

BOARD OF DIRECTORS MEETING AGENDA

7:00 PM December 8, 2021

Vadnais Heights City Hall, Council Chambers; 800 County Road E, East, Vadnais Heights

- I. **Call to Order**, Chair, Jim Lindner
- II. **Approval of Agenda**
- III. **Approval of October 27, 2021 Board Meeting Minutes**
- IV. **Visitors and Presentations**
 - A. TEC Report to the Board (Pg. 8) & Finance Report (Pg. 10) – December – Paul Duxbury
 - B. 2022 VLAWMO Watershed Awards– Nick (Pg. 16)
 - C. Public visitors – non agenda items
- V. **Consent Agenda** 🐦
 - A. 2021 Education & Outreach Plan Summary and 2022 Goals Update (Pg. 19)
 - B. 2022 Cost Share Policy Updates 🐦 (Pg. 29)
 - C. Consider VLAWMO Site Maintenance Contract with Natural Shore Tech. 🐦 (Pg. 30)
 - D. Consider 2022 Ramsey County SWCD Contract for Lake Surveys 🐦(Pg. 30)
- VI. **Projects and Programming**
 - A. Discussion on VLAWMO’s role in Aquatic Plant Management–Joe B. /staff 🐦 (Pg. 41)
 - B. Spent Lime Treatment Update– Greg Wilson, Barr Engineering
 - C. Discussion /Consideration of Biochar Payment Request–Dawn/Troy 🐦(Pg. 52)
 - D. Consider payment and update on “Phase 2” RCD 14 Ditch Maintenance Project– Brian 🐦 (Pg. 65)
- VII. **Business and Administration**
 - A. Consideration of 2022 Carry over “Working” Budget – Phil 🐦 (Pg. 66)
 - B. Discussion on Possible Boundary Change in W. Vadnais Lk. Area- Phil 🐦 (Pg. 78)
- VIII. **Discussion**
- IX. **Administration Communication**
 1. Board Packet Format?
 2. Reminder : 2022 Board / TEC Council Assignments
- X. **Adjourn:** Next Special Board meeting /workshop: Strategic planning, January 26, 2022.
Next regular scheduled Board meeting: February 23, 2022



MINUTES OF THE BOARD OF DIRECTORS – OCTOBER 2021 REGULAR BOARD MEETING
 October 27th, 2021
 Vadnais Heights City Hall Council Chambers
 800 County Road E East Vadnais Heights, MN 55127

Attendance		Present	Absent
Jim Lindner, 2021 Chair	City of Gem Lake	X	
Dan Jones, Vice Chair	City of North Oaks	X	
Patricia Youker, Secretary-Treasurer	City of White Bear Lake		X
Ed Prudhon	White Bear Township	X	
Rob Rafferty	City of Lino Lakes	X	
Tom Watson	City of North Oaks	X*	
Phil Belfiori	Administrator	X	
Brian Corcoran	Water Resources Mgr.	X	
Dawn Tanner	Program Development Coord.	X	
Nick Voss	Education & Outreach Coord.	X	
Tyler Thompson	GIS Watershed Tech.	X	

* Present and observing via teleconference; not eligible for voting or towards quorum

Others in attendance: Paul Duxbury (VLAWMO TEC); Ceci Shapland (WAV, MN Water Steward); Joe Bischoff (Barr Engineering)

I. Call to Order

The meeting was called to order at 7:00 pm by Chair Lindner. Noted that Tom Watson is observing the meeting remotely and is ineligible for voting or counting towards quorum.

II. Approval of Agenda

The agenda for the October 2021 VLAWMO Board meeting was presented for approval, Chair Lindner asked for any additions or corrections. Belfiori asked for the addition of item VII. D. Begin Loan Payments for Lambert Lake Sheetpile Project.

A motion was made by Jones and seconded by Prudhon to approve the October 27, 2021 VLAWMO Board meeting agenda, as amended. Vote: aye. Motion passed.

III. Approval of August 25, 2021 Board Meeting Minutes

The August 25, 2021 Board meeting minutes were presented for approval. Lindner asked for any additions or corrections. None.

A motion was made by Prudhon and seconded by Rafferty to approve the August 25, 2021 Board meeting minutes, as presented. Vote: all aye; Jones: abstain. Motion passed.

IV. Visitors and Presentations

A. TEC Report and Financial – October

Duxbury gave the Board a briefing on current projects and programs, as reviewed at the October TEC meeting and reported on the TEC Report to the Board. Belfiori gave a brief rundown of the October Finance Report, as approved by the TEC.

B. Watershed Action Volunteers report to Board

Ceci Shapland, Minnesota Master Water Steward and WAV Volunteer, reported to the Board regarding 2021 activities and 2022 projections.

Discussion: Lindner noted that the heart and soul of volunteers is refreshing and great to see.

C. Public Visitors – non-agenda items

None.

V. Consent Agenda

A. Consider Salary survey table per recommendation of personnel subcommittee

Staff and Subcommittee recommend the Board review and approve the updated salary survey and structure for years 2021 through 2024. More can be found in the October 27, 2021 Board packet.

B. Consider West Vadnais Lake SLMR

Staff and TEC recommend the Board review and approve the 2021 West Vadnais Lake Sustainable Lake Management Report and post on vlawmo.org. More can be found in the October 27, 2021 Board packet.

C. Consider Barr revisions to scope of work for Wilkinson Lake BMP

Staff is requesting Board approval to revise the scope of work for the Wilkinson Lake BMP project. More can be found in the October 27, 2021 Board packet.

D. Update on Pleasant Lake Carp Management

Staff continues to coordinate with partners and WSB for carp tracking, and the telemetry portion is now fully active. VLAWMO is partnering with the RCSWCD for a targeted vegetation survey that will likely occur in November. More can be found in the October 27, 2021 Board packet.

E. Update on maintenance agreement –Vadnais-Sucker Lake Regional Park Restoration

The landowner agreement between Great River Greening and the SPRWS was authorized and signed by the SPRWS Board in September, and a draft maintenance agreement among partner is underway. More can be found in the October 27, 2021 Board packet.

F. Update on Project of the year application to MAWD

The Lambert project has been selected as a finalist for the MAWD Project of the Year, which will be announced at their annual meeting in December.

G. Update on Sensible Land use Coalition Presentation

VLAWMO staff gave a presentation to the SLUC on October 27th, overviewing recently completed and upcoming projects.

H. Update on VLAWMO watershed awards

Nominations are now open for the 2021 VLAWMO Watershed Partner Award. More can be found in the October 27, 2021 Board packet.

I. Update on TEC change of date, time and location

At their October meeting, the TEC voted and passed changing of the meeting day to every 2nd Wednesday of the month, the meeting time to 8 am, and the meeting room to the Vadnais Heights City Hall Council Chambers. These changes will take effect for the November 8th TEC meeting.

Discussion: No discussion upon any items within the item V. Consent Agenda.

A motion was made by Prudhon and seconded by Jones to approve the October 2021 Board meeting consent agenda, as presented. Vote: all aye. Motion passed.

VI. Business

A. Administration

1. Consider 2022 Storm Sewer Utility Certification Lists for 2022 – Res. 10-2021

Belfiori presented that the final step in approving storm sewer utility fees for 2022 is approving the parcel lists and fee rates for both Ramsey and Anoka Counties. Staff has been working with our SSU consultant to finalize these list and review property parcel divisions. The charges to each non-exempt parcel are now ready to be certified as is done

each October. Staff recommends the Board approve both the Ramsey County and Anoka County Storm Sewer Utility parcel lists for 2022 with the approval of Resolution 10-2021.

Discussion: None.

A motion was made by Jones and seconded by Prudhon to approve Resolution 10-2021, approving the 2022 VLAWMO Storm Sewer Utility parcel lists, payable in 2022. Vote: all aye. Motion passed.

RESOLUTION 10-2021

A RESOLUTION CERTIFYING STORM SEWER UTILITY CHARGES TO THE COUNTY AUDITOR TO BE ASSESSED ON REAL ESTATE TAXES PAYABLE IN 2022.

WHEREAS, 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 2022.
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 2022.
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.

The question was on the adoption of the resolution and there were 4 yeas and 0 nays as follows:

	<u>Yea</u>	<u>Nay</u>	<u>Absent</u>
<i>Dan Jones</i>	√	<input type="checkbox"/>	<input type="checkbox"/>
<i>Ed Prudhon</i>	√	<input type="checkbox"/>	<input type="checkbox"/>
<i>Rob Rafferty</i>	√	<input type="checkbox"/>	<input type="checkbox"/>
<i>Tom Watson</i>	<input type="checkbox"/>	<input type="checkbox"/>	√
<i>Patricia Youker</i>	<input type="checkbox"/>	<input type="checkbox"/>	√
<i>Jim Lindner</i>	√	<input type="checkbox"/>	<input type="checkbox"/>

James Lindner, Chair

Date

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION

I, the undersigned, Administrator of the Vadnais Lake Area Water Management Organization, hereby certify that I have carefully compared and attached the foregoing extract of minutes of a regular meeting of the Board of Directors of said watershed held on the 27th day of October 2021, with the original thereof on file in my office.

WITNESSED BY the Watershed Administrator this 27th day of October 2021.

Phil Belfiori, Administrator

2. Consider Auditor Services for Fiscal Years 2021-2022

Pursuant to Minnesota Statute 103B, staff noticed and advertised a Request for Proposal (RFP) for Financial Audit services for Fiscal years 2021 and 2022. The purpose of the program is to provide an audit of VLAWMO financial statements for fiscal years ending December 31, 2021 and 2022. The advertisement for the RFP was placed in the Legal of MN Cities marketplace from September 1-17th, in the White Bear Press on September 6 and 13th, and noticed at the offices and placed on the VLAWMO web page. Closing date was to receive proposals was September 24, 2021. Staff received RFPs from 2 firms, then reviewed and scored them for a recommendation of choosing. CLA scored the highest given they have performed well on the worked completed as VLAWMO auditors over the last several years, their electronic interface system for upload and submitting files works well, and have been very responsive with staff and follow-up. Based on the review of the proposals, staff recommends the Board approve CLA to provide the annual audits of VLAWMO financials for fiscal years ending December 31, 2021 and 2022 consistent with their proposal for services dated September 20, 2021

Discussion: Rafferty asked for clarification on how long CLA has been contracted for auditing services. Staff answered that they have been contracted for 2 prior consecutive years.

A motion was made by Rafferty and seconded by Prudhon to select and authorize staff to sign into contract with Clifton Larson Allen (CLA) for 2021-2022 VLAWMO auditing services. Vote: all aye. Motion passed.

VII. Projects

A. Consider "Phase II" CD 14 Ditch Maintenance Contract with Scandia Trucking & Excavating LLC

Corcoran presented that staff sent requests for quote to three contractor's on the CD 14 Phase II Ditch Maintenance project; Peterson Companies, Scandia Trucking & Excavating, and Lametti & Sons. Quotes were received from Peterson Companies and Scandia Trucking & Excavating. As identified in Attachment #1, HEI recommends award of the contract to Scandia Trucking & Excavating, LLC in the amount of \$34,854.00. HEI further recommends that an additional 15% of the contract (\$5,228.10, or a total of \$40,082.10) be budgeted and authorized for potential change orders resulting from unforeseen conditions or omissions discovered as the project progresses.

Staff brought the two received quotes to the 10-4-2021VLAWMO subcommittee meeting for discussion. The subcommittee recommended award of contract to the Board to hire Scandia Trucking & Excavating, LLC. VLAWMO staff, Houston Engineering, and the VLAWMO Board

subcommittee recommend hiring Scandia Trucking LLC for construction of the CD 14 Repair “phase II” project in the amount of \$34,854.00. It is also recommended that an additional 15% of the contract (\$5,228.10, or a total of \$40,082.10) be budgeted and authorized for potential change orders resulting from unforeseen conditions or omissions discovered as the project progresses.

Discussion: Rafferty mentioned the price difference between contractors and asked about the discrepancy and asked if Scandia Trucking & Excavating was a reliable firm. Corcoran replied that yes, Scandia Trucking is a reliable firm and VLAWMO had hired and worked with them in 2020 on the Phase 1 Ditch 14 maintenance project, and the result was highly regarded. Houston Engineering also recommends the low-bid contractor for approval and hiring.

A motion was made by Jones and seconded by Rafferty to approve hiring Scandia Trucking LLC for construction of the CD 14 Repair “phase II” project in the amount of \$34,854.00, as well as an additional 15% of the contract (\$5,228.10, or a total of \$40,082.10) be budgeted and authorized for potential change orders resulting from unforeseen conditions or omissions discovered as the project progresses. Vote: all aye. Motion passed.

B. Consider Barr Engineering scope of work for development of position regarding VLAWMO’s role in vegetation management

Belfiori and overviewed the scope of work for development of the VLAWMO position on aquatic plant management from Barr Engineering. Staff is requesting the Board considers the Barr Engineering scope of work for approval and authorizes staff to accept and sign into contract with Barr Engineering.

Discussion: Prudhon asked if the DNR is involved in the process yet. Belfiori noted that not directly, but in a permitting aspect. Jones noted that basically this is deciding if the VLAWMO Board wants to pursue aquatic vegetation management, and to what degree, for example, invasive vs native species. Rafferty asked for clarification on the difference between invasive species, and Bischoff answered that it’s all interconnected for lake biology,, but certain invasive species can have a bigger impact on a Watershed’s mission statement. Jones noted that there are many ways to govern assistance spending. Tanner added that for Birch Lake, staff is assisting them with pursuing grant funding for Eurasian watermilfoil removal.

A motion was made by Jones and seconded by Rafferty to approve the Barr Engineering scope of work for development of a VLAWMO position on aquatic plant management from Barr Engineering dated September 30, 2021. Vote: all aye. Motion passed.

C. Consider scope of work and process for strategic direction with VLAWMO Board

Pertaining to planning of a mid-cycle 2017-2026 VLAWMO Comprehensive Watershed Management Plan update, staff presented on the possibility of moving forward with a scope of work with Houston Engineering, Inc. to assist VLAWMO staff in this effort. Staff has applied for a BWSR PRAP grant to fund 50% of a workshop facilitated by HEI. The grant covers about \$3,180 in costs.

The Board Subcommittee discussed the proposed process and Houston Scope of work at the October 4th Subcommittee meeting and recommended approval to the full Board. Staff also recommends and requests authorization from the Board for staff to proceed and sign the HEI scope of work dated October 8th, 2021. Staff also recommends the Board provide authority to the Administrator to sign into and execute the BWSR grant agreement, which was approved for funding by BWSR, as of the October Board meeting.

Discussion: None.

A motion was made by Jones and seconded by Rafferty for the approval of proceeding with the Houston Engineering scope or work dated Oct. 8, 2021 as attached, as well as providing authority to the Administrator to sign and execute the BWSR grant agreement if grant application is successful. Vote: all aye. Motion passed.

D. Begin Loan Payments for Lambert Lake Sheetpile Project

The loan used to replace vinyl sheet pile with steel has been completed on schedule and under budget. A 4th and final pay request was submitted to MPCA by VLAWMO on 9/1/2021 for \$19,284.48. Payment was received for this invoice. A total of \$385,689.54 has been requested and received by VLAWMO to date. The total reserved loan amount was \$400,000 (a difference of \$14,310.46). A memo and notice of project completion for the meander and sheet pile replacement was received by VLAWMO from SEH Engineering on 9/21/2021. VLAWMO staff contacted MPCA to let them know that the project was complete. Final loan documents were received and were distributed to the Board at this meeting including invoice #1 to begin repayment. Invoice #1 is due December 15, 2021. Tanner presented that the final repayment schedule.

A motion was made by Jones and seconded by Prudhon for the authorization of VLAWMO staff to begin making bi-annual payments of \$19,284.48 according to the attached MPCA loan repayment schedule and continue through the life of the loan with the final payment being made on or before 6/15/2031.. Vote: all aye. Motion passed.

VIII. Discussion

VIII. Administration Communication

IX. Adjourn

A motion was made by Prudhon and seconded by Jones to adjourn at 8:00 pm. Vote: all aye. Motion passed. Minutes compiled and submitted by Tyler Thompson.

TEC Report to the Board
December 2021

Programs & Projects	Effort Level	Completion Date	Comments
	LOW		
	MED		
	HIGH		
Projects			
319 Lambert Pond /Meander Project/Biochar	MED	2021/22	Construction of Meander and Sheet Pile completed. MAWD presentation recently completed at annual conference. Initiating work to on possible relocated Biochar project
East Goose Lk Adaptive Mgmt.	HIGH	2021-ongoing	Anticipated next step is discussion with VLAWMO Board on possible role in Aquatic Plant Management
Ditch 14 Maintenance project	HIGH	2021/22	Construction of "phase 2" RCD 14 maintenance project has been completed. Will check out in spring to make sure seeding is doing well and to see if there are any areas that may need some erosion attention.
MPCA 319 /Wilkinson Lake BMP	HIGH	2021-24	Continue to work on defining Barr Eng. scope of work for initial project technical assistance and easement determination.
21-23 BWSR WBF	MED	2023	The VH Bridgewood Park project construction has begun with completion in Spring '22. Will be working on annual grant reporting and possible workplan amendment.
Programs			
Outreach	LOW	Oct-Nov	Voting and Announcement of 2021 Watershed Awards at Nov. TEC meeting. Presentation of Awards at Dec. VLAWMO Board meeting. Planning new partnerships with Tamarack Nature Center for 2022. MS4 meetings and planning being conducted with each JPA
Education	LOW	Nov-Dec	Conducting 2021 end-of-year feedback survey, summarizing 2021 education and outreach results, and outlining 2022 education and outreach plan.
Website	LOW	Nov-Dec	New smart salting webpage under "residents", new neighborhood spotlights (2), and 2021 cost-share recap blog, Upstream Community Blue project recap blog, and announcement of 2021 watershed award winners.
WAV	LOW	Dec-Feb	Planning and project development for 2022: Good neighbor guide, NOHOA bioswale maintenance plan, raingarden renovations at St Mary's and Chippewa Middle School
Cost Share	MED	ongoing	2022 Cost Share Policy updates recommending approval. Continuing planning for 2022 CS Policy projects and implementation.
GIS	LOW	ongoing	West Vadnais SLMR, project maps & data, geodatabase updating for '21/'22
Monitoring	MED	ongoing	2021 monitoring end of season reporting underway
WCA	MED	ongoing	administering WCA as needed.

TEC Report to the Board
December 2021

Administration & Operation			
Audit		2021/22	Kickoff meeting with CLA (auditing consultant) regarding 2021 year end audit will be scheduled for December
Budget		21/22	Fund balance carry over "working" 2022 budget will be brought forward to the Board at the Dec. 8 meeting for consideration.
Personnel /HR		ongoing	staff continue to pursue professional development per their approved training plans.
SSU		ongoing	2022 SSU rate information submitted to Ramsey and Anoka Counties in Nov.
Strategic planning		early /mid 2022	Work is underway for preparation special VLAWMO Board workshop on January 26, 2022 to discuss strategic direction

FINANCIAL SUMMARY as of 12/1/2021			CD's	4M Term Series	
				Maturity	Rate
4M Account (1.10)	4M Plus (1.23)	Total		Term series	
\$395,445	\$324,195	\$719,640			

Budget Summary	Actual Expense YTD	2021 Budget amended	Remaining in Budget	% YTD
Operations	\$582,250	\$656,040	\$73,790	89%
CIP	\$790,665	\$492,340	(\$298,325)	161%
Total	\$1,372,915	\$1,148,380	(\$224,535)	120%

December 2021 VLAWMO Finance Report

December-21		Actual 12/1/21	Actual to Date	2021 Budget	2020 carry over/Grants	Remaining in Budget	2021 Available	Act vs. Budget
BUDGET #	INCOME							
5.11	Storm Water Utility	\$0	\$520,901	\$935,340	\$0	\$414,439	\$935,340	56%
5.12	Service Fees	\$0	\$1,050	\$200	\$0	(\$850)	\$200	525%
5.13	Interest + mitigation acct	\$12	\$166	\$3,000	\$0	\$2,834	\$3,000	6%
5.14	Misc. income - WCA admin & other	\$12,228	\$16,468	\$3,000	\$0	(\$13,468)	\$3,000	549%
5.15	Other Income Grants/ <u>loan</u>	\$0	\$655,490	\$894,679	\$0	\$239,189	\$894,679	73%
5.16	Transfer from reserves	\$0	\$0	\$192,840	\$14,000	\$206,840	\$206,840	0%
	TOTAL	\$12,240	\$1,194,074	\$2,029,059	\$14,000	\$848,985	\$2,043,059	59%
	EXPENSES							
3.1	Operations & Administration							
3.110	Office - rent, copies, post tel supplies	\$1,958	\$24,036	\$26,214	\$0	\$2,178	\$26,214	92%
3.120	Information Systems	\$1,204	\$17,374	\$22,365	\$4,000	\$8,991	\$26,365	66%
3.130	Insurance		\$6,476	\$7,000	\$0	\$524	\$7,000	93%
3.141	Consulting - Audit	\$0	\$7,245	\$7,728	\$0	\$483	\$7,728	94%
3.142	Consulting - Bookkeeping	\$0	\$0	\$1,500	\$0	\$1,500	\$1,500	0%
3.143	Consulting - Legal	\$836	\$2,612	\$4,000	\$0	\$1,388	\$4,000	65%
3.144	Consulting - Eng. & Tech.	\$2,404	\$16,960	\$30,000	\$0	\$13,040	\$30,000	57%
3.150	Storm Sewer Utility	\$1,785	\$12,102	\$13,000	\$0	\$898	\$13,000	93%
3.160	Training (staff/board)	\$138	\$4,563	\$8,750	\$0	\$4,187	\$8,750	52%
3.170	Misc. & mileage	\$112	\$2,839	\$6,300	\$0	\$3,461	\$6,300	45%
3.191	Administration - staff	\$27,792	\$356,391	\$370,307	\$0	\$13,916	\$370,307	96%
3.192	Employer Liability	\$8,686	\$107,274	\$102,376	\$10,000	\$5,102	\$112,376	95%
3.2	Monitoring and Studies							
3.210	Lake and Creek lab analysis	\$0	\$16,668	\$18,000	\$0	\$1,332	\$18,000	93%
3.220	Equipment	\$0	\$866	\$3,000	\$0	\$2,134	\$3,000	29%
3.230	Wetland assessment & management	\$0	\$0	\$0	\$0	\$0	\$0	#DIV/0!
3.3	Education and Outreach							
3.310	Public Education	\$45	\$2,936	\$8,500	\$0	\$5,564	\$8,500	35%
3.320	Marketing	\$865	\$1,789	\$7,500	\$0	\$5,711	\$7,500	24%
3.330	Community Blue Ed Grant	\$0	\$2,119	\$10,000	(\$4,500)	\$3,381	\$5,500	39%
<i>Total Core functions: Ops, Monitoring, Education</i>		<i>\$45,826</i>	<i>\$582,250</i>	<i>\$646,540</i>	<i>\$9,500</i>	<i>\$73,790</i>	<i>\$656,040</i>	<i>89%</i>
	Capital Improvement Projects and Programs							
3.4	Subwatershed Activity							
3.410	Gem Lake	\$0	\$0	\$0	\$0	\$0	\$0	
3.420	Lambert Creek	\$0	\$652,372	\$222,100	\$0	(\$430,272)	\$222,100	294%
3.421	Lambert Lake Loan	\$0	\$19,284					
3.425	Goose Lake	\$0	\$10,507	\$124,200	\$0	\$113,693	\$124,200	8%
3.430	Birch Lake	\$0	\$637	\$0	\$0	(\$637)	\$0	#DIV/0!
3.440	Gilf Black Tam Wilk Amelia	\$286	\$1,459	\$16,000	\$0	\$14,541	\$16,000	9%
3.450	Pleasant Charley Deep	\$0	\$10,182	\$22,500	\$0	\$12,318	\$22,500	45%
3.460	Sucker Vadnais	\$0	\$27,033	\$12,500	\$0	(\$14,533)	\$12,500	216%
3.48	Programs							
3.480	Soil Health Grant	\$0	\$910	\$4,500	\$0	\$3,590	\$4,500	20%
3.481	Landscape 1	\$7,500	\$23,460	\$16,000	\$0	(\$7,460)	\$16,000	147%
3.482	Landscape 2	\$0	\$10,250	\$28,000	\$0	\$17,750	\$28,000	37%
3.483	Project Research & feasibility	\$0	\$0	\$0	\$0	\$0	\$0	#DIV/0!
3.485	Facilities Maintenance	\$497	\$34,571	\$46,540	\$0	\$11,969	\$46,540	74%
3.5	Regulatory							
3.510	Engineer Plan review	\$0	\$0	\$0	\$0	\$0	\$0	#DIV/0!
	Total CIP & Program	\$8,282	\$790,665	\$492,340	\$0	(\$279,040)	\$492,340	161%
	Total of Core Operations & CIP	\$54,108	\$1,372,915	\$1,138,880	\$9,500	(\$205,250)	\$1,148,380	120%

Fund Balance	11/1/2021	12/1/2021
4M Account	\$570,160	\$395,445
4M Plus Savings	\$324,187	\$324,195
Total	\$894,347	\$719,640

Restricted funds		11/1/2021
Mitigation Savings		\$21,037
Term Series		\$0

December 2021 VLAWMO Finance Report

Vadnais Lake Area Water Management Orga
Profit & Loss
November 13 through December 8, 2021

10:10 AM
12/01/2021
Cash Basis
Nov 13 - Dec 8, 21

Ordinary Income/Expense	
Income	
Misc.	12,228.30
5.1 · Income	
5.13 · Interest	11.89
Total 5.1 · Income	<u>11.89</u>
Total Income	<u>12,240.19</u>
Gross Profit	12,240.19
Expense	
3.1 · Administrative/Operations	
3.110 · Office	
Copies	23.95
Phone/Internet/Machine Overhead	290.00
Postage	29.35
Rent	1,615.00
Total 3.110 · Office	<u>1,958.30</u>
3.120 · Information Systems	
IT Support	1,203.91
Total 3.120 · Information Systems	<u>1,203.91</u>
3.143 · Legal	
3.144 · Eng. & Tech.	2,403.89
3.150 · Storm Sewer Utility	
3.160 · Training (staff/board)	138.00
3.170 · Misc. & mileage	
3.191 · Employee Payroll	
payroll	27,792.01
Total 3.191 · Employee Payroll	27,792.01
3.192 · Employer Liabilities	
Admin payroll processing	44.92
Administration FICA	2,013.97
Administration PERA	2,084.40
Insurance Benefit	4,542.55
Total 3.192 · Employer Liabilities	<u>8,685.84</u>
Total 3.1 · Administrative/Operations	44,915.83
3.3 · Education and Outreach	
3.310 · Public Education	45.00
3.320 · Marketing	864.64
Total 3.3 · Education and Outreach	<u>909.64</u>
3.4 · Capital Imp. Projects/Programs	
3.440 · Gilfillan Black Tamarack Wilkin	285.60
Total 3.4 · Capital Imp. Projects/Programs	<u>285.60</u>
3.48 · Programs	
3.481 · Landscape 1 - cost-share	7,500.00

December 2021 VLAWMO Finance Report

3.485 · Facilities & Maintenance	496.50
Total 3.48 · Programs	<u>7,996.50</u>
Total Expense	<u>54,107.57</u>
Net Ordinary Income	<u>-41,867.38</u>
Net Income	<u>-41,867.38</u>

DRAFT

December 2021 VLAWMO Finance Report

Vadnais Lake Area Water Management Organization Check Detail

10:05 AM

12/01/2021

November 13 through December 8, 2021

Type	Num	Date	Name	Item	Account	Paid Amount	Original Amount
Check	eft	11/17/2021	Reliance Standard		Checking - 1987		-202.29
				Insurance Benefit		-202.29	202.29
TOTAL						-202.29	202.29
Check	eft	11/17/2021	Reliance Standard		Checking - 1987		-90.00
				Insurance Benefit		-90.00	90.00
TOTAL						-90.00	90.00
Check	5253	12/08/2021	Dawn Tanner		Checking - 1987		-52.64
				3.170 · Misc. & mileage		-52.64	52.64
TOTAL						-52.64	52.64
Check	5254	12/08/2021	Tyler J Thompson		Checking - 1987		-12.66
				3.170 · Misc. & mileage		-12.66	12.66
TOTAL						-12.66	12.66
Check	5255	12/08/2021	Brian Corcoran		Checking - 1987		-36.54
				3.170 · Misc. & mileage		-36.54	36.54
TOTAL						-36.54	36.54
Check	5256	12/08/2021	Nicholas Voss		Checking - 1987		-49.64
				3.170 · Misc. & mileage		-10.64	10.64
				3.160 · Training (staff/board)		-39.00	39.00
TOTAL						-49.64	49.64
Check	5257	12/08/2021	City of Vadnais Heights		Checking - 1987		-1,958.30
				Rent		-1,615.00	1,615.00
				Phone/Internet/Machine Overhead		-290.00	290.00
				Postage		-29.35	29.35
				Copies		-23.95	23.95
TOTAL						-1,958.30	1,958.30
Check	5258	12/08/2021	City Of Roseville		Checking - 1987		-1,203.91
				IT Support		-1,203.91	1,203.91
TOTAL						-1,203.91	1,203.91
Check	5259	12/08/2021	Megan Sigmon-Olsen		Checking - 1987		-7,500.00

December 2021 VLAWMO Finance Report

	3.481 · Landscape 1 - cost-share	-7,500.00	7,500.00
TOTAL		-7,500.00	7,500.00
	Check 5260 12/08/2021 Ehlers & Associates, Inc.		-1,785.00
	Checking - 1987		
	3.150 · Storm Sewer Utility	-1,785.00	1,785.00
TOTAL		-1,785.00	1,785.00
	Check 5261 12/08/2021 Houston Engineering, Inc		-496.50
	Checking - 1987		
	3.485 · Facilities & Maintenance	-496.50	496.50
TOTAL		-496.50	496.50
	Check 5262 12/08/2021 SEH		-2,403.89
	Checking - 1987		
	3.144 · Eng. & Tech.	-2,403.89	2,403.89
TOTAL		-2,403.89	2,403.89
	Check 5263 12/08/2021 Press Publications		-292.00
	Checking - 1987		
	3.320 · Marketing	-292.00	292.00
TOTAL		-292.00	292.00
	Check 5264 12/08/2021 Hisdahl's Trophies		-45.00
	Checking - 1987		
	3.310 · Public Education	-45.00	45.00
TOTAL		-45.00	45.00
	Check 5265 12/08/2021 City of White Bear Lake		-36,185.56
	Checking - 1987		
	payroll	-27,792.01	27,792.01
	Administration FICA	-2,013.97	2,013.97
	Administration PERA	-2,084.40	2,084.40
	Insurance Benefit	-4,250.26	4,250.26
	Admin payroll processing	-44.92	44.92
TOTAL		-36,185.56	36,185.56
	Check 5266 12/08/2021 Kennedy & Graven, Chartered		-1,122.00
	Checking - 1987		
	3.440 · Gilfillan Black Tamarack Wilkin	-285.60	285.60
	3.143 · Legal	-836.40	836.40
TOTAL		-1,122.00	1,122.00

December 2021 VLAWMO Finance Report

Vadnais Lake Area Water Management Organization
Custom Transaction Detail Report
 October 1 through December 1, 2021

10:03 AM

12/01/2021

Accrual Basis

	Type	Date	Num	Name	Memo	Account	Clr	Split	Amount	Balance
Oct 1 - Dec 1, 21	Credit Card Charge	10/04/2021		Google*SVCAPPS_VLAWM		US Bank CC	√	WEB	36.00	36.00
	Credit Card Charge	10/11/2021		adobe *photography plan		US Bank CC	√	Software	9.99	45.99
	Credit Card Charge	10/18/2021		Minnesota Pollution Control Agency		US Bank CC	√	3.485 · Facilities & Maintenance	409.96	455.95
	Credit Card Charge	10/19/2021		Ace Hardware	earpluggs for workday	US Bank CC	√	3.220 · Equipment	16.99	472.94
	Transfer	10/20/2021			Funds Transfer	US Bank CC	√	Checking - 1987	-1,023.63	-550.69
	Credit Card Charge	10/26/2021		Adobe "Creative Cloud		US Bank CC	√	Software	32.20	-518.49
	Credit Card Charge	11/02/2021		Google*SVCAPPS_VLAWM		US Bank CC	√	WEB	36.00	-482.49
	Credit Card Charge	11/13/2021		4Imprint	thank you cards, table throw	US Bank CC		3.320 · Marketing	272.41	-210.08
	Credit Card Charge	11/13/2021		4Imprint	pens	US Bank CC		3.320 · Marketing	165.44	-44.64
	Credit Card Charge	11/18/2021		L.L. Bean	jacket for nick	US Bank CC		3.320 · Marketing	89.79	45.15
	Credit Card Charge	11/18/2021		MAWD	mawd dawn 2021	US Bank CC	√	3.160 · Training (staff/board)	99.00	144.15
	Credit Card Charge	11/22/2021		chipotle	gift cards	US Bank CC		3.320 · Marketing	45.00	189.15
Oct 1 - Dec 1, 21									189.15	189.15

DRAFT

2021 Annual Watershed Awards

December 8th, 2021

View full stories at:

www.vlawmo.org/get-involved/awards



Watershed Steward Award



Katherine Doll Kanne

Minnesota Water Steward

Accomplishments:

- Rainbarrel Bonanza: 2020,2021
- Leaf Pack Macroinvertebrate monitoring: 2019
- Civic Engagement/VLAWMO Citizen Advisory: 2019-2021

“...Katherine takes initiative and leads by example, and does so out of a contagious, positive, and welcoming sense of enthusiasm.”



Watershed Partner Award



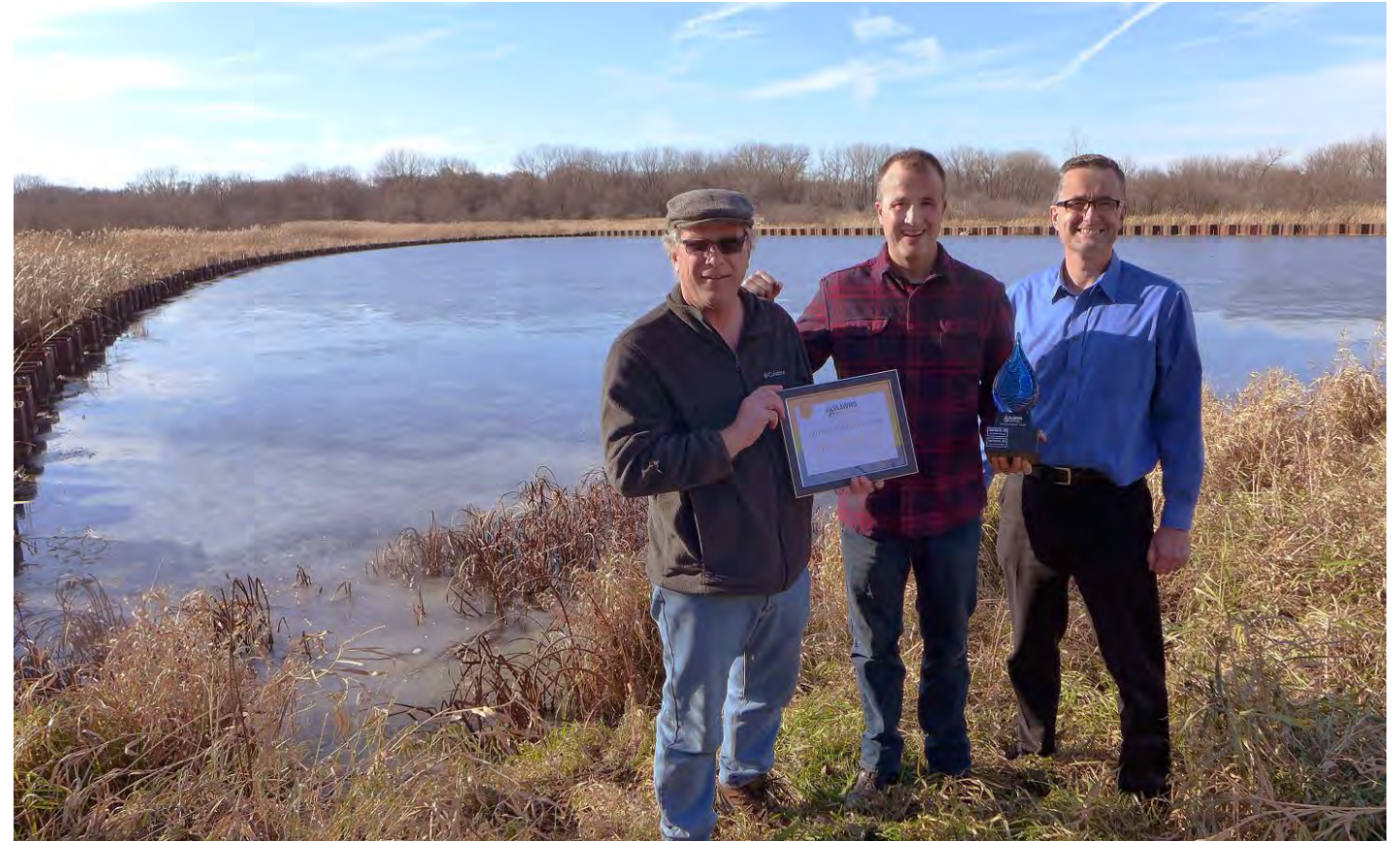
Jesse Farrell

City of Vadnais Heights

Accomplishments:

- Lambert Lake Pond and Meander: 2019-2021
- Lambert Creek ditch maintenance efforts: 2017-2021
- MS4 permit, public stormwater efforts: 2019-2021

“... VLAWMO was able to accelerate and expand its goals on Lambert Creek thanks to Jesse’s supportive partnership and consideration of both short and long-term goals.”



To: VLAWMO Board of Directors
From: Nick Voss, Education and Outreach Coordinator
Date: December 1, 2021
Re: **V. A. Education and Outreach 2021 Review**

The summary of VLAWMO's 2021 education and outreach activities is now available online in list and chart format.

A summary of highlights includes:

- 3 Community Blue Programs
- 5 community events (MarketFest, Heritage Days, etc.)
- 5 Public raingardens maintained under Adopt-a-Raingarden
- 1 stakeholder event: East Goose ALM
- 250 volunteer hours reported, 21 volunteers
- 491 volunteer hours including fieldwork/ U of M community-engaged learners program
- 7 COVID-19 adapted workshops
- 80 workshop/webinar participants
- 1,965 lbs of reported debris removed from stormdrains through Adopt-a-Drain
- 68% growth in Adopt-a-Drain participation. 68 new adoptions in 2021. (114 total)
- 19,000 website visits in 2021
- 5 of 6 public raingardens maintained by volunteers under Adopt-a-Raingarden
- ~200 social media engagements/month, 29 new followers
- 1 workshop/webinar participant continued into cost-share program
- 6 workshop/event participants continued into education and outreach involvement
- 5 Watershed Action Volunteers serving in leadership positions in 2021
- 2 new Minnesota Water Stewards certified and sponsored by VLAWMO in partnership with Freshwater Society

Attached in packet:

- V. A. 2021 Review Chart
- V. A. 2021 Goals and Survey Review Powerpoint

Online: vlawmo.org/about/whywatermatters

- [2021 Education and Outreach Review List](#)
- [2022 Education and Outreach Plan Goals](#)

Evaluation of 2021 goals and how they brought about the Education and Outreach Plan (EOP) Desired Outcomes

EOP Desired Outcomes

	1: Complete capital improvement campaigns	2: Confirm MS4 partners are using VLAWMO MS4 resources, striving to improve.	3: Maintain active, relevant outreach, participates with cost-share and volunteer programs.	4: Witness a citizenry that advocates for solutions that promote long-term stewardship...	5: Observe volunteers educating and being educated by their peers.	6: Observe citizens demonstrating watershed protection behaviors.
Capital Improvement Campaign: Goose Lake ALM	Complete		East Goose stakeholder survey—101 responses August 3rd stakeholder meeting—8 participants		White Bear Lake Environmental Advisory Commission partnership	
Capital Improvement Campaign: Lambert Creek Pond, Meander, and Ditch education	Complete	Ditch maintenance partnership—City of Vadnais Heights	Website, newsletter, and social media documentation of pond and meander: video, photos, seasonal updates. Newspaper article.			
1. VLAWMO will support partner Cities and Townships in making progress in MS4's	MS4 checklist created with all municipal partners	Articles with 3 MS4 partners, infographics with 2, brochure use 2	All MS4 partners shared promo of VLAWMO workshops. WBL and VH City newsletter articles	MS4 integration (pet waste) in VH scavenger hunt. VH public works partnership on raingarden maintenance	2 volunteers generated MS4 demonstration photos (pet waste) for City use	Adopt-a-Drain partnerships: WBL, WBT
2: Community members utilize watershed knowledge to act on watershed issues with help from VLAWMO's tools and resources	1 private cost-share project adjacent to and benefiting Birch Lake sand-iron filter		Cost-share open house: 6 participants Workshop participants to complete cost-share grants ('20,'21): 7	Cost-share grants completed: 16	Adopt-a-Drain: 68 new adoptions in 2021, 1,965 lbs of debris removed from drainage ways	Lakeaires Elementary raingarden maintenance with Community Blue support
3: Community members are educated on VLAWMO water issues and projects	East Goose Lake stakeholder engagement report—June Carp and lake mgmt. news articles	VLAWMO education booths: North Oaks, WBL, WBT	VLAWMO workshops: 67 participants. Social media engagements: 300+ Website visits: 19,000		Volunteer-led rainbarrel bonanza event: 22 participants. 5 volunteers in leadership positions.	
4: Coordinate an active volunteer base that learns and leads	3 volunteers contributing to Citizen Advisory Committee (CAC)	Volunteer-led VLAWMO education booths: VH Heritage Days, VH Ice Cream Social	6 VLAWMO workshop participants segued into volunteer activities	10 Field work days: 14 volunteers AFSA work day: 19 Tamarack Nature Center: 14. 2021 volunteer hours reported: 487	2 Minnesota Water Steward volunteers renovating East Oaks Bioswale in North Oaks. 2 MWS planned watershed tour. 3 volunteers macroinvertebrates monitoring	5 public raingardens maintained by adopt-a-raingarden volunteers Aquatic Invasive Species monitoring: 2 volunteers
5: Watershed communications are accountable and active in the community	Monthly email newsletters: 2,400 documented opened. End-of-year survey		11 newspaper articles 3 city newsletter articles			
6: Schools have established and maintained stormwater BMP's integrated with watershed education efforts			Jr. Watershed Explorer program distributed to 5 schools	Jr Watershed Explorer program workbook completions: 5		Christ the Servant Church + VH Elementary Principal maintained VH Elementary raingarden
7: An appreciation of natural resources...fosters ecological awareness, participation			Volunteers donated wildlife photos: Debbie Hartmann, "MW and WC"	Upstream partnership with WB Center for the Arts: 10 tea and story events	Phenology monitoring picture posts active: 5 locations	4 neighborhood spotlight articles developed from cost-share participants. Volunteer trash pick-up at WB Rec Center wetland
8. Key personnel (BOD, TEC, WAV) have continued to advance their knowledge of water and related natural resources	White Bear Lake City Council—2 "visitor" presentations for East Goose Lake	MS4 info presentation at VLAWMO TEC—August	1 key personnel nomination and voted winner for annual watershed partner award	TEC/BOD quorums met		

2021/2022 Education & Outreach Update

Outline:

- 2021 Summary and survey results
- 2022: Upcoming efforts

View complete plan documents at:
www.vlawmo.org/about/why-water-matters



2021 Summary



- 3 Community Blue Programs
- 5 community events (MarketFest, Heritage Days, etc.)
- 5 Public raingardens maintained under Adopt-a-Raingarden
- 1 stakeholder event: East Goose ALM
- 250 volunteer hours reported, 21 volunteers
- 491 volunteer hours including fieldwork/ U of M community-engaged learners program
- 7 COVID-19 adapted workshops
- 80 workshop/webinar participants
- 1,965 lbs of debris removed from stormdrains under Adopt-a-Drain
- 7 cost-share installations from workshop participation in the past 2 years (2020: 99, 2021: 67)



See full 2021 Education/Outreach Report for more details:

www.vlawmo.org/about/why-water-matters

Vadnais Lake Area Water Management Organization

2021 Summary



Workshop to Cost-share Pipeline:

- Prospective cost-share site-visits come from workshops as far as 5 years ago
- Some cost-share grants schedule visits for 1-2 years before installations
- Direct workshop to cost-share numbers low
- Workshop participants also serve as word of mouth reference for cost-share pursuits
- Workshop participants also widen audience, increasingly going to volunteering (2020, 21)
- Installations can occur independently
- Workshops now recorded, posted online



See full 2021 Education/Outreach Report for more details:
www.vlawmo.org/about/why-water-matters

2

Vadnais Lake Area Water Management Organization

2021 Summary: Goal Review



Goals Summary:

- All goals accomplished: Email list growth and TEC/BOD supplementary “water matters” partial

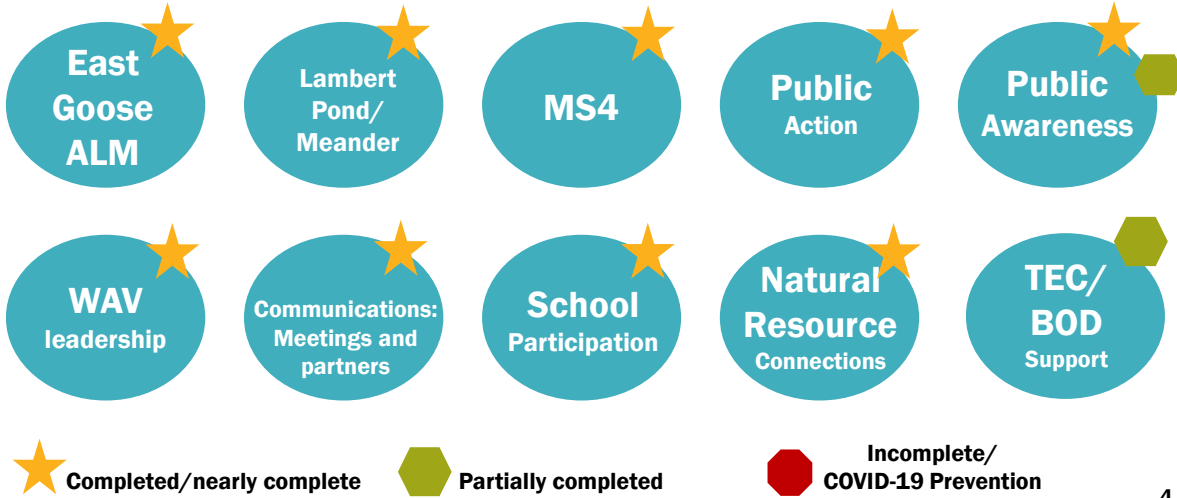
Measurable objective highlights:

- 68% growth in Adopt-a-Drain participation. 68 new adoptions in 2021. (114 total)
- 19,000 website visits in 2021
- 5 of 6 public raingardens maintained by volunteers under Adopt-a-Raingarden
- ~200 social media engagements/month, 29 new followers
- 1 workshop/webinar participant continued into cost-share program
- 6 workshop/event participants continued into education and outreach involvement
- 5 Watershed Action Volunteers serving in leadership positions in 2021
- 2 new Minnesota Water Stewards

3

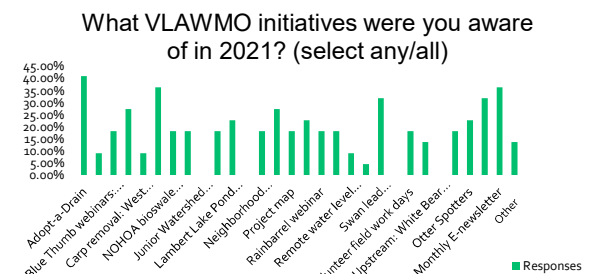
Vadnais Lake Area Water Management Organization

2021 Summary: Goal Review



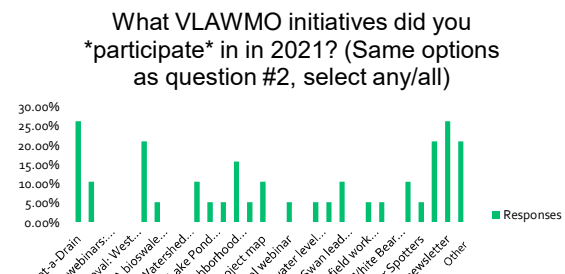
Vadnais Lake Area Water Management Organization

2021 Survey Results N=23



Top Results: Awareness

- Adopt-a-Drain
 - Monthly E-newsletter
 - VLAWMO booth at event
 - Project construction
 - Carp removal
 - Cost-share program
- "Other": Birch Lake filter (2020), email newsletter in general, none

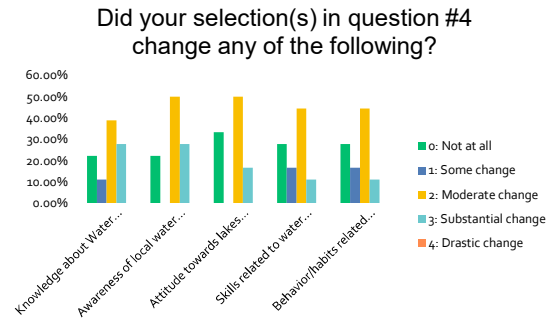


Top Results: Participation

- Monthly newsletter
 - Adopt-a-Drain
 - Other: None, newsletter (repeat), Birch Lake filter
 - VLAWMO booth at event
- "Other": Can't participate due to health problems or "none"

Vadnais Lake Area Water Management Organization

2021 Survey Results N=23



Tracking change 2020:

- Substantial change and moderate change dominate, lean towards skills and behaviors
- Drastic change reported
- No change leans towards lowest, hardest to change behaviors

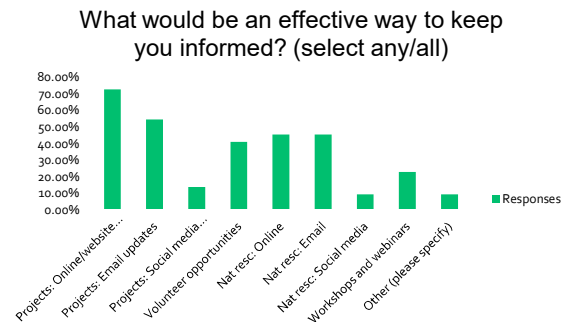
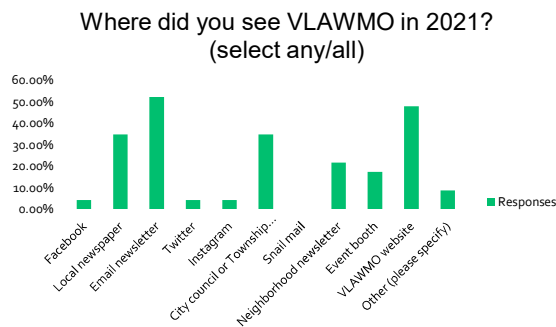
Tracking change 2021:

- Moderate change in awareness
- Moderate change in skills and water behaviors
- Most substantial change in awareness
- 2021 higher consistency: moderate or not at all
- Closer and more consistent audience

Vadnais Lake Area Water Management Organization

6

2021 Survey Results N=23



Top Results:

- Email newsletter
 - VLAWMO website
 - City Council or Township meeting
- "Other": White Bear Township, none

Top Results:

- Project focus: Online/website, email
 - Natural resource focus: Online, email
 - Volunteer opportunities
 - Lake/natural resource specific information: online or hardcopy
- "Other": Snail mail - Past years indicate snail mail preferred

Vadnais Lake Area Water Management Organization

7

2021 Summary: Goal Review



Additional takeaways:

- 2021 tour cancelled due to low registrations
- Low email list subscription growth, but best year for adopt-a-drain growth
- Social media declining for broad communication but still a space for followers
- Best year yet for volunteer participation and allocating volunteer specialties
- 2020 had a DIY cost-share tour, 2021 had an awareness-driven/storytelling "Upstream" project
- Survey likely reflects low participation in volunteers



8

Partnership Programs



ADOPT
A STORM
DRAIN



Blue
Thumb
PLANTING FOR CLEAN WATER®

Adopt-a-Raingarden:

Schools, congregations, public

Leaf Pack Network®



Aquatic Invasive Species (AIS) Monitoring:

Ramsey County

picture post

9

2022: Upcoming Efforts



Capital Improvement Campaigns:

- East Goose Adaptive Lake Management – Aquatic vegetation focus
- Ditch history and maintenance
- Website update

MS4 Partnerships:

- Build off of 2021 developments: Flyers, mailers, infographics, and articles
- Increase presentations specialty info meetings, and partnerships with neighboring watersheds. Utilize maps for best management practices and TMDL resources.

Tamarack Nature Center Partnership:

- WHEP: Wetland Health Evaluation Program – pilot program

Watershed Action Volunteers (WAV):

- Leadership development, tours and networking, Community Blue us
- Inclusion of Bridgewood Park into Adopt-a-Raingarden

10

Vadnais Lake Area Water Management Organization

2022: Upcoming Efforts



Outreach strategies:

- Strategic use of social media and ads to grow email newsletter audience. Use of City/Township outlets to grow email newsletter audience
- Target behavior change and skills: Seasonal actions for yard care/yard waste, native plants/pollinators, adopt-a-drain



Workshops and Projects:

- Renovating raingardens: St Mary's (Eagle Scout) and Chippewa (WAV)
- Good neighbor guide booklet (WAV)
- Mini workshops/info sessions
- Closer partnerships with city commissions

11

Vadnais Lake Area Water Management Organization

2022 Goals



Goal Summary:

- 2 capital improvement campaigns, 8 goals, 24 measurable objectives.

Referenced to 10-year VLAWMO Comprehensive Plan

- Completion of objectives indicates progress towards long-term desired results
- Goals serve as checkpoints for desired results over the course of 10-year VLAWMO Comprehensive Plan



12

Vadnais Lake Area Water Management Organization

2022 Goals



Prioritized strategy levels:

- High, intermediate, and low levels to structure staff time and workload



Vadnais Lake Area Water Management Organization

High priority strategies

High priority strategies that receive primary focus in content creation, planning, and implementation.

Goals: Capital Improvement Campaigns, Goal 1

Intermediate priority strategies

A segue between long and short term results, requiring intentional planning yet produces tangible results.

Goals: 2, 3, 4, 5

Low Strategies

Quickly accessible, short-term oriented, and self-perpetuating resources. Participation shifts to public participation and volunteers as the active agents.

Goals: 6, 7, 8

13

Questions?

View complete plan documents at:
www.vlawmo.org/about/why-water-matters



To: VLAWMO Board of Directors

From: Tyler Thompson, GIS Watershed Technician

Date: December 1, 2021

Re: V. B. 2022 Cost Share Policy Updates

As it was approved at the end of 2020, the VLAWMO Cost Share Program underwent major overhaul and restructuring for the 2021 grant year, including the creation of the Soil Health Grant program, and grant scope and funding amounts for the Landscape Level 1, Level 2, and rain barrel grant programs.

Staff has had the tremendous fortune in 2021 of implementing and utilizing all of these major updates, allowing us to better allocate funding for projects that have a greater impact for the protection and restoration of our water bodies. It's enabled us to work more effectively and efficiently with our cities and Township for planning and implementing quality retrofit BMPs during their regular infrastructure maintenance and reconstruction projects. This is just the beginning, and staff is looking forward towards the 2022 grant year!

With that, and after a year of use, staff has gone through all 4 grant policy & guidance documents, and is recommending minor wording and clarification changes within these documents to better clarify grant terms and adjust for improved communication and implementation. Please find all 4 documents with changes proposed, attached as a URL link to our website.

Staff and TEC Recommendation

At their November 10th meeting, the TEC voted to recommend approval to the Board of the proposed clarification and language changes to all 4 Cost Share grant program policies, as presented and with the attached URL link. Staff is also recommending approval.

Proposed Motion

It was moved by ___ and seconded by ___ to approve Landscape Cost Share Policy & Guidance updates for LL1, LL2, SHG, and Rain Barrel grant programs, as presented, for 2022.

Attached:

- ATT 1: [2022 DRAFT Cost Share Policies Update \(link to vlawmo.org\)](#)

To: VLAWMO Board of Directors

From: Dawn Tanner

Date: December 1, 2021

Re: V. C. and D. 2022 Quotes for 2022 work from Natural Shore Technologies and Ramsey County Soil and Water Conservation Division

Natural Shore Technologies and Ramsey County Soil and Water Conservation Division did an outstanding job for VLAWMO in 2021.

NST has been working on maintaining our previously grant funded (and required for maintenance) sites. Communication about progress at those sites has been clear and prompt. Because of sustained effort over the past few years, VLAWMO staff requested that NST reduce effort for 2022, where sites are doing well so such a reduction is justified, and add treatment of Yellow iris at Deep Lake. VLAWMO staff have been conducting surveys and doing mechanical removal of Yellow iris on Deep Lake over the past 2 years. Chemical treatment is needed to control this invasive species more effectively and allow VLAWMO staff to use time to survey other infested lakes within the chain and remove new, small infestations as they are detected. NST provided a quote for 2022 to provide the work requested by VLAWMO staff (attached in the packet).

RCSWCD conducted survey work in collaboration with VLAWMO staff during 2021 on Amelia Lake and Pleasant Lake. Amelia survey work was specified in the Sustainable Lake Management Plan schedule, and aquatic plant distribution was new information for this lake of biological significance in the watershed. Flowering rush is an invasive species that was reported in the lake decades ago. It was not detected during 2020 by VLAWMO staff nor during 2021 during survey work. Monitoring will continue for the next 2 years. If this invasive species is not detected after that time, MN DNR will allow this report to be changed to eradicated. It is likely that fluctuating water levels removed Flowering rush, as it was located in a small area and reproduces vegetatively in Minnesota (instead of reproducing by seed). Pleasant Lake survey work was done in targeted locations to support carp removal. VLAWMO staff requested survey work for Tamarack Lake (defined in the SLMP schedule), Gem Lake (because of potential source conditions for revegetation efforts in other lakes in the future and a current knowledge gap), and a Flowering rush check on Amelia with delineation if needed (likely this will not be needed so the Amelia quote is an upper bound). Quotes for these 3 lakes are attached in the packet. The attached quotes amounts are in line with the 2022 approved budget.

Proposed Motion

It was moved by ____ and seconded by ____ to approve 2022 quotes from NST (\$9,800) and RCSWCD (\$6,475) for work requested by VLAWMO staff.

Attached:

- ATT 1: Natural Shore Technologies quote for 2022
- ATT 2: RCSWCD quote for Tamarack Lake surveys for 2022
- ATT 3: RCSWCD quote for Gem Lake surveys for 2022
- ATT 4: RCSWCD quote for Amelia Lake spot check and delineation (if needed) for 2022



September 24, 2021

VLAWMO 2022 Vegetative Management Bid

Dear Dawn,

Thank you for considering Natural Shore for several VLAWMO BMPs and restoration sites. Please find below our cost estimates outlined below for each individual site and what those costs include:

Estimated Maintenance for 2022:

Birch Lake Shoreline- \$1,500

- Spring clean-up plus 4 visits minimum throughout the growing season
- Control and disposal of undesirable weeds
- Small invasive tree removal and disposal (buckthorn/grapevine/honeysuckle/etc.)
- Supplemental native plants to boost biodiversity

Birch Lake IESF- \$1,000

- Spring mowing plus 3 visits minimum throughout the growing season
- Small invasive tree removal and disposal (buckthorn/grapevine/honeysuckle/etc.)
- Supplemental native plant seed where needed
- Inlet or catch basin cleaning during site visits

Sucker Channel Shoreline Restoration- \$1,400

- Spring clean-up plus 4 visits minimum throughout the growing season
- Control and disposal of undesirable weeds
- Small invasive tree removal and disposal (buckthorn/grapevine/honeysuckle/etc.)
- Supplemental native plants to boost biodiversity

Koehler Bend and Flume- \$2,000

- Spring mowing
- Spring and fall herbicide treatment
- 2-3 site visits to prevent weed seed maturation (weeding/whipping)
- Small invasive tree removal and disposal (buckthorn/grapevine/honeysuckle/etc.)
- Inlet or catch basin cleaning (removal of debris blocking grates)
- Supplemental native seed or plants to boost biodiversity

Oakemede Lane- \$1,200

- Spring mowing
- Spring and fall herbicide treatment
- 2-3 site visits to prevent weed seed maturation (weeding/whipping)
- Small invasive tree removal and disposal (buckthorn/grapevine/honeysuckle/etc.)
- Supplemental native seed or plants to boost diversity (2-3 flats)



Deep Lake Yellow Iris Control (target 30% of the shoreline)- \$2,500-\$3,000

- Site Assessment-tagging & mapping by boat
- Cut seed head & herbicide treatment #1
- Herbicide treatment #2
- Follow up assessment and possible treatment #3

2022 VLAWMO Maintenance total- \$9,600-\$9,800

These costs are based on site conditions observed during a site assessment and the previous years' maintenance inputs. Prices include consultations, professional monitoring, plant identification, labor, removal and proper disposal of weeds, herbicide, and transportation.

Please let me know if you have any questions or concerns regarding the above estimate. We can work with you to adjust the number of visits or other maintenance strategies to align with any budget constraints you might have for each of the sites, or to better obtain your site objectives.

Thank you,
Tracy Lawler
Maintenance Program Manager
Cell: 612-220-4178
tracy@naturalshore.com

2022 Maintenance Contract
Approval of 2022 Vegetative Maintenance

Contract Value: \$ _____
Client names: VLAWMO

Signed: _____ Date _____

Contractor: Natural Shore Technologies, Inc.
Signed:

William M. Bartodziej, M.S.
Senior Restoration Ecologist, Natural Shore Technologies

Please return a signed copy of this contract and a check to:
Natural Shore Technologies, Inc.
6275 Pagenkopf Rd.
Maple Plain, MN 55359



2022 Tamarack Lake Bathymetric Survey Proposal

September 16, 2021

Prepared for:
Vadnais Lake Area Water Management Organization

Prepared by:
Ramsey County Parks & Recreation, SWCD

Scope of Services

Macrophyte Surveys

Macrophyte surveys will consist of data sampling at evenly spaced geo-referenced points throughout the lake to characterize the diversity and abundance of aquatic vegetation using a point intercept survey method. RC-SWCD staff members will also use Lowrance unit and transducer to generate data to produce a biovolume map showing concentration of aquatic vegetation growing in the lake.

Bathymetry Surveys

Bathymetric surveys are completed by connecting a Lowrance unit and transducer to the boat and following pre-determined transect lines across the lake to capture lake bottom depth data. This data is then processed, corrected using physically measured field data points where necessary, and then used to create new contour lines with ArcGIS software. It may be completed in conjunction with macrophyte surveys when there is a clear enough sonar signal in the lake.

Tamarack Lake

Bathymetry and Macrophyte Survey

Task	Cost/Hour	Hours	Cost
Boat Use	unit	-	\$50
BioBase Upload	unit	-	\$300
Lake Survey Prepwork	\$75	6	\$450
Field Work, 8 hours (2 people)	\$75	16	\$1,200
Data entry (Species & Depths)	\$75	2	\$150
GIS Post-processing and Mapping	\$75	3	\$225
Report Completion, Contour Generation	\$75	6	\$450
TOTAL		33	\$2,825



Deliverables

The Bathymetric Report will include:

- Description of Methods;
- Tables of aquatic, emergent, native, and invasive plants surveyed;
- Bathymetry Map, BioVolume Map, numbered Survey Point map to match with aquatic species tables, and shoreline polygons; and
- Shapefiles including Biovolume, 2022 Contour Lines, and Point Intercept Location layers.

Figure 1 – Project Location Map





2022 VLAWMO Lake Vegetation and Bathymetric Survey Proposal Gem Lake

November 10, 2021

Prepared for:
Vadnais Lake Area Water Management Organization

Prepared by:
Ramsey County Parks & Recreation, SWCD

Scope of Services

Macrophyte Surveys

Macrophyte surveys will consist of data sampling at evenly spaced geo-referenced points throughout the lake to characterize the diversity and abundance of aquatic vegetation using a point intercept survey method. RC-SWCD staff members will also use Lowrance unit and transducer to generate data to produce a biovolume map showing concentration of aquatic vegetation growing in the lake.

Bathymetry Surveys

Bathymetric surveys are completed by connecting a Lowrance unit and transducer to the boat and following pre-determined transect lines across the lake to capture lake bottom depth data. This data is then processed, corrected using physically measured field data points where necessary, and then used to create new contour lines with ArcGIS software. It may be completed in conjunction with macrophyte surveys when there is a clear enough sonar signal in the lake.

Bathymetry and Macrophyte Survey Cost Estimate

Task	Cost/Hour	Hours	Cost
Boat Use	unit	-	\$50
BioBase Upload	unit	-	\$300
Lake Survey Prepwork	\$75	7	\$525
Field Work: 1, 8-hour day (2 people)	\$75	16	\$1,200
Data entry (Species & Depths)	\$75	4	\$300
GIS Post-processing and Mapping	\$75	2	\$150
Report Completion, Contour Generation	\$75	6	\$450
TOTAL		35	\$2,975

Deliverables

Please note the not-to-exceed price may reduce the amount and depth of information for deliverables. Under this proposal the field work, table of plants, BioBase report, and basic maps produced by BioBase will be completed under the not-to-exceed price. If remaining funds are available bathymetry, biovolume, and additional calculations on plant prevalence will be made available in a report.

The Bathymetric Report will include the following as funds allow:

- Description of Methods-**included in not-to-exceed price**
- Tables of aquatic plants surveyed-**included in not-to-exceed price**
- Bathymetry Map, BioVolume Map, numbered Survey Point map to match with aquatic species tables, and shoreline polygons-**Included if funds remain**
- Shapefiles including Biovolume, 2022 Contour Lines, and Point Intercept Location layers-**included if funds remain**



Soil & Water Conservation
2015 Van Dyke Street
Maplewood, MN 55109
Phone: (651) 266-7270
www.ramseycounty.us



2022 VLAWMO Flowering Rush Delineation Proposal
Lake Amelia

November 10, 2021

Prepared for:
Vadnais Lake Area Water Management Organization

Prepared by:
Ramsey County Parks & Recreation, SWCD

LAKE AMELIA

Scope of Services

Flowering Rush Delineation Description

Invasive Flowering Rush will be delineated across the entire shoreline utilizing visual searches. A map of the delineated areas will be created along with submission into EDDMaPS and any treatment entered into ISMTrack.

Flowering Rush Survey Cost Estimate

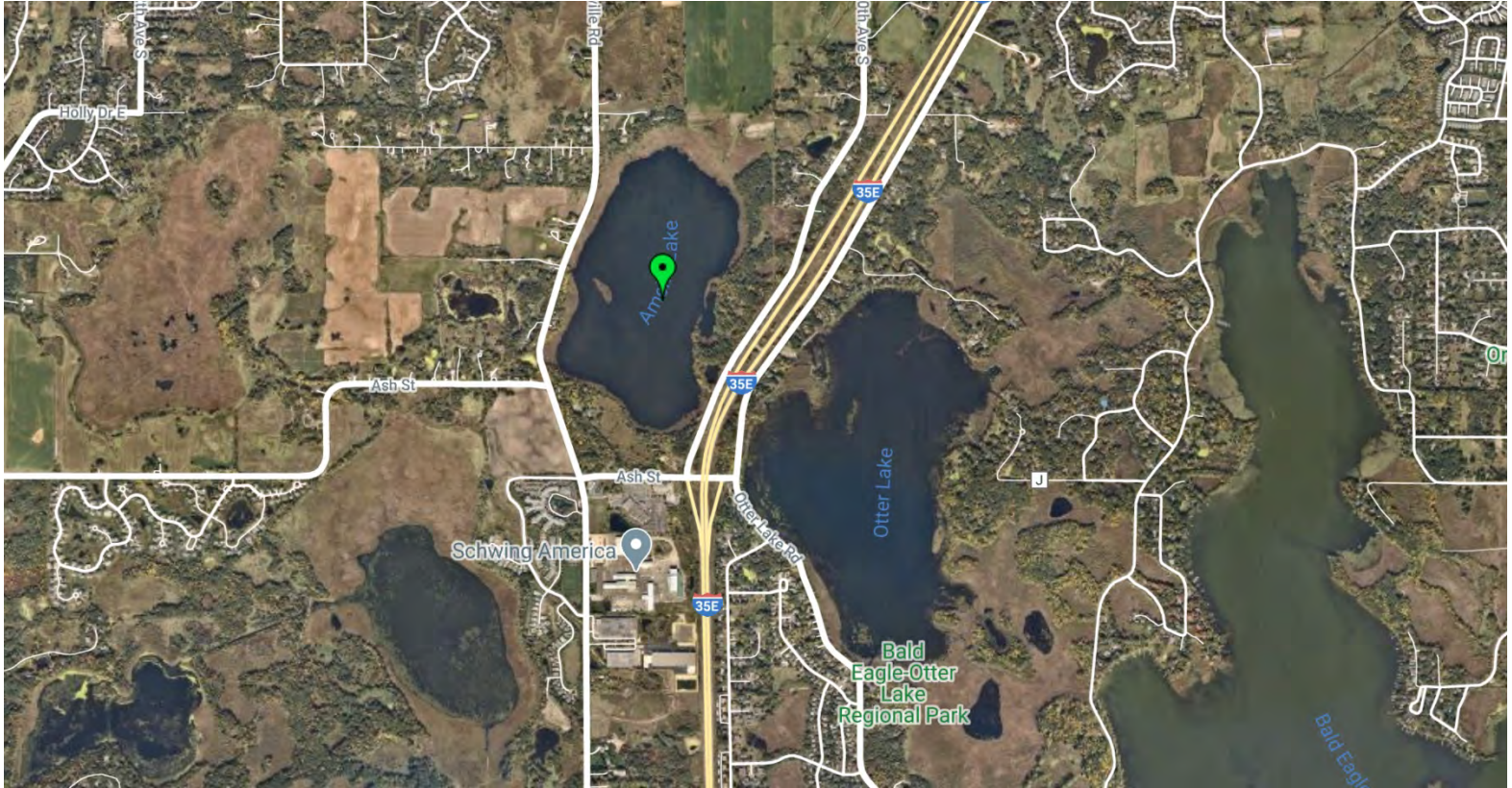
Lake Amelia flowering rush delineation Estimate, Summer 202

Task	Cost/hr	Hours	Cost
Field survey (2 people at 2.5 hours each)	\$75	5	\$375
GIS Post-processing and Mapping	\$75	2	\$150
Report Completion and ISMTrack reporting	\$75	2	\$150
TOTAL		9	\$675

Deliverables

The report will include:

- Description of Methods
- Static map of polygons of flowering rush
- Shapefiles of Flowering Rush polygons



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VI. A. Discussion on VLAWMO's role in Aquatic Plant Management

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Memorandum

To: Vadnais Lakes Area Watershed Management Organization Board of Directors
From: Joe Bischoff, Karen Chandler, and Greg Williams
Subject: Summary of aquatic plant management roles of select Watershed Management Organizations and Cities
Date: December 1, 2021
Project: 23621417

The Vadnais Lakes Area Watershed Management Organization (VLAWMO) Board of Directors (Board) engaged Barr Engineering Co. (Barr) to assist the Board in considering policies regarding VLAWMO's role in the management of aquatic plants in lakes within its jurisdiction. As an initial step, Barr reviewed the aquatic plant management roles of several watershed districts, joint powers watershed management organizations, and cities within the Twin Cities Metropolitan Area; these entities include:

- Bassett Creek Watershed Management Commission (BCWMC)
- Capitol Region Watershed District (CRWD)
- City of Eagan
- City of Eden Prairie
- Minnehaha Creek Watershed District (MCWD)
- Nine Mile Creek Watershed District (NMCWD)
- Ramsey-Washington Metro Watershed District (RWMWD)
- Rice Creek Watershed District (RCWD)
- Riley Purgatory Bluff Creek Watershed District (RPBCWD)
- Valley Branch Watershed District (VBWD)

This memorandum summarizes the roles of the above organizations, along with specific factors that may affect the appropriateness of some roles for VLAWMO. Barr and VLAWMO staff will give a presentation at the December 8 VLAWMO Board meeting that will summarize the information below and assist in facilitation of the discussion.

Aquatic Plant Management (APM) Roles

The aquatic plant management (APM) roles of the above organizations vary according to the goals, policies, and physical resource conditions of each. Among the organizations considered, one or more organization performs the following APM activities:

- Distribute educational materials addressing invasive and native vegetation
- Monitoring/survey lakes for aquatic plants (invasive and native) on regular basis

- Provide technical support to partners (e.g., park districts, cities, lake associations) for in-lake APM activities
- Provide cost-share for partners (e.g., park districts, cities, lake associations) for in-lake APM activities
- Perform harvesting and/or herbicide treatment of curly-leaf pondweed (CLP)
- Perform harvesting and/or herbicide treatment of other aquatic invasive species
- Perform in-lake management activities of native aquatic plants

Table 1 summarizes which APM activities are performed by each organization.

Drivers, Criteria, and Limitations for APM Roles

Other Watershed Districts, WMOs and Cities

For most organizations, the impetus for APM activities traces back to the highest-level goals identified in a watershed management plan; specifically, a goal to “manage the impact of aquatic invasive species” or similar statement (note that for RPBCWD and RWMWD, this is included among the “strategies” and “signs of success,” respectively, versus the “goals” of those organizations, which are very broad). Most of the organizations considered herein contain additional goals, policies, and/or strategies to “protect and improve habitat” which indirectly addresses the health of native aquatic plant communities.

The criteria dictating the scope of each organization’s APM activities is generally defined among watershed management plan policies, individual lake management plans, and/or AIS rapid response plans. Several organizations (e.g., CRWD, RCWD, VBWD) develop lake-specific vegetation management plans prior to performing in-lake APM.

Criteria used to limit the extent of APM activities among the organizations considered herein include:

- Identification of priority waterbodies
- Type of aquatic vegetation (invasive versus native, specific species)
- Type of direct benefit from the activity (e.g., water quality/phosphorus, habitat/ecology, recreation)

RCWD developed a decision tree incorporating the above factors to define its APM roles. Drivers, criteria, and limitations for APM activities of each organization are summarized generally in Table 1.

VLAWMO Priorities and Issues

VLAWMO’s Comprehensive Watershed Management Plan (Plan) identifies aquatic invasive species management as a priority issue in the watershed. The goals and strategies from the WMO’s plan are listed below.

Priority Issue 5: Aquatic invasive species (AIS) management.

Goal 5-1: In cases where AIS management overlaps with water quality improvement efforts, especially in shallow lakes (for example rough fish and curly leaf pondweed management), VLAWMO will look for opportunities to improve water quality as they align with the priorities of the VLAWMO Capital Improvements and Programs Plan.

Strategy 5-1-1: Implement rough fish management (such as harvesting or fish migration barriers) and curly leaf pondweed treatment, where applicable

Goal 5-2: Support other LGUs and partners in AIS management.

Strategy 5-2-1: Where appropriate, VLAWMO may act as a partner and fiscal agent to lake associations or other interest groups to manage AIS.

Strategy 5-2-2: Where appropriate, VLAWMO may partner with other agencies or lake associations to provide education on AIS. These partnerships will be described and approved by the Board and each opportunity will be evaluated to ensure consistency with VLAWMO's priorities, goals, strategies and statutory responsibilities.

Past VLAWMO APM Activities related to AIS Management

VLAWMO initiated and participated in APM activities as part of AIS projects in the past including:

- VLAWMO partners with Ramsey County to delineate areas of AIS in preparation for AIS treatment. For example:
 - In 2019, VLAWMO delineated the extent of Eurasian watermilfoil (EWM) in Birch Lake. The Birch Lake Improvement District (BLID) plans to go forward with treatment in 2022. VLAWMO staff are planning to help BLID submit a small grant proposal to the Minnesota Department of Natural Resources (DNR) when the EWM/curly-leaf pondweed (CLP) invasive treatment grants open.
 - In 2021, VLAWMO completed a survey of flowering rush in Amelia Lake. However, flowering rush was not detected during survey. These surveys will continue for the next 2 years. If it is not detected for 3 consecutive years, DNR would allow it to be removed from the listed infestation.
- The VLAWMO Board approved a demonstration treatment for CLP in Pleasant Lake in 2020 to support the carp removal project. However, in the permitting stage, the Minnesota Department of Health did not allow the permit to go forward due to water supply concerns, so that work was not completed.

- VLAWMO completed a survey for yellow iris on Deep Lake in 2019 and conducted mechanical removal with VLAWMO staff and volunteers in 2020 and 2021; with coordination and permitting from DNR and annual reporting by VLAWMO staff.

Comparison of Findings and Range of APM Roles

Although the APM roles of each organization vary, there is a “base level” of APM services that all organizations considered herein perform. These include:

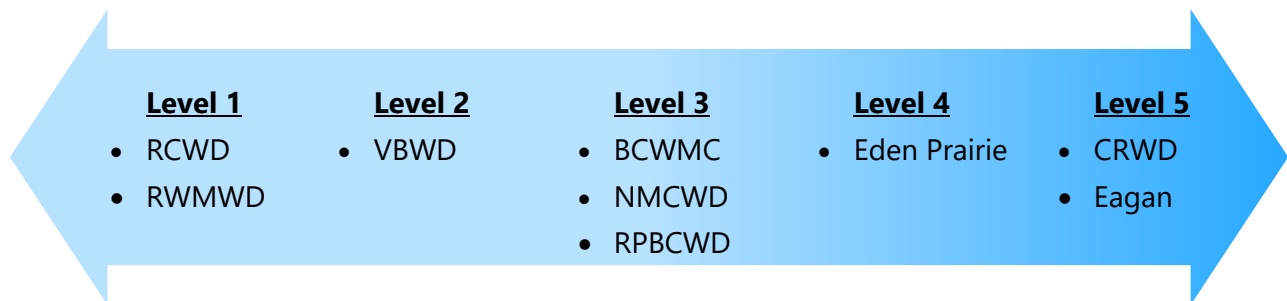
- Monitoring/survey of aquatic plants (native and invasive) in priority lakes
- Education for residents and partners regarding AIS
- In-lake APM activities (e.g., herbicide treatment) to address AIS directly impacting water quality (i.e., CLP)

For general comparison, the above “base level” is defined as Level 1 of five levels of increasing APM roles. These are described as follows:

- Level 1 = aquatic plant monitoring, education, and in-lake APM of CLP for water quality benefit
- Level 2 = Level 1 + technical support and/or cost-share for in-lake APM of other AIS in addition to CLP
- Level 3 = Level 2 + performs in-lake APM of AIS and/or native plant introductions or expansion to support native habitat/ecological benefit (not limited to CLP)
- Level 4 = Level 3 + performs in-lake APM of AIS only for recreational benefit
- Level 5 = All of the above and in-lake APM addresses native and invasive species

In level 1, the organization only undertakes activities for CLP management to support water quality improvements. In level 2, the organization will actively manage CLP while supporting management of other AIS. However, they do not take an active role in the management of other AIS. In level 3, the organization takes a step beyond providing technical support and is willing to actively participate in the management of other AIS, if it specifically supports the health of the aquatic plant community. For example, they may actively participate in starry stonewort surveys and management as well as CLP. In level 3, the organization also participates in activities aimed at expanding or improving the native aquatic plant community. Activities may include introductions, nursery areas, or whole lake drawdown. In level 4, the organization will manage AIS for the purpose of water quality improvements, benefits to the health of the plant community, or to support recreation. However, their activities are still limited to managing only AIS and not native species that may inhibit recreation. And in level 5, the organization is willing to manage both AIS and native species to support water quality, aquatic plant community health and recreational activities.

The following graphic illustrates where the 10 organizations considered herein fall within the range of possible APM roles generally described above:



The APM roles of each of these organizations contain nuances that differentiate them. Some of these differentiators include:

- RCWD provides technical assistance (e.g., surveys, attending meetings) for AIS issues not impacting water quality (i.e., non-CLP) but not cost share for these activities
- RWMWD conducted a pilot project on Casey Lake to evaluate the removal of coontail for nutrient reduction. This approach attempts to manage native vegetation for water quality benefits
- VBWD provides technical assistance including treatment design and permitting assistance for lake associations seeking to treat AIS
- NMCWD provides cost-share funding to cities for projects to improve lake habitat, including native vegetation
- BCWMC uses a formula based on lake characteristics to determine project costs paid by BCWMC
- BCWMC has a policy declining the management of native plants that proliferate due to improved water quality

A significant differentiator may also be an organization's role relative to aquatic recreation, which may be impacted by the extent and type of aquatic vegetation. Joint powers watershed management organizations often defer recreationally-motivated projects or programs to cities, park districts, and the DNR. Of the organizations considered herein, both cities perform APM projects for recreational benefit, while CRWD is the only watershed district or joint powers watershed management organization to do so.

The scope and feasibility of each organization's APM roles depends in part on the number and extent of lakes (specifically littoral zone) within its jurisdiction. For example, CRWD actively manages five small lakes, while RWMWD and VBWD manage 20 or more priority waterbodies. For comparison, VLAWMO contains 16 lakes and regularly monitors water quality of 12 lakes. Limiting the geographic scope of APM activities may allow organizations to perform a broader range of APM services. For example, BCWMC limits its AIS response plan to its seven highest priority lakes. Impairment status, plant indices of biological integrity (IBI), or other factors could be used to prioritize lakes for APM activities.

Table 1 Summary of Select Organization APM Activities

Aquatic Plant Management (APM) Roles and Considerations	Organization									
	BCWMC	CRWD ¹	Eagan ²	Eden Prairie	NMCWD	RCWD	RWMWD	RPBCWD	VBWD	VLAWMO
APM included among highest level Plan goals	X	X			X	X	X		X	X
APM included among plan policies and/or strategies	X	X	X	X	X	X	X	X	X	X
Scope of APM described in Plan, LVMP, or AIS strategy	X	X	X	X	X	X	X	X	X	
APM for only select lakes (e.g., priority lakes)	X ³		X ⁴		X ³	X ⁵	X ⁵	X ⁵	X ⁵	
Regular aquatic plant monitoring	X ⁵	X	X	X	X ⁵	X ⁵	X ⁵	X	X ⁵	
Species managed:										
Curly-leaf pondweed	X	X	X	X	X	X	X	X	X	X
Other aquatic invasives	X	X	X	X	X	X	X	X	X	
Native aquatic plants		X	X		X ⁶					
Triggers for management:										
Water quality benefit	X	X	X	X	X	X	X	X	X	X
Ecological/habitat benefit	X ⁶	X	X	X	X			X		
Recreational benefit		X	X	X						
Technical support roles ⁷	X	X	X	X	X	X	X	X	X	
Cost-share for partners	X	X		X		X	X	X		X

Notes:

- (1) Note that CRWD contains only 5 lakes (largest is ~70 acres)
- (2) Note that Eagan has a motored watercraft ban
- (3) Most roles limited to lakes identified in AIS rapid response plan
- (4) Management limited to lakes with public access and/or fishing
- (5) Management limited to "District managed lakes" or similar definition
- (6) Management limited to partner cost-share roles
- (7) Technical assistance roles vary between organizations

Cost and Funding Considerations

Funding for aquatic plant management varied across the 10 organizations and was dependent on the number of and types of lakes. However, all of the organizations included budget limits for their AIS or aquatic plant management activities. For example, RCWD budgets approximately \$250,000 annual for AIS management, which includes carp and curly-leaf pondweed management. The RCWD allocates funding for these activities annually, based on needs and requests and all CLP management activities require a 50% cost share from a local organization such as a lake association. The City of Eden Prairie budgets \$85,000 annually for lake management activities that includes AIS or aquatic plant control. Actual money spent on aquatic plant harvesting is typically less than \$10,000 annually. Table 2 summarizes funding for lake and aquatic plant management by some of the organizations reviewed.

Table 2. Funding approach used by other watershed organizations and cities

Management Organization	Funding (\$/year)	Funding Approach
BCWMC	\$13,000 (2022) – \$35,000 (2017) for APM/AIS work Annual water quality monitoring budget includes aquatic plant surveys in lakes Variable – APM included as part of CIP projects, e.g., CLP delineation and treatment prior to alum treatment	APM/AIS work: funding for implementing APM/AIS Committee recommendations, limited to 7 of the BCWMC’s priority lakes Water quality monitoring limited to the BCWMC’s 11 priority lakes
CRWD		Funding is based on the outcomes of a lake management plan
City of Eagan	? ¹	City Water Resources Operational Budget
City of Eden Prairie	\$85,000 for all lake management activities	City Water Resources Operational Budget
NMCWD	\$10,000 every 3 years for periodic inventory and assessment of AIS Variable – APM (especially CLP) included as part of CIP projects for recommended lake improvements, Annual water quality monitoring budget includes aquatic plant surveys in lakes	From implementation table
RCWD	\$250,000 annually for carp and CLP	Cost share. 50% of cost after grants. Covers monitoring and technical support.
RWMWD	Average \$30,000 for annual lake aquatic plant and filamentous algae monitoring budget and implementing macrophyte management plans. Average \$20,000 for managing invasive species Variable – APM at select lakes	From implementation program table
RPBCWD	\$75,000 for AIS inspection and early response \$75,000 for lake vegetation management	From CIP implementation table
VBWD	\$41,000 (2021 budget) for invasive species control program \$8,000 (2021 budget) for lake aquatic plant monitoring	

Note:

(1) incorporated into City operational budget; about 3 weeks of staff time plus equipment and maintenance

VLAWMO’s watershed contains 16 lakes with approximately 1,631 acres of littoral area (Table 3). Nine lakes have CLP and six have EWM. Other AIS plants are present in VLAWMO’s lakes; in some situations VLAWMO has pursued management actions, including for yellow iris and flowering rush. Note that not all of the watershed’s lakes are used for swimming and boating.

Table 3. Lakes in the VLAWMO watershed.

Name	Surface Area (acres)	Average Depth (feet)	Littoral Area (acres)	Invasive species present	Recreational Use²
Amelia	195	3	195	Flowering rush ¹	Motorized boating
Birch	125	3	125	EWM (16 acres)	Motorized boating
Black	11	6	11		Viewing
Charley	38	5	36	CLP, EWM	Nonmotorized boating
Deep	78	5	78	CLP	Nonmotorized boating
Fish	5	6	4		Nature preserve
Gem	40	7	40		Nonmotorized boating
Gilfillan	102	4	102		Nonmotorized boating
Goose, East	120	5	120	CLP	Motorized boating
Goose, West	25	4	25	CLP	Motorized boating
Pleasant	690	20	370	CLP, EWM	Nonmotorized boating/swimming
Sucker	61	8	50	CLP, EWM	Shore fishing only
Tamarack	15	5	15		Nature preserve
Vadnais, East	389	30	142	CLP, EWM	Shore fishing only
Vadnais, West	213	7	213	CLP	Shore fishing only
Wilkinson	105	3	105	CLP, EWM	Nonmotorized boating

¹ Not detected in 2020 and 2021

² None of the lakes in the watershed have fully available public access

We developed cost estimates for APM “levels” to provide context for evaluating an aquatic vegetation management program. Costs can vary widely and depend on the AIS under management, the morphometry of the lake, the level of infestation, and other factors. The estimated costs are based on a \$400/acre cost estimate for either herbicide application or harvesting. However, without specific plans, this results in a very rough estimate for costs.

We developed costs for technical assistance, AIS control activities, and the introduction of plants or active management of the aquatic plant community. Technical assistance includes monitoring and surveys of the aquatic plant community, providing educational materials, and other support activities. AIS control includes actively treating AIS in lakes such as harvesting or herbicide application. The introduction of

plants includes actively managing the aquatic plant community and may include planting natives, creating nursery areas, selective removal and introduction of plants, or whole-lake drawdown.

Table 4 summarizes the potential costs for each APM “level.” Costs for AIS control can vary from year to year, with larger investments upfront to get the AIS under control, and lower costs during subsequent maintenance years. Level 1 and level 2 are approximately the same cost because many technical assistance activities can address multiple species. Level 3 costs are only slightly higher in that many AIS can be addressed simultaneously such as CLP and EWM. Level 4 costs increase as the goal of improving the community structure of the plant community may require activities beyond AIS control, including planting or establishing and maintaining nursery areas. Cost for level 5 can increase significantly as most harvesting or herbicide applications to maintain open water for recreation must be performed multiple times per year and every year. Also, the costs depend on the type of recreation (power boating versus nonmotorized watercraft), the morphometry of the water body (deep versus shallow), and the recreational area to be maintained.

Table 4. High level cost estimates associated with different levels of aquatic plant management.

Program	Cost Range
Level 1: CLP management	Technical assistance: \$3,000 to \$5,000 per lake Management (control): \$35,000 to \$150,000 (9 lakes)
Level 2: CLP management and other AIS support	Technical assistance: \$3,000 to \$5,000 per lake Management (control): \$35,000 to \$150,000 (9 lakes)
Level 3: CLP management and other AIS management to support aquatic plant community health	Technical assistance: \$3,000 to \$5,000 per lake Management Activities: \$35,000 to \$175,000 (9 lakes) Management (introduction): \$5,000 to \$50,000
Level 4: Manage all AIS to support water quality, plant community health, and recreation	Technical assistance: \$3,000 to \$5,000 per lake Management (control): \$125,000 to \$175,000 (9 lakes) Management (introduction): \$5,000 to \$50,000
Level 5: Manage all AIS and native plants to support water quality, plant community health, and recreation	Technical assistance: \$3,000 to \$5,000 per lake Management (control): \$125,000 to \$175,000 (9 lakes) Management (introduction): \$5,000 to \$50,000 Management (recreation): \$20,000 to >\$500,000

Assumptions used to develop these costs include:

- Harvesting and herbicide application is approximately \$400/acre
- Harvesting for recreation can occur in 50% of the littoral zone and herbicide application can occur in 15% of the littoral zone

Summary and Board Considerations

All of the organizations reviewed participated in aquatic plant management at some level, ranging from technical assistance to programs that cover both invasive species and recreational uses of the waterbody. Financial commitments were typically based on the type of activity but none of the agencies committed to full scale management for all of their lakes. Rather, each organization established a budget and utilized the funds at their discretion.

Five levels of aquatic plant management were identified including:

- Level 1 = aquatic plant monitoring, education, and in-lake APM of CLP for water quality benefit
- Level 2 = Level 1 + technical support and/or cost-share for in-lake APM of other AIS in addition to CLP
- Level 3 = Level 2 + performs in-lake APM of AIS and/or native plant introductions or expansion to support native habitat/ecological benefit (not limited to CLP)
- Level 4 = Level 3 + performs in-lake APM of AIS only for recreational benefit
- Level 5 = All of the above and in-lake APM addresses native and invasive species

The VLAWMO Board should consider the following questions in developing their aquatic plant management position.

1. Should VLAWMO participate in aquatic plant management?

The VLAWMO Plan identifies AIS management as a priority issue and includes strategies for carp and CLP management. In cases where carp and CLP negatively impact water quality, the plan establishes that VLAWMO will implement management of these two AIS where they align with the priorities of the VLAWMO Capital Improvements and Programs Plan. The Plan also establishes that VLAWMO will support other LGUs in AIS management by acting as a fiscal agent and providing education on AIS. Essentially, VLAWMO's Plan establishes level 2 aquatic plant management activities.

2. Should VLAWMO consider different levels of aquatic plant management activities and under what conditions would the Board participate in higher levels of management?

As noted above, VLAWMO's current Plan establishes a level 2 management approach to APM in VLAWMO's lakes, which includes active management of CLP and technical support for other AIS. There may be situations where the Board may want to consider higher levels of aquatic plant management. Participation could range from leading the project, cost sharing with another LGU leading the project, or acting as the fiscal agent for another LGU leading the project. Some situations include:

- a. VLAWMO participates if the goal is to improve ecological condition as well as water quality. This approach would expand activities to in-lake management of other AIS such as EWM for the purposes of improving the aquatic plant community health.
- b. VLAWMO participates if actions protect the lifespan or efficacy of BMP investment such as an alum treatment, whole-lake drawdown, or vegetation introduction. Activities could be limited to AIS or include native vegetation.
- c. VLAWMO participates if management actions that change the character of the lake may impede established recreational use. Examples include flipping a lake from a murky algae-dominated state to a clear-water plant-dominated state where vegetation may impede established recreational uses such as boating. Activities could be limited to AIS or include native vegetation.

3. What level of financial commitment should the Board make? How would the funds be distributed?

Funding approaches varied widely across the surveyed LGUs ranging from taking full financial responsibility to providing only cost- share funds. Funding options for VLAMO include:

- a. VLAWMO leads and finances level 2 aquatic plant management, which includes CLP management for the purposes of water quality improvements
- b. VLAWMO leads level 2 aquatic plant management only if 50% cost share is available
- c. VLAWMO participates on a cost share basis for activities beyond level 2 aquatic plant management that support other VLAWMO goals (could be combined with a or b)

Recommended Board Motion(s)

Director _____ moves and Director _____ seconds to direct staff to draft a resolution for consideration at the Feb. 23, 2022 VLAWMO Board meeting that is consistent with the Board consensus discussion as defined in the Board's answers to the above 3 questions which included :

To: VLAWMO Board of Directors

From: Dawn Tanner

Date: December 1, 2021

Re: **VI. C. Discussion of Biochar Payment Request from UMN**

Introduction

The University of Minnesota (UMN) accounting office contacted Board Chair Lindner directly in October in response to the letter sent following the Board meeting on Feb. 24, 2021 (attachment 4). The UMN office requests full payment for the outstanding invoice for biochar filter lab testing and design in an amount of \$17,368.37 that was denied by the VLAWMO Board at the Feb., 2021 Board meeting. Additional documents are also provided as attached for reference to the Board.

Background

VLAWMO staff documented the project process and provided estimated completion for tasks identified by the UMN Principal Investigator (PI). However, VLAWMO staff also recognize that the MPCA workplan and UMN workplan, both drafted or co-drafted by the UMN PI differ. VLAWMO staff have worked to compare both documents and provide a concise comparison. That work resulted in an estimated apx. 33% task completion by the UMN team for tasks that the UMN team states that they have completed (attachment 2).

The outstanding invoice that was denied is \$17,368.37. A compromise position by the VLAWMO Board would be to recognize difficulties encountered by the UMN team due to unforeseen COVID and site challenges and offer to pay a portion of the invoice. VLAWMO has continued to incur additional costs from SEH for their engineering team to take an infeasible design provided by the UMN team and find a feasible site/begin to modify the design to pursue proposed construction.

VLAWMO staff request a discussion and decision by the VLAWMO Board as to how they would like to proceed in regards to the outstanding invoice to the UMN for \$17,368.37 and the request from the UMN for payment. VLAWMO legal counsel and VLAWMO staff will be available to respond to questions from the Board during the meeting.

Proposed Motion

It was moved by ____ and seconded by ____ to

Attached:

- ATT 1: Email sent to UMN PI on Jan. 15, 2021
- ATT 2: Comparison document made by VLAWMO staff regarding extent of project completion performed by UMN team
- ATT 3: Memo presented to VLAWMO Board on Feb. 24, 2021
- ATT 4: Letter sent to UMN in response to outstanding invoice with denial of payment and termination of contract

Attachment 1



Dawn Tanner <dawn.tanner@vlawmo.org>

Response to Joe's email from 12/21/2020

1 message

Dawn Tanner <dawn.tanner@vlawmo.org>

Fri, Jan 15, 2021 at 9:26 AM

To: Joe Magnier <jmagnier@umn.edu>

Cc: Phil Belfiori <phil.belfiori@vlawmo.org>, Bridget Ulrich <ulrichb@d.umn.edu>, Arnie Frishman <frish003@umn.edu>, Steven Smith <smit7231@umn.edu>

Response to Joe's email from 12/21/2020:

Thank you for your email dated December 21, 2020. In it, you mentioned that your work on Phase 1 and Phase 2 has been completed. However, VLAWMO has not received all of the deliverables from that work. The specific items VLAWMO is waiting to receive from that work are outlined below. VLAWMO will not be able to move forward with the project until it receives that information. Further, there should be no additional charges for you to provide those deliverables as you have indicated they are already completed.

As is detailed below, it is clear you have taken this project in a different direction than originally represented. Work on any of the remaining phases of this project cannot occur until we are able to reach agreement on a written amendment to the agreement that details the remaining work, the party responsible for the work, and the costs associated with each item of work.

Please provide VLAWMO the remaining deliverables for the work completed on Phase 1 and 2 by no later than January 29th. Also, by that date, please contact VLAWMO to schedule a meeting to discuss preparation of the detailed amendment to the agreement. If these are not accomplished by January 29th, VLAWMO will have no choice but to proceed with terminating the agreement. This is an important project to VLAWMO and, as you know, VLAWMO needs to satisfy the obligations it took on under the grant agreement with MPCA.

Additional information regarding VLAWMO's position in this matter is set out below, as well as comments on next steps that need to be addressed if this agreement is to be continued.

Key Summary Point: The current UMN design fundamentally changes the project from a floating fingers proprietary, modular, in-stream application (which could be installed without or with only minimal design/permitting needed) to an in-ground BMP design which requires a high level of design, survey, geo-tech, plans and specs, and permitting. This fundamental change should have been initiated as described in the contract dated 2/11/2020, which specifies that changes are required to be "reduced to writing and signed by both parties." Technical elements to support design of a large, in-ground BMP were not included in workplans because that was not part of the planned implementation for the project. These newly required tasks would have been addressed through a formal amendment process, if the changes had been submitted in writing. In addition, the current design provided by the UMN team lacks sufficient information to determine feasibility (see SEH memo for details).

Background

VLAWMO recognizes that Joe was a co-author on the MPCA workplan/contract and that the UMN is identified as a primary Responsible Party for Objectives 4-6. Joe worked with VLAWMO to write Objectives 4-6 in the MPCA workplan/contract. VLAWMO relied on Joe for the content of the narrative within the workplan for these objectives. The workplan that Joe helped to co-author in the MPCA workplan is different from the one he wrote for the UMN workplan/contract. Exhibit A of the UMN contract identifies the inherent interconnection between the MPCA workplan and the UMN workplan. Differences between the workplans were discussed. No formal written request for change of scope of the UMN workplan was received by VLAWMO as the project was changed

by the UMN team.

In the original scope, Joe requested \$5,500 for materials to build and install the biochar treatment cells. Neither workplan included modeling nor development of design and specs because the original proposed design would not require these elements to complete the project (being small components placed in the stream and not modifying flow).

The original proposed design incorporated “floating fingers” that would be anchored into the stream or pond. These were to be made in collaboration with Midwest Floating Islands. Midwest Floating Islands is identified as a Responsible Party in the MPCA grant contract. The number, arrangement, and location of fingers was planned to be determined through pilot testing. A Deliverable specified in the UMN contract is a “Tested designed treatment container.” This refers to the fingers that would be tested as a final design, and the number needed would be determined to meet required load reductions. Written permission to modify this design was not sought by the UMN team from VLAWMO nor MPCA.

At some point, Joe determined that he was unable to work with Midwest Floating Islands to develop the modular design expected. The UMN team then discussed several fundamental design changes including:

- Placing a large wall of “biochar sandwich” along the steel sheetpile weir on the ground in the wetland; anchoring was not established, sheetpile costs were high and did not include installation nor depth to anchor, and placement was likely not permissible. This design included an estimate for the volume of biochar needed. That was estimated at \$8,000. This amount was based on calculations with regard to necessary treatment from flow data.
- Building banks of the meander within the wetland with biochar; this would constitute fill in a wetland, could risk flowing downstream and clogging culverts and other infrastructure, and was deemed unlikely to be permissible.
- Implementing a network of small biochar boxes placed directly into the stream; these would likely rapidly plug and cease to function.
- Implementing in-stream structures upstream of the pond; sediment would likely rapidly clog biochar, as was mentioned in the UMN team engineering notes from 4/24/2020.

Following failed design ideas, Joe decided to make the latest changes, again without written authorization from VLAWMO, that fully switched from a modular design to a large in-ground BMP. Joe provided plans and specs dated 12/7/2020 for that BMP. These 12/7/2020 plans and specs are premature, given that there are fundamental pieces of missing information, and have been reviewed by SEH (see attached memo). SEH has determined that critical missing information is needed to determine if the proposed design is feasible and that major problems need to be addressed before permitting can be pursued. Permitting is the responsibility of the UMN, as identified in the contract, and would need to be completed prior to beginning Phase 3. This and other data provide contradictions to Joe’s email from 12/21/2020, where he states that he and the team have completed all tasks leading up to Phase 3.

If UMN would have followed the required process to formally request a change in the UMN workplan based on their decision to make the above mentioned design changes, then VLAWMO would have had the ability (at the time of the UMN request) to request an amendment to the Phase 2 scope consistent with the UMN’s fundamental design changes. Because UMN failed to follow this required procedure, the UMN workplan does not contain the necessary scope of work elements needed to implement the newly proposed UMN project design.

Financial Status

The UMN invoiced VLAWMO for funds that exceed the budget allocated to development and installation of biochar according to Objective 4 in MPCA workplan. Payment of the current invoice was formally put on hold with agreement from Joe that payment would not be provided until the project was caught up with Objective 4 in the MPCA contract.

SEH identified that the currently proposed design lacks sufficient detail to determine feasibility, solicit bids, and pursue permitting, and therefore is insufficient to complete Objective 4 in MPCA contract, based on information received from the UMN to date. The attached workplan comparison table is complicated but shows as much alignment as possible between the two workplans.

Data from Phase 1 and 2 from the UMN workplan are needed to determine if the remaining funds in Objective 4 MPCA workplan can be applied to an outstanding invoice received by VLAWMO from the UMN. Objective 4 includes design and installation of biochar.

- Objective 4 has \$3,584.64 remaining in the budget, plus \$5,500 for materials to complete the biochar installation.
- The outstanding invoice from the UMN is a total of \$17,368.37, which exceeds the funds available to this task for Objective 4 of MPCA workplan by \$13,783.73.
- The remaining budget of \$3,584.64 in Objective 4 of the MPCA workplan, will be applied to a portion of the UMN's \$17,368.37 invoice if it can be determined that Phase 1 and 2 are complete.
- No additional payment will be made to fulfill the remaining items in Phase 1 and 2 of the UMN workplan, as the UMN team reports that these tasks are fully complete at this time.
- Once remaining data and information are received by VLAWMO, VLAWMO will review and send a letter to UMN that the items received are complete and that Phase 1 and 2 are satisfied.

Phase 1 and 2: Remaining Items

VLAWMO has not received documentation to demonstrate that Phase 1 and 2 have been completed to the level described in the UMN contract and workplan. This information in Phase 1 and 2 is needed to provide SEH with the information needed to provide additional analysis and then allow for the process to move to completion of Objective 4 in MPCA workplan.

To VLAWMO's understanding, Phase 1 was abbreviated, and the full set of treatments described in the UMN workplan were not completed. Phase 2 was also abbreviated so the range of environmental conditions described in the contract was not achieved. Specifically, no storm events were measured because of the late deployment and early termination of the pilot testing portion of the project. This is important because *E. coli* levels only exceed standards during storm events (as documented in bacteria studies and reports completed on Lambert Creek and shared with the UMN biochar team).

To establish that Phase 1 and 2 from the UMN workplan are complete, VLAWMO needs:

- Documentation and results that show lab analysis was conducted on 17 biochar types (Task 1.2)
 - Results to include *E. coli*, nutrient, and heavy metal reductions achieved
 - Results also to include sources and contact information for commercial biochars tested
- Documentation and results for 8 treatments (individual media and combinations) in column experiments (Task 1.3)
 - Results to include *E. coli* and nutrient reductions achieved
- Documentation and results of pilot testing in the field that demonstrate that testing was accomplished for a range of typical and stressed environmental conditions as described in the UMN workplan (Task 2.2).
 - Results to include calculations completed to determine the amount of biochar needed to meet MPCA required load reductions. Calculations to include steps followed, assumptions made, and results interpreted. The current draft plans and specs includes \$5,500 for biochar, which is ~70% of what was included in the earlier design. No justification has been shown to demonstrate that the reduced amount will be effective in treating the pollutant load. It is assumed that the design change was made to meet budget constraints.

- Results to include mixture specifications and directions for mixing large amount of biochar, sand, and gravel included in the draft plans and specs

Next Steps

Once Phase 1 and 2 are satisfied, a contract amendment has been recommended by VLAWMO's legal counsel to address discrepancies between the two workplans and outline responsibilities for processes required to complete the large in-ground BMP structure proposed by the UMN team.

That amendment will need to include a clear documentation for steps to address the remaining technical elements of the plans dated 12/7/2020 as outlined in the attached SEH memo and provide a complete and construction-ready set of plans and specs.

A summary from the memo from SEH concludes that:

1. The design and specification as provided deviates from the original deliverable as it describes a more permanent, in-ground filter system. This deviation leads to questions about the overall feasibility of the currently proposed filter system.
2. The currently proposed design lacks sufficient detail to determine feasibility, solicit bids, and pursue permitting.
3. A cost estimate for construction only for the project in the "1.0 Lambert Plans & Specs, dated 12/7/2020" is \$20,000-\$25,000.

Assuming that the UMN proposed design is feasible, SEH estimates that it would take ~\$35,000 to finalize design, obtain permits, and prepare basic construction plans and specifications that could be used for a simplified process of soliciting bids/quotes. This assumes that the project would be considered a small project as described and the information provided by UMN would be the starting point for finalizing design. Costs are fairly high because of the missing critical information described in SEH's memo and modeling that has not been completed but will be required to address feasibility questions. High-level tasks include:

- Hydraulic Modelling
- Finalize Design
- Survey
- Plans and Specs
- Coordinate with Regulators and Obtain Permits

An amendment to the UMN workplan needs to be agreed upon and fully implemented before any work related to Phase 3 of the UMN workplan can begin. Additionally, VLAWMO recognizes that either party can request termination of the contract with a 30-day notice, if an amendment cannot be agreed upon.

In summary, VLAWMO requests the following:

1. UMN fulfillment of Phase 1 and 2 as described above.
2. UMN and VLAWMO work to reach agreement of a UMN workplan amendment to allow achievement of construction-ready, signed plans and specs. This amendment will need to include an agreed-upon process for obtaining permits and revising plans and specs to accommodate requests from permitting authorities.

Thank you for your attention to these matters. Attachments to this email include: 1) SEH memo on plans and specs received, 2) MPCA and UMN workplan comparison table, 3) MPCA workplan, 4) UMN workplan and contract.

Dawn and VLAWMO team

On Mon, Dec 21, 2020 at 11:32 AM Joe Magner <jmagner@umn.edu> wrote:

Response to Dawn's 12-10-20 email to Joe

After further review of Dawn's December 10th, 2020 memo regarding the December 7th meeting discussing biochar options, we (Joe and Bridget) acting on behalf of the Regents of the University of Minnesota (RUM) have decided to remain true to our research mission as expressed in the signed February 11th, 2020 contract between VLAWMO and the RUM.

We believe Dawn's 12-10-20 memo asks us to perform duties beyond the scope of RUM's research mission and the objectives and deliverables defined in our February 11th, 2020 contract. Therefore, it is our intent to follow the contract as written and not engage in the items expressed in Dawn's memo that are not defined in the contract. According to the contract we are now at Phase 3.

Phase 3: Field deployment and performance monitoring

Task 3.1. In concert with VLAWMO and consulting engineer SEH to install biochar treatment units.

Based on the outcomes of Phase 2 we will work closely with VLAWMO and engineer to place biochar treatment units in Lambert Creek/Lake. The exact number of units will be defined by contractor bids to stay on budget.

On Thu, Dec 10, 2020 at 4:01 PM Dawn Tanner <dawn.tanner@vlawmo.org> wrote:

Hi, Joe.

Phil and I worked on meeting notes from our meeting on Monday. They are attached here. If you have questions or concerns, please let me know.

Brian Corcoran (VLAWMO) was able to talk with a contractor (Roger) who has been working on ditch maintenance and boat ramp installation with us over the past couple of months. Phil worked with Roger on ditch-maintenance projects in Rice Creek also. Roger is interested in working with us on the biochar installation, so I have not contacted Peterson yet. I thought we could explore this option because it is likely to be successful and allow us to keep costs down, if we can make the process very straightforward.

Brian and Roger visited the Lambert site earlier in the week. Roger has some questions. Would you like me to send those over now?

I'm sorry to delay in sending over the meeting notes. If you would like to use these to put together a short email request for SEH engineering assistance as discussed, Emily is standing by to set up the supplemental letter agreement.

I'm so glad that Tyler and Karina were able to get needed survey information this week.

Thanks so much!

Dawn

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Joe Magner,
Research Professor
Dept of Bioproducts & Biosystems Eng.

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<http://bbe.umn.edu/people/faculty/joemagner>





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DAWN TANNER, PhD
Program Development Coordinator
651-204-6974 | www.vawmo.org
800 E County Rd E, Vadnais Heights, MN 55127
Vadnais Lake Area Water Management Organization



4 attachments

-  **1_SEH Lambert Lake Conceptual BioChar Treatment Design Memo.pdf**
40K
-  **2_MPCA and UMN workplan comparison table.docx**
22K
-  **4_UMN Contract and Workplan.pdf**
433K
-  **3_319 MPCA Workplan.pdf**
163K

Phase 1 and Phase 2: Percentage of tasks completed

Attachment 2

Percentage complete	Description of Tasks
~25%	Phase 1: Lab testing for 16 treatments proposed including screening for bacteria, nutrients, heavy metals, organic matter; 4 completed
~40%	Phase 1: Column experiments with each condition (N = 8) in triplicate; 3 completed in triplicate and 1 completed without replication
100%	Phase 2: Design pilot system
~50%	Phase 2: Pilot testing of potential configurations under typical and stressed operating conditions (i.e., extreme flow, prolonged drought, high contaminant loadings, etc.); 2 conditions tested
0%	Phase 2: Calculation for volume of biochar needed; not provided
0%	Bacterial load reduction curves from MPCA workplan; not provided
50%	Tested designed treatment container; design provided but not construction ready
0%	Permitting; not provided
Average completion if each row is considered equally: 33%	

Total funds allocated for UMN tasks in Objective 3 in the MPCA workplan: \$22,509

Total paid: \$18,924.36

Remaining funds in Objective 3: \$3,584.64

Total billed in current unpaid invoice: \$17,368.37



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

To: VLAWMO Board of Directors
From: Dawn Tanner
Date: February 24, 2021

Re: V. D. 1. Lambert Lake Project Update:

b) Consider Modified Biochar BMP Project, 319 Grant Change Order, UMN Contract, SEH Scope of Engineering, Resolution 2021-03

V. D. 1. b) Consider Modified Biochar BMP Project, 319 Grant Change Order, UMN Contract, SEH Scope of Engineering, Resolution 2021-03

Introduction: Please find below a summary of the background related to the biochar portion of the Lambert project. The key overall takeaway is that, despite the challenges for this portion of the project, there is now a “path forward” to implement the project.

Background on Modified Biochar BMP Project: The biochar portion of the Lambert project has encountered challenges for the UMN biochar team. The largest challenge that they encountered resulted because they anticipated positive results from pending experiments with Midwest Floating Islands, Inc. (a company that has worked with VLAWMO and the UMN Principal Investigator/PI in the past, most notably at Tamarack Nature Center). Those results were expected to lead to a new “soft” proprietary design referred to as “floating fingers” or “socks” that would be anchored into the channel with biochar inside them for bacteria removal. The experimental work did not produce the expected results, and Midwest Floating Islands was not consulted further by the UMN PI.

As these design changes were being considered by the UMN PI and biochar team, COVID complications caused the labs and UMN facilities to be closed. That pushed back lab experiments and pilot biochar treatment cell development and field testing. The UMN worked to cope with these challenges but also abbreviated the work that they accomplished for this portion of the Lambert project. Full details regarding abbreviation are part of ongoing negotiation and legal consultation. Delays in lab and field work were communicated in previous Board packets.

During fall, 2020, the UMN team provided a concept design (titled 1.0 Lambert Plans and Specs). That design was not construction-ready and switched the design from a soft proprietary design to an in-ground filter with additional permitting, design, and construction costs. The UMN PI also informed VLAWMO on December 7, 2020, that they were finished with their research mission for the project and would not work more on the project until monitoring of a completed BMP (Phase 3 in the UMN workplan) was ready. This means that they would not finish the design nor do the permitting work to allow construction to occur on their 1.0 Lambert Plans and Specs.

VLAWMO staff have been working with legal counsel because the UMN team also invoiced VLAWMO for more than what was allocated in the MPCA workplan coauthored by the UMN PI. To date,

VLAWMO has paid \$18,924.36 to the UMN. VLAWMO received an invoice for an additional \$17,368.37 on October 30, 2020. That invoice was formally put on hold with notice provided to the UMN until the project was caught up, with acknowledgement that the project was behind and that the billed costs exceeded the allocated funds for tasks to date.

Positive developments for the biochar portion of the Lambert project include:

- 1) MPCA has approved the change order authorizing moving funds from remaining monitoring and analysis to allow completion of design and construction within the current biochar portion of the grant budget. Depending upon final construction costs, VLAWMO is prepared to conduct monitoring in-house with partnership from SPRWS, as was done on the biochar studies that led to this project. A change order from MPCA is included in the packet. The change order needs to be completed before additional work can be done on the biochar portion of the project. As part of the resolution 2021-03, staff request authorization to sign the change order and return it to MPCA for final authorization.
- 2) Two years remain on the grant contract. Although the biochar construction will be delayed between 6-18 months from the original timeframe, adequate time remains to fully complete the project without requiring an extension.
- 3) The UMN PI recommended terminating the current contract to allow construction to occur with the option to pursue a new contract for monitoring if funds are available and there is sufficient interest from both parties.
- 4) SEH has been participating in the biochar process all along, even volunteering time to attend meetings. They have evaluated the concept design, identified deficiencies, and determined that they can finish the design, build plans and specs, and supervise construction within the biochar budget (with already mentioned MPCA-approved financial shifts).
- 5) The Board Policy and Personnel Subcommittee met on Feb. 10, 2021 to discuss this matter, and upon further discussion, reached a consensus recommendation to approve the actions items identified in Resolution 2021-03 as attached.

Attachments:

3. **319 Grant Change Order:** The MPCA approved grant change order is attached in the packet. A formal action is included in Resolution 2021-03.
4. **Attorney-drafted Letter to UMN**
5. **SEH Scope Work for Engineering Services for the Biochar Portion of the Project:** This is included as an attachment in the packet and referenced in Resolution 2021-03.
6. **Resolution 2021-03:** Included as a separate document in the packet.

Attachment 4

February 24, 2021

Attn: Joe Magner, Principal Investigator, and Steven Smith, Financial Professional
University of Minnesota
NW 5957
PO Box 1450
Minneapolis, MN 55485-5957

Re: Notice of Termination -- VLAWMO Minor Services Agreement

Dear Joe Magner and Steven Smith:

As you know, the Vadnais Lake Area Water Management Organization (“VLAWMO”) entered into a Minor Services Agreement with the Regents of the University of Minnesota, Office of Sponsored Projects Administration dated February 11, 2020 (“Agreement”). This letter serves as notice under Section 4 that VLAWMO is terminating the Agreement. Your office is directed to not do any further work on the project as VLAWMO has been forced to hire an engineering firm to move this project forward in a timely fashion due to design changes delivered by the University.

You previously represented that your office completed all the work for Phase 1 and Phase 2 of the project. However, when VLAWMO reviewed what were supposed to be final deliverables for these phases, it discovered significant portions of the work were not completed. The following illustrates VLAWMO’s evaluation of the completeness of the work submitted:

Percentage Complete	Description of Tasks
~25%	Phase 1: Lab testing for 16 treatments proposed including screening for bacteria, nutrients, heavy metals, organic matter; 4 completed
~40%	Phase 1: Column experiments with each condition (N = 8) in triplicate; 3 completed in triplicate and 1 completed without replication
100%	Phase 2: Design pilot system
~50%	Phase 2: Pilot testing of potential configurations under typical and stressed operating conditions (i.e., extreme flow, prolonged drought, high contaminant loadings, etc.); 2 conditions tested
0%	Phase 2: Calculation for volume of biochar needed; not provided
0%	Bacterial load reduction curves from MPCA workplan; not provided
50%	Tested designed treatment container; design provided but not construction ready
0%	Permitting; not provided

This table was not presented to argue over the percentage of completeness, but simply to point

Attachment 4

out that a number of items of work were either not entirely completed or apparently not started at all.

A total of \$22,509 of the project funds were allocated in the MPCA workplan, coauthored by the UMN PI, for Phase 1 and Phase 2 work, excluding construction materials. To date, VLAWMO has paid \$18,924.36 to the UMN for the work. Because significant portions of the work have not been completed, VLAWMO determines it has not received value for the amount it already paid. Further, VLAWMO will need to spend substantially more than the remaining \$3,584 to an engineering firm to complete the work for these phases.

VLAWMO is aware of an outstanding invoice (#2010726491) in the amount of \$17,368.37 for the Phase 1 and 2 work that was submitted on October 30, 2020. Project delayed status was communicated by VLAWMO and acknowledged by the University with regard to this invoice on November 3, 2020. Given the failure to complete the work and provide the required deliverables for these phases, the VLAWMO Board did not approve payment of this invoice. The Board could not find a legitimate basis on which to pay an amount that exceeds the amount allocated for work, especially when the work was not actually completed.

Perhaps VLAWMO will be able to partner with the University again in the future to further our mutual goals to improve water quality, but at this point VLAWMO needs to turn the project over to someone else to ensure VLAWMO satisfies its obligations to the MPCA under the grant agreement helping to fund the project. Feel free to let me know if there are any questions.

Sincerely,

Jim Lindner

VLAWMO Board Chair

To: VLAWMO Board of Directors

From: Brian Corcoran

Date: December 1, 2021

Re: VI. D. Consider payment and update on “Phase 2” RCD 14 Ditch Maintenance Project

Project Update

RCD14 Maintenance project update: The Board approved signing into contract with Scandia Trucking & Excavating at the 10/27/2021 Board of Directors meeting. Staff meet with contractor on 11/2/2021 on site to do a final walkthrough before the maintenance project started. Tree and brush clearing began the afternoon of 11/2/2021. Dredging begin 11/15/2021 and was completed 11/24/2021. Seeding and haying of spoil pile was done week of 11/29/2021. Access road to staging area was regraded. Additional stabilization and seeding may also continue into the spring /early summer of 2022 depending on weather and vegetation growth. Staff will provide a short project update presentation at the Dec. 8 Board meeting.

Authorization from Board for payment to Contractor

Staff has not yet received the final invoice from Sandia Trucking. Given the unique timing of project completion and the next VLAWMO Board meeting (2/23/22), staff requests that the Board authorize Chair Lindner to approve and sign the final invoice for payment pending 1) Houston Engineering final determination that the project as constructed is consistent with the approved plans and 2) the final payment is at or below the Board approved contract amount of \$40,082.10.

Staff Recommendation

Staff recommends the Board authorize Chair Linder to approve and sign the final invoice for payment to Scandia Trucking consistent with language above.

Proposed Motion

It was moved by ____and seconded by ____to authorize Chair Lindner to approve and sign the final invoice of payment to Scandia Trucking & Excavating for the RCD Maintenance Project pending Houston Engineering final determination that the project as constructed is consistent with the approved plans and the final payment is at or below the Board approved contract amount of \$40,082.10.

To: VLAWMO Board

From: Phil Belfiori, Administrator

Date: December 1, 2021

Re: **VII.A. Consideration of 2021 Fund Balance and 2022 Carry Over “Working” Budget**

The purpose of the memo is to provide the VLAWMO Board with background and recommendations related to the proposed 2021 Fund balance and 2022 carry over. The following information in this memo is meant to be read in concert with the Attached table (attachment 2) to outline and summarize the recommended proposed fund balances and carry over amounts.

Background -Fund Balance and Carryover included in 2022 approved budget adopted by Board in June 2021

At the June 2021 meeting, the VLAWMO Board approved the 2022 budget which included total projected VLAWMO expenditures of \$938,000 in 2021 which would utilize no “committed” fund balance in 2021. The packet also identified a predicted 2021 fund balance at year end (carryover from 2021 to 2022) of \$866,745. (This is the Grey cell in Attachment 2)

The approved 2022 budget (approved at the June Board meeting) then utilized \$192,367 of the predicted 2021 year end fund balance (carryover from 2021 to 2022) to implement budgeted 2022 operations, projects and programs. (This is the Grey cell in Attachment 2).

Updated projected Fund balance and Carryover based on November TEC Financial report

Upon analysis of the November 2021 financial report, the updated estimated 2021 year end fund balance (carryover from 2021 to 2022) is tracking slightly higher than the projected 2021 overall fund balance carry over from the June Board meeting. This slightly higher projected 2021 year end fund balance (\$934,745 as compared to \$866,745) is the result of higher than anticipated unspent 2021 expenditures in several Subwatershed Funds including (but not limited to) the Lambert Creek and Goose Lake. (This is the Grey cell in Attachment 2).

Summary of Proposed Fund Balance Carry Over into 2022

Table 1 (below) provides a summary of the proposed fund balance carry over going into 2022 which is including the \$192,367 carry over included in the approved 2022 Budget as was adopted by the Board in June 2021 **and** the additional proposed fund balance carry over incorporated into the 2022 “working” budget of \$133,751 (for a total revised proposed fund balance carry over from 2021 to 2022 of **\$326,118**).

The \$326,188 would now be considered “committed” for 2022 per the approved VLAWMO Fund Balance Policy. (This information is also included in more detail in the **Green cells** in Attachment 2). It is anticipated that at the end of 2022 (and going forward into 2023), the “unrestricted” fund balance in the General fund should be in the required range of **35 - 50%** of the 2022 budgeted expenditures as is identified in the VLAWMO Fund Balance Policy (Attachment 3).

Table 1. Summary of Fund Balance Carry Over - Resolution 11-2021 is recommended for Board consideration that includes the following carry over funds:

Fund Name and Description	Approved “working” 2021 Budget (from Board action on Dec. 2020)	TOTAL Projected 2021 Fund Balance Carry over amount (from 2021 to 2022-apx).	Proposed Carry Over “committed” Funds (into 2022 “working” budget) and Purpose	TOTAL Rough est./Projected 2022 Fund Balance Carry over amount (from 2022 to 2023-apx) – if entire budget spent.
General Fund - Fund 3.1. Operations and Administration	\$613,540	\$934,735 (Estimate)	\$14,000 For strategic planning work in 2022 as approved at the Oct. 2021 VLAWMO Board meeting.	\$608,617 (Estimate)
General Fund -Fund 3.4. Capital Improvement Projects and Programs	\$492,340		\$312,118 The approved 2022 budget (approved at the June 2021 Board meeting) already included utilizing <u>\$192,367</u> of fund balance carry over to implement the 2022 Capital Improvement Projects and Programs. The proposed 2022 “working” budget now proposes an additional <u>\$119,751</u> of additional fund balance carry over for a total Proposed Carry Over “committed” Funds (into 2022 “working” budget) of <u>\$312,118</u> . For implementation of the proposed Biochar project, Unspent carryover in Fund 3.4 is due to unspent approved 2021 working budget funds within several subwatersheds including: 1) Lambert Creek (Biochar project), 2) Goose Lake (possible Adaptive Lake Management), 3) 319 Wilkinson Lake Project/Lake Amelia BMP study, 4) Pleasant Lake (Carp Management program and 5) Level 2 cost-share partnership projects.	

Staff Recommendation

Consistent with the Consensus recommendation of the Financial and Personnel Subcommittee, Staff recommends approve of Resolution 11-2021.



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

Attachments:

Resolution 11-2021

Attachment 1: Powerpoint Slides for Consideration of Fund Balance

Attachment 2: 2022 Fund Balance & Carry Over /"working" Budget for 12/8/21 Board meeting.

Attachment 3: VLAWMO Fund Balance Policy

(Attachment 1) VLAWMO Board Meeting
 Consideration of 2021 Fund Balance and
 2022 Carry Over / “working” budget

December 8, 2021



1

**Background - Fund Balance and Carry over included in
 2022 approved budget adopted by Board in June 2021**

- At the June 2021 meeting, the Board approved the 2022 budget which identified two key elements as related to the proposed fund balance carryover
- Projected a remaining year end 2021 fund balance of \$866,745
- The approved 2022 budget then utilized \$192,367 of the “unassigned” fund balance fund to implement budgeted 2022 operations, projects and programs.



Background - Updated projected Fund balance and Carryover based on November TEC Financial report

- Upon analysis of the November 2021 financial report, the updated 2021 year end fund balance (carryover from 2021 to 2022) is tracking slightly higher than the projected 2021 overall fund balance carry over from the June 2021 Board meeting.
- This slightly higher projected 2021 year end fund balance (\$934,745 as compared to \$866,745) is the result of higher than anticipated unspent 2021 expenditures in several Subwatershed Funds including (but not limited to) the Lambert Creek and Goose Lake.



Summary of Proposed Fund Balance Carry Over into 2022

- The Proposed fund balance carry over as going into 2022 includes:
 - **1. \$192,367** - the carry over included in the approved 2022 Budget as was adopted by the Board in June 2021
 - and**
 - **2. \$133,751** - the additional proposed fund balance carry over incorporated into the 2022 “working” budget
- For a total estimated proposed fund balance carry over from 2021 to 2022 of **\$326,118**. (would now be considered “committed” for 2022 per the approved VLAWMO Fund Balance Policy.)
- the “unrestricted” fund balance in the General fund should be in the required range of 35 - 50% per the VLAWMO Fund Balance Policy going into 2023.




Proposed Fund Balance Carry Over – Resolution 11-2021				
Fund Name and Description	Approved “working” 2021 Budget (from Board action on Dec. 2020)	TOTAL Projected 2021 Fund Balance Carry over amount (from 2021 to 2022-apx).	Proposed Carry Over “committed” Funds (into 2022 “working” budget) and Purpose	TOTAL Rough est./Projected 2022 Fund Balance Carry over amount (from 2022 to 2023-apx) – if entire budget spent.
General Fund - Fund 3.1. Operations and Administration	\$613,540	\$934,735 (Estimate)	\$14,000 For strategic planning work in 2022 as approved at the Oct. 2021 VLAWMO Board meeting.	\$608,617 (Estimate)
General Fund -Fund 3.4. Capital Improvement Projects and Programs	\$492,340		\$312,118- (see previous slide). For implementation of the proposed Biochar project, Unspent carryover in Fund 3.4 is due to unspent approved 2021 working budget funds within several subwatersheds including: 1) Lambert Creek (Biochar project), 2) Goose Lake (possible Adaptive Lake Management), 3) 319 Wilkinson Lake Project/Lake Amelia BMP study, 4) Pleasant Lake (Carp Management program and 5) Level 2 cost-share partnership projects.	

Requested Board Action

- Proposed Motion

Director _____ moves to approve Resolution 11-2021.



Attachment 2. 2022 Fund Balance Carryover - Proposed "Working" Budget for Dec. 8, 2021 Board meeting

VLAWMO	Expenditures identified are VLAWMO's portion only.	Approved 2021 "working" Budget - For Dec. 9, 2020 Board mtg.	Projected /Estimated 2021 expenditures from June Board mtg.	Projected 2021 expenditures to date (based on Nov. TEC report)	approved 2022 Budget - Board action in June 2021	Proposed Carry Over	Proposed 2022 "working" Budget	Notes
3.1	Operations & Administration	\$613,540	\$600,000	\$610,000	\$643,488	\$14,000	\$657,488	
3.110	Office	\$26,214			\$27,097	\$0	\$27,097	
3.120	Information systems	\$26,365			\$25,865	\$0	\$25,865	
3.130	Insurance	\$7,000			\$7,210	\$0	\$7,210	
3.141	Consulting -Audit	\$7,728			\$8,191	\$0	\$8,191	
3.142	Consulting - Bookkeeping	\$1,500			\$1,500	\$0	\$1,500	
3.143	Consulting - Legal	\$4,000			\$5,000	\$0	\$5,000	
3.144	Consulting - Eng. & Tech.	\$30,000			\$30,000	\$14,000	\$44,000	Strategic planning approved @ Oct. Board meeting
3.150	Storm Sewer Utility	\$13,000			\$14,000	\$0	\$14,000	
3.160	Training - staff, board,TEC	\$8,750			\$12,500	\$0	\$12,500	
3.170	mileage and noticing	\$6,300			\$6,300	\$0	\$6,300	
3.191	Employee payroll	\$370,307			\$391,400	\$0	\$391,400	
3.192	Employee liability (benefits)	\$112,376			\$114,425	\$0	\$114,425	
3.2	Monitoring & Studies	\$21,000	\$20,000	\$20,000	\$51,000	\$0	\$51,000	
3.210	Lake & creek program lab analysis	\$18,000			\$18,000	\$0	\$18,000	
3.220	Equipment	\$3,000			\$3,000	\$0	\$3,000	
3.230	Wetland assessment & management (New) Watershed Plan	\$0			\$15,000	\$0	\$15,000	
3.240	Amendment				\$15,000	\$0	\$15,000	
3.3	Education & Outreach	\$21,500	\$16,500	\$10,000	\$25,500	\$0	\$25,500	
3.310	Public Education	\$8,500	\$6,000		\$6,000	\$0	\$6,000	
3.320	Communication, Outreach and marketing	\$7,500	\$5,000		\$17,500	\$0	\$17,500	
3.330	Community Blue education grant	\$5,500	\$5,500		\$2,000	\$0	\$2,000	
3.4	Capital Improvement Projects and Programs	\$492,340	\$301,500	\$230,000	\$494,800	\$119,751	\$614,351	
	<i>Subwatershed Activity</i>						\$0	
3.410	Gem Lake subwatershed	\$0	\$0		\$10,000	\$0	\$10,000	
3.420	Lambert Creek subwatershed (Includes Debt Service)	\$222,100	\$150,000		\$44,432	\$70,000	\$114,432	Biochar project -local cash match portion only
3.421	Lambert Pond Project Loan Debt Service				\$38,568	\$0	\$38,568	
3.425	Goose Lake subwatershed	\$124,200	\$30,000		\$70,000	\$10,000	\$80,000	Development of Board position of Role in Veg. Management
3.430	Birch Lake subwatershed	\$0	\$0		\$10,000	\$0	\$10,000	
3.440	Giffilan Black Tamarack Wilkinson Amelia sub	\$16,000	\$16,000		\$93,500	\$12,000	\$105,500	Bar. Eng. Work on pre-design work for 319 project (Wilkinson Lk.) & Lake Amelia BMP study
3.450	Pleasant Charley Deep subwatershed	\$22,500	\$22,500		\$35,000	\$10,000	\$45,000	Carp work /research
3.460	Sucker Vadnais subwatershed	\$12,500	\$12,500		\$41,500	\$0	\$41,500	
3.48	<i>Programs</i>							
3.481	Soil Health Grant- new.	\$4,500	\$4,500		\$5,000	\$0	\$5,000	
3.482	Landscape 1 - cost-share	\$16,000	\$16,000		\$16,000	\$0	\$16,000	
3.483	Landscape 2	\$28,000	\$20,000		\$28,000	\$17,751	\$45,751	partnership with local partners on curb cut RG's and parking lot BMPs etc.
3.484	Project research and MS 4 partnership work				\$0	\$0	\$0	
3.485	Maintenance and operations (Facilities maintenance & Ditch maintenance)	\$46,540	\$30,000		\$102,600	\$0	\$102,600	
3.5	Regulatory	\$0	\$0	\$0	\$2,000	\$0	\$2,000	
3.510	Engineering plan review	\$0			\$2,000	\$0	\$2,000	
	Total budget	\$1,148,380	\$938,000	\$870,000	\$1,216,588	\$193,751	\$1,350,339	
				Assume \$ 870K for projected 2021 based on extrapolating from Nov. financial rpt.				
	INCOME							
5.1	Storm Sewer Utility	\$935,340			\$1,019,521		\$1,019,521	
5.12	Fees for Service	\$200			\$200		\$200	
5.13	Interest	\$3,000			\$1,500		\$1,500	
5.14	Misc. income - WCA admin grant	\$3,000			\$3,000		\$3,000	
	Total VLAWMO income	\$941,540	\$941,540	\$941,540	\$1,024,221		\$1,024,221	
5.15	TOTAL- Other funding sources - grants, partnerships donations	\$894,879	\$790,170	\$790,170	\$324,500		\$324,500	
	MPCA 319 Lambert Project	\$211,179	\$253,170	\$253,170	\$46,500		\$46,500	BWSR WBF 21-23
	Loan MPCA Sheet pile Lambert project	\$650,000	\$468,000	\$468,000	\$186,000		\$186,000	Proposed MPCA 319 Wilkinson Lake B
	BWSR WBF	\$16,000	\$59,000	\$59,000	\$62,000		\$62,000	NOC per proposed partnership agreement
	Ramsay County IESF 4th and other	\$17,500	\$10,000	\$10,000	\$30,000		\$30,000	City of WBL for proposed East Goose A
5.16	From reserves /use of fund balance	\$206,840	-\$3,540	-\$71,540	\$192,367	\$326,118	\$326,118	
5.17	Predicted Fund balance at end of the year from 2021 to 2022(year end 2020 per Audit is \$863,205)		\$866,745	\$934,745	\$674,378		\$608,627	
	Minimum fund balance required per Board Policy (assume 50%of total general fund budget)	\$574,190	\$469,000	\$435,000	\$608,294		\$675,170	

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION

FUND BALANCE POLICY

Adopted March 12, 2012

I. PURPOSE

The purpose of this policy is to establish specific guidelines the Vadnais Lake Are Water Management Organization (VLAWMO) will use to maintain an adequate level of fund balance to provide for cash flow requirements and contingency needs because major revenues, including property taxes and other government aids are received in the second half of the City's fiscal year.

The purpose of this policy is to also establish specific guidelines VLAWMO will use to classify fund balances into a categories based primarily on the extent to which the City is bound to honor constraints on the specific purposes for which amounts in these funds can be spent.

II. CLASSIFICATION OF FUND BALANCE/PROCEDURES

1. Nonspendable

- This category includes fund balance that cannot be spent because it is either (i) not in spendable form or (ii) is legally or contractually required to be maintained intact. Examples include inventories and prepaid amounts.

2. Restricted

- Fund balance should be reported as restricted when constraints placed on those resources are either (i) externally imposed by creditors, grantors, contributors, or laws or regulations of other governments or (ii) imposed by law through constitutional provisions or enabling legislation.

3. Committed

- Fund balance that can only be used for specific purposes pursuant to constraints imposed by formal action of the government's highest level of decision-making authority. The committed amounts cannot be used for any other purpose unless the government removes or changes the specified use by taking the same type of action it employed to commit those amounts.
- VLAWMO's highest level of decision making authority (Board of Directors) will annually or as deemed necessary commit specific revenue sources for specified purposes by resolution. This formal action must occur prior to the end of the reporting period, however, the amount to be subject to the constraint, may be determined in the subsequent period.

Attachment 3

II. CLASSIFICATION OF FUND BALANCE/PROCEDURES – CONTINUED

- To remove the constraint on specified use of committed resources the Board of Directors shall pass a resolution

4. Assigned

- Amounts that are constrained by the government's intent to use for specified purposes, but are neither restricted nor committed. Assigned fund balance in the General fund includes amounts that are intended to be used for specific purposes.
- The Board of Directors has delegated the authority to assign and remove assignments of fund balance amounts for specified purposes to the **Administrator**.

5. Unassigned

- Unassigned fund balance represents the residual classification for the General fund. Includes amounts that have not been assigned to other funds and that have not been restricted, committed, or assigned to specific purposes within the General fund. The General fund should be the only fund that reports a positive unassigned fund balance amount.
 - i. VLAWMO will maintain an unrestricted fund balance in the General fund of an amount not less than 35 - 50% of the next year's budgeted expenditures of the General fund. This will assist in maintaining an adequate level of fund balance to provide for cash flow requirements and contingency needs because major revenues, including storm sewer utility fees and other government aids are received in the second half of VLAWMO's fiscal year.
 - ii. If spending unrestricted fund balance in designated circumstances has reduced unrestricted fund balance to a point below the minimum targeted level, as noted above, the replenishment will be funded by Storm Sewer Utility fees within 1 year.

III. STABILIZATION ARRANGEMENTS

Stabilization arrangements are defined as formally setting aside amounts for use in emergency situations or when revenue shortages or budgetary imbalances arise.

VLAWMO will set aside amounts by resolution as deemed necessary that can only be expended when certain specific circumstances exist. The resolution will identify and describe the specific circumstances under which a need for stabilization arises. The need for stabilization will only be utilized for situations that are not expected to occur routinely.

Attachment 3

IV. MONITORING AND REPORTING

The **VLAWMO Administrator** and **Bookkeeper** shall annually prepare the status of fund balances in relation to this policy and present to the Board of Directors in conjunction with the development of the annual budget.

When both restricted and unrestricted resources are available for use, it is VLAWMO's policy to first use restricted resources, and then use unrestricted resources as they are needed.

When committed, assigned or unassigned resources are available for use, it is VLAWO's policy to use resources in the following order; 1.) committed 2.) assigned and 3.) unassigned.

A negative residual amount may not be reported for restricted, committed, or assigned fund balances in the General fund.

RESOLUTION 11-2021

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 Name and Description	Proposed Carry Over “committed” Funds (into 2022 “working” budget) and Purpose
General Fund - Fund 3.1. Operations and Administration	\$14,000 For strategic planning work in 2022 as approved at the Oct. 2021 VLAWMO Board meeting.
General Fund -Fund 3.4. Capital Improvement Projects and Programs	\$312,118 The approved 2022 budget (approved at the June 2021 Board meeting) already included utilizing <u>\$192,367</u> of fund balance carry over to implement the 2022 Capital Improvement Projects and Programs. The proposed 2022 “working” budget now proposes an additional <u>\$119,751</u> of additional fund balance carry over for a total Proposed Carry Over “committed” Funds (into 2022 “working” budget) of <u>\$312,118</u> . For implementation of the proposed Biochar project, Unspent carryover in Fund 3.4 is due to unspent approved 2021 working budget funds within several subwatersheds including: 1) Lambert Creek (Biochar project), 2) Goose Lake (possible Adaptive Lake Management), 3) 319 Wilkinson Lake Project/Lake Amelia BMP study, 4) Pleasant Lake (Carp Management program and 5) Level 2 cost-share partnership projects.

The question was on the adoption of the resolution and there were __ yeas and __ nays as follows:

	<u>Yea</u>	<u>Nay</u>	<u>Absent</u>
<i>Dan Jones</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Ed Prudhon</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Rob Rafferty</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Tom Watson</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Patricia Youker</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Jim Lindner</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

_____ Board Chair Date

_____ Attest Date

_____ James Lindner, Chair

_____ Date

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION

I, the undersigned, Administrator of the Vadnais Lake Area Water Management Organization, hereby certify that I have carefully compared and attached the foregoing extract of minutes of a regular meeting of the Board of Directors of said watershed held on the 8th day of December 2021, with the original thereof on file in my office.

WITNESSED BY the Watershed Administrator this 8th day of December 2021.

_____ Phil Belfiori, Administrator

To: VLAWMO Board

From: Phil Belfiori, Administrator

Date: December 1, 2021

Re: VII. B. Discussion and direction on next steps regarding RWMWD interest in possible boundary change for the W. Vadnais Lake drainage area in VLAWMO.

Introduction

On November 4, 2021 staff received an email from Tina Carstens RWMWD Administrator for the RWMWD indicating “They (RWMWD Board of Managers) are continuing to show an interest in a boundary change to bring WVL into RWMWD. We had a lot of discussion around it.” This RWMWD Board discussion is captured in the Oct. 6, 2021 minutes from the RWMWD Board meeting which are attached as Attachment 1.

A PowerPoint presentation will be presented at the Dec. 8th Board meeting to summarize this memo and the information below.

Background

Below is a summary of background related to this issue:

2019 – As part of the RWMWD management response to high water in the area in 2018 /2019, RWMWD developed and submitted an EAW to VLAWMO to review the environmental factors associated with a RWMWD proposal to modify the W. Vadnais Lake outlet pipe under I -694. In addition to coordination between the two watersheds on the EAW, the RWMWD also asked their staff to explore the pros and cons of requesting a boundary change with VLAWMO that would move West Vadnais Lake into RWMWD.

June 26, 2019– VLAWMO Directors discussed the EAW, the RWMWD proposed lake outlet modification, and the pros and cons of the possible requested boundary change at the Board meeting on June 26, 2019. A 5-page technical memo from staff (See attachment 2) was included in the Board meeting packet. The technical memo included background on hydrology /hydraulic in the area of W. Vadnais Lake, history of drainage in the area, technical discussion on the proposed W. Vadnais Outlet modification the related EAW, and a discussed on the pros and cons of changing the boundary per the request of the RWMWD. At end of the Board discussions, the Board made following direction /motion (per the approved 6/26/19 minutes): “The Board discussed that it sounds like the solutions are dependent upon future weather and climate conditions and that a boundary change would be unnecessary. The Board agreed to meet with the RWMWD Board on July 30th or 31st to discuss the issue and work together to foster a plan, going forward.”

July 2019 - VLAWMO staff was informed that the RWMWD Board decided not to pursue a joint meeting, and directed their staff to work with VLAWMO staff to continue to work together on management issues. The RWMWD also identified that they were interested in talking in the future about a way to jointly manage the lake.

2020 – RWMWD completed the project to replace the outlet pipe (located in RWMWD existing boundary) to an outlet invert elevation 0.8’ lower than previous.

2019 – present - VLAWMO and RWMWD continue to pursue and expand partnership on joint management of the W Vadnais lake including:

Carp Management: biomass survey using tags, baited box net carp removal, physical carp barrier that was in place at the culvert location in 2020 (installation of electricity by RWMWD), and an electrified barrier that was operational in 2021. 2 reports with Carp Solutions inc. VLAWMO Budgets: (2020) \$12,500 and (2021) \$10,500

Aquatic Vegetation and Contour Survey 2019: VLAWMO conducted with Ramsey County SWCD (\$3,734)

June 2021 – The 2022 approved VLAWMO budget includes \$18,500 (an increase of apx. 76% from 2021 budget) for the following joint management with RWMWD: 1) \$10,000 - \$15,000 for carp management and possible removal work, and 2) estimated \$6,220 for rough fish survey, carp tagging, population monitoring, and development of management recommendations.

October 2021- VLAWMO Board approved West Vadnais Lake SLMR which summarizes lake data and defines commitment of pursuing continued partnership opportunities going forward.

October 6, 2021 – RWMWD discussion at Board meeting. The RWMWD Board continues to show an interest in a boundary change to bring West Vadnais Lake into RWMWD.

Summary of hydrology in the area of West Vadnais Lake

Much of this section is also summarized in Attachment 2 from the June 2019 VLAWMO Board meeting packet.

Historically, East and West Vadnais lakes were connected as one lake, however since before 1940 the connection area of about 850 feet has been filled and a narrow road or trail separates the two lobes of Vadnais Lake into East and West. The EAW and the EAW response to comments completed in 2019 state that “West Vadnais Lake is separated from East Vadnais Lake by a constructed berm/causeway, and the lakes are hydrologically independent.” Furthermore, in a geotechnical memo from Barr Engineering it was identified there also was a finding that there is no “seepage” hydrologic connection (through the berm/trail) between the two lakes.

The majority of the current watershed draining to W. Vadnais Lake drains from northwest (within the RWMWD) and flows under Rice Street before discharging into the Lake, (see attachment 3). As mentioned above, the area upstream of W. Vadnais Lake is all within the RWMWD and has experienced significant high water in 2018 and 2019 including (but not limited to) at the Rice Street culvert.

The outlet of W. Vadnais Lake is located within the RWMWD and was recently modified by RWMWD in 2020 to lower the invite of the outlet pipe 0.8 feet. The size of the pipe under 694 was kept to 15 inches to control the rate of flow downstream into RWMWD Gervais channel. Flooding downstream is a concern. There is a pipe under Vadnais Blvd (south end of the lake) but that is not the “control” for hydraulics to the Lake.

There is a small “direct” drainage area to W. Vadnais Lake in the VLAWMO boundaries. See Attachment 4. This attachment 4 is a high level draft (for discussion purposes only) and identifies the likely parcels that would be transferred to RWMWD if the VLAWMO Board (and RWMWD) wishes to pursue a boundary change. (this is a draft map – a more formal map would need to be developed as part of the BWSR 103B process- if pursued). Overall there are about 45 parcels in the West Vadnais Lake drainage area, mostly residential. The property around the lake belongs to SPRWS and is considered part of the Vadnais – Sucker Lakes Park.

Other relevant items related to this discussion

BWSR would look for both watersheds to agree any boundary change pursuant to MN statute 103B.215.: “petition [for a boundary change] must be accompanied by a written statement of concurrence in the petition from the governing body of each statutory or home rule charter city and town and each watershed management organization having jurisdiction over the territory proposed to be added or transferred.”

Other possible future partnership or joint management related to water quality in the next few years could include:

- Sediment analysis for internal load and an alum treatment if warranted from feasibility study.
- TMDL scheduled for 2024. (West Vadnais is impaired for nutrients) - Watershed loading vs. internal loading ? How would planning and implementation of the TMDL work under various options of management?

Requested board discussion

Staff asks the VLAWMO Board to discuss this issue and provide staff with its direction given the RWMWD Board has invited staff to attend a future Board meeting to discuss. Specifically staff would request direction related to:

1. The idea of (again) pursuing the previously requested and planned joint meeting with the RWMWD;
2. What would be the joint meeting agenda items /meeting outcomes? ;
3. If the Directors are ready to make any other communications to the RWMWD Board at this time?

Recommendation

Direct VLAWMO staff to work with RWMWD staff to pursue scheduling a special joint meeting of the two Boards (virtual) to listen and discuss various management options.

Attachments:

- Attachment 1 – Oct 6, 2021 RWMWD Board meeting minutes
- Attachment 2- Technical memo from VLAWMO Staff for June 2019 Board meeting
- Attachment 3 – Hydrology in the area of W. Vadnais
- Attachment 4 – catchment areas in VLAWMO draining to W. Vadnais Lake



**Ramsey-Washington Metro Watershed District
Minutes of Regular Board Meeting
October 6, 2021**

The Regular Meeting of October 6, 2021, was held via Zoom web conferencing. A video recording of the meeting can be found at <https://youtu.be/wUryRSBIPgY>. Video time stamps included after each agenda item in minutes.

PRESENT:

Larry Swope, President
Cliff Aichinger, Vice President
Dianne Ward, Treasurer
Dr. Pam Skinner, Secretary
Val Eisele, Manager

ABSENT:

ALSO PRESENT:

Tina Carstens, District Administrator
Brandon Barnes, Barr Engineering
Brad Lindaman, Barr Engineering
Andy Walz, Lake Owasso Resident

Paige Ahlborg, Project Manager
Tracey Galowitz, Attorney for District
Nicole Soderholm, Permit Inspector
Brian Frank, Representing Lower Afton Apartments

1. CALL TO ORDER

The meeting was called to order by President Swope at 6:30 p.m.

2. APPROVAL OF AGENDA (01:30)

Motion: Manager Ward moved, Manager Aichinger seconded, to approve the agenda as presented.

A roll call vote was performed:

Manager Ward	aye
Manager Eisele	aye
Manager Aichinger	aye
Manager Skinner	aye
President Swope	aye

Motion carried unanimously.

3. CONSENT AGENDA (02:00)

- A. Approval of Minutes from September 1, 2021
- B. Treasurer’s Report and Bill List
- C. Permit Program
 - i. 21-29: Lower Afton Apartments, Maplewood
- D. Stewardship Grant Program
 - i. 21-33 CS: Loewen, Shoreline Restoration
 - ii. 21-34: Adrian, Permeable Driveway
- E. North St. Paul Target Store Retrofit – Change Order No. 3

Tina Carstens stated that for District projects there is always signage but noted that additional incorporation of public art would depend upon the project. She agreed that signage is different than public art for a District project but noted that if someone else was requesting signage for their project it would most likely be processed under public art.

Paige Ahlborg confirmed that previous signage requests have been processed under public art in the past. She stated that for outside projects, applicants typically alert the District in the beginning if they would like to incorporate public art.

Manager Eisele commented that signage could be considered as outreach, whereas specific art work would be considered public art. He stated that if signage were split out from public art, that budget could then be reserved for more meaningful work.

Tracey Galowitz stated that she likes the way the policy was done, tying the request for public art to the project and an educational component.

Tina Carstens stated that staff will use the input to draft the final policy to bring to the Board at the next meeting.

8. ATTORNEY REPORT (21:43)

Tracey Galowitz stated that this month the main focus was working with an applicant that needed to provide funds to the storm impact fund. She stated that they worked with staff to ensure that all steps were followed.

Nicole Soderholm provided background information on a permit approved in 2018 for an apartment building in Maplewood. She noted that the filtration basin is holding water because of a groundwater issue that was not anticipated. She explained that because the site is built out there was not space for another BMP and therefore the other option was for the applicant to pay into the storm impact fund for the amount that the applicant is short from the basin.

Manager Aichinger stated that he would believe the escrow fund could be used to offset part of that cost.

Nicole Soderholm stated that the funds would be used within the subwatershed to construct another project. She noted that while the basin is not working as designed, it does provide flood control and the stormwater reuse was setup.

Tina Carstens noted that this is a great example of the benefit of the storm impact fund as well, as there was not another option for the applicant.

Manager Ward commented that she was glad there were alternatives set up. She stated that at the last meeting they received an update on open meeting laws and asked for input on how other clients are handling meetings during this time.

Tracey Galowitz commented that attendance continues to be varied depending on the meeting, but more clients are returning to virtual meetings.

President Swope stated that he has noticed that other government entities in this area have also pulled back to virtual attendance and therefore he would feel comfortable continuing in this manner for the time being.

9. BOARD ISSUES, POLICIES AND OPERATION (FOR DISCUSSION AT MEETING) (28:40)

A. West Vadnais Lake Strategy and Status

Tina Carstens stated that she met with the administrator the previous day and he offered to attend a Board meeting if the Board desires. She stated that group has been doing a lot over the past year, partnering with the District on carp management and the carp barrier. She stated that Board also approved a budget increase for rough fish management in 2022. She stated that a full fish survey of West Vadnais is also planned for 2022. She stated that group is also at the final stages of completing a sustainable lake management report (SLMR) for West Vadnais Lake, which is a predecessor to a TMDL, noting that the TMDL is scheduled for 2024. She stated that internal loading has been identified as the main problem in the lake. She stated that District staff will also be reviewed the SLMR to ensure the actions fall in line with what the District would anticipate for that system.

Manager Ward stated that she always wondered why this lake is not included in the District system. She stated that she is glad this work is being done but would like additional information on why the lake is not part of the District and whether it should stay that way.

Tina Carstens stated that historically, at one time, East and West Vadnais were one lake. She stated that the Grass Lake area was not part of the District until more recent years.

Cliff Aichinger stated that when the District boundaries were first established, East Vadnais was part of the Saint Paul Regional Water Supply System while West Vadnais was landlocked. He stated that after the low flow system was established, there would have been some reason to incorporate but because it was low flow, it was not felt important to incorporate that water body. He stated that it appeared more important once the Grass Lake area was incorporated into the District. He stated that while it would make sense to incorporate, it is being managed and therefore it is not necessary. He stated that as long as the two watersheds work together to resolve problems, it could continue to work as is.

Manager Eisele asked what steps would be taken or what would it take to change minds to include West Vadnais in the District boundaries. He asked if time to action would be shorter if the water body were in the District.

Manager Aichinger stated that if a major capital improvement was needed, that could be a catalyst to make the change because the District has a larger tax base. He stated that if VLAWMO sees the lake as a large expense, they could make the request, but he did not see a reason to push the issue at this time.

President Swope commented on the long process needed in order to lower the outlet in the past.

Tina Carstens commented that was the EAW process, not the process of VLAWMO.

President Swope commented that the infrequent meeting schedule of VLAWMO can cause project delays.

Manager Aichinger stated if there was a need, and VLAWMO agreed, the process could be completed in three to four months.

Manager Skinner stated that she agrees with the comments of Manager Aichinger. She noted that in the past they really discussed the option of taking on West Vadnais. She commented that this is a complicated system as East Vadnais is used for drinking water and West Vadnais is very dirty. She stated that if the Board took this on it would be complicated with a lot of problems.

President Swope asked if the steps are known that would need to be taken to move the lake to the District boundaries.

Tina Carstens stated that the District has gone through boundary changes in the past. She noted that the controls for West Vadnais are within the District boundaries, therefore the District has control of that flow. She noted that

VLAWMO has taken steps with the District to address the water quality. She noted that before the Board would consider a boundary change, the VLAWMO administrator would like to have a conversation with the Board.

President Swope suggested inviting the VLAWMO administrator to a future Board meeting.

Manager Eisele stated that as a constituent, he recalls from a community perspective that it was difficult to determine who would be best suited to help in this situation. He stated that as long as the time to decision and time to action can be as short as possible.

Manager Ward commented that she appreciates the outline of the history and noted that things have changed. She believed that technically it is beneficial for West Vadnais to be in the District boundary and the question is just related to timing. She believed that more information should be gathered to determine if that decision should be made proactively or reactively.

Manager Aichinger stated that discussion could be had with the VLAWMO administrator when he attends.

Manager Skinner commented that would be taking on West Vadnais would be a huge expensive thing to fix and having the District residents pay for that expense is something that should be considered. She stated that there should be partners to that project if that is something that is going to be taken on.

Manager Ward asked if the study of the connectiveness between East and West Vadnais could be shared prior to the meeting. She also asked if a list could be provided of the work the District has done on West Vadnais in recent years. She stated that her concern is the water quality and its impact on the water downstream; specifically, whether they can move fast enough and whether they could move faster if they were in control.

Manager Eisele asked if there is a process that shows the steps that would be taken and time that would be necessary if there were a conveyance issue.

Tina Carstens confirmed that she could provide examples of previous projects. She noted that even if West Vadnais were within the District boundaries, it may not rise to the top of the priorities for water quality, especially because the problem is internal load management. She stated that if VLAWMO still maintains West Vadnais and the District comes forward with a proposal, there would be an option for a cost share and the District to be a partner rather than the sole entity responsible.

10. PRESENTATIONS (55:36)

A. Grass Lake Berm Wetland Mitigation Overview

Brad Lindaman provided background information on the raising of the berm on the west side of Grass Lake. He noted that the wetlands in that area were impacted by the raising of the berm. He provided additional details on the wetland impact and mitigation, noting that wetland replacement credits were purchased, and onsite wetland creation was planned and approved in 2018 to meet the no net loss policy. He displayed an aerial photograph of the site and identified the wetland boundaries, pedestrian trail, and planned wetland replacement area. He provided additional details on the three planned wetland creation areas and the District responsibility related to the WCA requirements. He reviewed the initial work and conditions and the technical evaluation panel findings from the site review conducted on August 10, 2021. He provided details on wetland monitoring, the initial monitoring results, and the existing conditions. He noted that they are approximately 1,000 square feet short due to the lack of wetland establishment in one of the areas. He reviewed the initial recommendations.

Manager Skinner stated that this area has fluctuating conditions and asked if seeds have been considered for that area that would work in that fluctuation.

Attachment 2

To: Board of Directors

From: Stephanie McNamara, Administrator

Date: June 20, 2019

Re: III. B. Grass Lake – West Vadnais flooding /EAW short and long term management

As you know, Rice Street has been flooded since April in the low area between Grass Lake (RWMWD) and West Vadnais Lake (VLAWMO). (See Fig. 1) High waters in the Vadnais wetland south of Vadnais Blvd. for the first time in recent memory have triggered an overflow we were unaware of under the 5-Star mobile home park and into Twin Lake. Twin Lake is above flood level with one home sandbagged and as of last week water being pumped into the MNDOT system. As of this memo, the water levels have retreated significantly and Ramsey County plans to raise the low area elevation of Rice Street by 4". (See Fig. 2.)

Fig. 1 Grass – W. Vadnais – Twin Lakes flow

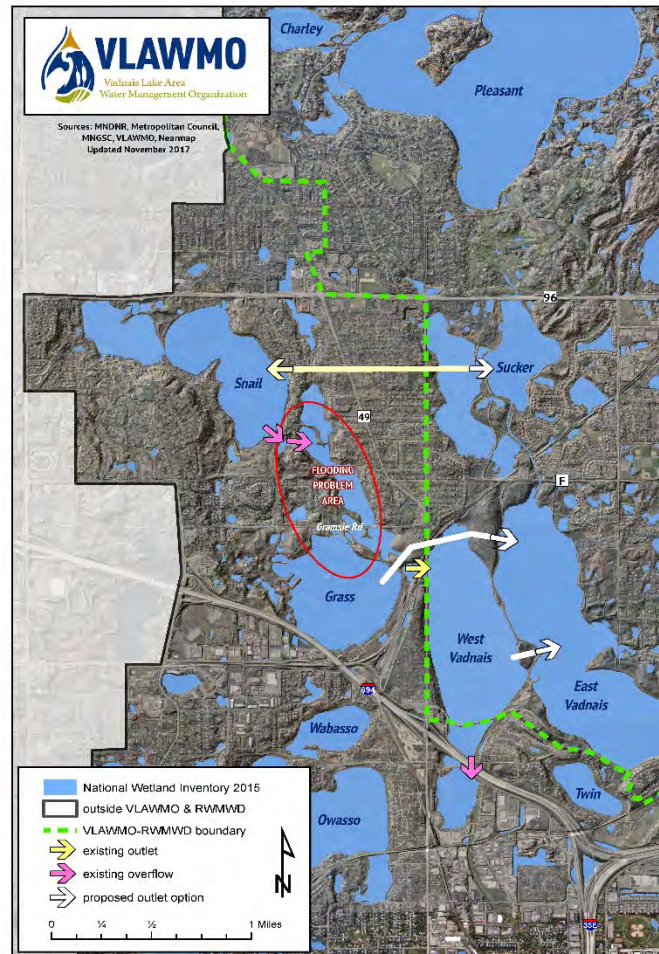


Fig. 2 Rice Street elevation area – increased by up to 4 inches



Ramsey Washington Metro Watershed District (RWMWD) has done a great deal of study of ground and surface water and increased storage in the area north Grass Lake in the last 2 – 3 years. See the red circled area in Fig. 1. They are just about wrapping up their efforts to maximize stormwater storage and minimize flooding. They are concerned that possible changes in climate patterns will require even more capacity to deal with stormwater than is currently available. Ways to further stormwater capacity and resiliency they feel are needed.

Question #1: Should the normal outlet of West Vadnais be lowered to allow for more ‘live’ (for storm events) storage?

RWMWD have approached VLAWMO with the proposal to lower the outlet (normal) elevation of West Vadnais by 0.8 feet. The VLAWMO Board requested an Environmental Assessment Worksheet (EAW) process be followed to allow for public comment and maximum transparency.

EAW

Some of the data collection, analysis and studies have been done already and the rest are underway. Hydrologic modeling of Grass – W. Vadnais and south as well as groundwater studies between East and West Vadnais are complete. Wetland delineation and functional assessment on the northern wetland are scheduled as is the bathymetric survey of West Vadnais. Most of the draft information should be available by mid - late July. VLAWMO is sponsoring the bathymetric survey as part of already planned work and RWMWD will have Barr do the wetland assessment.

VLAWMO will serve as the RGU or responsible government unit with jurisdiction as West Vadnais is in VLAWMO. RWMWD is the applicant proposing a change. Barr Eng. is preparing the EAW report with RWMWD paying for their work. When the full EAW report is complete, VLAWMO will notice a 30-day

comment period. This allows the public and other agencies an opportunity to comment on the project and possible environmental effects. Some Barr Eng. hours are allocated to help VLAWMO respond to comments. After that, the VLAWMO Board holds a public meeting and decides if enough information is available to make a decision on the proposal or if an Environmental Impact Statement (EIS) is needed.

Question 2: Is the VLAWMO Board willing to meet with the RWMWD Board to discuss the issues?

This was brought up briefly at our last meeting. The lake lowering question was on the table at the time and water was continuing to rise. Recently the lake levels have been going down but another question is on the table regarding how and who should manage West Vadnais. Some of their Board have expressed a desire to have more control over management given the hydrologic connection. Their Board has asked their staff to explore the pros and cons of changing the watershed boundary to annex West Vadnais to RWMWD.

The lake level lowering, if it happens in the future, will not affect this summer's flooding concerns. It would need to wait until the W. Vadnais lake level is below the current outlet elevation.

Possible Agenda for Special joint meeting of the Boards:

- Briefing on current situation and review of what has been done to address flooding
- Review of draft EAW information
- Consider adjusting the lake level of West Vadnais.
- Consider pros and cons of a boundary change including the W. Vadnais drainage area or other management strategies

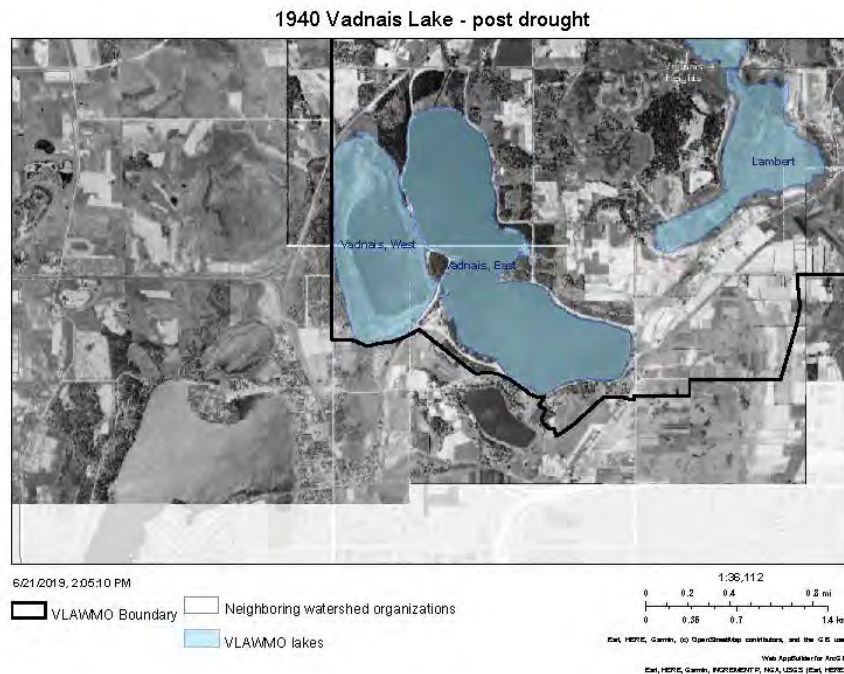
#3. Management of West Vadnais Lake Question: VLAWMO, RWMWD or joint effort?

VLAWMO management:

- VLAWMO has moved the SLMP (lake plan) up to 2020 with its Plan amendment. Studies such as the frog and toad survey and the bathymetric survey are happening this summer to support lake planning efforts. Water quality monitoring has been ongoing since 2009.
- Early maps of the area show East and West Vadnais connected and one lake, however since before 1940 the connection area of about 850 feet has been filled and a narrow road or trail separates the two lobes of Vadnais Lake into East and West. The East basin is the final reservoir of the St. Paul Regional Water Service (SPRWS), much deeper and with better water quality. SPRWS manages the reservoir.
- The west basin is shallower, poorer water quality and receives water from Grass Lake sometimes. Sometimes, about 3 -4 months of 2018 the flow reversed and water goes under Rice Street into Grass Lake from W. Vadnais.
- Both basins have a significant carp population.

- A shoreline wetland area on the north end of the W. Vadnais may be impacted by a permanent lake level change. VLAWMO has requested that this be adequately evaluated before any changes take place. Draining a wetland is not allowed under WCA. Existing bathymetry for the lake show it to be about 9 feet deep, but the shallowest contour starts at 5 feet deep. The new survey will offer more detailed information.
- Until the EAW is complete it is hard to know how a permanent water level change will affect the shoreline of East Vadnais. Fig. 3 shows an old 1940 aerial overlaid with contours. We don't know the lake level in the photo. It may well have been lower than proposed, but you can see the open water is significantly smaller.
- The culverts connecting Grass and W. Vadnais have been in place for decades. This connection is a porous boundary between the watersheds has been in place since the implementation of the Metropolitan Surface Water Management Act in the early 1980's. There are several areas west of Rice Street in Shoreview that drain to VLAWMO. Map will be at the Board meeting. When VLAWMO was formed in 1983 a decision was made to not have Shoreview be a member. Since then VLAWMO has cooperated with Shoreview when there are stormwater impacts in those areas. Other areas Shoreview on the north end of the watershed that flow into North Oaks.
- There are about 37 parcels in the West Vadnais Lake drainage area, mostly residential. The property around the lake belongs to SPRWS and is considered part of the Vadnais – Sucker Lakes park.

Fig. 3. 1940 West Vadnais



Joint management efforts for West Vadnais

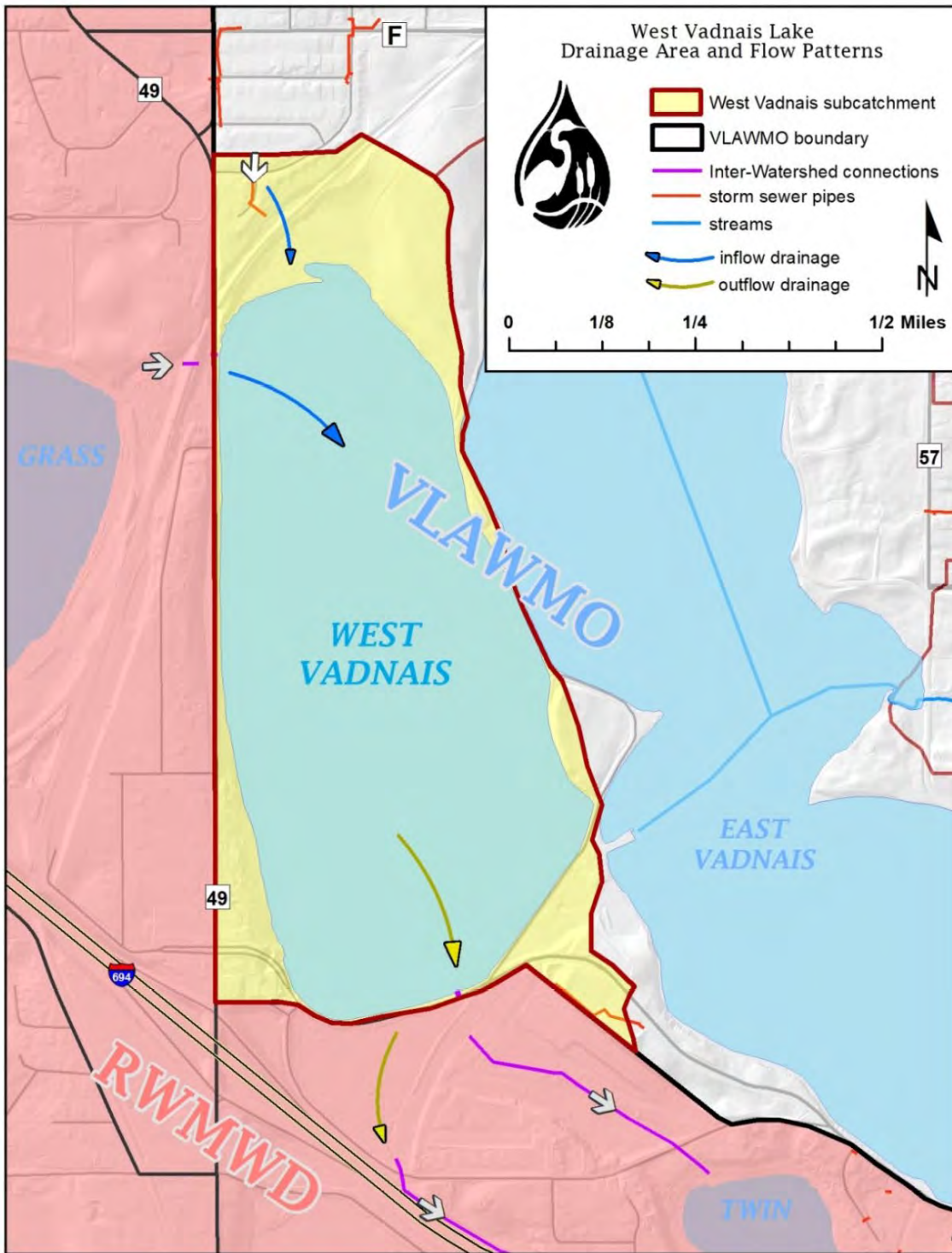
- When RWMWD asked to increase the culvert size under Vadnais Blvd. (south end of the lake), VLAWMO agreed.
- EAW work is cooperative. VLAWMO has provided water quality data and the bathymetric survey. RWMWD has included W. Vadnais in its hydrologic model, had a carp survey done, and a groundwater assessment to determine groundwater flow between the lakes. RWMWD also did a drinking water panel to see what would be needed to bring W. Vadnais water to E. Vadnais standards. There has been discussion on having a collaborative carp management.
- A southern outlet for the basin was added when I-694 was rebuilt. The pipe under the freeway was deliberately kept to 15 inches to control the rate of flow downstream into RWMWD Gervais channel. Flooding downstream was the concern.

RWMWD concerns


- They have been coping the last few years and this year in particular with flooding issues
 - North of the Grass Lake especially in the Crestview addition, Gramsie Road and Suzanne pond area.
 - The low area of Rice Street south of the RR bridge and Vadnais Blvd. both of which border VLAWMO.
 - 5-Star mobile home park
 - Twin Lake whose outlet is higher than the low floor elevation of the lowest home on the lake. It has been discovered that if the wetland area south of Vadnais Blvd. gets high enough not only are mobile homes threatened but an outlet on the SPRWS conduit line allows flow under the mobile home park and into Twin Lake.
- RWMWD would like more capacity for storage in the system and would like more control over the management of West Vadnais Lake. This would include the ability to change the normal water level of the lake.
- They are considering pros and cons of requesting a boundary change with VLAWMO that would move West Vadnais in RWMWD. Again, BWSR would be looking for both watersheds to agree to this before any change would happen.


Recommendation: That the VLAWMO Board hold a special meeting with the RWMWD Board in later July (24th, 30th or 31st) to discuss flooding issues associated with West Vadnais – Grass Lakes, information available from the draft EAW and management options.


Attachment 3- West Vadnais Lake Drainage Area and Flow Patterns (from W. Vadnais SLMR)



Attachment 4

 VLAWMO subcatchment boundaries

 Proposed ceded parcels: 45

 Proposed retained parcels: 3

**DRAFT for Discussion
Purposes only**

EAST
VADNAIS

WEST
VADNAIS