

**VLAWMO TECHNICAL COMMISSION MEETING**  
**8:00 AM June 14, 2023**

Vadnais Heights City Hall, Council Chambers, 800 County Road E East, Vadnais Heights, MN 55127

**Action items:** ✈

- I. **Call to Order – 8:00am**
  - A. Selection of meeting chair ✈
- II. **Approval of Agenda** ✈
- III. **Election of Officers** ✈
- IV. **Approval of Minutes (April 12, 2023)** ✈ [Pg. 2](#)
- V. **Administration & Operations**
  - A. Financial Report for June and Authorization for Payment ✈ – Phil [Pg. 6](#)
  - B. June TEC Report to Board ✈ – Phil [Pg. 13](#)
- VI. **Programs**
  - A. SHG 2023-01 Charley Lake Condo Association Turf Replacement ✈ - Lauren [Pg. 21](#)
  - B. LL1 2023-01 Wendland Vegetated Swales ✈ - Lauren [Pg. 32](#)
  - C. LL1 2023-02 Olinger Permeable Pavers ✈ - Lauren [Pg. 44](#)
  - D. Website renovation: Mock-up approval ✈ – Nick [Pg. 15](#)
  - E. Field Days and irrigation campaign update – Nick [Pg. 16](#)
  - F. 40<sup>th</sup> Anniversary Campaign update- Nick [Pg. 16](#)
- VII. **Projects Updates- Dawn**
  - A. Pleasant/Deep Lake carp update [Pg. 17](#)
  - B. Wilkinson deep-water wetland restoration update [Pg. 18](#)
  - C. Pleasant and Birch Lake surveys with RCSWCD [Pg. 19](#)
  - D. Alum feasibility for Wilkinson and Tamarack fieldwork underway [Pg. 20](#)
  - E. Munch Bunch arrival at VH City Hall [Pg. 20](#)
  - F. Spent Lime project update and quotes for Board [Pg. 20](#)
- VIII. **Commissioner Reports**
- IX. **NOHOA**
- X. **Ramsey Soil & Water Conservation Division**
- XI. **St. Paul Regional Water Services**
- XII. **Public Comment**
- XIII. **Next Meetings:** TEC: July 12<sup>th</sup>, Board Meeting: June 28<sup>th</sup>
- XIV. **Adjourn**

**Upcoming Events:**

Landscape Revival plant sale: June 10<sup>th</sup>  
VH Ice Cream Social: June 21<sup>st</sup>  
Neighborhood tour: June 29<sup>th</sup>  
WBL MarketFest: July 27<sup>th</sup>  
Native Plant Tour at WB Montessori: Aug 9<sup>th</sup>  
Neighborhood tour: Aug 10<sup>th</sup>  
40<sup>th</sup> Anniversary with RCSWCD: Aug 28<sup>th</sup>

**Vadnais Lake Area Water Management Organization  
Technical Commission (TEC) Minutes  
May 10, 2023  
Vadnais Heights City Hall, Council Chambers  
800 County Road E East, Vadnais Heights, MN 55127**

**Commission Members Present:**

Nolan Wall	Vadnais Heights (VH) (Alternate)
Andy Nelson	Lino Lakes (LL)
Terry Huntrods	White Bear Lake (WBL)
Jami Philip	White Bear Township (WBT)
Susan Miller	North Oaks (NO)

**Absent:**

Gloria Tessier, Gem Lake

**Others in attendance:** Phil Belfiori, Brian Corcoran, Lauren Sampedro, Nick Voss (VLAWMO staff), Jeremy Erickson (SPRWS).

**I. Call to Order**

Administrator Belfiori called the meeting to order at 8:00 am.

A. Selection of meeting chair

Administrator Belfiori called for nominations of a meeting chair. He recommended withholding an election of TEC officers until June 2023 due to the current absence of the vice chair.

It was moved by Commissioner Huntrods and seconded by Commissioner Wall to select Commissioner Nelson to serve as this meeting's chair. Vote: all aye. Motion passed.

**II. Approval of Agenda**

It was moved by Commissioner Miller and seconded by Commissioner Huntrods to approve the May 10, 2023 TEC agenda. Vote: all aye. Motion passed.

**III. Approval of Minutes (April 12, 2023)**

It was moved by Commissioner Miller and seconded by Commissioner Huntrods to approve the April 12, 2023 meeting minutes as presented. Vote: all aye. Motion passed.

**IV. Administration & Operations**

A. Appointment of TEC representative to May 24<sup>th</sup> budget subcommittee

At the April 2023 Board meeting, the Board identified an interest to have a TEC member present at the budget subcommittee. The meeting is scheduled for May 24, 2023 at 6:30 pm at Vadnais Heights City Hall.

It was moved by Commissioner Miller and seconded by Commissioner Wall to appoint Commissioner Nelson as the TEC representative to the May 24 budget subcommittee. Vote: all aye. Motion passed.

**B. Financial Report for May and Authorization for Payment**

Administrator Belfiori outlined the financial report as included in the May TEC packet. Notable items include the newly completed audit, 2024 stormwater utility planning, carp management at Pleasant Lake, ditch inspection report, the Wilkinson Lake BMP, and paying the 0% interest loan to the MPCA regarding the Lambert Lake Pond sheet pile renovation in 2021. Staff recommends approval for payment.

It was moved by Commissioner Huntrods and seconded by Commissioner Miller to approve the May financial report and authorization for payment. Vote: all aye. Motion passed.

**C. Spring flooding, lawn care, and climate tools**

Voss provided an overview of climate and lawn care resources that local partners can utilize. The National Weather Service Twin Cities provided a 2023 spring flood outlook which includes factors such as snow water equivalent and root zone moisture. Commissioner Miller asked if this would be something for a City website. Voss identified that the tool could be used as an eblast type of communication if the community receives a large number of inquiries on spring flooding. Voss also explained the DNR's Climate Explorer tool that can show long-term weather trends dating back to 1895 for more accurate talking points with the public related to climate change. Voss then discussed lawn care resources with the program called "slow mow May". The goal of this program is to achieve soil moisture retention and greater root depth while supporting pollinators in May as well as beyond May.

**V. Programs**

**A. CB-2023-01: Minnesota Water Steward Capstone**

Voss summarized the purple loosestrife management and wetland education MN Water steward capstone project located at Rice Lake in White Bear Township. This will be conducted by water steward Megan Sigmon-Olsen. He explained that this project will reduce the population of purple loosestrife to a more manageable level, promote increased wetland vegetation diversity, and support wetland storage capacity. He highlighted the past success of the Rice Lake HOA's biocontrol program in this neighborhood in 2016. Megan's project will involve purchasing weevil beetles and rearing them, which will then be released in the wetland per DNR permit guidance and oversight from Katie

Farber of Bolton and Menk. This project will also have an important wetland education component including a tour of Megan's raingarden during Night to Unite and social media storytelling. Voss identified that the project cost share application was scored by staff and was rated 144/150. Voss recommended approval of the application.

Commissioner Miller stated she is supportive of the project because it is something NOHOA has been looking into doing. She said she is interested in seeing the results and how it was done. Voss recommended using five kiddie pools, netting, and loosestrife plants to rear the beetles. Commissioner Miller asked what type of beetle is used. Voss replied that the beetle is a type of non-invasive weevil. Commissioner Miller stated that she is aware of the weevil beetles being sensitive to weather. Commissioner Nelson said Katie Farber is excellent to work with and also commented that he liked the educational component and thought it is a great project.

It was moved by Commissioner Miller and seconded by Commissioner Phillip to approve CB-2023-01 Rice Lake Purple Loosestrife Management and Wetland Education with Minnesota Water Steward Megan Sigmon-Olsen. Vote: all aye. Motion passed.

#### B. Rotary Park field days with Birch Lake Elementary

Voss identified that next week there will be wetland education activities with Birch Lake Elementary coinciding with the ongoing Rotary Park wetland restoration project currently being implemented by the City of White Bear Lake, supported by VLAWMO grant funding. The Birch Lake Elementary activities start with an indoor focus on storytelling related to the Rotary Park wetland, then moves into a series of macroinvertebrate and planting field days on-site. He explained that the approach includes behavior changing elements that children can develop but that it can also work for adult audiences. He provided an overview of the content included in school presentations. Voss stated the presentation slides or images from the presentation can be shared with City staff.

## VI. Projects

### A. Pleasant Lake surveys Board approval

Administrator Belfiori provided a summary on upcoming aquatic vegetation surveys at Pleasant Lake. The goal for a spring to early summer survey is to assess how curly-leaf pondweed has changed since a previous survey in 2016. Curly-leaf pondweed is significant to water management as the vegetation die back creates an influx of excess nutrients in lakes in the early summer, coinciding with warm waters and potential algae blooms. The second aquatic vegetation survey is to evaluate the presence of native and other non-curly-leaf pondweed invasive species.

Administrator Belfiori provided that VLAWMO appreciates North Oaks Home Owners' Association and Saint Paul Regional Water Services partnerships on the effort.

### B. Carp project update

Administrator Belfiori provided an update that project coordination continues for a spring common carp removal in the Pleasant Lake system. The barrier is in place with partners, monitoring is underway with the PIT antenna and a remote camera, and partner communication with Carp Solutions is ongoing. He stated as of this morning, Carp Solutions has mobilized with nets out due to the movement of carp to the barrier. Staff hope to have a removal update at the next TEC meeting. .

**I. Commissioner Reports**

Commissioner Wall thanked Jesse Farrell for his efforts on the TEC representing the City of Vadnais Heights and informed everyone that he and Nick Ousky will be serving as alternates until the City of Vadnais Heights fills the role of City engineer.

**II. NOHOA**

None

**III. Ramsey Soil & Water Conservation Division**

None

**IV. St. Paul Regional Water Services**

None

**V. Public Comment**

None

**VI. Next Meetings:**

Next TEC meeting June 10<sup>th</sup>. Next BOD meeting June 28<sup>th</sup>.

**XIII. Adjourn**

It was moved by Commissioner Miller and seconded by Commissioner Wall to adjourn the meeting at 8:44 am. Vote: all aye. Motion passed.

Minutes compiled by Nick Voss.

# VLAWMO Finance Summary: June 2023

Jun-23		Actual 6/1/23	Actual to Date	2023 Budget	Carry over from 2022 to 2023	Remaining in Budget	2023 Available	Act vs. Budget
<b>BUDGET #</b>	<b>INCOME</b>							
<b>5.11</b>	Storm Water Utility	\$0	\$10,891	\$1,090,887	\$0	\$1,079,996	\$1,090,887	1%
<b>5.12</b>	Service Fees	\$0	\$0	\$200	\$0	\$200	\$200	0%
<b>5.13</b>	Interest + mitigation acct	\$4,380	\$22,237	\$1,000	\$0	(\$21,237)	\$1,000	2224%
<b>5.14</b>	Misc. income - WCA admin & other	\$6,499	\$6,499	\$3,000	\$0	(\$3,499)	\$3,000	217%
<b>5.15</b>	Other Income Grants/ <u>loan</u>	\$0	\$69,693	\$385,284	\$0	\$315,591	\$385,284	18%
<b>5.16</b>	Transfer from reserves	\$0	\$0	\$294,364	\$231,999	\$526,363	\$526,363	0%
	<b>TOTAL</b>	<b>\$10,879</b>	<b>\$109,320</b>	<b>\$1,774,735</b>	<b>\$231,999</b>	<b>\$1,897,414</b>	<b>\$2,006,734</b>	<b>6%</b>
<b>EXPENSES</b>								
<b>3.1</b>	<b>Operations &amp; Administration</b>							
<b>3.110</b>	Office - rent, copies, post tel supplies	\$2,095	\$12,795	\$28,181	\$0	\$15,386	\$28,181	45%
<b>3.120</b>	Information Systems	\$2,189	\$9,792	\$33,300	\$0	\$23,508	\$33,300	29%
<b>3.130</b>	Insurance	\$0	\$161	\$7,571	\$0	\$7,410	\$7,571	2%
<b>3.141</b>	Consulting - Audit	\$0	\$10,585	\$9,000	\$0	(\$1,585)	\$9,000	118%
<b>3.142</b>	Consulting - Bookkeeping	\$44	\$197	\$1,500	\$0	\$1,303	\$1,500	13%
<b>3.143</b>	Consulting - Legal	\$82	\$723	\$6,000	\$0	\$5,277	\$6,000	12%
<b>3.144</b>	Consulting - Eng. & Tech.	\$766	\$1,538	\$30,000	\$15,000	\$43,462	\$45,000	3%
<b>3.150</b>	Storm Sewer Utility	\$0	\$2,978	\$15,000	\$0	\$12,022	\$15,000	20%
<b>3.160</b>	Training (staff/board)	\$69	\$7,869	\$13,250	\$0	\$5,381	\$13,250	59%
<b>3.170</b>	Misc. & mileage	\$404	\$1,015	\$6,300	\$0	\$5,285	\$6,300	16%
<b>3.191</b>	Administration - staff	\$31,403	\$202,232	\$422,353	\$0	\$220,121	\$422,353	48%
<b>3.192</b>	Employer Liability	\$9,475	\$58,695	\$122,428	\$0	\$63,733	\$122,428	48%
<b>3.2</b>	<b>Monitoring and Studies</b>							
<b>3.210</b>	Lake and Creek lab analysis	\$1,534	\$1,534	\$18,000	\$0	\$16,466	\$18,000	9%
<b>3.220</b>	Equipment	\$0	\$928	\$3,000	\$1,000	\$3,072	\$4,000	23%
<b>3.230</b>	Wetland assessment & management	\$0	\$0	\$0	\$10,000	\$10,000	\$10,000	0%
<b>3.240</b>	Watershed planning /special study	\$0	\$0	\$10,000	\$5,000	\$15,000	\$15,000	0%
<b>3.3</b>	<b>Education and Outreach</b>							
<b>3.310</b>	Public Education	\$24	\$2,131	\$6,000	\$0	\$3,869	\$6,000	36%
<b>3.320</b>	Marketing	\$213	\$3,585	\$15,000	\$9,500	\$20,915	\$24,500	15%
<b>3.330</b>	Community Blue Ed Grant	\$1,500	\$1,500	\$8,000	\$0	\$6,500	\$8,000	19%
<i>Total Core functions: Ops, Monitoring, Education</i>		<i>\$49,798</i>	<i>\$318,258</i>	<i>\$754,883</i>	<i>\$40,500</i>	<i>\$477,125</i>	<i>\$795,383</i>	<i>40%</i>
<b>Capital Improvement Projects and Programs</b>								
<b>3.4</b>	<b>Subwatershed Activity</b>							
<b>3.410</b>	Gem Lake	\$0	\$0	\$15,000	\$10,000	\$25,000	\$25,000	
<b>3.420</b>	Lambert Creek	\$0	\$2,083	\$55,000	\$0	\$52,917	\$55,000	4%
<b>3.421</b>	Lambert Lake Loan	\$0	\$19,284	\$38,568	\$0	\$19,284	\$38,568	50%

3.425	Goose Lake	\$251	\$12,944	\$92,500	\$0	\$79,556	\$92,500	14%
3.430	Birch Lake	\$0	\$0	\$20,000	\$0	\$20,000	\$20,000	0%
3.440	Gilf Black Tam Wilk Amelia	\$19,661	\$73,128	\$157,500	\$43,000	\$127,372	\$200,500	36%
3.450	Pleasant Charley Deep	\$0	\$11,560	\$48,000	\$30,000	\$66,440	\$78,000	15%
3.460	Sucker Vadnais	\$0	\$1,857	\$35,000	\$28,000	\$61,143	\$63,000	3%
3.48	<b>Programs</b>							
3.480	Soil Health Grant	\$490	\$568	\$8,000	\$0	\$7,432	\$8,000	7%
3.481	Landscape 1	\$0	\$0	\$30,000	\$6,263	\$36,263	\$36,263	0%
3.482	Landscape 2/BWSR WBF	\$0	\$1,576	\$35,000	\$36,636	\$70,060	\$71,636	2%
3.483	Project Research & feasibility	\$0	\$0	\$5,000	\$0	\$5,000	\$5,000	0%
3.485	Facilities Maintenanc/ Pub. Ditch Main.	\$1,555	\$7,212	\$90,000	\$37,600	\$120,388	\$127,600	6%
3.5	<b>Regulatory</b>							
3.510	Engineer Plan review	\$0	\$0	\$5,000	\$0	\$5,000	\$5,000	0%
	<i>Total CIP &amp; Program</i>	\$21,957	\$130,212	\$634,568	\$191,499	\$695,855	\$826,067	16%
	<b>Total of Core Operations &amp; CIP</b>	<b>\$71,755</b>	<b>\$448,470</b>	<b>\$1,389,451</b>	<b>\$231,999</b>	<b>\$1,172,980</b>	<b>\$1,621,450</b>	<b>28%</b>

Fund Balance	5/1/2023	6/1/2023
4M Account	\$846,347	\$750,936
4M Plus Savings	\$231,872	\$232,868
Total	\$1,078,219	\$983,804

Restricted funds	6/1/2023
Mitigation Savings	\$21,015
Term Series	\$0

**Vadnais Lake Area Water Management Organization**  
**Check Detail**

8:36 AM

06/07/2023

May 11 through June 14, 2023

Type	Num	Date	Name	Item	Account	Paid Amount	Original Amount
Check	eft	05/19/2023	Reliance Standard		Checking - 1987		-312.17
				Insurance Benefit		-91.50	91.50
				Insurance Benefit		-220.67	220.67
TOTAL						-312.17	312.17
Check	eft	05/19/2023	US Bank		Checking - 1987		-44.02
				3.142 · Bookkeeping help		-44.02	44.02
TOTAL						-44.02	44.02
Check	5562	06/14/2023	City of Vadnais Heights		Checking - 1987		-2,095.24
				Rent		-1,715.00	1,715.00
				Phone/Internet/Machine Overhead		-305.00	305.00
				Postage		-16.44	16.44
				Copies		-58.80	58.80
TOTAL						-2,095.24	2,095.24
Check	5563	06/14/2023	Freshwater Society		Checking - 1987		-1,500.00
				3.330 · Community Blue Education Grant		-1,500.00	1,500.00
TOTAL						-1,500.00	1,500.00
Check	5564	06/14/2023	Kennedy & Graven, Chartered		Checking - 1987		-2,111.40
				3.143 · Legal		-82.80	82.80
				3.440 · Gilfillan Black Tamarack Wilkin		-2,028.60	2,028.60
TOTAL						-2,111.40	2,111.40
Check	5565	06/14/2023	RMB Environmental Laboratories, Inc.		Checking - 1987		-1,534.00
				3.210 · Lake & Creek lab analysis		-1,053.00	1,053.00
				3.210 · Lake & Creek lab analysis		-426.00	426.00
				3.210 · Lake & Creek lab analysis		-55.00	55.00
TOTAL						-1,534.00	1,534.00
Check	5566	06/14/2023	Metro - Inet		Checking - 1987		-1,439.00
				IT Support		-1,439.00	1,439.00
TOTAL						-1,439.00	1,439.00
Check	5567	06/14/2023	Houston Engineering, Inc		Checking - 1987		-19,188.25
				3.485 · Facilities & Maintenance		-1,555.00	1,555.00
				Wilk 319 cash match \$182,137		-17,633.25	17,633.25
TOTAL						-19,188.25	19,188.25
Check	5568	06/14/2023	Barr Engineering Co		Checking - 1987		-1,017.00

			Oak Knoll	-251.00	251.00
			3.144 · Eng. & Tech.	-766.00	766.00
TOTAL				<u>-1,017.00</u>	1,017.00
	<b>Check</b>	<b>5569</b>	<b>06/14/2023 janelle green</b>	<b>Checking - 1987</b>	<b>0.00</b>
TOTAL				0.00	0.00
	<b>Check</b>	<b>5570</b>	<b>06/14/2023 Colleen O'Brien</b>	<b>Checking - 1987</b>	<b>-420.00</b>
			3.480 · Soil Health Grant	-420.00	420.00
TOTAL				<u>-420.00</u>	420.00
	<b>Check</b>	<b>5571</b>	<b>06/14/2023 City of White Bear Lake</b>	<b>Checking - 1987</b>	<b>-40,566.14</b>
			payroll	-31,403.26	31,403.26
			Administration FICA	-2,282.94	2,282.94
			Administration PERA	-2,355.24	2,355.24
			Insurance Benefit	-4,479.78	4,479.78
			Admin payroll processing	-44.92	44.92
TOTAL				<u>-40,566.14</u>	40,566.14
	<b>Check</b>	<b>5572</b>	<b>06/14/2023 Brian Corcoran</b>	<b>Checking - 1987</b>	<b>-226.17</b>
			3.170 · Misc. & mileage	-226.17	226.17
TOTAL				<u>-226.17</u>	226.17
	<b>Check</b>	<b>5573</b>	<b>06/14/2023 Dawn Tanner</b>	<b>Checking - 1987</b>	<b>-181.38</b>
			3.170 · Misc. & mileage	-111.88	111.88
			3.160 · Training (staff/board)	-69.50	69.50
TOTAL				<u>-181.38</u>	181.38
	<b>Check</b>	<b>5574</b>	<b>06/14/2023 Lauren Sampedro</b>	<b>Checking - 1987</b>	<b>-43.75</b>
			3.170 · Misc. & mileage	-43.75	43.75
TOTAL				<u>-43.75</u>	43.75
	<b>Check</b>	<b>5575</b>	<b>06/14/2023 Nicholas Voss</b>	<b>Checking - 1987</b>	<b>-73.95</b>
			3.170 · Misc. & mileage	-22.93	22.93
			3.310 · Public Education	-23.94	23.94
			3.320 · Marketing	-27.08	27.08
TOTAL				<u>-73.95</u>	73.95
	<b>Check</b>	<b>5576</b>	<b>06/14/2023 Caden Hill</b>	<b>Checking - 1987</b>	<b>-70.00</b>
			3.480 · Soil Health Grant	-70.00	70.00
TOTAL				<u>-70.00</u>	70.00

**Vadnais Lake Area Water Management Organizatic**  
**Profit & Loss**  
**May 11 through June 14, 2023**

8:33 AM  
06/07/2023  
Cash Basis

**May 11 - Jun 14, 23**

<b>Ordinary Income/Expense</b>	
Income	
Misc.	6,498.54
5.1 · Income	
5.13 · Interest	4,380.45
<b>Total 5.1 · Income</b>	<b>4,380.45</b>
<b>Total Income</b>	<b>10,878.99</b>
<b>Gross Profit</b>	<b>10,878.99</b>
Expense	
3.1 · Administrative/Operations	
3.110 · Office	
Copies	58.80
Phone/Internet/Machine Overhead	305.00
Postage	16.44
Rent	1,715.00
<b>Total 3.110 · Office</b>	<b>2,095.24</b>
3.120 · Information Systems	
IT Support	1,439.00
IT Systems - Hardware	720.00
Software	30.00
<b>Total 3.120 · Information Systems</b>	<b>2,189.00</b>
3.142 · Bookkeeping help	44.02
3.143 · Legal	82.80
3.144 · Eng. & Tech.	766.00
3.160 · Training (staff/board)	69.50
3.170 · Misc. & mileage	404.73
3.191 · Employee Payroll	
payroll	31,403.26
<b>Total 3.191 · Employee Payroll</b>	<b>31,403.26</b>
3.192 · Employer Liabilities	
Admin payroll processing	44.92
Administration FICA	2,282.94
Administration PERA	2,355.24
Insurance Benefit	4,791.95
<b>Total 3.192 · Employer Liabilities</b>	<b>9,475.05</b>
<b>Total 3.1 · Administrative/Operations</b>	<b>46,529.60</b>
3.2 · Monitoring and Studies	
3.210 · Lake & Creek lab analysis	1,534.00
<b>Total 3.2 · Monitoring and Studies</b>	<b>1,534.00</b>
3.3 · Education and Outreach	
3.310 · Public Education	23.94
3.320 · Marketing	213.08

3.330 · Community Blue Education Grant	1,500.00
<b>Total 3.3 · Education and Outreach</b>	<b>1,737.02</b>
<b>3.4 · Capital Imp. Projects/Programs</b>	
3.425 · Goose Lake	
Oak Knoll	251.00
<b>Total 3.425 · Goose Lake</b>	<b>251.00</b>
3.440 · Gilfillan Black Tamarack Wilkin	
Wilk 319 cash match \$182,137	17,633.25
3.440 · Gilfillan Black Tamarack Wilkin - Other	2,028.60
<b>Total 3.440 · Gilfillan Black Tamarack Wilkin</b>	<b>19,661.85</b>
<b>Total 3.4 · Capital Imp. Projects/Programs</b>	<b>19,912.85</b>
<b>3.48 · Programs</b>	
3.480 · Soil Health Grant	490.00
3.485 · Facilities & Maintenance	1,555.00
<b>Total 3.48 · Programs</b>	<b>2,045.00</b>
<b>Total Expense</b>	<b>71,758.47</b>
<b>Net Ordinary Income</b>	<b>-60,879.48</b>
<b>Net Income</b>	<b>-60,879.48</b>

**Vadnais Lake Area Water Management Organization**  
**Custom Transaction Detail Report**  
 April 1 through June 1, 2023

12:50 PM

06/05/2023

Accrual Basis

Type	Date	Num	Name	Memo	Account	Clr	Split	Amount	Balance
Apr 1 - Jun 1, 23									
Credit Card Charge	04/03/2023		Google*SVCAPPS_VLAWM		US Bank CC	√	WEB	41.99	41.99
Credit Card Charge	04/04/2023		Trophies By EDCO	Tec award Jesse	US Bank CC	√	3.310 · Public Education	87.30	129.29
Credit Card Charge	04/05/2023		POND5	pictures	US Bank CC	√	3.320 · Marketing	8.00	137.29
Credit Card Charge	04/10/2023		adobe *photography plan		US Bank CC	√	Software	9.99	147.28
Credit Card Charge	04/11/2023		Frattalone Companies	keys for Carp Solutions	US Bank CC	√	3.220 · Equipment	10.76	158.04
Credit Card Charge	04/13/2023		Target	remote camara battery	US Bank CC	√	3.220 · Equipment	71.97	230.01
Transfer	04/20/2023			Funds Transfer	US Bank CC	√	Checking - 1987	-1,240.00	-1,009.99
Credit Card Charge	04/25/2023		Adobe *Creative Cloud		US Bank CC	√	Software	32.20	-977.79
Credit Card Charge	04/28/2023		Zoom	subscription april23-april24	US Bank CC	√	Software	149.90	-827.89
Credit Card Charge	05/02/2023		Google*SVCAPPS_VLAWM		US Bank CC	√	WEB	42.00	-785.89
Credit Card Charge	05/08/2023		adobe *photography plan		US Bank CC	√	Software	9.99	-775.90
Credit Card Charge	05/11/2023		ESRI	ArcGIS credits	US Bank CC		IT Systems - Hardware	720.00	-55.90
Credit Card Charge	05/28/2023		hologram	account refill	US Bank CC		Software	30.00	-25.90
Credit Card Charge	05/30/2023		print for change	WMO Brochures	US Bank CC		3.320 · Marketing	186.00	160.10
								<b>160.10</b>	<b>160.10</b>
Apr 1 - Jun 1, 23									

## TEC Report to the Board June 2023

Programs & Projects	Effort Level	Completion Date	Comments													
	LOW															
	MED															
	HIGH															
<b>Projects</b>				<b>Administration &amp; Operation</b>												
319 Biochar			Monitoring started 2023.	Audit		2022/2023	2022 audit approved by Board at the April meeting.									
Oak Knoll Pond/Wood Lake		ongoing	Barr authorized by Subcommittee to go out for quotes. Quotes due at noon on June 9.	Budget		for 2024 budget	Board Subcommittee discussed draft 2024 budget. VLAWMO Board will be considering 2024 budget at June 28 meeting.									
Public Ditch Maintenance		ongoing	Drainage inspections complete, Conducted site visit to two gullies with Ramsey County	Personnel /HR		ongoing	Staff continue to pursue professional development per their approved training plans.									
MPCA 319 /Wilkinson Lake BMP		2021-24	Partner review of plans and specs received. HEI has provided the final bid package.	SSU		ongoing	2023 SSU certifications submitted to Ramsey and Anoka County.									
Pleasant Lake Carp Management		2022-28	Spring removal complete. Biomass estimate will be done later in the season, and a 5-year plan is requested by VLAWMO from Carp Solutions to bring to the Board by the end of the year.	Strategic /watershed planning		2023										
<b>Programs</b>				<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">FINANCIAL SUMMARY as of 6/1/2023</th> </tr> <tr> <th style="width: 33%;">4M Account (1.10)</th> <th style="width: 33%;">4M Plus (1.23)</th> <th style="width: 33%;">Total</th> </tr> </thead> <tbody> <tr> <td style="text-align: right;">\$750,936</td> <td style="text-align: right;">\$232,868</td> <td style="text-align: right;">\$983,804</td> </tr> </tbody> </table>				FINANCIAL SUMMARY as of 6/1/2023			4M Account (1.10)	4M Plus (1.23)	Total	\$750,936	\$232,868	\$983,804
FINANCIAL SUMMARY as of 6/1/2023																
4M Account (1.10)	4M Plus (1.23)	Total														
\$750,936	\$232,868	\$983,804														
City/Township MS4		June	New grass clippings mailing insert (MCM 1), new construction BMPs guide (MCM 4-5). Collaboration with White Bear Township for mailing insert, North Oaks Home Owner's Association for SummerFest 6/3/23. City of Vadnais Heights stormwater BMP training in June.													
Education/Outreach		June-August	Smart irrigation and groundwater conservation campaign to be launched for summer '23. Birch Lake Elementary program with White Bear Lake Rotary and City of WBL complete in May '23. Develop Wilkinson, and Tamarack lake improvement and Oak Knoll Pond spent lime outreach as projects unfold.													
Website		June-August	40th Anniversary campaign live, groundwater page live. Website renovation in mock-up stage with content development completed by staff in summer '23.													
WAV		June-Sept	Minnesota Water Steward Megan Sigmon-Olsen capstone project with purple loosestrife bio control. Eagle Scout project with Vadnais Heights Elementary raingarden upkeep. New volunteer on macroinvertebrate LeafPack monitoring. 3-4 public tours of past cost-share projects and WB Montessori native plantings.													
Cost Share & BWSR WBIF		ongoing	Westfield Park project on schedule to complete in June, NOHOA entrance raingarden planting to be completed this summer. Several cost share applications moving forward. Participated in VH smart irrigation controller training & discussed expanding the program to additional parks in the City. Continuing to work on potential projects for the BWSR WBIF grant program with partners.													
GIS		ongoing	Renewed ESRI storage credits and updating the online GIS viewer as needed.													
Monitoring		ongoing	2023 season underway													
WCA		ongoing	Administering WCA as needed.													

Budget Summary	Actual Expense YTD	2023 Budget "working"	Remaining in Budget	% YTD
Operations	\$318,258	\$795,383	\$477,125	40%
CIP	\$130,212	\$826,067	\$695,855	16%
<b>Total</b>	<b>\$448,470</b>	<b>\$1,621,450</b>	<b>\$1,172,980</b>	<b>28%</b>

## TEC Staff Memo – June 14, 2023

III. Election of TEC Officers- With Chair Jesse Farrell’s resignation, comes the need to elect or confirm a slate of officers for the Technical Commission for the remainder of 2023. From the January 2023 meeting minutes:

“Chair Farrell facilitated discussion on considering candidates for chair and vice chair for 2023. Additional positions include the financial officer and liason to the Board.

Nominations include Chair Farrell to continue as Chair, Vice Chair Tessier to continue as Vice Chair, Commissioner Huntrods as liason to the Board, Commissioner Nelson as financial officer.” [ All approved]

### V. Administration & Operations

#### A. Financial report for June and Authorization for Payment

Please find the June financial report and authorization to pay bills in the ePacket for review and approval.

#### B. June TEC Report to the Board

Please find the June TEC report to the Board attached in the ePacket for review and approval.

### VI. Programs

#### A. SHG 2023-01 Charley Lake Condo Association Turf Replacement

The Charley Lake Condo Association submitted a Soil Health Grant application for the conversion of about 0.8 acres of turf grass to a pollinator meadow/prairie. The association is located on 12 acres northwest of Charley Lake in the Pleasant-Charley-Deep subwatershed and within VLAWMO’s targeted native plant habitat priority zone. The removal of turf grass and replacement with native plantings will help preserve groundwater by reducing irrigation needs, decrease fertilizer application and runoff, and create a buffer from stormwater runoff that drains directly to two adjacent wetlands that discharge to Charley Lake. The work will be completed by Elite Property Services, which will involve removing the existing turf grass with herbicides and scalp mowing and seeding with a variety of native plants. The total estimated cost is \$1,990. Staff recommends approval of SHG 2023-01 in the amount of \$1,250.

#### B. LL1 2023-01 Wendland Vegetated Swales

Landowners Kelli and Mike Wendland submitted a Landscape Level 1 grant application for the conversion of turf roadside ditches to vegetated swales and additional native plantings over an area of 6,650 sq ft at their property in the City of North Oaks. The vegetated swales and native plantings would capture runoff from the property’s impervious surfaces, adjacent streets, and from several neighboring properties. The project area drains to Charley Lake and discharges to Pleasant Lake, which is impaired for nutrients. This project would implement the 2015 Pleasant Charley Deep Subwatershed Urban Stormwater Retrofit Analysis, which recommends converting the neighborhood’s turf roadside ditches to grassed swales, bioswales, or raingardens to reduce stormwater volume. Rustic Hills Garden

Company provided a design for the project, which would reduce volume by about 25,700 cu ft/yr (38%), total suspended solids by about 105 lbs/yr, and total phosphorus by about 0.5 lbs/yr. The total estimated project cost is \$12,391 and staff are confident in the value of this bid. Staff recommends approval of Landscape Level 1 Grant 2023-01 in the amount of 50% of eligible project expenses, not to exceed \$5,000 in accordance with program guidelines.

#### C. LL1 2023-02 Olinger Permeable Pavers

Landowner Lori Olinger submitted a Landscape Level 1 grant application for the installation of permeable pavers to replace a blacktop driveway over an area of 1,085 sq ft at her property in the City of North Oaks. The permeable driveway would capture runoff from the property's roof, street, and part of a neighbor's driveway. The project drains to Black Lake through a natural stream and wetlands and ultimately reaches Wilkinson Lake, which is impaired for nutrients. The estimated pollutant reductions are 439 cu ft/yr of volume (55%), 42 lbs/year of total suspended solids, and 0.23 lbs/yr of total phosphorus. The applicant received two bids for the project; one from Scrubtown Brick Paving at \$27,500 and another from Pavire Driveways at \$21,714. Staff recommends approval of Landscape Level 1 Grant 2023-02 in the amount of 50% of eligible project expenses, not to exceed \$5,000 in accordance with program guidelines.

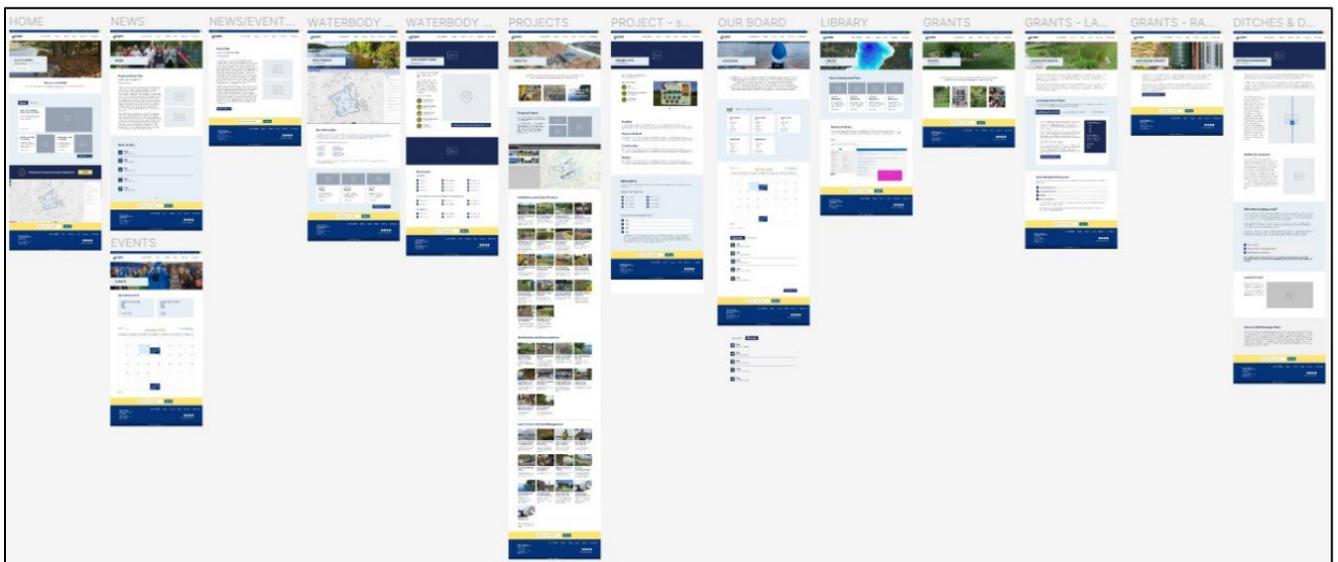
#### D. Website renovation: Mock-up approval

Nick will present the current status of the website renovation mock-up. Staff recommends TEC approval of the mock-up provided by HDR and to grant HDR permission to move into the final stage of the website renovation process. When the mock-up is complete, VLAWMO staff will still be able to change website content, text, photos, and add/remove sub-pages as staff, TEC, and BOD see fit. The structure and base aesthetic that HDR and VLAWMO staff have co-designed and will be reflected in the final process consists of:

- Homepage
  - Am I in VLAWMO?
  - News/events toggle
  - Important announcements: Public notice, RFPs
  - Embedded GIS map
- About VLAWMO
  - Watershed Basics
  - What we do
  - Comprehensive plan docs/TMDL
- News
- Events calendar
- Explore
  - Waterbodies and waterbodies page template
  - Embedded GIS Map
  - Watershed stories (awards, spotlights)
  - Storymaps
  - WCA and Rules
- Projects
  - Project page template
  - Link to project map

- About us
  - JPA, SSU, budget docs, water policy, annual reports
  - BOD/TEC/Staff
- Resource library
- Grants
  - Grants page template
- Get involved
  - Volunteering
  - Smart salting
  - Curbsides and green spaces (yard care, adopt-a-drain, IDDE, Good Neighbor Guide, links)
  - Groundwater and water conservation
  - Surface water management (wetlands, shallow lakes, drainage, high water/climate change)

Screenshot of website renovation mock-up to be displayed in more detail at June 2023 TEC meeting:



#### E. Field Days and Irrigation Campaign Update

Nick will summarize and provide field day photos from the Birch Lake Elementary program at the Rotary Nature Preserve on 5/24-5/25.

Nick will also provide a summary on the upcoming irrigation campaign focused on the Vadnais Heights and White Bear Township smart irrigation systems that were supported by the VLAWMO Landscape Grant Program approved at the February, 2023 TEC meeting.

#### F. 40<sup>th</sup> Anniversary Campaign

Nick will describe the series of summer events that compose the VLAWMO 40<sup>th</sup> anniversary celebration. Examples include neighborhood BMP tours from past grant program participants and a shared celebration with the Ramsey County Soil and Water Conservation Division. A 40<sup>th</sup> anniversary celebration summary is posted at VLAWMO.org, containing a summary of VLAWMO's major efforts and successes by decade. Read more here: <https://www.vlawmo.org/about/40th-anniversary/>

**VII. Projects**

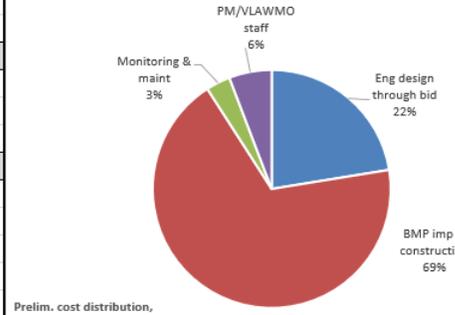
- A. Pleasant/Deep Lake carp update: A successful carp removal was completed on May 19, 2023. Approximately 10,000 pounds of carp were removed during the spring effort. Increased equipment in the field improved time required to process captured carp. A biomass estimate will be conducted during fall 2023 to help inform a 5-year plan requested by VLAWMO from Carp Solutions at the end of this field season.

<p>Carp Solutions' team removing trapped carp during 2023 spring removal</p>	<p>Double barrier system that allows carp to be contained between the barriers as they attempt to migrate to Wilkinson Lake</p>	<p>A folk lift and truck were ready onsite to help load carp. This increased efficiency in the field.</p>
		

B. Wilkinson deep-water wetland restoration update: VLAWMO received approvals from NOC and MLT on project plans and specifications. Official letters of support were provided by both partners and will be presented to the Board at the June regular meeting. A Supplemental Agreement was completed between VLAWMO and NOC, as specified in the project MOU. The Supplemental Agreement will be presented to the Board at the June regular meeting. Houston has completed the final bid package. Following approval and authorization by the Board at the June regular meeting, VLAWMO staff and Houston anticipate going out for bid on the project.

**Dashboard for Wilkinson BMP: Planning doc. for project partners (subject to change)**

November	December	January	February	March	April	May	June	July	August
Permitting									
Early Prelim Design	Preliminary Plans & Specs		Final Plans & Specs and Bid Proc						
			Prelim design in packet Feb 13		Final P&S in packet April 17		Authorize bid process in packet June 19		Award of contract in packet August 14

Highlights	Budget vs Spent to date			
> Final draft bid pkg received & shared w/partners May 1	<b>Costs</b>	<b>Anticipated</b>	<b>Spent to date</b>	<b>+ / (-)</b>
> Approval letter received from MLT May 3	Eng through bid	\$110,302	\$122,696	(\$12,394)
> Signed supplemental agreement w/NOC received May 16	BMP imp/const	\$374,445		
>	Monitoring/maint	\$18,096		
>	PM/VLAWMO staf	\$31,667	\$10,649	\$21,018
<b>Considerations</b>	<b>Total Budget</b>	<b>\$534,510</b>	<b>\$133,345</b>	
> Eagle nesting tree	 <p>Prelim. cost distribution, based on workplan/revised to include eng. contract updated 5/17/23</p>			
> Monitoring well; will need to be remediated by end				
>				
<b>Needed short term</b>				
> Final bid package				
>				
>				
<b>Tracking</b>	<b>Comments</b>			
Timing <span style="color: green;">●</span> >				
Scope <span style="color: green;">●</span> >				
Budget <span style="color: yellow;">●</span> >				
Overall <span style="color: green;">●</span> >				

Communications Plan

Budget

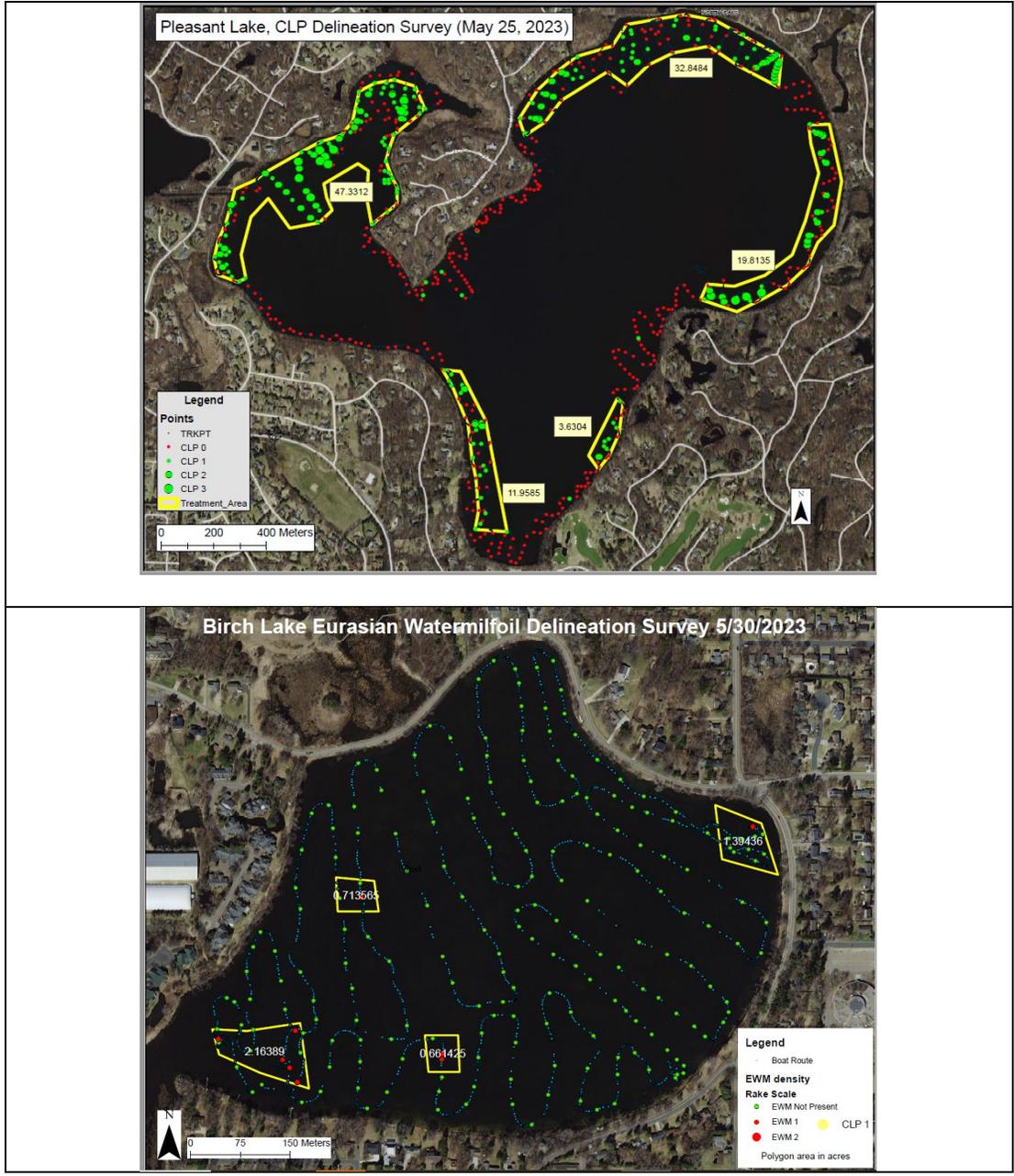
Pie Graph

**Dashboard**

HEI



- C. Pleasant and Birch Lake surveys with RCSWCD: The Pleasant Lake Curly-leaf pondweed delineation has been completed with RCSWCD and VLAWMO staff. This delineation will be used to continue discussions with project partners and the Minnesota Department of Health (MDH). The Birch Lake EWM delineation has been completed with RCSWCD and VLAWMO staff. Permitting with MN DNR for the second year of the 2-year grant-funded effort has been completed. BLID and additional project partners are engaged and planning for a June EWM removal with Dive Guys.



- D. Alum feasibility for Wilkinson and Tamarack fieldwork underway: Barr Engineering collected sediment samples from Tamarack Lake on June 2 and Wilkinson Lake on June 6. This is part of the data collection portion of the feasibility study project partnership with RCSWCD.
- E. Munch Bunch arrival at VH City Hall: The Munch Bunch goat team arrived onsite at Vadnais Heights City Hall and began the first round of munching on May 28, 2023. This is a project partnership between VLAWMO and the City of Vadnais Heights. The goats will be onsite for ~4 weeks for this round of munching and again late summer/early fall after the buckthorn have re-leafed out.
- F. Spent Lime project update and quotes for Board: The VLAWMO Subcommittee authorized VLAWMO, the City of White Bear Lake, and Barr Engineering to go out for quotes for the spent lime demonstration project at Oak Knoll Pond/Wood Lake in White Bear Lake. Quotes are due at noon on June 9. Barr Engineering will evaluate quotes received and provide a recommendation to the VLAWMO Board (for the regular June meeting) and City of White Bear Lake Council.

# Soil Health Grant Application



Submit completed application to:

Lauren Sampedro

lauren.sampedro@vlawmo.org

## Applicant Information:



Name:	Charley Lake Condo Association Jim Bowyer, President
Address:	13 Anemone Cir
City/Township, State, Zip:	North Oaks, MN 55127
Phone:	651-490-7688 (h) 651-600-7496 (c)
Email:	jimbowyer@comcast.net

## Project Summary:

ESTIMATED TOTAL PROJECT COST (\$)	<del>\$1,625</del> \$1,990
AMOUNT REQUESTED (\$1,000 MAX or \$1,250 in Priority Area)	<del>\$1,000</del> \$1,250
EXPECTED PROJECT COMPLETION (Month, Year)	July 2023

### PROJECT TYPE:

- Downspout/Small Raingarden
- Native Restoration/Pollinator Garden
- Turfgrass Replacement
- Other

If other, please describe the proposed project: \_\_\_\_\_

## Project Background:

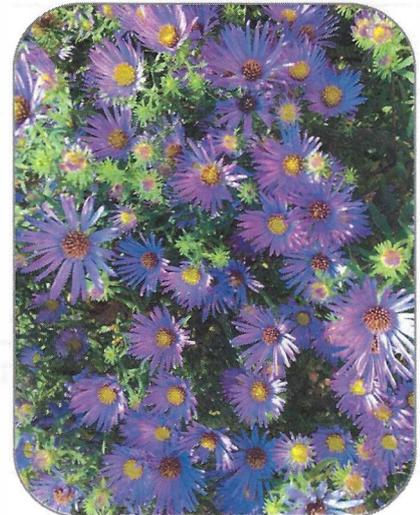
Describe your property. What is the purpose of your project?  Does your property connect to a lake, stream, ditch, or wetland in VLAWMO?	Our association plans to decrease our lawn area by .8 acres and replace it with pollinator-friendly native, perennial plantings. This is a large project; our goal is to reduce a portion of our lawn by creating a meadow in approximately half of the area behind the condo units. The new meadow/prairie area borders two ponds which feed into Charley Lake.
---	--

## Project Background: Continued

<p>Describe how your project will support the goals of the Soil Health Grant Program. (See grant policy)</p>	<p>Our project will restore and help protect our ponds and the land around our ponds with an increase in wildlife and pollinator habitat. We believe without fertilizers and mowing of this area's turfgrass, we will restore the health of the soil, increase plant diversity, diminish the negative impact on wildlife, and increase soil drainage and water-holding capacity.</p>
<p>Briefly describe the planned installation and maintenance activities for your project.</p>	<p>Our plan is to use herbicide to kill the turfgrass in the area, followed by a scalp mowing after 7-10 days. Finally, we will use a slit seeder to plant the seeds into the soil, making germination possible without having to till the soil since we want to use our irrigation in that area to water the seeds this summer. We hope to begin this project by July, 2023. We will maintain the area with scheduled removal of invasive plants, weeds and other undesirable plants.</p>

## Project Specifications:

<p>TOTAL PROPERTY AREA (Acres)</p>	<p>About 12 acres. We estimate 0.8 acres will be impacted</p>
<p>Total PROJECT SIZE (SQ FT)</p>	<p>Approx. 33,250 sq feet</p>
<p>IF APPLICABLE: DEPTH OF RAINGARDEN BASIN (Inches)</p>	<p>N/A</p>



## Required Attachments:

- ⇒ Detailed drawing or plan of the proposed project.
- ⇒ Detailed project budget estimate with itemized costs and materials that equal your total estimated cost.

# VLAWMO Soil Health Grant Agreement



## It is understood that:

1. The grantee is responsible for maintaining the project for at least 5 years after its installation. VLAWMO is not responsible for completing maintenance activities.
2. The grantee will participate in VLAWMO's outreach and project sharing efforts.
3. A project may be visited and inspected by a VLAWMO representative during the 5-year maintenance period.
4. Grant awards will expire within 1 year of grant approval unless the project is extended with VLAWMO approval.

The applicant's signature indicates their agreement to the above terms and certifies the grant application information is true and accurate. A VLAWMO staff signature will constitute an approved and executed grant agreement between the grantee and the VLAWMO.

### Applicant/Grantee

Signature Jim Bowyer

Date 05/30/2023

Print Jim Bowyer, President CLCA

### VLAWMO Staff

Signature \_\_\_\_\_

Date \_\_\_\_\_

Print \_\_\_\_\_

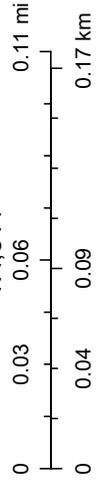
# SHG 2023-01 Charley Lake Condo Association



6/6/2023, 8:36:03 AM

- VLAWMO Boundary 2020
- VLAWMO streams
- Project Location
- VLAWMO lakes
- Flow Arrows

1:4,514



Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, County of Ramsey, Esri, HERE, Garmin, GeoTechnologies, Inc., County of Ramsey, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA | ArcGIS Web AppBuilder



✕  
Polygon Area

17,205.62 sq. ft  
1,598.46 sq. meters  
1,911.73 sq. yards  
0.39 acres  
0. undefined sq. miles



✕  
Polygon Area  
16,040.94 sq. ft  
1,490.25 sq. meters  
1,782.32 sq. yards  
0.37 acres  
0. undefined sq. miles

**Projected Budget for CLCA Turfgrass Replacement Project**

Estimated Total area 0.8 acres

		0.8 acre	
Total area in acres	Original Cost Forecast	Revised Cost Forecast with MN Native Seeds	Cost change
Seed cost	\$350	\$835	+\$485
Herbicide cost	\$25	\$25	0
Rental equipment cost	\$130	\$130	0
Hired Services cost	\$1120	\$1000	-\$120
<b>Total Project Cost</b>	<b>\$1,625</b>	<b>\$1,990</b>	<b>+\$365</b>

**TOTAL PROJECT COSTS \$1,990**

Work to be done by Elite Property Services, Dustin Ardorf, North Branch, MN



**SHOOTING STAR**  
NATIVE SEEDS

20740 County Road 33 • Spring Grove, MN 55974  
(507) 498-3944 • info@shootingstarnativeseed.com

To: Doug Opsahl

763-257-6329 Phone

Dough\_opsahl@hotmail.com

Quote Number	OPSAD2301
Quote Date	06/02/2023
Total Acres	0.40
Total lb	4.00
Price/lb	\$90.00
Price/Acre	\$900.00
<b>Seed Total</b>	<b>\$360.00</b>
Mix Fee	\$0.00
Shipping	\$20.00
Sales Tax	\$26.13
<b>Grand Total</b>	<b>\$406.13</b>

Description: Custom Pollinator Mix

Seeding Rate: 10 lb/acre (73.1 seeds/square foot)

Notes: Soil - Mesic to Dry Mesic, Sun - Full to Partial. MN origins only. Species are 4' and under. Shipping includes both OPSAD2301-2302 together.

Common Name	Scientific Name	Origin	% of Mix	Seeds/ft <sup>2</sup>	Total
<b>Grasses</b>					
Sideoats Grama	Bouteloua curtipendula	Pope/Douglas/Stearns Co, MN	24.00%	5.3	0.960 PLS lb
Blue Grama	Bouteloua gracilis	Kittson Co, MN	1.20%	1.8	0.048 PLS lb
June Grass	Koeleria macrantha	Benton Co, MN	0.80%	5.9	0.032 PLS lb
Little Bluestem	Schizachyrium scoparium	Marshall Co, MN	12.00%	6.6	0.480 PLS lb
Prairie Dropseed	Sporobolus heterolepis	Polk Co, MN	2.00%	1.2	0.080 PLS lb
<b>Forbs</b>					
Anise Hyssop	Agastache foeniculum	Ramsey Co, MN	1.20%	4.0	0.048 PLS lb
Prairie Onion	Allium stellatum	Faribault Co, MN	1.20%	0.5	0.048 PLS lb
Lead Plant	Amorpha canescens	Kittson Co, MN	2.40%	1.4	0.096 PLS lb
Swamp Milkweed	Asclepias incarnata	Houston Co, MN	1.80%	0.3	0.072 PLS lb
Common Milkweed	Asclepias syriaca	Faribault Co, MN	3.00%	0.4	0.120 PLS lb
Butterfly Milkweed	Asclepias tuberosa	Blue Earth Co, MN	1.20%	0.2	0.048 PLS lb
Canada Milkvech	Astragalus canadensis	Brown Co, MN	2.40%	1.5	0.096 PLS lb
White Wild Indigo	Baptisia alba	Fillmore Co, MN	0.60%	0.0	0.024 PLS lb
Partridge Pea	Chamaecrista fasciculata	Houston Co, MN; Allamakee Co, IA	12.00%	1.2	0.480 PLS lb
White Prairie Clover	Dalea candida	Stearns Co, MN	4.80%	3.3	0.192 PLS lb
Purple Prairie Clover	Dalea purpurea	Polk Co, MN	6.00%	4.0	0.240 PLS lb
Showy Tick Trefoil	Desmodium canadense	Houston Co, MN	1.80%	0.4	0.072 PLS lb
Round-headed Bush Clover	Lespedeza capitata	Watonwan Co, MN	0.60%	0.2	0.024 PLS lb
Prairie Blazing Star	Liatris pycnostachya	Blue Earth Co, MN	2.40%	1.0	0.096 PLS lb
Great Blue Lobelia	Lobelia siphilitica	Houston Co, MN	0.30%	5.5	0.012 PLS lb
Wild Bergamot	Monarda fistulosa	Houston Co, MN	1.80%	4.6	0.072 PLS lb
Virginia Mountain Mint	Pycnanthemum virginianum	Blue Earth/Brown Co, MN	0.60%	4.8	0.024 PLS lb
Long-headed Coneflower	Ratibida columnifera	Brown Co, MN	1.20%	1.9	0.048 PLS lb
Prairie Wild Rose	Rosa arkansana	Faribault Co, MN	1.20%	0.1	0.048 PLS lb
Gray Goldenrod	Solidago nemoralis	Sherburne Co, MN	0.30%	3.3	0.012 PLS lb
Stiff Goldenrod	Solidago rigida	Faribault Co, MN	0.60%	0.9	0.024 PLS lb
Showy Goldenrod	Solidago speciosa	Redwood Co, MN	0.60%	2.1	0.024 PLS lb
Smooth Blue Aster	Symphotrichum laeve	Winona Co, MN	1.20%	2.4	0.048 PLS lb
New England Aster	Symphotrichum novae-angli	McLeod Co, MN	0.60%	1.5	0.024 PLS lb
Sky Blue Aster	Symphotrichum oolentangie	Ottertail Co, MN	0.60%	1.8	0.024 PLS lb
Ohio Spiderwort	Tradescantia ohiensis	Houston Co, MN	2.40%	0.7	0.096 PLS lb
Hoary Vervain	Verbena stricta	Pope Co, MN	2.40%	2.5	0.096 PLS lb
Golden Alexanders	Zizia aurea	Blue Earth Co, MN	4.80%	1.9	0.192 PLS lb

Shipping and sales tax will be calculated at the time of order. The minimum order per individual species is \$10.00. A \$50.00 small mix fee will be added to mixes which cost less than \$250.00. Substitutions may be necessary based on availability at the time of order. This quote is valid for 30 days. Thank you for your inquiry.



# SHOOTING STAR

NATIVE SEEDS

20740 County Road 33 • Spring Grove, MN 55974  
(507) 498-3944 • info@shootingstarnativeseed.com

To: Doug Opsahl

763-257-6329 Phone

Dough\_opsahl@hotmail.com

Quote Number	OPSAD2302
Quote Date	06/02/2023
Total Acres	0.40
Total lb	4.00
Price/lb	\$100.00
Price/Acre	\$1,000.00
<b>Seed Total</b>	<b>\$400.00</b>
Mix Fee	\$0.00
Shipping	\$0.00
Sales Tax	\$27.50
<b>Grand Total</b>	<b>\$427.50</b>

Description: Custom Shady Pollinator Mix

Seeding Rate: 10 lb/acre (64.3 seeds/square foot)

Notes: Soil - Mesic to Dry Mesic, Sun - Partial. MN origins only. Species are 4' and under.

Common Name	Scientific Name	Origin	% of Mix	Seeds/ft <sup>2</sup>	Total
<b>Grasses</b>					
Sideoats Grama	Bouteloua curtipendula	Pope/Douglas/Stearns Co, MN	24.00%	5.3	0.960 PLS lb
Blue Grama	Bouteloua gracilis	Kittson Co, MN	1.20%	1.8	0.048 PLS lb
June Grass	Koeleria macrantha	Benton Co, MN	0.80%	5.9	0.032 PLS lb
Little Bluestem	Schizachyrium scoparium	Marshall Co, MN	12.00%	6.6	0.480 PLS lb
Prairie Dropseed	Sporobolus heterolepis	Polk Co, MN	2.00%	1.2	0.080 PLS lb
<b>Forbs</b>					
Anise Hyssop	Agastache foeniculum	Ramsey Co, MN	0.80%	2.6	0.032 PLS lb
Prairie Onion	Allium stellatum	Faribault Co, MN	0.80%	0.3	0.032 PLS lb
Lead Plant	Amorpha canescens	Kittson Co, MN	1.60%	0.9	0.064 PLS lb
Swamp Milkweed	Asclepias incarnata	Houston Co, MN	1.20%	0.2	0.048 PLS lb
Common Milkweed	Asclepias syriaca	Faribault Co, MN	2.00%	0.3	0.080 PLS lb
Butterfly Milkweed	Asclepias tuberosa	Blue Earth Co, MN	0.80%	0.1	0.032 PLS lb
Canada Milkvech	Astragalus canadensis	Brown Co, MN	1.60%	1.0	0.064 PLS lb
White Wild Indigo	Baptisia alba	Fillmore Co, MN	0.40%	0.0	0.016 PLS lb
Partridge Pea	Chamaecrista fasciculata	Houston Co, MN	8.00%	0.8	0.320 PLS lb
White Prairie Clover	Dalea candida	Stearns Co, MN	3.20%	2.2	0.128 PLS lb
Purple Prairie Clover	Dalea purpurea	Polk Co, MN	4.00%	2.6	0.160 PLS lb
Showy Tick Trefoil	Desmodium canadense	Houston Co, MN	1.20%	0.2	0.048 PLS lb
Round-headed Bush Clover	Lespedeza capitata	Watonwan Co, MN	0.40%	0.1	0.016 PLS lb
Prairie Blazing Star	Liatris pycnostachya	Blue Earth Co, MN	1.60%	0.6	0.064 PLS lb
Great Blue Lobelia	Lobelia siphilitica	Houston Co, MN	0.20%	3.7	0.008 PLS lb
Wild Bergamot	Monarda fistulosa	Houston Co, MN	1.20%	3.1	0.048 PLS lb
Virginia Mountain Mint	Pycnanthemum virginianum	Blue Earth/Brown Co, MN	0.40%	3.2	0.016 PLS lb
Long-headed Coneflower	Ratibida columnifera	Brown Co, MN	0.80%	1.2	0.032 PLS lb
Prairie Wild Rose	Rosa arkansana	Faribault Co, MN	0.80%	0.1	0.032 PLS lb
Gray Goldenrod	Solidago nemoralis	Sherburne Co, MN	0.20%	2.2	0.008 PLS lb
Stiff Goldenrod	Solidago rigida	Faribault Co, MN	0.40%	0.6	0.016 PLS lb
Showy Goldenrod	Solidago speciosa	Redwood Co, MN	0.40%	1.4	0.016 PLS lb
Smooth Blue Aster	Symphotrichum laeve	Winona Co, MN	0.80%	1.6	0.032 PLS lb
New England Aster	Symphotrichum novae-angli	McLeod Co, MN	0.40%	1.0	0.016 PLS lb
Sky Blue Aster	Symphotrichum oolentangie	Ottertail Co, MN	0.40%	1.2	0.016 PLS lb
Ohio Spiderwort	Tradescantia ohiensis	Houston Co, MN	1.60%	0.5	0.064 PLS lb
Hoary Vervain	Verbena stricta	Pope Co, MN	1.60%	1.6	0.064 PLS lb
Golden Alexanders	Zizia aurea	Blue Earth Co, MN	3.20%	1.3	0.128 PLS lb
<b>Additional Shade Tolerant Species</b>					
Bottlebrush Grass	Elymus hystrix	Benton/Wright Co, MN	11.00%	1.4	0.440 PLS lb
Plains Oval Sedge	Carex brevior	Polk Co, MN	4.00%	4.3	0.160 PLS lb
Long-beaked Sedge	Carex sprengelii	Fillmore Co, MN	0.60%	0.2	0.024 PLS lb
Wild Columbine	Aquilegia canadensis	Kandiyohi Co, MN	0.40%	0.6	0.016 PLS lb
Wild Garlic	Allium canadense	Faribault Co, MN	2.00%	0.0	0.080 PLS lb
Hairy Wood Mint	Blephilia hirsuta	Winona Co, MN	0.20%	1.8	0.008 PLS lb
Large-leaved Aster	Eurybia macrophylla	St. Louis Co, MN	0.40%	0.4	0.016 PLS lb
Solomon's Seal	Polygonatum biflorum	Houston/Fillmore Co, MN	1.40%	0.0	0.056 PLS lb

Shipping and sales tax will be calculated at the time of order. The minimum order per individual species is \$10.00. A \$50.00 small mix fee will be added to mixes which cost less than \$250.00. Substitutions may be necessary based on availability at the time of order. This quote is valid for 30 days. Thank you for your inquiry.

# VI.A. Charley Lake Condo Association (CLCA) Turf Grass Replacement

## SHG 2023-01 Grant Application

Lauren Sampedro  
TEC Meeting  
6/14/2023



### Soil Health-CLCA



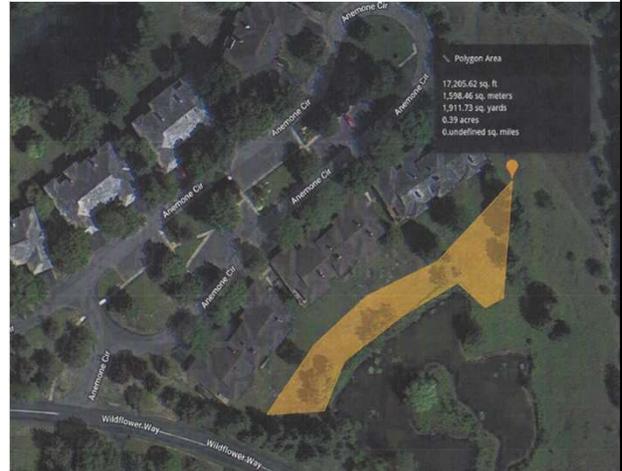


Vadnais Lake Area Water Management Organization

### West side- ~ 0.4 acres



### East side- ~0.4 acres



**Existing turf grass to convert to native plant prairie/meadow**

# LL1 Grant Application



Submit completed application to:  
 Lauren Sampedro  
 lauren.sampedro@vlawmo.org



## Applicant Information:

Name:	Kelli & Mike Wendland
Address:	10 Radley Place
City/Township, State, Zip:	North Oaks, MN 55127
Phone:	612-802-6501
Email:	kelliwendland@gmail.com

## Project Summary:

ESTIMATED TOTAL PROJECT COST (\$)	\$12,391
AMOUNT REQUESTED (\$5,000 reg, \$7,500 curb cut)	\$5,000
EXPECTED PROJECT COMPLETION (Month, Year)	Phase 1: July 2023 Phase 2: Sept 2023

### PROJECT TYPE:

- Raingarden/Infiltration Basin: Curb cut
- Raingarden/Infiltration Basin: Regular
- Shoreline/Streambank Stabilization and/or Restoration
- Filtration
- Other

If other, please describe the proposed project: \_\_\_\_\_

## Project Background:

Describe the project location. Does it connect to a lake, stream, ditch, or wetland in VLAWMO? What issues will be addressed with this project?	Phase 1: Native plantings on west property line Phase 2: Roadside ditches on north and east property lines Runoff from our property, approx. 3 properties to our south and approx. 4 properties to our west flows through the drainage ditches. Drainages ditches on our property as well as those along the water flow line are primarily all turf grass, resulting in a high level of water flowing through to Charley Lake.
---	--

## Project Background: Continued

<p>Describe how your project will support the goals of the Landscape Level 1 Grant Program.  (See LL1 policy)</p>	<p>The vegetated swales and native plantings in our project will meet the program goals of reducing stormwater volume, water runoff and nutrient runoff and will help protect the water quality of Charley Lake.</p> <p>Phase 1: Adding native plants for water filtration Phase 2: Converting roadside ditches to vegetated swales</p>
<p>Briefly describe the planned installation and maintenance activities for your project.</p>	<p>Landscaping company will install native plantings in mulched area for Phase 1 (west property line) and install native plantings directly into turf grass for Phase 2 (roadside ditches). Turf grass is intended to be used for erosion control and limit debris from entering culvert.</p> <p>Maintenance activities will be performed by owner. Activities will include weeding, trimming and watering, as needed, to maintain the health of the swales and native plantings.</p>

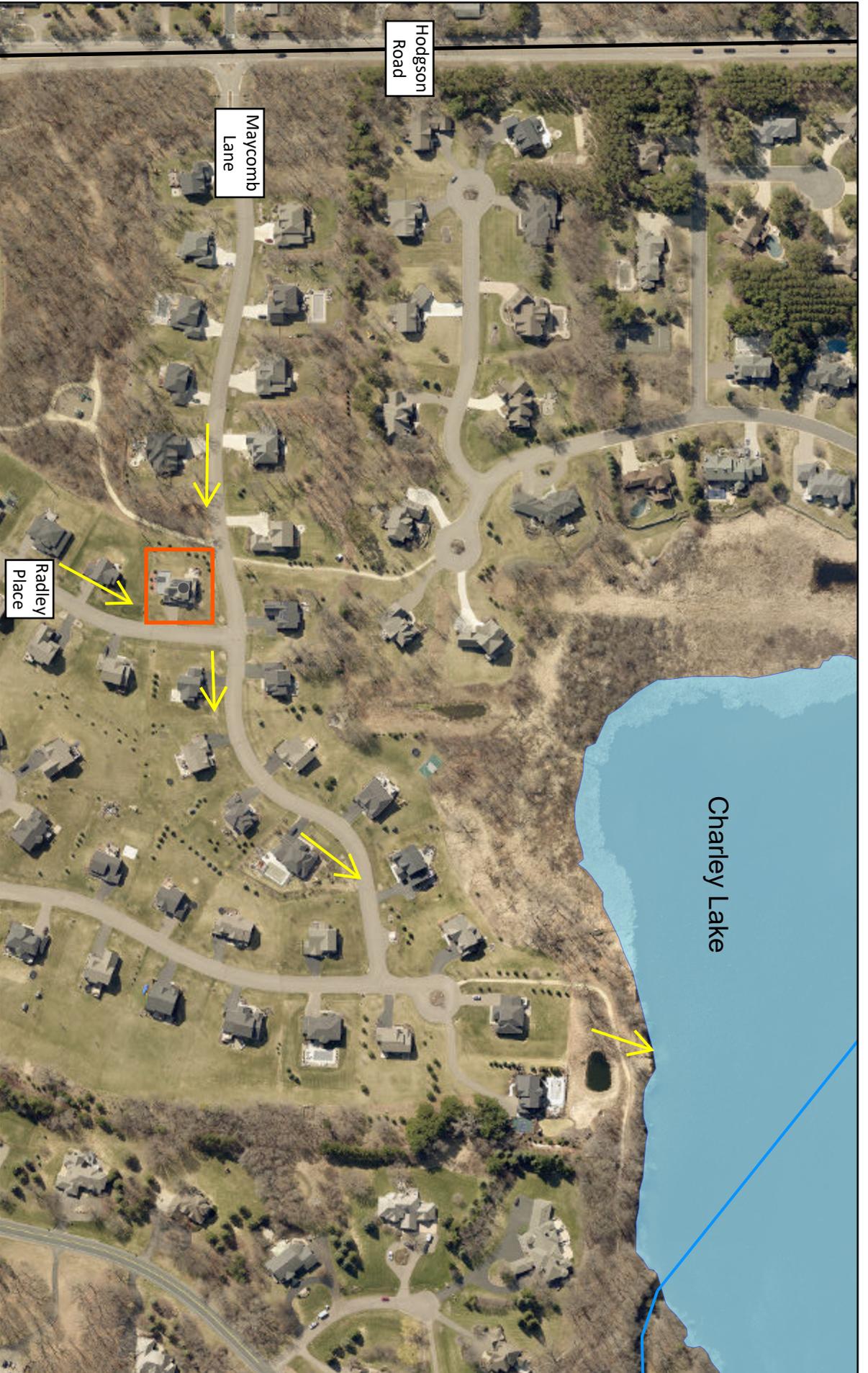
## Project Specifications:

<p><b>TOTAL PROPERTY AREA (Acres)</b></p>	<p>0.63</p>	<p><b>Total PROJECT SIZE (Sq Ft)</b></p>	<p>~6,650 sq ft</p>
<p><b>IMPERVIOUS (HARD) AREA DRAINING TO PROJECT (Sq Ft):</b></p>	<p>~16,000 sq ft</p>	<p><b>PERVIOUS (GRASSY, NON-PAVEMENT) AREA DRAINING TO PROJECT (Sq Ft):</b></p>	<p>~22,000 sq ft + drainage from 3-7 other properties</p>
<p><b>DEPTH OF PRACTICE (In):</b> <i>Provide if project includes infiltration/filtration</i></p>	<p>N/A</p>	<p><b>BOTTOM SURFACE AREA (Sq Ft):</b> <i>Provide if project includes infiltration/filtration</i></p>	<p>~1,570 sq ft</p>

## Required Attachments:

- ⇒ Detailed drawing or plan of the proposed project. If project is complex, VLAWMO may require project final designs to be completed by a qualified professional or engineer. Drawing must include project dimensions that enable VLAWMO staff to model the project for estimated water quality benefits.
- ⇒ At least 2 bids for construction of proposed project.
- ⇒ Detailed project budget estimate with itemized materials and costs that equal the total project cost.

# LL1 2023-01 Wendland Vegetated Swales



6/2/2023, 3:10:18 PM

VLAWMO Boundary 2020

Project Location

VLAWMO lakes

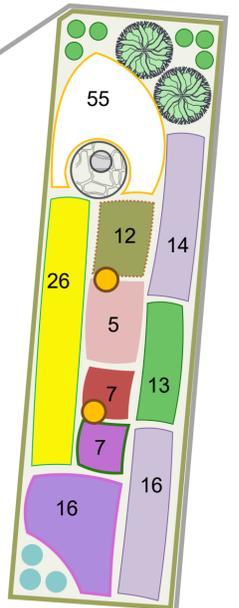
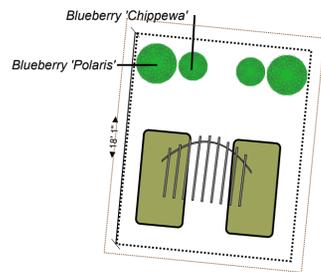
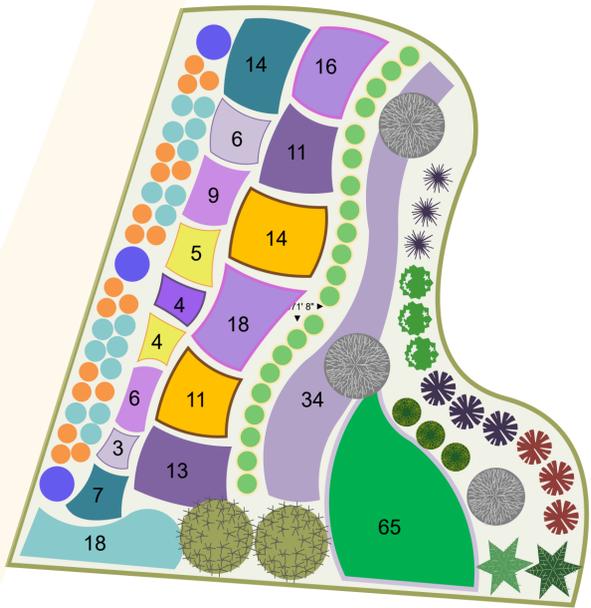
Flow Arrows

1:4,514  
0 0.03 0.05 0.09 0.17 Km  
0 0.04 0.05 0.09 0.17 mi

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, County of Ramsey, Esri, HERE, Garmin, GeoTechnologies, Inc., ArcGIS Web AppBuilder  
County of Ramsey, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA |



- Elderberry 'Bob Gordon'
- Elderberry 'Adams'
- Gooseberry 'Hinnomaki Red'
- American Hazelnut
- Red Currant
- Black Currant
- Black Raspberry
- Bush Honeysuckle 'Butterfly'
- Blueberry 'Chippewa'
- Blueberry 'Polaris'
- Black Chokeberry
- Tickseed
- Goldenrod
- Blue Wild Indigo
- Smooth Blue Aster
- Prairie Blazing Star
- Blue Vervain
- Coneflower
- Butterfly Flower
- Great Blue Lobelia
- Canadian Anemone
- Bee Balm
- Yellow Prairie Grass
- Little Blue Stem
- Mountain Mint
- Fragrant Hyssop
- Black-Eyed Susan
- Blue Flag Iris
- Cardinal Flower
- Joe Pye Weed
- Fox Sedge
- Swamp Milkweed
- Prairie Dropseed





# ESTIMATE

Native plantings; west landscape and drainage ditch on north and east side of property.

**Rustic Hills Garden Co.**  
17440 West 66th Street  
Eden Prairie, Minnesota 55346  
United States

Mobile: 952-314-3298  
[www.RusticHillsGardenCo.com](http://www.RusticHillsGardenCo.com)

BILL TO  
**Kelli Wendland**  
Kelli Wendland  
10 Radley Place  
North Oaks, Minnesota 55127  
United States

(612) 802-6501  
[kelliwendland@gmail.com](mailto:kelliwendland@gmail.com)

**Estimate Number:** 183

**Estimate Date:** May 22, 2023

**Expires On:** June 6, 2023

**Grand Total (USD):** **\$12,391.24**



# ESTIMATE

Native plantings; west landscape and drainage ditch on north and east side of property.

**Rustic Hills Garden Co.**  
 17440 West 66th Street  
 Eden Prairie, Minnesota 55346  
 United States

Mobile: 952-314-3298  
[www.RusticHillsGardenCo.com](http://www.RusticHillsGardenCo.com)

Items	Quantity	Price	Amount
<b>Materials Cost</b>	1	\$5,766.00	\$5,766.00
Native plantings for 6,650 square feet.			
1,485 plants Sambucus canadensis 'Bob Gordon' Sambucus canadensis 'Adams' Ribes uva-crispa 'Hinnomaki Red' Corylus americana Ribes rubrum 'Redlake' Ribes nigrum 'Black Consort' Rubus occidentalis 'Jewel' Diervilla sessilifolia 'Butterfly' Vaccinium 'Chippewa' Vaccinium 'Polaris' Coreopsis lanceolata Solidago speciosa Baptisia australis Aster laevis Liatris pycnostachya Verbena hastata Echinacea purpurea Lobelia siphilitica Anemone canadensis Monarda fistulosa Sorghastrum nutans Schizachyrium scoparium Pycnanthemum virginianum Agastache foeniculum Rudbeckia hirta Iris versicolor Lobelia cardinalis Eupatorium maculatum Grass, Carex vulpinoidea Asclepias incarnata Asclepias tuberosa Aronia melanocarpa elata Sporobolus heterolepis			
<b>Labor</b>	1	\$6,200.00	\$6,200.00
Set up, tear down, sorting and planting, bagging organic matter, clean up.			



# ESTIMATE

Native plantings; west landscape and drainage ditch on north and east side of property.

**Rustic Hills Garden Co.**  
17440 West 66th Street  
Eden Prairie, Minnesota 55346  
United States

Mobile: 952-314-3298  
[www.RusticHillsGardenCo.com](http://www.RusticHillsGardenCo.com)

<b>Subtotal:</b>	\$11,966.00
Ramsey Cty 7.375%:	\$425.24
<hr/>	
<b>Total:</b>	\$12,391.24
<hr/>	
<b>Grand Total (USD):</b>	<b>\$12,391.24</b>

If you would like to pay by card, transaction fees will be added to your invoice as follows: 1% for bank payments, 2.9% for Visa, Mastercard or Discover, 3.4% for American Express.

## Project Information

Calculator Version: Version 4: July 2020  
 Project Name: Wendland Vegetated Swales  
 User Name / Company Name:  
 Date: 5/31/2023  
 Project Description: Proposed roadside ditch conversion to vegetated swales to capture more runoff coming from impervious surfaces from home and several neighboring properties to the north, west, and south, of the property.  
 Construction Permit?: No

## Site Information

Retention Requirement (inches): 1.1  
 Site's Zip Code: 55126  
 Annual Rainfall (inches): 31.6  
 Phosphorus EMC (mg/l): 0.3  
 TSS EMC (mg/l): 54.5

### Total Site Area

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land	0				0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed	0.5				0.5
			Impervious Area (acres)		0.61
			Total Area (acres)		1.11

### Site Areas Routed to BMPs

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed	0.23				0.23
			Impervious Area (acres)		0.3
			Total Area (acres)		0.53

## Summary Information

### Performance Goal Requirement

Performance goal volume retention requirement:	2436	ft <sup>3</sup>
Volume removed by BMPs towards performance goal:	598	ft <sup>3</sup>
<b>Percent volume removed towards performance goal</b>	<b>25</b>	<b>%</b>

### Annual Volume and Pollutant Load Reductions

Post development annual runoff volume	1.5512	acre-ft
Annual runoff volume removed by BMPs:	0.5932	acre-ft
<b>Percent annual runoff volume removed:</b>	<b>38</b>	<b>%</b>

Post development annual particulate P load:	0.6962	lbs
Annual particulate P removed by BMPs:	0.316	lbs
Post development annual dissolved P load:	0.57	lbs
Annual dissolved P removed by BMPs:	0.218	lbs
Total P removed by BMPs	0.534	lbs
<b>Percent annual total phosphorus removed:</b>	<b>42</b>	<b>%</b>

Post development annual TSS load:	229.9	lbs
Annual TSS removed by BMPs:	104.5	lbs
<b>Percent annual TSS removed:</b>	<b>45</b>	<b>%</b>

## BMP Summary

### Performance Goal Summary

BMP Name	BMP Volume Capacity (ft <sup>3</sup> )	Volume Received (ft <sup>3</sup> )	Volume Retained (ft <sup>3</sup> )	Volume Outflow (ft <sup>3</sup> )	Percent Retained (%)
0 - Swale Side Slope	1239	439	439	0	100
2 - Swale Side Slope	12	759	12	746	2
0 - Swale main channel	146	746	146	600	20

### Annual Volume Summary

BMP Name	Volume From Direct Watershed (acre-ft)	Volume From Upstream BMPs (acre-ft)	Volume Retained (acre-ft)	Volume outflow (acre-ft)	Percent Retained (%)
0 - Swale Side Slope	0.3045	0	0.3045	0	100
2 - Swale Side Slope	0.4278	0	0.0451	0.3827	11
0 - Swale main channel	0.0249	0.3827	0.2436	0.164	60

### Particulate Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
0 - Swale Side Slope	0.1367	0	0.1367	0	100
2 - Swale Side Slope	0.192	0	0.0202	0.1718	11
0 - Swale main channel	0.0112	0.1718	0.1594	0.0236	87

#### Dissolved Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
0 - Swale Side Slope	0.1118	0	0.1118	0	100
2 - Swale Side Slope	0.1571	0	0.0166	0.1405	11
0 - Swale main channel	0.0091	0.1405	0.0894	0.0602	60

#### Total Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
0 - Swale Side Slope	0.2485	0	0.2485	0	100
2 - Swale Side Slope	0.3491	0	0.0368	0.3123	11
0 - Swale main channel	0.0203	0.3123	0.2488	0.0838	74

#### TSS Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
0 - Swale Side Slope	45.15	0	45.15	0	100
2 - Swale Side Slope	63.41	0	6.69	56.72	11
0 - Swale main channel	3.69	56.72	52.63	7.7799999999	87

#### BMP Schematic

# VI.B. Wendland Vegetated Swales

## LL1 2023-01 Grant Application

Lauren Sampedro  
TEC Meeting  
6/14/2023



### Landscape Level 1-Swales





# LL1 Grant Application



Submit completed application to:

Lauren Sampedro

lauren.sampedro@vlawmo.org

## Applicant Information:

Name:	Lori Olinger
Address:	25 Deer Hills Drive
City/Township, State, Zip:	North Oaks, MN, 55127
Phone:	612-718-6412
Email:	olingers25@msn.com

## Project Summary:

ESTIMATED TOTAL PROJECT COST (\$)	\$21,714.00
AMOUNT REQUESTED (\$5,000 reg, \$7,500 curb cut)	\$5,000
EXPECTED PROJECT COMPLETION (Month, Year)	August, 2023

### PROJECT TYPE:

- Raingarden/Infiltration Basin: Curb cut
- Raingarden/Infiltration Basin: Regular
- Shoreline/Streambank Stabilization and/or Restoration
- Filtration
- Other

If other, please describe the proposed project: \_\_\_\_\_

raingarden/infiltration basin:regular(permeable paver driveway)

## Project Background:

<p>Describe the project location.</p> <p>Does it connect to a lake, stream, ditch, or wetland in VLAWMO?</p> <p>What issues will be addressed with this project?</p>	<p>Project is replacing blacktop driveway with permeable pavers. Driveway is in the front yard and connects with the street. It drains to a stream on the east side of the property which ultimately connects to Black Lake. This project will also collect water from two roof drain spouts from the roof and garage. This project will reduce stormwater rate and volume and improve water quality.</p>
--	---

## Project Background: Continued

<p>Describe how your project will support the goals of the Landscape Level 1 Grant Program.  (See LL1 policy)</p>	<p>Reduce stormwater rate and volume by installing a permeable paver driveway which replaces blacktop driveway.</p>
<p>Briefly describe the planned installation and maintenance activities for your project.</p>	<p>Excavate, remove and dispose of 15" of existing material. Install Clear Rock chip bedding, edge restraint, Permeable Geotextile stabilization fabric, and PVC piping drainage system. The PVC piping will also be connected to two drain spouts and will drain into the yard for overflow.</p>

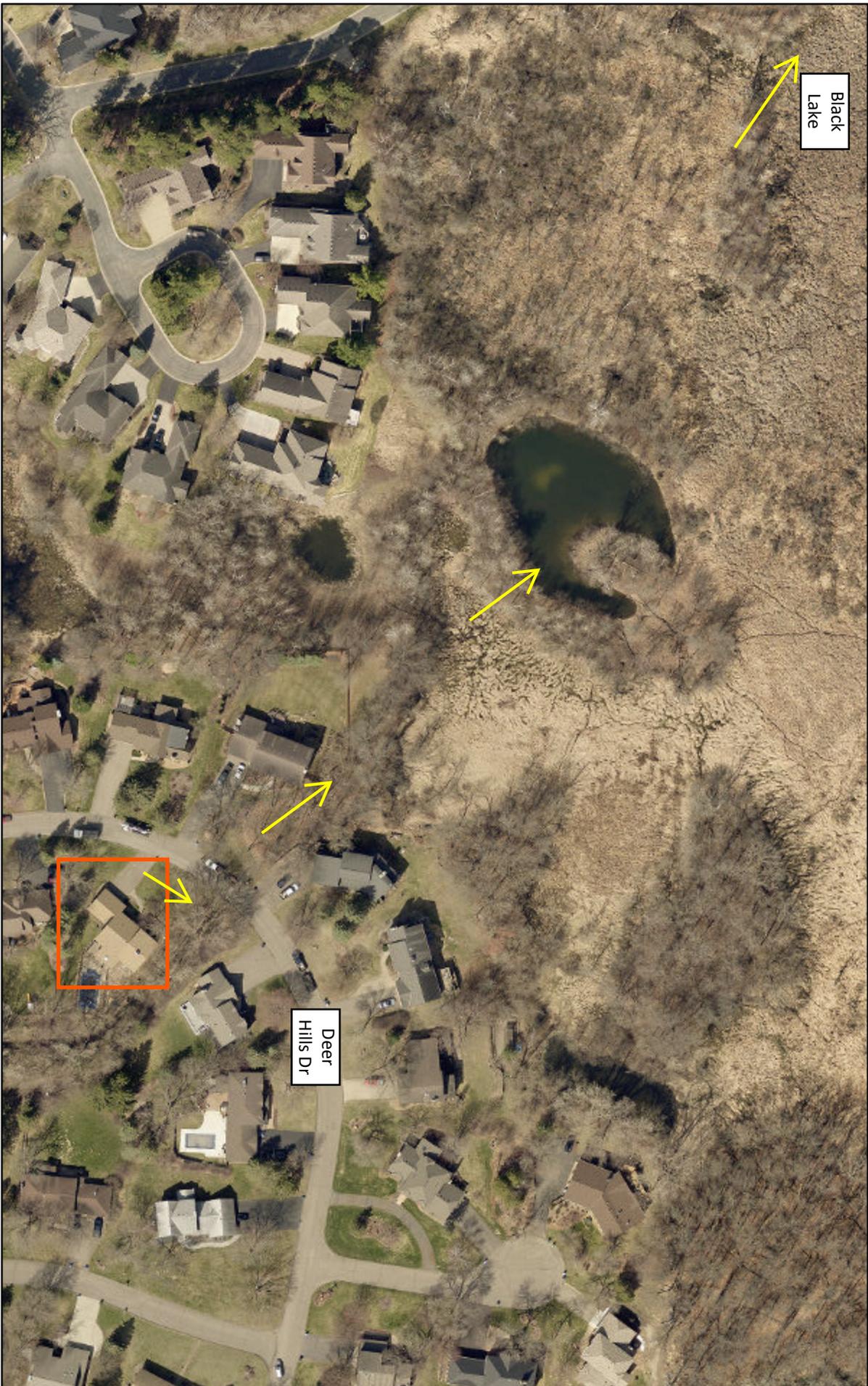
## Project Specifications:

<p><b>TOTAL PROPERTY AREA (Acres)</b></p>	<p>¼ acre</p>	<p><b>Total PROJECT SIZE (Sq Ft)</b></p>	<p>1087 .</p>
<p><b>IMPERVIOUS (HARD) AREA DRAINING TO PROJECT (Sq Ft):</b></p>	<p>4985</p>	<p><b>PERVIOUS (GRASSY, NON-PAVEMENT) AREA DRAINING TO PROJECT (Sq Ft):</b></p>	<p>4277</p>
<p><b>DEPTH OF PRACTICE (In):</b> <i>Provide if project includes infiltration/filtration</i></p>	<p>15 inches</p>	<p><b>BOTTOM SURFACE AREA (Sq Ft):</b> <i>Provide if project includes infiltration/filtration</i></p>	<p>n/a</p>

## Required Attachments:

- ⇒ Detailed drawing or plan of the proposed project. If project is complex, VLAWMO may require project final designs to be completed by a qualified professional or engineer. Drawing must include project dimensions that enable VLAWMO staff to model the project for estimated water quality benefits.
- ⇒ At least 2 bids for construction of proposed project.
- ⇒ Detailed project budget estimate with itemized materials and costs that equal the total project cost.

# LL1 2023-02 Olinger Permeable Pavement



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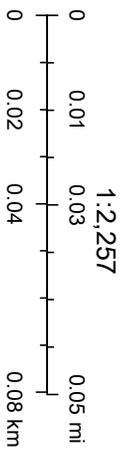
VLAWMO Boundary 2020



Flow Arrows



Project Location



1:2,257  
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, County of Ramsey, Esri, HERE, Garmin, GeoTechnologies, Inc., ArcGIS Web AppBuilder  
County of Ramsey, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA |

# SCRUBTOWN BRICK PAVING

*Responsible . Sustainable . Permeable*



## Proposal

Scrubtown Brick Paving, LLC  
PO Box 113, Marine on St Croix, MN 55047

---

May 16, 2023

Submitted To:  
Olingers  
25 Deer Hills Rd.  
North Oaks, MN 55127

---

### Scope of Work

*Scrubtown Brick Paving LLC* shall provide all materials and labor required for the installation of roughly 1100 square feet of Borgert's DrenaPave paver in a 90 degree herringbone pattern as driveway according to ICPI recommendations for vehicular pavement.  
Base material shall be 12 inches of #2 and #57 St. Cloud granite.  
Setting bed and joint material shall be #8 St. Cloud granite.  
This estimate includes all necessary excavation and hauling.  
This estimate includes a 5x12 inch concrete curb as edge restraint/perimeter.  
This estimate also includes installation of (2) NDS drain boxes and drain tile to incorporate downspouts into PICP base.

*We propose to complete these specifications for the sum of:*           \$27,500          

Terms and Conditions
----------------------

Price subject to change if not accepted within 30 days of Proposal date.

Estimated Project Duration    6 days

Payments:

10% at signing of Proposal  
40% at commencement of work  
50% upon completion

*By signing I hereby acknowledge the scope of work and accept the terms and conditions proposed by Scrubtown Brick Paving, LLC.*

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Christian Minich  
Owner/Project Manager

\_\_\_\_\_ Date

\_\_\_\_\_ Client

\_\_\_\_\_ Date



May 30, 2023

Olinger Residence  
25 Deer Hills Drive  
North Oaks, Minnesota

**INSTALLATION OF PERMEABLE PAVING STONE DRIVEWAY**

**Proposal: \$ 22,210.00**

- [County Materials H2O Face mix Permeable Pavers](#) / 1087 square feet
- Excavation, removal & disposal of existing material / 15” from final grade
- No. 2 stone 1 ½” Limestone washed trap rock / 8”
- No. 57 ¾” Clear Rock / 4”
- 1/8” chip bedding and joint material
- Edge Crete edge restraint system / 110 linear feet
- FW404 Permeable Geotextile stabilization fabric
- PVC Piping- 4” perforated sock drain tile
- Labor of Installation

**Option:**

<a href="#">Belgard Aqualine Permeable Pavers</a>	<b>\$23,581.00</b>
<a href="#">RCP Permeable Holland Pavers</a>	<b>\$21,714.00</b>

**Costs:**

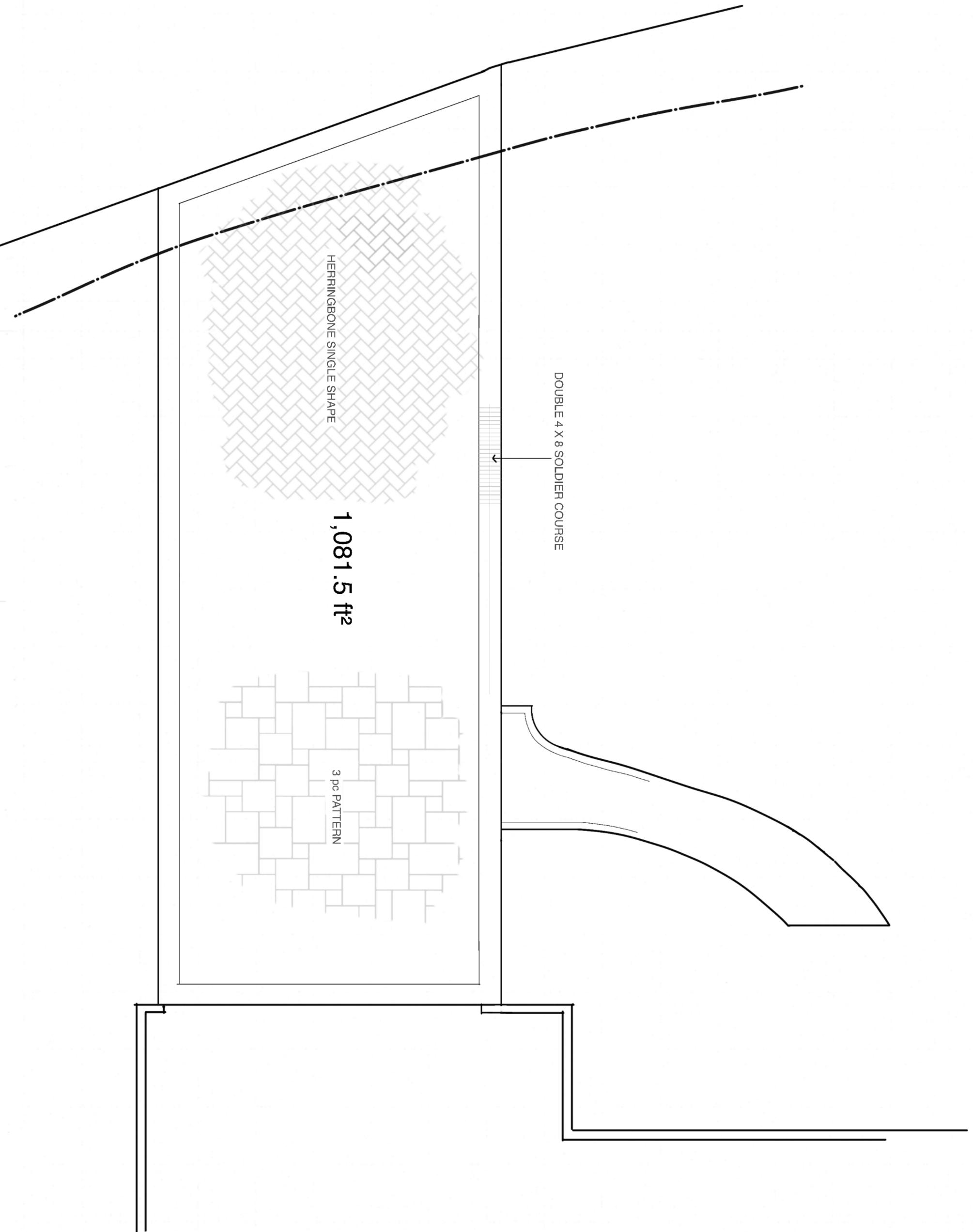
<b>Material</b>	<b>\$10,649.00</b>
<b>Equipment</b>	<b>\$1,272.00</b>
<b>Labor</b>	<b>\$6,792.00</b>
<b>Sub Contractor (excavation)</b>	<b>\$3,202.00</b>

\* **Face-mix:** Face-mix pavers are manufactured in a two-step process which combines a base of coarser aggregates for a stronger foundation, with concentrated color and wear-resistant finer aggregates on top. Face-mix products are commonly marked as ‘fade-proof’ because the top layer of concentrated color prevents lighter color aggregates from ever showing through.

Respectfully submitted,

Joel Hedrick

\*Proposal price does not include landscape restoration\*



## Project Information

Calculator Version: Version 4: July 2020  
 Project Name: Olinger Permeable Pavers  
 User Name / Company Name:  
 Date: 6/1/2023  
 Project Description: Proposed permeable paver driveway to replace existing blacktop driveway and capture runoff.  
 Construction Permit?: No

## Site Information

Retention Requirement (inches): 1.1  
 Site's Zip Code: 55127  
 Annual Rainfall (inches): 31.8  
 Phosphorus EMC (mg/l): 0.3  
 TSS EMC (mg/l): 54.5

### Total Site Area

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land	0.14				0.14
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed	0.19				0.19
			Impervious Area (acres)		0.2
			Total Area (acres)		0.53

### Site Areas Routed to BMPs

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed	0.1				0.1
			Impervious Area (acres)		0.11
			Total Area (acres)		0.21

## Summary Information

### Performance Goal Requirement

Performance goal volume retention requirement:	799	ft <sup>3</sup>
Volume removed by BMPs towards performance goal:	439	ft <sup>3</sup>
<b>Percent volume removed towards performance goal</b>	<b>55</b>	<b>%</b>

### Annual Volume and Pollutant Load Reductions

Post development annual runoff volume	0.5278	acre-ft
Annual runoff volume removed by BMPs:	0.2729	acre-ft
<b>Percent annual runoff volume removed:</b>	<b>52</b>	<b>%</b>

Post development annual particulate P load:	0.2369	lbs
Annual particulate P removed by BMPs:	0.126	lbs
Post development annual dissolved P load:	0.194	lbs
Annual dissolved P removed by BMPs:	0.1	lbs
Total P removed by BMPs	0.226	lbs
<b>Percent annual total phosphorus removed:</b>	<b>53</b>	<b>%</b>

Post development annual TSS load:	78.2	lbs
Annual TSS removed by BMPs:	41.8	lbs
<b>Percent annual TSS removed:</b>	<b>53</b>	<b>%</b>

## BMP Summary

### Performance Goal Summary

BMP Name	BMP Volume Capacity (ft <sup>3</sup> )	Volume Recieved (ft <sup>3</sup> )	Volume Retained (ft <sup>3</sup> )	Volume Outflow (ft <sup>3</sup> )	Percent Retained (%)
1 - Permeable pavement	521	439	439	0	100

### Annual Volume Summary

BMP Name	Volume From Direct Watershed (acre-ft)	Volume From Upstream BMPs (acre-ft)	Volume Retained (acre-ft)	Volume outflow (acre-ft)	Percent Retained (%)
1 - Permeable pavement	0.285	0	0.2729	0.0121	96

### Particulate Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Permeable pavement	0.1279	0	0.1265	0.0014	99

**Dissolved Phosphorus Summary**

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Permeable pavement	0.1047	0	0.1003	0.0044	96

**Total Phosphorus Summary**

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Permeable pavement	0.2326	0	0.2268	0.0058	98

**TSS Summary**

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Permeable pavement	42.25	0	41.78	0.4699999999	99

**BMP Schematic**

# VI.C. Olinger Permeable Pavement

## LL1 2023-02 Grant Application

**Lauren Sampedro**  
**TEC Meeting**  
**6/14/2023**



## Landscape Level 1-Permeable Pavement

