource protection.

Selected Experience

Stearns County Ditches 15, 25, 51, and 11, Freeport, Minnesota. Ms. Carlson assists the Drainage authority under Minnesota State Statute 103E through repair proceedings and ongoing management of these drainage systems. Work included field surveys and forensic engineering to determine the ACSIC elevation, modeling, preparation of Engineers Reports, extensive work with regulators including the Minnesota DNR, USACE, and WCA authorities, coordination with residents, and construction support. Because Ms. Carlson is also the District Engineer, and authored the Comp Plan, she was able to integrate water quality improvements into the projects where feasible.

Clearwater River (CD44) & Kingston Wetland Restoration, Kingston, Minnesota. Ms. Carlson designed a restoration of a 500-acre ditched wetland complex in Kingston, Minnesota. The project area is part of a public drainage system. Rebecca successfully balanced the drainage needs, regulatory requirements, and natural resource needs to achieve measurable water quality improvements. The wetland complex was exporting soluble phosphorus, and depleting oxygen in the Clearwater River (a Meeker County Public Ditch) due to historical agricultural loads. The restoration maintained and enhanced the wetland's beneficial sequestration of particulate phosphorus while reducing both oxygen demand and soluble phosphorus export downstream and maintained drainage benefits. Multiple years of monitoring results show greatly improved dissolved oxygen concentrations in that section of the Clearwater River compared with pre-project concentrations, as well as reductions in soluble

phosphorus downstream. Data in that section of the river now shows water quality is meeting the state standard for DO. Rebecca also prepared the grant application to secure federal funding for the project.

Stormwater Capture and Reuse, Kimball, Minnesota. Ms. Carlson prepared the grant application to secure state funding to design and implement a stormwater capture and re-use facility in the City of Kimball. This small town in central Minnesota is surrounded by agriculture. The cities stormwater drained, untreated, into a trout stream and a chain of nutrient impaired lakes. The resulting project provides a source of irrigation water for an existing highly used baseball field while mitigating drainage and erosion issues in the park. Ms. Carlson went on author an additional grant to implement Phase II of the project to provide further stormwater BMP retrofits for the City of Kimball to enhance the impact of the first project phase.

Sauk River Watershed District Comprehensive Plan, Sauk Centre, Minnesota. Ms. Carlson managed the Sauk River Watershed District comprehensive plan update. Through the planning process, Ms. Carlson helped the staff navigate through a stakeholder intensive process which identified obstacles and presented solutions. The plan lays out a management unit strategy to achieve water quality goals for lakes and streams within the 1,041 square mile agricultural watershed district in central Minnesota.

Clearwater River Watershed District Comprehensive Plan, Annandale Minnesota. Ms. Carlson managed the Clearwater River Watershed District comprehensive plan update. Following completion of its TMDL studies, the District undertook an early, proactive update to its comprehensive plan. The plan guides the District through policy associated with achieving lake and stream water quality goals in the 160 square mile agricultural watershed district in central Minnesota.

Chain of Lakes Improvement Project, Central Minnesota. Ms. Carlson has worked with watershed district staff and residents to isolate the cause of declining water quality in Cedar Lake near Annandale, Minnesota, and formulate a solution. Rebecca modeled water quality in each of the chain of lakes, and designed a suite of BMPs and innovative solutions to restore the ecological habitat of upstream shallow lakes, while protecting the water quality of the downstream water body. The project entailed extensive stakeholder involvement and coordination. The project is ongoing.

Clearwater River Watershed District-Wide TMDL Study. Ms. Carlson is the project manager for the ongoing Clearwater River Watershed District TMDL studies. For that study, Rebecca secured a series of grants for the CRWD to conduct TMDL studies of 14 impairments within the District including three on the Clearwater River and 11 lakes. Rebecca evaluated existing data, prepared the monitoring work plans and implemented monitoring. The project maximizes use of existing data and uses innovative modeling methods to minimize costs. Phase III of the project includes lake and in-stream water quality modeling and setting the TMDL. Ms. Carlson works closely with the Watershed District Administrator, Board of Managers, and MPCA staff to facilitate public meetings and coordinate the project. This project is ongoing.

Shell Rock River Watershed District. Ms. Carlson prepared hydrologic and hydraulic models of the District using HEC-RAS and HEC-HMS to design a new outlet for Albert Lea Lake which drains an agricultural watershed. Ms. Carlson also designed the Shell Rock River Watershed Districts adaptive water quality-monitoring program. She analyzes data and models water quality in District lakes annually to identify opportunities for water quality, ecological, and hydrologic improvements for the District. Data is used to set management goals, design water quality improvement projects and direct CIP dollars efficiently for this newly formed watershed district.

Murphy Warehouse, Minneapolis Minnesota. The Murphy Warehouse Company manages several large storage buildings in an older, industrialized portion of Minneapolis. Richard Murphy, President and CEO, contacted Wenck because he was concerned about the potential environmental impact of ongoing operations and was looking for ways to make the operations more sustainable. In addition to retaining Wenck to investigate options to both reduce energy use and incorporate renewable energy sources at the facility; Wenck was tasked with evaluating on-site storm water management options.

Rebecca Carlson

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Wenck's comprehensive business approach to the client's problem resulted not only in a sustainable solution to reduce storm water discharges with minimal business disruption, it also provided the client with an annual savings of $68,000 in utility fees and a savings of $24,000 in fines. In fact, the project was so successful at providing an effective, attractive retrofit and sanitary sewer disconnection; it received an Engineering Excellence Honor Award from the American Council of Engineering Companies of Minnesota and in 2009 was applauded by Minneapolis Mayor R.T. Rybak as "the single best green value that I can see in Minneapolis."

Other MPCA TMDL Studies. Ms. Carlson is the project manager and senior technical staff for several other TMDL studies including:

- Elk River Watershed Management Organization TMDL studies (two lake nutrient impairments, one bacterium and two turbidity impairment, and three Dissolved oxygen impairments).
- Jessie Lake Nutrient Impairment
- Vadnais Area Lake TMDL for five lake nutrient impairments and Lambert Creek bacteria impairment

Prior Lake Spring Lake Watershed District. In addition to providing technical review of development permit applications for the District, reviewing rules, and drafting new rules, Ms. Carlson completed a study to compare cost and effectiveness of traditional stormwater management designs, high-intensity Low Impact Development (LID), and practical LID Best Management Practices (BMPs) to reduce runoff volumes and pollutant loadings. The findings were used to draft model stormwater management rules to apply to LID, volume management BMPs and nontraditional development and to craft incentive programs that encourage cites and developers to incorporate these techniques into their projects.
Ms. Carlson also uses the District's XP-SWMM models in ongoing design efforts to support the District's Outlet Channel Restoration Project, and also to guide the District's efforts to control runoff volume by evaluating the effect of proposed rules and volume mitigation strategies.

Edward A. Matthiesen, PE

Principal

WENCK ASSOCIATES

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Areas of Expertise:
Water Resources Planning
Hydraulics
Hydrology

Education:
MBA, College of St. Thomas
St. Paul, Minnesota

MCE, University of Minnesota
Minneapolis, Minnesota

BA, Biology, Luther College
Decorah, Iowa

Registration:
Professional Engineer: MN, WI

Professional Memberships:
Water Pollution Control Federation
American Public Works Association
Society of American Military Engineers

Professional Experience:
2002 - Present
Wenck Associates, Inc.
Principal Engineer

1988 - 2002
Consulting Engineering Firm
Principal Engineer

1983 - 1988
Consulting Engineering Firm
Project Manager

1981 - 1983
Consulting Engineering Firm
Engineer

1977 - 1981
Consulting Engineering Firm
Graduate School and Engineer

Introduction

Mr. Matthiesen has 30 years of extensive experience in water resources and environmental engineering. His water resources experience includes being the District Engineer for three Twin Cities area watershed districts and four Joint Powers Associations, writing municipal comprehensive stormwater plans, outlet structure and storm sewer design, conducting evaporation studies, aquifer analysis, water quality protection plans, developing computer hydrologic and hydraulic models, and design and construction of lift stations. He also has experience in biological sampling techniques, virus isolation in surface runoff, and chemical modeling of leachate.

Selected Experience

Stream Restoration and Stream Bank Stabilization

Haber Pasture, Ames, IA. Mr. Matthiesen was the lead designer for the restoration of a degraded creek on the north side of campus that had been used as horse pasture. The project also included storm water ponding and wetland creation to slow and filter water prior to entering the creek.

City of Fort Dodge, IA. Mr. Matthiesen provided senior oversight and construction observation for reconstruction of a massive slope failure on Soldier Creek. The slope failure was approximately 100 feet long and 75 feet high. Mr. Matthiesen provided oversight of design plans and offered expert insight during construction.

Dupont-Pioneer Seed, Johnston, IA. Mr. Matthiesen was the project manager for stabilization of over 2,000 feet of stream bank on the Dupont-Pioneer property. Using bioengineering techniques, Mr. Matthiesen oversaw the preparation of design plans, permitting, bidding, construction and stakeholder involvement for the project.

Lackawanna Watershed. Mr. Matthiesen was the Project Manager for the watershed assessment for the Lackawanna Watershed 2000 Program in northeastern Pennsylvania. This $52 million program is working towards the restoration of 40 miles of river in an area of abandoned coal mines and numerous sanitary sewer discharges towards cold and warm water fisheries habitat. Mr. Matthiesen was

responsible for data collection according to EPA standards, GIS coordination, site-specific design, and coal bank restoration.

Shingle Creek and West Mississippi Watershed Districts. Mr. Matthiesen is serving as Engineer for the Shingle Creek and West Mississippi Watershed Management Commissions. In this role he is providing stream restoration design to Hennepin County for a reach between Noble Ave and Brookdale Park and a second reach near Brooklyn Center City Hall. An earlier project prepared a corridor plan for the entire length of Shingle Creek using GIS and field reconnaissance to complete a concept of what the creek could become.

Lower Minnesota River Watershed District. Mr. Matthiesen is the senior reviewer for the stabilization of a 50 ft escarpment along 1200ft of the Minnesota River in Eden Prairie. The work involves the preparation of a HEC-RAS model to predict erosive flow forces, the installation of two inclinometers and selecting methods for temporary and permanent bank protection.

Minnehaha Creek Watershed District. Mr. Matthiesen served as the Senior Review Engineer for the design and construction of a detention pond as part of the Minnehaha Creek Watershed District's Gleason Lake Improvement Project. This project improved the water quality discharging into Gleason Lake. The project involved pond excavation, outlet construction, bank protection, channel cleanout, and modeling of flood elevation changes. Mr. Matthiesen also designed and installed stream bank monitoring on Minnehaha Creek near the falls.

Brown's Creek Watershed Management Organization. Mr. Matthiesen was the Watershed Engineer for the Brown's Creek Watershed Management Organization. Associated work included an outlet feasibility study for School Section Lake and inspection of flooding at numerous landlocked basins. This work has involved determining an assessment area, writing a feasibility study, and performing an impact analysis. The proposed project involved draining a landlocked lake into a natural stream channel. Issues of concern with the stream channel are maintaining trout habitat, wetland impacts, and downstream flood elevations. The feasibility study and adverse impact study utilized XP-SWMM and HydroCAD modeling.

City of Eau Claire, Wisconsin. Mr. Matthiesen provided channel design alternatives for a trout stream that was receiving high temperature and high velocity runoff from a car dealership parking lot. Mr. Matthiesen coordinated the design team which provided bank protection and water temperature controls by enhancing groundwater infiltration through a series of detention and infiltration ponds.

City of Davenport, Iowa. Mr. Matthiesen was the Project Manager for the City of Davenport, Iowa's Comprehensive Stormwater Management Plan for three creek systems within the City of Davenport. The plan corrects existing flooding problems with stream improvements, individual building protection and city-constructed detention reservoirs. Future flooding problems are prevented by requiring on-site rate control in selected subwatersheds, a stream monitoring program, and construction of additional city-controlled reservoirs.

Coon Creek Watershed District. Mr. Matthiesen has been the District Engineer for the Coon Creek Watershed District for the past 20 years. As part of his District Engineer's responsibilities, Mr. Matthiesen has prepared plans and specifications for the repair and improvement of Sand Creek and Coon Creek. These repairs have included such materials as cable concrete, riprap, vegetation enhancement, gabions, and grouted riprap. He assisted the District in developing the stream bank program that constructs $50,000 worth of stabilization projects per year using a cost effective construction procurement.

Prior Lake-Spring Lake Watershed District. Mr. Matthiesen is the District Engineer for the Prior Lake-Spring Lake Watershed District in Scott County, Minnesota. He is currently working with the District on the seven mile Outlet Channel Improvement Project incorporating bioengineering processes. To date three of eight channel segments have be constructed. Two of the segments received BWSR or PCA funding for construction.

Edward A. Matthiesen

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Pike Creek, City of Maple Grove, Minnesota. Mr. Matthiesen was the Project Manager for the Pike Creek Channel Restoration Project in Maple Grove. This quarter mile long project incorporates numerous bioengineering techniques. Mr. Matthiesen was responsible for the channel design using XP-SWMM and the structural integrity of the channel.

Hardwood Creek, Rice Creek Watershed District, Minnesota. Mr. Matthiesen was the Project Manager for the Hardwood Creek/JD-2 Bank Stabilization Project. This project used a design delivery method of doing site field work and design on location and staking the project for the contractor and paying off of unit prices that were bid by quotes.

Shingle Creek, Brooklyn Park, Minnesota. Mr. Matthiesen was the Project Manager for the Shingle Creek Phase 1 Stream Restoration Project between Brooklyn Blvd and Hampshire Ave. This project used bioengineering techniques for the stabilization and narrowing of ¼ mile of creek. He is also the Project Manager for Phase 2 between Hampshire Ave. and Candlewood Ave. that will use native material to narrow and stabilize the channel.

Chanhassen, Minnesota. Mr. Matthiesen is the senior designer for the stabilization of Ravine #2 that discharges to the Minnesota River. The concept stage has been completed and proposes using native material for stream stabilization.

Middle St. Croix Watershed, Afton, Minnesota. Mr. Matthiesen is the Project Manager for the Afton Gully Stabilization Project. This project uses rock vanes and native vegetation for the stabilization of 1500ft of channel.

Eden Prairie, Minnesota. Mr. Matthiesen is the Project Manager for the stream stabilization monitoring program on Riley Creek. This project used the Rosgen methodology for stream assessment and installed stream pins and channel chains to monitor steam movement.

Glen Creek, Anoka Conservation District, Fridley, Minnesota. Mr. Matthiesen is the Project Manager for specific stabilization designs and a corridor restoration plan for this ¼ mile deeply incised channel. Techniques range from cedar revetments to grid slope stabilization.

Bois Forte Indian Tribe, Tower, Minnesota. Mr. Matthiesen is the Project Manager for the Nett River channel restoration. This project will re-meander four miles of channel straightened in a 1986 project. The project also includes the construction of a fish passage structure to overcome the 6 ft head difference at the outlet control structure.

Deep Creek Ranch, Choteau, Montana. Mr. Matthiesen was the project engineer for a trout habitat improvement project that included bank stabilization, increased water yield, habitat structures and a higher permanent pool for a lake adjacent to a fishing lodge.

Lambert Creek, Vadnais Lake Area Water Management Organization, Vadnais Heights, Minnesota. Mr. Matthiesen is the lead designer for the innovative approach in using only hand labor and on-site found trees to provide grade control and bank stabilization for 1,660LF of urban channel restoration.

Blackhawk Creek and Duck Creek, Davenport, Iowa. Mr. Matthiesen is the Project Engineer and lead designer in the bank stabilization master planning and site design for 16 miles of channel in a mix of urban and agricultural land uses.

Hay Creek, Winona, Minnesota. Mr. Matthiesen was the lead designer for a design-build trout habit improvement on 7,000ft of channel in southeast Minnesota for Trout Unlimited. The design was completed as a joint on site exercise between the Minnesota Department of Natural Resources, Trout Unlimited, Standard Contracting and Wenck Associates. The work resulted in a three month period from design to completed construction. The management focused on using on-site tree material to the greatest extent possible.

Edward A. Matthiesen

WENCK ASSOCIATES
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Spring Creek, New Ulm, Minnesota. Mr. Matthiesen is the lead designer of trout habitat improvement and bank stabilization for 11,000 ft of channel in a totally farmed watershed within the Minnesota River basin. Design concepts have been formulated to assist with grant applications.

Clearwater River, Annandale, Minnesota. Mr. Matthiesen is the Project Manager and designer for the stabilization of several thousand feet of the Clearwater River using Minnesota Conservation Corps crews and on-site woody material.

Minneapolis Avenue gully, Minnetrista, Minnesota. Mr. Matthiesen is the Project Engineer for the stabilization of 370 ft of eroded channel for the Minnehaha Creek Watershed District. The work is coordinated between the Minnetrista Public Works Department and the Watershed District and the Minnesota Conservation Corps. As much of the repair of this five percent (5%) sloped channel will be done with found on-site trees and brush supplemented with rock structures supplied and installed by Public Works.

St. Croix River Gully Repair, St. Croix State Park, Minnesota. Mr. Matthiesen is the senior reviewer for the repair of this 20' deep gully in the Department of Natural Resources State Park. The work entails volume management activities and bank stabilization.

Lake Minnetonka Shoreline Restoration, Minnesota. Mr. Matthiesen is the senior engineering designer for the Minnehaha Creek Watershed Districts bioengineering demonstration and outreach program. The program so far has designed alternative shoreline restoration practices for sites in Tonka Bay, Orono, Mound and Excelsior. The work stresses native vegetation supplemented with physical restoration practices where needed.

Silver Lake Shoreline Restoration, Rochester, Minnesota. Mr. Matthiesen was the Project Engineer for the restoration of 7,500 feet of a previously bare, turf or concrete pillow shoreline. The project put pilot holes through concrete pillows and inserted live stakes and a native buffer was planted in an effort to filter polluted water.

Connections at Shingle Creek, Master Plan, Brooklyn Park, Minnesota. Mr. Matthiesen was the Project Engineer for the restoration or Shingle Creek for several thousand feet near Noble Avenue. The restoration incorporated native plantings and natural physical stabilization structures while connecting this residential and commercial area to the creek.

Shingle Creek Restoration between Highway 694 and Bass Lake Road, Brooklyn Center, Minnesota. Mr. Matthiesen is the senior engineering designer for restoration of 3,500 feet of channel incorporating native plant buffer and reusing harvested salvageable trees to provide in-stream habitat. The work is also being coordinated with Great River Greening to enlist the help of volunteers to install native buffer plants.

Plymouth Creek, Plymouth, Minnesota. Mr. Matthiesen is the senior engineering designer for repair of 2,500 feet of highly degraded channel in a mixed residential and industrial area that discharges into a wetland and then into Medicine Lake. One of the project goals is to lessen the significant sediment load leaving the eroded channel banks.

Turtle Creek Bank Stabilization, Redfield, South Dakota. Mr. Matthiesen is the senior reviewer for the stabilization of 600 feet of this 30 ft high failing embankment. The project will install toe protection and slope revegetation.

Unnamed Creek, Iowa State University, Ames Iowa. Mr. Matthiesen was the lead designer for the restoration of a degraded creek on the north side of campus that had been used as horse pasture. The project also included storm water ponding and wetland creation to slow and filter water prior to entering the creek.

Big Creek, Curlew Valley, Almont, North Dakota. Mr. Matthiesen is the lead designer for two bank stabilization projects using bioengineering practices for the North Dakota Forest Service in Morton County. The work will include using as much woody debris as possible for toe protection and live

stakes for near bank stabilization. Due to the arid conditions and lack of available compost or top soil in western North Dakota native plants will used the primary vegetation material to withstand dry conditions.

Applewood Road Gully Stabilization, Shorewood, Minnesota. Mr. Matthiesen is the Project Manager for the stabilization of 550 ft of channel that lies between a city road and residential properties. The design consists of tree thinning with the Minnesota Conservation Corps and directing a city supplied contractor for toe and grade protection. The MCC work harvested on-site trees and fashioned them into brush bundles to arrest slope flow.

Minnehaha Creek Shoreline Enhancement, Minnehaha Creek Watershed District, Deephaven, Minnesota. Mr. Matthiesen is the lead engineer for the buffer vegetation improvement project for Reach 14 in Edina, Minnesota upstream of France Avenue. The project is establishing a native plant buffer on 20 properties and installing in-stream habitat.

Hurst Woods Gully Stabilization, Rockford, Minnesota. Mr. Matthiesen is the Project Manager for the stabilization of 600 ft of eroding channel in a residential area that discharges to the Crow River. The work involves tree thinning, boulder and rock toe installation and grade control.

Shorewood Lane Channel Stabilization, Shorewood, Minnesota. Mr. Matthiesen is the Project Manager for stabilizing 800 ft of an eroding residential channel that discharges into a wetland. The work has been to develop concept plans and cost estimates and assist the City and Minnehaha Creek Watershed District in preparing grant application.

Cedar Lake Farms Wetland Construction, Scott County, Minnesota. Mr. Matthiesen is the Project Manager for the construction of a 0.6 acre wetland near New Prague, Minnesota.

Woods Creek, Plymouth, Minnesota. Mr. Matthiesen was the senior designer and review engineer for 2,000 ft of channel in eastern Plymouth that flows to Medicine Lake. The work incorporated bioengineering practices into the channel and floodplain areas.

Woodcrest Creek, Coon Rapids, Minnesota. Mr. Matthiesen was the Project Manager for the stabilization of 900 ft of channel adjacent to two baseball fields in the Coon Creek Watershed District. The project used vegetated riprap and rock grade control structures.

Unnamed Creek, Pioneer Seed Corporation, Johnston City, Iowa. Mr. Matthiesen is the Project Manager for the stabilization of a creek going through the original Pioneer Seed fields. The channel is degrading due to the watershed changing from an agricultural to urban landscape without runoff management controls. The work is to provide a robust low maintenance channel.

Rum River Bank Stabilization, Sherburne County, Minnesota. Mr. Matthiesen was the Project Manager for a river bank stabilization on a residential property for the Sherburne County Soil and Water Conservation Service. The project used cedar tree revetments and stream barbs.

Rum River Bank Stabilization, Isanti County, Minnesota. Mr. Matthiesen is the Project Manager for the stabilization of 1,100 ft of channel on a farm near Cambridge, Minnesota for Great River Greening. The project will use native plantings, cedar tree revetments and rock stream barbs.

Levee and Dam Construction

Hayward Wisconsin Public Utilities Dam. Mr. Matthiesen was the on-site inspector for the concrete spillway reconstruction. He was responsible for plan interpretation, verifying concrete material quality and installation. The work was completed in winter under low flow conditions so rigorous thermal protection was required for the concrete curing.

Amex Earthen Dam, Salem Missouri. Mr. Matthiesen was responsible for soil borings and material evaluation for an earth lift on this tailings dam in the Ozarks. The work was accomplished in winter to correspond to low runoff conditions in the contributing watershed.

Hibbing Taconite, Earthen Dam Lifts, Hibbing, Minnesota. Mr. Matthiesen was the resident engineer for the construction of 4 ft lifts on 2,000 ft of earthen tailings dams in northern Minnesota. He was responsible for finding and accepting clay, sand and rip rap material at several concurrent construction sites. He assembled a soils laboratory and performed all in situ measurements to verify construction.

Prior Lake-Spring Lake Watershed District, Rock Spillway Dam Overlay. Mr. Matthiesen was the Project Manager for the seven mile Outlet Channel Improvement Project incorporating bioengineering processes. One component of this work is the replacement of a dual culvert 14 ft head dam outlet into a rock spillway. He is also the Project Manager for the XP-SWMM Lake Calibration Project. He was the designer for the Highway 13 Wetland Outlet Control Structure and designed numerous small improvement projects, including fish barrier structures and floatable control removal projects.

Watershed Engineering and Planning

Prior Lake-Spring Lake Watershed District. Spring Lake Improvement Project Mr. Matthiesen as District Engineer for the Prior Lake-Spring Lake Watershed District in Scott County, Minnesota was responsible for the overall feasibility study, preliminary design, final design and construction of all of the components including wetland and sedimentation basin design and construction, ferric chloride building and injection design and construction, carp barrier design and construction, operational start up, property owner negotiations and permitting.

Coon Creek Watershed District. Mr. Matthiesen has been the District Engineer for the Coon Creek Watershed District for the past 20 years. During that time, he has evaluated lake chemical treatment projects, written the District's water management plan, managed the regulatory program, designed numerous ditch repair projects, wetland outlet projects, initiated a lake and stream monitoring program, and conducted several TR-20, HEC-1, HEC-2, and XP-SWMM analyses to eliminate flooding and aid in the formulation of the management plan. As part of his District Engineer’s responsibilities, Mr. Matthiesen has prepared plans and specifications for the repair and improvement of Sand Creek and Coon Creek.

Shingle Creek and West Mississippi Watershed Commissions. Engineer for the Shingle Creek and West Mississippi Watershed Management Commissions. In this role, he is assisting the Commission with implementation of a comprehensive stormwater management plan. The Commissions have an active water quality management program that assesses the chemical and biological status of the stream systems and lakes. Mr. Matthiesen is active in grant writing and coordination and implementation of projects with member communities. He was Project Manager for the Second Generation Plan and technical advisor to the Chloride TMDL.

Vermillion River Watershed Management Commission. Watershed Engineer for the Vermillion River Watershed Management Commission. He assisted in floodplain management and was the Project Manager for the preparation of the Second Generation Comprehensive Surface Water Management Plan.

Dakota County, Minnesota. Project Manager for the Dakota County Volume Study. This work involves building a calibrated HEC-HMS model. This model was calibrated and then options were run to determine what management strategies could be used to control volume into the Vermillion River.

U.S. Army Corps of Engineers, Hanford Nuclear Facility, Washington. Project Engineer for a management plan to wash trucks carrying nuclear waste. The work included HydroCAD modeling and recommendations of Best Management Practices and design of a wash and storm water collection pond.

Shreveport, Louisiana Water Utility. Project Manager for the City of Shreveport, Louisiana's Cross Lake Comprehensive Watershed Management Plan. Cross Lake is the city's water reservoir and collects surface runoff from a 400 square mile watershed in Texas and Louisiana. The plan elements addressed

catastrophic toxic spill and nutrient reduction from nonpoint sources, data analysis, and development of a bayou monitoring program.

Groten, Connecticut Water Utility. Project Engineer for the 60 square mile watershed protection plan for the City of Groton, Connecticut's only reliable source of water. This work involves evaluating and prioritizing pollution potentials, developing Best Management Practices, and establishing a schedule for implementation.

City of Eau Claire, Wisconsin. Project Manager for the City of Eau Claire, Wisconsin's Comprehensive Stormwater Management Plan. This plan provided a framework to correct present flooding problems and to ensure that future flooding problems did not occur. The plan also included design standards, capital improvement projects, investigation of alternative financing, and a maintenance program. A part of the project included controlling a high temperature, high velocity flow into a trout stream. Mr. Matthiesen coordinated the design team which provided bank protection and water temperature controls by enhancing groundwater infiltration through a series of detention and infiltration ponds.

Mobile Area Water and Sewer System, Alabama. Project Engineer for the development of the surface water protection plan for the City of Mobile, Alabama. The first phase of the project was an assessment of potential pollutant sources and their impact on the surface water quality. The second phase is the plan for recommended management practices including proposed legislation to allow for land zoning authority for the watershed outside of the municipal boundary.

CALTRANS BMP Retrofit Program, Los Angeles, California. Mr. Matthiesen was a design engineer and Quality Control reviewer for the California Department of Transportation's BMP Retrofit Pilot Program. This project included infiltration basin, sump catchbasin, and infiltration trench design on the existing freeway system in Los Angeles. The work also included design of a monitoring collection system at each site to evaluate the effectiveness of each BMP.

General Mills Stormwater Pollution Prevention Plans. Mr. Matthiesen served as the Project Manager for the preparation of stormwater pollution prevention plans according to the requirements of the Clean Water Act for all General Mills, Inc., facilities. The project involved evaluating NPDES requirements at 43 sites nationwide, conducting site inspections at 13 locations, and preparing stormwater management, monitoring, and training plans.

Mare Island Naval Shipyard Stormwater Management Plan, Vallejo, California. Mr. Matthiesen served as a Project Engineer for the preparation of the stormwater management plan for the U.S. Navy Mare Island Naval Shipyard nuclear submarine base located in San Pablo Bay, San Francisco. The work involved site inspection, hydrologic analysis, and recommended practices of stormwater treatment and hazardous materials transport and storage.

Gwinnett County, Georgia. Mr. Matthiesen assisted the sanitary sewer district in the preparation and education program of for water quality protection plants for each of their wastewater treatment plants in this outlying Atlanta region.

Homestead Air Force Base, Florida. Mr. Matthiesen was a design engineer for the feasibility study of minimizing salt water intrusion into the base and controlling storm water flows for water quality into Biscayne Bay.

City of New Orleans Sewer and Water Board, Louisiana. Mr. Matthiesen was the project manager in the preparation of QUAL2E and CORMIX models to analyze overflows and bypasses to the Mississippi River from New Orleans wastewater treatment plants to address a court ordered restoration effort.

Olympic Park, Atlanta Georgia. Mr. Matthiesen was the design engineer for the stormwater management plan for the tennis facility for the Atlanta Olympics.

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City of San Francisco, California. Mr. Matthiesen assisted the project team in investigating methods to lessen the watershed delivery of giarrdia and cryptosporidium into the city owned surface water reservoir. The immune-suppressed population was at risk from water borne diseases and disinfection methods to kill these parasites resulted in undesirable disinfection byproducts.

City of Newton New Jersey. Mr. Matthiesen served as the Project Engineer for the 10 square mile watershed protection plan for the Morris Lake Watershed Protection Plan for the City of Newton, New Jersey. Morris Lake is the city's only water source. This work involved evaluating and prioritizing pollution potentials, developing Best Management Practices, and establishing a schedule for implementation.

Subwatershed Assessments in Blaine, Coon Rapids, Fridley, Robbinsdale, Champlin and Eden Prairie, Minnesota. Mr. Matthiesen has and is providing senior review and engineering for BMP subwatershed assessments in many communities to install storm water quality treatment in areas that were built-out prior to current rules requiring pollutant reductions.

North Loop BMP Stormwater Assessment, Minneapolis, Minnesota. Mr. Matthiesen is providing storm water engineering to Great River Greening in attempting to establish a new park with water quality features in the heart of the Minneapolis Warehouse District.

Project Design and Management

Murphy Warehouse, City of Minneapolis. Project Engineer responsible for evaluating BMPs in the stormwater system retrofit of this almost 100% impervious area. The goal of the project is to reduce the stormwater utility fee and improve the quality of runoff from the site.

Minnehaha Creek Watershed District. Senior Review Engineer for the design and construction of a BMPs for the Gleason Lake Improvement Project and City of Mound Innovative BMP project.

City of Bloomington, Minnesota. Project Manager and Designer for the City of Bloomington's Floatable Control Removal Project. This project was constructed to remove trash from runoff from the Mall of America that discharged into the Minnesota Valley Wildlife Recreation Area. In this work he analyzed several manufactured floatable control treatment devices and, based on cost, developed his own device in coordination with city public works staff.

City of Maple Grove, Minnesota. Project Manager for the Pike Creek Channel Restoration Project in Maple Grove. This quarter mile long project incorporates numerous bioengineering techniques.

Rice Creek Watershed District, Minnesota. Project Manager for the Hardwood Creek/JD-2 Bank Stabilization Project. This project used a design delivery method of doing site field work and design on location and staking the project for the contractor and paying off of unit prices that were bid by quotes.

California Department of Transportation, Los Angeles District. Design Engineer and Quality Control reviewer for the California Department of Transportation's BMP Retrofit Pilot Program. This project included infiltration basin, sump catchbasin, and infiltration trench design on the existing freeway system in Los Angeles. The work also included design of a monitoring collection system at each site to evaluate the effectiveness of each BMP.

Central Corridor Light Rail Project, Capitol Region Watershed District, St. Paul, Minnesota. Mr. Matthiesen led the design for the development of the under pavement tree planters. This led to incorporating this approach through the entire rail length between Minneapolis and Downtown St. Paul on both side of University Avenue.

Porous Asphalt Paired Intersection Study, Shingle Creek Watershed Management Commission, Robbinsdale, Minnesota. Mr. Matthiesen is the Project Manager for this EPA funded research project to assess the suitability and performance of pervious pavement to lessen the need for road salt and improvements in water quality.

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Green Roof Do-It-Yourself Tray Development, Shingle Creek Watershed Commission. Mr. Matthiesen is the Project Manager for the development of a green roof tray system to be used on existing buildings without the need for additional structural reinforcement nor long term supplementary irrigation. This is an EPA funded research project administered by the PCA.

Central Corridor Light Rail Project Transit Oriented Design, St. Paul, Minnesota. Mr. Matthiesen is providing stormwater BMP design for a shared stacked design planning effort to encourage multiple beneficial uses for combined stormwater practices for redeveloping property along the Central Corridor between Target Field in Minneapolis through downtown St. Paul.

Williams St. Pond, Capital Region Watershed District, St. Paul, Minnesota. Mr. Matthiesen provided design assistance to clean out an existing pond and install a SAFHL baffle and iron enhanced sand filter in Roseville, Minnesota.

Mitchell Village and Boulder Pointe Pond Repairs, Eden Prairie, Minnesota. Mr. Matthiesen is the Project Manager for the pond cleanout and expansion of two stormwater ponds in the Riley Creek watershed.

Xeon Pond, Coon Creek Watershed District, Blaine, Minnesota. Mr. Matthiesen was the Project Manager for the design and construction of a new pond in the Sand Creek watershed in Coon Rapids, Minnesota. The project incorporated a SAFHL baffle screen in a new inlet and a sand filter at the outlet.

Sauk River Watershed District, St. Cloud, Minnesota. Mr. Matthiesen is providing senior review for the repair of County Ditches 15 and 26. He developed the original as-built profile and is assisting in the bid document preparation.

Presentations

Matthiesen, E.A., and MacDonagh, L.P. "Hardwood Creek Expedited Construction Procurement," presented at the River Restoration Centre annual conference in Exeter, England, April 2008.

Matthiesen, E.A., and MacDonagh, L.P. "Pike Creek, A Stream with No Name," presented at the River Restoration Centre annual conference in Exeter, England, April 2008.

Matthiesen, E.A., "Cross Lake: Watershed Issues in North Louisiana," February 22, 1997, presented at Louisiana Environment '97: Tulane Law School, New Orleans, Louisiana.

Matthiesen, E.A., "Wet Detention/Retention Pond Design," presented at a joint Minnesota-Wisconsin conference, "Improving Stormwater Quality," April 25, 1995, Phipps Center, Hudson, Wisconsin.

Matthiesen, E.A., Spector, D. "Development of a City-wide Stream Restoration and Stormwater Plan", presented at the North Dakota Water and Pollution Control Conference, October 2010.

Matthiesen, E.A. "Stormwater Management Using Wet and Dry Detention Facilities", presented at Half Moon Seminars, Fargo, North Dakota, November 2010.

Matthiesen, E.A., "Introduction to Civil Engineering", MME 101 class, "Introduction to the Engineering Profession", lecture at St. Cloud State University, St. Cloud, Minnesota, October 2010 and October 2012.
Matthiesen, E.A., Spector, D.., McCoy, R., "Robbinsdale's Porous Asphalt Residential Street to Reduce Deicing Salt", presented at the University of Minnesota's Water Resources Conference, St. Paul, Minnesota, October 2010.

Matthiesen, E.A., Spector, D., "Porous Pavement Paired Intersection Study", presented at the 54th Annual Asphalt Contractors Workshop/MN Quality Initiative Workshop, Brooklyn Center, Minnesota, March, 2010.

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Matthiesen, E.A., Spector, D., "The Effectiveness of Various Stream Restoration Techniques on Restoring Biological Integrity", presented at the University of Minnesota's Water Resources Conference, St. Paul, Minnesota, October 2008.

Matthiesen, E.A., Spector, D.,"Shingle Creek Update", presented at the 5th Annual Road Salt Symposium, St. Cloud, Minnesota, April, 2006.

Matthiesen, E.A., Shoemaker, T.E., "City of Eden Prairie, Minnesota Pond Inventory and Maintenance Assessment", to be presented at the Georgia Water Resources Conference, Athens, Georgia, April, 2011.

Matthiesen, E.A., Spector, D., "A Stream Restoration Plan for the City of Davenport, Iowa", presented at the Georgia Water Resources Conference, Athens, Georgia, April, 2011.

Matthiesen, E.A., "Mollusk Stream Habitat Restoration Details", to be presented at the 23rd Annual Rivers and Streams Technical Committee meeting, North Central Division-American Fisheries Society, Milan, Illinois, March 2011.

Matthiesen, E.A., "Bioengineering Design and Construction Methods", presented at the joint NRCS and North Dakota Forest Service Riparian Restoration Technical Training Class, Bismarck, North Dakota, October, 2011.

Matthiesen, E.A., "Robbinsdale Porous Pavement Stormwater Experience" presented at the 5th Annual Low Impact Development Workshop, Dubuque, Iowa, February, 2012

Matthiesen, E.A., Jensen, K, "Lambert Creek Stream Restoration by Hand Labor Methods", presented at the Upper Midwest Stream Restoration Symposium, Minneapolis, Minnesota, March 2012.

800 County Road E East, Vadnais Heights, MN 55127
www.vlawmo.org

Request For Proposal for Lambert Creek engineering assistance

Please submit by: **12, noon, December 7, 2017**

To: **Stephanie McNamara, Administrator, stephanie.o.mcnamara@vlawmo.org**

VLAWMO, 800 County Road E, E, Vadnais Heights, 55127

The Vadnais Lake Area Water Management Plan (VLAWMO) is looking for engineering assistance to gain a better understanding of the hydraulics and hydrology of Lambert Creek or County ditch 14 in Ramsey County. Lambert creek has a reach of about 4.5 miles with the headwaters in White Bear Lake and empting into Vadnais Lake, Vadnais Heights, and the reservoir for the St. Paul area water supply. VLAWMO has been the ditch authority since 1987 and has installed numerous best management practices along the creek. The ditch is being managed as a storm water conveyance under MN Chapter 103B as identified in the Comprehensive Water Plan for VLAWMO. See the map attachment.

Some of the modeling work may be used for updated FEMA mapping of specific segments of Lambert Creek in Special Flood Hazard Areas. Coordinating with DNR floodplain staff during model development is a required part of this scope.

Please indicate if you have worked on FEMA mapping. Areas within VLAWMO have been identified for updated FEMA modeling in the Twin Cities HUC8 Watershed. The work done on Lambert Creek should facilitate that effort.

Also attached is a summary of the historical work along the creek as well as a map of work done in 1981. Historical maps and other information are available on the VLAWMO website: Lambert Creek.

Scope of project:

1. Review records of the ditch to establish original ditch profile and capacity to the extent possible.
2. Review records of the ditch cleaning in 1987 to establish ditch profile and capacity to the extent possible. Clarify whether and where soil borings will be needed to establish original depth and contours of the ditch (in areas identified that could benefit from repair in the form of dredging, perform soil borings if further evidence of historical ditch profile is required by permitting agencies.) Produce map and shapefiles showing historical documentation.
3. Review area where high water concerns have been identified.
4. Produce an updated survey of the whole creek to cross-sections at regular intervals, identifying significant changes in morphometry, bridge/culvert crossings and other infrastructure will be surveyed and photographed. VLAWMO staff may assist if requested. Some areas are deep with tree cover. Channel survey should include top of bank, top of slope, channel centerline and additional channel shots as needed.
5. All data will be provided in a format consistent with BWSR drainage database requirements.

*Updated items in Proposal

6. Utilize available information to produce a hydrologic and hydraulic model of Lambert creek and the branch ditches and updated current profile information for the creek. Calculate peak flood discharges in for 10%, 4%, 2%, 1%, and 0.2% annual chance events using a FEMA accepted hydrologic and hydraulic model, such as HEC-HMS, XP_SWMM, or EPA-SWMM. Models and peak flow rates shall be calibrated and/or validated if reliable measured data is available.
7. Identify potential areas of maintenance needs and potential improvement practices
8. Provide a report or technical memo including a plan of recommend repairs, alternatives, costs and funding strategies. The plan may include a recommendation for routine ditch assessment including evaluation of existing structures along the creek. This would be used to identify and schedule future maintenance needs.
9. OPTION A: Provide new survey data, cross-sections and modeling of the Lambert Creek branch ditches. See the map for locations.
10. Add other optional features as you find appropriate.

Available information:

- 1926 and 1939 survey books with 1927 map identifying Ramsey County ditch 14 and its five branch ditches.
- 1980 Ramsey County *Engineer's Report on County Ditch 14*
- 1987 scanned cross-section plans, survey, and map for the 1980s cleaning of the ditch
- TMDL Report 2012 – including Lambert Creek impairment for bacteria
- Flume gauging info collected bi-monthly or more during sampling season
- Pollutographs created with data from storm sampling events on several sites along the stretch of the Creek

Tentative schedule of proposed project (all items flexible):

- **December 13th, 2017** VLAWMO Board consideration of Lambert Creek engineering proposals
- **March 15th, 2018** Tasks 1 – 3: review historical information
- **April 15th, 2018** Task 4: complete field survey
- **June 1st, 2018** Tasks 5 – 7: modeling and identification of potential repairs or maintenance in time for 2019 budgeting
- **August 15th, 2018** Task 8: Technical Memo prepared

With questions contact either:

Stephanie McNamara, 651-204-6073, stephanie.o.mcnamara@vlawmo.org
Brian Corcoran, 651-204-6075, brian.corcoran@vlawmo.org
Tyler Thompson, 651-204-6071, tyler.thompson@vlawmo.org

*Updated items in Proposal

EST 1983
VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E East, Vadnais Heights, MN 55127
www.vlawmo.org
office@vlawmo.org
(651) 204-6070

December 6, 2017

To: The VLAWMO Board of Directors
From: Staff
Re: **VII. Operation & Admin Reports**

B. Project Updates

1. Whitaker Wetlands

The work has finished up for the year on the treatment wetlands. Media has been installed in the three treatment cells, pipes and pumps are in, shed is built and grading is complete. Due to the freezing weather testing of the treatment cells and plantings will be done in the spring as well as installation of the solar panel.

2. Sucker Channel Restoration Project

All of the major construction for this project is complete. The park has been redesigned to provide easier access for the public and has dedicated areas for people to fish from the shore. The native planting beds have been prepped and native plants will be installed in spring 2018.

3. Goose Lake and Oak Knoll Pond Study

In our on-going effort to determine how to best manage the internal phosphorus load in Goose Lake, we contracted with Barr Engineering to do some additional studies. Sediment cores were taken from Goose Lake as well as Oak Knoll Pond and additional water quality samples were collected at Oak Knoll this fall. This information will aid in determining the proper dosage for alum treatment and therefore give us a more accurate cost estimate. The information will also assist in our exploration of using spent lime rather than alum as an internal load control. Barr will be preparing a technical memo regarding the findings of these studies as well as an alum dosing plan and supporting documentation to assist with grant applications. These items are not expected until later this winter.

4. Birch Lake Filtration Project

Kristine submitted an application for a Clean Water Fund Grant for this project. We will not hear any decisions until later in December. The City of WBL passed a resolution supporting this project and pledging $15,000 towards the match requirements. The high end cost estimate is $121,000. Kristine's request was for $97,000 which would require a nearly $30,000 match. We will keep you posted on the results of the grant process.

C. Charley Lake Sustainable Lake Management Plan

As part of our on-going goal of producing a Sustainable Lake Management Plan each year, a draft of the SLMP for Charley Lake is available for review. To support this effort, VLAWMO worked with Ramsey Conservation District to conduct a study of the lake bottom (bathymetry and biomass) as well as lake vegetation and shoreline vegetation surveys. At the time of the writing of this memo, we are waiting on a shoreline vegetation survey report from RCD that will be included with the report but all the other supporting documents, including the Retrofit Study conducted in 2015 are included as appendices with the plan. We invite the Board to read through the SLMP and provide feedback. We will also send it out for review to the City of North Oaks and other partners. The draft SLMP is available on the VLAWMO website and by clicking on this link.