BROWN'S CREEK WATERSHED DISTRICT

455 HAYWARD AVE N
OAKDALE, MN
55128

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REGULAR MEETING OF THE BOARD OF MANAGERS
Wednesday, November 13, 2024
Regular meeting at 6:30 PM

NOTE MEETING LOCATION
Regular Board Meeting will be held at
Family Means
1875 Northwestern Ave, Stillwater, MN 55082

1) Call Regular Meeting to order 6:30 PM

2) Approve Regular Meeting Agenda and Discussion Agenda **-Board Action**

3) Oath of Office for Celia Wirth & Larry Odebrecht

4) Election of officers – fill vacancy in Treasurer position, alternate to Lower St. Croix Partnership policy committee, and stewardship grant subcommittee

5) Public Comments

6) Consent Agenda – **Board Action** (*all items listed under the consent agenda are considered to be routine by the Board of Managers and will be enacted by one motion. There will be no separate discussion on these items unless a Manager removes an item from the consent agenda for discussion or there is a request to remove the item from the consent agenda, in which event the board will consider whether to remove the item from the consent agenda and consider it separately*.)
   a) Approve Board Meeting Minutes of the October 9, 2024 Regular Meeting
   b) Accept Permit Fee Statement
   c) Authorize Administrator to execute Oak Glen Golf Course agreement amendment #2
   d) Approve the Lower St. Croix Partnership watershed based implementation funding workplan for 2025-2026 as recommended by the partnership policy committee.

7) Treasurer's Report
   a) Review Authorized Funds Spreadsheet
   b) Current Items Payable-**Board Action (Roll Call Vote)**

8) Permitting
   a) BCWD Permit 24-07 Elliot Crossing – **- Board Action**

9) New Business
   a) Washington Conservation District Service Agreement 2025-2026 - **Board Action**
   b) Biennial request for services – **Board Action**

10) Management Plan Update (~90 minutes)
    a) Lake Management
    b) Land Conservation
    c) Ecological Health
    d) Pollutants of Emerging Concern Video
    e) Regulatory review workshop on November 21, 2024 at 8:30-10:30am at The Lakes of Stillwater

11) Discussion Agenda - No Action Required
    a) Updates
        (1) Administrator
        (2) Legal
        (3) Engineer
            (a) Permit Inspections
        (4) Managers
    b) December 2024 Regular Meeting BCWD Board Agenda

12) Adjournment

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MEMORANDUM

TO: Brown's Creek Watershed District Board
FROM: Karen Kill
RE: Vacant Board Positions
DATE: November 6, 2024

Background

The Board has elected the following officer positions, subcommittee appointments, and community liaisons:

Klay Eckles – President (community liaison Hugo & Lake Elmo)
Celia Wirth – Vice President (community liaison Grant & Stillwater Township)
Gerald Johnson– Treasurer (community liaison City of Stillwater & May Township)
Chuck LeRoux – 2nd Vice-President (community liaison Oak Park Heights)
Debra Sahulka – Secretary

Subcommittees:

- Citizen Advisory Committee Liaisons – Celia Wirth (Charles LeRoux as alternate)
- Technical Advisory Committee Liaison – Klayton Eckles
- East Metro Water Resources Education Program Liaison – Administrator primary, Board Manager Gerald Johnson as necessary
- Best Management Practices Program Subcommittee – Gerald Johnson
- Bylaws and Policies – Celia Wirth
- Minnesota Watersheds Board Liaison – Celia Wirth
- Metro Minnesota Watersheds Liaison – Debra Sahulka; alternate Charles LeRoux
- Lower St Croix One Watershed One Plan – Klayton Eckles; alternate Gerald Johnson

Issue

Manager Gerald Johnson held several Board positions that are now vacant. BCWD typically elects officers and board positions at its annual meeting in January, but some of these positions (specifically Treasurer) are needed more immediately.

Requested Action

Consider filling vacant Board positions.

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DRAFT Minutes of the regular meeting of the Brown's Creek Watershed District Board of Managers, Wednesday October 9, 2024

ROLL CALL

Managers Present:	**Others Present:**
Klayton Eckles, President	Karen Kill, BCWD administrator
Celia Wirth, Vice President	Camilla Correll, EOR, BCWD engineer
Charles LeRoux, 2nd Vice President	Michael Welch, Smith Partners, BCWD counsel
Gerald Johnson, Treasurer	Cameron Blake, BCWD staff
Debra Sahulka, Secretary	Paul Nation, EOR, BCWD engineer
	Ryan Fleming, EOR, BCWD engineer
	Anne Wilkinson, EOR, BCWD engineer
	Fran Miron, Washington County
	Rebekah Hagstrom, Liberty Classical Academy
	Mike Brandt, Liberty Classical Academy engineer
	John Seagrist, Kimley Horn
	Brandon Karmack, Robins Kaplan LLP
	Justin Olson, Carlson McCain
	Mark Guenther, Elliot Crossing
	Kenneth Schultz, resident
	Michael Heikkinen, resident
	Julie and John Johnston, resident
	Bruce Nelson, resident
	Craig and Marcia Dewolf, residents
	Christopher Hause, resident
	Salena Koster, resident
	Sue Kelly, resident
	Laverna Scholz, resident
	Carol and Steve Tregilgas, residents

1) Ceremony for Manager Jerry Johnson for service on BCWD board

Washington County Commissioner Fran Miron read a statement recognizing and thanking Manager Johnson for his service. Manager Klayton Eckles also thanked Manager Johnson and wished him well.

Manager Wirth moved, seconded by Manager LeRoux, to adopt BCWD Resolution 24-02 recognizing Jerry Johnson's service to the watershed district. Motion carried 5/0.

2) Call to Order

Manager Eckles called the regular meeting to order at 6:31 p.m.

3) Agenda

Manager Johnson moved, seconded by Manager Wirth, to approve the agenda as presented. Motion carried, vote 5/0.

4) Public Comments

There were no public comments.

5) Consent Agenda

Manager Wirth, seconded by Manager, to approve the consent agenda:

a) Approve Board Meeting Minutes of the September 11, 2024 Regular Meeting

b) Accept Permit Fee Statement

Motion carried 5/0.

6) Treasurer's Report

a) Review Authorized Funds Spreadsheet

b) Current Items Payable

Manager Wirth moved, seconded by Manager Johnson, to accept the authorized funds spreadsheet as presented and to authorize payment of the bills as presented totaling $103,332.65.

	Yea	Nay	Abstain	Absent
Manager Eckles	X			
Manager Johnson	X			
Manager LeRoux	X			
Manager Wirth	X			
Manager Sahulka	X			

Motion carried 5/0.

7) Permitting

a) BCWD Permit 23-19 Liberty Classical Academy

BCWD engineer Paul Nation presented the engineer's report on the application for expansion of a school and regional stormwater-management in Hugo and May Township. He said the site is currently developed and under this plan, stormwater discharge will be reduced up to the two-year storm event, as water will be routed into a large stormwater holding pond. Michael Welch noted that the request is for approval of both a permit for the currently planned redevelopment and a regional plan for stormwater treatment, implementation of which would be completed now, creating capacity to treat runoff from later further expansion of the school. Ms. Kill

explained that a condition of approval is approval of the plan from both May Township and Hugo.

Manager Eckles clarified the district is not a land-use authority and is only reviewing the permit under the district rules. There are other agencies involved in other aspects of the project such as groundwater use and the septic system.

Mr. Nation explained the applicant is meeting all district rules, and the engineer's recommendation is for approval of the permit and regional plan with the conditions and stipulations in the engineer's report.

Brandon Karmack, litigation counsel for Liberty Classical Academy asked for clarification on the timeline if the permit was approved this evening. Ms. Kill explained that the approval period is one year, though extensions can be granted on a written request from the applicant. The applicant could also request a longer time period, which the district has approved in the past for bigger projects with a longer anticipated completion time. Mr. Welch explained that the permit would renew on its original terms, and if any material aspects of the compliance system is modified the board would need to review it again.

Chris Hause, 11120 121st Street, stated he felt the septic system location is encroaching on the district's 100-foot buffer requirement, and that he believes there is drainage running from the farm field to the Goggins Lake adjacent to the site, as he has seen erosion on the hill side. Mr. Nation explained the buffer was calculated from the 100-year high-water level of the lake and Goggins' outlet elevation. The drainage model was created using the survey of the site and LIDAR data. Ms. Kill said there may be localized rill erosion but part of the project will include restoring the buffer area which should address this concern.

Craig Dewolf,11900 Manning Trail North, expressed concern about potential effects of the project on the amount of water that flows through the Trout Habitat Preservation Project, then overflows into Brown's Creek. Mr. Nation said that there are no proposed changes to the THPP outlet and no increase in flow to Goggins Lake from the project, as the drainage boundary was going to stay the same.

Mr. Hause expressed concern as to where water would go if the holding pond fills. Mr. Nation explained that the applicant would pump water out of the pond to create more storage in preparation for a large stormwater event. Mr. Hause expressed concern as to this water containing chemicals from the parking lot from the stormwater runoff such as oil and chlorides. Mr. Nation explained there are pretreatment requirements for stormwater systems. Manager Eckles explained that stormwater pond functions by allowing sediment and other contaminants to settle out of the water column and so water leaving the pond will have been treated.

Kenneth Schultz who lives north of the school, asked about the pipe configuration of the stormwater pond. Mike Brandt, the engineer for the applicant, explained that the irrigation pipe will be 2 feet above the bottom of the pond to allow for the sediment accumulation as discussed. If there is not enough water in the pond, there won't be any irrigation on site.

Mr. Dewolf asked about the basin sizing and expressed concern about large storm events. Manager Eckles explained the district's standard for stormwater treatment is up to the 100-year rainfall event. Mr. Brandt explained the pond's function with the

bypass pump being turned on after the 10-year event, which would create storage space for the 100-year event.
Manager Eckles explained the district was beginning a rule-evaluation process and encouraged the public to participate.

Manager Wirth moved, seconded by Manager LeRoux, to approve permit 23-19 phase I and regional stormwater treatment plan with the conditions and stipulations outlined in the engineer's report. Motion carried 5/0.

b) BCWD Permit 24-09 CSAH 5 Phase 3
Washington County is proposing to improve County State Aid Highway 5 in Stillwater, a project that the board reviewed at last month's board meeting. Paul Nation explained that the linear project will meet the district standards for runoff rate but not at each discharge point. County project engineer John Seagrist explained that most of the discharge points go to an infiltration basin, but there are some where there is not enough space to provide treatment. Salena Koster, 8710 Stonebridge Trail, said she lives at discharge point D, where there is going to be an increase in runoff and phosphorus loading, and expressed concern, explaining her drinking water comes from a well on her property. She also thinks the survey done for the right of way was incorrect. In her understanding the right-of-way is narrower than shown in the permit report, and the project would change the grade on her property. Mr. Nation explained that the wetland receiving runoff from the project will treat stormwater. Mr. Welch asked the county to follow up on the property-configuration questions.

Manager LeRoux moved, seconded by Manager Johnson, to approve permit 24-09 with the variance, conditions, and stipulations in the engineer's report. Motion carried 5/0.

c) BCWD Permit 24-07 Elliot Crossing – project overview
Ms. Kill said the applicant is proposing a redevelopment project near the Kimbro basin in Grant, and she is seeking board feedback on the proposal. The managers discussed the proposed reuse system and high water level of the Kimbro basin. Manager Eckles said he would not like to see any increase in the high-water level of the basin, given historic flooding issues and impacts to the Trent property adjacent to this landlocked basin. The project engineer, Justin Olson said his view is that the district is asking for stormwater treatment above the 100-year standard by modeling the system by assuming the pond as full. The project proponent, Mark Guenther, stated that the project is meeting district rules and that this has been a challenging permit process. Ms. Kill explained the district asked for the model to be run as if the reuse pond is full as that is one possibility for actual conditions. If the irrigation system isn't being used and there is a rainfall event the district wants to evaluate potential impacts. Manager Eckles pointed out that the applicant was asking for a variance and so managers were looking for no unreasonable downstream impacts.

8) New Business

a) Regulatory Review Scope

Manager Sahulka moved, seconded by Manager Wirth, to approve the scope of work as presented for rule-review, not to exceed $14,056.60 from account 909-0000. Motion carried 5/0

b) Diversion drainage subwatershed water quality analysis scope

Ms. Kill explained that the scope in the packet is proposed to assist in the management plan update, as one of the existing plan's implementation activities, by investigating further the increased heavy metal concentrations from the Diversion Drainage. It could be done in conjunction with sediment cores taken to evaluate for phosphorus-loading hot spots. Ms. Kill pointed out the scope included a subcontract.

Manager LeRoux moved, seconded by Manager Sahulka, to approve this scope of services not to exceed $15,189 from account 927-0000, of which $1,150 will be subcontracted to University of Minnesota Soil Test Lab for sediment core lab analysis. Motion carried 5/0

c) Hydrologic and Hydraulic Model Update Phase 3

Ryan Fleming explained that the final phase for the district's hydraulic and hydrologic model had to be adjusted due to a delay in receiving updated land-cover data from the University of Minnesota. He also recommended the board use the upper bound of the 100-year event percentile (10 inches in 24 hours) for the next management plan. Ms. Kill explained the board had budgeted sufficient funds for this update and there would still be funds remaining to incorporate the data from the university when they become available.

Manager Sahulka moved, seconded by Manager Wirth, to approve the scope of services as presented, not to exceed $43,300 from account 923-0000. Motion carried 5/0

d) East Metro Water Resources Education Program agreement 2025-2027

Manager Wirth moved, seconded by Manager Johnson, to authorize the president to enter into a three-year agreement with the East Metro Water Resources Education Program. Motion carried 5/0

e) Family Means Waiver

Mr. Welch recommended against authorizing the waiver presented by Family Means, as it is against public policy to waive negligence on the part of Family Means. He had hoped to address this in previous years but Family Means was not willing to discuss it. Ms. Kill explained that alternate meeting locations had been considered but had significant drawbacks, either cost, location, or hours of availability, and this space was free to use at the hours the district needs it. Manager Eckles said the board understood the concern but accepts the risk.

Manager LeRoux moved, seconded by Manager Wirth, to authorize the administrator to sign the 2025 Family Means waiver. Motion carried 5/0

9) Discussion Agenda

a) Updates

(1) Administrator

Ms. Kill updated the managers on an issue with the Brown's Creek Restoration project in which the spur trail location needs to be reconfigured due to a design error. There are some alternatives that will be considered and the work can still be completed in the spring of 2025 in time for the grant closing deadline of June 30. She said there were to be several public meetings scheduled on Woodpile, Masterman, and Long Lakes.

The next Technical Advisory Committee and Citizens Advisory Committee meetings are approaching, as well as a need to schedule the facilitated regulatory program review meeting. The next board agenda will include more management-plan activities and new manager Larry Odebrecht will take the oath of office.

The Minnesota Watersheds Conference will be taking place at a new location in Nisswa and Ms. Kill asked managers to let her know if they would like to be registered. The district will be participating in two presentations, the enhanced stakeholder interview process and the homeowners association workshop.

Manager Johnson moved, seconded by Manager LeRoux, to select Manager Wirth as the district's delegate for the Minnesota Watersheds meeting. Motion carried 5/0

(3) Engineers

While completing the wetland inventory task, district engineers found a unique resource in the watershed district; a cranberry bog with unique and carnivorous plants.

(4) Managers

Manager Eckles said a dead fisher was found near the creek at the McKusick crossing which is outside of its usual range. Manager Wirth stated the mayor of Grant called her to talk about chemicals the railroad company sprays along the railroad. Ms. Kill explained that railroads are their own entity and district rules do not regulate pesticides or whatever activity may be occurring on railroad property.

10) Adjournment

Manager Johnson moved, seconded by Manager Wirth, to adjourn the regular meeting at 9:20 p.m. Motion carried 5/0.

Respectfully submitted by
Cameron Blake, BCWD Staff and Debra Sahulka, Recording Secretary

APPLICANT/PERMIT NO.	PERMIT DATE	Status/Notes	RULES							TYPE				FEES OWED	
			2	3	4	5	6	7	Decomp action	GOV	SF RES	RES DEV	COM	EXEMPT	AMT DUE
Bergmann Development/Sanctuary Permit No. 05-12	10/14/2005		X	X	X			X				X			$ -
Stillwater Medical Center Parking Permit 13-26		need to verify infiltration with monitoring data	X	X				X					X		$3,039.10
Brown's Creek Cove Permit 15-07		received as-builts and not built as approved -needs correction	X	X	X			X				X			$8,238.52
Heifort Hills Permit 16-03		need as-builts	X	X	X	X		X				X			$1,327.34
Farms of Grant/White Oaks Savannah Permit 17-01			X	X	X			X				X			$19,234.52
The Lakes of Stillwater Permit 17-04	Extended to 12/31/2025	received as-builts and not built as approved -needs correction	X	X	X			X					X		$4,348.06
West Ridge Permit 17-17			X	X	X			X	X			X			$1,082.93
Heifort Hills Estates Permit 18-02			X	X	X			X	X			X			$41,206.46
Boutwell Farms Permit 18-04A			X	X	X			X	X			X			$785.69
Hazel Place/Hertiage Ridge Permit 18-05 (Was 17-09)		lots to go	X	X	X			X	X			X			($2,445.17)
Nottingham Village Permit 18-06		approved (overflow too	X	X	X			X				X			$686.78
Ridgecrest Permit 18-11		done - one raingardian follow up spring 2024	X	X				X	X				X		$16.68
St Croix Valley Recreation Center Expansion Permit 18-14		up 2021		X				X	X	X				$6,970.28	
Central Commons Permit 19-05	11/11/2025	Declaration still	X	X	X			X	X				X		($5,000.00)
Neal Ave Road Reconstruction Permit 20-05	6/1/2020	contact Reabar	X	X						X				$19,088.31	
CSAH 15-36 Interchange Permit 20-08	3/24/2021 3 year approval	waiting for as-builts		X			X	X		X				$19,716.35	
White Pine Ridge Permit 20-12	6/7/2021 surety redution request 1/12/23			X					X			X			($631.32)
Maryland Gateway Addition Permit 21-13	9/29/2021	four lots left to build	x	x				x				x			($776.26)
Schwartz Residence Permit 21-15	5/6/2021 erosion control only	amendment requested for 2.0	x	x							x				($319.38)
Millbrook Park- City of Stillwater Permit 21-21	8/25/2021	Retrofit complete/planting spring 2024	x	x	x					x				$6,970.18	
Fahey Permit 21-34	11/4/2021			x							x				($743.78)
Norell Ave N Improvements	*(Fall 2022 BMP still needs to be finalized fall 2023)*	waiting on maintnance agreement	x	x				x		x				$10,458.63	

APPLICANT/PERMIT NO.	PERMIT DATE	Status/Notes	RULES							TYPE				FEES OWED	
			2	3	4	5	6	7	Decomp action	GOV	SF RES	RES DEV	COM	EXEMPT	AMT DUE
Permit 21-45															
Gonyea (8 lots)- White Pine Ridge Permit 22-02				x								x			($150.60)
Wetridge (12 lots) - Sharkey/GreenHalo Permit 22-03 (Transferred 21-30 and 21-31)	3/25/2022			x								x			($442.71)
13290 Boutwell Road N - Sharkey/GreenHalo Permit 22-05	3/25/2022			x								x			($590.51)
7125 Lone Oak Trail (WOS L106)-weichman Permit 22-11	9/25/2022 need to amend declaration			x							x				$7,650.88
Stillwater Oaks Permit 22-18	conditional approval		x	x								x			$12,786.25
Popeyes OPH Permit 22-20	11/9/2022			x									x		($189.62)
Wash Co. CSAH 57 culverts Permit 22-31	2/2/2023			x						x				$0.00	
Cty Rd 61 Re-alignment Permit 23-01	4/12/2023 not yet closable		x	x						x				$8,147.40	
WOS L114 - Cates (7211 Lone Oak Trail Tweden) Permit 23-02	9/26/2023 submittal			x	x			x			x				$8,572.56
Boutwell Farm Lot 1 (2545 Boutwell Farm Rd) Permit 23-03	5/3/2023 NOPV Board Order Items			x							x				$3,569.86
Westridge B1L4 (986 Creekside) Permit 23-04	5/3/2023			x							x				($656.02)
Rocket Carwash Permit 23-05	conditional approval 4/12/2023		x	x									x		$4,824.00
7239 Lone Oak Trail (WOS L118) Permit 23-07	5/3/2023			x							x				$689.54
72nd St Road and Trail Improvements Permit 23-08	5/26/2023									x				$3,438.36	
7273 Lone Oak Trail- WOS Lot 122 - Freiroy Residence Permit 23-11	Conditions not met but started construction 7/27/2023	Need LOC-submitted but not acceptable		x							x				$1,058.25
The Lakes - Phase III/Sandhill Shores Permit 23-13	6/8/2023			x								x			$582.82
Wiskow Berm Permit 23-14	6/28/2023			x							x				($614.40)
7085 Lone Oak Trail- WOS L102- Mensah Res/Cates Permit 23-15	App recieved 7/10 John reviewing/conditions 7/27/2023			x							x				$1,267.11
Sundance Townhomes Permit 23-17	conditional approval		x	x	x			x					x		$6,982.75
7285 Lone Oak Trl- WOS L124 Permit 23-18	erosion control revisions needed			x							x				$244.88
Liberty Classical Academy Expansion Permit 23-19	Plans submitted 6-12-2024 Fee received 12-21-2023		x	x	x			x					x		$2,466.75
Take 5 Oil Change Permit 24-01	8/23/2024		x	x				x					x		($2,837.14)
Schuster Residence- 122nd St N Permit 24-02	3/12/2024			x							x				$780.83

APPLICANT/PERMIT NO.	PERMIT DATE	Status/Notes	RULES							TYPE				FEES OWED	
			2	3	4	5	6	7	Decomp action	GOV	SF RES	RES DEV	COM	EXEMPT	AMT DUE
WOS L120- 7255 Lone Oak- Hilgert Permit 24-03	3/18/2024			x							x				$1,968.18
Swager Residence Permit 24-05	3/7/2024			x							x				$ (683.52)
Rutherford Elementary Permit 24-06	8/29/2024		x	x				x		x				$ 8,379.06	
Elliot Crossing Permit 24-07	8/2/2024 submittal complete		x	x	x			x				x			$ 30,432.24
Altendorfer Residence - 13075 Lynch Rd Permit 24-08	5/8/2024			x							x				$ (853.75)
Washington County CSAH 5 - Trails and Bridge Permit 24-09	8/6/2024 submittal complete 60 day extension administrative		x	x			x	x		x					$ 19,628.25
Boutwell Farms lot 1 -Conlin - 2545 Boutwell Farm Rd Permit 24-10	application incomplete 8/29/2024			x							x				$ (866.91)
7300 Lone Oak Trail - WOS Lot 127 Karr Residence (Cates) Permit 24-11	8/29/2024			x							x				$ 472.31
7338 Lone Oak Trail- WOS Lot 130-Carlson Residence Permit 24-12	pre-application - lowest floor alteration request App recived 9/24/2024										x				$ (317.00)
8413 Marylane Permit 24-13	10/24/2024			x							x				$ (926.50)
Pratt Homes - 105th and Jamaca - Wick Residence Permit 24-14	application recieved 8/15 ready to issue			x							x				$ (860.57)
Lornston Permit 24-15	financial assurance recived 11/7/24			x	x						x				$ (1,096.75)
Goodsell Permit 24-16	App received 11/6/2024			x	x						x				$ (3,140.50)
TOTAL NON-EXEMPT DUE BCWD:			90	326	34	15	27	160		71	153	13	119		**$183,943.54**
Total due back to applicants if closed:															**($219,816.21)**

Second Amendment to the Project Agreement
Between Oak Glen LLC and
Brown's Creek Watershed District

Oak Glen Golf Course Project

November 1, 2024

This amends the September 9, 2020, agreement between Oak Glen LLC, a private Minnesota corporation (Oak Glen), and Brown's Creek Watershed District, a watershed district created pursuant to Minnesota Statutes chapters 103B and 103D (BCWD), as amended May 11, 2021, by the parties (the Amended Agreement). This second amendment is made to incorporate improving monitoring into the reuse/irrigation project at Oak Glen Golf Course that is the subject of the Amended Agreement (the Reuse System, as defined in the Amended Agreement).

WHEREAS addition of a flow meter on the pump in what's known as the North Pump House at Oak Glen Golf Course and upgrading the Reuse System to allow BCWD to remotely access flow data will better facilitate monitoring of the performance of the Reuse System and reduce disruption to Oak Glen's operations;

WHEREAS by the terms of the Amended Agreement, Oak Glen granted to BCWD rights to access and use Oak Glen Outlot G, Washington County, Minnesota, for purposes of installing, operating and maintaining a flow meter on the groundwater pump in the South Pump House; and

WHEREAS Oak Glen and BCWD enter into this second amendment to facilitate the installation and operation of a flow meter on the pump in the North Pump House, which is also located on Oak Glen Outlot G, and to add remote access to flow-monitoring data from all pumps on Oak Glen Golf Course.

NOW, THEREFORE, in consideration of the foregoing recitals, which are incorporated into and made a part of this amendment, and other good and valuable consideration, the sufficiency of which is hereby acknowledged, and to continue to facilitate the Project, as defined in the Amended Agreement, for the benefit of the parties and the general public, the parties further amend the agreement as follows:

1. The Project design and specifications, development of which is provided for in paragraph 1B of the September 9, 2020, agreement, are further amended to include the installation and operation of a flow meter on the pump in the North Pump House as described in Attachment A3 and installation and operation of components necessary for remote access to and wireless transmission of flow data from all flow meters installed for the Reuse System, as described in Attachment A3 to this second amendment into the Golf Course pump system, and by its signature hereunder Oak Glen approves of the addition of the North Pump House flow meter and wireless data-transmission capability on all pumps in the Reuse System.
2. BCWD, or a contractor acting on behalf of BCWD, will install and operate the additional flow meter in the North Pump House and integrate it into the Golf Course electrical system and the Reuse System, then install and operate equipment for wireless data

transmission as described in Attachment A3, all at BCWD's sole expense, though Oak Glen will provide and pay the costs of the electrical power necessary to operate the Reuse System.

3. *License*.

    a. To facilitate the installation and operation of the flow meter and wireless data-transmission system on the pump in the North Pump House, Oak Glen hereby grants and conveys an irrevocable term license to BCWD, its contractors, agents and assigns over Oak Glen Outlot G to access and use the Golf Course facility known as the Nouth Pump House for purposes and the duration of the installation and operation of the additional flow meter. The license granted hereby includes but is not limited to the right to ingress and egress and pass over Oak Glen on foot and using motorized equipment for staging of installation and installation of the flow meter and wireless data-transmission equipment, transmission, reading, downloading data from, replacing components of and otherwise repairing, and maintaining of all flow meters on the Project Properties, as defined in the Amended Agreement, and otherwise ensuring the function and operation of the Reuse System, enhanced as described herein. BCWD will exercise its rights under the license in a reasonable manner, mindful of the role the operation and maintenance facility in Golf Course operations.

    b. No right of access or use of the operations and maintenance facility is granted to the general public by the license.

    c. The license will terminate on termination of the agreement.

    d. BCWD will notify Oak Glen at least 72 hours prior to commencement of any exercise of BCWD's right under the license.

4. On completion of the installation of the flow meter on the North Pump House pump, the flow meter becomes an integrated part of the Project, as defined in the Amended Agreement, and ownership of the flow meter and associated warranties will be conveyed to Oak Glen. BCWD will have ongoing access to all data collected by the flow meters installed as part of the Project and will timely provide any and all such data to Oak Glen.

5. The O&M Plan to be drafted to fulfill the terms of paragraphs 1E and 2B of the Amended Agreement will include and address operation and maintenance of all flow meters and the remote wireless data-access system as necessary and appropriate.

6. Paragraph 4.I of the Amended Agreement is modified as follows:

    NOTICE**.** Any notice or other communication that either party must give to the other will be in writing and either served personally or sent to the other party at the relevant following address or such other address as either party may designate by written notice to the other:

    Oak Glen LLC:
    ~~Patrick Renner~~ Jason Whitehill, General Manager
    1599 McKusick Rd N
    Stillwater, MN 55082
    ~~651-439-6981 #322~~ 612-413-3303

~~patrick@wilsongolfgroup.com~~
jason@oakglengolf.com

BCWD:
Administrator
Brown's Creek Watershed District
c/o Washington Conservation District
455 Hayward Avenue North
Oakdale MN 55128
651-330-8220, ext. 26
KKill@mnwcd.org

Except as specifically modified herein, all terms of the Amended Agreement between the parties remain effective.

IN WITNESS WHEREOF, the undersigned have executed this second amendment intending to be legally bound by its terms as of the date of complete execution.

Oak Glen LLC

_____ Date:
Jason Whitehill, General Manager

Brown's Creek Watershed District

_____ Date:
Karen Kill, Administrator

Approved as to form and execution

_____
Counsel, Brown's Creek Watershed District

Attachment A3

North Pump House Flow Meter and Wireless Data Transmission System Specifications

Tri-State Pump & Control
20092 21st Avenue East
PO Box 7
Clearwater, MN 55320
320-558-2000 Fax: 320-558-2002
tristate@tristatepump.com
www.tristatepump.com

Estimate

This Estimate is Good for 30 Days from the date of Issue

Date	Estimate
7/5/2024	138406

Name / Address	Ship To
BCWD ADMINISTRATOR KAREN KILL 455 HAYWARD AVENUE NORTH OAKDALE, MN 55128-5374 Phone: Fax:	JOBSITE 8170 MORGAN AVENUE STILLWATER, MN 55082-9002

Terms	Rep	Project
NET 30	PJH	

Item	Description	Qty	U/M	Unit Price	Total
	BROWNS CREEK WATERSHED				
SIG3-2537-6C-P0-4IN	PADDLE WHEEL FLOWSENSOR, 4", 4-20mA OUT	1	EA	0.00	0.00
SIGPV8S040	SADDLE FITTING, PVC, 4"	1	EA	0.00	0.00
PVC85411040	FLANGE, 4", SOC, SCH 80, VAN-STONE	2	EA	0.00	0.00
PVC80011040	PIPE, 4", SCH 80 PVC	8	FT	0.00	0.00
PWGW1325-CP	GATEWAY MULTI BUS CELLULAR PACKAGE, 4 DRY CONTACTS, 6 BUSES, INCLUDES EXTERIOR ANTENNA & 5' LEAD, POINTWATCH	3	EA	0.00	0.00
PWI/O100	BOARD WITH 3 RELAYS, 2 DRY CONTACTS, 2 PUMP MONITORS, 2 4-20mA MONITORS, POINTWATCH	3	EA	0.00	0.00
PWAMPCLAMPS	AMP CLAMPS	3	EA	0.00	0.00
LSP	PACKAGE PRICE PER QUOTE			10,052.00	10,052.00
MATERIAL	MISCELLANEOUS INSTALLATION MATERIAL	1	EA	0.00	0.00
SHIP	SHIPPING CHARGE, INCOMING - ESTIMATED	1		250.00	250.00
LF1	LABOR IN FIELD, 1 MAN	10	HR	200.00	2,000.00

We Accept Visa, MasterCard, Discover & American Express

A Processing Fee Will Be Charged On All Credit Card Payments

Net 30 Days Unless Noted - 1.5% Month Thereafter

No Returns on Electrical Components

Tri-State Pump & Control
20092 21st Avenue East
PO Box 7
Clearwater, MN 55320
320-558-2000 Fax: 320-558-2002
tristate@tristatepump.com
www.tristatepump.com

Estimate

This Estimate is Good for 30 Days from the date of Issue

Date	Estimate
7/5/2024	138406

Name / Address	Ship To
BCWD ADMINISTRATOR KAREN KILL 455 HAYWARD AVENUE NORTH OAKDALE, MN 55128-5374 Phone: Fax:	JOBSITE 8170 MORGAN AVENUE STILLWATER, MN 55082-9002

Terms	Rep	Project
NET 30	PJH	

Item	Description	Qty	U/M	Unit Price	Total
PWANNUALMONITORI...	ANNUAL MONITORING FOR GATEWAY & CELLULAR, 1 YEAR	3	EA	478.80	1,436.40
	MOUNT PADDLEWHEEL FLOW SENSOR MOUNT POINTWATCH IN ALL LOCATIONS				
	MOUNT AND WIRE DATA LOGGING PANEL AND FLOW SENSOR				
	SET UP AND CALIBRATE TRANSMITTER TO PADDLEWHEEL SENSOR				
	New Electrical Power (Provided by others if necessary)				
	TAX SUBJECT TO ADJUSTMENT AS APPLICABLE				

We Accept Visa, MasterCard, Discover & American Express

A Processing Fee Will Be Charged On All Credit Card Payments

Net 30 Days Unless Noted - 1.5% Month Thereafter

No Returns on Electrical Components

Subtotal	$13,738.40
Tax (8.875%)	$0.00
Total	$13,738.40

MEMO
Lower St. Croix Partnership

To: Local Governing Boards **Date:** November 1, 2024

From: LSC Policy Committee

Subject: 2025-2026 Work Plan

Background/Discussion

On Monday, October 28, the Lower St. Croix Watershed Partnership (LSC) Policy Committee reviewed the attached 2025-2026 Work Plan and unanimously agreed to recommend this plan for approval by LSC partner boards.

This work plan represents all work expected to be accomplished in priority areas of the Lower St. Croix watershed in 2025 and 2026 – including projects and programs funded with Watershed Based Implementation Funding (WBIF), as well as work completed with local funding from partners and other grants.

Process & Next Steps

It is requested that partner boards put this item on their November or December meeting agendas for review. Approval from two-thirds of the members (10 of 15) is needed to approve this plan.

September 25, 2024	Advisory Committee recommended work plan approval
October 28, 2024	Recommended Policy Committee action to recommend grant work plan approval to partner boards
November/December	Lower St. Croix partner boards consider approving grant work plan. Need 2/3 approval.
December/January	Board of Water and Soil Resources reviews and considers approving *WBIF grant* work plan. Then grant agreement execution w/ fiscal agent.

Recommended Action

Proposed Motion: Board Member _____ moves to approve the 2025-2026 work plan and authorize the Lower St. Croix Planning Team to make non-substantive changes to the work plan as required by the Board of Water and Soil Resources for grant implementation. Seconded by Board Member _____**.**

Attached: LSC 2025-2026 Work Plan w Attachments_v2

Lower St. Croix Watershed Partners
2025-2026 Biennial Work Plan

The Lower St. Croix River Comprehensive Watershed Management Plan adopted in October 2020 includes implementation activities for the 10-year life of the plan in Table 5-1. This 2025-2026 work plan presents all activities from Table 5-1 including those implemented through the LSC Partnership with Watershed Based Implementation Funds (WBIF), and other activities implemented by partners in priority areas. This work plan estimates expenditures of over $2.6M in WBIF (FY23+FY25) and $6.6M in match and other funding for increased staff capacity with shared positions and implementation of projects resulting in significant water quality and ecological benefits.

The complete work plan is presented in Attachment A. Activities are categorized into four areas: Implementation, Staffing, Prioritization & Analysis, and Administration. Priority areas, expected outcomes, implementing entities, estimated funding from various sources, and WBIF-eligibility are also included in the table.

A summary of the work plan is presented below. Additional attachments and links are included for a complete set of existing calendars, policies, and the joint powers agreement:

Attachment A: 2025-2026 Detailed Work Plan
Attachment B: 2025 LSC Project Process Calendar
Attachment C: FY25 WBIF Work Plan & Budget

Additional Resources: (see www.lsc1w1p.org/workplan-forms)
WBIF Proposed Project Evaluation and Approval Process
Agricultural Conservation BMP Policy
Enhanced Street Sweeping Policy
Tree Canopy Assessment Protocol
Lower St. Croix Fast Track Project Policy
Joint Powers Agreement

2025-2026 Work Plan Summary

Implementation	
Estimated Expenses	FY25 WBIF: $1,005,000[a] FY25 Match: $139,500 FY23 WBIF: $262,000[b] Other Funding: $4,789,500[c]
Activities	Structural agricultural BMPs* Structural urban BMPs* Non-structural agricultural/urban BMPs* Wetland Restoration and Protection* Streambank and Shoreline Restoration & Protection* Land Acquisition & Management Aquatic Invasive Species Prevention & Management Ditch Implementation
2025-2026 Estimated Outputs	500 acres with structural or non-structural BMPs that improve soil health and/or reduce nitrogen and pesticide pollution to groundwater
	1,090 lbs total phosphorus reduction through structural or non-structural BMPs in priority areas
	4 developments retrofitted with infiltration, recharge or reuse projects
	30 irrigation systems with smart technology installed
	20 Upgraded SSTS in sensitive areas and shoreland
	200 acres new or restored wetlands
	20 shoreline restoration projects
	85 lbs total phosphorus reduction w/ 1 stream restoration project
	1 LGU with new adopted innovative shoreline standard
	10% of land in new developments dedicated to habitat
	200 acres protected new easements/acquisitions
	2 resilient landscape designs
	4 Landscape Stewardship Plans & 4 Forest Management Plans
	5% increase in watercraft inspections for AIS
	2 new AIS decontamination stations and new signage at 4 launches
	1 comprehensive AIS rapid response plan
	Maintained/improved water quality downstream of ditch maintenance

* Some or all activities eligible for WBIF

[a] FY25 WBIF expire 12-31-27

[b] FY23 WBIF expire 12-31-25

[c] Other funds = estimated funds from Table 5-1 in LSC Comprehensive Plan minus WBIF and match

Staff Activities	
Estimated Expenses	FY25 WBIF: $865,000[a] FY25 Match: $56,507 FY23 WBIF: $300,000[b] Other Funding: $663,000[c]
Activities	Shared Services Basing Ag Outreach Program* Shared Services Education* Technical Engineering + Project Development* Interagency Coordination Ditch Policy and Review
2025 – 2026 Estimated Outputs	Assistance with agronomy, outreach, and technical assistance to agricultural producers including conservation planning and nutrient management plans.
	Shared education and outreach program across basin to provide education; engage residents, businesses, and local officials; and promote/market programs and practices.
	Shared 0.5 FTE engineering technician
	10 communities with Minimal Impact Design Standards (MIDS)
	2 communities with updated rate and volume control ordinances
	45% of all cities with MPCA Smart Salt certified staff
	1 LGU with new wetland protections
	1 landlocked basin with nutrient reduction analysis
	Managed water levels and channel/weir operations on Chisago Lakes Chain of Lakes
	Pine County Soil Survey completed
	Collaboration and coordination with agencies across multiple areas including groundwater pollution, groundwater recharge areas, observation wells, climate resiliency, and floodplain management
	100% of private ditches mapped with new conservation plans
	100% of drainage projects assessed for wetland impacts

* Some or all activities eligible for WBIF

[a] FY25 WBIF expire 12-31-27

[b] FY23 WBIF expire 12-31-25

[c] Other funds = estimated funds from Table 5-1 in LSC Comprehensive Plan minus WBIF and match

Prioritization & Analysis	
Estimated Expenses	FY25 WBIF: $0 FY25 Match: NA FY23 WBIF: $63,000[a] Other Funding: $1,050,720[b]
Activities	Internal analysis* Targeting analysis
2025 – 2026 Estimated Outputs	3 lakes with internal loading analyses
	Baseline water quality data collected on specific lakes in Anoka, Chisago and Isanti Counties
	Routine lake level monitoring performed
	4 subwatershed analyses on priority lakes
	4 subwatershed analyses on priority rivers or streams
	10 new monitoring stations on St. Croix tributaries
	Identified and prioritized gullies into St. Croix River and tributaries
	MLCCS land cover mapped basin wide
	Terrestrial invasive species mapped and prioritized in each county
	5 degraded wetlands identified
	Ditch outlet water quality monitored
	Isanti County wetland inventory completed

* Some activities eligible for FY23 WBIF

[a] FY23 WBIF expire 12-31-25

[b] Other funds = estimated funds from Table 5-1 in LSC Comprehensive Plan minus WBIF and match

Administration	
Estimated Expenses	FY25 WBIF: $100,071[a] FY25 Match: $1,000 FY23 WBIF: $25,000[b] Other Funding: $0
Activities	Administration and Coordination*
2025 – 2026 Estimated Outputs	Coordination of WBIF-funded activities; grant reporting; all-activity reporting; coordination of committees and partners; participation in committee meetings; fiscal management; annual and biennial planning

* Some or all activities eligible for WBIF

[a] FY25 WBIF expire 12-31-27

[b] FY23 WBIF expire 12-31-25

LSC Biennial Work Plan: 2025- 2026

Implementation

Structural Agricultural BMPs

Estimated FY25 WBIF: $350,000 [a]
Estimated FY25 Match: $52,500
Estimated FY23 WBIF: $75,000 [b]
Estimated Other Funding: $780,000 [c]

#	Activity	Priority Location	Actions/ Measurable Output (2025-2026)	Implementation Entity	WBIF eligible
#1	GW Quality	Basin Wide Priority · Agricultural lands where: 1) DWSMA vulnerability is moderate, high, or very high; or 2) Pollution sensitivity to wells is high or very high; or 3) Pollution sensitivity to near surface materials is karst or high; or 4) Well testing show ≥ 5 mg/L nitrate See Figure 5-1	Install BMPs on 500 acres that improve soil health and/or reduce nitrogen and pesticide pollution to groundwater	All partners	Yes
#2	Rivers & Streams + St. Croix River WQ	Regionally Significant Rivers and Streams: - All streams and tributaries in Sunrise River Watershed (whole watershed regardless of direct drainage) - Direct drainage areas to St. Croix River through Rock, Rush, Goose, Lawrence, and Browns Creeks and Trout Brook and other small streams shown in Figure 5-2 See Table 5-2 for streams and total phosphorus reduction goals; see Figure 5-2	Reduce total phosphorus by 750 lbs/year (install approximately 50 BMPs @ estimated 15 lbs/BMP) and reduce TSS, bacteria, and nitrogen as secondary benefit	All partners	Yes

#3	Lake WQ from ag	Regionally Significant Lakes for Agricultural BMPs See Table 5-3 for lakes and total phosphorus reduction goals; see Figure 5-3 for map	Install conservation BMPs, near sensitive lakes or in direct lake catchments to reduce TP by 300 lbs (approx. 500 ac and/or 20 BMPs estimated 15 lbs/BMP) and reduce TSS, bacteria, N as secondary	All partners	Yes

Structural Urban BMPs

Estimated FY25 WBIF: $300,000 [a]
Estimated FY25 Match: $45,000
Estimated FY23 WBIF: $100,000 [b]
Estimated Other Funding: $155,000 [c]

#	Activity	Priority Location	Actions/ Measurable Output (2025-2026)	Implementation Entity	WBIF eligible
#12	GW recharge & stream flow	In critical groundwater recharge areas as identified in existing or future maps or studies	4 projects to retrofit existing developments with infiltration, recharge and reuse projects	All partners	Yes
#14	St. Croix River + Rivers & streams WQ	Regionally Significant Rivers and Streams: - All streams and tributaries in Sunrise River Watershed (whole watershed regardless of direct drainage) - Direct drainage areas to St. Croix River through Rock, Rush, Goose, Lawrence, and Browns Creeks and Trout Brook and other small streams shown in Figure 5-2 See Table 5-2 for streams and total phosphorus reduction goals; See Figure 5-2	Reduce TP by 20 lbs. (approximately 20 BMPs) and reduce TSS, bacteria, and nitrogen as secondary benefit [Assume 1 lb/BMP; typical reduction for raingarden or similar BMP]	All partners	Yes
#15	Lake WQ	Regionally Significant Lakes for Urban BMPs See Table 5-3 for lakes and total phosphorus reduction goals; See Figure 5-3	Reduce TP by 20 lbs. (approximately 20 BMPs) and reduce TSS, bacteria, and nitrogen as secondary benefit [Assume 1 lb/BMP; typical reduction for raingarden or similar BMP]	All partners	Yes

Non-Structural Ag/Urban BMPs

Estimated FY25 WBIF: $75,000 [a]
Estimated FY25 Match: $0
Estimated FY23 WBIF: $80,000 [b]
Estimated Other Funding: $2,210,000 [c]

#	Activity	Priority Location	Actions/ Measurable Output (2025-2026)	Implementation Entity	WBIF eligible
#1	GW Quality	Agricultural lands where: 1) DWSMA vulnerability is moderate, high, or very high; or 2) Pollution sensitivity to wells is high or very high; or 3) Pollution sensitivity to near surface materials is karst or high; or 4) Well testing show ≥ 5 mg/L nitrate	Install BMPs on 500 acres that improve soil health and/or reduce nitrogen and pesticide pollution to groundwater	All partners	Yes
#2	Rivers & Streams + St. Croix River WQ	Regionally Significant Rivers and Streams: - All streams and tributaries in Sunrise River Watershed (whole watershed regardless of direct drainage) - Direct drainage areas to St. Croix River through Rock, Rush, Goose, Lawrence, and Browns Creeks and Trout Brook and other small streams shown in Figure 5-2	Reduce total phosphorus by 750 lbs/year (install approximately 50 BMPs @ estimated 15 lbs/BMP) and reduce TSS, bacteria, and nitrogen as secondary benefit	All partners	Yes
#3	Lake WQ from ag	Regionally Significant Lakes for Agricultural BMPs See Table 5-3 for lakes and total phosphorus reduction goals; see Figure 5-3 for map	Install conservation BMPs, near sensitive lakes or in direct lake catchments to reduce TP by 300 lbs (approx. 500 ac and/or 20 BMPs; estimated 15 lbs/BMP) and reduce TSS, bacteria, N as secondary benefit	All partners	Yes
#4	GW Quantity	All agricultural irrigators; highest priority given to highest consumers	Install or retrofit smart technology on 10 irrigation systems	Counties	No

#14	St. Croix River + Rivers & streams WQ	Regionally Significant Rivers and Streams: - All streams and tributaries in Sunrise River Watershed (whole watershed regardless of direct drainage) - Direct drainage areas to St. Croix River through Rock, Rush, Goose, Lawrence, and Browns Creeks and Trout Brook and other small streams shown in Figure 5-2 See Table 5-2 for streams and total phosphorus reduction goals; See Figure 5-2	Reduce TP by 20 lbs. (approximately 20 BMPs) and reduce TSS, bacteria, and nitrogen as secondary benefit [Assume 1 lb/BMP; typical reduction for raingarden or similar BMP]	All partners	Yes
#15	Lake WQ	Regionally Significant Lakes for Urban BMPs See Table 5-3 for lakes and total phosphorus reduction goals; See Figure 5-3	Reduce TP by 20 lbs. (approximately 20 BMPs) and reduce TSS, bacteria, and nitrogen as secondary benefit [Assume 1 lb/BMP; typical reduction for raingarden or similar BMP]	All partners	Yes
#17	GW Quantity	All irrigators; highest priority given to highest consumers and communities with highest residential usage	Install or retrofit smart technology on 20 irrigation systems	Counties	No
#8	GW Quality	Where pollution sensitivity to near surface materials is high, or in karst areas, or where bedrock is at or near the surface; see Figure 1-3 Secondary priority: Basin wide	Upgrade 20 non-conforming or non-compliant SSTS to properly functioning, compliant systems.	Counties	No
#19					No
#9	Lake impacts from SSTS	Basin wide: Shorelands adjacent to nutrient impaired lakes Chisago Co: Countywide	Basin wide: Decrease non-compliant and Non-conforming SSTS in shorelands adjacent to nutrient impaired lakes Chisago Co: Decrease non-compliant and Non-conforming SSTS in all areas by 50% and in shorelands adjacent to nutrient impaired lakes by 80%	Counties	No
#20					No

#10	GW Quality	Basin wide	Properly seal or floodproof 100% of known or discovered abandoned wells or wells at risk of flooding	Counties	No
#18	GW Contamination	Basin wide - all currently unlicensed facilities and generators	License 100% of hazardous waste generators	Counties	No
#37	Internal loading	In lakes where internal loading is estimated to be a significant contributor to degraded water quality and where not addressing the internal loading would result in sustained degradation (See Internal Loading Lakes Table 5-4)	Address source of internal loading by implementing 1 internal loading study	All partners	Yes (FY23 only)

Wetland Restoration & Protection

Estimated FY25 WBIF: $200,000 [a]
Estimated FY25 Match: $30,000
Estimated FY23 WBIF: $7,000 [b]
Estimated Other Funding: $3,000 [c]

#	Activity	Priority Location	Actions/ Measurable Output (2025-2026)	Implementation Entity	WBIF eligible
#28	Wetland quantity	1. In highest priority catchments (red, yellow and green areas) within BWSR's Compensation Planning Framework priority catchments in the Lower St. Croix River Watershed (Figure 5-5) 2. In locations where studies or mapping tools find that restoration will have significant positive impact on natural resources.	Create or restore 200 acres of historic wetlands lost to land use changes	All partners	Yes
#30	Wetland quantity	Basin wide	Create and maintain 1 new BWSR and USACE approved wetland banks within the basin	All partners	No

Streambank and Shoreline Restoration & Protection

Estimated FY25 WBIF: $80,000
Estimated FY25 Match: $12,000
Estimated FY23 WBIF: $0
Estimated Other Funding: $378,000 [c]

#	Activity	Priority Location	Actions/ Measurable Output (2025-2026)	Implementation Entity	WBIF eligible
#21	Lake shorelines	Regionally Significant Lakes for Protection and Sustainable Development: Table 5-3 and Figure 5-3	Install 20 shoreline restoration projects [100% of lakeshore owners with altered shorelines are provided information on restoration programs]	All partners	Yes
#26	Rivers and streams ecosystems	St. Croix River and Lake St. Croix direct drainage tributaries	Implement 1 stream restoration project to reduce TP loading by 85 lbs and TSS loading by 217 tons	All partners	Yes
#27	Trout populations	Trout streams (Brown's Creek, Valley Creek, Lawrence Creek, Trout Brook, Willow Brooke, Mill Stream, Falls Creek, Gilbertson's Creek)	All streams trout YOY recruitment, survival of previous year class	All partners with trout streams	No
#38	Shoreland	Basin wide	1 LGU with new adopted innovative shoreline standard	All partners	No

Land Acquisition & Management

Estimated FY25 WBIF: $0
Estimated FY25 Match: NA
Estimated FY23 WBIF: $0
Estimated Other Funding: $360,000 [c]

#	Activity	Priority Location	Actions/ Measurable Output (2025-2026)	Implementation Entity	WBIF eligible
#23	Maintain & restore habitat	Land with priority habitats and corridor connections	10% of land in new developments is dedicated to wildlife habitat [significant new areas of land conversion from vacant or rural land to residential, commercial/industrial, institutional, or transportation]	All partners	No

#24	Sensitive lake protection	Regionally Significant Lakes for Protection and Sustainable Development: Table 5-3 and Figure 5-3	Implement sustainable development and land preservation programs in lakesheds of priority lakes through 2 easements or acquisitions	All partners	No
#39	Resilient lands	Private lands in priority corridors and critical habitat areas and large-scale developments with land-use change	2 landscape designs and plantings resilient to climate change	All partners	No
#40	Land protection	First priority: Areas near already protected lands (public or private), tributaries near impaired waters, areas where known endangered species are present and identified biologically significant natural areas as identified by MLCCS mapping Second priority: Basin wide	200 acres protected through acquisition and easements	All partners	No
#41	Lane protection	First priority: Areas where upland habitat is fractured and shoreline areas where there is high to moderate development or land under future development pressure Second priority: Basin wide	4 new Landscape Stewardship Plans	All partners	No
#42	Habitat improvement	Basin wide based on prioritized mapping including MLCCS maps and other critical habitat mapping	200 new acres managed for better habitat, or as recommended in Landscape Stewardship Plans	All partners	No
#43	Protected lands	Areas located along bluffland or adjacent to publicly owned forest land such as state parks and trails	4 new private Forest Management Plans or Woodland Stewardship Plans developed	All partners	No

Aquatic Invasive Species Prevention & Management

Estimated FY25 WBIF: $0 Estimated FY23 WBIF: $0

Estimated FY25 Match: NA Estimated Other Funding: $887,000 [c]

#	Activity	Priority Location	Actions/ Measurable Output (2025-2026)	Implementation Entity	WBIF eligible
#31	AIS in lakes and St. Croix River	High traffic boat launches on St. Croix River and Lake St. Croix	Increase watercraft inspection hours by 5%	CLIID, WCD, watersheds, counties	No
#32	AIS	Within 15 miles of all public boat launches on zebra mussel infested lakes and rivers	Provide 2 AIS decontamination stations (2021 – 2026)	CLIID, WCD, watersheds, counties	No
#33	AIS signs	Basin wide	Install AIS informational signage at 4 boat launches and marinas	CLIID, WCD, watersheds, counties	No
#34	AIS in lakes	Lakes in Chisago Co. and Isanti Co. with public access	Develop 1 comprehensive AIS rapid response plan for lakes (2021 – 2030)	Isanti and Chisago Counties	No
#35	Phragmites	In order of priority 1. Chisago Lakes LID 2. Carlos Avery WMA 3. Elsewhere in Chisago Co and Isanti Co 4. Headwaters of North Branch & West Branch Sunrise River	Reduce the size and number of invasive phragmites locations as reported on EddMaps by 9 infestation areas. Stabilize and eradicate those small infestations less than 1,000 – 2,000 sq. ft. through rapid response plans, where available	All partners	No

Ditch Implementation

Estimated FY25 WBIF: $0 Estimated FY23 WBIF: $0

Estimated FY25 Match: NA Estimated Other Funding: $45,000 [c]

#	Activity	Priority Location	Actions/ Measurable Output (2025-2026)	Implementation Entity	WBIF eligible
#7	Drainage impact on rivers & streams	Judicial and public ditches	Maintain or improve downstream water quality following ditch maintenance	Ditch authorities	No
#29	Wetland loss	Judicial and public ditches	Mitigate loss of wetland acres resulting from ditch maintenance activities	Ditch authorities	No

Staff Activities

Shared Services Basin Ag Outreach Program

Estimated FY25 WBIF: $300,000 [a] Estimated FY23 WBIF: $90,000 [b]

Estimated FY25 Match: $0 Estimated Other Funding: $0 [c]

#	Activity	Priority Location	Actions/ Measurable Output (2025-2026)	Implementation Entity	WBIF eligible
NA	Agronomy Outreach Specialist	Priority areas described in Structural Ag BMP Implementation and Non-Structural Ag Implementation	Assistance with agronomy, outreach, and technical assistance to agricultural producers including conservation planning and nutrient management plans. Approx 80% of this position's time will be directly working with agricultural producers in the LSC Watershed to identify economical farming practices with water quality benefits	WCD: lead Chisago SWCD: co-lead	Yes

Shared Services Education

Estimated FY25 WBIF: $265,000 [a]
Estimated FY25 Match: $56,507
Estimated FY23 WBIF: $150,000 [b]
Estimated Other Funding: $0[c]

#	Activity	Priority Location	Actions/ Measurable Output (2025-2026)	Implementation Entity	WBIF eligible
NA	Education and Outreach (EMWREP)	Basin wide	Facilitate shared education and outreach program across basin to provide education; engage residents, businesses, and local officials; and promote/market programs and practices. Education and outreach tasks will serve the goals outlined in the LSC Comprehensive Plan with a primary benefit to water quality in priority resources. • 90% = develop, distribute and implement outreach programs that result in behavioral changes achieving water quality benefits • 10% = solicit willing landowners to install BMPs	WCD: lead Chisago SWCD: co-lead	
#11	GW recharge & infiltration	Basin wide [Estimated 40 communities in basin without MIDS or similar standards]	Implement Minimal Impact Design Standards or more restrictive in 10 communities; including climate resiliency provisions or standards	EMWREP through WCD	Yes
#13	St. Croix River Flows	Direct catchments to the St. Croix River and Lake St. Croix	Evaluate and update small storm volume control and large storm rate control ordinances in 2 communities	EMWREP through WCD	Yes
#16	St. Croix River chlorides	Basin wide	Total of 45% of all cities have staff certified in MPCA's Level 1 and Level 2 Smart Salting Training	EMWREP through WCD	Yes
#22	Protect wetlands	Basin wide during land use change or alteration, development or redevelopment	1 LGU with (new) adopted wetland protections including buffer requirements and setbacks for permanent structures	EMWREP through WCD	Yes

Technical/Engineering + Project Development

Estimated FY25 WBIF: $300,000 [a]
Estimated FY25 Match: $0
Estimated FY23 WBIF: $60,000 [b]
Estimated Other Funding: $629,000 [c]

#	Activity	Priority Location	Actions/ Measurable Output (2025-2026)	Implementation Entity	WBIF eligible
NA	Engineering Technician	Basin wide	Funding for this activity is for 0.5 FTE engineering technician AND for outside engineering assistance, as needed. Activities include technical site assessment, surveys, preliminary analysis and design, final design, construction supervision, installation, inspection, and completion of projects.	Chisago SWCD	Yes
NA	Project Development	Basin wide	Targeted outreach, site visits, and relationship building for high priority projects	Anoka CD, Chisago SWCD, Isanti SWCD, Pine SWCD, Washington CD	Yes
#25	Landlocked basin impact on River	Eutrophic natural landlocked basins to be discharged to St. Croix River	Perform analysis and implement measures to meet state standards for nutrients on 1 waterbodies	Valley Branch WD, Brown's Creek WD, and Washington Co	No
#36	Lake levels	Chisago Co. Lakes = Chisago Lakes Chain of Lakes (Chisago, South Lindstrom, North Lindstrom, Green, Little Green, North Center, South Center), Fish, Horseshoe, Little Horseshoe, Sunrise	Develop resiliency plans or responses, such as a Slow-No-Wake Ordinance or Channel and Weir Operations and Maintenance Plans, to address vulnerable properties	Chisago County	No
#52	Manage channel & weirs	Chisago Chain of Lakes	100% of lakes prone to anthropogenic water level variation are identified; manage the channel and weir system with an approved operation and maintenance plan	Chisago County	No

Interagency Coordination

Estimated FY25 WBIF: $0
Estimated FY25 Match: NA
Estimated FY23 WBIF: $0
Estimated Other Funding: $223,730 [c]

#	Activity	Priority Location	Actions/ Measurable Output (2025-2026)	Implementation Entity	WBIF eligible
#44	Lead WQ metrics & report progress	Basin wide	Evaluate the water quality metrics, set reporting standards, report on goal progress for the St. Croix River	??	No
#45	Map GW pollution sources	Order of Priority: 1) Surrounding known contamination sites where data are lacking 2) DWSMAs 3) Townships without nitrate testing 4) Basin wide	Work with state agencies and Met Council; Pollution sources (including mines), areas around chemical contamination sites, vulnerable areas, and surface water-GW interactions are studied and mapped	Counties	No
#46	Map GW recharge areas	Basin wide	Support DNR and Met Council; 100% of recharge areas and groundwatersheds of GW dependent natural resources are mapped (2021 – 2030)	All partners	No
#47	Develop GW plans	Basin wide where needed	Complete at least one county groundwater plan (2021 – 2030)	Chisago, Isanti, Pine, or Anoka County	No
#48	GW well monitoring	Maintain basin wide; expand in Isanti and Pine Co. 1) DWSMAs 2) Groundwatersheds of GW-dependent natural resources	Maintain existing or increase number of new observation wells	Isanti and Pine Counties and SWCDs	No
#51	Build climate resiliency	Basin wide	Participate in studies and/or stay informed of latest science to assess the impact of a changing climate on lakes and the St. Croix River; use latest climate science to implement adaptive management	All partners	No

#57	Floodplain ordinance evaluation	Landuse authorities in the St. Croix Riverway	Work with land use authorities along St. Croix River and MnDNR Area Hydrologists to evaluate floodplain and zoning ordinances for consistency and effectiveness in protecting floodplain function; update where appropriate	EMWREP through WCD	No
#61	Pine Co. soil survey	Pine County	Complete soil survey as developed by NRCS, USDA & shown in Soil Survey Geographic (SSURGO) Database	NRCS	No

Ditch Policy & Review

Estimated FY25 WBIF: $0

Estimated FY23 WBIF: $0

Estimated FY25 Match: NA

Estimated Other Funding: $34,000 [c]

#	Activity	Priority Location	Actions/ Measurable Output (2025-2026)	Implementation Entity	WBIF eligible
#5	River & Stream Flows	Basin wide	Identify and map 100% of private ditches as part of developing Conservation Plans	Counties	No
#6	Drainage impacts on wetlands	All public and private ditches	Review 100% of drainage projects for possible impacts to wetland quality	Ditch authorities	No

Prioritization & Analysis

Internal Analyses

Estimated FY25 WBIF: $0
Estimated FY25 Match: NA

Estimated FY23 WBIF: $18,000 [b]
Estimated Other Funding: $57,000 [c]

#	Activity	Priority Location	Actions/ Measurable Output (2025-2026)	Implementation Entity	WBIF eligible
#49	Calc internal loads	Regionally Significant Lakes for Internal Loading Analyses Table 5-4	Calculate internal loading of phosphorus on 3 lakes	All partners	Yes (FY23)

Targeting Analyses

Estimated FY25 WBIF: $0
Estimated FY25 Match: NA

Estimated FY23 WBIF: $45,000 [b]
Estimated Other Funding: $1,050,720 [c]

#	Activity	Priority Location	Actions/ Measurable Output (2025-2026)	Implementation Entity	WBIF eligible
#50	Lake monitoring	Anoka Co. Lakes = Pet, Rice, South Coon, Skunk, Tamarack Chisago Co. Lakes = Sunrise, Little Horseshoe Isanti Co. Lakes = Hoffman, Horseleg, Horseshoe, Upper	Baseline data such as transparency, total phosphorus and chlorophyll-a are collected	All partners	No

		and Lower birch, East and West Twin, Tamarack (30- 0001-00), Long (30-0002- 00,) Big Pine (30-0015-00), Grass (30-0017-00), Splittstoeser (30-00041-00)			
#53	Lake level monitoring	Basin wide	Participate in DNR lake level monitoring program to routinely collect lake level data; 100% of lakes prone to direct anthropogenic water level variation are identified	All partners	No
#54	Subwatershed analyses for lakes	Subwatersheds of Regionally Significant Lakes Table 5-3 and Figure 5-3	Conduct 4 subwatershed analyses to identify and prioritize water quality improvement projects within a priority subwatershed	All partners	Yes (FY23)
#55	Subwatershed analyses for streams	Regionally Significant Rivers and Streams: - Streams and tributaries in Sunrise R. Watershed - Direct drainage areas to St. Croix River through Rock, Rush, Goose, and Browns Creeks and Trout Brook and other small streams as shown in Table 5-2 and Figure 5-2.	Conduct 4 subwatershed analyses to identify and prioritize water quality improvement projects within a priority subwatershed	All partners	Yes (FY23)
#56	St. Croix TMDL evaluation	Tributaries to the St. Croix River	Coordinate and operate up to 10 new monitoring stations that lack data (quality and quantity) to evaluate progress toward achieving the TMDL and to identify priority subwatersheds	All partners	No
#58	Gully evaluation	Intermittent and perennial tributaries and watercourses flowing directly to St. Croix River	Identify, evaluate, and rank (prioritize) active gullies directly discharging into the St. Croix or its tributaries	All partners adjacent to St. Croix River	No

#59	Map priority areas	Basin wide	Complete level 4/5 MLCCS basin wide; map priority restoration and protection areas for acquisition, easements, and voluntary stewardship	All partners	No
#60	Map terrestrial AIS	First priority: Public lands or near public lands; areas may be further prioritized thru cooperative weed mgmt area Second priority: Basin wide	Map and target "eradicate and control list" invasive species populations for each county; contact 50% of landowners for species on restricted list; implement cooperative weed management area	All partners	No
#62	Wetland monitoring	Wetlands upstream of nutrient impaired streams and lakes	Use subwatershed analyses or monitoring/modeling data to identify degraded wetlands with the potential of contributing high nutrient loads to downstream resources.	All partners	No
#63	Wetland restoration prioritization	Basin wide	Use existing Restorable Wetland Prioritization Tool to focus effort; identify 5 degraded wetlands with best restoration potential in each HUC 10 (2021 – 2030)	All partners	No
#64	Ditch monitoring	1st priority: Public ditches in Isanti Co. 2nd priority: Basin wide	Collect water quality data near ditch outlets of 5 ditches to identify areas for ditch improvements to filter runoff	Isanti County; All partners	No
#65	Wetland inventory	1st Priority: Isanti County 2nd Priority: Basin wide	Create wetland inventory based on MLCCS; Increase by 5 the number of LGUs with policies requiring wetland function and value assessments with project proposals such as developments or ditch work (2021 – 2030)	Isanti County; All partners	No
#66	Wetland inventory	Pine and Isanti Counties	Verify recently completed wetland inventory and map % of areas of wetland loss and historic wetlands	Pine and Isanti Counties	No

Administration

Administration/Coordination

Estimated FY25 WBIF: $100,071 [a]
Estimated Match: $32,000
Estimated FY23 WBIF: $25,000 [b]
Estimated Other Funding: $0 [c]

#	Activity	Priority Location	Actions/ Measurable Output (2025-2026)	Implementation Entity	WBIF eligible
NA		Basin wide	Coordination of WBIF-funded activities; grant reporting; all-activity reporting; coordination of committees and partners; participation in committee meetings; fiscal management; annual and biennial planning	Chisago SWCD: lead	Yes

2025 LSC Project Process Calendar

ATTACHMENT B

Policy Committee meets quarterly (4th Monday of the month)
Steering Committee meets monthly (4th Wednesday of the month)
Planning Team meets monthly (2nd Wednesday of the month)
Advisory Committee meets as needed (e.g., AC meets to approve annual work plan)

This calendar only shows meetings which pertain to the proposed project approval process. Additional meetings are held at the frequencies described above.

January	February	March
	2/12 Deadline: project requests less than $50K submitted to meeting facilitator (2 weeks before SC meeting) **2/26 Steering Committee**: at regular monthly meeting consider project requests less than $50K	**3/15 Notice**: Meeting facilitator will send out call for projects reminder to all partners 60 days in advance of the May application deadline **3/12 Deadline**: project requests greater than or equal to $50K submitted to meeting facilitator **3/26 Steering Committee**: at regular monthly meeting review project requests greater than or equal to $50K that are due to come to PC in April
April	**May**	**June**
4/20 Deadline: Policy Committee meeting packet posted, including project requests greater than or equal to $50K **4/27 Policy Committee**: at regular quarterly meeting consider project requests greater than or equal to $50K once per year	**5/14 Deadline**: project requests less than $50K submitted to meeting facilitator (2 weeks before SC meeting) **5/28 Steering Committee**: at regular monthly meeting consider project requests less than $50,000	**6/14 Notice**: Meeting facilitator will send out call for projects reminder to all partners 60 days in advance of the August application deadline
July	**August**	**September**
	8/13 Deadline: project requests less than $50K submitted to meeting facilitator (2 weeks before SC meeting) **8/27 Steering Committee**: at regular monthly meeting consider project requests less than $50,000	
October	**November**	**December**
		12/14 Notice: LSC partner staff will send out call for projects reminder to all partners at least 60 days in advance of the Feb/Mar application deadlines (dual notice this month – projects less than and greater than $50K)

FY25 Lower St. Croix 1W1P
Watershed Based Implementation Funding Work Plan

Grant ID: TBD | Grant Expiration: December 31, 2027

Contents

Grant Activities

This section provides a description of each grant activity. The Lower St. Croix Comprehensive Watershed Management Plan (CWMP) identifies four categories for Watershed Based Implementation Funding (WBIF) use: Implementation – BMPs/Restoration, Implementation – Shared Services/Staffing, Prioritization & Analysis, and Administration (CWMP, page 16). Contrary to prior grants, this work plan does not including funding for Prioritization & Analysis activities. The Board of Water and Soil Resources requires all WBIF grant work plans assign an eLINK activity category to each activity. Table 1 summarizes the ten grant activities across three categories and their associated eLINK categories and CWMP categories.

The project review and approval process for funding to local partners will utilize already established policies and procedures (see www.lsc1w1p.org/workplan-forms) and may use subcommittees to review projects and assist with project planning. Subcommittees may be grouped by implementation category. A subcommittee meeting is not required for all project requests; partners may submit project requests directly to the Steering Committee for consideration.

Project Review & Grant Approval Process: See project approval policies and procedures at www.lsc1w1p.org.

Table 1. Grant Activities and Categories

Activity Name	eLINK Activity Category	CWMP Category
Structural Ag BMP Implementation	Agricultural Practices	Implementation – BMPs/Restoration
Structural Urban BMP Implementation	Urban Stormwater Practices	
Non-Structural Ag/Urban Implementation	Non-Structural Management Practices	
Wetland Restoration Implementation	Wetland Restoration/Creation	
Streambank/Shoreline Restoration	Streambank & Shoreline Restoration	
Agronomy Outreach Specialist	Project Development	Implementation – Shared Services/Staffing
Shared Services Education	Education/Information	
Technical/Engineering	Technical/Engineering Assistance	
Project Development	Project Development	
Administration/Coordination	Administration/Coordination	Administration

Implementation – BMPs/Restoration Activities

Activity: Structural Ag BMP Implementation

eLINK Activity Category: Agricultural Practices

Grant: $350,000

Match: $52,500

Match Source(s): Local or landowner funds

Lead Agency: Chisago SWCD, Craig Mell (also the lead for non-structural ag BMP implementation; subcontracts with local partners for specific projects).

Co-lead Agency: Washington Conservation District, Jay Riggs

Priority areas:

- LSC CWMP Table 5-2 Regionally Significant Rivers and Streams (page 81)
- LSC CWMP Table 5-3 Regionally Significant Lakes (page 82)
- LSC CWMP Figure 5-1 Vulnerable Groundwater in Agricultural Areas (page 84)
- Also see priority locations for implementation items in LSC CWMP Table 5-1 which are related to this activity (pages 61-64)

CWMP Reference: Table 5-1, Pages 61-62. Activities #1 #2, #3

Activity Description: Provide cost-share/incentives for installing or implementing structural agricultural best management practices (e.g., feedlot improvements, buffers, WASCOBs, diversions, lined waterways, grade stabilization structures, vegetative swales, livestock water management, etc.). Project partners will check BWSR eligibility requirements and consult the BWSR Board Conservationist to ensure projects are eligible. NRCS or other BWSR accepted standards will be followed for all practices installed. For feedlot improvement projects, the project partner will complete the BWSR supplemental feedlot worksheet to ensure compliance with BWSR policy for using CWF funds for feedlot improvements. Projects to be chosen through targeting and prioritization process described in Section VII.B and Appendix C of the CWMP.

The target phosphorus load reduction for this Activity is 150 lb/yr.

Activity: Structural Urban BMP Implementation

eLINK Activity Category: Urban Stormwater Practices

Grant: $300,000

Match: $45,000

Match Source(s): Local or landowner funds

Lead Agency: Carnelian-Marine-St. Croix WD, Mike Isensee (also the lead for nonstructural urban BMP implementation)

Co-lead Agency: Chisago SWCD, Craig Mell (subcontracts with local partners for specific projects)

Priority areas:

- LSC CWMP Table 5-2 Regionally Significant Rivers and Streams (page 81)
- LSC CWMP Table 5-3 Regionally Significant Lakes (page 82)
- Also see priority locations for implementation items in LSC CWMP Table 5-1 which are related to this activity (pages 61-64)

CWMP Reference: Table 5-1, Page 66, Activities #12, #14, #15

Activity Description: Provide cost-share/incentives for implementing structural urban best management practices (e.g., vegetated swales, pervious pavement, gully stabilization, rain gardens, and other urban practices). BWSR accepted standards will be followed for all practices installed. Projects to be chosen through targeting and prioritization process described in Section VII.B and Appendix C of the CWMP.

The target phosphorus load reduction for this Activity is 12 lb/yr.

Activity: Non-Structural Ag/Urban BMP Implementation

eLINK Activity Category: Non-Structural Management Practices

Grant: $75,000

Ag Lead Agency: Chisago SWCD, Craig Mell (also the lead for Structural Ag BMP Implementation)

Urban Lead Agency: Carnelian-Marine-St. Croix WD, Mike Isensee (also the lead for Structural Urban BMP Implementation)

Urban/Ag Co-lead Agency: Chisago SWCD, Craig Mell (subcontracts with local partners for specific projects)

Priority areas:

- LSC CWMP Table 5-2 Regionally Significant Rivers and Streams (page 81)
- LSC CWMP Table 5-3 Regionally Significant Lakes (page 82)
- Also see priority locations for implementation items in LSC CWMP Table 5-1 which are related to this activity (pages 61-64)
- Priority locations for nonstructural urban BMP implementation are described in the LSC Nonstructural Urban BMP policy.

CWMP Reference: Table 5-1, Pages 61, Activities #1, #2, #3, #14, #15

Activity Description: Provide cost-share/incentives for implementing non-structural ***agricultural*** best management practices (e.g., soil health BMPs, reduced tillage, cover crops, nutrient management planning, forage/biomass plantings). NRCS or other BWSR accepted standards will be followed for all practices installed. Projects to be chosen through targeting and prioritization process described in Section VII.B and Appendix C of CWMP.

Provide cost-share/incentives for implementing non-structural ***urban*** best management practices (e.g., enhanced street sweeping). BWSR accepted standards will be followed for all practices implemented. Projects to be chosen through targeting and prioritization process described in Section VII.B and Appendix C of CWMP. Specific enhanced street sweeping targeting analyses will be performed for priority areas.

View the Non-Structural Agricultural Practices Policy and Enhanced Street Sweeping Protocols at www.lsc1w1p.org.

The target phosphorus load reduction for this Activity is 150 lb/yr.

Grant funds under this Activity will not be used to pay for staff time such as targeting analyses. See Implementation Category Budget Breakdown at the end of the Detail Work Plan Text.

Project Review & Grant Approval Process: WBIF grant funding under this activity will be bifurcated between agricultural and urban practices.

> **Agricultural Non-Structural**: Due to the urgent nature of implementing non-structural agricultural practices with landowner coordination, these practices do not require approval by the Steering Committee nor the Policy Committee. See project approval policies and procedures at www.lsc1w1p.org.
>
> **Urban Non-Structural**: Urban non-structural street sweeping incentive funding will only be available to communities with approved enhanced street sweeping plans. See project approval policies and procedures at www.lsc1w1p.org.

Activity: Wetland Restoration Implementation

eLINK Activity Category: Wetland Restoration/Creation

Grant: $200,000

Match: $30,000

Match Source(s): Local funds

Lead Agency: Chisago SWCD, Craig Mell (subcontracts with local partners for specific projects)

Priority areas:

- LSC CWMP Table 5-2 Regionally Significant Rivers and Streams (page 81)
- LSC CWMP Table 5-3 Regionally Significant Lakes (page 82)
- LSC CWMP Figure 5-5 High Priority Areas for Wetland Restoration (page 88)
- Also see priority locations for implementation items in LSC CWMP Table 5-1 which are related to this activity.

CWMP Reference: Table 5-1, Page 71, Activity #28

Activity Description:

This Activity will involve implementation of wetland restoration project(s) as needed to achieve the target phosphorus reduction. The primary purpose of the wetland restoration project(s) will be for the improvement of water quality in receiving lakes/streams. Secondary benefits of wetland restoration projects will be considered as well, such as floodplain storage and habitat creation/enhancement.

Wetland restorations will not be used to mitigate wetland impacts. Grant funds will not be used for fee title land acquisition (but may be used as match in accordance with WBIF Policy). LSC Partners will ensure proposed wetland restorations are consistent with WBIF eligibility requirements. LSC Partners will target specific restorations through utilization of existing studies and targeting analyses (e.g., drained wetland inventories, diagnostic studies, subwatershed assessments), performance of additional modeling analyses using existing data from said studies, and completion of additional targeting analyses as necessary to fill data gaps. Work pertaining to targeting strategies is included as part of other grant Activities. Wetland restoration phosphorus reduction will be dependent on a number of factors beyond acres restored (e.g., proximity to target waterbody, level of degradation, hydrology).

The target phosphorus load reduction for this Activity is 50 lb/yr.

Activity: Streambank/Shoreline Restorations

eLINK Activity Category: Streambank/Shoreline Restoration

Grant: $80,000

Match: $12,000

Match Source(s): Local funds

Lead Agency: Chisago SWCD, Craig Mell (subcontracts with local partners for specific projects

Priority areas:

- LSC CWMP Table 5-2 Regionally Significant Rivers and Streams (page 81)
- LSC CWMP Table 5-3 Regionally Significant Lakes (page 82)
- Also see priority locations for implementation items in LSC CWMP Table 5-1 which are related to this activity.

CWMP Reference: Table 5-1, Pages 68 and 70, Activities #21, #26

Activity Description: This activity includes one large-scale streambank restoration project with bank stabilization, and/or in-channel work, and/or improvements in floodplain connectivity; and/or cost share for up to 20 shoreline restoration and habitat improvement projects. Cost share projects are likely to be implemented by private landowners. Engagement with shoreline landowners and marketing of cost share programs will be accomplished through outreach, education, and workshops delivered through the Shared Services Educator. BWSR accepted standards and practices will be followed for restoration projects and assurances for long-term maintenance will be secured for each project.

The target phosphorus load reduction for this Activity is 7 lbs/yr

Implementation – Shared Services/Staffing

Activity: Agronomy Outreach Specialist

eLINK Activity Category: Project Development

Grant: $300,000

Co-Lead Agencies: Chisago SWCD, Craig Mell and Washington Conservation District, Jay Riggs

Priority areas: Agronomy outreach specialist will focus on priority areas described in Structural Ag BMP Implementation and Non-Structural Ag Implementation

CWMP Reference: Table 5-1, Page 61, Shared Services Activity

Activity Description: Agronomy outreach specialist. (A) Shared Services: Work with an agricultural conservationist (one individual) for basin wide assistance with agronomy, outreach, and technical assistance to agricultural producers including conservation planning and nutrient management plans. Approximately 80% of this position's time will be directly working with agricultural producers in the LSC Watershed to identify economical farming practices with water quality benefits to make them a routine part of farm operations. Staff qualifications are subject to change and included in eLINK. Any updates will be submitted to the BWSR BC for review. See Agronomy Outreach Specialist Details & Milestones for more information.

This would allow for 1 full-time agronomy outreach specialist to work basin-wide. Staff will work basin-wide and may have more than one office space. LSC partners will ensure duties assigned to this staff member will be in alignment with WBIF funding intent and requirements.

Costs billed to this item will include the following: Staff salary, , benefits, travel expenses, training expenses, and office supplies. As with all grant activities, LSC partners will ensure program expenses are eligible before billing to the grant/match. All costs will primarily benefit water quality in a priority resource as identified in the LSC CWMP. In addition to direct landowner outreach and technical assistance, as described above, staff time will also include program and work plan coordination: annual partner coordination meetings, updates to partners, interfacing with the shared services educator, coordinated planning efforts, regular basin-scale coordination meetings with LSC partners and other agencies as appropriate.

Activity: Shared Services Education

eLINK Activity Category: Education/Information

Grant: $265,000

Match: $56,507.10

Match Source: Parties to the LSC JPC

Lead Agency: Washington Conservation District, Jay Riggs

Co-lead Agency: Chisago SWCD, Craig Mell (Subcontract with WCD to act as host entity)

Priority areas: Basin-wide

CWMP Reference: Table 5-1, Page 65, Shared Services Activity

Activity Description: Facilitate shared education and outreach program across basin to provide education; engage residents, businesses, and local officials; and promote and market programs and practices through the well established East Metro Water Resources Education Program (EMWREP). Education and outreach tasks will serve the goals outlined in the LSC CWMP and may not always pertain to the implementation items described in this WBIF grant work plan, but will always have a primary benefit to water quality in priority resources.

- 90% = develop, distribute and implement outreach programs that result in behavioral changes achieving water quality benefits;
- 10% = solicit willing landowners to install BMPs that are goals within this plan. Promoted practices will be in line with BWSR eligibility requirements and will focus on water quality.

[0.5 FTE to implement EMWREP basin wide + educational materials + Supplemental Community Assistance]. Supplemental Community Assistance will include promoting MIDS in communities, reviewing ordinances, and providing education through Non-point Education for Municipal Officials (NEMO). Outreach will also include work with LGUs to set shoreline "view corridors" to 25% of lot width or maximum 35' width and maximum vegetation clearing standards or adopt innovative shoreland standards to protect buffers, native ecosystems, and habitat corridors. This work will provide water quality benefits through their protection of shoreline and streambank buffers.

LSC partners will ensure duties assigned to this staff member will be in alignment with WBIF funding intent and requirements. Staff qualifications are subject to change and included in eLINK. Any updates will be submitted to the BWSR BC for review. See Education Details & Milestones for more information.

Costs billed to this item will include staff pay, program expenses, and contracted services for MIDS adoption initiative. As with all grant activities, LSC partners will ensure program expenses are eligible before billing to the grant/match. All costs will primarily benefit water quality in a priority resource as identified in the LSC CWMP. In addition to the outreach tasks described above, staff time will also include program and work plan coordination: annual partner coordination meetings, updates to partners, interfacing with the agronomy outreach specialist, coordinated planning efforts.

Subcommittee: A subcommittee composed of LSC partners will meet on an as-needed basis in order to review projects and assist with project planning. Subcommittees may be grouped by implementation category.

Project Review & Grant Approval Process: This activity is composed of three types of education & outreach expenditures.

> **Shared Services Educator**: Approval for expenditure of grant dollars for this task is inherent in work plan approval.
>
> **Education Materials/Expenses**: Approval for expenditure of grant dollars for this task is inherent in work plan approval.
>
> **Supplemental Community Assistance**: MIDS Adoption Initiative expenditures will be composed of professional services (technical assistance from a MIDS subject matter expert). See project approval policies and procedures at www.lsc1w1p.org.

Activity: Technical/Engineering

eLINK Activity Category: Technical/Engineering Assistance

Grant: $210,000

Lead Agencies: Chisago SWCD, Craig Mell (lead agency for structural and non-structural ag implementation; subcontracts with local partners for specific projects)

Staff Qualifications: This task includes funding for a 0.5 FTE engineering technician to be shared basin-wide, along with funding for qualified private engineering services.

CWMP Reference: Table 5-1, Pages 61 and 65, Technical Assistance Activity

Activity Description: This Activity will include technical site assessment, surveys, preliminary analysis and design, final design, construction supervision, installation, inspection, and completion of projects. Funds may be used to contract with a third-party consultant for technical/engineering assistance. Funding allocation will be prioritized in areas where there are not local funds to support design work.

Project Review & Grant Approval Process: See project approval policies and procedures at www.lsc1w1p.org.

Activity: Project Development

eLINK Activity Category: Project Development

Grant: $90,000

Lead Agencies: Chisago SWCD, Craig Mell (subcontracts with local partners for specific projects)

Staff Qualifications: Staff of partners or their qualified consultants

Activity Description: This activity provides funding to partners to augment staff capacity needed to build relationships and provide outreach to key landowners. Outreach will increase likelihood that landowners will implement critical BMPs in urban and agricultural areas. The activity will include targeted outreach, site visits, and relationship building for high priority projects.

Administration

Activity: Administration/Coordination

eLINK Activity Category: Administration/Coordination

Grant: $100,071

Match: $1,000

Lead Agencies: Chisago SWCD, WCD

Activity Description: Staff qualifications are subject to change and included in eLINK. Any updates will be submitted to the BWSR BC for review. See Staff Assignments and Qualifications document for more detail. This Activity will include the following tasks.

- Grant and progress reporting – includes coordinating with fiscal agent and other partners to gather reporting information, compiling said information, and entering reports into eLINK; will also include assisting fiscal agent with any grant/work plan amendments as necessary. Progress reporting will include demonstration of progress toward measurable outcomes (i.e., nutrient load reductions seen at target waterbodies) – examples include pounds of phosphorus and tons of total suspended solids removed from existing loads. Partners may use local funding to perform effectiveness monitoring to demonstrate actual outcomes achieved by projects. Otherwise, modeled loads will be reported. Staff will also report on outputs achieved (i.e., the interim steps needed in order to achieve the ultimate outcomes) – examples include number of landowners contacted, number of projects completed, description of outreach activities performed. Progress reporting will include comparison of budget vs actual spend for each cost category, as described in the final section of this work plan and on page 16 of the LSC CWMP.
- Coordination of Policy Committee, Steering Committee, Advisory Committee, and work plan activity planning team (lead coordination of meetings, agendas, meeting material distribution)
- Website upkeep: This activity includes the use of grant funds to host and update the LSC interactive web map as necessary.
- Fiscal agent administration and contract coordination – includes coordinating with other partners to gather reporting information and reviewing draft report; will also include leading any grant/work plan amendments as necessary
- Agronomy Outreach Specialist and Educator payroll administration.

Budget

Table 2. Grant Budget

Activity Name	Grant Budget	Match Budget	Total Budget
Structural Ag BMP Implementation	$350,000	$52,500	$402,500
Structural Urban BMP Implementation	$300,000	$45,000	$345,000
Non-Structural Ag/Urban Implementation	$75,000	$0	$75,000
Wetland Restoration Implementation	$200,000	$30,000	$230,000
Streambank/Shoreline Restorations	$80,000	$12,000	$92,000
Implementation – BMPs/Restoration Subtotal	**$1,005,000**	**$139,500**	**$1,144,500**
Agronomy Outreach Specialist	$300,000	$0	$300,000
Shared Services Education	$265,000	$56,507.10	$321,507.10
Technical/Engineering	$210,000	$0	$210,000
Project Development	$90,000	$0	$90,000
Implementation – Shared Services/Staffing Subtotal	**$865,000**	**$56,507.10**	**$921,507.10**
Administration/Coordination	**$100,071**	**$1,000**	**$101,071**
Total	$1,970,071	$197,007.10	$2,167,078.10

Table 3. Shared Services Education Budget Breakout

Activity Name	Grant	Match	Total
Shared Services Education	**$265,000.00**	$56,507.10	$321,507.10
Educator Compensation	$180,000.00		
Education Materials/Equipment	$30,000.00		
Supplemental Community Assistance	$55,000.00		

The Lower St. Croix Comprehensive Watershed Management Plan (page 16) provides an expected distribution of WBIFs across program areas. Table 4 compares the FY25 WBIF grant budget to the CWMP distribution.

Table 4. Grant Budget Distribution Across Program Areas

	LSC CWMP (Page 16)	Work Plan (Grant Funds)	Actual Grant Spend**
Implementation - BMPs/Restoration Activities*	45%	51%	TBD
Implementation - Shared Services	25%	44%	TBD
Prioritization & Analysis	25%	0%	TBD
Administration	5%	5%	TBD
	100%	100%	100%

*Expenses billed to implementation (blue) line items will be for implementation only and will not include staff time/engineering. Staff/consultant time for project coordination/design/engineering/oversight etc. is covered by the remaining three categories (green, orange, yellow).

**Progress reporting will include comparison of budget vs actual spend for each cost category.

Phosphorus Reduction Goals and Progress

Phosphorus Reductions from CWMP	10-Year Phosphorus Reduction Goal (lb/yr)	2-Year Average (lb/yr)	FY21 WBIF Goal (lb/yr)	FY21 Actual (lb/yr)	FY23 WBIF Goal (lb/yr)	FY23 Expected (lb/yr)	FY25 WBIF Goal (lb/yr)
Priority Streams (CWMP Table 5-2)	4,140	828					
Priority Lakes (CWMP Table 5-3)	1,363	273					
TOTAL	**5,503**	**1,101**	**915**	**1818.5**	**381**	**428.8**	**369**

The table above contains total phosphorus reduction goals from the LSC CWMP (see Tables 5-2 and 5-3 on pages 81 and 82) for priority streams and priority lakes. If divided equally throughout the 10-year plan period, the average total lakes/streams phosphorus reduction goal would be 1,101 pounds/year achieved every 2-year period. The WBIF goal load reductions are below the CWMP 2-year average. The

LSC partners estimated that the full basin-wide goal cannot be achieved solely with WBIF funds. Partners must leverage local dollars and other funding sources in order to meet the basin's goals.

LSC partners may utilize multiple calculation tools to estimate load reductions. Examples include MIDS calculator, PTMApp, BWSR Pollutant Reduction Estimator, estimation via outflow, and internal loading analysis. See CWMP page 99 for a full list of potential reduction tools and their general intended uses. LSC partners will choose the calculation tool best suited to the proposed BMP. Phosphorus reductions will be estimated at the target waterbody (not just at edge-of-field).

Phosphorus reductions achieved at specific priority waterbodies will be reported annually. LSC partners will also estimate, on an annual basis, the load reduction achieved at the St. Croix River as a result of implemented practices.

Brown's Creek Watershed District
2024 Approved Budget- Final Certified Levy
11-13-2024

		Revised 2023 Carry Forward for Approval	2024 Grants	2024 Levy	2024 Total Budget (For approval)	Allocated	Available
100-2910	Designated Funds - Management Plan Projects	*$ 992,580*			$ 992,580		$ 992,580
					$ -		$ -
Revenue					$ -		$ -
100-3700	Interest Income				$ -		$ -
100-3601	Metropolitan Council Outlet Monitoring Grant		$ 5,000		$ 5,000		$ 5,000
100-3630	Washington County Cost-share Applewood Reuse	*$ 66,800*			$ 66,800		$ 66,800
100-3631	MPCA Small Watershed Grant 2023-2026	*$ 320,706*			$ 320,706		$ 320,706
100-3100	Tax Levy			$ 1,180,803	$ 1,180,803		$ 1,180,803
TOTAL, ESTIMATED Sources of Funding		***$ 1,380,086***	***$ 5,000***	***$ 1,180,803***	**$ 2,565,889**		**$ 2,565,889**

ACCT. #	General Expenses	Revised 2023 Carry Forward for Approval	2024 Grants	2024 Levy	2024 Total Budget (For approval)	Allocated	Available
200-4000	Manager Per Diem and Expense			$ 10,000	$ 10,000	$ 10,000	$ -
200-4001	Manager Communications/Tablets	*$ 4,350*			$ 4,350	$ 4,350	$ -
200-4220	Secretarial Services	*$ 4,000*		$ (4,000)	$ -		$ -
200-4250	Dues & Subscriptions (MAWD 6500 and LMCIT 2500)			$ 9,000	$ 9,000	$ 9,000	$ -
200-4270	Bonding & Insurance			$ 6,000	$ 6,000	$ 6,000	$ -
200-4280	Postage & Delivery			$ 1,000	$ 1,000		$ 1,000
200-4290	Printing & Notices			$ 1,000	$ 1,000		$ 1,000
200-4330	Accounting			$ 4,560	$ 4,560	$ 4,560	$ -
200-4331	Audit			$ 10,300	$ 10,300	$ 10,300	$ -
200-4949	Misc., Other Expense			$ 2,000	$ 2,000	$ 1,000	$ 1,000
200-4320	Wash. Conservation District--Admin			$ 58,670	$ 58,670	$ 58,670	$ -
200-4265	Admin Conference Registrations			$ 2,000	$ 2,000		$ 2,000
200-4410	Legal Fees - General			$ 25,800	$ 25,800	$ 25,800	$ -
200-4500	Staff Engineer			$ 28,445	$ 28,445	$ 28,445	$ (1)
	Diversity, Equity and Inclusion Training			$ 5,000	$ 5,000		$ 5,000
	Contingency Reserve	*$ 30,824*		$ -	$ 30,824		$ 30,824
TOTAL GENERAL FUND EXPENSES:		***$ 39,174***	***$ -***	***$ 159,775***	***$ 198,948***	***$ 158,125***	**$ 40,823**

ACCT. #	MANAGEMENT PLAN EXPENSES	Revised 2023 Carry Forward for Approval	2024 Grants	2024 Levy	2024 Total Budget (For approval)	Allocated	Available
300-4320	Wash. Conservation District--Administrator	*$ 15,000*		$ 176,005	$ 191,005	$ 191,005	$ -
300-4410	Legal Fees - Mgmt Plan			$ 60,000	$ 60,000		$ 60,000
300-4501	Staff Engineer			$ 90,474	$ 90,474	$ 90,474	$ 0
300-4702	Permitting, Legal Review			$ 15,000	$ 15,000		$ 15,000
300-4703	Permitting, Engineering Review			$ 55,000	$ 55,000		$ 55,000
300-4704	Permitting, Inspection Database			$ 1,000	$ 1,000		$ 1,000
300-4710-1	Baseline Monitoring	*$ 518*	$ 5,000	$ 136,420	$ 141,938	$ 141,938	$ -
300-4640	Equip. Maint. and Upgrades	*$ 15,000*		$ 10,000	$ 25,000	$ 7,400	$ 17,600
300-4810	Shared Educator Position			$ 20,500	$ 20,500	$ 20,500	$ -
300-4950	Management Plan Implementation -future projects			$ -	$ -		$ -
903-0001	Trout Habitat Preservation Project: Monitoring,			$ 6,500	$ 6,500	$ 6,490	$ 10
909-0000	Rules Review/Evaluation	*$ 27,000*		$ 3,000	$ 30,000	$ 14,057	$ 15,943
909-0001	Groundwater Dep Nat Resource Inventory update	*$ 10,000*		$ (10,000)	$ -		$ -
909-0002	Permitting Program Internal Procedure updates	*$ 25,000*			$ 25,000		$ 25,000
910-0000	Education & Outreach			$ 15,000	$ 15,000	$ 14,948	$ 52
911-0000	Volunteer Stream Monitoring			$ 4,045	$ 4,045	$ 4,045	$ -
912-0000	Grant Preparation	*$ -*			$ -		$ -
914-0000	Homeowner BMP Program			$ 50,000	$ 50,000		$ 50,000
922-0000	Plan Reviews - LGU/LWMP				$ -		$ -
923-0000	H & H Model Maintenance	*$ 3,800*		$ 130,824	$ 134,624	$ 69,670	$ 64,954
923-0002	Flood Risk Assessment	*$ 89,316*		$ (63,360)	$ 25,956	$ 25,956	$ -
927-0000	Management Plan Update	*$ 127,000*		$ 90,000	$ 217,000	$ 219,823	$ (2,823)
929-0000	Long Lake Plan Implementation-shoreline management			$ -	$ -		$ -
929-0010	Long Lake -Implementation - regional treatment	*$ 75,000*		$ (75,000)	$ -		$ -
929-0011	Long Lake - 62nd Street Pond Retrofit Feasibility	*$ 15,000*			$ 15,000	$ 15,000	$ -
929-0012	Long Lake - Marketplace Reuse Feasibility	*$ 164,900*		$ 60,220	$ 225,120		$ 225,120
931-0001	Benz Lake Management Plan Implementation	*$ 15,500*		$ (15,500)	$ -		$ -
935-0000	Land Conservation Program	*$ 100,000*		$ 50,000	$ 150,000		$ 150,000
935-0002	110th Street Property Implementation	*$ 45,000*		$ 25,000	$ 70,000		$ 70,000
935-0003	Develop Land Conservation Priorities	*$ 20,000*			$ 20,000		$ 20,000
940-0000	BMP Program – LGU/Community Demonstration Projects	*$ 10,000*			$ 10,000	$ 10,000	$ -
942-0004	Measuring Trends in GW Elevations & Flow	*$ 3,960*			$ 3,960	$ 3,960	$ -
942-0007	Groundwater - Browns Creek piezometers	*$ 8,960*			$ 8,960		$ 8,960
942-0011	Groundwater - Coordination with users	*$ 40*		$ 24,000	$ 24,040	$ 24,036	$ 4
942-0012	Groundwater - Install Monitoring Wells	*$ 58,000*		$ (58,000)	$ -		$ -
942-0013	Groundwater - Pump Test	*$ 15,000*		$ (15,000)	$ -		$ -
947-0017	Brown's Creek Implementation - Ecoli site visits/cost-share	*$ 10,000*			$ 10,000		$ 10,000
947-0018	Brown's Creek - Biological Survey (Macroinvert & Fish)	*$ 4,000*			$ 4,000	$ 3,776	$ 224
947-0022	Brown's Creek - Buffer and Stream Restoration	*$ 330,000*		$ 133,000	$ 463,000	$ 364,244	$ 98,757
947-0023	Brown's Creek - Golf Course Reuse - Oak Glen				$ -		$ -
947-0026	Brown's Creek - Brown's Creek Cove Reach			$ 20,000	$ 20,000		$ 20,000
948-0000	CIP Maintenance	*$ 35,418*		$ 135,000	$ 170,418	$ 52,218	$ 118,199
950-0001	South School Curly Leaf Treatment	*$ 1,000*		$ (1,000)	$ -		$ -
951-0001	Woodpile Lake Management Plan Implementation	*$ 10,000*		$ (10,000)	$ -		$ -
953-0000	Fen Management Plan Implementation	*$ 4,000*			$ 4,000	$ 4,000	$ -
957-0000	Weather Station			$ 3,700	$ 3,700	$ 3,642	$ 58
959-0001	Resource Assessment - upstream 110th/Drone flight			$ 4,700	$ 4,700	$ 4,700	$ -
959-0002	Resource Assessment - Diversion Tribs - Head cut Repairs	*$ 60,000*		$ (60,000)	$ -		$ -
959-0003	Resource Assessment - Brown's Creek Gorge Bluff				$ -		$ -
960-0000	St Croix Phosphorus Reduction	*$ 10,000*			$ 10,000		$ 10,000
961-0000	Mendel Wetland Restoration Feasiblity	*$ 20,000*		$ 15,000	$ 35,000		$ 35,000
962-0000	District-Wide Pond Management Planning/Implementation			$ 4,500	$ 4,500	$ 4,500	$ -
963-0000	District-Wide Vegetation Surveys	*$ 10,000*		$ (10,000)	$ -		$ -
964-0000	District-Wide Chloride Source Assessment	*$ 2,500*			$ 2,500		$ 2,500
TOTAL MANAGEMENT PLAN PROJECT EXPENSES:		***$ 1,340,912***	***$ 5,000***	***$ 1,021,028***	***$ 2,366,940***		**$ 1,070,558**
TOTAL, OPERATING EXP. & MGMT. PLAN PROJECTS:		***$ 1,380,086***	***$ 5,000***	***$ 1,180,803***	***$ 2,565,888***		***$ 1,111,382***

BROWN'S CREEK WATERSHED DISTRICT
11/13/2024
CURRENT ITEMS PAYABLE-PAGE 1 of 2

	YES	NO	ABSTAIN	ABSENT
ECKLES	_____	_____	_____	_____
ODEBRECHT	_____	_____	_____	_____
LEROUX	_____	_____	_____	_____
WIRTH	_____	_____	_____	_____
SAHULKA	_____	_____	_____	_____

VENDOR		**ACCOUNT #**		ITEMS	TOTAL	**CK NO**
Emmons & Olivier Resources, Inc.	Invoices October 2024					
	Inv. 41-0000-227 Retainer	300-4500	$	7,078.50		
	Inv. 41-0000-227 Retainer	200-4500	$	2,359.50		
	Inv. 41-0001-230 General Permitting	300-4703	$	10,342.64		
	Inv. 41-0307-91 Permits 2017					
	Permitting #17-04 Stillwater Senior Living	300-4703	$	200.53		
	Inv. 41-0330-74 Permits 2018					
	Permitting #18-04 Boutwell Farm	300-4703	$	404.25		
	Permitting #18-06 Nottingham Village	300-4703	$	36.75		
	Inv. 41-0365-48 Permits 2020					
	Permitting #20-08 Hwy 36/Manning Ave	300-4703	$	220.50		
	Inv. 41-0402-32 Permits 2022					
	Permitting #22-02 Gonyea at White Pine Ridge	300-4703	$	257.25		
	Permitting #22-18 Stillwater Oaks	300-4703	$	1,627.75		
	Inv. 41-0420-22 Permits 2023					
	Permitting #23-02 WOS Lot 114	300-4703	$	173.13		
	Permitting #23-13 Sandhill Shores	300-4703	$	108.74		
	Permitting #23-19 Liberty Classical Academy Expansion	300-4703	$	2,466.75		
	Inv. 41-0438-10 Permits 2024					
	Permitting #24-01 Take 5 Oil Change	300-4703	$	96.01		
	Permitting #24-07 Elliot Crossing	300-4703	$	5,111.25		
	Permitting #24-09 CSAH 5 Phase 3	300-4703	$	1,764.00		
	Permitting #24-11 WOS Lot 107 Karr Residence	300-4703	$	39.06		
	Permitting #24-12 WOS Lot 130 Carlson	300-4703	$	883.50		
	Permitting #24-13 8413 Marylane	300-4703	$	73.50		
	Permitting #24-14 Wick Residence	300-4703	$	98.69		
	Permitting #24-15 Lornston	300-4703	$	2,903.25		
	Permitting #24-16 Goodsell Residence	300-4703	$	859.50		
	Inv. 41-0205-84 CIP Operation and Maintenance	948-4500	$	1,287.00		
	Inv. 41-0418-23 Brown's Ck Pk Restoration	947-0022	$	3,410.79		
	Inv. 41-0451-3 BCWD 2024 Bio Survey	947-0018	$	323.29		
	Inv. 41-0447-7 BCWD 2024 WMP Update	927-0000	$	9,273.61		
	Inv. 41-0443-6 Rare Aquatic Plant Outreach	910-0000	$	639.00		
	Inv. 41-0433-9 2024 H&H Model Update	923-0000	$	11,467.50		
	Inv. 41-0434-5 Mendel Wetland Landowner Engagement	961-0000	$	49.50		
	Inv. 41-0437-8 2024 OGGC Reuse Maintenance and Monitoring	948-0000	$	693.00		
	Inv. 41-0450-5 Coordinating WQ Improvements with Member	962-0000	$	2,475.00		
	Inv. 41-0453-5 IESF OM 2024	948-4500	$	684.24		
	Inv. 41-0455-3 Wetland Inventory and Assessment Update	948-4500	$	10,257.66		

EOR Cont.	Inv. 41-0391-25 Millbrook HOA Restoration	947-0022	$	396.00		
	Inv. 41-0444-2 BCWD Data Practices Request	300-4703	$	455.25		
	Inv. 41-0458-1 Rule Revisions Facilitation	909-0000	$	297.00	$	78,813.89
Xcel Energy	Inv. 899298833- Iron Enhanced Sand Filter pump operation	948-4500	$	31.81	$	31.81
Washington Conservation District	Inv. 6699 September 2024- Water Monitoring					
	Baseline Water Monitoring- labor	300-4710	$	10,441.25		
	Baseline Water Monitoring- equipment	300-4640	$	38.74		
	Inv. 6706 September 2024- BMP Program	914-0000	$	2,275.00		
	Inv. 6717 Volunteer Stream Monitoring	911-0000	$	293.50		
	Inv. 6748 3rd Quarter 2024 Educator - EMWREP	300-4810	$	5,120.33	$	18,168.82
Smith Partners	October 2024 Invoices					
	Inv. 45293 Retainer - Meetings, Preparation	200-4410	$	2,186.81		
	Inv. 45294 General Legal Services	300-4410	$	223.20		
	Inv. 45295 Planning	300-4410	$	139.50		
	Inv. 45296 Contracts	300-4410	$	167.40		
	Inv. 45297 Permits	300-4703	$	3,849.21		
	Inv. 45298 Lake McKusick Iron-Sand Infiltration	300-4410	$	837.20		
	Inv. 45299 Oak Glen Golf Course Project	300-4410	$	1,283.76		
	Inv. 45300 Capital Project Development	300-4410	$	27.90	$	8,714.98
Geomorphic Restoration Inc.	Brown's Creek Stream Restoration Project Pay Request #4	947-0022	$	20,210.31	$	20,210.31
Dave McCord	Inv. 4426 September 2024 Accounting Services	200-4330	$	380.00	$	380.00
City of Stillwater	Cost-Share 62nd Street Trail Retrofit	940-0000	$	10,000.00	$	10,000.00
Custom Home Builders Title LLC	Permit 18-04A Boutwell Farms – Financial Assurance Reduction	300-4703	$	13,830.14	$	13,830.14
Connie Taillon	Stewardship Grant Reimbursement 2024-09	914-0000	$	294.16	$	294.16
Tracy Tomb	Stewardship Grant Reimbursement 2024-07	914-0000	$	253.71	$	253.71
Elizabeth Indra	Stewardship Grant Reimbursement 2024-11	914-0000	$	500.00	$	500.00
Minnesota Watersheds	2024 Minnesota Watersheds Dues	200-4250	$	7,210.00	$	7,210.00
Total Amount Disbursed					**$**	**158,407.82**

BROWN'S CREEK WATERSHED DISTRICT
11/13/2024
MONTHLY ITEMS DEPOSITED - Page 1 of 1

VENDOR	INVOICE/DESCRIPTION	ACCOUNT #	CK NO	DEPOSIT DATE		TOTAL
Liberty Classical Academy	#23-19 Permit Deposit Replenish	300-4703	21840	10/18/2024	$	42,538.48
Nancy Lorntson	#24-15 Financial Assurance	300-4703	995047	11/7/2024	$	7,394.00
Robert Goodsell	#24-16 Permit Deposit	300-4703	7093	11/6/2024	$	4,000.00
Siegel Brill, PA	Streetcar Holdings LLC Deposition Reimbursement	300-4703	20435	10/31/2024	$	317.00
MN Management &	MV Credit - Agricultural	100-3100	Direct Deposit	10/31/2024	$	783.31
4M Fund	Dividend	100-3700	Direct Deposit	10/31/2024	$	3,388.02
TOTAL AMOUNT DEPOSITED:					**$**	**58,420.81**

Brown's Creek Watershed District
Treasurer's Report
11/13/24

Total Bank Balance			
4M Fund		$	809,203.64
USBank			-
Less Accounts Payable			(158,407.82)
Plus Unrecorded Deposits since	10/31/2024		11,394.00
Total Balance		$	662,189.82

memo

Project Name |	BCWD Permit 24-07, Elliott Crossing	**Date** |	November 7, 2024
To / Contact info |	BCWD Board of Managers		
Cc / Contact info |	Mark Guenther / MOR Development, LLC; Justin Olson, PE / Carlson McCain		
Cc / Contact info |	Karen Kill, Administrator / BCWD		
From / Contact info |	Paul Nation, PE / EOR		
Regarding |	Permit Application No. 24-07 Engineer's Report		

The following review of the above mentioned project located within the legal jurisdiction of the Brown's Creek Watershed District (BCWD) was conducted to determine compliance with the BCWD rules for purposes of the engineer's recommendation to the Board of Managers for its determination of the permit application.

Applicant: MOR Development, LLC
Permit Submittal Date: *October 21st, 2024*
Completeness Determination: *October 24th, 2024*
Board Action Required By: *December 20th, 2024*
Review based on BCWD Rules effective April 1, 2020
Recommendation: Approve with Conditions

GENERAL COMMENTS

Existing Conditions: The existing site is 188.65 acres and includes 4.56 acres of impervious surface. It is located south of 75th St N and west of Lake Elmo Ave. Although the site is entirely within the BCWD legal boundary, it is at the drainage divide between BCWD and Valley Branch Watershed District with the majority of the site draining to BCWD.

The west half of the site includes agricultural land, woods, and numerous wetlands. The central portion of the site includes two golf course holes for the Indian Hills Golf Course. The east half of the site is mostly agricultural land with pockets of woods. Of particular note, multiple wetlands on site are groundwater-dependent natural resources including a fen. BCWD developed a groundwater-dependent natural resource management plan for the fen in 2009. This plan includes a detailed description of the resource, characterizes the management area, identifies potential impacts of development to the resource and recommended management strategies. In keeping with its fen-management plan, BCWD has conducted maintenance activities including management of invasive species such as buckthorn, Canada thistle, reed canary grass and raspberry since 2010. Over the last 13 years of maintenance the BCWD has seen a dramatic decrease in invasive species and a significant increase in the presence of native species. There is also a mapped natural community adjacent to one onsite wetland (designated Wetland E). This mapped community consists primarily of 25 to 30-year old red pines, but includes a variety of other tree species. Onsite wetlands are shown in Figure 1 and site discharge points are shown in Figure 2.

BCWD's goal for groundwater-dependent natural resources is to ensure that they function at or near maximum potential and that they are not significantly compromised due to human-induced factors.

Groundwater-dependent natural resources are very sensitive to changes in the quantity and quality of both groundwater and surface water contributions. For those resources in a natural or semi-natural state, the goal is to maintain the existing (pre-development) groundwater and surface water hydrology and quality to the resources.

Proposed Conditions: Under proposed conditions, the site will have 11.3 acres of impervious surface with a total land disturbance of 45.4 acres. The west half of the site (1st addition) will have a cul-de-sac (Keswick Court) off 75th St N and will be split into 12 lots. A grass trail will be added connecting this street to the existing golf course trail system. Turn lanes will be added on 75th St N to facilitate traffic into the development. Stormwater management for this half of the site is provided by two ponds that will serve as re-use basins for irrigation of the site entrance and buffer areas. To protect the fen, a berm will be constructed on the upstream side of the buffer, which will route all stormwater from the development around the fen. The two golf course holes will remain in the middle of the site.

The east half of the site will have a cul-de-sac (Elliott Lane) off Lake Elmo Ave and will be split into five lots. Stormwater management for this half of the site is provided by two infiltration basins. These 5 lots will be developed as a 2nd addition and will be graded on a separate timeline from the west half of the site. However, the developer is requesting that this stormwater permit cover both additions with a permit term of three years. Because there will be an interim period between construction of the 1st addition and the 2nd addition, the analysis under Rule 2.0 is provided to demonstrate that the site will meet stormwater standards during the interim. Full buildout conditions are shown on Figure 3.

Recommendation: The BCWD engineer recommends that the board approve the application in accordance with and on terms specified in the report that follows.

Figure 1 – Onsite Wetlands

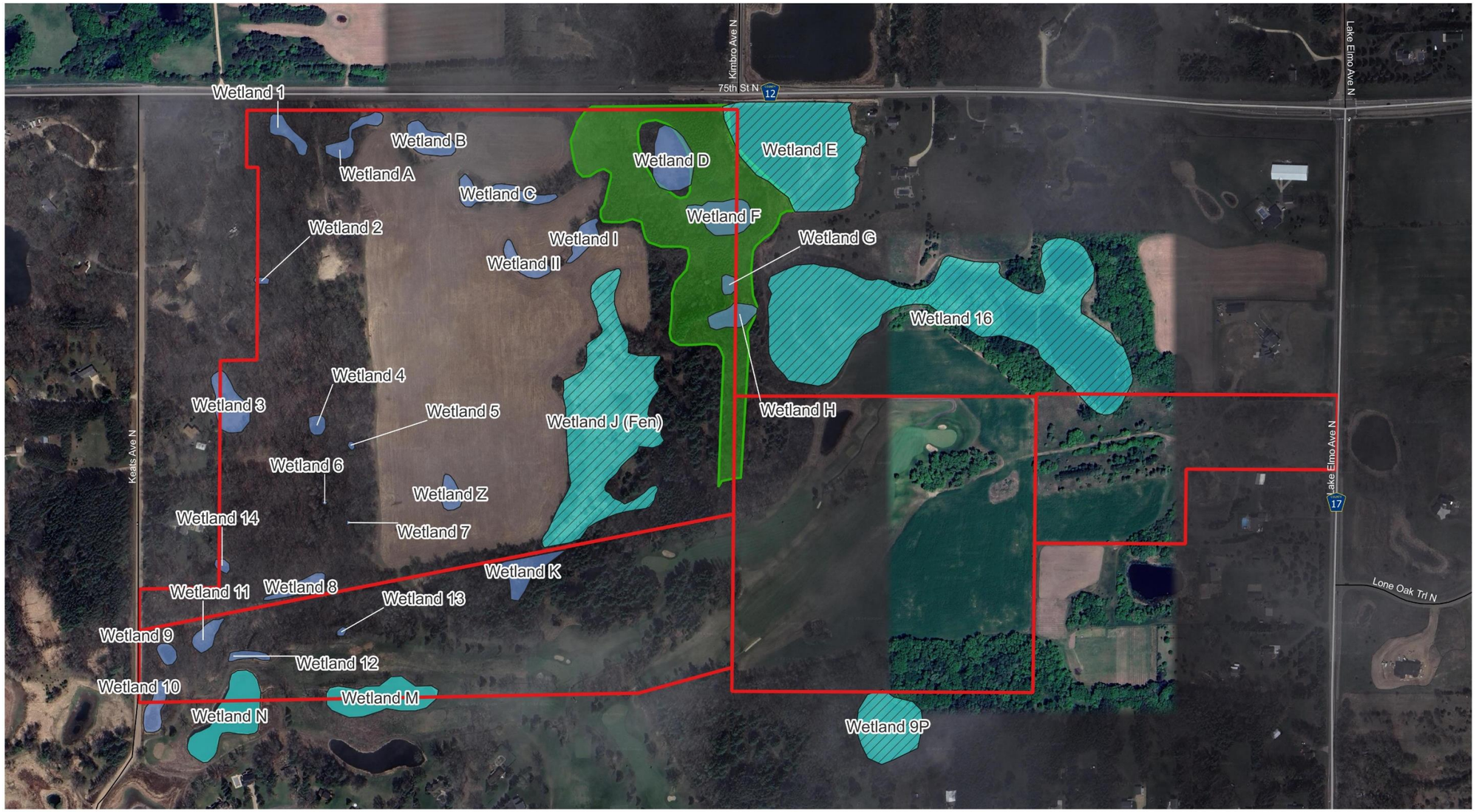


Figure 2 – Site Discharge Points

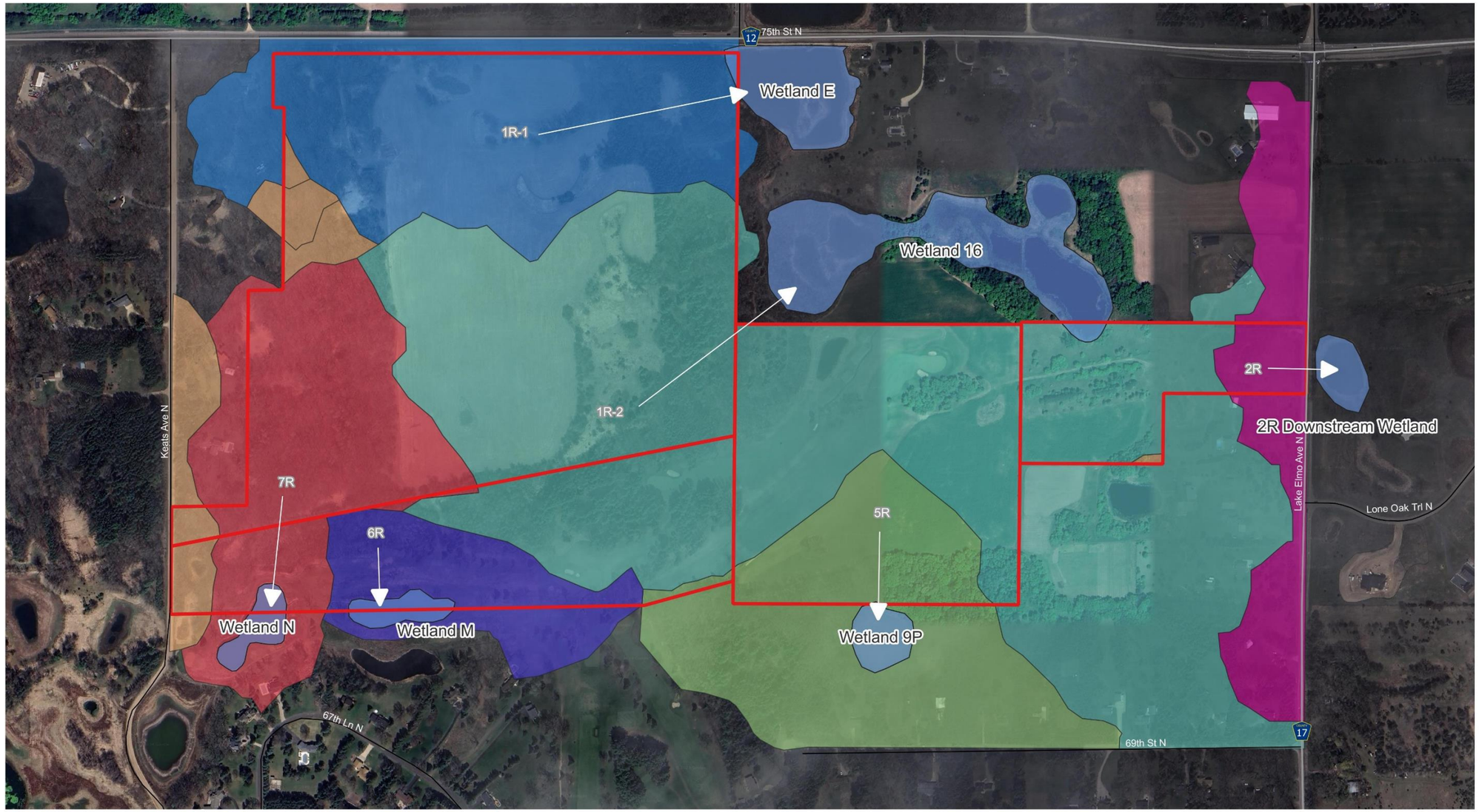


Figure 3 – Site Plan

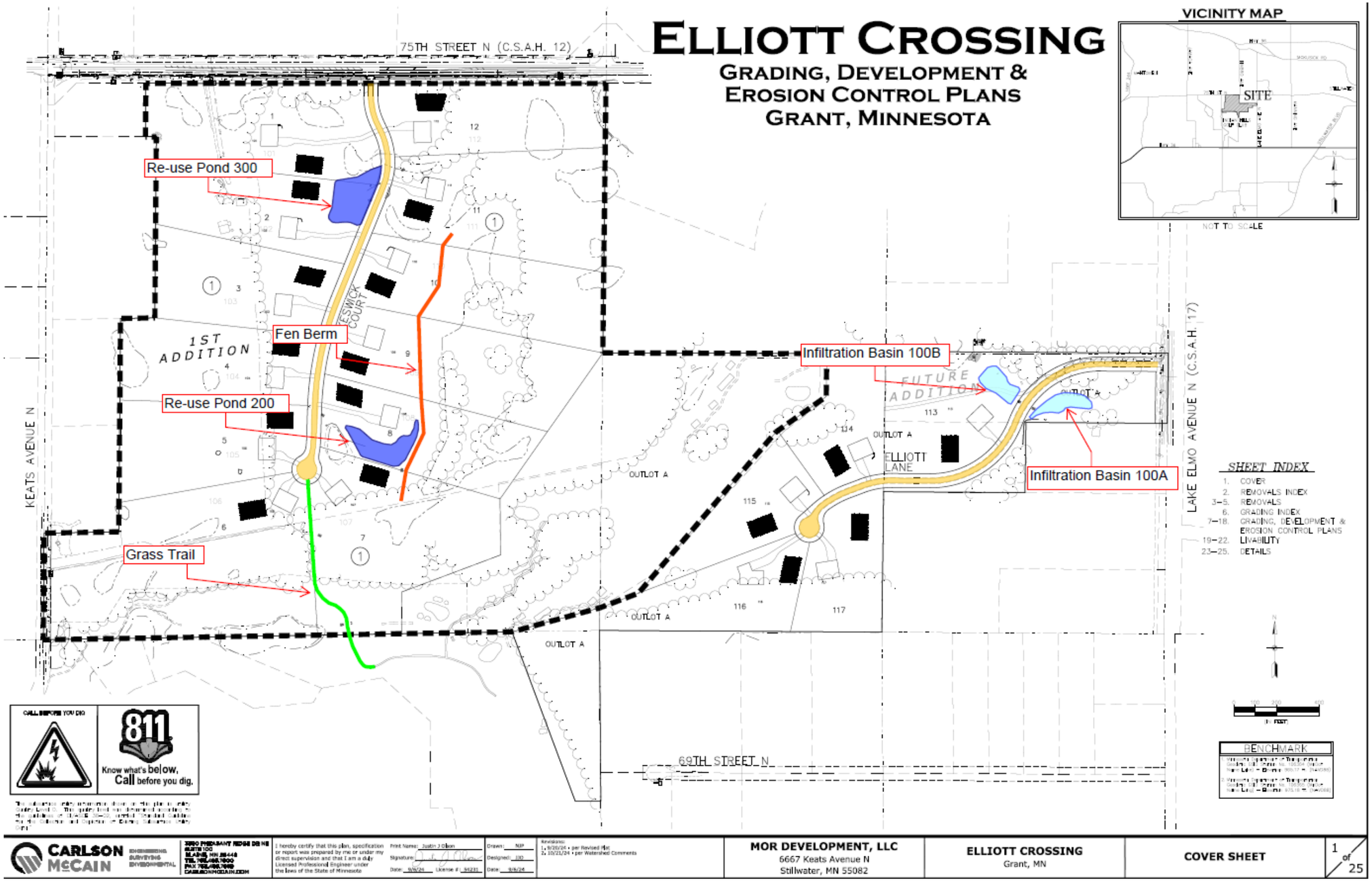


Figure 4 – Irrigation Area (Pond 300)

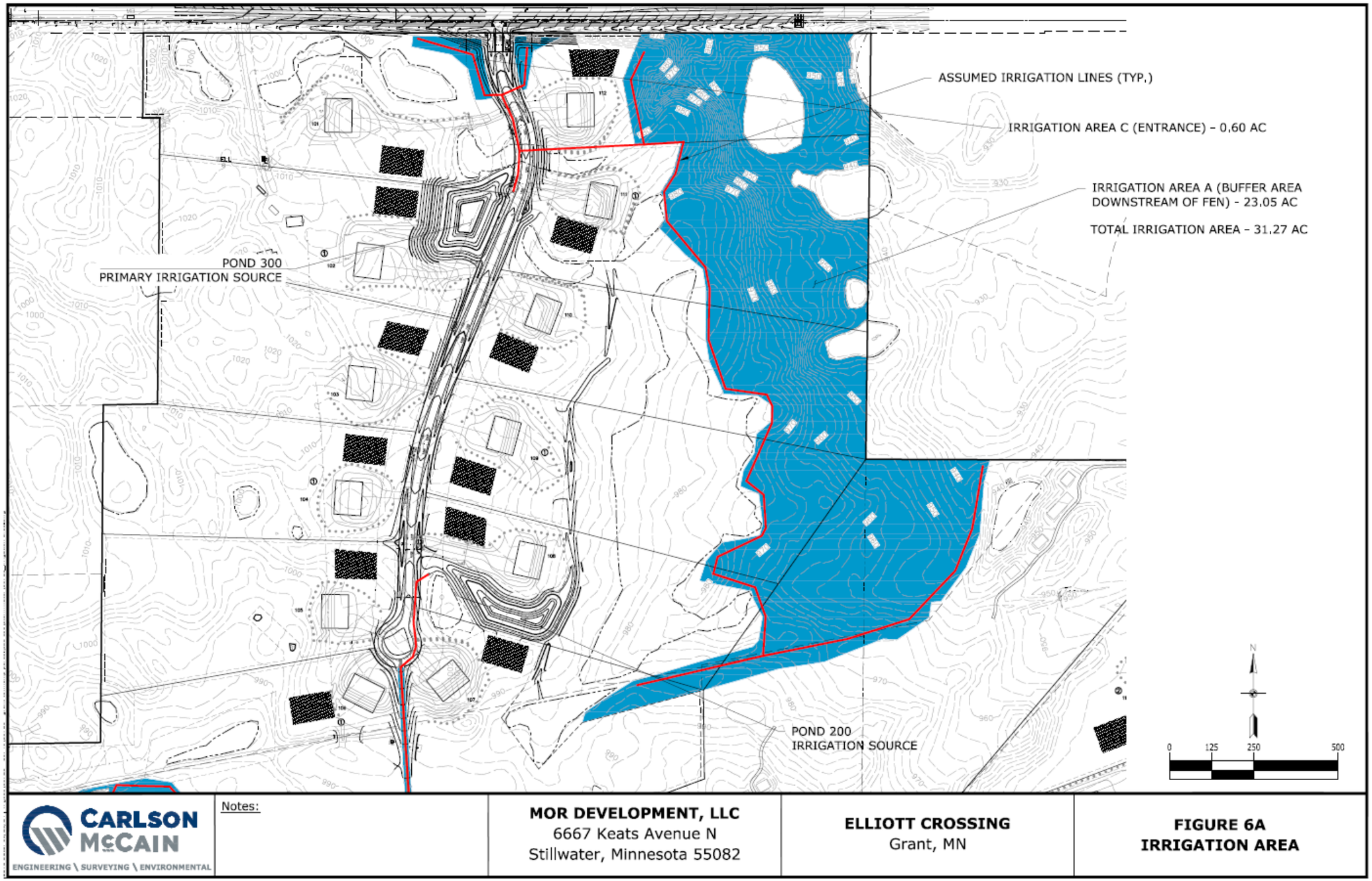
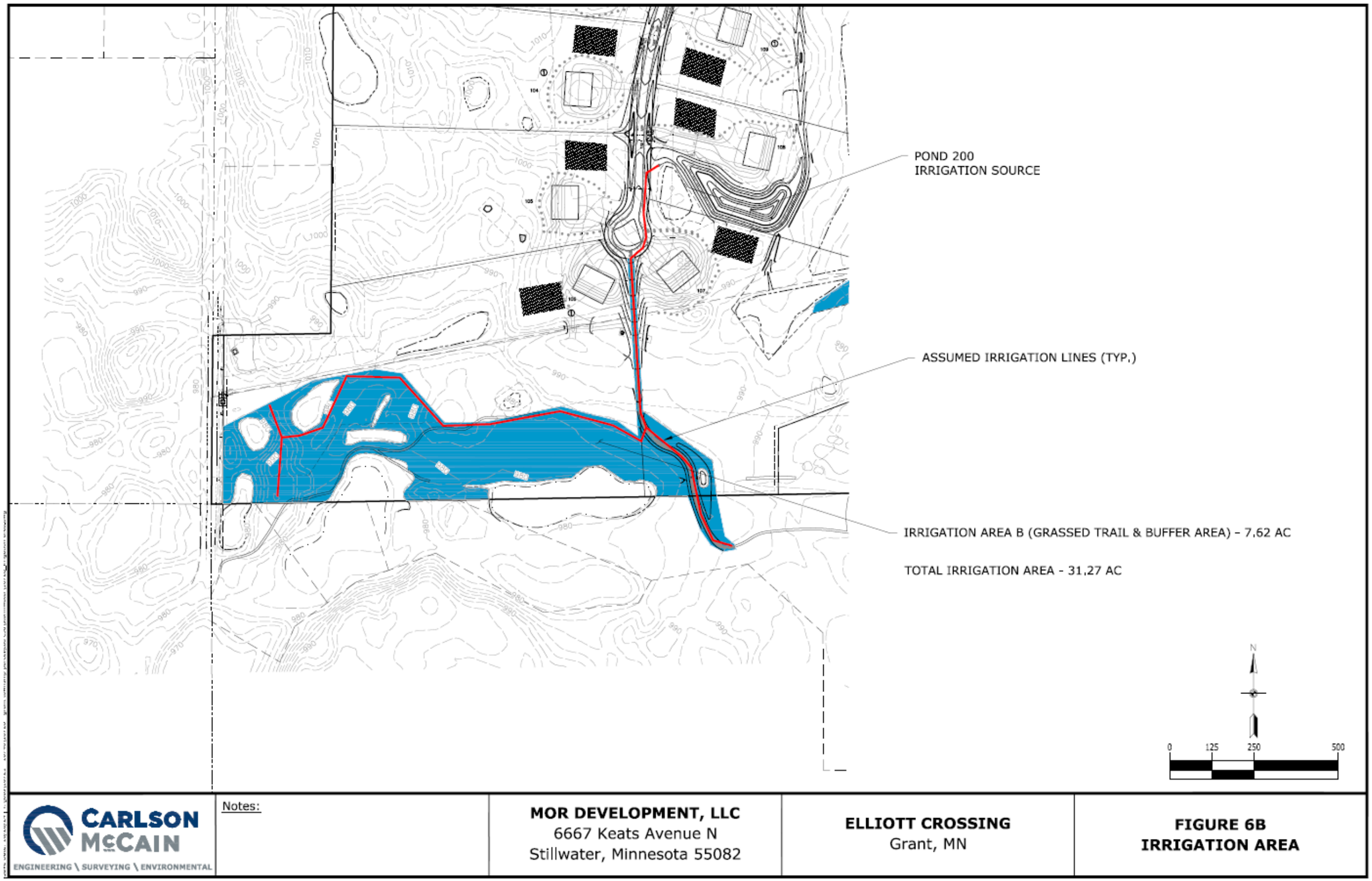


Figure 5 – Irrigation Area (Pond 200)



Rule 2.0—STORMWATER MANAGEMENT

Under 2.2(b) of the rule, the proposed project triggers the application of Rule 2.0 Stormwater Management because the site development will result in 11.3 acres of impervious surface, exceeding the 6,000 square foot threshold for sites within the surface water contributing area of a groundwater-dependent natural resource. Since the proposed activity will disturb more than 50 percent of existing impervious surface (1.0 acres to remain out of 4.6), the stormwater management standards will apply to all impervious surface and disturbed areas on the project site. The site is not within the Diversion Structure Subwatershed, so the stormwater criteria in subsection 2.4.1(a) apply.

The stormwater management plan was designed to treat the maximum amount of impervious surface (including houses, sheds, driveways, pools, etc) for each lot, outlined in Table 1. When homes are constructed on individual lots, they must comply with this maximum impervious amount to be consistent with the design of the development. This impervious does not include the streets built to service the lots, which are included in the stormwater management plan. Additionally, grading of individual lots must be consistent with the development grading plan such that the drainage areas to individual wetlands does not change.

Table 1 – Allowable Impervious per Lot

Lot Number	*Allowable Impervious (ac)*
Block 1, Lot 1	0.43
Block 1, Lot 2	0.34
Block 1, Lot 3	0.29
Block 1, Lot 4	0.35
Block 1, Lot 5	0.34
Block 1, Lot 6	0.32
Block 1, Lot 7	0.32
Block 1, Lot 8	0.44
Block 1, Lot 9	0.47
Block 1, Lot 10	0.27
Block 1, Lot 11	0.30
Block 1, Lot 12	0.27
Block 2, Lot 1	0.34
Block 2, Lot 2	0.35
Block 2, Lot 3	0.34
Block 2, Lot 4	0.52
Block 2, Lot 5	0.34

The stormwater management plan for the project includes the following:

1st Addition

- *Re-use Pond 300*
- *Re-use Pond 200*

The two re-use ponds will provide stored stormwater to be used to irrigate a small, landscaped area at the site entrance along with the wetland buffers. Irrigation areas are shown in Figure 4 and Figure 5. Re-use Pond 300 will irrigate the buffer downstream (east) of the fen while Re-use Pond 200 will irrigate the buffers on the south side of the site around Wetlands M and N. The re-use ponds will be pumped down using an automated system. At an irrigation rate of 0.06 inches/hour (consistent with HSG D soils found in this portion of the site), both ponds can be drained within 48 hours to allow capacity for future storm events and for volume control analysis these ponds were assumed to start empty. The ponds are proposed to be drained at a lower rate to avoid saturation of the soil and runoff from irrigation. This would take longer than 48 hours to drain the ponds from full, depending on the pumping rate. This pumping rate is needed to confirm that the ponds will empty quickly enough to regain storage capacity between storms, such that the assumption of the ponds starting empty for volume control analysis is correct. Therefore, additional detail on the irrigation system is needed and will be required as a condition of permit approval. Specifically, the following must be provided:

- *Proposed pumping rate(s)*
- *Duration of time required to fully drain ponds*
- *Pond water levels that trigger pump operation*
- *Irrigation head velocity*

2nd Addition

- *Infiltration Basin #100A*
- *Infiltration Basin #100B*

Under current conditions, runoff leaves the site at the following discharge points:

- *1R-1 – Discharge to Wetland E, which straddles the site boundary. This drainage area increases from 45.6 acres in existing conditions to 53.8 acres in proposed conditions. It includes the 75th St N turn lanes, a portion of Keswick Court, six proposed single-family home lots, and Re-use Pond 300.*

- *1R-2 – Discharge to Wetland 16, which straddles the site boundary. This drainage area increases from 131.0 acres in existing conditions to 147.5 acres in proposed conditions. It includes the remainder of Keswick Court, Re-use Pond 200, the fen, a portion of the existing golf course holes, Elliott Lane, 10 proposed single-family home lots, Infiltration Basin #100A, and Infiltration Basin #100B.*

- *2R – Discharge east through culvert under Lake Elmo Avenue. This drainage area decreases from 18.0 acres in existing conditions to 0.0 acres in proposed conditions. It includes a small portion of Elliott Lane and offsite drainage from the north and south along the Lake Elmo Ave ditch. This drainage area is instead rerouted through Infiltration Basins #100A and #100B to discharge point 1R-2, with the culvert under Lake Elmo Avenue serving as a secondary overflow.*

- *4R – Discharge west to Wetland 2, which straddles the site boundary. No disturbance is proposed to this drainage area. The vegetation in this drainage area is consistent with pre-settlement conditions (woods). Therefore, no further analysis of this discharge point is needed.*
- *Unnamed – Discharge south to offsite Wetland 12P. No disturbance is proposed to this drainage area. The vegetation in this drainage area is consistent with pre-settlement conditions (grassland/woods mix). Therefore, no further analysis of this discharge point is needed.*
- *Unnamed [5R] – Discharge south to offsite Wetland 9P. This drainage area decreases from 38.9 acres in existing conditions to 35.9 acres in proposed conditions. It includes two proposed single-family home lots. For purposes of this report, this discharge point will be named 5R.*
- *Unnamed [6R] – Discharge south to Wetland M, which straddles the site boundary. This drainage area does not change from existing to proposed conditions. It includes a portion of the proposed trail and a portion of the existing golf course holes. For purposes of this report, this discharge point will be named 6R.*
- *Unnamed [7R] – Discharge south to Wetland N, which straddles the site boundary. This drainage area decreases from 36.2 acres in existing conditions to 32.4 acres in proposed conditions. It includes yard space from three proposed single-family home lots and a portion of the existing golf course holes. For purposes of this report, this discharge point will be named 7R.*
- *Unnamed – Discharge south to Wetland 10, which straddles the site boundary. No disturbance is proposed to this drainage area. The vegetation in this drainage area is consistent with pre-settlement conditions (woods). Therefore, no further analysis of this discharge point is needed.*
- *Unnamed – Discharge west to unnamed offsite depression. No disturbance is proposed to this drainage area. The vegetation in this drainage area is consistent with pre-settlement conditions (woods). Therefore, no further analysis of this discharge point is needed.*
- *Unnamed – Discharge west to offsite depression 32P. No disturbance is proposed to this drainage area. The vegetation in this drainage area is consistent with pre-settlement conditions (woods). Therefore, no further analysis of this discharge point is needed.*

Rate Control

According to BCWD Rule 2.4.1(a)(i), an applicant for a stormwater management permit must demonstrate to the District that the proposed land-altering activity will not increase peak stormwater flow from the site, as compared with the pre-settlement condition, for a 24-hour precipitation event with a return frequency of two, 10 or 100 years for all points where discharges leave a site.

☒ Rule Requirement Met

The stormwater management plan developed for the site was evaluated using a HydroCAD model of pre-settlement and post-development site conditions. A comparison of the modeled peak flow rate is included in Table 2 - Table 5 for the 1st addition only. Disturbance from the 1st addition is routed to discharge points 1R-1, 1R-2, 6R, and 7R.

Table 2 – Peak Discharge Rate – 1R-1

Event	*Pre-settlement Runoff Rate (cfs)*	*Proposed Runoff Rate (cfs)*
2-year (2.80")	15.1	11.6
10-year (4.16")	35.4	31.1
100-year (7.21")	106.7	94.9

Table 3 – Peak Discharge Rate – 1R-2

Event	*Pre-settlement Runoff Rate (cfs)*	*Proposed Runoff Rate (cfs)*
2-year (2.80")	20.2	17.4
10-year (4.16")	49.7	39.5
100-year (7.21")	126.9	111.6

Table 4 – Peak Discharge Rate – 6R

Event	*Pre-settlement Runoff Rate (cfs)*	*Proposed Runoff Rate (cfs)*
2-year (2.80")	13.7	9.9
10-year (4.16")	27.2	19.9
100-year (7.21")	56.2	37.7

Table 5 – Peak Discharge Rate – 7R

Event	*Pre-settlement Runoff Rate (cfs)*	*Proposed Runoff Rate (cfs)*
2-year (2.80")	23.6	21.1
10-year (4.16")	53.7	45.9
100-year (7.21")	117.1	101.8

A comparison of the modeled peak flow rate is included in Table 6 - Table 11 for the full build out. Runoff to discharge points 1R-1, 6R, and 7R do not change from the 1st addition.

Table 6 – Peak Discharge Rate – 1R-1

Event	*Pre-settlement Runoff Rate (cfs)*	*Proposed Runoff Rate (cfs)*
2-year (2.80")	15.1	11.6
10-year (4.16")	35.4	31.1
100-year (7.21")	106.7	94.9

Table 7 – Peak Discharge Rate – 1R-2

Event	*Pre-settlement Runoff Rate (cfs)*	*Proposed Runoff Rate (cfs)*
2-year (2.80”)	20.2	17.0
10-year (4.16”)	49.7	38.6
100-year (7.21”)	126.9	110.8

Table 8 – Peak Discharge Rate – 2R

Event	*Pre-settlement Runoff Rate (cfs)*	*Proposed Runoff Rate (cfs)*
2-year (2.80”)	5.2	0.0
10-year (4.16”)	9.1	2.6
100-year (7.21”)	23.3	14.1

Table 9 – Peak Discharge Rate – 5R

Event	*Pre-settlement Runoff Rate (cfs)*	*Proposed Runoff Rate (cfs)*
2-year (2.80”)	3.1	3.1
10-year (4.16”)	6.2	6.2
100-year (7.21”)	15.5	15.5

Table 10 – Peak Discharge Rate – 6R

Event	*Pre-settlement Runoff Rate (cfs)*	*Proposed Runoff Rate (cfs)*
2-year (2.80”)	13.7	9.9
10-year (4.16”)	27.2	19.9
100-year (7.21”)	56.2	37.7

Table 11 – Peak Discharge Rate – 7R

Event	*Pre-settlement Runoff Rate (cfs)*	*Proposed Runoff Rate (cfs)*
2-year (2.80”)	23.6	21.1
10-year (4.16”)	53.7	45.9
100-year (7.21”)	117.1	101.8

Volume Control

According to BCWD Rule 2.4.1(a)(ii), an applicant for a stormwater management permit must demonstrate to the District that the proposed land-altering activity will not increase stormwater flow volume from all points where discharge leaves the site, as compared with the pre-settlement condition, for a 24-hour precipitation event with a return frequency of two years, or five years within a landlocked basin or a subwatershed draining to a landlocked basin.

☒ Rule Requirement Met

The stormwater management plan developed for the site was evaluated using a HydroCAD model of pre-settlement and post-development site conditions. A comparison of the modeled runoff volume is included in Table 12 and Table 13 for the 1st addition and full buildout, respectively. All discharge points are landlocked, so volumes are compared for the 5-year, 24-hour storm event.

Table 12 – Discharge Volumes – 1st Addition

Discharge Point	*Pre-settlement Runoff Volume (acre-ft)*	*Proposed Runoff Volume (acre-ft)*
1R-1	3.40	3.29
1R-2	5.77	4.53
2R	0.68	0.68
5R	0.64	0.64
6R	2.20	2.15
7R	4.24	3.77

Table 13 – Discharge Volumes – Full Buildout

Discharge Point	*Pre-settlement Runoff Volume (acre-ft)*	*Proposed Runoff Volume (acre-ft)*
1R-1	3.40	3.29
1R-2	5.77	4.64
2R	0.68	0.01
5R	0.64	0.64
6R	2.20	2.15
7R	4.24	3.77

Pollutant Loading

According to BCWD Rule 2.4.1(a)(iii), an applicant for a stormwater management permit must demonstrate to the District that the proposed land-altering activity will not at the downgradient property boundary or to an onsite receiving waterbody or wetland, increase annual phosphorus loading as compared with the pre-development condition.

☒ Rule Requirement Met

The Permit Applicant submitted P8 modeling demonstrating compliance with Rule 2.4.1(a)(iii). The pollutant loading requirement is met for all wetlands and discharge points as demonstrated by the results in Table 14.

The only wetland where loading changes from the 1st addition to full buildout is Wetland 16. For all other wetlands, any drainage areas disturbance will occur either during the 1st addition or the 2nd addition, but not both. Therefore, except for Wetland 16, the 1st addition loading and the full buildout loading are the same and are referred to as "proposed" loading in Table 14.

For Wetland 16, all upstream wetlands have reduced loading during the 1st addition and the direct drainage area does not change size or land cover. Therefore, Wetland 16 will have a reduced loading for the 1st addition without having to explicitly model this loading.

Table 14 –Phosphorus Loading

Wetland / Discharge Point	*Pre-Development Loading (lbs/yr)*	*Proposed Loading (lbs/yr)*
A	5.1	3.0
B	1.9	1.5
C	2.2	0.9
D	8.2	5.3
E (1R-1)	31.2	20.1
F	8.2	5.0
G	No disturbance to land cover + smaller drainage area	
H	No disturbance to land cover + smaller drainage area	
I	3.3	2.1
II	1.0	0.4
J (Fen)	Improvement to land cover (from agricultural field to native buffer) + reduction in drainage area from pre-development	
K	3.1	2.5

Wetland / Discharge Point	*Pre-Development Loading (lbs/yr)*	*Proposed Loading (lbs/yr)*
M (6R)	6.5	5.7
N (7R)	14.5	12.9
Z	1.3	0.9
1	2.2	2.1
2	0.5	0.5
3	1.2	1.2
4	1.5	1.5
5	0.6	0.2
6	Improvement to land cover (from agricultural field to yard) + no change in loading from upstream Wetland 4	
7	0.4	0.2
8	5.6	4.5
9	No disturbance from pre-development to proposed conditions	
10	No disturbance from pre-development to proposed conditions	
11	No disturbance from pre-development to proposed conditions	
12	No disturbance to immediate drainage area + reduction in loading from upstream Wetland 8	
13	No disturbance from pre-development to proposed conditions	
14	No disturbance from pre-development to proposed conditions	
16 (1R-2)	4.7	2.6
9P (5R)	3.6	3.6
2R	3.3	0

Lake/Wetland Bounce

According to BCWD Rule 2.4.1(a)(iv), an applicant for a stormwater management permit must demonstrate to the District that the proposed land-altering activity will not increase the bounce in water level or duration of inundation, for a 24-hour precipitation event with a return frequency of two, 10 or 100 years in the subwatershed in which the site is located, for any downstream lake or wetland beyond the limit specified in Appendix 2.1.

☒ Rule Requirement Met

As mentioned previously, this site discharges to multiple wetlands. A HydroCAD model was provided to demonstrate compliance with Rule 2.4.1(a)(iv). The hydroCAD model was updated to include offsite areas from the BCWD H&H model to accurately assess Wetlands E and 16, and offsite areas from the permit 17-01 hydroCAD model to accurately assess the wetland downstream of discharge point 2R. Table 15 indicates that the wetland bounce requirements are met.

As noted above for pollutant loading, only Wetland 16 has upstream disturbance for both the 1st addition and the full buildout. For the 1st addition interim condition, the runoff volume to Wetland 16 decreases from pre-development conditions for the 2, 10, and 100-year storm events. Therefore, wetland bounce requirements are met for Wetland 16 for the 1st addition. Bounce for all wetlands (including Wetland 16) under full buildout are discussed below.

Individual wetlands are listed below if there is an increase in HWL for any storm event. HWLs for all other wetlands decrease or remain the same as pre-development conditions.

- *Wetland A has increases up to 0.89 feet for all three storm events which is within the allowable 1-foot increase for Manage 2 wetlands.*
- *Wetland K has a 0.01-foot increase in 2-year HWL which is within the allowable 1-foot increase for Manage 2 wetlands.*
- *Wetland M has a 0.03-foot increase in 100-year HWL which is within the allowable 0.5-foot increase for Manage 1 wetlands.*

Table 15 – Downstream Wetland High-Water Levels (ft)

		2-year		*10-year*		*100-year*	
Waterbody	***Management Category***	***Pre-development***	***Proposed***	***Pre-development***	***Proposed***	***Pre-development***	***Proposed***
A	Manage 2	997.95	998.74	998.14	999.03	998.48	999.32
B	Manage 1	996.49	996.14	996.64	996.55	997.07	996.95
D	Manage 1	943.47	943.29	943.77	943.56	944.22	943.95
E	Manage 1	Runoff volume decreases from pre-development conditions, resulting in lower high-water levels					
F	Manage 1	937.09	937.04	937.50	937.28	938.18	937.93
G	Unknown	No disturbance to land cover + smaller drainage area					
H	Unknown	No disturbance to land cover + smaller drainage area					

		2-year		10-year		100-year	
Waterbody	Management Category	Pre-development	Proposed	Pre-development	Proposed	Pre-development	Proposed
K	Manage 2	983.25	983.26	983.56	983.51	984.00	983.86
M	Manage 1	978.43	978.38	979.40	979.36	980.63	980.66
N	Manage 1	976.59	976.36	977.95	977.62	979.29	979.24
Z	Manage 2	999.07	998.87	999.21	999.03	999.42	999.22
1	Unknown	No disturbance from pre-development to proposed conditions					
2	Unknown	No disturbance from pre-development to proposed conditions					
3	Unknown	No disturbance from pre-development to proposed conditions					
4	Manage 1	1,001.14	1,001.13	1,001.30	1,001.27	1,001.51	1,001.47
5	Manage 1	1,004.09	1,003.50	1,004.28	1,004.01	1,004.47	1,004.10
7	Manage 1	993.14	993.06	993.21	993.10	993.30	993.15
8	Manage 1	983.18	983.10	983.49	983.37	983.94	983.78
9	Unknown	No disturbance from pre-development to proposed conditions					
10	Unknown	No disturbance from pre-development to proposed conditions					
11	Unknown	No disturbance from pre-development to proposed conditions					
12	Unknown	No disturbance to immediate drainage area + reduction in runoff volume from upstream Wetland 8					
13	Unknown	No disturbance from pre-development to proposed conditions					
14	Unknown	No disturbance from pre-development to proposed conditions					
16	Preserve	Runoff volume decreases from pre-development conditions, resulting in lower high-water levels					
9P	Manage 1	929.18	929.18	930.09	930.09	932.02	931.61
2R Downstream Wetland	Manage 3	Runoff volume reduced for all storm events					

Table 16 shows results for duration of inundation. For some wetlands, water levels don't reach the outlet elevation. In these cases, time to peak is measured instead of duration of inundation. For these wetlands, HWLs decrease or remain the same as existing conditions for these storms, so the drawdown from the HWL will be less than or equal to existing conditions. Therefore, as long as the time to peak (rising limb of hydrograph) doesn't increase past the limits specified in Appendix 2.1, the duration of inundation will

also meet the criteria. For landlocked wetlands E and 16, a low rate of infiltration was added to the hydroCAD model to simulate the combination of seepage, evaporation, and transpiration that draws the wetland back down to the starting water level. Wetland 16 inundation was measured for both the 1st addition and full buildout.

Individual wetlands are listed below if there is an increase in the duration of inundation for any storm event. The duration of inundation for all other wetlands decreases or remains the same as existing conditions for all storm events.

- *The duration of inundation for Wetland A increases by 1 hour for all storm events which is within the allowable 48 hour increase (2-year storm) and 14-day increase (10, 100-year storms) for Manage 2 wetlands.*
- *The duration of inundation for Wetland D increases by 43 hours for the 100-year storm which is within the allowable 48 hour increase for Manage 1 wetlands for this storm event.*
- *The duration of inundation for Wetland F increases by 41 hours for the 100-year storm which is within the allowable 48 hour increase for Manage 1 wetlands for this storm event.*
- *The duration of inundation for Wetland K increases by up to 28 hours for the 10 and 100-year storm events which is within the allowable 14-day increase for Manage 2 wetlands for this storm event.*
- *The duration of inundation for Wetland M increases by 1 hour for all storm events which is within the allowable 24 hour increase (2-year storm) and 48 hour increase (10, 100-year storms) for Manage 1 wetlands.*
- *The duration of inundation for Wetland N increases by 1 hour for the 100-year storm which is within the allowable 48 hour increase for Manage 1 wetlands for this storm event.*
- *The duration of inundation for Wetland Z increases by 11 hours for the 2-year storm which is within the allowable 48 hour increase for Manage 2 wetlands for this storm event.*
- *The duration of inundation for Wetland 5 increases by 11 hours for the 2-year storm which is within the allowable 24 hour increase for Manage 1 wetlands for this storm event.*

Table 16 – Duration of Inundation (hr)

		2-year		*10-year*		*100-year*	
Waterbody	***Management Category***	***Existing***	***Proposed***	***Existing***	***Proposed***	***Existing***	***Proposed***
A	Manage 2	26	27	26	27	30	31
B	Manage 1	25*	24*	30	30	30	30
D	Manage 1	28	28	28	28	28	71
E	Manage 1	81	71	237	222	669	658
F	Manage 1	32	32	32	32	33	74
G	Unknown	No disturbance to land cover + smaller drainage area					
H	Unknown	No disturbance to land cover + smaller drainage area					
K	Manage 2	26	26	26	46	26	54

		2-year		10-year		100-year	
Waterbody	Management Category	Existing	Proposed	Existing	Proposed	Existing	Proposed
M	Manage 1	25*	26*	25*	27*	37	38
N	Manage 1	25*	25*	25*	25*	48	49
Z	Manage 2	13*	24*	26	25	26	25
1	Unknown	No disturbance from existing to proposed conditions					
2	Unknown	No disturbance from existing to proposed conditions					
3	Unknown	No disturbance from existing to proposed conditions					
4	Manage 1	26	26	26	26	26	26
5	Manage 1	13*	24*	25	24	25	25
7	Manage 1	25	19	25	25	25	25
8	Manage 1	26	26	26	26	27	27
9	Unknown	No disturbance from existing to proposed conditions					
10	Unknown	No disturbance from existing to proposed conditions					
11	Unknown	No disturbance from existing to proposed conditions					
12	Unknown	No disturbance to immediate drainage area + reduction in runoff volume from upstream Wetland 8					
13	Unknown	No disturbance from existing to proposed conditions					
14	Unknown	No disturbance from existing to proposed conditions					
16	Preserve	153	107 / 105^{+}	320	273 / 283^{+}	667	629 / 655^{+}
9P	Manage 1	25*	25*	24*	24*	37*	26*
2R Downstream Wetland	Manage 3	14*	13*	19*	15*	24*	21*

Time to peak measured when waterbody doesn't reach outlet elevation

$^{+}$***First number represents 1st addition, second number represents full buildout***

Infiltration Pretreatment

According to BCWD Rule 2.5.2, surface flows to infiltration facilities must be pretreated for long-term removal of at least 50 percent of sediment loads.

☒ Rule Requirement Met

The project includes two infiltration basins to meet the stormwater requirements (rate, volume and water quality). Therefore, pretreatment is required for runoff directed to these facilities.

All runoff being routed to infiltration basins will first be directed to grassed filter strips (roadside swales). The Permit Applicant submitted Minimal Impact Design Standards modeling demonstrating compliance with Rule 2.5.2. The pretreatment requirement is met as demonstrated by the results in Table 17.

Table 17 – Infiltration Basin Pretreatment

Practice	*TSS Inflow Loading (lb/yr)*	*TSS Outflow Loading (lb/yr)*	*TSS Reduction (%)*
Infiltration Basin #100A	628	146	77
Infiltration Basin #100B	1,050	238	77

Basins in Contributing Area to Groundwater-Dependent Natural Resources

According to BCWD Rule 2.5.3, a stormwater basin within the surface contributing area to a groundwater-dependent natural resource must contain and infiltrate the volume generated by a two-year, 24-hour storm event, if feasible. The basin bottom must be at least three feet above the seasonally high water table, bedrock or other impeding layer. If this infiltration standard is determined to be infeasible, basin outflow must be non-erosive and routed through a subsurface system, flow spreader or other device that discharges water through or across the ground to lower discharge temperature to that of the ambient soil.

☒ Rule Requirement Met

The two infiltration basins drain to Wetland 16, which is a groundwater-dependent natural resource. Both infiltration basins are at least three feet above the high water table (determined from soil borings within each basin footprint). There is a small amount of runoff from Basin #100A which is not infiltrated for the 2-year storm, but this runoff goes directly into Basin #100B which does infiltrate all volume from the 2-year storm. The two re-use ponds are within the surface contributing area to the fen (i.e. infiltration and shallow groundwater in this area would drain to the fen), but surface overflow from the ponds is routed around the fen.

Rule 2.0 Conditions:

2-1. Provide BCWD with the final civil plan set (BCWD 2.7.9).

2-2. Provide the following information related to the stormwater irrigation system.

- Proposed pumping rate(s)
- Duration of time required to fully drain ponds

- Pond water levels that trigger pump operation
- Irrigation head velocity

2-3. Provide a draft stormwater facility maintenance declaration for BCWD approval, then, after approval, provide proof of recordation with Washington County (BCWD 2.6). A template is available under the permit section of the District's website. The maintenance declaration must include the following:
    - Protection of all vegetated areas that must be preserved for irrigation use on the property, and
    - Annual documentation of the volume of water used for irrigation along with the dates during which the irrigation system was active.

2-4. Provide documentation as to the status of a National Pollutant Discharge Elimination System stormwater permit for the project from the Minnesota Pollution Control Agency and provide the storm water pollution prevention plan (BCWD 2.7.15).

Rule 3.0—EROSION CONTROL

All persons undertaking any grading, filling, or other land-altering activities which involve movement of more than fifty (50) cubic yards of earth or removal of vegetative cover on five thousand (5,000) square feet or more of land must submit an erosion control plan to the District, and secure a permit from the District approving the erosion control plan. The proposed project triggers the application of Rule 3.0 Erosion Control because it includes 45.4 acres of land disturbance.

☒ Rule Requirements Met with Conditions

The erosion and sediment control plan includes:

- *Rock construction entrances*
- *Erosion control blanketing on roadside ditches*
- *Bioroll ditch checks*
- *Silt fencing downstream of disturbed areas*
- *Redundant silt fencing upstream of wetlands*
- *Temporary sediment basins*
- *Inlet protection on culvert inlets*
- *Riprap at culvert outfalls*
- *Permanent erosion control (seeding) for all disturbed areas*
- *Construction sequencing notes*

To further protect the fen, a berm will be constructed on the upstream end of the 100-foot buffer around the fen. The berm will be stabilized within 5 days using native vegetation and oats cover crop. A swale on the upstream side of the berm will direct any stormwater around the fen. Orange construction fence will be placed between the berm and the buffer to further establish the limits of construction. The draft SWPPP also includes language that no stockpiling of material is allowed within the drainage area to the fen; the language must be retained in the final SWPPP.

The following conditions must be addressed in the erosion and sediment control plan to comply with the District's requirements:

Rule 3.0 Conditions:

3-1. Provide the most recent seeding exhibit with any changes from the previously submitted materials highlighted.

3-2. Provide the contact information for the erosion and sediment control responsible party during construction once a contractor is selected. Provide the District with contact information for the Erosion Control Supervisor and the construction schedule when available (BCWD 3.3.2).

Rule 4.0—LAKE, STREAM, AND WETLAND BUFFER REQUIREMENTS

According to BCWD Rule 4.2.1, Rule 4.0 applies to land that is (a) adjacent to Brown's Creek; a tributary of Brown's Creek designated as a public water pursuant to Minnesota Statutes section 103G.005, subdivision 15; a lake, as defined in these rules; a wetland one acre or larger; or a groundwater-dependent natural resource; and (b) that has been either (i) subdivided or (ii) subject to a new primary use for which a necessary rezoning, conditional use permit, special-use permit or variance has been approved on or after April 9, 2007, (for wetlands and groundwater-dependent natural resources other than public waters) or January 1, 2000 (for other waters).

☒ Rule Requirements Met

Rule 4.0 applies to the site because it is adjacent to multiple wetlands and the property is being subdivided after April 9, 2007 (triggers Rule 4.2.1(b)). Required buffer widths are outlined in Table 18 for all wetlands larger than one acre and all groundwater-dependent natural resources.

The buffer around Wetland 16 has been extended to include adjacent steep slopes and the buffer around Wetland E has been extended to include the adjacent mapped natural community. Buffer monumentation locations are shown on the plan. The design and signage text were not included in the plan set and therefore must be provided for BCWD review and approval.

Table 18 – Wetland Buffer Distances

Wetland	*Management Class*	*Required Buffer (ft)*
E	Manage 1 (GDNR)	100
J (Fen)	Preserve (GDNR)	100
M	Manage 1	75
N	Manage 1	75
16	Preserve (GDNR)	100
9P	Manage 1 (GDNR)	100

Under Rule 4.4.1, at the time a buffer is created under Rule 4.0, the District may require a planting or landscaping plan to establish adequate native vegetative cover for area that (a) has vegetation composed more than 30 percent of undesirable plant species (including, but not limited to reed canary grass, common buckthorn, purple loosestrife, leafy spurge, bull thistle, or other noxious weeds); or (b) consists more than 10 percent of bare or disturbed soil or turf grass.

The current vegetative condition in the proposed buffers has not been assessed, although review of aerial imagery indicates some portions of the buffer, specifically around the fen, are agricultural field. As a condition of permit approval, the buffer vegetation needs to be analyzed and the project landscaping plan must be modified and approved by BCWD as needed to provide native vegetation cover compliant with subsection 4.4.1.

Rule 4.0 Conditions:

4-1. Revise buffer exhibit for Wetland 9P to a width of 100 feet (currently shown as 75-foot buffer).

4-2. Provide a draft buffer maintenance declaration for BCWD approval, then, after approval, proof of recordation with Washington County (BCWD 4.2.2). A template is available under the permit section of the District's website.

4-3. Provide a buffer sign detail with a design and text approved by District staff in writing (BCWD 4.2.3).

4-4. Conduct an assessment of the proposed buffer area to determine the vegetative composition of undesirable plant species, bare, disturbed soil or turf grass and provide BCWD with a buffer establishment plan for review and approval (BCWD 4.4.1).

Rule 5.0—SHORELINE AND STREAMBANK ALTERATIONS

According to BCWD Rule 5.2, no person may disturb the natural shoreline or streambank partially or wholly below the ordinary high water mark of a waterbody, without first securing a permit from the District.

☐ Rule Not Applicable to Permit. *There are no proposed shoreline or streambank alterations.*

Rule 6.0—WATERCOURSE AND BASIN CROSSINGS

According to Rule 6.2, no person may use the beds of any waterbody within the District for the placement of roads, highways and utilities without first securing a permit from the District.

☐ Rule Not Applicable to Permit. *There are no proposed watercourse or basin crossings.*

Rule 7.0—FLOODPLAIN AND DRAINAGE ALTERATIONS

No person may alter or fill land below the 100-year flood elevation of any waterbody, wetland, or stormwater management basin, or place fill in a landlocked basin, without first obtaining a permit from the District. No person may alter stormwater flows at a property boundary by changing land contours, diverting or obstructing surface or channel flow, or creating a basin outlet, without first obtaining a permit from the District.

☒ Rule Requirements Met

According to BCWD Rule 7.3.1, floodplain filling must be accompanied by a replacement of flood volume between the ordinary water level and the 100-year flood elevation.

There is proposed floodplain fill for Wetland 16 due to the outlet pipe from Infiltration Basin #100B. This fill is offset by floodplain cut at the same location, for a net increase in flood storage of 5 cubic yards.

Table 19 – Floodplain Fill

Wetland	*Floodplain Fill (CY)*	*Floodplain Cut (CY)*	*Net Change in Storage*
16	25	30	+5

According to BCWD rule 7.3.2 all new and reconstructed buildings must be constructed such that the lowest floor is at least two feet above the 100-year high water elevation or one foot above the emergency overflow (EOF) of a constructed basin.

The 100-year high water elevations, EOFs, and lowest adjacent building elevations were evaluated and meet the District's low floor requirement as demonstrated in Table 20.

For lots draining south and west into VBWD, the VBWD engineer has recommended that all low floors and septic systems should be no lower than 987 (2 feet higher than the overflow of Sunnybrook Lake).

Table 20 – Freeboard Requirement Summary

Stormwater Facility / Wetland	*Landlocked?*	*EOF*	*100-Year HWL*	*Lot, Block*	*Allowable Basement Floor*	*Proposed Basement Floor*
A	No	999	999.32	L1B1	1,001.32	1,002.5
B	No	996.70	996.95	L1B1	998.95	1,002.5
C	No	991.5	992.69	L1B1	994.69	1,002.5
D	No	943.00	943.95	L11B1	945.95	989.5
				L12B1		990.5
E	No adjacent structures					
F	No adjacent structures					
G	No adjacent structures					
H	No adjacent structures					
K	No	983.00	983.86	L7B1	985.86	1,001.5
M	No adjacent structures					
N	No adjacent structures					
Z	No	999.00	999.22	L7B1	1,001.22	1,001.5

Stormwater Facility / Wetland	*Landlocked?*	*EOF*	*100-Year HWL*	*Lot, Block*	*Allowable Basement Floor*	*Proposed Basement Floor*
1	No adjacent structures					
2	No adjacent structures					
3	No adjacent structures					
4	No	1,001.00	1,001.47	L3B1	1,003.47	1,009.5
				L4B1		1,007.0
5	No	1,004.00	1,004.10	L4B1	1,006.10	1,007.0
7	No	993.00	993.15	L5B1	995.15	1000.5
				L6B1		999.5
8	No	982.80	983.78	L6B1	985.78	999.5
9	No adjacent structures					
10	No adjacent structures					
11	No adjacent structures					
12	No adjacent structures					
13	No adjacent structures					
14	No adjacent structures					
16	Yes	930.89	926.39	L1B2	929.39	935.5
9P	No adjacent structures					
Pond 300*	No	995.40	995.21	L2B1	996.40	1,007.5
Pond 200*	No	994.0	993.36	L8B1	995.00	996.5
				L7B1		1,001.5
Infiltration Basin #100A*	No adjacent structures					
Infiltration Basin #100B*	No	936.0	933.75	L1B2	935.75	935.8
Unnamed Low Area	No	937.00	936.99	L4B2	938.00	941.5
				L5B2		942.5

Stormwater Facility / Wetland	*Landlocked?*	*EOF*	*100-Year HWL*	*Lot, Block*	*Allowable Basement Floor*	*Proposed Basement Floor*
Unnamed Low Area	Yes	943.10	939.38	L5B2	942.38	942.5
No adjacent waterbodies				L9B1	NA	1,001.5
No adjacent waterbodies				L10B1	NA	995.7
No adjacent waterbodies				L2B2	NA	939.5
No adjacent waterbodies				L3B2	NA	942.5

Stormwater facilities were assumed to start full for calculating freeboard

Under BCWD Rule 7.3.5, the District will issue a permit to alter surface flows under paragraph 7.2 only on a finding that the alteration will not have an unreasonable impact on an upstream or downstream landowner and will not adversely affect flood risk, basin or channel stability, groundwater hydrology, stream baseflow, water quality or aquatic or riparian habitat.

As discussed under Rule 2.0, decreases in runoff volume and decreased duration of inundation from the project result in no increase in flood risk for Wetland 16 or the wetland downstream from discharge point 2R. Likewise, Wetlands M, N, and 9P have a reduction in both bounce and duration of inundation for all events, except for a 0.03-foot increase in HWL for the 100-year storm on Wetland M. This slight increase does not impact freeboard for any nearby homes and is due to changes in flow timing, not an increase in runoff volume.

The hydroCAD model was used to evaluate HWLs and time to peak for offsite depression 5P which has its outlet adjusted under proposed conditions. Table 21 shows that the HWLs and time to peak go down for all events indicating no increased risk of flooding from this depression.

Table 21 – Depression 5P Impact Summary

	2-year		*10-year*		*100-year*	
	Existing	*Proposed*	*Existing*	*Proposed*	*Existing*	*Proposed*
HWL (ft)	927.29	926.50	928.33	927.24	930.05	928.54
Time to peak (hr)	25	24	25	24	25	24

The BCWD engineer analyzed downstream impacts from Wetland E in light of known flooding issues on the Trent property at 10621 75th Street North (downstream from the project). Wetland E, also known as the Kimbro Basin, flooded in 2020 due to historic high groundwater levels. The water level on the wetland peaked at 934.73 and remained elevated long enough for water to seep into the basement (estimated elevation of 932) of the home where their drinking well is located. To address these concerns, BCWD conducted the Kimbro Basin Flood Mitigation Evaluation in fall 2020. This evaluation considered a number of options including pumping water downstream, permanently raising 75th Street, and flood-proofing of the Trent residence. None of these options were pursued further after the completion of this evaluation.

While the analysis above under Rule 2.0 indicates that runoff volume and duration of inundation decrease for Wetland E for the 2, 10, and 100-year, 24-hour storms, additional storm events were considered to assess the situation when Re-use Pond 300 becomes full and no longer provides volume control for this discharge point. The two additional storms considered were the 100-year, 10-day storm event (10.8") and the 100-year, 24-hour back-to-back storm event (14.4"). It takes roughly 4.9 inches of rain (roughly equivalent to the 25-year, 24-hour storm) to fill Re-use Pond 300, so any excess rainfall will not be retained in the pond. The hydroCAD model was used to compare proposed runoff volumes against existing conditions and the BCWD H&H model was used to estimate the footprint of Wetland E for these storm events.

Results are summarized in Table 22 and Table 23. The wetland footprint includes both Wetland E and an adjacent wetland on the north side of 75th Street. These wetlands are connected by submerged culverts under the road and act as one wetland system. For the 100-year, 24-hour back-to-back storm event, the HWL on Wetland E exceeds its natural overflow elevation (935.44) allowing runoff to flow into downstream Wetland 16 as well. Therefore, the footprint for Wetland 16 is included for this storm event and both 1st addition and full buildout are considered to account for the volume control provided by the infiltration basins built during the 2nd addition of the project. Two different starting water levels were considered for both Wetland E and Wetland 16 since the water levels vary significantly with groundwater levels. These water levels were derived from LIDAR flown in November 2011 and May 2022, with water levels in 2022 showing almost a 4-foot increase.

Table 22 – Wetland E Runoff Volumes

Storm Event	*Existing Volume (ac-ft)*	*1st Addition Volume (ac-ft)*	*Full Buildout Volume (ac-ft)*	*Max Increase in Volume (ac-ft)*
100-year, 24-hour	16.15	13.84	13.84	-2.31
100-year, 10-day	28.70	28.56	28.56	-0.14
100-year, 24-hour back-to-back*	115.10	104.36	115.95	0.85

Includes runoff volume from both discharge points 1R-1 and 1R-2

Table 23 – Wetland E HWL Changes

Storm Event	*Starting Water Level (ft)*	*Existing HWL (ft)*	*Wetland Footprint (ac)*	*Change in HWL (ft)*
100-year, 24-hour	926.0	933.52	13.03	-0.18
	929.7	935.05	20.13	-0.11
100-year, 10-day	926.0	930.51	11.12	-0.01
	929.7	932.69	12.44	-0.01
100-year, 24-hour back-to-back	926.0	936.18	28.65*	+0.03
	929.7	936.33	30.71*	+0.03

Includes surface areas of both Wetland E and Wetland 16 at their existing HWLs

The results above indicate that for the 100-year, 10-day storm, 100-year, 24-hour storm, and smaller events, the proposed design will reduce flooding risk for Wetland E. For the 100-year, 24-hour back-to-back event, there will be a 0.03-foot (0.4-inch) increase in the HWL which would pose a slight increase in risk to the Trent property. Given that this event has a low probability of occurring and that the lack of freeboard on the Trent property is an existing condition (i.e. not due to the proposed development), the BCWD Engineer finds that this slight increase in flood risk is reasonable.

There is still some risk if water from the ponds isn't used for irrigation and the ponds fill up. To minimize this risk, the design was adjusted from irrigating lawns to irrigating the wetland buffers. This allows for irrigation to be controlled by the HOA instead of individual homeowners. This also allows for irrigation to start right away once the pond infrastructure is in place instead of waiting for lawns to be established as individual homes are purchased. Annual reporting on the volume of water irrigated with be a requirement of the stormwater maintenance declaration.

Lastly, these same extreme events were considered for discharge point 7R from Wetland N. This wetland overflows through several other wetlands and eventually into landlocked Sunnybrook Lake in VBWD. Sunnybrook Lake has experienced similar flooding issues to Kimbro Basin due to high groundwater levels. Table 24 demonstrates that the runoff from the proposed development will decrease for all events and will not increase flood risk on Sunnybrook Lake. All land disturbance draining to Wetland N will occur in the 1st addition of the project, so there is no difference between the runoff from the 1st addition and full buildout.

Table 24 – Wetland N Runoff Volumes

Storm Event	*Existing Volume (ac-ft)*	*Proposed Volume (ac-ft)*	*Change in Volume (ac-ft)*
100-year, 24-hour	6.94	5.16	-1.78
100-year, 10-day	21.72	18.83	-2.89
100-year, 24-hour back-to-back	37.57	33.54	-4.03

Rule 8.0—FEES

Fees for this project as outlined below:

1. Stormwater management fee $3,300
2. Erosion control fee for grading $2,000
3. Floodplain and drainage alterations fee $500

- **TOTAL FEES** **$5,800**

Rule 9.0—FINANCIAL ASSURANCES

Financial assurances for this project are as outlined below:

1. Grading or Alteration (43.8 acres disturbed x $2,000/acre) $87,600
2. Stormwater Management Facilities (125% of facility cost) TBD

- **TOTAL FINANCIAL ASSURANCES ($5,000 Minimum Performance Financial Assurance) TBD**

The applicant's engineer has not yet provided an estimate of stormwater management facilities cost. The BCWD engineer will review this estimate and use it to determine the required financial assurance.

Rule 9.0 Conditions:

9-1. Estimate of stormwater management facility cost as agreed upon by applicant and BCWD engineer.

Rule 10.0—VARIANCES

According to BCWD Rule 10.0, the Board of Managers may hear requests for variances from the literal provisions of these Rules in instances where their strict enforcement would cause undue hardship because of the circumstances unique to the property under consideration. The Board of Managers may grant variances where it is demonstrated that such action will be keeping with the spirit and intent of these rules. Variance approval may be conditioned on an applicant's preventing or mitigating adverse impacts from the activity.

☒ Rule Not Applicable to Permit. *There are no requested variances.*

RECOMMENDED ACTION: Approve the application as outlined and analyzed above, that follows with the conditions and stipulations stated below, for a three-year term.

RECOMMENDED CONDITIONS:

The following is a summary of the remaining tasks necessary to bring the project into compliance with the BCWD Rules in all respects other than where variances are requested as discussed above:

1. Demonstrate that the plan has received preliminary plat approval (BCWD Rule 1.3a).
2. Demonstrate that the plan has received Wetland Conservation Act approval (BCWD Rule 1.3).
3. Provide the District with documentation that the applicant has authorization to complete work within the right of way of CSAH 12.
4. Address all stormwater management requirements (Conditions 2-1 to 2-4).
5. Address all erosion control requirements (Conditions 3-1 to 3-2).
6. Address all buffer requirements (Conditions 4-1 to 4-4).
7. Address all financial assurance requirements (Condition 9-1).
8. Replenish the Permit fee deposit to $5,800 (BCWD Rule 8.0). BCWD has reviewed seven revisions of the permit applicant materials and has an outstanding permit deposit fee of $30,432. If the permit fee deposit is not replenished within 60 days of receiving notice that such deposit is due, the permit application or permit shall be deemed abandoned and all prior approvals shall be revoked and collection proceedings shall begin on unpaid balances.
9. Provide the required financial assurances (BCWD Rule 9.0):
    a. Total grading or alteration assurance 43.8 acres ($87,600).
    b. Stormwater management facilities assurance (TBD).

STIPULATIONS OF APPROVAL:

1. Note that the permit, if issued, will require that the applicant notify the District in writing at least three business days prior to commencing land disturbance. (BCWD Rule 3.3.1)
2. To ensure that construction is carried out according to the approved plan, provide verification that construction standards have been met for all infiltration basins and pretreatment swales. This includes but is not limited to confirmation that infiltration basin sub-cut reaches soil material reflected in the geotechnical report and that the vegetation establishment procedures have been followed per the landscaping/restoration plan. This can be achieved by scheduling a BCWD inspection during the excavation of the basins, independent geotechnical engineer observation and note of confirmation, or well-documented photographic evidence by the onsite engineer along with collected survey elevations of the basins.
3. Provide the District with As-built record drawings showing that the completed grading and stormwater facilities conform to the grading plan.

Contract Number: 25-01 BCWD

AGREEMENT BETWEEN
WASHINGTON CONSERVATION DISTRICT AND
BROWN'S CREEK WATERSHED DISTRICT

A. PARTIES

This agreement is made and entered into by Washington Conservation District, (WCD), and the Brown's Creek Watershed District (Watershed District).

B. PURPOSE

WHEREAS, the Watershed District has requested assistance from the WCD to implement the policies specified in MINN. STAT. §§ 103A.206, 103B.201 and 103D.201;
WHEREAS, the WCD is authorized to enter agreements to provide such assistance pursuant to MINN. STAT. §§ 103C.331, SUBD. 3 and 7 and 103D.335, subd. 21; and
WHEREAS Minnesota Statutes section 471.59 authorizes the Watershed District and WCD to enter this agreement.

NOW, THEREFORE, the parties agree as follows:

C. TERM OF CONTRACT

The term of this agreement shall be from January 1, 2025 to December 31, 2026, unless extended or terminated earlier as provided herein.

D. SCOPE OF SERVICES

The WCD will perform all services and furnish and deliver work products described in Exhibits A through D, attached to and made part of this agreement.

E. COST

In consideration for services and work products provided under this agreement, the WCD shall charge the Watershed District for its services at the rates set forth in Section F and accompanying exhibits. The total payment under this agreement is **$515,908** in 2025 and **$520,417** in 2026. Total payment for services performed and work product provided under each of the exhibits attached hereto will not exceed the following per-exhibit amounts:

Exhibit	***Service***	***2025***	***2026***
Exhibit A	Administrative Services	$308,000	$326,480
Exhibit B	Best Management Practices Program	$25,534	$26,500
Exhibit C	Water Monitoring Program (labor)	$139,220	$125,876
	Water Monitoring Program (travel)	$12,480	$12,480
	Water Monitoring Program (supplies & equipment)	$1,900	$1,900
	Water Monitoring Program (lab fees)	$23,865	$22,185
Exhibit D	Volunteer Stream Monitoring Program (labor)	$2,233	$2,320
	Volunteer Stream Monitoring Program (expenses)	$2,676	$2,676
TOTALS		**$515,908**	**$520,417**

F. BILLING RATE AND PAYMENTS

1. For 2025 & 2026, the services provided by the WCD in accordance with Exhibit B will be billed on an hourly basis at the following hourly rates, based on personnel and task.

	2025	2026
Seasonal	$48	$50
Technician 1	$69	$72
Technician 1/2	$73	$76
Technician 1/2/Specialist 1	$77	$80
Tech 2/Specialist 1/2	$82	$85
Specialist 1/2/3	$87	$90
Specialist 2/3/4	$92	$96
Specialist 3/4/Engineer	$97	$101
Administrator/Manager	$109	$113

   Invoices for Exhibit B will be sent on a monthly basis and will list specifically the work performed. For services performed and work products provided in accordance with Exhibits A, C, and D, the WCD will bill the Watershed District monthly on a lump sum basis, plus actual direct project and lab expenses. All invoices will list specifically the work performed. Invoices are payable by the Watershed District within 35 days.

2. Office supplies, reproduction expenses, and transportation are included in the hourly rate. Other expenses are to be reimbursed at actual cost.

G. EQUAL EMPLOYMENT OPPORTUNITY- CIVIL RIGHTS

During the performance of this agreement, the WCD agrees to the following:
No person shall, on the grounds of race, color, religion, age, sex, disability, marital status, public assistance, criminal record, creed or national origin, be excluded from full employment rights in, be denied the benefits of, or be otherwise subjected to discrimination under any program, service, or activity under the provisions of and all applicable federal and state laws against discrimination including the Civil Rights Act of 1964.

H. DUTY OF CARE; LEGAL COMPLIANCE

The WCD will perform the services under this agreement with due care and in accordance with national standards of professional care. The WCD shall comply with all applicable Federal and State statutes and regulations as well as local ordinances now in effect or hereafter adopted. Failure to meet the requirements of the above may be cause for cancellation of this agreement.

I. DATA PRACTICES; CONFIDENTIALITY

All data collected, created, received, maintained or disseminated for any purpose by the WCD and the Watershed District pursuant to this Agreement are governed by Minnesota Statutes Chapter 13 (DPA), the Minnesota Rules implementing the DPA and any other applicable state statutes and state rules adopted to implement the DPA, as well as state statutes and federal regulations on data privacy. The WCD agrees to abide by these statutes, rules and regulations and as they may be amended. The WCD further agrees that it will not disclose and will hold in confidence any and all proprietary data and materials owned or possessed by Watershed District and so denominated by Watershed District, subject to the DPA. All records kept by the WCD and Watershed District with respect to the work performed under the agreement will be subject to examination by the representative of each party hereto, except as protected or prohibited by law.

If WCD receives a request for data pursuant to the DPA that may encompass data possesses or has created as a result of this agreement, it will inform the Watershed District immediately and transmit a copy of the request. If the request is addressed to the Watershed District, the WCD will not provide any information or documents, but will direct the inquiry to the Watershed District. If the request is addressed to the WCD, the WCD will be responsible to determine whether it is legally required to respond to the request and otherwise what its legal obligations are, but will notify and consult with the Watershed District and its legal counsel before replying. Nothing in the preceding sentence supersedes the WCD's obligations under this agreement with respect to protection of Watershed District data, property rights in data or confidentiality.

J. AUDITS, REPORTS, AND MONITORING PROCEDURES

The WCD will:

1. Maintain records for six years that reflect all revenues, cost incurred and services provided in the performance of the agreement.
2. Agree that the County, the State Auditor, or legislative authority, or any of their duly authorized representatives at any time during normal business hours, and as often as they may deem reasonably necessary, shall have access to the rights to examine audit, excerpt, and transcribe any books, documents, papers, records, etc., and accounting procedures and practices of the WCD which are relevant to the agreement.

K. INDEMNITY

Neither party to this agreement agrees to be responsible for the acts or omissions of the other, its agents, officials, contractors or employees within the meaning of Minnesota Statutes section 471.59, subdivision 1a. The WCD and Watershed District each will hold harmless, defend and indemnify the other, its officers, board members, employees and agents for any and all damage, liability, cost or claim (including reasonable attorneys' fees) to the extent it is the result of its negligent act or of another action or inaction that is the basis for its liability in law or equity. Each party agrees to provide proof of contractual liability insurance upon request. This paragraph does not constitute a waiver or otherwise diminish any statutory or common law defense, immunity or limit on liability the parties may enjoy as against any third party.

L. INDEPENDENT CONTRACTOR

It is agreed that nothing herein contained is intended or should be construed in any manner as creating or establishing the relationship of co-partners between the parties hereto or as constituting the WCD as the agent, representative, or employee of Watershed District for any purpose or in any manner whatsoever. The WCD is to be and shall remain an independent contractor with respect to the Services.

The WCD represents that it has, or will secure at its own expense, all personnel required in performing services under this agreement. Any and all personnel of the WCD or other person, while engaged in the performance of any work or services required by the WCD under this agreement, shall have no contractual relationship with the Watershed District and shall not be considered employees of the Watershed District.

M. MODIFICATIONS

Any material alteration or variation shall be reduced to writing as an amendment and signed by the parties. Any alteration, modification, or variation deemed not to be material by written agreement of the WCD and the Watershed District shall not require written approval.

N. MERGER

It is understood and agreed that the entire agreement of the parties is contained here, except as modified during the term of the agreement by a writing under Paragraph M above concerning a non-material change, and that this agreement supersedes

oral agreements and negotiations between the parties relating to this subject matter. All items referred to in this agreement are incorporated or attached and deemed to be part of the agreement.

O. TERMINATION

Either the WCD or the Watershed District may terminate this agreement with or without cause by giving the other party thirty (30) days written notice prior to the effective date of such termination. If the Watershed District terminates this agreement, it may specify work to be performed by the WCD before termination is effective and shall pay the WCD for services performed by the WCD up to the time specified for termination. If the WCD terminates the agreement, it will not be compensated for partial completion of a task.

P. OWNERSHIP OF DOCUMENTS AND INTELLECTUAL PROPERTY

All property of the Watershed District used, acquired or created in the performance of work under this agreement, including documents and records of any kind, shall remain the property of the Watershed District. The Watershed District shall have the sole right to use, sell, license, publish, or otherwise disseminate any product developed in whole or in part during the performance of work under this agreement.

Q. APPROVAL AND NON-ASSIGNMENT OF SERVICES; SUBCONTRACTING

The Watershed District shall have the authority to approve or disapprove of the WCD's selection of any individual WCD employee to perform services or provide work product under this agreement. The WCD will not assign, subcontract or transfer any other obligation or interest in this agreement or any of the Services without the written consent of Watershed District and pursuant to any conditions included in that consent. Watershed District consent to the subcontracting specified in Exhibit C or any other subcontracting does not relieve WCD of its responsibility to perform the Services or any part thereof, nor in any respect its warranty, insurance, indemnification, duty to defend or agreement to hold harmless with respect to the services, except that WCD agrees that it will indemnify, defend and hold harmless Watershed District, its board members and agents from any and all actions, costs, damages and liabilities of any nature to the degree they are the result of Subcontractor's negligence or other action or inaction by Subcontractor that is the basis for Subcontractor's liability.

IN TESTIMONY WHEREOF the parties execute this agreement by their duly authorized officers, intending to be legally bound.

Brown's Creek Watershed District

BY: _____
President Date

Washington Conservation District

BY: _____
Manager Date

Approved as to form and execution

_____
Brown's Creek Watershed District counsel

EXHIBIT A
2025-26 SCOPE OF SERVICES

The WCD will provide the following full-time Administrator (as defined herein) and full-time Communications/Project Assistant (as defined herein) services to the Watershed District.

The Watershed District Administrator acts exclusively at the discretion and direction of the Watershed District board of managers in performing and directing the Services and the Watershed District's projects and programs.

Specific duties include:

- With the Board of Managers, develop and adjust goals, programs, policies, projects and priorities to ensure prudent use and management of water and related land resources in the Watershed District. Tasks include: developing and annually revising the Watershed District work plan; managing goal setting, Watershed District projects, and revisions to the watershed management plan adopted in accordance with Minnesota Statutes section 103B.231; drafting the annual report and annual communication report.
- Maintain communications with other watershed districts, governmental organizations, and community leaders to obtain information and learn techniques pertinent to Watershed District operations.
- Manage finances and budget preparation and presentation. Assure continued financial stability and available resources to accomplish operating and long range objectives. Prepare and present monthly financial reports.
- Keep current with pertinent legislation and the availability of grants.
- Coordinate permit applications and project reviews with the Watershed District consulting engineer, district inspector, legal counsel, regulatory agencies, cities, and applicants. Provide Watershed District residents public notice of permit reviews.
- Maintain records and provide information to the public, developers and other governmental agencies.
- Provide leadership to Watershed District committees and the advisory committees.
- Serve as spokesperson and clearly communicate Watershed District mission, policies and activities. Represent the Watershed District at meetings, seminars and committees.
- Prepare board agendas and propose annual schedule of goal setting, budget, annual report, contract renewals, Watershed District projects, and revisions of the watershed management plan. Participate in monthly Board meetings.

The Communications/Project Assistant works under the direction of the District Administrator.

Specific duties include:

- Overall BCWD program support; daily clerical tasks; permit tracking, data management, coordination, and communications; project administration and communications;
- Education and outreach support; educational materials preparation; public assistance;
- Citizen Advisory Committee support; technical report editing and writing;
- Attendance at and preparation of draft minutes of Watershed District meetings;
- GIS mapping support; and
- Other duties as assigned by the District Administrator.

EXHIBIT B
2025-26 SCOPE OF SERVICES
BEST MANAGEMENT PRACTICES PROGRAM

At the request of the BCWD the WCD shall furnish the following services under the terms of the AGREEMENT.

TECHNICAL SERVICES:

TASK 1. Site Reviews

Review of potential best-management practice (BMP) implementation sites. Determine site-specific BMP Program eligibility and priority in accordance with criteria established by the Watershed District board of managers. Discuss BMP alternatives with landowners, and promote implementation of BMPs. Site reviews will result in providing cost-share information and recommendations to the Administrator with respect to eligibility, and priority ranking. Up to two hours of the initial landowner contact will be paid by the Washington County Land and Water Resources technical assistance funding per unique request.

TASK 2. BMP Design and Installation Monitoring (Site Inspections)

Provide BMP design assistance, using WCD technical resources. Provide landowner and the Administrator a concept drawing, initial cost-estimate, final design and final cost estimate after approval of the concept drawings. The WCD will monitor construction activities to verify proper implementation of BMPs.

2025 – 250 Hours @ $77/hour = $19,250/year
2026 – 250 Hours @ $80/hour = $20,000 /year
Task 2 Total = $39,250

TASK 3. Long Term Monitoring

The WCD will provide long term monitoring of installed BMPs. The amount and frequency of monitoring will be as directed by the BCWD Administrator, based on the individual BMP installed.

2025- 40 hours @ $48/hour = $1,920
2026- 40 hours @ $50/hour = $2,000
Task 3 Total = $3,920

TASK 4. 2025-26 BMP Maintenance

The WCD will provide maintenance of installed BMPs.

- Monthly Pretreatment Cleaning of Countryside Auto (April-Oct)= 14 hours/year @ Seasonal rate
- Iron Enhanced Sand Filter: Monthly Surficial Raking (June-Sept) = 16 hours/year @ Seasonal rate
- Purple Loosestrife Treatment along Mendel Wetland = 8 hours/year @ Seasonal rate
- Crew oversight and coordination = 20 hours/year @ Specialist I rate

2025- 38 hours @ $48/hour + 20 hours @ $77/hour= $3,364
2026- 38 hours @ $50/hour + 20 hours @ $80/hour= $3,500
Task 4 Total = $6,864

TASK 5. Inspection Database

The WCD will maintain an online database utilizing a proprietary ESRI ArcGIS Online platform. The database will be for performing and storing data from on-site erosion and sediment control inspections, BMP maintenance inspections, and BMP maintenance activities. WCD has purchased and will continue to administer all necessary licenses for use and maintenance of the database on behalf of Watershed District. Watershed District retains ownership of all necessary licenses for use and maintenance of the database. Watershed District data will be entered into and maintained in the database created and maintained pursuant to this paragraph at the sole and exclusive discretion and direction of the Administrator. Any data designated not-public by the Administrator will be immediately removed from the database created and maintained pursuant to this paragraph, except as necessary for WCD to fulfill

any obligation under the Data Practices Act. Any data removed by or at the direction of the Administrator will be restored only at the direction of the Administrator. For the maintenance of the database, Watershed District will reimburse WCD as follows:

2025 = $1,000
2026 = $1,000
Task 5 Total = $2,000

Totals:

2025 TASKS 1-5: $25,534
2026 TASKS 1-5: $26,500

2025-2026 TOTAL NOT TO EXCEED – TASKS 1-5: $52,034

EXHIBIT C
2025-26 SCOPE OF SERVICES
WATER MONITORING PROGRAM

Monitoring Summary		Labor Cost[1]	Travel/Time/ Mileage Surcharge[2]	Equipment Rental + Capital Equipment[3]	Lab/Outsourcing Cost[4]	Total Cost
Total Lake WQ Monitoring - 2025		$41,269	$0	$0	$10,965	$52,234
Total Lake WQ Monitoring - 2026		$27,925	$0	$0	$9,285	$37,210
Total Lake Gage Monitoring/Year		$5,491	$0	$0	$0	$5,491
Total Stream WQ and/or Discharge Monitoring/Year		$65,364	$11,934	$1,650	$12,500	$91,448
Total Special Stream/Drainage Monitoring/Year		$10,296	$546	$250	$400	$11,492
Monitoring Report		$16,800	$0	$0	$0	$16,800
Total 2025 Monitoring Costs		$139,220	$12,480	$1,900	$23,865	$177,465
Total 2026 Monitoring Costs		$125,876	$12,480	$1,900	$22,185	$162,441
Total 2025-2026 Monitoring Costs		$265,096	$24,960	$3,800	$46,050	$339,906

EXHIBIT D
2025-26 SCOPE OF SERVICES
VOLUNTEER STREAM MONITORING PROGRAM

Under the terms of the AGREEMENT, the WCD shall:

TECHNICAL SERVICES:

TASK 1. Training and training workshops
Coordinate and provide training and training workshops to the volunteer school groups to assure that the sampling is done correctly. Provide up-to-date program standards, manuals, identification resources, and educational materials.

TASK 2. Equipment coordination
Determine equipment needs of volunteer school groups and acquire the needed equipment and bring it to the volunteer school groups as needed.

TASK. Data collection and identification assistance
Coordinate volunteer school groups and assist in data collection during one spring and one fall sampling event per year. Assure that volunteer school groups are following program standards. Assist in identification of macroinvertebrates where needed.

TASK 4. Data management
Manage collected data and add to previously collected data.

TASK 5. Establishing and Maintaining Volunteer Groups
Assist the BCWD in future identification of interested volunteer groups to perform and implement the BCWD volunteer stream-monitoring program.

TASK 6. Site Identification
Coordinate with the BCWD to identify any prospective monitoring sites that may be necessary to fully implement the goals of the BCWD volunteer stream monitoring program.

TASK 7. Miscellaneous Services
Other services requested by the BCWD necessary to implement and carry out the program.

2025 Amount for WCD time: $2,233 (29 hours @ $77/hour)
2025 Estimated amount for equipment, transportation, substitutes: $2,676
TOTAL: $4,909

2026 Amount for WCD time: $2,320 (29 hours @ $80/hour)
2026 Estimated amount for equipment, transportation, substitutes: $2,676
TOTAL: $4,996

2025-2026 TOTAL NOT TO EXCEED: $9,950

BROWN'S CREEK WATERSHED DISTRICT

455 HAYWARD AVE N
OAKDALE, MN
55128

651.330.8220

WWW.BCWD.ORG

MEMORANDUM

TO: Brown's Creek Watershed District Board
FROM: Karen Kill
RE: Biennial Request for Qualifications
DATE: November 13, 2024

Background:
Watershed law requires BCWD to solicit proposals every two years for consulting services. The last request for proposals was for 2023-2024 services at the end of 2022.

Issue:
Requests for qualifications for auditing, accounting, engineering, and legal services for 2025-26 are attached.

Equity Policy compliance: In August 2024, the BCWD board of managers approved a Diversity, Equity, Inclusion and Accessibility Policy, which states:

> *Brown's Creek Watershed District is a special-purpose unit of government established under Minnesota Statutes chapters 103B and 103D to mitigate damage from flooding and improve Brown's Creek and the wetlands, lakes and streams in the watershed. As a public entity working on fundamental water issues that affect everyone in the watershed, BCWD is obligated to ensure its expenditure of tax funds accrues to the benefit of all. In pursuit of this goal, BCWD will ensure diversity, equity, inclusion and accessibility influences its development and implementation its programs and projects, and will work toward addressing current and historical inequities in how land and waters have been managed and improved in the watershed. BCWD will incorporate diverse views in its decision-making, robustly communicate and engage with historically underserved communities, provide equitable access to information and resources, and use social vulnerability and related indices in developing and implementing its programs and projects.*

A recent proposal for maintenance services included the following language that could be used similarly in these proposals:

> *BCWD encourages participation by minority, women, and veteran-owned businesses as prime contractors, and encourages all prime contractors to make a significant commitment to use minority, women, veteran owned and other disadvantaged business entities as subcontractors and suppliers. If applicable, please list any information regarding how these categories of disadvantaged business entities are included in your submission.*

Project Pool: In addition to the baseline consultant engineering services, new for consideration is a separate request for engineering, natural resources design and planning, project management and related services project pool request. The goal is to develop a pool of additional consultants who can provide various additional technical experience and expertise in a variety of areas. This separate solicitation seeks consulting services to supplement and enhance the work of the BCWD engineer. This RFQ seeks to familiarize the BCWD managers and staff with the capabilities and strengths of

various natural-resources consultants in the upper Midwest, and seeks to be consistent with the equity policy recently adopted by BCWD by providing more opportunities for disadvantaged businesses to work with BCWD.

Requested Actions:

1. Provide feedback on equity policy language to be included in the requests for qualificiations for all services.
2. Consider the use of a project pool and give direction.
3. Authorize the Administrator to publish the requests for qualifications on website and a summary/website links in the Stillwater Gazette.
4. Authorize the Administrator to publish the request for engineering qualifications in the State Register.
5. Establish a subcommittee of two Board managers to review all submittals and provide a recommendation for the full Board at the January 2025 Board meeting.

REQUEST FOR QUALIFICATIONS
FOR
ACCOUNTING SERVICES

ISSUED BY
THE BROWN'S CREEK WATERSHED DISTRICT
FOR CALENDAR YEARS 2025-2026

November 17, 2024

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1. Introduction

The Brown's Creek Watershed District (BCWD) is the governmental unit with primary responsibility for protecting the water resources of the Brown's Creek Watershed. The District was established in 1997 under the Minnesota Watershed District Act.

The District covers approximately 18,000 acres that drain into Brown's Creek, which then enters the St. Croix River. The watershed includes Brown's Creek; a DNR designated trout stream and several small tributaries. The watershed includes twelve major lakes and numerous wetlands. The District includes portions of the Cities of Oak Park Heights, Grant, Hugo, Lake Elmo, and Stillwater along with May and Stillwater Townships.

2. Solicitation

Minnesota Statutes, Section 103B.277, Subdivision 5, require BCWD to solicit proposals every two years to provide consulting services. The current accounting services provided to the district include, but are not limited to; 1) preparing monthly checks and financial statements using QuickBooks Accounting software; 2) assist District auditor in preparation of certified audit; 3) preparing other financial reports as the District may require.

3. General Instructions

Firms interested in providing services to BCWD shall submit electronic qualifications. The Brown's Creek Watershed District on or before 3:00 P.M., December 31, 2024, will accept qualification statements.

Submittals should be sent to:

Brown's Creek Watershed District
Attention: Karen Kill
Karen.kill@mnwcd.org

Qualification statements received after this time will not be considered. Prospective responders who have any questions regarding this "Request for Qualifications", may contact Karen Kill, (651) 330-8220 x26.

4. Qualification Statement Content

Firms are requested to include in their qualification statement, the following information in the order listed:

a. A brief summary of the firm's qualifications.

b. Name and phone number of the person designated to answer questions about the qualification statement.

c. A specific list of the individuals who would be assigned to work and manage BCWD projects, their proposed responsibilities, background, years of experience, and their previous experience in servicing watersheds.

d. Fee schedules

e. Submittals may not exceed 10 pages in length. Submittals that exceed 10 pages in length may not be considered.

f. [Equity Policy language]

5. Selection Process

The BCWD Board of Managers anticipates making a decision, within 30 days, based upon the submittals. However, at their discretion, they may choose to conduct interviews after reviewing the proposals.

REQUEST FOR QUALIFICATIONS
FOR
AUDITING SERVICES

ISSUED BY
THE BROWN'S CREEK WATERSHED DISTRICT
FOR CALENDAR YEARS 2025-2026

November 17, 2024

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1. Introduction

The Brown's Creek Watershed District (BCWD) is the governmental unit with primary responsibility for protecting the water resources of the Brown's Creek Watershed. The District was established in 1997 under the Minnesota Watershed District Act.

The District covers approximately 18,000 acres that drain into Brown's Creek, which then enters the St. Croix River. The watershed includes Brown's Creek; a DNR designated trout stream and several small tributaries. The watershed includes twelve major lakes and numerous wetlands. The District includes portions of the Cities of Oak Park Heights, Grant, Hugo, Lake Elmo, and Stillwater along with May and Stillwater Townships.

2. Solicitation

Minnesota Statutes, Section 103B.227, Subdivision 5, require BCWD to solicit proposals every two years to provide consulting services. The current auditing services provided to the district include, but are not limited to; 1) auditing the annual financial statements of the BCWD with the result of these audit to be a certified audit in accordance with generally accepted governmental audit standards.

3. General Instructions

Firms interested in providing services to BCWD shall submit electronic qualifications. The Brown's Creek Watershed District on or before 3:00 P.M., December 31, 2024, will accept qualification statements.

Submittals should be sent to:

Brown's Creek Watershed District
Attention: Karen Kill
Karen.kill@mnwcd.org

Qualification statements received after this time will not be considered. Prospective responders who have any questions regarding this "Request for Qualifications", may contact Karen Kill, (651) 330-8220 x26.

4. Qualification Statement Content

Firms are requested to include in their qualification statement, the following information in the order listed:

a. A brief summary of the firm's qualifications.

b. Name and phone number of the person designated to answer questions about the qualification statement.

c. A specific list of the individuals who would be assigned to work and manage BCWD projects, their proposed responsibilities, background, years of experience, and their previous experience in servicing watersheds.

d. Fee schedules

e. Submittals may not exceed 10 pages in length. Submittals that exceed 10 pages in length may not be considered.

f. [Equity Policy language]

5. Selection Process

The BCWD Board of Managers anticipates making a decision, within 30 days, based upon the submittals. However, at their discretion, they may choose to conduct interviews after reviewing the proposals.

REQUEST FOR QUALIFICATIONS
FOR
LEGAL SERVICES

ISSUED BY
THE BROWN'S CREEK WATERSHED DISTRICT
FOR CALENDAR YEARS 2025-2026

November 17, 2024

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1. Introduction

The Brown's Creek Watershed District (BCWD) is the governmental unit with primary responsibility for protecting the water resources of the Brown's Creek Watershed. The District was established in 1997 under the Minnesota Watershed District Act.

The District covers approximately 18,000 acres that drain into Brown's Creek, which then enters the St. Croix River. The watershed includes Brown's Creek; a DNR designated trout stream and several small tributaries. The watershed includes twelve major lakes and numerous wetlands. The District includes portions of the Cities of Oak Park Heights, Grant, Hugo, Lake Elmo, and Stillwater along with May and Stillwater Townships.

2. Solicitation

Minnesota Statutes, Section 103B.227, Subdivision 5, require BCWD to solicit proposals every two years to provide consulting services. The current legal services provided to the district include, but are not limited to; 1) assistance with the implementation of the approved 2017-2026 watershed management plan and updates, 2) the implementation of a permitting and plan review program and 3) advising managers of legal options for various projects and studies as requested by the managers.

3. General Instructions

Firms interested in providing services to BCWD shall submit electronic qualifications. The Brown's Creek Watershed District on or before 3:00 P.M., December 31, 2024, will accept qualification statements.

Submittals should be sent to:

Brown's Creek Watershed District
Attention: Karen Kill
Karen.kill@mnwcd.org

Qualification statements received after this time will not be considered. Prospective responders who have any questions regarding this "Request for Qualifications", may contact Karen Kill, (651) 330-8220 x26.

4. Qualification Statement Content

Firms are requested to include in their qualification statement, the following information in the order listed:

a. A brief summary of the firm's qualifications.

b. Name and phone number of the person designated to answer questions about the qualification statement.

c. A specific list of the individuals who would be assigned to work and manage BCWD projects, their proposed responsibilities, background, years of experience, and their previous experience in servicing watersheds.

d. Hourly fee schedules by labor category and an estimated monthly blended retainer fee based upon 7 hours of typical services per month.

e. Submittals may not exceed 10 pages in length. Submittals that exceed 10 pages in length may not be considered.

f. [Equity Policy language]

5. Selection Process

Because the BCWD is charged with managing a DNR Designated Trout Stream and many other unique resources, selection will emphasize criteria that indicate a firm's experience and knowledge of integrated resource management approaches to watershed management.

Qualification statements will be evaluated by the Board of Managers and ranked based on the following criteria:

1. Experience with watershed management organization law.

2. Ability to work with the public, regulatory agencies (including DNR) and other stakeholders and the ability to communicate effectively with the BCWD Board of Managers, Watershed District Engineer and SWCD staff.

3. Permitting, plan review and environmental assessment experience.

4. Locally based firm with the ability to respond to emergency situations in the watershed or situations that would require immediate attention.

5. Experience with watershed management organizations within the metropolitan area.

6. The BCWD Board of Managers anticipates making a decision, within 30 days, based upon the submittals. However, at their discretion, they may choose to conduct interviews after reviewing the proposals.

REQUEST FOR QUALIFICATIONS
FOR
ENGINEERING CONSULTING SERVICES
ISSUED BY
THE BROWN'S CREEK WATERSHED DISTRICT
FOR CALENDAR YEARS 2024-2025

November 17, 2024

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1. Introduction

The Brown's Creek Watershed District (BCWD) is the governmental unit with primary responsibility for protecting the water resources of the Brown's Creek Watershed. The District was established in 1997 under the Minnesota Watershed District Act.

The District covers approximately 18,000 acres that drain into Brown's Creek, which then enters the St. Croix River. The watershed includes Brown's Creek; a DNR designated trout stream and several small tributaries. The watershed includes twelve major lakes and numerous wetlands. The District includes portions of the Cities of Oak Park Heights, Grant, Hugo, Lake Elmo, and Stillwater along with May and Stillwater Townships.

2. Solicitation

Minnesota Statutes, Section 103B.227, Subdivision 5, require BCWD to solicit proposals every two years to provide consulting services. The current engineering consulting services include, but are not limited to; 1) assistance with the implementation of the approved 2017-2026 watershed management plan and updated 2026-2035 plan, 2) assistance with a rule revision process, 3) the implementation of a permitting and plan review program and, 4) advising managers of technical options and various projects and studies as requested by the managers.

3. General Instructions

Firms interested in providing services to BCWD shall submit electronic qualifications. The Brown's Creek Watershed District on or before 3:00 P.M., December 31, 2024, will accept qualification statements.

Submittals should be sent to: Brown's Creek Watershed District
Attention: Karen Kill
Karen.kill@mnwcd.org

Qualification statements received after this time will not be considered. Prospective responders who have any questions regarding this "Request for Qualifications", may contact Karen Kill, (651) 330-8220 x26.

4. Qualification Statement Content

Firms are requested to include in their qualification statement, the following information in the order listed:

a. A brief summary of the firm's qualifications.

b. Name and phone number of the person designated to answer questions about the qualification statement.

c. A specific list of the individuals who would be assigned to work and manage BCWD projects, their proposed responsibilities, technical background, years of experience, and their previous experience in servicing watersheds.

d. Hourly fee schedules by labor category and an estimated monthly blended retainer fee based upon 66 hours of typical services.

e. Submittals may not exceed 10 pages in length. Submittals that exceed 10 pages in length may not be considered.

f. [Equity policy language]

5. Selection Process

Because the BCWD is charged with managing a DNR Designated Trout Stream and many other unique resources, selection will emphasize criteria that indicate a firm's experience and knowledge of integrated resource management approaches to watershed management.

Qualification statements will be evaluated by the Board of Managers and ranked based on the following criteria:

1. Experience with watershed management organizations within the metropolitan area.

2. Experience with innovative and alternative watershed management approaches that integrate water resources engineering with natural resource management.

3. Engineering design and timely construction management and inspection.

4. Locally based firm with the ability to respond to emergency situations in the watershed or situations that would require immediate attention.

5. Ability to work with the public, regulatory agencies (including DNR) and other stakeholders and the ability to communicate effectively with the BCWD Board of Managers, Watershed District Attorney and SWCD staff.

7. Permitting, plan review and environmental assessment experience.

8. Interdisciplinary group of water resources professionals that can provide full range of services to the watershed (i.e., surface water, ground water, natural resources, water quality, engineering, etc.)

9. The BCWD Board of Managers anticipates making a decision, within 30 days, based upon the submittals. However, at their discretion, they may choose to conduct interviews after reviewing the proposals.

Request for qualifications for engineering, natural resources design and planning, project management and related services
Project Pool

Brown's Creek Watershed District

1. Introduction
Brown's Creek Watershed District is the governmental unit with primary responsibility for protecting water resources and reducing risks of flooding in the Brown's Creek watershed. BCWD is a regional unit of government, with purposes and powers under Minnesota Statutes chapters 103B (the Metropolitan Surace Water Management Act) and 103D (the Watershed Law).

BCWD's jurisdiction is approximately 18,000 acres that drain into Brown's Creek, which is tributary to the St. Croix River. The watershed includes Brown's Creek, a state-designated trout stream, and several small tributaries. The watershed has 12 major lakes and numerous wetlands. The watershed is entirely within Washington County, and includes portions of the cities of Oak Park Heights, Grant, Hugo, Lake Elmo and Stillwater, and parts of May Township and Stillwater Township.

2. Solicitation
BCWD is presently soliciting proposals for baseline consulting-engineer services (attendance at board meetings; day-to-day advising on regulatory, project-management and other matters; permit review) in accordance with Minnesota Statutes section 103B.227, subdivision 5. Separately and at the same time, BCWD is seeking to develop a pool of additional consultants who can provide various additional technical experience and expertise in a variety of areas: water-resource project design, flood-risk mitigation, project-implementation oversight, [OTHERS?]. This separate solicitation seeks consulting services to supplement and enhance the work of the BCWD engineer. BCWD anticipates drawing on the pool of engineering and natural-resources expertise developed through this RFQ for specific projects in coming years. For example, BCWD would solicit proposals from its pool of consultants to address a particular resource concern that the district has identified. This RFQ seeks to familiarize the BCWD managers and staff with the capabilities and strengths of various natural-resources consultants in the upper Midwest.

Commented [KK1]: Would those that send in larger baseline proposal be automatically considered for the pool too or do they have to submit both?

Commented [KK2]: Leave open to project by project determination if using pool or baseline consulting, or does the board of managers wish to set a threshold, or will it be used for all projects?

3. Instructions
Firms interested in providing services to BCWD should electronically submit a brief statement of interest and qualifications on or before 3:00 P.M., December 31, 2024. Submittals should be sent to:

Brown's Creek Watershed District
455 Hayward Ave N
Oakdale, MN 55128
Attention: Karen Kill, Karen.kill@mnwcd.org

Beyond the brief statement of interest, submissions should include brief statements of areas of expertise and experience, information on key personnel and past projects that exemplify the kinds of services the consultant could provide to BCWD. Submittals may not exceed 10 pages.

BCWD encourages participation by minority, women, and veteran-owned businesses as prime contractors, and encourages all prime contractors to make a significant commitment to use minority, women, veteran owned and other disadvantaged business entities as subcontractors and suppliers. If applicable, please list any information regarding how these categories of disadvantaged business entities are included in your submission.

Commented [KK3]: This was language used for CIP maintenance request for proposals…include something consistent with DEIA policy and ask for information on how their mission matches?

Prospective respondents are encouraged to contact Karen Kill at 651-330-8220, ext. 26, to discuss BCWD's interests and this RFQ.

Project Name |	Brown's Creek Watershed District Watershed Management Plan Update	**Date** |	11-06-2024
To / Contact info |	BCWD Board of Managers		
Cc / Contact info |	Karen Kill, BCWD		
From / Contact info |	Camilla Correll, EOR		
Regarding |	Issue Update – Lake Management, Ecological Health, Land Conservation		

Background

To complete the Watershed Management Plan (WMP) Update, staff are reviewing Issues with watershed partners (Citizen Advisory Committee and Technical Advisory Committee), and reviewing plans and work completed over the past 10 years to identify updates to the Issues, Goals, and Implementation Actions that will guide the next 10 years of work. Since the last WMP Update to the Board in September 2024, the project team has advanced work in the following ways.

- **Citizen Advisory Committee Meeting – October 14th, 2024**
  Staff met with the CAC to gather input on the Issues of Ecological Health and Land Conservation. *Minutes from the CAC meeting are included as an attachment to this memo.*
- **Technical Advisory Committee Meeting – October 22nd, 2024**
  Staff met with the TAC to gather input on the Issues of Lake Management and Wetland Management. *Minutes from the TAC meeting are included as an attachment to this memo.*
- **Internal Issue Review – October , 2024**
  EOR staff conducted an internal review of Lake Management and Ecological Health, consulting with staff involved in planning and implementation projects relevant to these Issues.
- **Issue Review Session – November 5th, 2024**
  Staff met internally to review the updates to Lake Management, Ecological Health, and Land Consservation in advance of the November 13th, 2024 Board meeting. *A copy of the redlined WMP Update reflecting proposed changes to the Plan is included as an attachment to this memo, see Sections 3.4, 3.8, and 3.13.*

Submittal Materials / Instructions

As a reminder, we will be reviewing the following issue categories at the November Board meeting:

- Lake Management
- Ecological Health
- Land Conservation

Discussion of Wetland Management will be deferred to the December 11th Board meeting to align with a forthcoming presentation from EOR with additional relevant information pertaining to recently completed wetland inventorying.

Attached to this memorandum, you will find the following materials which we are asking you to review in advance of next week's Board meeting:

1. **Lake Management** (Track Changes version) – Review the *General Issue Statement, Relevance to the District, Sub-Issue Areas,* and *Policies and Goals*. *You may review the Implementation Items as well, however these will not be the focus of the conversation.*
2. **Ecological Health** (Track Changes version) – Same comments as above.
3. **Land Conservation** (Track Changes version)– Same comments as above.
4. **Lake Management** (Clean version)
5. **Ecological Health** (Clean version)
6. **Land Conservation** (Clean version)

For next week's discussion, we are asking the Board if they are comfortable with the content developed to date. This content is still subject to change and may be modified based on what we learn over the coming months. We are looking for you to tell us if the changes made to the document are in line with what you think the BCWD should be doing for the next 10 years. With this in mind, please think about the following questions as you review each of these documents:

- **What do you like about this content?**
- **What concerns do you have with the content?**
- **What doesn't make sense? Where would you like more education on a topic or aspect of this issue?**

Be prepared – We will ask you to answer these questions during our meeting.

Areas of Board of Manager Decision

As stated above, the revised sections of the Plan are provided for initial review and reaction to understand whether new directions for these Issues align with the Board's comfort level. As the WMP Update progresses to review other Issues, interrelationships between Issues may result in changes to the Issues presented. The Board will have further opportunity to refine and sign-off on the characterization of these Issues.

We ask that the Board review the three Issue sections of Lake Management, Ecological Health, and Land Conservation to provide input and direction on:

- General Issue Statement
- Relevance to the District
- Sub-Issue Areas
- Policies
- Goals

minutes

Project Name |	Brown's Creek Watershed District (BCWD) Watershed Management Plan Update	**Date** |	10-14-2024
Meeting Location |	Stillwater Public Library		
Regarding |	Watershed Management Plan Update; Land Conservation and Ecological Health		
Attendee(s) + Info. |	CAC – Anne Maule-Miller, George Vania, Yihong Gao, Sandy Noreen-Ruben, Board Liaison - Celia Wirth District Staff – Karen Kill, Cameron Blake, Camilla Correll (EOR), Alexander Furneaux (EOR)		
Recorded By |	Alexander Furneaux, EOR		

Meeting Overview

EOR staff attended the Community Advisory Committee (CAC) meeting to lead a discussion on two issues being revised as part of the BCWD Watershed Management Plan (WMP) update. Alexander provided a summary of Plan progress input received from the TAC on the Issues of Stormwater Management and Stream Management. Alexander noted that the BCWD Board provided initial comments on the Issues discussed with the CAC and TAC in August. EOR also shared the approach to considering climate change impacts and DEI in the planning process. The remainder of the meeting was used to discuss two Issue categories "Land Conservation" and "Ecological Health".

CAC members were asked to identify concerns/threats, management strategies, monitoring opportunities, and engagement opportunities associated with these Issues. Of importance was understanding how these Issues are evolving and what updates are required to ensure the relevance of the Issue for the coming 10 years.

Discussion

The following summary of the meeting discussion includes input received from the CAC during the meeting, input on these Issues received following the meeting (if any), and input on the Issue received through prior engagement as part of the Watershed Management Plan Update.

This input is summarized in **Table 1** and **Table 2** and separated by content discussed that is Within the Plan Currently[1], New to the Update, or Out of Scope of the District's authority (if applicable).

Information from these tables will be used to update the following subsections of the Issue Statements in the Plan in the following ways:

- **Concerns/Threats –** Informs potential updates to the General Issue Statement (3.X.1), Relevance to the District (3.X.2), and Sub-Issue Areas (3.X.3).
- **Management Strategies –** Informs potential Goals (new or updated).
- **Monitoring Opportunities -** Informs potential Implementation Items (new or updated).

[1] This refers to content within the Plan currently that was discussed by CAC members. More content on the Issue is available but was not referenced by participants.

- **Engagement Opportunities –** Informs potential Implementation Items (new or updated).

Prior to the small group discussion, EOR shared revisions to the Ecological Health Issue Statement and Relevance to the District. The group agreed that characterizing the issue as a watershed health issue and speaking to the ecosystem services of upland areas was an important revision to this section of the Plan. The CAC was supportive of the changes presented at the meeting.

Table 1. Land Conservation

	Concerns/Threats	Management Strategies	Monitoring Opportunities	Engagement Opportunities
Within the Plan Currently	• Habitat loss/fragmentation. • Loss of groundwater recharge zones. • Climate change.	• Standards for development near/within land protection corridors. • Prairie, wetland, and woodland restoration. • Buckthorn and invasive species management.	• January 2017 BCWD Conservation Easement Baseline Report. • Bird and plant species sampling/surveying. • Unique Species Inventory. • Continue to measure stream flows to understand if the water is cold enough at the Conservation Easement to support trout and other cold-water dependent species. • Trail camera capturing mammal species mostly. Macroinvertebrate sampling	• Collaboration with partners to protect land. • CAC and community stewardship.
New to the Update	• DEI in this Issue should read "Equitable access *and protection* to land and natural resources" • More new development and subdivision potential as agriculture in the area decreases. • People who want to put their properties into conservation easement when they pass away but don't formalize it. Inheritors selling the land against their family's wishes.	• Developing tree preservation goals with municipalities. • Consider developing an incentive program for native plantings along shorelines. • Engagement with homeowners who live next to the Conservation Easement. • Encouraging native planting as an adaptation strategy to more extreme wet/dry conditions. • Where possible conserve land without having to purchase the property, help people understand what they can do themselves on their property.	•	• Relationship building between BCWD and community, and BCWD as a facilitator of connecting the community with other resources. E.g: ○ BCWD working with people to get them to participate in entering an easement (newsletter, neighbor outreach). ○ BCWD connecting people to representatives at the County and Minnesota Land Trust. • Engagement at the Conservation Easement. Discussion of extent to which BCWD opens the Conservation Easement to broader public

				access. Also discussed during the August meeting. ○ Add "Who to contact" portion to the property sign if people want a tour. ○ Consider a geocaching event on the property, locations show comparison between now and past. ○ Tie-in to *Recreation* with opportunities for tours with organization (e.g. scouts) to learn about conservation activities. ○ Consider *Recreation* potential of squirrel hunting, recognized as a practice in the area. ○ Engage Conservation Easement neighbors to collaborate on the management of the area (Nature Conservancy model), protect land without having to buy it all

Table 2. Ecological Health

	Concerns/Threats	Management Strategies	Monitoring Opportunities	Engagement Opportunities
Within the Plan Currently	• Degraded fisheries. • Aquatic and terrestrial invasive species (AIS & TIS). • Lack of understanding of ecosystem services. ○ CAC noted it would be helpful to have a graphic in the plan conveying interrelated elements contributing to a healthy watershed. • Climate change. • Habitat fragmentation.	• Native plant preservation and restoration. • Cost-sharing invasive species management where there is water quality benefit. • Upland management.	• Bird and plant species sampling/surveying • TSS monitoring • Pollutant loading monitoring • Unique Species Inventory • Routine monitoring of fish in lakes and streams, increased frequency would be a value-add.	• Invasive species management *Education and Outreach* • Collaboration on vegetation maintenance practices • Citizen amphibian and reptile survey
New to the Update	• DEI in this Issue should read "Equitable access *and protection* to clean water" • People releasing pets (e.g. bullfrogs and goldfish) into water resources, e.g Long Lake. • "Unique features" currently captures trails and scenic areas, compared to biological unique areas (Section 1.2.6.)	• How to wean people off seeing BCWD as the "doer" so that people take action on their own/assume the actions BCWD undertakes.	• Fish surveys on lakes and ponds conducted when Lake Management Plan developed	• How do we define "Ecological Health"; what ways the district help convey the components of a healthy watershed. • *Education and Outreach*, invasive species information on the website • Sharing stories of what is being monitored, what needs improvement, and how landowners can contribute to these improvements on their properties. Could include attending township board meetings to share these stories. • *Education and Outreach*, work with the Gateway Trail Association along the trail. • Ongoing discussion of increasing name recognition, how the BCWD should engage renters, businesses, etc…

				• *Education and Outreach*, connecting with more diverse audiences.

minutes

Project Name |	Brown's Creek Watershed District (BCWD) Watershed Management Plan Update	**Date** |	10-22-2024
Meeting Location |	Washington County Conservation District Office		
Regarding |	Watershed Management Plan Update; Lake Management; Wetland Management		
Attendee(s) + Info. ***Full attendance in Appendix A*** |	TAC Members CAC Members District Staff and Consultants		
Recorded By |	Alexander Furneaux, EOR		

Meeting Overview

EOR staff attended the Technical Advisory Committee (TAC) meeting to lead a discussion on two Issues that will be revised as part of the BCWD Watershed Management Plan (WMP) update. Camilla and Alexander provided a summary of the work completed since the TAC last met, including updating them on the CAC and Board meetings, and the list of Issues to be discussed with the TAC. EOR also shared the approach to considering climate change impacts and DEI in the planning process. The remainder of the meeting was used to discuss two Issue categories "Lake Management" and "Wetland Management".

TAC members were asked to identify concerns/threats, management strategies, monitoring opportunities, and engagement opportunities associated with these Issues. Of importance was understanding how these Issues are evolving and what updates are required to ensure the relevance of the Issue for the coming 10 years.

Discussion

The following summary of the meeting discussion includes input received from the TAC during the meeting, input on these Issues received following the meeting (if any), and input on the Issue received through prior engagement as part of the Watershed Management Plan Update.

This input is summarized in **Table 1** and **Table 2.** Information from these tables will be used to update the following subsections of the Issue Statements in the Plan in the following ways:

- **Concerns/Threats –** Informs potential updates to the General Issue Statement (3.X.1), Relevance to the District (3.X.2), and Sub-Issue Areas (3.X.3).
- **Management Strategies –** Informs potential Goals (new or updated).
- **Monitoring Opportunities -** Informs potential Implementation Items (new or updated).
- **Engagement Opportunities –** Informs potential Implementation Items (new or updated).

Table 1. Lake Management

	Concerns/Threats	Management Strategies	Monitoring Opportunities	Engagement Opportunities
Within the Plan Currently	• Nutrient impairment. • *E. Coli* impairment. • TSS. • Invasive aquatic species. • Lake level fluctuation, worsening due to climate change.	• Lake management (subwatershed, shoreline, in-lake, containment). • Lake management plans and implementation.	• Water quality. • Water level. • Lynch and Goggins aquatic macrophyte (plant) surveys which have uncovered some rare plant species.	• Meetings with lakeshore owners during the Pond/Lake Management Plans.

New to the Update	• PFAS contamination.
	• Chloride impairment.
	• Loss of natural shoreline and native shoreline vegetation (habitat degradation).
	• Little or no enforcement of shoreland ordinances.
	• Increased flood elevations from larger storms.
	• Increased intensity of lake use; more boats, bigger motors, bigger wakes.
	• Interest in understanding if development patterns around lakes are impacting the lakes, how is zoning influencing land use and land cover near lakes?
	• Lack of public access to most lakes.
	• Encroachment on the Long Lake public trail by private landowners.
		• Shoreline bioengineering only, no rock or sand; alternates including vegetation and stormwater management for shoreland lots.
		• Rip rap and sand blankets being installed without a permit requirement, DNR rule issue; desire to see more BCWD oversight.
		• Set a measurable goal for native shoreline per lake; informed by current status and tied to monitoring activities.
		• Consider where investments are being made relative to the people who have access to the benefits; are there ways to increase equitable access to lakes?
		• AIS not a watershed issue, leave it alone unless there is a direct water quality benefit. BCWD can help people stay informed on AIS; clearly define the BCWD's role on AIS to manage expectations (define where the BCWD stops and where DNR and Washington County lead); partner with these organizations.
		  ○ Acknowledge AIS as an issue but not necessarily a priority for BCWD to lead.
		• Learn more about Lake Improvement Districts to see if this would be a good fit for some lakes.
		• Consider dust suppressants and water softeners as additional sources of chlorides, in addition to road salt.
		• Will the H/H model map the floodplain in the developed parts of
			• DNR score the shore monitoring.
			• Conduct monitoring routinely; 3-year rotations.
			  ○ While it was suggested that BCWD could do the public-access and impaired resources, and use citizen science to assist with the other resources, the group concluded that the use of volunteers may create too much inconsistency in the data (something that needs to be weighed)
			• Aerial and on-lake monitoring.
			• Evaluate potential pollutant loads from septic systems including the impact of water softeners.
			• Set a goal of a % of natural shoreline.
			• Look for a reference that ties lake score to an understanding of the status of the lake.
				• Setting expectations about the ecosystem functions of wetlands compared to lakes; people wanting to cut down shoreline vegetation for a better view.
				• Increased public education about these resources; consider signage near lakes, direct HOA outreach and outreach to shoreline properties.
				  ○ Realtor workshops – ensuring these individuals are representing these resources responsibly and accurately.
				  ○ Shoreland owner workshops – what can these property owners do with their land.
				• Coordination with LGUs protection and enforcement.
				• Formalize lake names.
				• Native shoreline restoration/management cost-share.
				• Free/discounted/cost-shared shoreline rehabilitation design from a landscape architect.
				• Highlighting shoreline conservation efforts of specific properties as good examples for others to replicate.

	Concerns/Threats	Management Strategies	Monitoring Opportunities	Engagement Opportunities
		the city and in landlocked portions of the watershed? What events are we running?		• Partnership to determine how to address discharge to Lake McKusick

Table 2. Wetland Management

	Concerns/Threats	Management Strategies	Monitoring Opportunities	Engagement Opportunities

Within the Plan Currently	• Encroachments, such as development, filling, and vegetation removal.
	  ○ Loss of wetland area, type, and value; important to consider.
	• Aquatic invasive species.
	  ○ Loss of wetland plants to invasive species (phragmites, thin leaf cattails).
	• Decreased groundwater contributions.
	  ○ As appropriations increase, do we anticipate wetlands drying up?
	• Nutrient loading.
	  ○ Historically nutrient loaded wetlands releasing Phosphorus.
		• Vegetation management, UMN phragmites management.
		• Pond management plans.
		• Restoration and enhancement of high priority wetlands.
		• Wetland buffer quality.
			• GIS database of recorded buffers.	•

New to the Update	• Chloride impacts. • Failing septic systems with a lack of back-up sites needing intervention. • Flooding, depending on the wetland type.	• WCD invasive species control needs funding. • High replacement ratios for high quality wetlands, localize mitigation so replacements occur within the watershed. • BCWD taking on some WCA responsibilities through permitting? Is this possible with staff capacity? • Sub-issue regarding loss of wetland area and type; degradation and loss, degradation can be more nuanced (e.g. wetlands that have too much water causing aquatic species die-off).	• New and emerging invasive species monitoring. • Monitoring loading including historic high loading review • H/H future flood footprint.	• Managing expectations of ecosystem functions for wetlands and lakes. • Pollinator and wildlife wetland workshops. • Locker with stand-up paddleboards. • Ducks Unlimited – connect people that aren't normally connected within the watershed; don't normally see ducks any more. • City of Stillwater partnership to provide boating opportunities off the pier/dock in the Liberty Development. • Trout Unlimited and Pheasants Forever connection. • DNR fishing in the neighborhood program, connect with this program. • Increase public access to small lakes and large wetlands. • Stillwater in support of reuse, especially with redevelopment of the athletic center.

Appendix A – Attendance

TAC Members

- Jay Riggs, WCD
- Mike Isensee, CMSCWD
- Jessica Collin-Pilarski, Washington County
- Daniel Scollan, DNR
- Michelle Jordan, BWSR
- Abby Shea, MDH Wellhead Protection
- Steve Christopher, Metropolitan Council
- Matt Oldenburg-Downing, Middle St. Croix Watershed Management Organization
- Jesse Farrell, City of Stillwater
- Miranda Nichols, MPCA

CAC Members

- George Vania
- Jyneen Thatcher
- Anne Maule Miller

Staff

- Karen Kill
- Cameon Blake
- Hannah Peterson
- Camilla Correll
- Alexander Furneaux

Click here to enter text.

3.4. Lake Management

3.4.1. General Issue Statement

The Brown's Creek watershed is home to a few small, shallow lakes and several large open water wetlands/ponds that are locally regarded as lakes. While ~~A number~~ ~~Some of these lakes and ponds appear to have a unique soft water chemistry that provides habitat for unique rare and uncommon aquatic plants~~species. ~~L~~lake water quality trends are improving, ~~though~~ many continue to face ~~Many of the District's lakes have poor water quality with~~ moderate to severe algal blooms occurring throughout the summer. Other issues facing the ~~Brown's Creek watershed~~District's lakes include drastic fluctuations in water level, excessive aquatic ~~macrophyte~~ plant communities, and threats to unique biological resources ~~due to invasive species~~. Some of the District's lakes and ponds appear to have unique soft water chemistry that provides habitat for rare and uncommon aquatic plants, yet little is understood about the unique chemistry of these lakes and how it shapes their ecology and resilience to changes in the landscape. ~~which restrict recreational use and/or the presence of aquatic invasive species~~. The BCWD is committed to protecting and improving water quality and the biological integrity ~~in~~ of its lakes and large ponds and makes a concerted effort to manage these resources through the development and implementation of lake specific management plans.

3.4.2. Relevance to the District

Five of the District's lakes and large ponds are listed as impaired by the MPCA for nutrient concentration – these are Long Lake, Benz Lake, Goggins Lake, South School Section Lake, and Lynch Lake. Additionally, Long Lake received a new impairment for chloride in 2022. ~~These~~ Impaired lakes do not meet state and federal water quality standards for maintaining "fishable and swimmable" conditions. Other lakes within the District are not listed as impaired, but have some level of degradation and could benefit from management or restoration actions to improve their water quality. Lakes with higher water quality, such as the recently delisted Plaisted Lake, require protection from impacts that could decrease water quality, fisheries habitat, or recreational enjoyment of the lake. Since the last iteration of the Watershed Management Plan, specific lake management plans have been developed to direct initiatives to maintain or improve these resources.

Many of the lakes in the watershed are categorized as "shallow lakes" (defined as having a depth of less than 15 feet over the majority of the lake) ~~which complicates management~~. The ecology of shallow lakes is more dynamic because of more frequent mixing events, complex dissolved oxygen dynamics, and stronger interactions between the biological community. ~~Shallow lakes have a high level of internal nutrient loading due to the amount of contact between lake water and the bottom sediments.~~ These lakes typically are either dominated by aquatic plants due to their shallow nature or have become over-nutrified and are dominated by algae. Accordingly shallow lakes are typically referred to as being in either a clear or turbid state. Nutrient management can transition lakes from a turbid algae dominated ~~-~~state to a clear aquatic plant

Commented [CC39]: Lynch and Goggins Lakes Rare Plant Surveys

Commented [JM40]: I revised this and its worth calling out, but I am a little uneasy about it being at the forefront given how little I understand about what's driving this chemistry and how unique it actually is. Clearly there is something interesting going on, but feel like I am still scratching the surface

Commented [AA41]: Trends improving, keep doing work we're doing and look for other opportunities.

Commented [JM42]: This might be too vague or the wrong specific place, but I would like to see something like "threats to lakes with unique biological resources" to acknowledge the two district lakes with rare aquatic plant species present and lakes that support good habitat more generally. This might be more bluntly put as development pressure (although WQ is an equivalent threat, just already mentioned). Bringing this point up helps identify the need for protection and not just restoration.

Commented [AA43R42]: TAC flagged concern with "drastic" Some discussion of macrophyte concerns in the context of recreation value.

Commented [AA44]: @Camilla Correll - if the sentence beginning "Since the last iteration…" feels good to you, I think the sentence "Other lakes within the District…" could be dropped.

Commented [CC45R44]: @Alexander Furneaux I moved the sentence you added to the end of this paragraph. To me, this paragraphs says - we have some impaired resources, we have some degraded resources that haven't officially been identified as impaired and we have some high quality resources. The BCWD has developed lake management plans that identify the restoration and protection strategies needed for all of these lakes. How does this sound to you?

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dominated~~–~~ state. In its outreach efforts with lakeshore residents and lake users, the District focuses on explaining this phenomenon and ~~it's~~its implication on lake management strategies.

To date, the BCWD has focused its management efforts on impacts related to land use changes in the watershed. Given the changes seen locally, nationally and world-wide, the BCWD is broadening its focus by considering impacts related to climate change (see Table X) and the benefits a healthy watershed provides to economic and social well-being (see Table X).

Table 20~~20~~. Related Climate Change Impacts

Impact	Description	Indicators
More Extreme ~~Water-Related~~Precipitation Events	Heavier precipitation during rainfall events	- Increased risk of flooding
Drought	Extended period(s) of no or minimal precipitation impacting the supply of water	- Reduced water levels and higher temperatures can drastically affect fish, amphibians, and invertebrates.
Increases in Water Pollution Problems	Increases in sediment transport	- Increased stormwater runoff washes sediments (erosion) and other contaminants into waterbodies (i.e. TSS)
	Changes in snowfall patterns	- More ice during the winter requires application of more chemicals (i.e., chlorides)
Warmer Season	Warmer air temperatures result in warmer waters	- Higher temperatures can drastically affect fish, amphibians, and invertebrates
Extreme Heat	Extreme heat increases evaporation rates, drying up water sources such as ponds, rivers, and wetlands.	- Reduced water levels and higher temperatures can drastically affect fish, amphibians, and invertebrates - Cyanobacteria
Warming winters and fewer days below freezing (32°F)	- Without ice cover, lakes may experience higher rates of evaporation during the winter, leading to reduced water levels and changes in water chemistry. - Many aquatic species depend on ice cover for temperature regulation and protection from predators. Fewer cold days can increase stress on these species, particularly cold-water fish. - Ice cover on lakes and rivers helps regulate oxygen levels in the water. Without it, oxygen levels may decrease, leading to hypoxic (low oxygen) conditions that can stress or kill aquatic species.	- Later ice-in date and earlier ice-out date - Reduced ice thickness - Reduced oxygen measurements - Higher temperatures can drastically affect fish, amphibians, and invertebrates

Commented [AA46]: A thought - because these tables seem to be getting quite long and there is some repetition, what if we created a single table with column titles:
Impacts, Description, Indicators, Issue Areas 1-15 (with a severity rating low/medium/high). Any other columns?

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	- Changes in Thermal Stratification: Water bodies like lakes typically experience a process called thermal stratification, where layers of water of different temperatures form during the summer and winter. Fewer cold days can prevent proper winter stratification, disrupting the mixing of nutrients and oxygen. This can lead to oxygen-deprived "dead zones" in lakes and reservoirs, harming fish and other aquatic organisms.	

Table 21. Lake Management opportunities which intersect with DEI principles

Impact	Description of the Need	How Ecological Health can help
Health and Well-Being	Access to green spaces is associated with improved physical and mental health, yet disadvantaged communities often have less access to parks, forests, and natural spaces.	- Retrofitting spaces to include more greenspace that can contribute to indirect physical and mental health outcomes. - By restoring natural landscapes and promoting green infrastructure, the BCWD can improve the quality of air and water in surrounding areas and mitigate the Urban Heat Island effect, which directly impacts public health, particularly in communities that have been historically marginalized or overlooked.
Climate Resilience and Vulnerability	Climate change disproportionately affects marginalized communities, who are more vulnerable to extreme weather events, droughts, and flooding.	- Reducing communities' exposure to hazards such as flooding and pollution. - Carbon sequestration (i.e., by increasing tree canopy, native vegetation, etc.)

3.4.3. Sub-Issue Areas

Water Quality Protection and Restoration

Lake water quality can be impacted by a number of ~~contributing~~ factors which can be ~~, both~~ naturally occurring or ~~and~~ anthropogenic in nature.

Excess inputs of nutrients, especially phosphorus, can cause accelerated eutrophication with symptoms that include excessive algae growth, decreased water clarity, and decreased levels of dissolved oxygen. ~~–~~These factors change the habitat in the lake and decrease public enjoyment of a lake. There are multiple ways in which phosphorus is added to lakes and

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ponds. This includes internal and external loading. Internal loading is when phosphorus is released from sediment within a water body. External loading is when phosphorus comes from a source outside of the water body.

Sediment is another common contributor to lake water quality degradation. Excess sediment accumulation due to erosion ~~-~~on the lake bottom changes the quality of spawning areas, decreases macroinvertebrate habitat, and allows nutrients to accumulate and become resuspended ~~introduced~~ into the water column. Nutrient and sediment inputs can decrease the overall quality of a lake. Chloride is a pollutant of emerging concern as it is very harmful to aquatic ecosystems and challenging to remove once it is introduced into water resources. Application of road salt during winter to manage ice, spray treatments on gravel roads during winter to manage dust, and water softener solutions contribute chloride to water resources through stormwater runoff.

Protecting high-quality ~~high quality~~ lakes and restoring lakes that are already being impacted from land use change ~~from these impacts and restoring lakes that are already impacted~~ is of importance ~~within~~ to the BCWD.

Commented [CC47]: @Alexander Furneaux This paragraph needs some work. Let's see if we can get Anne to look at this before the Board meeting. The structure should match the preceding paragraph: this pollutant causes the following impacts to lakes; sources of this pollutant are… This is only speaking to internal sources of sediment and is missing external sources. Can you send a note to Anne to revisit this section?

Commented [AA48R47]: @Anne Wilkinson are you able to take a look at this section before Nov 13?

Commented [AA49]: @Camilla Correll
BCWD isn't actively involved in restoring lakes without public access.

Haven't identified high quality lakes and set them apart. Applying protection measures to all resources (through rules).

Commented [AA50R49]: Either protecting or restoring

Lake Level Management

Lakes naturally fluctuate in water level, and this fluctuation is beneficial for the lake and the surrounding upland habitat. However, during drought conditions water levels could ~~shifted~~shift the littoral zone, which could be a potential mechanism for increased plant abundance driven by water level changes that host additional plant species. Conversely, extreme flood conditions can impact adjacent trees, structures and infrastructure (e.g. subsurface sewage treatment systems and roads). Managing excessively high lake levels may be necessary in some ~~cases, but~~cases but should be conducted in a manner that takes into account the ecological function of the lake and natural lake level fluctuations. Lake level management is expected to become more challenging in the future as precipitation patterns trend toward more extreme ~~events~~wet and dry periods~~.~~

Lake Functions and Values

Each lake within the BCWD is unique in many respects. Thus, each lake provides different functions and is valuable to the community in different ways. Lakes provide aesthetic value, habitat, ~~,~~ flood storage and groundwater recharge functions~~,~~, and recreational value, each to varying degrees. Many of the shallow lakes in the watershed display improving trends, though risks associated with algae domination and excessive aquatic vegetation, including invasive species persist. Several lakes possess unique water chemistry and/or plant communities of high biodiversity value. Evaluating the natural condition of the lake, educating residents about the natural condition, and determining local interests can assist in ~~designing~~ implementing effective lake management plans. ~~Functions and values can be maintained or improved through activities including effective shoreline management and the containment of invasive species.~~

Commented [CC51]: @Alexander Furneaux Do you think we need this sentence here in the issue statement or should we make sure these strategies are included in the Implementation Table?

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3.4.4. Policies, Goals, and Implementation

The policies, goals, and implementation items related to these sub-issue areas are summarized in the following tables. The sub-issue area is identified in a heading, followed by a related policy. The goals addressing that policy are lettered and stated, followed by the implementation items for that goal. This format is intended to clearly display how each policy and goal will be addressed.

Long Lake Stormwater Pond Retrofit

Click here to enter text.

Table 2~~2~~216. Lake Management Policies, Goals, and Implementation Activities

SUB-ISSUE:	**Water Quality Protection and Restoration**		
POLICY:	**The BCWD is committed to the restoration of water quality in degraded lakes and to the protection of water quality in lakes that meet state water quality standards.**		
GOALS		**IMPLEMENTATION ITEM**	
A	Restore the water quality in District lakes and large ponds that do not currently meet State standards or their designated uses.	~~2~~ 1	Conduct water quality monitoring of lakes in cooperation with municipalities, Washington County, and state agencies as appropriate to establish and evaluate progress toward water quality goals.
		~~3~~ 2	Utilize the District's cost-share program to assist in implementation of Lake Management Plans through BMP installation by citizens.
		3 4	Implement watershed improvements in the relevant lake management plans for Long Lake, the South School Section Lake subwatershed, Benz Lake Management Plan, Woodpile Lake Management Plan, Masterman Lake Management Plan and Northern Chain of Lakes WRAPS~~for Long Lake as shown in the Long Lake Management Plan~~ - **SEE IMPLEMENTATION ACTIVITIES IDENTIFIED UNDER LAKE MANAGEMENT PLAN (TABLE 62)**
		4	Implement chloride source management activities in Long Lake
		~~7~~ 5	Develop concept plan for retrofitting Cub Foods/Target parking lots to share with property owner Super Value Holdings by 2020.
B	Protect the water quality in District lakes and large ponds that currently meet State standards and their designated uses.	1	*Addressed through administration of the BCWD regulatory standards and criteria.*
		2	Utilize the District's cost-share program to assist in citizen installation of water quality improvement projects (including thermal BMPs) and water quantity (e.g. volume control) practices
		3	Support limited liability legislation and smart salting initiatives throughout the watershed
POLICY:	**BCWD will coordinate with municipalities and other government agencies in the management of Lake McKusick.**		
GOALS		**IMPLEMENTATION ITEM**	
A	Meet the goals and objectives identified in the Lake McKusick Management Plan.	1	Develop preliminary plans for BMPs in contributing drainage area to address pollutant loads to McKusick Lake.
SUB-ISSUE:	**Lake Level Management**		
POLICY:	**The BCWD supports the management of lake levels in a way that balances the ecological functions of a lake with flood protection.**		
GOALS		**IMPLEMENTATION ITEM**	
A	Maintain the natural hydrology of these lake systems~~Meet the goals and objectives for water levels identified in the BCWD's Lake Management Plans (e.g. THPP and Long Lake)~~	1	Continue to conduct lake level monitoring to track lake level trends
		2	*Addressed through administration of the BCWD regulatory standards and criteria.*
SUB-ISSUE:	**Lake Function and Values**		
POLICY:	**The BCWD supports the establishment of ecologically reasonable goals for the functions and values and recreational opportunities of District lakes based on the natural condition of each lake.**		
GOALS		**IMPLEMENTATION ITEM**	

Commented [AA52]: in the relevant lake management plans for Long Lake, the South School Section Lake subwatershed, Benz Lake Management Plan, Woodpile Lake Management Plan, Masterman Lake Management Plan and Northern Chain of Lakes WRAPS

Commented [AW53]: Will this be annual monitoring? Do we have a monitoring plan already in place? If not that should probably be the first step

Commented [AW54]: Does this fit into an existing lake management plan?

Commented [MM55]: @Camilla Correll @Pat Conrad @Jimmy Marty would the Lynch/Goggins rare plant work & outreach be an implementation item here?

Commented [JM56R55]: this seems like it could fit under function/value? Something like "support biodiversity value of lakes with unique species"

Two other items to consider under function/value:
1) Monitor aquatic plant communities via point-intercept surveys on a 5-10 year cycle for each lake. (Rationale being that aquatic plant communities are a good, relatively cheap option for monitoring lake response to changes in water quality/climate change/other factors, a good data point for overall function and value, and BCWD has lots of potential for unique species)
2) Establish a lake vegetation management policy. PLSLWD has one of these and it helps give guidance to when the District will/won't intervene in vegetation management. More food for thought as it may not be as big of a deal for BCWD since it doesn't have the large recreational lakes of PLSLWD with as many landowner AIS complaints. But can help focus efforts if vegetation management becomes a common request.

Commented [AW57]: How will this be implemented to optimize lake protection?

Commented [AW58R57]: Are there hot spots already identified?

Commented [AW59]: How does the diversion scope fit into to this? I dont think there are locations and projects identified in that drainage area yet

Commented [AA60]: Functions and values can be maintained or improved through activities including effective sub-watershed management, shoreline management, in-lake management, and the containment of invasive species.

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A	Establish shoreline vegetation improvement goals for lakes	1	Incorporate shoreline vegetation surveying into Lake Management Plans and monitoring
		2	Utilize the District's cost-share program to assist in property owner installation of shoreline rehabilitation projects that can provide a water quality improvement
		3	Highlight shoreline conservation efforts of specific properties and showcase these through shoreland property outreach materials
		4	Implement a citizen science initiative using the DNR's *Score Your Shore* tool to gather data and track shoreline health across the district
B	Achieve a clear water state conditions in the district's shallow lakes and ponds	1	Utilize subwatershed management plans and/or internal load management to monitor progress towards a clear water state
C	Better understand soft water chemistry of district's lakes to inform basin specific management activities	1	Inventory lakes for water chemistry and plant communities to determine where soft water lakes are and what characteristics of the contributing drainage area supports their chemistry.
D E	Better understand the distribution and growth of aquatic plant communities and how to manage them	1	Monitor aquatic plant communities via point-intercept surveys on a 5-10 year cycle for each lake. *(Rationale being that aquatic plant communities are a good, relatively cheap option for monitoring lake response to changes in water quality/climate change/other factors, a good data point for overall function and value, and BCWD has lots of potential for unique species).*
		2	Establish a lake vegetation management policy. *PLSLWD has one of these and it helps give guidance to when the District will/won't intervene in vegetation management. More food for thought as it may not be as big of a deal for BCWD since it doesn't have the large recreational lakes of PLSLWD with as many landowner AIS complaints. But can help focus efforts if vegetation management becomes a common request.*

Commented [CC61]: @Alexander Furneaux I moved these two implementation activities from Jimmy's comment into the table. Can you please come up with a draft goal of them? I don't know if they fit under the same goal or if we need two separate goals. I am out of time...hopping into a meeting at 1:00 p.m.

Table 232317. Projected Expenditures (in 1,000's) for Lake Management Practices

Implementation Activities	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	10-Yr. Total
Develop Lake Management Plans for Bass Lake East and West. Plan would include strategies to reduce watershed nutrient loading and internal phosphorus loading.	--	--	--	--	20	--	--	--	--	--	20
Long Lake Management Activities	18	15	5	10	16	29	35	49	72	75	324
South School Section Lake Management Activities	--	15	12..5	12..5	12..5	12..5	12..5	12..5	12..5	12..5	115
Management Activities for All other District Lakes and Large Ponds	10	10	30	25	20	--	30	35	25	35	220
Develop concept plan for retrofitting Cub Foods/Target parking lots to share with property owner Super Value Holding by 2020.	--	--	--	15	--	--	--	--	--	--	15

Click here to enter text.

Develop concept plan for Trooien property to demonstrate more sustainable development approach.	--	15	--	--	--	--	--	--	--	--	15
Develop concept plan for Herbergers property to share with property owner Michael Holdings.	--	--	15	--	--	--	--	--	--	--	15
Total for Lake Management	**28.3**	**55**	**63**	**63**	**69**	**42**	**78**	**97**	**110**	**123**	**724**

Table 242418. Lake Management Implementation Activities from Table 16 addressed by Baseline Monitoring Program

Conduct water quality monitoring of lakes in cooperation with municipalities, Washington County, and state agencies.
Continue to conduct lake level monitoring to track lake level trends

Table 252519. Lake Management Implementation Activities from Table 16 where implementation costs covered under another Issue Category

Implementation Activity	Issue Category where implementation cost is identified (Table #)
Utilize the District's cost-share program to assist in the implementation of Lake Management Plans through best management practice installation by citizens.	Stormwater Management (Table 5)

Click here to enter text.

3.8. Ecological Health

Commented [AA84]: Board to consider whether or not to change from "Ecological Health" to "Watershed Health"

3.8.1. General Issue Statement

~~The ecological integrity of Brown's Creek and many watershed lakes, ponds and wetlands has degraded to a point where the resources are not providing their original level of function or value.~~ The restoration and protection of the District's surface water resources requires a healthy watershed where the natural cover supports hydrologic and geomorphic processes, habitat of sufficient size and quality to support native aquatic species and riparian species, and water quality that supports healthy biological communities. The BCWD shares discoveries of unique and sensitive plants and animals to increase awareness of the value of protecting healthy watersheds and improve understanding of management actions needed to avoid adverse impacts.

3.8.2. Relevance to the District

Commented [AA85]: @Camilla Correll some minor adjustments to this portion, this was an area Karen was seeking general adjustments.

Commented [CC86R85]: @Alexander Furneaux I re-wrote this section. Please review and see if you think it reflects our conversation both with Jimmy and Karen.

The BCWD is home to several unique ecosystems which provide habitat for rare and sensitive plant and animal communities. Given the rate at which land use changes have occurred in the eastern part of the Twin Cities Metropolitan Area, the watershed still has a number of high-quality resources which warrant protection.

To-date the BCWD has ~~-~~focused a significant amount of effort on the protection and restoration of Brown's Creek, a cold-water fishery located on the boundary of the Twin Cities Metropolitan Area. Given its designation as a cold-water fishery, Brown's Creek has been actively managed by the Minnesota DNR as a trout stream and a significant amount of attention has been given to the trout population of the creek. In addition to the trout, the Brown's Creek corridor supports a variety of unique and rare species such as Rainbow Darter (*Etheostoma caeruleum*), Blanding's Turtle (*Emydoidea blandingii*), and coldwater dependent macroinvertebrates~~is extremely unique: the creek is full of fish, frogs, turtles and macroinvertebrates.~~~~,~~ ~~and the~~The steep topography, geologic setting, and high quality vegetation of the Brown's Creek Gorge supports Walking Fern (*Asplenium rhizophyllum*), Butternut (*Juglans cinerea*), and foraging and nesting habitat for~~a variety of birds including rare species such as the~~ Louisiana Waterthrush (*Parkesia motacilla*).

More recently, the BCWD has been focusing on its lakes, ponds and wetlands. Lake management activities have resulted in the discovery of Snailseed Pondweed (*Potamogeton bicupulatus*), an endangered aquatic plant which indicates the need to better understand the water chemistry of these lakes and the management activities needed to sustain these sensitive species. Similarly, a wetland inventory conducted in 2024 resulted in the discovery of a Cranberry Bog (Northern Shrub Shore Fen) which is home to carnivorous round leaved sundew, bog cranberry, and a continuous carpet of sphagnum moss. The presence of these rare species is an indication of the watershed system's~~'s~~ health and ~~should be protected in the future. Environmental stressors such as invasive species and land use conversion threaten terrestrial and aquatic habitat resources.~~the need for protection by the BCWD as well as private landowners.

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To date, the BCWD has focused its management efforts on impacts related to land use changes in the watershed. Given the changes seen locally, nationally and world-wide, the BCWD is broadening its focus by considering impacts related to climate change (see Table X) and the benefits a healthy watershed provides to economic and social well-being (see Table X).

Table 40. Impacts of climate change on Ecological Health

Impact	Description	Indicators
Extreme Heat	Extreme heat increases evaporation rates, drying up water sources such as ponds, rivers, and wetlands.	- Reduced reproductive success: Heat stress can lower reproductive success by reducing the fertility of animals or the survival rates of eggs and offspring. For example, heat waves can cause nest abandonment or reduce the hatching success of eggs in birds, reptiles, and amphibians. - Disruption of aquatic habitats: Reduced water levels in rivers, lakes, and streams can threaten fish and other aquatic organisms, as these species depend on specific water conditions for survival. Warmer water temperatures can also reduce dissolved oxygen levels, stressing or killing aquatic life. - Proliferation of invasive species: Some invasive species, including certain plants, insects, and animals, thrive in hotter conditions and may outcompete native species, altering ecosystems and threatening biodiversity. Invasive insects, such as bark beetles, have devastated forests weakened by heat stress.
Warming winters and fewer days below freezing (32°F)		- Increasing presence of species traditionally found further south while traditional northern species die out - Invasive Species Expansion: Fewer cold days can help invasive species, which are often better adapted to warmer conditions, survive and spread. This can have serious consequences for native wildlife by altering habitat structure and resource availability.~~Accelerated spread of invasive species~~ - Plants and insects that emerge earlier due to fewer cold days may not synchronize with the life cycles of their pollinators or herbivores. - Warmer winters with more frequent rain can cause increased soil erosion in upland areas,

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		leading to higher sediment loads in water bodies.
Extreme Precipitation	Washington County has and will continue to experience more wet conditions caused by increased precipitation. Precipitation increases are occurring in each season of the year, with the largest increases in spring and summer. Not only has precipitation increased, but the intensity and frequency of large events have also increased.	- Wetland areas or floodplains might become permanently submerged, reducing the amount of usable land for species like small mammals, ground-nesting birds, and reptiles. - Intense rainfall can cause soil erosion, particularly on slopes or deforested areas. Erosion leads to loss of plant cover, which is essential for shelter, food, and nesting for many animals. - Extreme rainfall can lead to streambank erosion, which destroys habitats for aquatic and semi-aquatic animals such as amphibians, fish, and birds. Fish spawning sites can be disrupted as sediment buries eggs or larvae. - Increased water flow in rivers and streams can wash away aquatic organisms, disrupt breeding areas, and destroy the structure of habitats. - Excessive sediment in water can cover the river or lakebed, smothering fish eggs, aquatic plants, and invertebrates that are crucial to the food chain. This degradation can reduce biodiversity and the health of aquatic ecosystems. - Extreme rainfall washes nutrients (like nitrogen and phosphorus from fertilizers) and pollutants (like pesticides, heavy metals, and waste) into water bodies. - Disturbed landscapes and flooded areas can become ideal for invasive species to spread, often outcompeting native plants. - Wildlife and plant species that require specific conditions (e.g., dry soil, stable habitats) may be outcompeted by more generalist species, leading to a decline in biodiversity.
Drought	Extended period(s) of no or minimal precipitation impacting the supply of water	- Habitat fragmentation: As animals move to find water, they may cross human-dominated landscapes, leading to more road crossings, vehicle collisions, and habitat fragmentation. - Aquatic ecosystems are especially vulnerable to drought. Reduced water levels and higher temperatures can drastically affect fish, amphibians, and invertebrates. - Drought weakens plant root systems, increasing soil erosion and leading to long-term vegetation loss. The loss of vegetation increases soil erosion, which can lead to the

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		degradation of habitats, particularly in areas prone to wind or water erosion. - Drought can lead to long-term shifts in species composition and biodiversity, favoring drought-tolerant species over more sensitive ones. - Soil degradation: Heat and drought can degrade soil health, leading to erosion, reduced fertility, and the loss of organisms that contribute to nutrient cycling. This can have long-term consequences for ecosystem productivity and resilience.

Table 41. Ecological Health opportunities which intersect with DEI principles

Impact	Description of the Need	How Ecological Health can help
Equitable access to clean water	A healthy watershed ensures that water is clean, reliable, and accessible to all communities, regardless of their socio-economic status, race, or geographic location.	- By maintaining clean lakes, ponds, wetlands, streams and groundwater the Brown's Creek watershed supports basic services that are critical to the well-being of all communities, particularly those that may not have the resources to combat pollution or environmental degradation.
Environmental Justice	Environmental justice seeks to address the unfair distribution of environmental benefits and burdens, particularly for communities that have been historically marginalized or overlooked.	- Healthy watershed management can prioritize including voices from marginalized communities, ensuring they have a say in decisions that affect their local environment. This leads to policies that reflect the needs of diverse communities and prevent further environmental inequities.
Inclusive Economic Benefits	Economic disparities are often tied to environmental degradation, with disadvantaged communities being most affected by poor watershed health. Inclusive watershed management can provide economic opportunities for all populations.	- Healthy watersheds contribute to healthier ecosystems that can support recreation, tourism, and other economic activities. - Ensuring that water quality improvement projects are implemented equitably and impacts to property values. - Investments in watershed restoration and maintenance can lead to the creation of sustainable jobs, from restoration work to green infrastructure development, benefiting local economies. These jobs should be accessible to underrepresented groups, creating pathways for economic inclusion.
Community Engagement and Empowerment	DEI in environmental planning requires inclusive processes where diverse communities have the opportunity to participate in the design and implementation of watershed management efforts.	- Healthy watershed initiatives can actively engage community members from diverse backgrounds in decision-making, planning, and restoration activities. This includes reaching out to underrepresented groups, hosting culturally relevant events, and providing education in

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		multiple languages to ensure that all voices are heard. - Communities that are engaged in watershed health are empowered to take ownership of their local environment. Supporting leadership opportunities within minority and underserved groups ensures that they are involved in the long-term sustainability of their water resources.
Climate Resilience and Vulnerability	Climate change disproportionately affects marginalized communities, who are more vulnerable to extreme weather events, droughts, and flooding—all of which are linked to watershed health.	- Healthy watersheds act as natural buffers against the impacts of climate change by regulating water flow, preventing flooding, and maintaining groundwater supplies. Ensuring that these benefits are distributed equitably can help vulnerable communities better withstand the impacts of climate change. - Watershed management plans can focus on areas where communities face the highest risk of climate impacts. By prioritizing these areas, managers can ensure that historically marginalized communities are not left more vulnerable to environmental disasters.
Cultural and Recreational Inclusion	Diverse cultural and recreational needs must be considered in the management of water resources, ensuring that all communities have access to natural spaces that support their well-being and traditions.	- Many Indigenous communities and other ethnic groups have deep cultural ties to water bodies and natural ecosystems. A healthy watershed protects these areas, preserving important cultural and spiritual sites. - Healthy watersheds support outdoor recreational activities such as fishing, swimming, and hiking, which should be accessible to all communities. Watershed management can ensure that parks, lakes, and rivers are open and safe for use by all demographic groups, promoting inclusivity in nature-based recreation.
Education and Outreach	Promoting awareness of water issues and stewardship opportunities must reach diverse audiences to build a more inclusive environmental movement.	- Watershed programs can include targeted education efforts that reach diverse communities, particularly those historically excluded from environmental education. Programs in schools, community centers, and local organizations can raise awareness about the importance of water conservation and offer opportunities for all groups to engage in watershed protection. - Ensuring that educational materials and outreach efforts are available in multiple languages and are culturally relevant is critical for engaging diverse communities in watershed health. This fosters a sense of

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		inclusivity and participation in water resource management.

3.8.3. Sub-Issue Areas

Degraded Fisheries

A healthy fish community is an indicator of resource health, and also an important component to maintaining a ~~high-quality~~high-quality aquatic resource. Environmental stressors continue to threaten the integrity of the watershed's fish-supporting resources. These stressors can include metals, nutrients, sediment, temperature, and Aquatic Invasive Species (AIS).

~~Maintain Ecological Health~~ / Protect and Restore the Function ~~that~~of Upland Areas ~~Provide~~

The BCWD is home to several plant and animal species that are sensitive and valuable from an ecological standpoint. ~~which~~These plant and animal species are indicators of a healthy watershed which is a reflection of the land use in the rural portions of the watershed, resulting in more intact upland areas. The BCWD intends to protect and enhance these ~~waterbodies~~upland areas in order to maximize the ecosystem services (i.e., filtration, groundwater recharge, wildlife habitat, rate control) provided by this part of the landscape.

Invasive Species

Invasive species continue to spread throughout the region. Some invasive species pose direct risks to water resources within lakes and wetlands, while others pose indirect impacts in upland areas where they impact land cover and soil health. For example, Common buckthorn (*Rhamunus cathartica*) ~~-~~negatively impacts the understory which results in soil erosion and ~~soils resulting in~~ increased nutrient and sediment ~~runoff~~loads to downstream resources. Managing species that negatively impact the water resources plays an important role in maintaining the ecological integrity of the watershed.

Commented [CC87]: @Alexander Furneaux I modified this section as well.

Commented [AA88]: @Camilla Correll moved away from the AIS and TIS distinction to just discuss invasive species in the context of whether they are found within the water resource or in the upland area.

Commented [CC89R88]: @Alexander Furneaux Looks great!

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3.8.4. Policies, Goals, and Implementation

The policies, goals, and implementation items related to these sub-issue areas are summarized in the following tables. The sub-issue area is identified in a heading, followed by a related policy. The goals addressing that policy are lettered and stated, followed by the implementation items for that goal. This format is intended to clearly display how each policy and goal will be addressed.

Table 424230. Ecological Health Policies, Goals, and Implementation Activities

SUB-ISSUE:	**Degraded fisheries**		
POLICY:	**BCWD aims to support a robust and healthy fishery as a vital component to ecological health.**		
GOALS		**IMPLEMENTATION ITEM**	
A	Promote healthy and diverse fish communities represented by species representative of the MNDNR lake or stream classifications	**1**	Conduct additional sampling on Brown's Creek to determine the population status and distribution of the Rainbow darter in the gorge.
		2	Conduct fish barrier assessment to determine potential for fish passage through 95 / 96 box culverts in 2016, then determine fish passage through remaining road crossings to Manning avenue if no barrier present in the gorge.
		3	Work with the DNR to develop a fish stocking plan
		4	Work with community groups (e.g. Stillwater High School and Trout Unlimited) to develop fish rearing plans
B	TSS loads within the contributing drainage area need to be reduced by 74% on average in order to meet these loading limits. (Brown's Creek TMDL Implementation Plan, EOR, 2012)	**1**	Annually analyze progress toward the TSS reduction goal based on evaluation of the collected monitoring data (conducted as part of the baseline monitoring program).
		2	**SEE IMPLEMENTATION ACTIVITIES IDENTIFIED UNDER BROWN'S CREEK MANAGEMENT PLAN (TABLE 61)**
C	Restore impaired lakes so that they meet state standards for total phosphorous, chlorophyll A concentration and Secchi depth.	**1**	**SEE IMPLEMENTATION ACTIVITIES IDENTIFIED UNDER LAKE MANAGEMENT PLAN (TABLE 62)**
D	Achieve the TP Load Reduction goal of 148 lbs. established at the Diversion Structure as identified in the McKusick Lake and Lily Lake Management Plans.	**1**	Re-assess water quality data collected in contributing drainage area to Diversion Structure to evaluate pollutant loading and identify sources.
E	Identify and preserve important aquatic wildlife habitat and fish spawning areas	**1**	Continue surveys for mussels in the lower gorge, particularly upstream of the 2015 unique Species Inventory survey area. Many riffles in the lower gorge have not been surveyed.
		2	Compile a herptile record database developed from available records and initiate citizen volunteer Amphibian and Reptile Survey.
			Removal of fish barriers?
			Creation of fish refugia?
SUB-ISSUE:	**Protect and Restore the Function of Upland Areas~~Maintain Ecological Health~~**		
POLICY:	**The BCWD is committed to maintaining the ecological integrity and connectivity of intact ecosystems.**		
GOALS		**IMPLEMENTATION ITEM**	

Commented [AA90]: Mike M - Have we resolved all of these/are any remaining that can feasibly be addressed?

Commented [CC91]: Washington County Natural Resource Systems Framework:
Preserve, conserve, and restore natural resources by implementing sustainable practices that promote biodiversity and healthy ecosystems.

Commented [CC92R91]: @Alexander Furneaux I move this goal to the table as an alternative (more appropriate) Goal for A.

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~~B~~ A	~~Achieve a healthy and diverse community of native plants and animals (City of Stillwater Lake Management Plans, Wenck Associates INC, 2007)~~ ~~OR~~ Preserve, conserve, and restore natural resources by implementing sustainable practices that promote biodiversity and healthy ecosystems (Washington County Natural Resource Systems Framework).	1	Implement native plant community preservation and restoration projects utilizing the District's land protection priorities.
		2	Enhance the management of the BCWD's ecosystem services by implementing pollinator conservation strategies (e.g. recognize and support exemplar projects which restore and enhance habitat for pollinator species, work with road authorities to control invasives and promote establishment of pollinator species, work with county and municipalities to develop mowing plan and schedule that is more conducive to stormwater management and pollinator species)
		3	Work with the City of Stillwater and area residents to conduct on-going monitoring of the oak forest found on the west side of Long Lake (identified as a Rare Feature) to evaluate its quality, and if any management activities are needed to ensure its sustainability.
		~~1~~4	Improve ecosystem services by creating a program that focuses on restoring forests, wetlands, and grasslands to help reduce the impacts of climate change, such as flooding, heat islands, and soil erosion.
		5	Work with municipalities to establish tree preservation goals and requirements.
		6	Work with landowners to diversify their woodlands through forest management plans
B	Turf to native plant conversion goal. Enhancing ecosystem services of the landscape. Greater native/natural space vegetation requirement. More resilient landscape for wet/dry conditions.	1	Identify target area and criteria for priority habitat conversion areas.
		2	Consider rule change to allow credits for turf conversion
		3	Implement through the cost-share program
		4	EMWREP education and outreach
SUB-ISSUE:	Invasive Species		
POLICY:	**The District takes an active role in preventing the spread of invasive species through education, partnerships, monitoring, and invasive species management projects.**		
GOALS		**IMPLEMENTATION ITEM**	
A	Initiate and support aquatic invasive species (AIS) management projects on private and public lands where connected to water quality management	1	Continue to monitor aquatic invasive species and implement controls when it's determined to be a water quality issue.
		2	Record the location of ~~terrestrial exotic and~~ invasive species and implement control measures if it's determined to have water quality impacts or threats to native plant communities.
		3	Address aquatic invasive species management by providing education and outreach to residents and individuals recreating in the watershed.
		4	Utilize the cost-share program to assist with invasive species management where there is a water quality benefit and/or co-benefit towards other beneficial goals.~~.~~
		5	Support initiatives by the County and other regional partners on AIS management.

Commented [AA93]: Mike - bullfrog sighting, people releasing their pets and then they thrive? How does that fit in?

Ask Board if they want it in there as a specific item.

Commented [MM94R93]: Education & Outreach, especially where sightings have occurred. Have something on their website too.

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		6	Education and outreach regarding bait disposal and pet release.
B	Initiate and support terrestrial invasive species management projects on private and public lands where connected to water quality management	1	Conduct on-going vegetation surveys (every five years) to evaluate community quality and invasive species to provide a more robust dataset that can be used to evaluate trends in plant community composition. A minimum of 5 wetland and 5 upland plots should be established for long-term monitoring.
		2	Provide public and private landowners with tools and resources needed to manage existing habitat, improve species diversity, and protect against invasive species, erosion, and overuse (LSCR1W1P).

[Turf to native plant conversion image]

Commented [CC95]: From LSCR1W1P:
2C. Provide public and private landowners with tools and resources needed to manage existing habitat, improve species diversity, and protect against invasive species, erosion, and overuse

Commented [AA96R95]: Could be an implementation activity?

Commented [CC97R95]: @Alexander Furneaux I moved this into the table as an implementation activity for the Board's consideration.

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Table 434331. Projected Expenditures (in 1,000's) for Ecological Health

Implementation Activities	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	10-Yr. Total
Conduct additional sampling on Brown's Creek to determine the population status and distribution of the Rainbow darter in the gorge.	2	--	--	--	2	--	--	--	2	--	6
Continue surveys for mussels in the lower gorge, particularly upstream of the 2015 unique Species Inventory survey area. Many riffles in the lower gorge have not been surveyed.	--	--	2.5	--	--	--	--	--	--	2.5	5
Compile a herptile record database developed from available records and initiate citizen volunteer Amphibian and Reptile Survey.	--	--	--	3.5	--	--	--	--	--	--	3.5
Implement native plant community preservation and restoration projects utilizing District's land protection priorities.	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5
Enhance management of BCWD's ecosystem services by implementing pollinator conservation strategies.	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5
Continue to monitor aquatic invasive species & implement controls when it's determined to be a water quality issue.	--	--	1	1	1	1	1	1	1	1	8
Record the location of terrestrial exotic and invasive species and implement control measures if it's determined to have water quality impacts.	--	--	1	1	1	1	1	1	1	1	8
Conduct on-going vegetation surveys (every five years) to evaluate community quality and invasive species to provide a more robust dataset that can be used to evaluate trends in plant community composition: min. of 5 wetland and 5 upland plots should be established for long-term monitoring.	--	--	10	--	--	--	--	5	--	--	15
Total for Ecological Health	**3**	**1**	**15.5**	**6.5**	**5**	**3**	**3**	**8**	**3**	**7.5**	**55.5**

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Table 444432. Ecological Health Implementation Activities from Table 30 addressed by East Metro Water Resource Education Program

Address AIS management by providing education and outreach to individuals recreating in the watershed.

Table 454533. Ecological Health Implementation Activities from Table 30 where implementation costs covered under another Issue Category

Implementation Activity	Issue Category where implementation cost is identified (Table #)
Utilize the District's cost-share program to assist in the implementation of Lake Management Plans through best management practice installation by citizens - Cost identified in Implementation Activity X under Stormwater Management.	Stormwater Management (Table 5)
Re-assess water quality data collected in contributing drainage area to Diversion Structure to evaluate pollutant loading and identify sources.	Stormwater Management (Table 5)
Promote stormwater reuse by working with local businesses, local units of government and Washington County to incorporate BMPs into new development or redevelopment projects.	Stormwater Management (Table 5)
Conduct fish barrier assessment to determine potential for fish passage through 95 / 96 box culverts in 2016, then determine fish passage through remaining road crossings to Manning avenue if no barrier present in the gorge.	Stream Management (Table 13)
Annually analyze progress toward the TSS reduction goal based on evaluation of the collected monitoring data (conducted as part of the baseline monitoring program).	Stream Management (Table 13)
Utilize the cost-share program to assist with invasive species management where there is a water quality benefit.	Stormwater Management (Table 5)

Commented [MM98]: 95/96 box culvert has now been determined to be a seasonal barrier for AOP but fish can move through during flooding events on the St. Croix. There is a potential natural bedrock barrier in the Gorge (velocity barrier?) that might prevent fish from migrating above the Gorge. The Neal Ave box culvert and McKusick culvert barriers were addressed as part of the Brown's Creek Restoration project in 2024). Fish barrier assessment still needed for a few areas within Oak Glen GC and Millbrook where a large beaver dam now exists.

Thermal Measuring of Brown's Creek

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3.13. Land Conservation

3.13.1. General Issue Statement

Changes in land use threaten to degrade the quality of water resources and limit wildlife habitat. Land use practices can reduce the area of land covered with native vegetation, increase erosion and stormwater runoff, and break wildlife habitat into small, disconnected areas unable to support high quality, diverse populations. The development of a land conservation program allows entities to set aside critical parts of the landscape for the protection and restoration of downstream waterbodies.

3.13.2. Relevance to the District

Land use changes in the District are often made adjacent to and encroaching on water resources and natural areas. Proper management of stormwater runoff and erosion will limit the water quality and quantity impacts to these ~~resources, but~~resources but will not fully maintain the ecological quality or function and value of the resources if adjacent lands are managed in a way that does not maintain native vegetative communities and wildlife habitat. In 2017, the BCWD acquired ~~such~~ a property so that it may be protected by a conservation easement. This acquisition adds a new role for the BCWD Board of Managers as they consider the management needs and potential uses for this property.

To date, the BCWD has focused its management efforts on impacts related to land use changes in the watershed. Given the changes seen locally, nationally and world-wide, the BCWD is broadening its focus by considering impacts related to climate change (see Table X) and the benefits land conservation provides to economic and social well-being (see Table X).

Table 6~~7~~7. Related Climate Change Impacts

Impact	Description	Indicators
Extreme Heat	Extreme heat increases evaporation rates, drying up water sources such as ponds, rivers, and wetlands.	- Proliferation of invasive species: Some invasive species, including certain plants, insects, and animals, thrive in hotter conditions and may outcompete native species, altering ecosystems and threatening biodiversity. Invasive insects, such as bark beetles, have devastated forests weakened by heat stress.
Warming winters and fewer days below freezing (32°F)		- Increasing presence of species traditionally found further south while traditional northern species die out - Invasive Species Expansion: Fewer cold days can help invasive species, which are often better adapted to warmer conditions, survive and spread. This can have serious consequences for native wildlife by altering habitat structure and resource availability.

Commented [CC127]: Natural Resources Planning | Washington County, MN - Official Website (washingtoncountymn.gov)

See if we can get layers for the following figures:
Protected Lands
Cultivated Vegetation
Pollinator Habitat
Core Habitat and Potential Corridors
Regenerative Agriculture Protection and Creation with Corridors
Regenerative Agriculture Protection and Creation of 2020 Protected Land
Land and Water Legacy Protection Update 2020
Land and Water Legacy Update 2020 Protected Lands

Click here to enter text.

		- Warmer winters with more frequent rain can cause increased soil erosion in upland areas, leading to higher sediment loads in water bodies.
Extreme Precipitation	Heavier precipitation during rainfall events	- Intense rainfall can cause soil erosion, particularly on slopes or deforested areas. Erosion leads to loss of plant cover, which is essential for shelter, food, and nesting for many animals. - Extreme rainfall can lead to streambank erosion, which destroys habitats for aquatic and semi-aquatic animals such as amphibians, fish, and birds. Fish spawning sites can be disrupted as sediment buries eggs or larvae. - Increased water flow in rivers and streams can wash away aquatic organisms, disrupt breeding areas, and destroy the structure of habitats. - Excessive sediment in water can cover the river or lakebed, smothering fish eggs, aquatic plants, and invertebrates that are crucial to the food chain. This degradation can reduce biodiversity and the health of aquatic ecosystems. - Extreme rainfall washes nutrients (like nitrogen and phosphorus from fertilizers) and pollutants (like pesticides, heavy metals, and waste) into water bodies. - Disturbed landscapes and flooded areas can become ideal for invasive species to spread, often outcompeting native plants. - Wildlife and plant species that require specific conditions (e.g., dry soil, stable habitats) may be outcompeted by more generalist species, leading to a decline in biodiversity.
Drought	Extended period(s) of no or minimal precipitation impacting the supply of water	- Habitat fragmentation: As animals move to find water, they may cross human-dominated landscapes, leading to more road crossings, vehicle collisions, and habitat fragmentation.

Table 68. Land Conservation opportunities which intersect with DEI principles

Impact	Description of the Need	How Ecological Health can help
Equitable access to land and natural resources	Historically, land conservation programs have sometimes overlooked marginalized communities, leading to unequal access to natural spaces and the	- Land Conservation Programs can prioritize the creation of public lands or community green spaces in underserved areas, ensuring equitable access to nature for recreation, mental health, and cultural practices.

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	benefits of land conservation. Many low-income, Indigenous, and communities of color have been systematically excluded from land ownership and access to natural areas.	- Making conservation land (i.e. Brown's Creek Conservation Area) an inclusive space for all of the communities living in the watershed.
Environmental Justice	Communities of color and low-income populations are often disproportionately impacted by environmental degradation, including poor land use, industrial development, and pollution. Land conservation can help by protecting these communities from further harm.	- Conservation programs can prioritize the protection and restoration of lands in or near communities that are at greater risk of environmental hazards. For example, creating green spaces or preserving wetlands can help reduce flooding or pollution in vulnerable neighborhoods. - By conserving or restoring forests, wetlands, and floodplains near marginalized communities, programs can act as natural buffers that mitigate the impacts of climate change and extreme weather events, which often disproportionately affect these populations.
Inclusive Decision-Making	Historically, land conservation decisions have been made without the input of diverse communities, leading to a lack of representation and inclusion in environmental management decisions.	- Conservation efforts can include local communities, especially those from underrepresented groups, in decision-making processes. This ensures that land conservation projects reflect the priorities, values, and needs of all stakeholders. - Programs that engage local organizations, Indigenous groups, and minority communities in co-management or stewardship initiatives ensure that conservation projects benefit from diverse perspectives and knowledge systems. - Providing education, leadership training, and resources to minority communities allows for greater participation in land conservation efforts and creates opportunities for local leadership.
Climate Resilience and Vulnerability	Climate change disproportionately affects marginalized communities, who are more vulnerable to extreme weather events, droughts, and flooding.	- Conservation programs that focus on restoring forests, wetlands, and grasslands can help reduce the impacts of climate change, such as flooding, heat islands, and soil erosion, particularly in low-income and marginalized areas.
Cultural Preservation and Recognition	Many Indigenous and ethnic communities have deep cultural and spiritual connections to land and water. Conservation programs can either support or conflict with these connections, depending on	- Conservation programs can prioritize the protection of lands and associated waters that have cultural, historical, or spiritual significance to Indigenous peoples and other minority communities. This promotes not only ecological conservation but also cultural heritage preservation.

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	how they are designed and implemented.	- Land conservation programs can benefit from integrating Indigenous knowledge systems, which have long traditions of sustainable land management. Recognizing and respecting traditional ecological knowledge can enhance the effectiveness of conservation efforts while promoting inclusivity.

3.13.3. Sub-Issue Areas

Preservation of Natural Areas, Connections between Natural Areas, and Groundwater Recharge Zones

While the impacts of development can be managed, key natural resources can be lost in the process. Conservation of groundwater recharge zones, surface water resources, and natural resources can be effectively accomplished through preservation of key natural areas. Land conservation can preserve and restore resource quality, provide stormwater benefits, protect groundwater recharge, ~~and~~ ensure the sustainability of wildlife habitat connections, and create spaces that allow people access to natural spaces they do not have access to otherwise.~~.~~

3.13.4. Policies, Goals, and Implementation

The policies, goals, and implementation items related to these sub-issue areas are summarized in the following tables. The sub-issue area is identified in a heading, followed by a related policy. The goals addressing that policy are lettered and stated, followed by the implementation items for that goal. This format is intended to clearly display how each policy and goal will be addressed.

Wetland along County Road 57

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Table 6~~9~~6~~952~~. Land Conservation Policies, Goals, and Implementation Activities			
SUB-ISSUE:	**Protection of natural areas, connections between natural areas, and groundwater recharge zones**		
POLICY:	**The BCWD will work with communities, agencies and non-profits, as appropriate, to protect land throughout the District in order to preserve and restore the resource quality, stormwater benefits, groundwater recharge, wildlife habitat connection, and access to natural spaces provided by key upland and lowland areas.**		
GOALS		**IMPLEMENTATION ITEM**	
A	Identify and pursue opportunities to preserve and restore land within the watershed ~~based on the District's identified conservation priorities,~~ that protect and restore high quality native plant communities and/or connect critical habitat areas.	1	Review and revise land protection corridors and priorities to reflect current resource protection needs (e.g. recharge areas, unique resources, and land adjacent to District's resources).
		2	Work with member communities to set standards for development near and within the identified land protection corridors and to determine allowed uses within corridors that will provide necessary flexibility while preserving the water and habitat benefits of the corridor.
		~~3~~3	Purchase property as land conservation opportunities arise within priority areas. ~~Restore the Brown's Creek Conservation Area by implementing the activities identified in the Management Plan which includes Natural Areas Management and Usage Implementation costs for a 10-year period.~~
		4	Partner to conduct estate planning workshops and connection to land trusts.
B	Preserve and restore District owned easements	1	Develop and implement management plans for District owned easements.
		2	Restore the Brown's Creek Conservation Area by implementing the activities identified in the Management Plan which includes Natural Areas Management and Usage Implementation costs for a 10-year period.
C	Utilize space for public engagement/outreach	1	Work with adjacent landowners to create additional buffer to the Conservation Easement
		2	Share and educate the public about the restoration activity and unique species

Table 7~~0~~7~~053~~. Projected Expenditures (in 1,000's) for Land Conservation

Implementation Activities	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	10-Yr Total
Review and revise land protection corridors and priorities to reflect current resource protection needs (e.g. recharge areas)	--	--	--	--	--	20	--	--	--	--	20

Commented [CC128]: From LSCR1W1P:
1A. Protect upland and existing riparian habitat from degradation by enforcing ordinances or higher standards.
1B. Protect and restore high quality native plant communities that support Species of Greatest Conservation Need
1C. Identify, protect, and restore upland habitat that is degraded to expand corridors, connect critical habitat areas and promote resiliency

Commented [AA129R128]: 1B & C highlight what the conservation priorities might be

Commented [CC130]: Washington County Natural Resource System Framework:
Goal: Protect, enhance, and provide access to public resources - land, water, open space - through conservation and stewardship

Commented [AA131R130]: Incorporate here

Commented [AA132]: Could be EMWREP or Lower St Croix 1W1P, Washington County; EMWREP did them

Click here to enter text.

Work with member communities to set standards for development near and within the identified land protection corridors and to determine allowed uses within corridors that will provide necessary flexibility while preserving the water and habitat benefits of the corridor.	--	--	--	--	--	--	5	--	--	--	5
Restore the Brown's Creek Conservation Area by implementing the activities identified in the Management Plan which includes Natural Areas Management and Usage Implementation costs for a 10-year period.	54	73	36	19	23	16	16	10	10	10	266
Develop landowner interest in land protection, promote stewardship and acquire conservation easements and/or lands in coordination with the Department of Natural Resources, Washington County, the Natural Resource Conservation Service, the Minnesota Land Trust, and the Trust for Public Land as appropriate.	25	25	25	25	25	~~2~~50	~~2~~50	~~2~~50	~~2~~50	~~2~~50	375
Total for Land Conservation	~~2~~579	~~2~~598	~~2~~561	~~2~~544	~~2~~548	7086	5571	5~~6~~0	5~~6~~0	5~~6~~0	4006~~6~~6

3.4. Lake Management

3.4.1. General Issue Statement

The Brown's Creek watershed is home to a few small, shallow lakes and several large open water wetlands/ponds that are locally regarded as lakes. While lake water quality trends are improving, many continue to face moderate to severe algal blooms occurring throughout the summer. Other issues facing the District's lakes include drastic fluctuations in water level, excessive aquatic plant communities, and threats to unique biological resources. Some of the District's lakes and ponds appear to have unique soft water chemistry that provides habitat for rare and uncommon aquatic plants, yet little is understood about the unique chemistry of these lakes and how it shapes their ecology and resilience to changes in the landscape. The BCWD is committed to protecting and improving water quality and the biological integrity of its lakes and large ponds and makes a concerted effort to manage these resources through the development and implementation of lake specific management plans.

3.4.2. Relevance to the District

Five of the District's lakes and large ponds are listed as impaired by the MPCA for nutrient concentration – these are Long Lake, Benz Lake, Goggins Lake, South School Section Lake, and Lynch Lake. Additionally, Long Lake received a new impairment for chloride in 2022. Impaired lakes do not meet state and federal water quality standards for maintaining "fishable and swimmable" conditions. Other lakes within the District are not listed as impaired, but have some level of degradation and could benefit from management or restoration actions to improve their water quality. Lakes with higher water quality, such as the recently delisted Plaisted Lake, require protection from impacts that could decrease water quality, fisheries habitat, or recreational enjoyment of the lake. Since the last iteration of the Watershed Management Plan, specific lake management plans have been developed to direct initiatives to maintain or improve these resources.

Many of the lakes in the watershed are categorized as "shallow lakes" (defined as having a depth of less than 15 feet over the majority of the lake). The ecology of shallow lakes is more dynamic because of more frequent mixing events, complex dissolved oxygen dynamics, and stronger interactions between the biological community. These lakes typically are either dominated by aquatic plants due to their shallow nature or have become over-nutrified and are dominated by algae. Accordingly shallow lakes are typically referred to as being in either a clear or turbid state. Nutrient management can transition lakes from a turbid algae dominated-state to a clear aquatic plant dominated-state. In its outreach efforts with lakeshore residents and lake users, the District focuses on explaining this phenomenon and its implication on lake management strategies.

To date, the BCWD has focused its management efforts on impacts related to land use changes in the watershed. Given the changes seen locally, nationally and world-wide, the BCWD is broadening its focus by considering impacts related to climate change (see Table X) and the benefits a healthy watershed provides to economic and social well-being (see Table X).

Table 20. Related Climate Change Impacts

Impact	Description	Indicators
More Extreme Precipitation Events	Heavier precipitation during rainfall events	- Increased risk of flooding
Drought	Extended period(s) of no or minimal precipitation impacting the supply of water	- Reduced water levels and higher temperatures can drastically affect fish, amphibians, and invertebrates.
Increases in Water Pollution Problems	Increases in sediment transport	- Increased stormwater runoff washes sediments (erosion) and other contaminants into waterbodies (i.e. TSS)
	Changes in snowfall patterns	- More ice during the winter requires application of more chemicals (i.e., chlorides)
Warmer Season	Warmer air temperatures result in warmer waters	- Higher temperatures can drastically affect fish, amphibians, and invertebrates
Extreme Heat	Extreme heat increases evaporation rates, drying up water sources such as ponds, rivers, and wetlands.	- Reduced water levels and higher temperatures can drastically affect fish, amphibians, and invertebrates - Cyanobacteria
Warming winters and fewer days below freezing (32°F)	- Without ice cover, lakes may experience higher rates of evaporation during the winter, leading to reduced water levels and changes in water chemistry. - Many aquatic species depend on ice cover for temperature regulation and protection from predators. Fewer cold days can increase stress on these species, particularly cold-water fish. - Ice cover on lakes and rivers helps regulate oxygen levels in the water. Without it, oxygen levels may decrease, leading to hypoxic (low oxygen) conditions that can stress or kill aquatic species. - Changes in Thermal Stratification: Water bodies like lakes typically experience a process called thermal stratification, where layers of water of different temperatures form during the summer and winter. Fewer cold days can prevent proper winter stratification,	- Later ice-in date and earlier ice-out date - Reduced ice thickness - Reduced oxygen measurements - Higher temperatures can drastically affect fish, amphibians, and invertebrates

	disrupting the mixing of nutrients and oxygen. This can lead to oxygen-deprived "dead zones" in lakes and reservoirs, harming fish and other aquatic organisms.	

Table 21. Lake Management opportunities which intersect with DEI principles

Impact	Description of the Need	How Ecological Health can help
Health and Well-Being	Access to green spaces is associated with improved physical and mental health, yet disadvantaged communities often have less access to parks, forests, and natural spaces.	- Retrofitting spaces to include more greenspace that can contribute to indirect physical and mental health outcomes. - By restoring natural landscapes and promoting green infrastructure, the BCWD can improve the quality of air and water in surrounding areas and mitigate the Urban Heat Island effect, which directly impacts public health, particularly in communities that have been historically marginalized or overlooked.
Climate Resilience and Vulnerability	Climate change disproportionately affects marginalized communities, who are more vulnerable to extreme weather events, droughts, and flooding.	- Reducing communities' exposure to hazards such as flooding and pollution. - Carbon sequestration (i.e., by increasing tree canopy, native vegetation, etc.)

3.4.3. Sub-Issue Areas

Water Quality Protection and Restoration

Lake water quality can be impacted by a number of factors which can be naturally occurring or anthropogenic in nature.

Excess inputs of nutrients, especially phosphorus, can cause accelerated eutrophication with symptoms that include excessive algae growth, decreased water clarity, and decreased levels of dissolved oxygen. These factors change the habitat in the lake and decrease public enjoyment of a lake. There are multiple ways in which phosphorus is added to lakes and ponds. This includes internal and external loading. Internal loading is when phosphorus is released from sediment within a water body. External loading is when phosphorus comes from a source outside of the water body.

Sediment is another common contributor to lake water quality degradation. Excess sediment accumulation due to erosion on the lake bottom changes the quality of spawning areas, decreases macroinvertebrate habitat, and allows nutrients to accumulate and become resuspended into the water column. Nutrient and sediment inputs can decrease the overall quality of a lake.

Chloride is a pollutant of emerging concern as it is very harmful to aquatic ecosystems and challenging to remove once it is introduced into water resources. Application of road salt during winter to manage ice, spray treatments on gravel roads during winter to manage dust, and water softener solutions contribute chloride to water resources through stormwater runoff.

Protecting high-quality lakes and restoring lakes that are already being impacted from land use change is of importance to the BCWD.

Lake Level Management

Lakes naturally fluctuate in water level, and this fluctuation is beneficial for the lake and the surrounding upland habitat. However, during drought conditions water levels could shift the littoral zone, which could be a potential mechanism for increased plant abundance driven by water level changes that host additional plant species. Conversely, extreme flood conditions can impact adjacent trees, structures and infrastructure (e.g. subsurface sewage treatment systems and roads). Managing excessively high lake levels may be necessary in some cases but should be conducted in a manner that takes into account the ecological function of the lake and natural lake level fluctuations. Lake level management is expected to become more challenging in the future as precipitation patterns trend toward more extreme wet and dry periods

Lake Functions and Values

Each lake within the BCWD is unique in many respects. Thus, each lake provides different functions and is valuable to the community in different ways. Lakes provide aesthetic value, habitat, flood storage and groundwater recharge functions, and recreational value, each to varying degrees. Many of the shallow lakes in the watershed display improving trends, though risks associated with algae domination and excessive aquatic vegetation, including invasive species persist. Several lakes possess unique water chemistry and/or plant communities of high biodiversity value. Evaluating the natural condition of the lake, educating residents about the natural condition, and determining local interests can assist in implementing effective lake management plans.

3.4.4. Policies, Goals, and Implementation

The policies, goals, and implementation items related to these sub-issue areas are summarized in the following tables. The sub-issue area is identified in a heading, followed by a related policy. The goals addressing that policy are lettered and stated, followed by the implementation items for that goal. This format is intended to clearly display how each policy and goal will be addressed.

Table 22. Lake Management Policies, Goals, and Implementation Activities

SUB-ISSUE:	**Water Quality Protection and Restoration**		
POLICY:	**The BCWD is committed to the restoration of water quality in degraded lakes and to the protection of water quality in lakes that meet state water quality standards.**		
GOALS		**IMPLEMENTATION ITEM**	
A	Restore the water quality in District lakes and large ponds that do not currently meet State standards or their designated uses.	**1**	Conduct water quality monitoring of lakes in cooperation with municipalities, Washington County, and state agencies as appropriate to establish and evaluate progress toward water quality goals.
		2	Utilize the District's cost-share program to assist in implementation of Lake Management Plans through BMP installation by citizens.
		3 **4**	Implement watershed improvements in the relevant lake management plans for Long Lake, the South School Section Lake subwatershed, Benz Lake Management Plan, Woodpile Lake Management Plan, Masterman Lake Management Plan and Northern Chain of Lakes WRAPS- **SEE IMPLEMENTATION ACTIVITIES IDENTIFIED UNDER LAKE MANAGEMENT PLAN (TABLE 62)**
		4	Implement chloride source management activities in Long Lake
		5	Develop concept plan for retrofitting Cub Foods/Target parking lots to share with property owner Super Value Holdings by 2020.
B	Protect the water quality in District lakes and large ponds that currently meet State standards and their designated uses.	**1**	*Addressed through administration of the BCWD regulatory standards and criteria.*
		2	Utilize the District's cost-share program to assist in citizen installation of water quality improvement projects (including thermal BMPs) and water quantity (e.g. volume control) practices
		3	Support limited liability legislation and smart salting initiatives throughout the watershed
POLICY:	**BCWD will coordinate with municipalities and other government agencies in the management of Lake McKusick.**		
GOALS		**IMPLEMENTATION ITEM**	
A	Meet the goals and objectives identified in the Lake McKusick Management Plan.	**1**	Develop preliminary plans for BMPs in contributing drainage area to address pollutant loads to McKusick Lake.
SUB-ISSUE:	**Lake Level Management**		
POLICY:	**The BCWD supports the management of lake levels in a way that balances the ecological functions of a lake with flood protection.**		
GOALS		**IMPLEMENTATION ITEM**	
A	Maintain the natural hydrology of these lake systems	**1**	Continue to conduct lake level monitoring to track lake level trends
		2	*Addressed through administration of the BCWD regulatory standards and criteria.*
SUB-ISSUE:	**Lake Function and Values**		
POLICY:	**The BCWD supports the establishment of ecologically reasonable goals for the functions and values and recreational opportunities of District lakes based on the natural condition of each lake.**		
GOALS		**IMPLEMENTATION ITEM**	

A	Establish shoreline vegetation improvement goals for lakes	**1**	Incorporate shoreline vegetation surveying into Lake Management Plans and monitoring
		2	Utilize the District's cost-share program to assist in property owner installation of shoreline rehabilitation projects that can provide a water quality improvement
		3	Highlight shoreline conservation efforts of specific properties and showcase these through shoreland property outreach materials
		4	Implement a citizen science initiative using the DNR's *Score Your Shore* tool to gather data and track shoreline health across the district
B	Achieve a clear water state conditions in the district's shallow lakes and ponds	**1**	Utilize subwatershed management plans and/or internal load management to monitor progress towards a clear water state
C	Better understand soft water chemistry of district's lakes to inform basin specific management activities	**1**	Inventory lakes for water chemistry and plant communities to determine where soft water lakes are and what characteristics of the contributing drainage area supports their chemistry.
D	Better understand the distribution and growth of aquatic plant communities and how to manage them	**1**	Monitor aquatic plant communities via point-intercept surveys on a 5-10 year cycle for each lake. *(Rationale being that aquatic plant communities are a good, relatively cheap option for monitoring lake response to changes in water quality/climate change/other factors, a good data point for overall function and value, and BCWD has lots of potential for unique species).*
		2	Establish a lake vegetation management policy. *PLSLWD has one of these and it helps give guidance to when the District will/won't intervene in vegetation management. More food for thought as it may not be as big of a deal for BCWD since it doesn't have the large recreational lakes of PLSLWD with as many landowner AIS complaints. But can help focus efforts if vegetation management becomes a common request.*

Table 23. Projected Expenditures (in 1,000's) for Lake Management Practices

Implementation Activities	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	10-Yr. Total
Develop Lake Management Plans for Bass Lake East and West. Plan would include strategies to reduce watershed nutrient loading and internal phosphorus loading.	--	--	--	--	20	--	--	--	--	--	20
Long Lake Management Activities	18	15	5	10	16	29	35	49	72	75	324
South School Section Lake Management Activities	--	15	12..5	12..5	12..5	12..5	12..5	12..5	12..5	12..5	115
Management Activities for All other District Lakes and Large Ponds	10	10	30	25	20	--	30	35	25	35	220
Develop concept plan for retrofitting Cub Foods/Target parking lots to share with property owner Super Value Holding by 2020.	--	--	--	15	--	--	--	--	--	--	15

Develop concept plan for Trooien property to demonstrate more sustainable development approach.	--	15	--	--	--	--	--	--	--	--	15
Develop concept plan for Herbergers property to share with property owner Michael Holdings.	--	--	15	--	--	--	--	--	--	--	15
Total for Lake Management	**28.3**	**55**	**63**	**63**	**69**	**42**	**78**	**97**	**110**	**123**	**724**

Table 24. Lake Management Implementation Activities from Table 16 addressed by Baseline Monitoring Program

Conduct water quality monitoring of lakes in cooperation with municipalities, Washington County, and state agencies.
Continue to conduct lake level monitoring to track lake level trends

Table 25. Lake Management Implementation Activities from Table 16 where implementation costs covered under another Issue Category

Implementation Activity	Issue Category where implementation cost is identified (Table #)
Utilize the District's cost-share program to assist in the implementation of Lake Management Plans through best management practice installation by citizens.	Stormwater Management (Table 5)

3.8. Ecological Health

3.8.1. General Issue Statement

The restoration and protection of the District's surface water resources requires a healthy watershed where the natural cover supports hydrologic and geomorphic processes, habitat of sufficient size and quality to support native aquatic species and riparian species, and water quality that supports healthy biological communities. The BCWD shares discoveries of unique and sensitive plants and animals to increase awareness of the value of protecting healthy watersheds and improve understanding of management actions needed to avoid adverse impacts.

3.8.2. Relevance to the District

The BCWD is home to several unique ecosystems which provide habitat for rare and sensitive plant and animal communities. Given the rate at which land use changes have occurred in the eastern part of the Twin Cities Metropolitan Area, the watershed still has a number of high-quality resources which warrant protection.

To-date the BCWD has focused a significant amount of effort on the protection and restoration of Brown's Creek, a cold-water fishery located on the boundary of the Twin Cities Metropolitan Area. Given its designation as a cold-water fishery, Brown's Creek has been actively managed by the Minnesota DNR as a trout stream and a significant amount of attention has been given to the trout population of the creek. In addition to the trout, the Brown's Creek corridor supports a variety of unique and rare species such as Rainbow Darter (*Etheostoma caeruleum*), Blanding's Turtle (*Emydoidea blandingii*), and coldwater dependent macroinvertebrates. The steep topography, geologic setting, and high quality vegetation of the Brown's Creek Gorge supports Walking Fern (*Asplenium rhizophyllum*), Butternut (*Juglans cinerea*), and foraging and nesting habitat for Louisiana Waterthrush (*Parkesia motacilla*).
More recently, the BCWD has been focusing on its lakes, ponds and wetlands. Lake management activities have resulted in the discovery of Snailseed Pondweed (*Potamogeton bicupulatus*), an endangered aquatic plant which indicates the need to better understand the water chemistry of these lakes and the management activities needed to sustain these sensitive species. Similarly, a wetland inventory conducted in 2024 resulted in the discovery of a Cranberry Bog (Northern Shrub Shore Fen) which is home to carnivorous round leaved sundew, bog cranberry, and a continuous carpet of sphagnum moss. The presence of these rare species is an indication of the watershed system's health and the need for protection by the BCWD as well as private landowners.

To date, the BCWD has focused its management efforts on impacts related to land use changes in the watershed. Given the changes seen locally, nationally and world-wide, the BCWD is broadening its focus by considering impacts related to climate change (see Table X) and the benefits a healthy watershed provides to economic and social well-being (see Table X).

Table 40. Impacts of climate change on Ecological Health

Impact	Description	Indicators
Extreme Heat	Extreme heat increases evaporation rates, drying up water sources such as ponds, rivers, and wetlands.	- Reduced reproductive success: Heat stress can lower reproductive success by reducing the fertility of animals or the survival rates of eggs and offspring. For example, heat waves can cause nest abandonment or reduce the hatching success of eggs in birds, reptiles, and amphibians. - Disruption of aquatic habitats: Reduced water levels in rivers, lakes, and streams can threaten fish and other aquatic organisms, as these species depend on specific water conditions for survival. Warmer water temperatures can also reduce dissolved oxygen levels, stressing or killing aquatic life. - Proliferation of invasive species: Some invasive species, including certain plants, insects, and animals, thrive in hotter conditions and may outcompete native species, altering ecosystems and threatening biodiversity. Invasive insects, such as bark beetles, have devastated forests weakened by heat stress.
Warming winters and fewer days below freezing (32°F)		- Increasing presence of species traditionally found further south while traditional northern species die out - Invasive Species Expansion: Fewer cold days can help invasive species, which are often better adapted to warmer conditions, survive and spread. This can have serious consequences for native wildlife by altering habitat structure and resource availability. - Plants and insects that emerge earlier due to fewer cold days may not synchronize with the life cycles of their pollinators or herbivores. - Warmer winters with more frequent rain can cause increased soil erosion in upland areas, leading to higher sediment loads in water bodies.
Extreme Precipitation	Washington County has and will continue to experience more wet conditions caused by increased precipitation. Precipitation increases are occurring in each season of the year, with the largest increases in spring and summer.	- Wetland areas or floodplains might become permanently submerged, reducing the amount of usable land for species like small mammals, ground-nesting birds, and reptiles. - Intense rainfall can cause soil erosion, particularly on slopes or deforested areas. Erosion leads to loss of plant cover, which is

	Not only has precipitation increased, but the intensity and frequency of large events have also increased.	essential for shelter, food, and nesting for many animals. - Extreme rainfall can lead to streambank erosion, which destroys habitats for aquatic and semi-aquatic animals such as amphibians, fish, and birds. Fish spawning sites can be disrupted as sediment buries eggs or larvae. - Increased water flow in rivers and streams can wash away aquatic organisms, disrupt breeding areas, and destroy the structure of habitats. - Excessive sediment in water can cover the river or lakebed, smothering fish eggs, aquatic plants, and invertebrates that are crucial to the food chain. This degradation can reduce biodiversity and the health of aquatic ecosystems. - Extreme rainfall washes nutrients (like nitrogen and phosphorus from fertilizers) and pollutants (like pesticides, heavy metals, and waste) into water bodies. - Disturbed landscapes and flooded areas can become ideal for invasive species to spread, often outcompeting native plants. - Wildlife and plant species that require specific conditions (e.g., dry soil, stable habitats) may be outcompeted by more generalist species, leading to a decline in biodiversity.
Drought	Extended period(s) of no or minimal precipitation impacting the supply of water	- Habitat fragmentation: As animals move to find water, they may cross human-dominated landscapes, leading to more road crossings, vehicle collisions, and habitat fragmentation. - Aquatic ecosystems are especially vulnerable to drought. Reduced water levels and higher temperatures can drastically affect fish, amphibians, and invertebrates. - Drought weakens plant root systems, increasing soil erosion and leading to long-term vegetation loss. The loss of vegetation increases soil erosion, which can lead to the degradation of habitats, particularly in areas prone to wind or water erosion. - Drought can lead to long-term shifts in species composition and biodiversity, favoring drought-tolerant species over more sensitive ones. - Soil degradation: Heat and drought can degrade soil health, leading to erosion, reduced fertility, and the loss of organisms

		that contribute to nutrient cycling. This can have long-term consequences for ecosystem productivity and resilience.

Table 41. Ecological Health opportunities which intersect with DEI principles

Impact	Description of the Need	How Ecological Health can help
Equitable access to clean water	A healthy watershed ensures that water is clean, reliable, and accessible to all communities, regardless of their socio-economic status, race, or geographic location.	- By maintaining clean lakes, ponds, wetlands, streams and groundwater the Brown's Creek watershed supports basic services that are critical to the well-being of all communities, particularly those that may not have the resources to combat pollution or environmental degradation.
Environmental Justice	Environmental justice seeks to address the unfair distribution of environmental benefits and burdens, particularly for communities that have been historically marginalized or overlooked.	- Healthy watershed management can prioritize including voices from marginalized communities, ensuring they have a say in decisions that affect their local environment. This leads to policies that reflect the needs of diverse communities and prevent further environmental inequities.
Inclusive Economic Benefits	Economic disparities are often tied to environmental degradation, with disadvantaged communities being most affected by poor watershed health. Inclusive watershed management can provide economic opportunities for all populations.	- Healthy watersheds contribute to healthier ecosystems that can support recreation, tourism, and other economic activities. - Ensuring that water quality improvement projects are implemented equitably and impacts to property values. - Investments in watershed restoration and maintenance can lead to the creation of sustainable jobs, from restoration work to green infrastructure development, benefiting local economies. These jobs should be accessible to underrepresented groups, creating pathways for economic inclusion.
Community Engagement and Empowerment	DEI in environmental planning requires inclusive processes where diverse communities have the opportunity to participate in the design and implementation of watershed management efforts.	- Healthy watershed initiatives can actively engage community members from diverse backgrounds in decision-making, planning, and restoration activities. This includes reaching out to underrepresented groups, hosting culturally relevant events, and providing education in multiple languages to ensure that all voices are heard. - Communities that are engaged in watershed health are empowered to take ownership of their local environment. Supporting leadership opportunities within minority and underserved groups ensures that they are involved in the long-term sustainability of their water resources.

Climate Resilience and Vulnerability	Climate change disproportionately affects marginalized communities, who are more vulnerable to extreme weather events, droughts, and flooding—all of which are linked to watershed health.	- Healthy watersheds act as natural buffers against the impacts of climate change by regulating water flow, preventing flooding, and maintaining groundwater supplies. Ensuring that these benefits are distributed equitably can help vulnerable communities better withstand the impacts of climate change. - Watershed management plans can focus on areas where communities face the highest risk of climate impacts. By prioritizing these areas, managers can ensure that historically marginalized communities are not left more vulnerable to environmental disasters.
Cultural and Recreational Inclusion	Diverse cultural and recreational needs must be considered in the management of water resources, ensuring that all communities have access to natural spaces that support their well-being and traditions.	- Many Indigenous communities and other ethnic groups have deep cultural ties to water bodies and natural ecosystems. A healthy watershed protects these areas, preserving important cultural and spiritual sites. - Healthy watersheds support outdoor recreational activities such as fishing, swimming, and hiking, which should be accessible to all communities. Watershed management can ensure that parks, lakes, and rivers are open and safe for use by all demographic groups, promoting inclusivity in nature-based recreation.
Education and Outreach	Promoting awareness of water issues and stewardship opportunities must reach diverse audiences to build a more inclusive environmental movement.	- Watershed programs can include targeted education efforts that reach diverse communities, particularly those historically excluded from environmental education. Programs in schools, community centers, and local organizations can raise awareness about the importance of water conservation and offer opportunities for all groups to engage in watershed protection. - Ensuring that educational materials and outreach efforts are available in multiple languages and are culturally relevant is critical for engaging diverse communities in watershed health. This fosters a sense of inclusivity and participation in water resource management.

3.8.3. Sub-Issue Areas

Degraded Fisheries

A healthy fish community is an indicator of resource health, and also an important component to maintaining a high-quality aquatic resource. Environmental stressors continue to threaten the integrity of the watershed's fish-supporting resources. These stressors can include metals, nutrients, sediment, temperature, and Aquatic Invasive Species (AIS).

Protect and Restore the Function of Upland Areas

The BCWD is home to several plant and animal species that are sensitive and valuable from an ecological standpoint. These plant and animal species are indicators of a healthy watershed which is a reflection of the land use in the rural portions of the watershed, resulting in more intact upland areas. The BCWD intends to protect and enhance these upland areas in order to maximize the ecosystem services (i.e., filtration, groundwater recharge, wildlife habitat, rate control) provided by this part of the landscape.

Invasive Species

Invasive species continue to spread throughout the region. Some invasive species pose direct risks to water resources within lakes and wetlands, while others pose indirect impacts in upland areas where they impact land cover and soil health. For example, Common buckthorn (*Rhamunus cathartica*) negatively impacts the understory which results in soil erosion and increased nutrient and sediment loads to downstream resources. Managing species that negatively impact the water resources plays an important role in maintaining the ecological integrity of the watershed.

3.8.4. Policies, Goals, and Implementation

The policies, goals, and implementation items related to these sub-issue areas are summarized in the following tables. The sub-issue area is identified in a heading, followed by a related policy. The goals addressing that policy are lettered and stated, followed by the implementation items for that goal. This format is intended to clearly display how each policy and goal will be addressed.

Table 42. Ecological Health Policies, Goals, and Implementation Activities

SUB-ISSUE:	**Degraded fisheries**		
POLICY:	**BCWD aims to support a robust and healthy fishery as a vital component to ecological health.**		
GOALS		**IMPLEMENTATION ITEM**	
A	Promote healthy and diverse fish communities represented by species representative of the MNDNR lake or stream classifications	**1**	Conduct additional sampling on Brown's Creek to determine the population status and distribution of the Rainbow darter in the gorge.
		2	Conduct fish barrier assessment to determine potential for fish passage through 95 / 96 box culverts in 2016, then determine fish passage through remaining road crossings to Manning avenue if no barrier present in the gorge.
		3	Work with the DNR to develop a fish stocking plan
		4	Work with community groups (e.g. Stillwater High School and Trout Unlimited) to develop fish rearing plans
B	TSS loads within the contributing drainage area need to be reduced by 74% on average in order to meet these loading limits. (Brown's Creek TMDL Implementation Plan, EOR, 2012)	**1**	Annually analyze progress toward the TSS reduction goal based on evaluation of the collected monitoring data (conducted as part of the baseline monitoring program).
		2	**SEE IMPLEMENTATION ACTIVITIES IDENTIFIED UNDER BROWN'S CREEK MANAGEMENT PLAN (TABLE 61)**
C	Restore impaired lakes so that they meet state standards for total phosphorous, chlorophyll A concentration and Secchi depth.	**1**	**SEE IMPLEMENTATION ACTIVITIES IDENTIFIED UNDER LAKE MANAGEMENT PLAN (TABLE 62)**
D	Achieve the TP Load Reduction goal of 148 lbs. established at the Diversion Structure as identified in the McKusick Lake and Lily Lake Management Plans.	**1**	Re-assess water quality data collected in contributing drainage area to Diversion Structure to evaluate pollutant loading and identify sources.
E	Identify and preserve important aquatic wildlife habitat and fish spawning areas	**1**	Continue surveys for mussels in the lower gorge, particularly upstream of the 2015 unique Species Inventory survey area. Many riffles in the lower gorge have not been surveyed.
		2	Compile a herptile record database developed from available records and initiate citizen volunteer Amphibian and Reptile Survey.
			Removal of fish barriers?
			Creation of fish refugia?
SUB-ISSUE:	**Protect and Restore the Function of Upland Areas**		
POLICY:	**The BCWD is committed to maintaining the ecological integrity and connectivity of intact ecosystems.**		
GOALS		**IMPLEMENTATION ITEM**	

A	Preserve, conserve, and restore natural resources by implementing sustainable practices that promote biodiversity and healthy ecosystems (Washington County Natural Resource Systems Framework).	**1**	Implement native plant community preservation and restoration projects utilizing the District's land protection priorities.
		2	Enhance the management of the BCWD's ecosystem services by implementing pollinator conservation strategies (e.g. recognize and support exemplar projects which restore and enhance habitat for pollinator species, work with road authorities to control invasives and promote establishment of pollinator species, work with county and municipalities to develop mowing plan and schedule that is more conducive to stormwater management and pollinator species)
		3	Work with the City of Stillwater and area residents to conduct on-going monitoring of the oak forest found on the west side of Long Lake (identified as a Rare Feature) to evaluate its quality, and if any management activities are needed to ensure its sustainability.
		4	Improve ecosystem services by creating a program that focuses on restoring forests, wetlands, and grasslands to help reduce the impacts of climate change, such as flooding, heat islands, and soil erosion.
		5	Work with municipalities to establish tree preservation goals and requirements.
		6	Work with landowners to diversify their woodlands through forest management plans
B	Turf to native plant conversion goal. Enhancing ecosystem services of the landscape. Greater native/natural space vegetation requirement. More resilient landscape for wet/dry conditions.	**1**	Identify target area and criteria for priority habitat conversion areas.
		2	Consider rule change to allow credits for turf conversion
		3	Implement through the cost-share program
		4	EMWREP education and outreach
SUB-ISSUE:	**Invasive Species**		
POLICY:	**The District takes an active role in preventing the spread of invasive species through education, partnerships, monitoring, and invasive species management projects.**		
GOALS		**IMPLEMENTATION ITEM**	
A	Initiate and support aquatic invasive species (AIS) management projects on private and public lands where connected to water quality management	**1**	Continue to monitor aquatic invasive species and implement controls when it's determined to be a water quality issue.
		2	Record the location of invasive species and implement control measures if it's determined to have water quality impacts or threats to native plant communities.
		3	Address aquatic invasive species management by providing education and outreach to residents and individuals recreating in the watershed.
		4	Utilize the cost-share program to assist with invasive species management where there is a water quality benefit and/or co-benefit towards other beneficial goals.
		5	Support initiatives by the County and other regional partners on AIS management.

		6	Education and outreach regarding bait disposal and pet release.
B	Initiate and support terrestrial invasive species management projects on private and public lands where connected to water quality management	**1**	Conduct on-going vegetation surveys (every five years) to evaluate community quality and invasive species to provide a more robust dataset that can be used to evaluate trends in plant community composition. A minimum of 5 wetland and 5 upland plots should be established for long-term monitoring.
		2	Provide public and private landowners with tools and resources needed to manage existing habitat, improve species diversity, and protect against invasive species, erosion, and overuse (LSCR1W1P).

[Turf to native plant conversion image]

Table 43. Projected Expenditures (in 1,000's) for Ecological Health

Implementation Activities	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	10-Yr. Total
Conduct additional sampling on Brown's Creek to determine the population status and distribution of the Rainbow darter in the gorge.	2	--	--	--	2	--	--	--	2	--	6
Continue surveys for mussels in the lower gorge, particularly upstream of the 2015 unique Species Inventory survey area. Many riffles in the lower gorge have not been surveyed.	--	--	2.5	--	--	--	--	--	--	2.5	5
Compile a herptile record database developed from available records and initiate citizen volunteer Amphibian and Reptile Survey.	--	--	--	3.5	--	--	--	--	--	--	3.5
Implement native plant community preservation and restoration projects utilizing District's land protection priorities.	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5
Enhance management of BCWD's ecosystem services by implementing pollinator conservation strategies.	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5
Continue to monitor aquatic invasive species & implement controls when it's determined to be a water quality issue.	--	--	1	1	1	1	1	1	1	1	8
Record the location of terrestrial exotic and invasive species and implement control measures if it's determined to have water quality impacts.	--	--	1	1	1	1	1	1	1	1	8
Conduct on-going vegetation surveys (every five years) to evaluate community quality and invasive species to provide a more robust dataset that can be used to evaluate trends in plant community composition: min. of 5 wetland and 5 upland plots should be established for long-term monitoring.	--	--	10	--	--	--	--	5	--	--	15
Total for Ecological Health	**3**	**1**	**15.5**	**6.5**	**5**	**3**	**3**	**8**	**3**	**7.5**	**55.5**

Table 44. Ecological Health Implementation Activities from Table 30 addressed by East Metro Water Resource Education Program

Address AIS management by providing education and outreach to individuals recreating in the watershed.

Table 45. Ecological Health Implementation Activities from Table 30 where implementation costs covered under another Issue Category

Implementation Activity	Issue Category where implementation cost is identified (Table #)
Utilize the District's cost-share program to assist in the implementation of Lake Management Plans through best management practice installation by citizens - Cost identified in Implementation Activity X under Stormwater Management.	Stormwater Management (Table 5)
Re-assess water quality data collected in contributing drainage area to Diversion Structure to evaluate pollutant loading and identify sources.	Stormwater Management (Table 5)
Promote stormwater reuse by working with local businesses, local units of government and Washington County to incorporate BMPs into new development or redevelopment projects.	Stormwater Management (Table 5)
Conduct fish barrier assessment to determine potential for fish passage through 95 / 96 box culverts in 2016, then determine fish passage through remaining road crossings to Manning avenue if no barrier present in the gorge.	Stream Management (Table 13)
Annually analyze progress toward the TSS reduction goal based on evaluation of the collected monitoring data (conducted as part of the baseline monitoring program).	Stream Management (Table 13)
Utilize the cost-share program to assist with invasive species management where there is a water quality benefit.	Stormwater Management (Table 5)

3.13. Land Conservation

3.13.1. General Issue Statement

Changes in land use threaten to degrade the quality of water resources and limit wildlife habitat. Land use practices can reduce the area of land covered with native vegetation, increase erosion and stormwater runoff, and break wildlife habitat into small, disconnected areas unable to support high quality, diverse populations. The development of a land conservation program allows entities to set aside critical parts of the landscape for the protection and restoration of downstream waterbodies.

3.13.2. Relevance to the District

Land use changes in the District are often made adjacent to and encroaching on water resources and natural areas. Proper management of stormwater runoff and erosion will limit the water quality and quantity impacts to these resources but will not fully maintain the ecological quality or function and value of the resources if adjacent lands are managed in a way that does not maintain native vegetative communities and wildlife habitat. In 2017, the BCWD acquired a property so that it may be protected by a conservation easement. This acquisition adds a new role for the BCWD Board of Managers as they consider the management needs and potential uses for this property.

To date, the BCWD has focused its management efforts on impacts related to land use changes in the watershed. Given the changes seen locally, nationally and world-wide, the BCWD is broadening its focus by considering impacts related to climate change (see Table X) and the benefits land conservation provides to economic and social well-being (see Table X).

Table 67. Related Climate Change Impacts

Impact	Description	Indicators
Extreme Heat	Extreme heat increases evaporation rates, drying up water sources such as ponds, rivers, and wetlands.	- Proliferation of invasive species: Some invasive species, including certain plants, insects, and animals, thrive in hotter conditions and may outcompete native species, altering ecosystems and threatening biodiversity. Invasive insects, such as bark beetles, have devastated forests weakened by heat stress.
Warming winters and fewer days below freezing (32°F)		- Increasing presence of species traditionally found further south while traditional northern species die out - Invasive Species Expansion: Fewer cold days can help invasive species, which are often better adapted to warmer conditions, survive and spread. This can have serious consequences for native wildlife by altering habitat structure and resource availability.

		- Warmer winters with more frequent rain can cause increased soil erosion in upland areas, leading to higher sediment loads in water bodies.
Extreme Precipitation	Heavier precipitation during rainfall events	- Intense rainfall can cause soil erosion, particularly on slopes or deforested areas. Erosion leads to loss of plant cover, which is essential for shelter, food, and nesting for many animals. - Extreme rainfall can lead to streambank erosion, which destroys habitats for aquatic and semi-aquatic animals such as amphibians, fish, and birds. Fish spawning sites can be disrupted as sediment buries eggs or larvae. - Increased water flow in rivers and streams can wash away aquatic organisms, disrupt breeding areas, and destroy the structure of habitats. - Excessive sediment in water can cover the river or lakebed, smothering fish eggs, aquatic plants, and invertebrates that are crucial to the food chain. This degradation can reduce biodiversity and the health of aquatic ecosystems. - Extreme rainfall washes nutrients (like nitrogen and phosphorus from fertilizers) and pollutants (like pesticides, heavy metals, and waste) into water bodies. - Disturbed landscapes and flooded areas can become ideal for invasive species to spread, often outcompeting native plants. - Wildlife and plant species that require specific conditions (e.g., dry soil, stable habitats) may be outcompeted by more generalist species, leading to a decline in biodiversity.
Drought	Extended period(s) of no or minimal precipitation impacting the supply of water	- Habitat fragmentation: As animals move to find water, they may cross human-dominated landscapes, leading to more road crossings, vehicle collisions, and habitat fragmentation.

Table 68. Land Conservation opportunities which intersect with DEI principles

Impact	Description of the Need	How Ecological Health can help
Equitable access to land and natural resources	Historically, land conservation programs have sometimes overlooked marginalized communities, leading to unequal access to natural spaces and the	- Land Conservation Programs can prioritize the creation of public lands or community green spaces in underserved areas, ensuring equitable access to nature for recreation, mental health, and cultural practices.

	benefits of land conservation. Many low-income, Indigenous, and communities of color have been systematically excluded from land ownership and access to natural areas.	- Making conservation land (i.e. Brown's Creek Conservation Area) an inclusive space for all of the communities living in the watershed.
Environmental Justice	Communities of color and low-income populations are often disproportionately impacted by environmental degradation, including poor land use, industrial development, and pollution. Land conservation can help by protecting these communities from further harm.	- Conservation programs can prioritize the protection and restoration of lands in or near communities that are at greater risk of environmental hazards. For example, creating green spaces or preserving wetlands can help reduce flooding or pollution in vulnerable neighborhoods. - By conserving or restoring forests, wetlands, and floodplains near marginalized communities, programs can act as natural buffers that mitigate the impacts of climate change and extreme weather events, which often disproportionately affect these populations.
Inclusive Decision-Making	Historically, land conservation decisions have been made without the input of diverse communities, leading to a lack of representation and inclusion in environmental management decisions.	- Conservation efforts can include local communities, especially those from underrepresented groups, in decision-making processes. This ensures that land conservation projects reflect the priorities, values, and needs of all stakeholders. - Programs that engage local organizations, Indigenous groups, and minority communities in co-management or stewardship initiatives ensure that conservation projects benefit from diverse perspectives and knowledge systems. - Providing education, leadership training, and resources to minority communities allows for greater participation in land conservation efforts and creates opportunities for local leadership.
Climate Resilience and Vulnerability	Climate change disproportionately affects marginalized communities, who are more vulnerable to extreme weather events, droughts, and flooding.	- Conservation programs that focus on restoring forests, wetlands, and grasslands can help reduce the impacts of climate change, such as flooding, heat islands, and soil erosion, particularly in low-income and marginalized areas.
Cultural Preservation and Recognition	Many Indigenous and ethnic communities have deep cultural and spiritual connections to land and water. Conservation programs can either support or conflict with these connections, depending on	- Conservation programs can prioritize the protection of lands and associated waters that have cultural, historical, or spiritual significance to Indigenous peoples and other minority communities. This promotes not only ecological conservation but also cultural heritage preservation.

	how they are designed and implemented.	- Land conservation programs can benefit from integrating Indigenous knowledge systems, which have long traditions of sustainable land management. Recognizing and respecting traditional ecological knowledge can enhance the effectiveness of conservation efforts while promoting inclusivity.

3.13.3. Sub-Issue Areas

Preservation of Natural Areas, Connections between Natural Areas, and Groundwater Recharge Zones

While the impacts of development can be managed, key natural resources can be lost in the process. Conservation of groundwater recharge zones, surface water resources, and natural resources can be effectively accomplished through preservation of key natural areas. Land conservation can preserve and restore resource quality, provide stormwater benefits, protect groundwater recharge, ensure the sustainability of wildlife habitat connections, and create spaces that allow people access to natural spaces they do not have access to otherwise.

3.13.4. Policies, Goals, and Implementation

The policies, goals, and implementation items related to these sub-issue areas are summarized in the following tables. The sub-issue area is identified in a heading, followed by a related policy. The goals addressing that policy are lettered and stated, followed by the implementation items for that goal. This format is intended to clearly display how each policy and goal will be addressed.

Wetland along County Road 57

Table 69. Land Conservation Policies, Goals, and Implementation Activities			
SUB-ISSUE:	**Protection of natural areas, connections between natural areas, and groundwater recharge zones**		
POLICY:	**The BCWD will work with communities, agencies and non-profits, as appropriate, to protect land throughout the District in order to preserve and restore the resource quality, stormwater benefits, groundwater recharge, wildlife habitat connection, and access to natural spaces provided by key upland and lowland areas.**		
GOALS		**IMPLEMENTATION ITEM**	
A	Identify and pursue opportunities to preserve and restore land within the watershed that protect and restore high quality native plant communities and/or connect critical habitat areas.	**1**	Review and revise land protection corridors and priorities to reflect current resource protection needs (e.g. recharge areas, unique resources, and land adjacent to District's resources).
		2	Work with member communities to set standards for development near and within the identified land protection corridors and to determine allowed uses within corridors that will provide necessary flexibility while preserving the water and habitat benefits of the corridor.
		3	Purchase property as land conservation opportunities arise within priority areas.
		4	Partner to conduct estate planning workshops and connection to land trusts.
B	Preserve and restore District owned easements	**1**	Develop and implement management plans for District owned easements.
		2	Restore the Brown's Creek Conservation Area by implementing the activities identified in the Management Plan which includes Natural Areas Management and Usage Implementation costs for a 10-year period.
C	Utilize space for public engagement/outreach	**1**	Work with adjacent landowners to create additional buffer to the Conservation Easement
		2	Share and educate the public about the restoration activity and unique species

Table 70. Projected Expenditures (in 1,000's) for Land Conservation

Implementation Activities	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	10-Yr Total
Review and revise land protection corridors and priorities to reflect current resource protection needs (e.g. recharge areas)	--	--	--	--	--	20	--	--	--	--	20

Work with member communities to set standards for development near and within the identified land protection corridors and to determine allowed uses within corridors that will provide necessary flexibility while preserving the water and habitat benefits of the corridor.	--	--	--	--	--	--	5	--	--	--	5
Restore the Brown's Creek Conservation Area by implementing the activities identified in the Management Plan which includes Natural Areas Management and Usage Implementation costs for a 10-year period.	54	73	36	19	23	16	16	10	10	10	266
Develop landowner interest in land protection, promote stewardship and acquire conservation easements and/or lands in coordination with the Department of Natural Resources, Washington County, the Natural Resource Conservation Service, the Minnesota Land Trust, and the Trust for Public Land as appropriate.	25	25	25	25	25	50	50	50	50	50	375
Total for Land Conservation	**79**	**98**	**61**	**44**	**48**	**86**	**71**	**60**	**60**	**60**	**666**

Project Name |	BCWD Permit Program	**Date** |	11/06/2024
To / Contact info |	BCWD Board of Managers		
Cc / Contact info |	Karen Kill, District Administrator		
From / Contact info |	John Sarafolean, EOR		
Regarding |	October Permit Inspection Update		

Background

BCWD has an on-going permit review process in support of the District Rules. Developments within the District Jurisdictional Boundary are reviewed for compliance with the Rules and conditions of the permit. This memo documents inspections from 10/04/2024 through 11/06/2024.

Inspection of Existing Permits

Project Name	Permit ID	Date	Grade
White Oaks Savanna Development	17-01	11/05/2024	B
Lakes of Stillwater Trail	17-04	10/10/2024	C
		10/24/2024	B
		11/04/2024	B
WOS Lot 114 Tweden Residence	23-02	11/04/2024	B
Wiskow Berm	23-14	11/04/2024	A
WOS Lot 102 Mensah Residence	23-15	11/05/2024	B
WOS Lot 124 Penny-Lane	23-18	11/05/2024	B
Take 5 Oil Change	24-01	10/24/2024	B
Schuster Residence	24-02	11/05/2024	B
WOS Lot 120 Hilgert Residence	24-03	11/05/2024	B
Swager Residence	24-05	11/05/2024	B
WOS Lot 127 Karr Residence	24-11	11/05/2024	C
WOS Lot 130 Carlson Residence	24-12	11/05/2024	B
Wick Residence	24-14	10/24/2024	B
		11/04/2024	B

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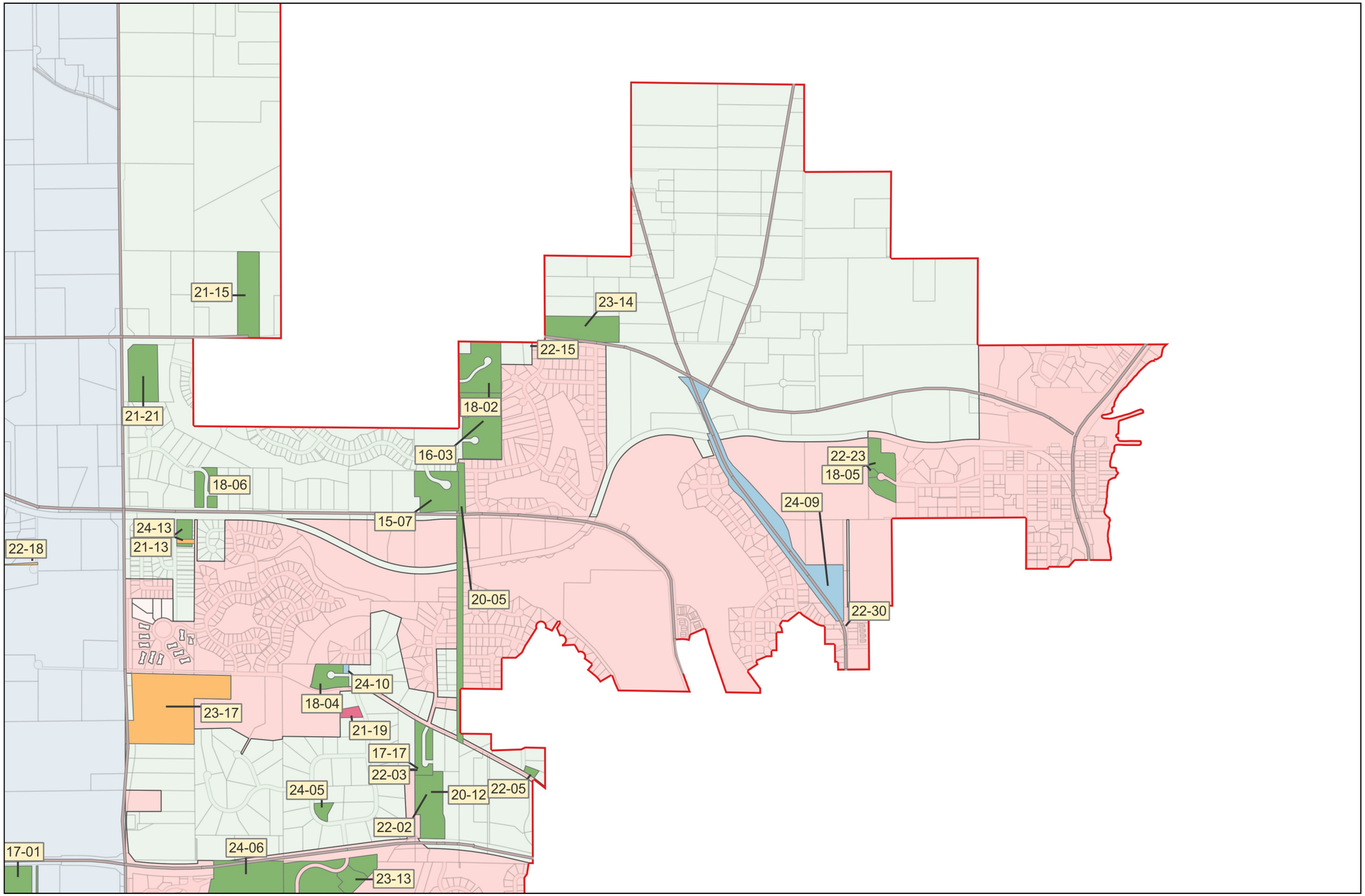
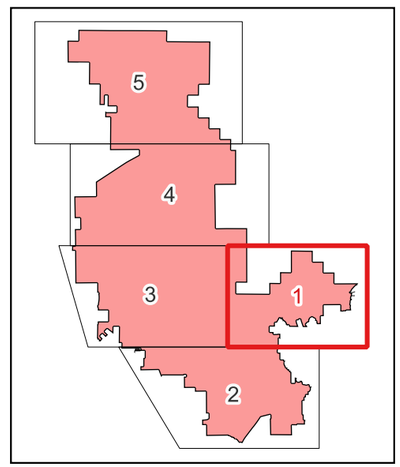
Author: Allison Mark
Layout: Permit Update Map

Permit No.	Applicant/Permit Name	Status
15-07	Brown's Creek Cove	Active
16-03	The Ponds at Heifort Hills	Active
17-01	White Oaks Savanna	Active
17-04	The Lakes of Stillwater	Active
17-17	Westridge	Active
18-02	Heifort Hills Estates	Active
18-04	Boutwell Farm	Active
18-05	Heritage Ridge	Active
18-06	Nottingham Village	Active
20-05	Neal Avenue Reconstruction	Active
20-12	White Pine Ridge	Active
21-13	Marylane Gateway	Active
21-15	Schwartz Residence	Active
21-21	Millbrook West Park	Active
22-02	White Pine Ridge, remaining lots	Active
22-03	Westridge, remaining lots	Active
22-05	13290 Boutwell Rd N	Active
22-18	Stillwater Oaks	Pending
22-23	Ferguson Residence (Heritage Ridge Lot 4)	Active
23-13	Sandhill Shores (Phase III of Lakes at Stillwater)	Active
23-14	Wiskow Berm	Active
23-17	Sundance Stillwater	Pending
24-05	Swager Residence	Active
24-06	Rutherford Elementary	Active
24-09	CSAH 5 Phase 3	Review
24-10	Boutwell Farms Lot 1	Review
24-13	8413 Marylane	Pending





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November 6th, 2024

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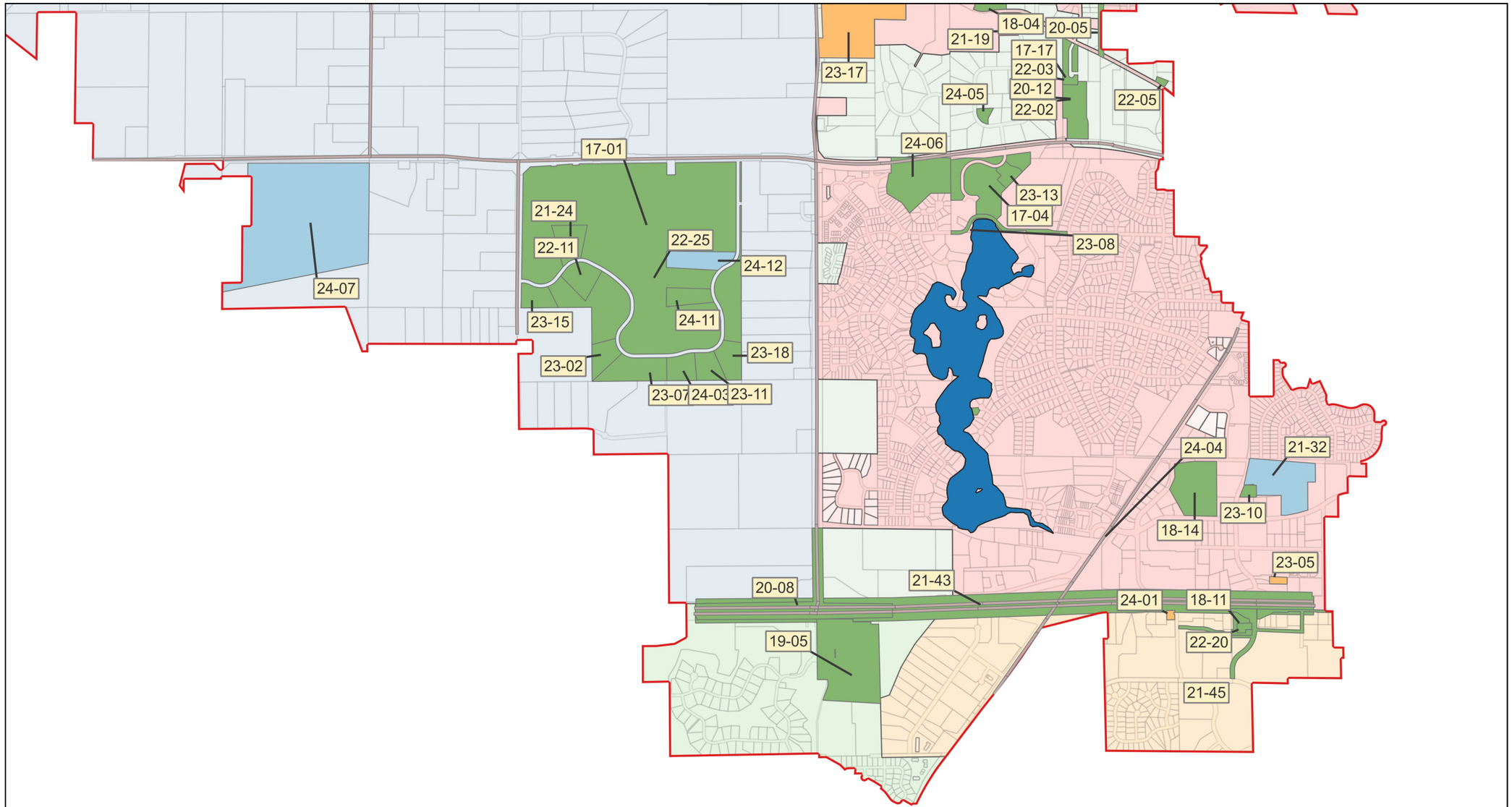

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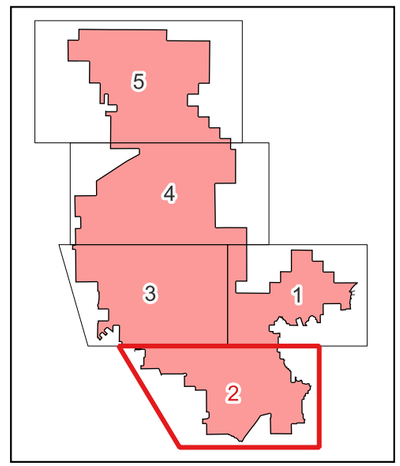
17-01	White Oaks Savanna	Active
17-04	The Lakes of Stillwater	Active
17-17	Westridge	Active
18-04	Boutwell Farm	Active
18-11	Ridgecrest	Active
18-14	St. Croix Valley Recreation Center Expansion	Active
19-05	Central Commons	Active
20-05	Neal Avenue Reconstruction	Active
20-08	TH36 CSAH 15 Interchange	Active
20-12	White Pine Ridge	Active
21-24	Nepal Residence - WOS B1L3	Active
21-32	Lakeview EMS	Review
21-43	MnDOT TH-36	Active
21-45	Norell Avenue Improvements	Active
22-02	White Pine Ridge, remaining lots	Active
22-03	Westridge, remaining lots	Active
22-05	13290 Boutwell Rd N	Active
22-11	Wiechmann Residence	Active
22-19	Miller Flood Protection	Active
22-20	Popeyes OPH	Active
23-02	Tweden Residence	Active
23-05	Rocket Carwash	Pending
23-08	72nd St Improvement	Active
23-10	Curio Dance Studio	Active
23-11	Freiroy Residence	Active
23-13	Sandhill Shores (Phase III of Lakes at Stillwater)	Active
23-15	Mensah Residence	Active
23-17	Sundance Stillwater	Pending
23-18	WOS Lot 124 Heck Residence	Active
24-01	Take 5 Oil Change	Pending
24-03	WOS Lot 120 Hilgert Residence	Active
24-05	Swager Residence	Active
24-06	Rutherford Elementary	Active
24-07	Elliot Crossing/ Indian Hills	Review
24-11	WOS Lot 127 Karr Residence	Active
24-12	Carlson Residence	Review



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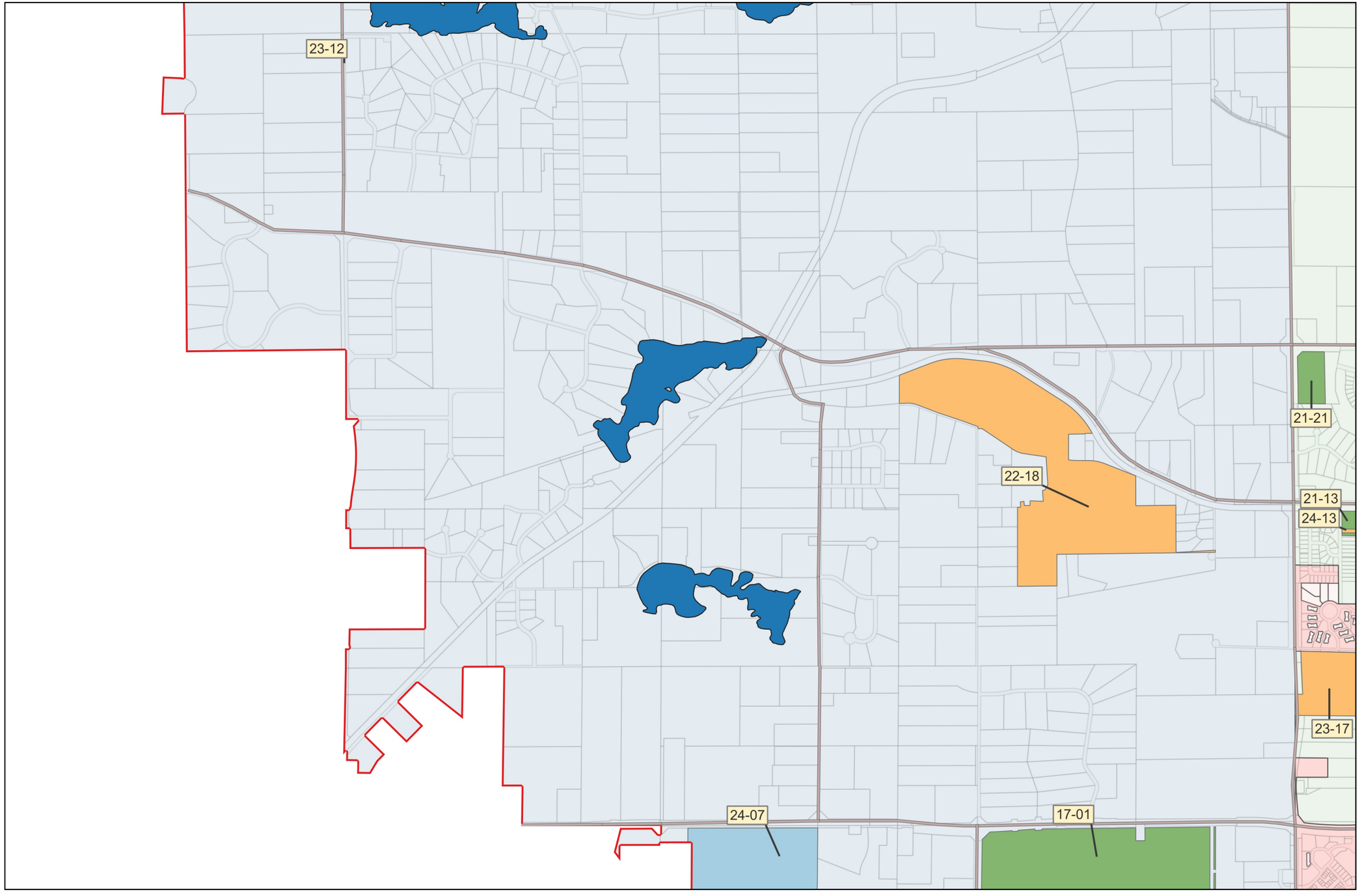
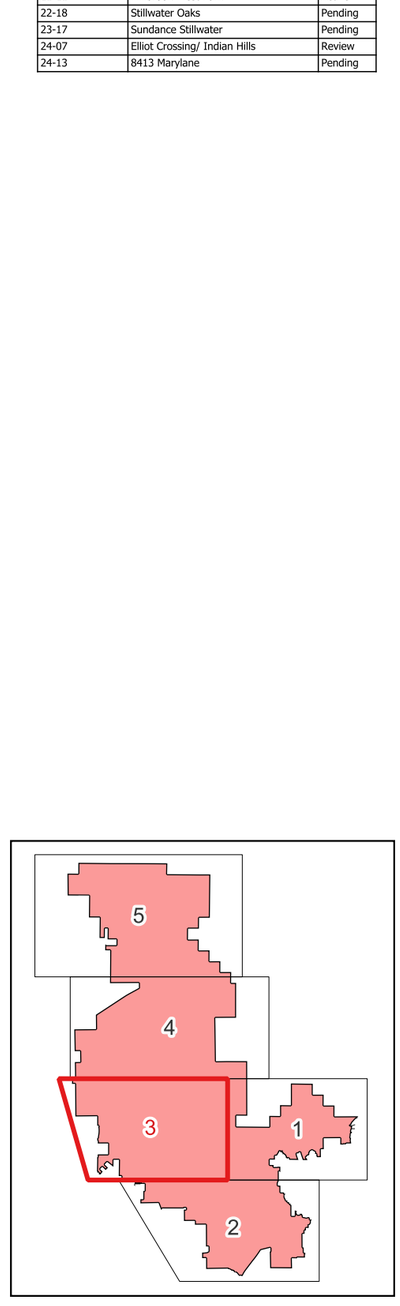
Permit No.	Applicant/Permit Name	Status
17-01	White Oaks Savanna	Active
21-13	Marylane Gateway	Active
21-21	Millbrook West Park	Active
22-18	Stillwater Oaks	Pending
23-17	Sundance Stillwater	Pending
24-07	Elliot Crossing/ Indian Hills	Review
24-13	8413 Marylane	Pending





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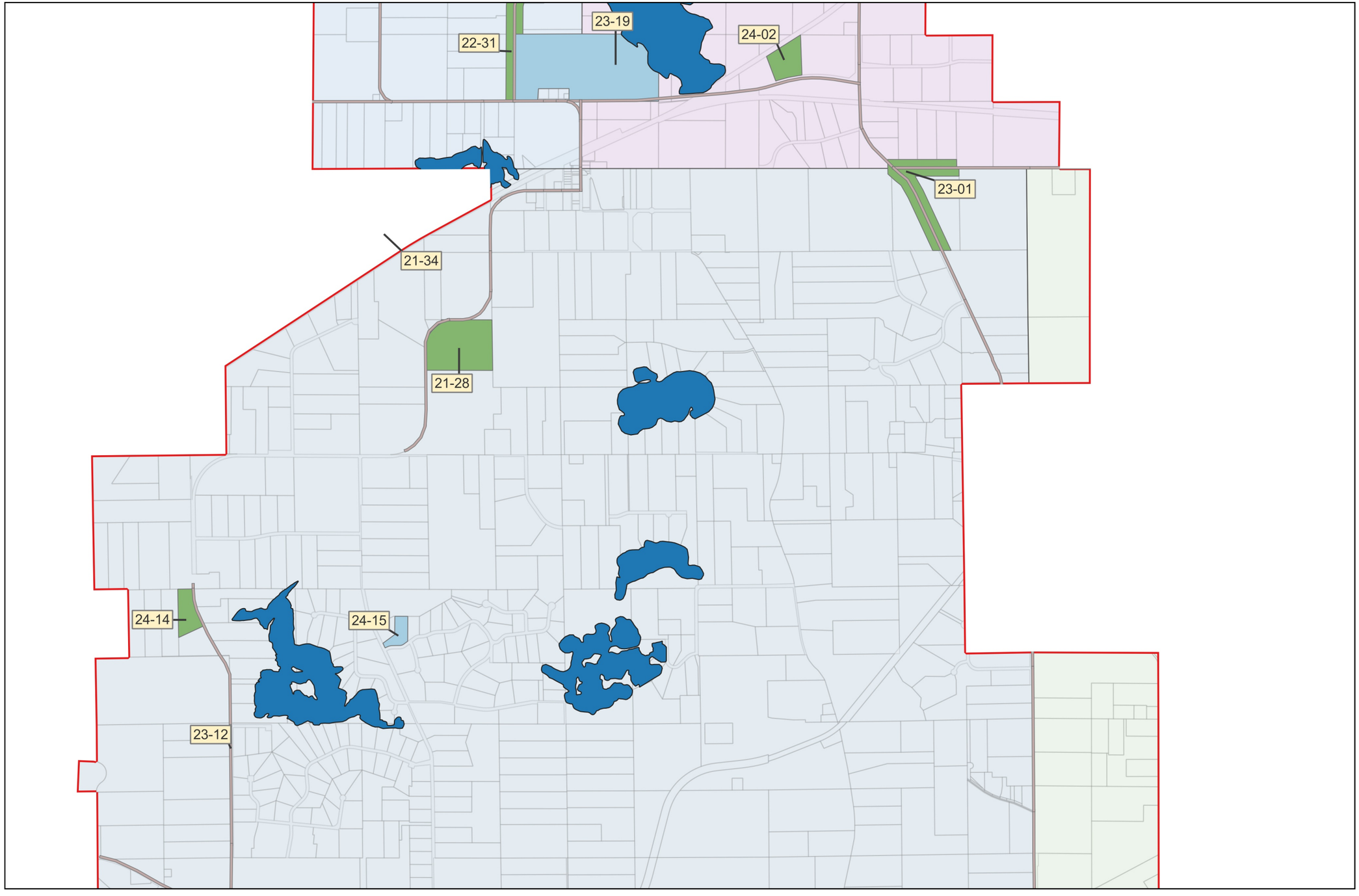
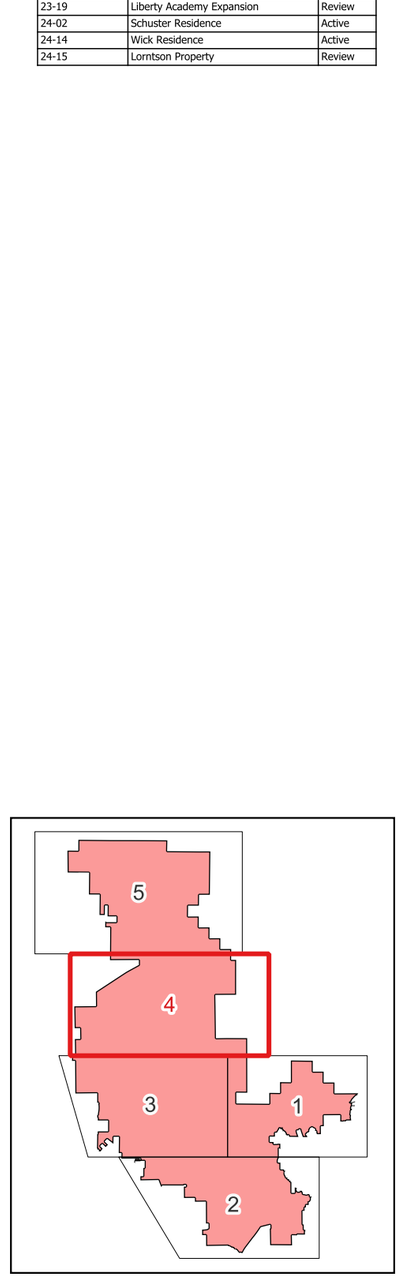
Permit No.	Applicant/Permit Name	Status
21-28	Guerrino Residence	Active
21-34	Fahey Residence	Active
22-31	County Road 57 Culverts	Active
23-01	County Road 61 Improvements	Active
23-19	Liberty Academy Expansion	Review
24-02	Schuster Residence	Active
24-14	Wick Residence	Active
24-15	Lorntson Property	Review





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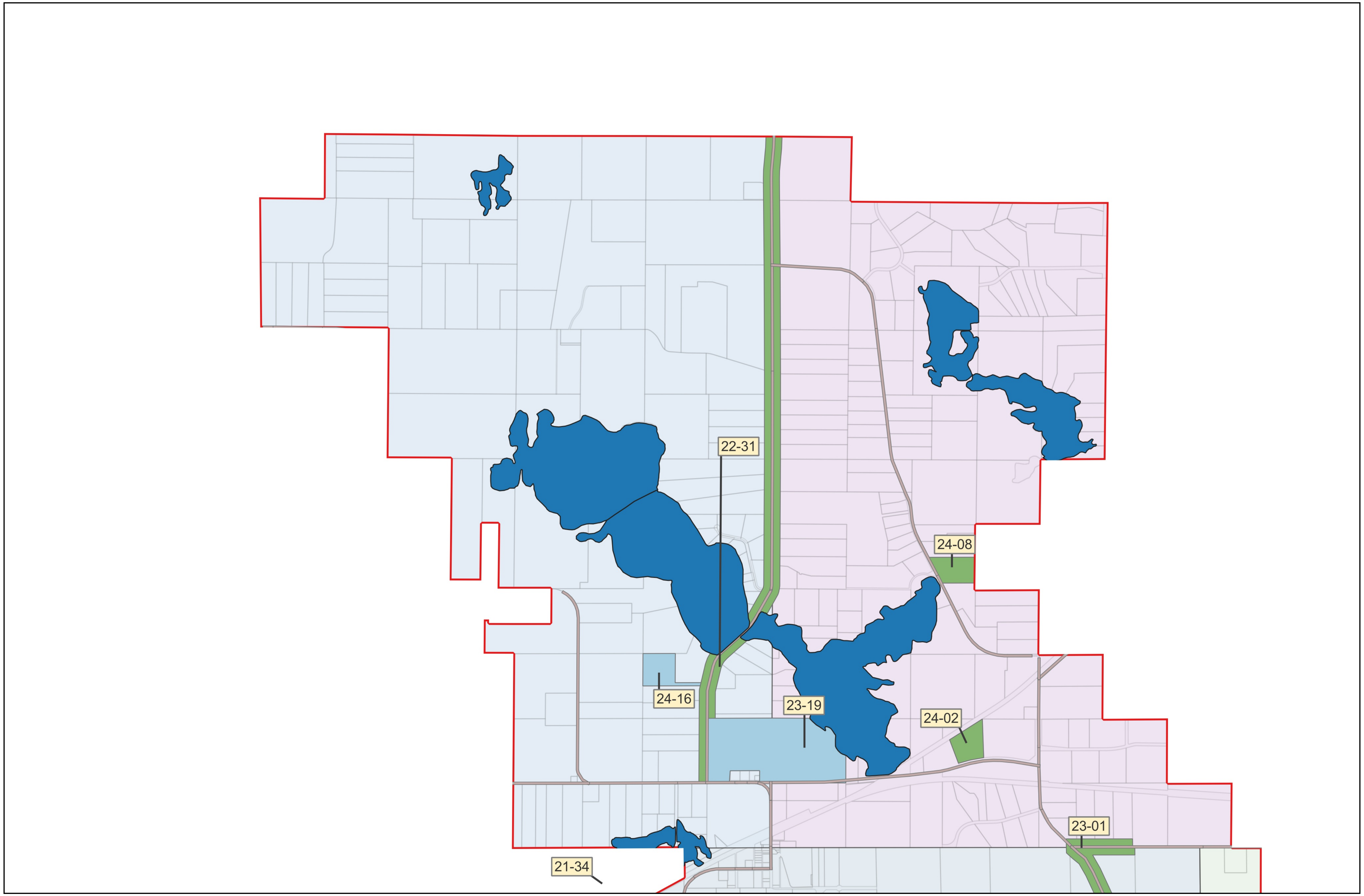

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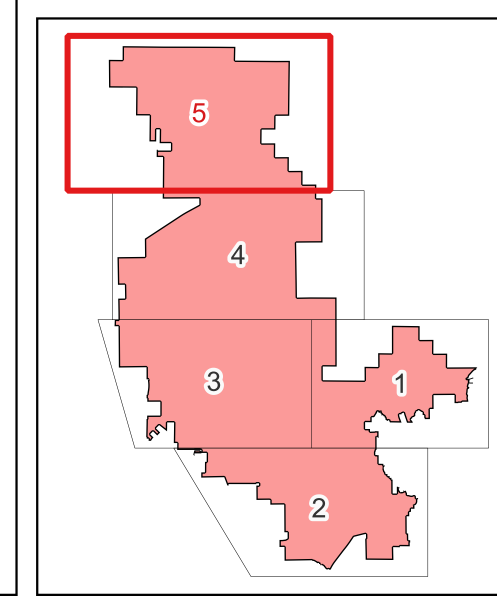
21-34	Fahey Residence	Active
22-31	County Road 57 Culverts	Active
23-01	County Road 61 Improvements	Active
23-19	Liberty Academy Expansion	Review
24-02	Schuster Residence	Active
24-08	Altendorfer Residence	Active
24-16	Goodsell Residence	Review



EOR water ecology community

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November 6th, 2024