RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

October 2020
Board Packet

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Agenda

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RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

Regular Board Meeting Agenda

Wednesday, October 7, 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 September 2, 2020 *(pg. 7)*
    B. Treasurer's Report and Bill List *(pg. 13)*
    C. Permit Program
        i. 20-32 MnDOT Highway 61 Drainage Infrastructure, Maplewood *(pg. 33)*
        ii. 20-36 The Parkway, St. Paul *(pg. 36)*
        iii. 20-37 Maplewood Living, Maplewood *(pg. 40)*
    D. Stewardship Grant Program
        i. 20-46 CS 33rd Company, Woodbury *(pg. 44)*
        ii. 20-47 CS North East Seniors for Better Living, St. Paul *(pg. 46)*
        iii. 20-48 CS Neprash, St. Paul *(pg. 48)*
        iv. 20-49 CS Sharpe, Maplewood *(pg. 50)*
    E. Twin Lake Outlet Project – Change Order No. 1 *(pg. 52)*
    F. 2020 CIP Maintenance and Repair Project – Change Order No. 4 *(pg. 56)*
4. Visitor Comments (limited to 4 minutes each)
5. Permit Program
    A. Applications
        i. 20-34 3206 W Owasso Boulevard, Shoreview *(pg. 62)*
        ii. 20-35 3204 W Owasso Boulevard, Shoreview *(pg. 73)*
    B. Enforcement Action Report *(pg. 84)*

6. Stewardship Grant Program
    A. Applications – see consent agenda
    B. Budget Status Update *(pg. 88)*
7. Presentations and Action Items
    A. Fish Creek Subwatershed Feasibility Study *(pg. 90)*
    B. Gervais Creek Subwatershed Feasibility Study *(pg. 112)*
    C. Project Prioritization Memo *(pg. 135)*
8. Administrator's Report *(pg. 149)*
    A. Meetings Attended
    B. Upcoming Meetings and Dates
    C. Budget Status Information
    D. Minnesota Stormwater Research Council
    E. CAC By-Laws and Membership
    F. Equity and Inclusion Consultant for RWMWD
9. Project and Program Status Reports *(pg. 169)*
    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
        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. 2020 Tanners Lake Alum Facility Monitoring
        xv. Internal Load Management Discussions
        xvi. Project Prioritization Study
        xvii. Natural Resources Program Update
        xviii. Education Program Update
        xix. Communications 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, October 7, 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, October 7, 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/89856450058?pwd=d2dqOHVYdStIT1FPc0k5bTZ4YlJrUT09)

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 **898 5645 0058**. The meeting password is **554471**. 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
September 2, 2020

The Regular Meeting of September 2, 2020, was held via web conference call on Zoom, 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
Viet-Hanh Winchell, Attorney for District
Paige Ahlborg, Project Manager
Nicole Soderholm, Permit Coordinator
Dave Vlasin, Project Coordinator
Erin Anderson Wenz, Barr Engineering

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

2. APPROVAL OF AGENDA
Motion: Manager Aichinger moved, Manager Ward seconded, to approve the agenda as presented.

A roll call vote was performed:

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

Motion carried unanimously.

3. CONSENT AGENDA
A. Approval of Minutes from August 5, 2020
B. Treasurer's Report and Bill List
C. Permit Program
   i. 20-28 Anchor Block Storage Facility, North St. Paul
   ii. 20-30 Anchor View Apartments, North St. Paul
   iii. 20-31 Woodspring Hotel Maplewood, Maplewood
D. Stewardship Grant Program
   i. 20-41 CS Caprioni, porous pavers

ii. 19-29 CS Windsperger Budget Adjustment
iii. 20-14 CS Carver Lake Parking Lot Budget Adjustment
E. East St. Paul Target Store Stormwater Retrofit – Change Order No. 1

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

A roll call vote was performed:

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

Motion carried unanimously.

4. VISITOR PRESENTATIONS
There were none.

5. PERMIT PROGRAM
A. Applications
Permit #20-29: Shoreview Snail Lake Trail Extension – Shoreview
A Manager stated that the report mentions that the wetland boundary was conservatively estimated at 887, which seemed high. Nicole Soderholm explained that was conservatively estimated and therefore is upland of the actual wetland boundary because the delineation was not completed.

A Manager noted permeable pavement will be used for the trail and asked staff for details. Nicole Soderholm stated that Ramsey County has been using permeable pavement for some of their trails and therefore have experience with that type of management. She stated that this is a collaboration between the County and City of Shoreview.

Motion: Manager Aichinger moved, Manager Swope seconded, to approve Permit #20-29 with the provisions and variance.

A roll call vote was performed:

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

Motion carried unanimously.

B. Monthly Enforcement Report
During August, three notices were sent to address: install/maintain inlet protection (1), sweep streets (1), and contain liquid/solid wastes (1).

6. STEWARDSHIP GRANT PROGRAM
A. Applications – See Consent Agenda

B. Budget Status Update

A Manager thanked staff for inclusion of the recently approved requests.

7. PRESENTATIONS AND ACTION ITEMS

A. 2021 Preliminary Budget and Levy Public Hearing

i. Approval of 2021 Preliminary Budget and Levy Certification to Ramsey and Washington Counties – Resolution 20-01

President Ebensteiner opened the public hearing.

Tina Carstens stated that the changes made since the last review were highlighted in the Board packet. She also compared the proposed levy to the levy adopted the previous year. She explained how the budget is allocated by program area, noting that 85 percent of the budget is allocated to projects and programs implementation. She provided similar budget percentages broken up by Watershed Management Plan goals.

Brad Lindaman provided details on the four homes that are at risk of flooding near Gervais Mill Pond and the project that could provide the quickest improvement.

A Manager asked for details on the groundwater next steps planning. Tina Carstens stated that there has been discussion in the past few years related to groundwater and what the District can do, noting that those funds were meant to be a placeholder to cover that goal. Brad Lindaman agreed that is a placeholder and provided additional background information on the connection between groundwater and surface water. Erin Anderson-Wenz noted that budget could also be used to fulfil the District's role in providing information to other agencies, municipalities, and entities.

A Manager stated that staff has done a great job to reduce the levy increase to below one percent. It was noted that many other entities have come forward with a zero percent increase. It was recognized that the increase is proposed at .6 percent but would like to see that increase at zero percent because of the challenging times. Tina Carstens stated that the organization has a healthy reserve level and could take from that to make a zero percent levy increase and not impact the budget.

A Manager commented that they did not feel uncomfortable with the proposed small increase. Another Manager agreed that they felt comfortable with the proposed levy amount. Another Manager commented that they would prefer to move funds from the reserve to present a zero percent increase. A Manager asked if this information was published in a physical paper. Viet-Hanh Winchell replied that the information was published and reviewed the publications.

A Manager agreed that, if possible, the levy should remain stable this year but noted that they would support the small increase as proposed. It was the consensus of the Managers that they would prefer to shift the funds from the reserves if the intent is to present a zero percent levy increase. Tina Carstens confirmed that she could shift those funds from the reserve in order to present a zero percent levy increase when the Board adopts the final budget and levy in December.

Motion: Manager Swope moved, Manager Aichinger seconded, to close the public hearing.

A roll call vote was performed:

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

Motion carried unanimously.

Motion: Manager Aichinger moved, Manager Swope seconded, to approve the draft budget for purposes of the preliminary levy and approve resolution 20-01.

Further discussion: A Manager reaffirmed the consensus of the Board to present a zero percent levy increase and that adjustment should be made by using reserve funds prior to the final adoption in December.

A roll call vote was performed:

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

Motion carried unanimously.

8. ADMINISTRATOR'S REPORT

A. Meetings Attended

No comments.

B. Upcoming Meetings and Dates

No comments.

C. COVID-19 Update

Tina Carstens provided an update and noted that she has not heard comments from residents that it has been difficult to reach staff during this time. She noted that masks are required to be worn in the office and when working in the field, or other situations when social distancing cannot be maintained. She confirmed that at least one staff person is at the office every day and some staff come and go throughout the day to get tools and equipment.

D. Conference Virtual Events

Tina Carstens stated that if the Managers are interested in attending any upcoming virtual conference events, please alert staff so that the proper registration can be completed.

7. PRESENTATIONS AND ACTION ITEMS (Continued)

B. Current Project Walk Through Presentation

Erin Anderson Wenz provided brief details on the Beltline Resiliency Study and its phases, noting recent conversations with Little Canada about North Star Estates. She noted that the city does not have interest in changing the zoning on this site because of the city's affordable housing goals. She reviewed some of the next steps related to North Star Estates and the information that would be gathered.

Brad Lindaman provided background information on the weir near Owasso Basin. A Manager commented that, whenever possible, they would prefer for water to flow through a creek rather than a pipe, as that is an amenity to the people and the ecosystem.

Erin Anderson Wenz reviewed details on the proposed Gervais Creek bed cleanout along with the other proposed projects for phase one, two and three of the Beltline Resiliency. She stated that the District is working with FEMA to update the flood mapping. She provided an update on the status of the different ongoing projects in the District

including Hillcrest Golf Course, the auto lake monitoring systems, retrofit projects, Aldrich Arena, Wakefield Park, the Keller weir, Phalen outlet projects, Twin Lake outlet project, West Vadnais Lake outlet, the alum plant, and potential projects that were identified in the different feasibility studies. She stated that staff is working to develop a tool that could help to prioritize projects within the watershed and determine which projects should be pursued first. She stated that once the tool is developed, staff will bring the model back before the Board to gain additional input on the tool.

A Manager asked if staff could do another update in about three months with similar projects and a brief update on the different items and 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
vii. Water Management Plan Updates
viii. Automated Lake Monitoring Systems
ix. Targeted Retrofit Projects
x. Target Store Stormwater Retrofits
xi. Kohlman Permeable Weir Test System
xii. Aldrich Arena Stormwater Project
xiii. Keller Channel Weir and Phalen Outlet Resiliency Modifications
xiv. Twin Lake Outlet Construction
xv. CIP Maintenance and Repair 2020 Project
xvi. Beltline/Battle Creek Tunnel Inspection
xvii. 2020 Tanners Lake Alum Facility Monitoring
xviii. Internal Load Management Discussions
xix. Wakefield Lake Internal Loading Study
xx. Natural Resources Program
xxi. Education Program

10. REPORTS OF MANAGERS

A Manager commented that they discovered an issue with the stormwater gardens that were installed on properties owned by seniors. It was explained that the seniors are unable to maintain the stormwater gardens and it has become a safety concern for some. The Manager hoped that the District staff could help to find a solution to that problem. A Manager commented that the CAC has asked for ways to volunteer, such as maintaining rain gardens. It was noted that perhaps staff could reach out and develop a list of seniors that would like assistance and then CAC members could complete that needed maintenance. Paige Ahlborg stated that the contractor completes one seasonal clean-up for the rain gardens in that neighborhood, but noted that staff can talk about that issue more in attempt to coordinate additional cleanup using the CAC members.

A Manager suggested that perhaps a mailing could be sent out, or some form of outreach, that would allow residents to call with maintenance concerns. The Manager asked the number of rain gardens in the District. Paige Ahlborg estimated at least 300 rain gardens through the cost-share program and then the additional ones that were completed through permits.

A Manager thanked staff for posting the previous Board Zoom meetings on YouTube for viewing.

11. ADJOURN

Motion: Manager Ward moved, Manager Swope seconded, to adjourn the meeting at 8:14 p.m.

A roll call vote was performed:

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

Motion carried unanimously.

RWMWD BUDGET STATUS REPORT
Administrative & Program Budget
Fiscal Year 2020
9/30/2020

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	-	219.00	2,317.54	1,182.46	66.22%
	Sub-Total: Managers/Committees:		**$15,500.00**	**$0.00**	**$219.00**	**$4,817.54**	**$10,682.46**	**31.08%**
Employees	Staff salary/taxes/benefits	4010	1,450,000.00	-	123,722.84	1,080,646.17	369,353.83	74.53%
	Employee expenses	4020	10,000.00	-	5,546.82	23,033.37	(13,033.37)	230.33%
	District training & education	4350	25,000.00	-	1,314.14	2,134.08	22,865.92	8.54%
	Sub-Total: Employees:		**$1,485,000.00**	**$0.00**	**$130,583.80**	**$1,105,813.62**	**$379,186.38**	**74.47%**
Administration/ Office	GIS system maint. & equip.	4170	15,000.00	-	-	1,694.02	13,305.98	11.29%
	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	744.48	7,255.52	9.31%
	Office supplies	4320	5,000.00	-	215.96	4,349.85	650.15	87.00%
	IT/Internet/Web Site/Software Lic.	4325	55,000.00	-	4,296.84	42,323.83	12,676.17	76.95%
	Postage	4330	5,000.00	-	143.55	430.65	4,569.35	8.61%
	Printing/copying	4335	8,000.00	-	610.60	3,756.15	4,243.85	46.95%
	Dues & publications	4338	11,000.00	-	2,020.00	9,854.88	1,145.12	89.59%
	Janitorial/Trash Service	4341	15,000.00	-	-	-	15,000.00	0.00%
	Utilities/Bldg.Contracts	4342	20,000.00	-	1,640.34	24,812.81	(4,812.81)	124.06%
	Bldg/Site Maintenance	4343	200,000.00	-	227.13	6,049.71	193,950.29	3.02%
	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	-	561.94	8,138.90	141,861.10	5.43%
	Vehicle lease, maintenance	4810-40	43,000.00	-	450.36	32,534.00	10,466.00	75.66%
	Sub-Total: Administration/Office:		**$588,000.00**	**$0.00**	**$10,224.20**	**$181,415.30**	**$406,584.70**	**30.85%**
Consultants/ Outside Services	Auditor/Accounting	4110	60,000.00	-	1,839.00	46,907.28	13,092.72	78.18%
	Engineering-administration	4121	93,000.00	-	5,916.00	50,027.90	42,972.10	53.79%
	Engineering-permit I&E	4122	10,000.00	-	-	44.00	9,956.00	0.44%
	Engineering-eng. review	4123	55,000.00	-	7,260.00	33,298.00	21,702.00	60.54%
	Engineering-permit review	4124	55,000.00	-	3,454.50	33,545.00	21,455.00	60.99%
	Project Feasibility Studies	4129	570,000.00	-	15,419.00	269,645.68	300,354.32	47.31%
	Attorney-permits	4130	10,000.00	-	-	-	10,000.00	0.00%
	Attorney-general	4131	40,000.00	-	2,276.77	22,062.77	17,937.23	55.16%
	Outside Consulting Services	4160	40,000.00	-	-	-	40,000.00	0.00%
	Sub-Total: Consultants/Outside Services:		**$933,000.00**	**$0.00**	**$36,165.27**	**$455,530.63**	**$477,469.37**	**48.82%**
Programs	Educational programming	4370	60,000.00	-	1,306.45	8,677.70	51,322.30	14.46%
	Communications & Marketing	4371	25,000.00		2,178.04	6,557.11	18,442.89	26.23%
	Events	4372	50,000.00	-	500.00	24,092.03	25,907.97	48.18%
	Water QM-Engineering	4520-30	185,000.00	-	36,264.98	129,035.63	55,964.37	69.75%
	Project operations	4650	160,000.00	-	12,593.80	65,013.38	94,986.62	40.63%
	SLMP/TMDL Studies	4661	173,000.00	-	8,170.00	48,048.59	124,951.41	27.77%
	Natural Resources/Keller Creek	4670-72	140,000.00	-	31,085.46	71,584.04	68,415.96	51.13%
	Outside Prog.Support/Weed Mgmt.	4683-84	67,000.00	-	1,322.49	37,525.76	29,474.24	56.01%
	Research Projects	4695	95,000.00	-	963.77	44,081.27	50,918.73	46.40%
	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**	**$94,384.99**	**$435,927.24**	**$532,072.76**	**45.03%**
GENERAL FUND TOTAL			**$3,989,500.00**	**$0.00**	**$271,577.26**	**$2,183,504.33**	**$1,805,995.67**	54.73%
CIP's	CIP Project Repair & Maintenance	516	1,115,000.00	-	110,887.67	1,094,070.28	20,929.72	98.12%
	Targeted Retrofit Projects	518	1,012,000.00	-	120,513.70	411,138.88	600,861.12	40.63%
	Flood Risk Reduction Fund	520	4,000,000.00	-	133,782.78	437,912.51	3,562,087.49	10.95%
	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	-	244,346.85	612,715.52	387,284.48	61.27%
	Impervious Surface Volume Reduction Opportunity	531	1,600,000.00	-	-	-	1,600,000.00	0.00%
	Wakefield Park Project	553	100,000.00	-	72.50	17,797.27	82,202.73	17.80%
	District Office Bond Payment	585	194,885.00	-	-	120,358.21	74,526.79	61.76%
CIP BUDGET TOTAL			**$9,421,959.00**	**-**	**$609,603.50**	**$3,091,910.93**	**$6,330,048.07**	32.82%
TOTAL BUDGET			**$13,411,459.00**	**$0.00**	**$881,180.76**	**$5,275,415.26**	**$8,136,043.74**	**39.34%**

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 @ 09/30/20
101 - General Fund	$4,633,167.33	-	1,594,347.27	271,577.26	2,183,504.33	4,044,010.27
516 - CIP Project Repair & Maintenance	1,160,359.00	-	433,842.87	110,887.67	1,094,070.28	500,131.59
518 - Targeted Retrofit Projects	(52,309.00)	-	536,838.65	120,513.70	411,138.88	73,390.77
520 - Flood Damage Reduction Fund	2,565,820.00	-	808,709.25	133,782.78	437,912.51	2,936,616.74
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	244,346.85	612,715.52	523,358.84
531 - Impervious Surface Volume Reduction Opportunity	1,484,215.00	-	53,047.29	-	-	1,537,262.29
553 - Wakefield Park Project	268,349.00	-	-	72.50	17,797.27	250,551.73
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**	**$0.00**	**$ 4,004,008.01**	**$ 881,180.76**	**$5,275,415.26**	**$11,774,380.08**

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

Check #	Date	Payee ID	Invoice #	Payee	Description	Amount
EFT	09/09/20	hea002	Oct 2020	HealthPartners	Employee Benefits	$11,909.86
71735	09/16/20	ada002	3170888/3159006	Adam's Pest Control, Inc.	Utilities/Bldg. Contracts	158.00
71736	09/16/20	aws001	51335957-090120	AWS Service Center	Utilities/Bldg. Contracts	212.41
71737	09/16/20	mau001	Sep 2020	Ashly Maus	Employee Reimbursement	60.38
71738	09/16/20	mnp003	Pesticide 2020	MN PIE	Training & Education	360.00
71739	09/16/20	ncp001	08/13/20	NCPERS Group Life Ins.	Employee Benefits	16.00
71740	09/16/20	nsp001	698783572	Xcel Energy	Project Operations/Utilities	687.55
71741	09/16/20	pit001	3104170090	Pitney Bowes Global Financial Serv LLC	Postage	143.55
71742V	09/16/20	---	---	VOID	VOID	-
71743	09/16/20	pre003	317716051	Premium Waters, Inc.	Utilities/Bldg. Contracts	24.00
71744	09/16/20	usb005	422873679	US Bank Equipment Finance	Printing	264.60
71745	09/30/20	ahl001	Sep 2020	Paige Ahlborg	Employee Reimbursement	208.28
71746	09/30/20	app001	003426	Applied Ecological Services, Inc.	Stewardship Grant Fund	65,417.78
71747	09/30/20	art001	17-24	Artis Senior Living, LLC	Dev Escrow-General	26,345.00
71748	09/30/20	att002	X09252020	AT & T Mobility - ROC	Water QM/IT/Equipment	643.70
71749	09/30/20	bar001	8/15-9/18/20	Barr Engineering	Aug/Sep Engineering Expense	127,568.59
71750	09/30/20	bar002	Sep 2020	Bill Bartodziej	Employee Reimbursement	1,024.73
71751	09/30/20	bar004	Sep 2020	Deborah Barnes	Employee Reimbursement	40.00
71752	09/30/20	bar009	Sep 2020	Seth Bartodziej	Employee Reimbursement	547.01
71753	09/30/20	bfg001	1627864-00	BFG Supply Co., LLC	Educational Program	67.72
71754	09/30/20	big002	19-25	Bigos Management	Stewardship Grant Fund	30,640.10
71755	09/30/20	blo001	Sep 2020	Simba Blood	Employee Reimbursement	402.34
71756	09/30/20	bre003	4th Qtr-2020	Bremer Bank	Employee Benefits	7,543.75
71757	09/30/20	cad001	17072466	Allstream	Water QM Staff	69.39
71758	09/30/20	cap001	92020	Capitol Region Watershed District	Educational Program	450.00
71759	09/30/20	car007	RCWD_03/28/20	Carp Solutions, LLC	Natural Resources Project	25,360.00
71760V	09/30/20	---	---	VOID	VOID	-
71761	09/30/20	com004	Sep 2020	Comcast	Utilities/Bldg. Contracts	65.39
71762	09/30/20	don001	Sep 2020	Matthew Doneux	Employee Reimbursement	557.56
71763	09/30/20	fit001	Pay #4-Final	Fitzgerald Excavating & Trucking, Inc.	Construction Imp.-Maint & Rep.	71,297.76
71764	09/30/20	fit002	Sep 2020	Mary Fitzgerald	Employee Reimbursement	356.83
71765	09/30/20	fra004	19-44	Frattalone Companies, Inc.	Dev Escrow-General	2,400.00
71766	09/30/20	gal001	Sep 2020	Galowitz Olson, PLLC	Sep Legal Fees	2,276.77
71767	09/30/20	gre005	14-20	Greater Metropolitan Housing Corp.	Dev Escrow-General	4,174.88
71768	09/30/20	ham006	16-15	Hampton Companies III, LLC	Dev Escrow-General	42,010.00
71769	09/30/20	haw001	4792587	Hawkins, Inc.	Project Operations	11,954.22
71770	09/30/20	inn002	IN3079260	Innovative Office Solutions LLC	Office Supplies	194.39
71771	09/30/20	int001	W20080518	Office of MN, IT Services	Telephone Expense	57.48
71772	09/30/20	jon003	20-30 CS	Bob Jones	Stewardship Grant Fund	7,405.00
71773	09/30/20	kna001	20-10 CS	Stuart Knappmiller	Stewardship Grant Fund	8,354.92
71774	09/30/20	kor001	Sep 2020	Eric Korte	Employee Reimbursement	303.68
71775	09/30/20	kub001	Sep 2020	Kyle W. Kubitza	Employee Reimbursement	842.95
71776	09/30/20	lak007	09/03/20	Lakes Aquatic Weed Removal	Natural Resources Project	4,797.50
71777	09/30/20	lea002	327146	League of Minnesota Cities	Dues	1,975.00
71778	09/30/20	lop001	20-33 CS	Christina Lopez-St. Germain	Stewardship Grant Fund	4,119.44
71779	09/30/20	mcd002	19-30 CS	Patty McDonald	Stewardship Grant Fund	512.59
71780	09/30/20	mel001	Sep 2020	Michelle L. Melser	Employee Reimbursement	302.45
71781	09/30/20	met004	INV1665792	Metro Sales, Inc.	Printing	346.00
71782	09/30/20	met011	2020 Festival	Metro Conservation Districts	Events	500.00
71783	09/30/20	min008	25905	Minnesota Native Landscapes, Inc.	Construction Imp.-Maint & Rep.	13,897.50
71784	09/30/20	nor013	38733	Northern Dewatering, Inc.	Construction-Flood Damage	8,968.20
71785	09/30/20	nsp001	701453798	Xcel Energy	Water QM/Proj.Oper/Bldg.	383.53
71786	09/30/20	out001	#4/20-062	Outdoor Lab Landscape Design, Inc.	Construction/Stewardship	28,749.01
71787	09/30/20	pac001	2012020931	Pace Analytical Services, Inc.	Water QM Staff	1,091.00
71788	09/30/20	pas002	Aug-Sep 2020	Sage Passi	Employee Reimbursement	398.29
71789	09/30/20	plm001	200035	PLM Lake & Land Mgmt. Corp.	Natural Resources Project	250.00
71790	09/30/20	qwe001	Sep 2020	CenturyLink	Project Operations	241.41
71791	09/30/20	rac001	Pay #1	Rachel Contracting	Progress Pay #1	105,129.18
71792	09/30/20	ram002	COR-003409	Ramsey County	Stewardship Grant Fund	456.84
71793	09/30/20	red002	150455710	Redpath & Company, Ltd	August Accounting & Payroll	1,839.00
71794	09/30/20	sch010	20-38	Matthew Schmidt	Stewardship Grant Fund	8,775.00
71795	09/30/20	sim001	Aug-Sep 2020	Emily Simmons	Employee Reimbursement	584.30
71796	09/30/20	sod001	Sep 2020	Nicole Soderholm	Employee Reimbursement	254.30

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

Check #	Date	Payee ID	Invoice #	Payee	Description	Amount
71797	09/30/20	stu001	2019392	Studio Lola	Communications & Marketing	2,125.00
71798	09/30/20	sun001	Pay #1	Sunram Construction, Inc	BMP Cost Share Program	98,863.35
71799	09/30/20	tim002	M25891	Timesaver Off-Site Secretarial, Inc.	Committee/Board Meeting Exp.	219.00
71800	09/30/20	tro002	20-09	Cathy Troendle	Educational Program	788.73
71801	09/30/20	uni005	18-24	United Properties	Dev Escrow-General	16,000.00
71802	09/30/20	usb002	Sep 2020	U.S. Bank	September Credit Card Expense	1,864.03
71803	09/30/20	van001	74436	Vanguard Cleaning Systems of Minnesota	Utilities/Bldg. Contracts	550.00
71804	09/30/20	van003	Sep 2020	Erika Van Krevelen	Employee Reimbursement	586.50
71805	09/30/20	vla001	Aug 2020	Dave Vlasin	Employee Reimbursement	505.57
71806	09/30/20	voy001	869293423039	US Bank Voyager Fleet Sys.	Vehicle Expense	260.46
71807	09/30/20	win004	19-29 CS	Gregory Windsperger	Stewardship Grant Fund	5,388.75
71808	09/30/20	cit011	229356	City of Roseville	IT/Website/Software	4,163.00
71809	09/30/20	cit011	20-13 CS	City of Roseville	Stewardship Grant Fund	100,000.00
Total						**$867,301.50**
EFT	08/07/20	myp001	08/07/20	August 7th Payroll Fees	4110-101-000	74.90
EFT	08/21/20	myp001	08/21/20	August 21st Payroll Fees	4110-101-000	76.85
Dir.Dep.	09/04/20	---	Payroll Expense-Net	September 4th Payroll	4010-101-000	30,194.80
EFT	09/04/20	int002	Internal Rev.Serv.	September 4th Federal Withholding	2001-101-000	10,307.47
EFT	09/04/20	mnd001	MN Revenue	September 4th State Withholding	2003-101-000	1,869.11
EFT	09/04/20	per001	PERA	September 4th PERA	2011-101-000	6,017.36
EFT	09/04/20	emp002	Empower Retirement	Employee Def.Comp. Contributions	2016-101-000	3,404.00
EFT	09/04/20	emp002	Empower Retirement	Employee IRA Contributions	2018-101-000	425.00
Dir.Dep.	09/18/20	---	Payroll Expense-Net	September 18th Payroll	4010-101-000	29,031.47
EFT	09/18/20	int002	Internal Rev.Serv.	September 18th Federal Withholding	2001-101-000	9,974.05
EFT	09/18/20	mnd001	MN Revenue	September 18th State Withholding	2003-101-000	1,808.22
EFT	09/18/20	per001	PERA	September 18th PERA	2011-101-000	6,004.42
EFT	09/18/20	emp002	Empower Retirement	Employee Def.Comp. Contributions	2016-101-000	3,404.00
EFT	09/18/20	emp002	Empower Retirement	Employee IRA Contributions	2018-101-000	425.00
					Payroll/Benefits	**$103,016.65**
Total					**Accounts Payable/Payroll/Benefits:**	**$970,318.15**

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

Date	Check #	Vendor ID	Name	Account ID	Account Description	Amount	Check Detail
09/09/20	EFT	hea002	HealthPartners	4040-101-000	Employee Benefits-General	$11,909.86	
09/16/20	71735	ada002	Adam's Pest Control, Inc.	4342-101-000	Utilities/Bldg. Contracts	158.00	
09/16/20	71736	aws001	AWS Service Center	4342-101-000	Utilities/Bldg. Contracts	212.41	
09/16/20	71737	mau001	Ashly Maus	4020-101-000	Employee Expenses-General	60.38	
09/16/20	71738	mnp003	MN PIE	4350-101-000	Training & Education-General	360.00	
09/16/20	71739	ncp001	NCPERS Group Life Ins.	4040-101-000	Employee Benefits-General	16.00	
09/16/20	71740	nsp001	Xcel Energy			687.55	
				4342-101-000	Utilities/Bldg. Contracts		630.54
				4650-101-000	Project Operations-Geneeral		29.01
				4650-101-000	Project Operations-Geneeral		28.00
09/16/20	71741	pit001	Pitney Bowes Global Financial Serv., LLC	4330-101-000	Postage-General	143.55	
09/16/20	71742V	---	VOID	---	VOID	-	
09/16/20	71743	pre003	Premium Waters, Inc.	4342-101-000	Utilities/Bldg. Contracts	24.00	
09/16/20	71744	usb005	US Bank Equipment Finance	4335-101-000	Printing-General	264.60	
09/30/20	71745	ahl001	Paige Ahlborg			208.28	
				4020-101-000	Employee Expenses-General		102.93
				4040-101-000	Employee Benefits-General		60.35
				4338-101-000	Dues & Publications-General		45.00
09/30/20	71746	app001	Applied Ecological Services, Inc.	4682-529-000	Stewardship Grant Fund	65,417.78	
09/30/20	71747	art001	Artis Senior Living, LLC	2024-101-000	Dev Escrow-General	26,345.00	
09/30/20	71748	att002	AT & T Mobility - ROC			643.70	
				4530-101-000	Water QM Staff-General		43.90
				4325-101-000	IT/Website/Software		37.86
				4703-101-000	Office Equipment-General		561.94
09/30/20	71749	bar001	Barr Engineering			127,568.59	
				4121-101-000	Engineering Admin-General Fund		5,916.00
				4123-101-000	Engineering-Review		7,260.00
				4129-101-000	Project Feasability-General		1,977.50
				4129-101-000	Project Feasability-General		425.50
				4129-101-000	Project Feasability-General		9,049.50
				4129-101-000	Project Feasability-General		578.50
				4129-101-000	Project Feasability-General		219.50
				4129-101-000	Project Feasability-General		175.50
				4129-101-000	Project Feasability-General		2,993.00
				4520-101-000	Water QM-Engineering		7,913.50
				4520-101-000	Water QM-Engineering		44.00
				4520-101-000	Water QM-Engineering		1,667.50
				4520-101-000	Water QM-Engineering		4,016.66
				4520-101-000	Water QM-Engineering		16,351.06
				4520-101-000	Water QM-Engineering		1,170.00
				4520-101-000	Water QM-Engineering		2,325.75
				4520-101-000	Water QM-Engineering		1,105.00
				4124-101-000	Engineering-Permit Review		3,454.50
				4661-101-000	SLMP/TMDL Studies		5,867.00
				4661-101-000	SLMP/TMDL Studies		2,303.00

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

Date	Check #	Vendor ID	Name	Account ID	Account Description	Amount	Check Detail
				4695-101-000	Research Projects-General		963.77
				4650-101-000	Project Operations-General		454.00
				4128-518-000	Engineering-School/Commer Retrofit		4,449.50
				4128-518-000	Engineering-School/Commer Retrofit		5,392.00
				4128-518-000	Engineering-School/Commer Retrofit		126.00
				4128-518-000	Engineering-School/Commer Retrofit		3,531.48
				4128-553-000	Engineering-Wakefield		72.50
				4128-518-000	Engineering-School/Commer Retrofit		249.50
				4128-518-000	Engineering-School/Commer Retrofit		412.50
				4128-518-000	Engineering-School/Commer Retrofit		480.86
				4682-529-000	Stewardship Grant Fund		5,034.93
				4128-520-000	Engineering-Flood Damage		176.00
				4128-520-000	Engineering-Flood Damage		15,985.98
				4128-520-000	Engineering-Flood Damage		3,412.89
				4128-516-000	Engineering-Maint. & Repair		8,645.71
				4128-516-000	Engineering-Maint. & Repair		460.00
				4128-516-000	Engineering-Maint. & Repair		2,908.00
09/30/20	71750	bar002	Bill Bartodziej			1,024.73	
				4040-101-000	Employee Benefits-General		80.00
				4020-101-000	Employee Expenses-General		944.73
09/30/20	71751	bar004	Deborah Barnes	4040-101-000	Employee Benefits-General	40.00	
09/30/20	71752	bar009	Seth Bartodziej	4020-101-000	Employee Expenses-General	547.01	
09/30/20	71753	bfg001	BFG Supply Co., LLC	4370-101-000	Educational Program-General	67.72	
09/30/20	71754	big002	Bigos Management	4682-529-000	Stewardship Grant Fund	30,640.10	
09/30/20	71755	blo001	Simba Blood			402.34	
				4040-101-000	Employee Benefits-General		240.00
				4670-101-000	Natural Resources Project-General		81.09
				4020-101-000	Employee Expenses-General		81.25
09/30/20	71756	bre003	Bremer Bank	4040-101-000	Employee Benefits-General	7,543.75	
09/30/20	71757	cad001	Allstream	4530-101-000	Water QM Staff-General	69.39	
09/30/20	71758	cap001	Capitol Region Watershed District	4370-101-000	Educational Program-General	450.00	
09/30/20	71759	car007	Carp Solutions, LLC	4670-101-000	Natural Resources Project-General	25,360.00	
09/30/20	71760V	---	VOID	---	VOID	-	
09/30/20	71761	com004	Comcast	4342-101-000	Utilities/Bldg. Contracts	65.39	
09/30/20	71762	don001	Matthew Doneux			557.56	
				4040-101-000	Employee Benefits-General		21.10
				4670-101-000	Natural Resources Project-General		359.36
				4020-101-000	Employee Expenses-General		177.10
09/30/20	71763	fit001	Fitzgerald Excavating & Trucking, Inc.	4630-516-000	Construction Imp.-Maint. & Repair	71,297.76	
09/30/20	71764	fit002	Mary Fitzgerald			356.83	
				4040-101-000	Employee Benefits-General		40.00
				4320-101-000	Office Supplies-General		21.57
				4020-101-000	Employee Expenses-General		295.26
09/30/20	71765	fra004	Frattalone Companies, Inc.	2024-101-000	Dev Escrow-General	2,400.00	
09/30/20	71766	gal001	Galowitz Olson, PLLC	4131-101-000	Attorney General-General	2,276.77	
09/30/20	71767	gre005	Greater Metropolitan Housing Corp.	2024-101-000	Dev Escrow-General	4,174.88	
09/30/20	71768	ham006	Hampton Companies III, LLC	2024-101-000	Dev Escrow-General	42,010.00	
09/30/20	71769	haw001	Hawkins, Inc.	4650-010-000	Project Operations-General	11,954.22	
09/30/20	71770	inn002	Innovative Office Solutions, LLC	4320-101-000	Office Supplies-General	194.39	
09/30/20	71771	int001	Office of MN, IT Services	4310-101-000	Telephone-General	57.48	
09/30/20	71772	jon003	Bob Jones	4682-529-000	Stewardship Grant Fund	7,405.00	
09/30/20	71773	kna001	Stuart Knappmiller	4682-529-000	Stewardship Grant Fund	8,354.92	
09/30/20	71774	kor001	Eric Korte			303.68	
				4040-101-000	Employee Benefits-General		80.00
				4020-101-000	Employee Expenses-General		223.68

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

Date	Check #	Vendor ID	Name	Account ID	Account Description	Amount	Check Detail
09/30/20	71775	kub001	Kyle W. Kubitza	4020-101-000	Employee Expenses-General	842.95	
09/30/20	71776	lak007	Lakes Aquatic Weed Removal	4670-101-000	Natural Resources Project-General	4,797.50	
09/30/20	71777	lea002	League of Minnesota Cities	4338-101-000	Dues & Publications-General	1,975.00	
09/30/20	71778	lop001	Christina Lopez-St. Germain	4682-529-000	Stewardship Grant Fund	4,119.44	
09/30/20	71779	mcd002	Patty McDonald	4682-529-000	Stewardship Grant Fund	512.59	
09/30/20	71780	mel001	Michelle L. Melser	4020-101-000	Employee Expenses-General	302.45	
09/30/20	71781	met004	Metro Sales, Inc.	4335-101-000	Printing-General	346.00	
09/30/20	71782	met001	Metro Conservation Districts	4372-101-000	Events	500.00	
09/30/20	71783	min008	Minnesota Native Landscapes, Inc.	4630-516-000	Construction Imp.-Maint. & Repair	13,897.50	
09/30/20	71784	nor013	Northern Dewatering, Inc.	4650-520-000	Project Operations-Flood Damage	8,968.20	
09/30/20	71785	nsp001	Xcel Energy			383.53	
				4650-520-000	Project Operations-Flood		82.53
				4530-101-000	Water QM Staff-General		229.45
				4343-101-000	Bldg/Site Maintenance		71.55
09/30/20	71786	out001	Outdoor Lab Landscape Design, Inc.			28,749.01	
				4630-518-000	Construction-School/Commercial		7,008.51
				4682-529-000	Stewardship Grant Fund		8,241.50
				4630-516-000	Construction Imp.-Maint. & Repair		13,499.00
09/30/20	71787	pac001	Pace Analytical Services, Inc.	4530-101-000	Water QM Staff-General	1,091.00	
09/30/20	71788	pas002	Sage Passi			398.29	
				4020-101-000	Employee Expenses-General		191.48
				4630-516-000	Construction Imp.-Maint. & Repair		166.81
				4040-101-000	Employee Benefits-General		40.00
09/30/20	71789	plm001	PLM Lake & Land Mgmt. Corp.	4670-101-000	Natural Resources Project-General	250.00	
09/30/20	71790	qwe001	CenturyLink	4650-101-000	Project Operations-General	241.41	
09/30/20	71791	rac001	Rachel Contracting	4630-520-000	Construction-Flood Damage	105,129.18	
09/30/20	71792	ram002	Ramsey County	4682-529-000	Stewardship Grant Fund	456.84	
09/30/20	71793	red002	Redpath & Company, Ltd.	4110-101-000	Auditor/Accounting	1,839.00	
09/30/20	71794	sch010	Matthew Schmidt	4682-529-000	Stewardship Grant Fund	8,775.00	
09/30/20	71795	sim001	Emily Simmons	4020-101-000	Employee Expenses-General	584.30	
09/30/20	71796	sod001	Nicole Soderholm			254.30	
				4040-101-000	Employee Benefits-General		68.00
				4020-101-000	Employee Expenses-General		186.30
09/30/20	71797	stu001	Studio Lola	4371-101-000	Communications & Marketing	2,125.00	
09/30/20	71798	sun001	Sunram Construction, Inc.	4682-518-000	BMP Cost Share Program	98,863.35	
09/30/20	71799	tim002	Timesaver Off-Site Secretarial, Inc.	4365-101-000	Committee/Board Meeting Expense	219.00	
09/30/20	71800	tro002	Cathy Troendle	4370-101-000	Educational Program-General	788.73	
09/30/20	71801	uni005	United Properties	2024-101-000	Dev Escrow-General	16,000.00	
09/30/20	71802	usb002	U.S. Bancorp			1,864.03	
				4650-101-000	Project Operations-General		(84.84)
				4670-101-000	Natural Resources Project-General		237.51
				4370-101-000	Bldg/Site Maintenance		84.77
				4325-101-000	IT/Website/Software		95.98
				4530-101-000	Water QM Staff-General		174.00
				4840-101-000	Vehicle Maintenance		189.90
				4343-101-000	Bldg/Site Maintenance		34.95
				4350-101-000	Training & Education-General		170.00
				4343-101-000	Bldg/Site Maintenance		35.86
				4530-101-000	Water QM Staff-General		63.77
				4371-101-000	Communications & Marketing		25.00
				4350-101-000	Training & Education-General		170.00
				4350-101-000	Training & Education-General		104.14
				4350-101-000	Training & Education-General		425.00
				4350-101-000	Training & Education-General		85.00
				4371-101-000	Communications & Marketing		28.04

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

Date	Check #	Vendor ID	Name	Account ID	Account Description	Amount	Check Detail
				4040-101-000	Employee Expenses-General		24.95
09/30/20	71803	van001	Vanguard Cleaning Systems of Minnesota	4342-101-000	Utilities/Bldg. Contracts	550.00	
09/30/20	71804	van003	Erika Van Krevelen	4020-101-000	Employee Expenses-General	586.50	
09/30/20	71805	vla001	David Vlasin			505.57	
				4650-516-000	Project Operations-General		12.89
				4040-101-000	Employee Benefits-General		72.18
				4020-101-000	Employee Expenses-General		420.50
09/30/20	71806	voy001	US Bank Voyager Fleet Sys.	4830-101-000	Vehicle Fuel-General	260.46	
09/30/20	71807	win004	Gregory Windsperger	4682-529-000	Stewardship Grant Fund	5,388.75	
09/30/20	71808	cit011	City of Roseville	4325-101-000	IT/Website/Software	4,163.00	
09/30/20	71809	cit011	City of Roseville	4682-529-000	Stewardship Grant Fund	100,000.00	
			Accounts Payable Total:			**$867,301.50**	
EFT	08/07/20	myp001	Payroll Fees	4110-101-000	August 7th Payroll Fees	74.90	
EFT	08/21/20	myp001	Payroll Fees	4110-101-000	August 21st Payroll Fees	76.85	
Dir.Dep.	09/04/20	---	Payroll Expense-Net	4010-101-000	September 4th Payroll	30,194.80	
EFT	09/04/20	int002	Internal Revenue Service	2001-101-000	September 4th Federal Withholding	10,307.47	
EFT	09/04/20	mnd001	MN Revenue	2003-101-000	September 4th State Withholding	1,869.11	
EFT	09/04/20	per001	PERA	2011-101-000	September 4th PERA	6,017.36	
EFT	09/04/20	emp002	Empower Retirement	2016-101-000	Employee Def.Comp. Contributions	3,404.00	
EFT	09/04/20	emp002	Empower Retirement	2018-101-000	Employee IRA Contributions	425.00	
Dir.Dep.	09/18/20	---	Payroll Expense-Net	4010-101-000	September 18th Payroll	29,031.47	
EFT	09/18/20	int002	Internal Revenue Service	2001-101-000	September 18th Federal Withholding	9,974.05	
EFT	09/18/20	mnd001	MN Revenue	2003-101-000	September 18th State Withholding	1,808.22	
EFT	09/18/20	per001	PERA	2011-101-000	September 18th PERA	6,004.42	
EFT	09/18/20	emp002	Empower Retirement	2016-101-000	Employee Def.Comp. Contributions	3,404.00	
EFT	09/18/20	emp002	Empower Retirement	2018-101-000	Employee IRA Contributions	425.00	
						$103,016.65	
			Payroll/Benefits				
			TOTAL:			**$970,318.15**	

BARR

Summary of Professional Engineering Services During the Period
August 15, 2020 through September 18, 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	$50,027.90	$25,972.10	$5,916.00	**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	$33,298.00	$21,702.00	$7,260.00	**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	$169,654.00	$47,346.00		**4129-101**	BELT-3
FEMA Flood Mapping Update	$109,720.00	$58,689.00	$51,031.00	$1,977.50	**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	$0.00	**4129-101**	DW-9
Hillcrest Golf Course (multi-use)	$25,000.00	$6,850.50	$18,149.50	$425.50	**4129-101**	DW-6
Gold BRT planning	$20,000.00	$0.00	$20,000.00	$0.00	**4129-101**	DW-6
Owasso Basin by-pass pipeline feasibility study/prelim design (Atlas 14 #1 priority area)	$125,000.00	$139,255.54	-$14,255.54	$9,049.50	**4129-101**	GC-3, BELT-3
Willow Creek flood damage reduction feasibility study (Atlas 14 - #2 priority flooding area)	$50,000.00	$24,561.96	$25,438.04	$578.50	**4129-101**	DW-9, BELT-3
Ames Lake area flood damage reduction feasibility study (Atlas 14 #3 priority area)	$50,000.00	$3,042.50	$46,957.50	$219.50	**4129-101**	DW-9, BELT-3
West Vadnais Lake to South of I-694 Conveyance Feasibility Study	$35,000.00	$55,481.23	-$20,481.23	$175.50	**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	$0.00	$30,000.00		**4129-101**	BCL-3
Subwatershed feasiblity studies for At-Risk creeks (Fish Creek and Gervais Creek)	$40,000.00	$15,858.95	$24,141.05	$2,993.00	**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	$0.00	$5,000.00		**4170-101**	DW-13
Monitoring Water Quality/Project Monitoring						
Lake Water Quality Monitoring (Misc QA/QC)	$10,000.00	$98.00	$9,902.00	$0.00	**4520-101**	DW-2
Special Project BMP Monitoring and annual report development	$25,000.00	$26,364.00	-$1,364.00	$7,913.50	**4520-101**	DW-12
Auto lake monitoring system for Grass Lake	$20,000.00	$20,664.11	-$664.11	$44.00	**4520-101**	DW-18
Auto lake monitoring system for Owasso Lake	$20,000.00	$23,598.75	-$3,598.75	$0.00	**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	$25,253.49	-$5,253.49	$1,667.50	**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	$4,211.66	$15,788.34	$4,016.66	**4520-101**	DW-18
Auto lake monitoring system for Tanners Lake	$20,000.00	$18,236.06	$1,763.94	$16,351.06	**4520-101**	DW-18
Auto lake monitoring system for Battle Creek Lake	$20,000.00	$1,365.00	$18,635.00	$1,170.00	**4520-101**	DW-18
Auto lake monitoring system for Twin Lake	$20,000.00	$2,718.75	$17,281.25	$2,325.75	**4520-101**	DW-18
Auto lake monitoring system Data Webpage	$20,000.00	$3,590.00	$16,410.00	$1,105.00	**4520-101**	DW-18
Permit Processing, Inspection and Enforcement						
Permit Application Inspection and Enforcement	$10,000.00	$44.00	$9,956.00		**4122-101**	DW-7
Permit Application Review	$55,000.00	$33,545.00	$21,455.00	$3,454.50	**4124-101**	DW-7
Lake Studies/WRPPs/TMDL Reports						
2020 Grant Applications	$20,000.00	$555.50	$19,444.50	$0.00	**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	$31,983.74	$18,016.26	$5,867.00	**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	$3,237.00	$26,763.00	$0.00	**4661-101**	WL-3, WL-4
WMP Updates - Including Implementation Plan Updates	$10,000.00	$1,335.00	$8,665.00		**4661-101**	DW-13
Prioritization of water quality projects from subwatershed feasibility studies	$15,000.00	$9,328.35	$5,671.65	$2,303.00	**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	$314.50	$11,685.50	$0.00	**4695-101**	DW-12
Kohlman Permeable Weir Test System - Implement Monitoring Plan	$15,000.00	$5,258.77	$9,741.23	$963.77	**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	$13,129.15	$1,870.85	$454.00	**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	$277,915.01	$11,484.99	$4,449.50	**4128-518**	DW-6
East St. Paul Target (Contruction Phase)	$124,000.00	$15,669.00	$108,331.00	$5,392.00	**4128-518**	DW-6
Owasso County Park Stormwater Master Plan and Detailed Design: Phase 1 and Phase 2	$20,000.00	$5,151.00	$14,849.00	$126.00	**4128-518**	DW-6
Aldrich Arena (soils and plantings)	$25,000.00	$19,355.89	$5,644.11	$3,531.48	**4128-518**	DW-6, WL-1
Wakefield Park/Frost Avenue Stormwater Project	$17,500.00	$17,797.27	-$297.27	$72.50	**4128-553**	DW-6, WL-1
Commercial Sites Retrofit Projects 2020 (Targeted Retrofits) - Target/Motel 6/Boys club	$45,000.00	$9,355.00	$35,645.00	$249.50	**4128-518**	DW-6
School Sites Retrofit Projects 2020 (Targeted Retrofits)	$45,000.00	$9,338.36	$35,661.64	$412.50	**4128-518**	DW-6
Church Sites Retrofit Projects 2020 (Targeted Retrofit)	$45,000.00	$10,978.96	$34,021.04	$480.86	**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	$32,221.37	$42,778.63	$5,034.93	**4682-529**	DW-6
Lowering West Vadnais Lake Outlet	$50,000.00	$48,499.75	$1,500.25	$176.00	**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	$106,386.28	$143,613.72	$15,985.98	**4128-520**	DW-9, BELT-3
Twin Lake Outlet Easement Acquisition, Permitting, Construction Plans	$90,000.00	$69,901.87	$20,098.13	$3,412.89	**4128-520**	DW-9
CIP Project Repair & Maintenance						
Routine CIP Inspection and Unplanned Maintenance Identification	$75,000.00	$23,452.82	$51,547.18	$8,645.71	**4128-516**	DW-5
Beltline 5-year Inspection	$100,000.00	$52,046.45	$47,953.55	$460.00	**4128-516**	BELT-2
2020 CIP Maintenance and Repairs	$150,000.00	$76,091.38	$73,908.62	$2,908.00	**4128-516**	DW-5
2021 CIP Maintenance and Repairs (planning, bidding, and project setup)	$30,000.00	$0.00	$30,000.00		**4128-516**	DW-5

TOTAL PAYABLE FOR PERIOD 8/15/20 - 9/18/20 **$127,568.59**

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

Capital Improvement Project Maintenance/Repairs 2020
Progress Payment Number 4_Final

1.0	Total Completed Through This Period:	$863,935.10		
2.0	Total Completed Previously Completed:		$834,355.10	
3.0	Total Completed This Period:			$29,580.00
4.0	Amount Previously Retained:		$41,717.76	
5.0	Amount Retained This Period (See Note 1):			$0.00
6.0	Total Amount Retained (See Note 2):		$41,717.76	
7.0	Retainage Released Through This Period:			$41,717.76
8.0	Total Retainage Remaining:		$0.00	
9.0	Amounts Previously Paid:	$792,637.34		
10.0	Amount Due This Estimate:			$71,297.76

Note 1: Retainage shall be 5 percent of the value of the Work completed.

SUBMITTED BY:

Name: Jason Fitzgerald Date: _____

Title: President

Contractor: Fitzgerald Excavating & Trucking, Inc.

Signature: _____

RECOMMENDED BY:

Name: Brad Lindaman Date: _____

Title: District Engineer

Engineer: Barr Engineering Company

Signature: _____

APPROVED BY:

Name: Marj Ebensteiner Date: _____

Title: President

Owner: Ramsey-Washington Metro Watershed District

Signature: _____

Capital Improvement Project Maintenance/Repairs 2020
Ramsey-Washington Metro Watershed District
Summary of Work Completed Through September 30, 2020 for Progress Payment Number 4_Final

						(1) Total Completed Through This Period		(2) Total Completed Previous Period		(3) Total Completed This Period	
Item	**Description**	**Unit**	**Estimated Quantity**	**Unit Price**	**Extension**	**Quantity**	**Amount**	**Quantity**	**Amount**	**Quantity**	**Amount**
General											
1.04.A	Mobilization/Demobilization	L.S.	1	65,000.00	65,000.00	1.00	$65,000.00	0.90	$58,500.00	0.10	$6,500.00
1.04.B	Control of Water	L.S.	1	10,000.00	10,000.00	1.00	$10,000.00	0.90	$9,000.00	0.10	$1,000.00
1.04.C	Traffic Control	L.S.	1	15,000.00	15,000.00	1.00	$15,000.00	1.00	$15,000.00	0.00	$0.00
Site 1 – Tamarack Swamp, Woodbury (PFS Basins Cleaning/Sweeping & Barrier Wall Repair)											
1.04.G	Sediment Log (6-Inch Diameter)	L.F.	60	2.00	120.00	60	$120.00	60	$120.00	0	$0.00
1.04.E	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of (MPCA SRV Levels 2 & 3 Material)	TON	100	28.00	2,800.00	100	$2,800.00	100	$2,800.00	0	$0.00
1.04.H	Paver Sweeping (1,400 S.Y.)	S.Y.	1,400	3.00	4,200.00	1,400	$4,200.00	1,400	$4,200.00	0	$0.00
1.04.I	Remove Existing 1 ½" to 2" Filter Rock from Existing Rock Filter	L.S.	1	3,000.00	3,000.00	1	$3,000.00	1	$3,000.00	0	$0.00
1.04 J	Clear Washed Filter Rock	TON	10	60.00	600.00	10	$600.00	10	$600.00	0	$0.00
1.04 K	Replace Timber (12' X 6" X 2")	EACH	30	90.00	2,700.00	30	$2,700.00	30	$2,700.00	0	$0.00
1.04.F	Site Restoration (Seeding and Erosion Control Blanket)	S.Y.	100	4.00	400.00	100	$400.00	100	$400.00	0	$0.00
Site 2 – 5th Street Wetland, Oakdale (Wetland Weir Maintenance)											
1.04.L	Permeable Weir Maintenance (Reopening Drainage Slots and Remove all Brush and Debris)	L.F.	65	30.00	1,950.00	195	$5,850.00	130	$3,900.00	65	$1,950.00
1.04.F	Site Restoration (Seeding and Erosion Control Blanket)	S.Y.	210	4.00	840.00	~~0~~	$0.00	0	$0.00	0	$0.00
Site 3 – Tanners Wetland, Oakdale (Wetland Weir Maintenance &Timber Replacement)											
1.04.L	Permeable Weir Maintenance (Reopening Drainage Slots and Remove all Brush and Debris)	L.F.	580	30.00	17,400.00	580	$17,400.00	580	$17,400.00	0	$0.00
1.04 K	Replace Timbers (1 – 4" X 4" and 1 – 12" X 12")	EACH	2	90.00	180.00	2	$180.00	2	$180.00	0	$0.00
1.04.F	Site Restoration (Seeding and Erosion Control Blanket)	S.Y.	210	4.00	840.00	~~0~~	$0.00	0	$0.00	0	$0.00
Site 4 – Gervais Mill Park, Little Canada (Mill Pond Filter Maintenance)											
1.04.N	Install Flotation Silt Curtain	L.F.	45	25.00	1,125.00	45	$1,125.00	45	$1,125.00	0	$0.00
1.04.I	Remove Existing 1 ½" to 2" Filter Rock from Existing Rock Filter	L.S.	1	8,000.00	8,000.00	1	$8,000.00	1	$8,000.00	0	$0.00
1.04.J	Clear Washed Filter Rock	TON	50	60.00	3,000.00	50	$3,000.00	50	$3,000.00	0	$0.00
1.04.F	Site Restoration (Seeding and Erosion Control Blanket)	S.Y.	400	4.00	1,600.00	390	$1,560.00	390	$1,560.00	0	$0.00
Site 5 – Lower Afton Road, Maplewood (Drainageway Sediment Removal)											
1.04.O	Construction Entrance	EACH	1	2,000.00	2,000.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04.P	Temporary Rock Filter Dike	TON	10	60.00	600.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04.E	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of (MPCA SRV Levels 2 & 3 Material)	TON	140	38.00	5,320.00	69	$2,622.00	69	$2,622.00	0	$0.00
1.04.F	Site Restoration (Seeding and Erosion Control Blanket)	S.Y.	210	4.00	840.00	300	$1,200.00	300	$1,200.00	0	$0.00

Capital Improvement Project Maintenance/Repairs 2020
Ramsey-Washington Metro Watershed District
Summary of Work Completed Through September 30, 2020 for Progress Payment Number 4_Final

						(1) Total Completed Through This Period		(2) Total Completed Previous Period		(3) Total Completed This Period	
Item	**Description**	**Unit**	**Estimated Quantity**	**Unit Price**	**Extension**	**Quantity**	**Amount**	**Quantity**	**Amount**	**Quantity**	**Amount**
Site 6 – West Vadnais Lake, Vadnais Heights (Erosion Repair)											
1.04.O	Construction Entrance	EACH	2	2,000.00	4,000.00	1	$2,000.00	1	$2,000.00	0	$0.00
1.04 Q	Composite Mud Mats Protection (Double Layer)	SY	1,120	18.00	20,160.00	1,120	$20,160.00	1,120	$20,160.00	0	$0.00
1.04.G	Sediment Log (6-Inch Diameter)	L.F.	900	4.00	3,600.00	800	$3,200.00	800	$3,200.00	0	$0.00
1.04.R	Removal of Trees, Brush, and Debris (Disposal Off Site)	L.S.	1	40,000.00	40,000.00	1	$40,000.00	1	$40,000.00	0	$0.00
1.04 S	Erosion Repair	L.F.	300	20.00	6,000.00	300	$6,000.00	300	$6,000.00	0	$0.00
1.04 T	MN/DOT Common Borrow	C.Y.	100	12.00	1,200.00	100	$1,200.00	100	$1,200.00	0	$0.00
1.04 U	Topsoil Borrow	C.Y.	60	12.00	720.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04.F	Site and Access Restoration (Seeding and Erosion Control Blanket)	S.Y.	4,000	2.95	11,800.00	3,898	$11,499.10	3,898	$11,499.10	0	$0.00
Site 7 – Casey Lake, North St. Paul (Sediment Removal)											
1.04.O	Construction Entrance	EACH	1	2,000.00	2,000.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04.M	Silt Fence	L.F.	75	2.00	150.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04.N	Flotation Silt Curtain	L.F.	300	25.00	7,500.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04.G	Sediment Log (6-Inch Diameter)	L.F.	250	2.00	500.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04 V	Inlet Protection	EACH	2	100.00	200.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04.R	Removal of Trees, Brush, and Debris (Disposal Off Site)	L.S.	1	4,000.00	4,000.00	1	$4,000.00	1	$4,000.00	0	$0.00
1.04 W	Boat Ramp	L.S.	1	12,000.00	12,000.00	1	$12,000.00	1	$12,000.00	0	$0.00
1.04.E	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of (MPCA SRV Levels 2 & 3 Material)	TON	600	38.00	22,800.00	643	$24,434.00	643	$24,434.00	0	$0.00
1.04 X	MN/DOT Class III Riprap with Type IV Geotextile Filter Fabric	TON	14	60.00	840.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04.F	Site and Access Restoration (Seeding and Erosion Control Blanket)	S.Y.	200	4.00	800.00	270	$1,080.00	270	$1,080.00	0	$0.00
Site 8 – McKnight Ponds, Maplewood (Pond Cleanout)											
1.04.O	Construction Entrance	EACH	1	2,000.00	2,000.00	1	$2,000.00	1	$2,000.00	0	$0.00
1.04.G	Sediment Log (6-Inch Diameter)	L.F.	150	2.00	300.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04 V	Inlet Protection	EACH	4	100.00	400.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04.D	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of (Unregulated MPCA SRV Level 1 Material) (P)	C.Y.	640	28.00	17,920.00	640	$17,920.00	640	$17,920.00	0	$0.00
1.04 E	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of (MPCA SRV Levels 2 & 3 Material)	TON	5,600	29.00	162,400.00	5,820	$168,780.00	5,820	$168,780.00	0	$0.00
1.04.X	MN/DOT Class III Riprap with Type IV Geotextile Filter Fabric	TON	28	60.00	1,680.00	28	$1,680.00	28	$1,680.00	0	$0.00
1.04.F	Site Access Restoration (Seeding and Erosion Control Blanket)	S.Y.	200	4.00	800.00	200	$800.00	200	$800.00	0	$0.00
Site 9 – Maryland Pond, Maplewood (Pond Cleanout)											
1.04.O	Construction Entrance	EACH	1	2,000.00	2,000.00	1	$2,000.00	1	$2,000.00	0	$0.00
1.04.G	Sediment Log (6-Inch Diameter)	L.F.	250	2.00	500.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04 V	Inlet Protection	EACH	2	100.00	200.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04 R	Removal of Trees, Brush, and Debris (Disposal Off Site)	L.S.	1	3,500.00	3,500.00	1	$3,500.00	1	$3,500.00	0	$0.00
1.04 E	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of (MPCA SRV Levels 2 & 3 Material)	TON	3,500	32.00	112,000.00	3,550	$113,600.00	3,550	$113,600.00	0	$0.00
1.04 X	MN/DOT Class III Riprap with Type IV Geotextile Filter Fabric	TON	14	60.00	840.00	14	$840.00	14	$840.00	0	$0.00
1.04 F	Site Access Restoration (Seeding and Erosion Control Blanket)	S.Y.	300	4.00	1,200.00	564	$2,256.00	564	$2,256.00	0	$0.00

Capital Improvement Project Maintenance/Repairs 2020
Ramsey-Washington Metro Watershed District
Summary of Work Completed Through September 30, 2020 for Progress Payment Number 4_Final

						(1) Total Completed Through This Period		(2) Total Completed Previous Period		(3) Total Completed This Period	
Item	**Description**	**Unit**	**Estimated Quantity**	**Unit Price**	**Extension**	**Quantity**	**Amount**	**Quantity**	**Amount**	**Quantity**	**Amount**
Site 10 – Tudor Pond, Shoreview (Pond Cleanout)											
1.04.O	Construction Entrance	EACH	1	2,000.00	2,000.00	1	$2,000.00	1	$2,000.00	0	$0.00
1.04.G	Sediment Log (6-Inch Diameter)	L.F.	200	2.00	400.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04 V	Inlet Protection	EACH	3	100.00	300.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04 R	Removal of Trees, Brush, and Debris (Disposal Off Site)	L.S.	1	4,000.00	4,000.00	1	$4,000.00	1	$4,000.00	0	$0.00
1.04 E	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of (MPCA SRV Levels 2 & 3 Material)	TON	680	38.00	25,840.00	722	$27,436.00	722	$27,436.00	0	$0.00
1.04 X	MN/DOT Class III Riprap with Type IV Geotextile Filter Fabric	TON	14	60.00	840.00	14	$840.00	14	$840.00	0	$0.00
1.04.F	Site Access Restoration (Seeding and Erosion Control Blanket)	S.Y.	300	4.00	1,200.00	325	$1,300.00	325	$1,300.00	0	$0.00
Site 11 – Reiland Pond, Shoreview (Pond Cleanout)											
1.04.O	Construction Entrance	EACH	1	2,000.00	2,000.00	1	$2,000.00	1	$2,000.00	0	$0.00
1.04.G	Sediment Log (6-Inch Diameter)	L.F.	150	2.00	300.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04 V	Inlet Protection	EACH	4	100.00	400.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04.R	Removal of Trees, Brush, and Debris (Disposal Off Site)	L.S.	1	2,000.00	2,000.00	1	$2,000.00	1	$2,000.00	0	$0.00
1.04.E	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of (MPCA SRV Levels 2 & 3 Material)	TON	1,240	38.00	47,120.00	1,544	$58,672.00	1,544	$58,672.00	0	$0.00
1.04.X	MN/DOT Class III Riprap with Type IV Geotextile Filter Fabric	TON	14	60.00	840.00	14	$840.00	14	$840.00	0	$0.00
1.04.F	Site Access Restoration (Seeding and Erosion Control Blanket)	S.Y.	300	4.00	1,200.00	851	$3,404.00	851	$3,404.00	0	$0.00
Site 12 – Sextant Pond, Little Canada (Pond Cleanout)											
1.04.O	Construction Entrance	EACH	1	2,000.00	2,000.00	1	$2,000.00	1	$2,000.00	0	$0.00
1.04.G	Sediment Log (6-Inch Diameter)	L.F.	150	2.00	300.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04 V	Inlet Protection	EACH	4	100.00	400.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04.R	Removal of Trees, Brush, and Debris (Disposal Off Site)	L.S.	1	2,000.00	2,000.00	~~0~~	$0.00	0	$0.00	0	$0.00
1.04.E	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of (MPCA SRV Levels 2 & 3 Material)	TON	80	38.00	3,040.00	119	$4,522.00	119	$4,522.00	0	$0.00
1.04.X	MN/DOT Class III Riprap with Type IV Geotextile Filter Fabric	TON	14	60.00	840.00	14	$840.00	14	$840.00	0	$0.00
1.04.F	Site Access Restoration (Seeding and Erosion Control Blanket)	S.Y.	300	4.00	1,200.00	60	$240.00	60	$240.00	0	$0.00
				Total of Extensions =	**$689,745.00**		**$693,800.10**		**$684,350.10**		**$9,450.00**

CHANGE ORDERS

Change Order 2A	**Twin Lake By-Pass Items**	**Unit**	**Estimated Quantity**	**Unit Price**	**Extension**	**Quantity**	**Amount**	**Quantity**	**Amount**	**Quantity**	**Amount**
C.0.2A1	Lake Emergency Overflow Structure	LS	1	$ 19,500.00	19,500.00	1	$19,500.00	1	$19,500.00	0	$0.00
C.0.2A2	Crossing Twin Lake Boulevard	LS	1	$ 5,500.00	5,500.00	1	$5,500.00	1	$5,500.00	0	$0.00
				Total of Extensions 2A =	**$ 25,000.00**						
Change Order 2B	**West Vadnais Overflow Swale**	**Unit**	**Estimated Quantity**	**Unit Price**	**Extension**	**Quantity**	**Amount**	**Quantity**	**Amount**	**Quantity**	**Amount**
C.0.2B1	Lake Emergency Overflow Riprap and Vegetated Swale	LS	1	$ 21,610.00	21,610.00	1	$21,610.00	1	$21,610.00	0	$0.00
				Total of Extensions 2B =	**$ 21,610.00**						

Capital Improvement Project Maintenance/Repairs 2020
Ramsey-Washington Metro Watershed District
Summary of Work Completed Through September 30, 2020 for Progress Payment Number 4_Final

						(1) Total Completed Through This Period		(2) Total Completed Previous Period		(3) Total Completed This Period	
Item	**Description**	**Unit**	**Estimated Quantity**	**Unit Price**	**Extension**	**Quantity**	**Amount**	**Quantity**	**Amount**	**Quantity**	**Amount**
Change Order 2C	**West Vadnais Outlet Lowering**	**Unit**	**Estimated Quantity**	**Unit Price**	**Extension**	**Quantity**	**Amount**	**Quantity**	**Amount**	**Quantity**	**Amount**
C.O.2C1	Site Clearing, Preparation, and Demolition	LS	1	$ 8,500.00	8,500.00	1	$8,500.00	1	$8,500.00	0	$0.00
C.O.2C2	Control of Water	LS	1	$ 2,000.00	2,000.00	1	$2,000.00	1	$2,000.00	0	$0.00
C.O.2C3	Traffic Control	LS	1	$ 3,500.00	3,500.00	1	$3,500.00	1	$3,500.00	0	$0.00
C.O.2C4	~~Composite Mud Mats Protection (Double Layer)~~	~~SY~~	~~300~~	~~$ 18.00~~	~~5,400.00~~	~~0~~	~~$0.00~~	~~0~~	~~$0.00~~	~~0~~	~~$0.00~~
C.O.2C5	~~Construction Entrance~~	~~EACH~~	~~1~~	~~$ 2,000.00~~	~~2,000.00~~	~~0~~	~~$0.00~~	~~0~~	~~$0.00~~	~~0~~	~~$0.00~~
C.O.2C6	~~Silt Fence~~	~~LF~~	~~318~~	~~$ 2.00~~	~~636.00~~	~~0~~	~~$0.00~~	~~0~~	~~$0.00~~	~~0~~	~~$0.00~~
C.O.2C7	~~Sediment Logs (9" inch Diameter)~~	~~LF~~	~~124~~	~~$ 4.00~~	~~496.00~~	~~0~~	~~$0.00~~	~~0~~	~~$0.00~~	~~0~~	~~$0.00~~
C.O.2C8	Inlet Protection	EACH	1	$ 100.00	100.00	1	$100.00	1	$100.00	0	$0.00
C.O.2C9	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of (MPCA SRV Levels 2 & 3 Material)	TON	1,000	$ 50.00	50,000.00	700	$35,000.00	700	$35,000.00	0	$0.00
C.O.2C10	Remove and Salvage 24" RCP Flared End Section and Trash Guard	EACH	1	$ 800.00	800.00	1	$800.00	1	$800.00	0	$0.00
C.O.2C11	Saw Cut Bituminous Pavement	LF	30	$ 4.00	120.00	66	$264.00	66	$264.00	0	$0.00
C.O.2C12	Remove Bituminous Pavement	SY	285	$ 6.00	1,710.00	378	$2,268.00	378	$2,268.00	0	$0.00
C.O.2C13	Remove and Dispose of 15" RCP Storm Sewer Pipe	LF	189	$ 15.00	2,835.00	189	$2,835.00	189	$2,835.00	0	$0.00
C.O.2C14	Connect to Existing Storm Sewer Manhole	EACH	1	$ 2,500.00	2,500.00	1	$2,500.00	1	$2,500.00	0	$0.00
C.O.2C15	24" RCP CL 3	LF	189	$ 90.00	17,010.00	189	$17,010.00	189	$17,010.00	0	$0.00
C.O.2C16	Replace Salvaged 24" RCP Flared End Section and Trash Guard	EACH	1	$ 1,500.00	1,500.00	1	$1,500.00	1	$1,500.00	0	$0.00
C.O.2C17	60" Dia. R.C. Weir Gate Manhole Including Concrete Weir, Weir Gate and Mounting Frame, Installation of Weir Gate, and Casting Assemblies	LS	1	$ 20,000.00	20,000.00	1.0	$20,000.00	0.5	$10,000.00	0.5	$10,000.00
C.O.2C18	~~Steel Sheet Piling~~	~~SF~~	~~0~~	~~$ 29.00~~	~~63,800.00~~	~~0~~	~~$0.00~~	~~0~~	~~$0.00~~	~~0~~	~~$0.00~~
C.O.2C19	Replace Class 5 Aggregate Road Base	CY	65	$ 38.00	2,470.00	78	$2,964.00	78	$2,964.00	0	$0.00
C.O.2C20	Replace Bituminous Pavement Includes; Base Course, Tack Coat, and Wearing Course	TON	93	$ 110.00	10,230.00	90	$9,900.00	90	$9,900.00	0	$0.00
C.O.2C21	Import Top Soil	CY	32	$ 10.00	320.00	32	$320.00	19	$190.00	13	$130.00
C.O.2C22	Site Restoration (Seeding and Erosion Control Blanket)	SY	340	$ 4.00	1,360.00	1,016	$4,064.00	1,016	$4,064.00	0	$0.00
				Total of Extensions 2C =	**$ 197,287.00**						
Change Order 4A	**Misc: Add'l Work Request by Owner**	**Unit**	**Estimated Quantity**	**Unit Price**	**Extension**	**Quantity**	**Amount**	**Quantity**	**Amount**	**Quantity**	**Amount**
C.O.4A1	5 Star Mobile Estates - Construction Entrance and Access, Removal and Restoration	LS	1	$ 6,000.00	6,000.00	1	$6,000.00	0	$0.00	1	$6,000.00
C.O.4A2	West Vadnais Outlet Channel - Sediment/Muck Cleanout Excavation; incl. Site Restoration (Seeding and Erosion Control Blanket)	LS	1	$ 4,000.00	4,000.00	1	$4,000.00	0	$0.00	1	$4,000.00
				Total of Extensions 4A =	**$ 10,000.00**						
				GRAND TOTALS	**$943,642.00**		**$863,935.10**		**$834,355.10**		**$29,580.00**

2019 SCHOOLS & FAITH-BASED SITES BMP RETROFITS
RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
Progress Payment Application No. 4

1.	Completed to Date:	$ 147,119.25		
2.	Less Previously Billed:		$ 147,119.25	
3.	Amount Completed This Period:			$ -
4.	Amount Previously Retained:		$ (9,099.11)	
5.	Amount Retained This Period (See Note 1):			$ -
6.	Total Amount Retained (See Note 2):		$ (9,099.11)	
7.	Retainage Released Through This Period:			$ 7,008.51
8.	Less Total Retainage Remaining:		$ (2,090.60)	
9.	Less Amounts Previously Paid (Pay Application Nos. 1, 2, 3)	$ (147,119.25)		
10.	Amount Due This Period:			**$ 7,008.51**

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 $117,334.25; adjusted Contract Price to date is $160,170.25)

SUBMITTED BY:
Name: Chuck Hanna Date: 9/24/20
Title: President
Contractor: Outdoor Lab

Signature:

RECOMMENDED BY:
Name: Andrea Wedul Date: 9/24/2020
Title: Project Manager
Engineer: Barr Engineering Company

Signature:

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

Signature:

Target East St. Paul Retail Store Stormwater Retrofits
Progress Payment Number 1

1.0	Total Completed Through This Period:	$104,066.68		
2.0	Total Completed Previously Completed:		$0.00	
3.0	Total Completed This Period:			$104,066.68
4.0	Amount Previously Retained:		$0.00	
5.0	Amount Retained This Period (See Note 1):			$5,203.33
6.0	Total Amount Retained (See Note 1):		$5,203.33	
7.0	Retainage Released Through This Period:			$0.00
8.0	Total Retainage Remaining:		$5,203.33	
9.0	Amounts Previously Paid:	$0.00		
10.0	Amount Due This Estimate:			$98,863.35

Note 1: At rate of 5%.

SUBMITTED BY:

Name: Ryan Sunram Date: 9-25-20

Title: Project Manager

Contractor: Peterson Companies, Inc.

Signature: Ryan M. Sunram

RECOMMENDED BY:

Name: Leslie DellAngelo Date: 9/25/2020

Title: Project Engineer

Engineer: Barr Engineering Company

Signature:

APPROVED BY:

Name: Marj Ebensteiner Date:

Title: President

Owner: Ramsey-Washington Metro Watershed District

Signature:

Target East St. Paul Retail Store Stormwater Retrofits
Ramsey-Washington Metro Watershed District
Summary of Work Completed Through September 22, 2020 for Progress Payment Number 1

						(1) Total Completed Through This Period		(2) Total Completed Previous Period		(3) Total Completed This Period	
Item	Description	Unit	Estimated Quantity	Unit Price	Extension	Quantity	Amount	Quantity	Amount	Quantity	Amount
A	Mobilization/Demobilization	LS	1	39,750.70	39,750.70	0.25	$9,937.68	0	$0.00	0.25	$9,937.68
B	Traffic and Pedestrian Safety Control Measures	LS	1	10,500.00	10,500.00	0.25	$2,625.00	0	$0.00	0.25	$2,625.00
C	Remove and Re-set Two Light Poles	LS	1	10,000.00	10,000.00	0.25	$2,500.00	0	$0.00	0.25	$2,500.00
D	Inlet Protection (P)	EA	15	150.00	2,250.00	12	$1,800.00	0	$0.00	12	$1,800.00
E	Mulch/Rock Filter Biolog	LF	741	4.00	2,964.00	741	$2,964.00	0	$0.00	741	$2,964.00
F	Silt Fence	LF	68	5.00	340.00	0	$0.00	0	$0.00	0	$0.00
G	Street Sweeping	HR	32	125.00	4,000.00	0	$0.00	0	$0.00	0	$0.00
H	Removal and Disposal of Tree < 7 inch Diameter	EA	20	365.00	7,300.00	20	$7,300.00	0	$0.00	20	$7,300.00
I	Removal and Disposal of Tree 7 inch to 12 inch Diameter	EA	1	750.00	750.00	1	$750.00	0	$0.00	1	$750.00
J	Removal and Disposal of Tree 12 inch to 28 inch Diameter	EA	1	1,100.00	1,100.00	1	$1,100.00	0	$0.00	1	$1,100.00
K	Sawcut Bituminous Pavement (Full Depth) (P)	LF	1,970	2.75	5,417.50	1500	$4,125.00	0	$0.00	1500	$4,125.00
L	Remove and Dispose of Concrete Curb & Gutter	LF	559	8.00	4,472.00	100	$800.00	0	$0.00	100	$800.00
M	Remove and Dispose of 4 inch Bituminous Pavement (P)	SY	2,330	2.85	6,640.50	1500	$4,275.00	0	$0.00	1500	$4,275.00
N	Remove and Salvage Class 5 Aggregate (P)	CY	329	6.75	2,220.75	100	$675.00	0	$0.00	100	$675.00
O	Remove and Dispose of Existing RC Storm Sewer Pipe (12 inch-18 inch)	LF	54	26.00	1,404.00	0	$0.00	0	$0.00	0	$0.00
P	Bulkhead Manhole (at 12 inch RCP Removal)	LS	1	200.00	200.00	0	$0.00	0	$0.00	0	$0.00
Q	Remove and Dispose of Existing Catch Basin	EA	2	575.00	1,150.00	0	$0.00	0	$0.00	0	$0.00
R	Remove and Salvage Existing Top Soil (P)	CY	39	11.50	448.50	10	$115.00	0	$0.00	10	$115.00
S	Common Excavation (P)	CY	1,780	14.65	26,077.00	1000	$14,650.00	0	$0.00	1000	$14,650.00
T	Dispose Excavated Material Offsite (P)	CY	1,229	14.65	18,004.85	700	$10,255.00	0	$0.00	700	$10,255.00
U	Soil Loosening - 18 inch Depth (P)	SY	860	0.85	731.00	0	$0.00	0	$0.00	0	$0.00
V	Replace Salvaged Class 5 Aggregate Base (P)	CY	240	21.75	5,220.00	0	$0.00	0	$0.00	0	$0.00
W	Replace Salvaged Topsoil (P)	CY	39	20.00	780.00	0	$0.00	0	$0.00	0	$0.00
X	Furnish and Install Class 5 Aggregate Base	TON	2	245.00	490.00	0	$0.00	0	$0.00	0	$0.00
Y	Furnish and Install Topsoil	TON	274	41.75	11,439.50	0	$0.00	0	$0.00	0	$0.00
Z	Bituminous Base Course 2.5 inch thick (P)	SY	1,435	16.80	24,108.00	0	$0.00	0	$0.00	0	$0.00
AA	Bituminous Wearing Course 1.5 inch thick (P)	SY	1,435	12.60	18,081.00	0	$0.00	0	$0.00	0	$0.00
BB	Tack Coat (P)	SY	1,435	0.22	315.70	0	$0.00	0	$0.00	0	$0.00
CC	B6-12 Concrete Curb & Gutter	LF	993	29.85	29,641.05	0	$0.00	0	$0.00	0	$0.00
DD	Curb cut	EA	2	315.00	630.00	0	$0.00	0	$0.00	0	$0.00
EE	Concrete Swale	LF	120	57.60	6,912.00	0	$0.00	0	$0.00	0	$0.00
FF	Concrete Edge at Swale	LF	240	24.40	5,856.00	0	$0.00	0	$0.00	0	$0.00
GG	Painted Pavement Marking	LS	1	2,500.00	2,500.00	0	$0.00	0	$0.00	0	$0.00
HH	48 inch-Dia. Pre-cast Storm Sewer Manhole, Complete	EA	8	4,475.00	35,800.00	0	$0.00	0	$0.00	0	$0.00
II	72 inch-Dia. Pre-cast Storm Sewer Manhole w/ Weir, Complete	EA	2	11,437.50	22,875.00	0	$0.00	0	$0.00	0	$0.00
JJ	3 foot x 2 foot Catch Basin with Sump, Complete	EA	5	3,375.00	16,875.00	0	$0.00	0	$0.00	0	$0.00
KK	Agri drain & Stop Logs, Complete	EA	3	1,935.00	5,805.00	0	$0.00	0	$0.00	0	$0.00
LL	Connect to Existing Storm Structure	EA	6	1,130.00	6,780.00	0	$0.00	0	$0.00	0	$0.00
MM	12 inch RC Storm Sewer Pipe	LF	17	52.50	892.50	0	$0.00	0	$0.00	0	$0.00
NN	10 inch DI Storm Sewer Pipe	LF	59	74.00	4,366.00	0	$0.00	0	$0.00	0	$0.00
OO	12 inch Perforated CPE Draintile Pipe and Fittings, no sock (P)	LF	550	37.15	20,432.50	550	$20,432.50	0	$0.00	550	$20,432.50
PP	10 inch PVC Sewer Pipe and Fittings (P)	LF	60	50.50	3,030.00	0	$0.00	0	$0.00	0	$0.00
QQ	6 inch Perforated Dual Wall HDPE Draintile Pipe and Fittings (no sock) (P)	LF	200	17.30	3,460.00	0	$0.00	0	$0.00	0	$0.00
RR	6 inch PVC Storm Sewer Pipe and Fittings (P)	LF	90	33.50	3,015.00	0	$0.00	0	$0.00	0	$0.00
SS	6 inch Draintile Cleanout and Cover Unit	EA	12	475.00	5,700.00	0	$0.00	0	$0.00	0	$0.00
TT	6 inch Draintile Connection to Structure	EA	5	815.00	4,075.00	0	$0.00	0	$0.00	0	$0.00
UU	Clean Washed Sand with 5 percent iron aggregate (P)	CY	46	245.00	11,270.00	0	$0.00	0	$0.00	0	$0.00
VV	Small Splash Block Assembly (Pipe Discharge)	EA	5	800.00	4,000.00	0	$0.00	0	$0.00	0	$0.00
WW	Large Splash Block Assembly (Curb cut)	EA	2	1,885.00	3,770.00	0	$0.00	0	$0.00	0	$0.00
XX	Limestone Block Retaining Wall	SFF	432	53.25	23,004.00	0	$0.00	0	$0.00	0	$0.00
YY	Twice Shredded Hardwood Mulch (P)	CY	110	63.00	6,930.00	0	$0.00	0	$0.00	0	$0.00
ZZ	Planting Soil (75% sand, 25% leaf compost - MnDOT Grade II) (P)	CY	203	47.00	9,541.00	0	$0.00	0	$0.00	0	$0.00
AAA	2 inch-4 inch Clean Washed Angular Rock (Granite)	TON	300	73.75	22,125.00	150	$11,062.50	0	$0.00	150	$11,062.50
BBB	Filtration Soil Washed into 2 inch-4 inch Rock (P)	CY	45	96.00	4,320.00	0	$0.00	0	$0.00	0	$0.00

Target East St. Paul Retail Store Stormwater Retrofits
Ramsey-Washington Metro Watershed District
Summary of Work Completed Through September 22, 2020 for Progress Payment Number 1

						(1) Total Completed Through This Period		(2) Total Completed Previous Period		(3) Total Completed This Period	
Item	**Description**	**Unit**	**Estimated Quantity**	**Unit Price**	**Extension**	**Quantity**	**Amount**	**Quantity**	**Amount**	**Quantity**	**Amount**
CCC	1/4 inch Clean Washed Chip (Granite)	TON	80	87.00	6,960.00	50	$4,350.00	0	$0.00	50	$4,350.00
DDD	3/4 inch Clean Washed Chip (Granite)	TON	80	87.00	6,960.00	50	$4,350.00	0	$0.00	50	$4,350.00
EEE	MnDOT Type V Geotextile Filter Fabric (P)	SY	570	3.00	1,710.00	0	$0.00	0	$0.00	0	$0.00
FFF	Pre-cast Concrete Tree Box with Concrete Frame	EA	3	4,675.00	14,025.00	0	$0.00	0	$0.00	0	$0.00
GGG	Tree Guard	EA	3	1,625.00	4,875.00	0	$0.00	0	$0.00	0	$0.00
HHH	Tree Grate	EA	3	2,052.00	6,156.00	0	$0.00	0	$0.00	0	$0.00
III	Snout Separator	EA	2	1,165.00	2,330.00	0	$0.00	0	$0.00	0	$0.00
JJJ	4 inch Trench Drain with Concrete Encasement and Herringbone Grate, Complete	LF	210	237.00	49,770.00	0	$0.00	0	$0.00	0	$0.00
KKK	Perennials - 4 inch pot (P)	EA	303	16.80	5,090.40	0	$0.00	0	$0.00	0	$0.00
LLL	Perennials - 1 gallon pot (P)	EA	1,701	20.00	34,020.00	0	$0.00	0	$0.00	0	$0.00
MMM	Shrub (#2 Gallon Container) (P)	EA	277	45.15	12,506.55	0	$0.00	0	$0.00	0	$0.00
NNN	Deciduous Tree (#20, Cont.) (P)	EA	17	305.00	5,185.00	0	$0.00	0	$0.00	0	$0.00
OOO	Sodding (Salt Tolerant)	SY	62	15.00	930.00	0	$0.00	0	$0.00	0	$0.00
C.O.1	6" Solid Dual Wall HDPE Storm Sewer Pipe and Fittings (P)	LF	290	17.30	5,017.00	0	$0.00	0	$0.00	0	$0.00
			TOTAL BASE BID =		**625,295.00**	**TOTAL EXT. =**	**$104,066.68**		**$0.00**		**$104,066.68**

Twin Lake Outlet Project
Progress Payment Number 1

1.0	Total Completed Through This Period:	$110,662.29		
2.0	Total Completed Previously Completed:		$0.00	
3.0	Total Completed This Period:			$110,662.29
4.0	Amount Previously Retained:		$0.00	
5.0	Amount Retained This Period (See Note 1):			$5,533.11
6.0	Total Amount Retained (See Note 2):		$5,533.11	
7.0	Retainage Released Through This Period:			$0.00
8.0	Total Retainage Remaining:		$5,533.11	
9.0	Amounts Previously Paid:	$0.00		
10.0	Amount Due This Estimate:			$105,129.18

Note 1: Retainage shall be 5 percent of the value of the Work completed.

SUBMITTED BY:

Name: Jarrod Sargent Date: 9/14/20

Title: Senior Estimator/Project Manager

Contractor: Rachel Contracting, LLC

Signature:

RECOMMENDED BY:

Name: Brandon Barnes Date: 9/14/2020

Title: Water Resources Engineer

Engineer: Barr Engineering Company

Signature:

APPROVED BY:

Name: Marj Ebensteiner Date:

Title: President

Owner: Ramsey-Washington Metro Watershed District

Signature:

Twin Lake Outlet Project
Ramsey-Washington Metro Watershed District
Summary of Work Completed Through August 25, 2020 for Progress Payment Number 1

						(1) Total Completed Through This Period		(2) Total Completed Previous Period		(3) Total Completed This Period	
Item	Description	Unit	Estimated Quantity	Unit Price	Extension	Quantity	Amount	Quantity	Amount	Quantity	Amount
1.04.A	Mobilization/Demobilization	L.S.	1	$ 20,800.00	$ 20,800.00	0.9	$18,720.00	0.0	$0.00	0.9	$18,720.00
1.04.B	Control of Water	L.S.	1	$ 4,350.00	$ 4,350.00	0.9	$3,915.00	0.0	$0.00	0.9	$3,915.00
1.04.C	Construction Entrance	Each	1	$ 1,600.00	$ 1,600.00	0	$0.00	0.0	$0.00	0.0	$0.00
1.04.D	Silt Fence	L.F.	320	$ 4.30	$ 1,376.00	70.0	$301.00	0.0	$0.00	70.0	$301.00
1.04.E	Erosion Control Blanket	S.Y.	2,200	$ 1.60	$ 3,520.00	1,036.0	$1,657.60	0.0	$0.00	1,036.0	$1,657.60
1.04.F	Floatation Silt Curtain	L.F.	200	$ 16.00	$ 3,200.00	200.0	$3,200.00	0.0	$0.00	200.0	$3,200.00
1.04.G	BP High Pressure Pipeline Protection	S.Y.	334	$ 10.00	$ 3,340.00	334.0	$3,340.00	0.0	$0.00	334.0	$3,340.00
1.04.H	Remove, Salvage, and Replace Chain Link Fence	L.F.	100	$ 17.00	$ 1,700.00	100.0	$1,700.00	0.0	$0.00	100.0	$1,700.00
1.04.I	Strip, Salvage, and Replace Topsoil	C.Y.	88	$ 5.00	$ 440.00	88.0	$440.00	0.0	$0.00	88.0	$440.00
1.04.J	Remove and Dispose of CMP Storm Sewer Pipe	L.S.	1	$ 2,000.00	$ 2,000.00	1.0	$2,000.00	0.0	$0.00	1.0	$2,000.00
1.04.K	Common Excavation – Embankment	C.Y.	380	$ 5.00	$ 1,900.00	380.0	$1,900.00	0.0	$0.00	380.0	$1,900.00
1.04.L	Common Excavation – Ditch with On-Site Disposal of Material	C.Y.	290	$ 6.00	$ 1,740.00	290.0	$1,740.00	0.0	$0.00	290.0	$1,740.00
1.04.M	Aggregate Bedding	C.Y.	2	$ 225.00	$ 450.00	20.0	$4,504.50	0.0	$0.00	20.0	$4,504.50
1.04.N	Backfill	C.Y.	345	$ 2.00	$ 690.00	345.0	$690.00	0.0	$0.00	345.0	$690.00
1.04.O	Compaction	C.Y.	345	$ 1.00	$ 345.00	345.0	$345.00	0.0	$0.00	345.0	$345.00
1.04.P	Controlled Low-Strength Material (CLSM)	C.Y.	9	$ 150.00	$ 1,350.00	31.5	$4,725.00	0.0	$0.00	31.5	$4,725.00
1.04.Q	30-inch RCP Class V	L.F.	115	$ 155.00	$ 17,825.00	115.0	$17,825.00	0.0	$0.00	115.0	$17,825.00
1.04.R	30-inch RCP Flared End Section with Trash Rack	Each	1	$ 5,300.00	$ 5,300.00	1.0	$5,300.00	0.0	$0.00	1.0	$5,300.00
1.04.S	30-inch RCP Flared End Section	Each	1	$ 3,400.00	$ 3,400.00	1.0	$3,400.00	0.0	$0.00	1.0	$3,400.00
1.04.T	Outlet Riprap (Mn/DOT CL IV)	Ton	23	$ 130.00	$ 2,990.00	55.5	$7,212.40	0.0	$0.00	55.5	$7,212.40
1.04.U	Drop-Down Weir Gate	Each	1	$ 23,000.00	$ 23,000.00	0.0	$0.00	0.0	$0.00	0.0	$0.00
1.04.V	6' X 6' Box Control Structure Manhole with Monolithic Base	L.F.	10	$ 1,500.00	$ 15,000.00	10.0	$15,000.00	0.0	$0.00	10.0	$15,000.00
1.04.W	72-inch Galvanized Grated – Hinged Locking Control Structure Manhole Cover	Each	1	$ 5,500.00	$ 5,500.00	1.0	$5,500.00	0.0	$0.00	1.0	$5,500.00
1.04.X	30-inch Inline Check Valve Backflow Preventer	Each	1	$ 5,000.00	$ 5,000.00	1.0	$5,000.00	0.0	$0.00	1.0	$5,000.00
1.04.Y	Import Topsoil	C.Y.	24	$ 25.00	$ 600.00	0	$0.00	0.0	$0.00	0.0	$0.00
1.04.Z	Seeding	S.Y.	2,200	$ 0.60	$ 1,320.00	1,036.0	$621.60	0.0	$0.00	1,036.0	$621.60
1.04.AA	Site Restoration	L.S.	1	$ 850.00	$ 850.00	0.9	$765.00	0.0	$0.00	0.9	$765.00
				Total of Extensions =	**$129,586.00**		**$109,802.10**		**$0.00**		**$109,802.10**

CHANGE ORDERS

Change Order 1.B	Description	Unit	Estimated Quantity	Unit Price	Extension	Quantity	Amount	Quantity	Amount	Quantity	Amount
C.O.1.B	Lake Emergency Overflow Structure	LS	1	$ 860.19	$ 860.19	1	$860.19	0	$0.00	1.0	$860.19
				Total of Extensions 1.B =	**$860.19**						

GRAND TOTALS	**$130,446.19**		**$110,662.29**		**$0.00**		**$110,662.29**

PAYMENT STATUS LEVEL	**COMPLETE**	
	PARTIAL	
	NOT USED	0

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

September 22, 2020
File No: 9M

	Balance
General Account	$2,016.77
Target East St. Paul	$260.00
	$2,276.77

Permit Application Coversheet

Date October 07, 2020

Project Name MnDOT Highway 61 Drainage Infrastructure Project Number 20-32

Applicant Name Bryce Fossand, MnDOT

Type of Development Drainage

Property Description

This project is located on Highway 61 from approximately County Road B to Arcade Street in the City of Maplewood. The applicant is proposing to repair and replace existing drainage infrastructure, including storm sewer pipes, culverts, and regrading drainage ditches. Sediment removal will also occur in the Keller Lake channel at 3 outlet locations. Where possible, the applicant has indicated they will install upstream BMPs to improve sediment capture prior to discharge into the lake. The total site area is 0.95 acre but triggers District Rule F for erosion and sediment control due to 1,000 square feet of disturbance adjacent to Keller Lake. The applicant has obtained a permit from the DNR for work in public waters.

Watershed District Policies or Standards Involved:

- ☐ *Wetlands*
- ☑ *Erosion and Sediment Control*
- ☐ *Stormwater Management*
- ☐ *Floodplain*

Water Quantity Considerations

There are no long term water quantity considerations.

Water Quality Considerations

Short Term

The proposed erosion and sediment control plan is sufficient to protect downstream water resources during construction.

Long Term

There are no long term water quality considerations.

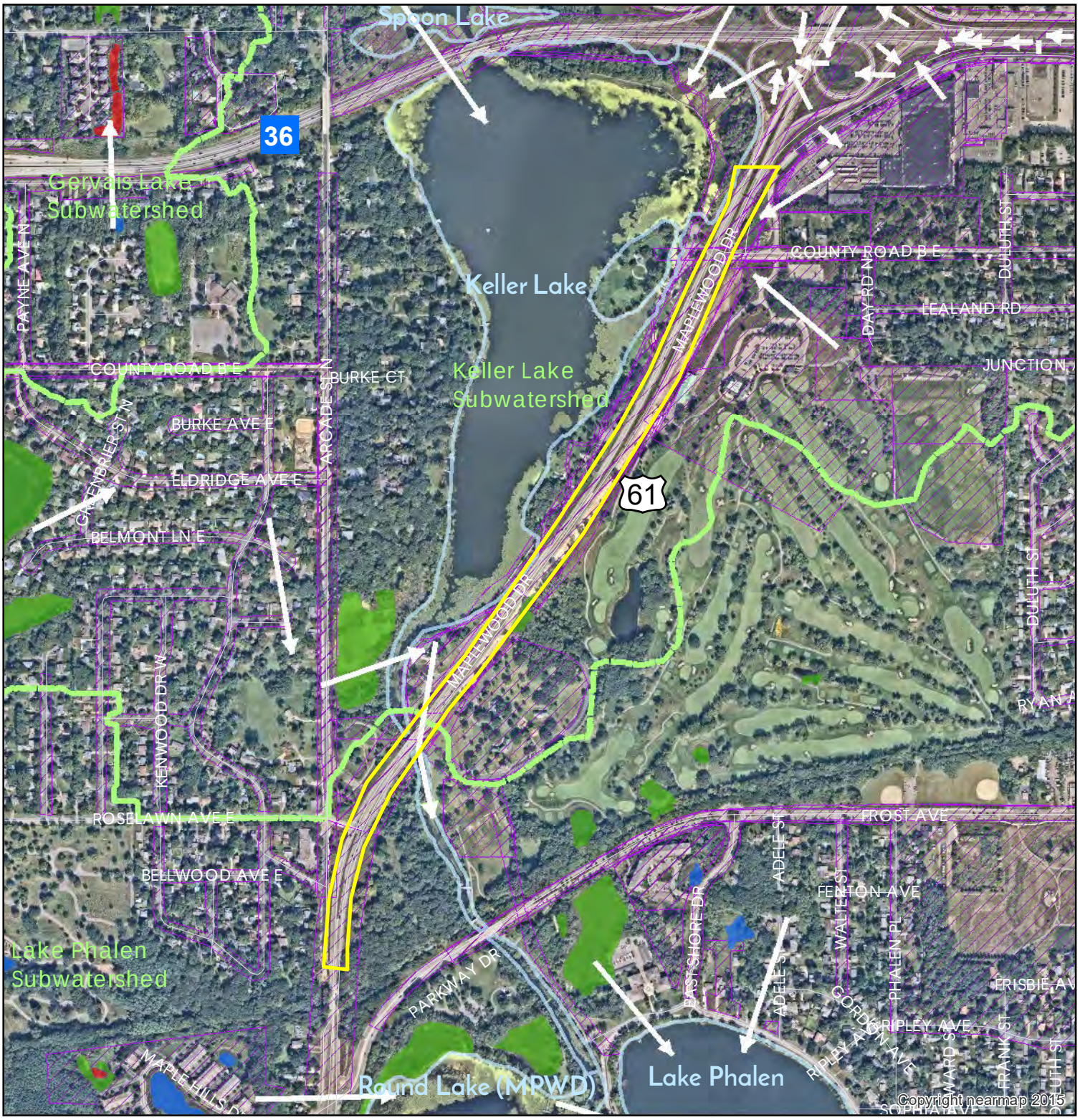
Staff Recommendation

Staff recommends approval of this permit with the special provisions.

Attachments:

- ☑ Project Location Map
- ☐ Project Grading Plan

#20-32 MnDOT Highway 61 Drainage Infrastructure



Wetlands
- Manage A
- Manage B
- Manage C
- Lake
- Sediment Pond
- Not Assessed

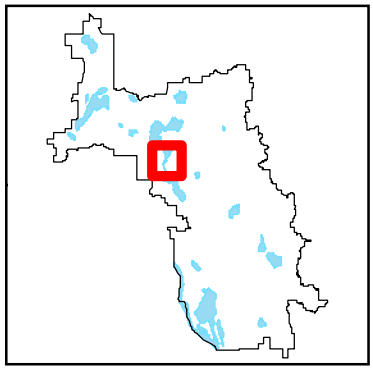
- RWMWD Boundary
- Flow Arrows
- Major Flow Arrows
- Subwatersheds
- Creeks
- Permits

Highlighted Areas Represent Active Permit

0 500 1,000
Feet

0 0.1 0.2
Miles

N



20-32

Special Provisions

1. The applicant shall submit the final, signed plans set.

2. The applicant shall submit contact information for the trained erosion control coordinator responsible for implementing the Stormwater Pollution Prevention Plan (SWPPP).

Permit Application Coversheet

Date October 07, 2020

Project Name The Parkway Project Number 20-36

Applicant Name , Parkway Limited Partnership

Type of Development Residential

Property Description

This project is located southeast of 7th Street East and Birmingham Street in the City of St. Paul. The applicant is proposing to construct a multifamily housing building with a parking lot and outdoor pavilion/play area. The total site area is 1.34 acres. Stormwater treatment requirements will be met through construction of an underground infiltration system. Pretreatment will include sumps with snouts to catch floatable debris.

Watershed District Policies or Standards Involved:

- ☐ *Wetlands*
- ☑ *Erosion and Sediment Control*
- ☑ *Stormwater Management*
- ☐ *Floodplain*

Water Quantity Considerations

The proposed stormwater management plan is sufficient to handle the runoff from the site.

Water Quality Considerations

Short Term

The proposed erosion and sediment control plan is sufficient to protect downstream water resources during construction.

Long Term

The proposed stormwater management plan is sufficient to protect the long term quality of downstream water resources.

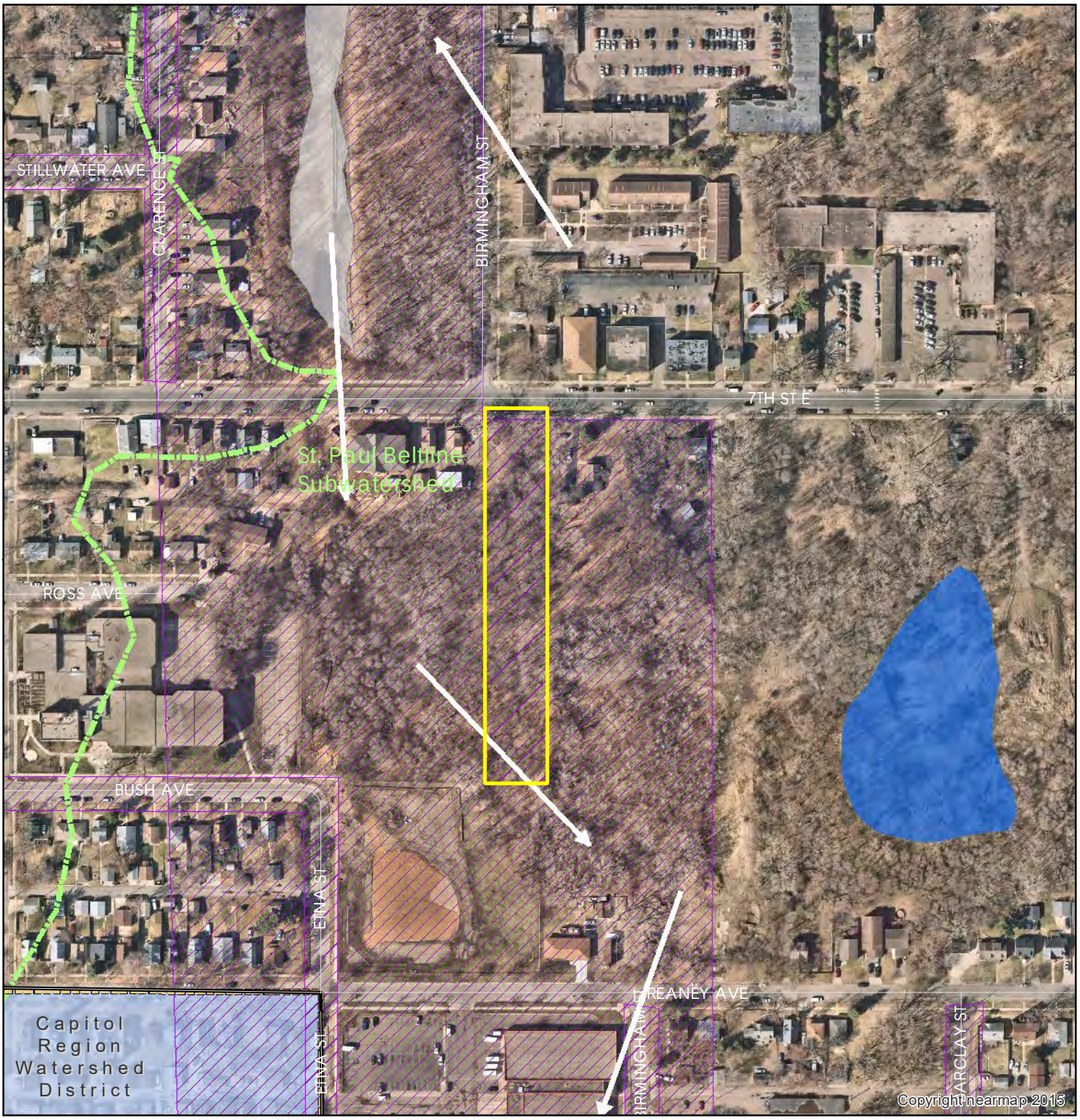
Staff Recommendation

Staff recommends approval of this permit with the special provisions.

Attachments:

- ☑ Project Location Map
- ☑ Project Grading Plan

#20-36 The Parkway



Note: Shaded area is outside RWMWD

Wetlands
- Manage A
- Manage B
- Manage C
- Lake
- Sediment Pond
- Not Assessed

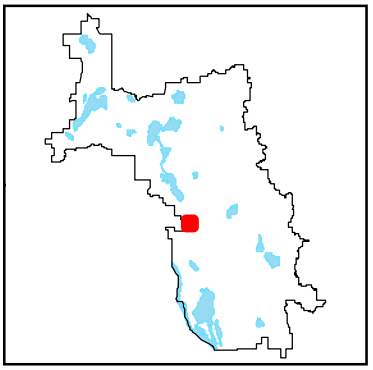
- RWMWD Boundary
- WMU
- Flow Arrows
- Major Flow Arrows
- Subwatersheds
- Creeks
- Permits

Highlighted Areas Represent Active Permit

0 150 300
Feet

0 0.0275 0.055
Miles

N



20-36

Special Provisions

1. The applicant shall submit the escrow fee of $6,700.

2. The applicant shall submit the final, signed plans set.

3. The applicant shall submit the signed stormwater maintenance agreement.

4. The applicant shall submit contact information for the trained erosion control coordinator responsible for implementing the Stormwater Pollution Prevention Plan (SWPPP).

5. The applicant shall submit a copy of the approved Minnesota Pollution Control Agency's NPDES Construction permit coverage for the project.

UTILITY NOTES:
1. COORDINATE SERVICE CONNECTION LOCATIONS AT THE BUILDING WITH THE MECHANICAL CONTRACTOR PRIOR TO CONSTRUCTION. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR UNCOORDINATED WORK.
2. COORDINATE UTILITY INSTALLATION WITH STRUCTURAL PRIOR TO START OF CONSTRUCTION. UTILITIES SHALL NOT BE INSTALLED WITHIN THE ZONE OF INFLUENCE OF ANY STRUCTURAL ELEMENTS. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR UNCOORDINATED WORK.
3. ALL SEWER SERVICE CONNECTIONS WITH LESS THEN 5 FEET OF COVER OVER THE TOP OF PIPE SHALL BE INSULATED. INSULATION SHALL BE INSTALLED FROM THE CONNECTION OF THE SERVICE AT THE BUILDING TO THE POINT WHICH THE SERVICE ATTAINS 5 FEET OF COVER. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM ARCHITECT OR ENGINEER PRIOR TO INSTALLATION OF INSULATION.
4. PROTECT ALL EXISTING STRUCTURES AND UTILITIES WHICH ARE NOT SCHEDULED TO BE REMOVED.
5. ALL SEWER AND WATER CROSSINGS SHALL HAVE A MINIMUM VERTICAL SEPARATION OF 1.5 FEET AND HORIZONTAL SEPARATION OF 10 FEET. FOLLOW ALL HEALTH DEPARTMENT AND CITY OF ST. PAUL AND RAMSEY COUNTY STANDARDS.
6. ALL WATER MAINS SHALL BE DUCTILE IRON PIPE, CLASS 52, UNLESS NOTED OTHERWISE.
7. ALL WATER MAIN SHALL HAVE A MINIMUM DEPTH OF COVER OF 7.5 FEET OVER TOP OF WATER MAIN.
8. PROVIDE THRUST BLOCKING ON ALL WATER MAIN PER CITY OF ST. PAUL. PROVIDE MECHANICAL JOINT RESTRAINTS ON ALL BENDS, VALVES, TEES, PLUGS AND HYDRANT LEADS.
9. SANITARY SEWER PIPING SHALL BE SCHD 40 PVC UNLESS NOTED OTHERWISE.
12. STORM SEWER PIPING SHALL BE SDR 26 POLY VINYL CHLORIDE (PVC), UNLESS NOTED OTHERWISE. ALL STORM SEWER PIPE THAT IS EXTENDED TO THE BUILDING FOR ROOF DRAIN SERVICES IS TO BE SCHEDULE 40 PVC. PVC PIPE AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF ASTM D3034 (ASTM D2665 FOR SCHEDULE 40)
13. CONTRACTORS SHALL COORDINATE ALL WORK WITH GAS, ELECTRIC, TELEVISION AND TELEPHONE COMPANIES PRIOR TO START OF CONSTRUCTION.
14. WHERE PROPOSED GRADE OVER EXISTING SMALL UTILITIES IS PROPOSED TO BE LOWERED, CONTRACTOR SHALL COORDINATE WITH UTILITY OWNER FOR THE LOWERING OF THE EXISTING UTILITY TO PROVIDE THE MINIMUM COVER REQUIRED.
15. ALL PORTIONS OF THE STORM SEWER SYSTEM LOCATED WITHIN 10-FEET OF THE BUILDING OR WATER SERVICE LINE SHALL BE TESTED IN ACCORDANCE WITH MN PLUMBING CODE.
16. ALL JOINTS AND CONNECTIONS IN THE STORM SEWER SYSTEM SHALL BE GAS TIGHT OR WATER TIGHT IN ACCORDANCE TO MN PLUMBING CODE. APPROVED RESILIENT RUBBER JOINTS MUST BE USED TO MAKE WATER TIGHT CONNECTIONS TO MANHOLES, CATCH BASINS, AND OTHER STRUCTURES. RESILIENT WATER-STOP GROUTING RINGS ARE AN ACCEPTABLE ALTERNATIVE. CEMENT MORTAR JOINTS ARE PERMITTED ONLY FOR REPAIRS AND CONNECTIONS OF EXISTING LINES CONSTRUCTED WITH SUCH JOINTS.
17. CONTRACTOR TO NOTIFY NICOLE SODERHOLM WITH THE RAMSEY-WASHINGTON METRO WATERSHED DISTRICT AT 651-792-7976 AT LEAST 48 HOURS PRIOR TO THE CONSTRUCTION OF ANY VOLUME REDUCING BMPS. (1)

KEYED NOTES

KEYED NOTES ARE DENOTED BY [NO] ON PLAN.

[1] CONTRACTOR SHALL INSTALL MANHOLE IN LINE WITH EXISTING 27-INCH PIPE. APPROXIMATE INVERT OF EXISTING PIPE IS 865.44. PRIOR TO INSTALLATION ON MANHOLE, CONTRACTOR SHALL CONTACT CIVIL ENGINEER WITH EXACT INVERT ELEVATION. FOLLOW ALL CITY OF SAINT PAUL STANDARDS AND SPECIFICATIONS.

[2] INSTALL 158-FEET OF 8-INCH PVC PIPE AT 2.00% TO INVERT OF 874.50. STUB TO WITHIN 5-FEET OF PROPOSED BUILDING. **COORDINATE EXACT LOCATION AND INVERT ELEVATION WITH MECHANICAL CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.**

[3] INSTALL 8-INCH WET TAP. FOLLOW ALL CITY OF SAINT PAUL STANDARDS AND SPECIFICATIONS.

[4] STUB 8-INCH COMBINED FIRE PROTECTION LINE AND DOMESTIC WATER SERVICE TO WITHIN 5-FEET OF PROPOSED BUILDING. FOLLOW ALL CITY OF SAINT PAUL STANDARDS AND SPECIFICATIONS.

[5] CORE DRILL EXISTING MANHOLE FOR PROPOSED PIPE CONNECTION. GROUT SEAL AROUND OPENING. FOLLOW ALL CITY OF SAINT PAUL STANDARDS AND SPECIFICATIONS.

[6] INSTALL INFILTRATION SYSTEM PER DETAIL 7/C400.1. INFILTRATION SYSTEM SHALL HAVE AN INFILTRATION VOLUME OF 4,674 CUBIC FEET A TOTAL VOLUME OF 11,819 CUBIC FEET, AND MEET THE RATE CONTROL REQUIREMENTS INDICATED ON SHEET C500.0. SYSTEM FOOTPRINT IS BASED ON HDPE PIPE DESIGN. ANY ALTERNATE DESIGNS MUST BE APPROVED BY CIVIL ENGINEER PRIOR TO CONSTRUCTION. **CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SEQUENCING TO MINIMIZE TRAFFIC OVER THE TOP OF THE INSTALLED SYSTEM. MINIMUM COVER OVER THE TOP OF THE PIPE IS 24-INCHES FOR HS-20 TRAFFIC LOADING.** (1)

[7] LOCATION OF PROPOSED ROOF DRAIN LEAD. REFER TO STORM SEWER TABLE FOR INVERT ELEVATIONS AND PIPE SIZES. **COORDINATE EXACT LOCATION AND INVERT ELEVATION WITH MECHANICAL CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.**

[8] INSTALL PERIMETER DRAIN TILE. REFER TO DETAIL 8/C400.1. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF CONNECTION TO BUILDING SUMP WITH MECHANICAL CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. PROVIDE SOLID PIPE AND WATER TIGHT CONNECTIONS TO 10-FEET OF EITHER SIDE OF ALL WATER CROSSINGS PER MN PLUMBING CODE.

[9] INSTALL DRAIN TILE CLEAN OUT. REFER TO DETAIL 2/C400.2.

[10] INSTALL SUMP CATCH BASIN WITH SNOUT, ENVIROHOOD OR APPROVED EQUAL. REFER TO DETAIL 5/C400.2.

[11] INSTALL OUTLET STRUCTURE MANHOLE. REFER TO DETAIL 14/C400.1. (1)

PROPOSED PLAN SYMBOLS

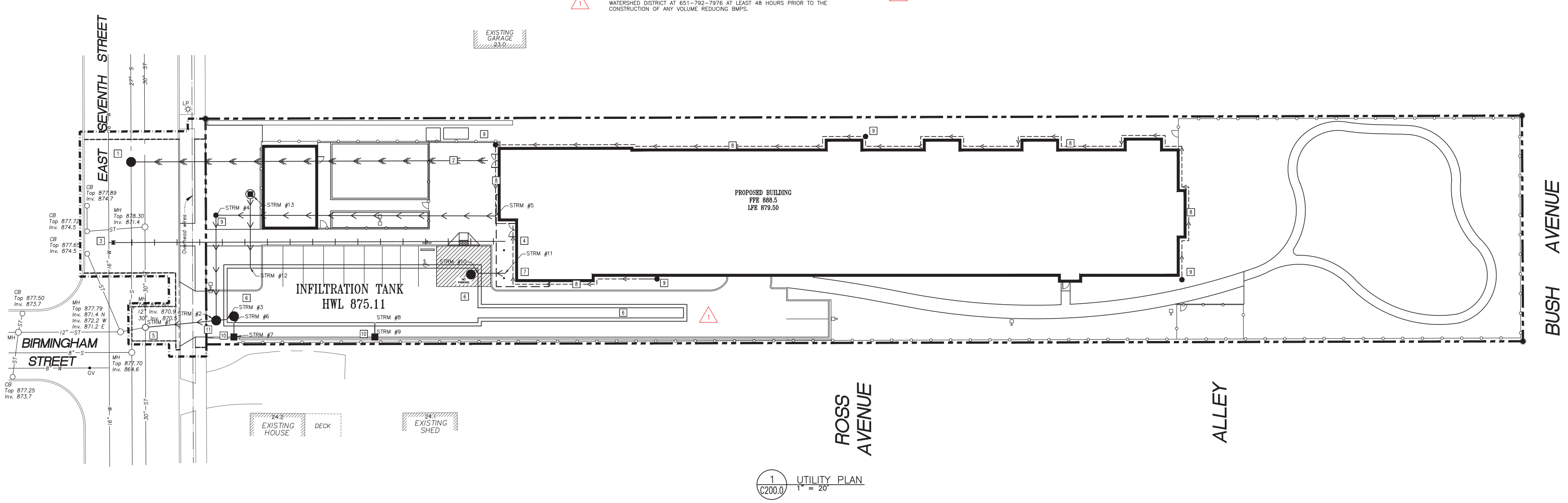
CONSTRUCTION LIMITS	
PROPERTY LINE	
SAWCUT LINE (APPROX.)	
SANITARY SEWER	
WATER PIPE	
DRAIN TILE	
STORM SEWER	
RETAINING WALL	
GATE VALVE	
CLEANOUT	
CATCH BASIN	
MANHOLE	

*NOTE: CONSTRUCTION LIMITS ARE ANTICIPATED TO BE PROPERTY LINE UNLESS OTHERWISE SHOWN.

ABBREVIATIONS

BLDG	Building
BM	Bench Mark
CB	Catch Basin
CONC	Concrete
DIP	Ductile Iron Pipe
ELEV	Elevation
EX	Existing
FFE	Finished Floor Elevation
HDPE	High Density Polyethylene
HWL	High Water Level
INV	Invert
MAX	Maximum
MH	Manhole
MIN	Minimum
PVC	Polyvinyl Chloride
RCP	Reinforced Concrete Pipe
RD	Roof Drain

UTILITY NOTES FOR WORK IN PUBLIC RIGHT-OF-WAY:
1. FOLLOW ALL CITY OF ST. PAUL AND RAMSEY COUNTY STANDARDS AND SPECIFICATIONS.
2. PRIOR TO CONSTRUCTION, CONTRACTORS ARE TO COORDINATE ALL WORK WITHIN RIGHT-OF-WAY AND OBTAIN ALL APPLICABLE PERMITS.



1 C200.0 UTILITY PLAN 1" = 20'

SAINT PAUL'S NOTES:
1. INSPECTION CONTACT: THE DEVELOPER SHALL CONTACT THE RIGHT OF WAY INSPECTOR JASON POMMER AT 651-485-0418 (ONE WEEK PRIOR TO BEGINNING WORK) TO DISCUSS TRAFFIC CONTROL, PEDESTRIAN SAFETY AND COORDINATION OF ALL WORK IN THE PUBLIC RIGHT OF WAY. NOTE: IF A ONE WEEK NOTICE IS NOT PROVIDED TO THE CITY, ANY RESULTING DELAYS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. AS PART OF THE RIGHT OF WAY PERMITTING PROCESS, TWO WEEKS BEFORE ANY WORK THAT IMPACTS THE RIGHT OF WAY IN ANY WAY THE DEVELOPER SHALL PROVIDE THE RIGHT OF WAY INSPECTOR THE NAME AND CONTACT INFORMATION OF THE CONSTRUCTION PROJECT MANAGER OR CONSTRUCTION SUPERINTENDENT. IF THIS INFORMATION IS NOT PROVIDED THERE MAY BE A DELAY IN OBTAINING PERMITS FOR THE WORK IN THE RIGHT OF WAY. SAID DELAYS WILL BE THE SOLE RESPONSIBILITY OF THE DEVELOPER.
2. SAFE WORK SITE REQUIREMENTS: THE CONTRACTOR SHALL PROVIDE A CONTINUOUS, ACCESSIBLE AND SAFE PEDESTRIAN WALKWAY THAT MEETS ADA AND MN MUTCD STANDARDS IF WORKING IN A SIDEWALK AREA, AND TRAFFIC CONTROL PER MN MUTCD REQUIREMENTS FOR WORK IN THE PUBLIC RIGHT OF WAY.
3. NO PRIVATE FACILITIES IN THE RIGHT OF WAY: THE DEVELOPER IS STRICTLY PROHIBITED FROM INSTALLING PRIVATE ELECTRICAL WIRING, CONDUIT, RECEPTACLES AND/OR LIGHTING IN THE CITY'S RIGHT OF WAY. THIS INCLUDES STUBBING CONDUIT OR CABLE INTO THE PUBLIC RIGHT OF WAY TO ACCOMMODATE UTILITY FEEDS TO THE SITE. COORDINATE WITH EACH UTILITY PRIOR TO CONSTRUCTION TO DETERMINE FEED POINTS INTO THE PROPERTY. UTILITIES ARE RESPONSIBLE FOR SECURING EXCAVATION PERMITS TO RUN THEIR SERVICE INTO A SITE, AND (WHERE REQUIRED) SUBMITTING PLANS FOR REVIEW BY THE PUBLIC WORKS UTILITY REVIEW COMMITTEE. THE CONTRACTOR SHALL CONTACT MIKE LUSIAN, GENERAL FOREMAN, LIGHTING-SIGNAL MAINTENANCE, (651-266-9780), IF REMOVAL OR RELOCATION OF EXISTING FACILITIES IS REQUIRED OR IN THE EVENT OF DAMAGE TO THE LIGHTING OR SIGNAL UTILITIES. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY (AND RELATED COSTS) FOR ANY DAMAGE OR RELOCATIONS. ACCESS TO SIGNAL CONTROLLER AND LIGHTING CABINETS MUST BE MAINTAINED AT ALL TIMES. IF FENCING IS REQUIRED FOR A JOB SITE, A KEY OR OTHER MEANS OF ACCESS MUST BE PROVIDED TO THE CITY OF ST. PAUL'S TRAFFIC OPERATIONS DEPARTMENT. CONTACT MIKE LUSIAN, GENERAL FOREMAN SIGNALS AND LIGHTING AT 651.266.9780 FOR MORE INFORMATION.
4. CITY OF ST. PAUL PERMIT REQUIREMENTS:
4.1. ORDERING OBSTRUCTION AND EXCAVATION PERMITS: CONTACT PUBLIC WORKS RIGHT OF WAY SERVICE DESK AT (651) 266-6151. IT IS STRONGLY RECOMMENDED THAT CONTRACTORS CALL FOR COST ESTIMATES PRIOR TO BIDDING TO OBTAIN ACCURATE COST ESTIMATES.
4.2. OBSTRUCTION PERMITS: THE CONTRACTOR MUST OBTAIN AN OBSTRUCTION PERMIT IF CONSTRUCTION (INCLUDING SILT FENCES) WILL BLOCK CITY STREETS, SIDEWALKS OR ALLEYS, OR IF DRIVING OVER CURBS.
4.3. EXCAVATION PERMITS: ALL DIGGING IN THE PUBLIC RIGHT OF WAY REQUIRES AN EXCAVATION PERMIT. IF THE PROPOSED BUILDING IS CLOSE TO THE RIGHT OF WAY, AND EXCAVATING INTO THE RIGHT OF WAY IS NEEDED TO FACILITATE CONSTRUCTION, CONTACT THE UTILITY INSPECTOR.
4.4. FAILURE TO SECURE PERMITS: FAILURE TO SECURE OBSTRUCTION PERMITS OR EXCAVATION PERMITS WILL RESULT IN A DOUBLE-PERMIT FEE AND OTHER FEES REQUIRED UNDER CITY OF ST. PAUL LEGISLATIVE CODES.
4.5. REQUIREMENTS TO WORK IN THE PUBLIC RIGHT OF WAY:
ALL UTILITIES AND CONTRACTORS WORKING IN THE PUBLIC RIGHT OF WAY MUST TO BE REGISTERED, INSURED AND BONDED, AS RECOGNIZED BY THE PUBLIC WORKS SERVICE DESK. (651-266-6151).
5. ALL WORK ON CURBS, DRIVEWAYS, AND SIDEWALKS WITHIN THE PUBLIC RIGHT OF WAY MUST BE DONE BY A LICENSED AND BONDED CONTRACTOR UNDER A PERMIT FROM PUBLIC WORKS SIDEWALK SECTION (651-266-6120). SIDEWALK GRADES MUST BE CARRIED ACROSS DRIVEWAYS.
6. RESTORATION OF ASPHALT AND CONCRETE PAVEMENTS ARE PERFORMED BY THE PUBLIC WORKS STREET MAINTENANCE DIVISION. THE CONTRACTOR IS RESPONSIBLE FOR PAYMENT TO THE CITY FOR THE COST OF THESE RESTORATIONS. THE CONTRACTOR SHALL CONTACT PUBLIC WORKS STREET MAINTENANCE TO SET UP A WORK ORDER PRIOR TO BEGINNING ANY REMOVALS IN THE STREET AT 651-292-6600. PROCEDURES AND UNIT COSTS ARE FOUND IN STREET MAINTENANCE'S "GENERAL REQUIREMENTS - ALL RESTORATIONS" AND ARE AVAILABLE AT THE PERMIT OFFICE.
7. SIGNING: SIGNS REGULATING PARKING AND/OR TRAFFIC ON PRIVATE PROPERTY (OUTSIDE OF THE PUBLIC RIGHT OF WAY "ROW") SHALL BE FURNISHED AND INSTALLED BY THE PROPERTY OWNER OR CONTRACTOR AT NO COST TO THE CITY OF SAINT PAUL DEPARTMENT OF PUBLIC WORKS. REMOVAL OF EXISTING SIGNS WITHIN THE PUBLIC ROW THAT REGULATE TRAFFIC AND OR PARKING SHALL BE COMPLETED BY THE CITY AT THE EXPENSE OF THE DEVELOPMENT. NEW SIGNS OR THE REINSTALLATION OF EXISTING SIGNS, AS APPROVED BY PUBLIC WORKS TRAFFIC ENGINEERING, REGULATING PARKING AND/OR TRAFFIC IN THE PUBLIC ROW SHALL BE FURNISHED AND INSTALLED BY THE CITY AT THE EXPENSE OF THE DEVELOPMENT. ALL EQUIPMENT, MATERIALS, AND LABOR COSTS ASSOCIATED WITH THE CITY AFFECTING A COMPLETE SIGN INSTALLATION SHALL BE THE RESPONSIBILITY OF THE DEVELOPMENT. CONTACT CHRIS GULDEN OF PUBLIC WORKS 651-266-9778 TWO WEEKS IN ADVANCE OF NEEDED SIGN WORK.
8. ABANDONING EXISTING SEWER SERVICE OR MAKING NEW CONNECTIONS TO CITY SEWER MUST BE DONE TO CITY STANDARDS BY A LICENSED HOUSE DRAIN CONTRACTOR UNDER A PERMIT FROM PUBLIC WORKS SEWER SECTION (651-266-6234).
9. ALL WATER MAIN AND SERVICES TO BE INSTALLED ACCORDING TO 'SPRWS STANDARDS FOR INSTALLATION OF WATER MAINS', AND "SPRWS WATER CODE".
10. ALL EXISTING WATER SERVICES NOT BEING REUSED MUST BE CUT-OFF AND ABANDONED PER SPRWS WATER CODE'.
11. THE CONTRACTOR SHALL CONTACT JOHN MCNAMARA, GENERAL FOREMAN, LIGHTING - SIGNAL MAINTENANCE, (651-266-9780), IF REMOVAL OR RELOCATION OF EXISTING FACILITIES IS REQUIRED OR IN THE EVENT OF DAMAGE TO THE LIGHTING OR SIGNAL UTILITIES. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY (AND RELATED COSTS) FOR ANY DAMAGE OR RELOCATIONS.
12. CONTRACTOR IS TO CONTACT ZACH JORGENSEN, CITY FORESTER (651-632-2437) PRIOR TO IMPACTING ANY BOULEVARD TREES.
13. BUSINESS SIGNS WILL REQUIRE A SEPARATE REVIEW AND SIGN PERMIT FROM THE DEPARTMENT OF SAFETY AND INSPECTIONS. SITE PLAN APPROVAL DOES NOT CONSTITUTE APPROVAL OF BUSINESS SIGNS SHOWN ON THE SITE PLAN. CONTACT YAYA DIATTA OF DSI ZONING (651-266-9080) IF YOU HAVE ANY QUESTIONS ABOUT SIGNS.
14. CARE MUST BE TAKEN DURING CONSTRUCTION AND EXCAVATION TO PROTECT ANY SURVEY MONUMENTS AND/OR PROPERTY IRONS. CALL SAM GIBSON OF PUBLIC WORKS SURVEYING (651-266-6075) IF YOU HAVE ANY QUESTIONS.
15. AS PER THE CITY'S "STANDARD SPECIFICATION FOR STREET OPENINGS" POLICY, RESTORATION ON ROADWAY SURFACES LESS THAN 5 YEARS OLD WILL REQUIRE FULL WIDTH MILL AND OVERLAY OR ADDITIONAL DEGRADATION FEES. PAVEMENT RESTORATION SHALL BE COMPLETED BY THE ST. PAUL PUBLIC WORKS STREET MAINTENANCE DIVISION. ALL RELATED COSTS ARE THE RESPONSIBILITY OF THE DEVELOPER/CONTRACTOR. CONTACT KEVIN NELSON AT 651-292-6600 FOR ESTIMATE OF COSTS FOR PAVEMENT RESTORATION.
16. PIPE MUST BE MECHANICAL JOINT UNDERNEATH THE BUILDING FOOTPRINT AND UP TO TEN FEET OUTSIDE OF THE BUILDING FOOTPRINT.
17. WATER SERVICES TO BE INSTALLED ACCORDING TO SPRWS (STANDARDS FOR THE INSTALLATION OF WATER MAINS).

17. WATER SERVICES TO BE INSTALLED ACCORDING TO SPRWS (STANDARDS FOR THE INSTALLATION OF WATER MAINS).
18. A FOUR-SIDED TRENCH BOX IS REQUIRED ON ALL EXCAVATIONS DEEPER THAN 5 FEET WHERE UNDERGROUND WORK OR INSPECTION IS TO BE PERFORMED BY SPRWS. FOR ALL WET TAPS TO BE PERFORMED BY SPRWS, A MINIMUM TRENCH BOX SIZE OF 8 FEET HIGH X 8 FEET WIDE X 10 FEET LONG IS REQUIRED. LADDERS ARE REQUIRED AND MUST EXTEND 3 FEET ABOVE THE SURFACE OF THE TRENCH. SIDEWALKS, PAVEMENTS, DUCTS, AND APPURTENANT STRUCTURE SHALL NOT BE UNDERMINED UNLESS A SUPPORT SYSTEM OR ANOTHER METHOD OF PROTECTION IS PROVIDED. TRENCHES IN EXCESS OF 20 FEET IN DEPTH MUST BE SIGNED OFF BY A REGISTERED PROFESSIONAL ENGINEER. EXCAVATED MATERIAL MUST BE KEPT A MINIMUM OF 2 FEET FROM THE EDGE OF THE TRENCH.
19. SERVICE CONNECTIONS SHALL BE INSTALLED WITH 8 FEET OF COVER AS PER THE ESTABLISHED GRADE FROM THE MAIN TO THE PROPERTY LINE OF, IF APPLICABLE THE UTILITY EASEMENT LINE. WHEN SOLID ROCK CONDITIONS ARE ENCOUNTERED, WATER SERVICES MAY BE INSTALLED WITH 6.5 FEET OF COVER. AT THIS DEPTH, THE NEED FOR INSULATION WILL BE DETERMINED BY SPRWS INSPECTORS.
20. ALL PIPE 2 INCHES AND SMALLER MUST BE TYPE K COPPER. ALL PIPE 4 INCHES AND LARGER MUST BE DUCTILE IRON. PIPE MATERIAL FOR 8" DUCTILE IRON PIPE MUST BE CLASS 52, PIPE MATERIAL FOR 6" AND 4" DUCTILE IRON PIPE MUST BE CLASS 53. THE EXTERIOR OF THE DUCTILE IRON PIPE SHALL BE COATED WITH A LAYER OF ARC-SPRAYED ZINC PER ISO 8179. THE INTERIOR CEMENT MORTAR LINING SHALL BE APPLIED WITHOUT ASPHALT SEAL COAT. PIPE MUST BE WRAPPED IN V-BIO POLYWRAP ENCASEMENT.
21. MAINTAIN 3 FEET VERTICAL SEPARATION BETWEEN WATER AND SEWER PIPES OR A 12-INCH SEPARATION WITH 4-INCH HIGH DENSITY INSULATION PER SPRWS STANDARD PLATE D-10 FOR TYPICAL WATER MAIN OFFSETS.
22. WATER FACILITY PIPE WORK WITHIN RIGHT OF WAY TO BE INSTALLED BY SPRWS. EXCAVATION AND RESTORATION BY OWNER'S CONTRACTOR.
23. THE CONTRACTOR PROVIDING EXCAVATING IS RESPONSIBLE FOR OBTAINING ALL EXCAVATION AND OBSTRUCTION PERMITS REQUIRED BY ANY GOVERNING AUTHORITY.
24. REFER TO SPRWS "STANDARDS FOR THE INSTALLATION OF WATER MAINS" STANDARD PLATE D-11 FOR RESTRAINED PIPE REQUIREMENT.
25. ALL WATER SERVICE VALVE BOXES WITHIN CONSTRUCTION AREA MUST BE EXPOSED AND BROUGHT TO GRADE UPON COMPLETION OF CONSTRUCTION.
26. ALL PIPE WORK INSIDE OF PROPERTY TO BE PERFORMED BY A PLUMBER LICENSED BY THE STATE OF MINNESOTA AND CERTIFIED BY THE CITY OF SAINT PAUL. SPRWS REQUIRES SEPARATE OUTSIDE AND INSIDE PLUMBING PERMITS FOR EACH NEW WATER SERVICE. ALL UNUSED EXISTING WATER SERVICES TO BE CUT OFF BY SPRWS AT THE MAIN. EXCAVATION AND RESTORATION BY OWNER'S CONTRACTOR. NEW WATER SERVICES WILL NOT BE TURNED ON UNTIL REQUIRED CUTOFFS HAVE BEEN PERFORMED. WATER FACILITY PIPE WORK WITHIN RIGHT OF WAY TO BE INSTALLED BY SPRWS. EXCAVATION AND RESTORATION BY OWNER'S CONTRACTOR. THE CONTRACTOR PROVIDING EXCAVATION IS RESPONSIBLE FOR OBTAINING ALL EXCAVATION AND OBSTRUCTION PERMITS REQUIRED BY ANY GOVERNING AUTHORITY.
27. ENCROACHMENTS: PER CHAPTER 134 OF THE LEGISLATIVE CODE, NO PERSON SHALL CONSTRUCT AND MAINTAIN ANY PROJECTION OR ENCROACHMENT WITHIN THE PUBLIC RIGHT-OF-WAY. CONSTRUCTION OF THE DEVELOPMENT THAT NECESSITATES TEMPORARY USE OF THE RIGHT-OF-WAY (ROW) FOR CONSTRUCTION PURPOSES SHALL BE LIMITED TO EQUIPMENT, PERSONNEL, DEVICES AND APPURTENANCES THAT ARE REMOVABLE FOLLOWING CONSTRUCTION. ENCROACHMENT PERMITS WILL NOT BE GRANTED FOR DEVICES SUCH AS TIE BACKS, ROCK BOLTS, H-PILES, LAGGING, TIMBERS, SHEET PILING, ETC. THAT THE OWNER IS SEEKING TO ABANDON IN THE ROW. SECTION 3201.3 OF THE MINNESOTA BUILDING CODE DEFERS FINAL AUTHORITY OF ENCROACHMENTS INTO PUBLIC RIGHTS-OF-WAY/PUBLIC PROPERTY TO THE LOCAL AUTHORITY. CITY LEGISLATIVE CODE GOVERNS MANAGEMENT OF THE PUBLIC RIGHTS-OF-WAY. PROVIDED SUCH INSTALLATIONS ARE APPROVED BY PUBLIC WORKS, FOOTINGS MAY BE ALLOWED TO ENCROACH INTO CITY ROW NO MORE THAN TWELVE (12) INCHES AT DEPTHS BELOW EIGHT (8) FEET AS PROVIDED FOR IN MINNESOTA BUILDING CODE SECTION 3202.1. SAID ENCROACHMENTS WOULD REQUIRE AN ENCROACHMENT PERMIT FROM THE CITY PER CHAPTER 134 OF THE LEGISLATIVE CODE. ENCROACHMENTS INTO COUNTY OR STATE ROW ARE NOT ALLOWED UNLESS AUTHORIZATION HAS BEEN GRANTED FROM SAID AGENCY. ENCROACHMENTS INSTALLED IN THE ROW WITHOUT AUTHORIZATION WILL BE REMOVED AT NO EXPENSE TO THE CITY/COUNTY/STATE.
28. STREET SWEEPING: STREET SWEEPING IS AN IMPORTANT TEMPORARY EROSION CONTROL BEST MANAGEMENT PRACTICE AND SHALL BE PERFORMED WITH THE USE OF WATER. DRY SWEEPING IS PROHIBITED. ADDITIONALLY, TRUCKS HAULING IN AND OUT OF THE SITE, FOR ANY ACTIVITY INCLUDING BUT NOT NECESSARILY LIMITED TO PAVING, EXCAVATION, ETC., NEEDS TO ENSURE CLEAN OFF ALL MUD FLAPS TO AVOID ANY BUILDUP ON THE STREET PAVEMENT.
29. MISCELLANEOUS: ANY PUBLIC INFRASTRUCTURE DAMAGE RESULTING FROM THE CONTRACTORS ACTIVITIES, INCIDENTAL OR OTHERWISE, SHALL BE REPAIRED/REPLACED TO THE SATISFACTION OF THE CITY AT NO COST TO THE CITY.
30. ROADWAY RESTORATION: AS PER THE CITY'S "STANDARD SPECIFICATION FOR STREET OPENINGS" POLICY, RESTORATION ON ROADWAY SURFACES LESS THAN 5 YEARS OLD WILL REQUIRE FULL WIDTH MILL AND OVERLAY OR ADDITIONAL DEGRADATION FEES. DEGRADATION FEES ARE DETERMINED BY CONTACTING THE RIGHT OF WAY SERVICE DESK AT (651) 266-6151. PAVEMENT RESTORATION SHALL BE COMPLETED BY THE ST. PAUL PUBLIC WORKS STREET MAINTENANCE DIVISION. ALL RELATED COSTS ARE THE RESPONSIBILITY OF THE DEVELOPER/CONTRACTOR. CONTACT STREET MAINTENANCE AT (651) 292-6600 FOR ESTIMATE OF COSTS FOR PAVEMENT RESTORATION.
31. CONTRACTOR TO OBTAIN PUBLIC WORKS ORDINANCE PERMIT FROM JARY LEE FOR PUBLIC STORM AND SANITARY SEWERS.
32. CONTRACTOR TO SUBMIT SANITARY SEWER TEMPORARY CONVEYANCE WORKPLAN TO ENGINEER OF RECORD AND SAINT PAUL PUBLIC WORKS DEPARTMENT.
33. SEWER REPAIR PERMIT: PLUMBING CONTRACTOR TO OBTAIN "REPAIR PERMITS" FROM SAINT PAUL PUBLIC WORKS DEPARTMENT FOR PROPOSED MODIFICATION TO THE EXISTING STORM SEWER CONNECTIONS. CALL ST PAUL PUBLIC WORKS PERMIT DESK 651-266-6234 FOR INFORMATION ON OBTAINING THIS PERMIT.
34. SEWER REMOVAL/ABANDONMENT PERMIT FOR: A99930, A99936, A99927, A61245. PLUMBING CONTRACTOR TO OBTAIN "REMOVAL PERMITS" FROM PUBLIC WORKS TO CUT OFF EXISTING SEWER CONNECTIONS TO THE PROPERTY. CALL ST PAUL PUBLIC WORKS PERMIT DESK 651-226-6234 FOR INFORMATION ON OBTAINING THIS PERMIT.
35. SEWER CONNECTION PERMIT: LICENSED HOUSE DRAIN CONTRACTOR TO OBTAIN (SEWER CONNECTION PERMIT) TO CONSTRUCT NEW SANITARY AND STORM CONNECTION IN STREET FROM MAIN TO PROPERTY. CALL SAINT PAUL PUBLIC WORKS PERMIT DESK 651-266-6234 FOR INFORMATION ON OBTAINING THIS PERMIT.
36. ALL PRIMARY ROOD DRAINS SHALL BE CONNECTED TO THE STORM SEWER. MPC 4714.1101.1.
37. SECONDARY ROOF DRAINAGE SHALL DRAIN TO AN APPROVED PLACE OF DISPOSAL IN THE FORM OR SCUPPERS (IF THE ROOF IS LESS THAN 25 FEET) OR SECONDARY ROOF DRAINS (IF THE ROOF IS OVER 25 FEET) AND INSTALLED PER MPC 4714.1101 & 1102, AND MINNESOTA STATE BUILDING CODE 1503.4 1-5.
38. CONSTRUCTION SUPPLIES, MATERIALS, SPOILS, EQUIPMENT, AND VEHICLES SHALL NOT BE STORED OR OPERATED WITHIN THE DRIP LINE OF ANY PUBLIC STREET TREE OR ON TURF BOULEVARDS WITHOUT PRIOR WRITTEN APPROVAL FROM THE CITY FORESTER. IF THE BOULEVARD MUST BE USED FOR CONSTRUCTION ACTIVITIES, SITE ACCESS ROUTES, MATERIAL STORAGE OR OTHER RELATED ACTIVITIES, PROTECTIVE MEASURES APPROVED BY THE CITY FORESTER SHALL BE TAKEN TO REDUCE SOIL COMPACTION AND PROTECT TREE(S) FROM DAMAGE.
39. CONTRACTOR TO MAINTAIN ACCESS TO THE FIRE DEPARTMENT CONNECTION FOR FIRE DEPARTMENT PERSONNEL AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
40. A STANDPIPE (TEMPORARY OR PERMANENT) IS REQUIRED DURING CONSTRUCTION ONCE THE PROJECT HAS EXCEEDED 40 FEET ABOVE FIRE DEPARTMENT VEHICLE ACCESS.
41. IF THE PROPOSED STORM PIPE HAS LESS THAN 2% SLOPE, LASER EQUIPMENT IS REQUIRED.
42. SEWER CONNECTION PERMIT: LICENSE HOUSE DRAIN CONTRACTOR TO OBTAIN (SEWER CONNECTION PERMIT) TO CONSTRUCT NEW SANITARY AND STORM CONNECTION IN STREET FROM MAIN TO THE PROPERTY. CALL ST PAUL PW PERMIT DESK (651-266-6234) FOR INFORMATION ON OBTAINING THIS PERMIT.
43. IF THE EXISTING MANHOLE FOR THE PROPOSED SANITARY SERVICE CONNECTION IS A BRICK CONSTRUCTION, RECONSTRUCTION OF THE MANHOLE ACCESS MAY BE REQUIRED, REFER TO ST. PAUL DETAIL (2322F) FOR MANHOLE RECONSTRUCTION. (2)
44. A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) AND/OR A TEMPORARY TRAFFIC CONTROL (TTC) PLAN MAY BE REQUIRED AS PART OF THE RIGHT-OF-WAY (ROW) PERMITTING PROCESS. SAID TTC OR TPAR PLANS MUST BE APPROVED BY THE CITY PRIOR TO THE ROW PERMITTING OFFICE ISSUING A PERMIT.
45. BOULEVARD RESTORATION SHALL INCLUDE THE FOLLOWING: ALL CONCRETE, ASPHALT, AND BASE MATERIAL S SHALL BE REMOVED FROM THE BOULEVARD AREA. BOULEVARD SOILS ARE TO BE PROTECTED DURING CONSTRUCTION. SOIL COMPACTED DUE TO CONSTRUCTION ACTIVITIES SHALL BE CORRECTED TO THE SATISFACTION OF AND AT NO COST, TO THE CITY PRIOR TO FINAL GRADING. BOULEVARDS SHALL BE RESTORED WITH A MINIMUM OF 6 INCHES OF TOPSOIL.

STORM SEWER TABLE (1)

STRUCTURE ID	STRUCTURE DIMENSION (INCHES)	NEENAH CASTING TYPE	RIM ELEVATION	INVERT ELEVATION(S)	PIPE LENGTH, DIAMETER, SLOPE & NEXT UPSTREAM STRUCTURE
STRM #1	EX	EX	877.80	E = 872.00	32 L.F. OF 12" PVC @ 0.89%, STRM #2
STRM #2	48" MH	R-1733	878.30	W = 872.28 E = 872.28 N = 873.79	--------- 5 L.F. OF 8" PVC @ 3.59%, STRM #3 (2) 47 L.F. OF 4" PVC @ 1.01%, STRM #4
STRM #3	TANK CONNECTION	NA		W = 872.45	---------
STRM #4	4" CLEANOUT	SEE DETAIL 5/C400.3		S = 874.26 E = 874.26	--------- 124 L.F. OF 4" PVC @ 1.00%, STRM #5
STRM #5	DRAINTILE CONNECTION	NA		W = 875.50	---------
STRM #6	TANK CONNECTION	NA		S = 873.50	6 L.F. OF 12" PVC @ 0.94%, STRM #7
STRM #7	48" SUMP MH	R-3067	878.11	N = 873.56	---------
STRM #8	TANK CONNECTION	NA		S = 873.50	6 L.F. OF 12" PVC @ 0.94%, STRM #9
STRM #9	48" SUMP MH	R-3067	878.00	N = 873.56	---------
STRM #10	TANK CONNECTION	NA		E = 873.50	12 L.F. OF 10" PVC @ 0.99%, STRM #11
STRM #11	ROOF CONNECTION	NA		W = 873.62	---------
STRM #12	TANK CONNECTION	NA		N = 871.17	33 L.F. OF 12" PVC @ 1.01%, STRM #13
STRM #13	27" CB	R-2535	874.50	S = 871.50	---------

JB VANG

THE PARKWAY
7th Steet E
St. Paul, MN

URBANWORKS

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901 NORTH THIRD STREET, SUITE 145, MINNEAPOLIS, MN 55401

CONSULTANT
BKBM ENGINEERS
6120 Earle Brown Drive, Suite 700
Minneapolis, MN 55430-2518
Phone: (763) 843-0420
Fax: (763) 843-0421
www.bkbm.com

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the law of the state of Minnesota.

SIGNED KEITH MATTE
DATE 09/09/2020
LICENSE # 46674

REVISIONS
1 Watershed Resubmittal 09/24/2020
2 Watershed Resubmittal 09/28/2020

DATE 9/9/2020
PROJECT # 20-0004
PHASE DD / GMP
DRAWN BY WH
CHECKED BY NPA

UTILITY PLAN

C200.0

Permit Application Coversheet

Date October 07, 2020

Project Name Maplewood Living Project Number 20-37

Applicant Name Matt Frisbie, EF Maplewood, LLC

Type of Development Residential

Property Description

This project is located southwest of County Road C East and Maplewood Drive in the City of Maplewood. The applicant is proposing to construct a residential building with associated surface and underground parking, utilities, and landscaping. The total site area is 2.52 acres. Stormwater treatment requirements will be met through construction of an iron-enhanced filtration basin, infiltration swales, and an underground detention system. Filtration is being proposed on the south end of the site due to poor soils and high groundwater. Pretreatment will include vegetated swales, sumps, and SAFL baffles. A wetland delineation was approved on 12/4/19 (#19-22 WCA). There are no anticipated wetland or buffer impacts.

Watershed District Policies or Standards Involved:

- [x] *Wetlands*
- [x] *Erosion and Sediment Control*
- [x] *Stormwater Management*
- [ ] *Floodplain*

Water Quantity Considerations

The proposed stormwater management plan is sufficient to handle the runoff from the site.

Water Quality Considerations

Short Term

The proposed erosion and sediment control plan is sufficient to protect downstream water resources during construction.

Long Term

The proposed stormwater management plan is sufficient to protect the long term quality of downstream water resources.

Staff Recommendation

Staff recommends approval of this permit with the special provisions.

Attachments:

- [x] Project Location Map
- [x] Project Grading Plan

#20-37 Maplewood Living

Wetlands
- Manage A
- Manage B
- Manage C
- Lake
- Sediment Pond
- Not Assessed

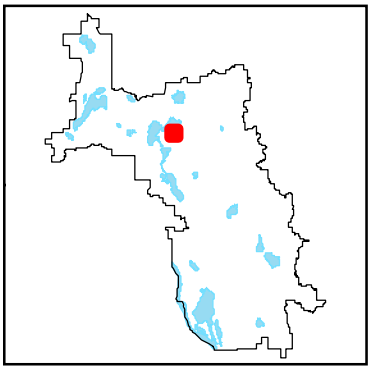
- RWMWD Boundary
- Flow Arrows
- Major Flow Arrows
- Subwatersheds
- Creeks
- Permits
- Ramsey Co Parcels

Highlighted Areas Represent Active Permit

0 150 300
Feet

0 0.03 0.06
Miles

N



20-37

Special Provisions

1. The applicant shall submit the escrow fee of $12,600.

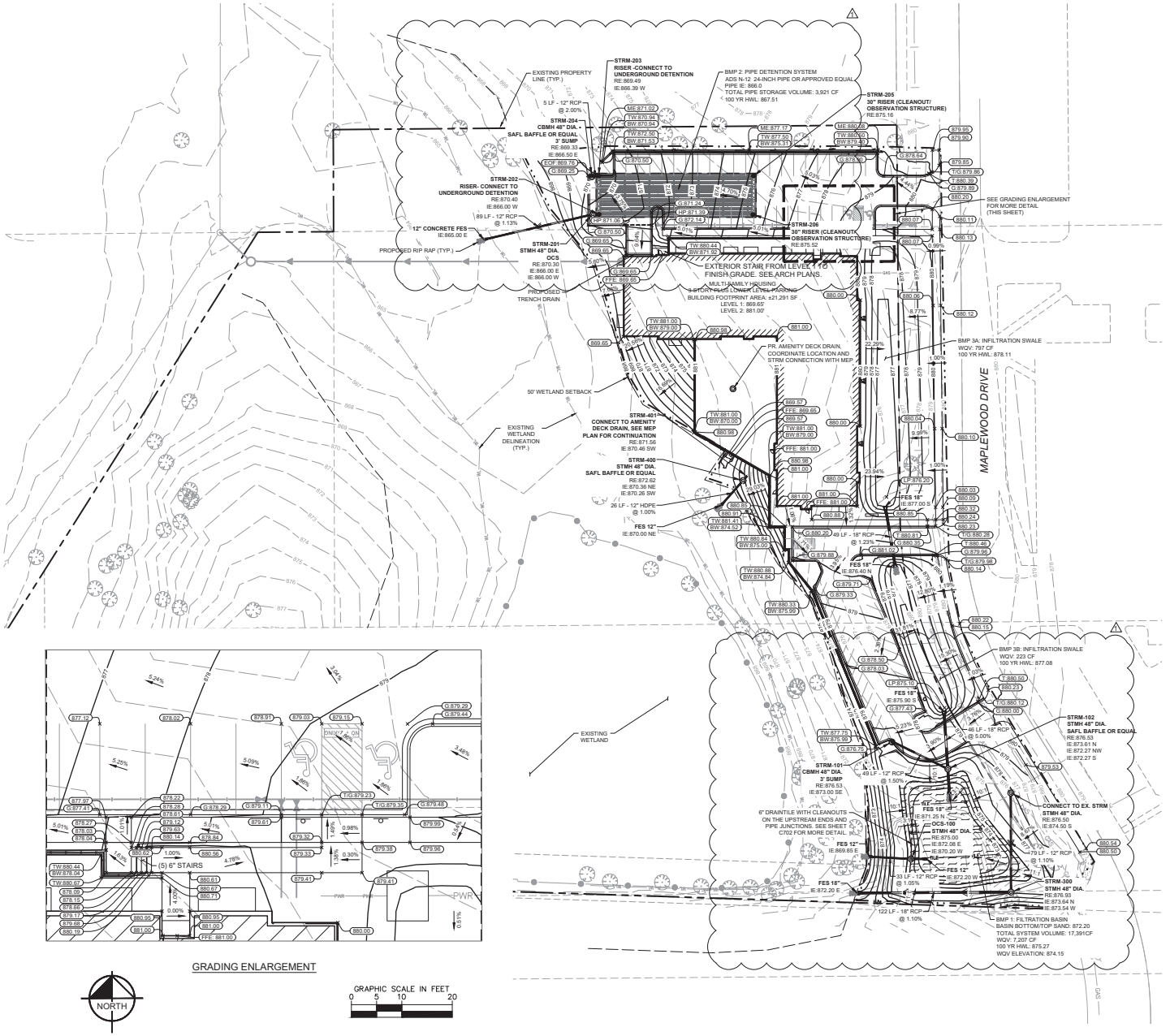
2. The applicant shall submit the final, signed plans set.

3. The applicant shall submit the executed joint stormwater maintenance agreement with the City of Maplewood.

4. The applicant shall submit the draft, site-specific Best Management Practices (BMP) Operations & Maintenance Plan. A final, as-built O&M Plan will be requested prior to permit closure.

5. The applicant shall submit contact information for the trained erosion control coordinator responsible for implementing the Stormwater Pollution Prevention Plan (SWPPP).

6. The applicant shall submit a copy of the Minnesota Pollution Control Agency's NPDES Construction Permit coverage for the project.



LEGEND

- PROPERTY LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED STORM MANHOLE (SOLID CASTING)
- PROPOSED STORM MANHOLE/ CATCH BASIN (CURB INLET CASTING)
- PROPOSED FLARED END SECTION
- PROPOSED RIPRAP
- PROPOSED STORM SEWER
- PROPOSED STORM SEWER
- PROPOSED SPOT ELEVATION
- PROPOSED HIGH POINT ELEVATION
- PROPOSED LOW POINT ELEVATION
- PROPOSED GUTTER ELEVATION
- PROPOSED TOP OF CURB ELEVATION
- PROPOSED FLUSH PAVEMENT ELEVATION
- MATCH EXISTING ELEVATION
- PROPOSED EMERGENCY OVERFLOW
- PROPOSED DRAINAGE DIRECTION
- PROPOSED ADA SLOPE

GRADING PLAN NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF MAPLEWOOD, SPECIFICATIONS AND BUILDING PERMIT REQUIREMENTS.
2. CONTRACTOR TO CALL GOPHER STATE CALL ONE @ <1-800-252-1166> AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION/CONSTRUCTION FOR UTILITY LOCATIONS.
3. STORM SEWER PIPE SHALL BE AS FOLLOWS:
   RCP PER ASTM C-76
   HDPE: 0" - 10" PER AASHTO M-252
   HDPE: 12" OR GREATER PER ASTM F-2306
   PVC SCH. 40 PER ASTM D-3034
   STORM SEWER FITTINGS SHALL BE AS FOLLOWS:
   RCP PER ASTM C-76, JOINTS PER ASTM C-361, C-990, AND C-443
   HDPE PER ASTM 3212
   PVC PER ASTM D-3034, JOINTS PER ASTM D-3212
4. CONTRACTOR TO FIELD VERIFY THE LOCATIONS AND ELEVATIONS OR EXISTING UTILITIES AND TOPOGRAPHIC FEATURES PRIOR TO THE START OF SITE GRADING. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER OF ANY DISCREPANCIES OR VARIATIONS.
5. SUBGRADE EXCAVATION SHALL BE BACKFILLED IMMEDIATELY AFTER EXCAVATION TO HELP OFFSET ANY STABILITY PROBLEMS DUE TO WATER SEEPAGE OR STEEP SLOPES. WHEN PLACING NEW SURFACE MATERIAL ADJACENT TO EXISTING PAVEMENT, THE EXCAVATION SHALL BE BACKFILLED PROMPTLY TO AVOID UNDERMINING OF EXISTING PAVEMENT.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL HORIZONTAL AND VERTICAL CONTROL.
7. CONTRACTOR SHALL EXCAVATE DRAINAGE TRENCHES TO FOLLOW PROPOSED STORM SEWER ALIGNMENTS.
8. GRADES SHOWN ARE FINISHED GRADES. CONTRACTOR SHALL ROUGH GRADE TO SUBGRADE ELEVATION AND LEAVE STREET READY FOR SUBBASE.
9. ALL EXCESS MATERIAL, BITUMINOUS SURFACING, CONCRETE ITEMS, ANY ABANDONED UTILITY ITEMS, AND OTHER UNSTABLE MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF THE CONSTRUCTION SITE.
10. REFER TO THE UTILITY PLAN FOR SANITARY SEWER MAIN, WATER MAIN SERVICE LAYOUT AND ELEVATIONS AND CASTING / STRUCTURE NOTATION.
11. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF PAVEMENTS AND CURB AND GUTTER WITH SMOOTH UNIFORM SLOPES TO PROVIDE POSITIVE DRAINAGE.
12. INSTALL A MINIMUM OF 4" CLASS 5 AGGREGATE BASE UNDER CURB AND GUTTER AND CONCRETE SIDEWALKS.
13. UPON COMPLETION OF EXCAVATION AND FILLING, CONTRACTOR SHALL RESTORE ALL STREETS AND DISTURBED AREAS ON SITE. ALL DISTURBED AREAS SHALL BE RE-VEGETATED WITH A MINIMUM OF 4" OF TOPSOIL.
14. ALL SPOT ELEVATIONS/CONTOURS ARE TO GUTTER / FLOW LINE UNLESS OTHERWISE NOTED.
15. GRADING FOR ALL SIDEWALKS AND ACCESSIBLE ROUTES INCLUDING CROSSING DRIVEWAYS SHALL CONFORM TO CURRENT ADA STATE/NATIONAL STANDARDS. IN NO CASE SHALL ACCESSIBLE RAMP SLOPES EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPES EXCEED 2%. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPES EXCEED 5%. IN NO CASE SHALL ACCESSIBLE PARKING STALLS OR AISLES EXCEED 2% (1.5% TARGET) IN ALL DIRECTIONS. SIDEWALK ACCESS TO EXTERNAL BUILDING DOORS AND GATES SHALL BE ADA COMPLIANT. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF ADA CRITERIA CANNOT BE MET IN ANY LOCATION PRIOR TO PAVING. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR A.D.A COMPLIANCE ISSUES.
16. MAINTAIN A MINIMUM OF 0.5% GUTTER SLOPE TOWARDS LOW POINTS.
17. CONTRACTOR TO PROVIDE 3" INSULATION BY 5' WIDE CENTERED ON STORM PIPE IF LESS THAN 4' OF COVER IN PAVEMENT AREAS AND LESS THAN 3' OF COVER IN LANDSCAPE AREAS.
18. ROOF DRAIN INVERT CONNECTIONS AT THE BUILDING SHALL BE AT ELEVATION 875.00 OR LOWER UNLESS NOTED OTHERWISE. REFERENCE MEP PLANS FOR ROOF DRAIN CONNECTION.
19. ALL STORM SEWER CONNECTIONS SHALL BE GASKETED AND WATER TIGHT INCLUDING MANHOLE CONNECTIONS.
20. ALL STORM SEWER PIPE SHALL BE AIR TESTED IN ACCORDANCE WITH THE CURRENT PLUMBING CODE.
21. MAINTAIN A MINIMUM OF 1.25% SLOPE IN BITUMINOUS PAVEMENT AREAS, 0.5% SLOPE IN CONCRETE PAVEMENT AREAS.
22. CONTRACTOR SHALL REVIEW PAVEMENT GRADIENT AND CONSTRUCT "INFALL CURB" WHERE PAVEMENT DRAINS TOWARD GUTTER, AND "OUTFALL" CURB WHERE PAVEMENT DRAINS AWAY FROM GUTTER.
23. NOTIFY NICOLE SODERHOLM, RAMSEY-WASHINGTON METRO WATERSHED DISTRICT, AT 651-792-7976 PRIOR TO CONSTRUCTION ACTIVITY TO SCHEDULE AN INITIAL SWPPP INSPECTION.
24. NOTIFY NICOLE SODERHOLM, RAMSEY-WASHINGTON METRO WATERSHED DISTRICT, AT 651-792-7976 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION OF THE SURFACE AND BELOW-GROUND STORMWATER PRACTICES.

No	REVISIONS	DATE	BY
1	WATERSHED COMMENTS	09/24/2020	EJS

Kimley»Horn
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767 EUSTIS STREET, SUITE 100, ST. PAUL, MN 55114
PHONE: 651-645-4197
WWW.KIMLEY-HORN.COM

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

ALAN L. CATCHPOOL
DATE: 09/24/2020 LIC. NO. 47969

KHA PROJECT 160135000
DATE 09/24/2020
SCALE AS SHOWN
DESIGNED BY ALC
DRAWN BY TLL
CHECKED BY ALC

PRELIMINARY - NOT FOR CONSTRUCTION

GRADING PLAN

MAPLEWOOD LIVING DEVELOPMENT
PREPARED FOR
EF MAPLEWOOD LLC
MAPLEWOOD MN

SHEET NUMBER
C500

Stewardship Grant Application Summary

Project Name: 33rd Company **Application Number:** 20-46 CS

Board Meeting Date: 10/7/2020

Applicant Name: Tom Sedlack

Residential ☐ **Commercial/Government** ☑

Project Overview:

This project is located off Woodland Drive south of Valley Creek Road in the City of Woodbury. The property has an existing low area in the turf which takes on rooftop runoff and sends excess water to the adjacent wetland. The applicant is proposing to install a swale and dry creek bed with native plantings to help direct and absorb some of this water. The planting plan calls for a mix of native shrubs and perennial plans. This project is eligible for 50% coverage up to $15,000.

BMP type(s):

Native Habitat Restoration(1)

Grant Request:

$9,000.00

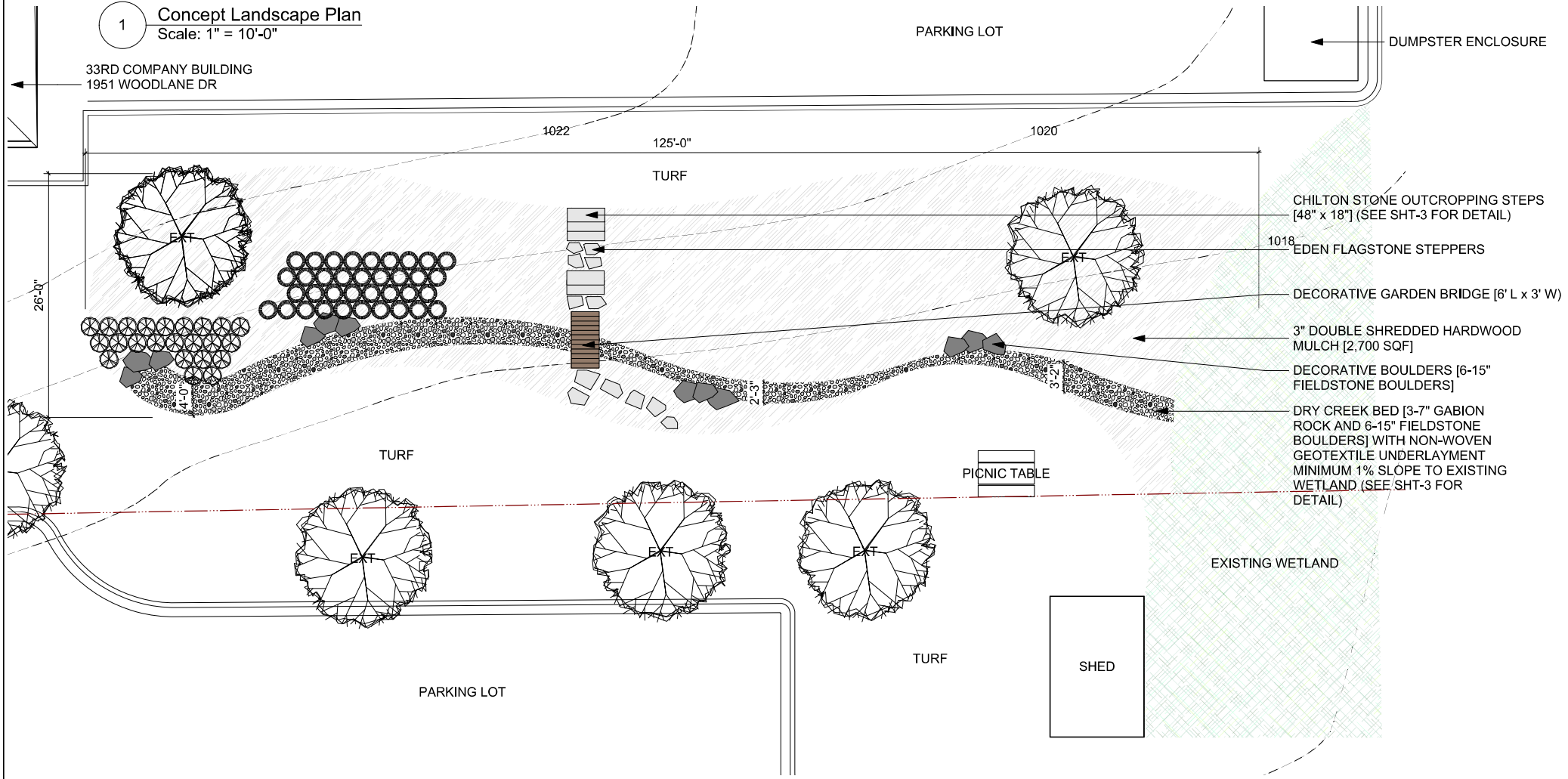
Recommendation:

Staff recommends approval of this application.

Subwatershed:

Carver Lake

Location Maps:



Tom Sedlack
33rd Company
1951 Woodlane Dr #100
Woodbury, MN 55125

Concept
Landscape Plan

DATE	REVISIONS

outdoor LAB Landscape Design inc.
1196 7th Street East, St. Paul, Minnesota 55106
email: info@outdoorlab.net phone: 651•202•3662

DRAWN BY	EM
CHECKED	Checked
APPROVED	Approved
SCALE	1" = 10'-0"

Date: 8/25/20

Sht-1

Stewardship Grant Application Summary

Project Name: North East Seniors for Better Living **Application Number:** 20-47 CS

Board Meeting Date: 10/7/2020

Applicant Name: Campbell Punnett

Residential ☐ **Commercial/Government** ☑

Project Overview:

This project is located off Furness Parkway and Arlington Ave E in the City of St. Paul. This organization is housed within Beloved Church and is looking to install a rain garden and native planting area to help manage stormwater runoff, reduce erosion, and increase aesthetics of a public-facing area. They plan to use this area for education and as quiet reflective space for people in the community.
The rain garden is eligible for 75% coverage and the native habitat restoration area is eligible for 50% coverage up to $15,000 total.

BMP type(s):

Native Habitat Restoration(1), Rain Garden(1)

Grant Request:

$13,000.00

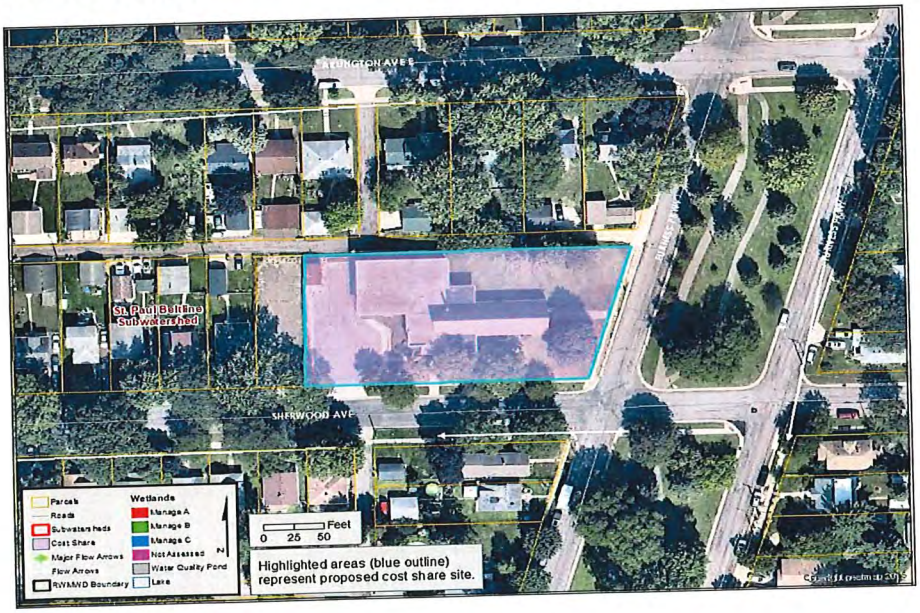
Recommendation:

Staff recommends approval of this application.

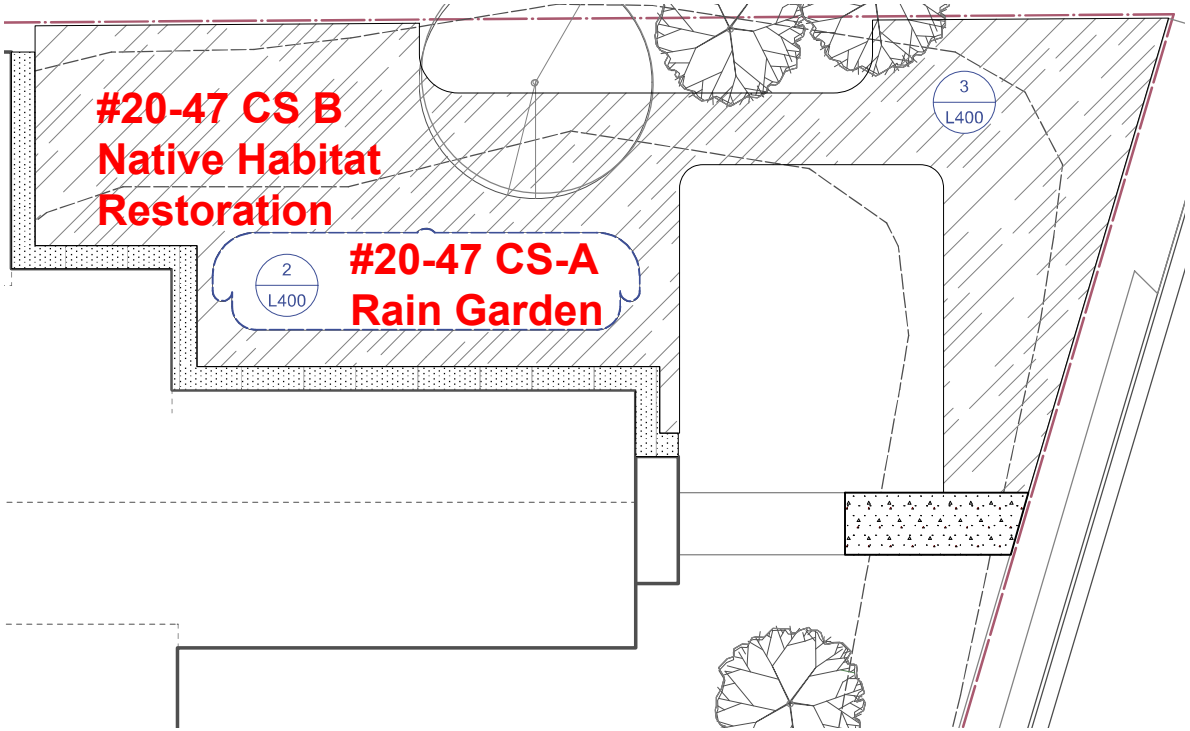
Subwatershed:

St. Paul Beltline

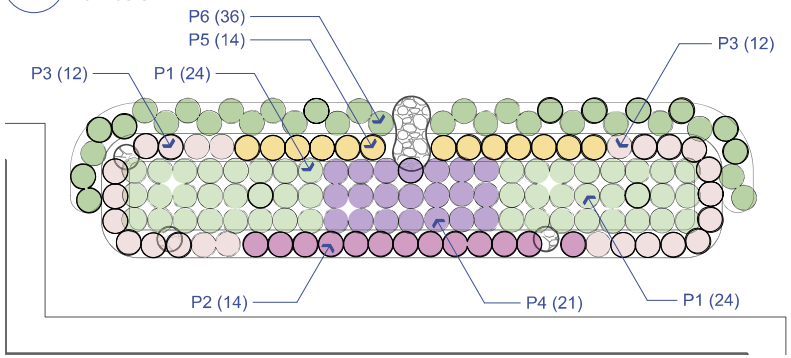
Location Maps:



1 NATIVE PLANTING PLAN
1/16"=1'0"



2 RAINGARDEN PLANTING PLAN
1"=10'0"



3 NATIVE SEED/PLANTING SCHEDULE

SHOOTING STAR
22160 County Road 11 • Spring Grove, MN 55974
(507) 498-3944 • info@shootingstarnativeseed.com

*OR APPROVED EQUAL

Description: SSNS Dry Short Prairie Mix
Seeding Rate: 10 lb/acre (64.4 seeds/square foot)
Notes: Soil - Dry Mesic to Dry, Sun - Full

Common Name	Scientific Name	% of Mix	Seeds/ft²	Total
Grasses				
Slender Wheatgrass	Agropyron trachycaulum	5.00%	1.3	0.50 PLS lb
Sideoats Grama	Bouteloua curtipendula	32.00%	7.1	3.20 PLS lb
Blue Grama	Bouteloua gracilis	5.00%	7.3	0.50 PLS lb
Prairie Brome	Bromus kalmi	2.00%	0.6	0.20 PLS lb
June Grass	Koeleria cristata	1.00%	7.3	0.10 PLS lb
Little Bluestem	Schizachyrium scoparium	25.00%	13.8	2.50 PLS lb
Rough Dropseed	Sporobolus aspera	8.00%	8.8	0.80 PLS lb
Sedges & Rushes				
Bicknell's Sedge	Carex bicknellii	1.20%	0.7	0.12 PLS lb
Plains Oval Sedge	Carex brevior	0.80%	0.9	0.08 PLS lb
Forbs				
Prairie Onion	Allium stellatum	0.80%	0.3	0.08 PLS lb
Lead Plant	Amorpha canescens	2.00%	1.2	0.20 PLS lb
Common Milkweed	Asclepias syriaca	1.40%	0.2	0.14 PLS lb
Butterfly Milkweed	Asclepias tuberosa	0.80%	0.1	0.08 PLS lb
Sky Blue Aster	Aster azureus	0.40%	1.2	0.04 PLS lb
Heath Aster	Aster ericoides	0.20%	1.5	0.02 PLS lb
White Wild Indigo	Baptisia alba	1.00%	0.1	0.10 PLS lb
New Jersey Tea	Ceanothus americanus	0.40%	0.1	0.04 PLS lb
Partridge Pea	Chamaecrista fasciculata	4.00%	0.4	0.40 PLS lb
White Prairie Clover	Dalea candidum	0.60%	0.4	0.06 PLS lb
Purple Prairie Clover	Dalea purpurea	1.60%	1.1	0.16 PLS lb
Showy Sunflower	Helianthus laetiflorus	0.40%	0.1	0.04 PLS lb
Round-headed Bush Clover	Lespedeza capitata	0.60%	0.2	0.06 PLS lb
Button Blazingstar	Liatris aspera	0.40%	0.2	0.04 PLS lb
Wild Lupine	Lupinus perennis	0.40%	0.0	0.04 PLS lb
Wild Bergamot	Monarda fistulosa	0.40%	1.0	0.04 PLS lb
Wild Quinine	Parthenium integrifolium	0.40%	0.1	0.04 PLS lb
Foxglove Beardtongue	Penstemon digitalis	0.20%	1.0	0.02 PLS lb
Large-flowered Beardtongue	Penstemon grandiflorus	0.60%	0.3	0.06 PLS lb
Prairie Cinquefoil	Potentilla arguta	0.20%	1.7	0.02 PLS lb
Prairie Wild Rose	Rosa arkansana	0.80%	0.1	0.08 PLS lb
Black-eyed Susan	Rudbeckia hirta	0.60%	2.0	0.06 PLS lb
Gray Goldenrod	Solidago nemoralis	0.20%	2.2	0.02 PLS lb
Stiff Goldenrod	Solidago rigida	0.20%	0.3	0.02 PLS lb
Ohio Spiderwort	Tradescantia ohiensis	0.40%	0.1	0.04 PLS lb
Hoary Vervain	Verbena stricta	0.60%	0.6	0.06 PLS lb
Heartleaf Alexanders	Zizia aptera	0.40%	0.2	0.04 PLS lb

LIVE PLANT MATERIAL INSTALLATION:

1.0 CONTRACTOR SHALL SELECT SPECIES FROM SEED MIX OR SUBMIT SPECIES LIST FOR APPROVAL BY RCSWCD STAFF, BASED ON APPROPRIATE SITE CONDITIONS; FIELD VERIFICATION REQUIRED.
1.1 INSTALL (1050 QTY) 2" NATIVE PERENNIAL PLUGS; 24" ON CENTER (SPECIED IN AREA PER PLAN) IN RANDOM GROUPS (12-36 COUNT PER GROUPING); SAME SPECIES PER GROUP.

4 RAINGARDEN PLANT SCHEDULE

PLANT SCHEDUDLE

ID	QTY	SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING
P1	48	CAREX VULPINOIDEA	FOX SEDGE	2" PLUG	24" O.C.
P2	14	ECHINACEA PURPUREA 'RUBY STAR'	RUBY STAR CONEFLOWER	#1 CONT.	24" O.C.
P3	24	EUPATORIUM MACULATUM 'PHANTOM'	PHANTOM JOE PYE WEED	#1 CONT.	24" O.C.
P4	21	IRIS VERSICOLOR	BLUE FLAG IRIS	2" PLUG	24" O.C.
P5	14	RUDBECKIA FULGIDA 'GOLDSTURM'	GOLDSTURM BLACK EYED SUSAN	#1 CONT.	24" O.C.
P6	36	SPOROBOLU HETEROLEPIS	PRAIRIE DROPSEED	#1 CONT.	24" O.C.
	157	TOTAL			

RAMSEY COUNTY

RAMSEY COUNTY SWCD
1425 PAUL KIRKWOLD DR
ARDEN HILLS, MN 55112
651-266-7274
www.ramseycounty.us

PROJECT: BELOVED CHURCH
LOCATION:
1965 SHERWOOD AVE
ST PAUL, MN 55119

WATERSHED DISTRICT:
RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

DESIGNER: MPS
DATE: 06/12/2020
REVISION:
REVISION:
REVISION:
REVISION:
REVISION:
CHECKED BY:
TAA:

NOTES:
ALL SUBSTITUTIONS TO PLANT SPECIES, QUANTITIES & SIZES SHALL RECEIVE APPROVAL PRIOR TO PURCHASE AND INSTALL

ORIGINAL SHEET SIZE: 11" x 17"

SCALE: N/A

SITE PLANTING PLAN

N

L400

Stewardship Grant Application Summary

Project Name: Neprash

Application Number: 20-48 CS

Board Meeting Date: 10/7/2020

Applicant Name: Randy Neprash

Residential ☑ **Commercial/Government** ☐

Project Overview:

This property is located off Eldridge Ave West and Dellwood Ave in the City of Roseville. The applicant is proposing to install a rain garden in the front yard to capture roof runoff. They also plan to install native plants for pollinators surrounding the rain garden to encompass the entire front yard.
The rain garden is eligible for 75% coverage and the native habitat restoration area is eligible for 50% coverage up to $15,000.

BMP type(s):

Native Habitat Restoration(1), Rain Garden(1)

Grant Request:

$7,500.00

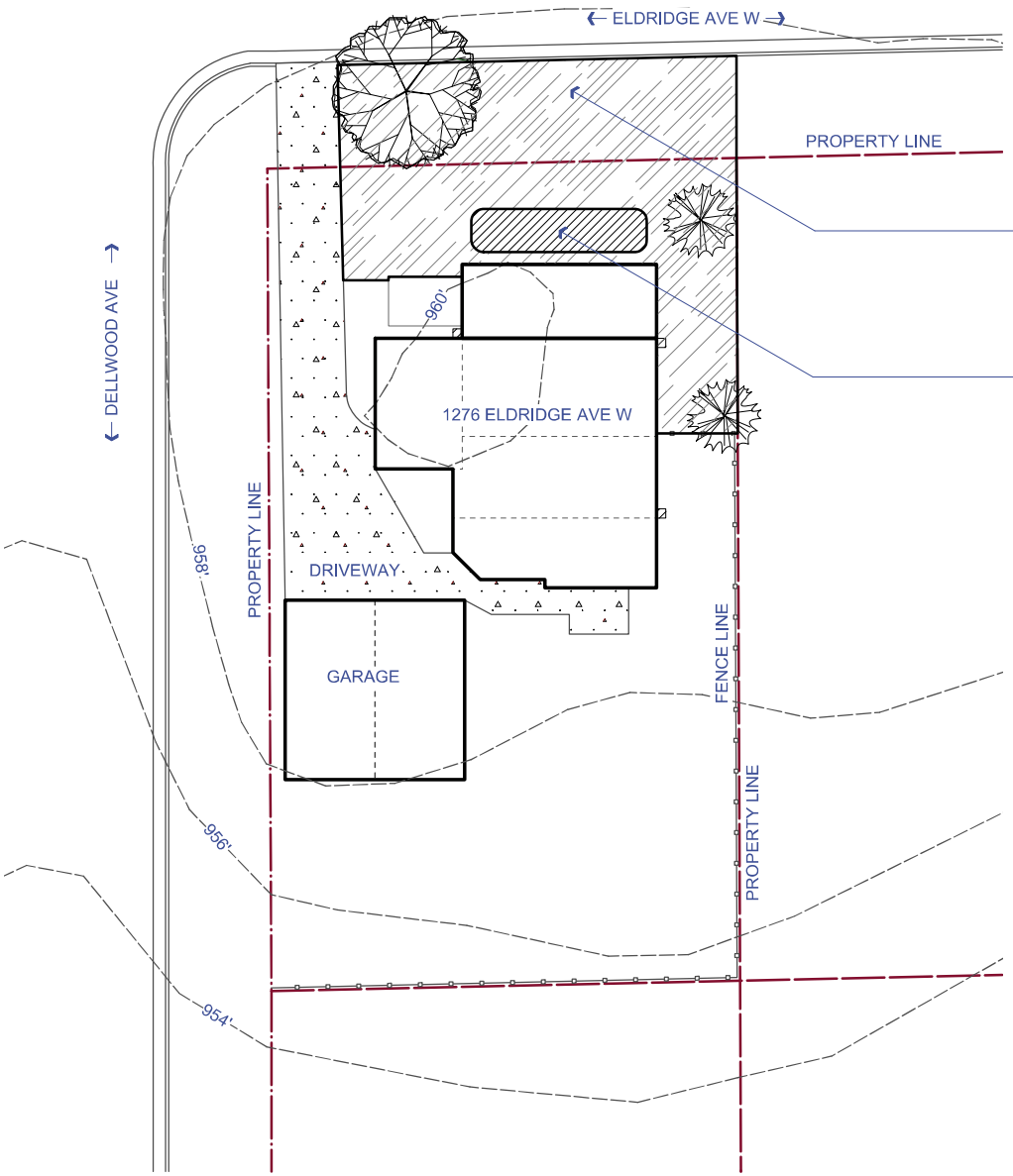
Recommendation:

Staff recommends approval of this application.

Subwatershed:

Bennett Lake

Location Maps:



BMP2: NATIVE PLANTING
BMP SIZE: +/- 2,300 SF
DRY-MESIC; MESIC / FULL TO PART SUN

BMP1: RAINGARDEN
BMP SIZE: +/- 200 SF
6" PONDING DEPTH

Pollutant Reductions: BMP1

	Before	After	Reduction	Red. %
Volume (cu-ft/yr)	3393.00	370	3,023	89%
TSS (lbs/yr)	11.50	1.30	10.20	89%
TP (lbs/yr)	0.0600	0.0060	0.0540	90%

RAMSEY COUNTY

RAMSEY COUNTY SWCD
1425 PAUL KIRKWOLD DR
ARDEN HILLS, MN 55112
651-266-7274
www.ramseycounty.us

PROJECT: NEPRASH RESIDENCE
LOCATION:
1276 ELDRIDGE AVE W
ROSEVILLE, MN 55113

WATERSHED DISTRICT:
RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

DESIGNER: MPS
DATE: 08/26/2020
REVISION:
REVISION:
REVISION:
REVISION:
REVISION:
CHECKED BY:
TAA:

NOTES:
CONTRACTOR TO LOCATE ALL UTILITIES PRIOR TO WORK

UTILITIES WITHIN OR NEAR CONSTRUCTION AREA SHALL BE POTHOLED

CONTRACTOR MUST AQCUIRE ALL NECESSARY PERMITS

ORIGINAL SHEET SIZE: 11" x 17"

SCALE: 1"=20'0"

SITE PLAN

N

L100

Stewardship Grant Application Summary

Application Number: 20-49 CS

Project Name: Sharpe

Board Meeting Date: 10/7/2020

Applicant Name: Melissa Sharpe

Residential ☑ **Commercial/Government** ☐

Project Overview:

This project is located off Desoto Street and Larpenteur Ave in the City of Maplewood. The applicant is proposing to install native plants around her entire property in efforts to reduce erosion, increase biodiversity of pollinator populations, and to help filter stormwater runoff before it drains into Lake Phalen.
This project is eligible for 50% coverage up to $15,000.

BMP type(s):

Native Habitat Restoration(1)

Grant Request:

$5,350.00

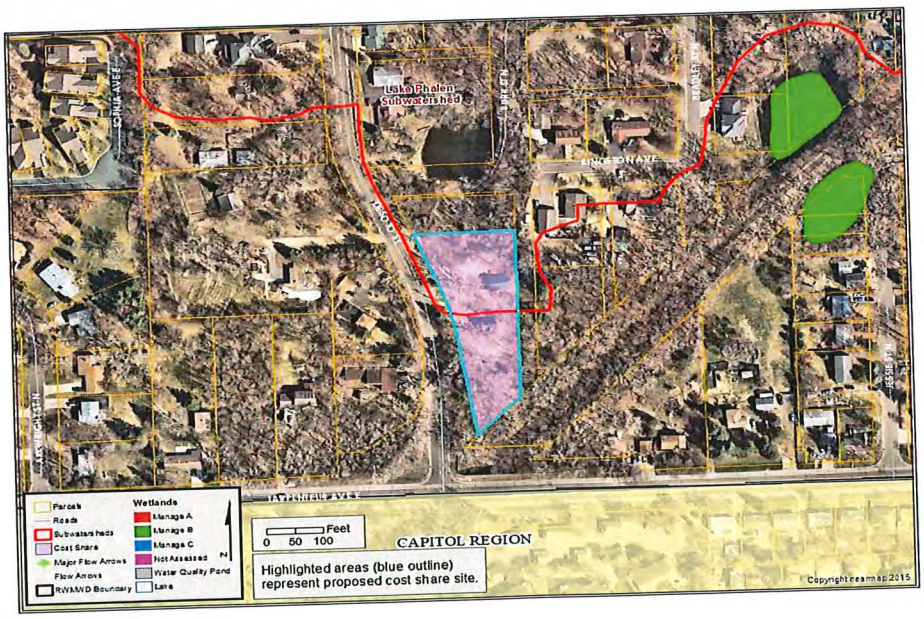
Recommendation:

Staff recommends approval of this application.

Subwatershed:

Lake Phalen

Location Maps:



RAMSEY COUNTY

RAMSEY COUNTY SWCD
1425 PAUL KIRKWOLD DR
ARDEN HILLS, MN 55112
651-266-7274
www.ramseycounty.us

PROJECT: SHARPE RESIDENCE
LOCATION:
1720 DEOTO ST
MAPLEWOOD, MN 55117

WATERSHED DISTRICT:

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

DESIGNER: MPS
DATE: 06/19/2020
REVISION:
REVISION:
REVISION:
REVISION:
REVISION:
CHECKED BY:
TAA:

NOTES:
CONTRACTOR TO LOCATE ALL UTILITIES PRIOR TO WORK

UTILITIES WITHIN OR NEAR CONSTRUCTION AREA SHALL BE POTHOLED

CONTRACTOR MUST AQCUIRE ALL NECESSARY PERMITS

ORIGINAL SHEET SIZE: 11" x 17"

SCALE: 1"=40'0"

SITE PLAN

N

L100

Consent Agenda Action Item

Board Meeting Date: October 7, 2020 **Agenda Item No:** 3E

Preparer: Tina Carstens, Administrator

Item Description: Change Order No. 1 for the Twin Lake Outlet Project

Background:

Attached is change order number 1 for the Twin Lake Outlet Project.

This change order includes two items. The first item is a contract completion extension due to a delay in receiving the drop-down weir and time needed to do the installation once received. The second item is a small increase in contract price to bring in class V material for the access road. The increase is $860.19.

Applicable District Goal and Action Item:

Goal: Manage risk of flooding: The District will reduce the public's risk to life and property from flooding through programs and projects that protect public safety and economic well-being.

Action Items: Maintain District flood storage facilities and storm sewer systems.

Staff Recommendation:
Approve Change Order No. 1.

Financial Implications:
This change order increases this project by $860.19. There are sufficient contingency funds in this budget to do this work.

Board Action Requested:
Approve Change Order No. 1.

Change Order No. 1
Ramsey-Washington Metro Watershed District
Twin Lake Outlet Project

DATE OF ISSUANCE: September 11, 2020

Owner: Ramsey-Washington Metro Watershed District
2665 Noel Drive
Little Canada, MN 55117
Attn: Marj Ebensteiner

Contractor: Rachel Contracting LLC
4180 Napier Court NE
St. Michael, MN 55376
Attn: Jarrod Sargent

Engineer: Barr Engineering Company
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435
Attn: Brandon Barnes

C.O.1.A Contract Completion Extension

Description of Change:

Due to delays related to COVID19, the Contractor was unable to provide the drop-down weir for the Twin Lake Outlet within the Contract Time specified in the Contract Documents. Once received, the Contractor will install the drop-down weir, all complete as specified and fulfill remaining obligations to finish the work. The Owner's representative is requesting additional time to allow the Contractor to execute the proposed work, in a timely manner.

Measurement and Payment:

None

Change in Contract Time:

Substantial completion date will be changed to November 20th with final completion two weeks later.

Total Impact on Contract Price:

None

C.O.1.B Access Road Reconstruction

Description of Change:

In order to reconstruct the access road following installation of the outlet pipe, class V material was imported to the site, placed, and compacted. The contractor completed the work, in good faith, in August under the direction of the engineer and District staff. Work was completed as directed.

Measurement and Payment:

The contractor will be paid a unit lump sum (L.S.) price to complete all work as specified. This unit price shall be payment in full for the costs of all supervision, materials, equipment, labor, supplies, profit and overhead, and perform all operations as are necessary to complete the work.

Change in Contract Time:

None

Total Impact on Contract Price:

$860.19

(Attachment C.O.1.B)

This Change Order No. 1 is:

Submitted By: _____ Date: September 11, 2020
(ENGINEER) Brandon Barnes, Project Engineer
Barr Engineering Company

Authorized By: _____ Date: _____
(OWNER) Marj Ebensteiner, President
Ramsey-Washington Metro Watershed District

Approved By: _____ Date: 9/16/2020
(CONTRACTOR) ~~Jarrod Sargent~~ Matthew Coz
Rachel Contracting, LLC

RACHEL | COMMITTED TO SAFETY

EXTRA WORK

To: **Brandon Barnes**
Barr Engineering
4300 Market Pointe Drive Ste#200
Minneapolis, MN 55435
952-832-2737
bbarnes@barr.com

Date: **9/11/2020**
Extra Work **COR#01**

Authorization #:

Rachel Project Name:	Twin Lake Outlet Control Structure	**2033**

Work Date: 8/7/2020
Description: Remove some poor soil and install 2 loads of gravel

Labor & Equipment	QTY	UNIT	Cost/Unit	Total Cost
259 Skid Steer w/ Operator	0.5	HR	$ 165.00	$ 82.50
			TOTAL LABOR & EQUIPMENT =	**$ 82.50**

Materials	QTY	UNIT	Cost/UNIT	Total Cost
Class 5 (2 loads)	1	LS	$ 676.25	$ 676.25
			MU	$ 101.44
			TOTAL MATERIALS=	**$ 777.69**

Subcontractors/Trucking	QTY	UNIT	Cost/UNIT	Total Cost
			TOTAL SUBCONTRACTORS/TRUCKING =	**$ -**

TOTAL EXTRA WORK =	**$ 860.19**

Consent Agenda Action Item

Board Meeting Date: October 7, 2020 **Agenda Item No:** 3F

Preparer: Tina Carstens, Administrator

Item Description: Change Order No. 4 for the 2020 CIP Maintenance & Repair Project

Background:

Attached is change order number 4 for the 2020 CIP Maintenance and Repair Project.

This change order includes two items that the District requested the contractor to add to their contract this fall. The first was to do some restoration work around the West Vadnais Lake emergency overflow collection and bypass area. The second was a request for the contractor to clean out accumulated sediment in the West Vadnais Lake outlet channel. These two additional items increased the contract by $10,000.

Applicable District Goal and Action Item:

Goal: Manage risk of flooding: The District will reduce the public's risk to life and property from flooding through programs and projects that protect public safety and economic well-being.

Action Items: Maintain District flood storage facilities and storm sewer systems.

Staff Recommendation:
Approve Change Order No. 4.

Financial Implications:
This change order increases this project by $10,000. There are sufficient contingency funds in this budget to do this work.

Board Action Requested:
Approve Change Order No. 4.

Change Order No. 4
Ramsey-Washington Metro Watershed District
Capital Improvement Project Maintenance/Repair 2020

DATE OF ISSUANCE: September 30, 2020

Owner: Ramsey-Washington Metro Watershed District
2665 Noel Drive
Little Canada, MN 55117
Attn: Marj Ebensteiner

Contractor: Fitzgerald Excavating & Trucking, Inc.
21432 350th St.
Goodhue, MN 55027
Attn: Jason Fitzgerald

Engineer: Barr Engineering Company
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435
Attn: Brad Lindaman

C.O.4.A 5-Star Mobile Estates Site Restoration

Description of Change:

The Owner requested the contractor to remove and restore the construction entrance and access road for the West Vadnais Lake Emergency Overflow Collection and Bypass. The temporary use of the vacant lot was granted by the property owner to facilitate with the mobilization of Northern Dewatering's equipment and materials. The contactor completed the work, in good faith, at the direction of the owner's representative. The work was complete as specified in accordance with the existing requirements of the contract documents.

Measurement and Payment:

The contractor shall be paid on a lump sum (L.S.) unit price to complete all work as specified. This unit price shall be payment in full for the costs of all supervision, materials, equipment, labor, supplies profit and overhead, and perform all operations as are necessary to complete the work. The work quote with the agreed unit price is provided as an attachment for reference.

Change in Contract Time:

None

Total Impact on Contract Price:

$6,000.00

C.O.4.B West Vadnais Channel Cleaning

Description of Change:

In the continuing effort to provide unrestricted flow through the Grass Lake and West Vadnais Lake system, the Owner requested that the contractor remove all accumulated sediment from the channel. The channel maintenance work re-established bottom elevation and width to ensure water flows to the outlet pipe location. The contactor completed the work, in good faith, recently under the direction of the owner's representative. The work was complete as specified in accordance with the existing requirements of the contract documents.

Measurement and Payment:

The contractor shall be paid on a lump sum (L.S.) unit price to complete all work as specified. This unit price shall be payment in full for the costs of all supervision, materials, equipment, labor, supplies profit and overhead, and perform all operations as are necessary to complete the work. The work directive with the agreed unit price is provided as an attachment for reference.

Change in Contract Time:

None

Total Impact on Contract Price:

$4,000.00

This Change Order No. 4 is:

Submitted By:  Date: September 30, 2020
(ENGINEER) Bradley J. Lindaman, Project Engineer
Barr Engineering Company

Authorized By: _____ Date: _____
(OWNER) Marj Ebensteiner, President
Ramsey-Washington Metro Watershed District

Approved By: _____ Date: _____
(CONTRACTOR) Jason Fitzgerald, President
Fitzgerald Excavating & Trucking, Inc.

Attachments:
7/17/2020 Email: 5-Star Restoration
9/29/2020 Email: West Vadnais Channel Cleaning

From:	David Vlasin
To:	Greg Nelson
Cc:	David Vlasin
Subject:	5-Star Restoration
Date:	Friday, July 17, 2020 10:36:29 AM
Attachments:	image001.png

C.O.4.A

Hi Greg,
Sorry it took a little longer to get this to you.

Lump Sum cost of $6000.00.

Scope of work:

- Remove and dispose of ~80-100cy of class 5/limestone/geotextile
    - Replace with Black Dirt and grade to surrounding area
- Seed/Blanket (Turf Grass)
- Repair ruts in turf left over by Northern Dewatering
- ~8-10cu of black Dirt
- Seed/Blanket (Turf

Please give a call with questions.

Dave Vlasin | Watershed Project Coordinator
Ramsey-Washington Metro Watershed District
2665 Noel Drive | Little Canada, MN | 55117
O- 651-792-7970 | C- 612-810-5885 | www.rwmwd.org

From:	David Vlasin
To:	Greg Nelson
Cc:	David Vlasin
Subject:	West Vadnais Channel clean
Date:	Tuesday, September 29, 2020 7:46:29 PM

C.O.4.B

Greg,
Jason and I met at the West Vadnais Outlet location last week to discuss the maintenance project. We have agreed on a lump-sum price of $4000.00 to dredge the West Vadnais outlet channel to a depth of 2ft below the level of the outlet pipe invert elevation. Dredged material will be left onsite and graded to blend with existing ground. Price includes restoration, RWMWD will provide seed.

This work was completed on Saturday, 9/27. I verified work was completed today, 9/29.

Dave Vlasin | Watershed Project Coordinator
Ramsey-Washington Metro Watershed District
2665 Noel Drive | Little Canada, MN | 55117
O- 651-792-7970 | C- 612-810-5885 | www.rwmwd.org

****

Permit Program

****

Permit Application Coversheet

Date October 07, 2020

Project Name 3206 W Owasso Boulevard Project Number 20-34

Applicant Name John Pound, Yards Per Pound, Inc.

Type of Development Erosion Control

Property Description

This project is located on an existing residential property at 3206 W Owasso Boulevard in the City of Shoreview. The applicant is proposing to add boulder walls and riprap to stabilize the lake shoreline. The total site area is approximately 0.1 acre but triggers District Rules D and F due to its location relative to Lake Owasso. The proposed project will result in 38.44 cubic yards of fill below the 100-year floodplain elevation of the lake. The applicant is requesting a variance to District Rule D for compensatory storage.

Watershed District Policies or Standards Involved:

- ☐ *Wetlands*
- ☑ *Erosion and Sediment Control*
- ☐ *Stormwater Management*
- ☑ *Floodplain*

Water Quantity Considerations

The proposed project results in a net loss of floodplain storage.

Water Quality Considerations

Short Term

The proposed erosion and sediment control plan is sufficient to protect downstream water resources during construction.

Long Term

There are no long term water quality considerations.

Staff Recommendation

Staff will defer to the Board of Managers on the permit with the special provision and variance request (Rule D).

Attachments:

- ☑ Project Location Map
- ☑ Project Grading Plan

#20-34 3206 W Owasso Boulevard - Shoreview

Wetlands
- Manage A
- Manage B
- Manage C
- Lake
- Sediment Pond
- Not Assessed

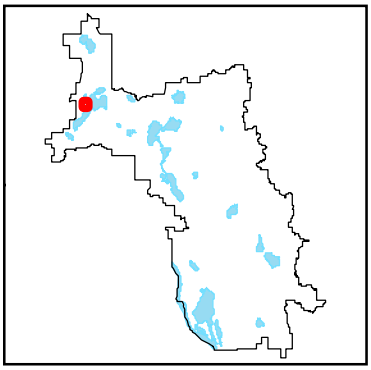
- RWMWD Boundary
- Flow Arrows
- Major Flow Arrows
- Subwatersheds
- Creeks
- Permits
- Ramsey Co Parcels

Highlighted Areas Represent Active Permit

0 100 200
Feet

0 0.015 0.03
Miles

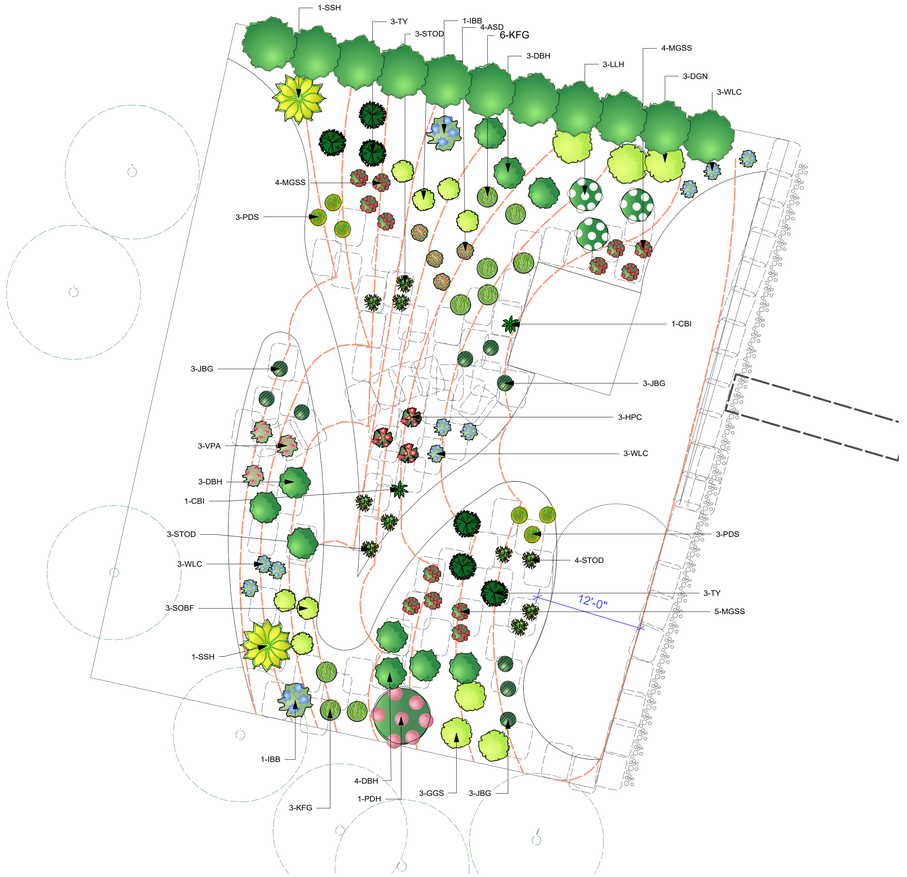
N



20-34

Special Provisions

1. The applicant shall submit the escrow fee of $206.



LEGEND

- 4" SHREDDED HARDWOOD MULCH
- SOD
- GRAVEL
- 24-36" BOULDER OUTROPPINGS TRAP BOULDERS OR SOLID GREY GRANITE
- 24-36" CUT STONE STEPS TRAP BOULDERS OR SOLID GREY GRANITE
- RIP RAP
- PROPERTY LINE
- SILT FENCE - TO BE INSTALLED PRIOR TO DISTRUBANCE PER MPCA GUIDELINES
- BIO- ROLL- TO BE INSTALLED PRIOR TO SITE DISTURBANCE PER MPCA GUIDELINES
- PROPOSED CONTOURS

KEY NOTES

1. PROPOSED SHED AREA
2. PATH
3. DOCK
4. EXISTING EVERGREENS

NOTES

888.98' HIGH WATER LINE

ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE.

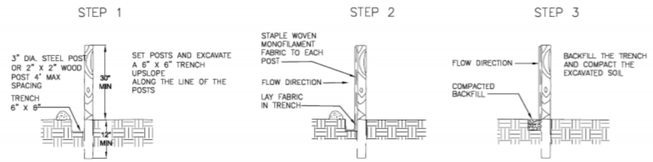
PROPOSED RIP RAP 3:1 SLOPE, ON 6 oz NONWOVEN FILTER BLANKET

NOTIFY NICOLE SODERHOLM, RAMSEY-WASHINGTON METRO WATERSHED DISTRICT, AT 651-792-7976 PRIOR TO BEGINNING ANY AND ALL CONSTRUCTION ACTIVITY.

SPECIFIED EROSION AND SEDIMENT CONTROL PRACTICES ARE THE MINIMUM. ADDITIONAL PRACTICES MAY BE REQUIRED DURING THE COURSE OF CONSTRUCTION.

CONSTRUCTION ACCESS AT ROADWAY SHALL COMPLY WITH WATERSHED REQUIREMENTS WITH CONSTRUCTION MATS.

SILT FENCE DETAIL



EROSION CONTROL DETAILS

	PLANT LIST		
	Common Name	**Botanical Name**	**Qty**
	Shrubs		
DGN	**DART'S GOLD NINEBARK**	Physocarpus opulifolius 'Dart's Gold'	3
DBH	**DWARF BUSH HONEYSUCKLE**	Diervilla lonicera	10
LLH	**LITTLE LIME HYDRANGEA**	Hydrangea paniculata 'Jane'	3
PDH	**PINK DIAMOND HYDRANGEA**	Hydrangea paniculata 'Pink Diamond'	1
SOBF	**SHOW OFF SUGAR BABY FORSYTHIA**	Forsythia 'Nimbus'	7
TY	**TAUNTON YEW**	Taxus x media 'Tauntonii'	6
	Perennials		
ASD	**APRICOT SPARKLES**	Hemerocallis x `Apricot Sparkles`	4
CBI	**CAESAR'S BROTHER IRIS**	Iris sibirica 'Caesar's Brother'	2
GGS	**GLOW GIRL SPIREA**	Spiraea betulifolia 'Tor Gold'	3
HPC	**Hot Papaya Coneflower**	Echinacea purpurea 'Hot Papaya'	3
IBB	**INDIGO BLUE BAPTISIA**	Baptisia australis 'Indigo Blue'	2
JBG	**JOHNSON'S BLUE GERANIUM**	Geranium x 'Johnson`s Blue'	9
MGSS	**MR. GOODBUD STONECROP SEDUM**	Sedum 'Mr. Goodbud' P.P.A.F.	13
STOD	**Stella De Oro Daylily**	Hemerocallis x 'Stella de Oro'	10
SSH	**SUM AND SUBSTANCE HOSTA**	Hosta x 'Sum & Substance'	2
VPA	**Visions in Pink Astilbe**	Astilbe chinensis 'Visions In Pink'	3
WLC	**WALKERS LOW CATMINT**	Nepeta x faassenii 'Walker's Low'	9
	Ornamental Grasses		
KFG	**KARL FOERSTER GRASS**	Calamagrostis x acutiflora `Karl Foerster`	9
PDS	**Prairie Dropseed**	Sporobolus heterolepis	6

0 8 16 FT

MEYER RESIDENCE

Drawn By: TWO DESIGNS

Date: 9-24-2020

Title: LAKESHORE LANDSCAPE PLANS

Meyer Residence

3206 West Owasso Blvd.
Shoreview, MN 55126

Yards Per Pound Inc. is proposing the addition of boulder walls and riprap for stabilization, at the lake shoreline.

The bank at Lake Owasso on the property is totally failing, being undermined by wave action and continually falls into the lake (Pictures 1, 2 and 3).

Picture #1

Picture #2

Picture #3

Our proposal would be to add granite cube boulders. This would also require some form of riprap installed in front of the granite wall to minimize future wave action and ice sheer. We would propose a 3:1 riprap slope to meet the DNR guidelines and using CL3 crushed granite riprap over non-woven filter fabric (minimum 6oz).

One issue we will have is to create floodplain compensatory storage, as seen by the photos.

I took a lake level reading on 8/31/2020. I was able to meet with the surveyors for the project of road construction of N. Owasso Blvd, and they were able to get a benchmark for elevation in front of the newly constructed restroom on the south side of the road. Their benchmark (896.91 as seen on picture #4) was used to shoot the lake level, currently at 886.01 (drop of 10.90 feet from benchmark).

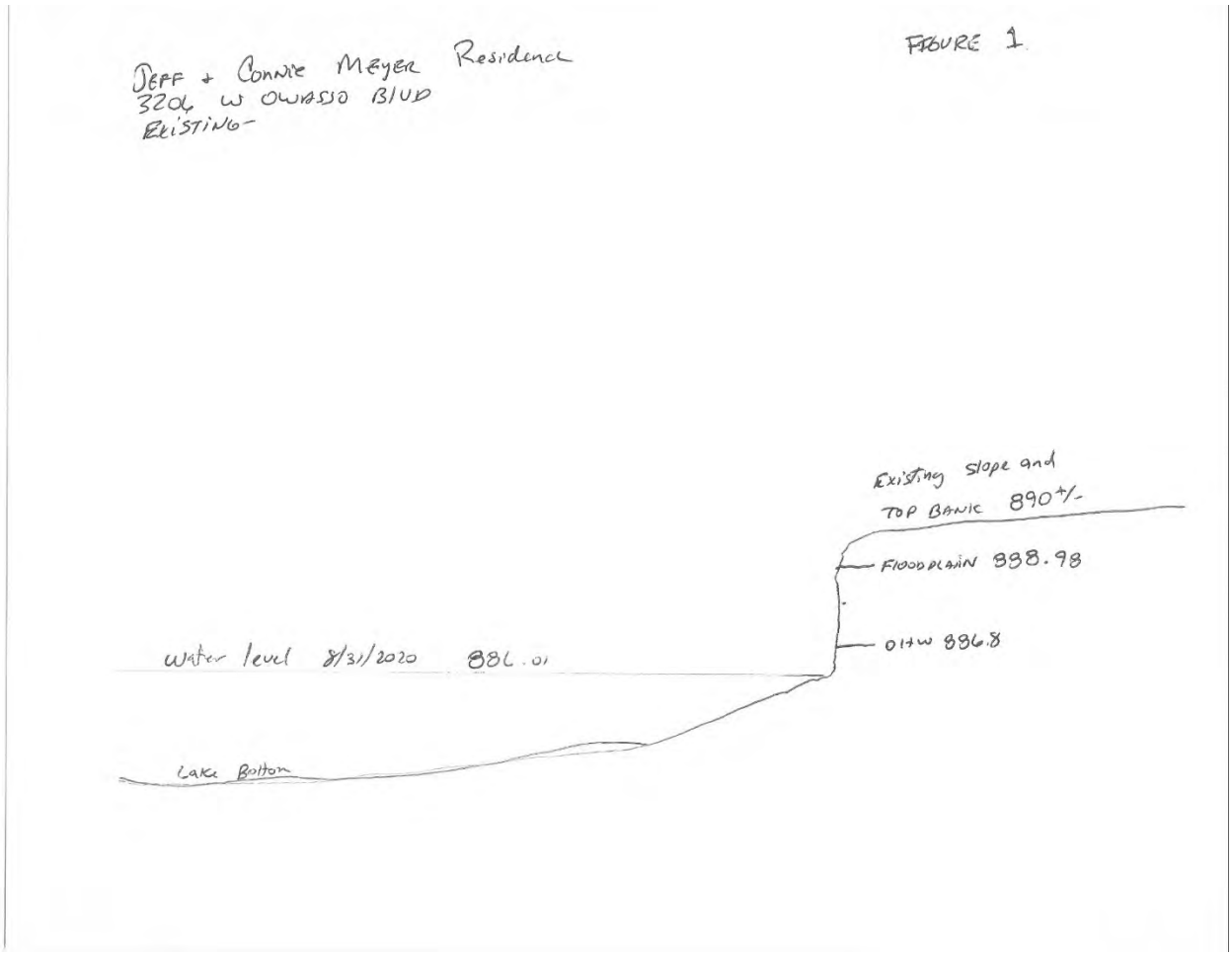
Picture #4

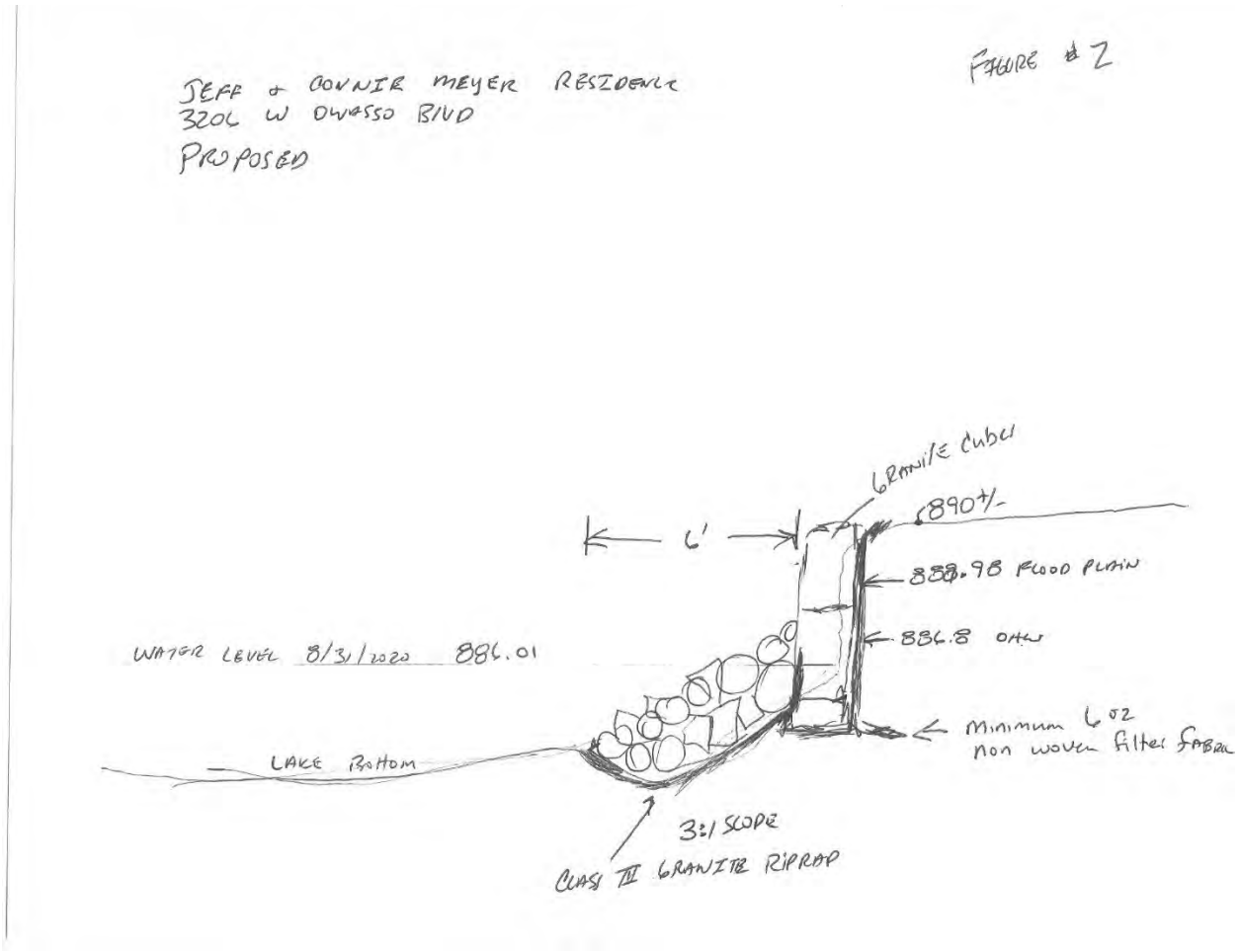
Using this data, I proceeded to drive a stake at the water's edge at the south end of the Meyer property.

Given the data of OHWL @ 886.8, the lake is approximately 0.8' low at time of reading. The floodplain remains at 888.98.

Our calculations for increased volume of fill in the floodplain is this: Clear washed granite class 3 or 4, weighs about 1.5 tons/cubic yard. 3000lbs/27 cubic foot or 111.1 pcf. Solid granite weighs on average 176 pcf. With this calculation, we have a 36% "air gap" or non-displacement of water.

Hand sketch, Figure 1 below, shows the existing cross section. The proposed cross section of riprap (hand sketch, Figure 2) in the floodplain needing riprap at a 3:1 slope, or 6 cubic feet per linear foot (75') yields 450 cf. 450 x .64= 288 cubic feet (10.7 cubic yards) of displacement.





The above displacement calculations do not take into consideration the addition of 2.5 foot thick granite boulders, which will add an additional 27.77 cubic yards of displacement. We are requesting a net fill into the floodplain of 38.44 cubic yards total.

In the past several years, the Meyers' have lost over 2 feet of their top bank due to wave action eroding the bank. This can be seen by the concrete blocks currently supporting a worthless dock extension (Picture #1). If required to add compensatory floodplain, we would have to excavate an additional 3.25 feet back into the bank AND remove an additional 233 cubic yards of fill for access and slope of hill stabilization.

We are asking for an exception for compensatory storage, given the scope of the work and existing conditions. We are open to ideas to resolve and move forward. The floodplain is naturally filling itself in on a daily basis with existing bank erosion (over 888.98 elevation caving in).

EROSION CONTROL

As requested, the prints will sent separately. You will note two layers of erosion control are present at the lake with perimeter silt fence/bio logs as well. In addition, YPP will carefully work around the weather and prep for incoming conditions keeping additional silt fence and silt socks on site and using them for containment or diversion as we feel would be needed or useful, or necessary. Ground travel mats are used to minimize additional disturbances to soil or established turf from driveway to construction site. Our construction entrance will be the driveway at 3204 W Owasso Blvd., all asphalt. A sweeper for our skidsteer will be on site for daily cleanup of construction entrance (driveway and road as needed).

Thank you for your consideration.

John Pound
Yards Per Pound Inc.
612-701-5507

Permit Application Coversheet

Date October 07, 2020

Project Name 3204 W Owasso Boulevard Project Number 20-35

Applicant Name John Pound, Yards Per Pound, Inc.

Type of Development Erosion Control

Property Description

This project is located on an existing residential property at 3204 W Owasso Boulevard in the City of Shoreview. The applicant is proposing to remove an existing timber wall and replace with boulder walls and riprap to stabilize the lake shoreline. The total site area is approximately 0.08 acre but triggers District Rules D and F due to its location relative to Lake Owasso. The proposed project will result in 10.7 cubic yards of net fill below the 100-year floodplain elevation of Lake Owasso. The applicant is requesting a variance to District Rule D for compensatory storage.

Watershed District Policies or Standards Involved:

- ☐ *Wetlands*
- ☑ *Erosion and Sediment Control*
- ☐ *Stormwater Management*
- ☑ *Floodplain*

Water Quantity Considerations

The proposed project results in a net loss of floodplain storage.

Water Quality Considerations

Short Term

The proposed erosion and sediment control plan is sufficient to protect downstream water resources during construction.

Long Term

There are no long term water quality considerations.

Staff Recommendation

Staff will defer to the Board of Managers on the permit with the special provision and variance request (Rule D).

Attachments:

- ☑ Project Location Map
- ☑ Project Grading Plan

#20-35 3204 W Owasso Boulevard - Shoreview

Wetlands
- Manage A
- Manage B
- Manage C
- Lake
- Sediment Pond
- Not Assessed

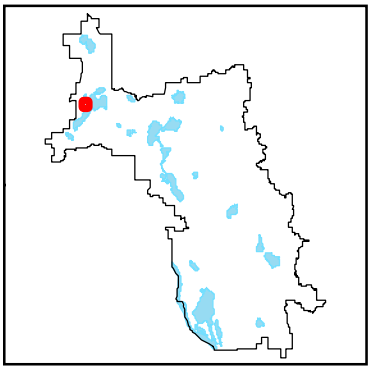
- RWMWD Boundary
- Flow Arrows
- Major Flow Arrows
- Subwatersheds
- Creeks
- Permits
- Ramsey Co Parcels

Highlighted Areas Represent Active Permit

0 100 200
Feet

0 0.015 0.03
Miles

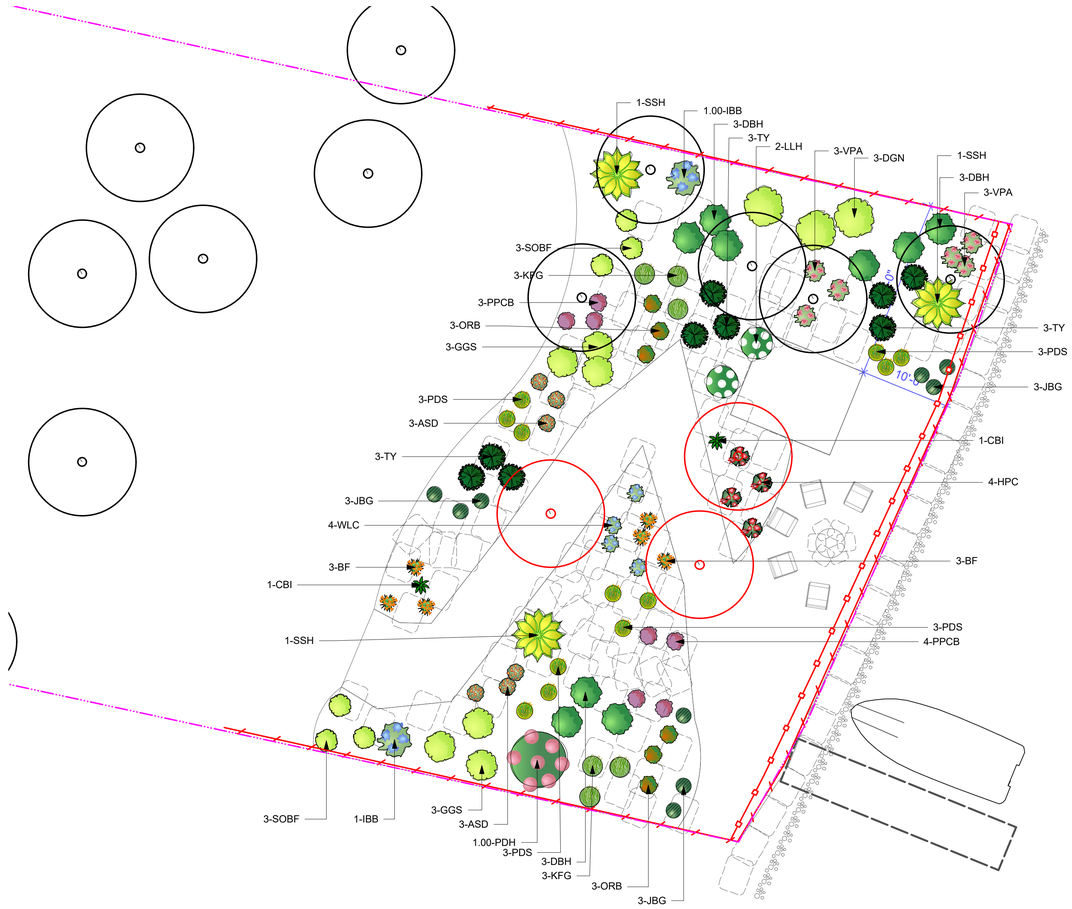
N



20-35

Special Provisions

1. The applicant shall submit the escrow fee of $165.20.



LEGEND

- 3" SHREDDED HARDWOOD MULCH
- 30"-42" BOULDER OUTCROPPINGS
- SOD
- BOULDER STEPS
- GRAVEL
- EXISTING GRADING
- PROPOSED GRADING
- PROPERTY LINE
- RIP RAP
- PROTECT EXISTING TREES
- REMOVE EXISTING TREES
- SILT FENCE - TO BE INSTALLED PRIOR TO DISTRUBANCE PER MPCA GUIDELINES
- BIO- ROLL- TO BE INSTALLED PRIOR TO SITE DISTURBANCE PER MPCA GUIDELINES

KEY NOTES

1. DOCK
2. BOULDER FIREPIT
3. BOULDER STEPS
4. POTENTIAL SHED AREA

NOTES

888.98' HIGH WATER LINE

ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE.

PROPOSED RIP RAP 3:1 SLOPE, ON 6 oz NONWOVEN FILTER BLANKET

NOTIFY NICOLE SODERHOLM, RAMSEY-WASHINGTON METRO WATERSHED DISTRICT, AT 651-792-7976 PRIOR TO BEGINNING ANY AND ALL CONSTRUCTION ACTIVITY.

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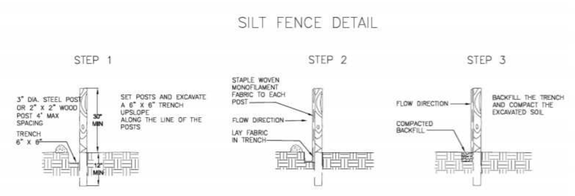


EROSION CONTROL DETAILS

PLANT LIST

	Common Name	Botanical Name	Qty	Size
	Shrubs			
DGN	**DART'S GOLD NINEBARK**	Physocarpus opulifolius 'Dart's Gold'	3	5 GAL
DBH	**DWARF BUSH HONEYSUCKLE**	Diervilla lonicera	9	5 GAL
GGS	**GLOW GIRL SPIREA**	Spiraea betulifolia 'Tor Gold'	6	5 GAL
LLH	**LITTLE LIME HYDRANGEA**	Hydrangea paniculata 'Jane'	2	5 GAL
ORB	**ORANGE ROCKET BARBERRY**	Berberis thunbergii 'Orange Rocket'	6	3 GAL
PDH	**PINK DIAMOND HYDRANGEA**	Hydrangea paniculata 'Pink Diamond'	1	5 GAL
SOBF	**SHOW OFF SUGAR BABY FORSYTHIA**	Forsythia 'Nimbus'	6	2 GAL
TY	**TAUNTON YEW**	Taxus x media 'Tauntonii'	9	5 GAL
	Perennials			
ASD	**APRICOT SPARKLES**	Hemerocallis x `Apricot Sparkles`	6	1 GAL
BF	**BUTTERFLY FLOWER**	Asclepias tuberosa	6	1 GAL
CBI	**CAESAR'S BROTHER IRIS**	Iris sibirica 'Caesar's Brother'	2	1 GAL
HPC	**Hot Papaya Coneflower**	Echinacea purpurea 'Hot Papaya'	4	1 GAL
IBB	**INDIGO BLUE BAPTISIA**	Baptisia australis 'Indigo Blue'	2	1 GAL
JBG	**JOHNSON'S BLUE GERANIUM**	Geranium x 'Johnson`s Blue'	9	1 GAL
PPCB	**Plum Pudding Coral Bells**	Heuchera x 'Plum Pudding'	7	1 GAL
SSH	**SUM AND SUBSTANCE HOSTA**	Hosta x 'Sum & Substance'	3	1 GAL
VPA	**Visions in Pink Astilbe**	Astilbe chinensis 'Visions In Pink'	6	1 GAL
WLC	**WALKERS LOW CATMINT**	Nepeta x faassenii 'Walker's Low'	4	1 GAL
	Ornamental Grasses			
KFG	**KARL FOERSTER GRASS**	Calamagrostis x acutiflora `Karl Foerster`	6	1 GAL
PDS	**Prairie Dropseed**	Sporobolus heterolepis	12	1 GAL

0 8 16 FT

DUCE RESIDENCE

Drawn By: Casey Redland

Date: 9-24-2020

Title: LAKESHORE LANDSCAPE PLAN

Duce Residence

3204 West Owasso Blvd.
Shoreview, MN 55126

Yards Per Pound Inc. is proposing removal of timber walls and the wall at lake. The wall on Lake Owasso on the property is totally failing, being undermined by wave action and falling towards the lake (Photos 1, 2 and 3).

Photo 1

Photo 2

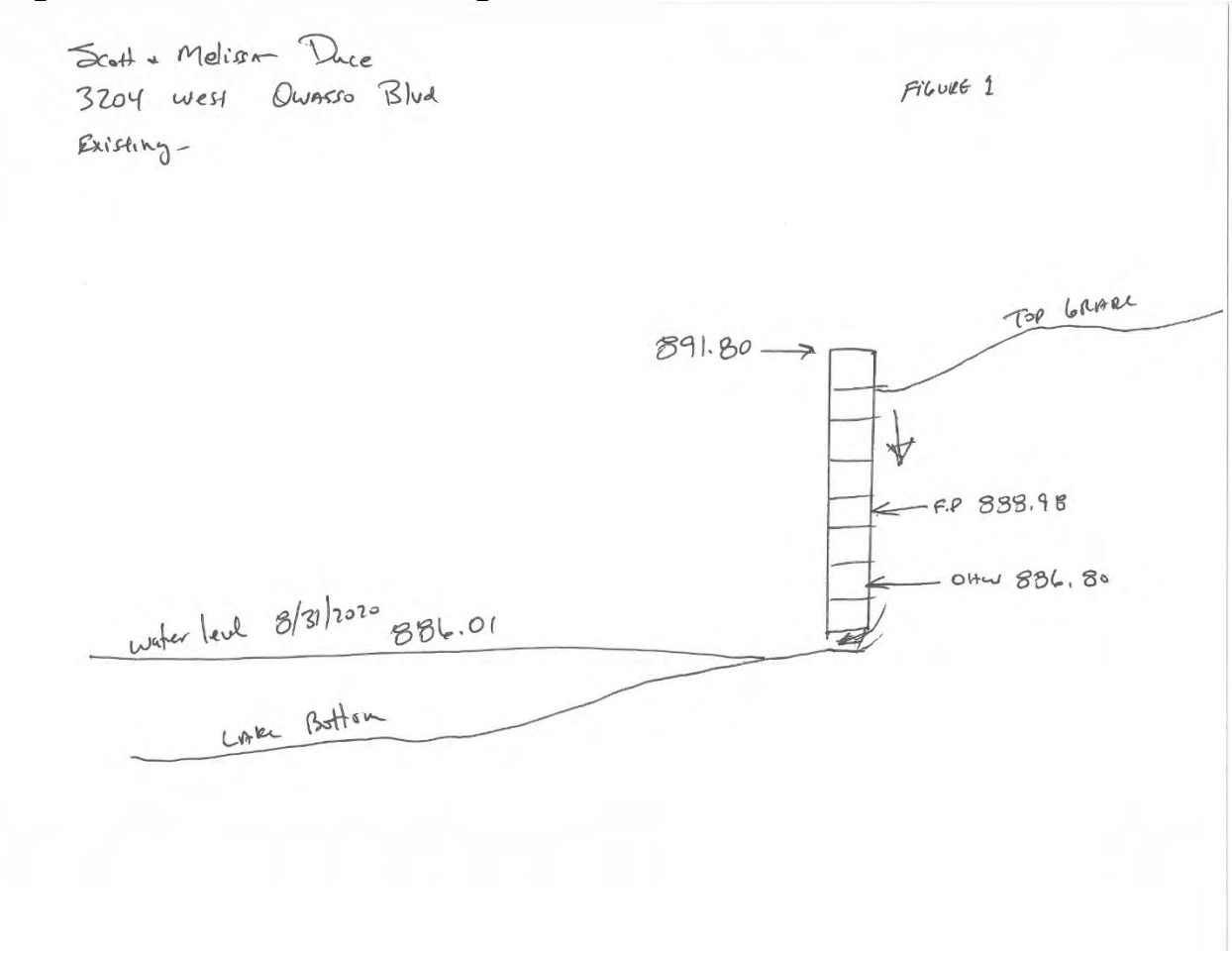
Photo #3

Our proposal would be to remove the wall and replace it with granite cube boulders. This would also require some form of riprap installed in front of the granite wall to minimize future wave action and ice sheer. We would propose a 3:1 riprap slope to meet the DNR guidelines and using CL3 crushed granite riprap over non-woven filter fabric (minimum 6oz).

One issue we will have is to create floodplain compensatory storage, as seen by the above photos. I took a lake level reading on 8/31/2020. I was able to meet with the surveyors for the project of road construction of N Owasso Blvd, and they were able to get a benchmark for elevation in front of the newly constructed restroom on the south side of the road. Their benchmark (896.91 as seen on Photo #4) was used to shoot the lake level, currently at 886.01 (drop of 10.90 feet from benchmark).

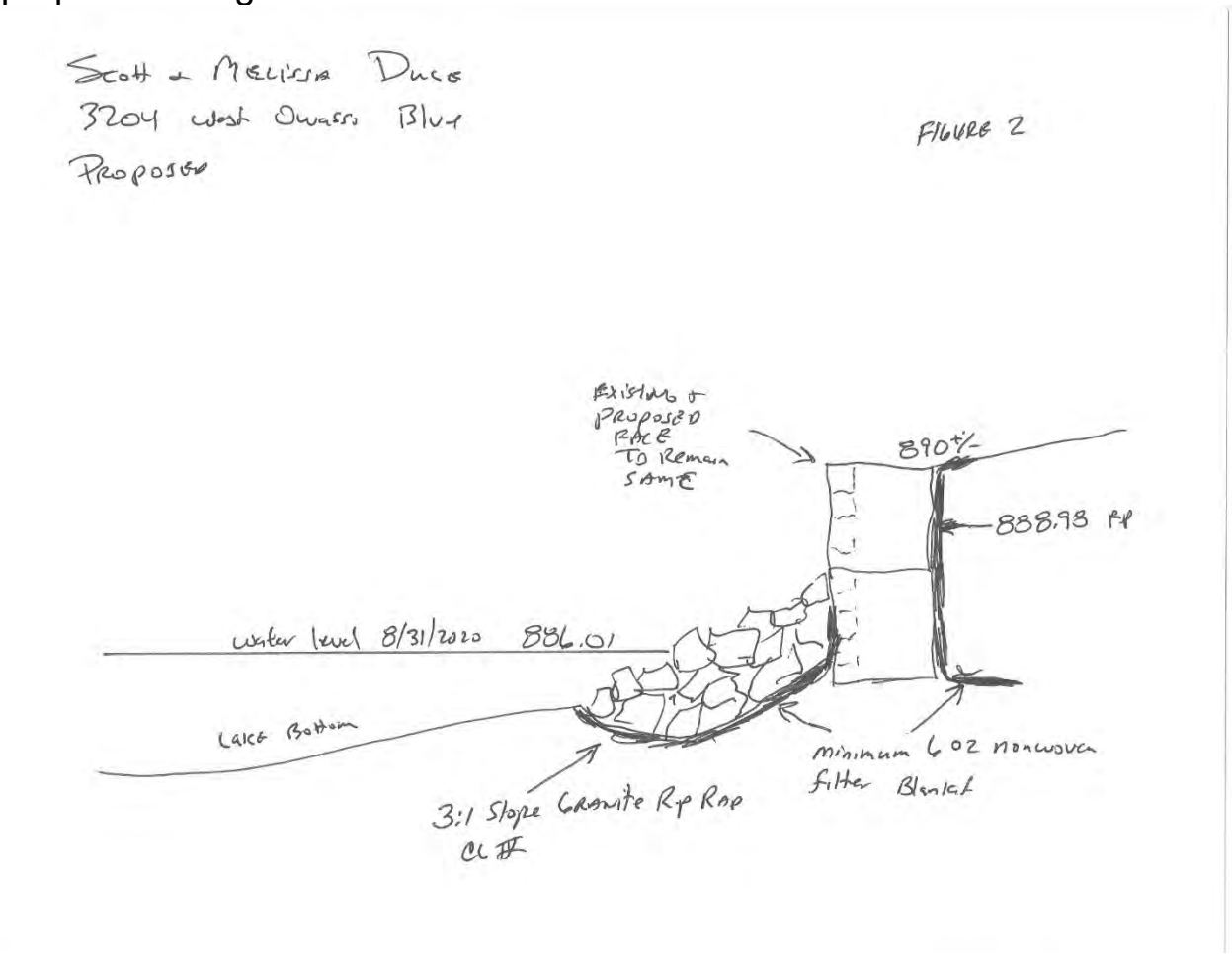
Photo #4

Figure 1 below shows existing cross section:



Using this data, I proceeded to drive a stake at the water's edge at the north end of the Duce property. Given the data of OHWL @ 886.8, the lake is approximately 0.8' low at time of reading. The floodplain remains at 888.98.

Our calculations for increased volume of fill in the floodplain is this proposed in Figure 2 below:



Clear washed granite class 3 or 4 weighs about 1.5 tons/cubic yard. 3000lbs/27 cubic foot or 111.1 pcf. Solid granite weighs on average 176 pcf. With this calculation, we have a 36% “air gap” or non-displacement of water.

The cross section of riprap (hand sketch, Figure 2) in the floodplain needing riprap at a 3:1 slope, or 6 cubic feet per linear foot (75’) yields 450 cf. 450 x 0.64= 432 cubic feet (10.7 cubic yards) of displacement.

The above displacement calculations take into consideration that the timber walls that are 6 inches thick will be replaced by granite averaging 2.5-foot-thick will have the same “face” as existing wall. This will require additional excavation from the existing bank, back an additional 2 feet (on average) to accommodate the boulders, to not displace any additional volume of water.

We are asking for an exception for compensatory storage, given the scope of the work and existing conditions. We are open to ideas to resolve and move forward. If left alone, the existing wall will collapse, and the floodplain will naturally fill itself as there is a sheer wall above the 888.98 elevation.

EROSION CONTROL

As requested, the prints will be sent separately. You will note two layers of erosion control are present at the lake with perimeter silt fence/bio logs as well. In addition, YPP will carefully work around the weather and prep for incoming conditions keeping additional silt fence and silt socks on site and using them for containment or diversion as we feel would be needed or useful, or necessary. Ground travel mats are used to minimize additional disturbances to soil or established turf from driveway to construction site. Our construction entrance will be the driveway at 3204 W Owasso Blvd., all asphalt. A sweeper for our skidsteer will be on site for daily cleanup of construction entrance (driveway and road as needed).

Thank you for your consideration.
John Pound, Yards Per Pound Inc.
612-701-5507

RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

MEMORANDUM

Date: October 7, 2020

To: Board of Managers and Staff

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

Subject: September Enforcement Action Report

During September 2020:

Number of Violations:	**8**
Install/Maintain Perimeter Control	2
Install/Maintain Construction Entrance	2
Sweep Streets	1
Stabilize Exposed Soils	2
Implement Proper Dewatering	1

Activities:

Permitting assistance to private developers and public entities, miscellaneous inquiries, ongoing ESC site inspections and reporting, WCA administration and procedures, final inspections, BMP maintenance and close-out inspections, new permit review with Barr Engineering, implicit bias and anti-racism training hosted by Capitol Region WD, Hillcrest Golf Course stormwater planning workshop, Owasso Park PaveDrain installation and presentation

Project Updates:

19-40 Luther White Bear Subaru Parking (Vadnais Heights)

On September 9th staff were onsite to observe the installation of the underground infiltration system. Contractors had installed fabric, rock, and the system structures including the pretreatment isolator row. Contractors explained that the fabric pulled up the sides of the system would be wrapped around the structures once connections to the system were completed at the east end of the site. Staff are regularly inspecting the site for erosion and sediment control items as well.

19-41 Margaret Street Apartments – Uptown Commons (North St. Paul)

Staff attended an initial erosion control walk-through on September 16th with site contractors. The project is unique in that it exists within another active construction project (#19-51 Margaret Street Downtown Improvements). Due to current site conditions several erosion control items called out on the site plans are not feasible, however staff communicated that these items must be installed as soon as site conditions allow. Contractors from each project are in close communication regarding erosion control items. Staff will continue to inspect both sites on a biweekly basis.

20-24 Maple Ridge Gas Station – Hy-Vee (Maplewood)

Staff met onsite with contractors on September 22nd for an initial erosion and sediment control walk-through. Staff found that all necessary erosion and sediment control items were installed and functioning properly. Site contractors detailed their sequencing for this project and explained to staff that site contacts may change once winter construction begins. Staff will continue to inspect the site regularly, as well as keep site contacts up to date.

20-16 Mondello Shores (Little Canada, Vadnais Heights)

Staff conducted two routine erosion and sediment control inspections in the month of September at Mondello Shores (September 9th and 22nd). Both inspections revealed some minor maintenance items needed such as sweeping adjacent roadways and pulling sediment back from biologs where the devices are near ½ full. Staff observed temporary stabilization (seeding) throughout the site where soils were no longer being actively worked. This quick action to stabilize is very beneficial to the site. Staff will continue to inspect the site regularly.

19-06 Launch Properties Tamarack (Woodbury)

Staff inspected the site on September 9th and found several items that still needed to be repaired from the previous month's reports, most notably soil stabilization. The site is partially developed with plans to leave the rest of the disturbed areas temporarily undeveloped. Staff spoke with site contacts over the phone to discuss plans to make repairs throughout the site. Staff revisited the site on September 22nd and found that many improvements had been made including perimeter control repair, slope check installation, and large-scale hydroseeding. These improvements will help keep the inactive site in compliance. Staff will continue to inspect the site to ensure erosion and sediment control practices are maintained as needed.

Permits Closed:

14-20 Roseville Garden Station (Roseville)
16-15 Liberty Village (Vadnais Heights)
17-08 Met Council Interceptors 7122 & 8151 Rehabilitation (Maplewood/Vadnais Heights/White Bear Lake)
17-24 Artis Senior Living (Woodbury)
17-31 Met Council Beltline Sanitary Sewer Rehab (St. Paul)
18-24 Roseville Luxury Apartments (Roseville)
19-23 Granada Access Road Maintenance (Oakdale)
19-44 5 Star Mobile Estates Soil Correction (Vadnais Heights)

Permits Approved by Staff:

20-33 406 E Horseshoe Drive (Shoreview)

The applicant proposed to construct a rain garden, excavate a pea gravel firepit, and place 5 cubic yards of sand on the shoreline of Lake Owasso. Total disturbance is approximately 250 square feet. The applicant proposed to provide compensatory storage in the floodplain to offset the fill being placed. Permit was issued on 9/23/20. Applicant notified staff on 9/30/20 that project was complete. Staff will complete a final inspection of the site prior to permit closure.

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Stewardship Grant Program

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Stewardship Grant Program Budget Status Update

October 7, 2020

Homeowner	Coverage	Number of Projects: 37	Funds Allocated
Habitat Restoration and rain garden w/o hard surface drainage	50% Cost Share $15,000 Max	19	$55,835
Rain garden w/hard surface drainage, pervious pavement, green roof	75% Cost Share $15,000 Max	13	$76,650
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			$48,400
Total Allocated			**$918,400**

2020 Stewardship Grant Program Budget	
Budget	$1,000,000
Total Funds Allocated	$918,400
Total Available Funds	**$81,600**

These numbers include $34,850 in project funds pending approval at the October 7, 2020 board meeting.

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Presentations and Action Items

****

resourceful. naturally.
engineering and environmental consultants

BARR

Technical memorandum D R A F T

To: Tina Carstens—Ramsey-Washington Metro Watershed District
From: Tyler Olsen and Erin Anderson Wenz—Barr Engineering Co.
Subject: Fish Creek subwatershed feasibility study
Date: September 29, 2020
Project: 23/62-1200.20
c: Paige Ahlborg, Ramsey-Washington Metro Watershed District

1.0 Introduction

This memorandum summarizes the conceptual designs for several proposed best management practices (BMPs) identified in the Fish Creek subwatershed of the Ramsey-Washington Metro Watershed District (RWMWD). The identified BMPs aim to improve and maintain Fish Creek's water quality by retaining or filtering runoff to remove sediment, nutrients, debris, and other pollutants. Barr identified BMP retrofit opportunities based on guidance from the accelerated implementation project category description of the Clean Water Fund, the RWMWD watershed restoration and protection strategies (WRAPS) report, and the RWMWD watershed management plan (Plan). Barr considered more than a dozen potential BMP retrofits in the watershed. This memo summarizes conceptual designs for BMPs and other water quality improvement recommendations for seven areas in the Fish Creek subwatershed.

2.0 Background information

The Fish Creek subwatershed covers 783 acres, in the cities of Maplewood, St. Paul, Woodbury, and Newport. The majority of the Fish Creek subwatershed is located in Ramsey County, with the southeastern portion in Washington County. The subwatershed receives flow from Carver Lake, which is the headwaters of Fish Creek. The total area tributary to Fish Creek, including Carver Lake, is 3,055 acres. Fish Creek is a perennial, urban stream that originates at Carver Lake and ultimately discharges to Eagle Lake and the Mississippi River. Fish Creek is the only District-managed waterbody within the Fish Creek subwatershed. Significant areas of the Fish Creek subwatershed are park and open space owned by Ramsey County or the City of Maplewood, as well as some areas classified as agricultural (Bailey Nursery). The remainder of the subwatershed is single-family residential land use, with some highway (Interstate-494 [I-494]) and commercial areas in the southeastern portion of the subwatershed. In a feasibility study that evaluated sediment source loading to Fish Creek (Barr, 2007), it was noted that Bailey Nursery may sell their property for residential redevelopment, which would significantly change the land use and could change the nutrient loading patterns.

Historically, Fish Creek experienced significant streambed erosion caused by increased stormwater flows. In the late 1980s, the RWMWD undertook a significant restoration project that included the construction

of drop structures along the length of the creek as well as the construction of an underground pipe to handle the flood flows in the steeper section of the creek. The RWMWD continues to conduct maintenance on the creek to sustain that project.

Fish Creek was added to the 2014 MPCA Impaired Waters 303(d) List with an aquatic recreation impairment due to Escherichia coli (E. coli). E. coli bacteria is used in water quality monitoring as an indicator organism to identify water that is contaminated with human or animal waste and the accompanying disease-causing organisms. Bacterial abundance in excess of the water quality standards can pose a human health risk.

The RWMWD conducts regular nutrient monitoring on Fish Creek. Based on an average phosphorus concentration exceeding MPCA stream eutrophication standards at the time of the Watershed Management Plan (RWMWD, 2017), the District has assigned a RWMWD nutrient water quality classification of "At Risk" to Fish Creek. As part of the RWMWD WRAPS Report (Barr, 2016), trend analyses were performed on Fish Creek water quality data. The results showed improving trends for TSS, TP, and Nitrate. Water quality monitoring data through 2019 is shown on Figure 1 below.

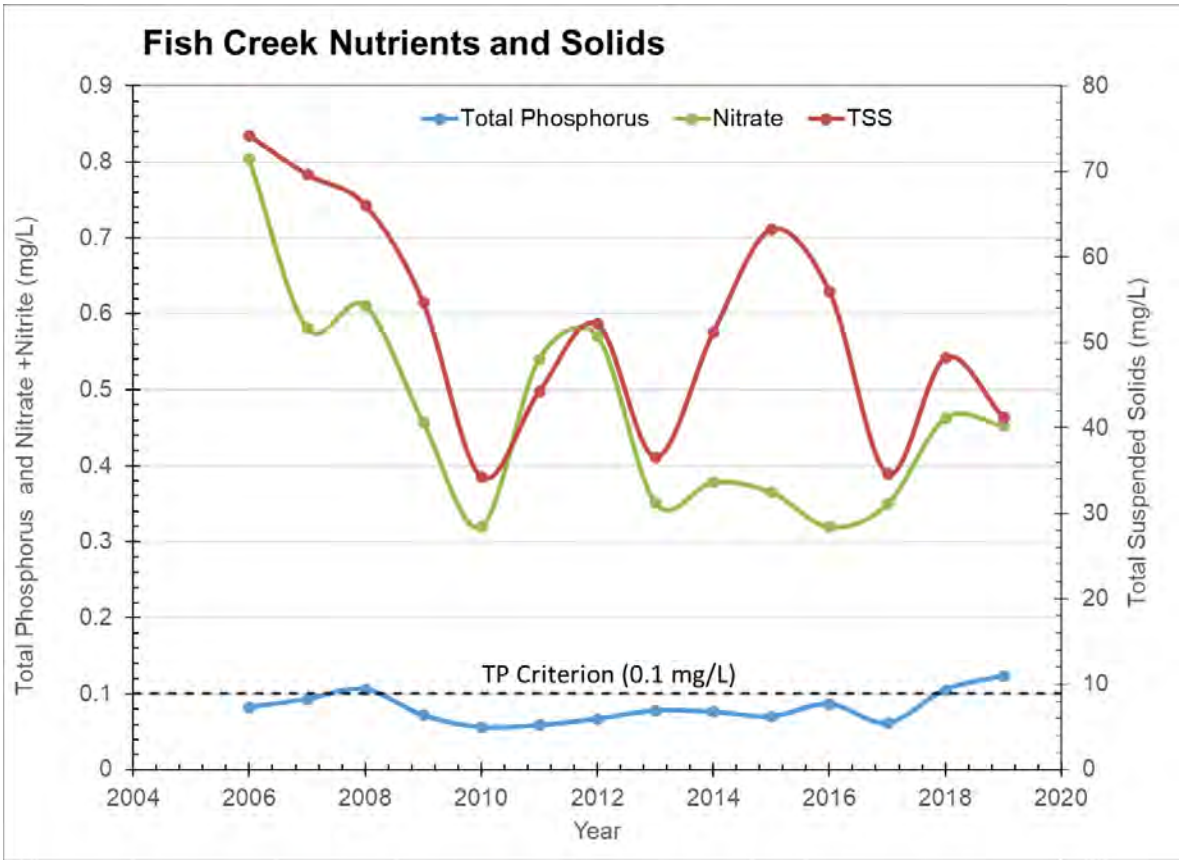


Figure 1 Fish Creek nutrient and solids monitoring data through 2019

The Twin Cities Management Area (TCMA) Chloride TMDL identified Fish Creek as a "high risk" stream for chloride impairment. Chloride monitoring data through 2019 is shown on Figure 2 below. While there are no cost-effective BMP recommendations for reducing chloride already in waterbodies or stormwater, the MPCA recommends several practices to reduce the sources of chloride loading within watersheds. These practices are outlined in Section 3.2.7 of this memo.

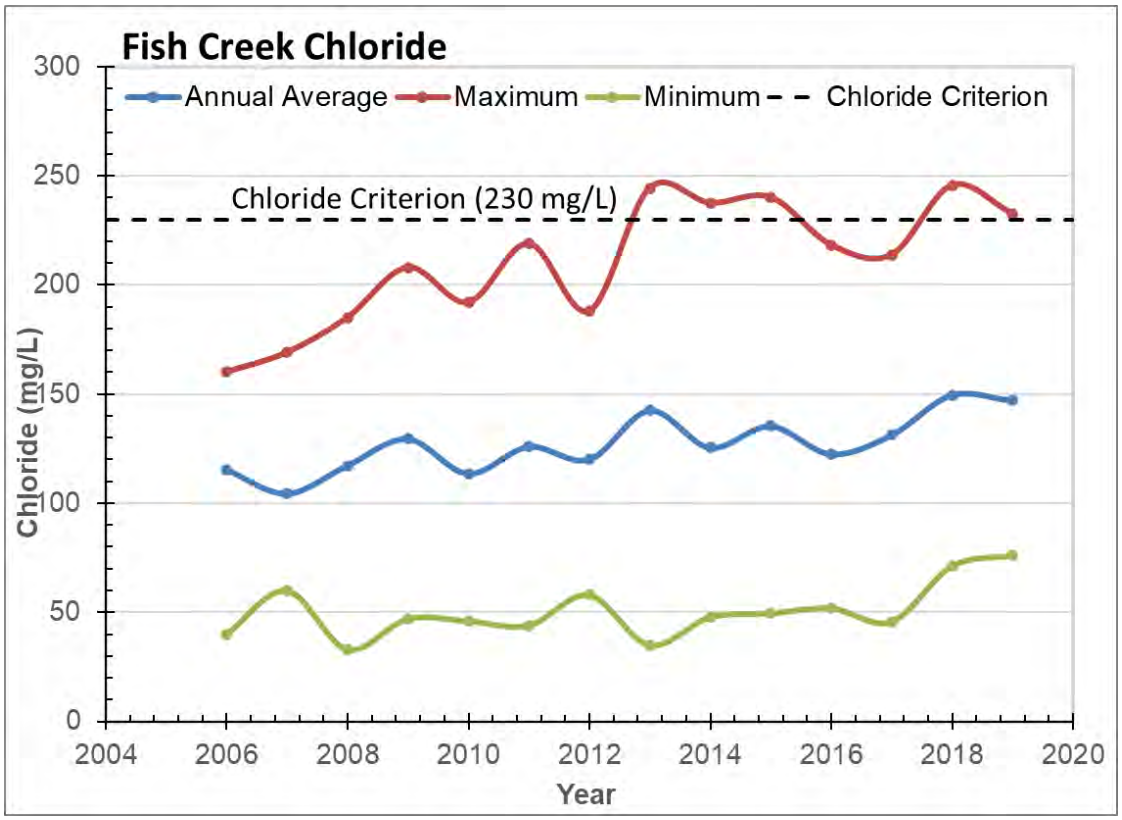


Figure 2 Fish Creek chloride monitoring data through 2019

3.0 Proposed improvements

The goal of this study is to identify possible improvements that the RWMWD could implement throughout the Fish Creek subwatershed to treat stormwater runoff and improve water quality. Where feasible, Barr prioritized infiltration BMPs because they are generally the most cost-effective solution to treating stormwater runoff. Where infiltration was not feasible, we recommended filtration or detention BMPs. This study also qualitatively considers the potential for educational features or partnership to promote continued awareness and mindfulness for improving water quality in RWMWD.

3.1 Site selection for BMP retrofits

Barr investigated the Fish Creek subwatershed to identify potential locations for BMP retrofit projects and other water quality improvement opportunities. The preliminary method for site evaluation was a desktop

analysis. Barr used elevation data, storm-sewer data, imperviousness data, national wetland inventory data, aerial imagery, and Google Street View™ imagery to identify potential sites. Additionally, Barr reviewed the RWMWD's cost-share, permitted, and capital improvements plan projects to identify locations where activity has already taken place in the Fish Creek subwatershed.

Because the Fish Creek subwatershed is relatively undeveloped, the desktop analysis did not identify many sites with significant impervious areas. Barr considered sites that did have larger impervious areas more desirable, as the BMP would have a larger treatment impact. We also gave higher priority to sites with high public traffic (i.e., parks), since they have more opportunity for public engagement and education. In addition, we considered sites owned by the City or County more promising, as a partnership with public entities is generally simpler to establish than a partnership with a private landowner. From this initial list, Barr prioritized sites by eliminating locations with no immediate access for storm-sewer connections, limited direct drainage area, unfavorable (steep) grade change, complex grading within the BMP footprint, or significant trees within the BMP footprint. This prioritization exercise narrowed down the list of sites to seven preferred sites. Barr staff visited these sites for further analysis and developed conceptual designs for them.

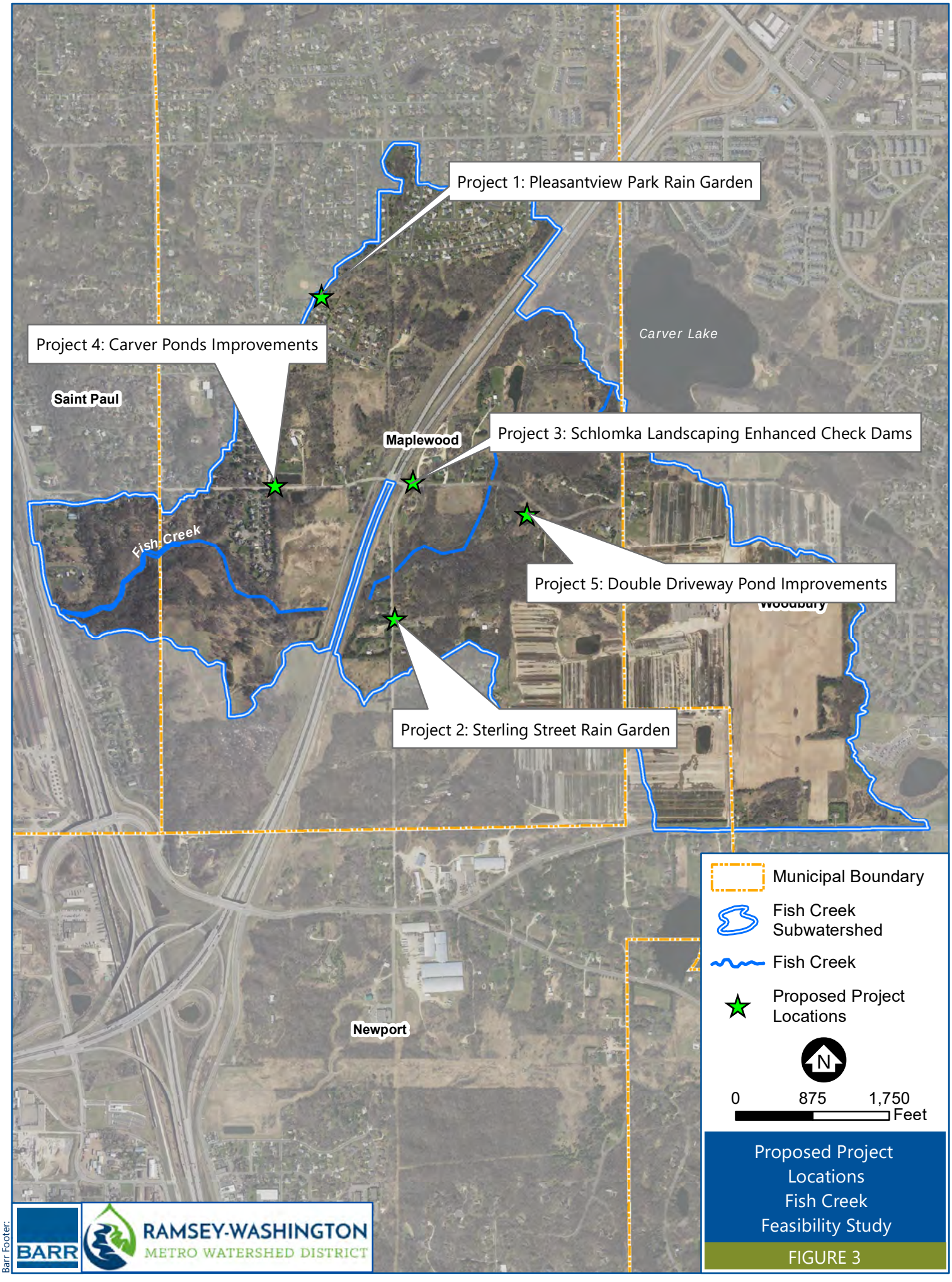
3.2 Proposed Water Quality Improvement Projects

The following section discusses the concept designs Barr developed for the seven prioritized locations in the Fish Creek subwatershed. Table 1 includes the estimated average annual phosphorus removal for each alternative using the MPCA's minimal impact design standards (MIDS) calculator and the Program for Predicting Polluting Particle Passage through Pits, Puddles, and Ponds (P8). Figure 3 shows the locations of the identified project locations in the Fish Creek subwatershed.

Table 1 Summary water-quality benefits for alternatives in the Fish Creek subwatershed

Proposed WQ Improvement Project	Estimated annual TP reduction (lbs/yr)	Estimated annual TSS reduction (lbs/yr)
Pleasantview Park Rain Garden	2.4	429
Sterling Street Rain Garden	1.3	229
Schlomka Landscaping Enhanced Ditch Check Dams	1.8	433
Carver Pond Improvements[1]	2.8 – 24.6	194
Double Driveway Pond Improvements	19.8	1218
Fish Creek Erosion Survey and Improvements	0.4	840

[1]Estimates based on a range of implementation activities including enhanced filtration, dredging, or alum treatment


Project 1: Pleasantview Park Rain Garden
Project 4: Carver Ponds Improvements
Project 3: Schlomka Landscaping Enhanced Check Dams
Project 5: Double Driveway Pond Improvements
Project 2: Sterling Street Rain Garden
Carver Lake
Saint Paul
Maplewood
Fish Creek
Newport
Municipal Boundary
Fish Creek Subwatershed
Fish Creek
Proposed Project Locations
N
0
875
1,750
Feet
Proposed Project Locations
Fish Creek
Feasibility Study
FIGURE 3
BARR
RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

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3.2.1 Project 1: Pleasantview Park Rain Garden

The first proposed project is a biofiltration basin (rain garden) at Pleasantview Park in Maplewood, located at the end of Crestview Court. For this project, runoff is collected from the intersection of Crestview Court and Schadt Drive and the residential homes on Crestview Court, and it is routed north to the end of the road. There are parking spaces and a catch basin located at the end of Crestview Court.

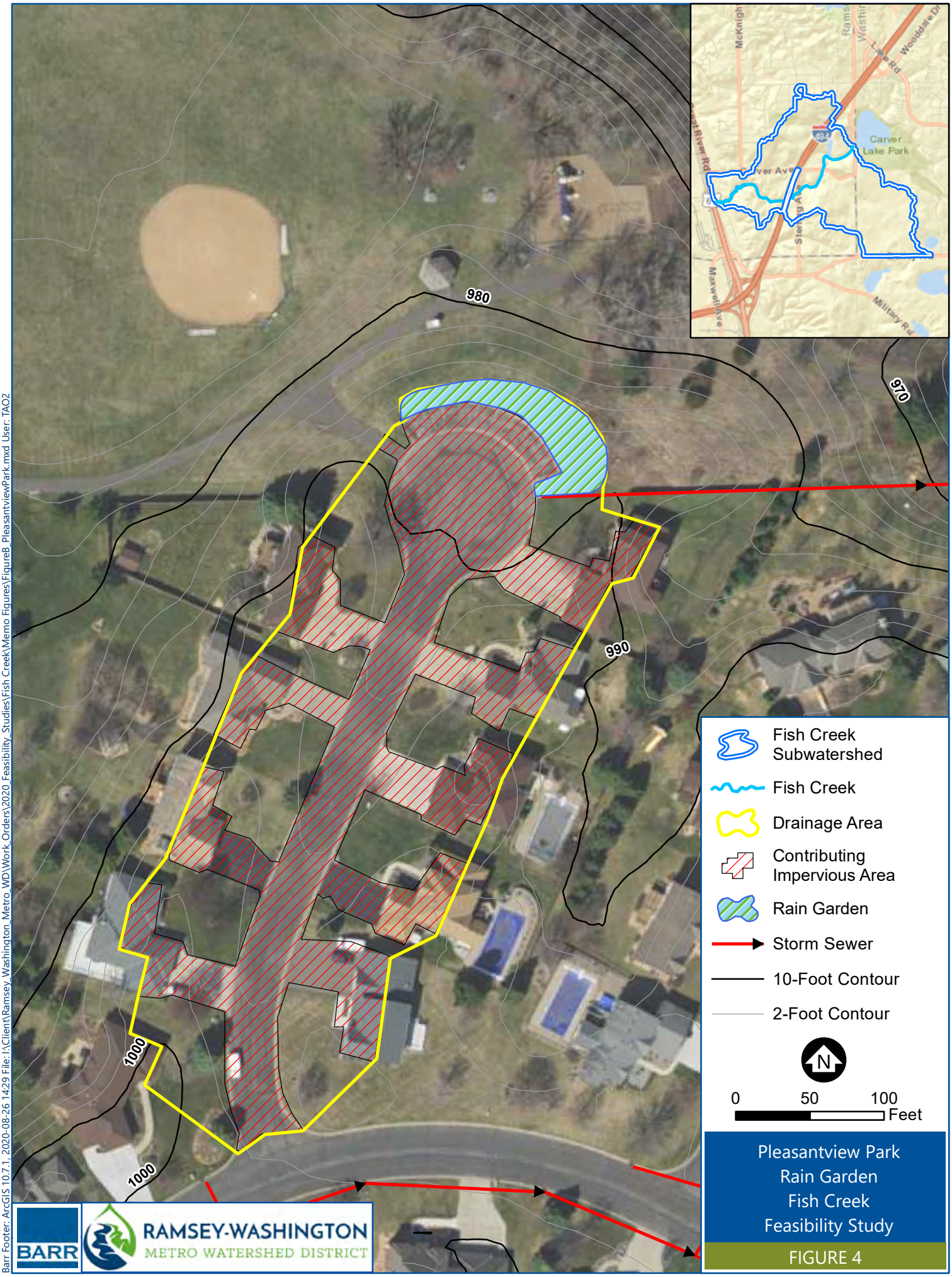
The RWMWD could construct a rain garden in the green space at the end of the road to capture runoff from Crestview Court, as shown on Figure 4. The location receives runoff from 2.09 acres, including 1.20 acres of impervious area. Barr sized the rain garden to capture 1.1 inches of runoff from the contributing impervious areas, resulting in a footprint of approximately 3,900 square feet. Depending on the infiltration capacity of the soils, the rain garden could be designed to either infiltrate the volume within 48 hours or filter runoff through an underdrain connected to the existing storm sewer on Crestview Court. In order to effectively retain water in the rain garden, this project would require modification of the existing storm sewer inlet to route runoff into the rain garden.

The benefits of this rain garden include a reduction in downstream TP loading by 2.4 pounds per year and significant BMP visibility that would provide an opportunity for an educational component located at the adjacent Pleasantview Park. The challenges to constructing a BMP at this location include coordination with the City of Maplewood (park property owner) and moderate grading as there is a slight slope where the proposed rain garden footprint is located, requiring excavation of 0 to 2 feet of soil.

3.2.2 Project 2: Sterling Street Rain Garden

Project 2 is a rain garden located in a resident's yard at the low point of Sterling Street in Maplewood. This low point receives runoff from the street, houses, and driveways. There is an existing catch basin located in the low point that discharges west across Sterling Street into a small channel that connects to Fish Creek. The total watershed area to this location is 12.13 acres, including 0.35 acres of directly connected impervious area. Barr sized the rain garden to capture 1.1 inches of runoff from the contributing impervious area (not including disconnected impervious area from homes, as runoff in these areas is most likely intercepted before it would reach the rain garden), resulting in a footprint of approximately 1500 square feet, as shown on Figure 5. The existing catch basin will be modified to retain the appropriate runoff volume in the rain garden. Depending on the infiltration capacity of the soils, the rain garden could either infiltrate the volume within 48 hours or filter runoff through an underdrain connected to the existing catch basin.

The benefits of constructing this rain garden include a reduction in downstream TP loading by 1.3 pounds per year and some BMP visibility for the local residents, however the educational impact may be limited by the rain garden's location on a road with limited foot traffic. The challenges to constructing a BMP at this location include coordination with and buy-in from the property owner and, if the project extends into the right-of-way of Sterling Street, coordination with the city of Maplewood.



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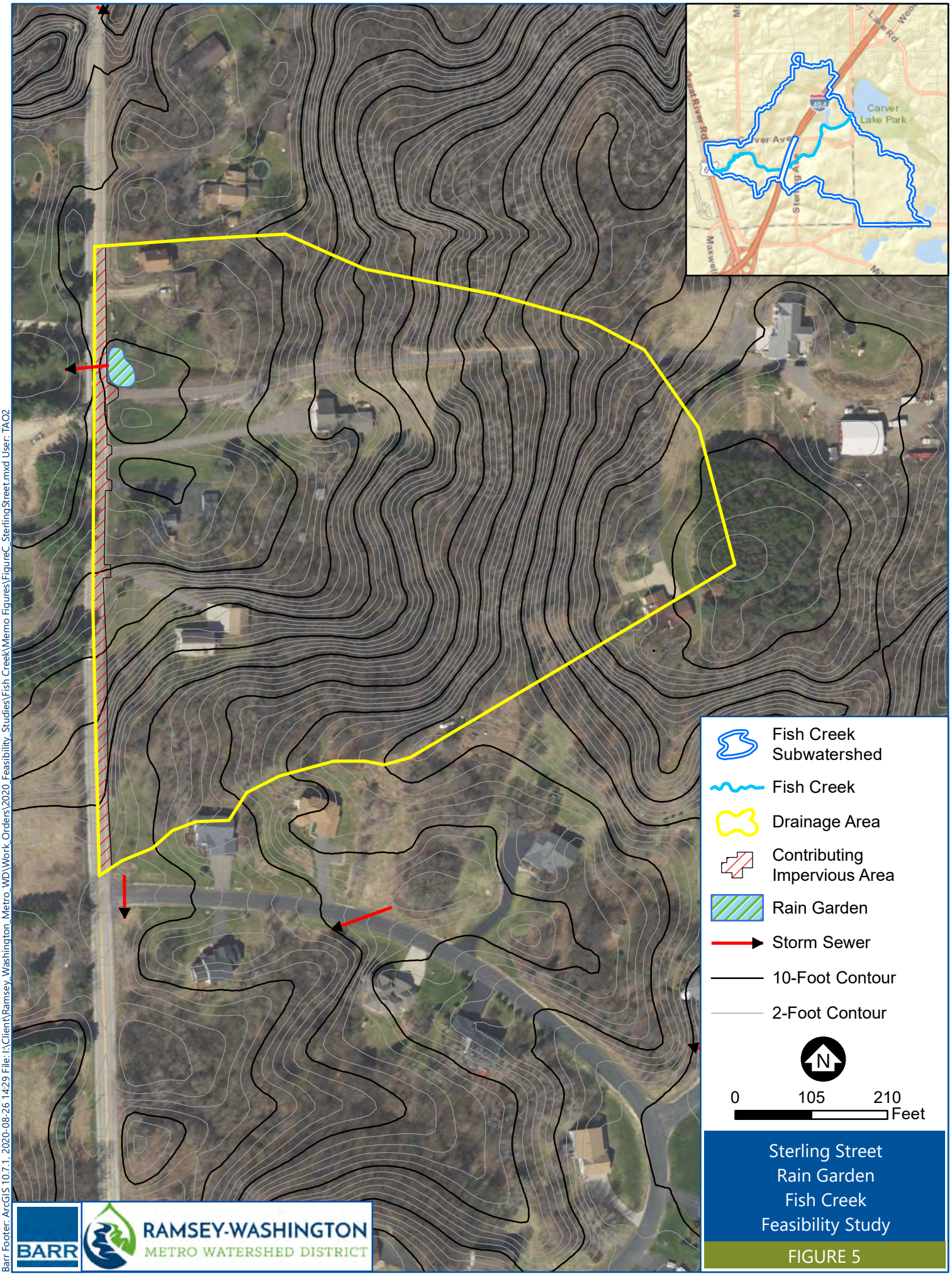
Pleasantview Park
Rain Garden
Fish Creek
Feasibility Study

FIGURE 4



Sterling Street
Rain Garden
Fish Creek
Feasibility Study

FIGURE 5

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RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

3.2.3 Project 3: Schlomka Landscaping Enhanced Ditch Check Dams

Project 3 is a series of two enhanced filtration check dams along the swale running along the southern property boundary of Schlomka Landscaping in Maplewood. This technology was researched at the St. Anthony Falls Laboratory (SAFL) in collaboration with the Minnesota Department of Transportation (Mn/DOT) to evaluate treatment of street and highway runoff using iron-enhanced sand. A schematic of the check dam design in shown on Figure 6 where runoff is pooled behind the dam up to 2 feet and filtered through the core of iron-enhanced sand. A photo of the filter core is shown in Figure 7. Results from research at SAFL show dissolved phosphorus removals from enhanced check dams that are comparable to a typical iron-enhanced sand filter (typically 30% to 50% dissolved phosphorus removal).

Barr is proposing the construction of two ditch check dams: one upstream (east) of the Schlomka Landscaping driveway along Carver Road, and one upstream of the crossing under Carver Road (see Figure 8). Check dams in these two locations will allow for runoff to be treated in two locations and reduce the pooled volume of runoff during larger events. The total watershed area to these BMPs is 2.74 acres, including 1.27 acres of impervious area. The width of the filter core is 2 feet and the side slopes are at 10H:1V (horizontal:vertical) on the upstream and downstream sides. The benefits of constructing this BMP include a reduction in TP loading by 1.8 pounds per year. A drawback of this technology is that it is relatively new, and therefore the removals may not accurately reflect field performance for the Fish Creek site as no specific design criteria exist to date. Additionally, the long-term effectiveness of this technology is unknown, but assumed to be similar to a typical iron-enhanced sand filter.

This project may present an opportunity to partner with SAFL, as the research on iron-enhanced check dams is ongoing. This project would provide unique data, as other monitoring sites have been located off major highways in Minnesota; this project would represent a different application of this new technology.

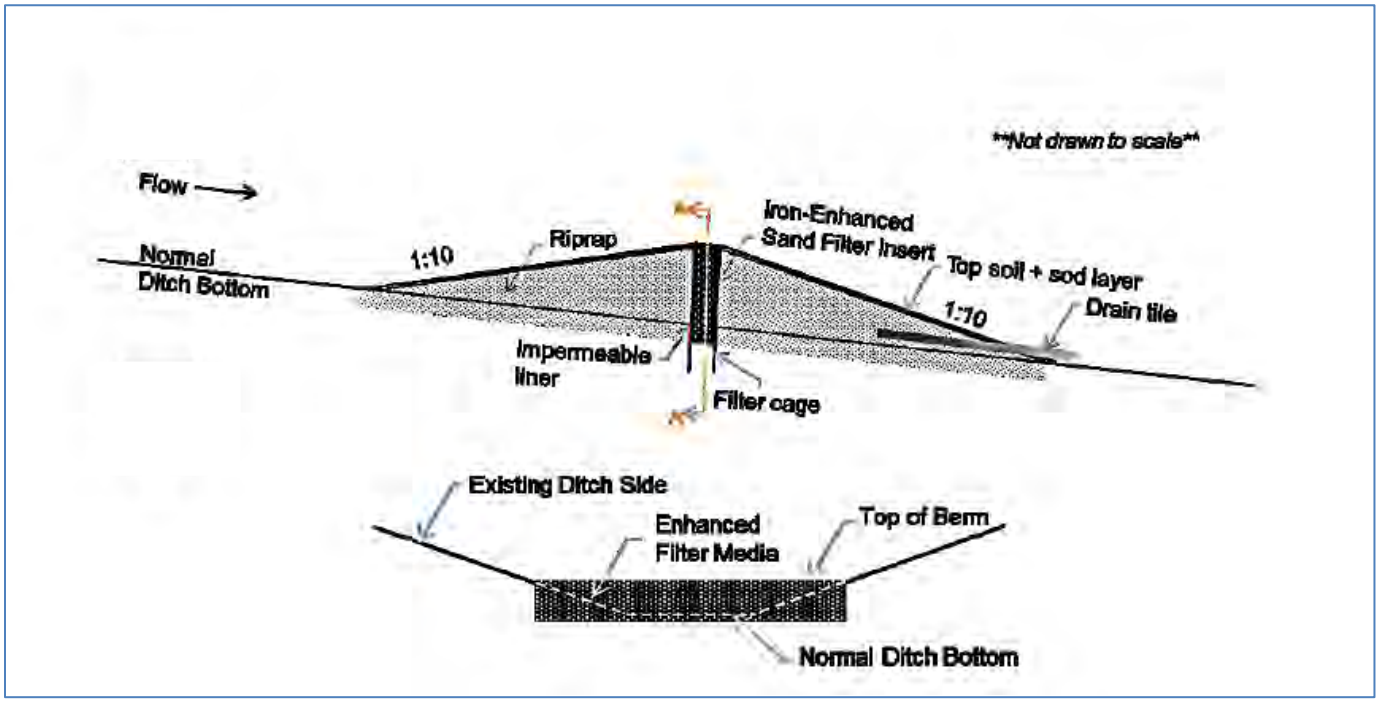
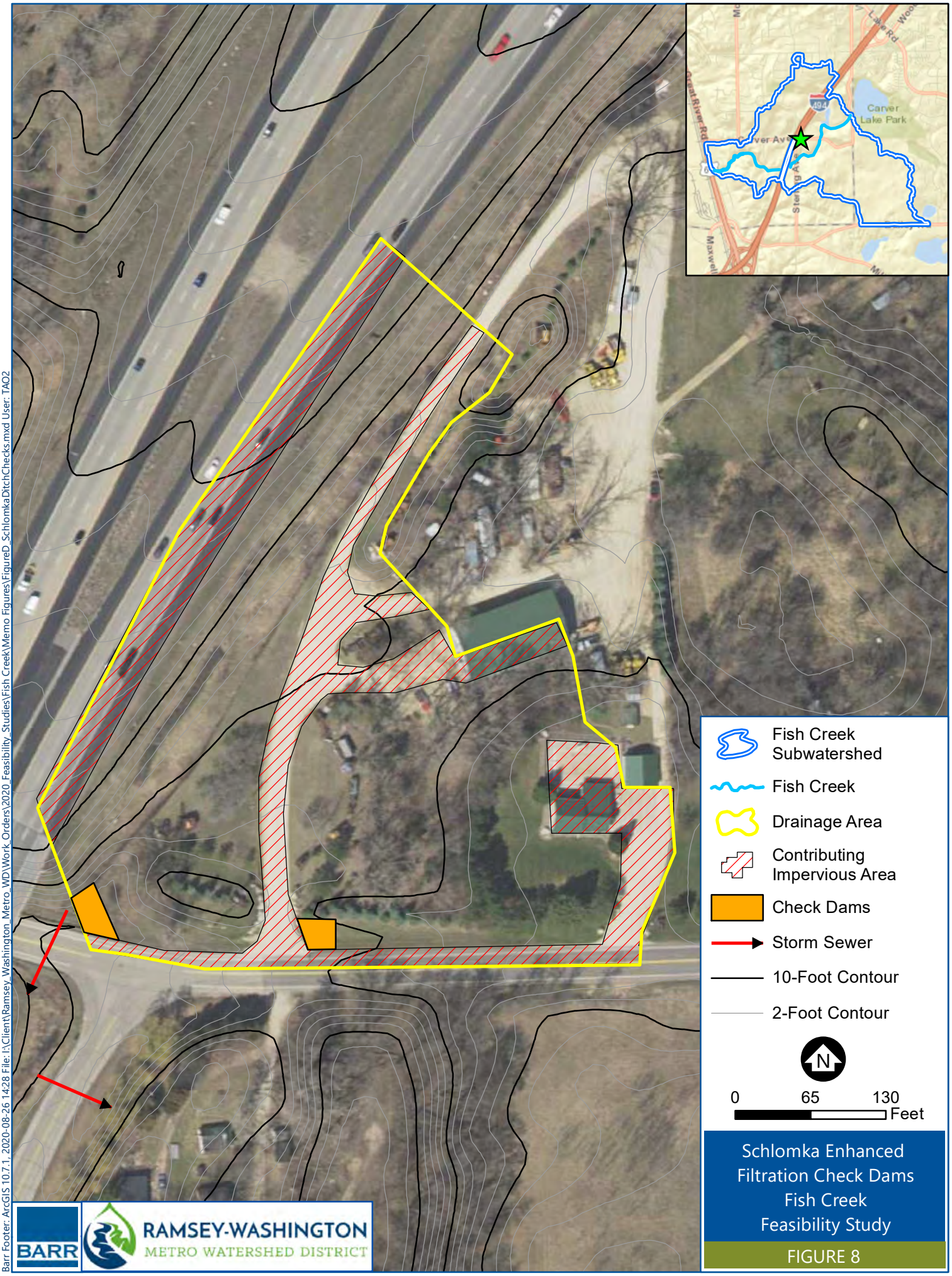


Figure 6 Schematic of the iron-enhanced check dam (from Natarajan and Gulliver, 2015)

Figure 7 Photo of filter core in check dam (from Natarajan and Gulliver, 2019)



Schlomka Enhanced Filtration Check Dams
Fish Creek
Feasibility Study

FIGURE 8

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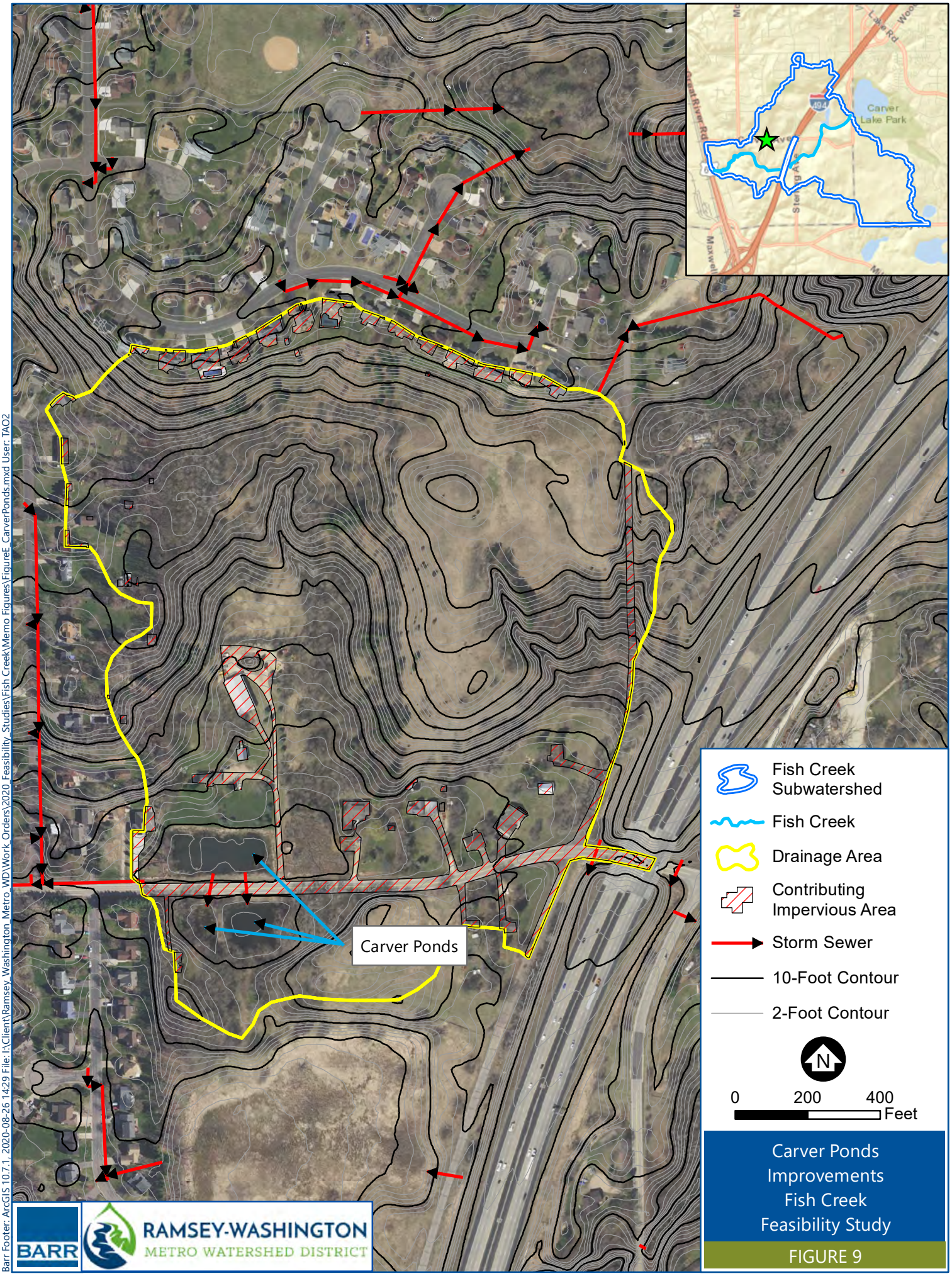
3.2.4 Project 4: Carver Ponds Improvements

Three existing stormwater ponds (hereafter referred to as Carver Ponds) are located near the property of 2405 Carver Ave in Maplewood. The ponds and their contributing watershed are shown on Figure 9. The ponds are connected under Carver Ave by two large culverts and discharge westward via storm sewer. The receiving storm sewer is directly connected to the high flow bypass along Fish Creek. The Carver Ponds receive runoff from the surrounding residential areas within the Fish Creek watershed. During the field visit, we noted that the ponds are currently hypereutrophic, and the outflow form the northern most pond contained metallic and oily sheen, as well as significant algal growth. Most likely, these ponds are exporting large quantities of phosphorus downstream to Fish Creek. The total drainage area to the Carver Ponds is 56 acres, including 5.38 acres of impervious area.

Barr recommends further inspection of these stormwater ponds, including collection of sediment cores, to determine their condition and export of phosphorus to Fish Creek. Based on the results of this characterization, additional recommendations may include dredging, chemical treatment (i.e. alum), or enhanced filtration BMP construction to treat discharge from the Carver Ponds and/or prevent further internal loading (we suspect this is high due to water quality observed during the field visit). Around the ponds there are several areas where an enhanced filtration BMP could be constructed, including near the outlet or between the two southern Carver Ponds.

The benefit of this project is that these ponds receive runoff from a large area. If the ponds are acting as sources of phosphorus due to sediment phosphorus release (rather than removing phosphorus via settling of sediments, as designed), this portion of the watershed is effectively untreated before reaching the creek. Based on staff experience and the field observations, it is highly likely that this pond is exporting phosphorus and management activity would greatly reduce loading. Using estimates from projects of similar scale, the benefit of this project could reduce TP loading by 2.8 to 24.6 pounds per year based on the management activities implemented.



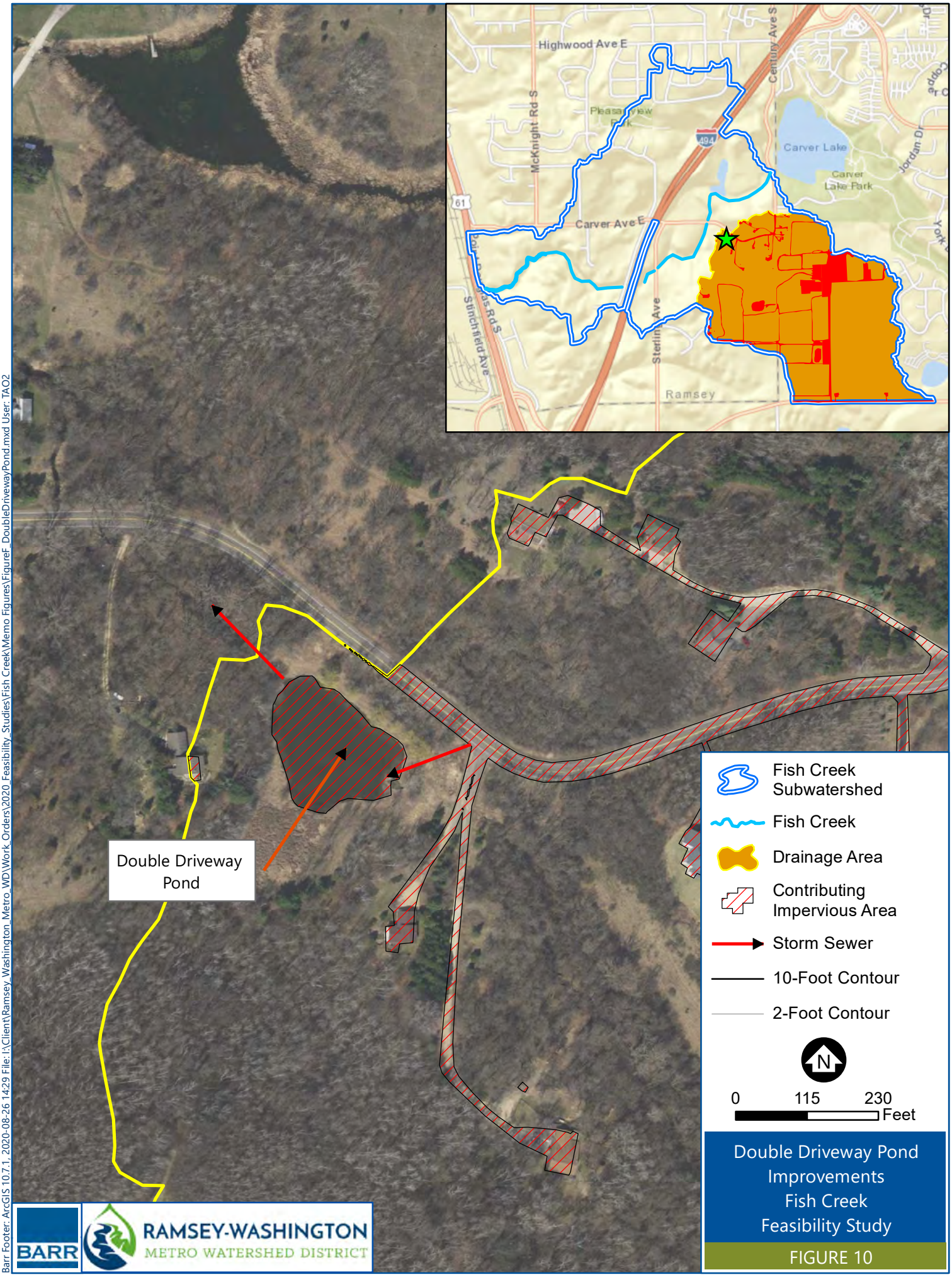
3.2.5 Project 5: Double Driveway Pond Improvements

There is an existing stormwater pond located at the discharge point of the Bailey Nursery property along Carver Ave in Maplewood, nicknamed "Double Driveway Pond" and shown on Figure 10. Because this pond receives runoff from 308.3 acres, including 156.3 acres of impervious area, it requires frequent management to remove accumulated sediment. Double Driveway Pond has been dredged several times over the last two decades to manage accumulated sediment in the pond. However, based on Barr's observations in the field the pond has refilled with sediment and is therefore not providing much water quality benefit.

Barr recommends that the following improvements be considered for Double Driveway Pond to maximize its water quality benefit:

- Dredging of accumulated sediment and pond bottom to an additional 3 feet of depth
- Installation of hydrodynamic separators in upstream catch basins/manholes
- Treatment of pond with alum to prevent internal loading of phosphorus

The benefit of this project is that the additional volume in the Double Driveway Pond would increase its water quality treatment of runoff and reduce maintenance frequency. Assuming each improvement is implemented, the project would reduce TP loading by approximately 19.8 pounds per year. A challenge of this project is that it does not address upstream sediment and nutrient loading from the Bailey Nursery. Therefore, sediment will continue to accumulate in Double Driveway Pond unless preventative practices are implemented by the private property owners. However, this project will slow the rate of accumulation and decrease the frequency of maintenance.



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3.2.6 Project 6: Fish Creek Erosion Survey and Improvements

Several projects have been conducted on Fish Creek to improve erosion observed during routine inspections by the RWMWD. However, during the RWMWD's 2018 inspection, several areas were marked as eroding and "to watch" for continued erosion. All of these areas were located upstream of Fish Creek's crossing under I-494. These areas are denoted with yellow pentagons on Figure 11. Areas marked "No" on Figure 11 are areas with no observed erosion. The area marked "Yes" was observed to have active erosion. Photos from eroding areas showing bank erosion and undercutting of banks are shown on Figure 12 and Figure 13, respectively.

While erosion primarily causes increased sediment loading, erosion can also cause increased nutrient loading (including TP) because of the nutrients adsorbed to sediment particles. Using the Minnesota Board of Soil and Water Resources Pollution Reduction Estimator (BWSR, 2019), Barr estimated that the TP load to Fish Creek due to erosion is approximately 0.4 pounds per year if 10% of the creek length is eroding. If erosion continues to worsen, the TP loading would also increase.

To reduce erosion and associated sediment and nutrient loading, Barr recommends continued inspection of Fish Creek and targeted restoration of eroding areas. These restoration activities may include hard armoring, regrading, and/or installation of rock riffles and pools.

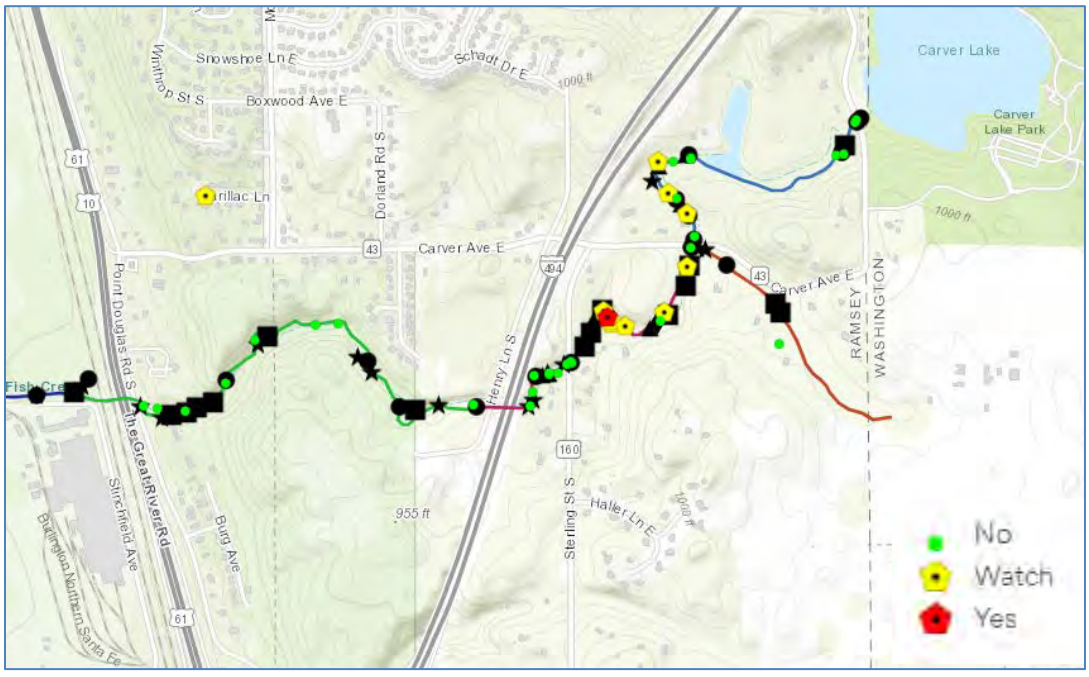

Figure 11 RWMWD 2018 Fish Creek inspection results

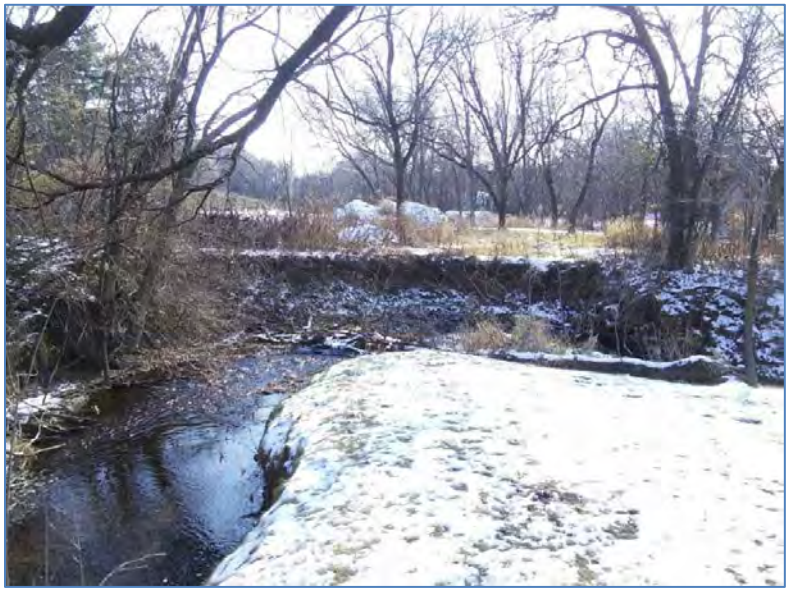

Figure 12 Stream bank erosion in Fish Creek (source: RWMWD)

Figure 13 Undercutting of stream bank along Fish Creek

3.2.7 Chloride Reduction Strategies for Fish Creek Subwatershed

Because Fish Creek is considered at "high risk" for chloride impairment, some of the MPCA's guidance and recommendations for chloride management based on strategies outlined in the Twin Cities Chloride Management Plan (MPCA, 2016) are included in this technical memorandum. These strategies are focused on prevention rather than treatment, as there are currently no cost-effective or scalable treatment practices to remove chloride from surface water. Below are a sample of chloride reduction strategies targeted at both road salt application and water softener usage within the subwatershed.

Road Salt Reduction Strategies:

- Support local and state winter maintenance crews in their efforts to reduce their salt use
- Work with local government, businesses, schools, churches and non-profits to find ways to reduce salt use
- Encourage slow driving
- Shovel, rather than apply salt to melt snow and ice
- Use appropriate salt ratio: 4 pounds of salt per 1000 square feet

Water Softener Salt Reduction Strategies:

- Consider if a water softener is needed – test water for hardness
- Change from a timer-based to a demand-based softener that recharges only when needed, based on how much water is used
- Install a bypass so landscape irrigation water is not softened

The MPCA has also created guidance for monitoring surface waters that are categorized as high-risk for chloride impairment. The MPCA suggests the following guidance for additional monitoring of high-risk waters:

1. Identify dates or periods of past chloride concentrations that were either:
    a. Exceedances (exceeded the chronic chloride standard), and
    b. "high" occurrences, defining "high" as less than but within 10% of the chronic standard (thus >207 mg/L)

2. Select a 4-week period centered on each such date or period, and for each:
    a. Sample for chloride weekly, always on the same day of the week
    b. Sample at the same depth or depths as in past sampling

3. If an electrical conductivity meter is available, take and record a "matching" conductivity reading with each lab sample taken:
    a. "matching" = from the same primary sample that provides the lab subsample, if the primary sample is a sufficiently larger volume than the laboratory bottle used; or otherwise
    b. "matching" = same location and depth as the lab sample

4. Possible expanded effort:
    a. Monitor twice weekly rather than once, always on the same days of the week (e.g., Monday and Thursday) including, as resources permit:
        i. Chloride sample and conductivity measurement if possible
        ii. Chloride sample only if lacking conductivity meter
        iii. Conductivity measurement only on the increased frequency if laboratory costs limit sampling but a meter is available

Sampling for chloride at least weekly during the selected 4-week period(s) is a necessary minimum effort for ensuring the value of this additional monitoring; conductivity measurements alone will not suffice at present. This could change in the future if a reliable and accurate relationship between chloride and conductivity is developed for an individual waterbody.

There are dozens of other resources to reference for reducing salt use through application and policy at the following website: https://www.pca.state.mn.us/water/statewide-chloride-resources.

3.3 Planning-level opinions of probable cost of projects

Barr developed planning-level cost estimates for each conceptual design and performed cost-benefit analyses, as shown in Table 2. As feasibility-level concepts, there is significant cost uncertainty associated with the proposed projects. The planning-level opinion of costs include a 25-percent contingency and estimated cost ranges of -30 percent to +50 percent. Additionally, we estimated the engineering cost for the design of each proposed project as 40 percent of the total cost. This 40-percent fee includes 30-percent engineering and design and 10-percent construction observation and administration. These costs assume that no wetland mitigation will be required as part of these projects, no contaminated soils will be encountered, and no purchase of easements or properties will be required.

Table 2 Summary of planning-level opinions of probable costs for BMPs in the Fish Creek subwatershed

Proposed Project	planning-level opinion of cost[1,2]	estimated engineering cost[3]	total project cost
Pleasantview Park Rain Garden	$60,200 ($50,700 - $108,600)	$24,100	$84,300 ($74,800 - $132,700)
Sterling Street Rain Garden	$47,200 ($33,000 - $70,800)	$18,900	$66,100 ($51,900 - $89,700)
Schlomka Landscaping Enhanced Ditch Check Dams	$25,200 ($17,700 - $37,800)	$10,100	$35,300 ($27,800 - $47,900)
Carver Pond Improvements	$206,600 ($144,600 - $309,900)	$82,600	$289,200 ($227,200 - $392,500)
Double Driveway Pond Improvements[4]	$355,400 ($248,800 - $533,100)	$142,200	$497,600 ($391,000 - $675,300)
Fish Creek Erosion Survey and Improvements	$121,900 ($85,400 - $182,900)	$48,800	$170,700 ($134,200 - $231,700)

[1] Costs include 25-percent contingency. These do not include costs related to education and outreach, legal, long-term maintenance, or monitoring. Costs are represented as a feasibility-level class 4 cost estimate as defined by the Association for the Advancement of Cost Estimating with a +50% /-30% uncertainty.

[2] These costs assume that no wetland mitigation will be required as part of these projects, and that contaminated soils will not be encountered.

[3] Engineering cost is estimated to be 40 percent of the construction cost, excluding the purchase of properties and/or easements. This cost includes engineering and design and construction observation and administration.

[4] Includes cost of two (2) hydrodynamic separators

To estimate the cost benefit for each proposed BMP retrofit project, Barr calculated annualized costs for each proposed BMP per pound of phosphorus removed. Table 3 presents the annualized costs as a range for BMP lifespans of 20 to 35 years. The capital cost used for each BMP includes the opinion of probable cost and the engineering design cost. Annual costs include an estimated annual maintenance cost for the BMPs and an assumed interest rate of 4 percent.

Table 3 Summary of annualized costs for projects in the Fish Creek subwatershed

Proposed BMP	Annual cost per pound of TP removed ($/lb.)[1]	Annual cost per pound of TSS removed ($/lb.)[1]
Pleasantview Park Rain Garden	$5,000 - $6,500	$15 - $20
Sterling Street Rain Garden	$3,200 - $4,200	$18 - $24
Schlomka Landscaping Enhanced Ditch Check Dams	$1,200 - $1,600	$5 - $7

Proposed BMP	Annual cost per pound of TP removed ($/lb.)[1]	Annual cost per pound of TSS removed ($/lb.)[1]
Carver Pond Improvements	$700 - $1,000	$95 - $125
Double Driveway Pond Improvements[2]	$1,600 - $2,100	$26 - $34
Fish Creek Erosion Survey and Improvements	$27,100 - $35,700	$13 - $17

[1] Range represents the annualized cost based on a 35-year and 20-year lifespan at an interest rate of 4 percent.

[2] Includes cost of two (2) hydrodynamic separators

3.4 Permits

The following permits may be required for one or more of the proposed BMP retrofit projects:

- **Excavating and grading permit (City of Maplewood):** An excavating and grading permit application, along with an erosion control plan, must be submitted with the final grading plans to the City of Maplewood any time a significant amount of soil is being displaced or a drainage pattern is being altered. If disturbed area is greater than 1 acre, watershed and National Pollutant Discharge Elimination System (NPDES) permits will be required.

- **Right-of-way permit (City of Maplewood):** Any work in the public rights of way requires a city right-of-way permit.

- **Erosion and sediment control (RWMWD):** An erosion and sediment control permit is required if the proposed land disturbance is greater than 1 acre or if the proposed land disturbance is within the 100-year floodplain and greater than 10,000 square feet. If required, an erosion and sediment control plan must be submitted with the permit application.

4.0 Meetings

Discussion related to meetings with the RWMWD, City of Maplewood, or other property owners can be included in this section, if they occur.

5.0 Summary and recommendations

This memo includes conceptual design of six water quality improvement project opportunities and chloride management strategies to improve water quality entering Fish Creek from the Fish Creek subwatershed. Of the rain garden concepts, the Sterling Street rain garden is the most cost-effective option for removing TP. However, the enhanced check dams and pond improvements projects are more cost effective and remove more TP overall. The Pleasantview Park rain garden option is the most visible project and offers a good opportunity for outreach and education for the District. Barr recommends including these projects in the District's project prioritization tool for comparison against other potential

projects that have been identified through other feasibility studies. Barr also recommends continuing the Fish Creek erosion survey every 2 to 3 years to monitor erosion along the creek and identify areas for restoration.

While these projects can help reduce TP and chloride loading to Fish Creek, we also recommend considering other subwatershed activities that could improve the water quality, including:

- Providing education materials to chloride applicators within the subwatershed to reduce chloride loading to Fish Creek.
- Regular maintenance of existing BMPs including rain garden vegetation trimming, inlet maintenance, cleanout of hydrodynamic structures, etc.
- Continued public education and outreach in the subwatershed about stormwater runoff and at-home practices that can be adopted to improve runoff water quality.

6.0 References

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engineering and environmental consultants

BARR

Technical memorandum D R A F T

To: Tina Carstens—Ramsey-Washington Metro Watershed District
From: Louise Heffernan, Tyler Olsen and Erin Anderson Wenz—Barr Engineering Co.
Subject: Gervais Creek subwatershed feasibility study
Date: September 29, 2020
Project: 23/62-1200.20
c: Paige Ahlborg, Ramsey-Washington Metro Watershed District

1.0 Introduction

This memorandum summarizes the conceptual designs for several proposed best management practices (BMPs) identified in the Gervais Creek subwatershed of the Ramsey-Washington Metro Watershed District (RWMWD). The identified BMPs aim to improve and maintain Gervais Creek's water quality by retaining or filtering runoff to remove sediment, nutrients, debris, and other pollutants. Barr identified BMP retrofit opportunities based on guidance from the accelerated implementation project category description of the Clean Water Fund, the watershed restoration and protection strategies (WRAPS) report, and the RWMWD watershed management plan (Plan). Barr considered more than 30 potential BMP retrofits in the watershed. This memo summarizes conceptual designs for BMPs and other water quality improvement recommendations for seven BMPs (six sites) in the Gervais Creek subwatershed.

2.0 Background information

The Gervais Creek subwatershed covers 1,847 acres, in the cities of Vadnais Heights and Little Canada. The total subwatershed area increases to 2,039 acres when the Twin Lake subwatershed is included, although discharge from the Twin Lake subwatershed to Gervais Creek is rare. The entire Gervais Creek subwatershed is located in Ramsey County. The Gervais Creek subwatershed is part of the larger Phalen Chain of Lakes watershed.

Gervais Creek is an intermittent stream that was previously managed as a county ditch (County Ditch 16). The subwatershed includes the entire area that drains to Gervais Creek under normal conditions, including County Ditch 7B. The county ditch system was historically managed by Ramsey County as a stormwater conveyance system, and continues to be managed by the RWMWD as a stormwater system. The RWMWD is responsible for the portion of the creek between Gervais Lake and Owasso Basin, and east to Interstate-35E (I-35E) and Interstate-694 (I-694).

The Gervais Creek subwatershed is fully developed. I-35E and I-694 run through the subwatershed. The northwest portion of the subwatershed, south of I-694, contains industrial and commercial areas and a high-density manufactured-home court. Multiple-family and single-family residential areas are scattered

throughout the subwatershed. Undeveloped areas in the southeast and southwest corners of the I-35E and I-694 interchange are considered fully developed, with industry surrounded by wetlands. Scattered areas of open space north of I-694 are also considered fully developed due to the predominance of wetlands. Metropolitan Council future land use projections for 2030 indicate that little change is expected in land use in the future.

The District-managed waterbodies within the Gervais Creek subwatershed include Round Lake in Little Canada and Gervais Creek. Two important regional stormwater detention basins, Owasso Basin and Gervais Mill Pond, are also located within the Gervais Creek subwatershed. The subwatershed includes numerous wetlands, including Black Tern Pond, a large wetland in the northwest corner of the subwatershed, and Savage Lake. Although its name implies that Savage Lake is a lake, it is not classified as lacustrine under the Cowardin system, and therefore is not classified as a District-managed lake.

Based on recommendations from the *Phalen Chain of Lakes Strategic Lake Management Plan* (Barr, 2004), several significant capital improvement projects were implemented in the Gervais Creek subwatershed to improve the water quality of the stream and downstream waterbodies, including the Owasso Basin and Gervais Mill Pond capital improvement projects.

Water quality goals for Gervais Creek are consistent with the MPCA's stream eutrophication standards. The RWMWD strives to ensure that the watercourse and banks of Gervais Creek are stable to minimize erosion and sediment problems. The RWMWD will continue to conduct physical monitoring of the stream to identify streambank and other erosion problems. The RWMWD will implement stream management and stream restoration projects and actions to address identified streambank erosion, gully erosion and other stream degradation problems.

The RWMWD installed a water quality monitoring station on Gervais Creek in 2007, which collects year-round water quality and flow rate samples and data. Biological monitoring of the creek was performed by the MDNR in 1999 and the MPCA in 2010. Recent monitoring data indicates the creek likely exceeds the MPCA's stream water quality standard for total phosphorus of 100 µg/L for the Central River Nutrient Region, although the creek is not listed as impaired for nutrients. Water quality monitoring data has also shown high chloride concentrations for Gervais Creek, though the annual average is lower than the chloride criterion. Thus, the District has assigned a RWMWD nutrient water quality classification of "At Risk" to Gervais Creek. Water quality monitoring data for Gervais Creek is shown on Figure 1 and Figure 2.

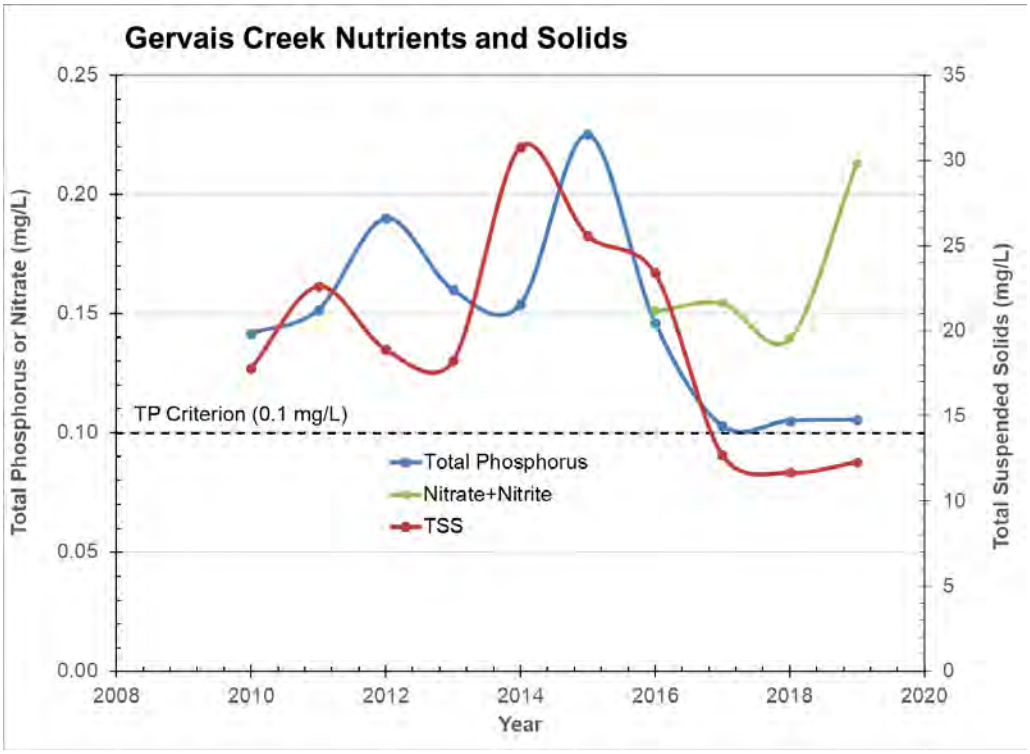


Figure 1 Gervais Creek nutrients and solids monitoring data through 2019

Though Gervais Creek is not identified in the Twin Cities Management Area (TCMA) Chloride TMDL as a "high risk" stream for chloride impairment, the chloride monitoring data suggests that Gervais Creek has the potential to become "high risk" or impaired. While there are no cost-effective BMP recommendations for reducing chloride already in waterbodies or stormwater, the MCPA recommends several practices to reduce the sources of chloride loading within watersheds. These practices are outlined in Section 3.2.7 of this memo.

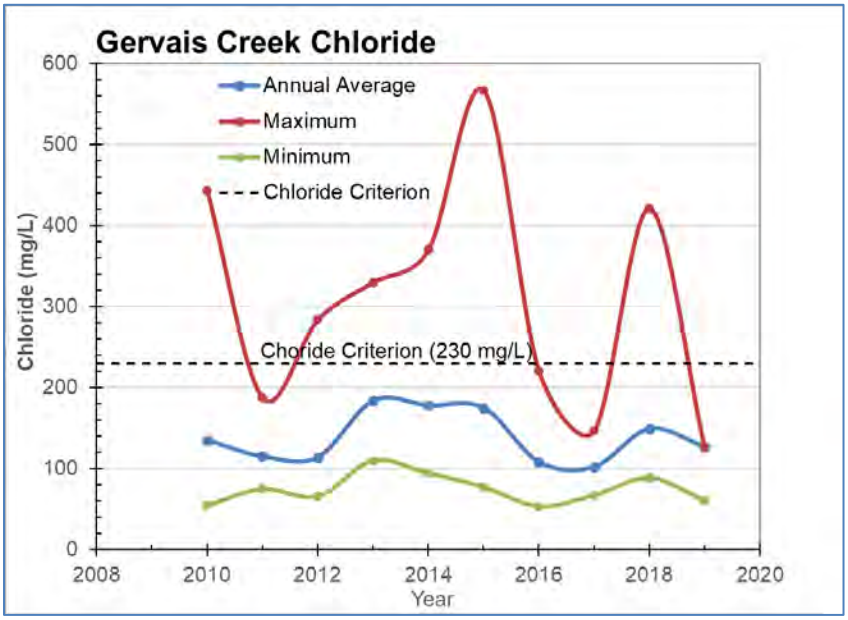


Figure 2 Gervais Creek chloride monitoring data through 2019

3.0 Proposed improvements

The goal of this study is to identify possible improvements that the RWMWD could implement throughout the Gervais Creek subwatershed to treat stormwater runoff and improve water quality. Where feasible, Barr prioritized infiltration BMPs because they are generally the most cost-effective solution to treating stormwater runoff. Where infiltration was not feasible, we recommended filtration or detention BMPs. This study also qualitatively considers the potential for educational features or partnership to promote continued awareness and mindfulness for improving water quality.

3.1 Site selection for BMP retrofits

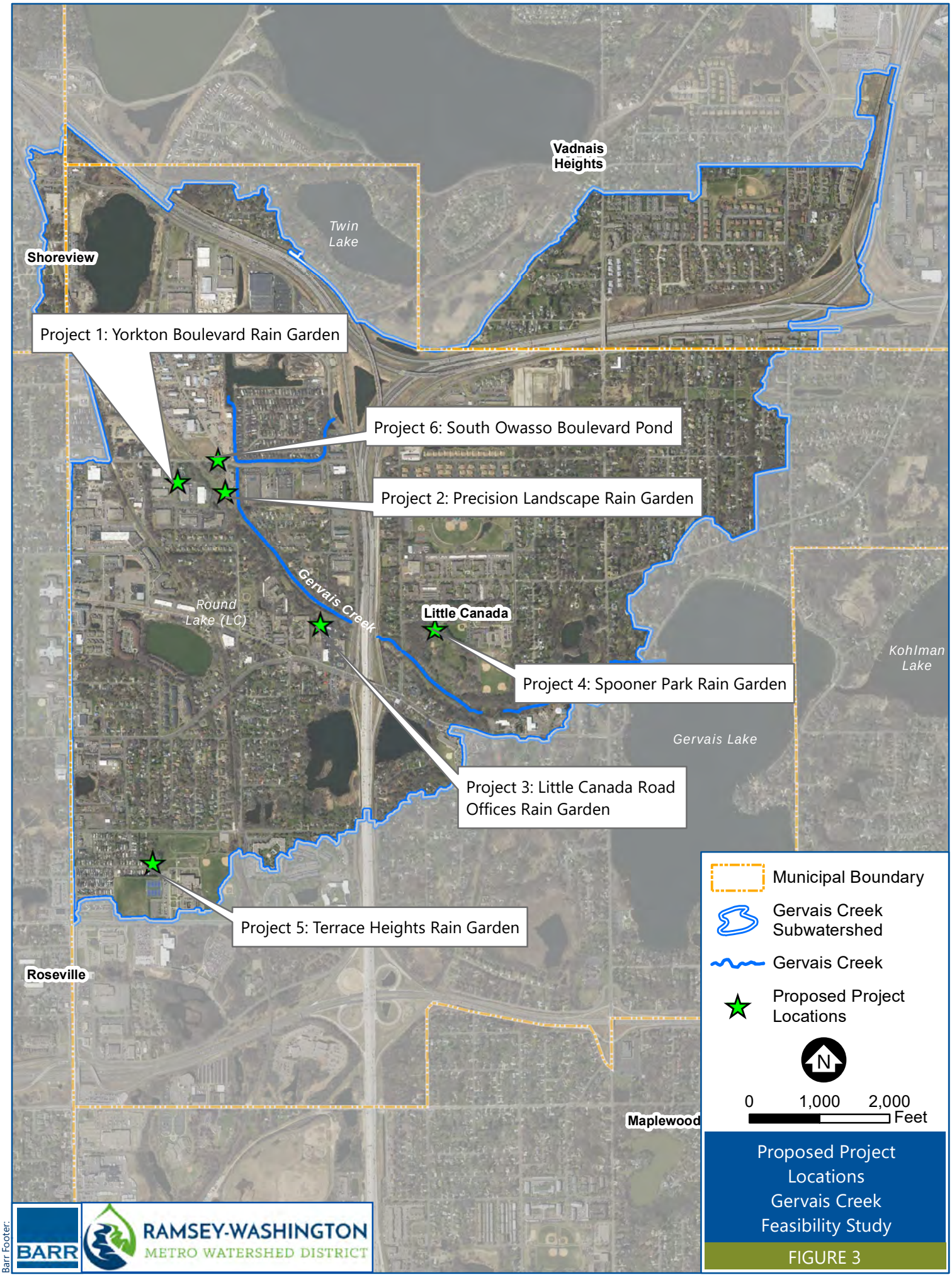
Barr investigated the Gervais Creek subwatershed to identify potential locations for BMP retrofit projects and other water quality improvement opportunities. The preliminary method for site evaluation was a desktop analysis. Barr used elevation data, storm-sewer data, imperviousness data, national wetland inventory data, aerial imagery, and Google Street View™ imagery to identify potential sites. Additionally, Barr reviewed the RWMWD's cost-share, permitted, and capital improvements plan projects to identify locations where activity has already taken place in the Gervais Creek subwatershed.

The desktop analysis identified over 30 sites with varying imperviousness and space for an adjacent BMP. Barr considered sites with larger impervious areas more desirable, as the BMP would have a larger treatment impact. We also gave higher priority to sites with high public traffic, since they have more opportunity for public engagement and education. In addition, we considered sites owned by the city or county more promising, as a partnership with public entities is generally simpler to establish than a partnership with a private landowner. From this initial list, Barr prioritized sites by eliminating locations

with no immediate access for storm-sewer connections, limited direct drainage area, unfavorable (steep) grade change, complex grading in the BMP footprint, or significant trees within in the BMP footprint. This prioritization exercise narrowed down the list of sites to six preferred sites which include seven BMP locations. Barr staff visited these sites for further analysis and developed conceptual designs for them.

3.2 Proposed Water Quality Improvement Projects

The following section discusses the concept designs Barr developed for the six prioritized sites. Table 1 includes the estimated average annual phosphorus removal for each alternative using the MPCA's minimal impact design standards (MIDS) calculator and the Program for Predicting Polluting Particle Passage through Pits, Puddles, and Ponds (P8). Figure 3 shows the locations of the identified project locations in the Gervais Creek subwatershed.



Proposed Project Locations
Gervais Creek
Feasibility Study

FIGURE 3

BARR

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

Barr Footer:

Table 1 Summary water-quality benefits for BMPs in the Gervais Creek subwatershed

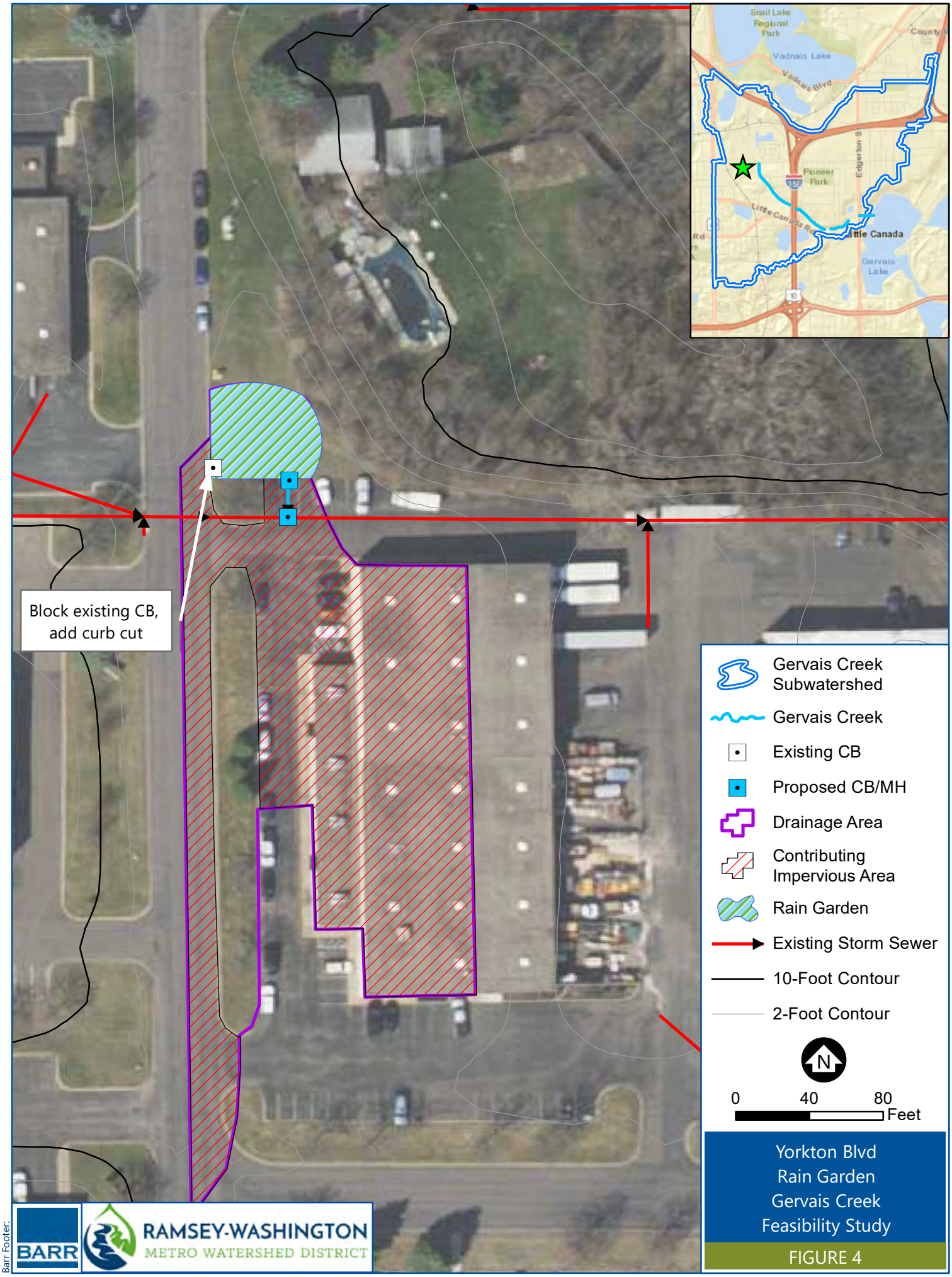
Proposed WQ Improvement Project	Estimated annual TP reduction (lbs/year)	Estimated annual TSS reduction (lbs/yr)
Yorkton Boulevard Rain Garden	1.4	253
Precision Landscape Rain Garden Location 1	0.4	64
Precision Landscape Rain Garden Location 2	1.4	248
Little Canada Road East Offices Rain Garden	3.6	661
Spooner Park Rain Garden	0.2	37
Terrace Heights Rain Garden	2.5	448
South Owasso Boulevard East Pond[1]	23.7	10,858

[1]Estimates based on potential flood management alternatives (i.e., raising Ryan Drive, modifications to existing storm sewer system, and construction of a berm near Owasso Basin) presented as part of the draft 2020 Owasso Basin Bypass Feasibility Study (Barr, 2020).

3.2.1 Project 1: Yorkton Boulevard Rain Garden

The first proposed project is a biofiltration basin (rain garden) located at a vacant lot along the east side of Yorkton Boulevard in Little Canada, approximately 300 feet south of South Owasso Boulevard East. Runoff is collected from a portion of impervious surface along Yorkton Boulevard, commercial area parking spaces, and a portion of The Retrofit Company business flat roof system at 2960 Yorkton Boulevard. Stormwater runoff is conveyed via the Yorkton Boulevard curb and gutter system to an existing catch basin north of 2960 Yorkton Boulevard and it is routed to a pond east of the Yorkton Court cul-de-sac, tributary to Gervais Creek.

The RWMWD could construct a rain garden in the green space at the vacant lot on the east side of Yorkton Avenue to capture runoff from parking areas, a portion of Yorkton Boulevard and a portion of The Retrofit Company flat roof system, as shown on Figure 4. The location receives runoff from 0.96 acres, including 0.74 acres of impervious area. Barr sized the rain garden to capture 1.1 inches of runoff from the contributing impervious areas, resulting in a footprint of approximately 2,900 square feet. Depending on the infiltration capacity of the soils, the rain garden could either infiltrate the volume within 48 hours or filter runoff through an underdrain connected to the existing storm sewer running southeast to the pond east of the Yorkton Court cul-de-sac. In order to effectively retain water in the rain garden, this project would require modification of the existing storm sewer inlet to route runoff into the rain garden.



Yorkton Blvd
Rain Garden
Gervais Creek
Feasibility Study

FIGURE 4

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Barr Footer:

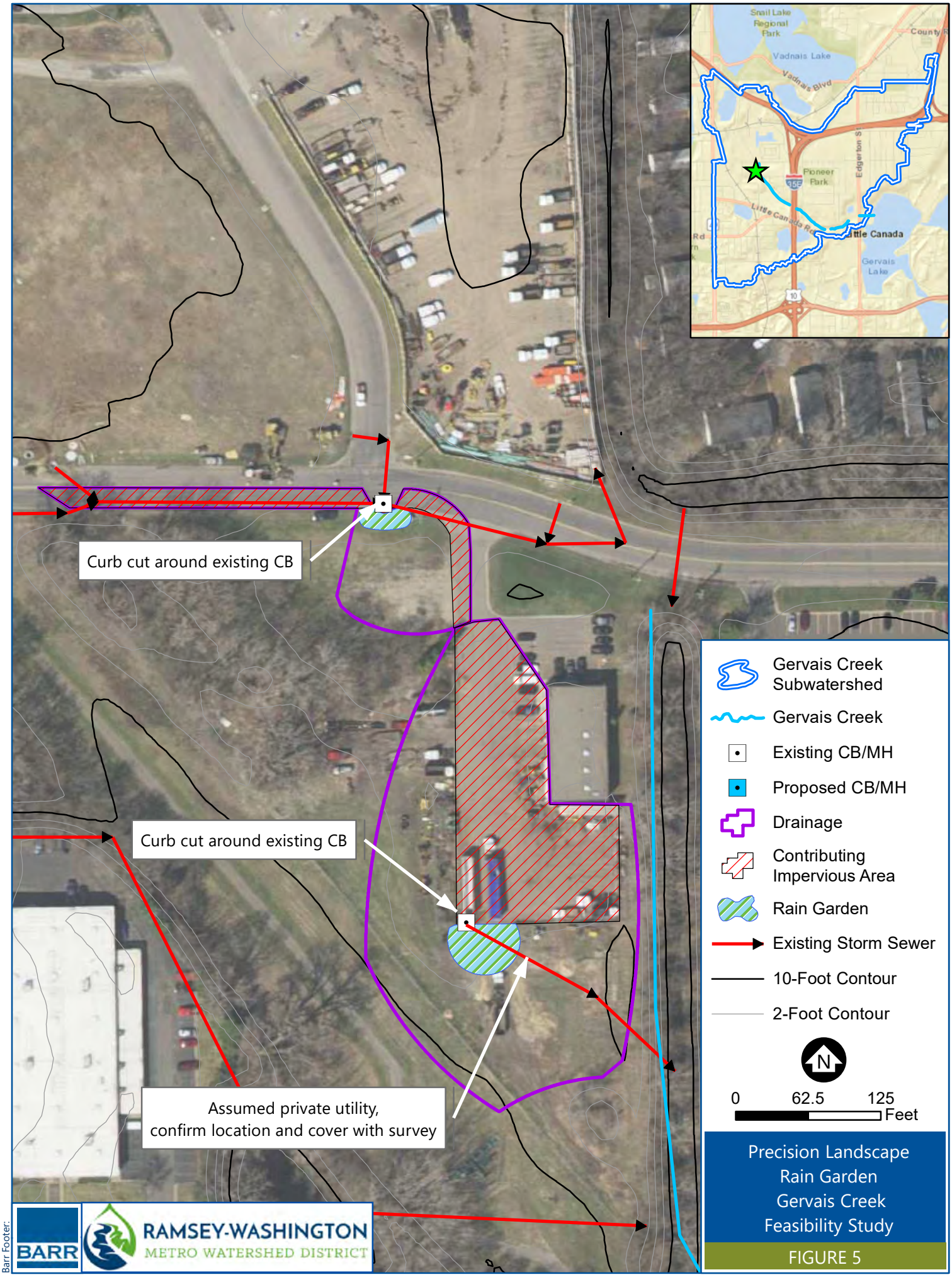
The benefits of this rain garden tributary to Gervais Creek include a reduction in downstream TP loading by 1.4 pounds per year. Additionally, the green space at the vacant lot has flat terrain and would require minimal grading where the proposed rain garden footprint is located. The location of the rain garden may add aesthetic value to the industrial neighborhood but would likely receive minimal foot traffic as a result of a lack of sidewalks in the area. The challenges to constructing a BMP at this location include coordination with and buy-in from the property owner.

3.2.2 Project 2: Precision Landscape Rain Gardens (2)

The second project proposes two rain garden locations south of the intersection of South Owasso Boulevard East and Spruce Street in Little Canada at a private commercial property, Precision Landscape and Tree. There is an existing catch basin located at the low point along the south side of South Owasso Boulevard East, and an existing catch basin located at the southwestern boundary of the Precision Landscape and Tree parking area.

The RWMWD could construct a rain garden at the northwest boundary of the lot located at 50 South Owasso Boulevard East in Little Canada. The green space at this location receives runoff from South Owasso Boulevard East and a portion of the Precision Landscape and Tree access drive, as shown on Figure 5. The first rain garden proposed at the site receives runoff from 0.37 acres, including 0.16 acres of impervious area and is already a grassed depression with a catch basin at the street low point. Barr sized the rain garden to capture 1.1 inches of runoff from the contributing impervious area, resulting in a footprint of 700 square feet. Depending on the infiltration capacity of the soils, the rain garden could either infiltrate the volume within 48 hours or filter runoff through an underdrain connected to the existing storm sewer in the middle of the rain garden. In order to effectively retain water in the rain garden, this project may require modification of the existing catch basin. Stormwater runoff discharging from the existing catch basin tie-in location is conveyed to the Owasso Basin creek south of the North Star Estates Manufactured Home Community, which is directly tributary to Gervais Creek.

The benefits of constructing this rain garden include a reduction in downstream TP loading by 0.4 pounds per year and some visibility for the BMP from residents in the area, however the educational impact may be limited by the rain garden's location at a commercial site with no nearby sidewalks and limited foot traffic. Additionally, the green space at the vacant lot has flat terrain and would require minimal grading where the proposed rain garden footprint is located. The challenges to constructing a BMP at this location include coordination with and buy-in from the property owner and, if the project extends into the right-of-way of South Owasso Boulevard East, coordination with the City.



Precision Landscape
Rain Garden
Gervais Creek
Feasibility Study

FIGURE 5

BARR

RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

Barr Footer:

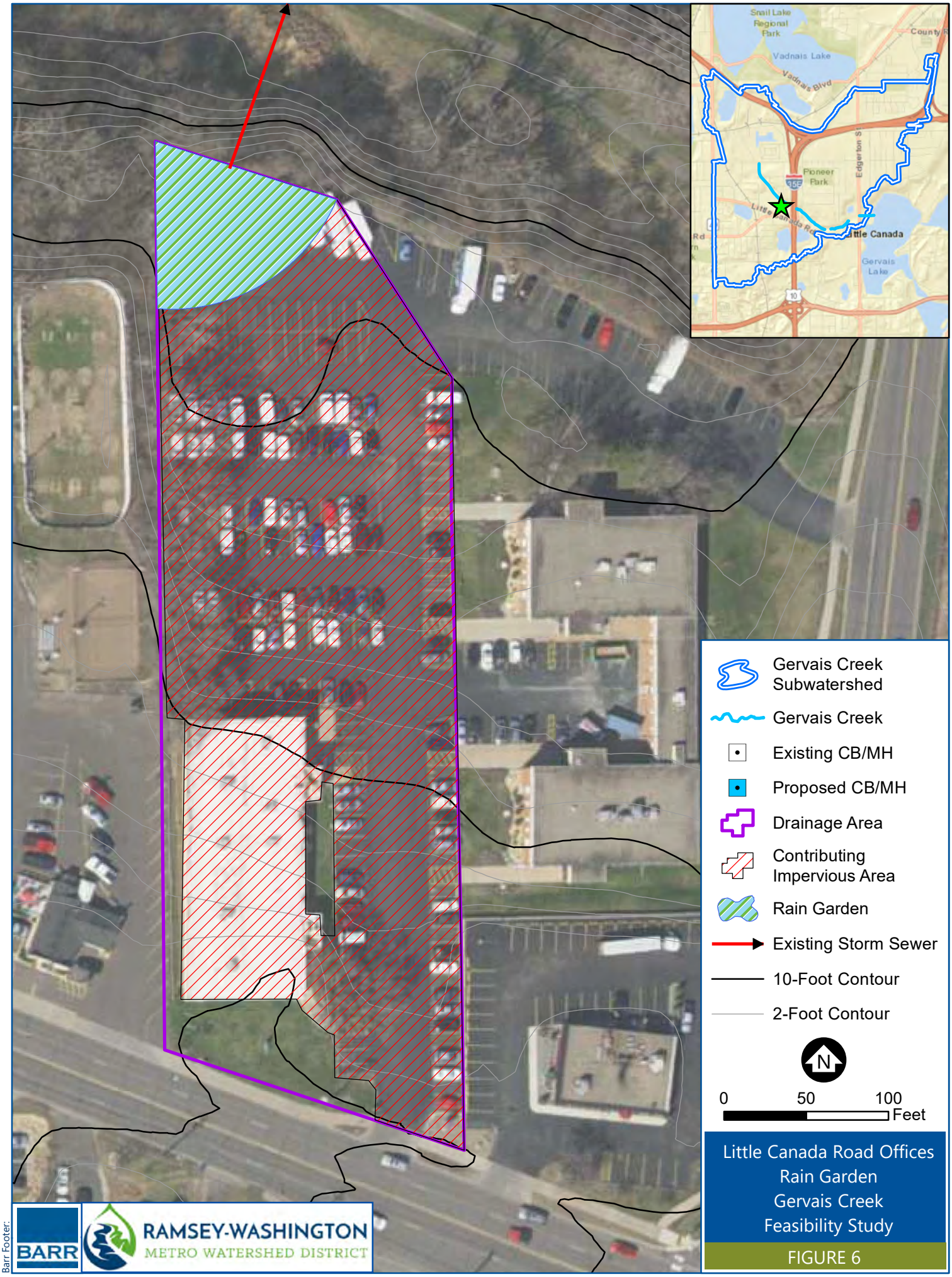
In conjunction with the first proposed location, the RWMWD could construct a rain garden at the southwestern portion of the lot located at 50 South Owasso Boulevard East in Little Canada. The green space proposed for the second rain garden at Precision Landscape and Tree is located at a low point which receives runoff from the majority of the parking area at the site, as shown on Figure 5. The location receives runoff from 1.57 acres, including 0.60 acres of impervious area and is already a depression with a catch basin at the parking area low point. Barr sized the rain garden to capture 1.1 inches of runoff from the contributing impervious area, resulting in a footprint of 2,300 square feet. Depending on the infiltration capacity of the soils, the rain garden could either infiltrate the volume within 48 hours or filter runoff through an underdrain connected to the existing storm sewer in the middle of the rain garden. In order to effectively retain water in the rain garden, this project may require removal or modification of the existing catch basin, and addition of a structure to tie into the storm sewer southeast of the proposed rain garden. Existing storm sewer conveys stormwater runoff from the parking area to Gervais Creek.

The benefits of constructing the rain garden at the southwest boundary of the Precision Landscape and Tree lot include a reduction in downstream TP loading by 1.4 pounds per year. Additionally, the rain garden will provide added benefit for sediment reduction, as significant sediment accumulation was identified in the Precision Landscape and Tree parking area during the site visit. The green space at the vacant lot has flat terrain and would require minimal grading where the proposed rain garden footprint is located. The challenges to constructing a BMP at this location include modification of the existing catch basin structure and coordination with and buy-in from the property owner.

3.2.3 Project 3: Little Canada Road East Offices Rain Garden

Project 3 is a rain garden at a commercial site located north of Little Canada Road East and west of I-35E in Little Canada. Runoff is collected from the majority of the commercial site parking area and the building located along the western boundary, and is conveyed via existing storm sewer to a parking area low point tributary to Gervais Creek.

The RWMWD could construct the Little Canada Road East offices rain garden in the parking area directly tributary to Gervais Creek on the northwestern portion of the parking area serving offices located at 219 Little Canada Road East. The proposed rain garden would capture runoff from the majority of the main parking areas and the building roof system of the offices on the western portion of the site, as shown on Figure 6. The location receives runoff from 2.22 acres, including 2.01 acres of impervious area. Barr sized the rain garden to capture 1.1 inches of runoff from the contributing impervious area, resulting in a footprint of 3,100 square feet. Depending on the infiltration capacity of the soils, the rain garden could either infiltrate the volume within 48 hours or filter runoff through an underdrain connected to a structure discharging to a low point tributary to Gervais Creek.



Little Canada Road Offices
Rain Garden
Gervais Creek
Feasibility Study

FIGURE 6

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RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

Barr Footer:

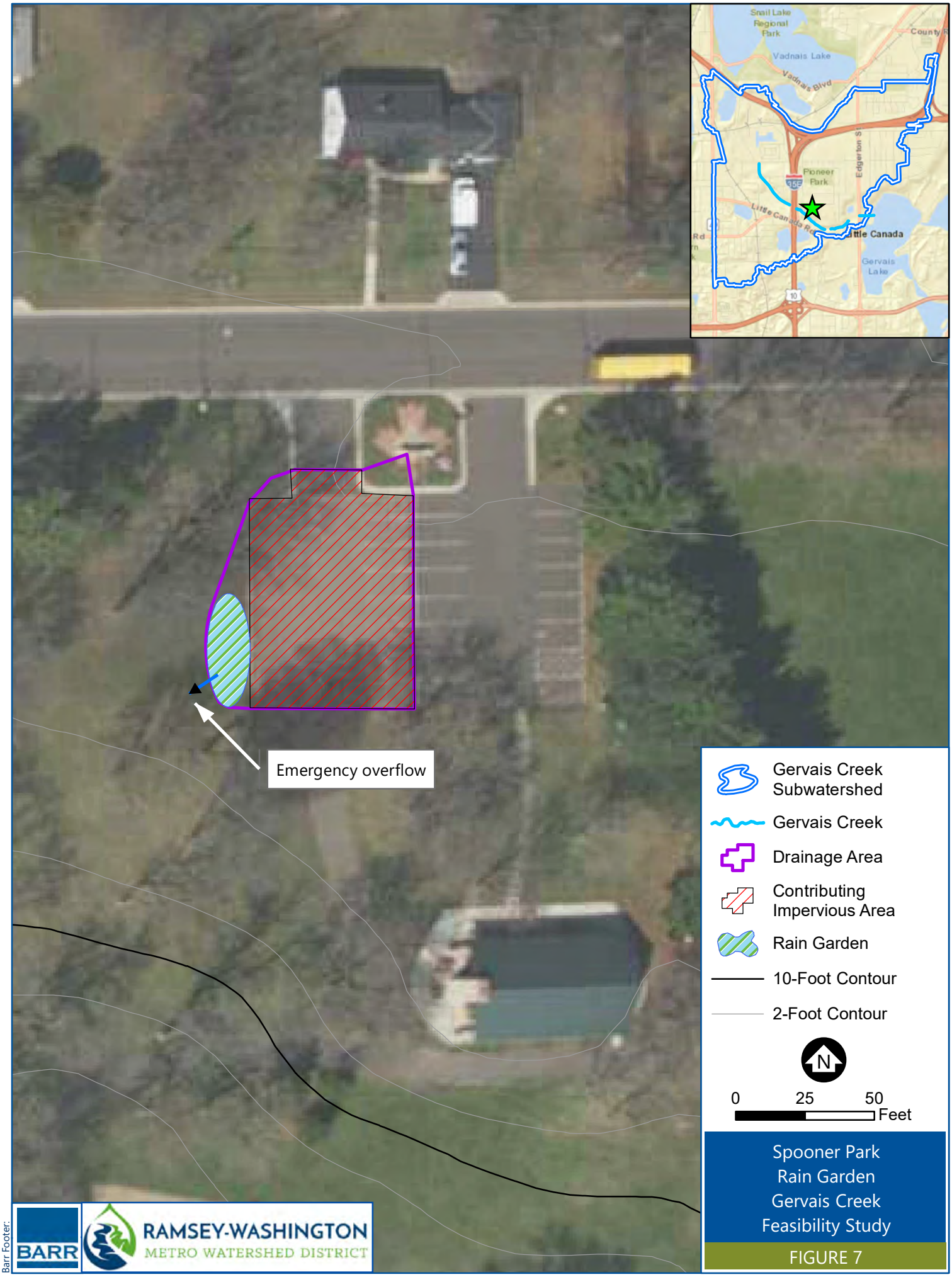
The benefits of constructing this rain garden include a reduction in downstream TP loading by 3.6 pounds per year. The challenges to constructing a BMP at this location include coordination with and buy-in from the property owner, which may be particularly difficult if the property owner requires the parking areas at the location of the proposed rain garden. The parking spots are primarily for large vehicle or trailer parking. The site would require moderate grading as there is a slight slope where the proposed rain garden footprint is located, requiring excavation of 0 to 2 feet of soil. The location appears to have moderate visibility and foot traffic from the commercial site, which limits the educational potential for the BMP. Additionally, no existing catch basin at the low point exists, and the proposed rain garden would require addition of a structure discharging to the low area tributary to Gervais Creek or utilization of the existing spillway.

3.2.4 Project 4: Spooner Park Rain Garden

Project 4 is a rain garden at Spooner Park in Little Canada, located south of Eli Road and east of Centerville Road. Runoff from the Spooner Park parking area located south of Eli Road is conveyed via overland flow to green space tributary to Gervais Creek. There are no existing catch basins located at the parking area.

The RWMWD could construct a rain garden in the green space at the southwest boundary of the parking area to capture runoff from a portion of the parking area, as shown on Figure 7. The location receives runoff from 0.13 acres, including 0.11 acres of impervious area. Barr sized the rain garden to capture 1.1 inches of runoff from the contributing impervious areas, resulting in a footprint of approximately 500 square feet. Depending on the infiltration capacity of the underlying soils at this location, this project may require addition of a storm sewer structure with an underdrain to meet drawdown requirements for the basin. Alternately, the system emergency overflow may route runoff overland to green space southwest of the parking area, matching existing drainage patterns.

The benefits of this rain garden include a reduction in downstream TP loading by 0.2 pounds per year and significant visibility for the BMP with the opportunity for an educational component located at the Spooner Park. The challenges to constructing a BMP at this location include coordination with the City of Little Canada (park property owner) and minor grading as there is a slight slope where the proposed rain garden footprint is located.



Spooner Park
Rain Garden
Gervais Creek
Feasibility Study

FIGURE 7

BARR

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

Barr Footer:

3.2.5 Project 5: Terrace Heights Rain Garden

Project 5 is a rain garden located at the low point of Day Avenue in the Terrace Heights Manufactured Home community in Little Canada. The low point receives runoff from the street, manufactured homes, and driveways. There is not an existing catch basin located at the low point. Runoff is conveyed through a flared-end corrugated metal pipe that discharges to a depression in land area tributary to Savage Lake.

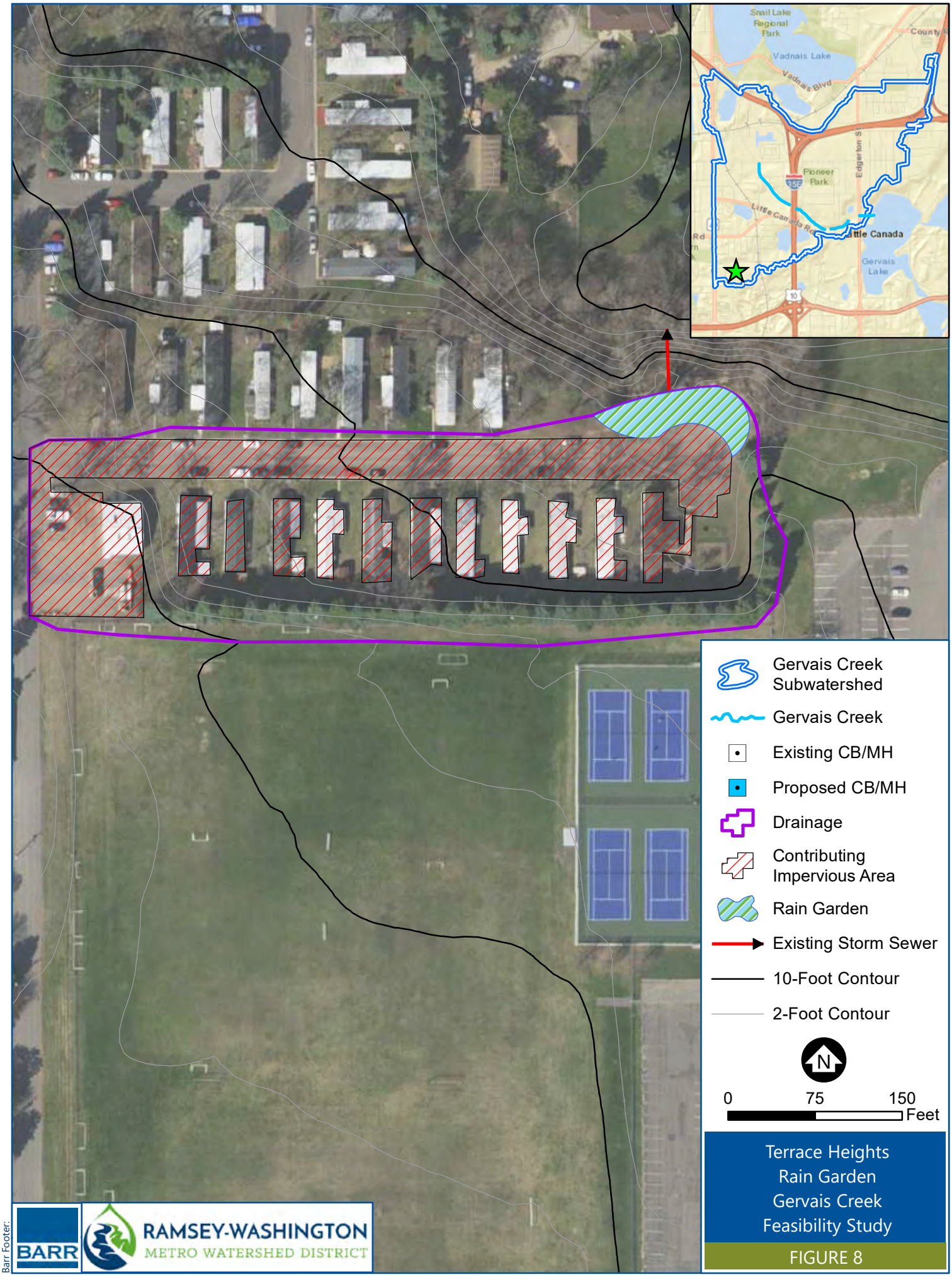
The RWMWD could construct a rain garden in the green space and a portion of the Day Avenue cul-de-sac area to capture runoff from the street, manufactured homes and driveways, as shown on Figure 8. The location receives runoff from 2.67 acres, including 1.10 acres of impervious area. Barr sized the rain garden to capture 1.1 inches of runoff from the contributing impervious areas, resulting in a footprint of approximately 4,200 square feet. Depending on the infiltration capacity of the soils, the rain garden could either infiltrate the volume within 48 hours or filter runoff through an underdrain with the addition of a structure. In order to effectively retain water in the rain garden and depending on the infiltration capacity of the underlying soils at this location, this project may require addition of a storm sewer structure. Alternately, the system emergency overflow may route runoff overland to green space north of the Day Avenue cul-de-sac, matching existing drainage patterns.

The benefits of constructing this rain garden include a reduction in downstream TP loading by 2.5 pounds per year and some visibility for the BMP from residents, however the educational impact may be limited by the rain garden's location on a road with limited foot traffic. The challenges to constructing a BMP at this location include coordination with and buy-in from the property owner and, if the project extends onto city land, coordination with the city.

3.2.6 Project 6: South Owasso Boulevard East Pond

Project 6 is a proposed pond located in the Owasso Basin drainage area north of South Owasso Boulevard East and west of Spruce Street. The drainage area and pond size estimates for the proposed pond are based on potential flood management alternatives presented as part of the draft 2020 Owasso Basin Bypass Feasibility Study (Barr, 2020). The purpose of the Owasso Basin Bypass Feasibility Study is to evaluate system-level flood damage reduction options, including modification to drainage areas, outlet structures, and storm sewer infrastructure to actively management stormwater runoff from flood-prone areas in the Owasso Basin area.

Following evaluation of Owasso Basin Bypass flood study alternatives, the RWMWD could construct a pond for water quality and flood storage at the green space located at the vacant lot near the northwest corner of Spruce Street and South Owasso Boulevard East. The lot is currently for sale and could be purchased by the RWMWD or the City of Little Canada. Depending on various flood study alternatives (i.e., raising Ryan Drive, construction of a berm west of Spruce Street, infrastructure modifications, etc.), the pond could capture runoff from the neighborhood to the northwest, as shown on Figure 9.



Terrace Heights
Rain Garden
Gervais Creek
Feasibility Study

FIGURE 8

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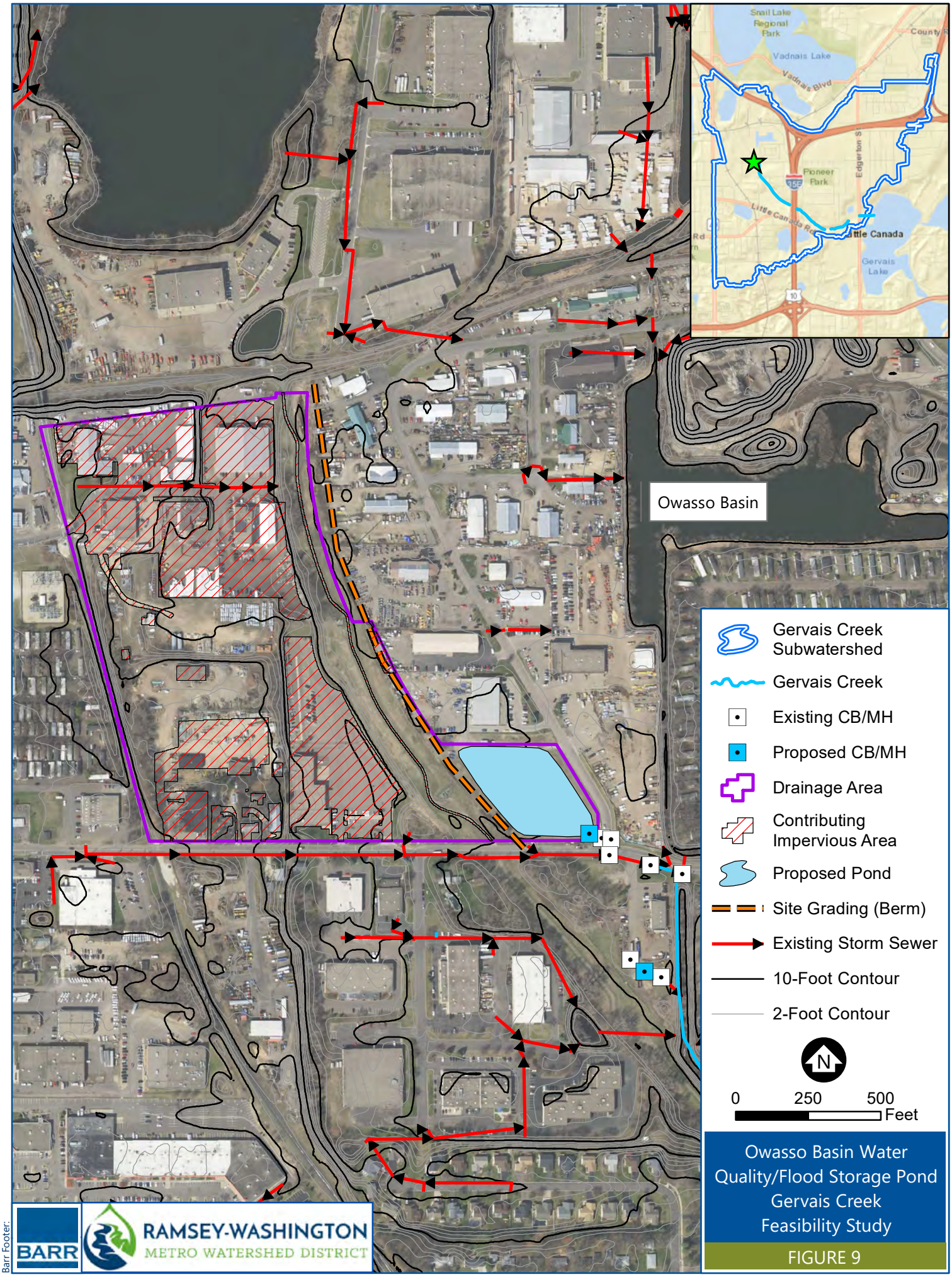

Owasso Basin Water Quality/Flood Storage Pond
Gervais Creek
Feasibility Study

FIGURE 9

BARR

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

Barr Footer:

Estimates for water quality modeling purposes assume the pond receives runoff from 36.5 acres, including 16.7 acres of impervious area. Barr developed a concept design which identifies the pond outlet tie-in location at the southeast corner of the site. Stormwater runoff would be conveyed to storm sewer discharging to Gervais Creek. Barr sized the pond based on the available space at the vacant lot to maximize the surface area, assuming a footprint of 93,600 square feet and a depth of 6 feet, with 3:1 side slopes. The depth of dead storage (permanent pool volume) in the pond for water quality purposes may be evaluated in the design phase, depending on flood storage needs in the area.

The benefits of constructing this pond include a reduction in downstream TP loading by up to 23.7 pounds per year, assuming the drainage area and impervious area identified above. The proposed location may add aesthetic value to the industrial neighborhood area. Additionally, the pond would provide flood storage for the contributing watershed, diverting flood volumes from Owasso Basin. Educational impact may be limited by the pond's location directly adjacent to the road with limited foot traffic. The water quality benefit of the pond will be coordinated with the Owasso Basin flood study to continue determining its feasibility and effectiveness.

3.2.7 Chloride Reduction Strategies for Gervais Creek Subwatershed

Because Gervais Creek has high chloride concentrations, some of the MPCA's guidance and recommendations for chloride management based on strategies outlined in the Twin Cities Chloride Management Plan (MPCA, 2016) are included in this technical memorandum. These strategies are focused on prevention rather than treatment, as there are currently no cost-effective or scalable treatment practices to remove chloride from surface water. Below are a sample of chloride reduction strategies targeted at both road salt application and water softener usage within the subwatershed.

Road Salt Reduction Strategies:

- Support local and state winter maintenance crews in their efforts to reduce their salt use
- Work with local government, businesses, schools, churches and non-profits to find ways to reduce salt use
- Encourage slow driving
- Shovel, rather than apply salt to melt snow and ice
- Use appropriate salt ratio: 4 pounds of salt per 1000 square feet

Water Softener Salt Reduction Strategies:

- Consider if a water softener is needed – test water for hardness
- Change from a timer-based to a demand-based softener that recharges only when needed, based on how much water is used
- Install a bypass so landscape irrigation water is not softened

The MPCA has also created guidance for monitoring surface waters that are categorized as high-risk for chloride impairment. The MPCA suggests the following guidance for additional monitoring of high-risk waters:

1. Identify dates or periods of past chloride concentrations that were either:
    a. Exceedances (exceeded the chronic chloride standard), and
    b. "high" occurrences, defining "high" as less than but within 10% of the chronic standard (thus >207 mg/L)

2. Select a 4-week period centered on each such date or period, and for each:
    a. Sample for chloride weekly, always on the same day of the week
    b. Sample at the same depth or depths as in past sampling

3. If an electrical conductivity meter is available, take and record a "matching" conductivity reading with each lab sample taken:
    a. "matching" = from the same primary sample that provides the lab subsample, if the primary sample is a sufficiently larger volume than the laboratory bottle used; or otherwise
    b. "matching" = same location and depth as the lab sample

4. Possible expanded effort:
    a. Monitor twice weekly rather than once, always on the same days of the week (e.g., Monday and Thursday) including, as resources permit:
        i. Chloride sample and conductivity measurement if possible
        ii. Chloride sample only if lacking conductivity meter
        iii. Conductivity measurement only on the increased frequency if laboratory costs limit sampling but a meter is available

Sampling for chloride at least weekly during the selected 4-week period(s) is a necessary minimum effort for ensuring the value of this additional monitoring; conductivity measurements alone will not suffice at present. This could change in the future if a reliable and accurate relationship between chloride and conductivity is developed for an individual waterbody.

There are dozens of other resources to reference for reducing salt use through application and policy at the following website: https://www.pca.state.mn.us/water/statewide-chloride-resources.

3.3 Planning-level opinions of probable cost of BMP retrofits

Barr developed planning-level cost estimates for each conceptual design and performed cost-benefit analyses, as shown in Table 2. As feasibility-level concepts, there is significant cost uncertainty associated with the proposed projects. The planning-level opinion of costs include a 25-percent contingency and estimated cost ranges of -30 percent to +50 percent. Additionally, we estimated the engineering cost for the design of each proposed project as 40 percent of the total cost. This 40-percent fee includes 30-percent engineering and design and 10-percent construction observation and administration. These costs assume that no wetland mitigation will be required as part of these projects, no contaminated soils will be encountered, and no purchase of easements or properties will be required.

Table 2 Summary of planning-level opinions of probable costs for BMPs in the Gervais Creek subwatershed

Proposed Project	planning-level opinion of cost[1,2]	estimated engineering cost[3]	total project cost
Yorkton Boulevard Rain Garden	$48,800 ($34,200-$73,200)	$19,500	$68,300 ($53,700-$92,700)
Precision Landscape Rain Garden Location 1	$23,200 ($16,200-$34,800)	$9,300	$32,500 ($25,500-$44,100)
Precision Landscape Rain Garden Location 2	$37,300 ($28,300-$60,600)	$15,000	$52,300 ($43,300-$75,600)
Little Canada Road East Offices Rain Garden	$93,000 ($65,100-$139,500)	$37,200	$130,200 ($102,300-$176,700)
Spooner Park Rain Garden	$14,800 ($10,300-$22,100)	$5,900	$20,700 ($16,200-$28,000)
Terrace Heights Rain Garden	$58,900 ($41,200-$88,300)	$23,600	$82,500 ($64,800-$111,900)
South Owasso Boulevard East Pond	$619,600 ($433,700-$929,400)	$247,900	$867,500 ($681,600-$1,177,300)

[1] Costs include 25-percent contingency. These do not include costs related to education and outreach, legal, long-term maintenance, or monitoring. Costs are represented as a feasibility-level class 4 cost estimate as defined by the Association for the Advancement of Cost Estimating with a +50% /-30% uncertainty.

[2] These costs assume that no wetland mitigation will be required as part of these projects, and that contaminated soils will not be encountered.

[3] Engineering cost is estimated to be 40 percent of the construction cost, excluding the purchase of properties and/or easements. This cost includes engineering and design and construction observation and administration.

To estimate the cost benefit for each proposed BMP retrofit project, Barr calculated annualized costs for each proposed BMP per pound of phosphorus removed. Table 3 presents the annualized costs as a range for BMP lifespans of 20 to 35 years. The capital cost used for each BMP includes the opinion of probable

cost and the engineering design cost. Annual costs include an estimated annual maintenance cost for the BMPs and an assumed interest rate of 4 percent.

Table 3 Summary of annualized costs for BMPs in the Gervais Creek subwatershed

Proposed BMP	Annual cost per pound of TP removed ($/lb.)[1]	Annual cost per pound of TSS removed ($/lb.)[1]
Yorkton Boulevard Rain Garden	$3,100-$4,100	$17-$23
Precision Landscape Rain Garden Location 1	$5,900-$7,800	$32-$42
Precision Landscape Rain Garden Location 2	$2,400-$3,100	$13-$18
Little Canada Road East Offices Rain Garden	$2,300-$3,000	$12-$17
Spooner Park Rain Garden	$6,500-$8,500	$36-$47
Terrace Heights Rain Garden	$2,100-$2,800	$12-$15
South Owasso Boulevard East Pond	$2,300-$3,000	$5-$7

[1] Range represents the annualized cost based on a 35-year and 20-year lifespan at an interest rate of 4 percent.

3.4 Permits

The following permits may be required for one or more of the proposed BMP retrofit projects:

- **Fill permit (City of Little Canada):** An excavating and grading permit application (fill permit), along with an erosion control plan, must be submitted with the final grading plans to the City of Little Canada any time a significant amount of soil is being displaced or a drainage pattern is being altered. If disturbed area is greater than 1 acre, watershed and National Pollutant Discharge Elimination System permits will be required.
- **Right-of-way permit (City of Little Canada):** Any work in the public rights of way requires a city right-of-way permit.
- **Erosion and sediment control (RWMWD):** An erosion and sediment control permit is required if the proposed land disturbance is greater than 1 acre or if the proposed land disturbance is within the 100-year floodplain and greater than 10,000 square feet. If required, an erosion and sediment control plan must be submitted with the permit application.
- **Flood Control (RWMWD):** This permit is required because some work for the Owasso Pond may cause alterations of land below the 100-year flood elevation. The following are required for flood control management:
    - No placement of fill within the 100-year floodplain without compensatory storage.

- Emergency overflow swales or areas must be constructed to convey the peak 100-year discharge.

- **Stormwater Management (RWMWD):** This permit is required due to land disturbing activities greater than on acre. The following are required for storm water management:
  - Rate control – Runoff rates shall not exceed existing runoff rates for the 2-year, 10-year, and 100-year critical storm events.
  - Volume reduction – Runoff volume reduction shall be achieved onsite in the amount equivalent to the runoff generated form a one-inch rainfall over the impervious surfaces of the development
  - Water quality – Developments must incorporate effective non-point source pollution reduction BMPs to achieve 90% total suspended solids removal for a 2.5" rainfall event.

4.0 Meetings

Discussion related to meetings with the RWMWD, City of Little Canada, or other property owners can be included in this section, if they occur.

5.0 Summary and recommendations

This memo includes conceptual design of seven water quality improvement BMP opportunities at six site locations to improve water quality of runoff entering Gervais Creek from the Gervais Creek subwatershed. Of the rain garden concepts, the Terrace Heights and Little Canada Road East offices rain gardens provide the best cost benefit for reducing TP loading to Gervais Creek. The Yorkton Avenue and Precision Landscape and Tree rain garden options provide a higher cost benefit for reducing TP loading to Gervais Creek, but may provide aesthetic value to the industrial neighborhoods near Owasso Basin. The Spooner Park rain garden option exhibits the highest rain garden cost benefit for reducing TP loading to Gervais Creek, but would have significant visibility with the opportunity for an educational component. Barr recommends including these projects in the District's project prioritization tool for comparison against other potential projects that have been identified through feasibility studies.

The South Owasso Boulevard East pond concept may provide flood management opportunities in conjunction with water quality improvements and may also benefit the community by providing aesthetic value to the industrial neighborhood. The South Owasso Boulevard East pond exhibits the highest reduction in downstream TP loading by up to 23.7 pounds per year. Barr recommends pursuing this option as the Owasso Basin Bypass Pipeline Feasibility Study progresses in the fall of 2020 and into 2021. It is possible that the exact location of the pond, if pursued, could be shifted to the industrial lot to the east of the vacant lot (closer to Owasso Basin itself), based on plans the City of Little Canada may have for the area in the future.

While structural BMPs can help reduce TP loading to Gervais Creek, we also recommend considering other activities that could improve the water quality in the subwatershed, including:

- Regular maintenance of existing BMPs including rain garden vegetation trimming, inlet maintenance, cleanout of hydrodynamic structures, etc.
- Continued public education and outreach in the subwatershed about stormwater runoff and at-home practices that can be adopted to improve runoff water quality.
- Inspection and maintenance of stormwater ponds within the subwatershed. Recommended maintenance activities include dredging, inlet cleanout, and/or chemical treatment of the water or sediments.

6.0 References

Association for the Advancement of Cost Estimating. Rev. 2016. AACE International Recommended Practice NO. 18R-97, March 1, 2016.

ASTM E2516-11, Standard Classification for Cost Estimate Classification System, ASTM International, West Conshohocken, PA, 2011, www.astm.org

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Barr Engineering Co. 2004. *Phalen Chain of Lakes Strategic Lake Management Plan*. Prepared for Ramsey-Washington Metro Watershed District.

Minnesota Pollution Control Agency. 2016. *Twin Cities Metropolitan Area Chloride Management Plan. File wq-iw11-06ff*. https://www.pca.state.mn.us/sites/default/files/wq-iw11-06ff.pdf

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BARR

Technical Memorandum DRAFT

To: Tina Carstens and Paige Ahlborg, RWMWD
From: Tyler Olsen and Erin Anderson Wenz
Subject: Project Prioritization Tool Development
Date: September 30, 2020
Project: 23-62/1006.00

1.0 Introduction

The Ramsey-Washington Metro Watershed District (RWMWD) has a long history of identifying BMP implementation opportunities throughout the watershed for water quality improvements, natural resource restoration, and flood risk reduction projects.

Typically, water quality improvement project opportunities are retrofit projects identified through subwatershed feasibility studies; the District's school, commercial, and faith-based sites initiative; or ideas from RWMWD partners. With the completion of the Beltline Resiliency Study, dozens of flood risk areas and potential mitigation projects have been identified. Natural resource restoration projects are sometimes identified through subwatershed feasibility studies, or opportunities that arise with RWMWD partners.

With a wide variety of project types, scales, and foci. RWMWD is looking for an objective way to assess all of its projects to help prioritize which should be pursued, and in which order. All project categories (water quality improvements, natural resource restoration, and flood risk reduction) are high priorities as reflected in the District's Water Management Plan (WMP) goals. RWMWD often looks for opportunities where multiple goals can be met in a single project—developing water quality improvement features alongside the urgent flood control work while also making progress toward other District initiatives (i.e., Equity Initiative).

This memorandum outlines a prioritization framework and tool that the District can use to assess potential watershed projects based on quantitative and qualitative metrics and other project features. Ultimately, the tool ranks projects from highest priority to least priority across water quality improvements, natural resource restoration, and flood risk reduction categories so that RWMWD staff and Managers can plan for future work using an objective methodology that aligns with the District's priorities.

2.0 Methodology

This section outlines Barr and District staff's methodology for developing the RWMWD project prioritization tool.

2.1 Data aggregation and review of prioritization strategies

Barr reviewed information related to the District's current pool of potential projects including projects from the church/school/faith-based site search projects, wetland restoration site search projects, subwatershed feasibility studies, and the flood areas prioritized in the Beltline Resiliency study. Barr also reviewed past prioritization strategies that RWMWD has used, such as the Beltline Resiliency prioritization framework for flood areas, as well as examples from other metro watershed districts and cities.

Additionally, Barr reviewed the District's WMP and Strategic Overview to provide an overarching framework for the prioritization strategy that aligns with the goals and action items outlined in both documents. Barr also compared the WMP and Strategic Overview goals with the ISI Envision™ sustainability framework to ensure that project metrics including life cycle, community engagement, and project sustainability were included in the prioritization framework.

2.2 Development of project metrics and prioritization tool framework

After reviewing the data and prioritization strategies outlined in Section 2.1, Barr developed the quantitative and qualitative metrics by which to evaluate each project in the prioritization tool. These metrics are grouped into six categories that correspond to each of the six goals in the WMP including:

1. Achieve quality surface water
2. Achieve healthy ecosystems
3. Manage risk of flooding
4. Support sustainable groundwater
5. Inform and empower communities
6. Manage organization effectively

For each goal category, projects are evaluated by are several different project criteria that have specific scoring schemes and weights. The scoring schemes are based on thresholds defined from past studies, trends observed in the data aggregation phase, or feedback provided by RWMWD staff. For example, one point is given to projects that have a cost per pound of total phosphorus removed of less than $10,300 but no points are given if the cost benefit is greater than $10,300. This threshold was set based on Barr's review of RWMWD cost share project investments and their cost efficiency. Barr assigned weights for each criterion based on discussions with RWMWD staff.

The majority of the project criteria have weights of 1 (i.e., no more weight than other criteria); however, several project criteria have larger weights including cost efficiency of total phosphorus removal, longevity of in-lake phosphorus treatment, habitat preservation, flood storage potential, and whether the project is within a District Priority Equity Area. Additionally, project criteria related to structural impacts of flooding

can have weights lower than 1, depending on the frequency of the storm event that starts to impact structures. If a structure is impacted by flooding during a high-frequency event (i.e., 2-year or 10-year storm), a project to reduce the flood risk to that structure would be given a weight that is higher than if a structure is impacted by low-frequency event flooding (i.e., 50-year or 100-year storm).

After the project information is entered into the tool, the score for each criterion is multiplied by its weight. This weighted score is summed for all criteria to calculate the total project score. The tool ranks the projects by their total score in a compiled list. This list can be sorted based on project type (water quality, flooding, or natural resources), by the primary District goal the project is meeting, or by subwatershed.

The following tables show the criteria and their corresponding score and weights by criteria category.

Table 1 Water Quality Improvements Criteria (RWMWD Goal 1)

Criteria	Score	Weight
$/lb TP Removed	<$10,300 = 1 >$10,300 = 0	2
$/lb TSS Removed[1]	<$50 = 1 >$50 = 0	1
Project in/tributary to impaired subwatershed	Yes = 1 No = 0	1
% of TMDL reduction goal addressed by project	>10% = 1 <10% = 0	1
Reduce impervious area?	Yes = 1 No = 0	1
TP Removal (lbs/yr)	< 1 lb = 0 1-4 lbs = 0.5 5-10 lbs = 1 >10 lbs = 2	1
TSS Removal (lbs/yr)[1]	< 50 lbs = 0 50-200 lbs = 0.5 200 - 1000 lbs = 1 >1000 lbs = 2	1
Longevity of in-lake treatment[2]	>= 10 years = 1 < 10 years no points	2
Internal load as % of total load to lake[2]	< 10% no points 10%-60% = 0.5 >60% = 1	2

[1]Points only assigned for projects in a subwatershed with TSS impairment
[2]Points only assigned for in-lake treatment projects

Table 2 Natural Resources Restoration Criteria (RWMWD Goal 2)

Criteria	Score	Weight
Habitat connection opportunities	Yes = 1 No = 0	1
% of site restored	>50% = 1 <50% = 0	1
Preserve habitat	Yes = 1 No = 0	2
Protect wetlands	Yes = 1 No = 0	1
Restore wetlands	Yes = 1 No = 0	1
Reduce pesticide and fertilizer impacts	Yes = 1 No = 0	1
Enhance species biodiversity	Yes = 1 No = 0	1
Preserve species biodiversity	Yes = 1 No = 0	1
Control invasive species	Yes = 1 No = 0	1
Length of shoreline/stream restored	<500 ft = 1 >500 ft = 3	1
Wetland restoration size	Small <1 acre = No points Medium 1 - 5 acres = 0.5 Large 5 to 40 acres = 1	1
Wetland credit potential	<1 credit = No points 1 to 5 credits = 0.5 > 5 credits = 1	1

Table 3 Flood Risk Reduction Criteria (RWMWD Goal 3)

Criteria	Score	Weight
Potential flood storage	Yes = 1 No = 0	2
Near District-managed water body	Yes = 1 No = 0	1
Adjacent to District-managed facility	Yes = 1 No = 0	2
Does the project address local or regional flooding?	Local = 0.5 Regional = 1	1
Does the project address road flooding on evacuation route	Yes = 1 No = 0	1
Does the project reduce road depth of flooding greater than 2 ft (non-evacuation route)	Yes = 1 No = 0	1
Residential - Number of impacted structures during 2-year event	# of structures	1
Residential – Additional number of impacted structures during 10-year event	# of structures	0.75
Residential - Additional number of impacted structures during 50-year event	# of structures	0.5
Residential - Additional number of impacted structures during 100-year event	# of structures	0.25
Non-Residential Number of impacted structures during 2-year event	# of structures	0.75
Non-Residential Additional number of impacted structures during 10-year event	# of structures	0.5
Non-Residential Additional number of impacted structures during 50-year event	# of structures	0.25
Non-Residential Additional number of impacted structures during 100-year event	# of structures	0

Table 4 Sustainable Groundwater Criteria (RWMWD Goal 4)

Criteria	Score	Weight
Project promotes infiltration	Yes = 1 No = 0	1
Groundwater recharge potential[1]	Score divided by 24 to normalize to score range from feasibility study	1

[1]Recharge potential assigned based on Barr 2015 study

Table 5 Community Criteria (RWMWD Goal 5)

Criteria	Score	Weight
Is the project within a District Priority Equity Area?	ACP50 Area = 2 ACP or District priority area = 1	2
Is there a planned visibility/education component to the project?	Yes = 1 No = 0	1
Does the project improve community existing conditions?	Yes = 1 No = 0	1
Does the project provide opportunity for volunteer engagement in the District?	Yes = 1 No = 0	1
Does the project improve community businesses or economic growth/benefit?	Yes = 1 No = 0	1
Does project enhance public health and safety?	Yes = 1 No = 0	1
Does the project minimize ambient pollution (noise, light, vibration)?	Yes = 1 No = 0	0.75
Does the project provide leadership opportunities for community members (i.e. Citizens Advisory Commission involvement)?	Yes = 1 No = 0	0.5
Does the project foster collaboration with cities, watershed management organizations, educational institutions and other stakeholders to develop and implement shared communication and messaging strategies?	Yes = 1 No = 0	0.25
Does the project incorporate public art into project?	Yes = 1 No = 0	0.75
Does the project provide for stakeholder engagement (comment, workshops, etc.)?	Yes = 1 No = 0	0.5

Table 6 Organization Management Criteria (RWMWD Goal 6)

Criteria	Score	Weight
Was a plan created for long term monitoring and maintenance?	Yes = 1 No = 0	1
Does the project extend the useful life of existing infrastructure?	Yes = 1 No = 0	1
Does the project use recycled materials?	Yes = 1 No = 0	1
Does implementation/construction reduce excavated materials taken off site	Yes = 1 No = 0	1
Does design provide for deconstruction/recycling of existing infrastructure/materials	Yes = 1 No = 0	1
Does design address changing climate trends/prepare for long-term resiliency	Yes = 1 No = 0	1
Is project innovative?	Yes = 1 No = 0	1
Easy to construct/implement (i.e. logistically easy, shovel ready project)	Yes = 1 No = 0	1
Land Ownership	Public = 1 Willing = 0.5 Private = 0	1

In addition to the criteria outlined in Table 1 through Table 6, general project information is also included in the tool including: the subwatershed the project is located in, its corresponding implementation activity from the RWMWD Watershed Restoration and Protection Strategy report (where applicable), and the report or memo from which the project was recommended.

3.0 Prioritization Tool and Results

The prioritization tool exists as a Microsoft Excel spreadsheet that RWMWD can alter as needed. For example, criteria weights can be changed, and scores are updated automatically. Figure 1 shows the tool for a selection of projects. The projects included in the prioritization tool are shown by project type in Figure 2.

ADD NEW PROJECT HERE BY INSERTING COLUMN -->

Project No.		68	44	66	15	14	63
Rank		17	7	26	39	56	21
		Flood Area: N St. Paul Urban Ecology Center	Target BMP retrofits	Flood Area: Markham Pond	Keller Mayflower Park Rain Garden	St. Christopher's Church Parking Lot Rain Garden	Flood Area: SE of Hazelwood St and Beam Ave
Project Type		Flooding	Water quality	Flooding	Water Quality	Water Quality	Flooding
Subwatershed		Kohlman Creek	Kohlman Creek	Kohlman Creek	Bennett Lake	Bennett Lake	Kohlman Creek
Implementation Activity		KC-2	DW-6	KC-2	BeL-4	BeL-4	KC-2
Report Title		Flood-Risk Project Identification and Prioritization (Beltline Resiliency)	North St. Paul Target Retrofits Summary	Flood-Risk Project Identification and Prioritization (Beltline Resiliency)	Bennett Lake Subwatershed Feasibility Study	Bennett Lake Subwatershed Feasibility Study	Flood-Risk Project Identification and Prioritization (Beltline Resiliency)
Conceputal cost for projects or flood alternatives		$2,828,000	$619,268	$20,077,000	$22,500	$142,100	$3,145,000
Total Score Unweighted		13.0	224.0	8.0	49.3	47.7	8.0
Total Score		10.0	17.0	8.5	6.6	5.0	9.0
Primary Goal	Subcategory Weight	3. Flooding	5. Community	3. Flooding	5. Community	1. Water Quality	3. Flooding
1. Water Quality	1	1.0	5.0	1.0	1.0	1.5	1.0
2. Ecosystem	1	0.0	1.0	0.0	1.0	1.0	0.0
3. Flooding	1	7.0	0.0	5.5	0.0	0.0	6.0
4. Groundwater	1	0.0	1.5	0.0	1.6	1.0	0.0
5. Community	1	1.0	7.0	1.0	2.0	1.0	1.0
6. Manage Organization	1	1.0	2.5	1.0	1.0	0.5	1.0

RWMWD Goal	Criteria	Strategic Plan Action Item	Additional criteria description	Qualifiers	Weight						
 RWMWD Goal 1. Achieve quality surface water	$/lb TP Removed	MO6	--	< $10,300 = 1 >$10,300 = No ponits			$8,900		$15,200	$11,600	
					2		1				
	$/lb TSS Removed	MO6	Only add data for subwatersheds with TSS TMDL	< $50 = 1 > $50 = No points							
	Project in/tributary to impaired subwatershed?	WQ2	--	Yes = 1	1	1	1	1	1	1	1
	TMDL Reduction Goal (% or lbs)	WQ2	--	--	--		209		42.7	42.7	
	% of TMDL goal addressed	WQ2	--	> 10 % = 1 < 10 % = 0	1				0	0	
	Reduce Impervious Area?	WQ17	--	Yes = 1	1		1				
	TP Removals (lbs/yr, %)	WQ2	--	< 1 lb = 0 1-4 lbs = 0.5 5-10 lbs = 1 >10 lbs = 2	--		5.2		0.2	1.3	
					--		80%				
					1		1		0	0.5	
	TSS Removals (lbs/yr, %)	WQ2	Only add data for subwatersheds with TSS TMDL	< 50 lbs = 0 50-200 lbs = 0.5 200 - 1000 lbs = 1 >1000 lbs = 2	--						
					--						
					--						
	Longevity of treatment (in-lake)	WQ2	--	>= 10 years = 1 < 10 years no points	2						
	Internal load as % of total load	WQ2	--	< 10% no points 10%-60% = 0.5 >60% = 1	2						

Figure 1

 **RWMWD Goal 2. Achieve healthy ecosystems**	Habitat connection opportunities	EC4	Provides connection between multiple restoration areas	Yes = 1	**1**						
	% of site restored		--	>50% = 1 <50% = no points	**1**						
	Preserve habitat	EC4	Does not degrade quality of existing habitat features	Yes = 1	**2**						
	Protect wetlands	EC4	Project provides wetland protection measures	Yes = 1	**1**						
	Restore wetlands	EC3	--	Yes = 1	**1**						
	Reduce pesticide and fertilizer impacts		--	Yes = 1	**1**						
	Enhance species biodiversity			Yes = 1	**1**		1		1	1	
	Preserve species biodiversity			Yes = 1	**1**						
	Control invasive species	EC5	--	Yes = 1	**1**						
	Length of shoreline/stream restored	EC3	--	< 500 ft = 1 > 500 ft = 3	**1**						
	Wetland size		--	Small <1 acre = No points Medium 1 - 5 acres = 0.5 Large 5 to 40 acres = 1	**1**						
	Wetland credit potential	EC1	--	<1 credit = No points 1 to 5 credits = 0.5 > 5 credits = 1	**1**						
	Ease of wetland restoration	EC3	--	1 = high potential (break tile line, plug ditch, discontinue pumping, change inlet/outlet elevation 0.5 = medium potential (break multiple lines, and or plug ditch plugs, hydrologic diversion) 0.1 = low potential (diking, berming, excavation, or grading)	**1**						
	Additional water quality benefit	WQ2	--	Yes = 1	**1**						
	Proximity to existing features		Number of adjacent features	< 2 = no points 2-5 = 0.5 point >5 = 1 point	**1**						

Figure 1

 **RWMWD Goal 3. Manage risk of flooding**	Potential flood storage	FL3	--	Yes = 1	**2**	1		1			1
	Near District-managed water body		--	Yes = 1	**1**	1		1			1
	Adjacent to District-managed facility		--	Yes = 1	**2**	1		1			1
	Does the project address local or regional flooding?		--	Local = 0.5 Regional = 1	**1**						
	Does the project address road flooding on evacuation route	FL3	--	Yes = 1	**1**						
	Does the project reduce road depth of flooding greater than 2 ft (non-evacuation route)	FL3	--	Yes = 1	**1**						1
	Residential - Number of impacted structures during 2-year event	FL3	--	#	**1**	0					
	Residential - Number of impacted structures during 10-year event	FL3	additional structures from 2-year count	#	**0.75**	0					
	Residential - Number of impacted structures during 50-year event	FL3	additional structures from 10-year count	#	**0.5**	1					
	Residential - Number of impacted structures during 100-year event	FL3	additional structures from 50-year count	#	**0.25**	3					
	Non-Residential Number of impacted structures during 2-year event	FL3	--	#	**0.75**	0					
	Non-Residential Number of impacted structures during 10-year event	FL3	additional structures from 2-year count	#	**0.5**	0					
	Non-Residential Number of impacted structures during 50-year event	FL3	additional structures from 10-year count	#	**0.25**	3		2			
	Non-Residential Number of impacted structures during 100-year event	FL3	additional structures from 50-year count	#	**0**	0					1

Figure 1

 **RWMWD Goal 4. Support sustainable groundwater**	Project promotes infiltration	GW5/GW9	--	Yes = 1	**1**		1		1	1	
	Groundwater recharge potential (Barr 2015)	GW5/GW9	--	Score is divided by 24 to normalize	**1**		0.54		0.58	0.00	
 **RWMWD Goal 5. Inform and empower communities**	District Priority Equity Area	MO21	Is the project location in a priority area for the District's equity initiative? Does the project positively impact the community?	2 points for ACP50 1 point for ACP or District priority area	**2**		1				
	Visibility/ Education Component	IE1, IE3, IE4, IE7, IE9	Increases public awareness, visitbility and interest in the District and its efforts, positively influences the actions of others, informs residents and other stakeholders about how individuals can be responsible stewards of the watershed	Yes = 1	**1**		1		1		
	Does the project improve community existing conditions?	IE17	Add recreation access, aesthetic improvements, or other usable features	Yes = 1	**1**		1		1	1	
	Does the project provide opportunity for volunteer engagement in the District?	IE2	Recruit and engage volunteers in District projects/programs	Yes = 1							
	Does the project improve community businesses or economic growth/benefit	IE17	--	Yes = 1	**1**		1				
	Does project enhance public health and safety?		--	Yes = 1	**1**	1		1			1
	Minimize ambient pollution (noise, light, vibration)		--	Yes = 1	**1**						
	Provide leadership opportunities for community members (i.e. Citizens Advisory Commission involvement)	IE15	--	Yes = 1	**1**						
	Foster collaboration with cities, watershed management organizations, educational institutions and other stakeholders to develop and implement shared communication and messaging strategies	IE5, IE12	--	Yes = 1	**1**		1				
	Incoporate public art into project?	IE16	--	Yes = 1							
	Provide for stakeholder engagement (comment, workshops, etc.)	IE14	--	Yes = 1	**1**		1				

Figure 1

 **RWMWD Goal 6. Manage organization effectively**	Was a plan created for long term monitoring and maintenance?	WQ4/EC4/FL4	Include monitoring or maintenance plan?	Yes = 1	**1**		1				
	Does the project extend the useful life of exisitng infrastructure?	Sustainability/ Envision	--	Yes = 1	**1**						
	Does the project use recycled materials?	Sustainability/ Envision	--	Yes = 1	**1**						
	Does implementation/construction reduce excavated materials taken off site	Sustainability/ Envision	--	Yes = 1	**1**		1				
	Does design provide for deconstruction/recycling of existing infrastructure/materials	Sustainability/ Envision	--	Yes = 1	**1**						
	Does design address changing climate trends/prepare for long-term resiliency	FL9, Sustainability/ Envision	--	Yes = 2	**1**	1		1			1
	Is project innovative?	WQ11/MO13, Sustainability/ Envision	Expand the use of innovative water quality improvement designs, products, equipment, and methods as necessary to address sites with limited land area for conventional treatmnet techniques. Is project unique to its subwatershed?	Yes = 1	**1**						
	Easy to construct/implement (i.e. logistically easy, shovel ready project)			Yes = 1	**1**						
	Land Ownership	MO17	--	Public = 1 Willing = 0.5 Private = No points	**1**		0.5		1	0.5	

Figure 1

Barr Footer: ArcGIS 10.6, 2018-06-25 17:53 File: I:\Client\Ramsey_Washington_Metro_WD\District_Basemaps\BMP Tracking\BMP_Tracking_v3.mxd User: JPP

Snail Lake
Grass Lake
Lake Wabasso
Lake Owasso
Twin Lake
Gervais Creek
Gervais Lake
Kohlman Lake
Keller Lake
Willow Creek
Kohlman Creek
Lake Phalen
Beaver Lake
St. Paul Beltline
Tanners Lake
Battle Creek
St. Paul Beltline
Battle Creek Lake
Mississippi River Bottomlands
Blufflands
Carver Lake
Fish Creek
Blufflands

Major Watersheds

Project Type

- Flooding
- Natural Resources
- Water Quality

N

0 6,000 12,000

Feet

BARR

Prioritized District Projects

Ramsey-Washington Metro Watershed District

FIGURE 2

****

Administrator's Report

****

MEMO

TO: Board of Managers and Staff

FROM: Tina Carstens, Administrator

SUBJECT: October Administrator's Report

DATE: October 1, 2020

A. **Meetings Attended**

Tuesday, September 1	10:30 AM	Watershed Based Funding Implementation
Wednesday, September 2	6:30 PM	September Board Meeting
Thursday, September 3	9:00 AM	Cemstone Project Discussion
Wednesday, September 9	1:00 PM	Minnesota Water Stewards Update
Friday, September 11	10:00 AM	Lake Level Station Discussion
Wednesday, September 16	12:00 PM	Equity Consultant Discussion
	1:30 PM	Prioritization Tool Review
Monday, September 21	3:00 PM	Water Resources Conference Planning
Tuesday, September 22	1:00 PM	Hillcrest Workshop Planning
Thursday, September 24	11:30 AM	Met Council Webinar
Wednesday, September 30	2:30 PM	Hillcrest Stormwater Workshop
Thursday, October 1	10:00 AM	Minnesota Stormwater Research Council

B. **Upcoming Meetings and Dates**

Water Resources Virtual Conference	October 20-21, 2020
November Board Meeting	November 4, 2020
MAWD Virtual Annual Meeting	December 1-4, 2020
December Board Meeting	December 2, 2020

C. **Budget Status Information**

A couple of items shown on the budget status report are over budget in 2020 that I wanted to explain. The first item is Employee Expenses, which is just over $13,000 over budget this year. That item is where employee mileage is paid. This year we have had a substantial need to pay mileage due to COVID restrictions. Field staff has had to drive their own vehicles much more this season because of requirements not to have more than one staff in the district vehicles.

The other item that is over budget is the Utilities/Building Contracts. This item was just over budget at the end of 2019 and probably should have been increased for 2020. That, along with some increases we incurred in our waste/recycling pick up, Adams Pest control needs this year that were more than past years, and finally, the need for additional cleaning in the office due to COVID has caused this item to increase over the year.

In both cases, they are included in the general fund. They are also in budget categories that have not reached their maximum limits if you review the budget status report's budget subtotals. This is just for your information. I will review this information more closely as we finalize our 2021 budget in December and make adjustments as necessary.

D. **Minnesota Stormwater Research Council Update**

This week the annual update meeting of the Minnesota Stormwater Research Council was held. I have attached a document that shows the highlights of the update for your information. As you may recall, the District contributes to the research council currently at a rate of $25,000 a year. We have also participated in some of the research projects as partners. Bill Bartodziej sits on the advisory council currently as a watershed representative. It is impressive to see the breadth of the work completed under this research council. I have also been impressed with the commitment to knowledge transfer on these projects. We are continually benefiting from the work being done. This truly collaborative way to pool resources to further the science of stormwater research is unique in the US. There are more projects requesting funding than funding is available. Manager Aichinger has requested that the board consider increasing our support of the Minnesota Stormwater Research Council in 2021 to $35,000. This can be accomplished without increasing the budget item. We currently designate a $35,000 contingency in our research budget for internal research/contingency.

Minnesota Stormwater Research Council
and
Minnesota Stormwater Research Program

2019 - 2020 HIGHLIGHTS

Advancing science, technology and management of stormwater in Minnesota by investing in and facilitating research to prevent, minimize, and mitigate the impacts of runoff from the built environment.

MINNESOTA STORMWATER RESEARCH COUNCIL (MSRC) - The Council supports the research program by facilitating relevant, applied stormwater research and supports education and transfer technology. The Council is composed of professionals, practitioners, managers, engineers, and researchers who advise and provide direction for urban stormwater research in Minnesota. The Council's Advisory Board assists with the Water Resources Center and all stakeholders by setting research priorities, acquiring funds to support research and choosing projects.

wrc.umn.edu/stormwater

Stormwater Research Program (SWRP)

This program advances research that informs urban stormwater management to prevent, minimize, and mitigate the effects of runoff from the built environment. Through Extension education and technology transfer, the SWRP also disseminates information to professionals, policy leaders, managers in industry, and at all levels of government.

COMPLETED PROJECTS 2019 - 2020

- Establishing a Geodata Standard for Stormwater Infrastructure
- Effectiveness of Sump Manholes for Pretreatment Particulate Removal
- Capture of Gross Solids and Sediment by Pretreatment Practices for Bioretention
- Temporal Dynamics of Pathogens and Antibiotic Resistance in Raw and Treated Stormwater
- Determining Which Iron Materials in Iron-Enhanced Sand Filters Remove Phosphorus from Stormwater Runoff

PROJECTS UNDERWAY

to be completed in 2020

- Detecting Phosphorus Release from Stormwater Ponds to Guide Management and Design
- Identifying Sources of Contaminants in Urban Stormwater and Evaluation of Their Removal Efficacy Across a Continuum of Urban Best Management Practices
- Developing a Street Sweeping Credit for Stormwater Phosphorus Source Reduction
- Pond Treatment with Spent Lime to Control Phosphorous Release from Sediments
- Inspiring Community Action for Stormwater Management
- Biofiltration Media Optimization

NEW PROJECT INVESTMENTS 2020 - 2022

- Understanding Solids Loading in Minnesota Stormwater
- Biofiltration Media Optimization - Phase II: Multi-Year Performance, Impacts of Road Salt, and Optimized Organic Ratio
- Leveraging Minnesota's Stormwater Data for Improved Modeling and Management of Water Quality in Cities
- Evaluation of Microbial and Chemical Contaminant Removals in Different Stormwater Reuse Systems
- Equipping Municipalities with Climate Change Data to Inform Stormwater Management
- Field Evaluation of Stormwater Best Management Practices to Characterize the Comprehensive Contaminant Removal Performance of Biochar-Augmented Filter Media
- Pollutant Removal and Maintenance Assessment of Underground Filtration Systems
- Monitoring Methods for Prioritization and Assessment of Stormwater Practices

wrc.umn.edu/projects/stormwater

State contribution of

$1.5M

CLEAN WATER LAND & LEGACY AMENDMENT

2019 pooled funds from

- Capitol Region Watershed District
- Mississippi Water Management Organization
- Ramsey Washington Metro Watershed District
- South Washington Watershed District
- Valley Branch Watershed District
- City of Edina
- City of Woodbury
- City of Minnetonka
- City of Bloomington
- Comfort Lake-Forest Lake Watershed District
- Nine Mile Creek Watershed District
- BARR Engineering
- Wenck Associates
- Minnesota Cities Stormwater Coalition

Total contribution

$115K

Forward in 2020

- Request $1.5M of continued funding from the Minnesota Clean Water Fund
- Solicit program support funds from watersheds, cities, and businesses
- Appoint new Minnesota Stormwater Research Council Advisory Board Members for 2021-2023
- Hire a new stormwater Extension Educator to advance efforts in technology transfer

The future of stormwater pond research

- There are more than 30,000 stormwater ponds across Minnesota
- The proliferation of this practice requires investigating how they can be designed to be more effective, discovering maintenance needs, and optimize methods for management.
- The Council and Center has established a dedicated pool of resources to address research on ponds

Water Resources Center
University of Minnesota
Driven to Discover℠

MINNESOTA STORMWATER SEMINAR SERIES

St. Anthony Falls Laboratory
University of Minnesota
Driven to Discover℠

wrc.umn.edu/projects/stormwater/swseminars

Monthly seminars with national and international experts

Feature presentations and local panel discussions available online for anytime viewing

15+ seminars in 2019-2020 drawing more than 1,500 participants

Contact:
John Bilotta
Senior Research and Extension Coordinator
jbilotta@umn.edu, +1 612 624 7708

For more information about the program, Council and stormwater projects, please visit:
wrc.umn.edu/projects/stormwater

E. **CAC By-Laws Update**

The District Citizen Advisory Committee has been discussing an update to their by-laws and the membership on the committee. Since the committee's resurgence in 2013, no changes to the membership or by-lays has occurred. We have an excellent group of volunteers who spend many hours a year on CAC activities, but the group's size has decreased, and we haven't done a concentrated campaign for new membership. Carrie is our staff liaison for the CAC, and Manager Aichinger is the board representative on the committee. The attached by-laws show the changes that the CAC has approved at their last meeting.

These by-law changes include mostly small changes to wording and clarification on how the membership would occur. Language was added for our desire to increase the membership's racial, cultural, and socioeconomic diversity. The by-laws also spell out the desired membership make up based on geographical area and representation. Lauren has plans over the next several months of doing a communications campaign to solicit CAC membership applications. She will focus on the needs of the group based on those needs.

If the board so chooses, they could approve the change in by-laws or provide comments, and changes could be brought back to the board at a later meeting. Based on our new members' campaign, I will bring a CAC membership to the board for approval at your January or February meeting.

BY-LAWS

CITIZENS ADVISORY COMMITTEE
OF THE
RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

ARTICLE I
NAME AND PURPOSE

The Citizens Advisory (CAC) of the Ramsey-Washington Metro Watershed District is established to advise and assist the Board of Managers and to make recommendations on proposed projects and works of improvement within the District as directed by Section 112 MSA.

ARTICLE II
SCOPE OF AUTHORITY

Section 1. Responsibilities & Activities. The CAC shall develop an annual work program to further District goals and objectives. This work program shall include community projects, assigned tasks, and requests for recommendations from the Board of Managers. The CAC shall be responsible to:

1. Become informed of the programs of the District and provide input on program revisions and evaluation.
2. Complete tasks assigned by the Board of Managers.
3. Make recommendations on District plans, projects, and capital improvements.
4. Engage in fact finding activity and solicit outside advice in making recommendations to Board of Managers.
5. Assist in planning District tours.
6. Assist the District in public education and information activities.
7. Assist the District in public participation and community involvement activities.
8. Be aware of community attitudes on water management issues.
9. Participate in development and review of the District's annual work program and budget.
10. Assist the District with planning and implementation of events including WaterFest and the annual awards dinner.

ARTICLE III
COMPOSITION

Section 1. Appointment. The CAC shall be composed of a minimum of twelve (12) members appointed by the Board of Managers. New members may be appointed mid-year as needed. The RWMWD Administrator may approve mid-year additions to the CAC between the board

annual appointments. Members will be automatically reappointed unless the Board or CAC wish to remove a member, or a member wishes to resign. The CAC recognizes that a diversity of backgrounds, experiences, and perspectives in membership is key to a strong committee that reflects the community. Appointments will consider geographic, and racial, cultural, and socioeconomic diversity, interest group representation and the interest and background qualifications of candidates. Proactive efforts should be made to appoint members from each of the categories. Openings on the CAC shall be advertised, and candidates shall be required to complete an application form. All members have equal standing and voting rights. The CAC membership shall be selected from among the following representative groups:

- Representative from member Cities
- Board of Managers representative
- Business community representative
- Faith based organization representative
- School representative
- Master Gardener, Master Naturalist, and/or Minnesota Water Steward
- Environmental agencies or organizations
- At Large

Members may represent more than one category.

Section 2. Resignation. Resignations from the CAC shall be in writing with the position to be filled for the unexpired term if needed. An email or mailed letter to the CAC Chair or RWMWD staff liaison is acceptable. If a member is absent fromfour (4) consecutive meetings without excuse, the CAC Chair will discuss with the member their interest in continuing on the committee.

ARTICLE IV
OFFICERS

Section 1. Number. The officers of the committee shall consist of a Chairperson, and Vice Chairperson. District staff shall serve as secretary and recorder.

Section 2. Election. The officers of the committee shall be elected at the organizational meeting and each shall hold office until the next organizational meeting. The organizational meeting shall be the first meeting following the District Board of Managers annual meeting (January or February). Officers may be elected to successive terms.

Section 3. Vacancies. A vacancy in the office of Chairperson shall be filled by the Vice Chairperson for the balance of the year. A special election shall fill a vacancy in the office of Vice Chairperson for the balance of the year.

Section 4. Duties. The duties of the officers shall be as follows:

1. Chairperson. The Chairperson shall preside over all meetings of the committee and shall coordinate with the District assigned staff to develop meeting agendas.

2. Vice Chairperson. The Vice Chairperson shall have full authority to act for the Chairperson in their absence and shall become Chairperson if the position is vacated for the balance of the year.

ARTICLE V
MEETINGS

Section 1. Regular Meetings. There shall be no fewer than six (6) regular meetings each year, the dates and times to be determined by the membership. The regular meeting place shall be the office of the Watershed District. However, meetings may be conducted at another location if it is deemed advantageous to the business of the committee.

The organizational meeting shall be the first meeting following the Annual Meeting of the Board of Managers and the annual appointment of new CAC members.

Section 2. Special Meetings. Special meetings may be called by the Chairperson. Notice of the time, place, and subject matter of each special meeting shall be given to each member at least seven (7) days before the meeting date.

Section 3. Quorum. A majority of current appointed committee members shall constitute a quorum for the transaction of business at any meeting; and, except as may otherwise be required by these bylaws, the act of a majority of the members present at a meeting at which a quorum is present shall be the act of the committee.

ARTICLE VI
REIMBURSEMENTS

Committee members shall serve without pay. However, members shall be reimbursed for expenses incurred for projects undertaken at the direction of the Board of Managers or staff, for authorized seminar registration fees, and for other expenses as authorized by the Board of Managers or staff.

ARTICLE VII
AMENDMENT PROCEDURE

These bylaws may be amended, following readings at two (2) meetings, by a two-thirds (2/3) vote of current membership.

ARTICLE VIII
EFFECTIVE DATE

These bylaws will become effective upon adoption by a majority of CAC members and ratification by the Board of Managers.

Adopted by the Board of Managers

_____
President

_____
Date

F. **Equity and Inclusion Consultant for RWMWD**

Over the last several years, we have talked about the need to focus on diversity and equity related to our staff, board, volunteers, and our program areas. We have taken small steps to make our cost share program more equitable across the District but have not explicitly focused on this topic as a high priority. I have consulted with the other urban watersheds in the cities on their work in this area. We recognize that there are significant systematic issues at play here, but organizational issues can be worked through to improve in this area.

When we interviewed for our communications coordinator position this past year, this was one of the experiences I was looking for. Lauren does come with experience working on diversity and equity in organizations. She has recently been seeking out references from other organizations on who they work with and recommend we use.

To date, we have met with one consultant who came highly recommended, and they have submitted the attached proposal. I attach this, not for approval at this time. We will be soliciting proposals from other consultants to compare the work and cost to do that work. But I would like to board to discuss their desire for us to embark on this work. I think it is essential to realize that focusing on equity like this is complicated and requires many layers of education and work at various levels in the District. This is long-term work that we would need to commit to see organizational change in diversity of our employees, volunteers, and board members.

I think this proposal is detailed and provides information to you that shows what this work could look like over the next year. The goal of this work would be to:

- Develop an equity, inclusion, and belonging vision statement consistent with our vision, mission, and values.
- Setting short and long term goals for our equity work that aligns with our strategic work plans.
- Complete an equity audit of policies, practices, and procedures related to recruitment, hiring, promotion, compensation, and retention.
- Personal and professional development for staff, board, and CAC as it relates to an anti-bias and equity centered mindset.

I look forward to discussing this topic and how we can move this work forward at RWMWD.

AMAZE works
because there is power in belonging

September 25, 2020

Tina Carstens | Lauren Hazenson
District Administrator | Communications Coordinator
tina.carstens@rwmwd.org | lauren.hazenson@rwmwd.org
651-792-7960 | 651-792-7975
Ramsey-Washington Metro Watershed District
2665 Noel Drive
Little Canada, MN 55117

Proposal and Pricing Quote for AMAZEworks 2020

Organizational Overview

AMAZEworks is a Twin Cities-based 501(c)(3) nonprofit organization that specializes in working with adults to examine and interrupt the biases and stereotypes that prevent healthy relationships and communities. AMAZEworks strives to help organizations identify and understand their culture in a way that provides for individual and organizational growth. Our mission is to champion equity and belonging for all, and our work is grounded in the AMAZEworks Anti-Bias Education model and Conditions for Belonging framework. We use the best practices for adult education to support our research-based training, workshops, coaching, and consulting, incorporating the latest research on social identity development, stereotype threat, the neuroscience of implicit bias, debiasing techniques, and preventing and interrupting the internalization of stereotypes and prejudice. For each of its clients, AMAZEworks creates a customized approach to positive climate and culture change that best fits their needs and desired outcomes.

Equity and Consulting

Our Anti-Bias Education-based equity and consulting work with non-school organizations has grown tremendously in the past several years. Our clients have ranged from government agencies to for-profit businesses to other nonprofits to community organizations. Our equity consulting includes a variety of engagement opportunities, including administering the Intercultural Development Inventory, equity audits of policies and procedures, supporting equity committees and leaders, conducting focus groups and listening sessions for stakeholders, writing equity mission/vision statements, etc. Our trainings, offered virtually during this time, are on a variety of topics, including implicit bias, identity, stereotype threat, microaggressions, cultural norms and bias, anti-bias education, etc. All of our consulting and training is grounded in the AMAZEworks Anti-Bias Education model and Conditions for Belonging Framework.

Organizational Fit

AMAZEworks can provide an anti-bias equity-focused lens on the systems and culture of Ramsey-Washington Metro Watershed District (RWMWD) by helping leadership and staff identify, recognize, reflect on, and respond to the ways in which identity, difference, and bias have contributed

to forming a culture that impacts staff and work relationships, engagement, community, sense of belonging, and organizational structures. AMAZEworks partners with clients where they are at, identifying and prioritizing next steps so that cultural and systems change is possible in order to create belonging.

DEIB (Diversity, Equity, Inclusion, and Belonging) Approach

Information Gathering and Assessment (optional)

1. Intercultural Development Inventory® (IDI) - www.idiinventory.com

The Intercultural Development Inventory® is the premier cross-cultural assessment of intercultural competence that is used by thousands of individuals and organizations to build intercultural competence to achieve international and domestic diversity and inclusion goals and outcomes. IDI research in organizations and educational institutions confirms two central findings when using the IDI:

- *Interculturally competent behavior occurs at a level supported by the individual's or group's underlying orientation as assessed by the IDI.*
- *Training and leadership development efforts at building intercultural competence are more successful when they are based on the individual's or group's underlying developmental orientation as assessed by the IDI.*

In contrast to many "personal characteristic" instruments, the IDI is a cross-culturally valid, reliable, and generalizable measure of intercultural competence along the validated intercultural development continuum (adapted, based on IDI research, from the DMIS theory developed by Milton Bennett). Further, the IDI has been demonstrated, through research, to have high predictive validity to both bottom-line cross-cultural outcomes in organizations and intercultural goal accomplishments in education.

AMAZEworks uses the IDI as a tool for understanding and naming growth, a baseline for future training, and proposes that all members of the staff take the individual IDI. Each participant receives a personal hour-long debrief of their individual results and the whole department/staff also receives group results in a session that includes an introduction to basic diversity, inclusion, and equity vocabulary. We acknowledge that this is an important first step to deeper understanding

- **Deliverables:**
  - Individual and Group Profile reports and debriefs to understand where each staff member as well as the organization as a whole is on the intercultural development continuum.
- **Cost for Individual IDI and Debriefs:**$200 pp
  - Includes the $30 IDI Fee for nonprofit organizations
  - Includes 45-60 minute debriefs with each individual
- **Group Debrief/Training for Leadership, DEIB Committee, and/or all staff:** $1000 per group
  - 90 minutes

- We recommend that at the very least organizational leadership receives a group debrief to help inform the strategic direction of the future equity work.

2. Surveys, Listening Sessions, and/or Focus Groups with leadership and staff

- Initial information gathering about organizational history, processes, strengths, preparedness, barriers, and challenges to long-term, organizational anti-bias, equity work
- **Deliverables:**
  - An Anti-Bias, equity-centered SWOC (Strengths, Weaknesses, Opportunities, Challenges) Analysis of the organization as it currently operates, in relation to current or ongoing equity work, and preparedness for future, long-term, strategic equity work.
- **Cost:** $200/hour

Training and Professional Development for Staff

Training grounds staff and leadership in a shared language and foundational understanding of issues of equity. Ongoing professional development is an important part of creating a culture of equity and belonging, especially as RWMWD looks to diversify its staff and examine its recruiting, hiring, and retention processes. Culture change, an essential part of retention efforts, starts by examining individual identity and bias as well as organizational cultural norms.

1. Foundational Training Series

We recommend beginning with a series of the three trainings proposed below.
Format: 2-hour virtual or in-person trainings (depending on state health guidelines for social distancing)

- **Training #1:** Understanding Implicit Bias
  Description: What is bias? This workshop will explore how biases are formed and internalized, how they appear in the workplace and society, and the personal and professional cost of negative bias. Participants will also learn and practice de-biasing techniques that will help their relationships with colleagues and the community.
  Learning Outcomes:
  - Examine how biases are formed and internalized, how they appear in the workplace and society, and the personal and professional cost of negative bias.
  - Reflect on the role and impact that bias has played in their own lives.
  - Learn and practice de-biasing techniques that will help their relationships with colleagues and clients.

- **Training #2:** Identity and Stereotype Threat
  Description: How do we show up at work? Do we keep aspects of our identities guarded from others for fear of judgment, discrimination, or harassment? Does stereotype threat keep us from performing at our best? The ability of employees to perform at their best may be directly related to how they perceive bias and stereotypes about their identities from others. In our country's current political and social climate, many of our most vulnerable groups feel targeted

and under threat, and staff is likely internalizing negative messages about themselves and others. This ultimately impacts employee engagement and performance. Participants will gain an understanding of how biases and stereotypes impact their own and others' identities. Examine how, when, and in what situations stereotypes appear in the work environment, and learn the steps to process and address bias and stereotype threat.

Learning Outcomes:

- Reflect on their own privileged and marginalized identities.
- Examine the ways in which they and others have been affected by stereotypes and bias.
- Practice tools for becoming consciously aware of our own implicit bias and stereotype threats and taking action towards inclusion and equity.

- **Training #3:** Unpacking the Cultural Iceberg - Looking deeper into bias and cultural norms
  Description: Many of us are familiar with the metaphor comparing culture to an iceberg. We know that we need to look below the surface beyond what we can visually see to learn more about any other person's beliefs, values, norms, and behaviors. To be truly effective in our work, we must examine our biases and assumptions about our colleagues, constituents, and clients. We must also examine the cultural norms of our workspaces and communities to uncover barriers to equity and belonging. In this workshop, we will unpack the layers of the cultural iceberg to gain a deeper understanding of how culture shows up in our businesses, organizations, and communities, identify how implicit bias affects how we understand and support different cultural identities, and examine how our cultural norms are often based in whiteness and patriarchy that deny access and opportunity to some.

  Learning Outcomes:

  - Describe how culture shows up in our work with our colleagues and the larger community
  - Identify how implicit bias affects how we understand and support different cultural identities
  - Examine how our cultural norms are often based in whiteness and patriarchy

See additional training topics and descriptions below. **Note:** We customize all of our trainings and workshops to fit the needs and interests of each client based on the IDI individual and group profile results, feedback from the surveys, listening sessions, and focus groups, and SWOC analysis.

2. Monthly Roundtables or Seminars

These monthly seminars/discussions can be structured in a variety of ways to best fit organizational needs and goals. They can be mandatory or voluntary for all or certain staff (cohort, DEIB (diversity, equity, inclusion, and belonging) committee, supervisors, full-time staff, etc.) These monthly sessions provide an opportunity for ongoing discussion and learning. We recommend 60-minute roundtables/seminars that will include additional training on various equity topics, such as bias, identity, stereotype threat, microaggressions, institutional/structural/systemic oppression, etc., and how these issues relate to both personal and professional lives. They may also include reflection on

individual intercultural competence growth, sharing of equity-related, cultural competency questions, insights, and concerns, and practical application of ideas and experiences to their work at RWMWD.

Equity Consulting and Coaching

This work will depend on the priorities and capacity of RWMWD leadership. The coaching and consulting approach of AMAZEworks is to partner WITH clients to build competency, skills, and capacity to engage in deep, long-term, sustained equity work in order to create lasting organizational and culture change.

AMAZEworks will partner with RWMWD leadership and/or a Diversity, Equity, Inclusion, and Belonging (DEIB) Committee to:

- Develop Equity, Inclusion, and Belonging Vision/Mission Statement consistent with RWMWD vision, mission, and values
- Set short and long-term goals for equity work that align with organizational strategic and business plans
- Develop long-term, sustaining systems and processes to keep equity work moving forward in future years
- Build skills and competency to complete an equity audit of policies, practices, and procedures (recruitment, hiring, promotion, compensation, retention, etc.)
- Build skills and competency to lead from an anti-bias, equity-centered mindset

Proposed Timeline and Budget

Timeline	Activity	Hours	Cost Per	Total Cost
Oct 2020 - Jan 2021	Information Gathering • IDI assessments for 15 staff (includes 45-60 minute debriefs) • Group debrief for leadership	• 15 hours for ind. debriefs • 2 hours	• $200 pp • $2000	**$3000** **$2000**
	Surveys, focus groups or listening sessions	10 hours (depending on format)	$200/hour	**$2000**
	Foundational Training Series for all staff	6 hours	$1000/hour	**$6000**
	Equity Consulting and Coaching • Develop short- and long-term goals for equity work • Draft an equity-based vision, mission, and values statement	9 hours	$500/hour	**$4500**
Jan - Dec 2021	Additional training for all staff	12 hours	$1000/hour	**$12000**

	Monthly Roundtables/Seminars	12 hours	$750/hour	**$9000**
Jan - June 2021	Equity Coaching and Consulting • Test and revise equity statement • Establish a DEIB Committee to keep equity work centered in organization and move work forward • Build leadership and DEIB Committee skills and competency to begin conducting an equity audit of policies, practices, and procedures • Prioritize equity audit focus • Build leadership and DEIB Committee skills and competency to lead from an anti-bias, equity-centered mindset	24 hours (4 hours/month)	$500/hour	**$12,000**
July - Dec 2021	Equity Coaching and Consulting • Re-evaluate short and long-term goals • Equity audit of one or two priority policies, procedures, practices • Develop long-term, sustaining systems and processes to keep equity work moving forward in future years	24 hours (4 hours/month)	$500/hour	**$12,000**
TOTAL	**October 2020-December 2021**	**(15 months)**		**$62,500**

Lead Facilitator/Trainer

Rebecca Slaby - Executive Director

Rebecca Slaby leads AMAZEworks in working with schools, communities, and organizations to create equity and belonging for children and adults. She gives workshops on Anti-Bias Education with a focus on cultural responsiveness, bias, identity and stereotype threat, and intercultural communication and conflict and co-authored the AMAZEworks middle school curriculum. With a MEd from DePaul University, she has 15 years of experience teaching middle school humanities/social studies and has worked with schools on issues of equity, inclusion, and justice on institutional, state, and regional levels. She has been a racial justice facilitator for the YWCA Minneapolis since 2015 and is a trained cultural competency facilitator for the Professional Educators Licensing and Standards Board for the state of Minnesota. She has presented at the Overcoming Racism, Minnesota Education Association, NAEYC, MnAEYC, Safe Schools, Minnesota Council of Nonprofits, and Forum on Workplace Inclusion conferences and teaches courses on equity-based pedagogy at the University of Minnesota.

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Additional Training Topics and Descriptions

Note: We customize all of our trainings and workshops to fit the needs and interests of each client.

Anti-Bias Foundations Training

Using the framework of Anti-Bias Education, this training focuses on how organizations can create equity and belonging for their stakeholders at every level. Anti-Bias Education focuses on developing healthy identities, respect across differences, understanding bias, prejudices, and stereotypes, and taking action against bias-based behavior, and this training provides a foundation from which all other equity and inclusion work develops.

Behaviors that Trigger Negative Bias

We are most likely to act on our implicit biases when we are triggered by stressful situations. Participants in this workshop will unpack the behaviors from others that they personally struggle with in different environments, reflect on their responses to those behaviors, and examine how implicit bias influences these responses in ways that might unintentionally result in negative outcomes and experiences for others.

Microaggressions

Microaggressions are daily verbal and nonverbal insults of slights, whether intentional or not, that target a person's marginalized identity. Each of us has experienced microaggressions at different rates. Microaggressions are one of the most common reasons a person with marginalized identities checks out of work or leaves their place of employment. Participants will explore how microaggressions appear in the workplace and community and discuss ways to interrupt and respond to microaggressions to better equity and create belonging.

White Fragility: When Good People Behave Badly

Often, good intentions receive more attention than the negative impacts they may produce. In the same way that white superiority created the systems and structures we have in place, it also created the ability for the people who benefit to overlook the effects on those who are marginalized or injured. When confronted with these truths, the reactions of many if not most white Americans fall under the category of white fragility. This is an intense focus on the feelings of white people when their understanding of themselves and their world is challenged. White fragility feeds on the fact that white people generally do not see themselves in racial terms and therefore are not affected by racism. It also works through a simplistic understanding of racism and a belief that white people are generally objective and free of bias. This workshop highlights the ways white fragility appears in the workplace and how it can be addressed for individual and organizational growth.

Other Topics

- Cultural Differences – Communication Styles and Conflict Resolution Styles
- Leading Through Anti-Bias Practices
- Preventing Identity-Based Mistreatment and Harassment
- Intersectionality
- Creating Gender Inclusivity

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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 – October 2020

Date: October 1, 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.

This period, Barr worked to compile the project elements into a comprehensive technical memorandum. The information in this study will be used to guide the phased approach for the area, which was discussed with the managers at the September board meeting. The draft version of the technical memorandum for this project will be posted to the RWMWD website in October.

West Vadnais to South I-694 conveyance feasibility study (Barr project manager: Sam Redinger; RWMWD project manager: Tina Carstens)

The purpose of this study is to evaluate the feasibility of constructing a larger discharge pipeline that could be used to draw down West Vadnais Lake when conditions allow and/or when downstream improvements are implemented. The goal is to establish the normal water level of the system at elevation 881.0 and the 100-year flood level at elevation 884.0 without increasing flood levels downstream.

This period, Barr incorporated changes into the final technical memorandum as described in the responses to board comments that were shared with the managers at the August board meeting. The final version of the technical memorandum for this project will be posted to the RWMWD website in October.

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 in lowering the flood level of the wetland complex east of Highway 61. We will also evaluate the effectiveness of increasing storage near Willow Lake itself to increase flood capacity downstream during large storm events passing through the Phalen Chain of Lakes. The draft the technical memorandum will be posted to the RWMWD website in October.

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.

On October 6, Barr and staff will meet with the City of Saint Paul Water Resources Working Group, which is comprised of staff from Public Works, Parks, Zoning, and Planning. We will provide an overview of the project. Barr will meet with additional Saint Paul staff on October 13 to confirm project objectives. The city will need to evaluate and implement many, if not all, of the conceptual improvement options (mentioned in the resiliency study) for this area, with guidance and technical assistance from the RWMWD.

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.

Barr addressed DNR comments on the preliminary hydraulic models, and we have provided updated models, supporting documentation, and comment responses. We are waiting for final acceptance from the DNR before submitting draft floodplain inundation files.

Barr began developing floodplain inundation files following DNR methodology. We estimate that draft GIS files will be submitted for DNR review in October. Due to the DNR's extended review of the first draft of the stormwater model, the project schedule was 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, the RWMWD and Barr helped the City of Saint Paul plan a virtual workshop with city and Saint Paul Port Authority staff to discuss various project options that involve coordinating stormwater management both on and off of the former golf course site. The workshop will be held on September 30.

Subwatershed feasibility studies for at-risk creeks (Fish Creek and Gervais Creek) (Barr project manager: Tyler Olsen; RWMWD project manager: Paige Ahlborg)

The purpose of this project is to evaluate best management practice (BMP) opportunities throughout the Gervais Creek and Fish Creek subwatersheds. These lakes are all considered to be "at risk" for nutrient impairment.

This period, Barr finalized the draft subwatershed feasibility study reports for Gervais Creek and Fish Creek. They are included in the board packet this month in preparation for discussion at the October board meeting.

Capital improvements

Targeted retrofit projects (Barr project manager: Matt Kumka and 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 on previously identified commercial, school, and faith-based properties throughout the RWMWD.

Construction of permeable pavements is wrapping up at the East Side Boys and Girls Club. Barr worked with the contractor (Outdoor Lab) and the City of Saint Paul on permitting issues regarding the connection to local storm sewer structures. Installation of the drain tile connections to the existing storm sewer structure is now complete and has been inspected by the city. The permeable parking area will not only reduce water volume runoff but will also solve localized flooding issues that made a large portion of the parking lot unusable for weeks at a time.

Construction began at the East Saint Paul site (Suburban Avenue Target) on September 14. Delayed site work authorization from Target Corporation resulted in a later-than-expected construction start date; the contractor will likely need to request an extension of the substantial completion date. We have resumed design development for the North Saint Paul site and will complete draft construction plans for the RWMWD and Target to review this fall.

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.

The current design uses an upstream flow treatment cell approach. This design will be tested first as two 12-foot cells. A conceptual design drawing has been submitted for inclusion in the 2021 CIP. Project activities during this period include conducting calculations to identify the expected treatment volume and phosphorus reductions per cell and for a full-scale system.

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.

This period, Barr prepared the bid package and will soon advertise the project for bid. In addition, we are currently collecting information on system requirements for and configuration of the gate operation. The necessary permitting applications have also been submitted. Bids will be received in October and will be offered to the managers at a future board meeting for consideration of an award. Once a contractor is selected and permits are in hand, the work will begin. We anticipate a four-month construction period.

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 anticipates that it will be available and installed in November. Following installation, Barr will complete a site walk with the City of Little Canada to review operation of the weir, and confirm that city staff are able to open and close the outlet prior to final completion of the project.

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 2020 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.

Fitzgerald Excavating & Trucking, Inc. has now completed all work for the project. The final payment application and change order will be provided for payment consideration. Barr staff will request closeout submittals from Fitzgerald to close out the contract.

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 mentioned last month, 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 will be completed and a comprehensive report provided this winter, when flows subside and the tunnel can be accessed safely.

Project operations

2020 Tanners Lake alum facility monitoring (Barr project manager: Meg Rattei; RWMWD project manager: Eric Korte)

The purpose of this project is to complete monitoring and reporting required by the general National Pollutant Discharge Elimination (NPDES)/State Disposal System (SDS) permit for MS4s.

After a shutdown from August 10 through August 17 due to problems with the alum pump, Barr obtained a loaner pump for the facility. A new pump was ordered. Samples have been collected weekly from the facility inflow and outflow, in compliance with the general NPDES/SDS permit for MS4s.

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 include 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 were evaluated, and an approach to examine internal loading for shallow lakes is 90-percent complete/built.

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

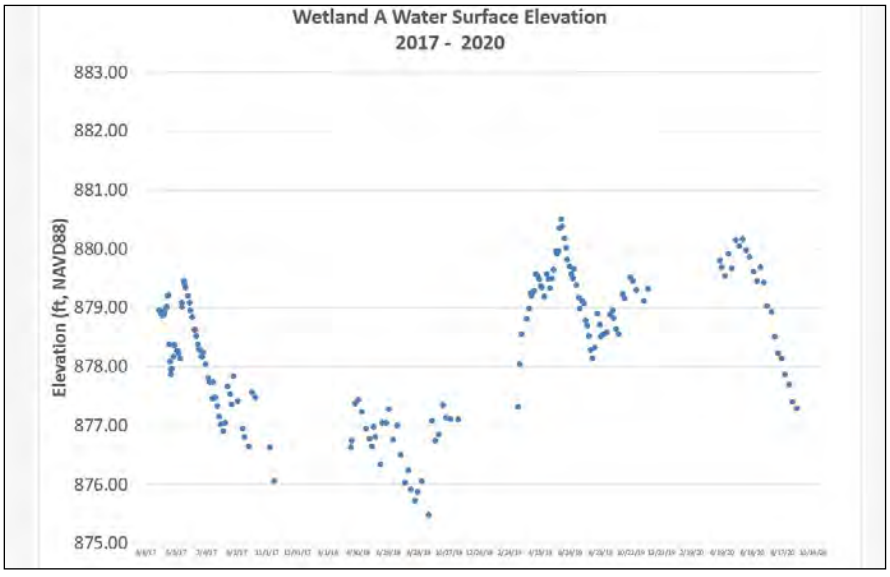
The objective of this effort is to develop a prioritization method that can be used to compare and prioritize projects across three main RWMWD projects types: water quality, flood risk reduction, and natural resource restoration.

This period, Barr and the RWMWD created a draft prioritization framework tool that the RWMWD can use to assess potential watershed projects based on quantitative and qualitative metrics and other project features. Ultimately, the tool ranks projects from highest priority to lowest priority across the categories of water quality, flood risk reduction, and natural resource restoration so that RWMWD staff and managers can plan for future work using an objective methodology that aligns with the RWMWD's priorities. A draft technical memorandum describing the proposed framework is included in this month's board packet for the managers' review and discussion at the October board meeting.

Natural Resources Update – Bill Bartodziej and Simba Blood

Wetland- A – Ecological Restoration

Well, fall is in the air, and we are somewhat reluctantly transitioning to our late-year restoration activities. We wrapped up our final volunteer planting last week. Even with our distancing restrictions, these volunteer groups have really helped out and have substantially contributed to the project. In a 4 hour time span, we are able to install 1,000 to 1,500 plants with a group of 10. Our main focus last week was the shoreline wet meadow zone. Because of the relatively lower precipitation levels this year, the Wetland A water level continues to drop (see graph below).



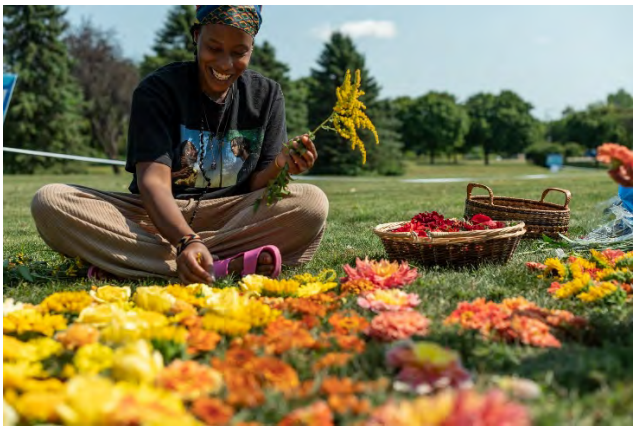
Over a 3’ decline has exposed large expanses of shoreland edge. We sort of look at this swath of shore as the “zone of uncertainty” because of the substantial water level fluctuations. Our approach has been to establish a mix of aquatic emergent plants (e.g., bulrush and burreed) and aggressive wetland species (e.g., lake sedge and river bulrush) at varying elevations within this zone. Below is a photo of burreed that was planted last summer along the north end of the wetland shore. It’s evident that this species is substantially expanding and sending out rhizomes (underground stems) downslope, trying to keep up with the water level decline. This is a resilient plant species that provides excellent shoreland habitat for a variety of terrestrial and aquatic species. This is really a prime example of the value of our restoration effort. Without these native plant introductions, this zone would either be barren or dominated by invasive species like narrow-leaved cattail and reed canary grass.

In addition to burreed, we are establishing patches of native bulrush throughout the wetland. Our star NR interns, Emily and Erika used a canoe to plant in deeper water. These two have worked incredibly hard over the summer and are really committed to the success of the Wetland A restoration. We are very fortunate to have them on the NR team.

Lastly, Sage had an opportunity to create some temporary signage highlighting a number of prairie species along the pathway. We have received excellent feedback on this educational effort. The family pictured below is using the wetland to conduct distance learning with their children. The restoration has become an important learning outlet for the community. Our staff will be working with Ramsey County staff over the winter to develop more permanent signage for the wetland.

Public Involvement and Education Program – Sage Passi

September 5 Celebrates Flower Power at Phalen Creek



Photos by Caroline Yang

Lower Phalen Creek Project and Flower Power sponsored a public celebration in St. Paul's open space south of Lake Phalen on September 5 to commemorate the relationship Dakota people have had with this waterway and discuss community efforts to bring Phalen Creek back to the surface and restore its role as a connecting resource. Capitol Region Watershed District and RWMWD were partners in this community event. Spoken word and music performances were led by Thomas Le Blanc (Strong Buffalo) and Ben Weaver and their band, the Buffalo Weavers. Lakota language arts teacher at American Indian Magnet, Thomas Le Blanc (photo above right) and spoken word artist Bella Dawfon were also performing artists at this event. Oyate Hotanin (Voice of the People) begun by Thomas Le Blanc is collaborative Indigenous Arts and Social Justice organization dedicated to supporting and presenting a variety of Native voices and perspectives.

Lionsgate Academy Planting Project in Shoreview Nears Completion

Sherry Brooks, retired science teacher from Farnsworth Aerospace (left), Mike Laughton, Master Naturalist (right), Bette Danielson, Water Steward, Cathy Troendle and Sage Passi finished off the weeding and planting of native plants at this large scale school project begun in 2018. This upkeep has taken several months this summer and lots of sweat equity, but the garden is getting in shape! Plants started in classrooms this winter were a big boost to this site's diversity of species.

September Marathon Plantings at Snail Lake Regional Park and Sign-Making

Above left: Volunteers and watershed staff prepare native seedlings for planting on the west side of the pond in Snail Lake Regional Park on September 2. **Right:** Signs on route for installation in the park to help visitors recognize and learn about the diversity of species that are included in the restoration project.

Three volunteer planting days were organized in September by Sage Passi and Natural Resources staff for this large-scale restoration project in its second year at Snail Lake Regional Park. Thousands of native plugs were installed by Water Stewards from our watershed district and others around the metro area as well as by Master Naturalists, a teacher and some members of our LEAP and CAC teams. Thanks to all these energetic volunteers who helped out! On September 9, Sage Passi led a tour throughout the restoration site for members of the Big River Big Woods chapter of Wild Ones. A team of Wild Ones members helped with the restoration last summer.

Above left: Matt Doneux, Natural Resources Technician instructs volunteers in the planting on the west side of Snail Lake Regional Park. **Above right:** Water Steward, Anna Barker plants wetland species close to the water's edge in this restoration effort at the park in early September.

Communications and Outreach Program – Lauren Hazenson

Communications Strategy

We launched a public survey as part of a broader audience assessment in mid-September. The Audience assessment gathers existing knowledge of RWMWD, values regarding watershed management issues, and preferred methods of receiving information. We can then view these preferences by geography and key demographics to design targeted communications. What we share, how we share it, when we share it, and how we phrase content will be supported this information. The first phase of the assessment, including the survey, will be completed in December.

Publications

E-newsletter

In August, Communications re-launched the Ripple Effect e-newsletter as a monthly publication. The August and September newsletters averaged a 36.5% open rate, consistent with emails sent from the RWMWD account in the last three years. This rate will likely stay steady until we conduct an email subscriber recruitment campaign this winter. We will continue to send single topic or event-based emails as needed.

Annual Report

The 2019 Annual Report for the public audience was completed and published on the website. A more extended version intended for reporting required by the MN Board of Soil and Water Resources, which is considerably longer at 38 pages, will be added to the website as well in October.

Social Media (Facebook, Twitter, Instagram)

Audience/Subscribers: 2,446

Impressions/Post Views: 8,996

Engagement (likes, comments, shares): 461

Both Facebook and Instagram experienced some audience growth in September. The Facebook audience is at 938 likes, and the Instagram audience grew to 515 followers. Facebook experienced a large audience bump this summer due to a modest geotargeted ad campaign, adding 62 followers primarily from St. Paul, Shoreview, and Woodbury. These three cities had lower audience numbers before the campaign, so we can now expect improved social media reach in these areas. The Twitter audience, currently at 997 followers, has small amounts of growth and would likely benefit from a higher frequency of posts than the other two social media channels.

September posts have focused on NR fieldwork, the East Saint Paul Target project, Twin Lake Outlet, and the Lower Phalen Creek Flower Power event.

Website Updates

We added a residential permitting page with an online form for residents applying for grading permits to their properties, located under the general permitting page. Project updates were added to the Snail Lake pages. We are currently working with Windmill Designs to integrate the lake level data into the existing project map on the webpage. Windmill also completed upgrades to the backend of the site to enable more menu customizations.