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VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E East, Vadnais Heights, MN 55127
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VLAWMO TECHNICAL COMMISSION MEETING
7:30 AM AUGUST 14, 2020

Meeting will be held by Zoom teleconference. Meeting link:
https://us02web.zoom.us/j/82609413241?pwd=Qy9rcURGb2VPdjB4UkV3VDVyWHA2UT09

Passcode: 874971 Meeting ID: 826 0941 3241
Dial by your location: +1 312 626 6799 US (Chicago)

Action items:

I. **Call to Order – 7:30am –Chair Gloria Tessier**
II. **Approval of Agenda**
III. **Approval of Minutes (July 10, 2020)**
IV. **Administration & Operations**
  A. Financial Report for August & authorization for payment – Phil
  B. August TEC Report to Board- Phil
V. **Programs**
  A. Education & Outreach – Nick
    1. News: Sucker Channel DNR highlight, Blue-green algae, Floodplain Friday parts 3 & 4
    2. Birch Sand-iron filter education sign preview
    3. Community Blue: Jr Watershed Explorer Program
  B. Cost Share Program Policy Updates, September 2020 Subcommittee Meeting – Tyler
VI. **Projects**
  A. Lambert Lake update – Dawn
  B. 4th and Otter Restoration update/Japanese hedge-parsley reporting – Dawn
  C. Carp projects update –Dawn
  D. Wilkinson Feasibility update – Dawn
  E. 319 Priority Watershed process beginning – Dawn
  F. Pursuing single maintenance contract for restorations – Dawn/Tyler
  G. Pleasant Lake sedimentation/internal loading results – Dawn
  H. Deep Lake reporting to MN DNR and Purple loosestrife initiative results – Dawn

VII. **Commisioner Reports:** Update request from BLID re: annual meeting
VIII. **NOHOA**
IX. **Ramsey Soil & Water Conservation Division:**
X. **St. Paul Regional Water Services**
XI. **Public Comment**
XII. **Next Meetings:** TEC: September 11, 2020
Board of Directors Meeting: August 26, 2020.
XIII. **Adjourn**

Events: *vlawmo.org/events*
- August 12th (5:00-6:30 pm): North Oaks Water Symposium
- August 13th: Rainbarrel workshop
- August 14th (10:00-11:30 am): City Hall prairie/Reed canary grass removal volunteer activity
- August 22nd & 23rd: Neighborhood watershed tour
- Sept. 4 (12:30-3:30 pm): Resume Buckthorn buster workdays, Fridays during Sept.

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

Vadnais Lake Area Water Management Organization
Technical Commission Minutes
July 10, 2020
Zoom Teleconference Open Meeting:

https://us02web.zoom.us/j/83828772829?pwd=RzhmTEFRSGdkYnh6ZHd4cW9vNDc3Zz09
Join by phone: +1-312-626-6799; meeting ID: 838 2877 2829; password: 234257

Commission Members Present:

Gloria Tessier	Chair, Gem Lake (GL)
Jesse Farrell	Vice Chair, Vadnais Heights (VH)
Bob Larson	Treasurer, North Oaks (NO)
Paul Duxbury	White Bear Township (WBT)
Terry Huntrods	White Bear Lake (WBL)
Andy Nelson	Lino Lakes (LL)

Commission Members Absent: none.

Others in attendance: Phil Belfiori, Brian Corcoran, Dawn Tanner, Tyler Thompson (VLAWMO); Patricia Orud, Kate Winsor (North Oaks resident); Justine Roe (SPRWS).

I. **Call to Order** Chair Tessier called the meeting to order at 7:30 am. A roll call was made for attending Commissioners of the electronic meeting: Farrell: present Larson: present Duxbury: present Huntrods: present Nelson: present Tessier: present.

II. **Approval of Agenda**
The agenda for the June 12, 2020 Technical Commission Meeting was presented for approval. Thompson asked for an addition to the agenda under V. B. Cost Share to include item V. B. 2. Landscape Level 1: 2020-13 & item V. B. 3. Landscape Level 1: 2020-14.
It was moved by Larson and seconded by Huntrods to approve the July 10, 2020 TEC agenda, as amended. Vote: Tessier: aye Farrell: aye Larson: aye Duxbury: aye Huntrods: aye Nelson: aye. Motion passed.

III. **Approval of Minutes**
It was moved by Duxbury and seconded by Farrell to approve the June 12, 2020 meeting minutes, as presented. Vote: Tessier: aye Farrell: aye Larson: aye Duxbury: aye Huntrods: aye Nelson: aye. Motion passed.

IV. **Administration & Operations**

A. **Financial Report for July & Authorization for Payment**
Belfiori presented the July Financial Report for review and authorization of payments. Highlighted page 6 that the budget is tracking at 48% which is about where you would expect for this point in the fiscal year and CIP budget is at 28% but those project invoices will be coming in soon.
Discussion:
It was moved by Huntrods and seconded by Larson to approve the July Treasurer's Report and authorization of payments. Vote: Tessier: aye Farrell: aye Larson: aye Duxbury: aye Huntrods: aye Nelson: aye. Motion passed.

B. **TEC format meeting discussion**
Tessier provided discussion that she is comfortable continuing with remote meetings. Larson and Duxbury concurred. After brief discussion, the TEC Commissioners verbally agreed to continue meeting virtually and plan on revisiting the meeting format for discussion in October.

C. Budget Discussion

Belfiori provided an overview of the approved 2021 budget which was considered at the June Board meeting. He noted that after extensive discussion at the June meeting, the VLAWMO Board voted to approve a 2021 budget which included total revenue of $2,029,059 of which $935,340 is from the VLAWMO Storm Sewer Utility (5% increase in the VLAWMO Storm Sewer Utility from 2020) and the remainder of the revenue being from a MPCA Loan for the Lambert Pond Project, a MPCA 319 Lambert Project Grant, Fund balance carryover from 2020, BWSR Watershed Based Fund grant, local partnership revenue, and fees/investment income. He also noted that the total expenditures for 2021 is projected at $2,029,059 which will be paid utilizing: 1) $1,134,380 of VLAWMO funds/ carry over funds from 2020, and 2) $894,679 of loans, grants and partnerships funds. Belfiori indicated that the 5% budget increase was targeted by the Board for a maintenance project on Ramsey County Ditch 14. He stated that at the August 2020 Board meeting the Board will be considering 2021 SSU fee rates, based on the approved 2021 budget.

V. Programs

A. Education & Outreach

1. Floodplain Friday series

Belfiori overviewed a new video series that Voss has begun to highlight the Lambert Lake and Meander project by expanding on the topic of floodplains, wetlands, and water storage.

2. General update: July-August projects

Voss provided an overview in the TEC packet of VLAWMO's summer Education & Outreach programs and events from July going into August, while continuing to adapt to COVID-19 precautions.

B. Cost Share

Thompson updated that at their June meeting, the Board had some discussion on the Cost Share program, its effectiveness, and the possibility of program budget cuts in the future. Staff is looking to organize a subcommittee comprising of interested and willing TEC and Board members to review the program's funding structure after the August TEC and Board meetings. The subcommittee would likely meet sometime in September and provide input and recommend possible policy changes that would be brought to the October TEC and Board meetings.

Discussion: Tessier and Farrell both expressed interest in joining the anticipated Cost Share Program Subcommittee.

1. Landscape Level 1: 2020-12 Easton Native Restoration, NO

After a staff site visit out to the applicant's property, they had 2 estimates completed for a project that would stabilize the hillside along their driveway with a native planting. The native planting would cover 800 square feet, plant 180 plugs, have a mulch depth of 4 inches, and is roughly 60 feet away from Teal Pond in North Oaks. The applicant has chosen Prairie Restorations Inc. as their contractor for a total project cost of $2,780, and is requesting $2,000 in Landscape Level 1 grant funding.

Staff is recommending approval of LL1 2020-12 for funding in the amount of $2,000.00

Discussion: Farrell asked whether the restoration would be more worthy downstream of the proposed project location. Thompson answered the current location provides upstream stabilization and the applicant is implementing no-mow buffers on the downstream shoreline of Teal Pond.

It was moved by Larson and seconded by Huntrods for approval of application and funding in the amount of $2,000.00 for LL1 2020-12, as presented. Vote: Tessier: aye Farrell: aye Larson: aye Duxbury: aye Huntrods: aye Nelson: aye. Motion passed.

2. Landscape Level 1: 2020-13 Welsch Native Planting, VH
   After completion and closeout of their 2019 LL1 phase 1 & 2 native planting project in June 2020, Mr. Welsch has submitted a Landscape Level 1 grant application for 2020 to complete a phase 3 native planting on his property. For phase 3 of the project included on the grant application, the applicant is proposing a 2,000 square foot area planted with 270 native plugs and a pollinator garden seed mix, all to have a hardwood mulch groundcover. The total project cost is estimated at $1,081.82, and the applicant is requesting $750.00 in Landscape Level 1 funding.
   Staff is recommending approval of LL1 2020-13 for funding in the amount of $750.00.
   It was moved by Farrell and seconded by Larson for approval of application and funding in the amount of $1,667.25 for LL1 2020-10, as presented. Vote: Tessier: aye Farrell: aye Larson: aye Duxbury: aye Nelson: aye. Motion passed.
3. Landscape Level 1: 2020-14 Wills Infiltration Train & Hillside Native Planting, VH
   An application was received for a request to fund a larger-scale native restoration, and rerouting 2/3 of the property's drainage to 3 in-line raingardens, as part of a backyard landscaping overhaul. The Wills recently bought their home in Vadnais Heights and have prior experience with native planting and raingardens at their previous house, and are looking to do the same project with their new home. A quote has been received by a contractor to regrade the backyard hillside that currently drains to their neighbor's property to the west, and route runoff into 3 connected raingardens, totaling 150 square feet. After reviewing the project for stormwater and nutrient removals, the results are meager, but what is expected for a residential raingarden: 48,812 gallons of runoff, .122 lbs TP, and 22.2 lbs of total suspended solids removed, annually. The total estimated applicable project cost is $16,500 and the applicants are requesting $2,000 in Landscape Level 1 funding.
   Staff is recommending approval of LL1 2020-14 for funding in the amount of $2,000.00.
   It was moved by Huntrods and seconded by Larson for approval of application and funding in the amount of $2,000.00 for LL1 2020-11, as presented. Vote: Tessier: aye Farrell: aye Larson: aye Duxbury: aye Nelson: aye. Motion passed.

   Discussion: Tessier proposed a vote to approve the 3 Landscape Level 1 applications in one motion. Larson suggested moving individually. The following 4 TEC Commissioners agreed separate motions per application would suffice.

VI. Projects

A. Lambert Lake Update

Tanner reported that the EAW window has closed, and the finding of fact resolution passed at June Board meeting and has been published in EQB Monitor. DNR permitting is moving forward, and the USACE has no comments with one more step to complete with the MPCA. Project is looking to move forward for bid in August.

B. Yellow Iris Removal and Press

Tanner noted that while staff and volunteers are documenting yellow iris locations, they are also targeting and keeping track of removal numbers. Over 300 lbs was removed on Deep Lake. A permit for removal will be renewed for 2021.

C. Aquatic Veg Surveys with RCSWCD

Lake surveys and reports will be completed this year on East Vadnais & Sucker Lakes to be used for completion of corresponding SLMPs for both lakes. Nearly all of the SLMPs, new and updated, are complete, with only Amelia Lake to be completed in 2021.

D. Wilkinson Feasibility Study Update

Tanner noted that the subwatershed study for potential projects to increase water quality on Wilkinson Lake is moving forward. Two sites were selected by staff for further investigation into possible project design and implementation by SEH.

E. Girl Scouts Silver Award

Tanner has been working with the Girl Scouts on expanding public education for lead sinkers and lead in the environment. The Girl Scouts have submitted their final project report and are awaiting news on receiving the Silver Award.

F. ENRTF/Vadnais-Sucker Park Update

Tanner updated that while not passing in the first session, both the MN House & Senate expressed support for ENRTF program funding, which would include a 45 acre restoration in Sucker Vadnais Lake. More will be known regarding funding once legislation from the Special Session takes place.

G. Frog and Toad Story Map Update

Tanner noted that the Frog and Toad second year of monitoring and surveying has been completed and this information has helped update and complete the Frog & Toad online story map.

H. Remote-camera Story Map

A story map has also been created for a summary of all the remote-camera wildlife survey work that has been completed in the Watershed over the past two years and is available on vlawmo.org.

I. East Goose Boat Access Update

Corcoran reported that the VLAWMO Board approved the memorandum of agreement on the East Goose Lake boat access at their June meeting. The project will include light tree removal, along with grading work. If the Memorandum is approved by the City of White Bear Lake at their July 14 Council meeting, work is anticipated to be completed by the end of July.

VII. Commissioner Reports

None.

VII. NOHOA

None.

IX. St. Paul Regional Water Service (SPRWS) Report

Roe announced that their contribution to the sedimentation study has been included in the 2021 SPRWS budget, and is pending approval.

X. Ramsey Soil & Water Conservation Division (RCSWCD) Report

None.

XI. Public Comment

Kate Winsor greeted everyone.

XII. Next Meetings

TEC: August 14th, 2020; Board: August 24th, 2020

XII. Adjourn

It was moved by Farrell and seconded by Duxbury to adjourn at 8:24 am. Vote: Tessier: aye Farrell: aye Larson: aye Duxbury: aye Nelson: aye. Motion passed.

Minutes compiled and submitted by Tyler Thompson.

August-20		Actual 8/1/20	Actual to Date	2020 Budget	2019 carry over/Grants	Remaining in Budget	2020 Available	Act vs. Budget
BUDGET #	**INCOME**							
5.11	Storm Water Utility	$455,289	$471,738	$890,800	$0	$419,062	$890,800	53%
5.12	Service Fees	$100	$300	$200	$0	($100)	$200	150%
5.13	Interest + mitigation acct	$31	$4,137	$5,000	$0	$863	$5,000	83%
5.14	Misc. income - WCA admin & other	$0	$5,150	$3,000	$0	($2,150)	$3,000	172%
5.15	Other Income Grants	$22,262	$68,028	$0	$0	($68,028)	$0	
5.16	Transfer from reserves	$0	$150,000	$0	$0	($150,000)	$0	
	TOTAL	$477,682	$699,353	$899,000	$0	$199,647	$899,000	78%
	EXPENSES							
3.1	**Operations & Administration**							
3.110	Office - rent, copies, post tel supplies	$1,851	$15,683	$25,200	$0	$9,517	$25,200	62%
3.120	Information Systems	$1,289	$8,184	$20,000	$2,000	$13,816	$22,000	37%
3.130	Insurance	$3,899	$4,019	$5,800	$0	$1,781	$5,800	69%
3.141	Consulting - Audit	$0	$6,893	$6,700	$0	($193)	$6,700	103%
3.142	Consulting - Bookkeeping	$0	$0	$1,500	$0	$1,500	$1,500	0%
3.143	Consulting - Legal	$716	$1,015	$4,000	$2,500	$5,485	$6,500	16%
3.144	Consulting - Eng. & Tech.	$2,650	$4,153	$30,000	$0	$25,847	$30,000	14%
3.150	Storm Sewer Utility	$212	$3,690	$14,000	$0	$10,310	$14,000	26%
3.160	Training (staff/board)	$235	$235	$4,500	$1,500	$5,765	$6,000	4%
3.170	Misc. & mileage	$248	$2,989	$5,500	$800	$3,311	$6,300	47%
3.191	Administration - staff	$26,616	$248,702	$347,200	$50,000	$148,498	$397,200	63%
3.192	Employer Liability	$7,650	$66,268	$89,600	$12,000	$35,332	$101,600	65%
3.2	**Monitoring and Studies**							
3.210	Lake and Creek lab analysis	$1,413	$5,905	$22,000	$10,000	$26,095	$32,000	18%
3.220	Equipment	$0	$236	$4,000	$0	$3,764	$4,000	6%
3.230	Wetland assessment & management	$8,593	$8,593	$10,000	$0	$1,407	$10,000	86%
3.3	**Education and Outreach**							
3.310	Public Education	$0	$2,363	$8,500	$1,000	$7,137	$9,500	25%
3.320	Marketing	$0	$1,663	$7,500	$0	$5,837	$7,500	22%
3.330	Community Blue Ed Grant	$100	$8,052	$10,000	$2,000	$3,948	$12,000	67%
Total Core functions: Ops, Monitoring, Education		*$55,473*	*$388,643*	*$616,000*	*$81,800*	*$309,157*	*$697,800*	*56%*
Capital Improvement Projects and Programs								
3.4	**Subwatershed Activity**							
3.410	Gem Lake	$0	$0	$0	$0	$0	$0	
3.420	Lambert Creek	$3,543	$64,322	$120,000	$63,275	$118,953	$183,275	35%
3.425	Goose Lake	$873	$35,563	$60,000	$150,316	$174,753	$210,316	17%
3.430	Birch Lake	$3,620	$26,497	$10,000	$39,067	$22,570	$49,067	54%
3.440	Gilf Black Tam Wilk Amelia	$0	$7,362	$30,000	$50,000	$72,638	$80,000	9%
3.450	Pleasant Charley Deep	$824	$15,789	$10,000	$9,000	$3,211	$19,000	83%
3.460	Sucker Vadnais	$0	$3,164	$12,000	$10,000	$18,836	$22,000	14%
3.48	**Programs**							
3.481	Landscape 1	$4,182	$15,354	$24,000	$11,500	$20,146	$35,500	43%
3.482	Landscape 2	$2,452	$22,621	$20,000	$11,361	$8,740	$31,361	72%
3.483	Project Research & feasibility	$0	$9,725	$0	$0	($9,725)	$0	#DIV/0!
3.470	Facilities Maintenance	$122	$122	$5,000	$29,176	$34,054	$34,176	0%
3.5	**Regulatory**							
3.510	Engineer Plan review	$0	$0	$2,000	$0	$2,000	$2,000	0%
	Total CIP & Program	*$15,615*	*$200,519*	$293,000	$373,695	*$466,176*	*$666,695*	*30%*
	Total of Core Operations & CIP	**$71,088**	$589,162	$909,000	$455,495	**$775,333**	$1,364,495	**43%**

Fund Balance		7/1/2020	8/1/2020
4M Account		$103,141	$168,274
4M Plus Savings		$363,428	$723,986
Total		$466,569	$892,260

Restricted funds	8/1/2020
Mitigation Savings	$21,035
Term Series (3/28/19)	$0

Vadnais Lake Area Water Management Orgai

9:54 AM

Profit & Loss

08/05/2020

July 11 through August 14, 2020

Cash Basis

	Jul 11 - Aug 14, 20
Ordinary Income/Expense	
Income	
5.1 · Income	
5.11 · Storm Water Utility	455,289.42
5.12 · Service Fees	100.00
5.13 · Interest	30.90
Total 5.1 · Income	455,420.32
6.6.6 · Grants	22,261.90
Total Income	477,682.22
Gross Profit	477,682.22
Expense	
3.1 · Administrative/Operations	
3.110 · Office	
Copies	25.24
Phone/Internet/Machine Overhead	275.00
Postage	10.75
Rent	1,540.00
Total 3.110 · Office	1,850.99
3.120 · Information Systems	
IT Support	1,259.00
Software	30.00
Total 3.120 · Information Systems	1,289.00
3.130 · Insurance	3,899.00
3.143 · Legal	716.40
3.144 · Eng. & Tech.	2,650.41
3.150 · Storm Sewer Utility	212.00
3.160 · Training (staff/board)	235.00
3.170 · Misc. & mileage	247.71
3.191 · Employee Payroll	
Payroll	26,616.01
Total 3.191 · Employee Payroll	26,616.01
3.192 · Employer Liabilities	
Admin payroll processing	44.92
Administration FICA	1,843.72
Administration PERA	1,996.20
Insurance Benefit	3,765.57
Total 3.192 · Employer Liabilities	7,650.41
Total 3.1 · Administrative/Operations	45,366.93
3.2 · Monitoring and Studies	
3.210 · Lake & Creek lab analysis	1,413.00
3.230 · Wetland Asses. & Manage	8,593.09
Total 3.2 · Monitoring and Studies	10,006.09

3.3 · Education and Outreach	
3.310 · Public Education	0.00
3.330 · Community Blue Education Grant	100.00
Total 3.3 · Education and Outreach	100.00
3.4 · Capital Imp. Projects/Programs	
3.420 · Lambert Creek Restoration	
LL VLAWMO cash match	1,602.48
Whitaker Wetlands	1,940.55
Total 3.420 · Lambert Creek Restoration	3,543.03
3.425 · Goose Lake	
WB Funding - Goose subshed	656.70
3.425 · Goose Lake - Other	216.00
Total 3.425 · Goose Lake	872.70
3.430 · Birch Lake	
4th & Otter project	3,620.13
Total 3.430 · Birch Lake	3,620.13
3.450 · Pleasant Charley Deep	824.06
3.470 · Facilities & Maintenance	121.60
Total 3.4 · Capital Imp. Projects/Programs	8,981.52
3.48 · Programs	
3.481 · Landscape 1 - cost-share	4,182.11
3.482 · Landscape 2	2,451.64
Total 3.48 · Programs	6,633.75
Total Expense	71,088.29
Net Ordinary Income	406,593.93
Net Income	**406,593.93**

Vadnais Lake Area Water Management Organization
Check Detail
July 11 through August 14, 2020

Type	Num	Date	Name	Item	Account	Paid Amount	Original Amount
Check	**eft**	**07/21/2020**	**Reliance Standard**		**Checking - 1987**		**-176.03**
					Insurance Benefit	-176.03	176.03
TOTAL						-176.03	176.03
Check	**eft**	**08/10/2020**	**further**		**Checking - 1987**		**-5.00**
					Insurance Benefit	-5.00	5.00
TOTAL						-5.00	5.00
Check	**4974**	**07/13/2020**	**SEH**		**Checking - 1987**		**-2,415.21**
					3.144 · Eng. & Tech.	-2,415.21	2,415.21
TOTAL						-2,415.21	2,415.21
Check	**4975**	**08/14/2020**	**Ed Welsch**		**Checking - 1987**		**-2,000.00**
					3.481 · Landscape 1 - cost-share	-2,000.00	2,000.00
TOTAL						-2,000.00	2,000.00
Check	**4976**	**08/14/2020**	**anthony monda**		**Checking - 1987**		**-662.44**
					3.482 · Landscape 2	-662.44	662.44
TOTAL						-662.44	662.44
Check	**4977**	**08/14/2020**	**Joel Matuzak**		**Checking - 1987**		**-1,789.20**
					3.482 · Landscape 2	-1,789.20	1,789.20
TOTAL						-1,789.20	1,789.20
Check	**4978**	**08/14/2020**	**Stefan Wills**		**Checking - 1987**		**-2,000.00**
					3.481 · Landscape 1 - cost-share	-2,000.00	2,000.00
TOTAL						-2,000.00	2,000.00
Check	**4979**	**08/14/2020**	**Colleen O'Brien**		**Checking - 1987**		**-182.11**
					3.481 · Landscape 1 - cost-share	-182.11	182.11
TOTAL						-182.11	182.11
Check	**4980**	**08/14/2020**	**RMB Environmental Laboratories, Inc.**		**Checking - 1987**		**-1,413.00**
					3.210 · Lake & Creek lab analysis	-605.00	605.00
					3.210 · Lake & Creek lab analysis	-246.00	246.00
					3.210 · Lake & Creek lab analysis	-94.00	94.00
					3.210 · Lake & Creek lab analysis	-468.00	468.00
TOTAL						-1,413.00	1,413.00
Check	**4981**	**08/14/2020**	**SEH**		**Checking - 1987**		**-9,739.77**

			3.144 · Eng. & Tech.	-235.20	235.20
			LL VLAWMO cash match	-1,602.48	1,602.48
			3.230 · Wetland Asses. & Manage	-7,902.09	7,902.09
TOTAL				-9,739.77	9,739.77
Check	**4982**	**08/14/2020**	**Barr Engineering Co**	**Checking - 1987**	**-8,926.79**
			4th & Otter project	-3,620.13	3,620.13
			3.450 · Pleasant Charley Deep	-5,306.66	5,306.66
TOTAL				-8,926.79	8,926.79
Check	**4983**	**08/14/2020**	**Ramsey County**	**Checking - 1987**	**-216.00**
			3.425 · Goose Lake	-216.00	216.00
TOTAL				-216.00	216.00
Check	**4984**	**08/14/2020**	**Jim Shapland**	**Checking - 1987**	**-100.00**
			3.330 · Community Blue Education Grant	-100.00	100.00
TOTAL				-100.00	100.00
Check	**4985**	**08/14/2020**	**Regents of the University of Minnesota**	**Checking - 1987**	**-691.00**
			3.230 · Wetland Asses. & Manage	-527.00	527.00
			3.230 · Wetland Asses. & Manage	-106.00	106.00
			3.230 · Wetland Asses. & Manage	-58.00	58.00
TOTAL				-691.00	691.00
Check	**4986**	**08/14/2020**	**carp solutions**	**Checking - 1987**	**-517.40**
			3.450 · Pleasant Charley Deep	-517.40	517.40
TOTAL				-517.40	517.40
Check	**4987**	**08/14/2020**	**Anoka County**	**Checking - 1987**	**-212.00**
			3.150 · Storm Sewer Utility	-212.00	212.00
TOTAL				-212.00	212.00
Check	**4988**	**08/14/2020**	**City of White Bear Lake**	**Checking - 1987**	**-34,085.39**
			payroll	-26,616.01	26,616.01
			Administration FICA	-1,843.72	1,843.72
			Administration PERA	-1,996.20	1,996.20
			Insurance Benefit	-3,584.54	3,584.54
			Admin payroll processing	-44.92	44.92
TOTAL				-34,085.39	34,085.39
Check	**4989**	**08/14/2020**	**City Of Roseville**	**Checking - 1987**	**-1,259.00**
			IT Support	-959.00	959.00
			IT Support	-300.00	300.00
TOTAL				-1,259.00	1,259.00

Check	**4990**	**08/14/2020**	**League of MN Cities Insurance Trust P & C**	**Checking - 1987**	**-3,899.00**
			3.130 · Insurance	-3,899.00	3,899.00
TOTAL				-3,899.00	3,899.00
Check	**4991**	**08/14/2020**	**Kennedy & Graven, Chartered**	**Checking - 1987**	**-1,452.70**
			3.143 · Legal	-716.40	716.40
			WB Funding - Goose subshed	-656.70	656.70
			3.470 · Facilities & Maintenance	-79.60	79.60
TOTAL				-1,452.70	1,452.70
Check	**4992**	**08/14/2020**	**City of Vadnais Heights**	**Checking - 1987**	**-1,850.99**
			Rent	-1,540.00	1,540.00
			Phone/Internet/Machine Overhead	-200.00	200.00
			Phone/Internet/Machine Overhead	-75.00	75.00
			Postage	-10.75	10.75
			Copies	-25.24	25.24
TOTAL				-1,850.99	1,850.99
Check	**4993**	**08/14/2020**	**Burns & McDonnell**	**Checking - 1987**	**-1,940.55**
			Whitaker Wetlands	-1,940.55	1,940.55
TOTAL				-1,940.55	1,940.55
Check	**4994**	**08/14/2020**	**Dawn Tanner**	**Checking - 1987**	**-37.38**
			3.170 · Misc. & mileage	-37.38	37.38
TOTAL				-37.38	37.38
Check	**4995**	**08/14/2020**	**Tyler J Thompson**	**Checking - 1987**	**-91.88**
			3.170 · Misc. & mileage	-91.88	91.88
TOTAL				-91.88	91.88
Check	**4996**	**08/14/2020**	**Brian Corcoran**	**Checking - 1987**	**-109.62**
			3.170 · Misc. & mileage	-109.62	109.62
TOTAL				-109.62	109.62
Check	**4997**	**08/14/2020**	**Nicholas Voss**	**Checking - 1987**	**-8.83**
			3.170 · Misc. & mileage	-8.83	8.83
TOTAL				-8.83	8.83

Vadnais Lake Area Water Management Organization

9:58 AM

Custom Transaction Detail Report

08/05/2020

July 1 through August 1, 2020

Accrual Basis

	Type	Date	Num	Name	Memo	Account	Clr	Split	Amount	Balance
Jul 1 - Aug 1, 20										
	Credit Card Charge	07/03/2020		Google*SVCAPPS_VLAWM		US Bank CC		WEB	36.00	36.00
	Credit Card Charge	07/08/2020		Ace Hardware	Stakes for VH city hall	US Bank CC		3.470 · Facilities & Maintenance	27.99	63.99
	Credit Card Charge	07/15/2020		Prairie Moon Nursery	seed for VH city hall	US Bank CC		3.470 · Facilities & Maintenance	42.00	105.99
	Credit Card Charge	07/24/2020		hologram	account refill	US Bank CC		Software	30.00	135.99
	Credit Card Charge	07/27/2020		University of Minnesota	project management training Dawn	US Bank CC		3.160 · Training (staff/board)	235.00	370.99
Jul 1 - Aug 1, 20									**370.99**	**370.99**

TEC Report to the Board
August 2020

Programs & Projects	Effort Level LOW MED HIGH	Completion Date	Comments
Projects			
East Goose lk. Adaptive Mgnt. - Boat Launch		late 2020	Upon Board approval for E. Goose Adaptive Lake Management Project in May, staff has continued to work on boat launch construction and anticipate final construction in the coming few months.
East Goose Lk Adaptive Mgnt. - subshed project		2020- 21	Anticipated stakeholder meeting for East Goose Lk. Adaptive Management Project - scheduled later in 2020.
Lambert Creek - Ditch 14, branches		2021	MN DNR and USACE permits are in place. S.E.H. is finalizing specs and anticipating going out for bid following the August Board meeting.
Birch Lake		2017-20	Barr is working with Blackstone for the final construction bill, project closeout memo & supporting documents. Monitoring has begun.
Wetland Assessment - Vadnais Sucker		2020	SEH has finished the field work, currently working on report
Whitaker Wetlands		2020	Final report was received
Programs			
Outreach		April-June	Floodplain Friday series finishing in August. Birch Lake sand-iron filter video published. Fall article included in Vadnais Heights and WBL City Newsletters. 3 summer email newsletters sent to public and MS4's.
Education		April-July	Jr Watershed Steward booklet being made by Master Water Stewards with support of Community Blue. Birch Lake education sign complete.
Website		Ongoing	Blue-green Algae news story, Sucker channel restoration featured by DNR, remote camera story maps. New website consultations occurring with other watersheds.
WAV		May-July	Master Water Stewards coordinating rainbarrel workshop (Aug 13) and Social-distance neighborhood tour (Aug 22, 23) Volunteers continuing Leaf Pack macroinvertebrate monitoring with WAV plus a Century College service learning student. Recruiting for 2 new master water stewards in 2021.
Cost Share		ongoing	Cost Share Grant policy updating for 2021. Subcommittee members from TEC & Board solicited to meet in September.
GIS		ongoing	SSU Fee dataset, programs support
Monitoring		ongoing	2020 season is underway
WCA		ongoing	administering WCA as needed

TEC Report to the Board
August 2020

Administration & Operation			
SLMPs		2020	Lake surveys are completed for 2020, and planning is underway for Amelia in 2021.
Budget		August 2020	Administrator continues to manage 2020 budget funds and track anticipated 2020 budget carry over amounts.
Administration/ HR		August 2020	Staff have completed mid year check-in meetings and have worked with the Administrator to establish priority work objectives for the coming six month period and corresponding professional development /training targets.
SSU		ongoing	Staff are working consultant on defining the 2021 SSU rates.
Administration/ HR		ongoing	Per Board discussion at the June Meeting, Administrator has been investigating possible options for 2021 Health care and employee benefits renewal - anticipate bring recommendations and options to the Personnel Committee of the Board in Sept./Oct.

FINANCIAL SUMMARY as of 8/1/2020		
4M Account (1.10)	4M Plus (1.23)	Total
$168,274	$723,986	$892,260

CD's	4M Term Series	
	Maturity	Rate
Term series		

Budget Summary	Actual Expense YTD	2020 Budget amended	Remaining in Budget	% YTD
Operations	*$388,643*	*$697,800*	*$309,157*	56%
CIP	*$200,519*	$666,695	*$466,176*	30%
Total	$589,162	$1,364,495	$775,333	43%

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TEC Staff Memo – August 2020

IV. Administration & Operations

A. **Financial Report for August** –The August Financial Report is attached in the July ePacket.

B. **August TEC Report to Board**

V. Programs

A. Education and Outreach:

1. The Sucker Channel restoration project has been featured in a DNR newsletter. Link to the article spotlight from this VLAWMO news article.
   http://www.vlawmo.org/news/sucker-channel-featured-state-report/

   August is the most common time for blue-green algae blooms. The VLAWMO news section has an info summary on this topic.
   http://www.vlawmo.org/news/sucker-channel-featured-state-report/

   The #FoodplainFriday series is a summer series to build off of the Lambert Lake Pond and Meander project by expanding the topic of floodplains, wetlands, and water storage. Episode 3 and 4 are completed and posted on VLAWMO Youtube and social media. These are posted on Fridays, and when it's not an original VLAWMO video, VLAWMO social media posts an article, other video, or case study on the topic of floodplains for that Friday's post.

2. Nick will display the signage in the works for the 4th and Otter sand-iron filter. The sign will be placed at the intersection visible to cars and walkers, explaining how the filter works and the connection it has to stormwater and lake health.
3. A community blue application is submitted from VLAWMO's Master Water Stewards Ceci and Ed Shapland. This effort is a booklet for kids and families to encourage watershed learning and exploration. Completion of the book acknowledges the student's status as a "Junior Water Steward."
   The booklet is being primarily developed on volunteer hours, with $2,425 of in-kind volunteer hours slotted for the project. A Volunteer mini-grant has been used to supply the project with an initial $100 of early graphic design and formation of the draft included in this TEC packet. This allowed the project to have a draft and some structure before the formal Community Blue application was completed to reflect the larger program.
   The hard costs on the project are being requested for a professional designer to implement graphics, cartoon hero characters, and a formal layout for the booklet. The requested funds total **$960** for graphic design work and the implementation of a pilot program with student prizes such as T-shirts.

The project is a response to COVID-19 circumstances and seeks to provide a meaningful way for engaging students and families in a time where social distancing is the norm. The Community Blue grant and the project reflected in the application is essentially a pilot program to develop, seek feedback from teachers, and test the booklet out with families. The end product after the grant segment is complete will be a long-term education resource for VLAWMO's outreach efforts. The pilot program is planned to begin this Fall, with an unveiling in October for students to use in their school from home time.

Nick will further explain the vision with Ceci and Ed during the meeting, and we will review the application according to the Community Blue scoring chart, which is included in this TEC packet.

TEC members who complete a scoring chart to help this application process are asked to submit their completed chart by the end of the day on August 12.

B. Cost Share Program Policy Updates, September 2020 Subcommittee Meeting

After budget discussion at the June VLAWMO Board meeting and the possibility of cutting or reducing Program budgets in the future, staff has been reviewing the current Cost Share Program policy and researching and comparing other Metro grant programs. Staff is seeking a few Commissioners from the VLAMWO Technical Commission and a few Directors from the Board to comprise a subcommittee for input and recommendations to update the VLAWMO Cost Share policy for possible restructuring for increased water quality benefits. After the August 26th VLAWMO Board meeting and all subcommittee members have committed, a meeting date will be selected for September, and recommended policy updates and changes are anticipated to be brought for recommendation and approval at the October 2020 TEC & Board meetings. Staff greatly appreciates TEC and Board involvement in this process.

VI. Projects

A. Lambert Lake Update

Permit work has been completed with MN DNR and USACE. Both permits have been approved.

SEH is preparing specs for approval at the August Board meeting. We plan to go out for bid following approval from the Board. UMN researchers continue working on lab tests for biochar and will be testing prototype designs soon.

B. 4th and Otter Restoration update/Japanese hedge-parsley reporting

We continue with monitoring and maintenance of the restoration area at 4th and Otter. During a recent check, we identified and reported (in EDDMapS) Japanese hedge parsley, which is an invasive species that became evident following buckthorn and Garlic mustard removal. Japanese hedge-parsley is not widespread in the state but is established in the metro area. It has annual and biennial growth forms. We will continue to remove this species at 4th and Otter and encourage partners to ID and remove it where you may find it.

Japanese hedge-parsley is in the carrot family.	Japanese hedge-parsley took over where

<table>
<tr><td>It's leaves look like carrot plants. The flowers are similar to Queen Ann's lace (also invasive) but smaller and more sparce.</td><td>Garlic mustard had previously dominated.</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td colspan="2">Hand-pulling is effective with Japanese hedge-parsley. There are many seedlings yet that will flower next year. Continued monitoring and maintenance is important in restoration success.</td></tr>
<tr><td colspan="2">  </td></tr>
</table>

C. Carp Projects update

VLAWMO is preparing for a fall carp harvest on Pleasant Lake. SPRWS will be repairing the boat launch on the south shore of Pleasant Lake to allow commercial boat access. We

appreciate SPRWS ability and commitment to complete this improvement. NOHOA will prepare a permit for the commercial fisher. Carp Solutions and MN DNR are also assisting and sharing information as we coordinate this effort.

A box net removal is being tested on West Vadnais during July/August. The nets are set up on the south shore of West Vadnais. They are baited with corn, which is attractive to carp but generally not to native fish. Coordination with RWMWD, SPRWS, and the Ramsey County Water Patrol are essential to this project. We appreciate partner involvement on this project.

	
The box nets can be checked with a team using a floating bar of PVC. As the team works their way along, the net is reset behind them.	Only a few fish were removed during the first netting effort. Carp may be feeding during the day at this site. Carp Solutions is continuing to modify their strategies to maximize removal.

D. Wilkinson Feasibility Study Update

SEH is advancing designs for the sites described last month. Coordination continues with partners on this project as we prepare for the Watershed-based Implementation Funding round, which may support one of these projects.

A. 319 Priority Watershed process beginning

VLAWMO and MPCA have begun preparing for the 319 funding round for 2021. First steps involve preparing a 9-element plan with MPCA and EPA. This preparation work will occur over the next couple of months with a goal of having a related project selected for the 2021 funding round.

F. Pursuing single maintenance contract for restorations

VLAWMO is coordinating our maintenance for previously completed restoration sites. VLAWMO currently works with the City of White Bear Lake to fund annual maintenance of the Birch Lake

shoreline project and others. VLAWMO is funding maintenance of the Sucker Channel restoration, and previously grant-funded creek restorations have not been maintained. We are working with Natural Shore Technologies for a quote to combine these maintenance efforts into a single annual contract to protect original investments and keep these restorations providing their shoreline stabilization and pollinator habitat as intended.

G. Pleasant Lake sedimentation/internal loading results

This study has recently been completed. The draft memos, which are currently being finalized by Barr Engineering, are included in the packet. VLAWMO did not request any changes to the draft memos. The final memos will be posted on the Pleasant Lake section of the VLAWMO website when they are ready.

The study included detailed bathymetry of the west bay area, and sediment cores for substrate composition and phosphorus levels.

What we learned: The sand bar and shallow area that was reported as an expanding nuisance and prohibitive to sailing/recreation on Pleasant Lake is not a reasonable result of incoming Mississippi River water. The sand bar is too far away (1500 feet east of the discharge area) to be formed from the incoming water. There is a hole (approximately 2 feet deep), 400 feet east of the discharge location. This is likely scour resulting from the current when pumping levels are high. The hole is too small to be contributing to the sediment and shallower water levels in the bay.

The sediment composition between the hole and the sand bar is organic muck. If this area was part of the sand bar, it would have a sandy composition. The organic muck is very high in roots and decayed plant matter. This area is also high in plant density in the water column. Early in the season, it is dominated by Curly-leaf pondweed, which is invasive. Later in the season, dominant plants transition over to natives such as Coontail. The vegetation is so thick that the sampling crew from Barr had a difficult time locating the bottom while doing bathymetry in this area (in May when Curly-leaf has high dense coverage). Equipment gave false readings because of the plant density, so manual readings were needed at key points. Equipment readings were often off by 0.5-feet or more because plants gave a false bottom depth.

The sand bar is present. Barr was able to sample it took look at grain sizes. It is next to a much older deep section of lake on the east side. The sand bar is likely a result of a large flood in the past 100-200 years. The deeper part is likely quite old and a result of glacial geologic processes.

This relationship could be further explored, but Barr does not feel it is necessary to continue with a 3D model to understand the flow relationship to the sand bar. Preliminary information is clearly indicating that there is not a connection between the incoming river water and the sand bar. However, dense vegetation and invasive species coverage are likely building up the layer of organic muck and hampering recreation. Increased effort to control Curly-leaf

pondweed, with coordination with SPRWS, could be a way to improve recreation in the west bay if it was decided to be a priority.

Internal loading and phosphorus levels were also investigated in a preliminary way. Phosphorus levels are quite high, and the oxygenation system being run by SPRWS is providing clear benefit. The oxygenation system appears to be preventing top sediments from going anoxic and releasing phosphorus across the lake, not only in areas immediately surrounding the oxygenation sites. The oxygen injection keeps more iron oxidized and available to bind with P, which prevents P from being released and contributing to algae blooms. Iron may be limited in the sediment and becoming saturated with P late in the season. This could be a reason why algae blooms occur on Pleasant Lake. Barr is going to do an additional step to test the sediment cores for iron. We'll report on those results next month.

Additional subwatershed modeling and feasibility will be needed to determine best next steps for Pleasant Lake. Steps could involve and alum treatment or additional iron. More information is needed to determine those steps. Barr is preparing a quote to advise VLAWMO on how to best proceed with Pleasant Lake, both in identifying ways to improve water quality and in preparing for the upcoming TMDL that will be required with MPA.

H. Deep Lake reporting to MN DNR and Purple loosestrife initiative results

A plant species of concern was identified on Deep Lake during 2019. Part of our license agreement with MN DNR is to update the database as we have information available, so that information can be shared with all licensees. VLAWMO staff were able to conduct a survey, GPS locations, and send the file to MN DNR, as required. While out on the lake, we checked Purple loosestrife condition. Beetles were previously introduced by residents in North Oaks to help control the Purple loosestrife. Although we do not have surveys to compare pre/post, there are signs that the beetles are doing their job. Purple loosestrife is patchy in distribution. Plants have wilted, dead, and discolored leaves. Holes are visible on the leaves as well, where beetles feed. Beetles are unlikely to eradicate Purple loosestrife. They are likely to keep it in check. There are positive signs that is happening now on the Deep Lake shoreline. Thank you to everybody who was involved in the beetle introduction!

Dead plant stalks and red leaves are visible on this Purple loosestrife plant	Chewed leaves are visible on this Purple loosestrife plant

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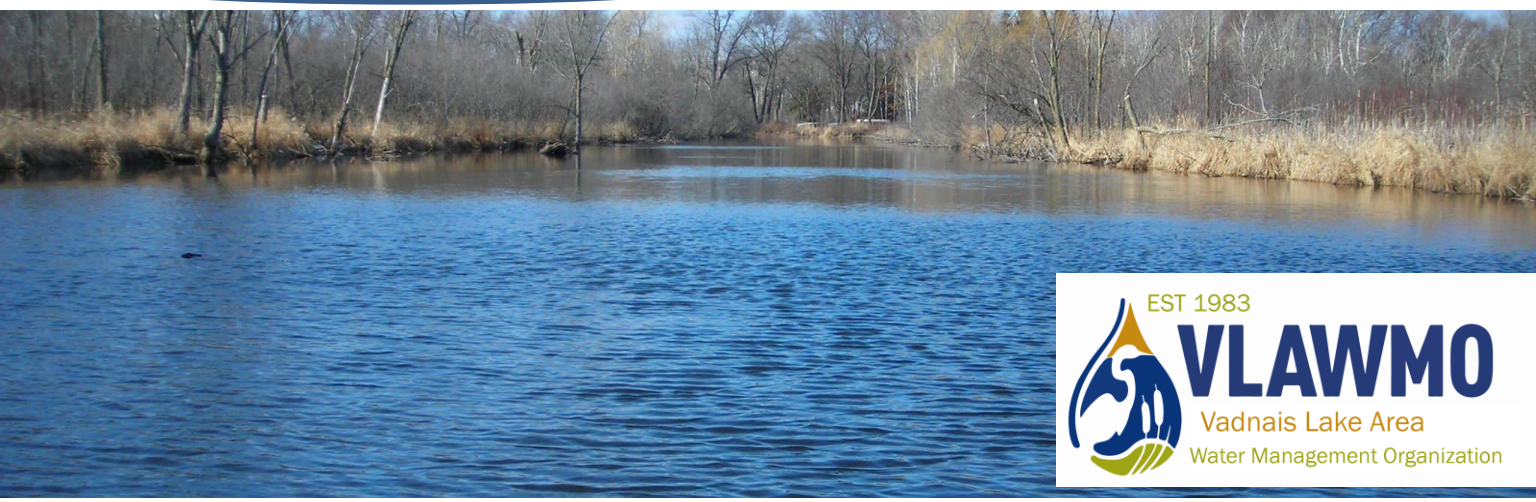
Our work continues. These Yellow iris have produced seed pods.

Age
- Up to 6 years old
- 7-9 years old
- 10 or older

Number of Pages to complete
4 or more pages
7 or more pages
9 or more pages

Junior Watershed Explorer



EST 1983
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Vadnais Lake Area
Water Management Organization

An activity book for all kids of all ages!

Hi everyone! Let's have fun together learning about lakes, streams, and the creatures that live near you!

Replace this illustration with Super heroes illustration

Let's go exploring!

This workbook belongs to _____

Welcome

We are excited you've decided to become a JUNIOR WATERSHED EXPLORER. This book is full of fun ways to explore and learn about how to help keep lakes, streams and wetlands healthy for you and your family. Are you ready to go? Here is what you need to do:

1) Complete the activities in this book (you can have an adult help complete these activities).
2) Check your work.
3) Mail or bring the last page to the address below for a tee shirt or badge.
4) Keep Exploring!

Recommendation for completing the workbook:

Age	Number of Pages to complete
• Up to 6 years old	4 or more pages
• 7-9 years old	7 or more pages
• 10 or older	9 or more pages

We invite you to join them and become a watershed explorer superhero!

Add superhero characters

VLAWMO
800 East County Rd E
Vadnais Heights, MN 55127

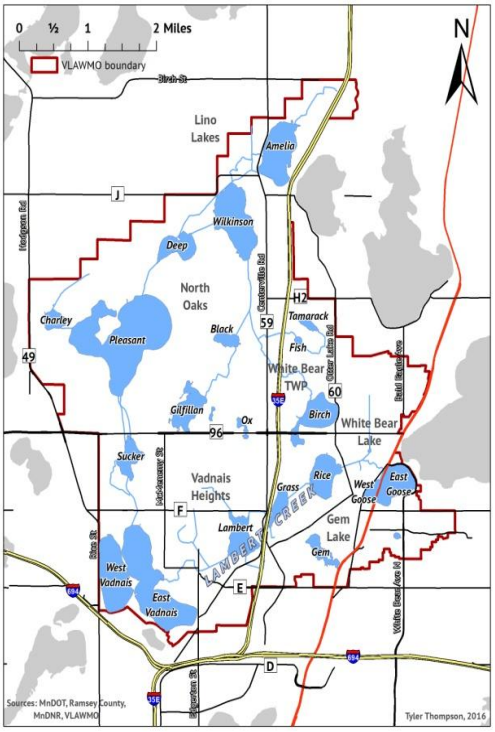
Let's explore our watershed!

Add superhero characters

What is a *watershed*?

Water from rain or snow melt follows a path down hills and through storm water pipes to a lake or creek. All of the land that drains to a particular water body is its **watershed**.

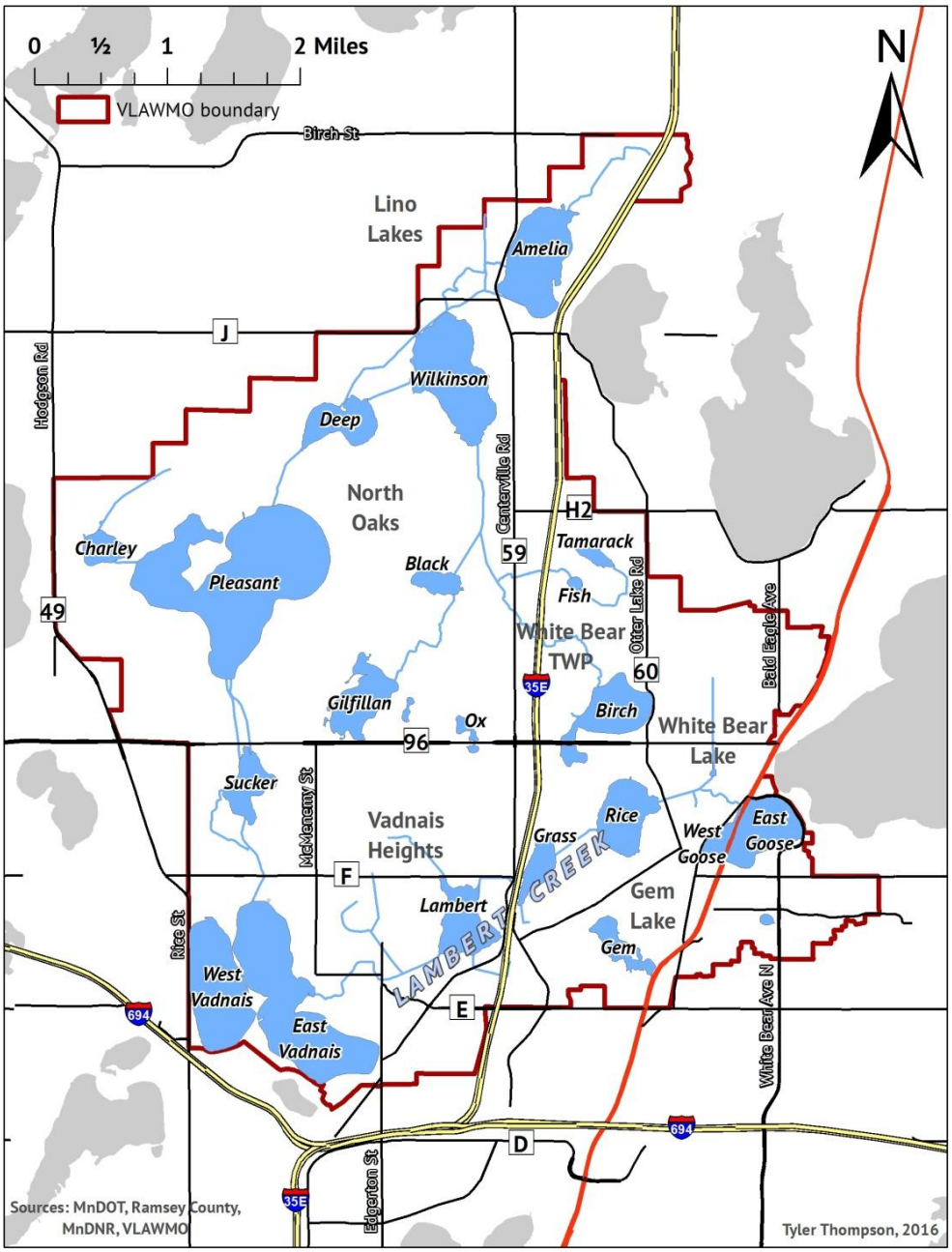
What is a *watershed district*?



A **watershed district** is a type of government based on watershed boundaries. You live in the Vadnais Lake Area Water Management Organization (VLAMMO). VLAWMO is a team of people who work to protect the lakes streams and wetlands near you. They help keep the water healthy for you and your family and for all the fish and other wildlife.

VLAWMO boundaries are outlined in red.

Can you find 12 lakes on the map?

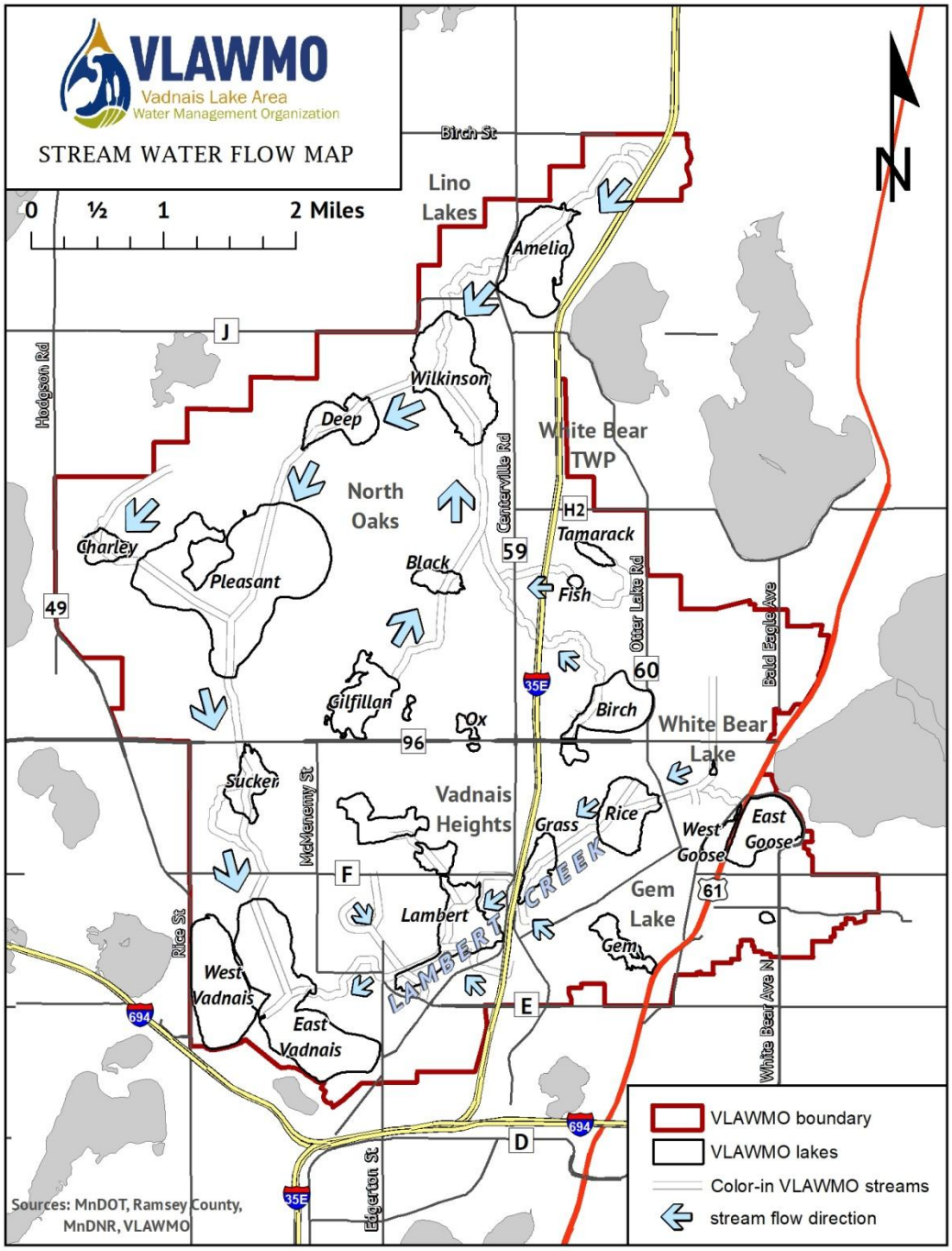


Lakes in VLAMWO watershed:

- ❑ Amelia Lake
- ❑ Birch Lake
- ❑ Black Lake
- ❑ Charley Lake
- ❑ Deep Lake
- ❑ Gem Lake
- ❑ Gilfillan Lake
- ❑ East Goose Lake
- ❑ West Goose Lake
- ❑ Tamarack Lake
- ❑ Vadnais Lake
- ❑ Wilkinson Lake

Circle where you live.

Think about the land near your house.
✓ Is there a creek, pond, or lake nearby?
✓Write the name or circle the lake or stream near you.



FUN FACT: Every raindrop that falls inside the red line flows to Vadnais Lake.

Think about where the water from your yard or driveway flows. Follow the blue arrows on the map with your figure to trace the water flows. Where does the water go? Which lake or stream? Write your answer below.

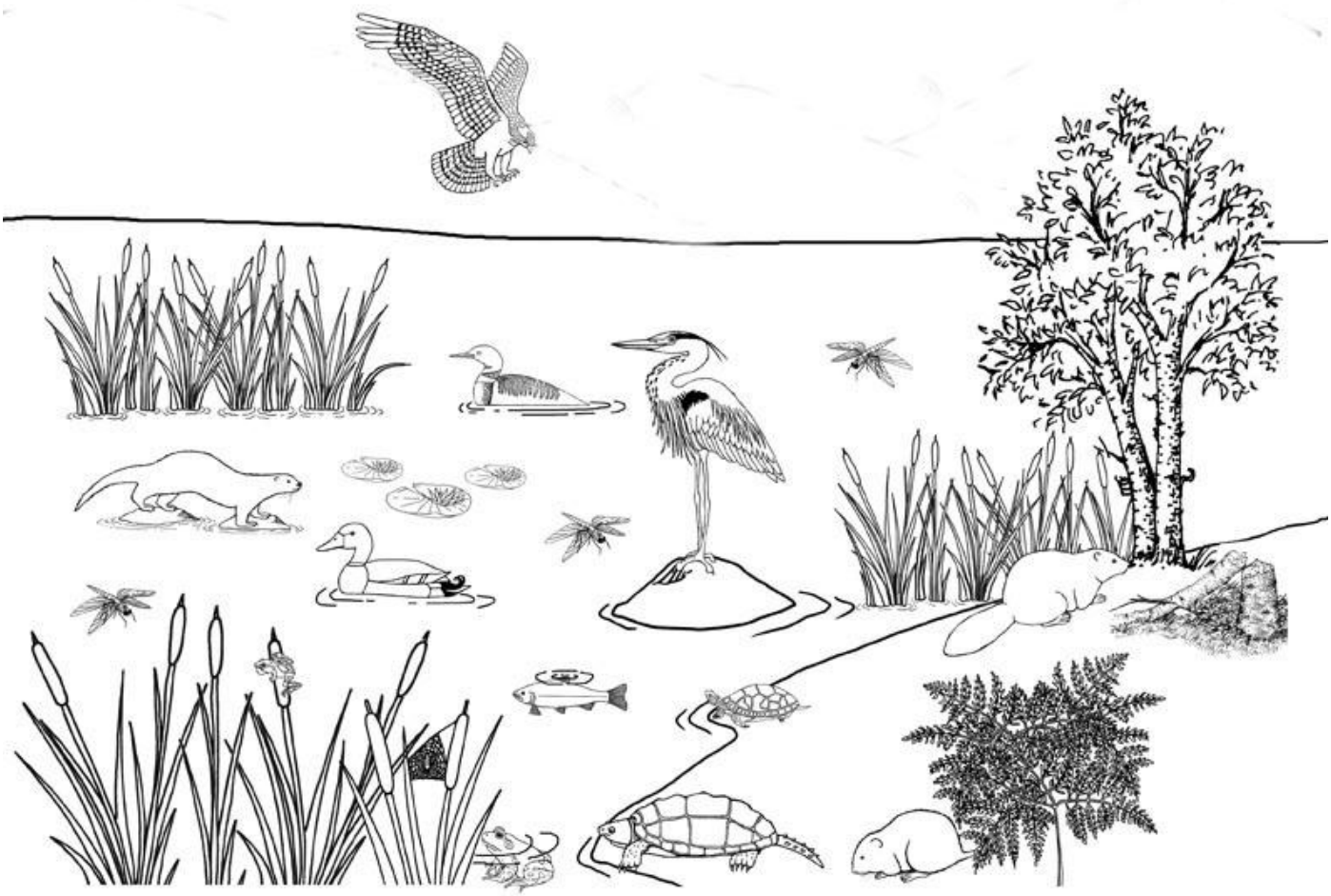
Ask an adult for help if you are not sure.

What is a wetland?

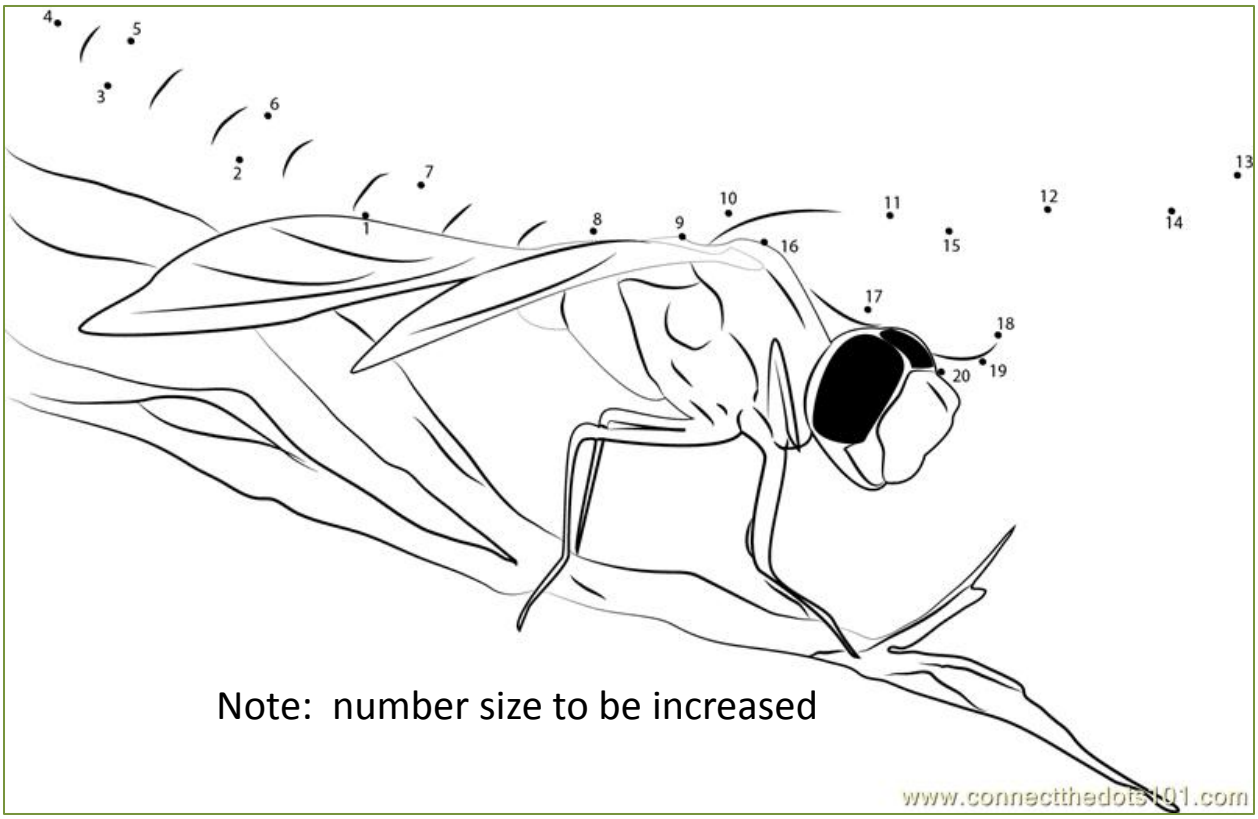
Did you know? Wetlands are a very important part of the watershed. They are like a big sponge that holds water. They provide homes and feeding habitats for many different types of animals. They also help to protect lakes and streams by filtering the water flowing into them. They protect against flooding.

FUN FACT: There are 500 wetlands in the VLAWMO watershed area!

Can you find these animals and plants (circle or point to each one)?: **osprey, muskrat, loon, duck, fish, frog, beaver, water lilies, cattails, snapping turtle, heron, painted turtle, otter, dragonfly, and spider**. **Color** the wetland and the animals.



Connect the Dots to Find the Dragonfly



FUN FACT: Dragonflies are a sign of clean water. Watch for them as you walk near a lake.

Add superhero characters

What wildlife lives in VLAWMO?

Put a check by the animals that you have seen.

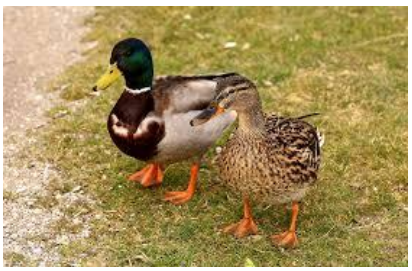
❑ Coyote

❑ Muskrat

❑ Wild turkey

❑ Wood duck

❑ River otter



❑ Mallard duck

❑ Whitetail deer

❑ Northern leopard frog

❑ Monarch butterfly

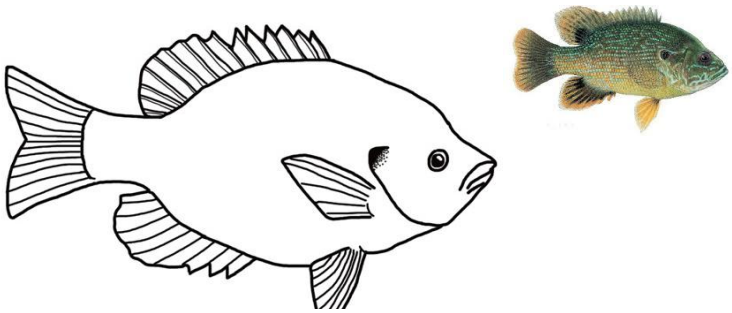
Circle your favorite?

For more information about animals in the watershed, go to Story Maps at www.VLAWMO/resources

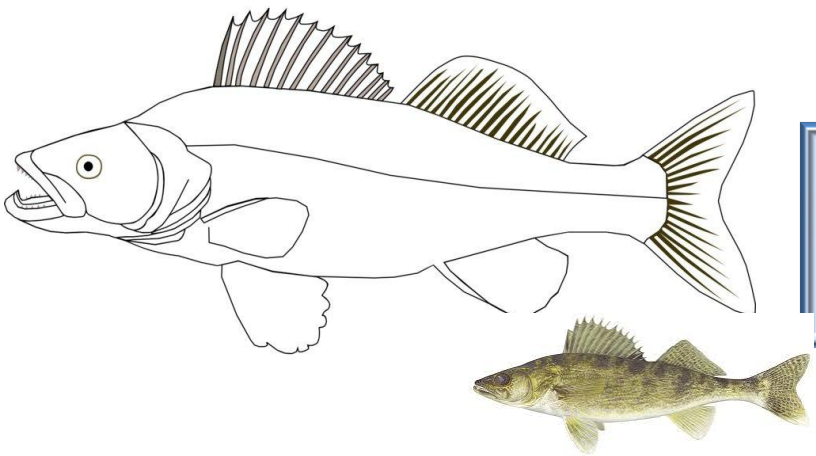
Color in a native fish

Native fish are fish that were originally found in Minnesota. They are very important! These types of fish help our lakes and rivers stay healthy, and provide an important source of food for other animals-- including humans.

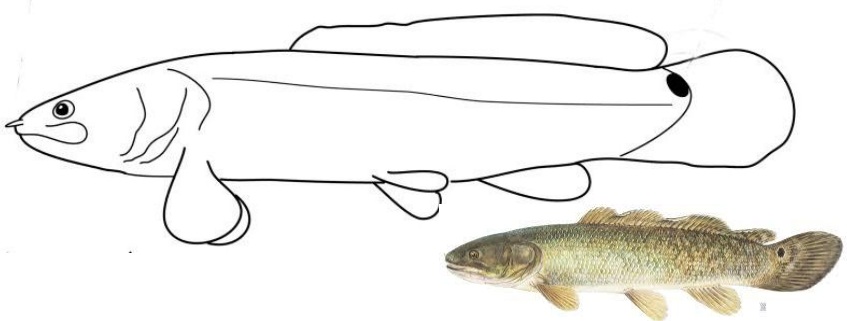
Fun Fact: The bowfin was around when dinosaurs roamed the earth.



Bluegill Sunfish. The body of these fish is dark green with brown lines running up and down their sides. The belly of the female is yellow and the male's belly is a rusty red color. This fish is usually about 6 inches and weighs less than a pound.



Walleye. This fish are generally gold and green, with dark bands on their backs. They can grow up to 3 ft in length and are very popular for fishing. The walleye is the state fish of Minnesota!



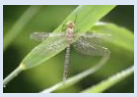
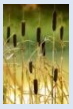
Bowfin. These fish are also called dogfish. They are medium sized, greenish fish found in clear lakes and slow streams. They survive in murky water with little oxygen by rising to the surface and gulping air.

WARNING !

Invasive species are types of animals and plants that are not originally found in Minnesota. They can damage the environment. The common carp is one example of an invasive fish that are harmful! Carp disturb native plants, increase algae and pollution, and make it hard for native fish to survive.

Bingo!

The fish, insects, and animals of the lakes, streams, and wetlands that you learned about in the beginning of this workbook are all part of what makes our watershed so great! Get outside and see it for yourself. Find and check off 5 squares in a row in any direction to get a "bingo." Want more of a challenge? See if you can put a check mark all of the squares.

Sucker Channel native plant restoration *	a wetland	an insect 	grass that is taller than you	frogs calling 
a piece of trash in nature 	a redwing black bird 	a bench near a lake or stream	cattails in a wetland 	a bike trail around a lake
a turtle 	someone walking a dog near a lake	**FREE SPACE** VLAWMO	Whitaker wetland* (Columbia Park, WBL)	a duck 
a storm drain (Is it clean or dirty?)	a person fishing	wild animal footprints	bee buzzing 	an interesting cloud
a butterfly on a flower 	sunrise or sunset at a lake	smell a wildflower 	someone teaching a friend about water (it can be you)	Vadnais Heights City Hall raingarden *

* Be sure to ask an adult to help you read the educational signs at these sites.

Let's explore!

Add superhero characters if room permits

Wonderful Watery Words

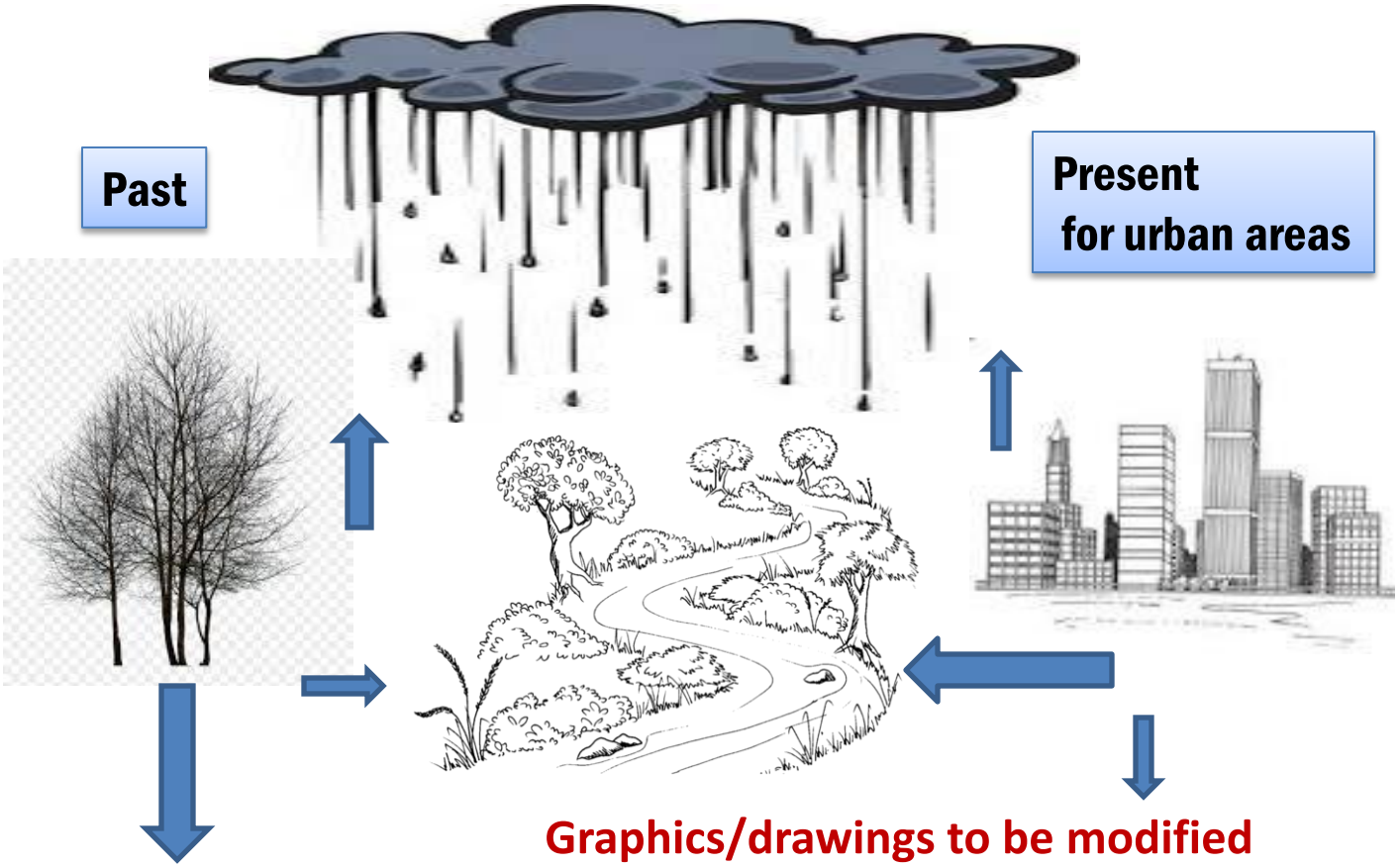
Circle each of the words in the word search below. Do you know what they mean? *Use a dictionary or the internet to search for any words you don't already know. Or, ask a friend or family member for help!*

E B D G R A I N G A R D E N T
I L S O I S S T P A M N A E P
M G Y A B G T B O L L U E S G
B Z X P L W R O L B U Y V N X
N S U C Y T E W L V Y I B Y E
I Q J Q R U A F U V S R N S Z
B D J I V L M I T F T N C T L
C K E L D Y Y N E J O J C O A
S N Z R R U N O F F D A F R K
N A T I V E P L A N T S X M E
L L D C F G R V X H T A K D G
G Q L D C S P P M E Z S G R A
M X K P B W E T L A N D X A L
W J Q G E R O S I O N Q I I F
U T R A S H F X J Q N S D N X

native plants
pollute
stream
storm drain
bowfin
trash
erosion
wetland
salt
raingarden
runoff
lake

A new word I learned today is_____.
It means_____>

Our Changing Landscapes



Graphics/drawings to be modified

In the past, most rain water soaked into the ground or was released into the air.

Today, our landscapes are covered with roads, buildings, and parking lots. Since it cannot soak down into these surfaces, more water flows across the land (surface runoff). This means that more water enters streams and lakes, causing erosion and other problems. Surface runoff also carries pollutants (road salt, leaves, grass clippings and fertilizer) from our streets and sidewalks, through storm drains that bring these pollutants into lakes, streams, and wetlands.

Find the storm drain closest to your home. Where does the water go (which stream or wetland)? Write your answer here:

_____

Protecting the Watershed

Some ways people can help:

Limit the amount of water and pollutants entering the storm drains.

- ✓ **redirect surface runoff into into rain gardens, rain barrels, or grassy areas**
- ✓ **sweep grass clippings, lawn fertilizer, and leaves off the sidewalks and streets**
- ✓ **keep storm drains clean**

Clean water begins at your curb! Check out: adopt-a-drain org.

Ways to reduce rain runoff from entering the storm drains.

Rain garden

Rain barrel

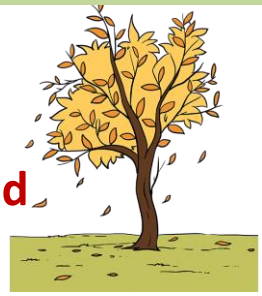
Add superheroes

What can you do?

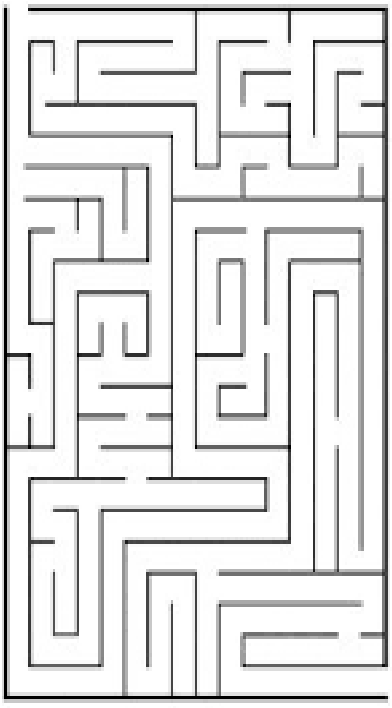
Trace the pollution

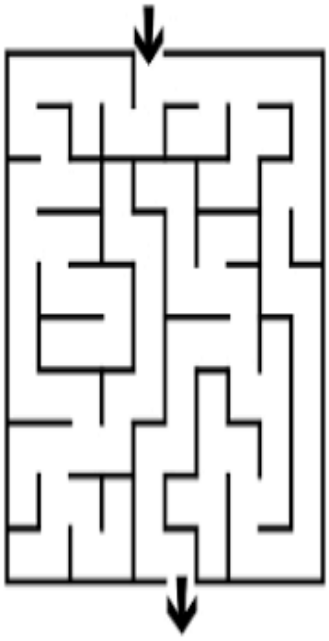
When it rains, storm water carries pollutants like trash, oil from cars, chemicals, fertilizers, and dog poop from our sidewalks, parking lots and roads. The water travels through storm drains. This water ends up in streams, lakes, and wetlands.

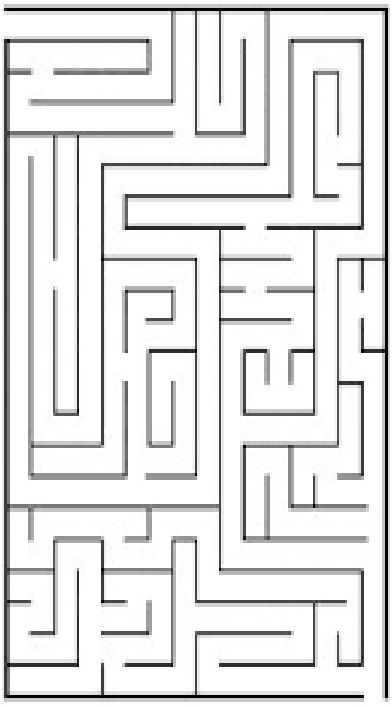
Trace the paths of these different pollutants, as they make their way into a lake.



Graphics/drawings to be modified







Protecting the Watershed

What can you do??

Add superhero figure

Using the words below, fill in the blanks to create a list of ways that you can help protect the lakes, streams and wetlands near you.

native plant dog poop rain water storm drain
Pick up teaching others salt

✓ **Adopt a _____. Is there one near your home or school? Make sure it stays clean and keep it clear of leaves, sticks, dirt, and other things. Anything in the drain will get carried into lakes and creeks.**

✓ **_____ trash. Trash in our lakes and streams can make the water unhealthy for animals and people to enjoy. Clean it up before it gets into the water! Be sure to protect your hands by wearing gloves.**

✓ **Sweep up extra _____ in the winter, and use only what you need. This is used to help melt ice on roads and sidewalks, but be careful how much you use. Just one teaspoon can permanently pollute 5 gallons of water!**

✓ **Always be sure to scoop up _____ from your pet. If this reaches a lake, it can pollute the water and make it unsafe for people and animals. We don't want this in the water that we swim, fish, and boat in!**

✓ **Collect _____. Ask your family to use a rain barrel to collect water from the roof and save it to water a lawn or garden.**

✓ **Plant a _____. These plants have long roots that can help clean the water and soak it into the ground.**

✓ **Tell your friends and family about what you learned! An important part of water conservation is _____ and spreading the word.**

✓ **OTHER Write your own idea here: _____**

Cut out this page and hang it up to remind you how you can help.

Draw a picture of your favorite lake or creek! What kinds of animals and plants live there?

Add superhero characters

What will you do to keep this place clean and healthy? Write or draw some ideas in the space below.

Congratulations!

Add superhero characters

This certifies that _____ has completed the activities necessary to be a Junior Watershed Explorer of the Vadnais Lake Area Water Management Organization (VLAWMO).

***Junior Watershed Explorer Pledge*: As a Junior Watershed Explorer, I pledge to appreciate and protect the lakes, streams, wetlands, and groundwater resources in VLAWMO. I will learn about the natural world around me, do what I can to protect water quality, and encourage others to do the same.**

Mail or email the bottom of this page to the address below.

I have completed this book to the best of my ability and would like a Junior Watershed Explorer tee shirt or badge !

Your Name: _____
Age: _____
Address:_____
City: _____State: _____Zip Code:_____

VLAWMO
c/o Nick Voss
800 County Road E
Vadnais Heights, MN 55127
nick.voss@vlawmo.org

My child has completed this activity book to the best of their ability.

Parent/Guardian Signature: _____

Special thanks to Maya Swope of Riley-Purgatory Watershed District for sharing her expertise and the content of their Junior Explorer Program.

Resources

Resources-if you would like further books and websites to explore here are a few suggestions

- www.vlawmo.org
- www.epa.gov/wetlands/wetlands-education-students-and-teachers
- www.epa.org/watersense/watersense-kids
- https://water.usgs.gov/edu/watercycle-kids-beg.html
- www.neefusa.org/resource/water-quality-backyard-activity-guide
- www.epa.gov/sites/production/files/2017-03/documents/ws-kids-test-your-watersense.pdf
- www.thewaterpage.com/water-conservation-kids.htmwater
- Add other book, resources

Games for kids and families:

- https.//wateruseitwisely.com/kids/games

Glossary Add definitions

- Erosion
- Runoff
- Pollute, pollution
- Storm drain
- Raingarden
- Native plant

Community Blue: Application Score Chart

Scoring Criteria: Evaluating the content and nature of the proposed project.

Category	Points Possible	Points Assigned
Program fit (20%): Project is compatible with the Community Blue goal or makes a strong case to relate to VLAWMO's mission. SMART Goals and desired outcomes are clearly stated. Topic of interest is timely and appropriate, target audience(s) defined, outreach method, and connections are made to local water resources are defined. A minimum of 25% match-funds are outlined. Projects within VLAWMO cost-share target zones are weighed more.	1-20	20
Leadership (20%): Project demonstrates watershed leadership and motivates participants to reflect on and improve their relationship to water. Project inspires water-related awareness, knowledge, attitude, skills, and behaviors, while outlining and committing to physical maintenance when needed.	1-20	20
Evaluation (20%) Project has an evaluation component with goals that are specific and measurable. Evaluation provides meaningful information that can be used to assess results and provide comparison to future projects. Applicant has a plan for sharing and disseminating results.	1-20	19
Growth and replication (10%) Project creates social and organizational networks to inspire future projects related to water resource improvement and education, or demonstrates an ability to be efficiently replicated.	1-10	8
Collaboration/Engagement (10%) Project engages appropriate partners and local citizens in the planning, implementation and/or evaluation process. Partners demonstrate a high level of support for project proposal.	1-10	10
Budget (10%) Funding request is detailed and appropriate. Sub-costs in objectives clearly add up to final cost.	1-10	10
Timeline (10%) Timeline is clear and realistic given the scope of the project.	1-10	9
Total:	100	96

Continued on reverse

Application Criteria: Evaluating the application for clarity, reliability, and its ability to serve as a tool to guide VLAWMO, the applicant, and project partners over the course of the project's lifespan.

Category	Points Possible	Points Assigned
Outlined objectives (40%): The project is outlined by up to 5 objectives serving as different stages of the project. Costs and timeframes of objectives clearly match the overall budget and timeframe.	1-20	20
SMART objectives (40%): Objectives are Specific, Measurable, Achievable, Relevant, and Time-oriented. Exceptional applications seek not to just complete the project but also collect information at the beginning and end to measure the results and changes inspired by the project (pre/post survey, etc.). If parts of the project are dependent on unknown variables at the time of the application, these are clearly defined and distinguished as a list of prospective directions the project could take.	1-20	18
Partnerships and Contacts (20%): Project partners are listed in the application with names, titles, contact information, and role in the project. Maintenance responsibilities are defined with contacts and timeframe.	1-10	10
Total:	50	48

Suggestions for application improvement:

Evaluation and SMART objectives: The details on the evaluation process with teachers and staff would benefit with more of an outline, in terms of when the feedback is desired, what kind of medium will take place to get feedback (call, email, zoom etc.). Suggestion to prepare outreach statements in recruiting families for the pilot program, and form a template for what outcomes these families partake in beyond completing the workbook: adopting-a-drain, pursuing water-friendly landscaping or yard care, or other water-friendly behaviors mentioned in the book.

Replicability: In the case of future expansion, storing the files, graphics, and potentially developing any extra graphics for future expansion will aid in replicability (part 2, expansion, etc).

Timeline: The 3rd objective for completing the book starts in October, but further timeline goals for when students should be finished with their books would be helpful. Decisions on whether volunteer commitment in this project carries into a winter review/summary or into the Spring of 2021 for promotion, and what that continuation looks like.

Grand Total: ____144____ / 150

Grant approval scale:

1-49: Decline application citing scoring results and other reasons why.
50-79: Decline application, send back to applicant with suggestions for re-working and a new submission at a later time.
80-99: Approvable grant on the condition of outlined improvements and comments from TEC or BOD.
100-150: Approvable grant.

Community Blue: Application Score Chart

Scoring Criteria: Evaluating the content and nature of the proposed project.

Category	Points Possible	Points Assigned
Program fit (20%): Project is compatible with the Community Blue goal or makes a strong case to relate to VLAWMO's mission. SMART Goals and desired outcomes are clearly stated. Topic of interest is timely and appropriate, target audience(s) defined, outreach method, and connections are made to local water resources are defined. A minimum of 25% match-funds are outlined. Projects within VLAWMO cost-share target zones are weighed more.	1-20	
Leadership (20%): Project demonstrates watershed leadership and motivates participants to reflect on and improve their relationship to water. Project inspires water-related awareness, knowledge, attitude, skills, and behaviors, while outlining and committing to physical maintenance when needed.	1-20	
Evaluation (20%) Project has an evaluation component with goals that are specific and measurable. Evaluation provides meaningful information that can be used to assess results and provide comparison to future projects. Applicant has a plan for sharing and disseminating results.	1-20	
Growth and replication (10%) Project creates social and organizational networks to inspire future projects related to water resource improvement and education, or demonstrates an ability to be efficiently replicated.	1-10	
Collaboration/Engagement (10%) Project engages appropriate partners and local citizens in the planning, implementation and/or evaluation process. Partners demonstrate a high level of support for project proposal.	1-10	
Budget (10%) Funding request is detailed and appropriate. Sub-costs in objectives clearly add up to final cost.	1-10	
Timeline (10%) Timeline is clear and realistic given the scope of the project.	1-10	
Total:	100	

Continued on reverse

Application Criteria: Evaluating the application for clarity, reliability, and its ability to serve as a tool to guide VLAWMO, the applicant, and project partners over the course of the project's lifespan.

Category	Points Possible	Points Assigned
Outlined objectives (40%): The project is outlined by up to 5 objectives serving as different stages of the project. Costs and timeframes of objectives clearly match the overall budget and timeframe.	1-20	
SMART objectives (40%): Objectives are Specific, Measurable, Achievable, Relevant, and Time-oriented. Exceptional applications seek not to just complete the project but also collect information at the beginning and end to measure the results and changes inspired by the project (pre/post survey, etc.). If parts of the project are dependent on unknown variables at the time of the application, these are clearly defined and distinguished as a list of prospective directions the project could take.	1-20	
Partnerships and Contacts (20%): Project partners are listed in the application with names, titles, contact information, and role in the project. Maintenance responsibilities are defined with contacts and timeframe.	1-10	
Total:	50	
Suggestions for application improvement: Text, phrasing, outlining objectives, design of measurables, allocated budget, etc.		

Grand Total: _____ / 150

Grant approval scale:

1-49: Decline application citing scoring results and other reasons why.
50-79: Decline application, send back to applicant with suggestions for re-working and a new submission at a later time.
80-99: Approvable grant on the condition of outlined improvements and comments from TEC or BOD.
100-150: Approvable grant.

COMMUNITY BLUE MINI-GRANT APPLICATION

Send completed application to: Nick Voss, Education and Outreach Coord., VLAWMO
800 East County Road E, Vadnais Heights, MN 55127

For questions, contact Nick at (651) 204-6070 or nick.voss@vlawmo.org

Through this program, requests may be made of up to $100 for a basic education or watershed improvement effort. VLAWMO staff review and approve applications based on community interaction and the grant's connection to existing efforts in the watershed. VLAWMO reimburses costs that fit the pre-approved category descriptions below. Copies of receipts of payment must be submitted to receive reimbursement. A photo of a community member with the feature (sign, etc.) is requested to support VLAWMO's community education and outreach. Reimbursement will come on a first come, first serve basis until the annual Community Blue mini-grant funds ($500) are exhausted. One grant per household per year.

APPLICANT INFORMATION:

Name: Jim Shapland	
Address: 787 Balra Drive	
City, State, Zip: El Cerrito, CA, 94530	
Phone: 612-247-3484	
EMAIL: jim@infuse-design.net	
Amount of Request: $100	Community involved (housing, lake assc., school, etc.):

CATEGORY: (check box)

- ☐ Adopt-a-Drain yard sign and packet from Adopt-a-drain.org. Provide address or location and name attributed to adopted drain for website map verification.
- ☐ Teacher training day or literature (ProjectWET, book order, etc.)
- ☐ Supplies for testing Aquatic Invasive Species (pre-planned with VLAWMO)
- ☒ Supplies for a VLAWMO-endorsed volunteer or classroom project (event, mulch, plants, etc.)
- ☐ Custom educational sign:
  - Picture post signs and/or posts
  - Pet waste pick-up
  - Printing brochures for plant lists or maintenance guides (raingarden/shoreline restoration)

SUPPLEMENTAL INFORMATION: N/A if not applicable

Briefly describe your project. **The project is to develop two superhero characters as graphics for a booklet of information and fun activities for a Junior Watershed Explorer Program for children between ages 6-11 living within the VLAWMO water organization. Families would have access to the booklet through the VLAWMO website. The booklet would provide the opportunity for families and their children to learn about the watershed, explore its resources-lakes streams wetlands, wildlife, plants, etc. In addition, they will be introduced to ways they can contribute to the health of the waterbodies in VLAWMO. Resources form this grant will support the creation of graphics for the booklet. I will be involved with doing graphics for the booklet.**

Near what lake will these tools/signs be used? N/A

If funds are for a workshop, an evaluation method is requested. What will the take-home result of the workshop be? I.e., what are you asking people to do and how will you know if they did it? **The evaluation method will be a survey given to families of children who participate in the Junior Watershed Explorer Program by doing the activities in the program booklet. The take home result is that children and their families living in VLAWMO become aware of the water organization, what it does and how they can assist in caring for the lakes, streams and wetlands in VLAWMO. Families will be able to obtain the Junior Watershed Explorer booklet of information and activities through the VLAWMO website. The final page of the booklet will be a checklist of the activities completed by the child and signed by an adult. Upon completion, the child will earn a T-shirt designating them a VLAWMO Junior Watershed Explorer.**

Who is the audience? **Children ages 6-11 years who live in the boundaries of VLAWMO an adult of adults in their life.**

How does the sign/workshop/tool support your goals in your vocation or role as a community member (classroom, neighborhood association, resident, VLAWMO volunteer, etc.)? **I have two children and so I support programs that provide education for young people especially about the out of doors. This tool supports my goals in that it will teach young children about the lakes and streams and wetlands nearby and how they can be good stewards for them.**

How will the effort be maintained and how long are you prepared to provide follow-up? **It is my understanding that staff and other volunteers at VLAWMO will continue to support the project over time.**

What resources would help to support this effort long-term? **Needed resources over time include printing if families do not have access to a printer and funds for t-shirts with the VLAWMO Junior Watershed Explorer logo to give to the children upon completion of the booklet.**

If public property is involved, provide contact information of a staff member in which an agreement is made: N/A

REQUIREMENTS:

- All signage apart from Adopt-a-Drain signs from Clean Water MN is either designed by or approved by VLAWMO staff. VLAWMO fonts and color schemes are utilized.
- Teacher trainings are either approved by VLAWMO or coordinated by VLAWMO
- Any signage contains the VLAWMO logo
- Sign locations and picture posts are approved by VLAWMO.

REIMBURSEMENT:

Provide name, phone, email, and address for a reimbursement to be sent to.
See name and contact information above.

resourceful. naturally.
engineering and environmental consultants

BARR

Technical Memorandum

To: Dawn Tanner
From: Omid Mohseni
Subject: Pleasant Lake Bathymetry Survey
Date: July 22, 2020
c: 23/62-1356

Saint Paul Regional Water Services (SPRWS) operates a system that transports water from the Mississippi River at the Fridley Pump Station through two 60-inch pipes to Charley Lake. The Mississippi water flows by gravity from Charley Lake through a connecting channel to the west bay of Pleasant Lake, located in North Oaks, a suburb of Saint Paul, Minnesota. There have been reports by residents that a sandbar has formed as a result of water discharge from Charley Lake into Pleasant Lake. To address the potential adverse effects of the perceived sandbar, Vadnais Lake Area Water Management Organization (VLAWMO) retained Barr Engineering Co. (Barr) to complete a bathymetry survey of the west bay of Pleasant Lake in 2020 to accurately locate the sandbar. This memorandum is a summary of the bathymetry survey.

1.0 Field Work

The bathymetry survey was conducted on May 20, 2020, by a two-person surveying team. The instruments were a CEE Echo Hydrographic system, Trimble R7 GPS Receiver, and Topcon RTK GA GPS. The survey started at the north end of the west bay of Pleasant Lake. As the survey team proceeded to the north end, they noticed very thick weeds in the lake, predominately on the west and northern parts of the bay. The surveying team was concerned that the echo sounder would not be able to correctly capture the bottom shelf of the lake. As a result, they did some survey pole shots using GPS to check the actual depths in the area covered with aquatic plants. The pole shots verified that the echo sounder was occasionally capturing the lake bed. Accuracy of the data located in that area was within 0.5 feet.

The team surveyed a 50-foot grid across the bay. The coverage is shown in Figure 1. The echo sounder takes 15+ points per second. The west side of the bay was all weeds. In the northern part of the bay, most of these 15 points were on weeds. Once the team made it to the "sandbar," they could see sand and rock on the bottom. The depth over the sandbar was approximately 2 to 3 feet. As the team proceeded south of the sandbar, they encountered a very deep area, approximately 40 feet.

Where the channel from Charley Lake discharges into the west bay of Pleasant Lake, no sandbar was evident and depths were constant.

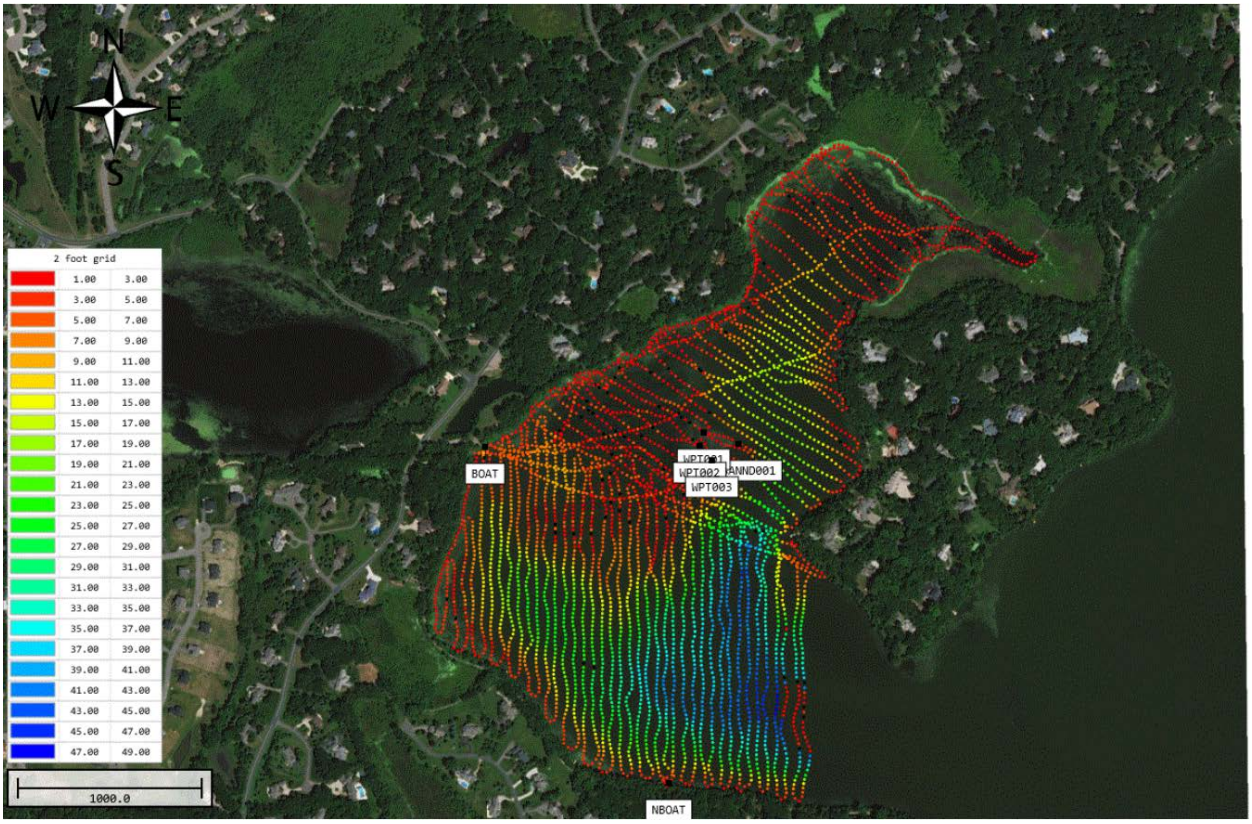


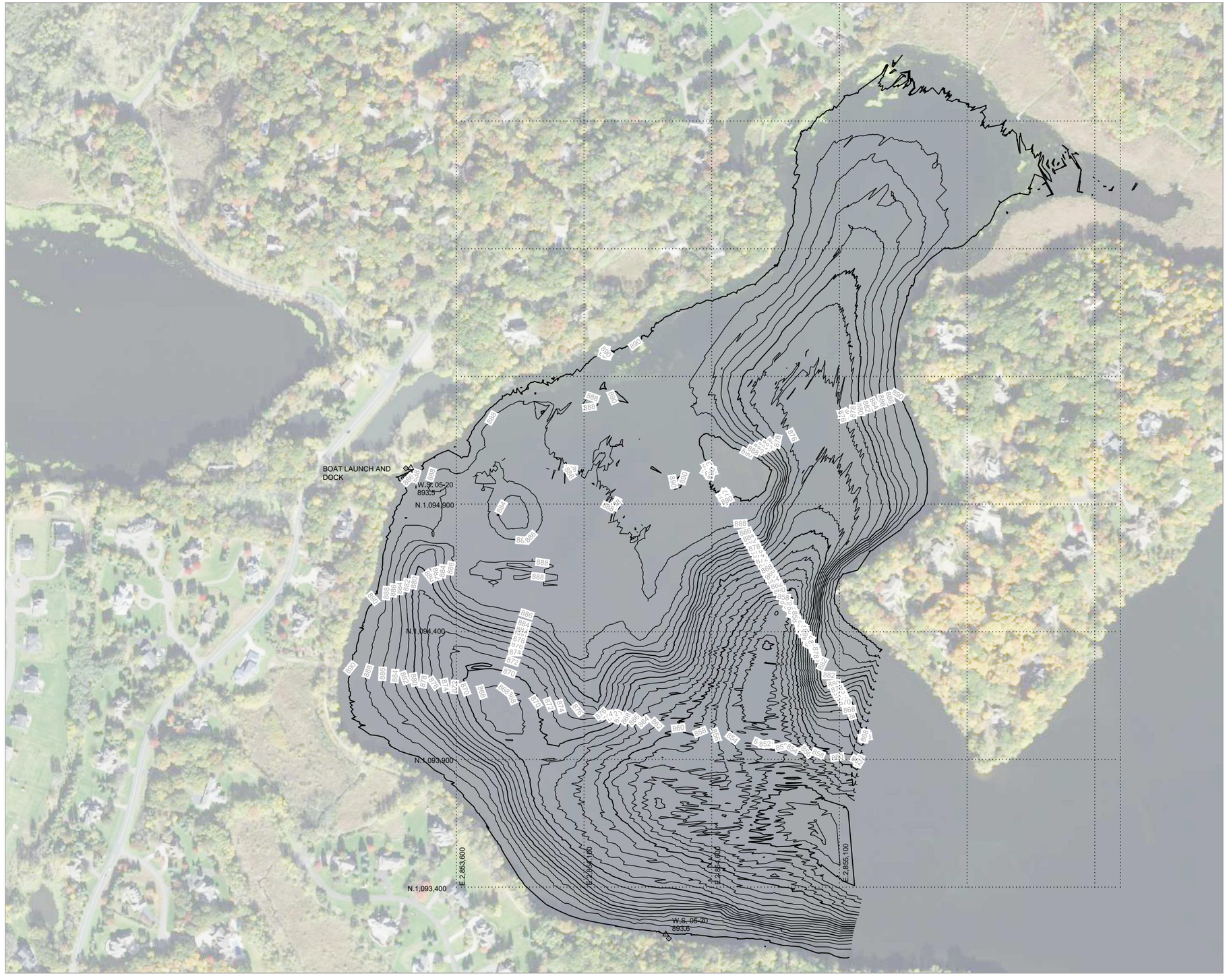
Figure 1. The survey paths of the west bay of Pleasant Lake

2.0 Bathymetry Map

The data collected during the survey was used to develop a bathymetry map of the west bay in the Civil 3D software program. To develop the map, 80 to 90 percent of the bathymetry data shots west of the "sandbar" were eliminated due to the weed thickness. This process was completed using HydroMagic hydrographic software.

The attached map is the result of the bathymetry survey. The horizontal datum is NAD83 and the vertical datum is NAVD88.

The map shows a hole approximately 400 feet to the east of the discharge point of the channel from Charley Lake. The identified sandbar is approximately 1,500 feet to the east of the discharge point.



0 200 400
SCALE IN FEET

SURVEY LEGEND

800 MAJOR CONTOUR
801 MINOR CONTOUR
GRID LINES (500')

WATER SURFACE 05-22-2020 = 893.6

BASIS OF DRAWING FILE:

DATE OF SURVEY: 05-20-2020

ORIGIN/DATE OF BASE: MSPN/2020

COORDINATE SYSTEM: Minnesota State Plane,SOUTH Zone

HORIZONTAL DATUM: NAD83 (2011) REF. VRS SYSTEM

VERTICAL DATUM: North American Vertical Datum of 1988

ADDITIONAL FILE INFORMATION:
CEE ECHO HYDROGRAPHIC SYSTEM

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINTED NAME _____

SIGNATURE _____

DATE _____ LICENSE # _____

RELEASED TO/FOR | A | B | C | 0 | 1 | 2 | 3 | DATE RELEASED

BARR
Corporate Headquarters:
Minneapolis, Minnesota
Ph: 1-800-632-2277

Project Office:
BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
Suite 200
MINNEAPOLIS, MN 55435
Ph: 1-800-632-2277
Fax: (952) 832-2601
www.barr.com

Scale	AS SHOWN
Date	
Drawn	JHS
Checked	
Designed	
Approved	

VADNAIS LAKE WATER MANAGEMENT
VADNAIS HEIGHTS, MINNESOTA

PLEASANT LAKE
NORTH OAKS, MINNESOTA

BATHYMETRY SURVEY WEST BAY
05-2020

BARR PROJECT No. 23/62-1356.00
CLIENT PROJECT No.
DWG. No. | REV. No.

resourceful. naturally.
engineering and environmental consultants

BARR

Technical Memorandum - DRAFT

To: Dawn Tanner
From: Kevin Menken and Omid Mohseni
Subject: Pleasant Lake Sediment Study
Date: July 22, 2020
c: 23/62-1356

Pleasant Lake in North Oaks, Minnesota, is listed by the Minnesota Pollution Control Agency (MPCA) as impaired for mercury and high levels of nutrients. The MPCA requires a total maximum daily load (TMDL) or equivalent study to address the nutrient impairment of the lake. In addition, it appears that there are some potential issues with sediment transport from Charley Lake into Pleasant Lake through the connecting channel between the two lakes.

Vadnais Lake Area Water Management Organization (VLAWMO) retained Barr Engineering Co. (Barr) to conduct a field study to (1) investigate the physical characteristics of the sandbar in the shallow area in the west bay of Pleasant Lake, and (2) determine the concentrations of various phosphorus fractions in sediment in deep areas of Pleasant Lake. The purpose of this field study is to aid VLAWMO with a future TMDL or equivalent study of the lake. This memorandum summarizes the results of the field study conducted by Barr in 2020.

1.0 General Description of Pleasant Lake

Pleasant Lake is located in North Oaks, a suburb of the city of Saint Paul. The surface area of the lake is 607 acres and the maximum depth is 58 feet. The littoral zone includes about 45 percent of the lake.

Saint Paul Regional Water Services (SPRWS) operates the system that transports water from the Mississippi River at the Fridley Pump Station through two 60-inch pipes to Charley Lake. The Mississippi water flows by gravity from Charley Lake through a connecting channel to the west bay of Pleasant Lake. The transported water is then routed through Sucker Lake and Vadnais Lake into the McCarrons Water Treatment Plant, which serves Saint Paul residents.

Barr collected sediment samples from Pleasant Lake on May 29, 2020, and June 24, 2020. The sampling locations are shown in Figure 1.

2.0 Physical Characteristics of the Sandbar in the West Bay

2.1 Field Work

The bathymetry of the west bay of Pleasant Lake shows a shallow sandbar near the center of the west bay (Figure 1). Water depth is approximately 2 to 3 feet over the sandbar, and vegetation is sparse. Sand, gravel, cobble, and boulders (1 to 2 feet in diameter) were observed in this area. To the north, west, and

south of this sandbar, water depth increases and thick, curlyleaf pondweed was observed during the field work.

Sediment cores were collected at four locations in shallow water in the west bay of the lake using a 3-inch-diameter push corer. Sediment cores were extruded in a plastic tray in the boat and logged for appearance and physical characteristics. On May 29, 2020, sediment samples were collected from coring locations S7 and S8. These two locations were identified after the bathymetry survey of the west bay that was performed on May 20, 2020.

2.2 Analysis of the Sandbar Samples

The sediment samples were sent to Soil Engineering Testing (SET) in Bloomington, Minnesota, for grain-size analysis and sediment density measurement. The SET lab report is provided in Attachment A. On June 24, 2020, additional sediment samples were collected to verify the location of the sandbar. These samples were collected at locations S9 and S10 and logged for physical description, but no analysis was performed. They contained the root system of aquatic plants (macrophytes) with little-to-no sand particles, i.e., locations S7 and S8 more accurately represent a sandbar in the west bay than locations S9 and S10. Observations of sediment samples collected at locations S7, S8, S9, and S10 are summarized below.

- Sediment sample S7
    - Water depth: 2 feet
    - Sediment core interval: 0–1 foot
    - Area: Sparse vegetation, sand and gravel visible on lake bottom
    - Sediment: Medium-to-dark brown; sand with silt and a little bit of gravel, shell fragments, plant roots, and dead plant matter
    - Percent fines: 6%
    - Median size (d_{50}): 220 microns
    - Specific gravity: 2.63
- Sediment Sample S8
    - Water depth: 2.6 feet
    - Sediment core interval: 0–1 foot
    - Sparse vegetation; sand and gravel visible on lake bottom
    - Medium-to-dark brown; sand with silt and a little bit of gravel and plant roots. Small plant roots were quite numerous and seemed to be helping sediment core hold its shape after extruding from coring tube.
    - Percent fines: 12%

- Median size (d_{50}): 280 microns
- Specific gravity: 2.57

- Sediment sample S9
  - Water depth: 4 feet
  - Medium-to-dark brown soft organic muck
- Sediment sample S10
  - Water depth: 4 feet
  - Medium-to-dark brown soft organic muck

2.3 Synthesis of the Sandbar Data

Based on the bathymetry survey conducted in 2020, the particle size distribution of samples collected at locations S7 and S8, and the presence of dense aquatic plants, it is unlikely that the sandbar located about 1,500 feet away from the discharge point of the channel from Charley Lake is the result of water discharge from Charley Lake into Pleasant Lake. However, the hole near the discharge point may be the result of water discharge from Charley Lake into the west bay of Pleasant Lake.

3.0 Sediment Phosphorus Fractionation

3.1 Field Work

Sediment cores were collected for phosphorus analyses at coring locations S1 through S6, where water depth was greater than 20 feet (Figure 1). Areas with water depths greater than 20 feet normally exhibit thermal stratification and anoxia (low oxygen) in summer months, which could result in internal loading. Currently, SPRWS is managing a direct oxygen injection system at the three deepest points in Pleasant Lake (see Figure 1). At these locations, sediments that would normally experience anoxic conditions during summer thermal stratification may stay partially oxygenated at the sediment-water interface due to the oxygen injection at the bottom of the lake.

Sediment cores were collected by a gravity corer suspended on a rope. A 7-centimeter (cm)-diameter core tube is pushed into the sediment from weights attached to the coring device, and a messenger is sent down the rope to close a stopper on the top of the coring tube. Each sediment core was extruded from the coring tube and sliced into 2-cm-thick intervals from 0 cm to 10 cm, and 4-cm intervals from 10 cm to 18 cm. The sediment samples were placed in a cooler with ice for transport until they could be stored in a refrigerator at Barr's field office.

3.2 Analysis of the Bed Sediment Samples

Sediment samples were analyzed for several phosphorus fractions, percent moisture content, and percent organic matter. Moisture content was determined by measuring the mass loss of samples dried in an oven at 100 °C. Percent organic matter was determined by measuring the mass lost by burning the

samples at 550 °C (loss on ignition). Measurement of various phosphorus fractions was achieved by subjecting the sediment samples to various extraction solutions, as summarized below:

- Mobile phosphorus, including iron-bound phosphorus fraction (mobile-P): solution of sodium dithionite and sodium bicarbonate. Dithionite reduces insoluble ferric iron to soluble ferrous iron, while bicarbonate buffers the pH.
- Aluminum-bound phosphorus fraction (Al-P): solution of 0.1M NaOH (sodium hydroxide) to raise the pH and dissolve aluminum-bound phosphorus.
- Organic phosphorus fraction (Org-P): solution of 0.1M NaOH digested with potassium persulfate.
- Calcium phosphorus fraction (Ca-P): solution of 0.5M HCl (hydrogen chloride) to lower the pH and dissolve calcium-bound phosphorus.

Results of sediment phosphorus fractionation are plotted in Figure 2, reported as milligram phosphorus per gram dry sediment (mg P/g dry sediment), and Figure 3, reported as mg P/cm^3 wet sediment. Average concentrations of mobile-P and organic-P in the top 6 cm of each core were calculated and are summarized in Table 1. Results in Table 1 are presented as g P/cm-m^2, a unit of concentration that makes it easier to assess the amount of phosphorus per square meter of lake bed, i.e., 1 g P/cm-m^2 is equal to 10 mg P/cm^3.

Table 1. Concentrations of Mobile-P and Organic-P in Top 6cm of Sediment

Sediment Core	Mobile-P (g P/cm-m^2)	Org-P (g P/cm-m^2)
S1	0.82	0.25
S2	0.85	0.24
S3	1.73	0.33
S4	0.36	0.22
S5	0.71	0.27
S6	0.88	0.32

3.3 Synthesis of the Sediment Data

Concentrations of mobile-P are high in Pleasant Lake sediment cores, likely due to the oxygen injection system keeping more iron oxidized. The oxygenation of the hypolimnion (the water column below the thermocline) prevents the top of the sediment from going anoxic and allows for the buildup of oxidized iron, or ferric iron [Fe(III)]. Without the oxygenation system, the hypolimnion would be depleted of oxygen in the warm summer months, and microorganisms in the anoxic sediment would use iron for respiration in place of oxygen, converting insoluble ferric iron [Fe(III)] to soluble ferrous iron [Fe(II)].

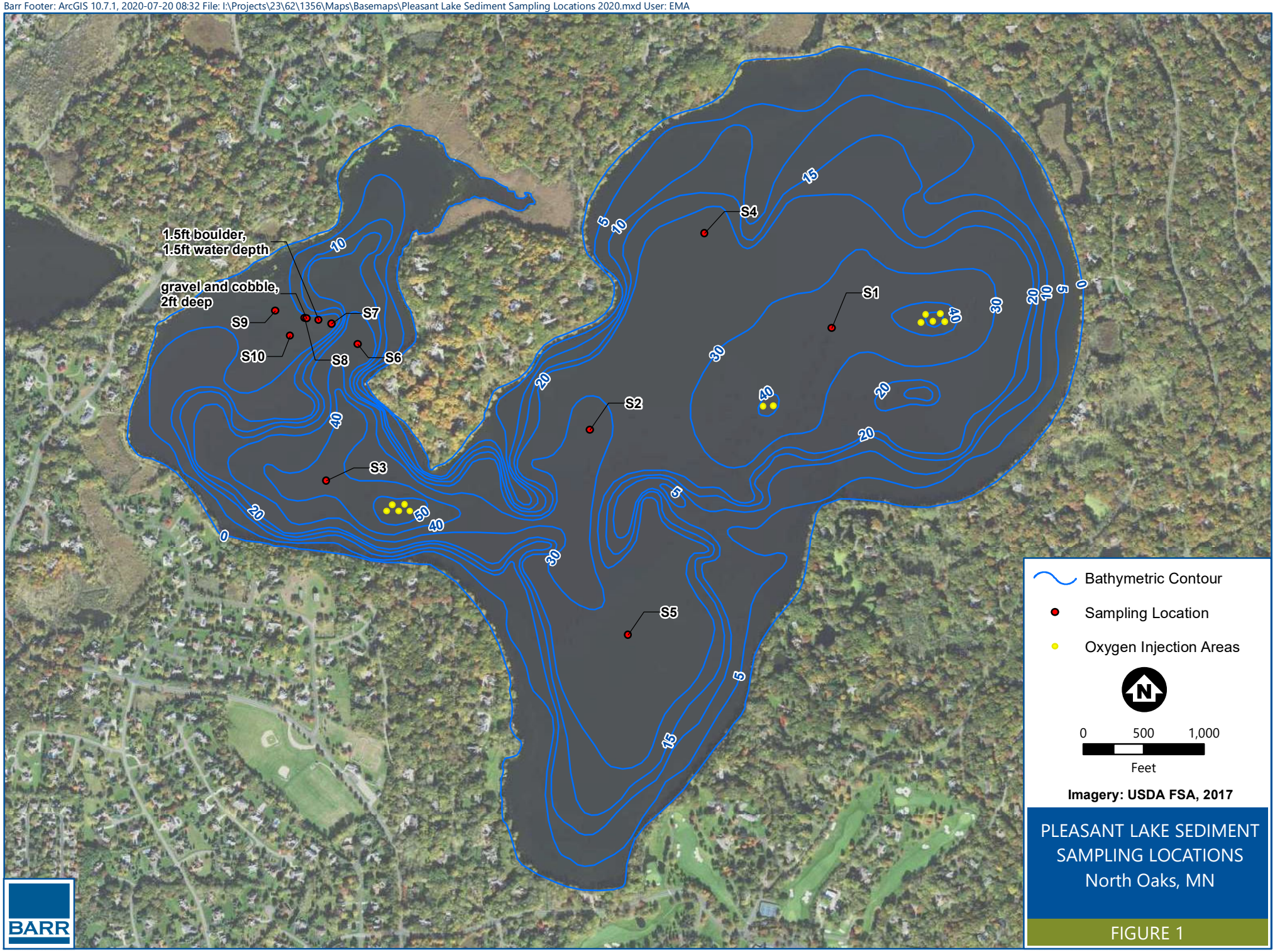
Relationships between concentrations of mobile-P and internal loading rates of phosphorus from lake sediments have been studied. Pilgrim et al. (2007) reported phosphorus internal loading rates under anoxic conditions for sediment cores collected from Minnesota lakes with a range of sediment mobile-P

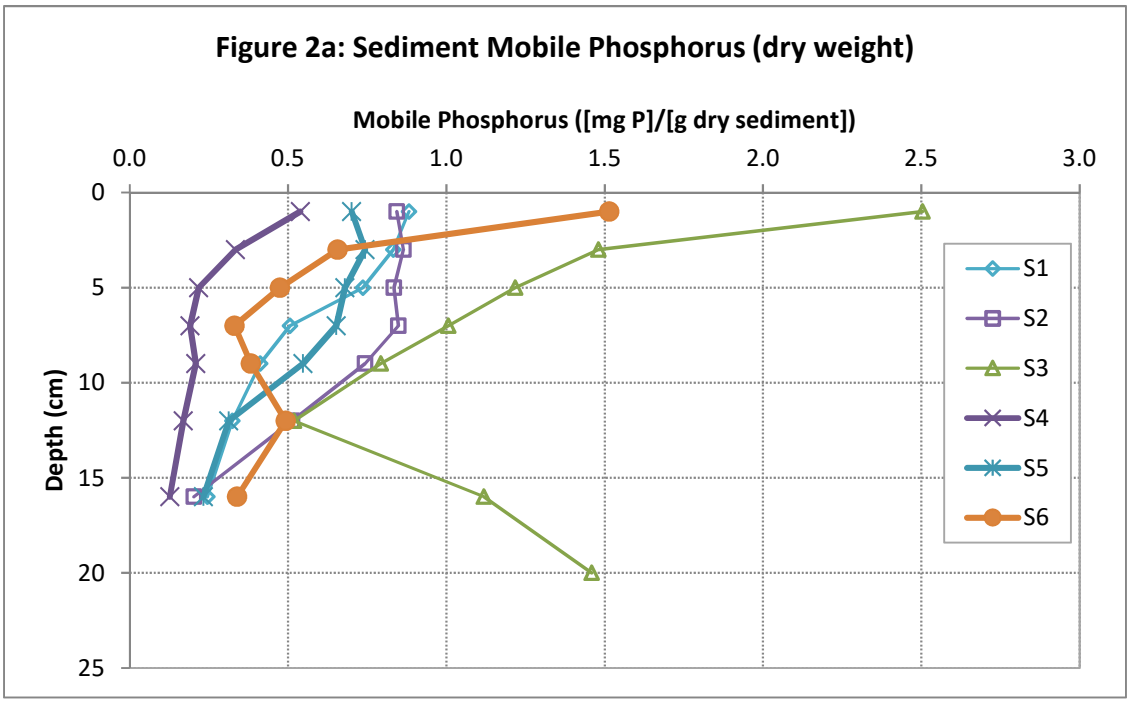
concentrations. The concentrations of mobile-P in Pleasant Lake sediment cores S1, S2, S5, and S6 are comparable to the highest mobile-P observed in that study, while mobile-P concentrations in S3 are nearly double those observed by Pilgrim et al. (2007). The oxygen injection system in Pleasant Lake appears to be effectively keeping iron oxidized in the top several centimeters of sediment, building up iron-bound phosphorus (mobile-P). However, if the sediment of Pleasant Lake were to turn anoxic, the insoluble ferric iron would start to be reduced to ferrous iron and could contribute to high rates of internal loading.

The sediment mobile-P concentrations can provide an estimate of the maximum internal loading rate of phosphorus that might be expected under continuous anoxic conditions in a stratified lake, using the relationship developed by Pilgrim et al. (2007). The dynamics of anoxia in sediment, and therefore internal loading of phosphorus in Pleasant Lake, are more complex due to the oxygen injection system. To better understand internal loading that may still be occurring in Pleasant Lake, more detailed water quality data could be collected, such as dissolved oxygen concentration profiles near the lake bottom at various distances from the oxygen injection points and at different points in the season. Sediment samples that were collected for phosphorus fractionation could also be analyzed for total iron concentrations to determine the ratio of iron to mobile-P in the sediment. This would help assess whether there is sufficient iron in the sediment to potentially bind more phosphorus under oxic conditions. A phosphorus mass balance model could also be developed for the lake that could simulate phosphorus concentrations in the hypolimnion (deep water) and epilimnion (surface mixed layer) of the lake.

References

Pilgrim, K.M., Huser, B., and Brezonik, P.L. 2007. A method for comparative evaluation of whole-lake and inflow alum treatment. *Water Research*, 41(6):1215-24. DOI: 10.1016/j.watres.2006.12.025.


1.5ft boulder,
1.5ft water depth
gravel and cobble,
2ft deep
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
Bathymetric Contour
Sampling Location
Oxygen Injection Areas
N
0
500
1,000
Feet
Imagery: USDA FSA, 2017
PLEASANT LAKE SEDIMENT SAMPLING LOCATIONS
North Oaks, MN
FIGURE 1
BARR



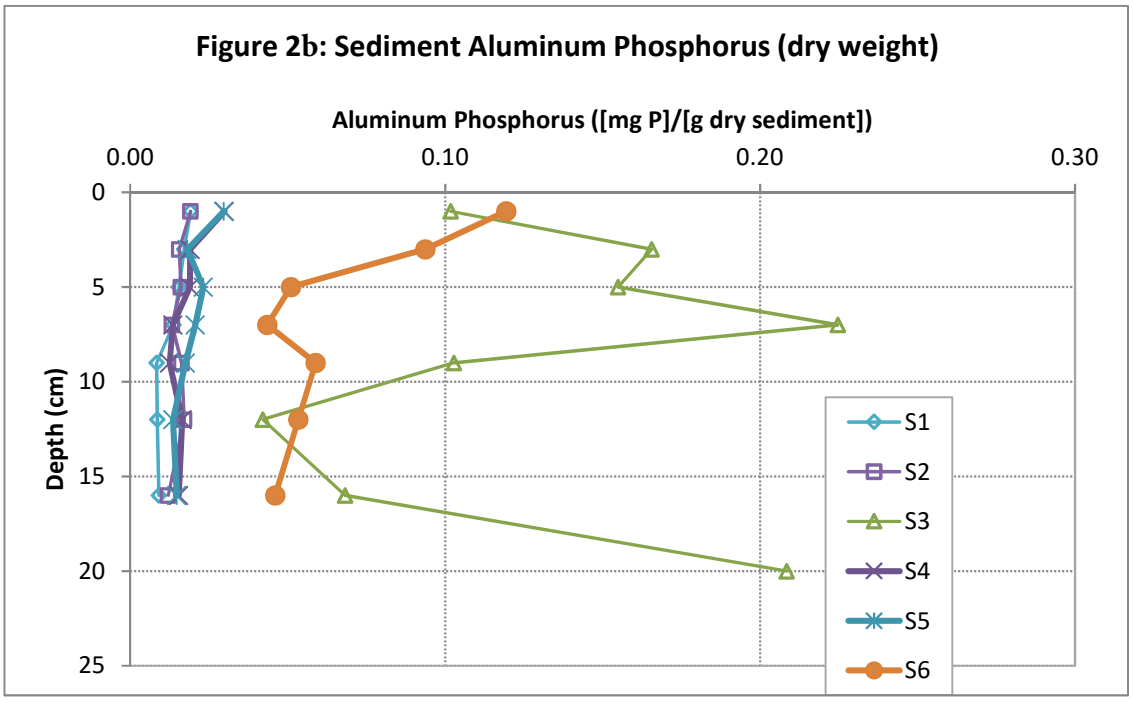
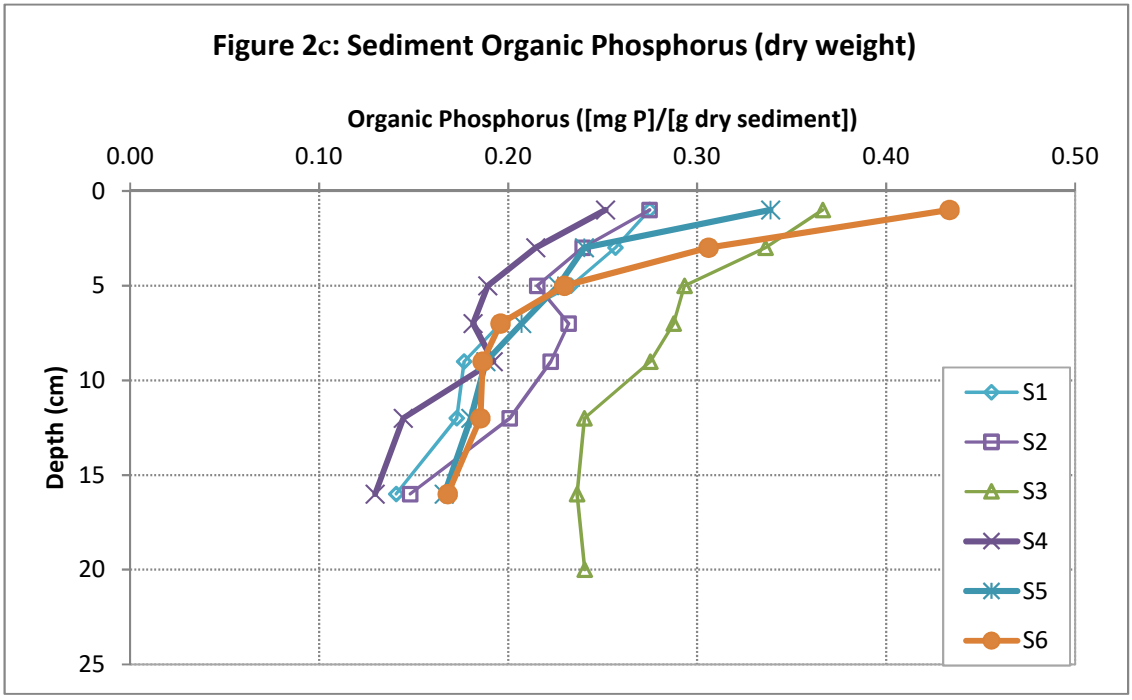


Figure 2. Pleasant Lake Sediment Phosphorus Fractionation, Dry Weight Basis.



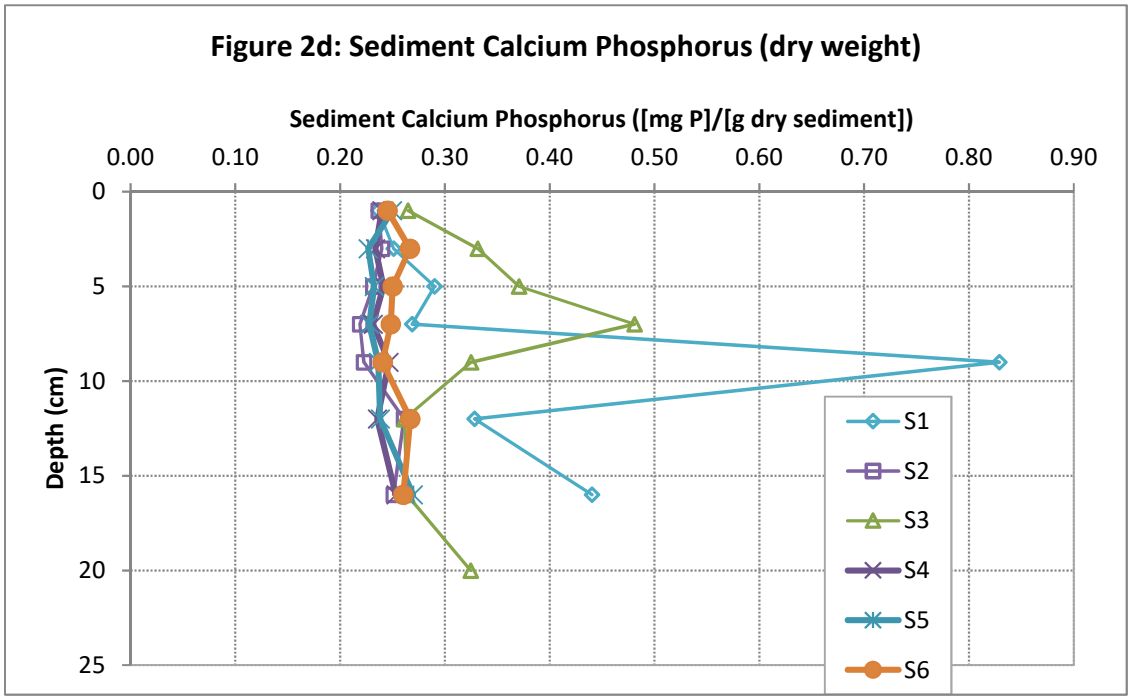
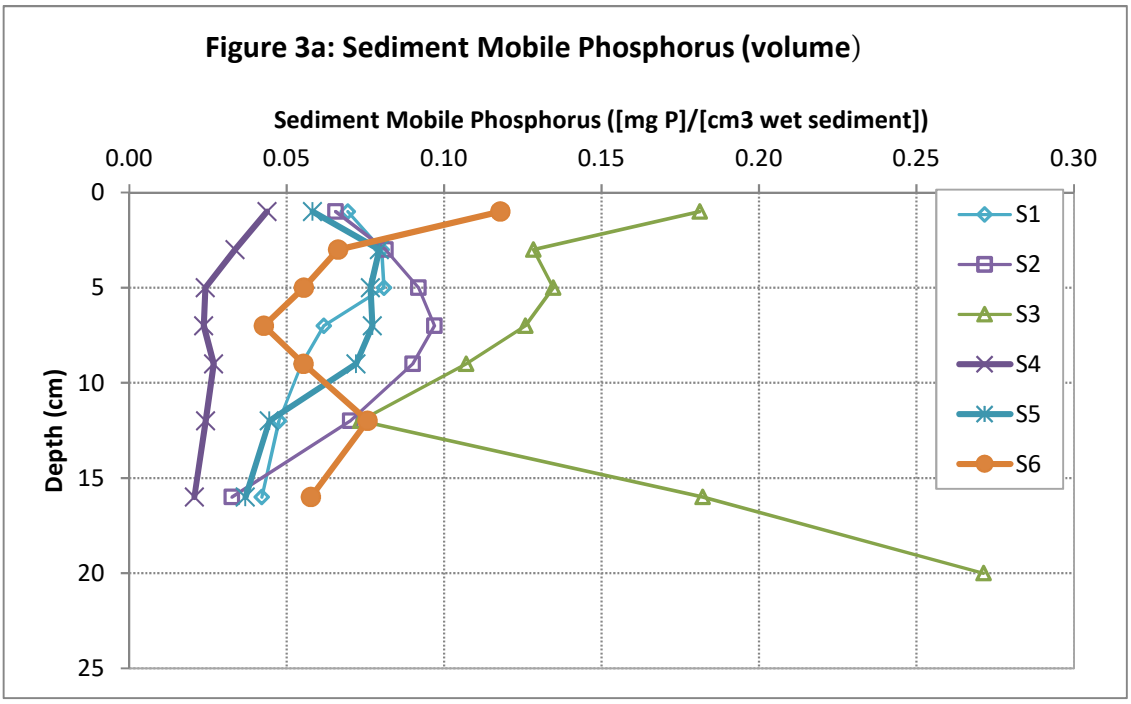


Figure 2. Pleasant Lake Sediment Phosphorus Fractionation, Dry Weight Basis.



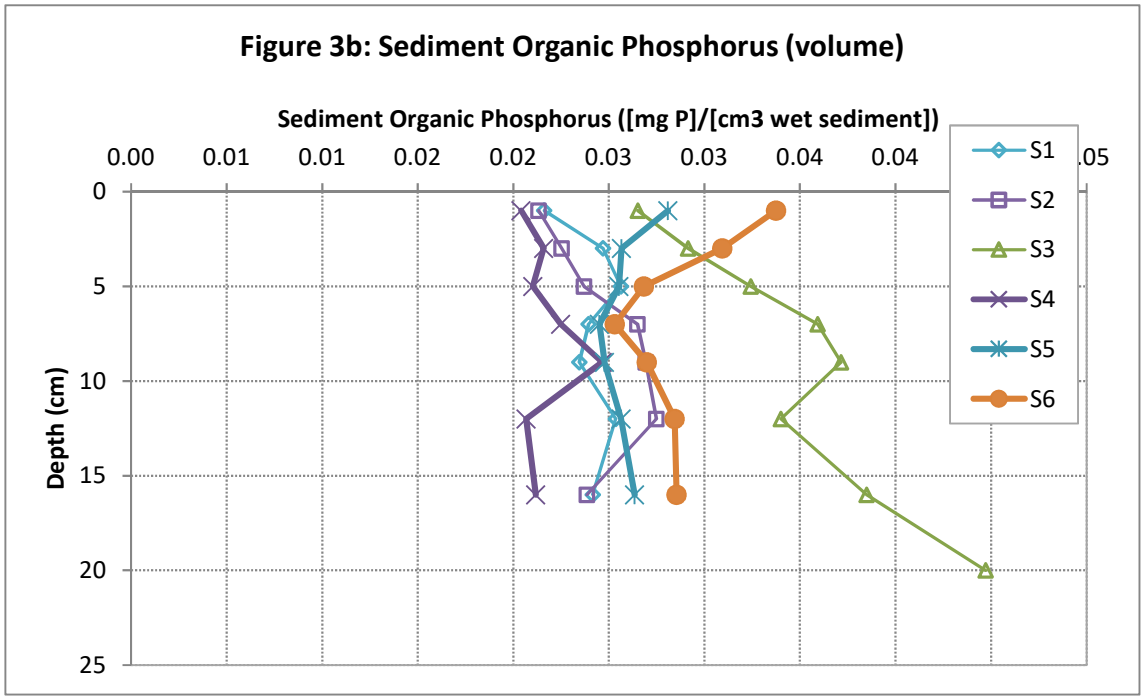
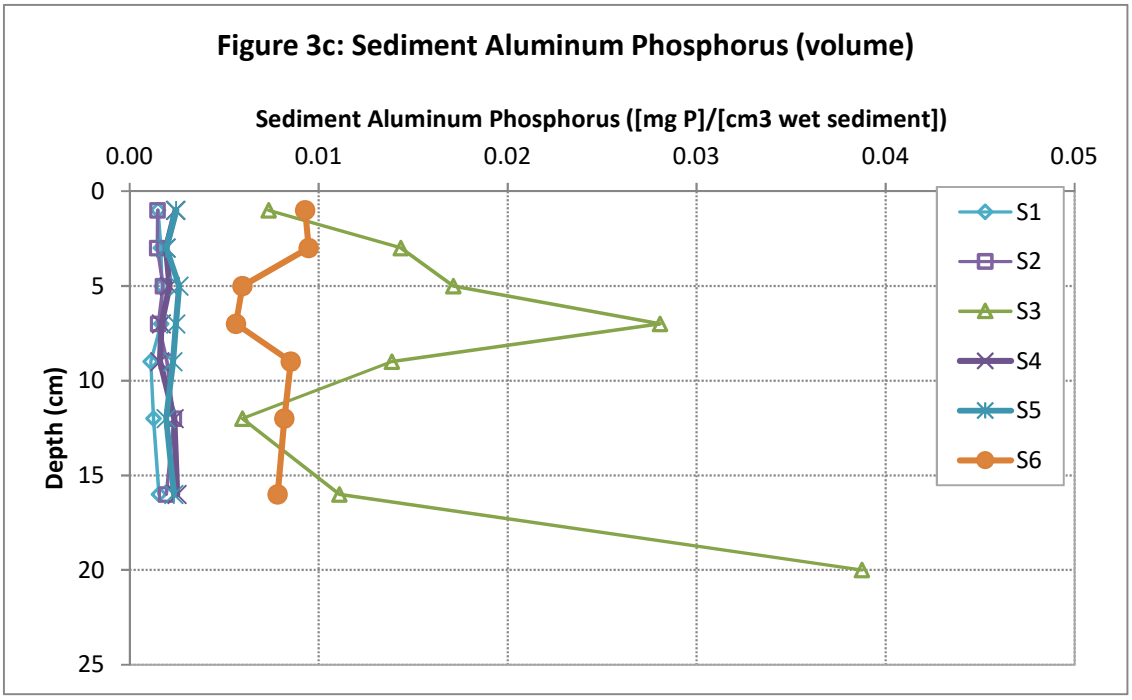


Figure 3. Pleasant Lake Sediment Phosphorus Fractionation, Sediment Volume Basis.



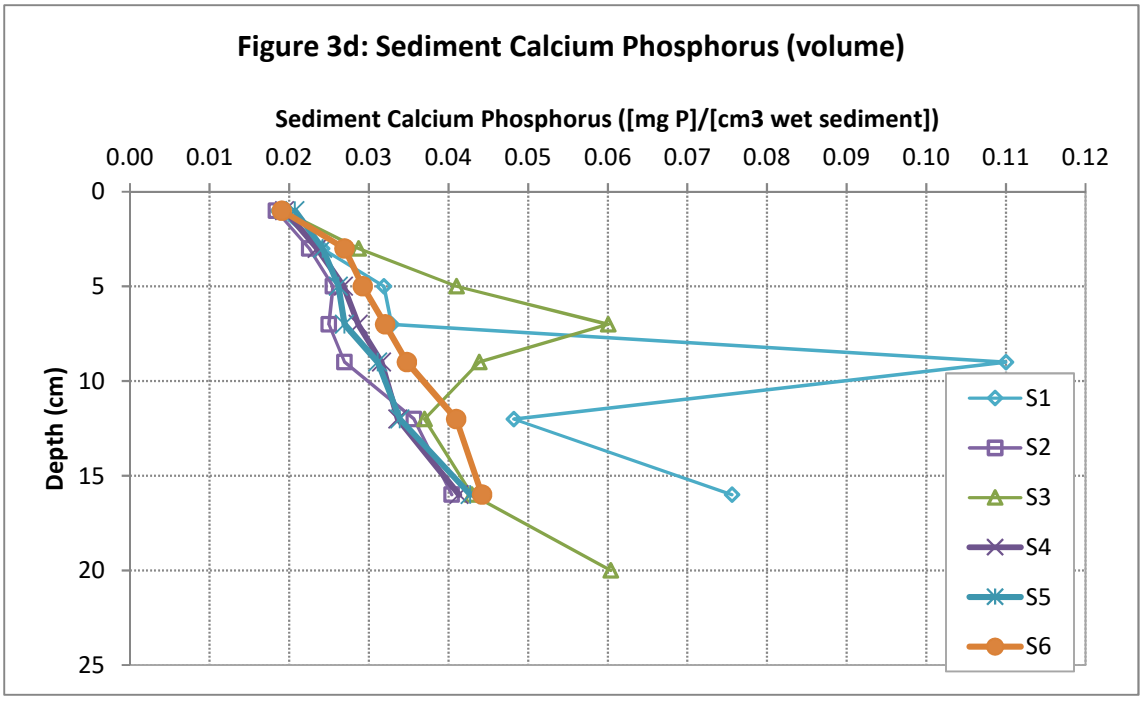


Figure 3. Pleasant Lake Sediment Phosphorus Fractionation, Sediment Volume Basis.

Attachment A:

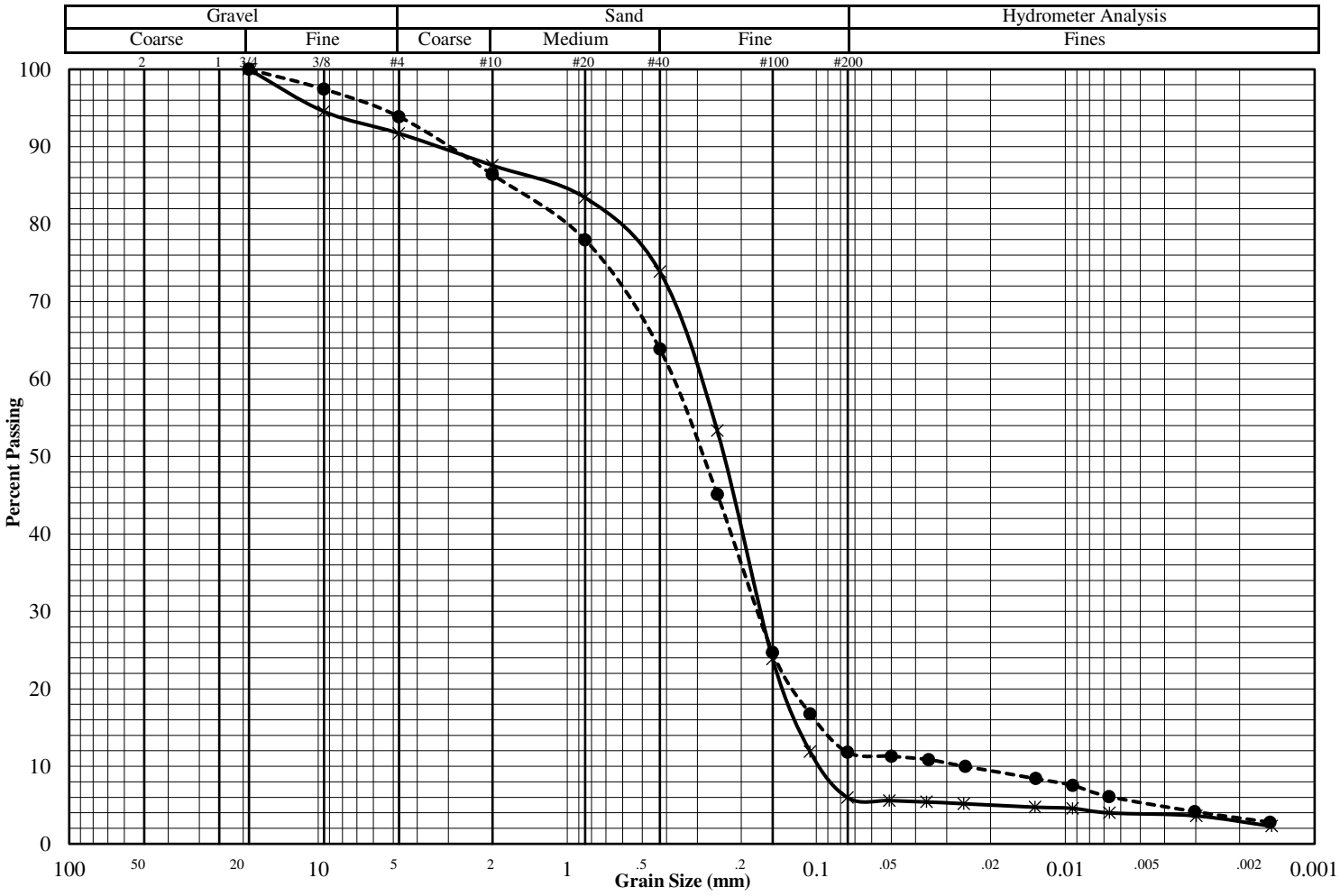
SET Laboratory Report on the Sandbar Sediment Samples

Grain Size Distribution ASTM D6913/D7928

Job No. : **12586**

Project:	Pleasant Lake	Test Date:	6/12/20
Reported To:	Barr Engineering Company	Report Date:	6/22/20

	Sample Date / Time	Sample No.	Depth (ft)	Sample Type	Soil Classification
*	5/29/20, 15:30	S7		Bag	Sand w/silt, a little gravel, and a trace of organic material, fine grained (SP-SM/SP)
●	5/29/20, 16:00	S8		Bag	Sand w/silt, a little gravel, and a trace of organic material, fine grained (SP-SM/SM)
◇					



Additional Results	*	●	◇
Liquid Limit			
Plastic Limit			
Plasticity Index ASTM:D4316			
Water Content ASTM:D2216			
Dry Density (pcf) ASTM:D7263			
Specific Gravity ASTM:D854	2.63	2.57	
Porosity			
Organic Content ASTM:D2974			
pH ASTM:D4972 Method B			

(* = assumed)

Percent Passing (Single Set)

	*	●	◇
Mass (g)	752.7	597.6	
1"			
3/4"	100.0	100.0	
3/8"	94.6	97.4	
#4	91.7	93.9	
#10	87.6	86.4	
#20	83.4	78.0	
#40	73.9	63.9	
#60	53.3	45.1	
#100	23.9	24.7	
#140	11.9	16.8	
#200	6.0	11.8	

**Sieves larger than 1" reported on page 2

	*	●	◇
D_{60}			
D_{30}			
D_{10}			
C_U			
C_C			

Remarks:

**The specific gravities were run only on material passing the #200 sieve.

9530 James Ave South

SOIL ENGINEERING TESTING, INC.

Bloomington, MN 55431

Grain Size Distribution ASTM D6913/D7928

Job No. : **12586**

Project:	Pleasant Lake	Test Date:	6/12/20
Reported To:	Barr Engineering Company	Report Date:	6/22/20

	Sample Date / Time	Sample No.	Depth (ft)	Sample Type	Soil Classification
Spec 1	5/29/20, 15:30	S7		Bag	Sand w/silt and a little gravel, fine grained (SP-SM/SP)
Spec 2	5/29/20, 16:00	S8		Bag	Sand w/silt and a little gravel, fine grained (SP-SM/SM)
Spec 3					

Sieve Data

Specimen 1		Specimen 2		Specimen 3	
Sieve	% Passing	Sieve	% Passing	Sieve	% Passing
3"		3"		3"	
2"		2"		2"	
1 1/2"		1 1/2"		1 1/2"	
1"		1"		1"	
3/4"	100.0	3/4"	100.0	3/4"	
3/8"	94.6	3/8"	97.4	3/8"	
#4	91.7	#4	93.9	#4	
#10	87.6	#10	86.4	#10	
#20	83.4	#20	78.0	#20	
#40	73.9	#40	63.9	#40	
#60	53.3	#60	45.1	#60	
#100	23.9	#100	24.7	#100	
#140	11.9	#140	16.8	#140	
#200	6.0	#200	11.8	#200	

Hydrometer Data

Specimen 1		Specimen 2		Specimen 3	
Diameter (mm)	% Passing	Diameter	% Passing	Diameter	% Passing
0.051	5.6	0.050	11.3		
0.036	5.4	0.035	10.9		
0.026	5.2	0.025	10.0		
0.013	4.7	0.013	8.4		
0.009	4.6	0.009	7.6		
0.007	4.0	0.007	6.1		
0.003	3.6	0.003	4.2		
0.001	2.3	0.002	2.8		

Remarks

Specimen 1	Specimen 2	Specimen 3

9530 James Ave South

SOIL ENGINEERING TESTING, INC.

Bloomington, MN 55431

JOINT POWERS AGREEMENT

AMONG

MEMBERS OF THE RAMSEY COUNTY GEOGRAPHIC INFORMATION SYSTEMS USERS GROUP

This JOINT POWERS AGREEMENT ("Agreement") is entered into pursuant to the provisions of Minn. Stat. §471.59 among Governmental Units for the purposes of forming the Ramsey County Geographic Information System Users Group ("Users Group").

ARTICLE I. INTENT OF THIS AGREEMENT

In 1995, an informal alliance, known as the Ramsey County Geographic Information System Users Group ("Users Group"), was formed among Governmental Units interested in using Geographic Information Systems (GIS) and data created and maintained by Ramsey County. This agreement is intended to establish and enable the Users Group to represent the parties to this Agreement for the purposes of undertaking negotiations and transactions.

ARTICLE II. DEFINITIONS

Section 1. **Members** means those Governmental Units that have executed this Joint Powers Agreement and have paid the annual membership dues as provided in Article X.

Section 2. **Governmental Unit** has the meaning set forth in Minnesota Statutes §471.59.

Section 3. **Users Group** means a group made up of one representative of each Member with the powers and responsibilities described in this Agreement.

ARTICLE III. GIS BOARD OF DIRECTORS STRUCTURE

Section 1. There is hereby created a GIS Board of Directors (Board).

Section 2. Each Member shall appoint one person to serve as a Director. Each Member may also appoint a person to serve as an Alternate Director. Members shall notify the Board in writing if the Director or Alternate Director changes.

Section 3. The Board shall have the following officers: a Chair, Vice Chair, Secretary, and Treasurer (Officers).

Section 4. All Officers will be elected by the Board in the first meeting of the agreement's term as identified in Article X. Section 1. The Chair will be elected to a one-year term. The Vice-chair will be elected as Vice-chair in year one and Chair in year two. The Secretary will be elected annually for a three year term in which they will serve as Secretary in year one, Vice-chair in year two, and Chair in year three. The Treasurer will be elected by the Board for a five year term coinciding with the term of this agreement. Any Officer vacancies will be elected by the Board as-needed.

Section 5. The Officers shall serve on a voluntary basis without pay.

Section 6. A quorum will consist of at least 40% of the full membership of the Board, whether or not all vacancies have been filled.

Section 7. Decisions of the Board will be made by a majority of the quorum. Directors may vote and participate in all meeting proceedings from a remote site pursuant to Minnesota Statute 13D.02.

ARTICLE IV. DUTIES OF THE GIS BOARD OF DIRECTORS

Section 1. The Board shall meet at least two times per year.

Section 2. The Board shall approve and adopt the formula for the Users Group member dues annually by December 31 for the following year.

Section 3. The Board shall arrange for and facilitate regular meetings of the Users Group and for Users Group activities. Meetings shall be held in accordance with Minnesota Statute 13D.01 .

Section 4. The Chair presides at Users Group meetings. The Vice Chair will preside in the absence of the Chair. The Secretary is responsible for recording the proceedings of the Board and communicating these proceedings to all Member organizations. The Treasurer is responsible for the funds and financial records of the Board.

Section 5. The Chair and the Treasurer must sign vouchers or orders disbursing funds of the Users Group. Disbursement will be made in the method prescribed by law for statutory cities.

Section 6. The Board may take such actions as it deems necessary and convenient to accomplish the general purposes of this Agreement.

Section 7.The Board shall purchase liability insurance on behalf of the Users Group to insure against liability of the Users Group and its constituent Members.

Section 8. The Board may:

(i) Enter into contracts to carry out its powers and duties, in full compliance with any competitive bidding requirements imposed by State or local law;

(ii) Provide for the prosecution, defense, or other participation in proceedings at law or in equity in which it may have an interest;

(iii) Employ such persons as it deems necessary on a part-time, full-time, or consultancy basis;

(iv) Purchase, hold, or dispose of real and personal property;

(v) Contract for space, commodities or personal services with a Member or group of Members;

(vi) Accept gifts, apply for and use grants or loans of money or other property from the state, the United States of America, and from other government units and may enter into agreements in connection therewith and hold, use and dispose of such money or property in accordance with the terms of the gift, grant, loan or agreement relating thereto;

(vii) Appoint a fiscal agent.

ARTICLE V. NEW MEMBERS

Section 1. Any Governmental Unit that is not a party to the initial Agreement may join as a Member at any time.

Section 2. To become a Member, a local unit of government shall adopt a resolution and shall sign this Joint Powers Agreement.

Section 3. New Members will pay the annual membership dues for the year in which the new Member is joining, as set by the Board pursuant to Article IV, Section 2, as calculated by the current formula. Fees will not be pro-rated for new Members who join after January 1 of each year.

ARTICLE VI. GIS DATA TO BE EXCHANGED AS PART OF THIS AGREEMENT

Section 1. Members agree to exchange any GIS data with Ramsey County and with any requesting Member for the requesting party's own use where that GIS data has been in some way derived and/or developed from the County GIS Data accessed through this Agreement or future agreements between the Users Group and Ramsey County. Members agree to exchange with Ramsey County and with any other Member any attribute data that it has created and maintained where that data can be associated to a parcel using a parcel identifier. Members also agree to exchange any building permit data requested by Ramsey County for the identification of future physical feature data base updates.

Section 2. The Board will negotiate with Ramsey County on behalf of the Members in all matters deemed necessary relating to supply of GIS data generated by a Member.

ARTICLE VII. DATA ACCESS AND USAGE

Section 1. All Members shall have equal rights to access Ramsey County GIS Data.

Section 2. Data generated by Ramsey County and provided to Members may not be sold in its original form to third party agencies. However, a Member may allow use of the original data by a third party for specific contracted purposes.

Section 3. Data which results from enhancement of Ramsey County GIS Data by a Member, received pursuant to this Agreement, may be made available to a third party.

Section 4. All Members will adhere to future Users Group license agreements for County or other agency GIS data.

ARTICLE VIII. DATA SECURITY

All Members agree to abide by the data privacy and data security standards of the Member when using Ramsey County GIS Data or any derivative or enhancement of the data.

ARTICLE IX. FINANCIAL MATTERS

Section 1. The fiscal year of the Users Group is the calendar year.

Section 2. The Board shall adopt an annual budget prior to December 31 of each year for each succeeding year. The Board will give an opportunity to each Member to comment or object to the proposed budget before adoption. Notice of the adopted budget must be distributed promptly thereafter to the appointed Director of each Member.

Section 3. Operational costs shall be shared according to a method agreed upon by majority decision of the Board of Directors. The costs could be met by membership dues. These costs could include Users Group administrative costs, purchase of liability insurance, and others as appropriate.

Section 4. Annual Membership Dues: Members shall commit to payment of Annual Membership Dues, except where limited by State Statutes.

Section 5. Billings to the Members are due and payable no later than 60 days after the receipt of the invoice. In the event of a dispute as to the amount of a billing, a Member must nevertheless make payment as billed to preserve membership status. The Member may make payment subject to its right to dispute the bill and exercise any remedies available to it. Failure to pay a billing within 60 days results in suspension of voting privileges of the Member Director. Failure to pay a billing within 120 days is grounds for termination of membership, but the Users Group's right to receive payment survives termination of membership.

ARTICLE X. TERM

Section 1. The Term of this Agreement is January 1, 2021, through December 31, 2025.

Section 2. Based on the annual review of the operating procedures within the Agreement conducted by the Board, a new Agreement will be developed and circulated at least three months prior to December 31, 2025 and be agreed upon and signed on or before December 31, 2025.

ARTICLE XI. TERMINATION

Each Member shall have the right to terminate its membership and participation in the Users Group by formal resolution of the Member's organization and communicated to the Board in writing. However, the Member is still obligated to its financial commitments for the year during which termination of membership occurs.

These commitments include:

(i) Any balance of the Annual Membership Dues. This commitment applies to all Members;

(ii) Any balance owing on Special Projects Assessments. This commitment applies to Members which have entered into any special project agreement(s).

ARTICLE XII. DISSOLUTION

Section 1. The Users Group may be dissolved by a two-thirds vote of its Members in good standing. Dissolution is mandatory when the Secretary has received certified copies of resolutions adopted by the governing bodies of the required number of Members requesting dissolution.

Section 2. In the event of a dissolution, the Board must determine the measures necessary to effect the dissolution and must provide for the taking of such measures as promptly as circumstances permit, subject to the provisions of this Agreement and law.

Section 3. In the event of dissolution, following the payment of all outstanding obligations, assets of the Users Group will be distributed among the then existing Members in direct proportion to their cumulative annual contributions. If those obligations exceed the assets of the Users Group, the net deficit of the Users Group will be charged to and paid by the then existing Members in direct proportion to their cumulative annual contributions.

ARTICLE XIII. ACCESS TO DOCUMENTS

Until the expiration of six years after this Agreement terminates, the Users Group shall make available to the Member organizations and to the State Auditor, a copy of this Agreement and books, documents, accounting procedures and practices of the Users Group relating to this Agreement.

ARTICLE XIV. HOLD HARMLESS

Section 1. Each Member agrees to defend, indemnify, and hold the other Members harmless from any claims, demands, actions or causes of action, including reasonable attorney's fees, against or incurred by such other Members, for injury to, death of, or damage to the property of any third person or persons, arising out of any act or omission on the part of the indemnifying Member or any of its agents, servants or employees in the performance of or with relation to any of the work or services provided by Members under the terms of this Agreement.

Section 2. Nothing in this Agreement shall constitute a waiver by any Member, the Users Group of any limitation of liability under Minnesota Statutes Chapter 466, or other statutory or common law immunities, limits, or exceptions on liability.

Section3. Under no circumstances, however, shall a Member be required to pay on behalf of itself and other Members, any amounts in excess of the limits on liability established in Minnesota Statutes Chapter 466 applicable to any one Member. The limits of liability for some or all of the Members may not be added together to determine the maximum amount of liability for any Member.

ARTICLE XV. EQUAL EMPLOYMENT OPPORTUNITY

The Members and the Users Group agree to comply with all federal, state, and local laws, resolutions, ordinances, rules, regulations, and executive orders pertaining to unlawful discrimination on account of race, color, creed, religion, national origin, sex, sexual preference, marital status, status with regard to public assistance, disability, or age.

ARTICLE XVI. DATA PRACTICES

Section 1. All data collected, created, received, maintained, or disseminated for any purpose in the course of either the Member's or the Users Group's performance of this Agreement is governed by the Minnesota Government Data Practices Act, Minnesota Statutes Chapter 13, and rules adopted to implement the Act.

Section 2. The Members and the Users Group agree to abide strictly by these statutes, rules, and regulations.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed on this ____ day of _____,

2020.

ORGANIZATION _____

Approved:

By:_____

(Name, Title)

By:_____

(Name, Title)

DESIGNATED DIRECTOR TO REPRESENT ORGANIZATION:

Name:_____

Phone:_____

Email:_____

ALTERNATE DIRECTOR (IF APPLICABLE):

Name:_____

Phone:_____

Email:_____

By:_____

(Nate Zwonitzer, Chair of Users Group)

Vadnais Lake Area Water Management Organization
800 East County Rd E
Vadnais Heights, MN 55127
vlawmo.org
(651) 204-6070

COMMUNITY BLUE GRANT APPLICATION

Please submit form and required materials to: NICK VOSS
Nick.Voss@vlawmo.org

BASIC INFORMATION

PROJECT NAME	Junior Watershed Explorer Program-a pilot project
CONTACT PERSON	Ceci Shapland
ADDRESS	470 Vadnais Lake Drive
CITY ZIP	Vadnais Heights, 55127
ORGANIZATION	
PHONE	612-816-7721
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WHAT GEOGRAPHIC AND/OR DEMOGRAPHIC AREA DO YOU SERVE?	Vadnais Lake Area Water Management Organization
HOW MUCH ARE YOU REQUESTING? (BETWEEN $200 AND $5,000)	$960
HOW MUCH ARE YOU PREPARED TO MATCH OR PROVIDE IN-KIND?	$2425

PROJECT BACKGROUND

INTRODUCTION & GOAL

The Junior Watershed Explorer Program is being developed by volunteers and volunteers and educators are reviewing the workbook. VLAWMO will provide the program through a permanent downloadable workbook that families can print for use with their child. Through the program, children and families will have an experiential way to learn about watersheds and how to help keep lakes, streams and wetlands healthy, as well as a guide to explore VLAWMO sites and projects,

My husband, Ed Shapland and I are master water stewards for VLAWMO. We work with VLAWMO on various projects related to water resources, including the leaf pack project and organizing a garden tour in the time of COVID virus. We also continue to develop landscaping projects to address best management practices. We promote the adopt-a-drain program in the neighborhood and educate community members about the importance of caring for the quality of water in our lakes, streams and wetlands. Ceci has experience and a degree in early childhood development and has written numerous educational materials for children with special needs. Ed has a lifetime of experience in being a research scientist. The mission and goals of the Junior Watershed Explorer Program is to increase the knowledge and awareness among children and their families living in the water organization boundaries about the activities of VLAWMO and how to assist in the care of lakes, streams and wetlands in VLAWMO. The Junior Watershed Explorer Program is modeled after the Junior Ranger Programs in state and national parks. A workbook of age appropriate activities will guide children to experience and learn about various settings and varied wildlife within the boundaries of VLAWMO.

1. A: DESCRIBE THE MISSION AND GOALS OF YOUR ORGANIZATION/PROFESSION AND WAYS IT RELATES TO WATER RESOURCES.

PROJECT BACKGROUND

2. DESCRIBE HOW YOUR PROJECT WILL PROTECT OR IMPROVE WATER QUALITY. FOR EDUCATIONAL COMPONENTS, DESCRIBE BEHAVIORS AND ACTIONS THAT WILL BE ENCOURAGED THROUGH THE PROJECT AS THEY RELATE TO WATER.

The project will promote the education of children and their families who live within VLAWMO. Through this program they will learn about lakes, streams and wetlands, as well as best management practices to improve water quality. It will lay the foundation for engaging children in nature and the work of VLAWMO. Using fun, educational activities, specifically designed to learn about nature and ways to help care for the health of the water bodies nearby. There are accommodations written into the workbook to make it adaptable for every child.

3. DESCRIBE ANY PROJECT PARTNERS, THEIR ROLE IN THE PROJECT, THEIR QUALIFICATIONS, AND THEIR ROLE IN YOUR PROJECT. FOR PROJECTS WITH INVOLVED PARTNERSHIPS, A SEPARATE CONFIRMATION LETTER MAY BE REQUESTED.

Please provide specifics (names, titles, email or phone #)

Nick Voss, education and outreach coordinator for VLAWMO, has worked closely with us to plan the Junior Watershed Explorer Program. In addition, Maya Swope of the Riley-Purgatory Bluff Creek Watershed District shared information and materials that are helping in the creation of the program workbook.

PROJECT OBJECTIVES

4. IN THE SPACE BELOW, PLEASE BREAK DOWN YOUR PROJECT INTO OBJECTIVES (**UP TO 5**). THESE SHOULD TELL THE STORY OF YOUR PROJECT FROM PREPARATION TO ACTION TO FOLLOW-UP MEASURES. INCLUDE AN ESTIMATED COMPLETION DATE (left box) AND COST (right box) TO EXPIDITE PROJECT BUDGETING AND FUND DISPERSAL.

1

OBJECTIVE	Develop the content for a Junior Watershed Explorer Program workbook.	COMPLETION DATE (M/Y) COST (right box)	August 2020	80 vol. hrs.

DESCRIPTION

A workbook will be developed that includes information and fun activities to provide awareness about VLAWMO, the lakes, streams and wetlands located within its boundaries and education about the fish and wildlife living in VLAWMO. Activities include pages to color, pages for drawing a favorite animal or water activity, a wordsearch with "water words," mazes, and a bingo tour of VLAWMO. In addition, there will be a section teaching ways a child can help in keeping water clean and protecting the health of lakes and streams.

POSSIBLE BARRIERS

Possible barriers: Accommodating seasonal constrains

2

OBJECTIVE	Develop the layout and graphic design for the Junior Watershed Explorer Program workbook.	COMPLETION DATE (D/M/Y) COST (right box)	August 2020	$700

DESCRIPTION

After content of the Junior Watershed Explorer Program workbook has been reviewed by VLAWMO staff and volunteer teachers, Jim Shapland, a graphic and computer animation freelance designer, will be contracted to create the layout and graphic designs for the workbook, including three superhero characters, one who is in a wheelchair to be more inclusive of children with special needs. These superhero figures will appear throughout the workbook as guides to engage children in the various learning activities about the watershed.

POSSIBLE BARRIERS

Possible barriers: Unknown level of commitment from volunteer reviewers due to COVID.

3

OBJECTIVE	Implement a Junior Watershed Explorer pilot program with 10-20 children and their families.	COMPLETION DATE (D/M/Y) COST (right box)	October 2020	17 v.h. $260

DESCRIPTION

Upon the completion of the Junior Watershed Explorer Program workbook, it will be made available on the VLAWMO website for families to download and print. Additional printed copies will be made available as needed by the VLAWMO office if families are unable to print copies themselves. Information about the program will be highlighted on the VLAWMO website and Ed and Ceci will submit a VLAWMO-reviewed article to the local paper about the program and how to access it.

Children who participate and their families will be asked to fill out an evaluation form about the workbook and the overall program.

T-shirts will be awarded to children who complete the workbook. There will be a form for them to fill out saying they completed the program; an adult will sign it and the form will be sent to VLAWMO. A T-shirt will be sent to the child when the completion form is received. The T-shirt will have the VLAWMO logo on the front and Junior Watershed Explorer on the back.

Possible Barriers: Families and their children do not participate in the pilot program. Identifying the ideal number of shirts or other prizes involved with booklet completion.

PROJECT PLAN

PROJECT PLAN

MEASUREMENT AND EVALUATION

5. DESCRIBE HOW YOU WILL MEASURE THE SUCCESS OF YOUR PROJECT.
Measurements should be phrased as a final result. What tangibles will prove that the objective was met? Example: Number of participants, number of installations, gallons of storm water infiltrated, etc. Effective measurables relate back to the goal and purpose of the project – VLAWMO will make recommendations as needed. If an objective doesn't need a measurable please indicate another objective that has a measurable that serves to measure both.

OBJECTIVE 1: **Develop the content for a Junior Watershed Explorer Program workbook,**

The workbook will be created by VLAWMO master water steward volunteers, Ceci and Ed Shapland. It will be based on a similar program created by Maya Swope of the Riley-Purgatory Watershed District. The content of the workbook will be reviewed by at least two elementary teachers, as well as VLAWMO staff before graphics and layout are designed. Teacher feedback will seek guidance in booklet's use of STEM content. Feedback will be compiled and ~~final~~ edits on content, and possible additional activities will be made and included by Ceci and Ed Shapland. This objective will be met when the Júnior Watershed Explorer workbook has been reviewed and accepted by VLAWMO staff.

OBJECTIVE 2: **Develop the layout and graphic design for the Junior Watershed Explorer workbook.**

After the review process is complete, Jim Shapland, a freelance graphic and computer animator will design the layout and superhero graphics for the workbook. The VLAWMO staff will do a final review of the layout and graphics.

OBJECTIVE 3: **Implement a Junior Watershed with 10-20 children and their family. Explorer pilot program**

Dispersal channels will include the VLAWMO website, school networks, and VLAWMO social media. The number of children and families participating will be tracked by volunteers and staff. Each child and family in the pilot program will be asked to fill out an evaluation form or an online survey to rate the workbook information and the overall Junior Watershed Explorer Program. Surveys will be compiled and reported to VLAWMO staff.

BUDGET DESCRIPTION

6. DESCRIBE THE BUDGET: List 1) materials and services that the requested funds will go towards and 2) description of Match funds that go with that objective/expense.

OBJECTIVE 2: Develop the layout and graphic design for the Junior Watershed Explorer Program workbook.

Expense 2: $700 for graphic design and layout of the final version of the Junior Watershed Explorer workbook.

This figure is based on the professional's estimate of hours and per hour fee.

OBJECTIVE 3: Implement a Junior Watershed Explorer pilot program with 10-20 children and their family.

Expense 5: $260 for the purchase of 20 t-shirts custom designed with VLAWMO logo and Junior Watershed Explorer insignia in various children's sizes. Estimate based on a quote by www.customink.com.

BUDGET

7. COMPLETE THE FOLLOWING TABLE FOR PROJECT COSTS. IF ADDITIONAL COSTS EXIST INDEPENDENT OF GRANT FUNDING LIST THEM AS FUNDING AS OTHER SOURCE. PLEASE SPECIFY AN AMMOUNT PER EXPENSE AND A TOTAL. THE GREEN BOX IN PART 7 MUST EQUAL

THE GREEN BOX IN PART 8. USE WORK PLAN SPREADSHEET FOR MORE DETAIL. TIP: ALIGN EXPENSES ACCORDING TO OBJECTIVES IN PART 5.

EXPENSES Reflect objective #	**PERSONNEL COSTS** "N/A" if blank	**MATERIALS / SUPPLIES** "N/A" if blank	**FUNDING FROM OTHER SOURCE** "N/A" if blank	**TOTAL**
EXPENSE 1:				
EXPENSE 2:	$700			$700
EXPENSE 3:				
EXPENSE 4:				
EXPENSE 5:		$260		$260
TOTALS		$260		$960

Description of other source funding: N/A

TOTAL EXCLUDING MATCH FUNDS: $960

GRANT FUNDING & MATCH FUNDS

8. PLEASE FILL IN THE TABLE BELOW WITH HOW YOU PLAN TO ALLOCATE YOUR FUNDING.
Match funds are required assets for the project that strive to support community investment and exposure. Match funds may be cash from other sources, mileage, pre-existing materials involved in the project, or provided in-kind (i.e. volunteer services). In-kind match hours may be volunteer service hours, voluntary presentations, etc.
Consult with VLAWMO staff for discussion on what applies as match funds.
THE BLUE BOX SHOULD BE AN ADDITIONAL 25-100% OF THE GREEN BOX.
PROJECT APPLICATIONS ARE WEIGHED WITH A PREFERENCE FOR PROJECTS WITH HIGHER MATCH FUNDS, IN ADDITION AND ARE VOTED ON THROUGH THE VLAWMO TECHNICAL COMMISION.

VOLUNTEER HOURS ARE VALUED AT **$25/HR**
MILEAGE IS VALUED AT **$0.525/MI**

EXPENSES	**REQUESTED VLAWMO FUNDING**	**MATCH FUNDS**		**TOTAL**
		Cash	In-kind	
EXPENSE 1:			$2000	$2000
EXPENSE 2:	$700			$700
EXPENSE 3:			$375	$375
EXPENSE 4:			$50	$50
EXPENSE 5:	$260			$260
TOTALS	$960	$2425 in-kind volunteer hours		$3385

BUDGET CONTINUED

9) DESCRIPTION OF MATCH FUNDS: CASH AND/OR IN-KIND HOURS. Briefly describe the nature, activity, or function of the match funds for each expense line. I.e. "volunteer hours", "honorarium", etc.

EXPENSE 1: Two volunteers will work 40 hours each to develop content for the Junior Watershed Explorer Program workbook. Total volunteer hours are 80 for $2000 in-kind support.

EXPENSE 3: One volunteer will work 15 hours compiling evaluation data from participants and writing a final report for VLAWMO staff.
Total volunteer hours are 10 at $375 in-kind support.

EXPENSE 4: One volunteer will work 2 hours to write and publish an article in the local paper publicizing the Junior Watershed Explorer Program. Total: Total volunteer hours are 2 at $50 of in-kind support.

FUTURE POTENTIAL

10.) WILL YOU OR THE PROJECT PARTNERS BE ABLE TO REPEAT THIS PROJECT? EXPLAIN HOW THE PROJECT WILL BE CARRIED ON IF 1) THE PROJECT IS A SUCCESS AND 2) ADDITIONAL FUNDS WERE AVAILABLE

In talking with VLAWMO staff, they are committed to carrying on the project by keeping the website up to date with the workbook, assisting in printing the workbook for families and tracking the participants. A partnership with the City of Vadnais Heights will allow printed booklets to be available at the City Hall front desk for pick-up. Additional funds would be needed in the future to continue the T-shirts for the Junior Watershed Explorers. As volunteer master water stewards, we are also committed to volunteer in whatever capacity to support this program long term.

11.) HOW DID YOU HEAR ABOUT OUR GRANT PROGRAM?

I heard about the Community Blue Grant through Nick Voss at VLAWMO.