RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

December 2020 Board Packet

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Agenda

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RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

Regular Board Meeting Agenda

Wednesday, December 2, 2020
6:30 P.M.

Due to the COVID19 pandemic, this month's board meeting will be held via the video conferencing platform Zoom. Board members, staff, consultants, and general public will be able to join in via video and/or phone. The public that wish to will be able to listen to meeting but not participate with the exception of the visitor comments portion of the agenda. If you have comments you may speak on the Zoom meeting during the visitor comments agenda item. Instructions for joining in on the Zoom meeting can be found after the agenda.

1. Call to Order – 6:30 PM
2. **Approval of Agenda *(pg. 3)***
3. **Consent Agenda: To all be approved with one motion unless removed from consent agenda for discussion.**
    A. Approval of Regular Meeting Minutes November 4, 2020 *(pg. 7)*
    B. Treasurer's Report and Bill List *(pg. 14)*
4. Visitor Comments (limited to 4 minutes each)
5. Permit Program
    A. Applications – NONE
    B. Hillcrest Redevelopment Project Applicant Presentation and Discussion *(pg. 28)*
    C. Enforcement Action Report *(pg. 65)*
6. Stewardship Grant Program
    A. Applications – NONE
    B. Budget Status Update *(pg. 68)*
    C. **2020 Program Overview and 2021 Program Review and Approval (at meeting)**
7. Presentations and/or Action Items
    A. **Capital Improvement Budget Fund Transfer – Resolution 20-02 *(pg. 70)***
    B. **2021 Budget and Levy Final Approval – Resolution 20-03 *(pg. 72)***
    C. 2020 RWMWD Water Monitoring Report *(pg. 75)*
8. Administrator's Report *(pg. 112)*
    A. Meetings Attended
    B. Upcoming Meetings and Dates
    C. COVID-19 Update

9. Project and Program Status Reports *(pg. 114)*

   A. Ongoing Project and Program Updates

      i. Owasso Basin Flood Risk Reduction Feasibility Study

      ii. Willow Creek Flood Risk Reduction Feasibility Study

      iii. Ames Lake Area Flood Risk Reduction Feasibility Study

      iv. FEMA Flood Mapping Updates

      v. Hillcrest Golf Course

      vi. Targeted Retrofit Projects

      vii. Target Store Retrofit Projects

      viii. Kohlman Permeable Weir Test System

      ix. Keller Channel Weir and Phalen Outlet Resiliency Modifications

      x. Twin Lake Outlet Construction

      xi. CIP Maintenance and Repair 2021 Project

      xii. Beltline/Battle Creek Tunnel Inspection

      xiii. Internal Load Management Discussions

      xiv. Project Scored Ranking Study

      xv. Natural Resources Program Update

      xvi. Education Program Update

      xvii. Communications and Outreach Program Update

10. Report of Managers

11. Adjourn

Items in **bold signify that an action needs to be taken by the Board.*

RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

NOTICE OF BOARD MEETING
Wednesday, December 2, 2020
6:30 PM
Via Web Conference and In Lieu of an In-Person Meeting

Per Minnesota Statute 13D.021, President Marj Ebensteiner has determined that an in-person meeting of the RWMWD Board of Managers is not practical or prudent given the COVID-19 pandemic. In compliance with Center for Disease Control and Minnesota Department of Health guidance on minimizing potential for spread of the virus, RWMWD will conduct its regular Wednesday, December 2, 2020, meeting at 6:30 p.m. CDT, by web conference and conference call. Members of the public wishing to participate in the meeting may do so by accessing the web-based conference, or by phone.

To access the meeting via webcast, please use this link: JOIN MEETING

(https://us02web.zoom.us/j/82170443978?pwd=ODEwd21lMTVFYUt2Z1NUMTVSTDZRQT09)

The meeting room will open at 6:20 pm with the meeting starting at 6:30 pm. To connect to audio you may choose to use your computer audio options or you may use your mobile device to call. The phone access number is **(312) 626-6799**. The Meeting ID is **821 7044 3978**. The meeting password is **819917**. If you have any questions, please contact Tina Carstens at tina.carstens@rwmwd.org.

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Consent Agenda

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Ramsey-Washington Metro Watershed District
Minutes of Regular Board Meeting
November 4, 2020

The Regular Meeting of November 4, 2020, was held at the District Office Board Room, 2665 Noel Drive, Little Canada, Minnesota, at 6:30 p.m.

PRESENT:
Marj Ebensteiner, President
Cliff Aichinger, Vice President
Lawrence Swope, Treasurer
Dianne Ward, Secretary
Dr. Pam Skinner, Manager

ABSENT:

ALSO PRESENT:
Tina Carstens, District Administrator
Brad Lindaman, Barr Engineering
Simba Blood, Natural Resources Specialist
Dave Vlasin, Water Quality Technician
Paige Ahlborg, Project Manager
Nicole Soderholm, Permit Inspector
Viet-Hanh Winchell, Attorney for District
Brendan Barth, Wenck Associates for Atomic Architectural

1. CALL TO ORDER
The meeting was called to order by President Ebensteiner at 6:30 p.m.

2. APPROVAL OF AGENDA
Tina Carstens requested to add an Item 7C, MAWD Annual Meeting Delegate Appointment.

A Manger requested to pull Item 3A, the meeting minutes, off of the Consent Agenda as he has a couple of edits that he would like to have in the meeting minutes.

Motion: Manager Aichinger moved, Manager Swope seconded, to approve the agenda as amended.

A roll call vote was performed:

Manager Skinner	aye
Manager Aichinger	aye
Manager Swope	aye
Manager Ward	aye
Manager Ebensteiner	aye

Motion carried unanimously.

3. CONSENT AGENDA
~~A. Approval of Minutes from October 7, 2020~~
B. Treasurer's Report and Bill List
C. Permit Program

i. 20-38 – SOS Office Furniture, Vadnais Heights
ii. 20-40 – Atomic Architectural Sheet Metal, Vadnais Heights

D. East St. Paul Target Store Retrofit – Change Order No. 2

Motion: Manager Swope moved, Manager Ward seconded, to approve the consent agenda as amended.

A roll call vote was performed:

Manager Skinner	aye
Manager Aichinger	aye
Manager Swope	aye
Manager Ward	aye
Manager Ebensteiner	aye

Motion carried unanimously.

A. Approval of Minutes from October 7, 2020

A Manager noted Item 7C, and stated that they would prefer it to read, "…project ~~prioritization~~ scored ranking…" Tina Carstens commented that the memorandum used the word prioritization and therefore she did not want to make that correction to the minutes but could make noted of that preference in moving forward. The Manager noted Item 8D, and requested to add an additional statement, "A Manager proposed that the RWMWD increase its support for the Minnesota Stormwater Research Council by $10,000 to help offset the reduction in State funds and keep these important projects on track." On Item 8E, it should state, "…the ~~time~~ term of appointment and the consensus was to remove the word ~~automatically~~ "automatically"."

Motion: Manager Ward moved, Manager Aichinger seconded, to approve the minutes from October 7, 2020 as amended.

A roll call vote was performed:

Manager Skinner	aye
Manager Swope	aye
Manager Ward	aye
Manager Ebensteiner	aye
Manager Aichinger	aye

Motion carried unanimously.

4. VISITOR PRESENTATIONS

There were none.

5. PERMIT PROGRAM

A. Applications

Permit #20-39: Midland Terrace Phase 1 – Shoreview

Nicole Soderholm stated this permit request includes a variance for temporary wetland buffer impacts for placement of silt fence within the buffer. She explained that the project would demolish the existing apartment building and build a new apartment.

Motion: Manager Aichinger moved, Manager Swope seconded, to approve Permit #20-39 with the special provisions and variance request.

A roll call vote was performed:

Manager Skinner	aye
Manager Aichinger	aye
Manager Swope	aye
Manager Ward	aye
Manager Ebensteiner	aye

Motion carried unanimously.

B. Monthly Enforcement Report

During October, six notices were sent to address: install/maintain perimeter control (2), install/maintain construction entrance (2), sweep streets (1), and stabilize exposed soils (1).

6. STEWARDSHIP GRANT PROGRAM

A. Applications - None

B. Budget Status Update

No discussion.

7. PRESENTATIONS AND ACTION ITEMS

A. 2021 CIP Maintenance and Repair Project Approval and Plans and Authorization to Advertise for Bid

Brad Lindaman stated that there are 12 projects included in the overall project and displayed the probably cost for each of the projects. He provided a brief summary of the different project elements. He noted that sites 11 and 12 are the reimbursable projects. He noted that some of the other projects may also qualify for use of the flood damage reduction funds. He stated that if the Board feels that this scope is appropriate and within the appropriate cost range, it could approve the preliminary plans and specifications and authorize the project for bid.

Motion: Manager Aichinger moved, Manager Swope seconded, to approve the preliminary design, estimated costs, and proposed project schedule, and direct staff to finalize the design and bidding documents and advertise the project for bid.

Further discussion: A Manager asked if there is additional work needed that is noticed when completing a project, can the same contractor be used to complete that work. Brad Lindaman replied that is typically what is done, noting that the contractor submits a quote which is then incorporated into a change order. He confirmed that was done in the 2020 CIP project.

A roll call vote was performed:

Manager Skinner	aye
Manager Aichinger	aye
Manager Swope	aye
Manager Ward	aye
Manager Ebensteiner	aye

Motion carried unanimously.

B. Keller Channel Weir and Phalen Outlet Resiliency Modification Project Accept Bids and Select Contractor

Brad Lindaman reported that the project was advertised, and six bids were received. He reported that the low bidder has met all the bidding requirements with a bid of $1,197,089.40. He stated that the bid was above the

engineer's estimate and highlighted some of the differences noting the main differences in the cost were related to the control of water and the electrical work for the gates.

A Manager noted that the difference between the engineer's estimate and those bid items is about 20 percent and asked if the project should be rebid. Brad Lindaman replied that all of the bidders had those items in the same range. He noted that if the contract is awarded, staff can speak with the contractor to determine if there are alternates that could be considered for those items in attempt to lower the costs for those items. He noted that the District has not worked with this contractor before but checked all five references which reported positive results for work similar to this.

Motion: Manager Aichinger moved, Manager Swope seconded, to accept the bids and award the Keller Channel Weir and Phalen Outlet Resiliency Modification Project to Pember Companies and direct staff to prepare and mail the notice of award, prepare the draft agreements and review the required submittals and to work with the contractor to reevaluate the water management portion of the bid in attempt to lower the cost.

A roll call vote was performed:

Manager Skinner	aye
Manager Aichinger	aye
Manager Swope	aye
Manager Ward	aye
Manager Ebensteiner	aye

Motion carried unanimously.

C. MAWD Annual Meeting Delegate Appointment

Tina Carstens reported that the MAWD annual meeting will be held virtually beginning on December 2nd and includes the business meeting that requires the District to appoint delegates for voting. She asked if there are Managers interested in being delegates.

Motion: Manager Skinner moved, Manager Aichinger seconded, to appoint Managers Swope and Skinner as Delegates and Manager Ward as an Alternate for the MAWD Annual Meeting.

A roll call vote was performed:

Manager Skinner	aye
Manager Aichinger	aye
Manager Swope	aye
Manager Ward	aye
Manager Ebensteiner	aye

Motion carried unanimously.

Tina Carstens stated that the proposed resolutions were also included in the packet that will be voted on at the meeting along with Committee recommendations.

D. Minnesota Stormwater Research Council

A Manager commented that at the last meeting it was mentioned that this organization is facing financial challenges and the decision was made to increase the District's contribution by $10,000. The Manager virtually attended the Metro MAWD meeting, as did another Manager who asked the organization to increase its contribution as RWMWD did, but that request was not approved. The comment was made that while the

additional $10,000 from the District will be helpful, it will not offset the $100,000 deficit that the Minnesota Stormwater Research Council will be facing. It was stated that perhaps the District contribution should be increased by another $20,000 with the stipulation that other watersheds increase their donations as well. The Manager commented that this organization does amazing work and provides ideas for implementation that are helpful as well.

A Manager stated that perhaps the District could work with other watersheds that have contributed to challenge organizations that have not contributed in the past with the offer to match those donations. It was commented that the challenge could perhaps solicit support from municipalities and other organizations that have not donated in the past. The Manager confirmed that they would be willing to assist in the process. Tina Carstens confirmed that she could work with the representative from the Minnesota Stormwater Research Council and staff from the other watersheds that contribute to develop a plan and the interested Managers can connect with Managers from other watersheds. The Board confirmed consensus with that approach.

8. ADMINISTRATOR'S REPORT

A. Meetings Attended

A Manager asked for details on the HealthPartners webinar. Tina Carstens commented that it was a general webinar and the proposed numbers for the District should be coming in the next few weeks. She did not anticipate big changes to the cost. She also provided an update on the recent Administrators meeting which focused on the need for additional training for staff. A Manager provided an update on the Clean Water Council.

B. Upcoming Meetings and Dates

No comments.

C. CAC By-Laws and Membership

Tina Carstens noted that she provided informational updates in the packet for the Board. A Manager commented that the new bylaws were approved at the last meeting but noticed that the redline version seemed different than what was approved by the Board. Tina Carstens noted that the additional changes were recommended by legal counsel. A Manager commented that they would find it helpful to have an update on CAC meetings. Tina Carstens confirmed that she would have staff include a written update in the Board packet going forward. Viet-Hanh Winchell identified a few minor typos to be changed.

Motion: Manager Aichinger moved, Manager Swope seconded, to approve the CAC By-Laws with the additional changes.

A roll call vote was performed:

Manager Skinner	aye
Manager Aichinger	aye
Manager Swope	aye
Manager Ward	aye
Manager Ebensteiner	aye

Motion carried unanimously.

D. Equity and Inclusion Consultant for RWMWD

Tina Carstens stated that the District received another proposal, which was included in the Board packet. She noted that both proposals were similar in pricing for the estimated per hour and package deal costs. She stated that staff has spoken with a third consultant, but has not yet received a proposal. She stated that if the Board is comfortable, she would add the item to the budget proposal prior to the review in December.

A Manager asked the need to proceed with this item. Tina Carstens stated that there has been a lot of discussion related to bringing in more diversity to the CAC to represent the communities served. She noted that this would also include an audit of the hiring and recruitment processes and offer suggestions for improvement that could make it more equitable for both volunteers and staffing. She stated that a review of the program and project would work also be done to ensure that the District is equitable providing opportunities to different community groups. She stated that it would also include staff development.

A Manager asked if the District is obligated to do this or choosing to do this. Tina Carstens confirmed that the District is not obligated to complete this work, but it has been a topic throughout the metro area. A Manager commented that they believe this would be a great step in showing the public that the District is attempting to best serve the people in the communities it serves. Tina Carstens noted other watersheds that are completing similar work.

A Manager asked if Barr Engineering is doing this type of work. Brad Lindaman confirmed that Barr Engineering began this work about 2.5 years ago and continues its effort. He commented that they face the same challenge in finding a more diverse population to apply for positions.

A Manager commented that perhaps the District look for high school interns as that could lead to growing interest in a younger population that could pursue this career path. Simba Blood replied that the District has worked with different youth groups on projects.

9. PROJECT AND PROGRAM STATUS REPORTS

A. Ongoing Project and Program Updates

i. Owasso Basin Flood Risk Reduction Feasibility Study
ii. West Vadnais to South I-694 Conveyance Feasibility Study
iii. Willow Creek Flood Risk Reduction Feasibility Study
iv. Ames Lake Area Flood Risk Reduction Feasibility Study
v. FEMA Flood Mapping Updates
vi. Hillcrest Golf Course
A Manager referenced Hillcrest Golf Course and the virtual workshop that was conducted and asked if that presentation is available to watch. Paige Ahlborg replied that she did not believe the workshop was recorded, but there was a summary typed that could be shared with the Board.
vii. Subwatershed Feasibility Studies
viii. Targeted Retrofit Projects
ix. Kohlman Permeable Weir Test System
x. Keller Channel Weir and Phalen Outlet Resiliency Modifications
xi. Twin Lake Outlet Construction
xii. CIP Maintenance and Repair 2020 Project
xiii. Beltline/Battle Creek Tunnel Inspection
xiv. Internal Load Management Discussions
xv. Project Prioritization Study
xvi. New Technology Review: Corrugated Metal Pipe Sane Filter by Lane Enterprises, Inc.
A Manager asked if the District is considering use of the new technology from Lane Enterprises. Brad Lindaman replied that he did not believe that the District would have use at this time. The Manager asked if a link to the website could be included in future reports.
xvii. Natural Resources Program
xviii. Education Program
xix. Communications Program Update

10. REPORTS OF MANAGERS

No comments.

11. ADJOURN

Motion: Manager Skinner moved, Manager Ward seconded, to adjourn the meeting at 7:56 p.m. Motion carried unanimously.

RWMWD BUDGET STATUS REPORT
Administrative & Program Budget
Fiscal Year 2020
11/30/2020

Budget Category	Budget Item	Account Number	Original Budget	Budget Transfers	Current Month Expenses	Year-to-Date Expenses	Current Budget Balance	Percent of Budget
Manager	Per diems	4355	$8,500.00	-	-	2,500.00	$6,000.00	29.41%
	Manager expenses	4360	3,500.00	-	-	-	3,500.00	0.00%
Committees	Committee/Bd Mtg. Exp.	4365	3,500.00	-	-	2,536.54	963.46	72.47%
	Sub-Total: Managers/Committees:		**$15,500.00**	**$0.00**	**$0.00**	**$5,036.54**	**$10,463.46**	**32.49%**
Employees	Staff salary/taxes/benefits	4010	1,450,000.00	-	111,521.96	1,356,194.89	93,805.11	93.53%
	Employee expenses	4020	10,000.00	-	319.71	24,807.57	(14,807.57)	248.08%
	District training & education	4350	25,000.00	-	675.00	4,132.27	20,867.73	16.53%
	Sub-Total: Employees:		**$1,485,000.00**	**$0.00**	**$112,516.67**	**$1,385,134.73**	**$99,865.27**	**93.28%**
Administration/ Office	GIS system maint. & equip.	4170	15,000.00	-	75.00	1,769.02	13,230.98	11.79%
	Data Base/GIS Maintenance	4171	5,000.00	-	-	2,600.00	2,400.00	52.00%
	Equipment maintenance	4305	3,000.00	-	-	-	3,000.00	0.00%
	Telephone	4310	8,000.00	-	57.48	859.44	7,140.56	10.74%
	Office supplies	4320	5,000.00	-	652.68	5,155.50	(155.50)	103.11%
	IT/Internet/Web Site/Software Lic.	4325	55,000.00	-	4,833.60	52,228.43	2,771.57	94.96%
	Postage	4330	5,000.00	-	-	430.65	4,569.35	8.61%
	Printing/copying	4335	8,000.00	-	294.00	4,344.15	3,655.85	54.30%
	Dues & publications	4338	11,000.00	-	-	9,904.88	1,095.12	90.04%
	Janitorial/Trash Service	4341	15,000.00	-	-	-	15,000.00	0.00%
	Utilities/Bldg.Contracts	4342	20,000.00	-	378.44	25,828.98	(5,828.98)	129.14%
	Bldg/Site Maintenance	4343	200,000.00	-	1,139.50	11,770.86	188,229.14	5.89%
	Miscellaneous	4390	5,000.00	-	-	377.00	4,623.00	7.54%
	Insurance	4480	40,000.00	-	-	43,749.02	(3,749.02)	109.37%
	Office equipment	4703	150,000.00	-	-	8,165.76	141,834.24	5.44%
	Vehicle lease, maintenance	4810-40	43,000.00	-	123.71	32,941.96	10,058.04	76.61%
	Sub-Total: Administration/Office:		**$588,000.00**	**$0.00**	**$7,554.41**	**$200,125.65**	**$387,874.35**	**34.03%**
Consultants/ Outside Services	Auditor/Accounting	4110	60,000.00	-	2,852.50	52,144.73	7,855.27	86.91%
	Engineering-administration	4121	93,000.00	-	4,337.00	58,546.40	34,453.60	62.95%
	Engineering-permit I&E	4122	10,000.00	-	2,521.75	2,715.75	7,284.25	27.16%
	Engineering-eng. review	4123	55,000.00	-	3,577.00	39,590.50	15,409.50	71.98%
	Engineering-permit review	4124	55,000.00	-	2,082.50	38,966.50	16,033.50	70.85%
	Project Feasibility Studies	4129	570,000.00	-	14,165.50	319,595.68	250,404.32	56.07%
	Attorney-permits	4130	10,000.00	-	-	-	10,000.00	0.00%
	Attorney-general	4131	40,000.00	-	1,300.00	24,972.77	15,027.23	62.43%
	Outside Consulting Services	4160	40,000.00	-	-	-	40,000.00	0.00%
	Sub-Total: Consultants/Outside Services:		**$933,000.00**	**$0.00**	**$30,836.25**	**$536,532.33**	**$396,467.67**	**57.51%**
Programs	Educational programming	4370	60,000.00	-	4,933.56	14,574.97	45,425.03	24.29%
	Communications & Marketing	4371	25,000.00		190.70	14,199.81	10,800.19	56.80%
	Events	4372	50,000.00	-	-	24,092.03	25,907.97	48.18%
	Water QM-Engineering	4520-30	185,000.00	-	64,031.62	231,490.61	(46,490.61)	125.13%
	Project operations	4650	160,000.00	-	206.00	67,783.73	92,216.27	42.36%
	SLMP/TMDL Studies	4661	173,000.00	-	7,539.50	65,599.59	107,400.41	37.92%
	Natural Resources/Keller Creek	4670-72	140,000.00	-	8,852.73	105,028.90	34,971.10	75.02%
	Outside Prog.Support/Weed Mgmt.	4683-84	67,000.00	-	1,230.43	43,917.33	23,082.67	65.55%
	Research Projects	4695	95,000.00	-	857.50	51,821.77	43,178.23	54.55%
	Health and Safety Program	4697	3,000.00	-	-	1,311.73	1,688.27	43.72%
	NPDES Phase II	4698	10,000.00	-	-	-	10,000.00	0.00%
	Sub-Total: Programs:		**$968,000.00**	**$0.00**	**$87,842.04**	**$619,820.47**	**$348,179.53**	**64.03%**
GENERAL FUND TOTAL			**$3,989,500.00**	**$0.00**	**$238,749.37**	**$2,746,649.72**	**$1,242,850.28**	68.85%
CIP's	CIP Project Repair & Maintenance	516	1,115,000.00	-	59,994.65	1,183,725.66	(68,725.66)	106.16%
	Targeted Retrofit Projects	518	1,012,000.00	-	114,610.90	890,204.42	121,795.58	87.96%
	Flood Risk Reduction Fund	520	4,000,000.00	-	18,388.34	496,318.29	3,503,681.71	12.41%
	Debt Services-96-97 Beltline/MM/Battle Creek	526	400,074.00	-	-	397,918.26	2,155.74	99.46%
	Stewardship Grant Program Fund	528-529	1,000,000.00	-	92,384.04	774,459.22	225,540.78	77.45%
	Impervious Surface Volume Reduction Opportunity	531	1,600,000.00	-	-	-	1,600,000.00	0.00%
	Wakefield Park Project	553	100,000.00	-	245,910.53	264,099.30	(164,099.30)	264.10%
	District Office Bond Payment	585	194,885.00	-	-	120,358.21	74,526.79	61.76%
CIP BUDGET TOTAL			**$9,421,959.00**	**-**	**$531,288.46**	**$4,127,083.36**	**$5,294,875.64**	43.80%
TOTAL BUDGET			**$13,411,459.00**	**$0.00**	**$770,037.83**	**$6,873,733.08**	**$6,537,725.92**	**51.25%**

Current Fund Balances:

Fund:	Beginning Fund Balance @ 12/31/19	Fund Transfers	Year to date Revenue	Current Month Expenses	Year to Date Expense	Fund Balance @ 11/30/20
101 - General Fund	$4,633,167.33	-	1,599,464.64	238,749.37	2,746,649.72	3,485,982.25
516 - CIP Project Repair & Maintenance	1,160,359.00	-	536,334.87	59,994.65	1,183,725.66	512,968.21
518 - Targeted Retrofit Projects	(52,309.00)	-	536,838.65	114,610.90	890,204.42	(405,674.77)
520 - Flood Damage Reduction Fund	2,565,820.00	-	808,865.44	18,388.34	496,318.29	2,878,367.15
526 - Debt Services-96-97 Beltline/MM/Beltline-Battle Creek Tunnel Repair	1,252,348.00	-	49,127.63	-	397,918.26	903,557.37
528/529 - Stewardship Grant Program Fund	711,696.00	-	424,378.36	92,384.04	774,459.22	361,615.14
531 - Impervious Surface Volume Reduction Opportunity	1,484,215.00	-	53,047.29	-	-	1,537,262.29
553 - Wakefield Park Project	268,349.00	-	-	245,910.53	264,099.30	4,249.70
580 - Contingency Fund	891,682.00	-	-	-	-	891,682.00
585 - Certificates of Participation	130,460.00	-	103,716.69	-	120,358.21	113,818.48
Total District Fund Balance	**$13,045,787.33**	**$0.00**	**$ 4,111,773.57**	**$ 770,037.83**	**$6,873,733.08**	**$10,283,827.82**

Ramsey Washington Metro Watershed Dist.
Check Register
For the Period From Nov 1, 2020 to Nov 30, 2020

Check #	Date	Payee ID	Invoice #	Payee	Description	Amount
EFT	11/12/20	hea002	Dec 2020	HealthPartners	Employee Benefits	$9,137.88
EFT	11/12/20	met008	Nov 2020	MetLife-Group Benefits	Employee Benefits	863.27
71842V	11/12/20	out001	20-080	Outdoor Lab Landscape Design, Inc.	BMP Cost Share Program	(6,725.00)
71867	11/12/20	cit001	007734-000-001	City of Little Canada	Utilities/Bldg. Contracts	100.97
71868	11/12/20	com004	10/16/20	Comcast	Utilities/Bldg. Contracts	65.38
71869	11/12/20	fle001	86891	Flemings Auto Service	Vehicle Expense	59.65
71870	11/12/20	gre002	10943	Greenwater Lab	Water QM Staff	250.00
71871	11/12/20	hom001	10/28/20	Home Depot Credit Services	Natural Resources Project	125.52
71872	11/12/20	kin001	061700008670/71	FedEx Office	Educational Program	105.78
71873	11/12/20	nar001	IN00154369	Nardini Fire Equipment	Bldg./Site Maintenance	263.50
71874	11/12/20	ncp001	10/16/20	NCPERS Group Life Ins.	Employee Benefits	16.00
71875	11/12/20	pre003	317823439	Premium Waters, Inc.	Bldg./Site Maintenance	26.00
71876	11/12/20	stu001	2019411	Studio Lola	Communications & Marketing	127.50
71877	11/12/20	tru002	CIV-917	Trustees of Hamline University	Educational Program	520.00
71878	11/12/20	van001	75512	Vanguard Cleaning Systems of Minnesota	Bldg./Site Maintenance	550.00
71879	11/12/20	vik001	3203953	Viking Industrial Center	Water QM Staff	108.60
71880	11/23/20	app003	19-01 MTN	Applewood Pointe of Shoreview Sr.Co-Op	Stewardship Grant Program	1,000.00
71881	11/23/20	arl002	19-02 MTN	Janet Arleth	Stewardship Grant Program	600.00
71882	11/23/20	att002	Nov 2020	AT & T Mobility - ROC	IT/Website/Software/Water QM	136.53
71883	11/23/20	aws001	S1335957-110120	AWS Service Center	Utilities/Bldg. Contracts	212.09
71884	11/23/20	bar001	10/04-11/13/20	Barr Engineering	October/November Engineering	122,329.66
71885	11/23/20	bar004	Nov 2020	Deborah Barnes	Employee Reimbursement	40.00
71886	11/23/20	ber006	20-18 CS	Janet Berryhill	Stewardship Grant Program	787.48
71887	11/23/20	blo001	11/18/20	Simba Blood	Employee Reimbursement	247.03
71888	11/23/20	bui001	17-28	Build Space, LLC	Dev. Escrow-General	9,690.00
71889	11/23/20	cad001	17181067	Allstream	Water QM Staff	69.45
71890	11/23/20	car007	RWMWD_11-8-20	Carp Solutions, LLC	Natural Resources Project	8,185.00
71891	11/23/20	chi002	19-05 MTN	Linda Chimzar	Stewardship Grant Program	144.52
71892	11/23/20	cit002	Wakefield Park	City of Maplewood	Construction-Wakefield Park	245,445.53
71893	11/23/20	cit006	19-13 CS	City of Woodbury	Stewardship Grant Program	7,611.75
71894	11/23/20	cit011	229591	City of Roseville	IT/Website/Software	4,163.00
71895	11/23/20	com005	19-10 CS/20-05 MTN	CommonBond Communities	Stewardship Grant Program	1,850.00
71896	11/23/20	dev001	19-10 MTN	Mark Devine	Stewardship Grant Program	200.00
71897	11/23/20	don001	Nov 2020	Matthew Doneux	Employee Reimbursement	52.64
71898	11/23/20	eve001	19-11 MTN	Evergreen Country Homes	Stewardship Grant Program	532.50
71899	11/23/20	fal003	19-39	7000 Fallbrook, LLC	Dev. Escrow-General	10,645.00
71900	11/23/20	fit002	Nov 2020	Mary Fitzgerald	Employee Reimbursement	86.00
71901	11/23/20	gal001	11/18/20	Galowitz Olson, PLLC	November Legal Fees	1,300.00
71902	11/23/20	gru001	205296/97/98/99	Gruber's Power Equipment	Natural Resources Project	260.67
71903	11/23/20	ham004	19-08 MTN	Hampden Woods HOA	Stewardship Grant Program	928.48
71904	11/23/20	han008	1313	Hanna Enterprises	Bldg./Site Maintenance	300.00
71905	11/23/20	hof001	Pay #2-Final	Hoffman & McNamara Nursery & Landscape	Construction-Maint. & Repair	2,312.65
71906	11/23/20	hof002	20-03 MTN	John Hoffman	Stewardship Grant Program	337.50
71907	11/23/20	inn002	IN3162272	Innovative Office Solutions LLC	Office Supplies	133.11
71908	11/23/20	int001	W20100518	Office of MN, IT Services	Telephone Expense	57.48
71909	11/23/20	jac001	20-12 CS	Michele Jacobson	Stewardship Grant Program	4,877.50
71910	11/23/20	jad001	RWMWD Individuals	Anita Jader Photography	IT/Website/Software	480.00
71911	11/23/20	kos001	19-09 MTN, 20-42 CS	Helen Kosobayashi	Stewardship Grant Program	1,628.07
71912	11/23/20	mcs001	19-04 MTN	Linda McShannock	Stewardship Grant Program	637.50
71913	11/23/20	mel001	Nov 2020	Michelle L. Melser	Employee Reimbursement	106.38
71914	11/23/20	mid003	556301	Roseville Midway Ford	Vehicle Expense	64.06
71915	11/23/20	min008	26606	Minnesota Native Landscapes, Inc.	Construction-Maint. & Repair	23,442.50
71916	11/23/20	mnd004	AERP3275	MN DNR Fisheries	Natural Resources Project	250.00
71917	11/23/20	mwf001	17-22	MWF Properties	Dev. Escrow-General	5,685.00
71918	11/23/20	nor013	38892	Northern Dewatering, Inc.	Construction-Flood Damage	9,676.20
71919	11/23/20	nsp001	707350153/707342176	Xcel Energy	Project Operations	57.51
71920	11/23/20	out001	20-199/Pay #1	Outdoor Lab Landscape Design, Inc.	Construction-Retro Fit/Maint. & Rep.	107,311.25
71921	11/23/20	pac001	2012021584	Pace Analytical Services, Inc.	Water QM Staff	407.00
71922	11/23/20	par004	18-08 MTN	Park View Terrace HOA	Stewardship Grant Program	1,000.00
71923	11/23/20	pas002	Oct-Nov 2020	Sage Passi	Employee Reimbursement	53.23
71924	11/23/20	ram002	PRK-001822/PUBW-018894	Ramsey County	Stewardship/Water QM	101,063.15
71925	11/23/20	red002	150456981	Redpath & Company, Ltd	October Accounting Services	2,852.50
71926	11/23/20	she003	18-03 MTN	Shepherd of the Hills Lutheran Church	Stewardship Grant Program	515.00
71927	11/23/20	sim001	Oct-Nov 2020	Emily Simmons	Employee Reimbursement	52.67
71928	11/23/20	sod001	Nov 2020	Nicole Soderholm	Employee Reimbursement	42.30
71929	11/23/20	tri005	20-10 MTN	Trinity Presbyterian Church	Stewardship Grant Program	687.50
71930	11/23/20	tro002	20-11	Cathy Troendle	Educational Program	4,307.78

Ramsey Washington Metro Watershed Dist.
Check Register
For the Period From Nov 1, 2020 to Nov 30, 2020

Check #	Date	Payee ID	Invoice #	Payee	Description	Amount
71931	11/23/20	usb002	Nov 2020	U.S. Bank	Monthly Credit Card Expense	1,210.68
71932	11/23/20	usb005	427701198	US Bank Equipment Finance	Printing Expense	294.00
71933	11/23/20	van003	Nov 2020	Erika Van Krevelen	Employee Reimbursement	71.30
71934	11/23/20	vet001	20-34 CS	Nick Vetsch	Stewardship Grant Program	229.74
71935	11/23/20	was002	5006/5017	Washington Conservation District	Stewardship/Water QM	1,327.75
71936	11/23/20	xce003	19-11	Xcel Energy	Dev. Escrow-General	8,000.00
Total						**$701,583.69**
EFT	10/02/20	myp001	10/02/20	October 2nd Payroll Fees	4110-101-000	73.55
EFT	10/16/20	myp001	10/16/20	October 16th Payroll Fees	4110-101-000	73.55
EFT	10/30/20	myp001	10/30/20	October 30th Payroll Fees	4110-101-000	73.55
Dir.Dep.	11/13/20	---	Payroll Expense-Net	November 13th Payroll	4010-101-000	29,380.44
EFT	11/13/20	int002	Internal Rev.Serv.	November 13th Federal Withholding	2001-101-000	9,933.13
EFT	11/13/20	mnd001	MN Revenue	November 13th State Withholding	2003-101-000	1,841.35
EFT	11/13/20	per001	PERA	November 13th PERA	2011-101-000	5,909.79
EFT	11/13/20	emp002	Empower Retirement	Employee Def.Comp. Contributions	2016-101-000	2,379.00
EFT	11/13/20	emp002	Empower Retirement	Employee IRA Contributions	2018-101-000	425.00
Dir.Dep.	11/27/20	---	Payroll Expense-Net	November 27th Payroll	4010-101-000	29,513.22
EFT	11/27/20	int002	Internal Rev.Serv.	November 27th Federal Withholding	2001-101-000	10,029.63
EFT	11/27/20	mnd001	MN Revenue	November 27th State Withholding	2003-101-000	1,852.20
EFT	11/27/20	per001	PERA	Novembe 27th PERA	2011-101-000	5,958.93
EFT	11/27/20	emp002	Empower Retirement	Employee Def.Comp. Contributions	2016-101-000	2,454.00
EFT	11/27/20	emp002	Empower Retirement	Employee IRA Contributions	2018-101-000	450.00
						$100,347.34
					Payroll/Benefits	
Total					**Accounts Payable/Payroll/Benefits:**	**$801,931.03**

Ramsey Washington Metro Watershed Dist.
Cash Disbursements Journal
For the Period From November 1, 2020 - November 30, 2020

Date	Check #	Vendor ID	Name	Account ID	Account Description	Amount	Check Detail
10/12/20	EFT	hea002	HealthPartners	4040-101-000	Employee Benefits-General	$9,137.88	
10/12/20	EFT	met008	MetLife-Group Benefits	4040-101-000	Employee Benefits-General	863.27	
11/12/20	71842V	out001	Outdoor Lab Landscape Design, Inc.	4682-518-000	BMP Cost Share Program	(6,725.00)	
11/12/20	71867	cit001	City of Little Canada	4342-101-000	Utilities/Bldg. Contracts	100.97	
11/12/20	71868	com004	Comcast	4342-101-000	Utilities/Bldg. Contracts	65.38	
11/12/20	71869	fle001	Flemings Auto Service	4820-101-000	Vehicle Maintenance-General	59.65	
11/12/20	71870	gre002	Greenwater Lab	4530-101-000	Water QM Staff-General	250.00	
11/12/20	71871	hom001	Home Depot Credit Services	4670-101-000	Natural Resources Project-General	125.52	
11/12/20	71872	kin001	FedEx Office	4370-101-000	Educational Program-General	105.78	
11/12/20	71873	nar001	Nardini Fire Equipment	4343-101-000	Bldg./Site Maintenance	263.50	
11/12/20	71874	ncp001	NCPERS Group Life Ins.	4040-101-000	Employee Benefits-General	16.00	
11/12/20	71875	pre003	Premium Waters, Inc.	4343-101-000	Bldg/Site Maintenance	26.00	
11/12/20	71876	stu001	Studio Lola	4371-101-000	Communications & Marketing	127.50	
11/12/20	71877	tru002	Trustees of Hamline University	4370-101-000	Educational Program-General	520.00	
11/12/20	71878	van001	Vanguard Cleaning Systems of Minnesota	4343-101-000	Bldg./Site Maintenance	550.00	
11/12/20	71879	vik001	Viking Industrial Center	4530-101-000	Water QM Staff-General	108.60	
11/23/20	71880	app003	Applewood Pointe of Shoreview Sr. Co-Op	4682-529-000	Stewardship Grant Fund	1,000.00	
11/23/20	71881	arl002	Janet Arleth	4682-529-000	Stewardship Grant Fund	600.00	
11/23/20	71882	att002	AT & T Mobility - ROC			136.53	
				4530-101-000	Water QM Staff-General		38.04
				4325-101-000	IT/Website/Software		43.22
				4325-101-000	IT/Website/Software		55.27
11/23/20	71883	aws001	AWS Service Center	4342-101-000	Utilities/Bldg. Contracts	212.09	
11/23/20	71884	bar001	Barr Engineering			122,329.66	
				4121-101-000	Engineering Admin-General Fund		4,337.00
				4123-101-000	Engineering-Review		3,577.00
				4129-101-000	Project Feasability-General		2,079.50
				4129-101-000	Project Feasability-General		5,336.50
				4129-101-000	Project Feasability-General		1,360.00
				4129-101-000	Project Feasability-General		2,239.00
				4129-101-000	Project Feasability-General		311.00
				4129-101-000	Project Feasability-General		2,050.00
				4129-101-000	Project Feasability-General		396.00
				4129-101-000	Project Feasability-General		393.50
				4170-101-000	GIS System Maint. & Equipment		75.00
				4520-101-000	Water QM-Engineering		2,732.00
				4520-101-000	Water QM-Engineering		132.00
				4520-101-000	Water QM-Engineering		2,205.50
				4520-101-000	Water QM-Engineering		2,976.20
				4520-101-000	Water QM-Engineering		3,218.43
				4520-101-000	Water QM-Engineering		2,730.00
				4520-101-000	Water QM-Engineering		2,518.50
				4122-101-000	Engineering-Permit I & E		2,521.75
				4124-101-000	Engineering-Permit Review		2,082.50
				4661-101-000	SLMP/TMDL Studies		3,264.50
				4661-101-000	SLMP/TMDL Studies		3,839.50
				4661-101-000	SLMP/TMDL Studies		105.00

Ramsey Washington Metro Watershed Dist.
Cash Disbursements Journal
For the Period From November 1, 2020 - November 30, 2020

Date	Check #	Vendor ID	Name	Account ID	Account Description	Amount	Check Detail
				4661-101-000	SLMP/TMDL Studies		330.50
				4695-101-000	Research Projects-General		122.50
				4695-101-000	Research Projects-General		735.00
				4650-101-000	Project Operations-General		206.00
				4128-518-000	Engineering-School/Commer Retrofit		14,204.50
				4128-518-000	Engineering-School/Commer Retrofit		7,780.65
				4128-518-000	Engineering-School/Commer Retrofit		192.00
				4128-518-000	Engineering-School/Commer Retrofit		100.00
				4128-553-000	Engineering-Wakefield		465.00
				4128-518-000	Engineering-School/Commer Retrofit		45.00
				4128-518-000	Engineering-School/Commer Retrofit		807.50
				4682-529-000	Stewardship Grant Fund		13,071.50
				4128-520-000	Engineering-Flood Damage		8,654.63
				4128-516-000	Engineering-Maint. & Repair		13,766.50
				4128-516-000	Engineering-Maint. & Repair		422.50
				4128-516-000	Engineering-Maint. & Repair		276.00
				4128-516-000	Engineering-Maint. & Repair		10,669.50
11/23/20	71885	bar004	Deborah Barnes	4040-101-000	Employee Benefits-General	40.00	
11/23/20	71886	ber006	Janet Berryhill	4682-529-000	Stewardship Grant Fund	787.48	
11/23/20	71887	blo001	Simba Blood			247.03	
				4040-101-000	Employee Benefits-General		80.00
				4020-101-000	Employee Expenses-General		27.83
				4320-101-000	Office Supplies-General		139.20
11/23/20	71888	bui001	Build Space, LLC	2024-101-000	Dev Escrow-General	9,690.00	
11/23/20	71889	cad001	Allstream	4650-101-000	Project Operations-General	69.45	
11/23/20	71890	car007	Carp Solutions, LLC	4670-101-000	Natural Resources Project-General	8,185.00	
11/23/20	71891	chi002	Linda Chimzar	4682-529-000	Stewardship Grant Fund	144.52	
11/23/20	71892	cit002	City of Maplewood	4630-553-000	Construction-Wakefield Park	245,445.53	
11/23/20	71893	cit006	City of Woodbury	4682-529-000	Stewardship Grant Fund	7,611.75	
11/23/20	71894	cit011	City of Roseville	4325-101-000	IT/Website/Software	4,163.00	
11/23/20	71895	com005	CommonBond Communities	4682-529-000	Stewardship Grant Fund	1,850.00	
11/23/20	71896	dev001	Mark Devine	4682-529-000	Stewardship Grant Fund	200.00	
11/23/20	71897	don001	Matthew Doneux			52.64	
				4040-101-000	Employee Benefits-General		21.10
				4670-101-000	Natural Resources Project-General		31.54
11/23/20	71898	eve001	Evergreen Country Homes	4682-529-000	Stewardship Grant Fund	532.50	
11/23/20	71899	fal001	7000 Fallbrook, LLC	2024-101-000	Dev Escrow-General	10,645.00	
11/23/20	71900	fit002	Mary Fitzgerald			86.00	
				4040-101-000	Employee Benefits-General		40.00
				4020-101-000	Employee Expenses-General		46.00
11/23/20	71901	gal001	Galawitz Olson, PLLC	4131-101-000	Attorney General-General	1,300.00	
11/23/20	71902	gru001	Gruber's Power Equipment	4670-101-000	Natural Resources Project-General	260.67	
11/23/20	71903	ham004	Hampden Woods HOA	4682-529-000	Stewardship Grant Fund	928.48	
11/23/20	71904	han008	Hanna Enterprises	4343-101-000	Bldg./Site Maintenance	300.00	
11/23/20	71905	hof001	Hoffman & McNamara Nursery & Landscape	4372-101-000	Construction Imp.-Maint. & Repair	2,312.65	
11/23/20	71906	hof002	John Hoffman	4682-529-000	Stewardship Grant Fund	337.50	
11/23/20	71907	inn002	Innovative Office Solutions, LLC	4320-101-000	Office Supplies-General	133.11	

Ramsey Washington Metro Watershed Dist.
Cash Disbursements Journal
For the Period From November 1, 2020 - November 30, 2020

Date	Check #	Vendor ID	Name	Account ID	Account Description	Amount	Check Detail
11/23/20	71908	int001	Office of MN, IT Services	4320-101-000	Telephone-General	57.48	
11/23/20	71909	jac001	Michele Jacobson	4682-529-000	Stewardship Grant Fund	4,877.50	
11/23/20	71910	jad001	Anita Jadar Photography	4325-101-000	IT/Website/Software	480.00	
11/23/20	71911	kos001	Helen Kosobayashi	4682-529-000	Stewardship Grant Fund	1,628.07	
11/23/20	71912	mcs001	Linda McShannock	4682-529-000	Stewardship Grant Fund	637.50	
11/23/20	71913	mel001	Michelle L. Melser	4020-101-000	Employee Expenses-General	106.38	
11/23/20	71914	mid003	Roseville Midway Ford	4820-101-000	Vehicle Maintenance-General	64.06	
11/23/20	71915	min008	Minnesota Native Landscapes, Inc.	4372-101-000	Construction Imp.-Maint. & Repair	23,442.50	
11/23/20	71916	mnd004	MN DNR Fisheries	4670-101-000	Natural Resources Project-General	250.00	
11/23/20	71917	mwf001	MWF Properties	2024-101-000	Dev Escrow-General	5,685.00	
11/23/20	71918	nor013	Northern Dewatering, Inc.	4630-520-000	Construction-Flood Damage	9,676.20	
11/23/20	71919	nsp001	Xcel Energy	4650-520-000	Project Operations-Flood	57.51	
11/23/20	71920	out001	Outdoor Lab Landscape Design, Inc.			107,311.25	
				4630-516-000	Construction Imp.-Maint. & Repair		9,105.00
				4630-518-000	Construction-Targeted Retrofit		98,206.25
11/23/20	71921	pac001	Pace Analytical Services, Inc.	4530-101-000	Water QM Staff-General	407.00	
11/23/20	71922	par004	Park View Terrace HOA	4682-529-000	Stewardship Grant Fund	1,000.00	
11/23/20	71923	pas002	Sage Passi			53.23	
				4020-101-000	Employee Expenses-General		13.23
				4040-101-000	Employee Benefits-General		40.00
11/23/20	71924	ram002	Ramsey County			101,063.15	
				4682-529-000	Stewardship Grant Fund		54,532.00
				4530-101-000	Water QM Staff-General		46,531.15
11/23/20	71925	red002	Redpath & Company, Ltd.	4110-101-000	Auditor/Accounting	2,852.50	
11/23/20	71926	she003	Shepherd of the Hills Lutheran Church	4682-529-000	Stewardship Grant Fund	515.00	
11/23/20	71927	sim001	Emily Simmons	4020-101-000	Employee Expenses-General	52.67	
11/23/20	71928	sod001	Nicole Soderholm			42.30	
				4040-101-000	Employee Benefits-General		40.00
				4020-101-000	Employee Expenses-General		2.30
11/23/20	71929	tri005	Trinity Presbyterian Church	4682-529-000	Stewardship Grant Fund	687.50	
11/23/20	71930	tro002	Cathy Troendle	4370-101-000	Educational Program-General	4,307.78	
11/23/20	71931	usb002	U.S. BanK			1,210.68	
				4320-101-000	Office Supplies		57.80
				4325-101-000	IT/Website/Software		92.11
				4350-101-000	Training & Education-General		(100.00)
				4320-101-000	Office Supplies		45.36
				4320-101-000	Office Supplies		42.02
				4320-101-000	Office Supplies		64.73
				4320-101-000	Office Supplies		73.98
				4320-101-000	Office Supplies		27.90
				4350-101-000	Training & Education-General		105.00
				4350-101-000	Training & Education-General		105.00
				4350-101-000	Training & Education-General		105.00
				4350-101-000	Training & Education-General		105.00
				4350-101-000	Training & Education-General		50.00
				4350-101-000	Training & Education-General		50.00
				4350-101-000	Training & Education-General		50.00

Ramsey Washington Metro Watershed Dist.
Cash Disbursements Journal
For the Period From November 1, 2020 - November 30, 2020

Date	Check #	Vendor ID	Name	Account ID	Account Description	Amount	Check Detail
				4350-101-000	Training & Education-General		50.00
				4350-101-000	Training & Education-General		105.00
				4320-101-000	Office Supplies		68.58
				4350-101-000	Training & Education-General		50.00
				4371-101-000	Communications & Marketing		63.20
11/23/20	71932	usb005	US Bank Equipment Finance	4335-101-000	Printing-General	294.00	
11/23/20	71933	van003	Erika Van Krevelen	4020-101-000	Employee Expenses-General	71.30	
11/23/20	71934	vet001	Nick Vetsch	4682-529-000	Stewardship Grant Fund	229.74	
11/23/20	71935	was002	Washington Conservation District			1,327.75	
				4682-529-000	Stewardship Grant Fund		1,213.00
				4530-101-000	Water QM Staff-General		114.75
11/23/20	71936	xce003	Xcel Energy	2024-101-000	Dev Escrow-General	8,000.00	
			Accounts Payable Total:			**$701,583.69**	
EFT	10/02/20	myp001	Payroll Fees	4110-101-000	October 2nd Payroll Fees	73.55	
EFT	10/16/20	myp001	Payroll Fees	4110-101-000	October 16th Payroll Fees	73.55	
EFT	10/30/20	myp001	Payroll Fees	4110-101-000	October 30th Payroll Fees	73.55	
Dir.Dep.	11/13/20	---	Payroll Expense-Net	4010-101-000	November 13th Payroll	29,380.44	
EFT	11/13/20	int002	Internal Revenue Service	2001-101-000	November 13th Federal Withholding	9,933.13	
EFT	11/13/20	mnd001	MN Revenue	2003-101-000	November 13th State Withholding	1,841.35	
EFT	11/13/20	per001	PERA	2011-101-000	November 13th PERA	5,909.79	
EFT	11/13/20	emp002	Empower Retirement	2016-101-000	Employee Def.Comp. Contributions	2,379.00	
EFT	11/13/20	emp002	Empower Retirement	2018-101-000	Employee IRA Contributions	425.00	
Dir.Dep.	11/27/20	---	Payroll Expense-Net	4010-101-000	November 27th Payroll	29,513.22	
EFT	11/27/20	int002	Internal Revenue Service	2001-101-000	November 27th Federal Withholding	10,029.63	
EFT	11/27/20	mnd001	MN Revenue	2003-101-000	November 27th State Withholding	1,852.20	
EFT	11/27/20	per001	PERA	2011-101-000	Novembe 27th PERA	5,958.93	
EFT	11/27/20	emp002	Empower Retirement	2016-101-000	Employee Def.Comp. Contributions	2,454.00	
EFT	11/27/20	emp002	Empower Retirement	2018-101-000	Employee IRA Contributions	450.00	
						$100,347.34	
			Payroll/Benefits				
			TOTAL:			**$801,931.03**	

2019 STORMWATER BMP SELECTIVE TREE REPLACEMENT
RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
Progress Payment Application No. 2 - FINAL

1.	Completed to Date:	$ 46,351.00		
2.	Less Previously Billed:	$ 44,038.35		
3.	Amount Completed This Period:			$ -
4.	Amount Previously Retained:		$ 2,312.65	
5.	Amount Retained This Period (See Note 1):			$ -
6.	Total Amount Retained (See Note 2):		$ 2,312.65	
7.	Retainage Released Through This Period:			$ 2,312.65
8.	Less Total Retainage Remaining:		$ -	
9.	Amount Due This Period:			**$ 2,312.65**

Note 1: At rate of 10% until Completed to Date equals 50% of current Contract Price and a rate of 0% thereafter.
Note 2: Maximum amount is 5% of current Contract Price (Contract Price is $46,253.00)

SUBMITTED BY:
Name: Mike McNamara Date: 11/12/20
Title: President
Contractor: Hoffman & McNamara Nursery and Landscape

Signature:

RECOMMENDED BY:
Name: Andrea Wedul Date: 11/6/2020
Title: Project Manager
Engineer: Barr Engineering Company

Signature:

APPROVED BY:
Name: Marj Ebensteiner Date:
Title: President
Owner: Ramsey-Washington Metro Watershed District

Signature:

PREPARED BY:
Barr Engineering, Inc.
Barr Project #23621029

Ramsey-Washington Metro Watershed District (RWMWD) Maplewood Mall 2019 Stormwater BMP Selective Tree Replacement Construction Contract Amount for Progress Payment				BID TOTAL		INVOICE #1 TOTAL COMPLETED THROUGH THIS PERIOD			INVOICE #2 TOTAL COMPLETED THROUGH THIS PERIOD		
Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Extended Cost	Unit Price	Actual Quantity	Extended Cost	Unit Price	Actual Quantity	Extended Cost
A	General conditions, mobilization/demobilization, Contractor O&P, etc. (P)	LS	1	$ 4,500.00	**$ 4,500.00**	$ 4,500.00	1	**$ 4,500.00**	$ 4,500.00	0	**$ -**
B	Selective tree removal and disposal - all above and below-ground material (all planting areas) (P)	EA	71	$ 245.00	**$ 17,395.00**	$ 245.00	73	**$ 17,885.00**	$ 245.00	0	**$ -**
C	Planting soil with mycorrhizal additive (P)	CY	10	$ 65.00	**$ 650.00**	$ 65.00	8	**$ 520.00**	$ 65.00	0	**$ -**
D	Rock mulch [Type A mulch] (2" depth) (P) Furnish & install	CY	14	$ 167.00	**$ 2,338.00**	$ 167.00	8	**$ 1,336.00**	$ 167.00	0	**$ -**
E	Double-shredded hardwood mulch [Type B mulch] Furnish & install (3" depth) (P)	CY	0.5	$ 140.00	**$ 70.00**	$ 140.00	1.5	**$ 210.00**	$ 140.00	0	**$ -**
F	Deciduous tree, cont. or gravel-bed grown (P) Furnish & install	EA	71	$ 300.00	**$ 21,300.00**	$ 300.00	73	**$ 21,900.00**	$ 300.00	0	**$ -**
				TOTAL BID AMOUNT	**$ 46,253.00**	**TOTAL (PAY APPLICATION #1)**		**$ 46,351.00**	**TOTAL (PAY APPLICATION #2)**		**$ -**

2020 SCHOOLS & FAITH-BASED SITES BMP RETROFITS
BOYS AND GIRLS CLUB EASTSIDE
RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
Progress Payment Application No. 1

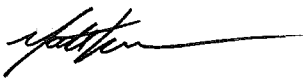
1.	Completed to Date:	$ -		
2.	Less Previously Billed:		$ -	
3.	Amount Completed This Period:			$ 103,375.00
4.	Amount Previously Retained:		$ -	
5.	Amount Retained This Period (See Note 1):			$ (5,168.75)
6.	Total Amount Retained (See Note 2):		$ (5,168.75)	
7.	Retainage Released Through This Period:			$ -
8.	Less Total Retainage Remaining:		$ (5,168.75)	
9.	Less Amounts Previously Paid	$ -		
10.	Amount Due This Period:			**$ 98,206.25**

Note 1: At rate of 10% until Completed to Date equals 50% of current Contract Price and a rate of 0% thereafter.
Note 2: Maximum amount is 5% of current Contract Price (Original Contract Price is $97,675.00; adjusted Contract Price to date is $103,375.00)

SUBMITTED BY:
Name: Chuck Hanna Date: 11/16/20
Title: President
Contractor: Outdoor Lab

Signature: 

RECOMMENDED BY:
Name: Matt Kumka Date: 10/27/2020
Title: Project Manager
Engineer: Barr Engineering Company

Signature: 

APPROVED BY:
Name: Marj Ebensteiner Date: _____
Title: President
Owner: Ramsey-Washington Metro Watershed District

Signature:

BOYS AND GIRLS CLUB EASTSIDE - PERMEABLE PAVEMENT PROJECT
PAY APPLICATION #1

				Bid Total		Change Order #1 (6/24/20)		Change Order #2 (7/16/20) Contract Total Correction		Change Order #3 (10/27/20)		Progress Pay App #1	
Item	Description	Unit	Estimated Quantity	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension
A	Mobilization/Demobilization/Traffic Control/Erosion Control	L.S.	1	$5,200.00	$5,200.00	0	-	0	-	0	-	$5,200.00	$5,200.00
B	Inlet Protection	EA	2	$180.00	$360.00	0	-	0	-	0	-	$180.00	$360.00
C	6" Sediment Control Log	L.F.	250	$4.50	$1,125.00	0	-	0	-	0	-	$4.50	$1,125.00
D	Sawcut Pavement	L.F.	260	$8.00	$2,080.00	0	-	0	-	0	-	$8.00	$2,080.00
E	Remove and Dispose Asphalt	SY	331	$10.00	$3,310.00	0	-	0	-	0	-	$10.00	$3,310.00
F	2" Bituminous Milling	S.Y.	151	$30.00	$4,530.00	0	-	0	-	0	-	$30.00	$4,530.00
G	Remove Concrete Curb and Gutter	L.F.	70	$10.00	$700.00	0	-	0	-	0	-	$10.00	$700.00
H	Remove Sod	S.Y.	135	$5.00	$675.00	0	-	0	-	0	-	$5.00	$675.00
I	Excavate, Haul, and Dispose	C.Y.	180	$50.00	$9,000.00	0	-	0	-	0	-	$50.00	$9,000.00
J	2" Thick Bituminous Wearing Coarse & Tack Coat	S.Y.	151	$30.00	$4,530.00	0	-	0	-	0	-	$30.00	$4,530.00
K	Permeable Pavers with bedding course and joint filler	S.F.	2,980	$10.00	$29,800.00	0	-	0	-	0	-	$10.00	$29,800.00
L	3/4" Washed Chip (Granite)	TON	85	$55.00	$4,675.00	0	-	0	-	93	$5,115.00	$55.00	$9,790.00
M	B 612 Concrete Curb & Gutter	L.F.	75	$35.00	$2,625.00	0	-	0	-	0	-	$35.00	$2,625.00
N	Concrete Ribbon Curb	L.F.	189	$40.00	$7,560.00	0	-	0	-	0	-	$40.00	$7,560.00
O	4" Perforated CPEP Draintile	L.F.	196	$10.00	$1,960.00	0	-	0	-	0	-	$10.00	$1,960.00
P	4" PVC Draintile	L.F.	4	$13.00	$52.00	0	-	0	-	0	-	$13.00	$52.00
Q	12" SCH 40 PVC Pipe	L.F.	51	$55.00	$2,805.00	-20	-$1,100.00	0	-	5	$275.00	$55.00	$1,980.00
R	Draintile Cleanout	EA	3	$200.00	$600.00	0	-	0	-	0	-	$200.00	$600.00
S	Connect Draintile to Storm Sewer/Catch Basin	EA	1	$800.00	$800.00	0	-	0	-	0	-	$800.00	$800.00
T	Catch Basin (2' x 3' Precast)	EA	1	$1,500.00	$1,500.00	0	-	0	-	0	-	$1,500.00	$1,500.00
U	Parking Lot Striping	L.S.	1	$900.00	$900.00	0	-	0	-	0	-	$900.00	$900.00
V	4" Black Powder Coated Landscape Edging	L.F.	150	$10.00	$1,500.00	0	-	0	-	0	-	$10.00	$1,500.00
W	Sod	S.Y.	20	$10.00	$200.00	0	-	0	-	0	-	$10.00	$200.00
X	Twice-Shredded Hardwood Mulch (3" depth)	C.Y.	25	$60.00	$1,500.00	0	-	0	-	0	-	$60.00	$1,500.00
Y	4" Pot Perennial (Furnish & Install)	EA	324	$12.00	$3,888.00	0	-	0	-	0	-	$12.00	$3,888.00
Z	#1 Cont. Perennial (Furnish & Install)	EA	290	$20.00	$5,800.00	0	-	0	-	0	-	$20.00	$5,800.00
AA	Additional Asphalt for Concrete Forming	EA	0	$150.00	$0.00	0	-	0	-	3	$450.00	$150.00	$450.00
BB	Additional Permit Fees	LS	1	$960.00	$0.00	0	-	0	-	1	$960.00	$960.00	$960.00
			TOTAL BASE BID		$97,675.00		#########		$96,575.00		$6,800.00		$103,375.00

Summary of Professional Engineering Services During the Period
October 17, 2020 through November 13, 2020

	Total Engineering Budget (2020)	Total Fees to Date (2020)	Budget Balance (2020)	Fees During Period	District Accounting Code	Plan Implementation Task Number
Engineering Administration						
General Engineering Administration	$76,000.00	$58,546.40	$17,453.60	$4,337.00	**4121-101**	DW-13
RWMWD Health and Safety/ERTK Program	$2,000.00	$850.00	$1,150.00		**4697-101**	DW-13
Educational Program/Educational Forum Assistance	$20,000.00	$1,109.50	$18,890.50		**4129-101**	DW-11
Engineering Review						
Engineering Review	$55,000.00	$39,590.50	$15,409.50	$3,577.00	**4123-101**	DW-13
Project Feasibility Studies						
Interim emergency response plan funds for top priority District flooding areas	$45,000.00	$154.00	$44,846.00		**4129-101**	DW-19
Beltline Resiliency and Phalen Chain Water Level Management Study	$217,000.00	$171,733.50	$45,266.50	$2,079.50	**4129-101**	BELT-3
FEMA Flood Mapping Update	$109,720.00	$68,882.00	$40,838.00	$5,336.50	**4129-101**	DW-9
Modeling of 500-year event Atlas 14 District-wide (Climate Change Scenario) and Generation of Flood Maps for Future Outreach Efforts	$70,000.00	$47,285.50	$22,714.50		**4129-101**	DW-9
Hillcrest Golf Course (multi-use)	$25,000.00	$16,224.50	$8,775.50	$1,360.00	**4129-101**	DW-6
Gold BRT planning	$20,000.00	$0.00	$20,000.00		**4129-101**	DW-6
Owasso Basin by-pass pipeline feasibility study/prelim design (Atlas 14 #1 priority area)	$125,000.00	$156,916.54	-$31,916.54	$2,239.00	**4129-101**	GC-3, BELT-3
Willow Creek flood damage reduction feasibility study (Atlas 14 - #2 priority flooding area)	$50,000.00	$26,504.96	$23,495.04	$311.00	**4129-101**	DW-9, BELT-3
Ames Lake area flood damage reduction feasibility study (Atlas 14 #3 priority area)	$50,000.00	$7,116.00	$42,884.00	$2,050.00	**4129-101**	DW-9, BELT-3
West Vadnais Lake to South of I-694 Conveyance Feasibility Study	$35,000.00	$56,380.73	-$21,380.73	$396.00	**4129-101**	DW-9, BELT-3
Battle Creek PFAS (monitoring, source ID, meetings, communications)	$25,000.00	$1,150.00	$23,850.00		**4129-101**	DW-10
694/494/94 WQ treatment feasibility study	$30,000.00	$122.50	$29,877.50		**4129-101**	BCL-3
Subwatershed feasiblity studies for At-Risk creeks (Fish Creek and Gervais Creek)	$40,000.00	$19,462.95	$20,537.05	$393.50	**4129-101**	DW-1, DW-2
Battle Creek Lower Ravine Restoration Feasibility Study	$25,000.00	$0.00	$25,000.00		**4129-101**	BC-3
Wetland Restoration Site Search	$25,000.00	$29,059.60	-$4,059.60		**4129-101**	DW-8
Contingency*	$25,000.00	$0.00	$25,000.00		**4129-101**	
GIS Maintenance						
GIS Maintenance	$5,000.00	$75.00	$4,925.00	$75.00	**4170-101**	DW-13
Monitoring Water Quality/Project Monitoring						
Lake Water Quality Monitoring (Misc QA/QC)	$10,000.00	$98.00	$9,902.00		**4520-101**	DW-2
Special Project BMP Monitoring and annual report development	$25,000.00	$32,500.65	-$7,500.65	$2,732.00	**4520-101**	DW-12
Auto lake monitoring system for Grass Lake	$20,000.00	$20,796.11	-$796.11	$132.00	**4520-101**	DW-18
Auto lake monitoring system for Owasso Lake	$20,000.00	$23,598.75	-$3,598.75		**4520-101**	DW-18
Auto lake monitoring system for Phalen Lake	$20,000.00	$18,891.28	$1,108.72		**4520-101**	DW-18
Auto lake monitoring system for Snail Lake	$20,000.00	$28,970.49	-$8,970.49	$2,205.50	**4520-101**	DW-18
Auto lake monitoring system for Wabasso Lake	$20,000.00	$22,072.60	-$2,072.60		**4520-101**	DW-18
Auto lake monitoring system for Spoon Lake	$20,000.00	$14,150.69	$5,849.31	$2,976.20	**4520-101**	DW-18
Auto lake monitoring system for Tanners Lake	$20,000.00	$25,735.77	-$5,735.77		**4520-101**	DW-18
Auto lake monitoring system for Battle Creek Lake	$20,000.00	$11,546.26	$8,453.74	$3,218.43	**4520-101**	DW-18
Auto lake monitoring system for Twin Lake	$20,000.00	$12,741.58	$7,258.42	$2,730.00	**4520-101**	DW-18
Auto lake monitoring system Data Webpage	$20,000.00	$6,517.50	$13,482.50	$2,518.50	**4520-101**	DW-18
Permit Processing, Inspection and Enforcement						
Permit Application Inspection and Enforcement	$10,000.00	$2,715.75	$7,284.25	$2,521.75	**4122-101**	DW-7
Permit Application Review	$55,000.00	$38,966.50	$16,033.50	$2,082.50	**4124-101**	DW-7
Lake Studies/WRPPs/TMDL Reports						
2020 Grant Applications	$20,000.00	$555.50	$19,444.50		**4661-101**	DW-13
Tanners Flood Response Tool Model Update	$3,000.00	$1,609.00	$1,391.00		**4661-101**	TaL-1
Internal load management - Sediment cores and macrophyte surveys for Wakefield, Bennett, Kohlman Lake, Round Lake (LC), Beaver Lake, Battle Creek Lake, Lake Owasso, Lake Emily, Twin Lake	$50,000.00	$41,616.24	$8,383.76	$3,264.50	**4661-101**	KL-2, GC-2, WL-3, BL-3, BCL-2, LE-4, BeL-3, LO-5, LE-4
Wakefield Lake internal load modeling (sediment and curlyleaf)	$30,000.00	$9,277.50	$20,722.50	$3,839.50	**4661-101**	WL-3, WL-4
WMP Updates - Including Implementation Plan Updates	$10,000.00	$1,440.00	$8,560.00	$105.00	**4661-101**	DW-13
Prioritization of water quality projects from subwatershed feasibility studies	$15,000.00	$11,101.35	$3,898.65	$330.50	**4661-101**	DW-13
Contingency for Lake Studies	$25,000.00	$0.00	$25,000.00		**4661-101**	
Research Projects						
New Technology Mini Case Studies (average 6 per year)	$12,000.00	$437.00	$11,563.00	$122.50	**4695-101**	DW-12
Kohlman Permeable Weir Test System - Implement Monitoring Plan	$15,000.00	$5,993.77	$9,006.23	$735.00	**4695-101**	DW-12
Phalen Chain of Lakes Changes in Water Quality	$5,000.00	$4,080.00	$920.00		**4695-101**	DW-12
Project Operations						
2020 Tanners Alum Facility Monitoring	$15,000.00	$15,519.64	-$519.64	$206.00	**4650-101**	TaL-3
Beltline Outlet and Keller Channel Operations Plans	$30,000.00	$0.00	$30,000.00		**4650-101**	DW-9, BELT-3
Capital Improvements						
Target and Motel 6 (Final Design, Plans and Specification Phase)	$289,400.00	$296,787.51	-$7,387.51	$14,204.50	**4128-518**	DW-6
East St. Paul Target (Contruction Phase)	$124,000.00	$34,285.21	$89,714.79	$7,780.65	**4128-518**	DW-6
Owasso County Park Stormwater Master Plan and Detailed Design: Phase 1 and Phase 2	$20,000.00	$5,343.00	$14,657.00	$192.00	**4128-518**	DW-6
Aldrich Arena (soils and plantings)	$25,000.00	$20,503.39	$4,496.61	$100.00	**4128-518**	DW-6, WL-1
Wakefield Park/Frost Avenue Stormwater Project	$17,500.00	$18,653.77	-$1,153.77	$465.00	**4128-553**	DW-6, WL-1
Commercial Sites Retrofit Projects 2020 (Targeted Retrofits) - Target/Motel 6/Boys club	$45,000.00	$9,400.00	$35,600.00	$45.00	**4128-518**	DW-6
School Sites Retrofit Projects 2020 (Targeted Retrofits)	$45,000.00	$11,308.36	$33,691.64	$807.50	**4128-518**	DW-6
Church Sites Retrofit Projects 2020 (Targeted Retrofit)	$45,000.00	$11,220.96	$33,779.04		**4128-518**	DW-6
BMP Incentive Fund: Gen'l BMP Design Assistance and Review (cases where Dist is approached by landowner, or landowner is not commercial, school, church).	$75,000.00	$49,461.40	$25,538.60	$13,071.50	**4682-529**	DW-6
Lowering West Vadnais Lake Outlet	$50,000.00	$48,499.75	$1,500.25		**4128-520**	DW-9
Wetland Restoration (Cottage Place or other)	$100,000.00	$0.00	$100,000.00		**4128-529**	DW-1, DW-8
Keller Channel Weir & Phalen Outet Resiliency Modifications	$250,000.00	$148,145.91	$101,854.09	$8,654.63	**4128-520**	DW-9, BELT-3
Twin Lake Outlet Easement Acquisition, Permitting, Construction Plans	$90,000.00	$70,461.87	$19,538.13		**4128-520**	DW-9
CIP Project Repair & Maintenance						
Routine CIP Inspection and Unplanned Maintenance Identification	$75,000.00	$52,099.30	$22,900.70	$13,766.50	**4128-516**	DW-5
Beltline 5-year Inspection	$100,000.00	$52,685.45	$47,314.55	$422.50	**4128-516**	BELT-2
2020 CIP Maintenance and Repairs	$150,000.00	$79,805.38	$70,194.62	$276.00	**4128-516**	DW-5
2021 CIP Maintenance and Repairs (planning, bidding, and project setup)	$30,000.00	$10,669.50	$19,330.50	$10,669.50	**4128-516**	DW-5

TOTAL PAYABLE FOR PERIOD 10/17/20 - 11/13/20 **$122,329.66**

Barr declares under the penalties of Law that this Account, Claim, or Demand is just and that no part has been paid.

Bradley J. Lindaman, Vice President

Galowitz Olson, PLLC
10390 39th Street North
Lake Elmo, Minnesota 55042
Office: (651) 777-6960
Fax: (651) 777-8937

Ramsey-Washington Metro Watershed District
C/O Tina Carstens
2665 Noel Drive
Little Canada MN 55117

November 18, 2020
File No: 9M

	Balance
General Account	$1,116.00
Markham Pond Aerator	$184.00
	$1,300.00

****

Permit Program

****

Saint Paul
PORT AUTHORITY

November 20, 2020

Nicole Soderholm
Permit Coordinator
Ramsey Washington Metro Watershed District

Dear Ms. Soderholm,

Thank you for the opportunity to present to the Watershed Board to introduce them to the Saint Paul Port Authority and our Hillcrest Redevelopment project. The former Hillcrest Golf Course site, located at the northeast corner of St. Paul, is one of the few remaining infill sites within the city of Saint Paul and is a unique opportunity to provide much-needed housing and job opportunities for the Greater East Side.

Over the past 10 years, several organizations have attempted to develop the site but have ultimately been unsuccessful due to the difficulty of cleaning up widespread mercury contamination caused by fungicide applications on the golf course greens.

In 2019 the St. Paul Port Authority acquired the site, with City Council approval to redevelop as a mixed-use site that blends housing and business with green space. While market studies indicate that the site has the potential to support 1,000 jobs and 1,000 housing units, the actual mix has yet to be determined. The Port's mission is to create quality job opportunities, expand the tax base, and advance sustainable development. Like every other project we are involved with, these priorities will drive the work we do.

Development of the site has many competing interests including providing housing, cleaning up widespread mercury contamination, providing recreation areas, preserving natural features, providing stormwater management, creating new jobs, improving east side transit connectivity, forming a neighborhood node for the area, and constructing a sustainable energy system to potentially create a carbon-free community.

The city of St. Paul is the Local Government Unit for the site and there have been multiple discussions with how the city will regulate stormwater management and potential mitigation of site wetlands. The Port recognizes that the Watershed will also be an essential component in leading the environmental outcomes of the site.

We look forward to discussing this project with you at the December 2nd Board Meeting.

Regards,
Monte Hilleman
SVP Real Estate Development

DEPARTMENT OF PLANNING &
ECONOMIC DEVELOPMENT
Kristin Guild, Interim Director

CITY OF SAINT PAUL
Melvin Carter, Mayor

25 West Fourth Street, Ste. 1400
Saint Paul, MN 55102

Telephone: 651-266-6700
Facsimile: 651-266-6549

Memorandum

Date: December 13, 2019
To: Hillcrest Community Advisory Committee
From: Bill Dermody, City Planner
Re: Inputs from the Hillcrest Technical Advisory Committee + Port Authority

The Hillcrest Technical Advisory Committee (TAC) was formed to guide the Hillcrest Master Plan regarding technical issues and established policy as applied to the site. The TAC consists of staff experts from Ramsey County, Maplewood, Metro Transit, and several City of Saint Paul departments/divisions: planning, zoning/site plan review, parks, transportation, sewers, water resources, finance, legal, housing, and economic development.* The Port Authority attends all TAC meetings to allow the property owner views and realities to be incorporated.

Over its first three meetings in 2019, the TAC and Port Authority have worked towards consensus on technical and policy inputs to provide to the consultant team for reference as they create 3 or 4 site concepts in 2020. Community priorities to be identified through upcoming community engagement (and confirmed by the CAC) will also guide creation of those site concepts.

The following memo summarizes the main points of input from the TAC + Port Authority that are likely to significantly impact site concepts. **We seek the CAC's thoughts on issues to highlight and the best way to convey them to the public during the engagement process.**

<u>Land Use</u>
Because it is an Opportunity Site with Mixed Use and Neighborhood Node designations in its northern portion according to the City's Comprehensive Plan, the site should be redeveloped as higher-density mixed-use or an employment center with increased full-time living wage job intensity. There should be a mixed-use focal point in the northern portion around which neighborhood amenities are clustered. The building massing, height, scale, and design should all transition to what is permitted in adjoining districts.

Because the site's southern portion is designated as Urban Neighborhood, any housing provided there should include some combination of townhouses, courtyard apartments, and smaller multi-family developments, compatible with the general scale of Urban Neighborhoods.

* Other agencies are coordinating with the project in various capacities but not participating in the TAC, including Saint Paul Public Schools, Saint Paul Regional Water Services, Metropolitan Council Sewers, and the Ramsey Washington Regional Watershed District.

Concepts should include an employment center that could be developed by the Port Authority. The Port Authority would like to bring 1,000 quality jobs to the site.

Recognize that developable lots will need to be created which may require removal of topographical barriers to development in conjunction with the mass grading (i.e. site soil balance) and on-site soil management.

Transportation

Use the Street Design Manual to guide right-of-way and trail design, with a general modal hierarchy of:

1. Pedestrians, with a focus on safety
2. Bicyclists, with a focus on safety
3. Transit
4. Other vehicles

Design the rights-of-way for all users, including older people, children and those with mobility constraints.

Improve public transit mode share here by establishing transit-supportive land use intensity and design.

Avoid heavy vehicle trips on local streets. Consider transportation impacts on adjacent neighborhoods from a network connection perspective, including sidewalk/trail connectivity to adjacent neighborhoods.

Line up any street connections to McKnight and Larpenteur with opposing streets.

Blocks will generally be 600 feet or smaller, with special flexibility from that in industrial areas.

Parks, Trails & Open Space

Connect Furness Parkway trails to the site and other area trails.

5 acres of active, improved park area and approximately 15 acres of publicly accessible passive open space and/or stormwater retention space.

Consider potential POPS (privately-owned public spaces) locations.

Housing

Family-sized affordable housing options should be among the units developed.

Some amount of legally binding affordable housing at a variety of affordabilities and sizes should be provided on the site.

Energy/Sustainability

The City would like to aim high for sustainability measures to reduce the site's carbon impact. (Placeholder: The details of a sustainability policy are still being worked out and will be shared publicly in the coming months, perhaps in time to be included in the Feb/Mar community engagement efforts. Public input on this topic is welcome regardless of where we are at in Feb/Mar.)

Financing

Due to Port Authority commitments to the City Council, all land sales and nearly all infrastructure costs are required to be market rate and market supportable. The one potential exception to this is advanced energy systems, especially if funded by non-City sources like grants or outside investors.

Concept plans should be realistic for the marketplace. Ensure all planned land uses are supported by market information as to product type, scale, and absorption volume and timing.

Hillcrest Master Plan Community Priorities

On April 21 and May 19, 2020, the Hillcrest Community Advisory Committee voted to approve the following 20 community priorities. These community priorities, alongside technical and policy priorities, will guide the Hillcrest Master Plan's creation.

1. New development should **respect the quiet nature** of the existing neighborhood. Whereas we recognize that new development may "open up" our neighborhood, we value our trees, quiet streets, access to nature, and sense of neighborhood. New development should not eliminate these qualities.
2. Neighborhoods should be **walkable** with connections to nearby parks, schools, public transportation and other amenities.
3. New development should address the serious **housing shortage** in Saint Paul.
4. New jobs on the site should be for a **diverse working class**, providing sustainable living wage jobs and have local hiring goals; stable jobs for skilled labor for all education levels, and not with high turnover rates.
5. Development on the site should **strengthen existing businesses** and also support the growth of small, local, and entrepreneurial businesses. This can include (but is not limited to) provisions and allowances for home (and garage) based businesses, affordable commercial workspaces, co-working and collaboration spaces, incubators/accelerators and startup retail including small shops and kiosks.
6. Any retail should be **pedestrian-accessible**, not automobile-based strip commercial. Attract distinctive small businesses like a coop grocery market, ice cream shop, small cafes, and entertainment venues.
7. Industrial/manufacturing building types **should integrate with the neighborhood's character** and be located on the edges of the site near higher volume streets like Larpenteur and McKnight.
8. The site (and the area) needs **better public transportation** connections. Therefore, the site should be developed in a manner that enables improved transit and encourages the use of public transportation.
9. **Extend trails into the site**, creating a pedestrian and recreational connection that allows people from the neighborhood to access the site, public spaces, and businesses.
10. Analyze the **public services that will be necessary** to provide for public safety such as additional fire and police, or a new elementary school.

11. Preserve and respect the **unique topography and features** of the site and maintain healthy mature trees. The rolling hills, wetlands and trees are valuable resources that define the site, perform important ecological functions, and for many are part of childhood memories. Incorporate them into park space, gardens, wetlands and other amenities useable year-round to distinguish the site.
12. The development should have **ample green space, open space, and park space** to support the needs of the people who will be living and working there and meet the City's green space and park requirements. These spaces should be connected to surrounding neighborhoods and Beaver Lake with multi-use trails and sidewalks.
13. The site should have ample **community spaces for people to gather and get to know each other** and break down barriers – community center, swimming pool, picnic space, splash pad and playground for young families, natural reserve for kids to explore, dog park and other public or semi-public elements that help create community. Also places for activities like community/educational gardens and a farmers market, and programming such as art in the park and community murals.
14. Design of housing should encourage **pride in one's home and the community**. [As revised by the CAC.]
15. Housing should **emphasize an interaction** with other residents and with nature.
16. Ideally, new jobs would be **"green jobs."**
17. Provide a **mix of housing options** on the Hillcrest site that blends into the existing community and allows people to both stay on the East Side and choose to live on the East Side. This may include smaller single family homes including two-three bedrooms for young families, cottages, twin and town homes, duplexes, live/work homes, homes that are affordable to many incomes and family types, senior options (assisted and independent living cottages), and starter homes, all with yards and green space a priority.
18. New housing should consider **emerging and existing family types** – such as multi generational, extended, and single person households, cooperative housing arrangements, and intergenerational mixes.
19. New development should help **complete the Greater East Side** by providing jobs, health services, pedestrian-accessible commercial and retail uses, and new housing that the East Side currently does not have. Retail should primarily serve the immediate area and not compete with White Bear Avenue.
20. Limit connections to the west and south that carry fast and high volumes of vehicular traffic. Connections into the site from the west and south should be **carefully designed so as to avoid excess traffic** flow through the neighborhood. Many neighborhood streets do not have sidewalks, so pedestrian safety is a priority. If traffic is increased, provide sidewalks.

Hillcrest Soil Contamination

It is widely known that soil contamination is a challenge at the Hillcrest redevelopment site. Standard golf course maintenance and operating procedures, between the 1950s and 1990s, left behind considerable amounts of mercury contamination. Most stem from fertilizers and fungicides that have since been prohibited. The table below shows the significance of current contamination levels.

Acceptable Mercury Levels

Current Levels at the Hillcrest Site	**Acceptable Levels** for Residential Areas	**Acceptable Levels** for Light Industrial Areas
Between **5.1** and **144** milligrams/kilogram	**0.5** milligrams/kilogram	**1.5** milligrams/kilogram

Additional Contamination

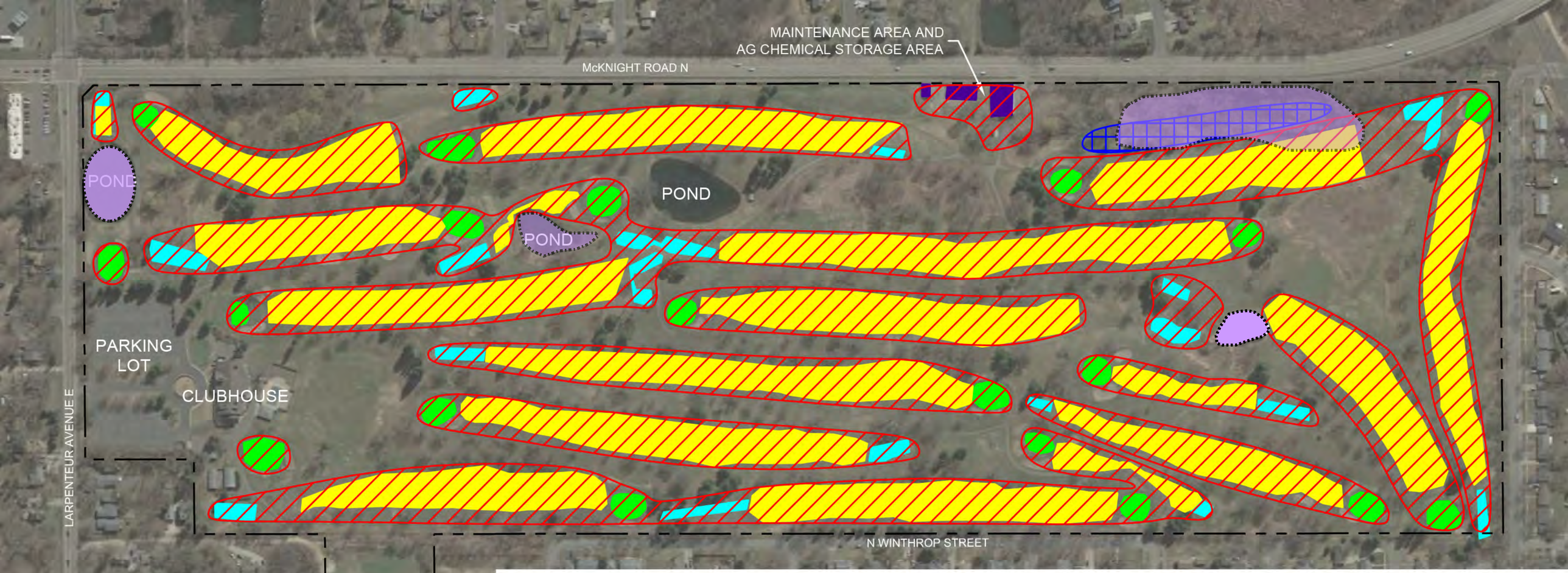
In addition to mercury, there are also isolated areas of petroleum contamination and physical debris that will need to be included in the cleanup. These areas are currently under investigation, in an effort to determine extent and magnitude.

Regulatory Parameters

The Saint Paul Port Authority voluntarily enrolled in both investigation and cleanup programs, through the Minnesota Department of Agriculture (MDA) and Minnesota Pollution Control Agency (MPCA). In turn, these agencies will oversee the remediation process and provide regulatory approvals.

Once the investigation is complete, and remediation activities drafted, we will reengage with the community for further feedback. For a more detailed account of this process, provided by Braun Intertec, go to www.sppa.com/hillcrestsoil.

Saint Paul
PORT AUTHORITY


MAINTENANCE AREA AND
AG CHEMICAL STORAGE AREA
McKNIGHT ROAD N
POND
POND
POND
PARKING
LOT
CLUBHOUSE
LARPENTEUR AVENUE E
N WINTHROP STREET
FURNESS PARKWAY
N
KNOWN OR SUSPECTED AREAS
OF MERCURY CONTAMINATION
REQUIRING EXCAVATION FOR
SITE CLEANUP
BERMS WITH DEBRIS /
SOLID WASTE
POND OR WETLAND WITH SEDIMENT SAMPLE
EXCEEDING AN MPCA CLEANUP STANDARD.
WETLAND INVESTIGATION ONGOING.
FORMER GREENS
FORMER TEE BOXES
FORMER FAIRWAYS
FORMER MAINTENANCE
AREA BUILDINGS

HILLCREST DEVELOPMENT OVERVIEW

RWMWD Board Meeting - December 2nd, 2020

Our Mission

The Saint Paul Port Authority creates quality job opportunities, expands the tax base and advances sustainable development.

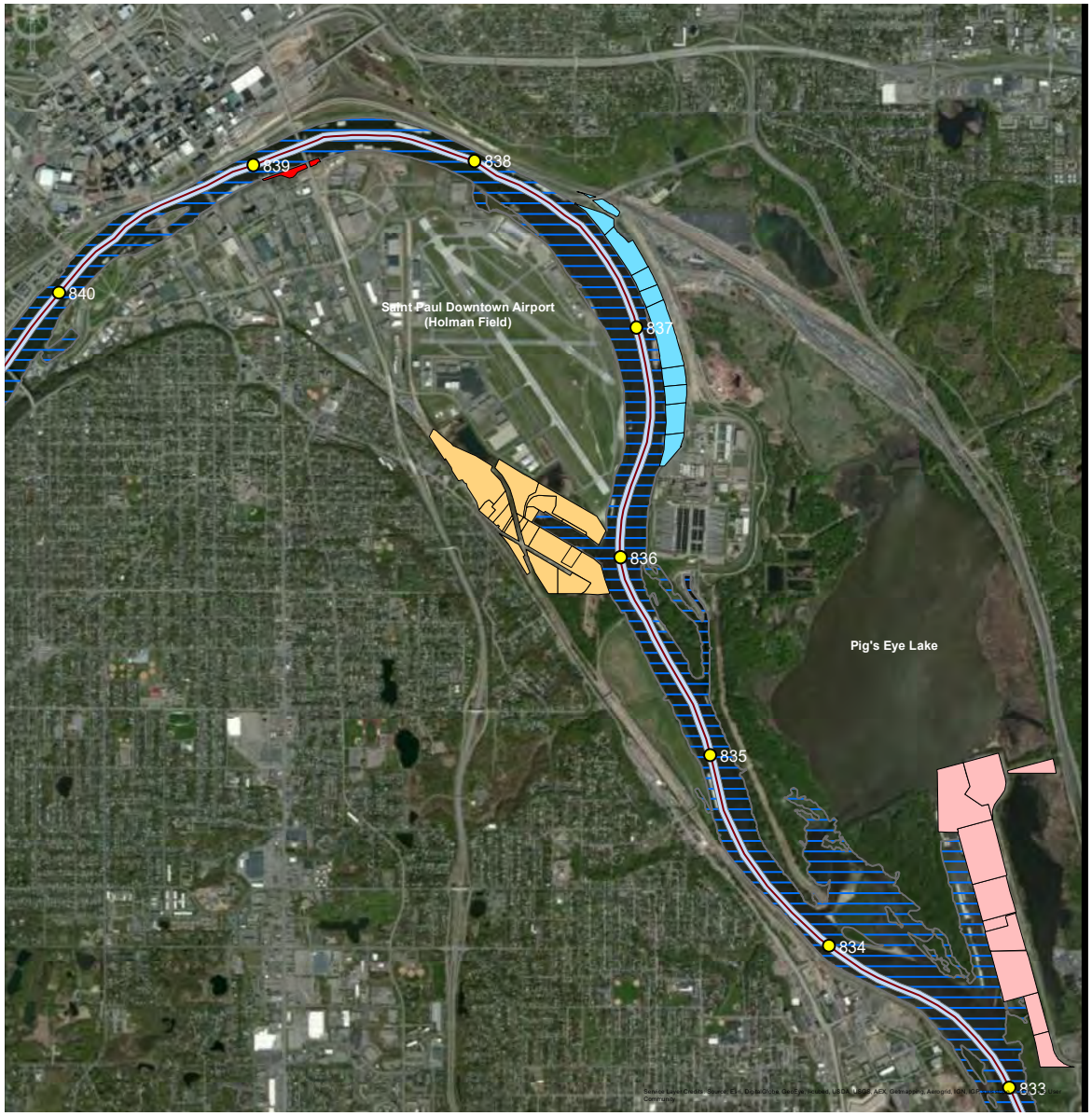
Saint Paul
PORT AUTHORITY

Our River Connection

- The Saint Paul Port Authority owns and manages four ports located along the Mississippi River in Saint Paul
- Our goal is to protect the integrity of the working river, which has been a long-time contributor to the Saint Paul economy

St. Paul Harbor

- 2nd largest terminal in the State of Minnesota
- Close to 1,100 jobs in our ports
- Generating $2 million+ in tax revenue



Saint Paul Harbor

Legend

- Barge Terminal 1
- Barge Terminal 2
- Southport Terminal
- Red Rock Terminal
- River Mile Marker
- River Centerline per ACOE
- ACOE 9ft Deep Navigation Channel (200ft Wide)
- Mississippi River Channel (Not Maintained by ACOE)

0 0.25 0.5 1 Miles

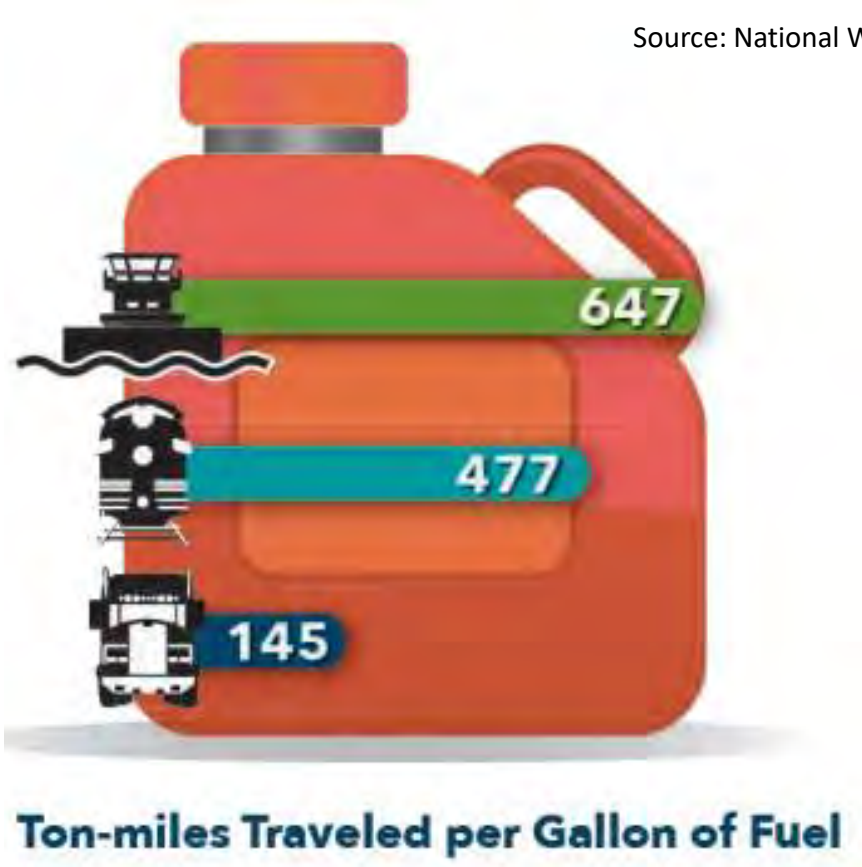
380 St. Peter Street
Suite 850
St. Paul, MN 55102
(651) 224-5686
www.sppa.com

Did You Know?

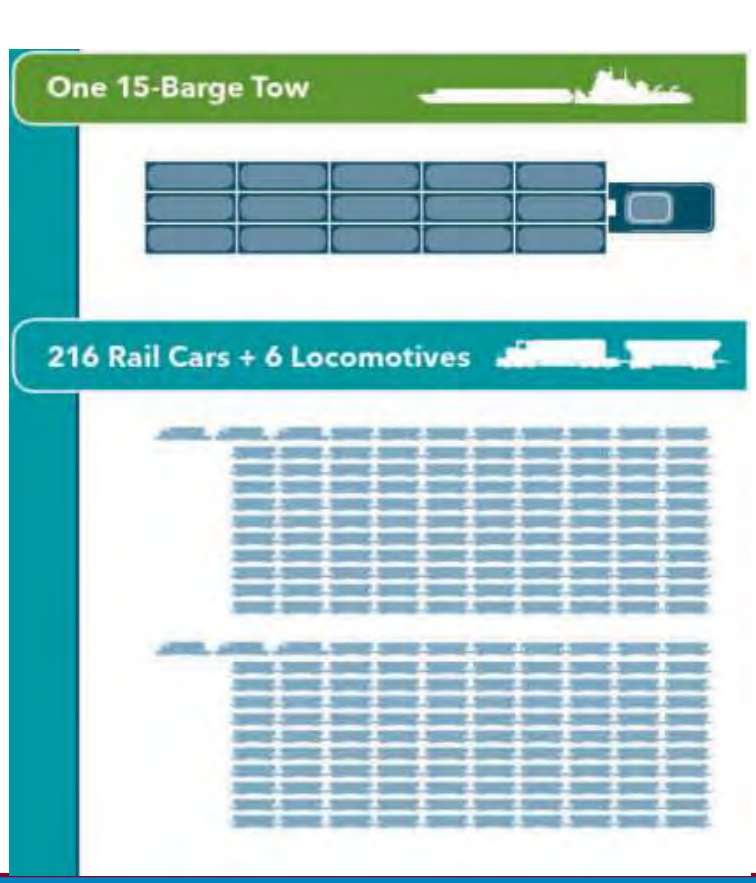
- Without access to the river… Minnesota farmers would lose access to the global market. *60 percent of all grain exports are directed through the U.S. Gulf Corridor.*
- Municipalities would pay more to treat drinking water. *Caustic soda, a key ingredient to clean drinking water, is imported via the river.*
- The cost of construction projects would increase. *Most of the cement used to make concrete is imported via the river.*
- The cost of road salt would increase. *Most road salt is imported via the river.*

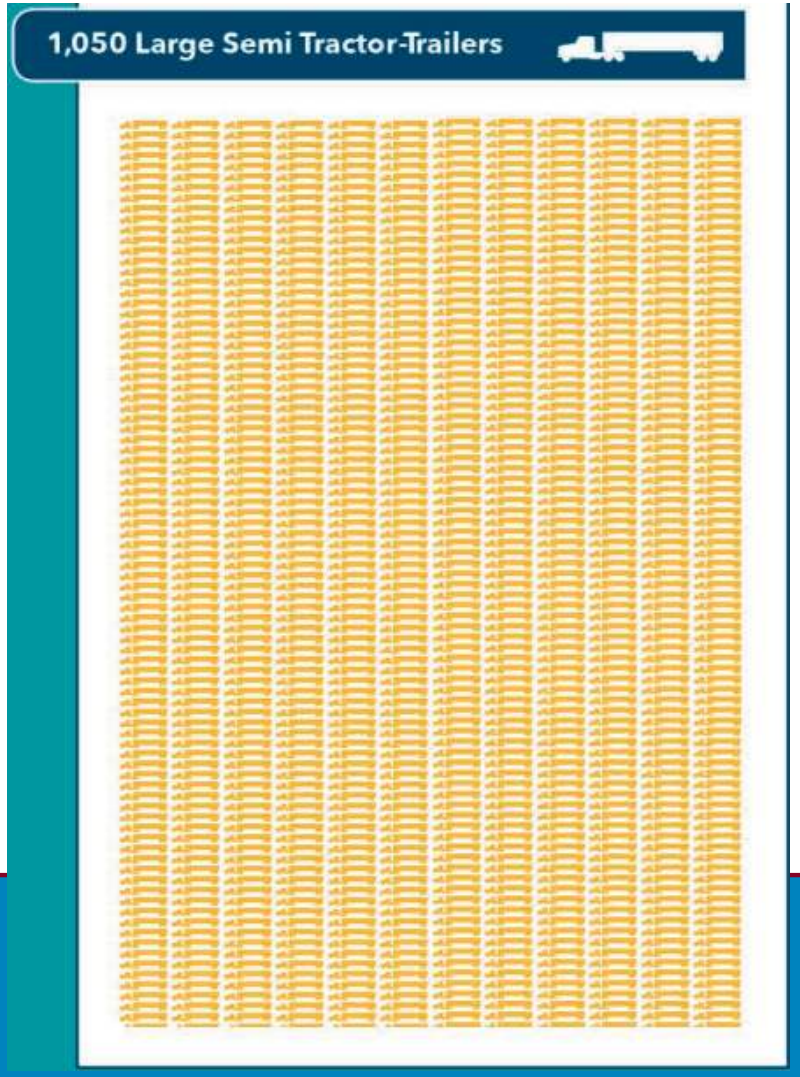
River Shipping is fuel efficient and helps relieve congestion on freeways

Source: National Waterways Foundation



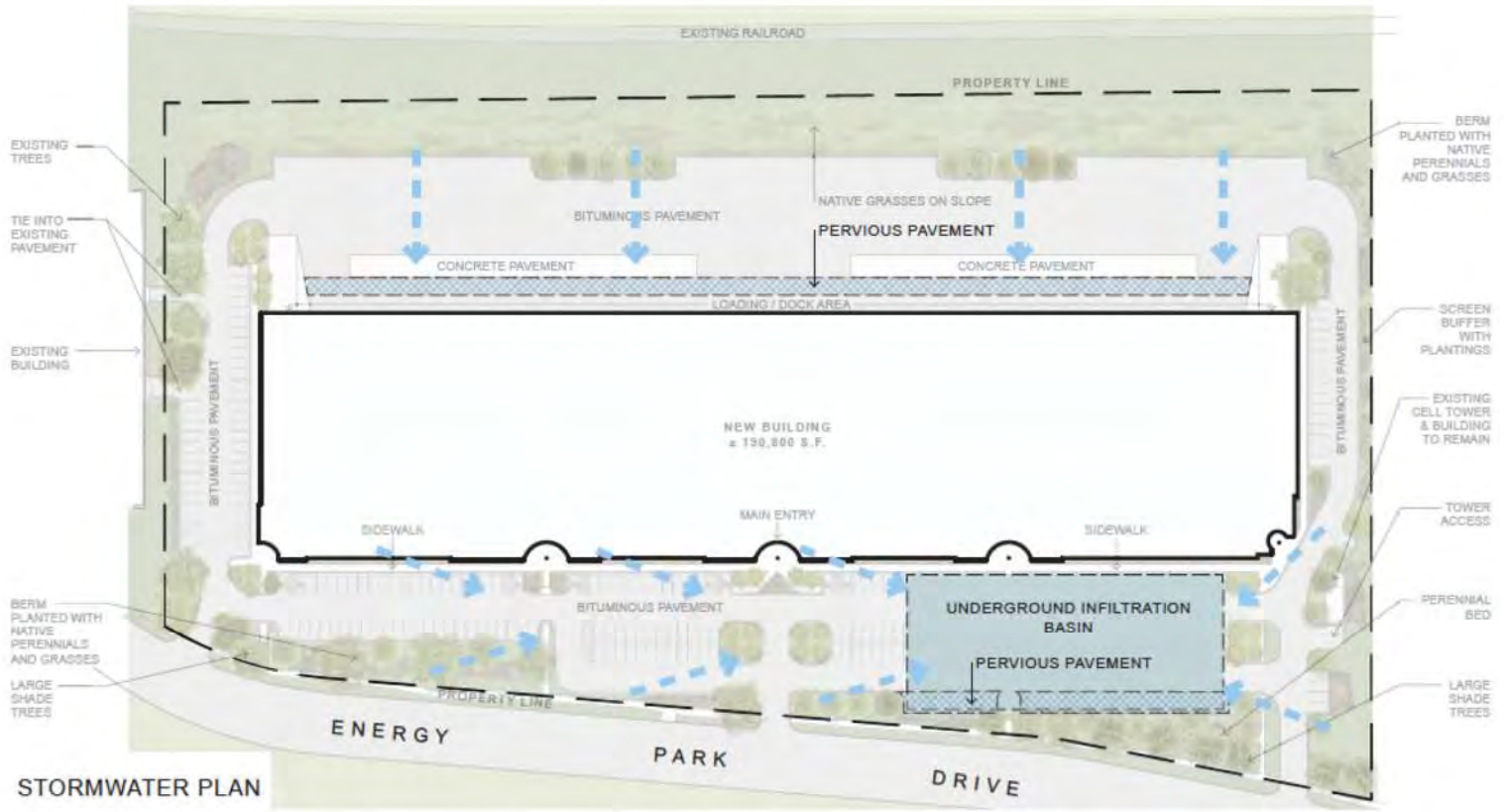
Saint Paul
PORT AUTHORITY





Source: National Waterways Foundation

Saint Paul
PORT AUTHORITY



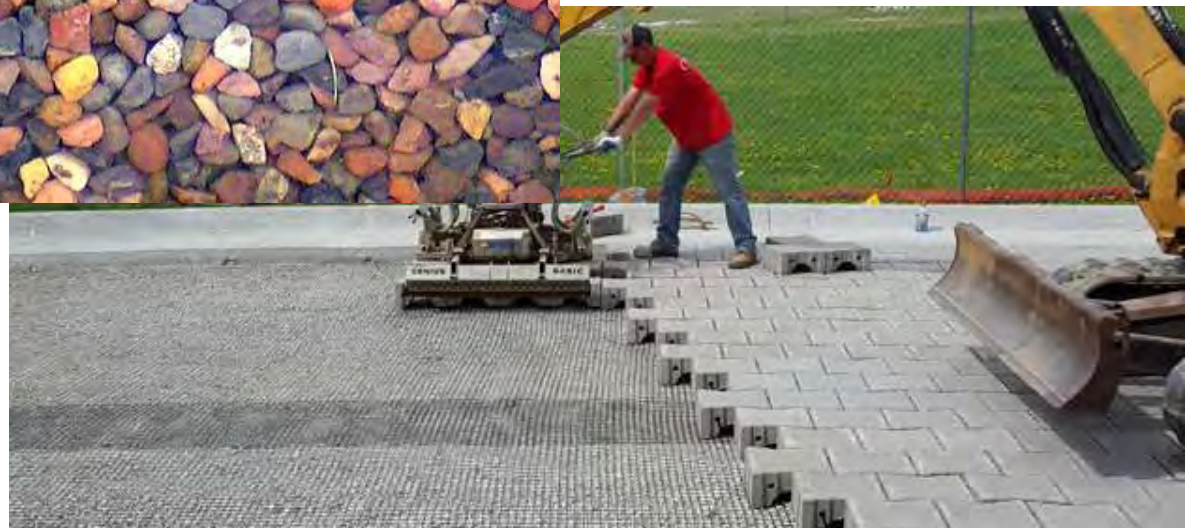
STORMWATER PLAN

MIDWAY STADIUM SITE REDEVELOPMENT

1771 ENERGY PARK DRIVE, SAINT PAUL, MN 55108
Neighborhood Meeting
April 2, 2015

UNITED PROPERTIES
PORT AUTHORITY
LHB PERFORMANCE DRIVEN DESIGN.

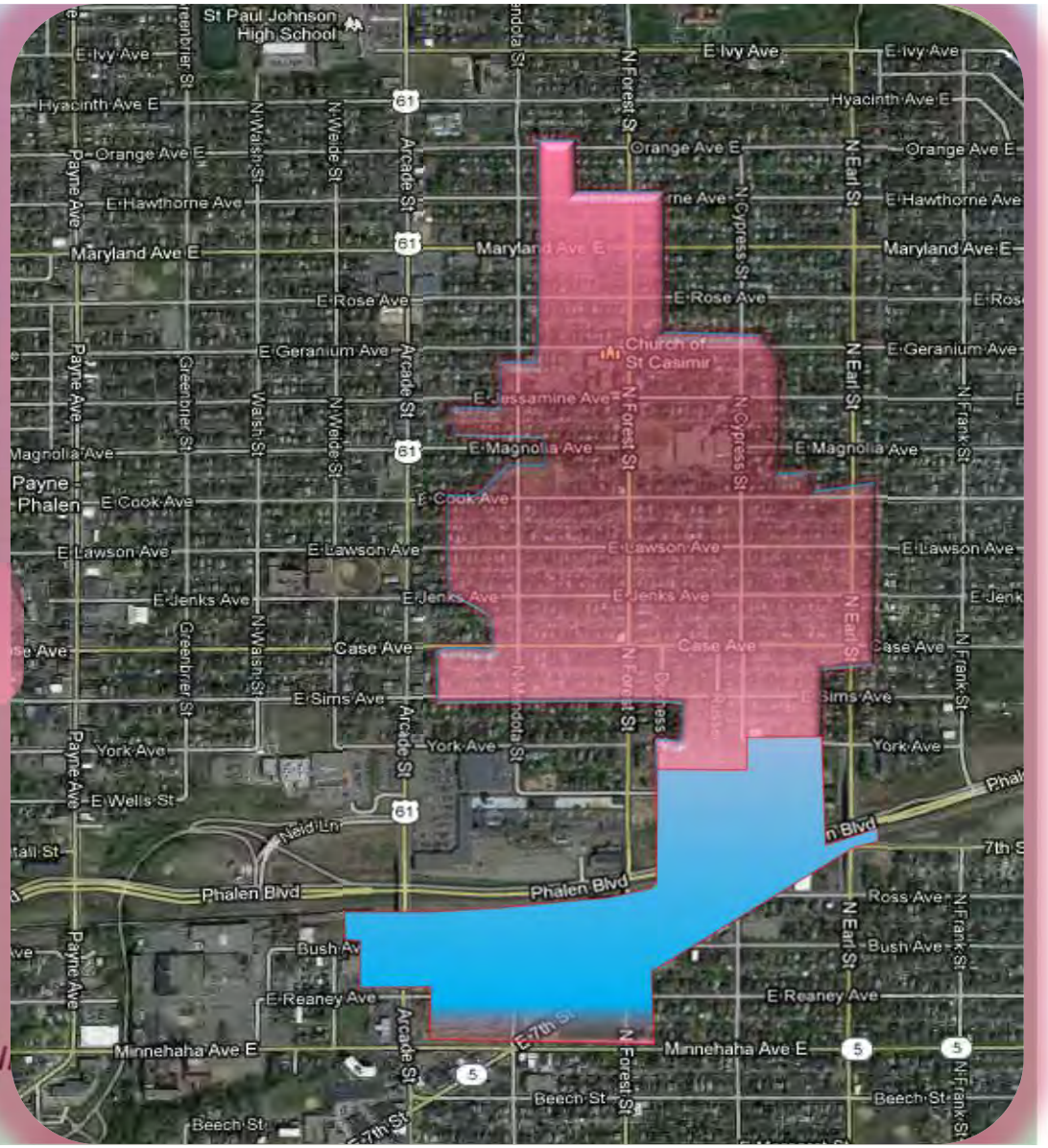

JOHNSON
CRANE SERVICE, INC.
(301) 937-5888
JOHNSON



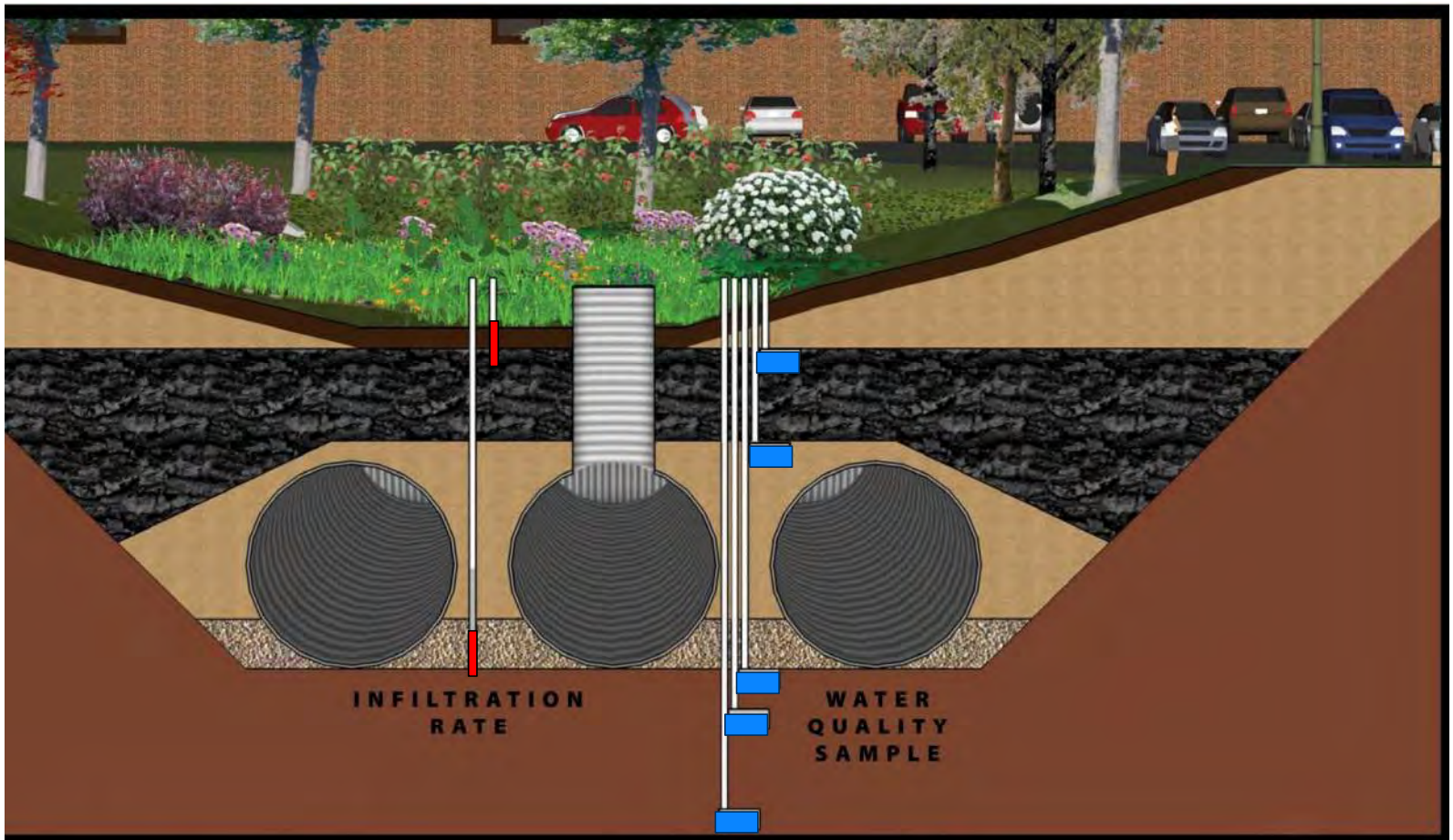

BEACON BLUFF
Baldinger Bakery
HealthEast
LOUCKS ASSOCIATES
BEACON BLUFF'S NEXT GENERATION BUSINESS CENTER ENCOMPASSES 61 ACRES ON ST. PAUL'S EAST SIDE. THE BUSINESS CENTER WILL BRING AN ESTIMATED 1,400 LIGHT INDUSTRIAL, OFFICE, COMMERCIAL, AND RETAIL JOBS TO THE NEIGHBORHOOD.
PHALEN BLVD.
RAILROAD
WELLS ST.
NEID LANE
ARCADE ST.
FOREST ST. N.
DUCHESS ST.
RUSSET ST.
EARL ST. N.
ATLANTIC ST.
JOHNSON PKWY.
7TH ST. E.
FRANK ST.
DULUTH ST. N.
ROSS AVE.
BUSH AVE.
REANEY AVE.
MENDOTA ST.
MINNEHAHA AVE. E.

Beacon Bluff Project
50 acres

Drainage Area
143.6 Acres



ADDED VALUBETTER BUI

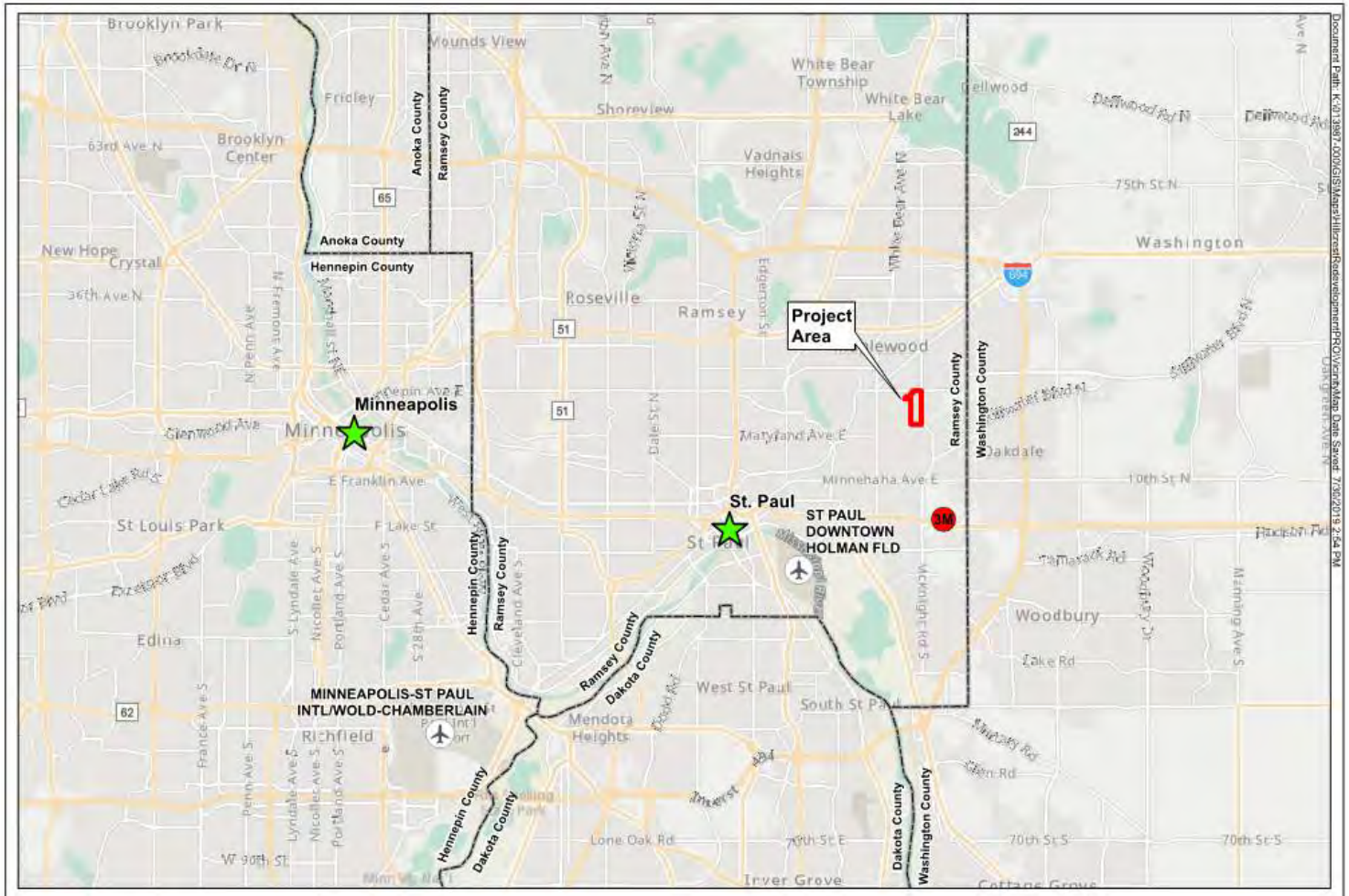


Beacon Bluff

Next Generation Metrics

SAINT PAUL PORT AUTHORITY

ADDED VALUBETTER BUILDINGS



Hillcrest Golf Course Redevelopment Vicinity


Maplewood
St. Paul
Larpenteur Ave E
Hayden Heights Playground
Northern Hayden Heights
Site Boundary
Sterling Oaks Park
Southern Hayden Heights
McKnight Rd N
Beaver Lake
Site Boundary
City Boundary

Timeline so far

The Hillcrest Golf Course timeline begins with its opening in 1921. Over the course of 96 years, it experienced a series of financial highs and lows and changed ownership multiple times. In 1945, a group of businessmen acquired the property and converted it to a Jewish-only operation. This was in response to the high level of anti-semitism at the time. Membership restrictions remained until the 1970s.

2011

The Steamfitters Pipefitters Local 455 acquired Hillcrest Golf Course, which was in bankruptcy proceedings. Their original intent was to build a training center on the site. During this time, the course remained open.

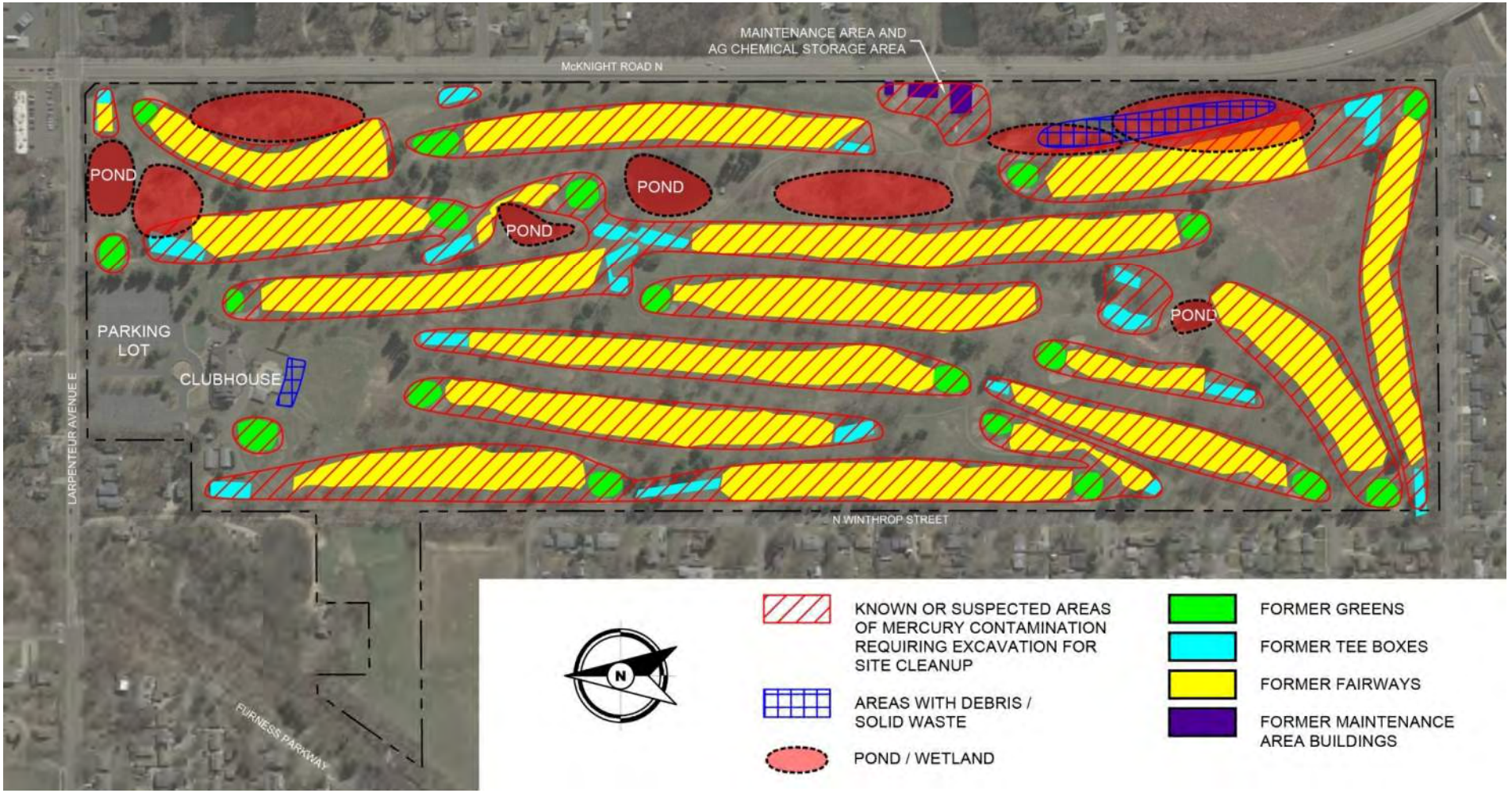
2018

When the Local 455 realized the property was too challenging for the traditional commercial real estate market, they approached the Saint Paul Port Authority. The project was a unique fit for the Port Authority, because of their expertise cleaning and redeveloping brownfields. From there, negotiations began and the Port Authority embarked on the due diligence process.

2019

In July 2019, the Saint Paul Port Authority purchased Hillcrest Golf Course for $10 million. The Saint Paul City Council and Port Authority Board of Commissioners both approved general obligation bonds to cover the purchase price.

Contamination



Contamination

Site Location Description	Typical Mercury Cleanup Standard - Residential	Typical Mercury Cleanup Standard – Commercial/Industrial	Highest Mercury Concentrations Detected at Hillcrest Site to Date
Greens/Fringes	0.5 mg/kg	1.5 mg/kg	144 mg/kg
Tee Boxes	0.5 mg/kg	1.5 mg/kg	7 mg/kg
Fairways	0.5 mg/kg	1.5 mg/kg	5 mg/kg
Pond/Wetland Areas	0.5 mg/kg	1.5 mg/kg	26.3 mg/kg
Notes:			
mg/kg = milligrams per kilogram			

- Multiple soil and sediment samples collected from the major pond/wetland areas.
- Mercury concentrations detected above anticipated cleanup standards in all but one pond/wetland area.
- Impacts likely related to runoff from greens, tee boxes, and fairways.
- Additional impacts likely from maintenance, equipment, and agricultural chemical storage areas near the southeast corner of Site.

WETLAND MANAGEMENT

According to the Wetland Conservation Act (WCA), Ramsey-Washington Metro Watershed District (RWMWD), and the City of St. Paul:

Wetland Classification	Manage A	Manage B	Manage C	Not Yet Assessed
Average Buffer Width	75 feet	50 feet	25 feet	Wetlands will need to be assessed by project applicant to understand appropriate management level
Minimum Buffer Width	37.5 feet	25 feet	12.5 feet	

Wetland Terminology

- Preservation: leave uncontaminated wetlands alone.
- Restoration: clean-up contaminated wetlands in their current location.
- On-site Mitigation: off-set of unavoidable wetland impacts through creation of new wetlands, i.e. build healthy wetlands at a new location within the site.
  - Only replacement option available to fulfill watershed rules at this time, since watershed credits are not available.
- Off-Mitigation: off-set of unavoidable wetland impacts through creation of new wetlands, i.e. buy off-site state credits or create new wetlands off-site.
  - Available option to fulfill WCA rules, as enforced by the City of St. Paul.

Necessary removal of contaminated soils within wetlands shall require dregging and restoration of wetlands within their existing footprint.

HILLCREST REDEVELOPMENT CONCEPT

Regulations

City of St. Paul is the LGU for this site.

- WCA requires 2:1 ratio mitigation for impact replacement.
- This can be accomplished through on-site mitigation or purchase of wetland credits.
- Development will follow siting requirements

RWMWD Rules

- Buffer requirement shall be meet for preserved, restored, on-site mitigated or created wetlands.
- St. Paul Port Authority recognizes that the watershed prefers on-site mitigation.

Implementation of Regulations

- The design will strive for 1:1 replacement on site.
- Location of on-site mitigation or created wetlands will be proposed adjacent to existing wetlands, or at hydraulically appropriate locations.

POLICY & TECHNICAL PRIORITIES HIGHLIGHTS

EMPLOYMENT + HOUSING + OPEN SPACE + NEIGHBORHOOD NODE

+/- 1000 JOBS

Saint Paul's East Side has seen a significant loss of living wage jobs over the past 30 years. Often taken for granted, living wage jobs and light industrial jobs have been middle class engines for over 100 years - offering job opportunities that support many workers and their families. The Port Authority (owners of the Hillcrest Property) endeavors to bring approximately 1000 jobs to the site in the form of light industrial, production, modern manufacturing and potentially office.

+/- 1000 HOUSEHOLDS

Housing at Hillcrest will likely occur in a range of styles, sizes and types - including single family homes, townhouses, apartments, cooperative living arrangements, as well as housing for seniors and larger families. Senior housing is particular value in this area of the city with a growing population over the age of 65.

+/- 20 ACRES OF OPEN SPACE

As a part of City ordinance and the Port Authoty's agreement withthe City, there wil be approximately 20 acres of open space on the site. Open space will be owned by the city and the Port and will be a combination of active park space, passive park space, ecological restoration and repair, and privately owned publicly accessible plazas.

ACTIVITY THROUGH SHARED USE

A portion of the site has been desingated as a NEIGHBORHOOD NODE in the City's Comprehensive Plan. NEIGHBORHOOD NODES are compact, mixed use areas that provide shops, services, neighborhood-scale civic and institutional uses, recreational facilities and employment close to residences. The community node development on Hillcrest will serve not only the new residents but the existing surronding communities.

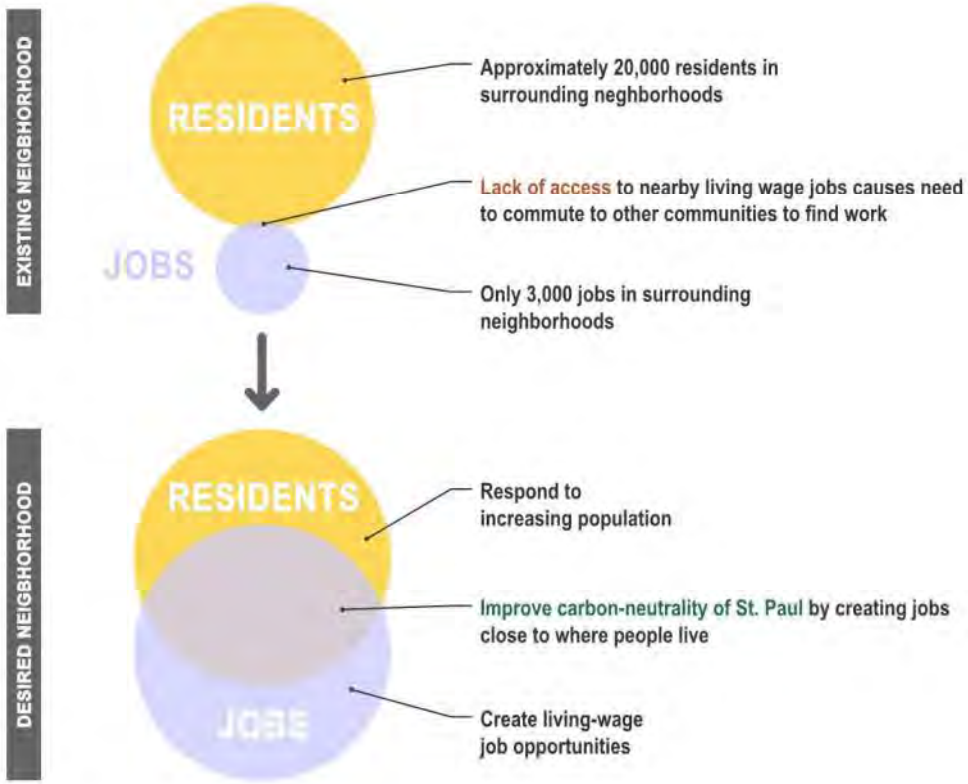
Lower Density Housing

Higher Density Housing

Active Park Space

Passive Open Space

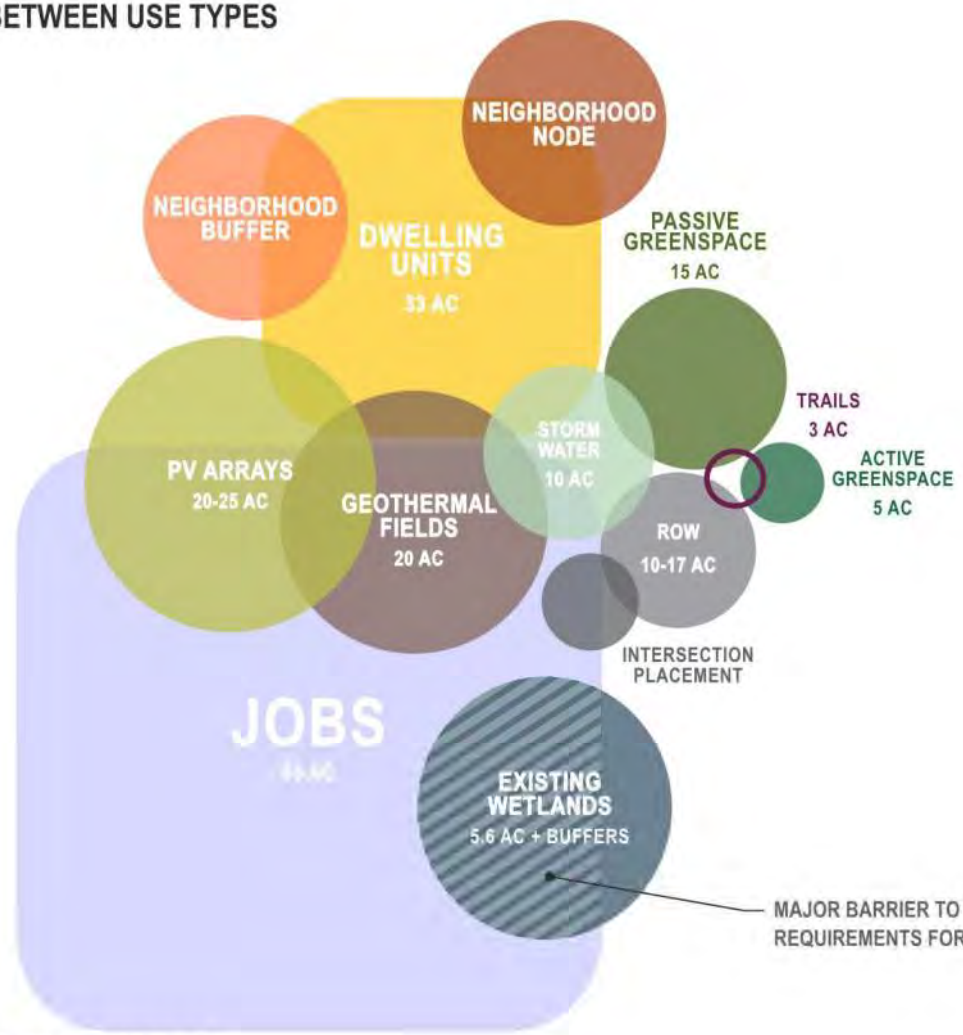
RATIO OF RESIDENTS TO JOBS



SPATIAL RELATIONSHIPS BETWEEN USE TYPES

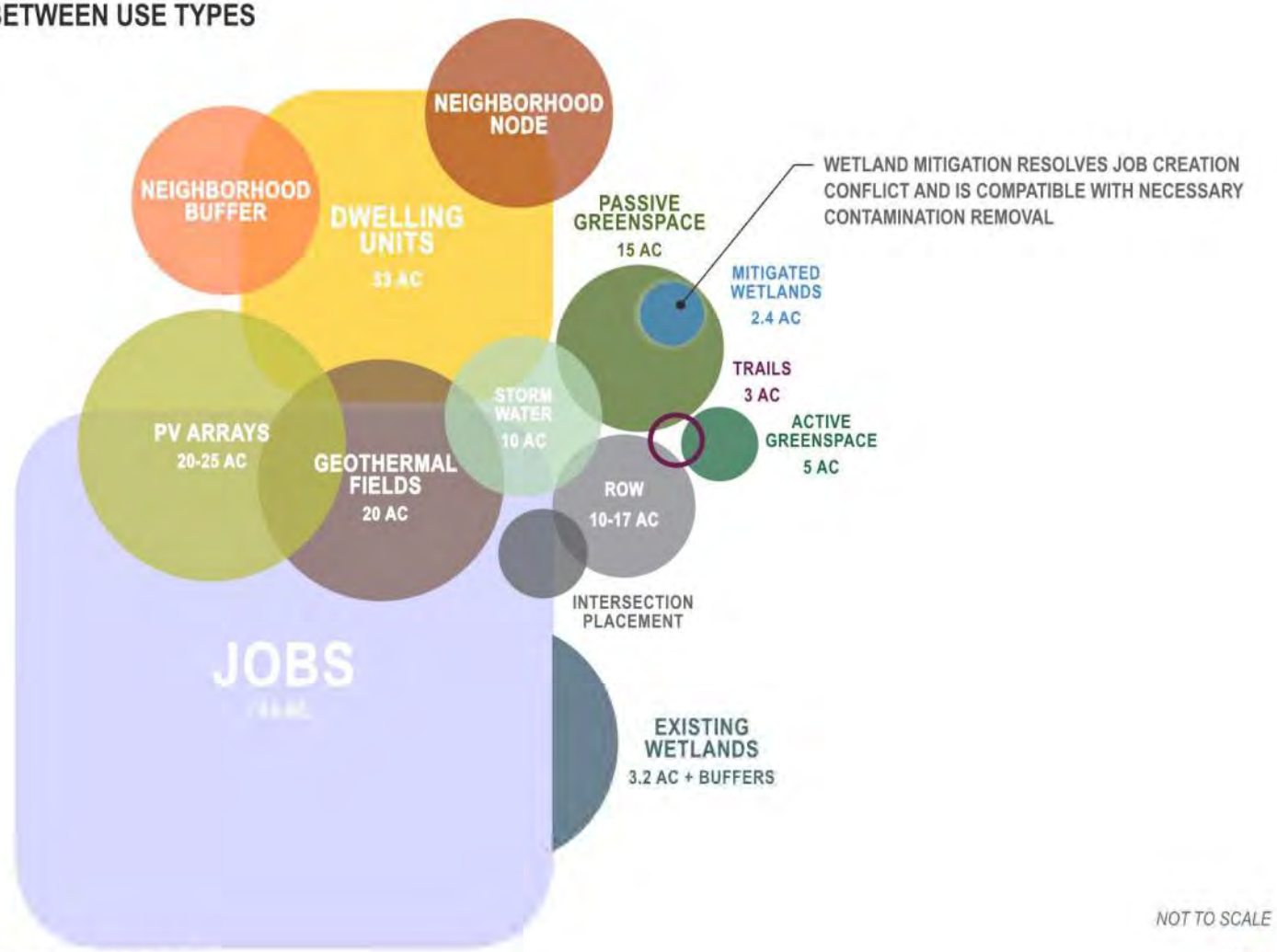
112 ACRE SITE

150+ ACRES OF REQUIRED PROGRAMMING



NOT TO SCALE

SPATIAL RELATIONSHIPS BETWEEN USE TYPES

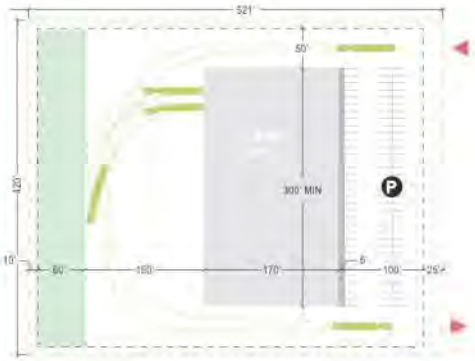


NOT TO SCALE

Industrial Lot Examples

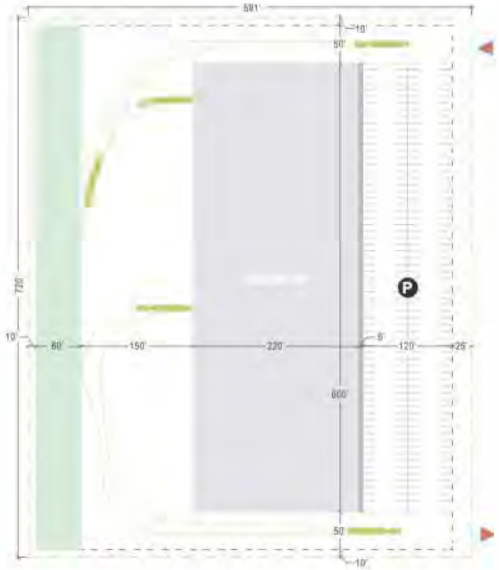
MINIMUM INDUSTRIAL PARCEL EXAMPLE

- 5.16 acre parcel minimum
  - Increase size for non-rectangular parcels
- Requires predominantly flat site; dramatic grades cannot be traversed by truck traffic
- Assume buildings are 170' or 220' deep (based on typical structural column spacing)
- Building must be 50,000 SF minimum
  - Approximately 300' long for 170' deep building
- Assume highway-sized trucks need access (72')
  - 150' space in back for tight docks
  - 120' for city trucks and/or spaced-out docks
- Stormwater would go in some of the trailer parking area and/or front parking area
- Trucks circulate counter-clockwise, dock must be to driver's side when backing



PREFERRED LARGE-SCALE INDUSTRIAL PARCEL EXAMPLE

- 12+ acre parcel preferred
  - 8.41 acre parcel shown
  - Increase size for non-rectangular parcels
- Requires predominantly flat site; dramatic grades cannot be traversed by truck traffic
- Assume buildings are 170' or 220' deep (based on typical structural column spacing), and 600' long minimum
- Building must be 100,000+ SF
- Assume highway-sized trucks need access (72')
  - 150' space in back for tight docks
  - 120' for city trucks and/or spaced-out docks
- Stormwater would go in some of the trailer parking area and/or front parking area
- Trucks circulate counter-clockwise, dock must be to driver's side when backing



LEGEND

- Parcel Boundary
- Setback
- Building
- Driveway Access
- Truck Circulation
- Passenger Vehicle Surface Parking Lot
- Flex Space (i.e. trailer parking, stormwater)

LIGHT INDUSTRIAL DEVELOPMENT NEEDS (ILLUSTRATIVE LAYOUT)

The St. Paul Port Authority's purpose is to create:

- Quality job opportunities
- Expand the tax base
- Advance sustainable development, especially on challenging sites like Hillcrest which the private sector cannon invest in without the public sector removing barriers (i.e. contamination, infrastructure costs, grading, entitlements, etc).

To achieve these goals, the Port must follow a realistic proforma that is supported by market research:

- Market research shows that there is a need for "living wage" jobs for unskilled labor in St. Paul – a known driver for wealth creation and the establishment of the middle class.
  - Light Industrial facilities provide living wage jobs and tend to rely more on manual labor than large equipment/machinery (i.e. more jobs per square foot).
  - Suitable industries might include: light assembly, logistics, commercial printing, medical devices, and food production.
  - In general, these facilities use less space, less energy, and generate less pollution than heavy industrial.
  - Large-scale Light Industrial owner-users are more stable in the face of economic uncertainty and represent a major gap in the St. Paul tax base.
    - There are 21 SPPA business centers, 550 companies, 25,000 jobs, and 90%+ occupancy across 50 projects and 25 years, for example.

Developing stable, larger-scale owner-users in the site requires impacting wetlands to accommodate their spatial requirements.

- Only land *immediately* adjacent to McKnight can be sold to owner-users at market rate. These proceeds are necessary to finance the remediation of the brownfield site and it's infrastructural improvements.
- Adjacency to McKnight is the primary quality that makes Hillcrest a competitive site for potential owner users, who might otherwise take their tax dollars to the suburbs.
- 885,000 SF of L.I. building development shown with example parcel layouts.

Looking Forward

- Innovative ideas to partner with the Watershed
  - BMP Performance Metrics & Research w/ Partners (MPCA, EI, DNR, ACOE, MN Ports Assoc, etc)
  - Demonstration and Interpretive Areas in partnership
  - Analyzing Wetland Restoration Opportunities.
- Potential funding sources available to the watershed.
- Forthcoming WCA Replacement Plan Application which will include sequencing analysis.

Questions and Comments?

RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

MEMORANDUM

Date: December 2, 2020

To: Board of Managers and Staff

From: Nicole Soderholm, Permit Coordinator
Mary Fitzgerald, District Inspector

Subject: November Enforcement Action Report

During November 2020:

Number of Violations:	**7**
Install/Maintain Perimeter Control	2
Install/Maintain Construction Entrance	2
Sweep Streets	1
Stabilize Exposed Soils	2

Activities:

Permitting assistance to private developers and public entities, miscellaneous inquiries, ongoing ESC site inspections and reporting, initial erosion control walk-throughs, WCA administration and procedures, final inspections, BMP maintenance and close-out inspections, new permit review with Barr Engineering, database transition discussion, Phalen/Keller weir permitting discussion

Project Updates:

#20-38 SOS Office Furniture (Vadnais Heights)

Staff and contractors conducted an initial erosion control walk-through on November 18th. Staff noted that perimeter control was installed as called out on site plans, but an anti-tracking BMP was missing at the construction entrance and would need to be installed as soon as possible. Minimal work will be completed during the winter months; most grading activity will begin in the spring of 2021. Staff will inspect the site through the winter, but plan to conduct another onsite meeting with contractors in the spring once grading work begins.

#20-26 Owasso Gardens (Roseville)

Staff met with contractors onsite on November 13th for an initial erosion control walk-through. Staff observed that all erosion and sediment control items were installed as needed. Due to muddy conditions, staff explained that the site's construction entrance would need to be maintained frequently, and to be prepared to call a street sweeping service if needed. Staff will continue to inspect the site regularly.

There are several sites that completed construction in November, but permits will remain open and sites inspected in spring of 2021 for vegetation establishment. These sites include:

- #20-03 Vadnais Sports Center Indoor Turf Facility (Vadnais Heights)
- #19-50 Window World Expansion (North St. Paul)
- #20-12 County Road D and Greenbrier SIP (Little Canada)
- #19-19 Roseville Middle School Addition (Little Canada)

There are also several sites that completed construction activity late in the field season that received an underground system inspection on November 6th by staff and a representative from Barr Engineering. Most will be reinspected in the spring upon final project completion. These sites include:

- #18-30 Morrie's Mercedes-Benz (Maplewood)
- #20-20 Maplewood Dennis-McClelland SIP (Maplewood)
- #19-02 Valley Creek Retail (Woodbury)
- #19-40 Luther White Bear Subaru Parking (Vadnais Heights)
- #19-30 White Bear Lake Apartments (White Bear Lake)

Permits Closed:

17-22 Willow Ridge Apartments II (Vadnais Heights)
17-28 Roseville Senior Living (Roseville)
19-11 Xcel Energy East County Line (Maplewood/North St. Paul/Oakdale)
19-39 Wooddale Flex Building (Woodbury)

Permits Approved by Staff:

None

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Stewardship Grant Program

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Stewardship Grant Program Budget Status Update

December 2, 2020

Homeowner	Coverage	Number of Projects: 39	Funds Allocated
Habitat Restoration and rain garden w/o hard surface drainage	50% Cost Share $15,000 Max	20	$58,335
Rain garden w/hard surface drainage, pervious pavement, green roof	75% Cost Share $15,000 Max	14	$80,865
Master Water Steward Project	100% Cost Share $15,000 Max	3	$34,915
Shoreland Restoration	100% Cost Share $15,000 Max	2	$35,000

Commercial, School, Government, Church, Associations, etc.	Coverage	Number of Projects: 13	Funds Allocated
Habitat Restoration	50% Cost Share $15,000 Max	2	$10,200
Shoreland Restoration (below 100-year flood elevation w/actively eroding banks)	100% Cost Share $100,000 Max	1	$120,000
Priority Area Projects	100% Cost Share $100,000 Max	6	$425,000
Non-Priority Area Projects	75% Cost Share $50,000 Max	2	$63,000
Public Art	50% Cost Share	0	$0
Aquatic Veg Harvest/LVMP Development	50% Cost Share $15,000 Max	2	$17,900
Maintenance	50% Cost Share $5,000 Max for 5 Years	41	$31,500
Consultant Fees			$77,400
Total Allocated			**$954,115**

2020 Stewardship Grant Program Budget	
Budget	$1,000,000
Total Funds Allocated	$954,115
Total Available Funds	**$45,885**

****

Action Items

****

Request for Board Action

Board Meeting Date: December 02, 2020 **Agenda Item No: 7A**

Preparer: Tina Carstens, Administrator

Item Description: Capital Improvement Budget Fund Transfer

Background:
As discussed during the 2021 budget process, the intent of fund 531, Impervious Surface Volume Reduction Opportunity Fund was to provide a funding source for stormwater volume reduction and quality projects that would arise during a year. It was meant to support project implementation that may come up quickly and not allow a year ahead of the budget process. In reality, this fund wasn't needed, as many projects were planned and implemented through our Targeted Retrofit Projects fund (518). This fund has the same goals: implementing volume reduction and stormwater quality projects in targeted and prioritized locations.

As I have proposed and the board has indicated they support, this action item and attached resolution would close Fund 531, Impervious Surface Volume Reduction Opportunity Fund, and transfer the fund balance to Fund 518, Targeted Retrofits Projects.

Applicable District Goal and Action Item:

Goal: Manage effectively – The District will operate in a manner that achieves its mission while adhering to its core principles.

Action Item: Maintain financial solvency and accountability.

Staff Recommendation:
Staff recommends approval of Resolution 20-02.

Financial Implications:
Resolution 20-02 will close one fund and move the balance to another fund for project implementation, thus removing the need to levy for projects that this money will be used for.

Board Action Requested:
Approval of Resolution 20-02.

RESOLUTION 20-02

RESOLUTION RELATING TO THE ADJUSTMENT
OF THE CAPITAL IMPROVEMENTS BUDGET

WHEREAS, the Ramsey-Washington Metro Watershed District (District) budgeted for project implementation funds to address stormwater quality and volume reduction throughout the watershed in Fund 531 titled, Impervious Surface Volume Reduction Opportunity Fund; and

WHEREAS, the District also established fund 518 titled, Targeted Retrofit Projects which also budgeted money for stormwater quality and volume reduction projects; and

WHEREAS, fund 531 has not been used to fund a capital improvement implementation project while fund 518 is a current fund that is used yearly; and

WHEREAS, the fund balance in fund 531 should be used for project implementation.

NOW, THEREFORE, BE IT FURTHER RESOLVED by the Board of Managers of the Ramsey-Washington Metro Watershed District that the District authorize the closing of funds 531 and transferring the total fund balance to fund 518 (Targeted Retrofit Projects).

Adopted by the Board of Managers of the Ramsey-Washington Metro Watershed District this 2nd day of December, 2020.

_____
Marj Ebensteiner, President

Attest:

_____
Dianne Ward, Secretary

Request for Board Action

Board Meeting Date: December 2, 2020 **Agenda Item No: 7B**

Preparer: Tina Carstens, Administrator

Item Description: Adopt Final FY 2021 Budget and Certify Final Levy.

Background:
The District Board of Managers adopted the draft budget at the September Board meeting for review and comment by the cities and counties. No written or verbal comments have been received.

The board held its required public hearing on September 2, 2020. No comments were received at the public hearing or after the hearing. The preliminary budget was placed on the website, and the final will also be placed there for public information.

At the September meeting, the board directed me to adjust the levy amount to achieve a 0% increase in levy funds from 2020 to 2021. This required a slight increase in the amount of general fund reserve funds used. A 0% increase in the levy is shown on the attached budget.

Applicable District Goal and Action Item:
The District budget relates to all facets of the District operations since it provides the funds for staff and project activities.

Staff Recommendation:
Approve the Final General Fund and CIP budgets and approve the final levy certification as indicated in the budget table and attached Resolution 20-03.

Financial Implications:
This year's levy reflects an increase from the 2020 levy of 0.00%.

Board Action Requested:
Approve the proposed FY 2021 General Fund and CIP budgets and adopt resolution 20-03.

RESOLUTION 20-03

RESOLUTION APPROVING THE 2021 BUDGET AND FINAL PAYABLE 2021 TAX LEVY

WHEREAS, the Ramsey-Washington Metro Watershed District Board of Managers adopted a proposed budget and payable 2021 levy on September 2, 2020; and

WHEREAS, the Ramsey-Washington Metro Watershed District distributed the proposed budget and levy for review and comment to all Cities and Counties; and

WHEREAS, The District held a public hearing on the budget, Capital Improvements Program and proposed levy on September 2, 2020;

NOW, THEREFORE, BE IT RESOLVED by the Board of Managers of the Ramsey-Washington Metro Watershed District that the General Fund and Capital Improvements Budget be approved and the following final levy be certified to Ramsey and Washington Counties.

General Revenue Levy	$6,368,597
Debt Service Levy	$394,901
Total Levy	$6,763,498

Adopted by the Board of Managers of the Ramsey-Washington Metro Watershed District this 2nd day of December, 2020.

_____
Marj Ebensteiner, President

Attest:

_____
Dianne Ward, Secretary

Fiscal Year 2021 Budget V4
Final Budget and Levy Approval

Budget ID Number	Budget Item		FY 2020 Budget	FY 2021 Budget Funding Source				Total Proposed 2021 Budget	Increase (decrease) from 2020 Budget
				General Fund	Capital Improvements	Carry-over Funds	Other Funds		
1	**Engineering**	Administration	**93,000**	**93,000**				**93,000**	0
2		Engineering Review	**55,000**	**55,000**				**55,000**	0
3		Permit Application Review	**55,000**	**55,000**				**55,000**	0
4		Permit Inspection and Enforcement	**10,000**	**10,000**				**10,000**	0
5		Project Feasibility Studies	**570,000**	**310,000**		**130,000**		**440,000**	(130,000)
6		GIS Maintenance	**5,000**	**5,000**				**5,000**	0
7									
8	**Attorney**	General	**40,000**	**40,000**				**40,000**	0
9		Permit Enforcement	**10,000**	**10,000**				**10,000**	0
10									
11	**Managers**	Meeting Per diems	**8,500**	**8,500**				**8,500**	0
12		Managers Expenses	**3,500**	**3,500**				**3,500**	0
13									
14	**Auditor/Accounting**	Auditor/Accounting	**60,000**	**65,000**				**65,000**	5,000
15									
16	**Miscellaneous**	Dues & Publications	**11,000**	**11,000**				**11,000**	0
17		Insurance	**40,000**	**50,000**				**50,000**	10,000
18		Committee & Board Meeting Expenses	**3,500**	**3,500**				**3,500**	0
19		Miscellaneous	**5,000**	**5,000**				**5,000**	0
20									
21	**Administrative**	Salary & Benefits	**1,450,000**	**1,520,000**				**1,520,000**	70,000
22		Employee Expenses	**10,000**	**15,000**				**15,000**	5,000
23		Janitorial/Trash Services/Snow Plowing	**15,000**	**15,000**				**15,000**	0
24		Building Maintenance	**200,000**	**150,000**				**150,000**	(50,000)
25		Utilities (gas,electric, water, sewer, maintenance)	**20,000**	**30,000**				**30,000**	10,000
26		Office Supplies	**5,000**	**7,000**				**7,000**	2,000
27		Copying/Printing	**8,000**	**8,000**				**8,000**	0
28		Postage/Delivery	**5,000**	**3,000**				**3,000**	(2,000)
29		Office Furniture & Computer Equipment	**150,000**	**150,000**				**150,000**	0
30		Office Equipment Maintenance	**3,000**	**3,000**				**3,000**	0
31		Training/Education	**25,000**	**75,000**				**75,000**	50,000
32		Telephone	**8,000**	**8,000**				**8,000**	0
33		District Vehicles/Maintenance	**43,000**	**43,000**				**43,000**	0
34		GIS System Maintenance & Equip.	**10,000**	**5,000**				**5,000**	(5,000)
35		Data Base Improvements	**5,000**	**40,000**				**40,000**	35,000
36		IT Services/Internet/Website/Software Licenses	**55,000**	**70,000**				**70,000**	15,000
37		Outside Program Support	**57,000**	**57,000**				**57,000**	0
38		Outside Consulting Services	**40,000**	**20,000**				**20,000**	(20,000)
39									
40	**Program**	Lake Studies/WRPPs/TMDL Reports	**173,000**	**103,000**				**103,000**	(70,000)
41	**Activities**	Natural Resources Program	**140,000**	**140,000**				**140,000**	0
42		Water Monitoring-Lab Costs & Equip.	**185,000**	**180,000**				**180,000**	(5,000)
43		Lake Macrophyte Monitoring and Internal Load Management	**10,000**	**70,000**				**70,000**	60,000
44		Research Projects	**95,000**	**95,000**				**95,000**	0
45		Project Operations	**160,000**	**200,000**				**200,000**	40,000
46		Education Program	**60,000**	**60,000**				**60,000**	0
47		Communications and Marketing	**25,000**	**25,000**				**25,000**	0
48		Events	**50,000**	**50,000**				**50,000**	0
49		~~NPDES Phase II~~	~~**10,000**~~	~~**0**~~				~~**0**~~	~~(10,000)~~
50		Health & Safety Program/Staff In-House Training	**3,000**	**3,000**				**3,000**	0
51									
52	**Capital Improvements**	Maplewood Mall SRF Loan Debt Service	**92,611**		**92,238**	**0**		**92,238**	(373)
53	**Summary**	Beltline and Battle Creek Tunnel Repair Debt Service	**307,463**		**0**	**302,663**		**302,663**	(4,800)
54		District Office Building Bond Payment	**194,885**		**194,885**	**0**		**194,885**	0
55		Targeted Retrofit Projects	**1,012,000**		**250,000**	**2,100,000**	**460,000**	**2,810,000**	1,798,000
56		Stewardship Grant Fund	**1,000,000**		**700,000**	**300,000**		**1,000,000**	0
57		Project Repair & Maintenance	**1,115,000**		**825,000**	**500,000**		**1,325,000**	210,000
58		Wetland Restoration Projects	**0**		**500,000**	**0**		**500,000**	500,000
59		~~Wakefield Park Project~~	~~**100,000**~~		~~**0**~~	~~**0**~~		~~**0**~~	~~(100,000)~~
60		~~Volume Reduction Opportunity Fund~~	~~**1,600,000**~~		~~**0**~~	~~**0**~~		~~**0**~~	~~(1,600,000)~~
61		Flood Risk Reduction Fund	**4,000,000**		**2,000,000**	**2,200,000**		**4,200,000**	200,000
		Totals	13,411,459	3,869,500	4,562,123	5,532,663	460,000	14,424,286	1,012,827

	Budget Total	Budget Total By Fund		Proposed Levy
		General Fund	CIB	
2021 Budget Total and totals by fund	14,424,286	3,999,500	10,424,786	6,763,498
2020 Budget Total and totals by fund	13,532,258	4,124,500	9,407,758	6,763,498
2021 Budget Increase or (Decrease) from 2020 Budget	892,028	(125,000)	1,017,028	0
2021 Budget % change from 2020 Budget	6.59%	-3.03%	10.81%	0.00%

RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

2019 WATER MONITORING ANNUAL REPORT

TABLE OF CONTENTS

TERMS

Best management practices (BMPs): Practices that protect water quality.

Chloride: Small amounts of chlorides are required for normal cell functions in plant and animal life, but chloride from de-icing salt and water softener salt that gets into lakes and streams can be toxic to some aquatic life. The standard for chronic chloride levels in Minnesota lakes and streams is 230 mg/l.

Chlorophyll *a*: Chlorophyll *a* measures the amount of algae in a lake. Large amounts of algae, which cause green scum and odors, are a symptom of degraded water quality.

Eutrophication: Eutrophication occurs when a body of water becomes overly enriched with minerals and nutrients which induce excessive growth of algae. This process may result in oxygen depletion, which can harm fish and other aquatic organisms.

Ortho phosphorus: The form of phosphorus that is readily available for use by algae and other aquatic plants for growth.

PFAS (perfluoroalkyl substances): Polluting substances used in a variety of industrial, agricultural, military, and commercial product applications.

Phosphorus: Phosphorus is a nutrient that is essential for plant life, but excessive phosphorus degrades water quality. Common sources of phosphorus in lakes are fertilizers and organic wastes from runoff and soil erosion.

Secchi disc: The clarity or transparency of water is measured by lowering a "Secchi disc" (usually black and white) into the water until it is no longer visible from the surface. The greater the "Secchi depth," the more transparent the water.

Total suspended solids: Particulate matter including soils, metals, organic materials, and debris that are suspended in a moving body of water.

Measuring water clarity with a Secchi disc

STATE STANDARDS

The following information on how Minnesota standards for water quality are determined is taken from the Minnesota Pollution Control Agency's Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment: 305(b) Report and 303(d) List.

- **Total phosphorus and chlorophyll *a* in lakes:** Data used for phosphorus and chlorophyll *a* calculations are limited to those collected from the upper most 3 meters of the water column (surface). If more than one sample is collected in a lake per day, these values are averaged to yield a daily average value. Following this step, all June to September data for the 10-year assessment window are averaged to determine summer mean values for TP, corrected chlorophyll *a*, and Secchi depth. These values are then compared to the standards and the assessment is made.

- **Total suspended solids (TSS):** A stream is considered to exceed the standard for TSS if (1) the standard is exceeded more than 10% of the days of the assessment season (April through September) as determined from a data set that gives an unbiased representation of conditions over the assessment season and (2) there are at least three such measurements exceeding the standard.

- **Aquatic life toxicity-based standards (chlorides):** Aquatic life toxicity-based chronic water quality standards are written as four-day average concentrations. In some cases, pollutant concentrations can be quite variable over such periods, depending on factors such as the type and size of the water body, weather and flow conditions, and the source and nature of the pollutant. For example, chloride concentrations in lakes, streams, and wetlands are relatively stable during low-flow conditions over a 4-day period, while pesticide concentrations during storm events in small streams can vary greatly in that same amount of time. The chloride values presented in this report represent average water column concentrations.

1. INTRODUCTION

This report presents annual and historic monitoring data, providing an overall water quality assessment of lakes and streams located within the Ramsey-Washington Metro Watershed District (RWMWD or the District). It includes an assessment of 15 lakes and ponds and six streams or conveyances, with a primary focus on total phosphorus, ortho-phosphorus, chlorophyll *a*, Secchi disc depth (lakes only), total suspended solids, and chloride. Nitrogen is also included for streams as there are many shallow lakes in the District, and nitrogen loads contributed by streams may have an influence on the ecological status of aquatic plant dominated shallow lakes. Chloride is also a pollutant of increasing concern as road/sidewalk salt use has the potential to lead to high chloride concentrations in ponds, lakes, and streams, particularly during winter and spring months.

Also included as a separate section, as well as intermixed with the lake and stream assessment sections, is an assessment or accounting of filtration-type BMPs that have been constructed at various locations in the watershed. Unlike ponds, which settle phosphorus attached to particles, these BMPs are designed to remove both particulate and dissolved phosphorus. While ponds are still a dominant feature in the District and remove most of the particulate pollutants, their phosphorus-removal performance is limited. For this reason, filtration-type BMPs are being installed to achieve TMDL requirements. Many of the filtration-type BMPs with media designed to bind dissolved and unsettleable phosphorus are still considered somewhat experimental; hence, an assessment of the lifespan, performance, and effectiveness of these systems is warranted.

The report is organized by resource type or subject. Chapter 3 includes the most recent and historic lake data, water quality trends, a discussion of in-lake management actions and actions in the tributary watershed, and an overall assessment. Similar to Chapter 3, Chapter 4 includes recent and historical monitoring data for streams and conveyances, an overall assessment, a discussion of water quality trends, and a description of relevant management actions. Chapter 5 and 6 provide brief assessments and updates on two potentially emerging issues for the District: PFAS (perfluoroalkyl substances) and chlorides.

2. CONCLUSIONS AND RECOMMENDATIONS

Overall, there is a long-term trend of improving water quality for eutrophication parameters for District lakes. A qualitative review of the figures in Section 3 suggests that in 2019 water quality improved in Battle Creek and Wakefield Lake, while water quality was worse for Beaver Lake, Kohlman Lake, Lake Phalen, and Tanner's Lake. With the potential exception of Kohlman Lake and Beaver Lake, it should be noted that changes in water quality in 2019 were within ranges observed over the previous 10 years. For monitored streams (Battle Creek, Fish Creek, Kohlman Creek, Beltline Interceptor, and Gervais Creek) there is also a long-term trend of improving water quality; however, those improvements appear to have plateaued over the last 10 years. In contrast, although the period of record for many of these waterbodies is short, it appears that chloride concentrations are either increasing or stable in District lakes and streams rather than decreasing.

Long-term water quality improvements in District lakes and streams suggest that the implementation of numerous best management practices (BMPs) has been successful, though changes in precipitation may also have contributed to changes in the water quality of District waterbodies. A next generation of BMPs has been implemented over the past decade to begin to remove dissolved phosphorus in addition to particulate phosphorus. A summarized assessment of these BMPs is provided below:

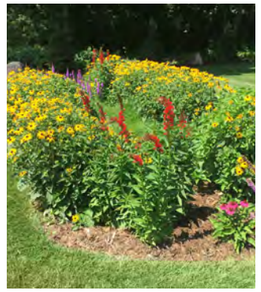
- The Beam Avenue Filter, an iron-enhanced sand filter, was first monitored in 2009 with total phosphorus removal ranging from around 80 to 90% and ortho-phosphorus removal ranging from 10 to 80% from 2009 to 2018. Performance degraded significantly in 2019, with dissolved phosphorus release rather than removal occurring. This suggests that the media in this filter is expended and may need to be replaced. More monitoring in 2021 is recommended to confirm that observation.

- The Woodlyn Avenue iron-enhanced sand-type vegetative filter was monitored from 2012 to 2018, and during that period total phosphorus removal ranged from 22 to 75 percent (in 2018). Ortho-phosphorus removal during the monitoring period was as high as 90%, but for the most recent year of monitoring (2018) percent removal was 0. Given the small size of the iron-sand filter bed in this BMP, it is likely that the media in this BMP is spent and should be replaced, though 1 more year of monitoring is recommended to confirm that observation. The replacement cycle for media in this bed appears to be every 6 years.

- Three spent-lime media filtration type BMPs have been constructed in the District. It is instructive to compare the performance of these systems to the iron-enhanced sand filters and critically evaluate them. It is still not clear which type of media performs best, as each has positive and negative attributes. The Wakefield cell (monitored from 2012 to 2016) had annual average total phosphorus removal ranging from 41 to 80%, ortho-phosphate removal ranging from 67 to 86%, and total suspended solids removal from 0 to 77%. The other two spent-lime BMPs are new and are just beginning to be monitored and performance has varied significantly. Further evaluation of these three BMPs is warranted.

- The Tanners Lake alum treatment facility deserves some mention as it has performed very reliably and is likely the primary reason that Tanners Lake has been taken off the impaired waters list and also why Battle Creek Lake water quality has improved notably. Since the beginning of operation in 1998, average annual total phosphorus removal has ranged from 53 to 91%, with a long-term average of 77% removal.

The following include monitoring recommendations as well as some recommendations for future annual reports.



1. Chloride

    a. Continue to incorporate chloride monitoring into all routine water quality monitoring.

    b. Expand chloride monitoring to additional waterbodies which may include ponds, ditches and creeks to better understand where the chloride hot spots are located. It is recommended that this be a one- or two-event effort in the early and late spring.

    c. Measure specific conductance when measuring chloride to develop a relationship between chloride and specific conductance. In the future, specific conductance may be used as a surrogate for chloride by developing a regression between the two parameters.

2. Streams

    a. Continue monitoring water quality of streams (at a minimum total phosphorus, total dissolved phosphorus, ortho-phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite, total suspended solids, chloride, and chlorophyll *a*). Monitoring will have value even if flow cannot be monitored.

3. BMPs

    a. Develop a rotating monitoring schedule for the filtration-type BMPs to document their performance and longevity. A rotating schedule will allow for a more widespread monitoring effort.

    b. The media of the following BMPs needs further evaluation in 2021 (another year of monitoring may be appropriate to confirm whether these filters are performing as designed):

        i. Beam Avenue iron-enhanced sand filter

        ii. Woodlyn Avenue iron-enhanced sand filter

        iii Wakefield Lake spent-lime filter

    c. The performance of ponds in the District is largely unknown. Monitoring of high-priority ponds (flow and water quality) would be useful for two reasons:

        i. It is not known what the relative performance is for ponds versus filtration-type BMPs.

        ii. It is not known whether ponds are releasing phosphorus and if performance can be improved.

4. For future reports, it is recommended that other non-water-quality activities be documented to keep track of how watershed and waterbody health is being improved in the watershed. These activities may include:

    a. Carp management

    b. Aquatic plant management

    c. Shoreline restoration

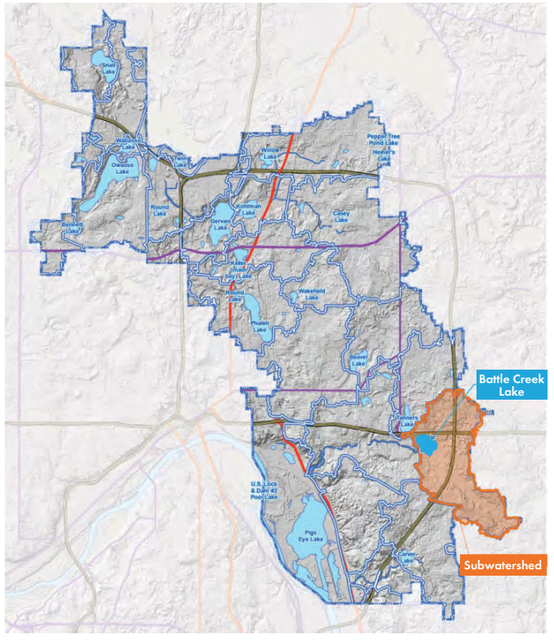
    d. Wetland reclamation

    e. Macroinvertebrate and fisheries monitoring

BATTLE CREEK LAKE

Minnesota Pollution Control Agency (MPCA) designation	Shallow lake
Tributary area	2,638 acres
Surface area	103 acres
Average/maximum depth	4 feet/15 feet
RWMWD nutrient classification[1]	At risk
Accountable municipalities	Landfall, Oakdale, Woodbury, Washington County
Downstream waterbody	Battle Creek

[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.



Battle Creek Lake is a shallow lake in Washington County that receives flows from Tanners Lake and outlets to Battle Creek. The lake is used for a variety of recreational purposes, including motor boating, canoeing, fishing, picnicking, and aesthetic viewing. A public boat access is located at the lake's southeast corner in Shawnee Park.

Battle Creek Lake is on the Minnesota Pollution Control Agency's (MPCA) impairment list for mercury (aquatic consumption) and chloride (aquatic life). A statewide mercury TMDL was completed in 2007, and the Twin Cities Metro Area Chloride TMDL was completed in 2016. In 2014, the lake was removed from the MPCA's Impaired Waters List for excess nutrients.

Battle Creek Lake has been monitored annually for phosphorus, chlorophyll *a*, and Secchi disc depth from 1997 to 2019; it has been monitored annually for chloride since 2015. In 2019, the lake met Minnesota state standards for summer averages of all four parameters (see table and graphs at right). The 10-year data shows a statistically significant decrease in phosphorus and chlorophyll *a* levels and increase in Secchi disc transparency.

According to the *2017 Ramsey Washington Metro Watershed District Watershed Restoration and Protection Strategies Report*, 68% of the phosphorus in Battle Creek Lake comes from stormwater. Strategies to address stormwater management include implementing water-quality projects that reduce external loading to the lake and BMP cost-share programs. Options to address in-lake phosphorus loading will be discussed in 2021. Plans to address chloride include improving road salt management by promoting and adopting strategies outlined in the Twin Cities Metro Area Chloride Management Plan.

Since first establishing water quality goals for Battle Creek Lake, RWMWD has completed several projects that have contributed to improvements in water quality. Recent projects include:

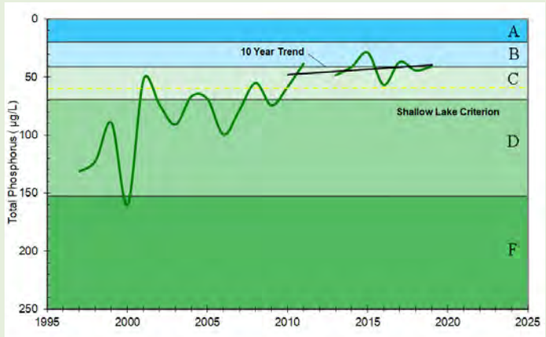
- Woodbury Elementary and Middle School rain gardens (2017): This was one of six school rain garden projects funded, in part, by a $150,000 Clean Water Fund grant. Two gardens were planted at the site, providing needed pollinator habitat and reducing the volume of polluted runoff that drains to Battle Creek Lake.
- Trinity Presbyterian Church (2017): Two rain gardens were installed at this site to manage runoff from the church's parking lot. This reduces the volume of polluted rainwater draining to Battle Creek Lake.

Parameter	State Standard	2019 Battle Creek Lake	10-Year Average[1]	Trend
Phosphorus	≤ 60 µg/l	40.5 µg/l	47 µg/l	Decreasing
Chlorophyll *a*	≤ 20 µg/l	3.9 µg/l	7. 4 µg/l	Decreasing
Secchi disc transparency	> 1 meter	2.4 meters	2.3 meters	Increasing
Chloride	≤ 230 mg/l[2]	181 mg/l	N/A	N/A

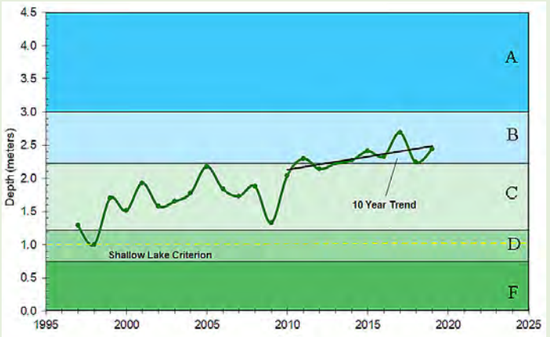
[1] A minimum of 10 years of data were analyzed. If a year was missing within the most recent 10-year period, the period of record was extended.

[2] State standard for chronic chloride exposure; chloride value is average water-column concentration.

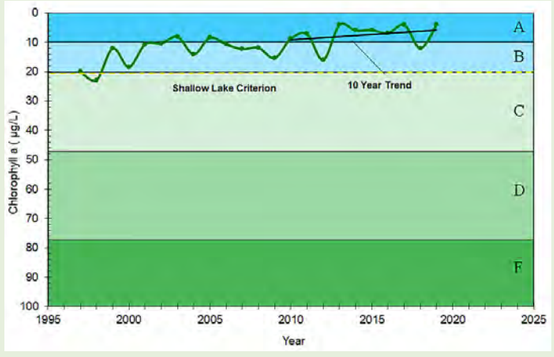
Total phosphorus (µg/l)



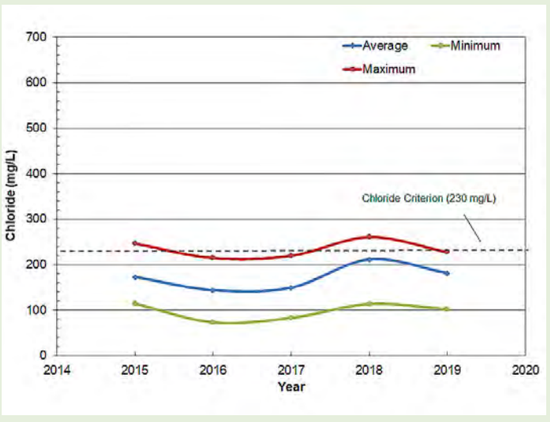
Secchi transparency (m)



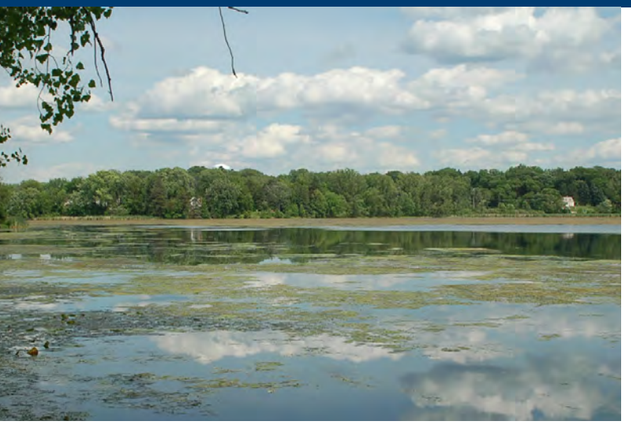
Chlorophyll *a* (µg/l)



Chloride (mg/l)

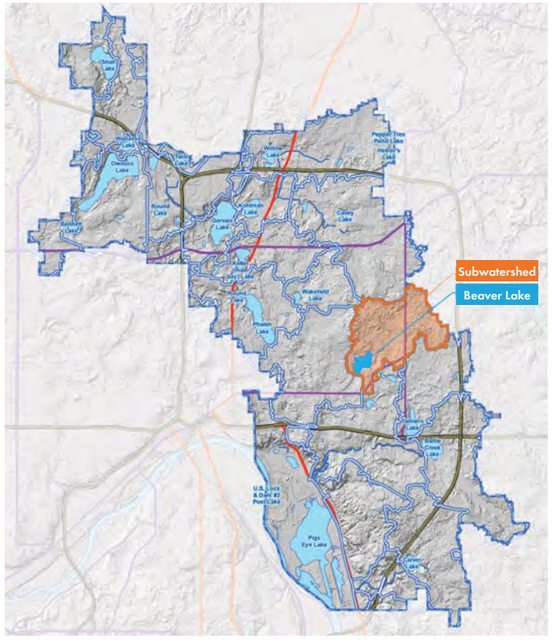


BEAVER LAKE



MPCA designation	Shallow
Tributary area	1,935 acres
Surface area	87 acres
Average/maximum depth	4/11 feet
RWMWD nutrient classification[1]	At risk
Accountable municipalities	Maplewood, St. Paul, Ramsey County, Washington County
Downstream waterbody	Beltline Storm Sewer and Mississippi River

[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.



Beaver Lake is a small, shallow lake in Maplewood that drains to the Beltline storm sewer and on to the Mississippi River. A Ramsey County park occupies most of the north and west shoreline. The lake has some wildlife habitat and is primarily used for canoeing, fishing, picnicking, and aesthetic viewing. It is impaired for mercury (aquatic consumption), at risk for chlorides, and listed by the Minnesota DNR as infested with Eurasian watermilfoil. In 2012, the lake was removed from the MPCA's Impaired Waters List for excess nutrients.

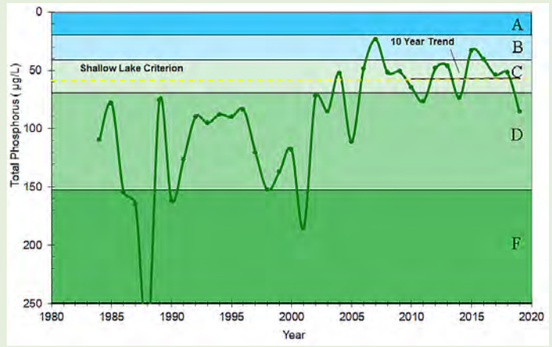
Beaver Lake has been monitored annually for phosphorus, chlorophyll *a*, and Secchi disc depth since 1984; chloride monitoring started in 2015. In 2019, the lake met summer-average state standards for Secchi disc transparency and chloride. However, it failed to meet the chlorophyll *a* and phosphorus standards (see table and graphs at right). The 10-year data shows no statistically significant trend for any parameter.

According to the *2017 Ramsey Washington Metro Watershed District Watershed Restoration and Protection Strategies Report*, 51% of the phosphorus in Beaver Lake comes from stormwater and 47% comes from internal loading. Strategies to address stormwater management include implementing water-quality projects to reduce the total phosphorus load to the lake and BMP cost-share programs. Plans to reduce in-lake loading include assessing options for inactivation of sediment release of phosphorus.

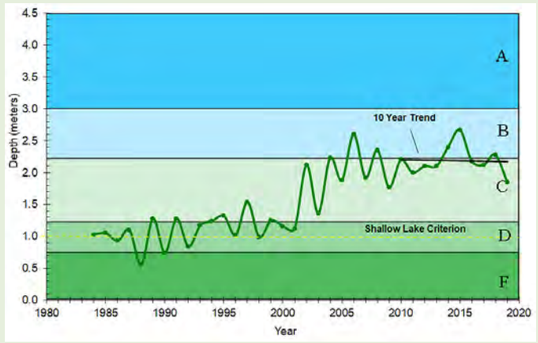
Parameter	State Standard	2019 Beaver Lake	10-Year Average[1]	Trend
Phosphorus	≤ 60 µg/l	85.3 µg/l	57 µg/l	None
Chlorophyll *a*	≤ 20 µg/l	27.2 µg/l	12 µg/l	None
Secchi disc transparency	> 1 meter	1.85 meters	2.2 meters	None
Chloride	≤ 230 mg/l[2]	101 mg/l	N/A	N/A

[1] A minimum of 10 years of data were analyzed. If a year was missing within the most recent 10-year period, the period of record was extended.
[2] State standard for chronic chloride exposure; chloride value is average water-column concentration.

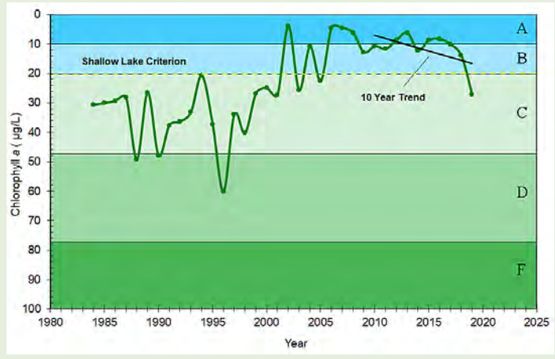
Total phosphorus (µg/l)



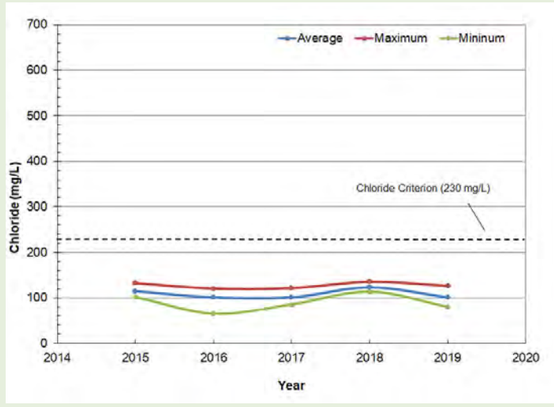
Secchi transparency (m)



Chlorophyll *a* (µg/l)



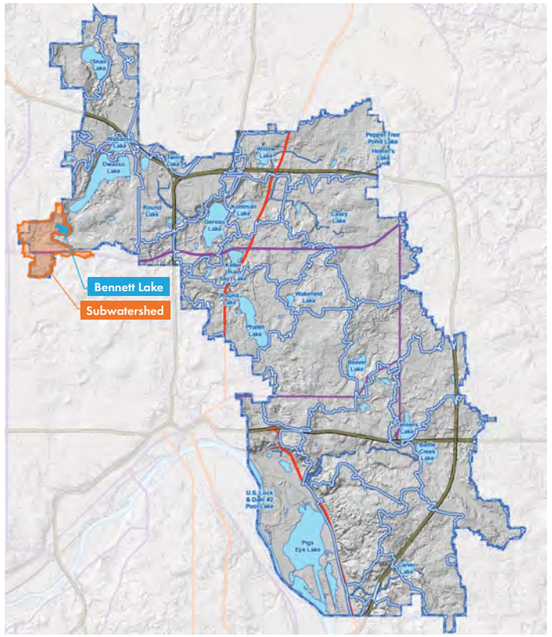
Chloride (mg/l)



Bennett Lake

MPCA designation	Shallow
Tributary area	721 acres
Surface area	25 acres
Average/maximum depth	9 feet
RWMWD nutrient classification[1]	Impaired
Accountable municipalities	Roseville, Ramsey County
Downstream waterbody	Lake Owasso

[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.



Bennett Lake is the start of a chain of lakes that ultimately drains to Grass Lake. The City of Roseville's Central Park surrounds the lake, which has a fishing pier and provides canoeing opportunities. The Minnesota Department of Natural Resources uses Bennett Lake as a fish nursery.

Bennett Lake is considered by the MPCA to be impaired for mercury (aquatic consumption) and excess nutrients. A statewide mercury TMDL was completed in 2007 and a nutrient TMDL was completed in 2017.

Bennett Lake has been monitored annually for chlorophyll *a* from 1984 to 2019 and for phosphorus and Secchi disc depth from 2003 to 2019. Annual chloride monitoring began in 2015. In 2019, the lake met summer-average state standards for chlorophyll *a*, Secchi disc transparency, and chloride, but failed to meet the phosphorus standard (see table and graphs at right). The 10-year data shows a statistically significant trend of decreasing chlorophyll *a* levels and increasing Secchi disc depth.

According to the *2017 Ramsey Washington Metro Watershed District Watershed Restoration and Protection Strategies Report*, 56% of the phosphorus in Bennett Lake comes from internal loading and 43% comes from stormwater. Strategies to address internal loading include assessing options for inactivation of sediment phosphorus release by 2020 and managing carp and macrophytes such as curlyleaf pondweed. Efforts to reduce phosphorus entering the lake from stormwater include BMP cost-sharing and water-quality projects.

RWMWD has completed three recent projects that have contributed to the improving water quality of this lake:

Carp management (ongoing since 2017): Carp management in the Lake Owasso system of lakes (Owasso, Wabasso, Bennett, and Grass) is helping control phosphorus loading in these waters. Foraging carp stir up nutrient-rich sediment on the lake bottom which, in turn, contributes to turbid water and algae blooms. Management efforts include counting carp to understand the extent of the population, tracking them with radio tags to allow efficient harvesting and identification of carp nurseries, and installing barriers.

Willow Pond spent-lime filter (2018): This project involved installation of a spent lime filter that draws water above the pond's outlet elevation off of Willow Pond. The pipe that draws water from Willow Pond can be opened and closed automatically to control the volume of water in the filter and the length of time between filling events.

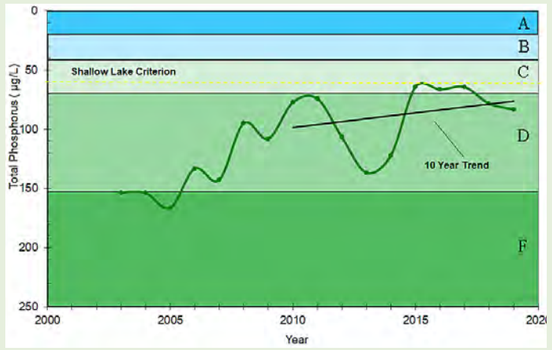
Grace Church retrofit (2015): This project involved installation of two rain gardens and three native planting areas to intercept and filter runoff from the Grace Church parking lot, reducing the volume of polluted rainwater draining to Bennett Lake.

Parameter	State Standard	2019 Bennett Lake	10-Year Average[1]	Trend
Phosphorus	≤ 60 µg/l	83.2 µg/l	87 µg/l	None
Chlorophyll *a*	≤ 20 µg/l	16.2 µg/l	21 µg/l	Decreasing
Secchi disc transparency	> 1 meter	1.53 meters	1. 4 meters	Increasing
Chloride	≤ 230 mg/l[2]	116.3 mg/l	N/A	N/A

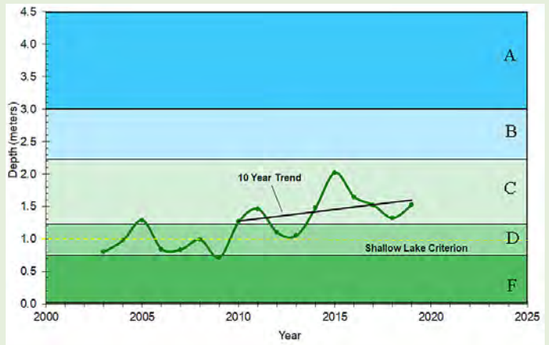
[1] A minimum of 10 years of data were analyzed. If a year was missing within the most recent 10-year period, the period of record was extended.

[2] State standard for chronic chloride exposure; chloride value is average water-column concentration.

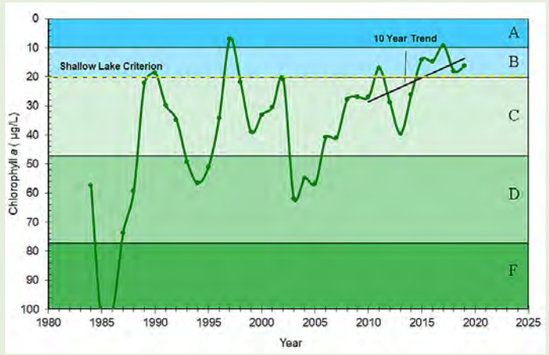
Total phosphorus (µg/l)



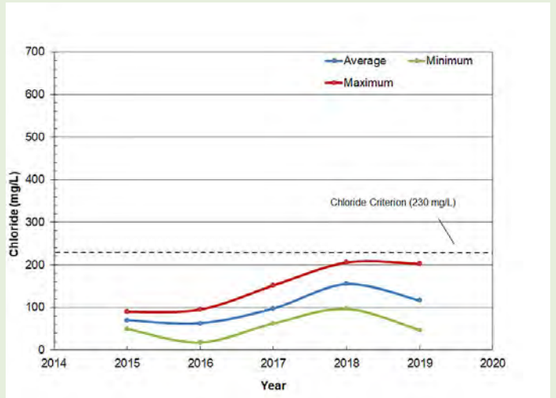
Secchi transparency (m)



Chlorophyll *a* (µg/l)



Chloride (mg/l)



CARVER LAKE

MPCA designation	Deep lake
Tributary area	2,274 acres
Surface area	49 acres
Average/maximum depth	16/36 feet
RWMWD nutrient classification[1]	At risk
Accountable municipalities	Maplewood, Woodbury, Ramsey County, Washington County
Downstream waterbody	Fish Creek

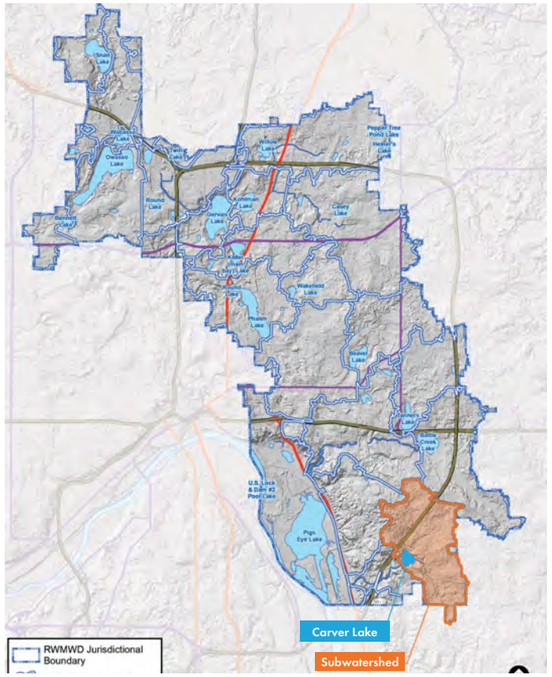
[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.

Carver Lake, which borders the popular Carver Lake Park, is used primarily for swimming and canoeing. There is a public beach located on the southeast side, along with canoe access.

Carver Lake was removed from the MPCA's impaired list for nutrients in 2012. However, it is still considered by to be impaired for mercury (aquatic consumption) and chloride (aquatic life). A statewide mercury TMDL was completed in 2007 and the Twin Cities Metro Area Chloride TMDL was completed in 2016.

Carver Lake has been monitored annually for phosphorus, chlorophyll *a*, and Secchi disc depth from 1997 to 2019. Annual chloride monitoring began in 2016. In 2019, the lake met MPCA summer-average state standards for phosphorus, chlorophyll *a*, and Secchi disc transparency; the 10-year trend shows a statistically significant increase in Secchi disc transparency. Chloride levels, however, were notably over the standard (see table and graphs at right).

According to the *2017 Ramsey Washington Metro Watershed District Watershed Restoration and Protection Strategies Report*, 79% of the phosphorus in Carver Lake comes from stormwater and 19% comes from internal loading. Goals for the lake include improving stormwater management by implementing a BMP cost-share program and water quality projects that decrease the phosphorus load to Carver Lake.

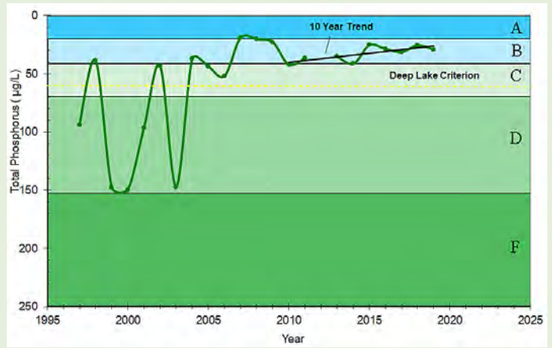


Parameter	State Standard	2019 Carver Lake	10-Year Average[1]	Trend
Phosphorus	≤ 40 µg/l	29.3 µg/l	32 µg/l	None
Chlorophyll *a*	≤ 14 µg/l	11.7 µg/l	14 µg/l	None
Secchi disc transparency	> 1.4 meters	2.75 meters	2.1 meters	Increasing
Chloride	≤ 230 mg/l[2]	389 mg/l	N/A	N/A

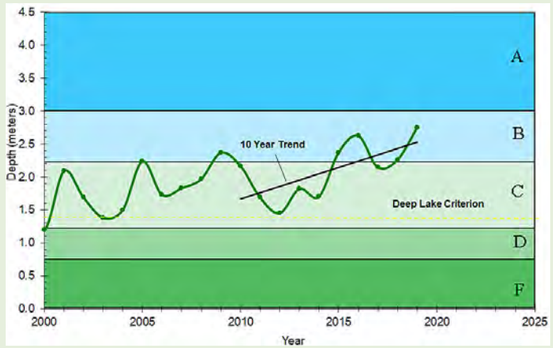
[1] A minimum of 10 years of data were analyzed. If a year was missing within the most recent 10-year period, the period of record was extended.

[2] State standard for chronic chloride exposure; chloride value is average water-column concentration.

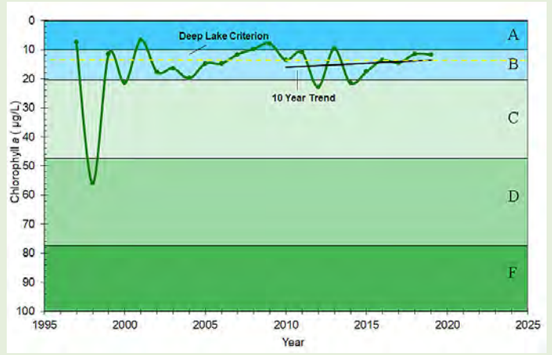
Total phosphorus (µg/l)



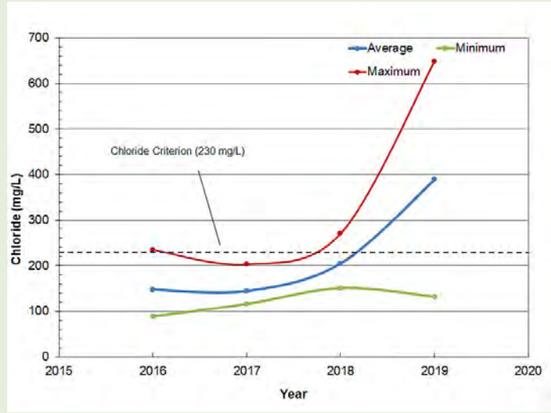
Secchi transparency (m)



Chlorophyll *a* (µg/l)



Chloride (mg/l)



CASEY LAKE

Casey Lake is actually a large wetland. Located in North St. Paul, it is the headwaters of Kohlman Creek.

Casey Lake has been monitored annually for phosphorus, chlorophyll *a*, and Secchi disc depth since 2008; however, as a wetland, state eutrophication standards do not apply. The 10-year data shows a statistically significant decrease in total phosphorus levels and an increase in Secchi disc depths.

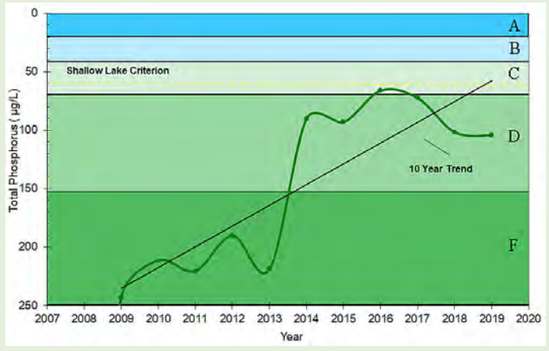
In the winter of 2012–2013, a draw-down of Casey Lake was done to kill invasive carp, which used the lake as a nursery. Foraging carp stir up nutrient-rich sediment on the lake bottom which, in turn, contributes to turbid water and algae blooms. The draw-down dramatically improved the lake's water clarity (from 0.26 meters to 0.88 meters). In the spring of 2013, the DNR stocked bluegills and bass in Casey Lake to keep carp levels low.

Parameter	State Standard	2019 Casey Lake	10-Year Average[1]	Trend
Phosphorus	N/A	104.1 µg/l	137 µg/l	Decreasing
Chlorophyll *a*	N/A	14.5 µg/l	34 µg/l	None
Secchi disc transparency	N/A	0.86 meter	0.69 meter	Increasing
Chloride	N/A	68.2 mg/l[2]	N/A	N/A

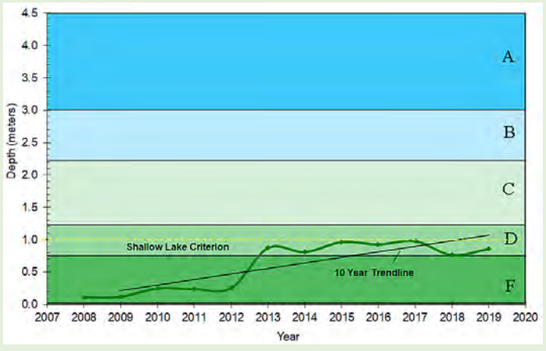
[1] A minimum of 10 years of data were analyzed. If a year was missing within the most recent 10-year period, the period of record was extended.

[2] Chloride value is average water-column concentration.

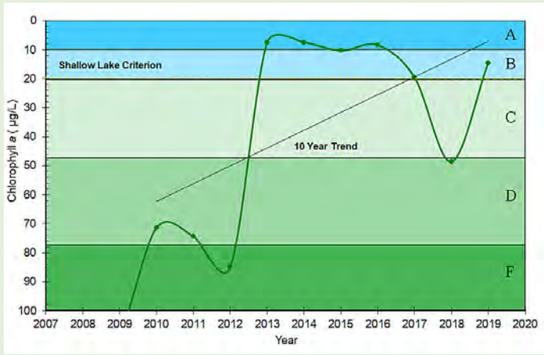
Total phosphorus (µg/l)



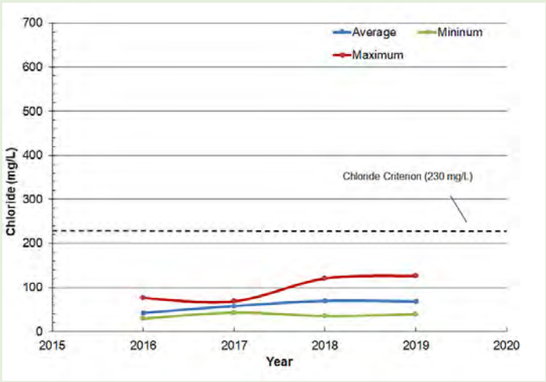
Secchi transparency (m)



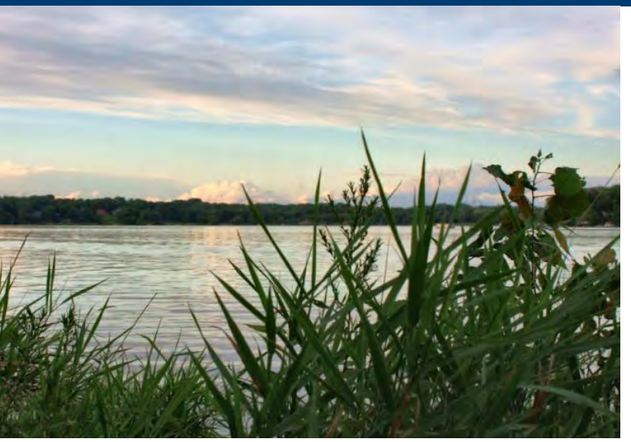
Chlorophyll *a* (µg/l)



Chloride (mg/l)

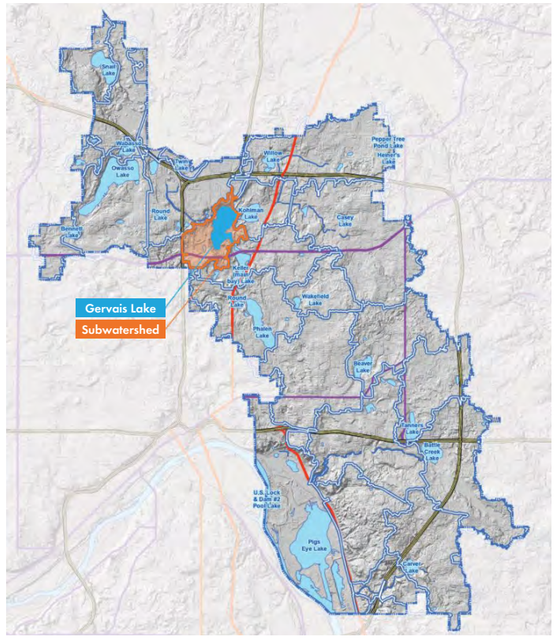


GERVAIS LAKE



MPCA designation	Deep
Tributary area	893 acres
Surface area	234 acres
Average/maximum depth	22/41 feet
RWMWD nutrient classification[1]	Stable
Accountable municipalities	Little Canada, Maplewood, Ramsey County
Downstream waterbody	Keller Lake

[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.



Gervais Lake is the second and largest lake in the Phalen Chain of Lakes. It is used primarily for swimming, skiing, and boating. There is a public boat access from Spoon Lake and a Ramsey County swimming beach and park adjacent to the lake. The lake receives flows from Gervais Creek, Kohlman Lake, and runoff from its direct tributary area.

Gervais Lake is on the MPCA's impaired waters list as impaired for mercury (aquatic consumption) and is considered to be at risk for chloride. The lake is also listed by the Minnesota DNR as infested with Eurasian watermilfoil. A statewide mercury TMDL was completed in 2007.

Annual monitoring for phosphorus, chlorophyll *a*, and Secchi disc depth started in 1981. Annual monitoring for chloride began in 1998. In 2019, the lake met summer-average state standards for all parameters. The 10-year data shows no statistically significant change for any parameter.

According to the *2017 Ramsey Washington Metro Watershed District Watershed Restoration and Protection Strategies Report*, 24% of the phosphorus in Gervais Lake comes from stormwater and 76% comes from upstream waterbodies. Plans to address these conditions include implementing a BMP cost-share program and water-quality projects that decrease the total phosphorus load to the lake.

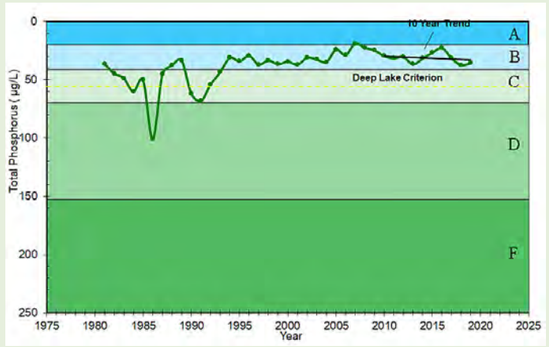
One project that helps control phosphorus loading in the Phalen Chain of Lakes (Gervais, Lake Phalen, Lake Keller, Kohlman Lake) is carp management (ongoing since 2009). Foraging carp stir up nutrient-rich sediment on the lake bottom which, in turn, contributes to turbid water and algae blooms. Management efforts include counting carp to understand the extent of the population, tracking them with radio tags to allow efficient harvesting and identification of nurseries, and installing barriers. These efforts have reduced carp in the Phalen Chain by over 60%.

Parameter	State Standard	2019 Gervais Lake	10-Year Average[1]	Trend
Phosphorus	≤ 40 µg/l	35.4 µg/	31 µg/l	None
Chlorophyll *a*	≤ 14 µg/l	12.9 µg/	10 µg/l	None
Secchi disc transparency	> 1.4 meter	2.5 meters	2.3 meters	None
Chloride	≤ 230 mg/l[2]	188 mg/l	N/A	N/A

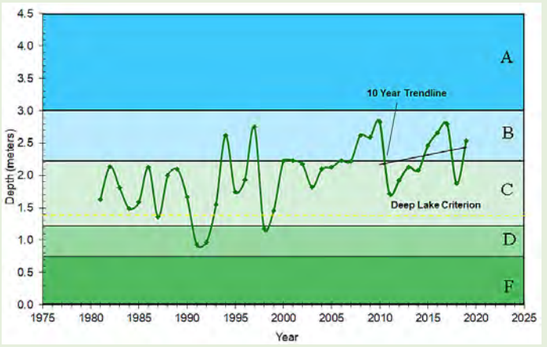
[1] A minimum of 10 years of data were analyzed. If a year was missing within the most recent 10-year period, the period of record was extended.

[2] State standard for chronic chloride exposure; chloride value is average water-column concentration.

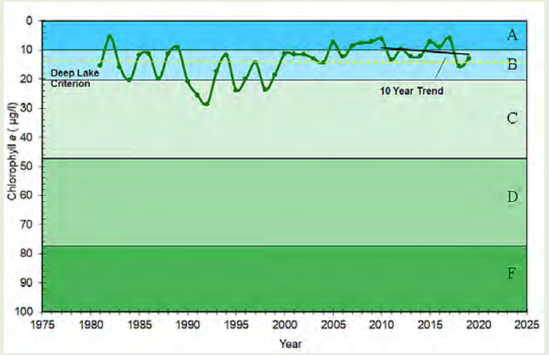
Total phosphorus (µg/l)



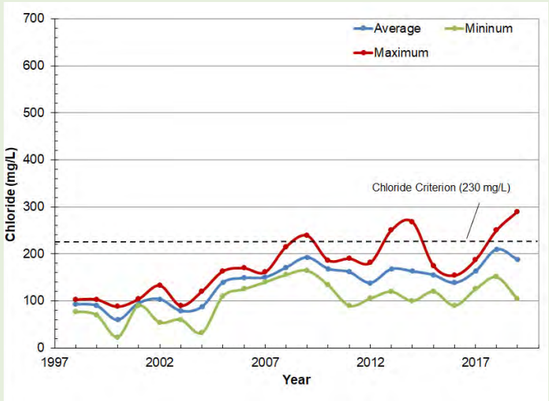
Secchi transparency (m)



Chlorophyll *a* (µg/l)



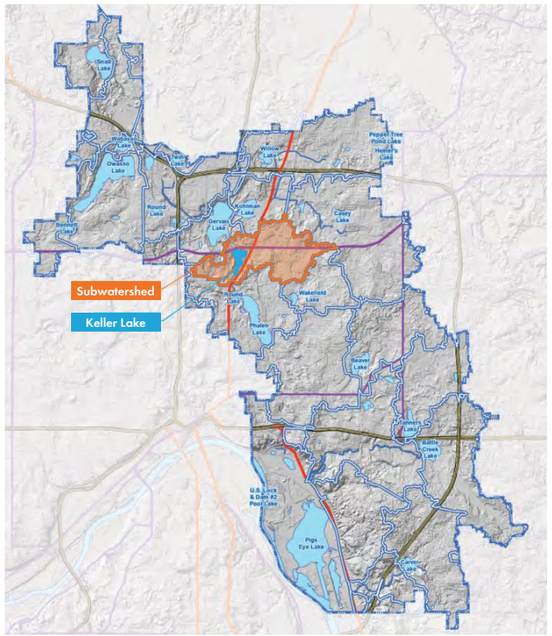
Chloride (mg/l)



KELLER LAKE

MPCA designation	Shallow
Tributary area	1,577 acres
Surface area	72 acres
Average/maximum depth	4/8 feet
RWMWD nutrient classification[1]	Stable
Accountable municipalities	Little Canada, Maplewood, Ramsey County
Downstream waterbody	Lake Phalen

[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.



Keller Lake is the third lake in the Phalen Chain of Lakes and is used for motor-boating, canoeing, fishing, picnicking, and aesthetic viewing. There is a Ramsey County Park on the lake's east shoreline. Flows to the lake are received from Gervais Lake (through Spoon Lake) and runoff from its direct tributary area.

Keller Lake was listed as impaired for excess nutrients in 2002 but was removed from the list in 2012 after meeting state standards (for shallow lakes). The lake is still at risk of impairment for chlorides. In addition, Keller Lake is listed by the Minnesota DNR as infested with Eurasian watermilfoil.

Annual monitoring for phosphorus, chlorophyll *a*, and Secchi disc depth began in 1981; monitoring for chlorides started in 2015. In 2019, Keller Lake met summer-average state standards for all four parameters (see table and graphs at right). The 10-year data shows a statistically significant improvement in Secchi disc transparency.

According to the *2017 Ramsey Washington Metro Watershed District Watershed Restoration and Protection Strategies Report*, 42% of the phosphorus in Keller Lake comes from stormwater, 8% comes from internal loading, and 49% comes from upstream waterbodies. Strategies to address stormwater pollution include implementing a BMP cost-share program and water-quality projects that decrease the total phosphorus load to the lake. Internal loading will be addressed by managing carp, as needed.

Several recent projects have helped Keller Lake meet state water-quality standards. Two include:

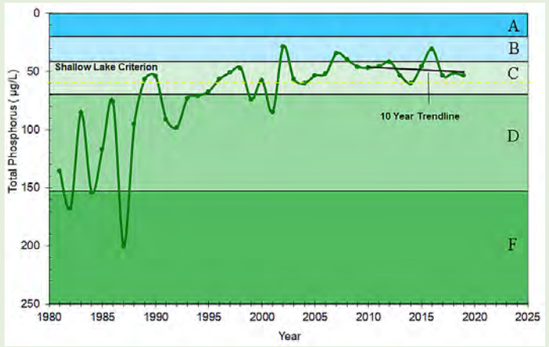
- The Highway 36/61 project (2014): This project was constructed as part of the overall Trunk Highway 36 and English Street interchange effort. It included installation of a stormwater treatment system to prevent polluted stormwater runoff from entering Keller Lake and downstream Lake Phalen. The project treats stormwater from approximately 70 acres of commercial, residential, and highway area by channeling it through an enhanced sand filter cell and two wetland treatment basins designed to remove phosphorus-rich sediment and other contaminants.
- Carp management (ongoing since 2009): Carp management helps control phosphorus loading in the Phalen Chain of Lakes (Keller Lake, Gervais Lake, Lake Phalen, and Kohlman Lake). Foraging carp stir up nutrient-rich sediment on the lake bottom which, in turn, contributes to turbid water and algae blooms. Management efforts include counting carp to understand the extent of the population, tracking them with radio tags to allow efficient harvesting and identification of nurseries, and installing barriers. Efforts have reduced carp in the Phalen Chain by over 60%.

Parameter	State Standard	2019 Keller Lake	10-Year Average[1]	Trend
Phosphorus	≤ 60 µg/l	53.7 µg/l	48 µg/l	None
Chlorophyll *a*	≤ 20 µg/l	16.5 µg/l	11 µg/l	None
Secchi disc transparency	> 1 meter	1.7 meters	1.5 meters	Increasing
Chloride	≤ 230 mg/l[2]	144.2 mg/l	N/A	N/A

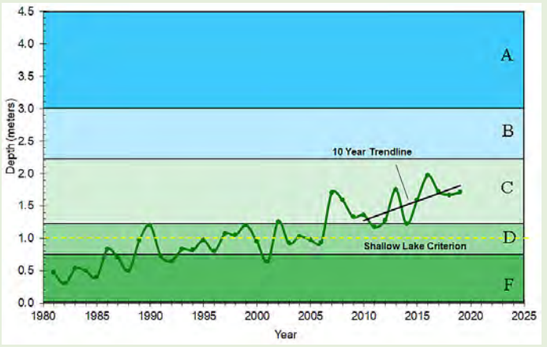
[1] A minimum of 10 years of data were analyzed. If a year was missing within the most recent 10-year period, the period of record was extended.

[2] State standard for chronic chloride exposure; chloride value is average water-column concentration.

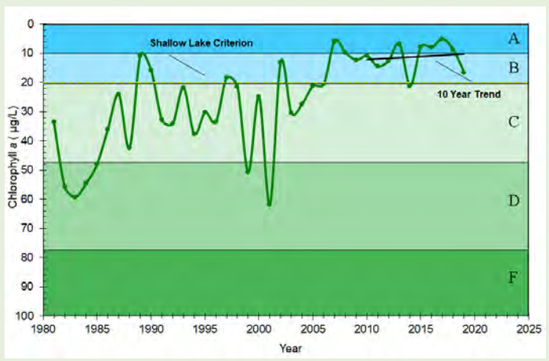
Total phosphorus (µg/l)



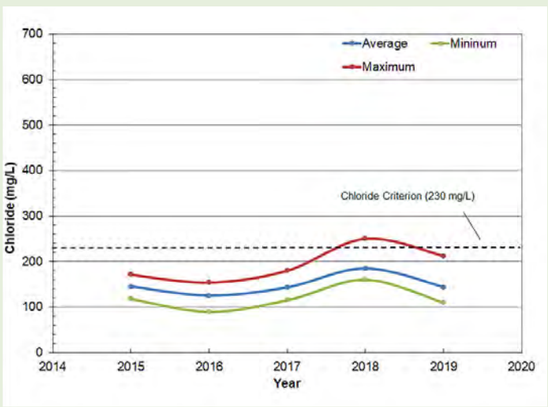
Secchi transparency (m)



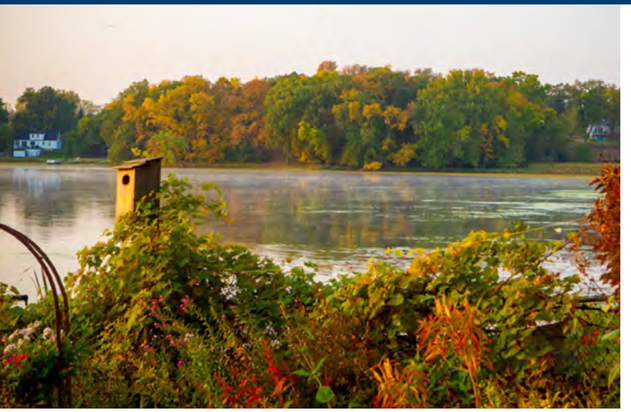
Chlorophyll *a* (µg/l)



Chloride (mg/l)

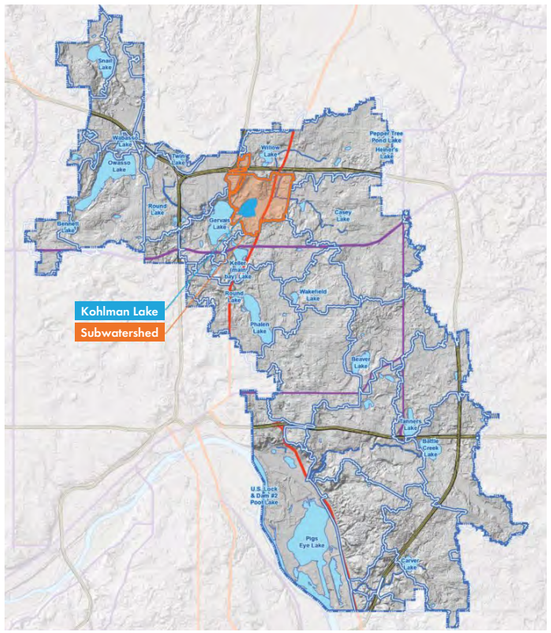


Kohlman Lake



MPCA designation	Shallow
Tributary area	1,009 acres
Surface area	84 acres
Average/maximum depth	4/12 feet
RWMWD nutrient classification[1]	Impaired
Accountable municipalities	Little Canada, Maplewood, Vadnais Heights, Ramsey County
Downstream waterbody	Gervais Lake

[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.



Kohlman Lake is the first lake in the Phalen Chain of Lakes. It is used for a variety of recreational purposes, including motor-boating, canoeing, fishing, picnicking, and aesthetic viewing. While the drainage area that directly reaches the lake is just over 1,000 acres, the total area connected to the lake through Kohlman and Willow Creeks is about 7,500 acres. There is no direct public boat access to Kohlman Lake, but it can be accessed from Gervais Lake.

Kohlman Lake was listed as impaired for excess nutrients in 2002 and is impaired for chloride (aquatic life). In addition, Kohlman is listed by the Minnesota DNR as infested with Eurasian watermilfoil. A nutrient TMDL was completed in 2010 and the Twin Cities Metro Area Chloride TMDL was completed in 2016.

Annual monitoring for phosphorus, chlorophyll *a*, and Secchi disc depth has occurred since 1981. Annual monitoring for chlorides began in 2015. In 2019, all parameters except phosphorus met summer-average state standards. The 10-year trend shows a statistically significant increase in phosphorus levels.

According to the *2017 Ramsey Washington Metro Watershed District Watershed Restoration and Protection Strategies Report*, 76% of the phosphorus in Kohlman Lake comes from stormwater and 23% comes from internal loading. Strategies to address stormwater pollution include implementing a BMP cost-share program and water-quality projects that decrease the total phosphorus load to the lake. Internal loading will be addressed by managing carp and curlyleaf pondweed, as needed. An initial alum treatment has been completed on the lake; treatment will be continued, as necessary, and other options will be assessed.

In addition to carp management, the Maplewood Mall project, described below, has helped improve water quality in Kohlman Lake.

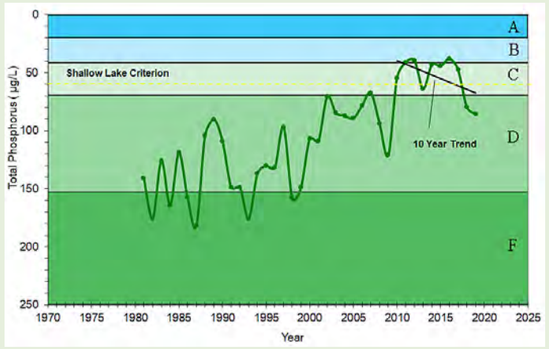
- Maplewood Mall (2012): With 35 acres of asphalt pavement and concrete surfaces surrounding it, Maplewood Mall was a major source of phosphorus runoff to Kohlman Lake. But, over a period of 4 years, the RWMWD installed a variety of stormwater management features that capture and filter 67 percent of rainwater at the mall—up from just 3 percent before the project. These features include innovative tree trenches, rain gardens, permeable pavers, and a 5,700-gallon cistern that receives runoff from the mall roof. Interpretive signage educates the public about these improvements, and a large watershed map in the entry vestibule shows how water travels from the mall all the way to the Mississippi River.

Parameter	State Standard	2019 Kohlman Lake	10-Year Average[1]	Trend
Phosphorus	≤ 60 µg/l	85.6 µg/l	54 µg/l	Increasing
Chlorophyll *a*	≤ 20 µg/l	12.5 µg/l	8.9 µg/	None
Secchi disc transparency	> 1 meter	1.45 meters	1.7 meters	None
Chloride	≤ 230 mg/l[2]	101 mg/l	N/A	N/A

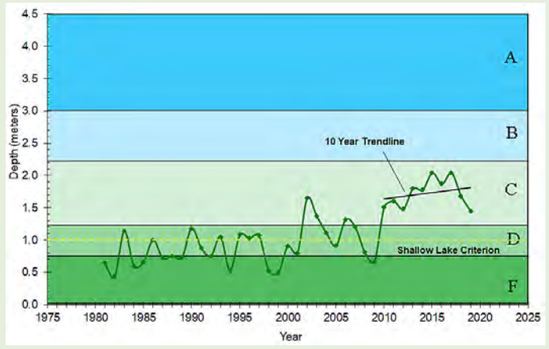
[1] A minimum of 10 years of data were analyzed. If a year was missing within the most recent 10-year period, the period of record was extended.

[2] State standard for chronic chloride exposure; chloride value is average water-column concentration.

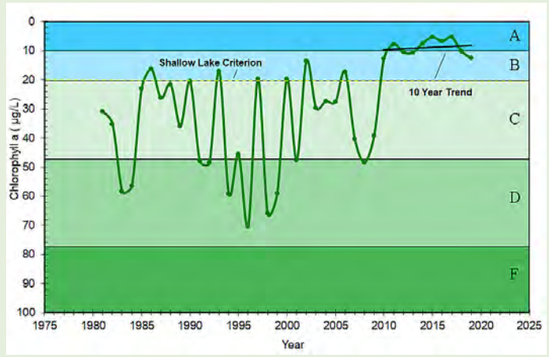
Total phosphorus (µg/l)



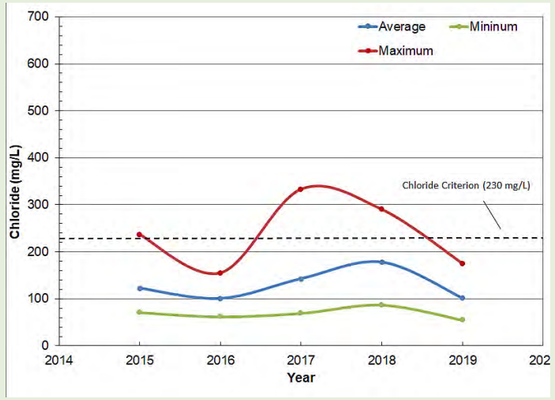
Secchi transparency (m)



Chlorophyll *a* (µg/l)



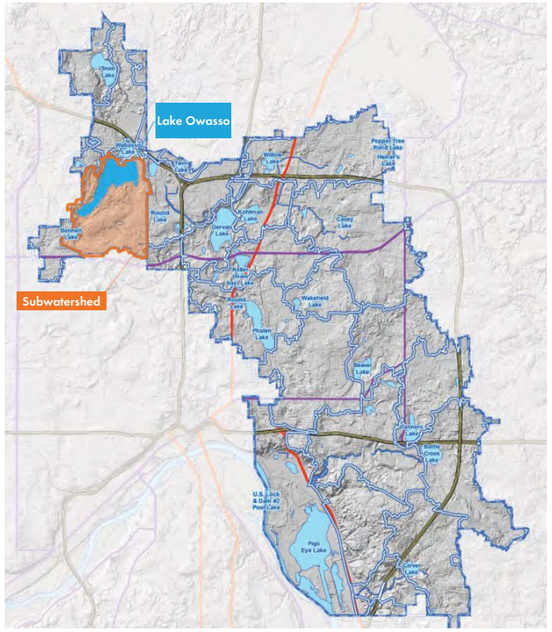
Chloride (mg/l)



LAKE OWASSO

MPCA designation	Deep
Tributary area	2,175 acres
Surface area	375 acres
Average/maximum depth	11/37 feet
RWMWD nutrient classification[1]	At risk
Accountable municipalities	Roseville, Shoreview, Ramsey County
Downstream waterbody	Lake Wabasso

[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.



Lake Owasso is the largest lake in the RWMWD and a major regional recreational resource for fishing, boating, waterskiing, and swimming. Roseville's Central Park North (along the south shore of the lake) and Owasso County Park in the city of Shoreview (on the north side) provide two public access points including a boat launch and a public swimming beach. Lake Owasso receives water from Bennett Lake and Lake Emily.

Lake Owasso is impaired for mercury (aquatic consumption) and is also listed by the Minnesota DNR as infested with Eurasian watermilfoil. A statewide mercury TMDL was completed in 2007.

Phosphorus and Secchi disc depth have been monitored annually at Lake Owasso from 2003 to 2019. Chlorophyll *a* has been monitored annually since 1984, and chlorides have been monitored since 2015. 2019 monitoring shows that the lake meets summer-average state standards for all four parameters. The 10-year data shows a statistically significant decrease in Secchi disc transparency, although the lake is still meeting state standards.

According to the *2017 Ramsey Washington Metro Watershed District Watershed Restoration and Protection Strategies Report*, 31% of the phosphorus in Lake Owasso comes from stormwater and 63% comes from internal loading. Plans to address stormwater pollution include implementing a BMP cost-share program and water-quality projects that decrease the total phosphorus load to the lake. Internal loading will be addressed by managing carp, as needed. Options for inactivation of sediment release of phosphorus will also be assessed.

Several projects have been completed to improve water quality in Lake Owasso, including:

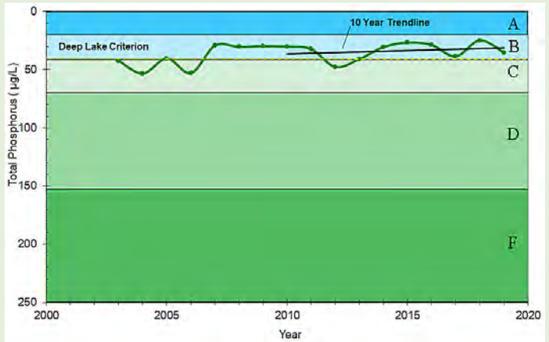
- Central Park Elementary (2017) is one of six school rain garden projects providing needed pollinator habitat and reducing the volume of polluted runoff.
- Prince of Peace Lutheran Church (2015) and North Heights Christian Academy (2017) are two of 12 projects to manage rainwater runoff at churches with large amounts of impervious surfaces.
- Carp management (ongoing since 2017). With four interconnected lakes (Owasso, Wabasso, Bennett and Grass) and 12 shallow ponds, the Lake Owasso system offers prime habitat for carp to potentially out-compete native game fish. As carp root for food along the lake bottom, they stir up nutrient-rich sediment which, in turn, contributes to turbid water and algae blooms. Management efforts include counting carp to understand the extent of the population, tracking them with radio tags to allow efficient harvesting and identification of nurseries, and installing barriers.

Parameter	State Standard	2019 Lake Owasso	10-Year Average[1]	Trend
Phosphorus	≤ 40 µg/l	35.3 µg/l	34 µg/l	None
Chlorophyll *a*	≤ 14 µg/l	13.2 µg/l	17 µg/l	None
Secchi disc transparency	> 1.4 meter	2.15 meters	2.0 meters	Decreasing
Chloride	≤ 230 mg/l[2]	65.3 mg/l	N/A	N/A

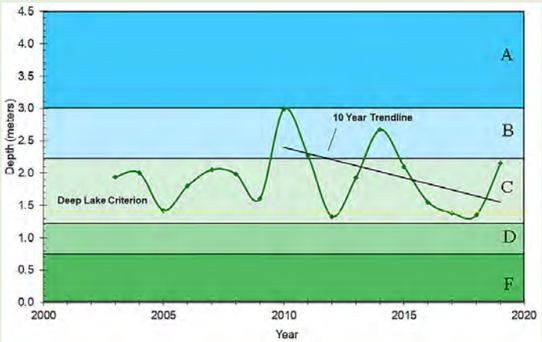
[1] A minimum of 10 years of data were analyzed. If a year was missing within the most recent 10-year period, the period of record was extended.

[2] State standard for chronic chloride exposure; chloride value is average water-column concentration.

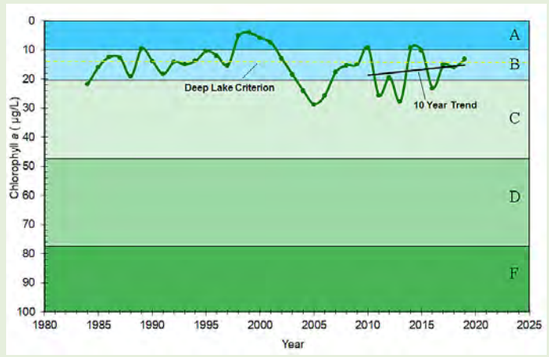
Total phosphorus (µg/l)



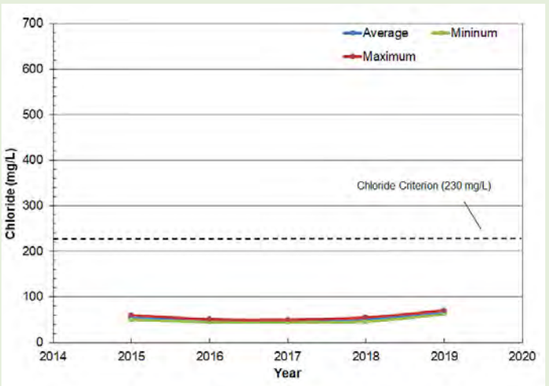
Secchi transparency (m)



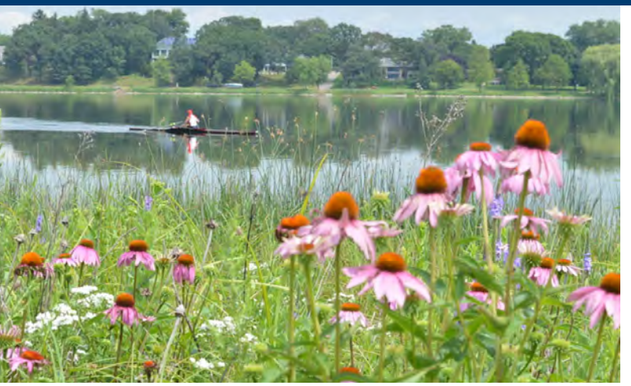
Chlorophyll *a* (µg/l)



Chloride (mg/l)

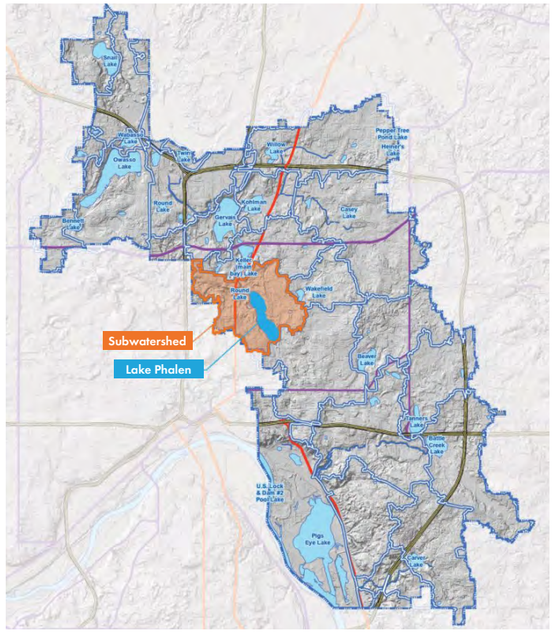


LAKE PHALEN



MPCA designation	Deep
Tributary area	1,995 acres
Surface area	200 acres
Average/maximum depth	22/95 feet
RWMWD nutrient classification[1]	Stable
Accountable municipalities	Maplewood, St. Paul, Ramsey County
Downstream waterbody	Mississippi River via the Beltline Interceptor storm sewer

[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.



Lake Phalen, the downstream-most lake in the Phalen Chain of Lakes, is surrounded by park land that has 2 miles of restored shoreline. The lake is used primarily for swimming, fishing, paddling, picnicking, and aesthetic viewing. It has public boating access and a swimming beach. While the direct tributary area to the lake is close to 2,000 acres, the total land area that ultimately drains through Lake Phalen is closer to 15,000 acres, including the Keller Lake and Wakefield Lake subwatersheds.

Lake Phalen is impaired for mercury (aquatic consumption) and is listed by the Minnesota DNR as infested with Eurasian watermilfoil. A statewide mercury TMDL was completed in 2007.

Phosphorus, chlorophyll *a*, and Secchi disc depth have been monitored annually since 1981. Annual chloride monitoring began in 2015. In 2019, all four parameters met summer-average state standards. The 10-year data shows a statistically significant increase in Secchi disc depth.

According to the *2017 Ramsey Washington Metro Watershed District Watershed Restoration and Protection Strategies Report*, 68% of the phosphorus in Lake Phalen comes from stormwater and 32% comes from internal loading. Plans to address stormwater pollution include implementing a BMP cost-share program and water-quality projects that decrease the total phosphorus load to the lake.

Projects that have improved water quality in Lake Phalen include:

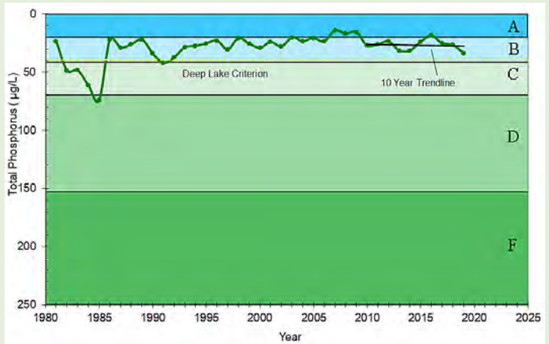
- Keller Creek Buffer (2018): This Keller Creek restoration effort restored native plant communities, removed invasive vegetation, reduced erosion, and brought significant improvements to wildlife habitat and recreation along nearly a mile of the creek.
- Keller Golf Course (2014): Keller is a beautiful public course located just east of Lake Keller. The no-play areas on this course comprise part of the Phalen Chain of Lakes natural areas corridor, providing critical wildlife habitat and improving infiltration. This improvement project restored more than 7 acres of no-play area.
- Carp management (ongoing since 2009): Carp management helps control phosphorus loading in the Phalen Chain of Lakes. Foraging carp stir up nutrient-rich sediment on the lake bottom which, in turn, contributes to turbid water and algae blooms. Management efforts include counting carp to understand the extent of the population, tracking them with radio tags to allow efficient harvesting and identification of nurseries, and installing barriers. These efforts have reduced carp in the Phalen Chain by over 60%.

Parameter	State Standard	2019 Lake Phalen	10-Year Average[1]	Trend
Phosphorus	≤ 40 µg/l	33.7 µg/l	27 µg/l	None
Chlorophyll *a*	≤ 14 µg/l	11.2 µg/l	7.2 µg/l	None
Secchi disc transparency	> 1.4 meters	2.7 meters	2.9 meters	Increasing
Chloride	≤ 230 mg/l[2]	158.4 mg/l	N/A	N/A

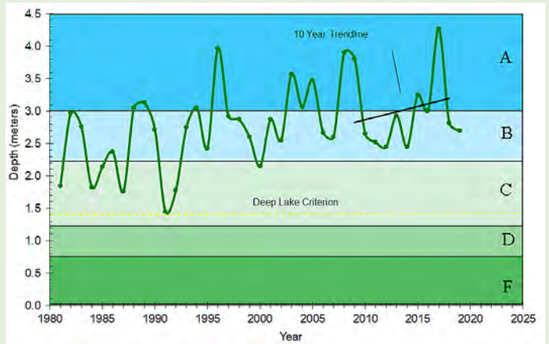
[1] A minimum of 10 years of data were analyzed. If a year was missing within the most recent 10-year period, the period of record was extended.

[2] State standard for chronic chloride exposure; chloride value is average water-column concentration.

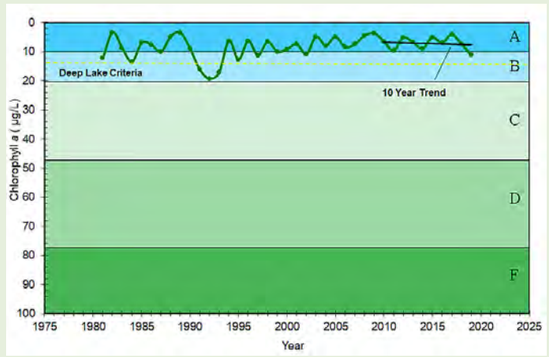
Total phosphorus (µg/l)



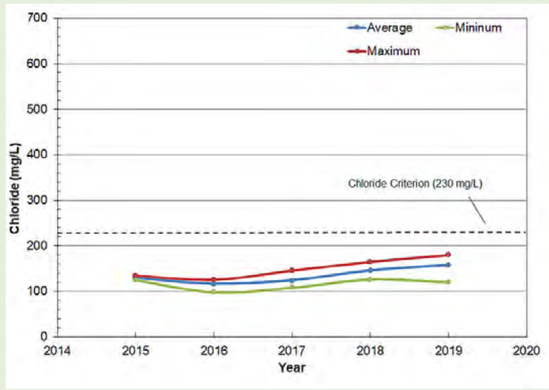
Secchi transparency (m)



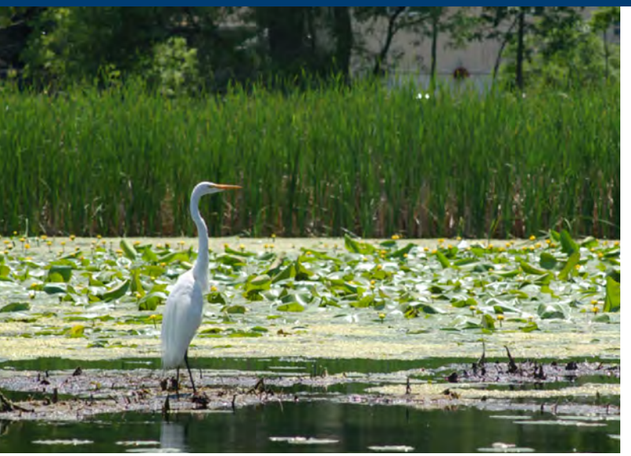
Chlorophyll *a* (µg/l)



Chloride (mg/l)

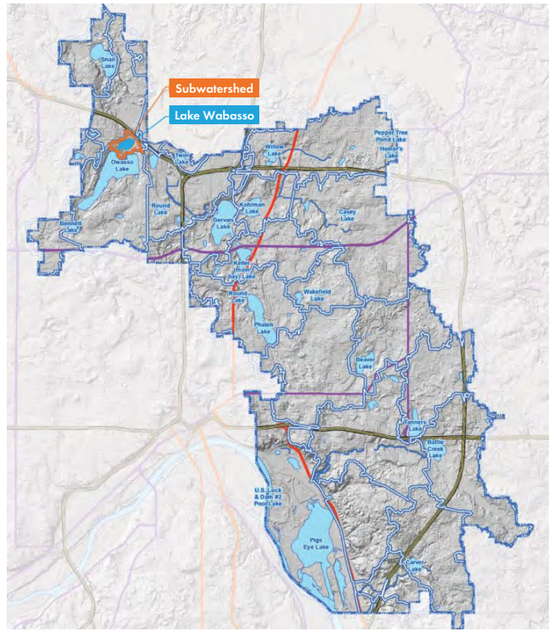


LAKE WABASSO



MPCA designation	Deep
Tributary area	147 acres
Surface area	52 acres
Average/maximum depth	16/66 feet
RWMWD nutrient classification[1]	Stable
Accountable municipalities	Shoreview, Ramsey County
Downstream waterbody	Grass Lake

[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.



Lake Wabasso is a deep lake in Shoreview that supports a healthy fish population. In addition to fishing it is used for boating and swimming. Boat access is provided in Lake Owasso County Park on the south side. The lake is at risk of impairment for chloride; however, 2019 data suggest it may not be at risk. It is also listed by the Minnesota DNR as infested with Eurasian watermilfoil.

Chlorophyll *a* has been monitored annually at Lake Wabasso since 1984. Phosphorus and Secchi disc depths have been monitored annually since 2003. Annual chloride monitoring began in 2015. In 2019, Lake Wabasso met summer-average state standards for all four parameters. The 10-year data shows a statistically significant decrease in chlorophyll *a* levels.

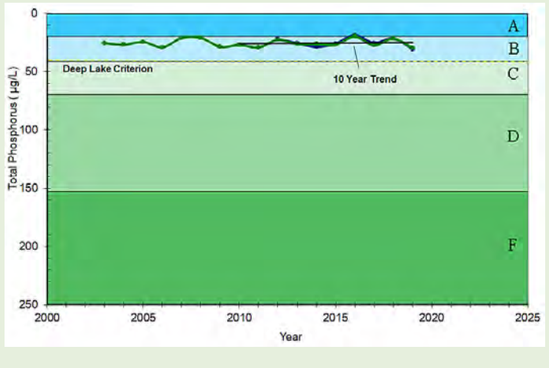
According to the *2017 Ramsey Washington Metro Watershed District Watershed Restoration and Protection Strategies Report*, 13% of the phosphorus in Lake Wabasso comes from stormwater, 62% comes from internal loading, and 22% comes from atmospheric deposition. Plans to address stormwater pollution include implementing a BMP cost-share program and water-quality projects that decrease the total phosphorus load to the lake.

Parameter	State Standard	2019 Lake Wabasso	10-Year Average[1]	Trend
Phosphorus	≤ 40 µg/l	29.5 µg/l	25 µg/	None
Chlorophyll *a*	≤ 14 µg/l	7.1 µg/L	8.6 µg/	Decreasing
Secchi disc transparency	> 1.4 meters	2.6 meters	2.9 meters	None
Chloride	≤ 230 mg/l[2]	58.7 mg/l	N/A	N/A

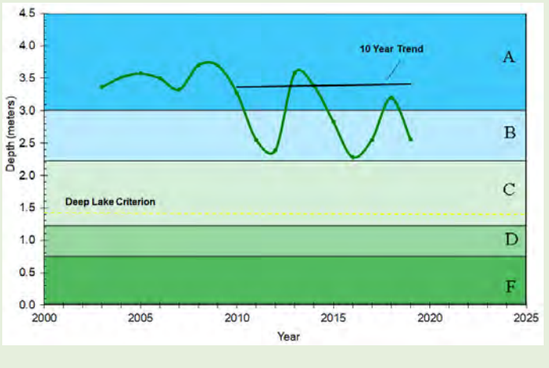
[1] A minimum of 10 years of data were analyzed. If a year was missing within the most recent 10-year period, the period of record was extended.

[2] State standard for chronic chloride exposure; chloride value is average water-column concentration.

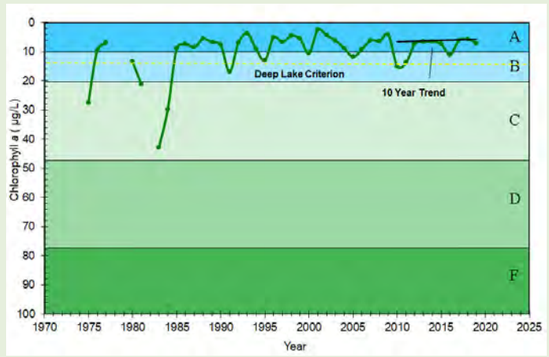
Total phosphorus (µg/l)



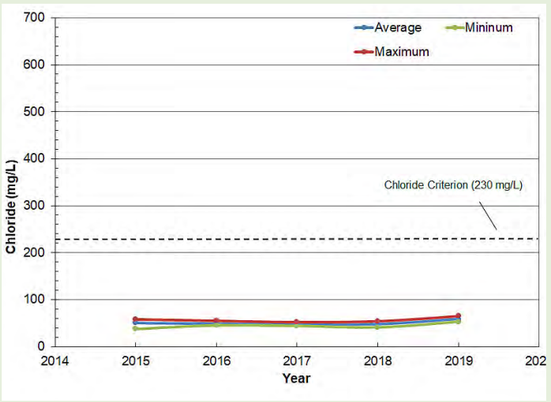
Secchi transparency (m)



Chlorophyll *a* (µg/l)



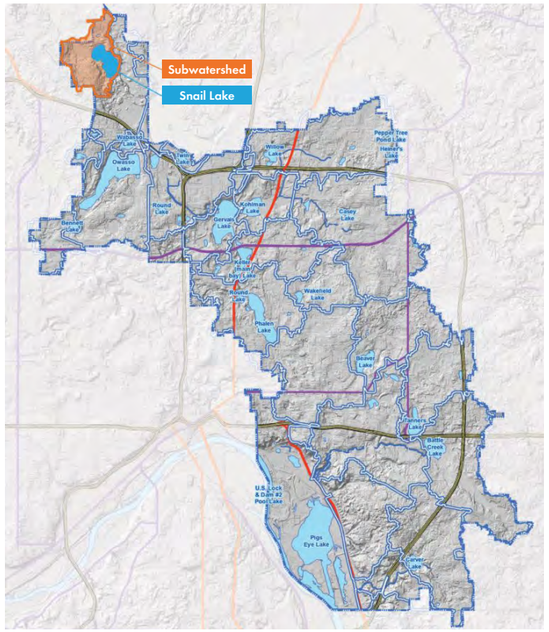
Chloride (mg/l)



SNAIL LAKE

MPCA designation	Deep
Tributary area	961 acres
Surface area	190 acres
Average/maximum depth	28 feet
RWMWD nutrient classification[1]	Stable
Accountable municipalities	Shoreview, Ramsey County
Downstream waterbody	Landlocked

[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.



Snail Lake is a 190-acre landlocked lake in the city of Shoreview; a 35-acre wetland can be found on the northwest side of the lake. The lake, used for fishing, boating, and swimming, is bordered by Snail Lake Regional Park to the south. The park includes public access and a swimming beach. During low water periods, inflow to Snail Lake is augmented by pumping water from nearby Sucker Lake. Under extreme conditions the lake has the potential to overflow to the Grass Lake subwatershed. As of 2020, this has never been observed.

Snail Lake is impaired for mercury (aquatic consumption); a statewide mercury TMDL was completed in 2007. The lake is also listed by the Minnesota DNR as infested with Eurasian watermilfoil.

Phosphorus, chlorophyll *a*, and Secchi disc depth have been monitored annually since 2005. Annual monitoring of chloride began in 2015. In 2019, the lake met all four water-quality parameters. The 10-year data shows a statistically significant increase in chlorophyll *a* levels and decrease in Secchi disc transparency.

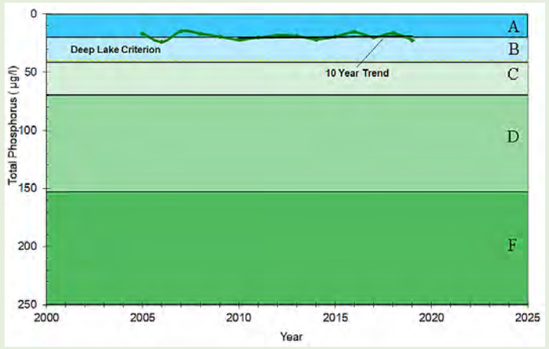
According to the *2017 Ramsey Washington Metro Watershed District Watershed Restoration and Protection Strategies Report*, 30% of the phosphorus in Snail Lake comes from stormwater, 11% comes from internal loading, and 51% from upstream waterbodies. Strategies to address stormwater pollution include implementing a BMP cost-share program and water-quality projects that decrease the total phosphorus load to the lake.

Parameter	State Standard	2019 Snail Lake	10-Year Average[1]	Trend
Phosphorus	≤ 40 µg/l	22.3 µg/l	19 µg/l	None
Chlorophyll *a*	≤ 14 µg/l	6.6 µg/l	4.1 µg/l	Increasing
Secchi disc transparency	> 1.4 meters	3.0 meters	3.3 meters	Decreasing
Chloride	≤ 230 mg/l[2]	91.5 mg/l	N/A	N/A

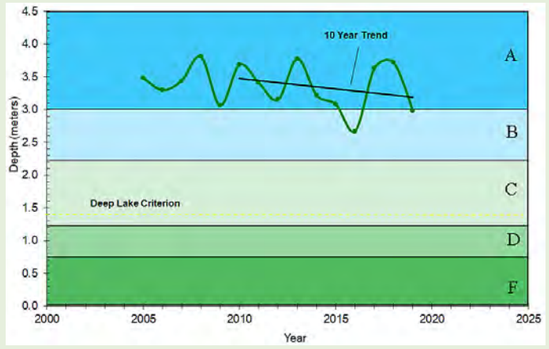
[1] A minimum of 10 years of data were analyzed. If a year was missing within the most recent 10-year period, the period of record was extended.

[2] State standard for chronic chloride exposure; chloride value is average water-column concentration.

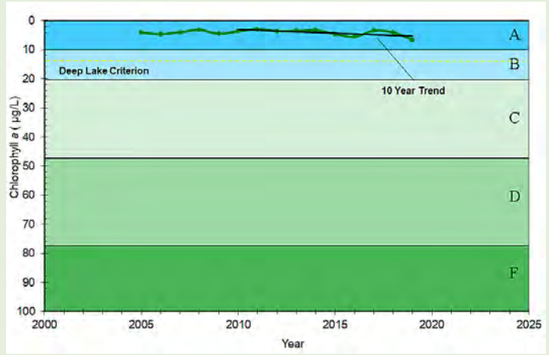
Total phosphorus (µg/l)



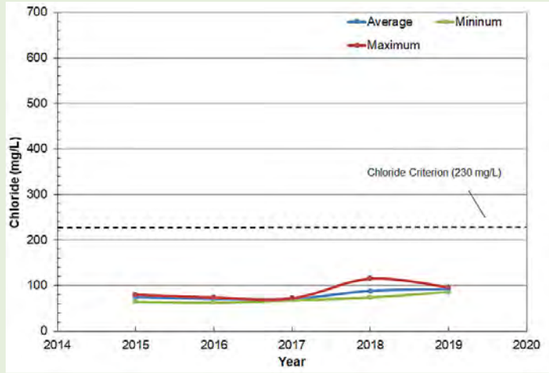
Secchi transparency (m)



Chlorophyll *a* (µg/l)



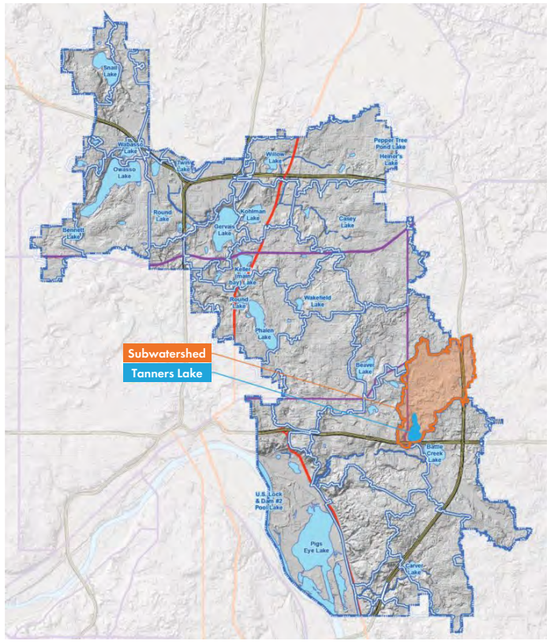
Chloride (mg/l)



TANNERS LAKE

MPCA designation	Deep
Tributary area	1,707 acres
Surface area	74 acres
Average/maximum depth	20/46 feet
RWMWD nutrient classification[1]	Stable
Accountable municipalities	Landfall, Maplewood, Oakdale, Woodbury, Ramsey County, Washington County
Downstream waterbody	Battle Creek Lake

[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.



Located almost entirely within the cities of Oakdale and Landfall, Tanners Lake discharges into the headwaters for Battle Creek—a tributary of the Mississippi River. The lake is used for swimming, skiing, motor boating, fishing, canoeing, picnicking, and aesthetic viewing. Tanners Lake Park, which includes a beach for swimming and boat access for fishing, is located on the east shore of the lake. Facilities are also present for softball and volleyball.

Tanners Lake was listed as impaired for excess nutrients in 2002, but after meeting state standards was removed from the Impaired Waters List in 2004. It is currently impaired for mercury (aquatic consumption) and chloride (aquatic life). A statewide mercury TMDL was completed in 2007 and the Twin Cities Metro Area Chloride TMDL was completed in 2016.

RWMWD currently operates an aluminum sulfate (alum) treatment facility on the north end of Tanners Lake. This facility treats a significant portion of watershed runoff before it enters the lake. Alum is injected into the stormwater runoff, which causes phosphorus to precipitate out and settle into a sedimentation pond.

Phosphorus, chlorophyll *a*, and Secchi disc depth have been monitored annually since 1993. Annual chloride monitoring began in 2017. In 2019, the lake met summer-average state standards for phosphorus, chlorophyll *a*, and Secchi disc transparency, but exceeded the chloride standard. The 10-year data shows a statistically significant decrease in phosphorus levels.

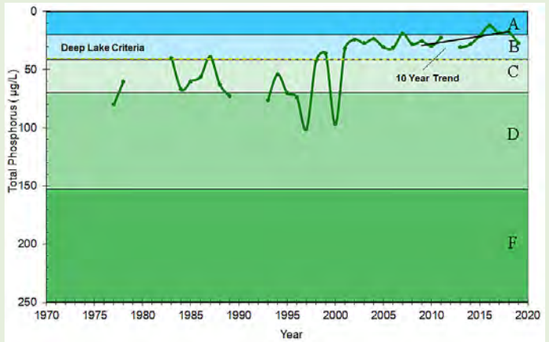
Strategies to address stormwater pollution include implementing the BMP cost-share program and water-quality projects that decrease the total phosphorus load to the lake. Plans to address chloride include improving road salt management by promoting and adopting strategies in the Twin Cities Metro Area Chloride Management Plan.

Parameter	State Standard	2019 Tanners Lake	10-Year Average[1]	Trend
Phosphorus	≤ 40 µg/l	27 µg/l	23 µg/l	Decreasing
Chlorophyll *a*	≤ 14 µg/l	13.3 µg/l	7.6 µg/l	None
Secchi disc transparency	> 1.4 meters	2.3 meters	2.9 meters	None
Chloride	≤ 230 mg/l[2]	287.5 mg/l	N/A	N/A

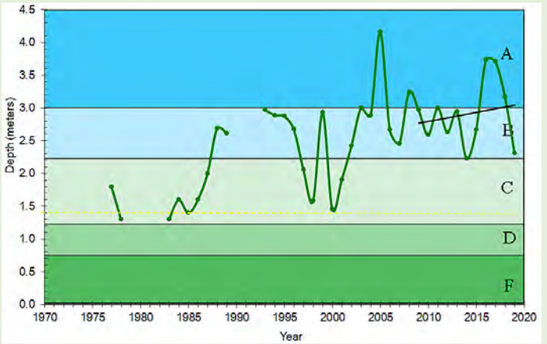
[1] A minimum of 10 years of data were analyzed. If a year was missing within the most recent 10-year period, the period of record was extended.

[2] State standard for chronic chloride exposure; chloride value is average water-column concentration.

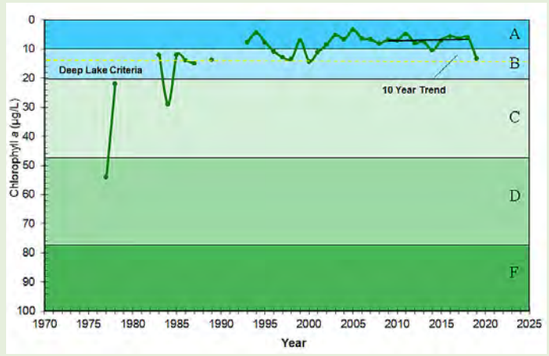
Total phosphorus (µg/l)



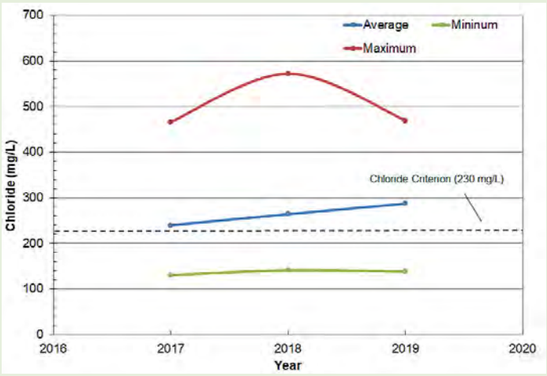
Secchi transparency (m)



Chlorophyll *a* (µg/l)



Chloride (mg/l)



TWIN LAKE

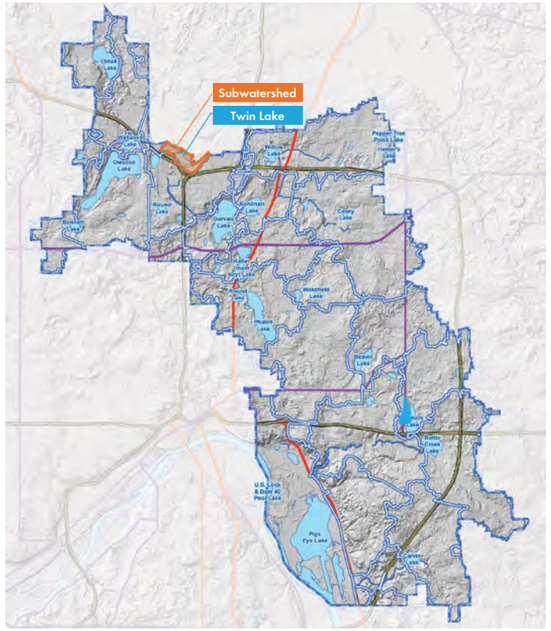
MPCA designation	Deep
Tributary area	192 acres
Surface area	35.5 acres
Average/maximum depth	33 feet
RWMWD nutrient classification[1]	Stable
Accountable municipalities	Little Canada, Vadnais Heights, Ramsey County
Downstream waterbody	Gervais Creek

[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.

Twin Lake lies in Little Canada and Vadnais Heights. It is a small and relatively deep lake, mainly surrounded by homes. Formerly landlocked, an outlet was installed in the lake in 2020 to allow water to discharge to Gervais Creek during high-water periods. Twin Lake has some wildlife habitat and is primarily used for canoeing, aesthetic viewing, fishing, and occasional jet skiing; there is no public access. The lake is not impaired.

With the exception of 2007, phosphorus, chlorophyll *a*, and Secchi disc depth have been monitored annually on Twin Lake since 1996. Annual monitoring of chloride began in 2015. In 2019, the lake met all four summer-average state standards; however, the 10-year data shows a statistically significant increase in phosphorus and chlorophyll *a* levels and decrease in Secchi disc transparency.

Strategies to address stormwater pollution include implementing a BMP cost-share program and water-quality projects that decrease the total phosphorus load to the lake.

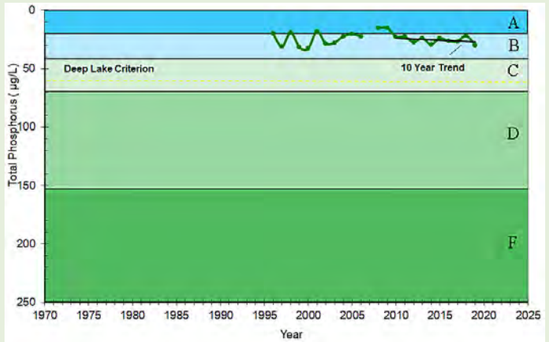


Parameter	State Standard	2019 Twin Lake	10-Year Average[1]	Trend
Phosphorus	≤ 40 µg/l	30.1 µg/l	26 µg/l	Increasing
Chlorophyll *a*	≤ 14 µg/l	7.2 µg/l	7.8 µg/l	Increasing
Secchi disc transparency	> 1.4 meters	2.8 meters	2.6 meters	Decreasing
Chloride	≤ 230 mg/l[2]	59 mg/l	N/A	N/A

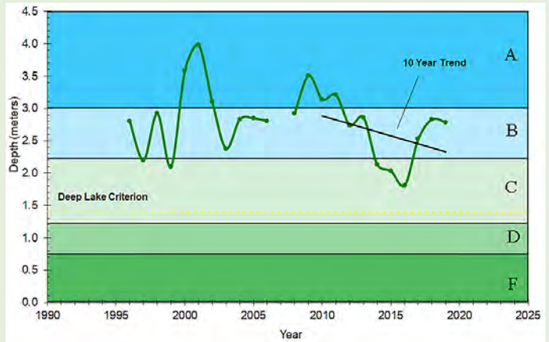
[1] A minimum of 10 years of data were analyzed. If a year was missing within the most recent 10-year period, the period of record was extended.

[2] State standard for chronic chloride exposure; chloride value is average water-column concentration.

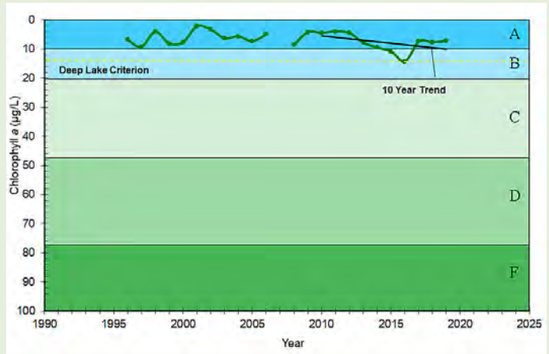
Total phosphorus (µg/l)



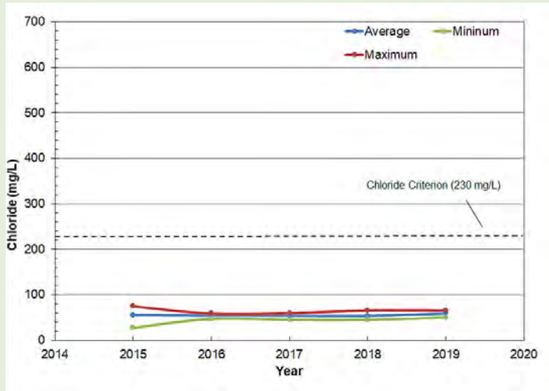
Secchi transparency (m)



Chlorophyll *a* (µg/l)



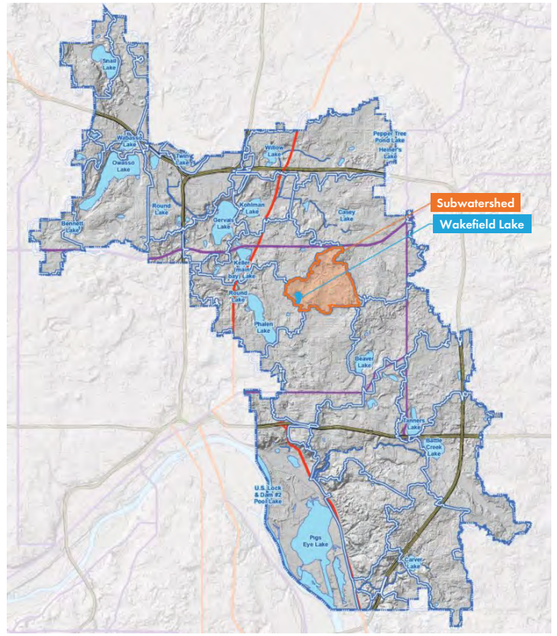
Chloride (mg/l)



WAKEFIELD LAKE

MPCA designation	Shallow
Tributary area	948 acres
Surface area	23 acres
Average/maximum depth	4.6/9 feet
RWMWD nutrient classification[1]	Impaired
Accountable municipalities	Maplewood, North St. Paul, St. Paul, Ramsey County
Downstream waterbody	Lake Phalen

[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.



Wakefield Lake is located in Maplewood and primarily used for shoreline fishing, picnicking, and aesthetic viewing. It is bordered by park land on the north and east sides of the lake. Public access is available in Wakefield Park, although there is no boat launch.

Wakefield Lake was added to the MPCA's impaired waters list for excess nutrients in 2002; a nutrient TMDL was completed in 2017. Wakefield is also at risk for chloride impairment.

Phosphorus, chlorophyll *a*, and Secchi disc depth have been monitored annually since 1984. Chloride has been measured annually since 1992. In 2019, Wakefield Lake failed to meet summer-average state standards for phosphorus and chlorophyll *a*, but met Secchi disc transparency and chloride standards. The 10-year trend shows a statistically significant decrease in Secchi disc transparency.

Strategies to address stormwater pollution include implementing a BMP cost-share program and water-quality projects that decrease the total phosphorus load to the lake. Plans to reduce in-lake loading by 80% include developing a plan for macrophyte management (including curly leaf pondweed) and assessing options for inactivation of sediment release of phosphorus.

Recent projects to improve the water quality of Wakefield Lake are:

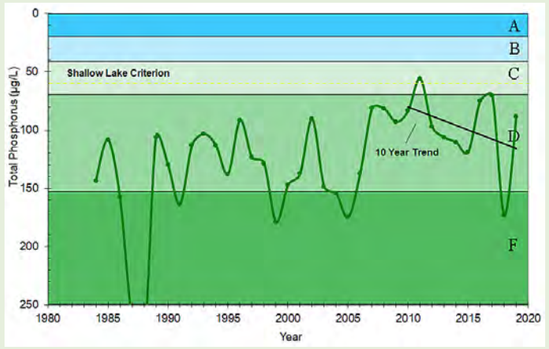
- The Wakefield spent-lime filter (2018): This project involves piping stormwater from a large portion of the 944-acre Wakefield Lake subwatershed into a large underground chamber where it interacts with spent lime. The lime material is a repurposed by-product of municipal drinking water treatment, and it binds to phosphorus in the stormwater. Water leaving the spent lime chamber was projected to contain about 70 percent less dissolved phosphorus than when it entered. (This treatment system, during the first year of operation, is evaluated in Section 7).
- Wakefield Park stormwater improvements (2020): The goal of this project was to install two large rain gardens that intercept and filter rainwater runoff from the streets. This reduces the volume of rainwater runoff and increases the quality of runoff that drains to Wakefield Lake.
- Presentation Catholic Church (2015): The goal of this project was to install six rain gardens and one infiltration trench to intercept and filter runoff from the large church parking lot. This reduces the volume of polluted rainwater draining to Wakefield Lake.

Parameter	State Standard	2019 Wakefield Lake	10-Year Average[1]	Trend
Phosphorus	≤ 60 µg/l	74.9 µg/l	97 µg/l	None
Chlorophyll *a*	≤ 20 µg/l	32.5 µg/l	30 µg/l	None
Secchi disc transparency	> 1 meter	1.2 meters	1.5 meters	Decreasing
Chloride	≤ 230 mg/l[2]	81. 8 mg/l	N/A	N/A

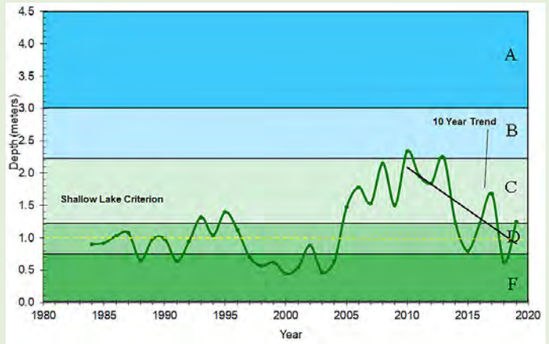
[1] A minimum of 10 years of data were analyzed. If a year was missing within the most recent 10-year period, the period of record was extended.

[2] State standard for chronic chloride exposure; chloride value is average water-column concentration.

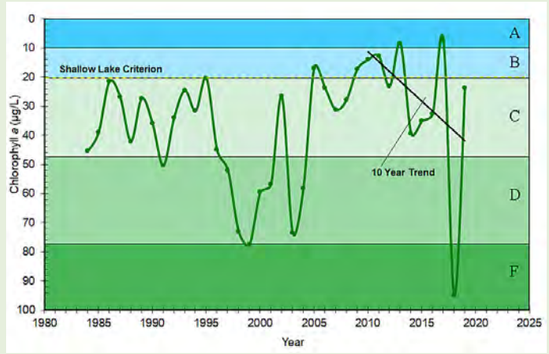
Total phosphorus (µg/l)



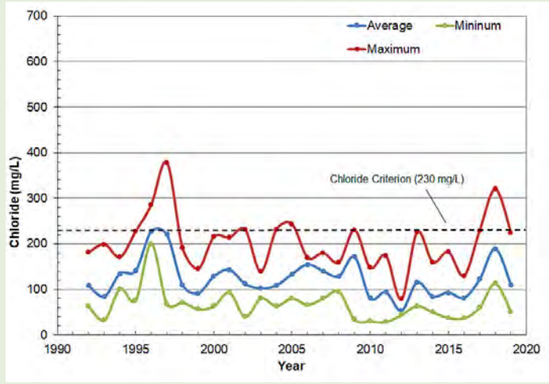
Secchi transparency (m)



Chlorophyll *a* (µg/l)

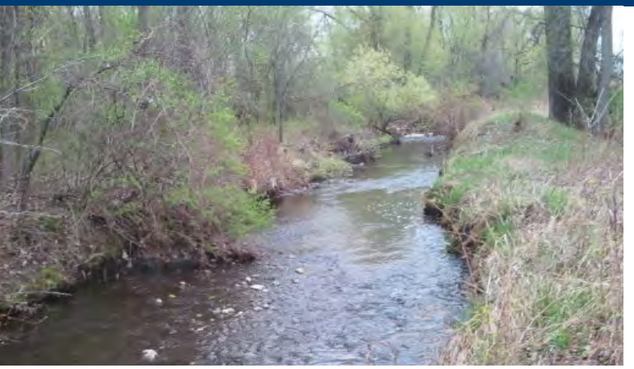


Chloride (mg/l)



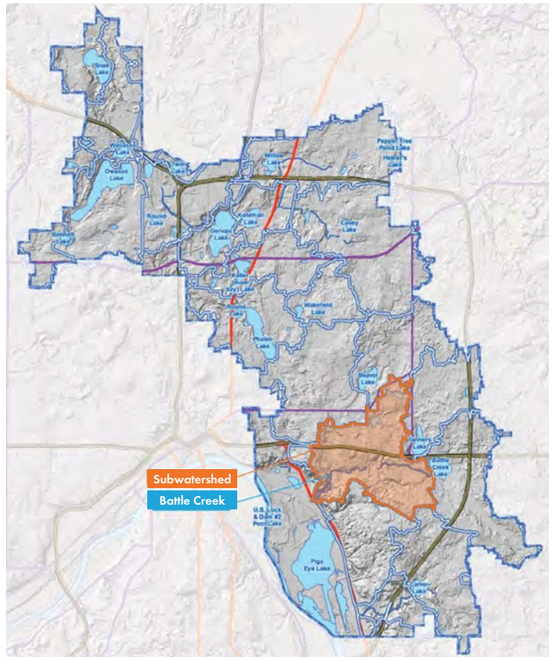
4. STREAMS

BATTLE CREEK



Tributary area	2,972 acres
Creek length	3.8 miles
Downstream waterbody	Mississippi River
MPCA designations	Impaired for aquatic life (chloride, fish, macroinvertebrates)
Accountable municipalities	Maplewood, St. Paul, Woodbury, Ramsey County, Washington County
RWMWD nutrient classification	Impaired

[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.



Battle Creek is a perennial, urban stream that originates at the outlet from Battle Creek Lake in Woodbury. The creek then flows west and ultimately discharges to Pigs Eye Lake and the Mississippi River. A well-maintained regional park with trails for hiking, cross-country skiing, and cycling is sited along the creek in St. Paul.

Historically, Battle Creek has been plagued by frequent and devastating floods that caused loss of life, substantial property damage, and heavy stream erosion. The District completed a significant restoration project in 1982 and continues to conduct maintenance on the creek to sustain that project.

Battle Creek has been monitored annually for phosphorus and total suspended solids since 1996. Annual monitoring for nitrate began in 2000 and for chloride in 2002. The creek is currently impaired for chloride and was also listed in 2014 as impaired for degraded fish and macroinvertebrate biological community health. A stressor identification report was completed in 2015 and found that chloride and total suspended solids (TSS) are the primary stressors to the fish and macroinvertebrates in the creek. The study identified total phosphorus as a probable secondary stressor. For that reason, the District has assigned Battle Creek a RWMWD nutrient water quality classification of "Impaired. "

As seen in the chart at right, the creek failed to meet state standards for phosphorus and total suspended solids in 2019, but did meet the standard for chlorides. The 10-year data shows no statistically significant trend for any parameter.

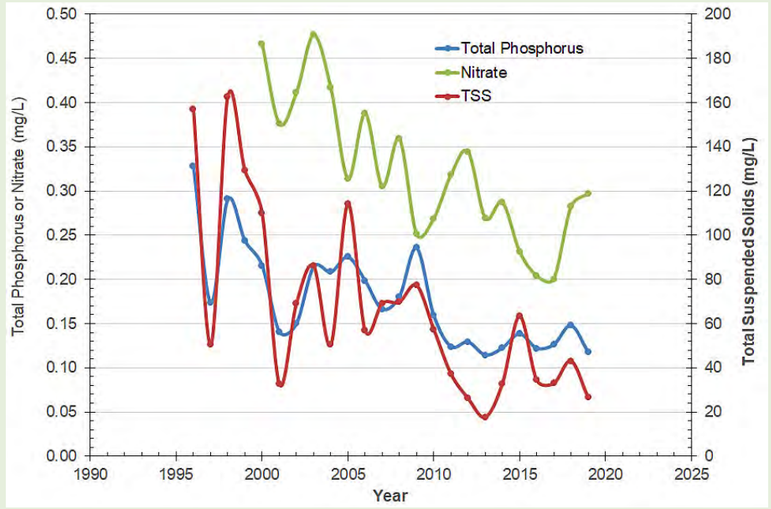
Recent projects to improve the water quality of Battle Creek include:

- Christ United Methodist Church (2016): Two rain gardens were installed to intercept and filter runoff from the church's parking lot—reducing the volume of polluted runoff that drains to Battle Creek.
- Slumberland Clearance Outlet Store (2016): A native planting area replacing 20,000 square feet of parking lot surface provides pollinator habitat and filters rainwater runoff before it drains to Battle Creek.
- Living Streets (2012): The Maplewood street reconstruction project included 32 new rainwater gardens throughout the neighborhood, the addition 120 drought-tolerant trees, and creation of a regional infiltration basin. The rainwater gardens, trees, and infiltration basin sequester 40 tons of CO2 per year, as well as filter and infiltrate 50 percent of the stormwater runoff.

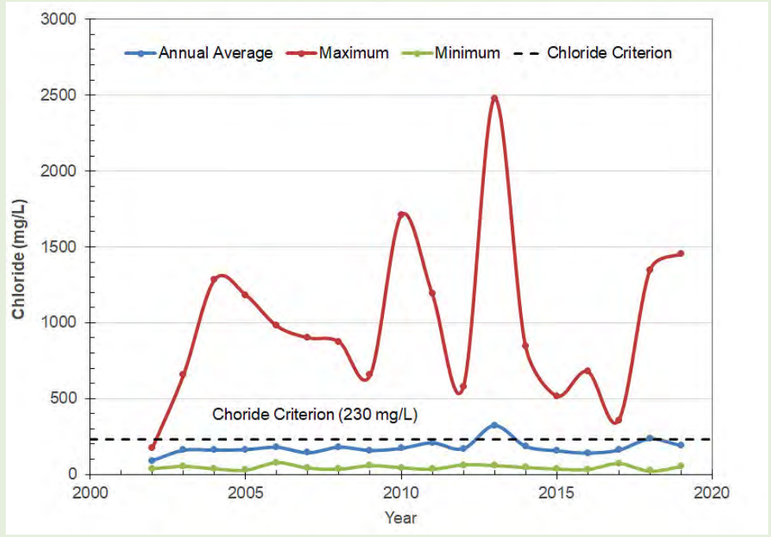
Parameter	State Standard	2019 Battle Creek	10-Year Average	Trend
Phosphorus	≤ 100 µg/l	117 µg/l	130 µg/l	No trend
Total suspended solids	<15 mg/l	27 mg/l	37 mg/l	No trend
Nitrate	N/A	0.30 mg/l	0.27 mg/l	No trend
Chloride	≤ 230 mg/l[1]	191 mg/l	195 mg/l	No trend

[1] State standard for chronic chloride exposure; chloride value is average water-column concentration

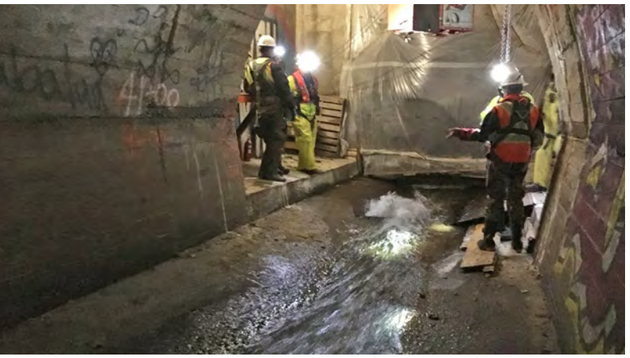
Nutrients and solids (mg/l)



Chlorides (mg/l)



BELTLINE INTERCEPTOR



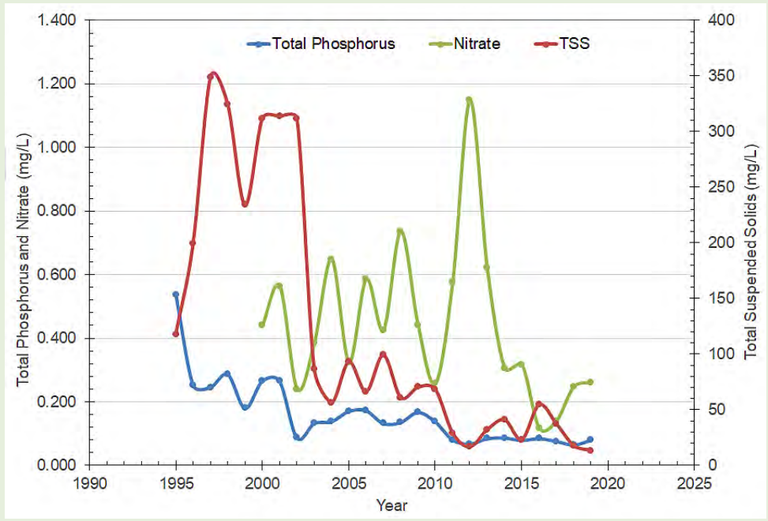
The Beltline Interceptor is a large storm sewer pipe system constructed in 1920 and maintained by the RWMWD. The system is approximately 5 miles long, extending from the outlets of Lake Phalen and Beaver Lake to the Mississippi River. It collects a large percentage of stormwater runoff from St. Paul's east side and also conveys runoff from the entire Phalen Chain of Lakes subwatershed and the Beaver Lake subwatershed to the Mississippi River. The total drainage area to the Beltline Interceptor is 27.8 square miles—over half of the District's water.

The Beltline Interceptor has been monitored annually for phosphorus and total suspended solids since 1995. Annual monitoring for nitrates began in 2000 and for chloride in 2002. As seen in the chart at right, the Beltline Interceptor met state standards for phosphorus, total suspended solids, and chlorides in 2019. At 14 mg/l, the decrease in total suspended solids has been dramatic since reaching its peak in 1997 (349 mg/l). The 10-year data shows no statistically significant trend for any parameter.

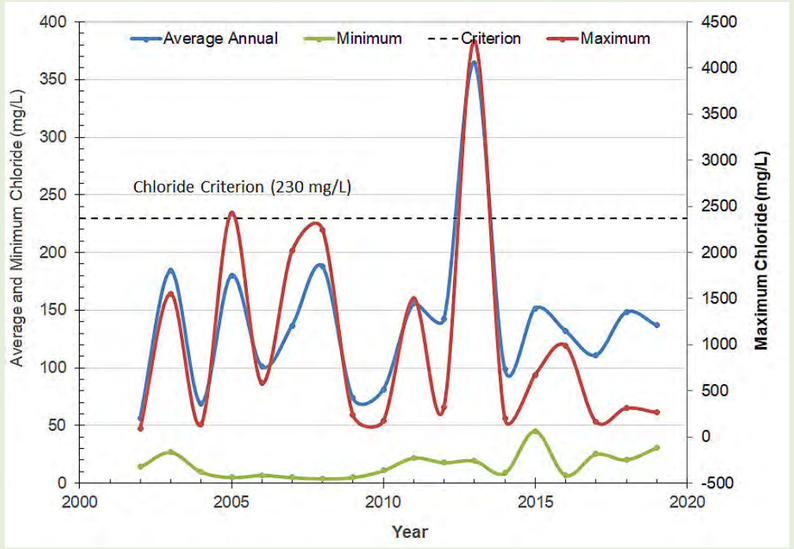
Parameter	State Standard	2019 Beltline Interceptor	10-Year Average	Trend
Phosphorus	≤ 100 µg/l	80 µg/l	85 µg/l	No trend
Total suspended solids	<15 mg/l	14 mg/l	33 mg/l	No trend
Nitrate	N/A	0.26 mg/l	0.40 mg/l	No trend
Chloride	≤ 230 mg/l[1]	137 mg/l	152 mg/l	No trend

[1] State standard for chronic chloride exposure; chloride value is average water-column concentration

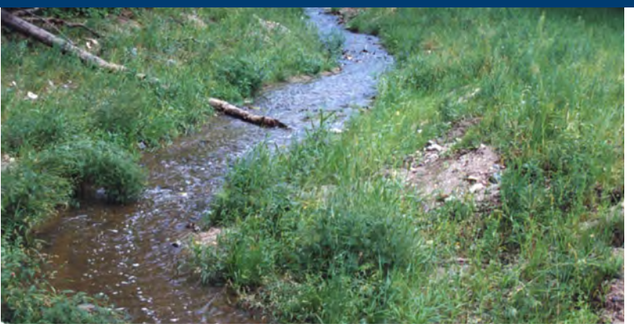
Nutrients and solids (mg/l)



Chlorides (mg/l)

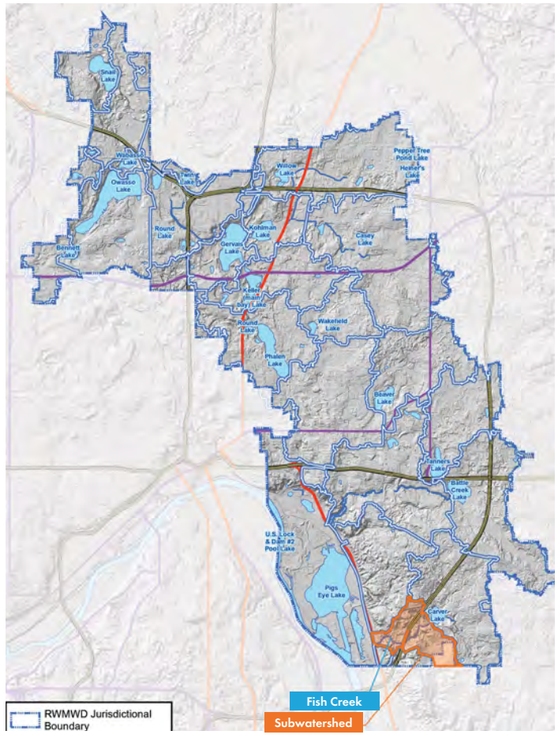


FISH CREEK



Tributary area	783 acres
Creek length	1.8 miles
Downstream waterbody	Eagle Lake
MPCA designations	Impaired for E. coli; at risk for chloride
Accountable municipalities	Maplewood, St. Paul, Woodbury, Ramsey County, Washington County
RWMWD nutrient classification	At risk

[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.



Fish Creek is a perennial, urban stream that originates at Carver Lake and ultimately discharges to Eagle Lake and the Mississippi River. The majority of the Fish Creek subwatershed is located in Ramsey County and the southeastern portion of Washington County.

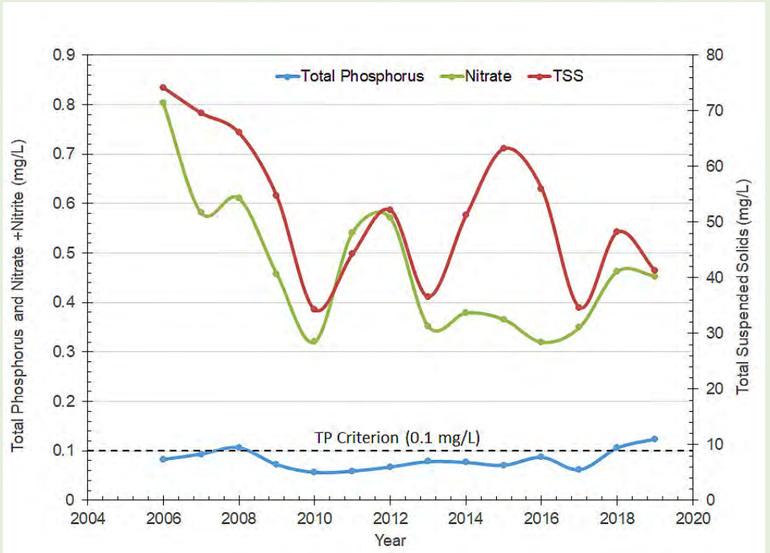
Fish Creek was placed on the 2014 303(d) impaired waters list due to elevated levels of E. coli bacteria. E. coli is used in water quality monitoring as an indicator of water that is contaminated with human or animal waste and accompanying disease-causing organisms. Bacterial abundance in excess of the water quality standards can pose a risk to human health.

Fish Creek has been monitored annually for phosphorus and total suspended solids since 1995. Annual monitoring for nitrates began in 2000 and for chlorides in 2002. In 2019, Fish Creek failed to meet state standards for phosphorus and total suspended solids, but average annual chloride concentration did meet the standard (see chart at right). The 10-year data shows a statistically significant increase in phosphorus and chloride levels. There was no statistically significant trend for total suspended solids or nitrate.

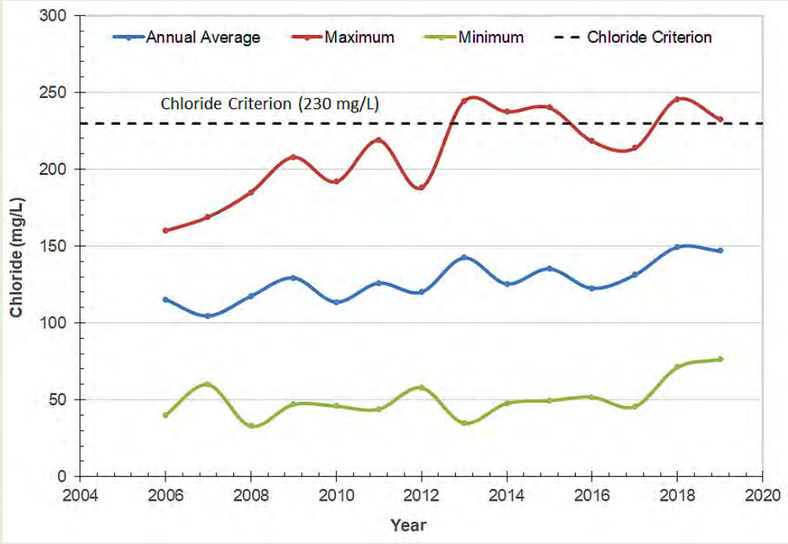
Parameter	State Standard	2019 Fish Creek	10-Year Average	Trend
Phosphorus	≤ 100 µg/l	123 µg/l	79 µg/L	Increasing
Total suspended solids	<15 mg/l	41 mg/l	46 mg/l	No trend
Nitrate	N/A	0.45 mg/l	0.41 mg/l	No trend
Chloride	≤ 230 mg/l[1]	147 mg/l	133 mg/l	Increasing

[1] State standard for chronic chloride exposure; chloride value is average water-column concentration

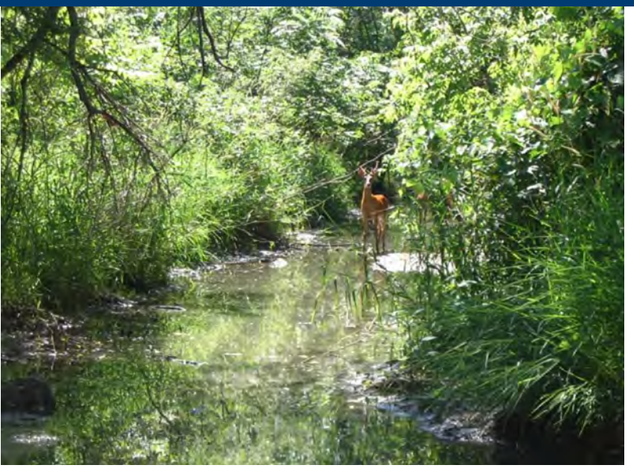
Nutrients and solids (mgl/l)



Chlorides (mg/l)



GERVAIS CREEK

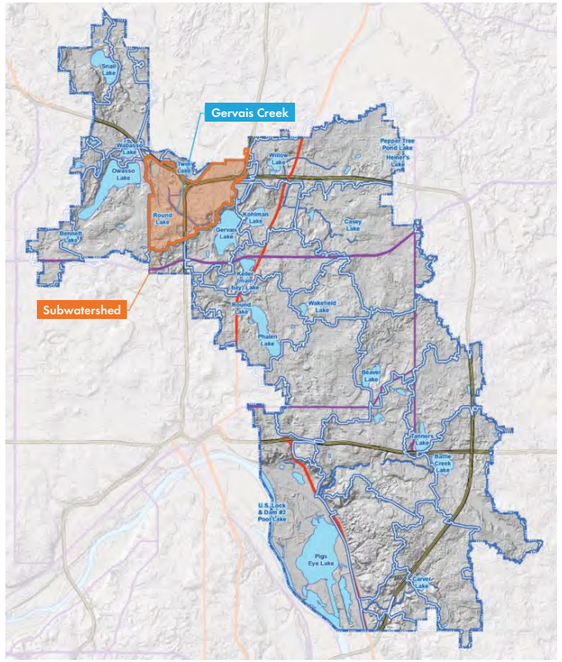


Gervais Creek is an intermittent stream that was previously managed as a county ditch (County Ditch 16). It is managed by the RWMWD as a stormwater system.

Gervais Creek has been monitored annually for phosphorus, total suspended solids, and chlorides since 2010. Annual monitoring for nitrates began in 2016. In 2019, the creek slightly exceeded the state standard for phosphorus, but met the standard for total suspended solids. The average annual and maximum chloride concentrations met the standard. The 10-year data shows no statistically significant trend for any parameter.

Tributary area	1,847 acres
Creek length	2.2 miles
Downstream waterbody	Gervais Lake
Accountable municipalities	Little Canada, Vadnais Heights, Ramsey County
RWMWD nutrient classification	At risk

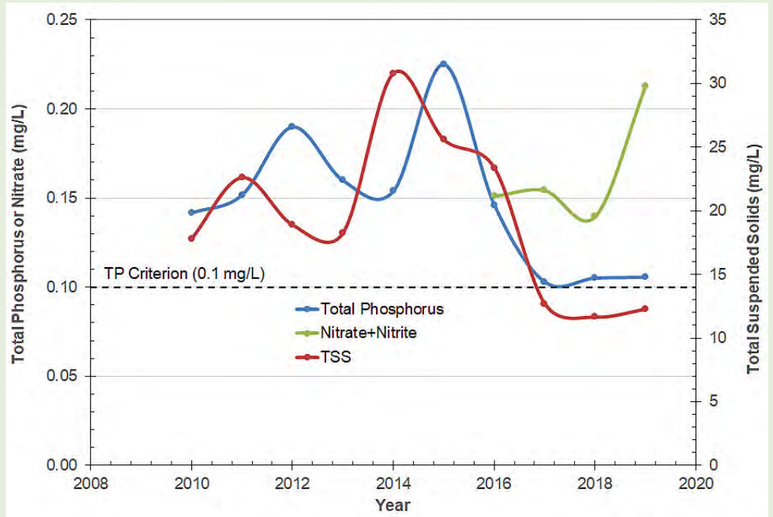
[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.



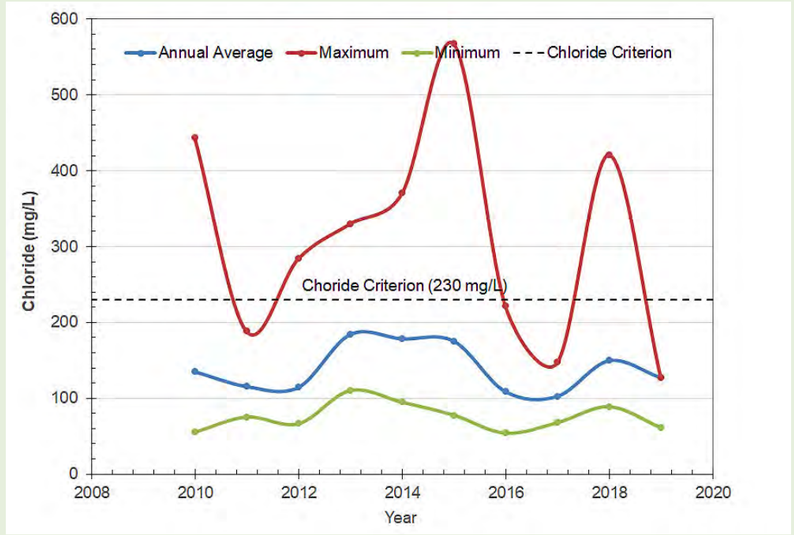
Parameter	State Standard	2019 Gervais Creek	Average	Trend
Phosphorus	≤ 100 µg/l	106 µg/l	148 µg/l (10-year average)	No trend
Total suspended solids	<15 mg/l	12 mg/l	21 mg/l (10-year average)	No trend
Nitrate	N/A	0.21 mg/l	0.15 mg/l (4-year average)	Data not available
Chloride	≤ 230 mg/l[1]	127 mg/l	139 mg/l (10-year average)	No trend

[1] State standard for chronic chloride exposure; chloride value is average water-column concentration

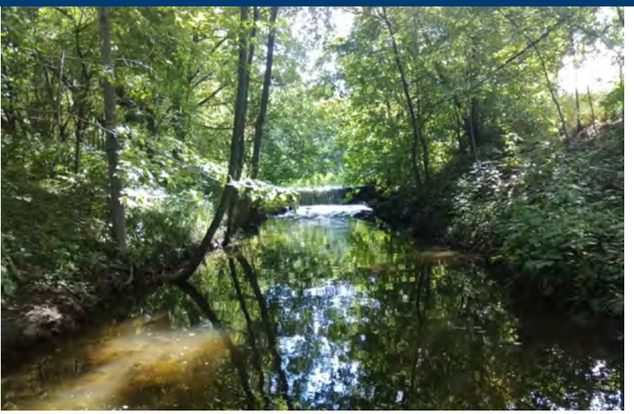
Nutrients and solids (mg/l)



Chlorides (mg/l)

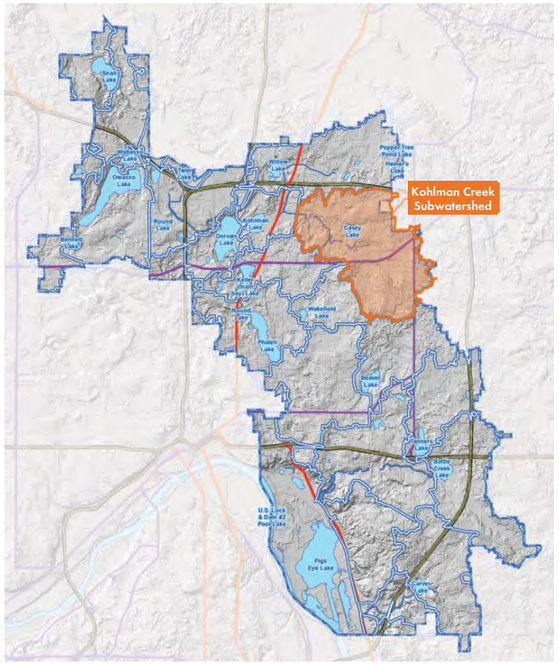


KOHLMAN CREEK



Tributary area	3,653 acres
Creek length	2.8 miles
Downstream waterbody	Kohlman Lake
Accountable municipalities	Maplewood, North St. Paul, Oakdale, Ramsey County, Washington County
RWMWD nutrient classification	At risk

[1]RWMWD nutrient classifications are based on the relationship between the historic average water quality (based on phosphorus concentration alone) and the MPCA water quality (phosphorus) standards.



Kohlman Creek is an intermittent stream that was previously considered a county ditch (County Ditch 18 South). The stream generally flows from southeast to northwest and eventually discharges to the Kohlman Basin in the Kohlman Lake subwatershed. The creek has been managed by the District as a stormwater conveyance system. Most of the creek remains in its natural state.

Kohlman Creek has been monitored annually for phosphorus, total suspended solids, and chlorides since 2008. Annual monitoring for chlorides began in 2015. In 2019, Kohlman Creek failed to meet the state standard for phosphorus and total suspended solids, but did meet the chloride standard. The 10-year data shows statistically significant decreases in levels of phosphorus and total suspended solids. There was no statistically significant trend for chloride.

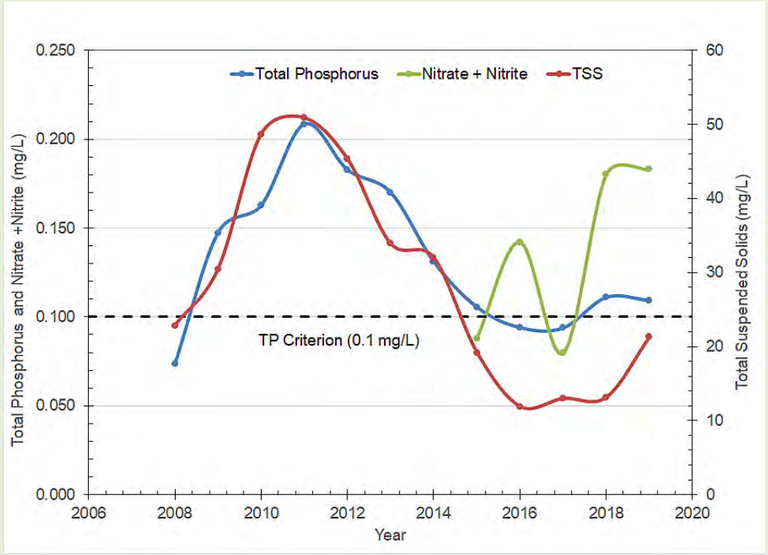
Projects to improve the water quality in Kohlman Creek include:

- North Presbyterian Church (2017): This rain garden intercepts and filters runoff from the church parking lot, reducing the volume of polluted rainwater draining to Kohlman Creek.
- Harmony Learning Center and Maplewood Middle School (2016): These school rain garden projects provide pollinator habitat and reduce the volume of polluted runoff that drains to Kohlman Creek.
- Maplewood Mall (2012): With 35 acres of asphalt pavement and concrete surfaces surrounding it, Maplewood Mall was a major source of phosphorus runoff to Kohlman Lake and Kohlman Creek. But, over a period of 4 years, the RWMWD installed a variety of stormwater management features that capture and filter 67 percent of rainwater at the mall—up from just 3 percent before the project. These features include innovative tree trenches, rain gardens, permeable pavers, and a 5,700-gallon cistern that receives runoff from the mall roof. Interpretive signage educates the public about these improvements, and a large watershed map in the entry vestibule shows how water travels from the mall all the way to the Mississippi River.

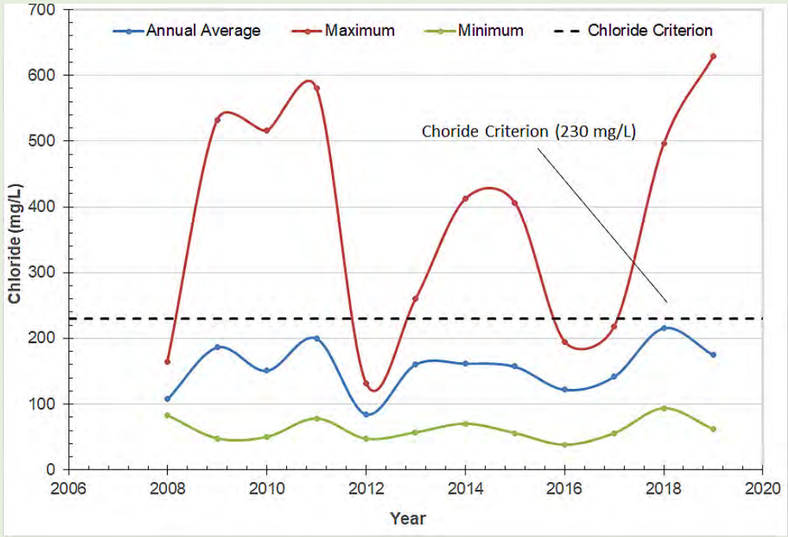
Parameter	State Standard	2019 Kohlman Creek	Average	Trend
Phosphorus	≤ 100 µg/l	109 µg/l	137 µg/l (10-year average)	Decreasing
Total suspended solids	<15 mg/l	21.3 mg/l	29 mg/l (10-year average)	Decreasing
Nitrate	N/A	0.18 mg/l	0.14 mg/l (4-year average)	Data not available
Chloride	≤ 230 mg/l[1]	175 mg/l	157 mg/l (10-year average)	No trend

[1] State standard for chronic chloride exposure; chloride value is average water-column concentration

Nutrients and solids (mg/l)



Chlorides (mg/l)



Perfluoroalkyl substances (PFAS) are also referred to as Perfluorochemicals (PFCs). PFAS are a family of man-made chemicals that have been widely used for decades. PFAS are extremely stable and do not breakdown in the environment. Common uses of PFAS include:

- Nonstick cookware and stain-resistant carpets and fabrics.
- Coatings on some food packaging (especially microwave popcorn bags and fast food wrappers).
- Components of fire-fighting foam.
- Many industrial applications.

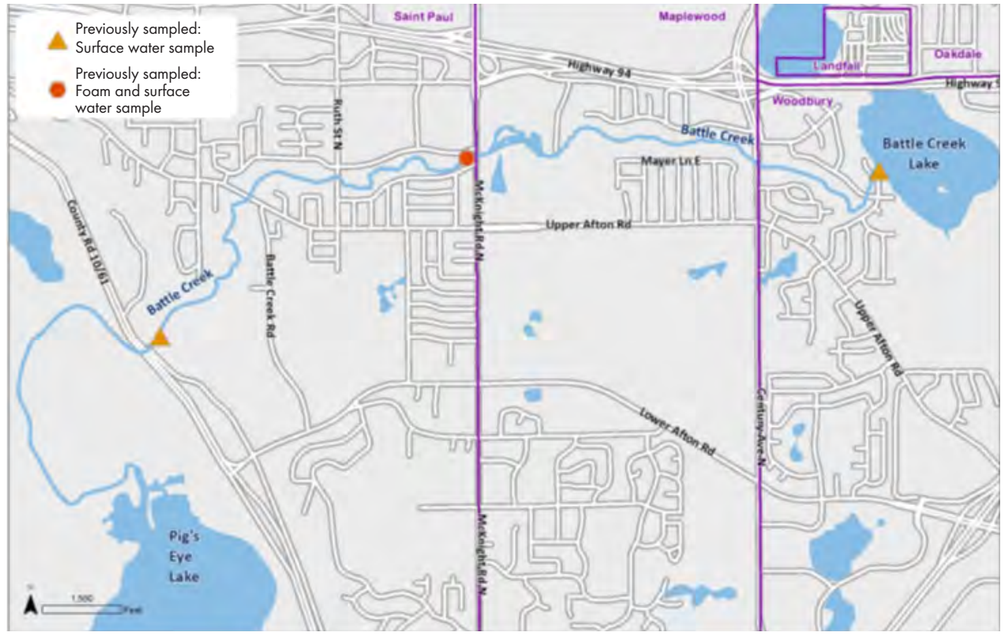
PFAS have been found in the groundwater in certain parts of Minnesota and are considered to be "emerging contaminants." Emerging contaminants are contaminants about which the MPCA has a new awareness or understanding about how they move in the environment or affect public health. PFAS, like other emerging contaminants, are the focus of active research and study, which means that new information is occasionally released.

Generally, surface water foam on natural water bodies is naturally occurring and does not contain PFAS. However, if PFAS-containing foam is found on surface water, the Minnesota Department of Health (MDH) states that it does not pose a risk to human health if skin contact with the foam is minor and infrequent. Overall, with respect to contact with waterbodies containing PFAS, MPCA recommends "when in doubt, stay out."

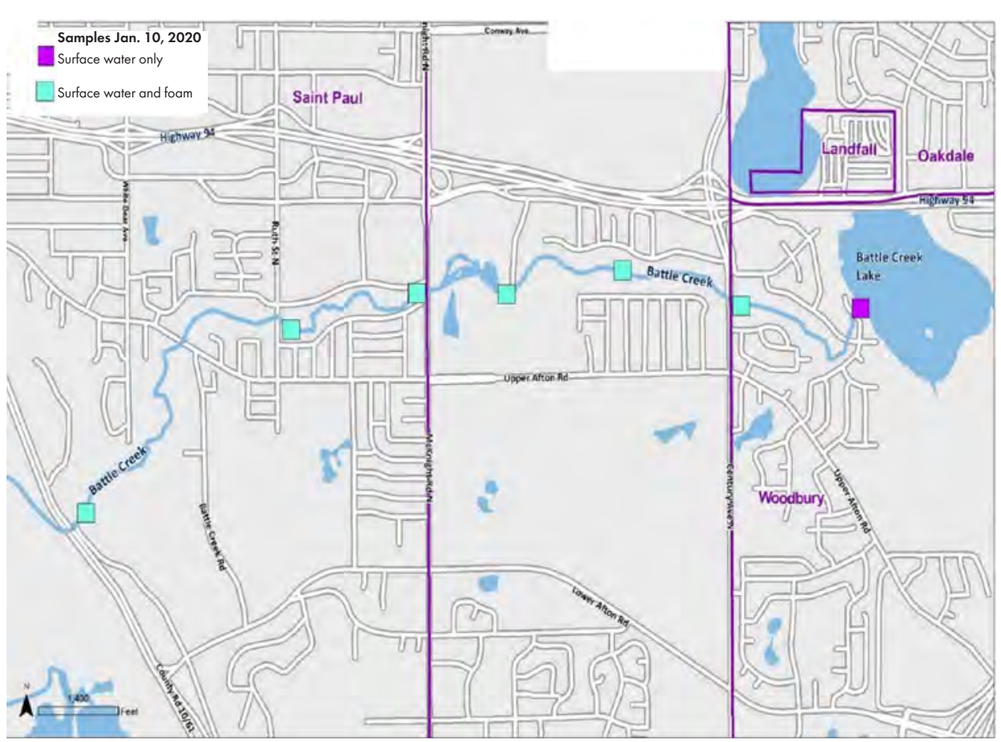
In 2019 and 2020, the MDH collected samples for PFAS analysis from Battle Creek (surface water and foam) and Battle Creek Lake (surface water) after discussions with the Minnesota Department of Transportation related to transit route planning in the area. (See figures on the following page.) All samples were analyzed for seven different PFAS compounds by the MDH Public Health Laboratory.

Various forms of PFAS (PFOS, PFOA, PFBA, PFPeA, PFPxA, PFBS and PFHxS) were detected in surface water from both Battle Creek and Battle Creek Lake. Concentrations were low, especially in Battle Creek Lake. High concentrations of PFAS (PFOS, PFOA, PFBA, PFPeA, PFPxA, PFBS and PFHxS) were detected in samples from the surface foam on Battle Creek.

This work is being conducted under MPCA's Superfund Site Assessment program. The objective of the program is to confirm earlier monitoring results and to develop lines of evidence for determining the potentially responsive party that can be brought into the Superfund program.



MPCA's 2019 PFAS sampling locations



MPCA's 2020 PFAS sampling locations

The MPCA chronic chloride criteria is 230 mg/l. Chloride is a component of total dissolved solids (or total dissolved salts), and chloride alone or in combination with other dissolved salts can be toxic to aquatic life. Most aquatic life criteria are based on testing with sensitive species; hence, the cumulative ecological impact of short-term or persistently high chloride is challenging to identify. Clearly, maintaining chloride below the 230 mg/l criteria will have ecological benefits by reducing overall stress on aquatic life. However, the potential ecological effect can be expected to be a function of the degree to which a given water sample exceeds criteria (e.g., how much greater than 230 mg/l), the frequency of the exceedance, and the persistence. A first step is to examine which water bodies have high chloride and consider if there are areas within the District that might be hot spots.

The figures on the following pages show the lakes and creeks in the District with maximum and average chloride concentrations measured in 2019. Overall, the figures suggests that chloride concentrations across the District are not persistently high (e.g., above criteria). However, several lakes and creeks have had chloride concentrations that exceed the criteria in one or more previous samples:

- Maximum chloride concentrations have frequently been above criteria for Markham Pond, Kohlman Basin, and Kohlman Creek. (Note that chloride is low for Casey Lake, suggesting that high chloride loads are occurring between Casey Lake and Markham Pond.)
- The high concentration in Carver Lake (632 mg/l) is notable also because the value was measured in June, suggesting that it may have been higher in the spring.
- The maximum and average chloride concentrations in Gervais Lake appear to have been increasing slowly since 2000 (see Chapter 3.6), with exceedances of the criteria increasing during that time period.
- Although data are limited to 3 years, average annual and maximum chloride concentrations have exceeded criteria in Tanners Lake since 2017.
- Maximum chloride concentrations in Battle Creek Lake have been hovering around the chloride criteria since 2015.
- Maximum concentrations of chloride in Battle Creek have been well over the criteria since 2003 (Battle Creek is listed as impaired for chloride).
- Maximum chloride concentrations in Gervais Creek have been consistently above the criteria while the average concentration has been consistently below the criteria. It's noted that the highest chloride concentrations occur in the spring.

Additional, more focused winter monitoring for those "hot spot" areas identified above would be useful in identifying when chloride (likely from road salt) enters these water bodies, as well as the source of the load.

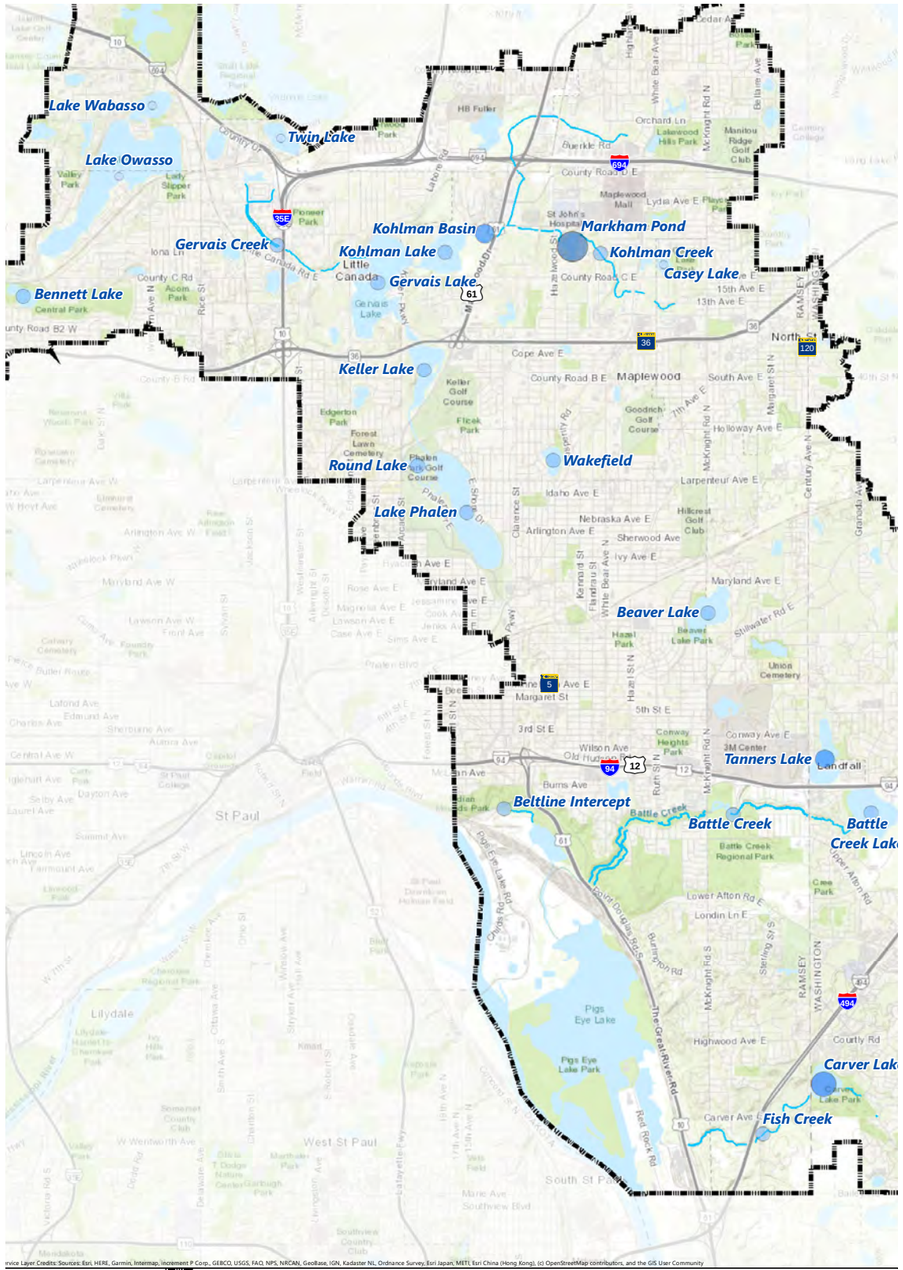


Figure 1
AVERAGE CHLORIDE CONCENTRATIONS
IN LAKES AND STREAMS
Ramsey-Washington Metro Watershed

Average chloride concentrations in lakes and streams

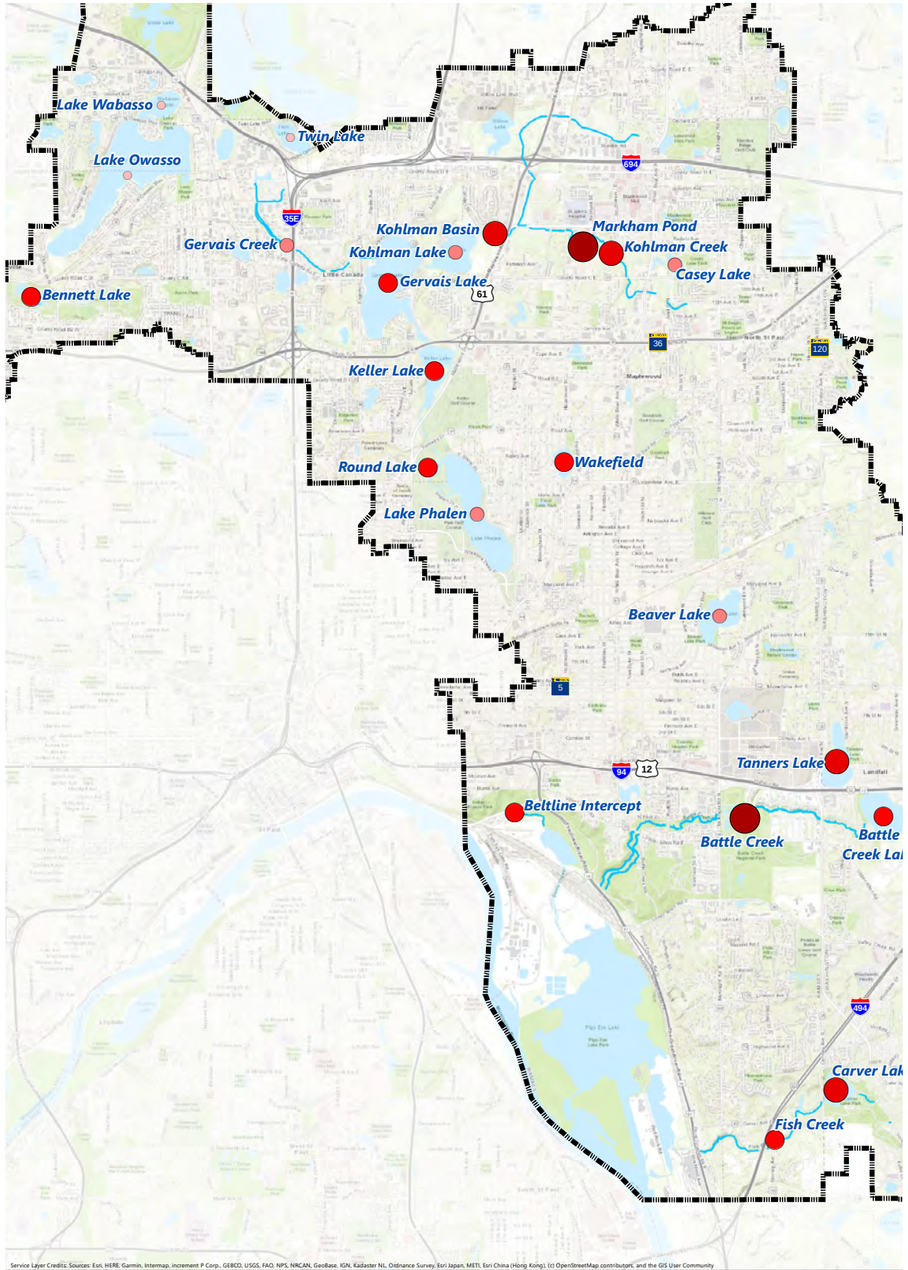


Figure 1
MAXIMUM CHLORIDE CONCENTRATION
IN LAKES AND STREAMS
Ramsey-Washington Metro Watershed

Maximum chloride concentrations in lakes and streams

IRON-ENHANCED SAND FILTERS

City	Maplewood
Subwatershed	Kohlman Creek
Completed	2009
Cost	$235,000
Funding Sources	District Levy Fund, Stormwater Impact Fund
Partners	City of Maplewood, University of Minnesota–St. Anthony Falls Laboratory

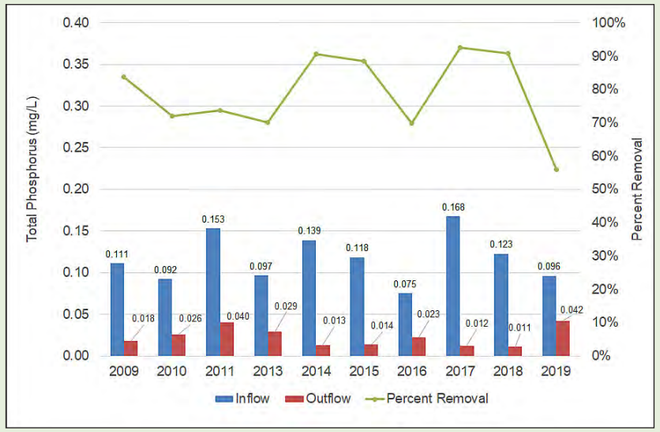
Beam Avenue Iron-Enhanced Sand Filter

RWMWD's iron-enhanced sand filter on Beam Avenue was installed in 2009 to improve the water quality of Kohlman Lake. It was the first filter of its kind in Minnesota.

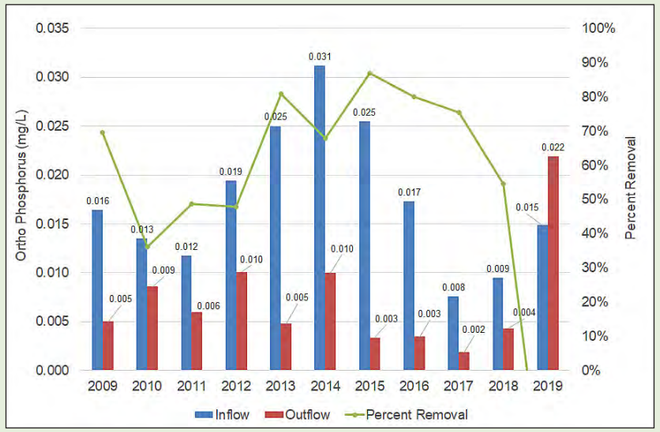
Sand filters have been used for years to remove solids and pollutants from stormwater. Newer, iron-enhanced sand filters (sand mixed with iron filings) are now being used as an efficient and cost-effective means of removing phosphorus. The filter works through a chemical process in which phosphorus molecules bind to the iron particles in the sand filter as water passes through.

The RWMWD has monitored its iron-enhanced sand filter since 2009. Between 2009–2018, total phosphorus removal has ranged from 70–93%. But, in 2019 it declined significantly (56%). Removal of orthophosphate has similarly declined, dropping from 70% removal in 2016 to -117% in 2019 (perhaps an indication that the filter is releasing dissolved phosphorus). These results might suggest that the filter may be nearing the end of its useful life. However, removal of total suspended solids remains relatively steady, ranging from 88% to 94% over the last 4 years. Average percent removal for the period of monitoring excluding 2019 (2009–2018) is 78% for total phosphorus, 65% for orthophosphate, and 91% for total suspended solids.

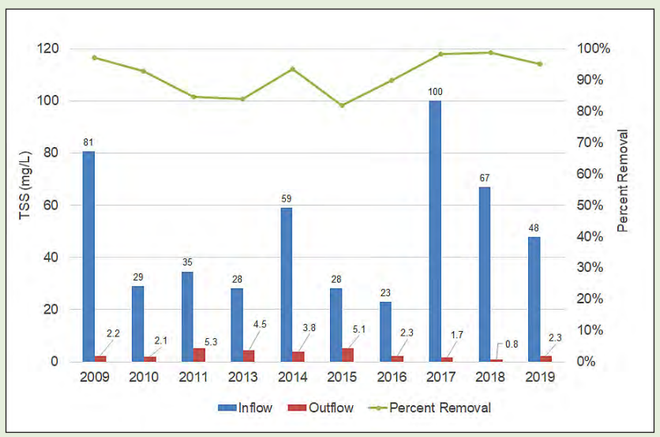
Total phosphorus removal performance



Ortho phosphorus removal performance



TSS removal performance



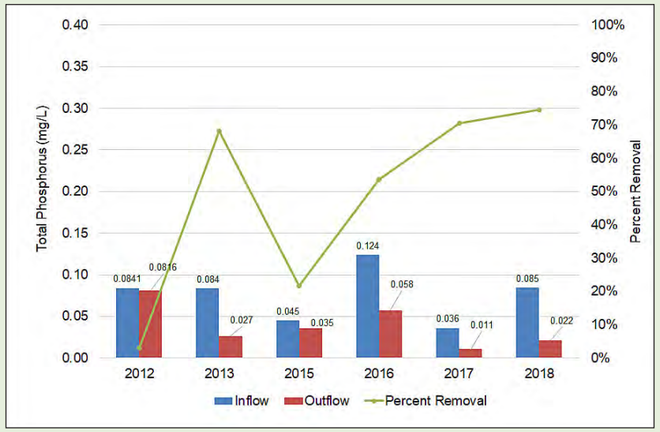
City	Maplewood
Subwatershed	Kohlman Lake
Completed	2009
Cost	$72,900
Funding Sources	District funds
Partner	Simon Property Group, MPCA (monitoring)

Woodlyn Iron-Enhanced Sand Filter

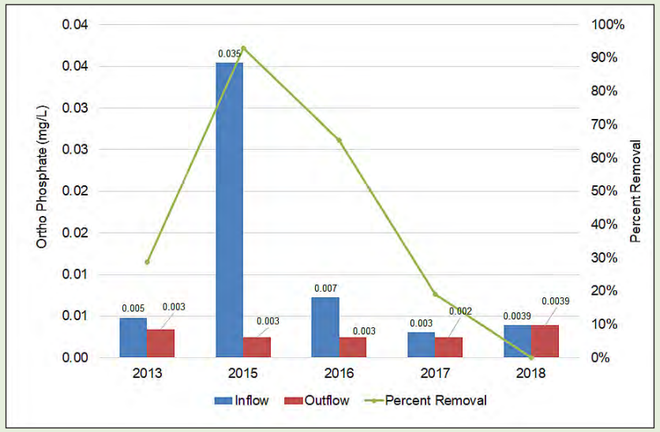
The Woodlyn iron-enhanced sand filter is part of the larger Maplewood Mall stormwater retrofit effort. The goal of that project—designed to capture and filter 67% of rainwater at the mall site—was to decrease the phosphorus runoff to nearby Kohlman Lake. Prior to the project only 3% of the stormwater runoff from the mall was captured and filtered.

The Woodlyn iron-enhanced sand filter is a narrow strip of iron-enhanced sand beneath a rain garden. Runoff is intercepted from a parking lot and directed to the rain garden. There, the stormwater filters though the iron-enhanced sand for a period of time until it is treated. Average annual phosphorus removal with the filter has ranged from 3% during the first year of operation to 75% in 2018. The average annual removal of orthophosphate has ranged from 0% in 2018 to 93% in 2015. Average removal for the period of monitoring (2012–2018) was 58% for total phosphorus, 73% for orthophosphate, and 94% for total suspended solids. With recently diminished orthophosphate removal, it appears likely that the iron-sand media may be nearing the end of its useful life and may need to be replaced.

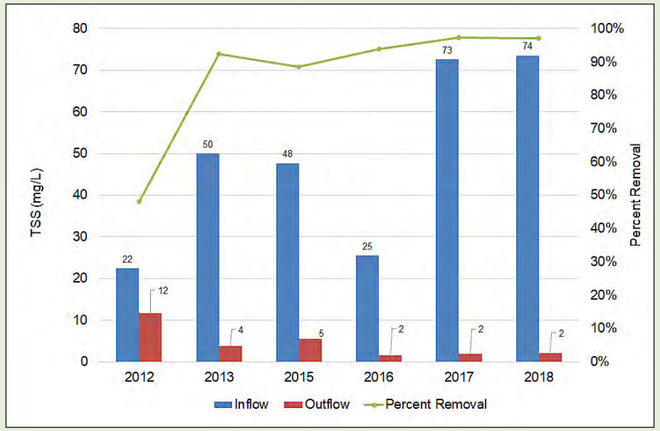
Total phosphorus removal performance



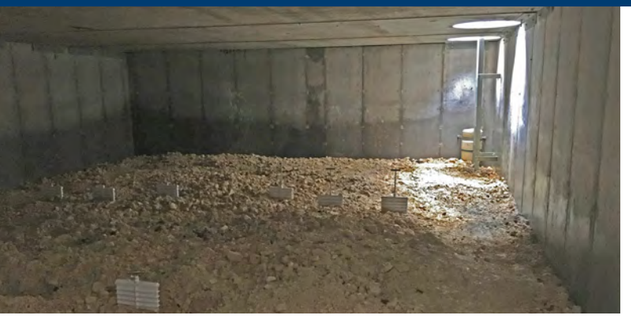
Ortho phosphorus removal performance



TSS removal performance



SPENT-LIME FILTERS



City	Maplewood
Subwatershed	Wakefield Lake
Completed	2018
Cost	$390,000
Funding Sources	Clean Water Fund ($300,000) and District funds
Partner	City of Maplewood

Frost and Kennard Spent-Lime Filter

This innovative stormwater filter is located at the corner of Frost Avenue and Kennard Street in Maplewood, a few blocks upstream from Wakefield Lake. It is designed to capture and filter stormwater runoff from a large portion of the lake's 944-acre subwatershed.

Completed in 2018, the filter intercepts water from the storm sewer and routes it into a 20- by 36-foot underground chamber. There, the water interacts with spent lime—a chalky clay-like material consisting of calcium carbonate, which is a waste product of municipal drinking water treatment. Phosphorus in the water binds to calcium in the spent lime material, decreasing the amount of phosphorus in the water leaving the chamber.

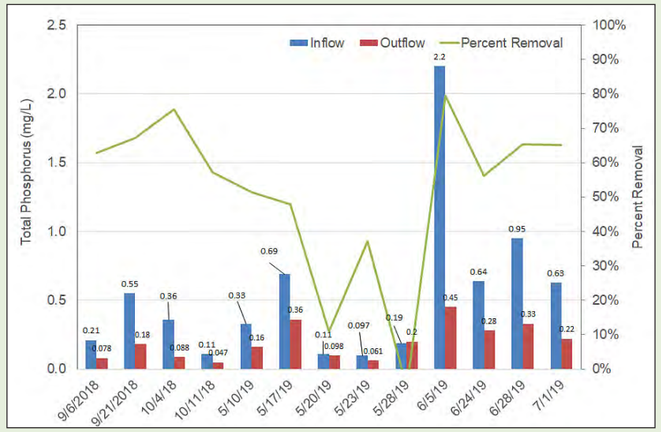
Spent lime is particularly effective in removing a form of phosphorus called orthophosphate, which is often found in stormwater runoff. While orthophosphate is a vital nutrient for bacteria and plants in surface waters, too much orthophosphate can promote algae growth and decrease water clarity.

Sampling equipment monitors phosphorus levels and total suspended solids as water enters and leaves the filter on its way to Wakefield Lake, which is impaired for phosphorus. The goal is to help the lake meet the state standard for phosphorus (60 micrograms per liter).

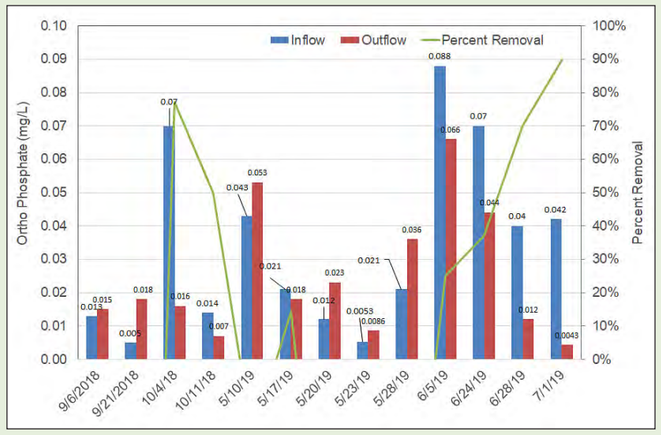
The graphs at right show the effectiveness of the spent-lime filter in reducing total phosphorus, orthophosphate, and total suspended solids in 2018 and 2019. In general, the filter appears to be functioning; however, additional data is needed to accurately assess its performance.

In general, the efficiency of total phosphorus and orthophosphate removal first peaked in October of 2018, generally declined through the end of May 2019, and rebounded in June and July of 2019. The peak level of removal for total phosphorus was 80% on June 5, 2019; the peak level of removal for orthophosphate was 90% on July 1, 2019. With the exception of a dip on May 28, 2019 (to 39%) the removal of total suspended solids ranged from 66% to 94%.

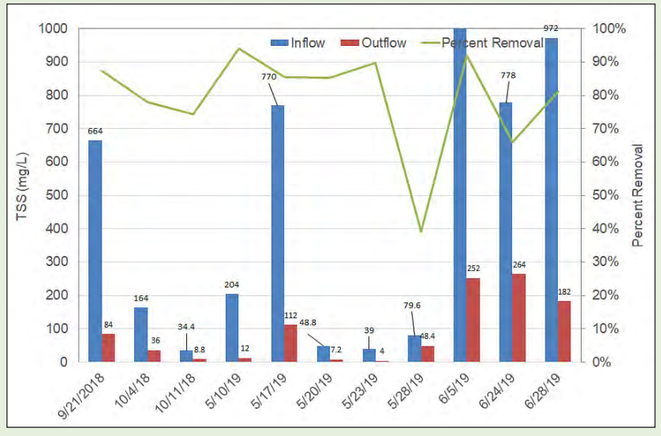
Total phosphorus removal performance



Ortho phosphorus removal performance



TSS removal performance



Wakefield Lake Experimental Spent-Lime Filter

This stormwater filter is adjacent to Larpenteur Avenue and Prosperity Road. It is designed to capture and filter stormwater runoff from a large portion of the lake's 944-acre subwatershed.

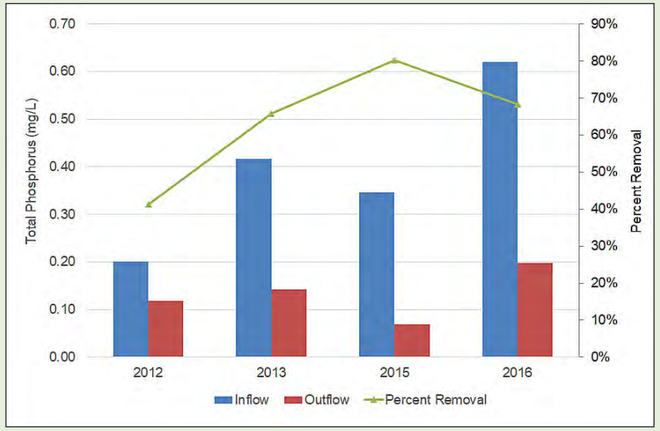
The filter intercepts water from the storm sewer and routes it into an underground chamber. There, the water interacts with spent lime—a chalky clay-like material consisting of calcium carbonate, which is a waste product of municipal drinking water treatment. Phosphorus in the water binds to calcium in the spent lime material, decreasing the amount of phosphorus in the water leaving the chamber.

Spent lime is particularly effective in removing a form of phosphorus called orthophosphate, which is often found in stormwater runoff. While orthophosphate is a vital nutrient for bacteria and plants in surface waters, too much orthophosphate can promote algae growth and decrease water clarity. The goal of this filter is to decrease the amount of phosphorus and total suspended solids entering Wakefield Lake, which is impaired for phosphorus.

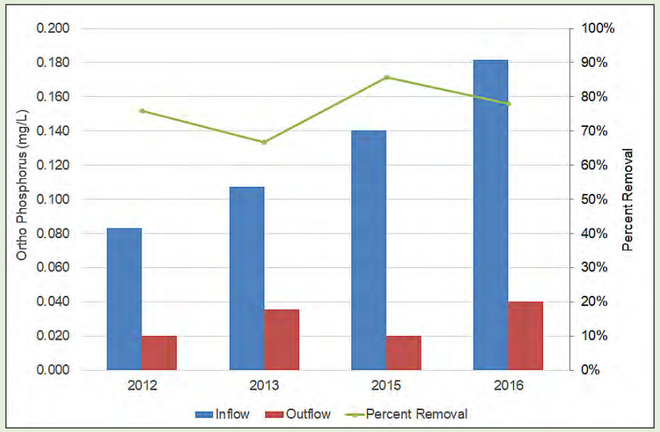
The graphs at right show the effectiveness of the spent-lime filter in reducing total phosphorus, ortho phosphorus, and total suspended solids in 2012, 2013, 2015, and 2016. Peak performance for total phosphorus and orthophosphate removal occurred in 2015 (73% and 77%). In 2016, performance dipped to 42% and 38%. Removal of total suspended solids improved substantially from 2012 (-19%) to 2016 (61%). Over the four years of monitoring, average removal for the three parameters was 51% for total phosphorus, 55% for orthophosphate, and 37% for total suspended solids. It should be recognized that these averages include periods where performance changed due to structural changes in the media after placement. For example, total suspended solids removal of around 50% is probably more typical as the media broke down and filled in pore space, thereby improving the filtration effectiveness of the media.

City	Maplewood
Subwatershed	Wakefield Lake
Completed	Fall 2011
Cost	$40,000
Funding Source	MPCA 319 Grant
Partner	City of Maplewood

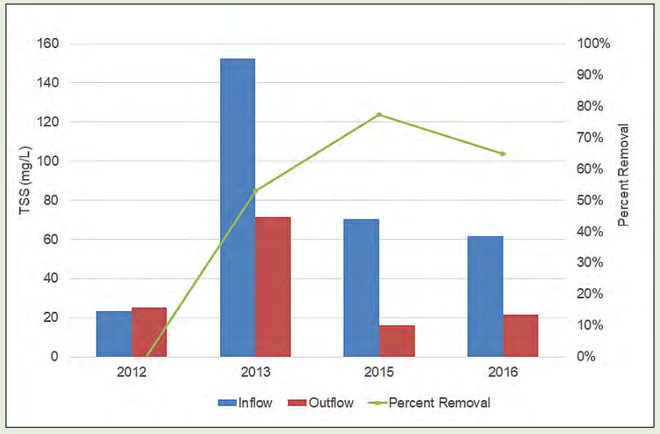
Total phosphorus removal performance



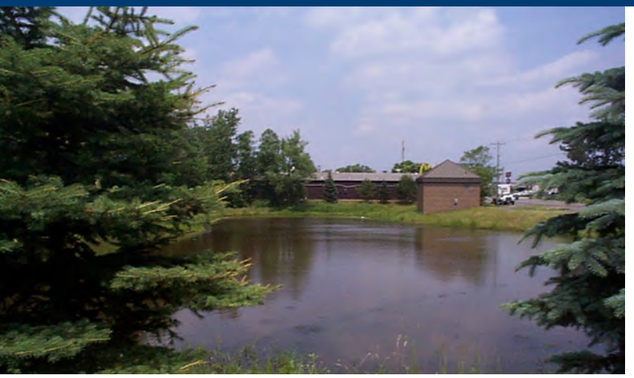
Ortho phosphorus removal performance



TSS removal performance



ALUM TREATMENT SYSTEM



Tanners Lake Alum Treatment Facility

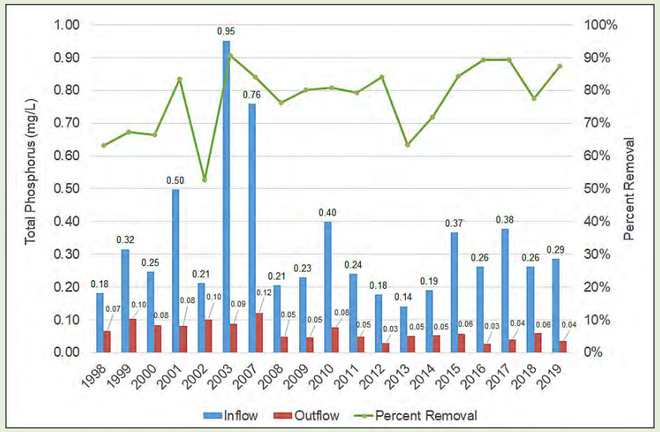
The Tanners Lake alum treatment facility was constructed in 1998 to reduce the amount of phosphorus reaching Tanners Lake. The facility receives stormwater runoff from a 1,246-acre watershed and injects it with aluminum sulfate (known as alum). The alum then binds with the phosphorus in the water and forms floc that settles to the bottom of a pond upstream of Tanners Lake. The water that ultimately drains out of the pond to Tanners Lake has significantly lower phosphorus content.

The graphs at right show the effectiveness of the alum treatment system in reducing total phosphorus over the last 19 years of monitoring. Peak performance for phosphorus removal occurred in 2003 (91%), but recent removal rates have been nearly as effective, ranging from 78–89% over the last five years (2015–2019). The lowest rate of removal was 59% in 2002; improvements after that date were due to a change in alum dose.

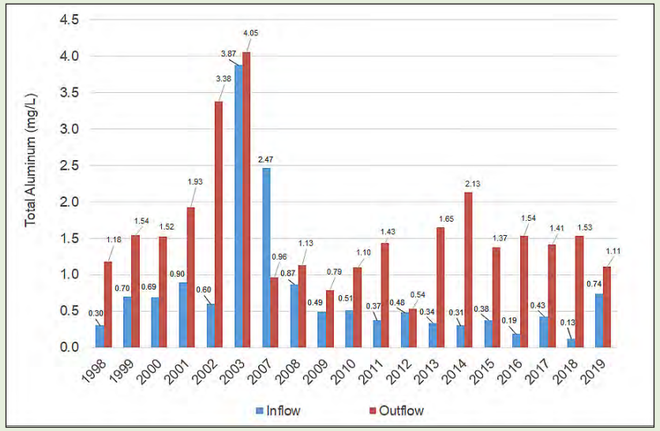
City	Oakdale
Subwatershed	Tanners Lake
Completed	1998
Cost	$1.9 million[1]
Funding Sources	District funds, MPCA State Revolving Fund Loan

[1] This cost reflects the alum facility as well as other related water quality improvements: Tanners Lake 5th Street Basin, Tanners Lake Berm, Tanners Lake Tartan High School Pond

Total phosphorus removal performance



Total aluminum



RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

2665 Noel Drive
Little Canada, MN 55117
P: 651-792-7950
E: office@rwmwd.org

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Administrator's Report

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MEMO

TO: Board of Managers and Staff

FROM: Tina Carstens, Administrator

SUBJECT: December Administrator's Report

DATE: November 24, 2020

A. Meetings Attended

Monday, November 2	3:00 PM	Hillcrest Wetland Meeting
Wednesday, November 4	6:30 PM	Board Meeting
Nov 16 – 19	Various	NALMS 2020 Virtual Conference
Monday, November 16	1:00 PM	Phalen Creek Daylighting Meeting
Tuesday, November 17	12:00 PM	Explore Your Waterway Webinar
Wednesday, November 18	9:00 AM	Database Upgrade Discussion
	1:00 PM	Keller/Phalen Project Permitting Meeting
	2:30 PM	MAWA Executive Committee Meeting
Thursday, November 19	9:00 AM	MAWA Winter All Day Meeting

B. Upcoming Meetings and Dates

MAWD Virtual Annual Meeting	December 2-4, 2020
December Board Meeting	December 2, 2020
Virtual Office Holiday Gathering	TBD
January Board Meeting	January 6, 2020

C. COVID-19 Update

The District continues to follow the guidelines of the MN Department of Health and the national CDC. Our office is closed to the public and staff are mostly working from home. I reiterated the importance of this with our staff during this time of high community spread. I also reiterated the policy of mask-wearing in the office and the field.

We continue to hold weekly Zoom staff meetings, and I am planning 1:1 check-ins with all staff in the near future. These activities help to keep us connected as the weeks and months go on.

We will also be looking for a day and time to hold a virtual holiday gathering we would traditionally do in the office during December. Won't be the same without the epic potluck, but we'll make the best of it and a celebration of all we've accomplished despite the pandemic this past year.

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Project and Program Status Reports

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RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

resourceful. naturally. engineering and environmental consultants BARR

Memorandum

To: Board of Managers and Staff

From: Tina Carstens and Brad Lindaman

Subject: Project and Program Status Report – December 2020

Date: November 24, 2020

Project feasibility studies

Owasso basin flood risk reduction feasibility study (Barr project manager: Sam Redinger; RWMWD project manager: Tina Carstens)

The purpose of this study is to evaluate the benefit-cost relationships of redirecting runoff from the Owasso basin upstream drainage area by reviewing potential pipe alignments, land acquisition costs, utility conflicts, permitting issues, and related design as well as construction and long-term maintenance costs associated with each alternative that achieves the project objective of removing habitable structures from the floodplain in this area.

Previously Barr completed compiling the project elements into a comprehensive technical memorandum and provided the draft report to RWMWD staff for review. Once comments are received, Barr will perform the relevant updates to finalize the report. The information in this study is being used to guide the phased approach for the area, which was discussed with the managers at the September board meeting.

This period, Barr provided ongoing support for the development of the elements of this project that will be implemented through the 2021 CIP efforts. Implementation of various other portions of the study will be ongoing in future years. However, project summaries, refined cost estimates, and the proposed schedule will be presented to the board prior to completion of significant work.

Willow Creek flood risk reduction feasibility study (Barr project managers: Erin Anderson Wenz; RWMWD project manager: Tina Carstens)

The purpose of this study is to evaluate the benefit-cost relationships of infrastructure changes in the Willow Lake area by reviewing potential pipe alignments, land acquisition costs, utility conflicts, permitting issues, and related design as well as construction and long-term maintenance costs associated with each alternative that achieves the project objective of removing habitable structures from the floodplain in this area.

This period, Barr continued to evaluate the effectiveness of increasing storage in the golf course areas upstream of the low-lying homes to lower the flood level of the wetland complex east of Highway 61. In addition, Barr is also evaluating the effectiveness of increasing storage near Willow Lake itself to increase flood storage capacity during large storm events to reduce flood levels on the Phalen Chain of Lakes.

And, this period, staff worked with the cities of Maplewood and North St. Paul to finalize notification letters to be sent to property owners in flood prone portions of the Kohlman Creek subwatershed. These letters will be sent to notify residents that surveyors will be collecting elevations near their home or business. Survey elevations will include the low opening and low adjacent grade near each structure. This work is being coordinated with survey work in the Ames Lake area, as described below.

The draft technical memorandum detailed these, and other analyses completed, will be posted to the RWMWD website soon. Implementation of various portions of the study will be ongoing in future years. However, project summaries, refined cost estimates, and the proposed schedule will be presented to the board prior to completion of significant work.

Ames Lake flood risk reduction feasibility study (Barr project managers: Erin Anderson Wenz; RWMWD project manager: Tina Carstens)

The purpose of this study is to evaluate the benefit-cost relationships of infrastructure changes that would remove habitable structures from the floodplain in this area. This study will be phased. The first phase will involve communications with the City of Saint Paul about how to approach flood management in this area, which involves both regional and localized flooding issues. The second phase (if pursued) will encompass reviewing potential pipe alignments, land acquisition costs, utility conflicts, permitting issues, and related design as well as construction and long-term maintenance costs associated with each alternative that achieves the project objective, as defined in partnership with the city.

This month staff have been working with City of Saint Paul staff to finalize property owner notification letters. Notification letters will be sent to notify residents that the District is completing a drainage study and surveyors will be collecting elevations near their home or business. Survey elevations will include the low opening and low adjacent grade near each structure. The elevation information is needed to verify that the elevations estimated from LiDAR accurately characterize the elevation of existing structures.

Staff anticipates sending the notification letters in late November and collecting survey information in mid-December. After verifying elevations of potentially flood-prone structures, staff will begin evaluation of system modifications to mitigate flood risk. Evaluation of system modifications is anticipated to be ongoing through the spring of 2021. During the coordination meetings with the City of Saint Paul, Barr also discussed that the city may need to evaluate and implement many of the conceptual improvement options (mentioned in the resiliency study) for this area, with guidance and technical assistance from the RWMWD. Collaboration with City of Saint Paul representatives is expected to continue in 2021.

Federal Emergency Management Agency (FEMA) flood mapping updates (Barr project manager: Brandon Barnes; RWMWD project manager: Tina Carstens)

The purpose of this project is to apply Minnesota Department of Natural Resources (DNR) grant funding to use the RWMWD's updated stormwater model to develop information required to update the FEMA floodplain maps.

This month Barr developed inundation extents for the 100-year floodplain following the prescriptive methodology provided by the DNR, and required by FEMA for updating the Flood Insurance Rate Maps (FIRMs). The 100-year inundation extents were submitted as a draft for DNR review on November 6th. Barr staff met with the DNR on November 20th to discuss DNR comments. Next, Barr will proceed with preparation of remaining GIS files required by the DNR.

Due to the DNR's extended review of the first draft of the stormwater model, the project schedule was also extended and will now continue into 2021.

Hillcrest Golf Course (multi-use) (Barr project manager: Erin Anderson Wenz; RWMWD project manager: Paige Ahlborg)

The purpose of this project is to identify and describe existing land, water, and stormwater conditions throughout the former Hillcrest Golf Course site to help the City of Saint Paul create the Hillcrest master plan that embodies and integrates the RWMWD's approach to stormwater management and natural-resources protection and restoration practices. The plan will determine future land uses and a new street network for the 112-acre former golf course on Saint Paul's East Side. In July, the city council approved bonds for the Saint Paul Port Authority to purchase the site.

This period, Barr and district staff answered questions the city had regarding potential wetland permitting issues at the site. The district continues to assist the City of St. Paul's planning work in this area. In the permitting section of this board packet, the property owner submitted information and is asking for a discussion with the board.

Capital improvements

Targeted retrofit projects (Barr project manager: Matt Kumka; RWMWD project manager: Paige Ahlborg)

The purpose of this project is to design, provide bid assistance for, and oversee construction of BMP retrofits on previously identified commercial, school, and faith-based properties throughout the RWMWD.

Construction of the permeable pavements is now complete at the East Side Boys and Girls Club, and a final walk-through has been performed. Construction warranty, including the beginning of the one-year planting establishment period, has begun. The application payment from Outdoor Lab Landscaping was submitted and is included in the bill list.

Target Store retrofit projects (Barr project manager: Leslie DellAngelo; RWMWD project manager: Paige Ahlborg)

The purpose of this project is to design, provide bid assistance for, and oversee construction of BMP retrofits at two Target retail stores and a Motel 6.

The first phase of construction of the retrofit project at the East Saint Paul site (Suburban Avenue Target) was completed in mid-October. Completion of the second phase occurred in mid-November.

Construction is now substantially complete and the site, and the plantings are scheduled to be installed in spring 2021.

Design development for the North Saint Paul site is nearly complete. Draft construction plans will be provided at the end of November for review by RWMWD and Target staff.

Kohlman permeable weir test system (Barr project manager: Keith Pilgrim; RWMWD project manager: Bill Bartodziej)

The objective of this current investigation is to develop one or more conceptual designs that will fit within the footprint of the existing Kohlman basin permeable weir. The revised design should provide filtration capacity and remove solids and phosphorus.

This period, Barr staff made a few small changes to the Kohlman permeable weir test system retrofit included in the 2021 CIP plan set. The design change allows for re-use of the Nyloplast manhole and weir to control flow through the system. As described last month, the retrofit will be implemented in two 12-foot cells and will change the way that water flows through the weir, driving water up through the CC17 media from the bottom rather than down from the top.

Keller channel weir and Phalen outlet resiliency modifications (Barr project manager: Greg Nelson; RWMWD project manager: Tina Carstens)

This project includes design, bid document development, bidding, permitting, and project procurement of modifications to the Keller channel structure and the Phalen outlet structure. The purpose is to implement a design that will allow the RWMWD to remotely adjust the weir heights on the Keller channel structure and the Phalen outlet structure in accordance with an approved operating plan. Operation of the structures under certain conditions will help reduce upstream flood levels where homes exist in the floodplain.

The formal "Notice of Award" letter was provided to Pember Companies, Inc. on November 5th after the board accepted their bid at the November board meeting. Barr staff requested signed copies of the agreement, bonds and Insurance documents from the contractor, as required by the bidding documents.

A video preconstruction conference was held on November 19. Barr staff continues to work through the necessary permits from the MnDNR, Ramsey County Parks and Saint Paul Parks.

Notice to Proceed with construction is anticipated for early December. A four-month construction period is expected.

Twin Lake outlet construction (Barr project manager: Brandon Barnes; RWMWD project manager: Tina Carstens)

The purpose of this project is to design and construct an outlet system and develop an outlet operating plan in accordance with feasibility study recommendations. The outlet and associated operating plan

help reduce flood risk to habitable structures in the Twin Lake watershed in Little Canada and Vadnais Heights.

There has been no activity since August 24. The one remaining item is installation of the drop-down weir. Production of the weir was delayed due to the COVID-19 pandemic; the contractor was notified by the manufacturer that the drop-down weir was shipped in mid-November. The contractor anticipates that the drop-down weir will be installed shortly after it is received - likely in early December. Following installation, Barr will complete a site walk-through with the City of Little Canada to review operation of the weir, and to confirm that city staff are able to open and close the outlet prior to final project completion.

As previously mentioned, following construction, the City of Little Canada will handle outlet operation as well as manhole and culvert maintenance, in accordance with the operating plan. The RWMWD is responsible for maintenance of the conveyance ditch from the railroad to the outlet. Details regarding operation and maintenance responsibilities will continue to be developed over the next few months.

CIP project repair and maintenance

CIP maintenance/repairs 2021 project (Barr project manager: Greg Nelson; RWMWD project manager: Dave Vlasin)

The purpose of this project is to maintain existing systems and infrastructure owned and operated by the RWMWD and to assist and facilitate stormwater pond cleanouts to allow other public entities to meet their municipal separate storm-sewer system (MS4) requirements.

Barr staff continues to complete design refinements for a number of the sites included in this annual project. As a part of those efforts, staff are refining the hydrologic model for Gervais Creek to determine if improvements proposed in and around Owasso Basin will increase flood levels in portions of the creek downstream of Edgerton Street and upstream of Keller Parkway. If model results show an increase in flood level in this area, the replacement and upsizing of culverts in Keller Parkway may need to be completed first before other Owasso Basin work. The work in Keller Parkway was highlighted in the Owasso by-pass study, but was planned for future implementation. Barr staff will update the board at the December 2 meeting with the updated model results and implications.

The work is on track for bidding in December and with a presentation of bids at the January meeting. Construction is anticipated to begin in January.

Beltline/Battle Creek tunnel five-year inspection (Barr project manager: Sam Redinger; RWMWD project manager: Dave Vlasin)

The purpose of this project is to maintain the existing Beltline and Battle Creek tunnel systems and infrastructure owned and operated by the RWMWD.

As previously mentioned, based on our preliminary findings, a few specific defects warrant consideration for near-term rehabilitation. The repairs are localized and specific and outside of the previous project repair extents. These repairs, and remaining pipe inspections, will be completed and a

comprehensive inspection report provided this winter, when flows subside, and the tunnel can be accessed safely.

Lake studies

Internal load management discussions (Barr project manager: Keith Pilgrim; RWMWD project manager: Bill Bartodziej)

The primary objective of this study is to develop an overall assessment of a number of at-risk or total maximum daily load (TMDL) lakes with respect to the magnitude of internal phosphorus loads, benefits of controlling internal loads, and potential internal-load mitigation approaches.

Sediment coring of several lakes (Emily, Owasso, Battle Creek Lake, Beaver, Round, Kohlman, Bennet, and Wakefield) was completed in late May, and core testing produced data to help advance the study. Barr and the RWMWD are organizing and analyzing the data to develop an approach for improving the water quality of shallow and deep lakes by better controlling their internal nutrient loads. Efforts during this period included preliminary development of a simplified approach to model internal phosphorus load contribution to surface waters of deep and shallow lakes.

Progress was made on Lake Owasso in determining if internal loads reach the lake surface during a typical year. Sediment data was evaluated, and internal loading during 2019 or 2018 was estimated for each lake using a new model, sediment chemistry data, and in-lake dissolved oxygen and temperature monitoring data. Significant progress was made in the analysis with a memo likely being delivered for review by staff at the end of November.

Project scored ranking/prioritization study (Barr project manager: Tyler Olsen; RWMWD project manager: Tina Carstens)

The objective of this effort is to develop a method that can be used to compare and rank projects across three main RWMWD projects types: water quality, flood risk reduction, and natural resource restoration.

This period, Barr and the RWMWD updated the draft framework tool that the RWMWD can use to assess potential watershed projects according to quantitative and qualitative metrics and other project features based on managers' feedback at the October board meeting. Ultimately, the tool ranks projects from highest to lowest across the categories of water quality, and flood risk reduction so that RWMWD staff and managers can plan for future work using an objective methodology that aligns with the RWMWD water management plan. The ranking will help and guide the managers in future prioritization of projects.

The updated technical memorandum describing the proposed framework will be posted to the RWMWD website soon. The Board is encouraged to provide any remaining comments on the proposed framework to District staff.

Natural Resources Update – Bill Bartodziej and Simba Blood

Buckthorn Control

Over the last month, the NR Team has made it a priority to conduct sweeps for the invasive buckthorn in the natural shoreland buffer areas that we actively manage, including Lake Phalen, Keller Creek, Gervais Mill Pond, Wetland A, and many other sites. This is a great time of year to do this work because the buckthorn is still holding on to some green leaves, so smaller plants are easy to spot. In addition, our busy installation work schedule is now complete, and we have more time for maintenance activities. Doing this type of detailed restoration maintenance would be difficult and costly with contractors. The ability of watershed staff to monitor sites and conduct this type of maintenance is essential in sustaining our exceptional restoration areas.

Buckthorn holding green leaves late into the fall.

Matt, NR Technician, is targeting buckthorn in the buffer around Wetland A.

This fall, trailer-loads of cut buckthorn have been haul off our managed restoration areas.

Public Involvement and Education Program – Sage Passi

Zoom Gathering Connects our RWMWD Water Stewards on November 17

MINNESOTA WATER STEWARDS
Community Leadership for Clean Water



On November 17, RWMWD's Water Stewards met online to share stories about their projects and accomplishments this year, become more acquainted and build a networking community. The last time there was a gathering in person with our group was in February at the Golfview Golf Course Clubhouse in Roseville prior to COVID. This November virtual get-together was a valuable bonding experience and an opportunity to connect. Most of our Water Stewards, other than their involvement in our restoration or maintenance projects, have primarily been volunteering independently of each other since spring aside from the 2020 Roseville team that collaborated through their common capstone projects and their regular Zoom meetings this summer. We hope to build more team collaboration in 2021 despite COVID!

Here are several projects and community efforts that we heard stories about during our Zoom get-together that have yet to be included in previous watershed's education monthly reports.

Paul Gardner, who joined the Water Stewards program in 2016 is a resident of Shoreview. He served on the Soil and Water Conservation District Board in Ramsey County and was a member of the Minnesota House of Representatives from 2007-2011. In early 2019 he was appointed the chairman of the Clean Water Council which advises the Legislature and the Governor on the administration and implementation of the Clean Water Legacy Act.

Paul has been interested in water conservation for many years and has had a long time focus on reducing residential water usage. He personally has cut down his own home water use to 55 gallons on average a day. For his capstone project in 2017 he organized a distribution of rain barrels in Ramsey County and provided installation support for recipients in Shoreview.

Because the City of Shoreview didn't have the staff to keep up with the demand for providing counseling for residents who contacted the city about their high water bills this year, they asked Paul to provide consultations for some of these residents. The city sent letters to 50 of the residents who were the biggest water users. Paul met with six of them at their homes to analyze their water use and studied their water bills. He found that often residents were using older control systems

for their yard irrigation that didn't have moisture sensors. The controllers were set for watering every other day, whether it was needed or not and often operated during rainstorms. Some homes had old fixtures and appliances or leaky toilets. He helped several of the residents apply for city incentives to install WaterSmart technology for their lawns irrigation. To continue his own water protection yard practices, he installed another rain garden in his yard to add to the other four he already has.

After retiring in June, **Bette Danielson** embarked on a major demonstration front-yard landscaping project to extend her front garden further down the hill between her driveway and front steps to reduce erosion and increase habitat for pollinators. She had to work around some set-backs including removing a very large root from the previous boulevard ash tree that was removed in the spring. She incorporated mostly native perennials and pollinator friendly plants. In the late fall she added some bare-root allium prairie onion and butterfly weed. The front downspout at the top of the hill empties into a makeshift trough of river rock and pea gravel heading to some swamp milkweed. She will be adding a rain barrel there in 2021.

Betty states that, "I think one barrier to making gardeners more on-board with rain barrels is the distribution of the rain water after a good rainfall. Generally, one has to rely on gravity to get the water where you want it. That means the location of your plants is lower (or downhill) from the barrel and/or you need to have the rain barrel elevated on a stand to create your "downhill" condition. Although most of my garden is downhill, the flow was not the greatest and certainly not enough to use a nozzle of some type. This made distributing the water time-consuming. My solution was to install a small pump. Bette's technical and mechanical skills were put to work to make her rain barrel more useful and efficient. She'd be happy to share more details about the installation of pumps in rain barrels.

Residents in our watershed can contact Sage Passi at sage.passi@rwmwd.org if they would like to learn how to install rain barrels, conserve water at their homes and in their yards, reduce their use of salt for winter maintenance, draw on Water Stewards Bette or Paul's knowledge about rain barrels or receive assistance from other Water Stewards in retrofitting their yards to be more watershed and pollinator friendly.

Rain Garden Project installed this year near Carver Lake

Woodbury Pollinator Education

Anna Barker, a Woodbury resident and Washington County Master Gardener became a Water Steward five years ago. She has been very active in instigating projects to encourage her neighbors in her sub-watershed to learn and care about the water quality of Carver Lake and the value of native plants and pollinators. Anna thinks rain gardens are starting to catch on in the Carver Lake subwatershed. "Collaboration, communication, and cooperation between HOAs takes a LONG time, but after our first rain gardens, folks are starting to "get it."

Anna Barker created a "pollinator café" near her home (left) and installed this erosion control planting to slow run-off on a hillside at a Carver Lake neighborhood townhome complex (right).

Our Water Stewards program continues to be a vital resource and channel for assisting with our educational initiatives and community engagement. Stay tuned in 2021 for updates as we develop new approaches to reaching our audiences and redefining our goals and strategies.

Despite the challenges with COVID, we see opportunities to

- tune into, diversify and strengthen our approaches to interacting with different segments of our audience
- reorient and invigorate our efforts to develop more robust diversity integration
- build stronger partnerships with cities, businesses and other agencies and organizations to maximize resources and engage new partners
- develop nimble programs that are able to adapt and respond to the changes in ways we relate to and educate our communities.

The Water Stewards Program recently changed their name from Master Water Stewards based on feedback from partners and program participants in an effort to align with anti-racist values. They replaced the word "master" because of its deep, negative connection to slavery in this country and the oppression of People of Color and Black and Indigenous communities. The program is committed to maintaining a high level of training for all Stewards. Adding "Minnesota" to its program title reflects a commitment to including ALL people of Minnesota in caring for water. Water is the root of the word "Minnesota" (mní is Dakota for water) and an important part of our state identity.

Communications and Outreach Program – Lauren Hazenson

Communications Strategy

This month we drafted a Brand and Communications Standards document to ensure consistency of communications throughout the organization. A consistent brand has been shown to increase the awareness and trust of an organization in multiple marketing studies. After the document is finalized, it will be distributed to staff for regular use. We also drafted a communications calendar to coordinate and track concurrent campaigns, especially in the growing season.

Lauren attended meetings with ESABA, Wisconsin Conservation District, and Ramsey County staff to assist with Stewardship Grant outreach and communication strategy. We also began bi-monthly meetings with the Education Coordinator to foster active collaboration between departments.

Finally, we moved forward with planning for several fact sheets related to the Flood Risk Mitigation communications content. All content will be released this spring as part of a broader communications campaign.

Publications/ Original Content

An online CAC application form was completed this month as part of a 3-month communication campaign. The enews is paused this month to allow for one holiday season edition in early December.

Social Media (Facebook, Twitter, Instagram)

Numbers as of 11/22

Audience/Subscribers: 2,499

Impressions/Post Views: 5,051

Engagement (likes, comments, shares): 222

Facebook ad campaigns continue to be beneficial in expanding our audience, particularly in cities where followers are few in number. A conversational and casual tone appears to be particularly effective for our Facebook audience, as are Natural Resource team project updates. In contrast, our Twitter audience responds most positively to CIP and Stewardship Grant updates. This month was quieter in engagement and impressions, possibly reflective of less project update content available.