BROWN'S CREEK WATERSHED DISTRICT

455 HAYWARD AVE N
OAKDALE, MN
55128

651.330.8220 X26 [PHONE]
651.330.7747 [FAX]
WWW.BCWD.ORG

REGULAR MEETING OF THE BOARD OF MANAGERS
Wednesday, November 8, 2023 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 @ 6:30PM

2) Oath of Office – Debra Sahulka

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

4) Public Comments

5) 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 October 11, 2023 Regular Meeting
   b) Accept Permit Fee Statement
   c) Approve modification of BCWD Permit 23-10 Curio Dance studio
   d) Determine completeness of Brown's Creek Restoration Environmental Assessment Worksheet and approve for distribution
   e) Approve Minnesota Watersheds registration not to exceed $325 for Rosie Russell to facilitate session on behalf of BCWD as part of our enhanced stakeholder engagement in our watershed

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

7) Planning
   a) Mendel Wetland Community Engagement Scope – **Board Action**
   b) Enhanced Stakeholder Engagement – Board feedback

8) Program
   a) Citizen Advisory Committee 2023 events summary – Cameron Blake

9) Training
   a) Climate Resiliency Planning Tools – Camilla Correll
   b) Home Owner Associations – Michael Welch

10) Discussion Agenda - No Action Required
    a) Updates
        (1) Administrator- office closed Friday, November 10th Veteran's Day observation
        (2) Legal
        (3) Engineer - Permit Inspection Update
        (4) Managers
    b) December 2023 Regular Meeting BCWD Board Agenda

11) Adjournment

BROWN'S CREEK WATERSHED DISTRICT
455 HAYWARD AVE N
OAKDALE, MN
55128
651.330.8220 X26 [PHONE]
651.330.7747 [FAX]
WWW.BCWD.ORG

DRAFT Minutes of the regular meeting of the Brown's Creek Watershed District Board of Managers, Wednesday October 11, 2023

ROLL CALL

Managers Present:	**Others Present:**
Klayton Eckles, President	Karen Kill, BCWD administrator
Celia Wirth, Vice President	Camilla Correll, EOR, BCWD engineer
Charles LeRoux, Secretary	Michael Welch, Smith Partners, BCWD counsel
	Cameron Blake, BCWD staff
	Ryan Fleming, EOR, BCWD engineer (attended remotely)
Manager absent:	John Sarafolean, EOR, BCWD engineer
Gerald Johnson	Pat Conrad, EOR, BCWD engineer
	Anne Wilkinson, EOR, BCWD engineer

1) Call Regular Meeting to Order @ 6:30 p.m.

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

2) Approve Agenda

Manager Celia Wirth asked to remove acceptance of the permit-fee statements and approval of the Family Means waiver from the consent agenda.

Manager Wirth moved, seconded by Manager LeRoux, to approve the agenda as amended. Motion carried, vote 3/0.

Administrator Karen Kill explained that Permit 23-05 Rocket Carwash is still on the district's permit fee statement despite not receiving approval from the city planning commission, because the BCWD approval has not expired. Permit 23-05 will remain on the BCWD permit list until the applicant no longer wishes to renew it.

Michael Welch recommended against authorizing execution of the Family Means waiver because it waive Family Means' negligence as a condition of using the meeting space. The waiver has been the same for the last five years.

Manager Wirth moved, seconded by Manager LeRoux, to approve Family Means Waiver for 2024 meeting space. Motion carried, vote 3/0.

3) Public Comments

None.

4) Consent Agenda

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

a) Approve minutes of the August 16, 2023, workshop & regular meeting
b) Approve minutes of September 13, 2023, regular meeting
Motion carried 3/0.

5) Treasurer's Report

a) Review Authorized Funds Spreadsheet

Administrator Kill explain that there were no changes to the spreadsheet from the previous month.

b) Current Items Payable

Manager Wirth moved, seconded by Manager LeRoux, to accept the authorized funds spreadsheet and approve payment of bills as presented in the amount of $79,258.47.

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

Motion carried 3/0.

Ms. Kill noted there is about $200,000 in the 4M account which is currently earning interest. The account is set up so the district can withdraw what is needed for payables each month.

6) Project

a) Marketplace Reuse 2024 Chloride Monitoring

Ms. Kill reminded the managers that the feasibility study of stormwater reuse in the Marketplace subwatershed supported further development of the project. Among the questions that managers had regarding the project the suitability of stormwater runoff for irrigation considering the unknown chloride content. The Washington Conservation District scope of work in the meeting packet would add monitoring of the ponds in 2024 to better assess the question.

Manager Eckles wondered whether Wildwoods pond, one of the ponds identified for monitoring and possible inclusion the reuse system, is a wetland or part of the stormwater treatment system, and whether it is a viable option for use. He stated he is supportive of looking into the chloride content but noted his previous concern of making sure the district is investing time and resources into solving a problem. Ms. Kill explained one goal the proposed monitoring would address in addition to the chloride impairment in Long Lake is setting up a regional system to address rate and volume control ahead of coming redevelopment in the area. There could be additional benefits to a reuse system as well and there are potential avenues to pay for this project including developers reimbursing district costs. She noted that such an approach would be similar to other systems in the metro area. The ponds selected for

monitoring are wet storage ponds identified in the feasibility report. The monitoring data could inform what kind of vegetation could be sued in a reuse setting.

Manager Wirth moved, seconded by Manager LeRoux, to authorize the president to amend the 2023-2024 agreement with Washington Conservation District to include not to exceed $19,183 from account 929-0012 and$1,680 that will be subcontracted to the Metropolitan Council for lab sample analysis. Motion carried 3/0.

b) Long Lake – Chloride Presentation

Anne Wilkinson presented the science behind chloride pollution, its impact on freshwater ecosystems, and background on the limited monitoring data available from Long Lake, which has recently been listed by the state as impaired for chloride. There is limited data from limited locations and elevations in the lake so it is difficult to make a clear assessment of Long Lake's status. The bathymetry of the lake may also affect the way chloride will impact Long Lake's ecosystem.

The managers discussed current strategies for reducing salt use, and what municipalities in the watershed are doing. Ms. Kill noted that she does not know how modern the watershed cities equipment is. Before chloride use became widespread for deicing, other techniques such as studded tires, sand, and road closing were used in the winter, but these had impacts on commerce and to roads. The managers noted there is some chloride use in the summer for dust suppression on gravel roads.

Ms. Wilkinson explained currently there is no feasible way to remove chloride from the water, but there can be reductions in chloride concentrations in systems with short residence time by reducing the amount of chloride entering a system. Long Lake has a longer residence time but the district can work to keep the chloride levels from getting worse, which could reduce impact to the ecosystem. Ms. Wilkinson explained that 78 percent of applied chloride washes into receiving waters. Manager Eckles noted there is also a concern for infiltration as a volume strategy in areas where shallow aquifers are used for drinking water.

Ms. Kill explained the board can consider the district's approach to reducing salt usage in the watershed through rules, such as requiring snow management plans through the permitting program, and cost sharing for improved salt application equipment for municipalities, among other options.

7) Planning

a) Limited Liability Chloride Legislation

Michael Welch explained how one approach to reducing salt use was through passing a state law reducing liability for salt applicators if they follow state-approved guidelines for application. Such legislation did not pass last session. Mr. Welch said he has been working on the legislative language with a team of experts and lobbyists, supported by Nine Mile Creek Watershed District. The request before the managers is for BCWD to join in supporting the effort, not to exceed $4,000.

The managers discussed other potential policy approaches to reducing private chloride use such as municipal ordinances and applicator licensure requirements. The board discussed how limited liability legislation compared to existing municipal immunity.

The board discussed the need for engagement with legislators, acknowledging the difficulties in doing so on these complicated issues. Manager Eckles expressed interest in seeing the bill once it is drafted by the end of the year and offered to testify if needed, given his experience in municipal road management and public works.

Manager LeRoux moved, seconded by Manager Wirth, to authorize not-to-exceed $4,000 for 2023-24 services developing and lobbying for legislation providing certified salt applicators with a limitation on property liability and other efforts to reduce chloride pollution in Minnesota rivers and lakes from account 300-4410. Motion carried 3/0.

b) H&H Model Update – Phase I scope

Ryan Fleming explained said the district has maintained a current, updated hydrology and hydraulic model of the watershed, adding better topographical resolution and elevation data. The last major update was in 2015. The model is used by the district in many program areas and activities, and is shared with municipalities. The next update could involve updated elevation, landscape and land-cover data that is going to become available and some local updates concerning drainage questions and impervious surface from large developments. Mr. Fleming clarified this scope of services would be considered phase I of the larger model update, which could involve more effort to incorporate climatology changes.

Manager LeRoux moved, seconded by Manager Wirth, to approve the scope of services for an estimated cost of $43,400 from account #923-?. Motion carried 3/0.

c) Enhanced Stakeholder Engagement

Camilla Correll reminded the managers that the board approved a scope of work for enhanced stakeholder engagement in anticipation of the upcoming watershed management plan update. She presented the background on the first steps in setting up such engagement and said the district's Citizens Advisory Committee would participate in the same exercise. The goal for the board meeting was to review the stakeholder list to identify organizations that may be missing. The managers discussed the importance of communicating complex scientific ideas and district efforts in a way that is accessible, as well as the importance of introducing the district to people who are unaware of the district's existence or mission or how they could benefit from or relate to the district. The managers noted that people who use the watershed for recreation should also be considered stakeholders, not just residents. Mr. Welch noted the managers should be intentional about the goal of stakeholder engagement and the risk of a perception of gathering input then not doing what the stakeholder asked, in case it is outside the mission of the district. Some of the benefits to this engagement could be to identify opportunities for collaboration.

8) Discussion Agenda

a) Plumbing Code Stormwater Surcharge Interpretation – District Ramifications

Ms. Kill explained that the state Plumbing Board is interpreting the plumbing code in a way that precludes standard best-practice design of common infiltration systems. There have been efforts to change the decision but the board has not made any changes as of yet. The biggest impact for the district at this time is for the permitting program and design review.

b) Updates

(1) Administrator

No additional updates.

(2) Legal

Mr. Welch updated the board that there is a legislative housekeeping effort to update Minnesota Statutes chapter 103D that will focus on procedural issues for out-of-state projects. It shouldn't effect the district as it is a metro watershed district operating under Minnesota Statutes chapter 103B as well.

(3) Engineers

John Sarafolean updated the managers on concern with erosion and sediment control at White Oak Savannah lot 106. With the recent rains and lack of stabilization on the site, the inspectors are concerned that sediment-laden runoff will reach onsite wetlands and other water bodies. He is communicating these concerns to the site supervisor and builder. He is trying to bring the property owner into these conversations as well. The homeowner has been receiving invoices from the builder for erosion and sediment control and the district has reached out to inform them of the issues occurring. There were concerns about the site earlier this year that resulted in the site coming into compliance. He noted the configuration of the site is challenging and the district is not holding financial-assurance funds to address these concerns at this time.

c) October 11, 2023 Regular Meeting BCWD Board Agenda and Location

Managers did not have any suggestions for the November agenda.

9) Adjournment

Manager Eckles moved, seconded by Manager Wirth, to adjourn the regular meeting at 9:06 p.m. Motion carried 3/0.

Respectfully submitted by
Cameron Blake, BCWD Staff and Charles LeRoux, Recording Secretary

BROWN'S CREEK WATERSHED DISTRICT

11/6/2023

APPLICANT/PERMIT NO.	PERMIT DATE	RULES							TYPE				FEES OWED	
		2	3	4	5	6	7	Decompaction	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		X	X				X					X		$3,039.10
Brown's Creek Cove Permit 15-07		X	X	X			X				X			$8,238.52
Heifort Hills Permit 16-03		X	X	X	X		X				X			$953.84
Farms of Grant/White Oaks Savannah Permit 17-01		X	X	X			X				X			$18,272.02
The Lakes of Stillwater Permit 17-04		X	X	X			X					X		$3,331.33
West Ridge Permit 17-17		X	X	X			X	X			X			$635.51
Heifort Hills Estates Permit 18-02		X	X	X			X	X			X			$41,074.46
Boutwell Farms Permit 18-04A		X	X	X			X	X			X			($744.84)
Hazel Place/Hertiage Ridge Permit 18-05 (Was 17-09)		X	X	X			X	X			X			($2,445.17)
Nottingham Village Permit 18-06		X	X	X			X				X			$650.03
Ridgecrest Permit 18-11		X	X				X	X				X		$16.68
St Croix Valley Recreation Center Expansion Permit 18-14			X				X	X	X				$6,970.28	
Rogness Residence Permit 18-15	7/26/2018		X							X				$73.69
Central Commons Permit 19-05	11/11/2025	X	X	X			X	X				X		($5,000.00)
Neal Ave Road Reconstruction Permit 20-05	6/1/2020	X	X						X				$19,088.31	
CSAH 15-36 Interchange Permit 20-08	3/24/2021 3 year approval		X			X	X		X				$19,233.85	
White Pine Ridge Permit 20-12	6/7/2021 surety redution request 1/12/23		X					X			X			($631.32)
Westridge Block 1 Lot 1 Permit 21-09 - NOPV, no permit received	8/6/2021		X					x		x				$2,851.61
Maryland Gateway Addition	9/29/2021	x	x				x				x			($854.61)

APPLICANT/PERMIT NO.	PERMIT DATE	RULES							TYPE				FEES OWED	
		2	3	4	5	6	7	Decompaction	GOV	SF RES	RES DEV	COM	EXEMPT	AMT DUE
Permit 21-13														
Schwartz Residence Permit 21-15	5/6/2021 erosion control only	x	x							x				($319.38)
Millbrook Park- City of Stillwater Permit 21-21	8/25/2021	x	x	x					x				$6,970.18	
Juliene/Guerinno Permit 21-28	no permit fee		x							x				$488.83
Fahey Permit 21-34	11/4/2021		x							x				($743.78)
Norell Ave N Improvements Permit 21-45	*(Fall 2022 BMP still needs to be finalized fall 2023)*	x	x				x		x				$10,458.63	
Gonyea (8 lots)- White Pine Ridge Permit 22-02			x								x			($746.26)
Wetridge (12 lots) - Sharkey/GreenHalo Permit 22-03 (Transferred 21-30 and 21-31)	3/25/2022		x								x			($513.73)
13290 Boutwell Road N - Sharkey/GreenHalo Permit 22-05	3/25/2022		x								x			($619.76)
Liberty Classical Academy Permit 22-07	6/15/2022	x	x											($2,012.13)
Caribou (Herberger's Redevelopment) Permit 22-10	9/29/2022	x	x									x		($3,702.05)
7125 Lone Oak Trail (WOS L106)-weichman Permit 22-11	9/25/2022		x							x				$7,103.37
13199 Dellwood Rd Permit 22-15	???		x							x				$217.83
Read Residence Permit 22-17	11/7/2022	x	x							x				$1,071.19
Stillwater Oaks Permit 22-18	conditional approval	x	x								x			$4,293.00
Miller Flood Protection Permit 22-19	10/20/2022						x				x		$2,836.25	
Popeyes OPH Permit 22-20	11/9/2022		x									x		($266.26)
Fanberg Residence - Manning Estates L4B3 Permi 22-22	10/21/2022		x							x				($766.41)
7138 Lone Oak Trl N (WOS L109) Permit 22-24	12/6/2022		x							x				($162.45)
7164 Lone Oak Trl (WOS L113) Permit 22-25	12/6/2022		x							x				($212.08)
Gagne Tending Green Permit 22-26	12/6/2022		x							x				$47.26
Wash Co. CSAH 5 Phase II Permit 22-30	1/19/2023		x						x				$783.23	
Wash Co. CSAH 57 culverts Permit 22-31	2/2/2023		x						x				$0.00	

APPLICANT/PERMIT NO.	PERMIT DATE	RULES							TYPE				FEES OWED	
		2	3	4	5	6	7	Decompaction	GOV	SF RES	RES DEV	COM	EXEMPT	AMT DUE
Cty Rd 61 Re-alignment Permit 23-01	4/12/2023 not yet closable	x	x						x				$8,036.42	
WOS L114 - Cates (7211 Lone Oak Trail Tweden) Permit 23-02	9/26/2023 submittal		x	x			x			x				$2,592.54
Boutwell Farm Lot 1 (2545 Boutwell Farm Rd) Permit 23-03	5/3/2023 NOPV Board Order Items		x											$3,472.66
Westridge B1L4 (986 Creekside) Permit 23-04	5/3/2023		x											($693.54)
Rocket Carwash Permit 23-05	conditional approval 4/12/2023	x	x											$4,824.00
7239 Lone Oak Trail (WOS L118) Permit 23-07	5/3/2023		x											$399.63
72nd St Road and Trail Improvements Permit 23-08	5/26/2023												$3,196.90	
Kirn Residence (McLafferty 8000 Neal Ave) Permit 23-09	ready to permit upon ownership verification 6/7/23		x							x				($693.29)
Curio Dance Studio Permit 23-10	10/2/2023	x	x									x		$4,934.50
7273 Lone Oak Trail- WOS Lot 122 - Freiroy Residence Permit 23-11	Conditions not met but started construction 7/27/2023		x							x				$317.36
CSAH 9 -Keystone Ave - Culvert Replacement Permit 23-12	6/7/2023						x		x				$1,504.58	
The Lakes - Phase III/Sandhill Shores Permit 23-13	6/8/2023		x								x			($509.60)
Wiskow Berm Permit 23-14	6/28/2023		x							x				($889.00)
7085 Lone Oak Trail- WOS L102- Mensah Res/Cates Permit 23-15	App recieved 7/10 John reviewing/conditions 7/27/2023		x							x				$919.36
13294 Boutwell Rd. N Permit 23-16	need erosion control revisions 10/2023		x											($883.00)
Sundance Townhomes Permit 23-17	incomplete													($5,288.75)
7285 Lone Oak Trl- WOS L124 Permit 23-18	erosion control revisions needed													($173.75)
TOTAL NON-EXEMPT DUE BCWD:		90	326	34	15	27	160		71	153	13	119		**$109,771.06**
Total due back to applicants if closed:														**($371,044.96)**

memo

Project Name |	BCWD Permit 23-10 Curio Dance Studio	**Date** |	11/03/2023
To / Contact info |	BCWD Board of Managers		
Cc / Contact info |	T.J. Rose, Larson Engineering		
Cc / Contact info |	Karen Kill, Administrator / BCWD		
From / Contact info |	Camilla Correll, PE / EOR; John Sarafolean, EOR		
Regarding |	BCWD Permit 23-10 Amendment		

The following review of a request for approval of a modification of permit 23-10 for the Curio Dance Studio 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-modification application.

Applicant: Patricia Schaber, CDS Properties LLC
Permit modification submittal date: 10/19/*2023*
Completeness determination: 11*/09/2023*
Board Action Required By: *12/18/2023*
Review based on BCWD Rules effective April 1, 2020
Recommendation: Approve with a stipulation

GENERAL COMMENTS

Curio Dance Studio has applied for a modification of the terms of approval of BCWD permit 23-10 to reflect changes made to the project's stormwater-management design in response to the recent Minnesota Plumbing Board interpretation of state plumbing code to conflict with standard stormwater-management design, as discussed at the October 2023 meeting of the managers. The Plumbing Board has determined that the approved design "shows the parking lot catch basins discharging to the infiltration basin via flared end sections with invert elevations located 1) below the high water level of the basin, and 2) below the invert elevation of the flared end section at the outlet of the basin. This design could result in surcharged storm sewers, which are not allowed (see the Plumbing Board Notice of Final Interpretation for Inquiry PB0159)." (See attached letter, 09/29/2023.)

In response, Curio's engineer has revised the stormwater utilities and management plan as follows:

- Catch basins and storm sewer conveying the runoff from the parking lots have been removed.
- Total new/reconstructed impervious has increased by 340 sf with grass area being reduced and pavement area increased for curb cuts.
- Parking lot grading has been adjusted to drain the parking lot runoff from the pavement to the curb and gutter, and to three curb cut inlets to the infiltration basin. One curb cut to the north that is pretreated by a rain guardian structure and two curb cuts to the south that are pretreated by two rain guardian structures and a vegetated swale before entering the infiltration basin.

Following review of the stormwater-design changes, the BCWD engineer finds that:

Rate Control

According to BCWD Rule 2.4.1(b)(i), an applicant must submit a stormwater-management plan providing no increase in the existing peak stormwater flow rates from the site for a 24-hour precipitation event with a return frequency of two, 10 or 100 years for all points where discharges leave the site.

☒ Rule Requirement Met

The revised stormwater management plan developed for the site was evaluated using a HydroCAD model of existing and post-development site conditions. Proposed peak runoff rates to the east discharge rate have decreased by .01 cfs for the 100-year event. The west discharge rate has increased by .01 cfs for the 2-year, .04 for the 10-year, and .12 cfs for the 100-year event. All proposed discharge rates under the revised design are lower than existing discharge rates therefore still meeting BCWD rule requirements. A comparison of the modeled peak flow rates is included in Table 1 thru 3.

Table 1 – Summary of Peak Discharge Rates to the East

Event	*Existing Runoff Rate (cfs)*	*Proposed Runoff Rate (cfs)*
2-year (2.80”)	0.14	0.00
10-year (4.17”)	0.63	0.00
100-year (7.23”)	2.30	0.63

Table 2 – Summary of Peak Discharge Rates to the South

Event	*Existing Runoff Rate (cfs)*	*Proposed Runoff Rate (cfs)*
2-year (2.80”)	0.08	0.00
10-year (4.17”)	0.38	0.00
100-year (7.23”)	1.37	0.00

Table 3 – Summary of Peak Discharge Rates to the West

Event	*Existing Runoff Rate (cfs)*	*Proposed Runoff Rate (cfs)*
2-year (2.80”)	0.05	0.04
10-year (4.17”)	0.18	0.13
100-year (7.23”)	0.57	0.40

Volume Control

According to BCWD Rule 2.4.1(b)(ii), an applicant must submit a stormwater-management plan providing retention onsite of 1.1 inches of stormwater volume from the regulated impervious surface.

☒ Rule Requirement Met

The applicant is still proposing to utilize an infiltration basin along the east side of the property for volume control.

Impervious surface area has increased by 0.01 acres, required volume treatment has increased by 0.001 acre-ft, and provided volume treatment remained constant at 0.23 acre-ft. Volume control under the revised design meets BCWD rule requirements. A summary of the required stormwater volume shown in Table 4 demonstrates that the required retention volume is met.

Table 4 - Discharge Volume

Impervious Surface Area (acres)	*Required Volume (acre-ft)*	*Provided Volume (acre-ft)*
0.74	0.068	0.23

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 with Conditions

The project includes an infiltration basin to meet the stormwater requirements (rate, volume and water quality). Therefore, pretreatment is required for runoff directed to this facility.

All runoff being routed to the infiltration basin will first be directed to three Rain Guardian storm inlet structures, one Rain Guardian Bunker and two Rain Guardian Turrets. According to the University of Minnesota St. Anthony Falls Laboratory study, Capture of Gross Solids and Sediment by Pretreatment Practices for Bioretention. The Rain Guardian Bunker and Turret captured 80% and 85% of the gross solids, respectively, during the low intensity test. Results for the high intensity test show the Rain Guardian Bunker and Turret structures capturing 60% and 70% of the gross solids respectively. The sediment removal results have been averaged and the pretreatment requirement is met as demonstrated by the results in Table 5.

Table 5 - Infiltration Basin Pretreatment

Practice	*TSS Reduction (%)*
Rain Guardian Bunker	70
Rain Guardian Turret	77.5

Recommendation: The BCWD engineer recommends that the board approve the permit modification with the stipulation that prior to permit closure and release of the $128,970 financial assurance submitted for the permit, the permittee submit a draft modification of the recorded stormwater declaration for approval, and documentation of recordation.

Except as modified as described herein, permit 23-10 remains valid and enforceable as issued October 2, 2023.

DEPARTMENT OF LABOR AND INDUSTRY

Division of Construction Codes and Licensing

REPORT ON PLUMBING PLANS

PROJECT: Curio Dance Studio, 1655 Washington Avenue, Stillwater, Washington County, Minnesota, *Plan No. PB-R2307-0121*

OWNERSHIP: Curio Dance Studio, 1655 Washington Avenue, Stillwater, MN 55082
SUBMITTER: Voss Utility & Plumbing Inc, PO Box 240, Hanover, MN 55341

Plans Dated: Refer to DLI stamped plans:
Sheet Nos. P1 and P2 dated July 15, 2023
Sheet Nos. C400 and C501 dated July 5, 2023
Initial Date Received: July 13, 2023
Last Date Received: July 17, 2023
Date Approved: September 29, 2023

This review is limited to the provisions of the Minnesota Plumbing Code, Minnesota Rules, Chapter 4714 and assumes the data on which the design is based are correct. Approval is contingent upon meeting the requirements listed below. **A copy of the approved plans and this report must be retained at the project location.**

INSPECTIONS: This project will be inspected by the local municipality. The contractor/installer must obtain all required inspection permits from the Stillwater Building Official, Cindy Shilts. All plumbing installations must be tested and inspected in accordance with the requirements of the Minnesota Plumbing Code. No plumbing work may be covered prior to inspection.

REQUIREMENTS:

1. All sanitary drainage pipe within the building must be installed with a uniform slope of at least ¼-inch per foot (see Section 708.1). Where site conditions preclude this, a slope of ⅛-inch per foot minimum may be used for piping 4 inches and larger if approved by the authority having jurisdiction.

2. A building's vent pipes must have total cross-sectional area not less than the area of the largest required building sewer (see Section 904.1). The design shown on the plans fails to meet this requirement.

3. The plans show a 6-inch combination fire protection/domestic water service up to the building. The combination fire protection/domestic water service must comply with the backflow protection requirements of Section 603.5.14:
   a. A listed double check valve assembly at minimum for systems without chemical introduction.
   b. An RP backflow device for:
      i. fire sprinkler systems introducing antifreeze or other chemicals directly;
      ii. pumper connections less than 1,700 feet from a nonpotable secondary water source (lakes, river, or other surface water source) capable of use by the fire department; or
      iii. pumper connections served by nonpotable sources, fire department vehicles carrying water of questionable quality, or water treated with chemical agents.

   Please consult the local administrative authority and fire department regarding fire protection water sources to determine proper backflow prevention and sprinkler system hydraulic design requirements.

4. Based on a maximum developed length of pipe of 200 feet and a 46 psi building water pressure at the meter, and using Sections 610.7 through 610.12, the hot and cold water distribution branches serving a kitchen sink and a clothes washer must be at least ¾ inches in size.

5. The potable water system supplying a lawn irrigation system must be sized to deliver the full demand of both domestic and irrigation systems (see Section 610.13, (7)).

6. The installation of reduced pressure principle assemblies, double check valve assemblies, pressure vacuum breakers, spill-proof vacuum breakers, reduced pressure detector fire protection assemblies, or double check detector fire protection assemblies is permitted only when a testing and inspection program acceptable to the administrative authority is provided (see Section 603.5.23). The administrative authority must be notified prior to installation and the water purveyor within 30 days of installation. Devices must be tested upon initial installation and not less than annually, and records must be kept. Installations must be at least 12 inches and not more than 5 feet above the finished floor or ground level unless a permanent platform for access is provided. A backflow prevention fact sheet may be viewed at: http://www.dli.mn.gov/sites/default/files/pdf/fs_backflow.pdf

7. Water supply pipe must be installed at least 10 feet horizontally from any manhole, catch basin, or other source of contamination, measured from the outer edge of the pipe to the outer edge of the contamination source (see Section 609.6.1).

8. A minimum horizontal separation of 10 feet must be maintained between the water service and any sewer, whenever possible (see Section 721.1 and Table 721.1). Common trench installation must be approved by the administrative authority and comply with Sections 609.2, 720.1, and Table 701.2. When the sewer material is not approved for use within a building:
   a. The bottom of the water pipe must be at least 12 inches above the top of the sewer.
   b. The water pipe must be on a solid shelf at least 12 inches horizontally from the sewer.

9. Storm water infiltration systems may be subject to groundwater contamination and hydraulic failure. Verify that the administrative authority has approved the design. Please contact the storm water program staff at the Minnesota Pollution Control Agency (MPCA) for construction and permit requirements.

10. The site drainage design shows the parking lot catch basins discharging to the infiltration basin via flared end sections with invert elevations located 1) below the high water level of the basin, and 2) below the invert elevation of the flared end section at the outlet of the basin. This design could result in surcharged storm sewers, which are not allowed (see the Plumbing Board Notice of Final Interpretation for Inquiry PB0159).

11. Inlet and outlet connections to sewer manholes must use flexible compression joints located between 12 and 36 inches from the manhole or approved resilient rubber joints must be used to make watertight connections to manholes, catch basins, and other structures (see Section 719.6).

12. Cleanout intervals may not exceed 100 feet for exterior sanitary sewers (see Section 719.1). Where permitted by the administrative authority, manholes at intervals not exceeding 300 feet may be used per Section 719.6.

13. Exterior PVC sanitary or storm sewers must meet ASTM D1785, D2665, D2729, D3034, F794, F891, F1488, or F1760 with approved fittings (see Table 701.2). Only ASTM D1785, D2665, F891, F1488, or F1760 PVC may cross above or less than 12 inches below potable water pipes (see Section 720.1). Solvent welded joints must use ASTM F656 **purple** primer and ASTM D2564 cement. The sewer must be installed by open-trench on a continuous granular bed per Section 314.4.1.

14. Ductile iron pipe is not approved for use as exterior sanitary piping (see Table 701.2).

15. Ductile iron pipe (DIP) water services or distribution pipes must meet AWWA C151 (see Table 604.1).

16. AASHTO M252 HDPE pipes 4-inch to 10-inch or ASTM F2306 HDPE pipes 12-inch to 60-inch may be used for storm sewers only if approved by the administrative authority as alternate materials prior to installation (see Section 301.3):
    a. Pipes must be listed and labeled. Fittings are not permitted.
    b. Pipes must be installed with a minimum 10-feet separation from water piping and may not cross above or less than 12 inches below water pipes (see Section 720.1).
    c. HDPE pipes must not be installed within 10 feet of a building.
    d. HDPE connection to a different material must use an approved listed application-specific transition coupling meeting ASTM C1173 or ASTM C1461 (see Section 705.10).
    e. Water-tight resilient joints must be used at all connections, including structures.
    f. Installation must be open-trench per Section 314.4.1 and manufacturer's installation instructions.

    Otherwise, the storm sewer pipe material must meet Table 701.2.

17. Reinforced concrete (RCP) storm sewers complying with ASTM C76 may be installed only if approved by the administrative authority as an alternate material prior to installation (see Table 701.2 and Section 301.3). Cement mortar joints are permitted only for repairs or connections to existing lines having such joints.

18. CPVC water distribution systems must meet Section 605.2 and Table 604.1.

19. PVC drain, waste, and vent systems shall meet Table 701.2 and Section 705.6. Pipe must meet ASTM D1785, D2665, F891, F1488, or F1760. ASTM F794 PVC pipe is not approved for use inside of a building.

NOTES:

1. The scope of this project consists of the construction of a new dance studio. The plumbing includes the following:
    a. Four water closets, two lavatories, an electric water cooler, a kitchen sink, a clothes washer, a mop sink, six floor drains, a potable water connection (with a reduced pressure zone backflow preventer) to the lawn irrigation system
    b. Two roof drains and associated storm water piping discharging to grade.
    c. Site drainage.

2. This facility will be served by new municipal sewer and municipal water service connections.

3. The interior plans and specifications were prepared by a licensed plumber. Only the plumber who has prepared the plans may use the plans for construction. If another plumber is contracted to install the plumbing, they must submit their own plans and specifications for the project. The site utility plan was prepared by a professional engineer.

4. The current Minnesota Plumbing Code, Chapter 4714, and related information can be found at: http://www.dli.mn.gov/business/plumbing-contractors/2020-minnesota-plumbing-code

Authorization may be withdrawn if installation does not begin within one year. Additional requirements may result from changed conditions or additional information.

Approved:

Scott Sawyer, P.E.
Public Health Engineer
Plumbing Plan Review and Inspections Unit
651/284-5803
scott.sawyer@state.mn.us

cc: Voss Utility & Plumbing
Larson Engineering
Sherburne Slater Construction
Cindy Shilts, Building Official
File

Prepared by Emmons & Olivier Resources, Inc.

Prepared for Brown's Creek Watershed District

Brown's Creek Restoration Project

Environmental Assessment Worksheet

TABLE OF CONTENTS

TABLE OF FIGURES

TABLE OF TABLES

ENVIRONMENTAL ASSESSMENT WORKSHEET

Note to reviewers: *Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the EQB Monitor. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.*

1. PROJECT TITLE

The project is called Brown's Creek Restoration Project. This will be referred to as "the project" in the EAW.

2. PROPOSER

Proposer: Brown's Creek Watershed District
Contact Person: Karen Kill
Title: Administrator
Address: 455 Hayward Ave North
City, State, Zip: Oakdale, MN 55128
Phone: 651-330-8220
Email: kkill@mnwcd.org

3. RESPONSIBLE GOVERNMENT UNIT (RGU)

RGU: Brown's Creek Watershed District
Contact Person: Karen Kill
Title: Administrator
Address: 455 Hayward Ave North
City, State, Zip: Oakdale, MN 55128
Phone: 651-330-8220
Email: kkill@mnwcd.org

4. REASON FOR EAW PREPARATION

Required	Discretionary
☐ EIS Scoping	☐ Citizen petition
☒ Mandatory EAW	☐ RGU discretion
	☐ Proposer initiated

The project requires a mandatory EAW since the proposed project design will disturb more than 500 linear feet of stream and will reconnect several oxbow channels that occur within the project site. Brown's Creek is a public water of the state and designated trout stream.

5. PROJECT LOCATION

County: Washington

City/Township: Stillwater

Table 1. PLS Location (¼, ¼, Section, Township, Range).

¼, ¼	Section	Township	Range
NE ¼, SE ¼	19	30 N	20 W
NW ¼, SW ¼	20	30 N	20 W

Watershed (81 major watershed scale): 37 St. Croix River - Stillwater

GPS Coordinates: (45.07067, -92.84368)

Table 2. Tax Parcel Numbers.

Parcel ID	Section	Township	Range	Owner
1903020410001	19	30N	20W	City of Stillwater
2003020320020	20	30N	20W	State of MN DNR
2003020320015	20	30N	20W	Beltram H Van Tassel TRS

The project site is located along Brown's Creek approximately between McKusick Road and the Brown's Creek State Trail in Stillwater, Washington County, Minnesota (Figure 1). Figure 2 shows the project site overlaid with 2-foot topographic contours.

6. PROJECT DESCRIPTION

a. Project Summary

BCWD proposes to conduct a stream habitat enhancement project in Brown's Creek to address floodplain abandonment, accelerated bank erosion, invasive species, and degraded instream habitat to restore the ecological and hydrologic functions of the creek and adjacent floodplain. The project will include reconnecting the creek with the floodplain, installing grade control riffles to limit channel incision, installing woody material and boulders for instream habitat, removing woody invasive species, and reestablishing native riparian vegetation. The project will be funded by a federal 319 grant

administered by the Minnesota Pollution Control Agency and funds levied on property within the jurisdiction of the Brown's Creek Watershed District.

b. Description

BCWD proposes to enhance approximately 2,500 feet of stream along Brown's Creek and reconnect several cutoff oxbow channels. The existing reach begins immediately south of McKusick Road and ends just downstream of the Brown's Creek State Trail (Figure 3). The project will include earthwork to reconnect the creek with the floodplain (approximately 1 to 2.7 feet of cut depending on existing creek bank heights) and to reconnect several cutoff oxbow channels. Several new stream meanders will also be implemented to increase stream length and sinuosity to reestablish a natural meandering stream channel. The project will also include invasive tree and shrub harvest and installation of tree trunks, brush bundles, and rock riffles for fish and macroinvertebrate habitat. Figure 4 shows the proposed project elements. Grade-control riffles will emulate natural rock riffles and will be installed in the creek to increase the baseflow water elevation to restore riparian hydrology that has been impacted by channel incision. In general, earthwork and selective tree harvest will occur within 50 feet of the creek, but invasive shrub harvest is proposed up to 200 feet from the stream where dense stands of common and glossy buckthorn occur. Many of the trees and shrubs proposed to be harvested will be reincorporated into the project for bank stability and habitat features. The project will also include the creation of an American Disabilities Act-compliant "spur" off Brown's Creek State Trail to improve public access to the creek. Construction site access will occur off McKusick Road and Neal Avenue. No alterations to existing infrastructure are proposed.

Erosion control measures that will be implemented during project construction include installation of temporary sediment BMPs such as biologs and soil berms to capture surface soil erosion, and installation of both hydromulch and crimped straw mulch on all disturbed soils. All disturbed soils will be seeded with a cover crop (oats and winter wheat) and native state seed mixes based on land cover type. Erosion control measures will be installed prior to construction, and hydromulch and native seeding will occur immediately after final grading per the project Stormwater Pollution Prevention Plan.

Construction Phasing:

1. Installation of erosion control BMPs
2. Initiate selective tree harvest and temporary stockpile of harvested wood
3. Bank grading and installation of grade control riffles and instream habitat
4. Installation of hydromulch and native seed to establish permanent vegetation
5. Removal of erosion control BMPs following establishment of native vegetation

c. Project Magnitude

Table 3. Project Quantities.

Project Feature	Quantity
Total Project Acreage	11.06 acres
Stream Corridor Length	2,500 ft
Number of Housing Units	N/A
Residential Building Area	N/A
Commercial Building Area	N/A
Industrial Building Area	N/A
Institutional Building Area	N/A
Other Uses	none
Structure Heights	N/A

d. Purpose

Rapid stream assessments and geomorphic surveys have identified floodplain abandonment (channel incision), bank erosion, invasive species, and degraded instream and riparian habitat throughout the project reach. The BCWD engineer estimates that the reach contributes 25.4 tons of sediment and 22.9 pounds of phosphorus per year to Brown's Creek. One of the primary purposes for this project is to address the biotic impairments identified in Brown's Creek, which is impaired for both aquatic life and aquatic recreation uses due to low fish and macroinvertebrate bioassessment scores, dissolved oxygen, thermal loads, and *E. coli*. The main water quality concerns for Brown's Creek and its tributaries are total suspended solids, total phosphorus, *E. coli*, and thermal loads. In addition to the impairments of Brown's Creek, the Brown's Creek watershed is a part of the St. Croix River and Lake St. Croix watersheds. As such, Brown's Creek was assigned a phosphorus load reduction target of 848 pounds per year in the Lake St. Croix Nutrient Total Maximum Daily Load implementation plan. Stream stressors identified for Brown's Creek include excess sediment and elevated stream temperatures; therefore, a project that reduces bank erosion and channel incision would directly benefit the biotic community of the creek and downstream aquatic resources by reducing sediment contributions to the creek. Stream channel narrowing proposed for the project will reduce the channel width and create deeper water through the reach that will help mitigate thermal impacts to the creek. The overarching goal of this project is to reestablish a connected floodplain that will minimize stream bank erosion and reduce sediment and nutrient loading to the creek and downstream waterbodies.

e. Future Stages

Are future stages of this development including development on any other property planned or likely to happen? ☐ Yes ☒ No

If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

f. Prior Stages

Is this project a subsequent stage of an earlier project? ☐Yes ☒ No

If yes, briefly describe past development, timeline and any past environmental review.

7. CLIMATE ADAPTATION AND RESILIENCE

a. Climate Trends

Climate change will cause Minnesota to become warmer and wetter, and already there have been dramatic increases in the intensity and frequency of rainstorms on an annual basis (MNDNR, 2023a). In the Lower St. Croix River Watershed where the project is located, the average annual precipitation has increased by 4.01 inches since 1895 (MNDNR, 2023b). The average annual temperature has increased by 2.75° F since 1895, with the most dramatic increases being in the average minimum temperature (increase of 3.86° F since 1895) and modest increases in the average maximum temperature (increase of 1.66° F since 1895).

Climate change will result in more frequent and intense rainstorms that are expected to result in increased flood events through the riparian corridor. However, the post-project riparian corridor will be more resilient to climate change due to a larger floodplain that will reduce overall flood energy in the floodplain. Reconnecting the floodplain will slow flood waters and allow the water to spread out over a wider area, thereby decreasing flood energy and bank scour.

b. Design Adaptations

Table 4. Climate Trends and Adaptations.

Resource Category	Climate Considerations	Project Information	Adaptations
Project Design	Increase in annual precipitation, increase in frequency and intensity of rainstorms	Increase in rainstorm intensity may increase the severity of flooding along the stream channel	The project is designed to allow dissipation of flood energy over the reconnected floodplain

Resource Category	Climate Considerations	Project Information	Adaptations
Land Use	Increase in average annual temperature	Removal of some of the riparian canopy may increase ground and water temperatures	All disturbed soil will be revegetated with native species that will also provide near-stream shade of the creek Installation of rock riffles will maintain deep pools, and narrowing the stream channel in select areas will help counteract the increase in solar radiation
Water Resources	Addressed in section 12	Addressed in section 12	Addressed in section 12
Contamination/ Hazardous Materials/Wastes	Addressed in section 13	Temporary increased risk of fuel contamination from construction vehicles working in the floodplain	Construction will not occur during storms and vehicles will not be parked or refueled in the floodplain
Fish, wildlife, plant communities, and sensitive ecological resources (rare features)	Addressed in section 14	Addressed in section 14	Addressed in section 14

8. COVER TYPES D TABLE 6 FOR A SUMMARY OF PROPOSED TREE HARVEST WITHIN THE PROJECT BOUNDARY.

Table 5 describes the land cover features pre-project and post-project. The pre-project land cover consists of a disturbed floodplain forest dominated by boxelder, alder, and woody invasive species with scattered black willow, silver maple, elm, and cottonwood. The upland areas contain boxelder, aspen,

bur oak, pin oak, and black cherry with an understory dominated by common buckthorn. The post-project land cover will still consist of a wet meadow/ shrub carr adjacent to the creek with a semi-open canopy floodplain forest. All woody invasive species including common buckthorn, exotic bush honeysuckles, amur maple, and black locust will be removed within the construction limits. No impervious surfaces are proposed for the project. The project will open the canopy above the stream banks to promote the growth of deep-rooted herbaceous vegetation to help stabilize the soil long-term. See Figure 5 and Figure 6 for existing and proposed land cover maps, and Table 6 for a summary of proposed tree harvest within the project boundary.

Table 5. Land Cover Before and After.

Project Feature	Before (acres)	After (acres)
Wetlands (wet meadow/ floodplain/ shrub carr)	8.58	8.58
Streams	1,960 linear ft	2,500 linear ft
Upland Woodland/Forest	1.78	0.43
Oak savanna	0	0.34
Grassland/Prairie	0.40	1.41
Impervious Surfaces	0.30	0.30
Total Acreage	11.06	11.06

Table 6. Proposed Tree Harvest.

Trees	Percent	Number
Percent tree canopy removed or number of trees >6" DBH removed for the project	N/A	212 (184 are boxelder)
Number of new trees planted	N/A	TBD

9. PERMITS AND APPROVALS REQUIRED

Table 7. Permits and Approvals Required.

Unit of Government	Type of Application	Status
City of Stillwater	Land Alteration Permit	To Be Applied For
City of Stillwater	Floodplain Permit/No-Rise Certificate	To Be Applied For

Unit of Government	Type of Application	Status
City of Stillwater	Grading Permit	To Be Applied For
Local Government Unit/Board of Water and Soil Resources/U.S. Army Corps of Engineers	Joint Permit Application (Wetland Delineation Review / Wetland Impacts) Section 401 Water Quality Certification	To Be Applied For
Brown's Creek Watershed District	Floodplain and Drainage Alterations Wetlands Management Erosion and Sediment Control Shoreline and Streambank Improvements	To be assessed during project design
Minnesota Pollution Control Agency	National Pollutant Discharge Elimination System/State Disposal System permit	To Be Applied For
Minnesota Department of Natural Resources	Public Waters Work Permit Special Use Permit (State Trail)	To Be Applied For

10. LAND USE

a. Land Use Descriptions

i. Existing Land Use

The project area consists of a disturbed floodplain forest with adjacent upland woodlands on an elevated terrace. The project area occurs within Brown's Creek Park (owned by the City of Stillwater) and the Brown's Creek Aquatic Management Area managed by the MNDNR. A small portion of the project occurs on a private parcel. Brown's Creek State Trail occurs along the southern edge of the project boundary. No building structures occur within the project site.

ii. Planned Land Use

Land use within the project boundary will not change as a result of the project.

The Brown's Creek Restoration Project is part of BCWD's Nine Key Element (NKE) Plan. The Environmental Protection Agency approved the NKE plan which provides a list of best management practices that when implemented will yield the estimated reductions needed to meet water quality standards and improve habitat quality in the creek. The strategies listed in the NKE plan are intended to provide the flexibility to BCWD to choose the best practice with the available implementation

opportunity, taking into account landowner outreach and permission along with coordinating efforts with multiple public entities that work within the watershed. The milestone strategies found in table 7 of the NKE plan include the planned years for the activities and the completed years for the activities if the activities have been completed. This project is Phase 1 in the implementation of the NKE plan to restore and protect the water quality of surface water resources in the watershed. The design for the project will include BMPs identified in the NKE that will address reducing phosphorus, total suspended solids, thermal stressors, and E. coli.

iii. Zoning

The project reach contains two zoning districts designated by the City of Stillwater. Brown's Creek Park is zoned PROS (Park, Recreation, or Open Space) and the two parcels east of Brown's Creek Park are zoned RA (One-Family Residential). Most of the project reach is within Federal Emergency Management Agency Regulatory Floodway Zone AE (Figure 7).

iv. Critical Facilities

No critical facilities are proposed within the project area.

b. Land Use Compatibility

The project is compatible with nearby land use, zoning, and watershed plans. The proposed project will help enhance the native vegetation within the stream corridor, improve water quality, and enhance fish and wildlife habitat, consistent with goals set out in BCWD NKE plan. Also, being an ecological enhancement to existing open space, the land will remain in open space which is broadly considered an amenity.

Although a large proportion of the project area is within the FEMA floodplain, no structures or fill will be added that might change the flood elevations within or upstream of the project area.

c. Mitigation Measures

No mitigation measures are required for project compatibility with local land use code.

11. GEOLOGY, SOILS, AND TOPOGRAPHY

a. Geology

Precambrian bedrock is exposed along the St. Croix River, and the depth of glacial drift over bedrock is generally less than 100 feet but can be close to 200 feet in depth. Ordovician and Devonian dolomite with some limestone, sandstone, and shale occur locally in the area, particularly in dissected stream valleys near the St. Croix River valley (MNDNR, 2023c).

There are no susceptible geologic features in the project area. The geology will not limit any aspect of the project, and the project will not have a significant effect on any geologic features.

b. Soils and Topography

The Web Soil Survey mapped 3 unique soil units within the project area. The soils consist of a range of soil types and textures common to floodplains and uplands. Two of the three mapped upland areas are considered prime farmland while the entire floodplain is not considered prime farmland. Table 8 lists the soils identified in the project area.

Table 8. Soils Data from the Web Soil Survey.

Soil Unit	Parent Material	Farmland Class	Hydric Classification	Drainage Class
49B – Antigo silt loam, 2 to 6 percent slopes	Loess and/or silty glaciofluvial deposits over loamy glaciofluvial deposits over stratified sandy and gravelly outwash	Prime farmland	Not hydric	Well drained
189 – Auburndale silt loam, 0 to 2 percent slopes	Loess and/or silty alluvium over dense loamy till	Not prime farmland	Primarily hydric	Poorly drained
454D – Mahtomedi loamy sand, 12 to 25 percent slopes	Outwash	Not prime farmland	Not hydric	Excessively drained

The mapped soils along the stream corridor are susceptible to erosion due to floodplain abandonment and channel incision that concentrate flood energy within the stream channel. Reconnecting the creek to the floodplain will allow flood flows to spread out and slow down to limit erosive stream bank scour. Increasing native herbaceous vegetation will promote further soil stabilization along the stream banks and in floodplain through establishment of deep-rooted plants. Additional measures to stabilize soils during project construction are listed in #6 Project Description.

12. WATER RESOURCES

a. Surface Water and Groundwater Features

i. Surface Water

Brown's Creek is a state-designated Public Water watercourse (AUID 07030005-520) and designated trout stream. From the downstream end of the project reach, Brown's Creek flows east for approximately 2.3 miles until it empties into the St. Croix River near the northern extent of Lake St. Croix. Brown's Creek is the primary drainage for the watershed. Nearby Public Waters basins include

Twin Lakes located one-quarter mile north of the project area and Lake McKusick which is located a one-half mile southeast of the project area. Twin Lakes is in an adjoining watershed that does not discharge into Brown's Creek. An unnamed Public Water Wetland located 0.23 miles northeast of the project area is within the Brown's Creek watershed, but it lacks a definable surface water connection to Brown's Creek.

The upper Brown's Creek watershed contains a mosaic of riparian wetlands. Emergent marshes, shrub swamps, and floodplain forests border the creek from the headwaters downstream to the project reach. Most of the project area is mapped as emergent marsh and shrub swamp by the National Wetland Inventory.

Two disjunct reaches of Brown's Creek are protected by the MNDNR as part of the Brown's Creek Aquatic Management Area. The AMA includes a short section of creek within the project area located immediately downstream of Neal Avenue, and another section of creek that measures approximately 4,500 feet in length within the Brown's Creek gorge. Permitted activities in these areas include angling and wildlife observation.

Brown's Creek is listed as impaired for aquatic life and aquatic recreation. According to the MPCA, the creek may not be suitable for swimming or wading due to high bacteria levels and is also impacted by low dissolved oxygen content, lack of coldwater assemblage, and turbidity. Lake St. Croix, which is the receiving water of Brown's Creek, is listed as impaired for aquatic consumption for high levels of mercury, PCBs, and perfluorooctane sulfonate in fish tissue. The St. Croix River, which flows through Lake St. Croix, is designated as an Outstanding Resource Value Water by the MPCA and is also designated by Minnesota and the National Park Service as a Wild and Scenic River.

ii. Groundwater

Groundwater is expected to be at or near the elevation of Brown's Creek through the project area. Outside the immediate stream corridor, the depth to groundwater is generally less than 20 feet.

The project site is located within the Drinking Water Supply Management Area for Stillwater that has a moderate vulnerability rating. The project site is located just outside the Wellhead Protection Zone for Stillwater, with the boundary of the wellhead protection zone located approximately 600 feet east of the project site.

Three MNDNR observation wells are located within the project site and are clustered near the southwest corner of McKusick Road and Neal Avenue. The nearest wells outside the project site are private domestic wells located at the residences along McKusick Road northeast of the project site. Well locations were identified from the Minnesota Well Index which is maintained by the Minnesota Department of Health (MDH, 2023). Well logs are included in Appendix B.

b. Impacts and Mitigation

i. Wastewater

No wastewater will be stored onsite or produced during or after this project.

ii. Stormwater

Pre-Construction Site Runoff

The project area is naturally vegetated which helps filter and trap runoff from the surrounding roads and developed areas. There are several stormwater outfalls within the project area, but these will not be altered by the proposed project.

Post-Construction Site Runoff

One of the primary goals of this project is to reduce bank erosion and instream sedimentation by reconnecting the floodplain, reshaping stream banks to a stable slope, and promoting the growth of native herbaceous vegetation to help stabilize floodplain soils. This will reduce sediment and nutrient loading to downstream resources. The filtering capacity of the floodplain will be enhanced through reconnection to the creek and establishment of diverse, native riparian species. Runoff from the surrounding land will not be altered.

Stormwater and Erosion Control BMPs

The project will disturb of more than one acre of land; therefore, the construction contractor will be required to apply for coverage under the National Pollutant Discharge Elimination System/State Disposal System General Permit to the MPCA prior to the start of construction. A Stormwater Pollution Prevention Plan will be required and will include erosion prevention and sediment control best management practices to comply with the requirements of the permit. BMPs will be employed during construction, and inspection of BMPs will be required after each rainfall event that exceeds one-half inch in 24 hours. Sediment-control BMPs will be installed to prevent runoff to the creek while earthwork is in progress. Immediately after the earthwork is complete, all disturbed areas will be seeded and stabilized with hydromulch, crimped straw mulch, and other BMPs as necessary.

iii. Water Appropriations

No water appropriations will be required during or after construction. No dewatering or well abandonment will occur for the project.

iv. Wetlands

The National Wetlands Inventory indicates that most of the project reach is mapped as either PEMA1 (freshwater emergent wetland), PSS1A/ PSS1C (freshwater shrub wetland), and PSS1/EM1Ad (freshwater shrub/emergent wetland). A level 2 wetland delineation completed for the project delineated several wetlands above the ordinary high water level (OHWL) of Brown's Creek. Below the OHWL, in-channel wetlands and small floodplain benches were documented adjacent to the creek and within disconnected oxbow channels. This project may change the type and extent of wetlands by reducing the tree canopy and increasing the inundation period in the reconnected floodplain, but it will not convert wetlands to non-wetlands, so no loss of wetlands is anticipated from construction of the project.

v. Other Surface Waters

Downstream receiving waterbodies including the lower reach of Brown's Creek and Lake St. Croix could be affected by the proposed project activities. As such, installation and maintenance of construction and sediment-control BMPs will be completed to minimize water quality impacts to downstream resources. In the long-term, the restored floodplain and stabilized bank soils will reduce sediment and nutrient loading to the downstream waterbodies.

13. CONTAMINATION, HAZARDOUS MATERIALS, AND WASTE

a. Pre-Project Site Conditions

According to historical aerial photos accessed through Minnesota Historical Aerial Photographs Online, the project area has been in mixed agricultural use since at least the 1930s. Hay fields/ pastures and small farmsteads can be seen in aerial images taken in 1938 and 1964. By 1992, development began to increase in the area and has progressed to the present day with numerous housing developments and residential streets now located within one mile of the project site.

No existing site contamination is known within the project boundary. A desktop review of both the Minnesota Department of Agriculture and MPCA's "What's In My Neighborhood" databases did not identify any known environmental contamination within the project boundary, but several construction stormwater projects related to stormwater improvements and residential developments were located within 0.5 miles of the project. In addition, one hazardous waste site was located approximately 0.15 miles northeast of the project area that is related to an automotive repair shop.

b. Project Related Generation/Storage of Solid Wastes

Project construction will require tree and brush removal and grading to reconnect the floodplain. Excess soil derived from the project will be spread in an upland area delineated within the project boundary. All spread soils in the upland will be seeded with native prairie seed and covered with straw mulch. Woody material from tree and shrub harvest will be repurposed for instream habitat features or used as brush piles in the stream corridor for non-game habitat. Any non-biodegradable waste generated from installation of temporary erosion control BMPs will be removed from the project site by the contractor.

c. Project Related Use/Storage of Hazardous Materials

Construction of the project will not require storage of hazardous materials. Portable tanks of diesel fuel and hydraulic fluid will be used to service heavy machinery but will not be stored onsite. Small amounts of grease and petroleum will be stored in weatherproof containers and stored inside a job box or a contractor trailer. Construction equipment will be refueled outside of the immediate floodplain and liquid storage tanks will not be kept onsite.

d. Project Related Generation/Storage of Hazardous Wastes

The project is not anticipated to generate hazardous waste during construction. The only waste generated will be those discussed in Project Related Generation/Storage of Solid Wastes: soils, woody debris, and scraps from BMP materials.

14. FISH, WILDLIFE, PLANT COMMUNITIES, AND ECOLOGICAL RESOURCES

a. Fish and Wildlife Resources

Original public land survey records indicate that pre-settlement vegetation consisted of bur oak and other timber with an undergrowth of oak bushes and hazel. Post-settlement, the riparian corridor has been impacted by a history of agriculture and drainage alterations. Much of the stream channel has been disconnected from its floodplain with exposed eroded banks along outside bends of meanders. The western half of the project area (upstream of Neal Avenue) is part of Brown's Creek Nature Preserve and consists of a mosaic shrub-carr/open meadow wetland and degraded floodplain forest. The floodplain forest is dominated by common buckthorn and boxelder with scattered black willow, silver maple, elm, and cottonwood. The upland forest contains boxelder, aspen, bur oak, pin oak, and black cherry.

Despite impacts from historic land use, the stream corridor provides habitat for a variety of wildlife and serves as an important wildlife corridor within the city. Fish surveys conducted in the project reach by the MNDNR in 1999 recorded green sunfish, bluntnose minnow, central mudminnow, creek chub, black bullhead, fathead, and stickleback. MNDNR fish surveys conducted in 2021 recorded central mudminnow, fathead minnow, longnose dace, and rainbow trout. Approximately 1,000 rainbow trout yearlings are stocked annually within the Brown's Creek Nature Preserve.

b. Rare Features

A review of rare features for a one-mile search area around the project boundary was conducted using the Natural Heritage Information System database. No state-listed endangered, threatened, or special concern species were identified within the project site, but three state-listed species were identified within one mile of the project boundary, including Louisiana waterthrush (*Parkesia motacilla*), Blanding's turtle (*Emydoidea blandingii*), and water-willow (*Decodon veticillatus* var. *laevigatus*).

The Blanding's turtle is a state-threated species that uses a variety of habitats including ephemeral wetlands, open marshes, and bottomland wetlands as well as sandy upland areas for nesting (MNDNR, 2023d). A combination of wetland complexes and adjacent sandy upland areas are required to support viable populations for Blanding's turtles. The project area contains suitable foraging habitat such as the wet meadows and floodplain areas near the creek, and suitable nesting habitat may occur in the dry upland areas near the Brown's Creek State Trail. Overwintering habitat is marginal within the creek, but possible overwintering wetlands and deep marshes occur in both the Brown's Creek Nature Preserve and the Oak Glen golf course just south of the project area.

The Louisiana waterthrush is listed as a species of special concern. It is a migratory neotropic warbler that generally occurs in mature riparian forests near swiftly flowing streams in steep-sided forested valleys. In east-central Minnesota, the Louisiana waterthrush is associated with the St. Croix River valley and its tributaries (MNDNR, 2023e). The Louisiana waterthrush has been found in the lower gorge of Brown's Creek where steep forested bluffs occur adjacent to the stream. The lower gorge contains excellent foraging and nesting habitat where there is a prevalence of rocky riffles and swift-flowing water that supports abundant macroinvertebrates. Conversely, most of the stream bed through the project reach is covered with fine sandy substrates and lacks swift-flowing water to expose coarse substrates preferred by a variety of macroinvertebrates. In addition, the surrounding floodplain forest consists of young trees dominated by boxelder and woody invasive species that provide marginal nesting opportunities along the creek.

Water-willow is a species of special concern that grows along marshy or boggy fringes of lakes or slow-moving streams, often within the beds of cattails and bulrushes (MNDNR, 2023f). This type of habitat does not exist within the project site, and the species is unlikely to occur within the project reach. The known population within one mile of the project reach occurs along a lake shore.

A review of Native Plant Communities and Sites of Biodiversity Significance was completed for the project, and no mapped Native Plant Communities or Sites of Biodiversity Significance occur within the project boundary. However, the Natural Heritage Information System review identified the lower gorge of Brown's Creek as an area of High Biodiversity Significance as mapped by the Minnesota County Biological Survey. This area contains several native plant communities that support habitat for rare species such as the Louisiana waterthrush. The gorge is located approximately one mile downstream of the project reach.

In addition, the USFWS Information for Planning and Consultation (IPaC) Resources List was reviewed for information on endangered species, critical habitats, migratory birds, refuges and hatcheries, and wetlands that may occur within the same county as the project reach. The IPaC report identified 7 federally-listed species that may occur within the project area and 13 additional bird species that are either protected under the Migratory Bird Act or the Bald and Golden Eagle Protection Act (Table 9, Appendix A). The IPaC report did not identify any critical habitats, refuges, or hatcheries within the project area.

Table 9. IPaC Federally Listed Wildlife.

Common Name	Taxa	Scientific Name	Federal Status
Northern Long-Eared Bat	Bat	*Myotis septentrionalis*	Endangered
Tricolored Bat	Bat	*Perimyotis subflavus*	Proposed Endangered
Whooping Crane	Bird	*Grus americana*	Experimental Population; Non-essential
Monarch Butterfly	Insect	*Danaus plexippus*	Candidate

Rusty Patched Bumblebee	Insect	*Bombus affinis*	Endangered
Higgins Eye (pearlymussel)	Mussel	*Lampsilis higginsii*	Endangered
Winged Mapleleaf	Mussel	*Quadrula fragosa*	Endangered

The project reach may provide suitable foraging habitat for monarch butterflies and rusty patched bumblebees due to the presence of forbs in the project reach. Northern long-eared bats and tricolored bats may utilize the mature, larger trees within the project reach as roosting trees during the spring, summer, and fall months, and as such, it is proposed that all tree harvest activities for the project will be conducted in the winter months between January 1 – March 1 when the bats are in hibernation. The project reach does not contain habitat for whooping crane, Higgins eye pearlymussel, or the winged mapleleaf.

The project reach contains possible nesting habitat for several of the migratory birds listed in the IPaC report including black-billed cuckoo and cerulean warbler, and to a lesser extent, red-headed woodpecker, wood thrush, and bald eagle. The remaining bird species listed in the IPaC report may use the area for foraging and stop over during migration, but the project area either lacks suitable nesting habitat (for black tern, bobolink, and chimney swift) or the species is not known to nest in this part of the state (golden eagle, golden-winged warbler, Canada warbler, rusty blackbird, and lesser yellowlegs).

c. Impacts to Ecological Resources

The project will impact forest and wetland communities through select tree harvest and grading adjacent to the stream channel, but it will yield an increase in wet meadow habitat within the floodplain. Although the natural habitats in the project area have been historically degraded by invasive species and stream channel erosion, the flora and fauna that currently exist within the construction limits will be temporarily impacted by project construction. Select tree removal will occur within 30 feet of the stream banks and will have an impact on any species using the trees for nesting or roosting. Grading and clearing has the potential to temporarily impact nesting bumblebees and floral resources for monarch butterflies and other insects. Likewise, the installation of rock riffles and instream habitat will temporarily disrupt the streambed and the aquatic species that live there such as small fishes and macroinvertebrates.

Project construction will impact habitat that could potentially be used by rare and protected species. Removing trees from the project area could impact migratory and breeding birds as well as the northern long-eared bat and tricolored bat if they roost within the project boundary. The northern long-eared bat hibernates in caves in the winter and roosts in tree cavities and under exfoliating tree bark during the spring and summer. The tricolored bat also hibernates in caves during the winter and typically roosts in forested areas among tree leaves in the spring, summer, and fall (USFWS, 2023). To limit impacts to these species and other migratory wildlife, tree harvest is proposed to occur in the

winter months between January and early March when many species are in hibernation, dormant, or have migrated out of the area.

Stream habitat improvement projects have the potential to degrade habitat for the Louisiana waterthrush through canopy thinning and stabilization of eroded stream banks. In addition, stream projects may also increase the chance of brood parasitism by disturbance-associated species like brown-headed cowbird (Stucker and Cuthbert, 2000). There have been several sightings of Louisiana waterthrush in the Brown's Creek gorge dating back to 1988, including confirmed nesting in 2019 (pers. comm. M. Majeski 2023). However, as previously described, these sightings have occurred over one-mile downstream of the project reach in a steep, forested gorge along swift-flowing water; these habitat features are lacking within the project reach.

Climate change threatens to exacerbate some of the impacts to fish and wildlife. Hotter summers and warmer winters combined with canopy removal have the potential to increase stream temperatures within the project reach. However, stream channel narrowing, creation of deep pools, and shading the stream with overhanging native herbaceous vegetation will help mitigate impacts to water temperature from solar radiation.

Invasive reed canary grass and buckthorn are currently well-established within the project boundary, and project construction may spread existing weedy and invasive species within the project site through soil disturbance. As such, the project will include a three-year vegetation management plan that will be conducted by the project contractor with oversight from BCWD to manage both woody and herbaceous invasive species using cut-stump and spot herbicide treatments. In addition, the project contractor will be required to decontaminate their construction equipment before entering and leaving the project site to minimize the spread of invasive species. The outcome of the project will be a reduction in invasive species over the long term through invasive species management and the establishment of a diverse community of native grasses and forbs.

Overall, the project will have a net-positive impact on fish, wildlife, and the plant communities within the stream reach and will have a long-term positive benefit to the natural resources in the project area through the following:

- Creation of rock riffles will improve and increase macroinvertebrate habitat and fish spawning opportunities and will also help maintain deep-pool habitat.
- The project will increase the number and depth of pools for thermal refugia during the summer months and provide overwintering habitat for fish and other aquatic biota.
- The reconnected floodplain will improve riparian hydrology, benefit native hydrophytic vegetation, and support wetland habitat adjacent to the stream.
- Reducing sediment and nutrient loading within the project reach will improve downstream resources (Brown's Creek and St. Croix River).
- Native seeding will increase the diversity and extent of native vegetation, and the project will target populations of invasive species documented in the project reach including common buckthorn, glossy buckthorn, exotic bush honeysuckles, black locust, reed canary grass, creeping charlie, and garlic mustard.

- Seeding native forbs will also improve habitat for pollinators including the federally listed rusty patched bumblebee and monarch butterfly.
- Establishment of brush piles will provide refugia for terrestrial fauna.

d. Ecological Impact Mitigation

The project will have a net positive impact on fish and wildlife habitat as mentioned above in Item 14.c. The temporary negative impacts the project construction will be mitigated by the following measures:

- No instream work will occur between September 1 to April 1 per MNDNR work exclusion dates to allow for fish spawning and migration.
- Tree harvest will occur in the winter months between January and early March to minimize impacts to migratory species and tree-nesting/roosting species such as the northern long-eared bat and tricolored bat.
- Work is only proposed on degraded stream banks and will bypass stream banks that are stable or that are currently providing quality near-stream/ instream habitat.
- Significant native trees and stable root masses adjacent to the creek will be preserved for bank stability and habitat diversity.
- Implementation of appropriate sediment BMPs, including rapid soil stabilization, to minimize soil erosion during project construction.
- Upon completion of the project, all disturbed soils will be seeded with native species and stabilized with hydromulch and crimped straw.

15. HISTORIC PROPERTIES

A Phase I Archaeological and Cultural Resources field survey was completed by Mississippi Valley Archeology Center (MVAC) in August 2023 (Appendix C). This study showed: 1) No properties currently listed on the National Register of Historic Places are located within or proximate to the study area; 2) Four previously inventoried cultural sites were located within one-mile of the project area, including one site that overlaps the study area; 3) Soils are classified as deep post-settlement alluvium with limited potential for intact archaeological deposits due to significant stream migration and floodplain erosion interpreted from historic aerial imagery.

EOR submitted the Phase I Archaeological and Cultural Resources report to the Minnesota State Historic Preservation Office for review and comment.

As part of the Section 404 permitting process, the U.S. Army Corps of Engineers will conduct its own internal review of the project to fulfill its responsibilities under Section 106 of the National Historic Preservation Act to identify and consider impacts the project may have on historic or potentially historic resources. A copy of the MVAC report will be included in the permit application submitted to the USACE.

16. VISUAL

Visitors to the project site will notice disturbance to the stream corridor during project construction, but these impacts are considered temporary since the proposed seeding of native herbaceous vegetation is expected to mature within three years following completion of the project.

17. AIR

a. Stationary Source Emissions

No stationary source of emissions will be employed during the construction of the project or in its completed state.

b. Vehicle Emissions

Heavy equipment such as dump trucks, excavators, bulldozers, and tractors will be used during construction. Engine emissions including particulate pollution, carbon monoxide, hydrocarbons, and nitrogen oxides will increase at the project site during construction, but the release of these pollutants will be limited to periods of active construction during the day. Emissions from construction are considered temporary and are not anticipated to cause or contribute to a violation of ambient air quality standards for any pollutants. After construction, there will not be any project-related air emissions.

c. Dust and Odors

The project will generate dust during construction from grading activities and from importing materials over dirt access trails. The effects on air quality from fugitive dust generated during construction will be temporary and localized. Dust minimization and prevention efforts are expected to be consistent with state standards contained in Minn. R. ch. 7011. There is one business and 14 residential houses located within 500 feet of the project boundary. Rapid soil stabilization is proposed for the project which will mitigate the release of dust from the work area. After construction is complete and vegetation becomes established, the project area will not create any dust.

Odors generated by the project during construction will be temporary and are expected to be odors typical of construction equipment, primarily dust and diesel exhaust. There will be no man-made odors emanating from the project area after construction.

18. GREENHOUSE GAS (GHG) EMISSIONS/CARBON FOOTPRINT

a. GHG Quantification

GHG emissions caused by the project will result from two sources: the operation of construction equipment, and tree and brush removal during the conversion of forest to prairie/wetland. Emissions from construction equipment emissions were calculated by using methods identified in the

Environmental Quality Board guidance document and standard metrics from the EPA's Greenhouse Gas Emission Factors Hub (https://www.epa.gov/climateleadership/ghg-emission-factors-hub). Project construction is estimated to take 25 days to complete and require the use of 4 diesel construction vehicles per day: one excavator, one skidsteer, one bulldozer, and one dump truck. Fuel consumption at an average of 4 gallons per hour and 8-hour working days was used to calculate total fuel use:

Fuel use = days * hours * fuel use per hour * number of vehicles

Emissions were calculated using this equation from the EQB EAW guidance document:

Tons CO2 = fuel use in physical units *CO2 Emission Factor (kg CO2/physical unit of fuel use) * conversion of kg to tons

Emissions rates in Table 10 were retrieved from the Emissions Factors for Greenhouse Gas Inventory (EPA, 2023) for diesel nonroad construction vehicles.

Table 10. Rates of GHG Emissions for Nonroad Construction Equipment.

CO2 (kg/gal)	CH4 (grams/gal)	N2O (grams/gallon)
10.21	0.94	0.87

Totals emissions from construction equipment were estimated at 37.01 tons of carbon dioxide equivalents (CO_2e) which were calculated using the appropriate global warming potential for each GHG and the appropriate unit conversion factor.

Land use conversion from forest to grassland is the second category of emissions from the project. It is estimated that select tree harvest proposed for the project will remove approximately 80% of the trees from a 2.02-acre area, which is equivalent to 1.62 acres of forest converted to grassland. (It should be noted that the proposed removal of buckthorn and other invasive bushes from the understory does not constitute a change from forest to grassland.) Using the EPA's Inventory of Greenhouse Gas Emissions and Sinks to estimate an average carbon loss per acre for conversion from forest to grassland, there would be an estimated loss of 14.81 tons of CO2e per acre converted, which equates to 24.00 tons for the proposed land conversion. However, all harvested trees and brush will be reincorporated into the project for stream and floodplain habitat enhancements, which is assumed to be a carbon sink. As a result, the total potential project-related emissions are estimated at 37.01 tons of CO2e (Table 11).

Table 11. Construction Emissions.

Scope	Type of Emission	Emission Sub-type	Project-related CO_2e Emissions (tons)	Calculation method(s)
Scope 1	Combustion	Mobile Equipment	37.01	Linear rate of diesel nonroad construction vehicle emissions

Scope 1	Land Use	Conversion from Forest to Grassland	24.00	Estimated from nationwide averages for conversion from forest to grassland
Scope 1	Land Use	Carbon Sink	(24.00)	100% of woody material will be reused for bank stabilization and habitat enhancements
TOTAL			**37.01**	

d. GHG Assessment

The project will follow Tier 4 Emissions standards for nonroad diesel engines as defined by the Environmental Protection Agency. It is estimated that the project will be constructed in 25 working days, and air quality impacts from project construction will be temporary and limited to the hours of equipment operation.

It is not anticipated that the project will require other inputs during its life, and the project will not emit greenhouse gases. The project will reduce the potential for bank erosion through bank reshaping and reconnection of the floodplain. Establishment of diverse, native vegetation will increase sequestration of carbon through the dense growth of plants and subsequent storage of carbon in the soil through the root systems.

19. NOISE

Existing Noise Levels and Sources

The project is located in a suburban area near Brown's Creek Park and Oak Glen Golf Course. The residential setting, park, and golf course are all generally quiet with little to no noise contribution. Sources of noise are mainly from the nearby roads including McKusick Road and Neal Avenue.

Noise Generated During Construction

The project is expected to generate noise during active construction. Daily hours of construction will follow regulatory and construction permit regulated times. Noise will be generated by construction equipment during import of materials, earthwork, and tree removal activities. Noise levels will vary depending on equipment in use and the distance between construction equipment and receptors.

Noise Generated After Construction

After construction, the project is not expected to generate noise. All noise after construction will be from pre-project sources; primarily traffic on McKusick Road and Neal Avenue.

Nearby Sensitive Receptors

Sensitive receptors near the project include an automotive repair shop approximately 250 feet to the northeast, a residential area starting approximately 260 feet to the south, and Oak Glen Golf Course approximately 175 feet to the southeast.

Conformance to State Noise Standards

State noise standards are contained in Minn. R. ch. 7030. The noise standards are based on the land use at the location of the person that hears the noise and the sound level in A-weighted decibels (dBA) over ten percent (L10) or fifty percent (L50) of an hour.

The land in the vicinity of the site is mostly open space and residential with one commercial business. Noise limits for residential locations are L10 = 65 dBA and L50 = 60 dBA during the daytime, and L10 = 55 dBA and L50 = 50 dBA during the nighttime. Commercial area noise limits are L10 = 70 dBA and L50 = 65 dBA during the daytime and the nighttime. Noise generated from construction will be limited by Stillwater ordinance to the hours between 7am to 10pm Monday through Friday, and 9am to 9pm on any weekend or holiday.

20. TRANSPORTATION

a. Traffic Related Aspects

There are no consequential traffic related aspects of this project. Only a small number of vehicles will be working onsite during construction.

b. Effects on Traffic Congestion

It is not anticipated that there will be a significant impact to traffic operations on any of the nearby roads.

c. Traffic Mitigation Measures

No traffic mitigation measures will be necessary.

21. CUMULATIVE POTENTIAL EFFECTS

a. Geographic Scales and Timeframes

Cumulative effects result from the incremental impact of the project added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. The geographic area considered for cumulative potential effects is the area proximate to the project limits. No additional developments are anticipated on the properties bordering the proposed project area.

The project will aid in building resiliency in the stream channel to buffer potential effects of further urbanization and specific effects of climate change such as increased rain events. Rain events are considered seasonal and sporadic and have been gaining in intensity for several decades. Average annual temperatures have also been increasing which may have cumulative potential effects with partial removal of the tree canopy. Climate change effects are anticipated to increase for the foreseeable future.

Table 12 summarizes project related environmental effects that could combine with other environmental effects and the geographic extent of the anticipated impacts.

Table 12. Project-Related Environmental Effects and Mitigation.

EAW Section	Project-Related Effects	Mitigation
7 – Climate Adaptation and Resilience	Increase in rainstorm intensity may increase the severity of erosion along the stream channel	After project completion, the streambanks will be better protected against the effects of erosion from increased rainfall and flow and will allow dissipation of floodwaters over the reconnected floodplain
	Removal of some of the riparian canopy may increase ground and water temperatures	All disturbed soils will be revegetated with perennial native vegetation Installation of rock riffles will maintain deep pools for thermal refugia
8 – Cover Types	Conversion of forest to native prairie / wetland	No effect
10 – Land Use	The project is compatible with city zoning and is consistent with long-term land use planning	No mitigation is required
11 – Geology, Soils, and Topography	Disturbed ground and exposed soil during construction	Erosion control plan will be implemented and BMPs will be installed during construction
12 – Water Resources	Conversion of forested wetlands to non-forested wetlands	Disturbed areas within floodplain will be revegetated with native wetland species
13 – Contamination, Hazardous Materials, and Waste	Construction Debris and Waste	Hauled to disposal sites and appropriate on-site storage of construction materials, fuels, and chemicals

EAW Section	Project-Related Effects	Mitigation
14 – Fish, Wildlife, Plant Communities, and Ecological Resources	Temporary disruption of stream and riparian habitat	Minimization of grading and tree removal (selective tree harvest) Timing of construction to avoid impacts to nesting / roosting species and spawning fish. Invasive vegetation will be removed and replaced with native species, thereby increasing pollinator habitat Habitat enhancements will be installed to improve aquatic and terrestrial wildlife habitat
15 – Historic Properties	None anticipated	Phase 1 archaeological survey completed
16 – Visual	None anticipated	No additional actions are required
17 – Air	Emissions and dust during construction	Temporary impacts in a suburban setting and will only occur during active construction
18 – Noise	Construction noise impacts	Temporary impacts in a suburban setting and will only occur during active construction
	After construction – none	Compliance with city and state noise standards
19 – Transportation	None anticipated	No additional actions are required

b. Future Projects

There are no future associated projects.

c. Cumulative Potential Effects

The project will result in partial conversion of disturbed forest habitat to open prairie and wetlands with a net improvement in habitats for fish, macroinvertebrates, herptiles, mammals, and pollinators. In general, the project will mitigate the cumulative effects of climate change and future land development in the area. The project will have net positive effects on soils and vegetation in the riparian corridor as a result of restored hydrology in the reconnected floodplain and through removal

of invasive species and reestablishment of native species. The project will also have a net positive effect on downstream water resources by improving water quality and expanding habitat for aquatic biota.

22. OTHER POTENTIAL ENVIRONMENTAL EFFECTS

No other additional environmental effects are anticipated from this project. Potential environmental effects have been addressed in Items 1 through 21.

RGU CERTIFICATION

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature _____ Date _____

Title _____

REFERENCES

EPA, 2023. GHG Emissions Factors Hub. Available online at: https://www.epa.gov/climateleadership/ghg-emission-factors-hub. Accessed on 8/28/23.

EPA, 2023. Emissions Factors for Greenhouse Gas Inventories. Available online at: https://www.epa.gov/sites/default/files/2021-04/documents/emission-factors_apr2021.pdf. Accessed on 8/28/23.

Levitt, Jim. 2021. Population Assessment Stream Survey. Minnesota Department of Natural Resources.

Minnesota Department of Agriculture, 2023. What's in my Neighborhood? Agricultural Interactive Map. Available online at: https://mnag.maps.arcgis.com/apps/webappviewer/index.html?id=85bade4ea512411aa32a80079246255f. Accessed on 8/28/23.

Minnesota Department of Health, 2023. Minnesota well index. Available online at https://mnwellindex.web.health.state.mn.us/#. Accessed on 8/28/23.

MnDNR, 2023a. Climate Trends. Available online at https://www.dnr.state.mn.us/climate/climate_change_info/climate-trends.html. Accessed on 8/28/23.

MnDNR, 2023b. Minnesota Climate Explorer. Available online at https://arcgis.dnr.state.mn.us/ewr/climateexplorer/main/historical. Accessed on 8/29/23.

MnDNR, 2023c. St. Paul-Baldwin Plains and Moraines Subsection. Available online at: https://www.dnr.state.mn.us/ecs/222Md/index.html. Accessed on 8/29/23.

MnDNR, 2023d. Rare Species Guide – Blanding's turtle. Available online at: https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=ARAAD04010. Accessed on 8/29/23.

MnDNR, 2023e. Rare Species Guide – Louisiana waterthrush. Available online at: https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=ABPBX10030 Accessed on 8/29/23.

MnDNR, 2023f. Rare Species Guide – Water-willow. Available online at: https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=PDLYT03010 Accessed on 8/29/23.

Minnesota Pollution Control Agency, 2023. What's in My Neighborhood, An Environmental View of Your Community. Available online at: https://webapp.pca.state.mn.us/wimn/search. Accessed on 8/29/23.

Stucker, Jennifer Hathaway, and Francesca J. Cuthbert. 2000. "Biodiversity of Southeastern Minnesota Forested Streams: Relationships between Trout Habitat Improvement Practices, Riparian Communities and the Louisiana Waterthrush." University of Minnesota, Department of Fisheries and Wildlife. http://files.dnr.state.mn.us/eco/nongame/projects/consgrant_reports/2000/2000_hathaway.pdf

University of Minnesota, 2023. Minnesota Historical Aerial Photographs Online. Regents of the University of Minnesota. Available online at: https://apps.lib.umn.edu/mhapo/. Accessed on: 8/28/23.

U.S. Fish and Wildlife Service, 2023. Rusty Patched Bumblebee Map. Available online at https://www.fws.gov/midwest/endangered/insects/rpbb/rpbbmap.html. Accessed on 8/29/23.

U.S. Fish and Wildlife Service, 2023. Northern Long-Eared Bat. Available online at https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis. Accessed on 8/29/23.

FIGURES

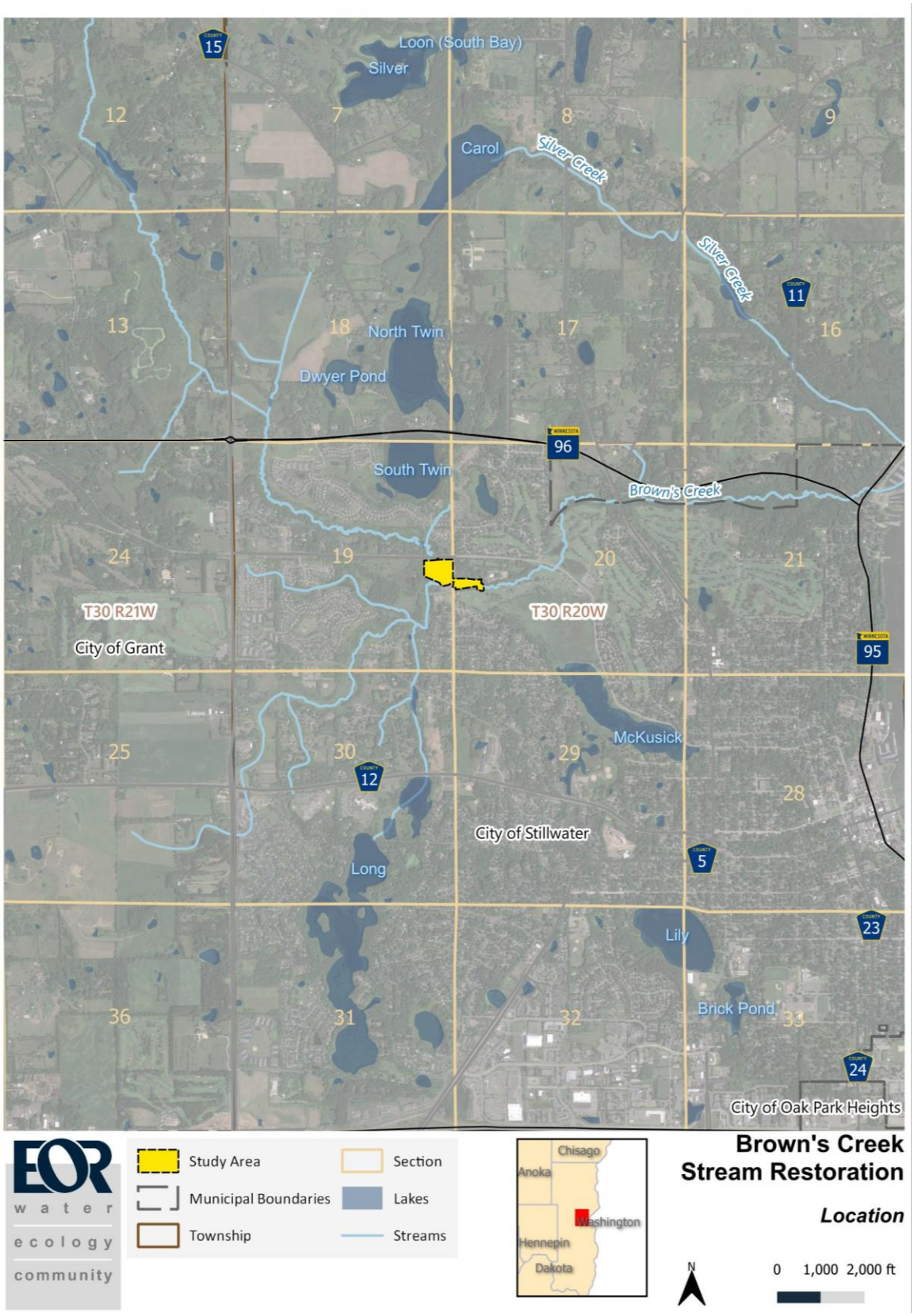


Figure 1. Project location map

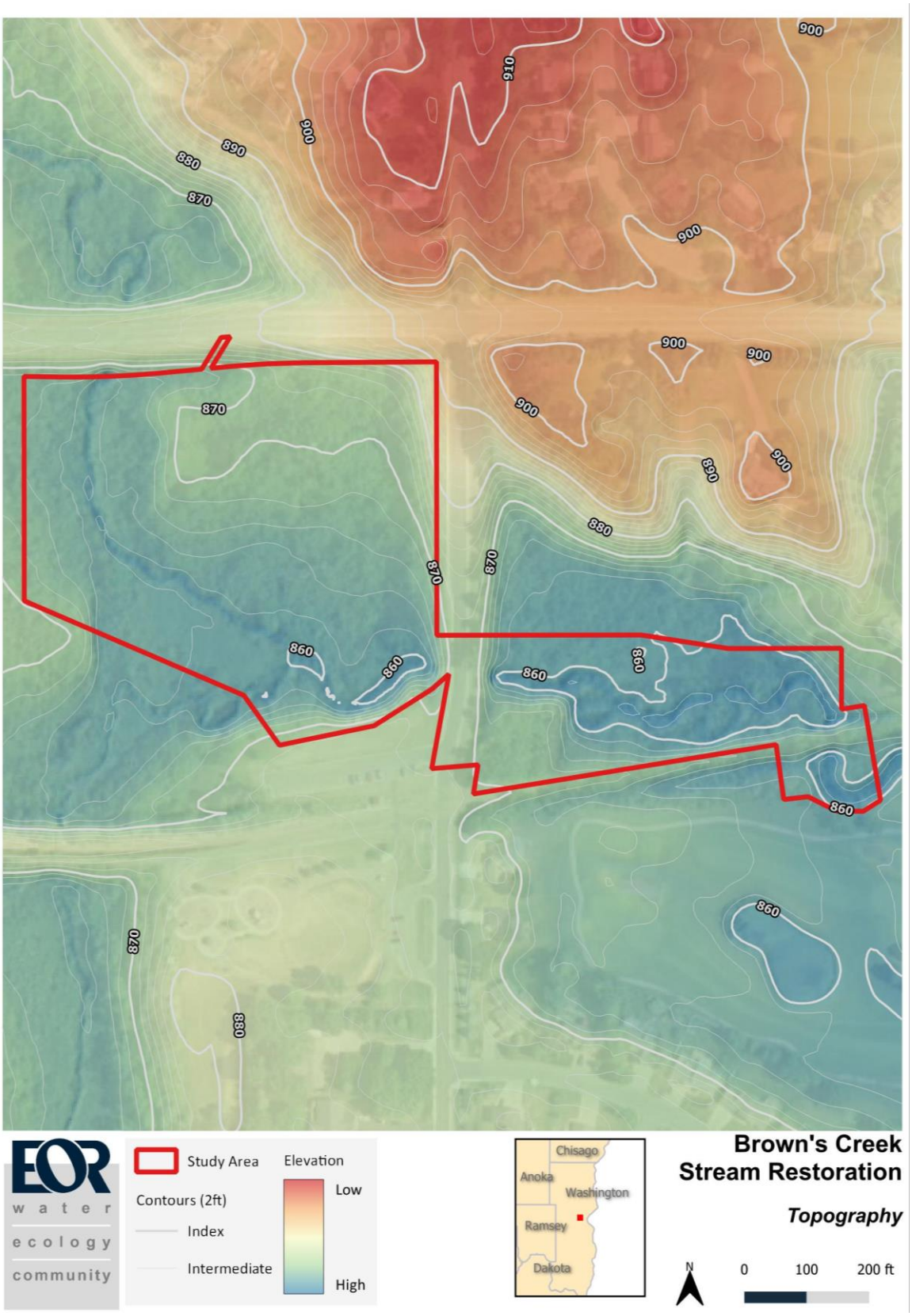


Figure 2. Project topography map

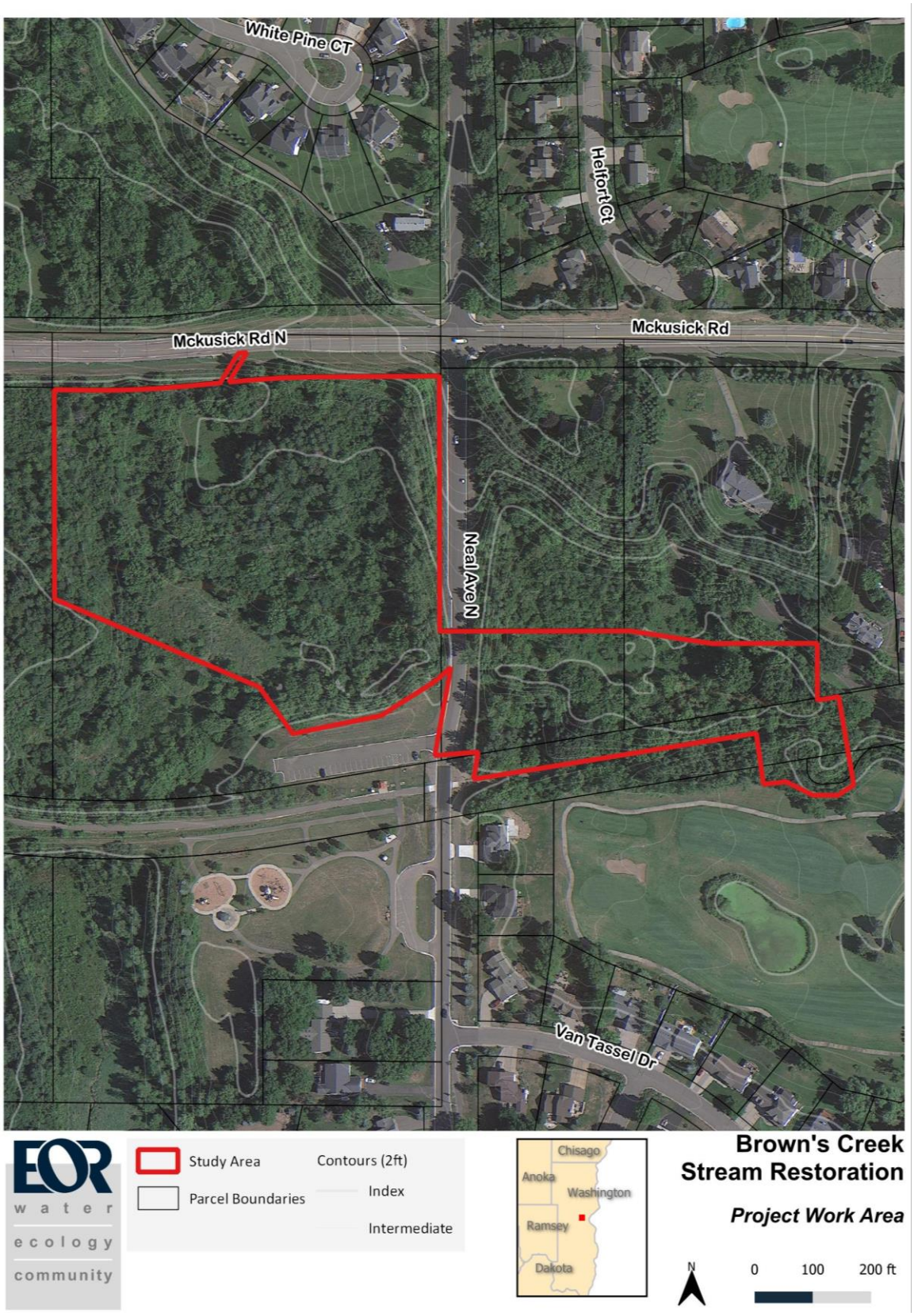


Figure 3. Project area with parcel lines and topography

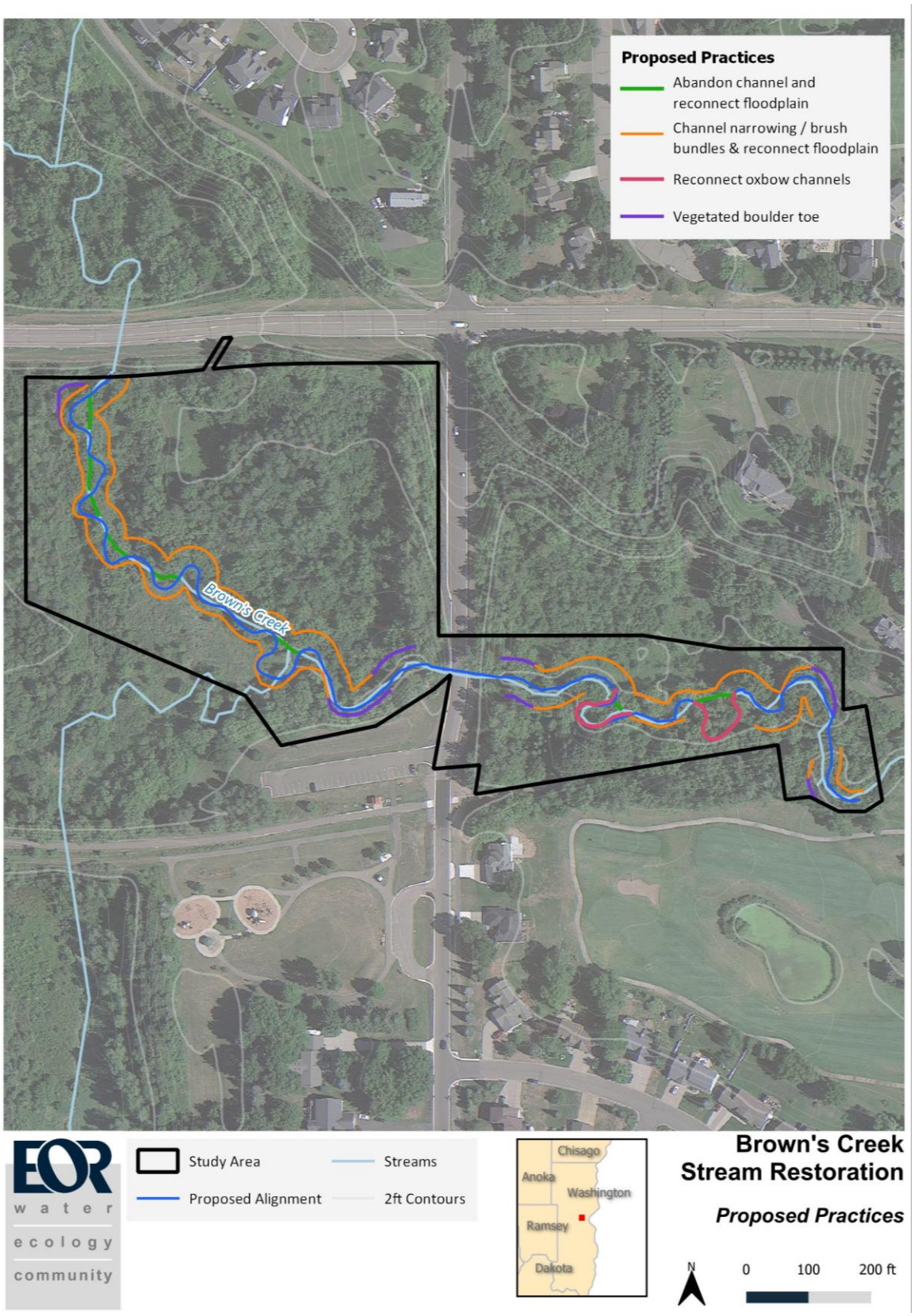


Figure 4. Proposed project practices

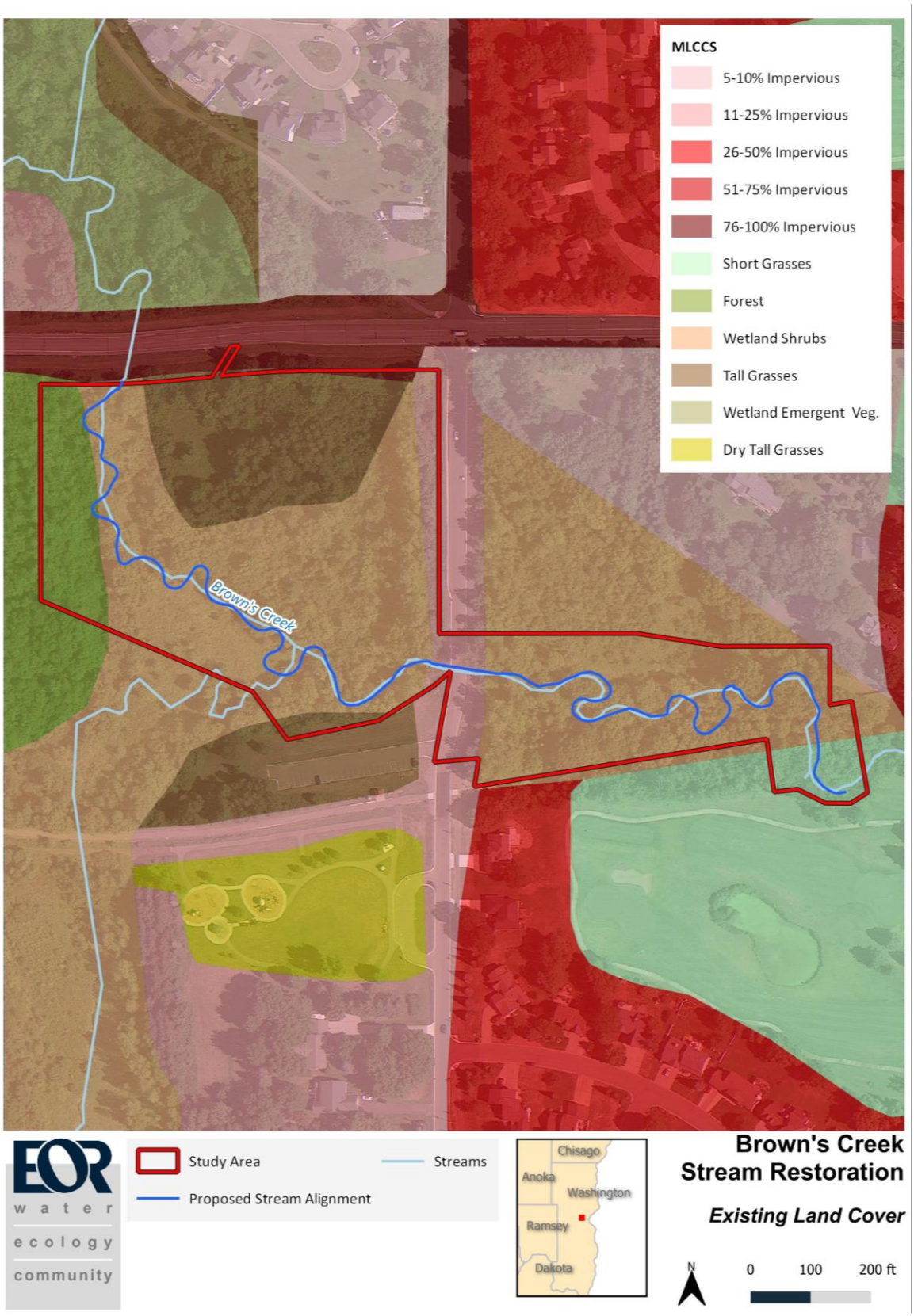


Figure 5. Existing land cover

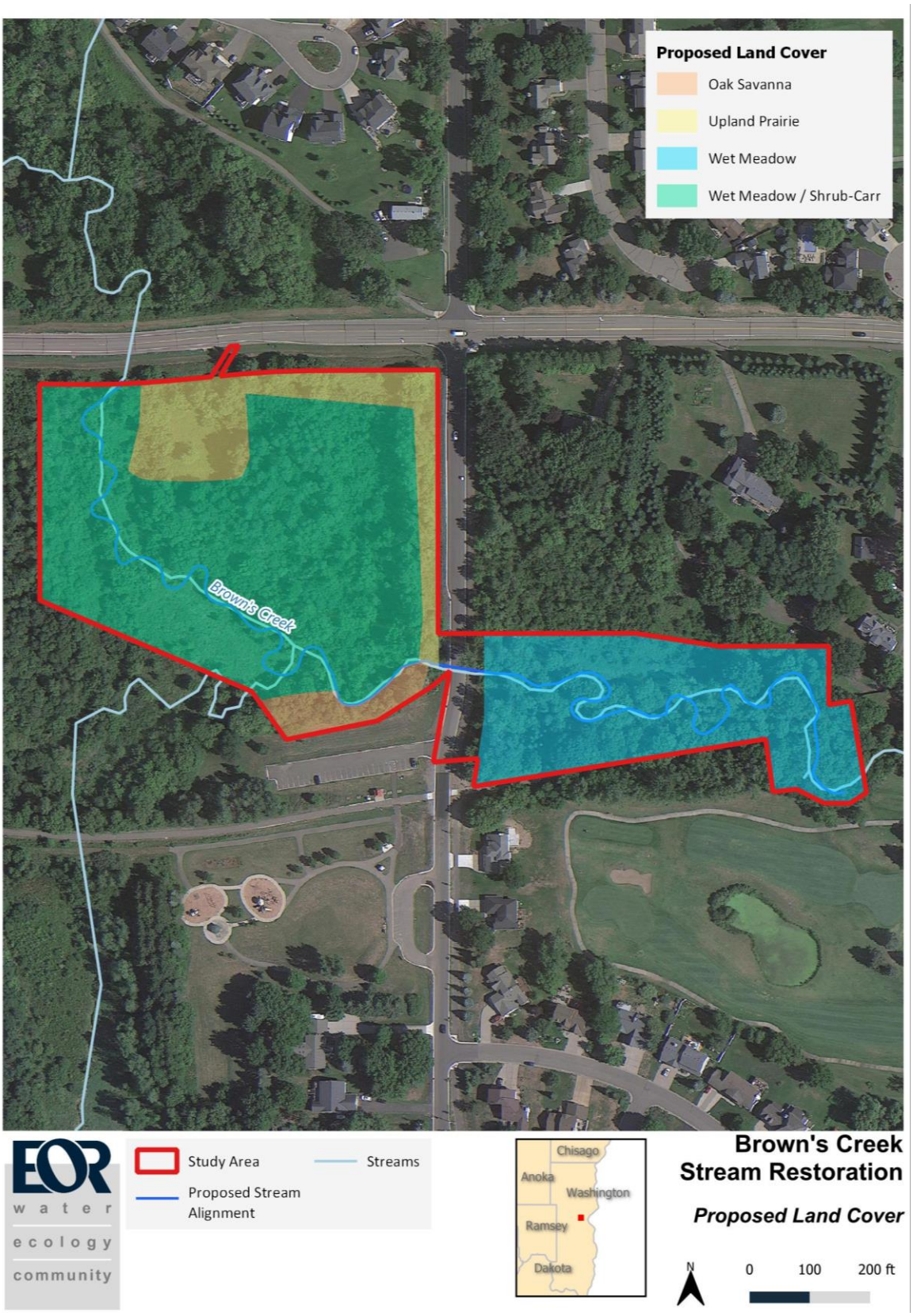


Figure 6. Proposed land cover after construction

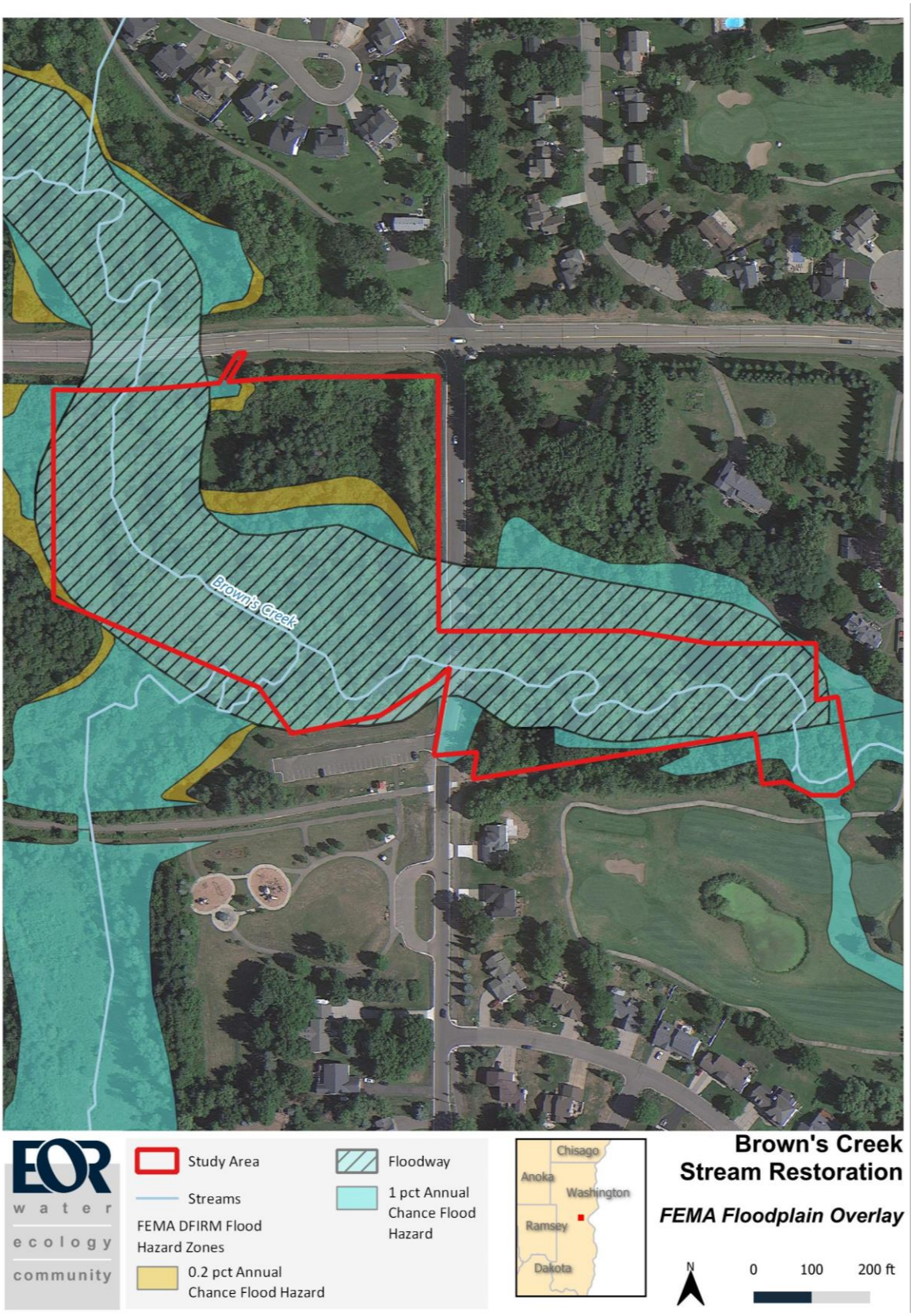


Figure 7. Project area with FEMA FIRM overlay

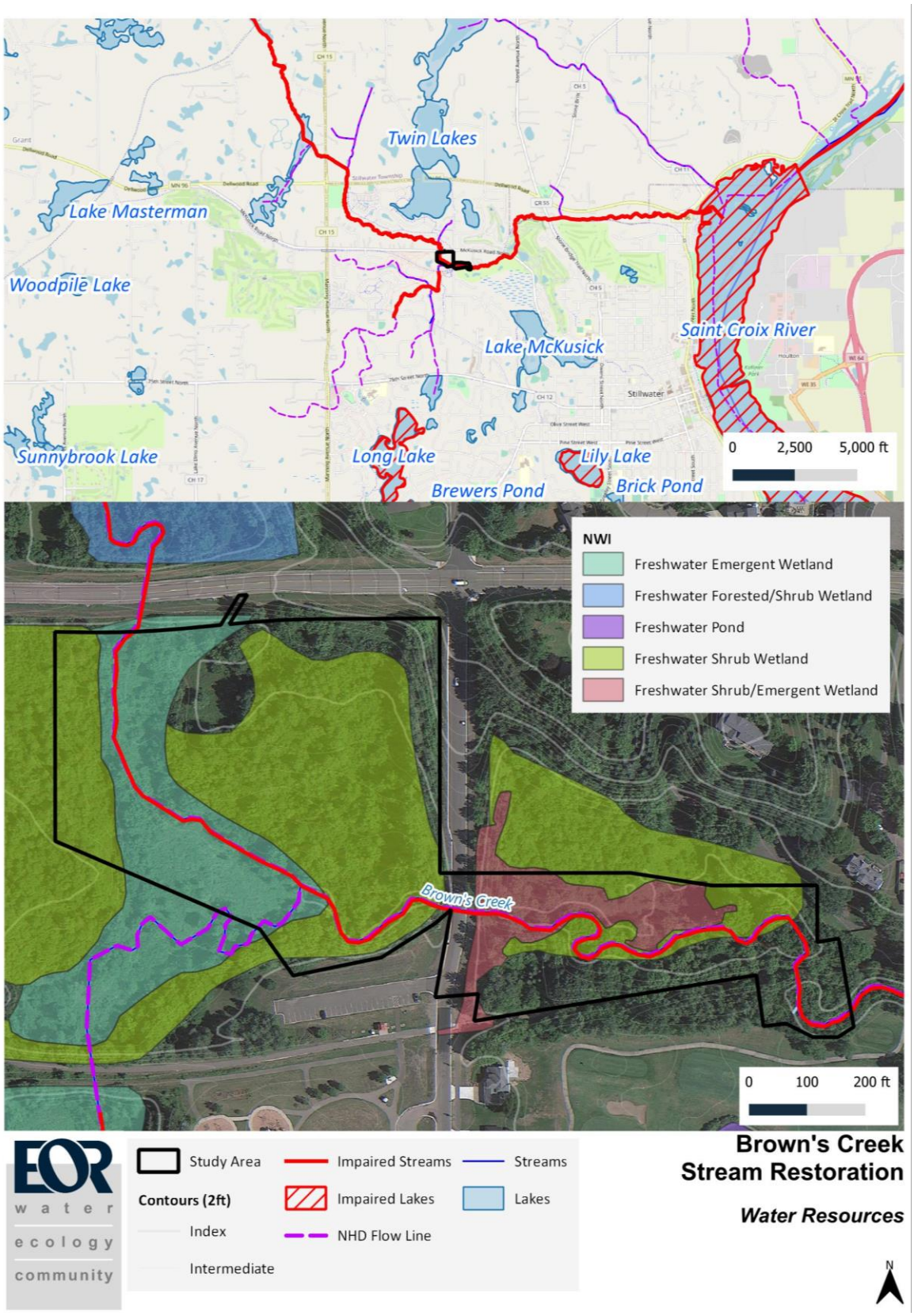


Figure 8. Water resources

APPENDIX A – USFWS IPAC RESOURCES LIST

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Washington County, Minnesota

Local office

Minnesota-Wisconsin Ecological Services Field Office

(952) 858-0793
(952) 646-2873

3815 American Blvd East
Bloomington, MN 55425-1659

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat Perimyotis subflavus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Birds

NAME	STATUS
Whooping Crane Grus americana No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN

Clams

NAME	STATUS
Higgins Eye (pearlymussel) Lampsilis higginsii Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5428	Endangered

Winged Mapleleaf Quadrula fragosa No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4127	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
Rusty Patched Bumble Bee Bombus affinis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9383	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list,click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

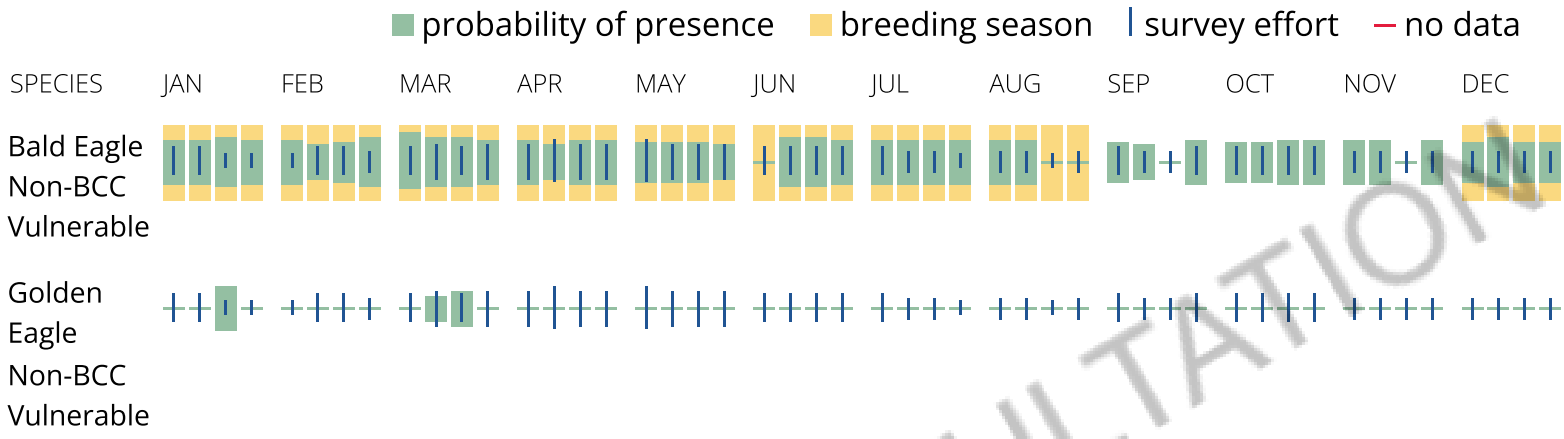
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip:

enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31
Black Tern *Chlidonias niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10

Cerulean Warbler Dendroica cerulea — Breeds Apr 22 to Jul 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/2974

Chimney Swift Chaetura pelagica — Breeds Mar 15 to Aug 25

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Golden Eagle Aquila chrysaetos — Breeds elsewhere

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Golden-winged Warbler Vermivora chrysoptera — Breeds May 1 to Jul 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8745

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Red-headed Woodpecker Melanerpes erythrocephalus — Breeds May 10 to Sep 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Rusty Blackbird Euphagus carolinus — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Wood Thrush Hylocichla mustelina — Breeds May 10 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

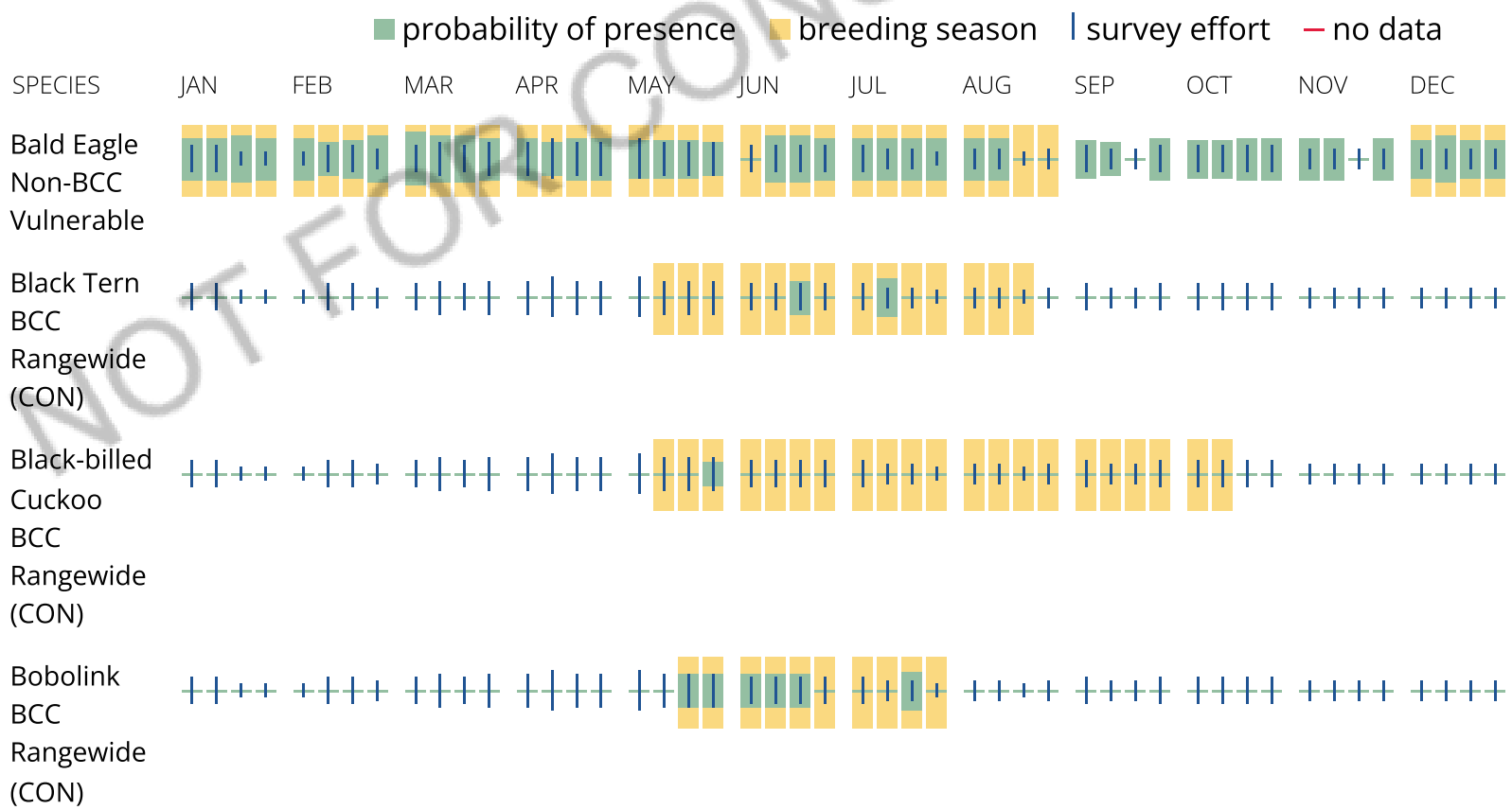
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

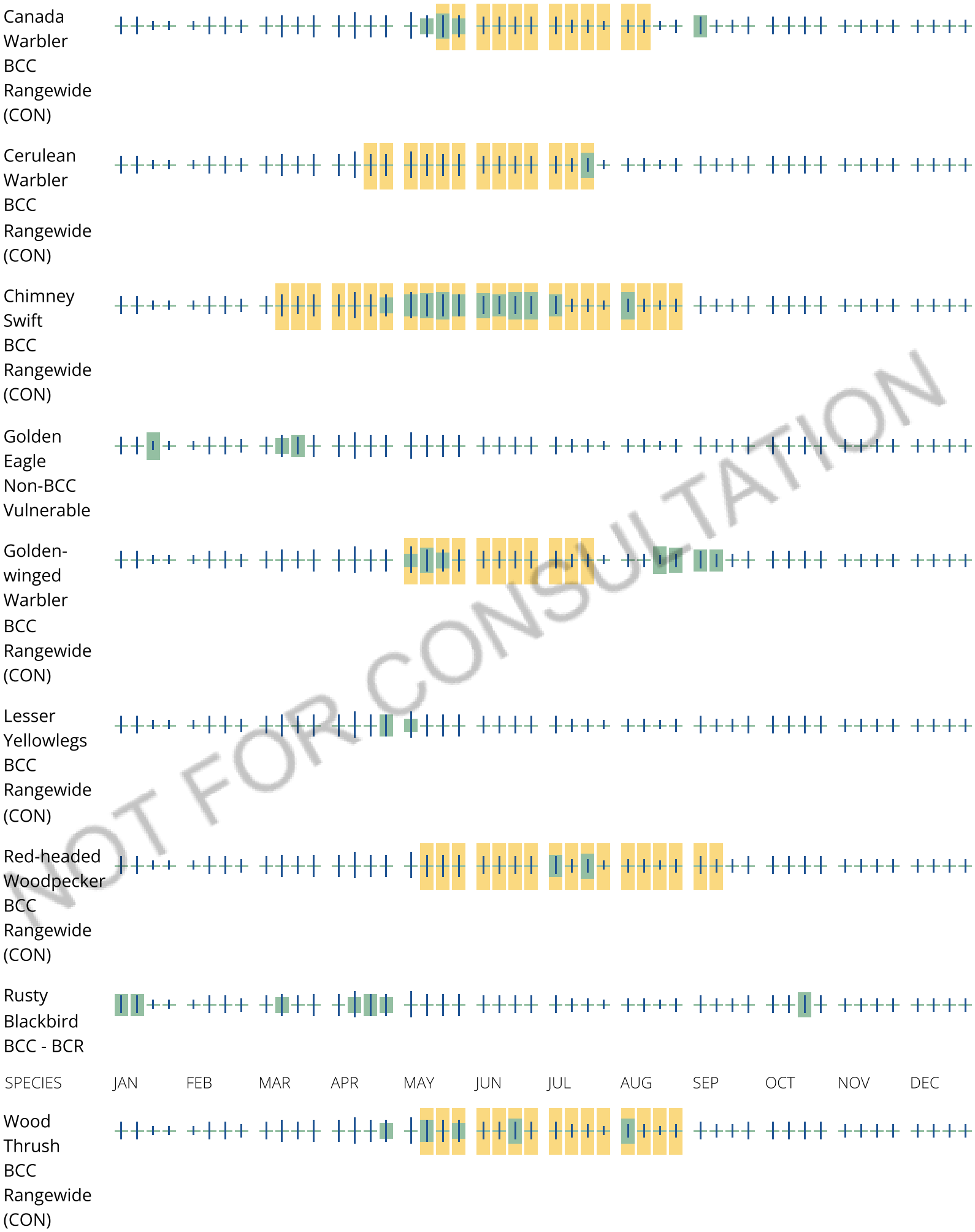
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX B – GROUNDWATER WELL LOGS

Minnesota Unique Well Number

109689

County Washington
Quad Stillwater
Quad ID 118D

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 07/31/1989
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
TRENT, JOHN	30	20	W	20	CBBBAC

Elevation 901 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 13033 MCKUSICK RD N STILLWATER MN 55082

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND & GRAVEL	0	51	BROWN	SFT-HRD
CLAY & BOULDERS	51	148	RED/BRN	SFT-HRD
SANDROCK	148	180	YEL/BRN	MEDIUM

Remarks

Well Depth 180 ft. **Depth Completed** 180 ft. **Date Well Completed** 11/28/1975

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded

Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Casing Diameter **Weight**

4 in. To 174 ft. 11 lbs./ft.

Open Hole From 174 ft. To 180 ft.

Screen? ☐ **Type** **Make**

Static Water Level

50 ft. land surface Measure 11/28/1975

Pumping Level (below land surface)

55 ft. 2 hrs. Pumping at 15 g.p.m.

Wellhead Completion

Pitless adapter manufacturer Model

☐ Casing Protection ☒ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount		From	To
bentonite	2	Cubic yards	0 ft.	174 ft.

Nearest Known Source of Contamination

80 feet West Direction Septic tank/drain field Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 12/05/1975

Manufacturer's name REDA PUMP CO.

Model Number 9D9P051 HP 0.5 Volt 230

Length of drop pipe 90 ft Capacity 12 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Jordan Sandstone Aquifer Jordan

Last Strat Jordan Sandstone Depth to Bedrock 148 ft

Located by Minnesota Geological Survey

Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)

System UTM - NAD83, Zone 15, Meters X 512407 Y 4990945

Unique Number Verification Address verification Input Date 01/01/1990

Angled Drill Hole

Well Contractor

Mantyla Well Co.	82084	SANDERS, G.
Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Unique Well Number

156399

County Washington
Quad Stillwater
Quad ID 118D

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 07/17/1989
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
VAN TASSEL,	30	20	W	20	CBBAAB

Elevation 901 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 13093 MCKUSICK RD N STILLWATER MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	30	BROWN	SOFT
SAND & GRAVEL	30	145	BROWN	SFT-HRD
SANDROCK	145	157	WHITE	SOFT
SANDROCK	157	170	YEL/BRN	MEDIUM

Remarks

Well Depth	Depth Completed	Date Well Completed
170 ft.	170 ft.	12/18/1978

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Welded
Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Casing Diameter		Weight	
4	in. To 167 ft.	11	lbs./ft.

Open Hole From 167 ft. To 170 ft.

Screen? ☐ **Type** **Make**

Static Water Level
55 ft. land surface Measure 12/18/1978

Pumping Level (below land surface)
60 ft. 2 hrs. Pumping at 20 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite	0	0 ft.	167 ft.

Nearest Known Source of Contamination
85 feet Northeas Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 12/22/1978
Manufacturer's name REDA
Model Number 12D9P021 HP 0.75 Volt 230
Length of drop pipe 100 ft Capacity 12 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Jordan Sandstone Aquifer Jordan
Last Strat Jordan Sandstone Depth to Bedrock 145 ft
Located by Minnesota Geological Survey
Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)
System UTM - NAD83, Zone 15, Meters X 512483 Y 4990957
Unique Number Verification Name on mailbox Input Date 01/01/1990

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Mantyla Well Co.	82084	SANDERS, G.

Minnesota Unique Well Number

595649

County Washington
Quad Stillwater
Quad ID 118D

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 09/12/2000
Update Date 09/04/2018
Received Date

Well Name	Township	Range	Dir	Section	Subsection
DNR OB 82047	30	20	W	19	DAAAAB

Elevation 876 ft. **Elev. Method** LiDAR 1m DEM (MNDNR)

Address

Contact 216 4TH ST N STILLWATER MN 55082
Well NEAL AV STILLWATER MN 55082

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
GRAVEL	0	70		
SAND	70	75		
SAND & GRAVEL	75	100		
SAND & GRAVEL	100	149		
SANDSTONE	149	154	BROWN	
ST LAWRENCE	154	185		
TUNNEL CITY GROUP	185	240		

Remarks

GAMMA LOGGED 6-21-2000 BY MNDNR. M.G.S. NO. 4021.
DNR OBWELL 82047.

Well Depth 240 ft. **Depth Completed** 240 ft. **Date Well Completed** 06/20/2000

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use observation well **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☒ No ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 215 ft.	lbs./ft.	8 in. To 215 ft.
		4 in. To 240 ft.

Open Hole From 215 ft. To 240 ft.

Screen? ☐ **Type** **Make**

Static Water Level
16 ft. land surface Measure 06/20/2000

Pumping Level (below land surface)
20 ft. 1 hrs. Pumping at 30 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement	20 Sacks	0 ft.	150 ft.
bentonite	20 Sacks	150 ft.	215 ft.

Nearest Known Source of Contamination
60 feet North Direction Other Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☒ Not Installed Date Installed
Manufacturer's name
Model Number HP Volt
Length of drop pipe ft Capacity g.p. Typ

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Jordan Sandstone Aquifer Tunnel City
Last Strat Tunnel City Group Depth to Bedrock 149 ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:12,000) (>15 meters)
System UTM - NAD83, Zone 15, Meters X 512289 Y 4990961
Unique Number Verification Information from Input Date 10/24/2000

Angled Drill Hole

Well Contractor
Schultz, Nicholas 10622 SCHULTZ, N.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

623066

County Washington
Quad Stillwater
Quad ID 118D

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 02/27/2001
Update Date 09/04/2018
Received Date

Well Name	Township	Range	Dir	Section	Subsection
DNR OB 82048	30	20	W	19	DAAABA

Elevation 876 ft. **Elev. Method** LiDAR 1m DEM (MNDNR)

Address

Contact 216 4TH ST N STILLWATER MN 55082

Contact 500 LAFAYETTE RD ST PAUL MN 55155

Well NEAR 4 AV N STILLWATER MN 55082

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SILTY CLAY	0	9	BROWN	
SAND & GRAVEL	9	18	VARIED	
SAND CLAY	18	31	BROWN	
SAND & GRAVEL	31	47	VARIED	

Remarks

DNR OBWELL 82048.

Well Depth	Depth Completed	Date Well Completed
47 ft.	47 ft.	08/23/2000

Drill Method Auger (non-specified) **Drill Fluid**

Use monitor well **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint**

Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
2 in. To 37 ft.	lbs./ft.	6.7 in. To 47 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** plastic **Make**

Diameter	Slot/Gauze	Length	Set
2 in.	10	10 ft.	37 ft. 47 ft.

Static Water Level

6.4 ft. land surface Measure 08/23/2000

Pumping Level (below land surface)

6.4 ft. hrs. Pumping at g.p.m.

Wellhead Completion

Pitless adapter manufacturer Model

☒ Casing Protection ☐ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite	1.25 Sacks	4 ft.	33 ft.
neat cement	1 Sacks	ft.	4 ft.

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☐ Yes ☐ No

Pump ☒ Not Installed Date Installed

Manufacturer's name

Model Number HP Volt

Length of drop pipe ft Capacity g.p. Typ

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous

First Bedrock Aquifer Quat. Water

Last Strat sand +larger Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:12,000) (>15 meters)

System UTM - NAD83, Zone 15, Meters X 512272 Y 4990960

Unique Number Verification Site Plan Input Date 09/04/2018

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Minnesota DNR	M0058	LILJEGREN, M.

Minnesota Unique Well Number

834170

County Washington
Quad Stillwater
Quad ID 118D

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 10/14/2021
Update Date 10/14/2021
Received Date

Well Name	Township	Range	Dir	Section	Subsection
DNR OB 82080	30	20	W	19	DAAAAA

Elevation 886 ft. **Elev. Method** LiDAR 1m DEM (MNDNR)

Address

Contact 216 4TH ST N STILLWATER MN 55082
Contact 500 LAFAYETTE RD ST PAUL MN 55155

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOPSOIL (FILL)	0	1	BLACK	SOFT
LOAMY SOIL (FILL)	1	5	BROWN	SOFT
SILTY SAND CLAY, TR.	5	11	BLK/BRN	SOFT
SILTY CLAY W/ FINE	11	14	BROWN	SFT-HRD
SILTY SAND TR.	14	20	BROWN	SOFT
FINE SAND, TR. SILT,	20	32	BROWN	SOFT
FINE SAND TR. SILT	32	34	BROWN	SOFT
FINE TO COARSE	34	63	BROWN	SOFT

Remarks
DNR OB 82080

Well Depth 63 ft. **Depth Completed** 60.5 ft. **Date Well Completed** 11/20/2020

Drill Method Power Auger **Drill Fluid**

Use observation well **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint** Solvent Welded
Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
2 in. To 50.5 ft.	lbs./ft.	8 in. To 60.5 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	10	10 ft.	50.5 ft.	60.5 ft.

Static Water Level
12.8 ft. land surface Measure 11/20/2020

Pumping Level (below land surface)
13.6 ft. 1 hrs. Pumping at 8 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☒ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
high solids bentonite	4 Sacks	ft.	41.5 ft.

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☒ No

Pump ☒ Not Installed Date Installed
Manufacturer's name
Model Number HP Volt
Length of drop pipe ft Capacity g.p. Typ

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Aquifer Quat. Water
Last Strat sand-brown Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 512319 Y 4990962
Unique Number Verification Info/GPS from data Input Date 10/14/2021

Angled Drill Hole

Well Contractor
MN DNR Waters 1759 MEYER, M.
Licensee Business Lic. or Reg. No. Name of Driller

APPENDIX C – PHASE 1 ARCHEOLOGICAL AND CULTURAL RESOURCES REPORT

August 19, 2023 MVAC SR 2023-100

Mike Majeski
EOR, Inc.
Ste 300
1919 University Avenue West
St Paul, MN 55104

From: Wendy Holtz-Leith, Mississippi Valley Archaeology Center (MVAC), University of Wisconsin-La Crosse
Principle Investigator: Constance Arzigian,

Re: Phase I Archaeological Survey for proposed trout stream habitat improvements on Brown′s Creek, Washington County, Minnesota.

License Number: 23-193

This letter summarizes a Phase I archaeological investigations along an approximately 1,900-foot stretch of streambank on Brown′s Creek, Washington County, Minnesota (Figure 1), for trout stream habitat improvements. Portions of the project area are located on land owned by the State of Minnesota Department of Natural Resources (MNDNR) and the City of Stillwater and require a license from the Office of the State Archaeologist, License No. 23-193 and a Research Permit from the Minnesota Department of Natural Resources Parks and Trails Division (Special Permit No. 2023). The work was completed for EOR, Inc. by Wendy K. Holtz-Leith, Senior Research Archaeologist, with Constance Arzigian, Principal Investigator and Senior Research Archaeologist, Mississippi Valley Archaeology Center (MVAC) at the University of Wisconsin-La Crosse.

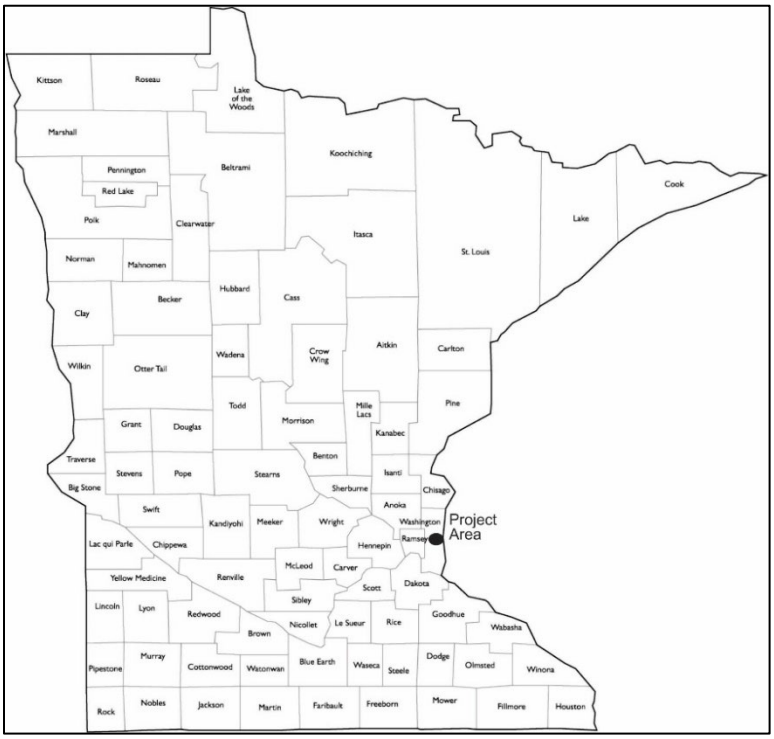


Figure 1. Project area within Minnesota.

Project description: The project area covers an approximately 1,900-foot stretch along Brown's Creek. A field survey was conducted for proposed stream modifications for trout stream habitat improvements. The project area begins in the NE ¼, SE ¼ of Section 19 and ends in the NW ¼, SW ¼ of Section 20, T30N R20W, Stillwater Township (Figures 2 and 3). Brown's Creek generally flows through the project area from the northwest to the southeast and flows to the St. Croix River north of Stillwater. The project area starts where Mc Kusick Road North crosses Brown's Creek and ends near the Brown's Creek State Trail. Historic aerials show meandering of the stream from 1938, 1949, 1966, 2010, to 2023 (Figures 4 and 5). Sometime between 1997 and 2003, near the east end of the project area, Brown's Creek was rerouted to its current location.

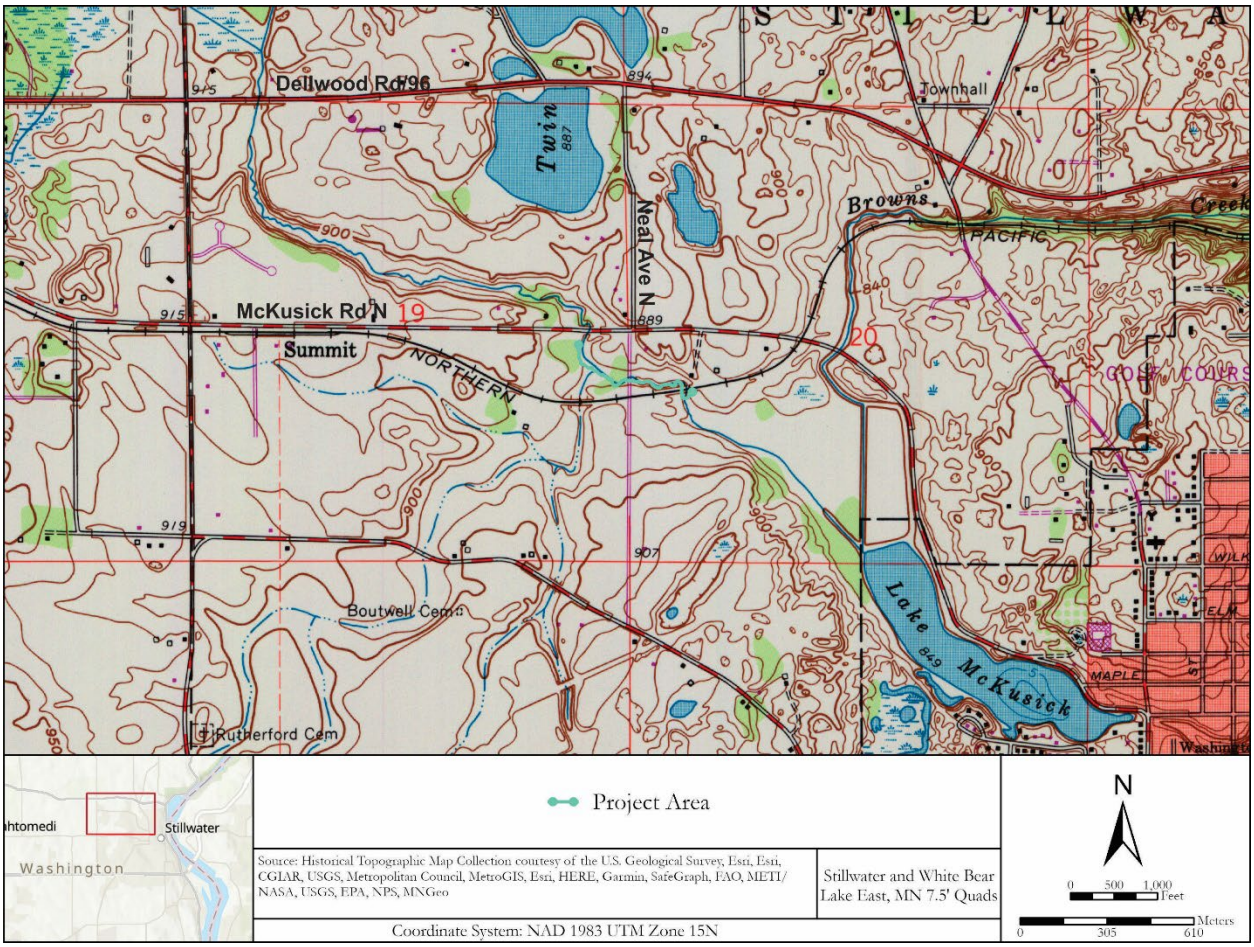


Figure 2. Project area on the Stillwater and White Bear Lake East, Minnesota 7.5' Quadrangles (Generated in ArcGIS).

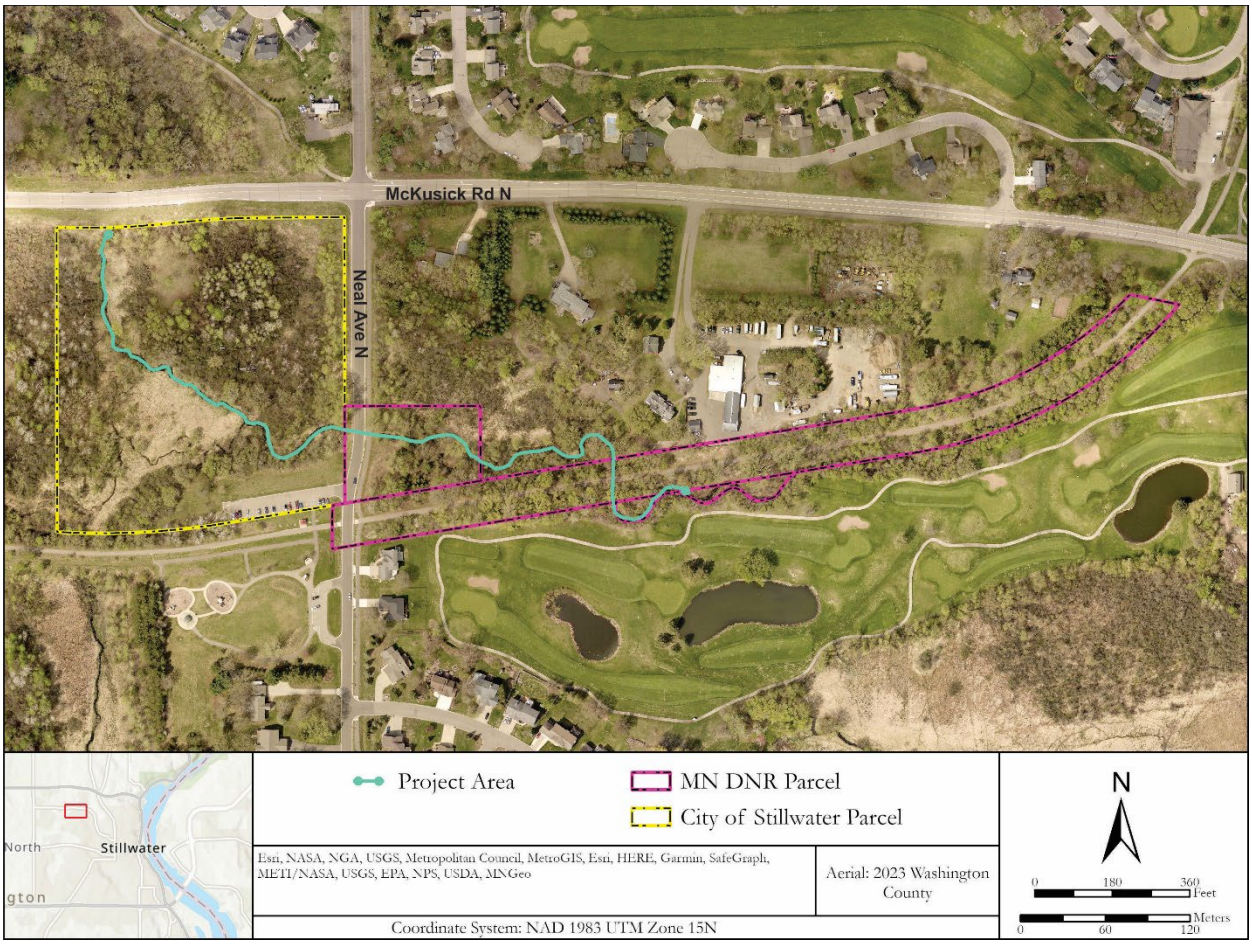
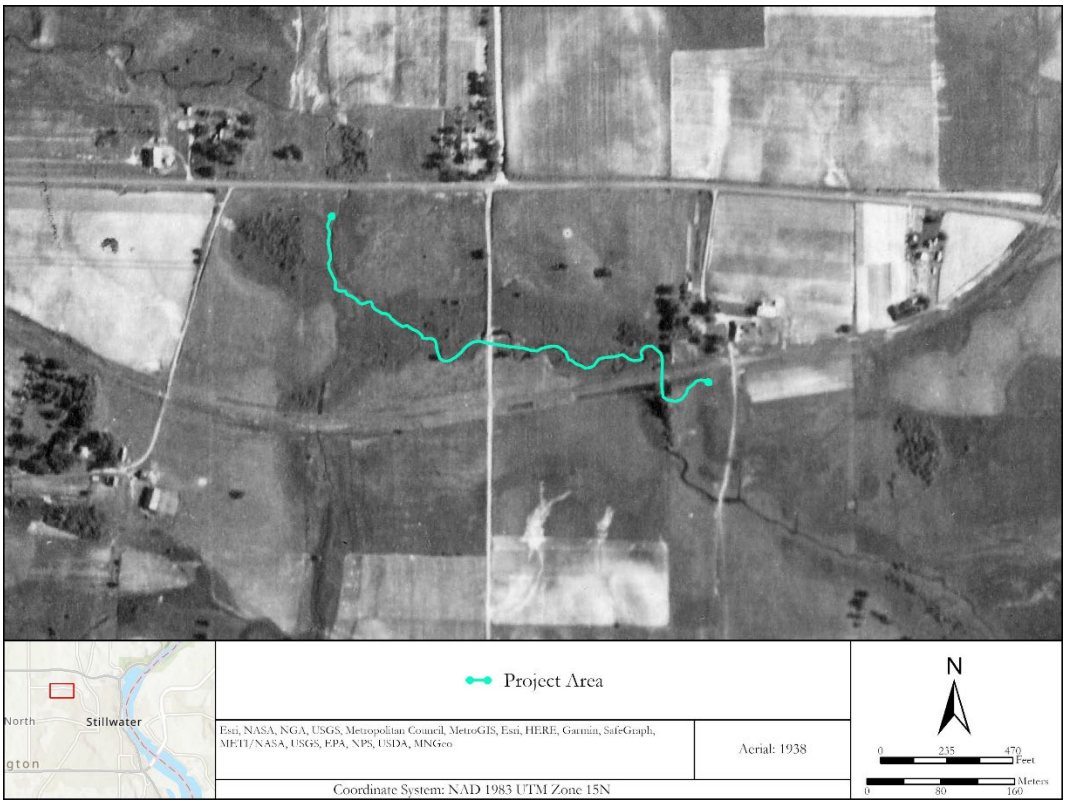


Figure 3. Brown's Creek project area on aerial map (Generated in ArcGIS).



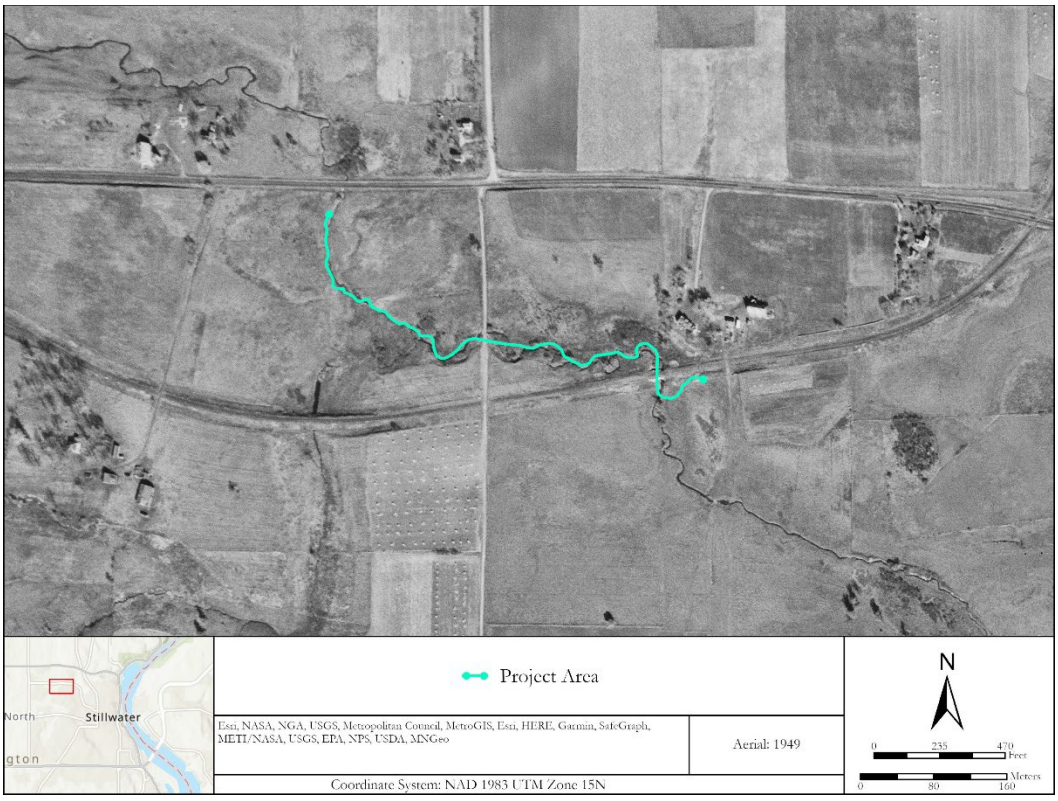


Figure 4. 1938 and 1949 aerial photos with project area (current location of Brown's Creek) overlaid (University of Minnesota-Minnesota Historical Aerial Photographs Online).

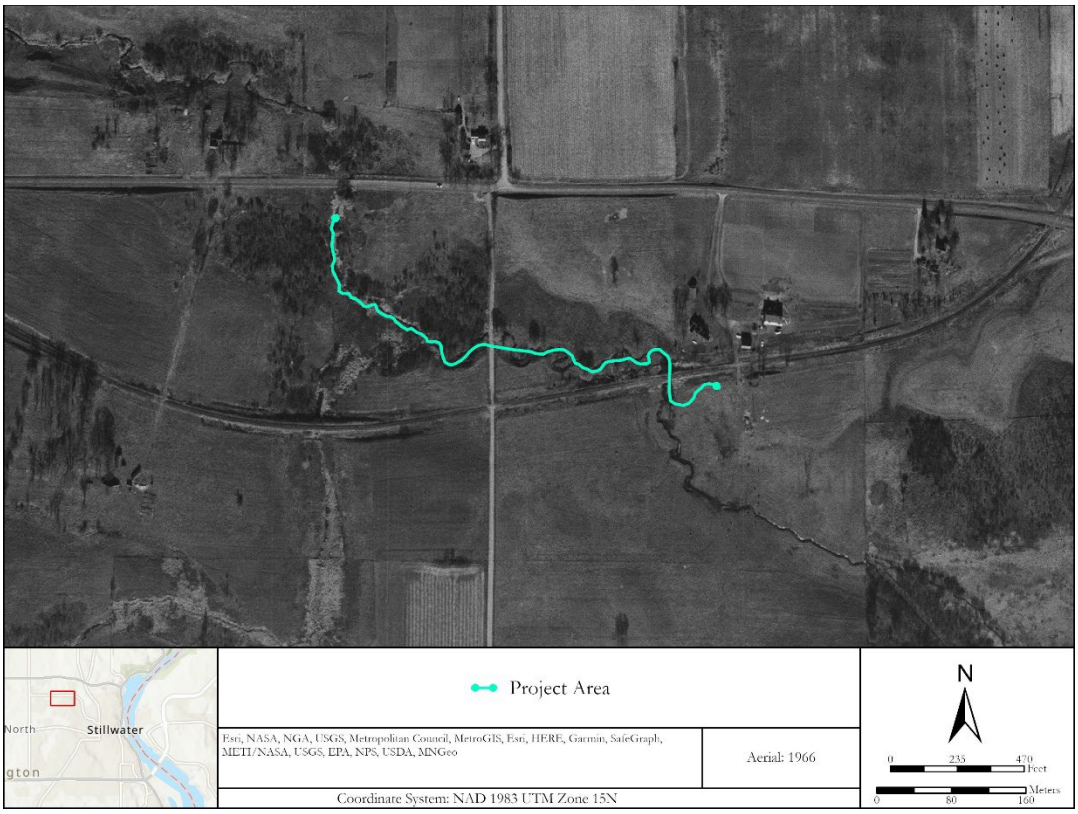


Figure 5. 1966 and 2010 aerial photo with project area (current location of Brown's Creek) overlaid (University of Minnesota-Minnesota Historical Aerial Photographs Online).

Previously reported sites: A site search was requested from the State Historic Preservation Office and research was conducted using the Office of the State Archaeologist (OSA) Portal. One previously identified site overlaps the project area, and three others are located within one mile (Figure 6 and 7).

The project area overlaps the mapped location of 21WAac. The site is based on the 1874 plat map of Washington County (Andreas 1874). The map shows structures in Section 19, most appear to be south of the railroad tracks. No other information is given in the OSA portal.

21WA30 is a small precontact find artifact scatter of unknown age and cultural affiliation located on a ridgetop north of Brown's Creek in a plowed field. The site is located about 0.6 miles northeast of the project area.

21WA26 is a precontact habitation site of unknown age and cultural affiliation located on the northwest side of Twin Lakes. In 1971 a survey for proposed highway work found no cultural resources in the area but the landowner reported that he and the previous landowner had found numerous projectile points in the area. The site is located about 0.75 miles north of the project area.

21WA73 is a small precontact find spot of unknown age and cultural affiliation located on a knoll overlooking the north shore of Lake McKusick. The site is located about 0.8 miles southeast of the project area.

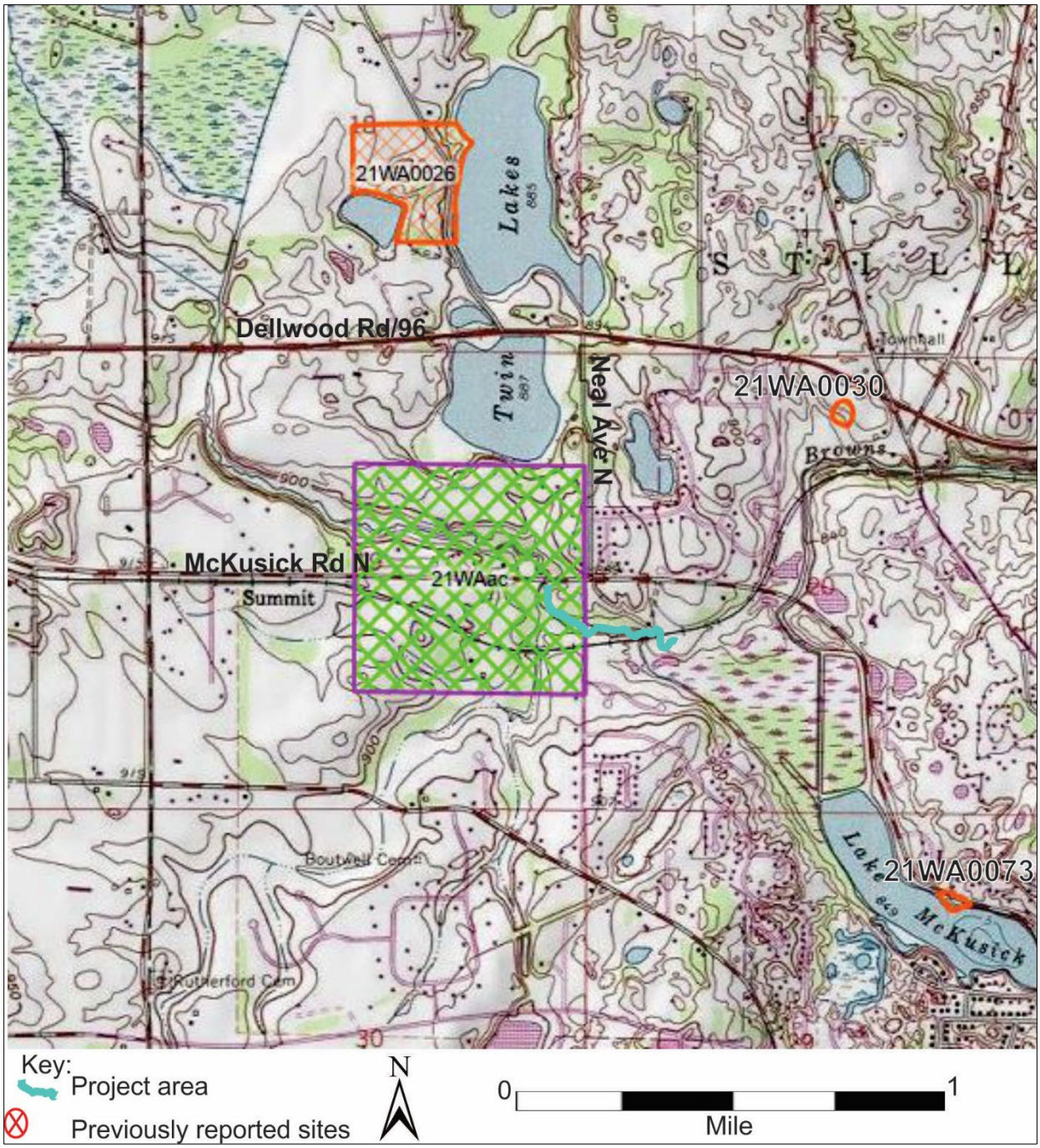


Figure 6. Previously reported sites in relationship to the project area on the Stillwater and White Bear Lake East, Minnesota 7.5' Quadrangles, adapted from the OSA portal.

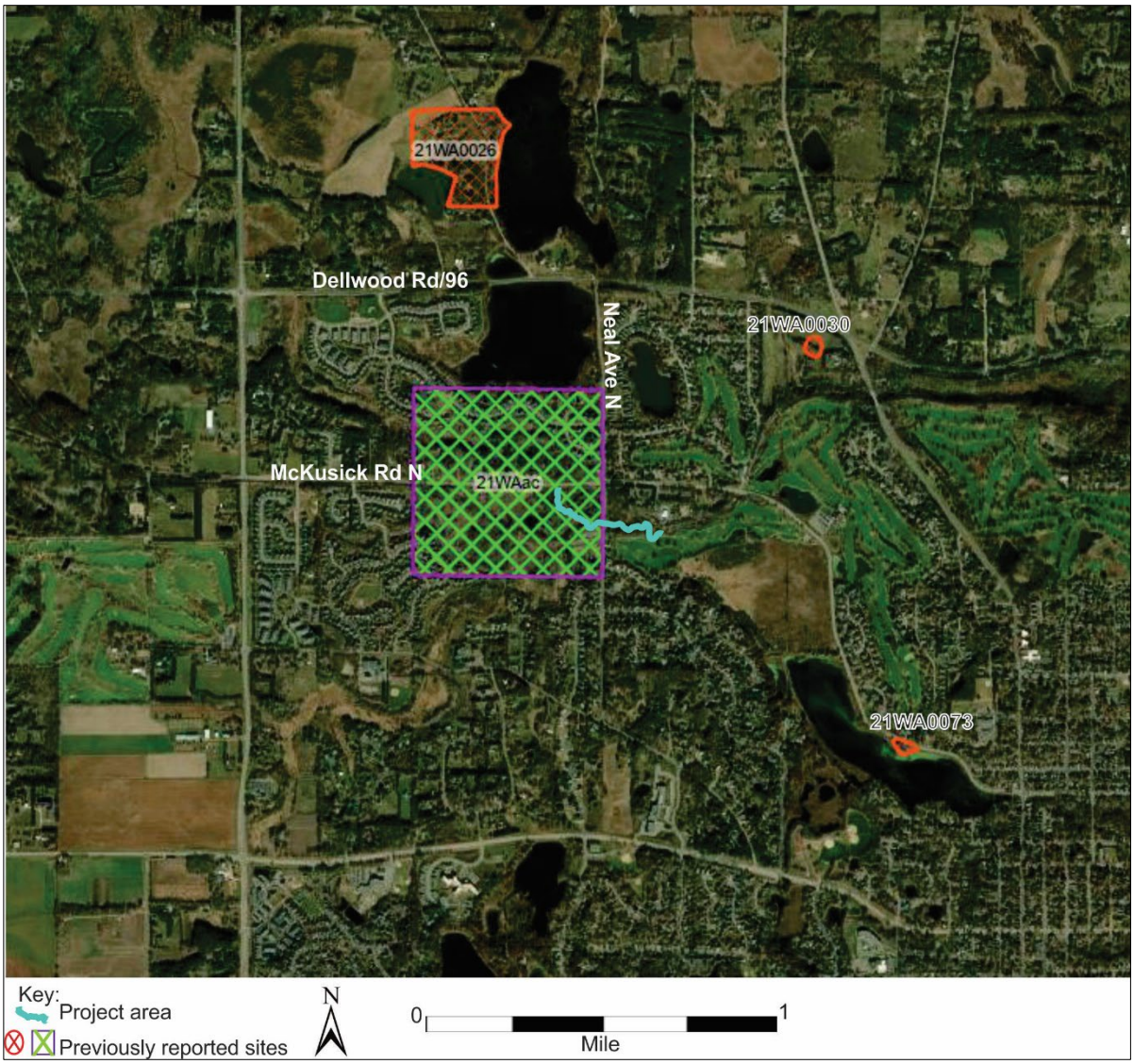


Figure 7. Previously reported sites in relationship to the project area on aerial imagery, adapted from the OSA portal.

Soils, vegetation and landscape change: The United States Department of Agriculture, Natural Resources Conservation Services Web Soil Survey (USDA-NRCS) was consulted to determine soils mapped within the project area (USDA-NRCS 2023). All of the project area is mapped as Auburndale silt loam, 0-2 percent slope (Figure 8). This soil type is found on drainageways on ground moraines or depressions on ground moraines and are formed in loess and/or silty alluvium over dense loamy till. It is a poorly drained soil type. The Auburndale soil series consists of deep, poorly drained soils formed in loess or silty alluvium. These soils are frequently saturated. Native vegetation consists of wetland grasses, alder shrubs, and trees such as black ash, quaking aspen, and bog willows.

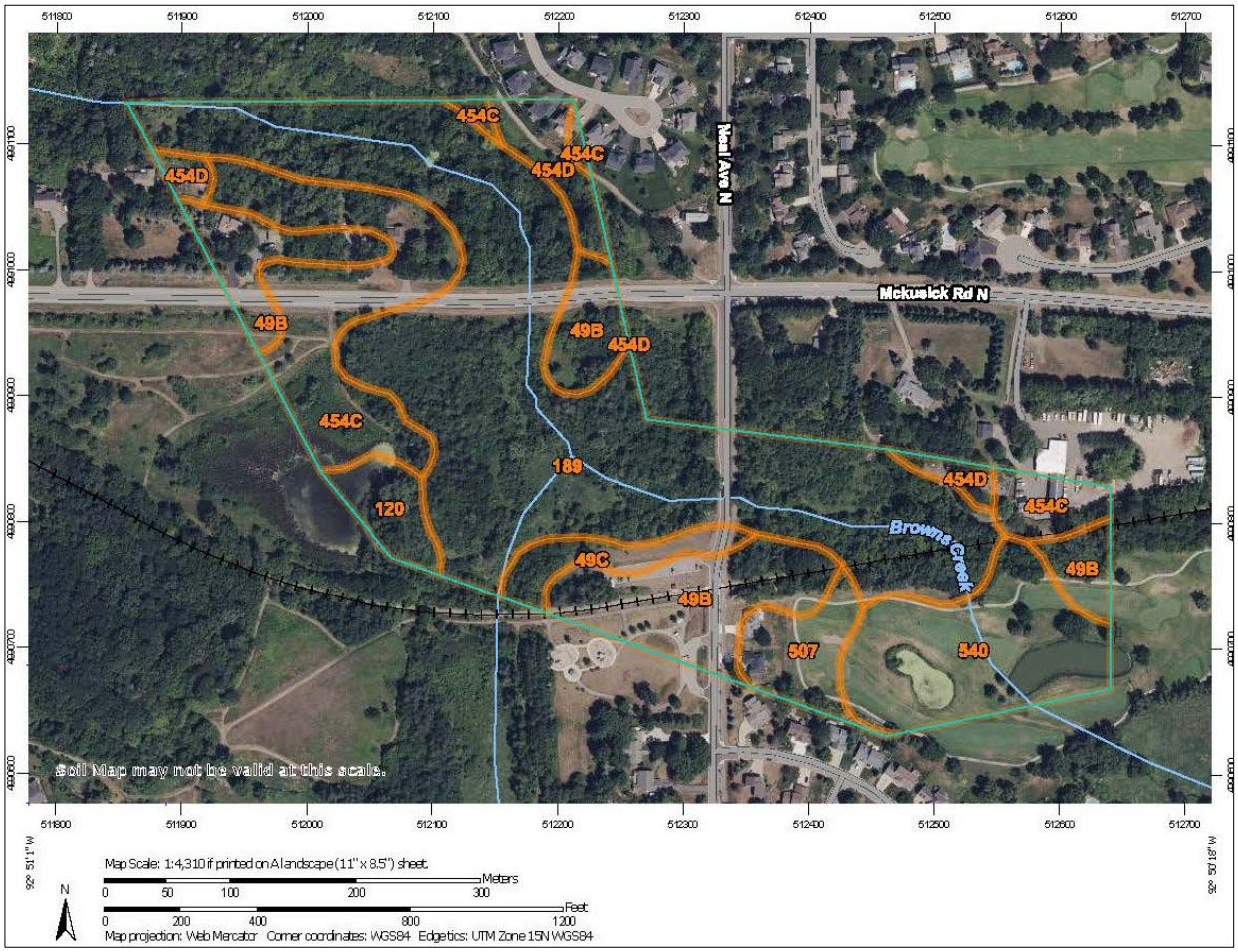


Figure 8. USDA-NRCS soils map of the project area.

Vegetation near the project area was noted in the 1847 Government Land Office surveys [GLO) (GLO Historic Plat Map Retrieval System 2023]. Sections 19 and 20 of T30N, R20W was described as rolling, third-rate soils with timber Bur, black, and white oak.

The OSA Portal identifies the project area as deciduous savanna. Since the mid-nineteenth century, the region around the project area has seen intensive land clearing and agriculture. Prior to this period the uplands would have been predominantly short grass prairies with hardwoods in the narrow, often steep, stream valleys. More than 150 years of agriculture has eroded the uplands and deposited thick accumulations of fine-grained sediments in the valley margins. This post-settlement-alluvium (PSA)

or legacy sediment as it is sometimes called, is ubiquitous in small stream valleys such as Brown's Creek. The portal also has a survey implementation model that identifies the area as high site potential and has been poorly surveyed.

Field investigations: Field investigations were conducted on August 16, 2023, by the author, under the direction of Constance Arzigian, Principal Investigator. The project area is located in a wooded area near the Brown's Creek State Trail (Figure 9). The survey was conducted by walking along either side of the creek bank, and in the stream where it was feasible. The stream is fairly shallow and clear in most areas, so the stream banks and the stream bed could be surveyed by walking in the stream (Figure 10). Exposed banks were inspected for the presence of any cultural materials or evidence of a buried soil horizon and soil probes were placed in areas without good exposure.

The western half of the project area, west of Neal Avenue N., is located in a low, wider stream valley located southwest of higher hills and bluff margins. The stream bank is approximately three feet tall through much of this area. There is active stream meandering, old meander scars and pockets of wetlands throughout this area. Approximately 30 % of the banks were exposed, with visibility of the banks themselves being 50-100%. The exposed banks provided excellent visibility and discernibility, permitting the identification of any potential cultural materials or cultural horizons (Figure 11). Soil probes were also placed approximately 1.5-3 meters (5-10 feet) on either side of the stream at various points along the route to confirm the soils profiles noted in the cut banks. The general soil profile for the western half of the project area was a very dark gray to very dark grayish brown (10YR3/1-3/2) sandy loam with streaks of iron from saturation at about 60 cm (2 feet). All of the soil in the probes were moist to wet (Figure 12).

The east half of the project area, east of Neal Avenue N., is located in a narrower stream valley with fairly steeply sloped margins. In a few areas where it widened out there were cut banks with very good visibility. The stream bed was again visible and could be surveyed for artifacts. At the very eastern end of the project area the stream crosses under the old railroad bed, now the Brown's Creek State Trail.

In the historic air photos and in the field, there was evidence of past meanders. There are no mapped wetlands but areas along the project area were saturated, even with the lack of rain this summer.

The cutbanks and soil probes showed deep profiles with no soil horizon development. The primary soil profile noted throughout the project area was a very dark gray to dark grayish brown (10YR3/1-10YR3/2) sandy loam, interpreted as PSA. The amount of PSA depended on the depth of the cut bank or soil probe and had no visible stratigraphy in profile. No intact soil horizons were noted in the project area.

Figure 9. General setting for the west half of the project area, view northwest.

Figure 10. Example of clear, shallow nature of the creek.

Figure 11. Example of cutbank soil profile.

Figure 12. Soil probe from near center part of the project area. Iron staining near base of probe and soil saturated.

Results: The Brown's Creek project area is located in a moderately narrow stream valley. There is active erosion, with banks being undercut by the stream, providing excellent visibility for the survey. There are also areas of past and ongoing stream meandering and small wetland areas. Aerial photos dating back to 1938 show the stream moving across the project area, especially the central and

eastern half of the project area. During the field investigations extensive accumulations of PSA were verified throughout the project area. Both the stream banks, the stream bed, and soil probes were inspected for cultural resources and/or potential non-PSA soil horizons and none were observed.

Recommendations: The entire project area is within historic alluvial deposits, PSA. There are no previously identified cultural resources within or near the project area and none were found during this survey. 21WAac is a historic site of some kind mapped within the project area. The site is based on an 1874 map and there is no other information given. No historic resources were found during the survey. The nearest previously reported precontact sites are located over 0.5 miles away from the project area and are located on higher landforms. Based on these findings there is very little chance that if cultural resources ever existed within the project area that they would remain intact. Consequently, it is recommended that the proposed trout habit improvements go ahead as planned.

However, it is always possible that deeply buried materials, including human remains, may be encountered during the course of construction. If human remains are discovered, all work must cease in that area immediately, and the Minnesota Office of State Archaeologist must be contacted promptly.

Please let me know if you have any questions or need clarification regarding this report.

Sincerely,

Wendy K. Holtz-Leith

Wendy K. Holtz-Leith
Research Archaeologist
608-785-8455
wholtz-leith@uwlax.edu

References cited:

Andreas, A.T.

1874 Illustrated Historical Atlas of the State of Minnesota. Published by A.T. Andreas, Chicago, Illinois.

GLO Historic Plat Map Retrieval System

2023 Digital Public Land Survey plat maps images. Accessed online July 2023. http://www.mngeo.state.mn.us/glo/

USDA-NRCS Soil Survey Division (USDA-NRCS)

2023 Web Soil Survey. Accessed online July 2023 at https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

University of Minnesota

2023 Minnesota Historical Aerial Photographs. Accessed online July 2023 at https://www.lib.umn.edu/apps/mhapo/

Attachments:
Office of the State Archaeologist, License No. 23-193
Research Permit Minnesota Department of Natural Resources Parks and Trails Division (Special Permit No. 2023)

MINNESOTA ARCHAEOLOGICAL SURVEY LICENSE APPLICATION

This license only applies to **Phase I survey fieldwork**[1] conducted under **Minnesota Statute 138.31-.42**[2] at the location listed below and during the **2023** calendar year[3]. Any archaeological investigation performed on publicly owned or managed (non-federal) land must have a licensed archaeologist associated with the project. Archaeological investigations include, but are not limited to, the following methodologies: assessing archaeological potential, mapping, geophysical studies, drone surveys, surface survey, shovel testing, coring, soil, chemical and biological sampling, augering, and excavation[4].

The Principal Investigator must have a separate license for each Phase I survey project. Each Phase II evaluation, Phase III major investigation, and burial site work must also be individually licensed. Only the individual indicated below is licensed as the principal investigator[5]. *The principal investigator is responsible for all work conducted by their employees, contractors, and subcontractors*[6]. The licensed individual (principal investigator) is responsible for reading, understanding, and complying with all Conditions attached to this license. Future licenses may be denied or revoked for failure to comply with this license, its conditions, professional ethics, or professional work standards.

Applicant Information

Name: Constance Arzigian

Institution/Agency/Company Affiliation: Mississippi Valley Archaeology Center

Title/Position: Senior Research Archaeologist E-Mail: carzigian@uwlax.edu

Address: University of Wisconsin-La Crosse, 1725 State Street, La Crosse, WI 54601

Work Phone: 608-785-8452 Cell Phone: 608-386-3682

Education/Qualifications

Name of Advanced Degree Institution: University of Wisconsin-Madison Degree: PhD

Department Name: Anthropology Year of Completion: 1993

Required documentation:

☐ Curriculum Vita and documentation of appropriate experience attached (*submit an updated CV annually*)

☒ Up-to-date CV and documentation on file at the OSA

[1] The study of the traces of human culture at any land or water site by means of surveying, digging, sampling, excavating, or removing objects, or going on a site with that intent (MS 138.31 [Subd. 7])

[2] State archaeological licenses are required on publicly owned and managed (non-federal) land.

[3] January 1st through December 31st of a given year

[4] As technologies change, survey options increase. This list is not intended to be nor can it be comprehensive.

[5] The individual named on this license. The Principal Investigator is responsible for the methods, implementation, standards, results, and recommendations of all work conducted under this license.

[6] Any person or entity working for or under the Principal Investigator's direction or contract as part ofthis license.

MINNESOTA HISTORICAL SOCIETY

DEPARTMENT OF ADMINISTRATION STATE ARCHAEOLOGIST

License History

Year of most recent license: 2023

Type of License (survey, evaluation, etc.): survey License #: 23-105

Have you ever been denied an archaeological license? If not, check "NO" and leave this section blank.)

☒ No ☐ Yes; If yes, when:_____ Where:_____

Explain:

Contact Name:_____ Phone: _____

Email: _____

Curation

☒ Minnesota Historical Society #: 1031

☐ Other Approved Curation Facility Name:_____ #: _____

By signing this license application, I consent to the sharing of information submitted as part of the licensing process among the Office of the State Archaeologist (OSA), the Minnesota Historical Society (MHS), and the Minnesota Indian Affairs Council (MIAC). As the primary licensing agencies, OSA and MHS may share license application information with MIAC and Tribal Historic Preservation Offices (THPOs) as part of the tribal consultation process. I understand that the information shared with MIAC includes only the information I submit as part of the license application process. This consent expires upon completion of the above-stated purpose.

Signatures

Applicant: Constance Arzigian Date: 7/14/2023

Minnesota Historical Society Approval: _____ Date: 07/24/2023

Minnesota State Archaeologist Approval: _____ Date: 7-17-2023

LICENSE NUMBER: 23-193

MINNESOTA HISTORICAL SOCIETY

DEPARTMENT OF ADMINISTRATION STATE ARCHAEOLOGIST

MINNESOTA ARCHAEOLOGICAL PROJECT INFORMATION

LICENSE #: 23-193

** IMPORTANT -This information will be shared with MIAC and tribal officials as part of the tribal consultation process.*

Applicant Information

Name: Constance Arzigian

Institution/Agency/Company Affiliation: Mississippi Valley Archaeology Center

Land Management

Type of Land: (check all that apply)

- [■] State-Owned or Managed
- [ ] County-Owned or Managed
- [■] Township/City Owned or Managed
- [ ] Other non-federal public (describe): _____

Dates

Dates of proposed fieldwork: July 24 to August 4, 2023 (ASAP)

Is the project within a recorded archaeological site? [✓] **Yes** [ ] **No**

If so, what are the site number(s)? 21WAac

Survey:

Location (attach a detailed map, and provide an address or Property ID #, and PLSS location):

The project area is located west of the city of Stillwater, south of CR 64 to just south of Brown's Creek State Trail. Portions of the project area are located in property owned by the City of Stillwater (parcel ID is 1903020410001), NE, SE of Section 19 T30,R20 and the Minnesota Dept of Natural Resources (parcel IDs 2003020320020, 2003020320023, and 2003020320018) NW, SW of Section 20, T30,R20.

MINNESOTA HISTORICAL SOCIETY

DEPARTMENT OF ADMINISTRATION STATE ARCHAEOLOGIST

Name and purpose of the project, and proposed survey methods (attach pages if necessary) (400 word limit - attach additional pages if more space is needed.)

Brown's Creek Washington County: The survey will be conducted for trout stream habitat improvements and will examine banks for presence of cultural materials or intact soils other than post-settlement alluvium. Shovel test and probing as needed where there is insufficient bank exposure and to establish soil profiles. Both sides of the creek will be surveyed either from the bank or within the creek. The mapped location of 21WAac overlaps the project area. The site is based on historic Andreas documentation and there is no other information given in the OSA portal.

MINNESOTA HISTORICAL SOCIETY

DEPARTMENT OF ADMINISTRATION
STATE ARCHAEOLOGIST

CONDITIONS OF MINNESOTA ARCHAEOLOGICAL SURVEY LICENSE

1. The licensed individual and the sponsoring institution/agency/company must comply with all the conditions attached to the license. If the licensee does not comply with these conditions, the license could be revoked and impact one's ability to obtain future licenses.
2. All information given on this license application is accurate and up to date.
3. The individual listed on this license is responsible for all work of their employees, contractors, and subcontractors.
4. A license can be denied for any of the following reasons: a) failure to meet the required professional qualifications standards, b) failure to possess the necessary regional, topical, or managerial experience, c) failure to fulfill the conditions of a previous license, or d) exhibiting unethical professional behavior, including, but not limited to falsifying field notes or reports, plagiarism, intentionally misrepresenting professional qualifications or experience, mishandling archaeological and site information or materials owned by the state per MS 138.37 (Subd. 1).
5. This license can be revoked or suspended by the State Archaeologist or the director of the MHS, or their agent, at any time for failure to fulfill the license conditions or for exhibiting unethical behavior such as listed above (4). Appeals of license denial, suspension, or revocation must follow procedures outlined in Minnesota Statutes 138.36, Subd. 6
6. As part of this license and in support of Executive Order 19-24, licensing information will be submitted to MIAC and tribal officials as part of the tribal consultation process. The licensee is strongly encouraged to continue consultation with MIAC and appropriate THPOs.
7. If the project area is within the boundaries of a reservation or Dakota community, archaeologists should directly communicate with the appropriate THPO or tribal cultural resource specialist regarding the proposed work.
8. If the project area is on Federal land, archaeologists should directly communicate with the federal agency regarding proposed work.
9. Under the provisions of Minnesota Statutes 138.31-138.42, the license applicant must be a Qualified Professional Archaeologist as specified in Minnesota Statutes (MS) 138.31, Subd. 10, and meet the Secretary of the Interior's Professional Qualifications Standards for Archaeology. The applicant must also possess the appropriate regional, topical, and managerial experience to undertake reconnaissance surveys.
10. This license only applies to Reconnaissance/Phase I archaeological surveys conducted on non-federal public lands in Minnesota. If more than two square meters of formal unit excavation or procedures that involve terrain disturbance (e.g., machine excavation) at a known site are planned, the principal investigator must consult with the Office of the State Archaeologist (OSA) before implementation.
11. This license does not authorize activities within cemeteries, per Minnesota Statutes 307.08. No ground disturbance within 50 feet of recorded cemeteries is allowed, without the prior approval of the State Archaeologist and the Minnesota Indian Affairs Council, in the case of American Indian cemeteries. If human remains or suspected burial-related items are encountered, all work must immediately cease, the remains or items left in situ, and law enforcement contacted (e.g., county sheriff). If the remains are not deemed a crime scene, the licensee must immediately contact the State Archaeologist.
12. This license only applies to fieldwork conducted between the dates specified on this license application.
15. This license applies only to the location specified on this license application.
16. If the licensee ceases association with the institution/agency/company before completing the project, immediately notify the OSA. The OSA and licensee or institution/agency/company

MINNESOTA HISTORICAL SOCIETY

DEPARTMENT OF ADMINISTRATION
STATE ARCHAEOLOGIST

will develop a plan to fulfill reporting and curation obligations.

17. The license is non-transferable and applies only to work conducted under the direct supervision of the licensee.
18. The licensee must comply with the field, laboratory, and reporting guidelines in the *OSA Manual for Archaeological Projects in Minnesota*. Any exceptions must be discussed with the OSA before work occurs.
19. The licensee must obtain permission from the landowner or land manager to enter the land for archaeological investigations.
20. All archaeological materials and data recovered from non-federal public property in Minnesota are the state's property and should be curated with the MHS (http://www.mnhs.org/collections/archaeology/curation.htm), or other OSA approved facility.
21. If materials, samples, or data are being processed or analyzed by an entity other than that with which the principal investigator is associated, the principal investigator must notify the OSA and MHS.
22. If materials or samples are to leave the state of Minnesota, the OSA and MHS must approve the transport before materials, samples, or data leave the state.
23. Official OSA Minnesota site inventory forms must be completed for all archaeological sites identified during surveys (previously recorded and known sites). The site forms must be submitted to the OSA within three months of site discovery. Professional archaeologists are also ethically obligated to inform the OSA if previously unrecorded archaeological sites located outside their project boundaries are identified during their project survey.
24. One copy of the report (see *OSA Manual for Archaeological Projects in Minnesota*) must be submitted to the OSA for each project within six months of completing the fieldwork. The licensee may submit a written application requesting an extension of this deadline. Digital copies of reports are accepted as .pdf files.
25. If presentations or publications develop from this project, the OSA and MHS must be notified, and the following information submitted for inclusion in the archaeological site files:
    a. Location of presentation or publication,
    b. Date
    c. Title
    d. Abstract
    e. The final and complete version of the presentation, publication, etc.
26. The licensee must submit a summary report of all licensed activity to the OSA by the end of January of the following year. Summaries should include:
    a. project name and description (e.g., road construction),
    b. sponsor/review agency,
    c. location,
    d. type of work (Phase I, Phase II) and field methods (e.g., shovel testing),
    e. results (number of sites located/type of sites or official site numbers) and recommendations
27. Upon completing the project, the licensee must submit.shp files to the OSA. These files should show the project's Area of Potential Effect and archaeological survey areas, including the type of survey conducted in each survey area. Templates for submitting .shp files are at https://mn.gov/admin/archaeologist/professional-archaeologists/manuals-licenses/apply/. Please do not alter these templates.
28. Additional conditions may be added, as appropriate. If this occurs, the applicant will be notified of the update and asked to submit a response accepting the Condition.

MINNESOTA HISTORICAL SOCIETY

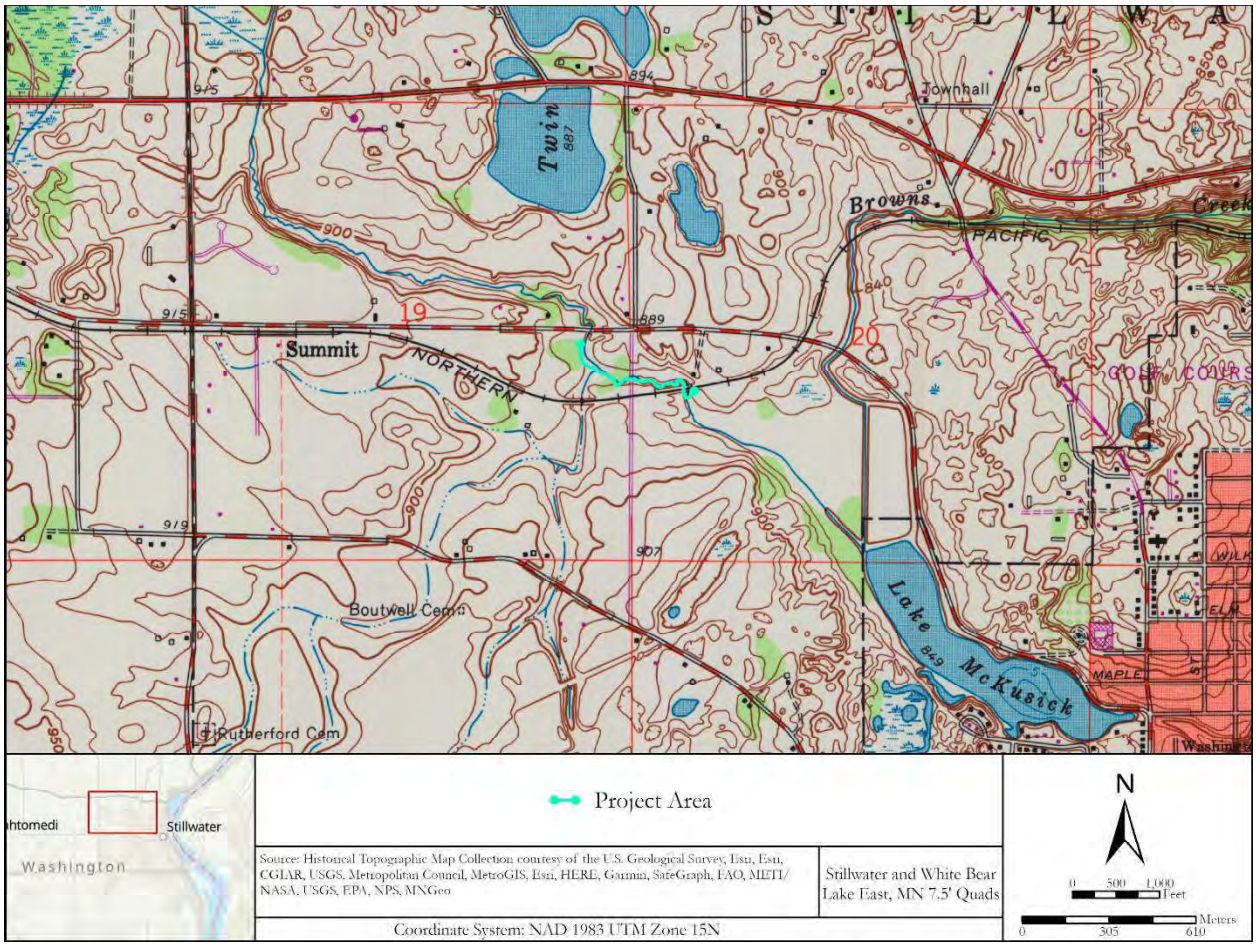
DEPARTMENT OF ADMINISTRATION
STATE ARCHAEOLOGIST

29. Minnesota Department of Health and the Center for Disease Control recommendations regarding COVID-19 and limiting its spread. These recommendations include, but are not limitedto, social distancing, appropriate personal protective equipment (e.g., masking), and sanitation. This Condition does not supersede stricter landowner, agency, or employer restrictions. This Condition will remain in effect until state health officials determine that social distancing is no longer necessary.

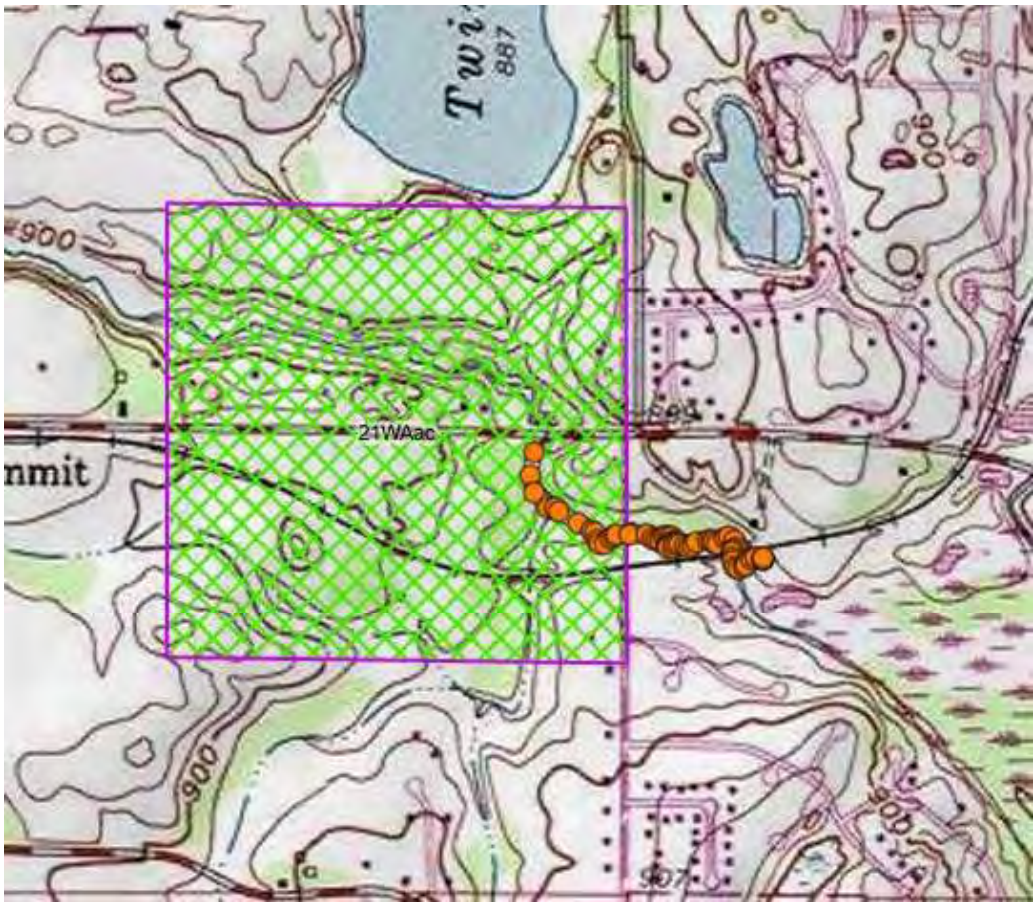
I have read, understand, and agree to all Conditions attached to this license. ca (Initial)

MINNESOTA HISTORICAL SOCIETY

DEPARTMENT OF ADMINISTRATION
STATE ARCHAEOLOGIST

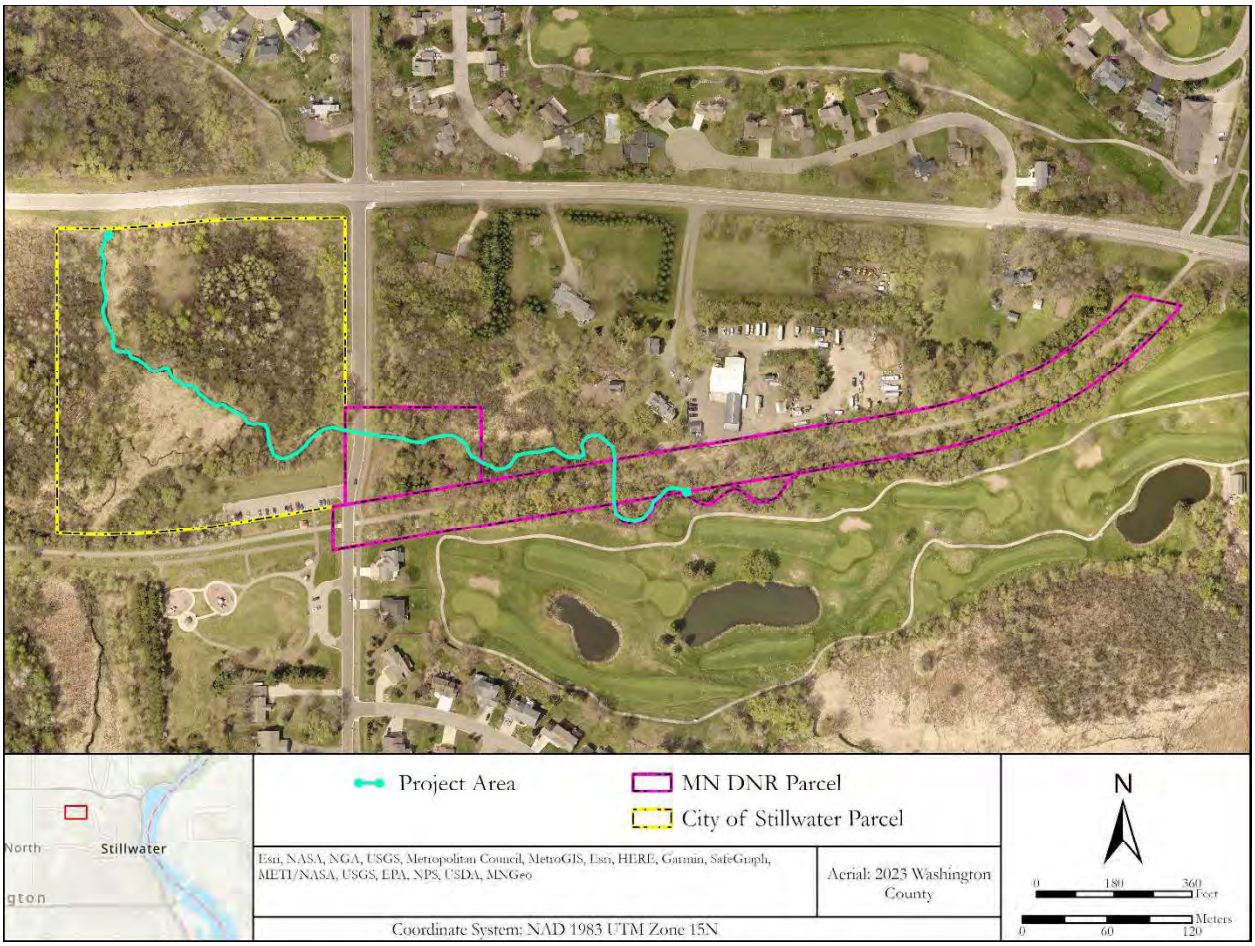


Project area on the Stillwater and White Bear Lake East, MN 7.5’ quadrangles.



Brown's Creek trout stream project area and 21WAac on Stillwater, MN 7.5' quadrangle.

Project area on current aerial.



Project area and parcel ownership.

DEPARTMENT OF NATURAL RESOURCES

Parks and Trails Division Research Permit

Special Permit Number: 2023

Date: August 9, 2023

Permission is hereby granted to:

The individual(s) listed below to do a project entitled **Archaeological investigations on Brown's Creek for proposed trout stream habitat improvements** as described in the research application. This permit applies only to those lands administered by the Parks and Trails Division listed below. The permittee is also subject to any other state or federal permits which may apply.

Permittee	Parks and Trails Unit	Unit Supervisor Contact Information
Constance Arzigian, Wendy Holtz-Leith	Browns Creek ST	Rachel Henzen, 651-259-5875 Rachel.henzen@state.mn.us

-Standard Conditions:

1) You must contact the unit supervisor to notify them when permitted activities are scheduled to begin.
2) The unit supervisor, or designee, may approve or disapprove where research activities may occur.
3) Permitted research activities must be carried out in a way that minimizes the potential to introduce, establish or spread invasive species.
4) Research locations may be subject to management actions such as prescribed burning, invasive species control, and timber harvest. Unless prior arrangements have been made with the unit supervisor, research locations will not be exempt from these actions.
5) Interim progress reports must be submitted annually by the end of the calendar year. A final report is also required at the conclusion of the research project. Please submit interim and final reports to Katie.immel@state.mn.us.
6) The permittee, or designees listed under this permit, must carry a copy of this permit when conducting research activities.
7) All markers, equipment, and other items used during the research must be removed at the end of the research project. Marking ribbons, stakes or similar items must be marked with the researcher's name and permit number.
8) You are using lands administered by the Parks and Trails Division at your own risk. You agree to take all necessary safety precautions to protect yourself, all designees listed under this permit, and the general public when conducting research activities.

9) You must comply with all applicable federal, state and local laws when conducting the work authorized by this permit. All Parks and Trails rules remain in effect except those necessary to be waived to conduct this research (MN Rule 6100.0100 – 6100.2400).
10) The ownership of any samples collected under this permit remains in the State of Minnesota, in its sovereign capacity for the benefit of all people of the state. Permittee shall not file any patent application covering any samples.
11) Permittee may retain the entire right, title and interest throughout the world to any invention derived or otherwise originating from the samples. With respect to any subject invention in which the permittee retains title, DNR and all political subdivisions of the state of Minnesota, and the providing Federal Agency if federal funding is involved, will have a nonexclusive, nontransferable., perpetual, irrevocable, royalty free license to practice or have practiced the invention for its governmental purposes throughout the world. The DNR shall also have the right to claim royalties resulting from any such invention, the royalty rate to be negotiated between the permittee and DNR upon disclosure of the invention, but in no event will the DNR's royalty rate exceed 50%.
12) The samples and any portions or derivatives thereof shall not be sold, assigned, transferred, or otherwise distributed from the custody of the permittee (i.e., shall not be shared with any other person or entity) without prior approval from the DNR, unless it is for the purposes of laboratory analyses specified in the study design and the laboratory collaborator does not retain any samples or portions or derivatives thereof after completing the analyses.

Special Conditions:

1) The researcher must have a license from the Office of the State Archaeologist before the project start date.

2) The researcher will provide archaeological GIS data/shapefiles from survey inside of the DNR boundaries to the DNR cultural resource team including excavation/shovel test locations, archaeological features and site boundaries.

3) Provide a copy of resulting report(s) to MnDNR cultural resources for review before submittal to other agencies.

4) All archaeological researchers are responsible for the curation of any cultural material collected during research.

5) Any professional and/or public presentations of data obtained through this research requires advanced notice of presentation title, date/time, and location. All required information and questions can be sent to PATCulturalRes.dnr@state.mn.us

This permit is valid from the date of issuance through December 31, 2023, but it may be revoked at any time.

SARAH STROMMEN, COMMISSIONER

DEPARTMENT OF NATURAL RESOURCES

By_

Philip G Leversedge

Parks and Trails Deputy Director

Cc: Resource Program Consultant, Regional Resource Specialist, District Resource Specialist, Unit Supervisor, Archaeologist (if applicable)

APPENDIX D – EAW COMMENTS AND RESPONSES

Brown's Creek Watershed District
2023 Budget
Revised 11-8-2023

		Revised 2022 Carry Forward for Approval	2023 Grants	2023 Levy	2023 Total Budget	Allocated	Available
100-2910	Designated Funds - Management Plan Projects	*$ 1,230,373.90*			$ 1,230,374		$ 1,175,778
					$ -		$ -
Revenue					$ -		$ -
100-3700	Interest Income				$ -		$ -
100-3601	Metropolitan Council Outlet Monitoring Grant		$ 5,000		$ 5,000		$ 5,000
100-3627	BWSR Clean Water Fund 2019 - Stormwater Reuse OG				$ -		$ 36,010
100-3628	BWSR Clean Water Fund 2020 - Stormwater Reuse SCC				$ -		$ -
100-3629	BWSR Clean Water Fund 2019 - Millbrook Riparian Restoration				$ -		$ 39,380
100-3630	Washington County Cost-share Applewood Reuse				$ -		$ 66,800
100-3631	MPCA Small Watershed Grant 2023-2026		$ 320,706		$ 320,706		$ -
100-3400	Permits				$ -		$ -
100-3100	Tax Levy			$ 1,150,415	$ 1,150,415		$ 1,122,277
TOTAL, ESTIMATED Sources of Funding		***$ 1,230,374***	***$ 325,706***	***$ 1,150,415***	**$ 2,706,494**	**$ -**	**$ 2,445,245**

ACCT. #	General Expenses	Revised 2022 Carry Forward for Approval	2023 Grants	2023 Levy	2023 Total Budget	Allocated	Available
200-4000	Manager Per Diem and Expense	$ -		$ 10,000	$ 10,000	$ 10,000	$ -
200-4220	Secretarial Services	$ -		$ 4,000	$ 4,000		$ 4,000
200-4250	Dues & Subscriptions (MAWD 5000 and LMCIT 2000)	$ -		$ 7,000	$ 7,000	$ 7,000	$ -
200-4270	Bonding & Insurance	$ -		$ 5,500	$ 5,500	$ 4,000	$ 1,500
200-4280	Postage & Delivery	$ -		$ 1,000	$ 1,000		$ 1,000
200-4290	Printing & Notices	$ -		$ 1,000	$ 1,000		$ 1,000
200-4330	Accounting	$ -		$ 4,305	$ 4,305	$ 4,100	$ 205
200-4331	Audit	$ -		$ 9,350	$ 9,350	$ 8,500	$ 850
200-4949	Misc., Other Expense	$ -		$ 2,000	$ 2,000	$ 1,000	$ 1,000
200-4320	Wash. Conservation District--Admin	$ -		$ 55,640	$ 55,640	$ 55,640	$ -
200-4265	Admin Conference Registrations	$ -		$ 2,000	$ 2,000	$ 250	$ 1,750
200-4410	Legal Fees - General	$ (1,000.00)		$ 25,480	$ 24,480	$ 24,480	$ -
200-4500	Staff Engineer	$ -		$ 27,090	$ 27,090	$ 27,090	$ -
	Diversity, Equity and Inclusion Training	$ -		$ 5,000	$ 5,000		$ 5,000
	Contingency Reserve	$ 56,644		$ -	$ 56,644		$ 56,644
TOTAL GENERAL FUND EXPENSES:		***$ 55,644.48***	***$ -***	***$ 159,365***	**$ 215,009**	**$ 142,060**	**$ 72,949**

ACCT. #	MANAGEMENT PLAN EXPENSES	Revised 2022 Carry Forward for Approval	2023 Grants	2023 Levy	2023 Total Budget	Allocated	Available
300-4320	Wash. Conservation District--Administrator	$ 3,610.00		$ 166,400	$ 170,010	$ 170,010	$ -
300-4410	Legal Fees - Mgmt Plan	$ -		$ 52,000	$ 52,000	$ 30,648	$ 21,352
300-4501	Staff Engineer	$ 5,841.00		$ 80,325	$ 86,166	$ 86,166	$ -
300-4702	Permitting, Legal Review	$ -		$ 13,000	$ 13,000		$ 13,000
300-4703	Permitting, Engineering Review	$ -		$ 52,500	$ 52,500		$ 52,500
300-4704	Permitting, Inspection Database	$ -		$ 1,000	$ 1,000		$ 1,000
300-4710-1	Baseline Monitoring	$ 13,215	$ 5,000	$ 125,000	$ 143,215	$ 143,215	$ -
300-4640	Equip. Maint. and Upgrades	$ -		$ 27,500	$ 27,500	$ 9,080	$ 18,420
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,	$ 2,231		$ 6,300	$ 8,531	$ 8,531	$ (0)
909-0000	Rules Review/Evaluation	$ 17,123		$ 10,000	$ 27,123		$ 27,123
909-0001	Groundwater Dep Nat Resource Inventory update	$ 10,000		$ -	$ 10,000		$ 10,000
909-0002	Permitting Program Internal Procedure updates	$ -		$ 25,000	$ 25,000		$ 25,000
910-0000	Education & Outreach	$ 6,537		$ 10,000	$ 16,537	$ 8,031	$ 8,506
911-0000	Volunteer Stream Monitoring	$ (204)		$ 4,160	$ 3,957	$ 3,957	$ -
912-0000	Grant Preparation	$ -		$ 5,000	$ 5,000		$ 5,000
914-0000	Homeowner BMP Program	$ 8,000.00		$ 60,000	$ 68,000	$ 22,692	$ 45,308
922-0000	Plan Reviews - LGU/LWMP			$ -	$ -		$ -
923-0000	H & H Model Maintenance	$ 37,750		$ 5,250	$ 43,000	$ 43,000	$ (0)
923-0002	Flood Risk Assessment	$ 108,000		$ (8,000)	$ 100,000	$ 10,684	$ 89,316
927-0000	Management Plan Update	$ 57,000		$ 90,000	$ 147,000	$ 10,000	$ 137,000
929-0000	Long Lake Plan Implementation-shoreline management	$ -		$ 3,700	$ 3,700		$ 3,700
929-0010	Long Lake -Implementation - regional treatment	$ 273,750		$ (35,000)	$ 238,750	$ 228,234	$ 10,516
929-0011	Long Lake - 62nd Street Pond Retrofit Feasibility	$ 15,773		$ 3,350	$ 19,123		$ 19,123
929-0012	Long Lake - Marketplace Reuse Feasibility	$ 1,919		$ 164,900	$ 166,819	$ 1,919	$ 164,900
931-0001	Benz Lake Management Plan Implementation			$ 15,500	$ 15,500		$ 15,500
932-0004	Iron Enhanced Sand Filter/Performance Monitoring	$ (9,000)		$ 9,000	$ -		$ -
935-0000	Land Conservation Program	$ 50,000		$ 50,000	$ 100,000		$ 100,000
935-0002	110th Street Property Implementation	$ 23,457		$ 25,000	$ 48,457		$ 48,457
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
940-0001	Flood Prevention Grant Program	$ 100,000		$ (100,000)	$ -		$ -
942-0004	Measuring Trends in GW Elevations & Flow	$ 1,662		$ 12,600	$ 14,262	$ 8,686	$ 5,576
942-0007	Groundwater - Browns Creek piezometers	$ 11,200		$ (2,240)	$ 8,960		$ 8,960
942-0011	Groundwater - Coordination with users	$ 1,215		$ 4,725	$ 5,940	$ 5,940	$ -
942-0012	Groundwater - Install Monitoring Wells	$ 33,901		$ 31,900	$ 65,801	$ 7,440	$ 58,361
942-0013	Groundwater - Pump Test	$ 8,000		$ 13,300	$ 21,300	$ 5,952	$ 15,348
947-0011	Countryside Auto BMP-performance monitoring	$ (2,080)		$ 2,080	$ -		$ -
947-0016	Brown's Creek - BC Trails Park Parking Lot Perfm Mon	$ (2,600)		$ 2,600	$ -		$ -
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)	$ 810		$ 8,000	$ 8,810	$ 4,607	$ 4,203
947-0020	Brown's Creek - Stream Channel Survey	$ -		$ -	$ -		$ -
947-0022	Brown's Creek - Buffer and Stream Restoration	$ 83,846	$ 320,706	$ -	$ 404,551	$ 45,675	$ 358,876
947-0023	Brown's Creek - Golf Course Reuse - Oak Glen	$ -		$ 6,300	$ 6,300		$ 6,300
947-0025	Brown's Creek - Golf Course Reuse - SCC	$ 44,000		$ (44,000)	$ -		$ -
948-0000	CIP Maintenance	$ 18,500		$ 99,100	$ 117,600	$ 79,966	$ 37,634
950-0001	South School Curly Leaf Treatment			$ 8,000	$ 8,000	$ 6,890	$ 1,110
950-0002	Lynch Lake Fish/Veg Management	$ 466		$ 4,500	$ 4,966	$ 4,966	$ -
951-0001	Woodpile Lake Management Plan Implementation	$ 10,000		$ -	$ 10,000		$ 10,000
953-0000	Fen Management Plan Implementation	$ (100)		$ 4,100	$ 4,000	$ 4,000	$ -
956-0000	Bass East & West Management Plan	$ -		$ -	$ -		$ -
957-0000	Weather Station	$ -		$ 3,700	$ 3,700	$ 3,622	$ 78
959-0002	Resource Assessment - Diversion Tribs - Head cut Repairs	$ 125,000		$ (65,000)	$ 60,000		$ 60,000
959-0003	Resource Assessment - Brown's Creek Gorge Bluff	$ 1,798		$ -	$ 1,798	$ 1,798	$ -
960-0000	St Croix Phosphorus Reduction	$ 10,000		$ -	$ 10,000		$ 10,000
961-0000	Mendel Wetland Restoration Feasiblity	$ 29,953		$ 6,000	$ 35,953	$ 3,985	$ 31,968
962-0000	District-Wide Pond Management Planning/Implementation	$ 24,157		$ 10,500	$ 34,657	$ 24,157	$ 10,500
963-0000	District-Wide Vegetation Surveys	$ 10,000		$ -	$ 10,000		$ 10,000
964-0000	District-Wide Chloride Source Assessment			$ 2,500	$ 2,500		$ 2,500
TOTAL MANAGEMENT PLAN PROJECT EXPENSES:		***$ 1,174,729.42***	***$ 325,706***	***$ 991,050***	***$ 2,491,485***	***$ 1,004,350***	***$ 1,487,135***
TOTAL, OPERATING EXP. & MGMT. PLAN PROJECTS:		***$ 1,230,373.90***	***$ 325,706***	***$ 1,150,415***	***$ 2,706,494***	***$ 1,146,410***	***$ 1,560,084***

BROWN'S CREEK WATERSHED DISTRICT
11/8/2023
CURRENT ITEMS PAYABLE-PAGE 1 of 2

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

VENDOR		**ACCOUNT #**		ITEMS	TOTAL	**CK NO**
Emmons & Olivier Resources, Ir	Invoices October 2023					
	Inv. 41-0000-215 Retainer	300-4500	$	7,078.50		
	Inv. 41-0000-215 Retainer	200-4500	$	2,359.50		
	Inv. 41-0001-218 Permits 2000-2007	300-4703	$	7,916.79		
	Inv. 41-0255-64 Permits 2015					
	Permitting #15-07 Brown's Creek Cove	300-4703	$	3,425.25		
	Inv. 41-0307-80 Permits 2017					
	Permitting #17-01 Grant Holdings Subd	300-4703	$	29.25		
	Permitting #17-04 Stillwater Senior Living	300-4703	$	3,486.08		
	Permitting #17-17 West Ridge	300-4703	$	166.33		
	Inv. 41-0330-69 Permits 2018					
	Permitting #18-02 Heifort Hills Estate	300-4703	$	147.00		
	Permitting #18-04 Boutwell Farm	300-4703	$	285.75		
	Permitting #18-05 Hazel Place	300-4703	$	38.18		
	Inv. 41-0365-43 Permits 2020					
	Permitting #20-12 White Pine Ridge	300-4703	$	20.08		
	Inv. 41-0384-31 Permits 2021					
	Permitting #21-05 Boutwell Farms	300-4703	$	19.21		
	Permitting #21-06 Boutwell Farms (Lot 4)	300-4703	$	19.21		
	Permitting #21-09 Westridge	300-4703	$	39.29		
	Permitting #21-18 Boutwell Farm (Lot 8)	300-4703	$	19.21		
	Permitting #21-20 Westride (B2L2)	300-4703	$	19.21		
	Permitting #21-22 Bond Residence	300-4703	$	39.29		
	Permitting #21-28 Guerrino Residence Juliann	300-4703	$	19.21		
	Permitting #21-35 WOS Lot 104	300-4703	$	37.34		
	Inv. 41-0402-21 Permits 2022					
	Permitting #22-01 Wash Co CSAH 15	300-4703	$	19.21		
	Permitting #22-02 Gonyea at White Pine Ridge	300-4703	$	137.08		
	Permitting #22-03 Sharkey/Westridge (4 lots)	300-4703	$	77.71		
	Permitting #22-04 Boutwell Farm Lot 9	300-4703	$	19.21		
	Permitting #22-10 Caribou Coffee	300-4703	$	19.21		
	Permitting #22-11 WOS Lot 106	300-4703	$	402.19		
	Permitting #22-12 7171 MidOaks Ave	300-4703	$	19.21		
	Permitting #22-15 13199 Dellwood Rd	300-4703	$	19.21		
	Permitting #22-19 Miller Flood Protection	300-4703	$	20.25		

	Permitting #22-20 Popeyes	300-4703	$ 35.96		
	Permitting #22-24 WOS Lot 109	300-4703	$ 37.34		
	Permitting #22-25 WOS Lot 113	300-4703	$ 37.34		
	Permitting #22-30 CSAH 5 Ph2	300-4703	$ 54.93		
	Inv. 41-0420-10 Permits 2023				
	Permitting #23-01 CR 61	300-4703	$ 85.29		
	Permitting #23-02 WOS Lot 114	300-4703	$ 725.84		
	Permitting #23-03 Boutwell Farm Lot 1	300-4703	$ 90.89		
	Permitting #23-04 Westridge B1L4	300-4703	$ 20.08		
	Permitting #23-06 2023 Street Improvements	300-4703	$ 20.08		
	Permitting #23-07 WOS Lot 118	300-4703	$ 37.34		
	Permitting #23-08 72nd Street	300-4703	$ 36.83		
	Permitting #23-09 Kirn Residence 8000 Neal	300-4703	$ 21.43		
	Permitting #23-10 Curio Dance Studio	300-4703	$ 814.50		
	Permitting #23-11 WOS Lot 122	300-4703	$ 20.59		
	Permitting #23-12 CSAH 9 Culvert Replacement	300-4703	$ 20.08		
	Permitting #23-13 Sandhill Shores	300-4703	$ 58.26		
	Permitting #23-14 Wiskow Berm	300-4703	$ 54.93		
	Permitting #23-15 WOS Lot 102	300-4703	$ 37.34		
	Permitting #23-16 Brock Residence	300-4703	$ 117.00		
	Permitting #23-17 Sundance Stillwater	300-4703	$ 2,191.50		
	Permitting #23-18 WOS L124	300-4703	$ 1,076.25		
	Inv. 41-0421-10 IESF OM 2023	948-4500	$ 1,039.50		
	Inv. 41-0418-11 Brown's Ck Pk Restoration	947-0022	$ 7,705.75		
	Inv. 41-0414-11 OGGC Reuse Maintenance and Monitoring	947-0023	$ 252.51		
	Inv. 41-0430-4 Benz/School Section Outreach	962-0000	$ 4,451.00		
	Inv. 41-0205-74 CIP Operation and Maintenance	948-4500	$ 86.50		
	Inv. 41-0284-27 BCWD Education and Outreach	910-0000	$ 3,296.50		
	Inv. 41-0380-4 2023 Vegetation Management	948-0000	$ 15,074.50		
	Inv. 41-0433-1 2024 H&H Model Update	923-0000	$ 12,879.25		
	Inv. 41-0431-2 BCWD 2023 Bio Survey	947-0018	$ 38.40		
	Inv. 41-0401-5 Bluff Restoration/Highway Sponsorship	947-0022	$ 319.78		
	Inv. 41-0425-4 2023 THPP	903-0001	$ 190.03	$	76,825.48
Washington Conservation Distric	Inv. 6216 September 2023- Water Monitoring				
	Baseline Water Monitoring- labor	300-4710	$ 10,133.33		
	Baseline Water Monitoring- equipment	300-4640	$ 36.04		
	Metropolitan Council- lab	300-4710	$ 1,750.50		
	Inv. 6242 September 2023- BMP Program	914-0000	$ 1,590.50		
	Inv. 6251 3rd Quarter 2023 Educator - EMWREP	300-4810	$ 5,120.33		
	Inv. 6247 Volunteer Stream Monitoring	911-0000	$ 804.37	$	19,435.07
Smith Partners	October Invoices				
	Inv. 44407 Retainer - Meetings, Preparation	200-4410	$ 2,072.10		

	Inv. 44408 General Legal Services	300-4410	$ 403.50		
	Inv. 44409 Planning	300-4410	$ 296.80		
	Inv. 44410 Contracts	300-4410	$ 215.20		
	Inv. 44411 Permits	300-4703	$ 1,398.80		
	Inv. 44412 Policy Issues	300-4410	$ 2,478.40		
	Inv. 44413 Sureties	300-4410	$ 134.77		
	Inv. 44414 Brown's Creek Restoration	300-4410	$ 860.80	$	7,860.37
Xcel Energy	Inv. 849939590- Iron Enhanced Sand Filter pump operation	948-4500	$ 103.46	$	103.46
Minnesota Watersheds	2023 Minnesota Watersheds Dues	200-4250	$ 6,436.00	$	6,436.00
Dave McCord	Inv. 4118 August 2023 Accounting Services	200-4330	$ 380.00		
	Inv. 4135 September 2023 Accounting Services	200-4330	$ 380.00	$	760.00
Sue Hall	BCWD Stewardship Grant Reimbursement 2023-03	914-0000	$ 500.00	$	500.00
Lindsey Mette	BCWD Stewardship Grant Reimbursement 2023-09	914-0000	$ 256.85	$	256.85
Kerri Neidt	BCWD Stewardship Grant Reimbursement 2023-01	914-0000	$ 227.61	$	227.61
Jake Woley	#21-35 Permit Closure	300-4703	$ 542.11	$	542.11
Gonyea Homes	#21-38 Permit Closure	300-4703	$ 509.46		
	#21-39 Permit Closure	300-4703	$ 904.46		
	#21-40 Permit Closure	300-4703	$ 906.19		
	#21-41 Permit Closure	300-4703	$ 906.19		
	#21-42 Permit Closure	300-4703	$ 906.19	$	4,132.49
Bill and Karin Erickson	#21-14 Permit Closure	300-4703	$ 406.60	$	406.60
Brent Baxter	#22-12 Permit Closure	300-4703	$ 780.53	$	780.53
Manager Johnson	Quarter III 2023 Per Diem Correction	200-4000	$ 100.00	$	100.00
Total Amount Disbursed				**$**	**118,366.57**

BROWN'S CREEK WATERSHED DISTRICT
11/8/2023
MONTHLY ITEMS DEPOSITED - Page 1 of 1

VENDOR	INVOICE/DESCRIPTION	ACCOUNT #	CK NO	DEPOSIT DATE		TOTAL
Land Title, Inc.	Permit #22-18 Permit Fee	300-4703	195054	10/25/2023	$	51,586.13
Red Stone Builders, LLC	Permit #23-18 Permit Fee	300-4703	11375	10/25/2023	$	1,250.00
Timberland Partners	Permit #23-17 Permit Fee	300-4703	1291	10/12/2023	$	5,000.00
MN Management &	MV Credit - Agricultural	100-3100	direct deposit	10/31/2023	$	820.79
4M Fund	Dividend	100-3700	direct deposit	10/31/2023	$	906.43
TOTAL AMOUNT DEPOSITED:					**$**	**59,563.35**

Brown's Creek Watershed District
Treasurer's Report
11/8/2023

US Bank Accounts		
	Checking 9903	$ 533,633.39
	Checking 6671	$ 2,447.89
	Checking 6614- Permitting	$ 400,853.23
Royal Credit Union		
	Certificate of Deposits	$ 204,879.62
4M Fund		$ 201,462.60
Total Balance as of 10/31/2023		$ 1,343,276.73
Accounts Payable 11/8/2023		$ (118,366.57)
Unrecored Deposits since 10/31/2023		$ -
Total Balance as of 11/8/2023		$ 1,224,910.16

memo

Project Name |	Mendel Road Wetland Enhancement	**Date** |	10.24.2023
To / Contact info |	BCWD Board of Managers		
Cc / Contact info |	Karen Kill – BCWD Camilla Correll - EOR		
From / Contact info |	Kevin Biehn – EOR		
Regarding |	Scoping Next Engineering Phase		

BACKGROUND

The BCWD has recently explored the feasibility and suitability of restoring the 'Mendel Road Wetland' (see Figure 1 for location) to achieve numerous District goals. Via the 11.25.2020 – Floristic Inventory and Site Survey Findings memo (attached) the District has ascertained the following:

> *The wetland is a large bog and fresh meadow wetland complex that has been altered by an artificial drainage system. It has a mix of good quality and highly degraded plant communities. EOR staff investigated the vegetative communities, sampled soils to interpret effects of drainage and surveyed the outlet ditch. Although not readily verifiable it is our interpretation that this wetland historically drained to the west prior to the excavation of the ditch that exits the wetland in the southeast corner. Construction of the ditch drained a large portion of the wetland and caused the peat to degrade due to loss of hydrology. In areas where the peat was shallow, drainage was particularly effective and caused the peat to decay (humify) and subside in elevation. Subsidence (lower elevation) can be observed from the survey work conducted by EOR and by reviewing LiDAR elevation data. In areas where drainage was effective, EOR observed relatively low-quality plant communities.*

Figure 1 – General location of 'Mendel Road Wetland', which is NE of the Manning Avenue and Hwy 96 intersection

Hydrology restoration (removal or reduction of artificial drainage) coupled with invasive species management would enhance this wetland and would also likely reduce nutrient and thermal loading to Brown's Creek. The disabling of artificial drainage and resulting hydrology change would not noticeably impact the use/condition of most of the ~80-acre wetland, but it may impact (reduced forage and/or access) a portion of the ~15 acres currently grazed.

During the growing seasons of 2021 and 2022 the District monitored local groundwater to aid in the determination of impact(s) stemming from the potential project on grazing. The findings of the monitoring indicated that hydrology restoration as proposed would not degrade grazing of the ~15 acres currently grazed.

A matrix on how this potential project is thought to align with District goals is attached.

Per the positive feasibility findings thus far, District Administrator Kill has requested scope and fee to advance the project further and meet with landowners and stakeholders.

PROPOSED SCOPE

1. Assist District Staff in engaging landowners and stakeholders
    a. Subtask
        i. Assist the District in planning and coordinating engagement
        ii. Prepare simple graphics and author fact sheet(s) for the District to disseminate
        iii. Attendance of up to two meetings by two professional staff (likely project biologist and project hydrogeologist).
    b. Assumptions
        i. District staff to lead and coordinate engagement

PROPOSED FEE & EXPENSE

The following not to exceed charge is assumed for the work described herein.

1. Assist District Staff in engaging landowners and stakeholders	$6,800.00
TOTAL	$6,800.00

POTENTIAL NEXT STEPS

Should the District elect to carry this project forward the following next steps are assumed for the 1st half of 2024:

2. Complete basic existing and proposed conditions surface water model to address questions on how the potential project would impact land use. Should this project be carried out further, this model would aid in both future design and permitting steps. [$5,500]
    a. Subtask
        i. Utilizing existing data and models construction pre and proposed conditions surface water model
        ii. Articulate finding in a memo
    b. Assumptions
        i. None

3. Assist in the vetting of landowner agreements scenarios and articulation of associated project risk. [$3,500]

a. Subtask
    i. Articulate probable
        1. Construction access and limits
        2. Construction means and methods
        3. Operations and maintenance expectations
        4. Change in hydrology
b. Assumptions
    i. OWNER and OWNER's legal counsel to ultimately recommend what if any agreements are prudent.

4. District Board Presentation and Consultation [$2,500]
    a. Subtask
        i. Articulate all findings and recommendations in memo
        ii. Present findings to Board
    b. Assumptions
        i. None

BOARD ACTION

1. Consider approval of engineering budget (NTE $6,800) for *Assist District Staff in engaging landowners and stakeholders* from account XXXXXX.

QUALITATIVE ASSESSMENT OF HOW POTENTIAL MENDEL ROAD WETLAND RESTORATION PROJECT ALIGNS WITH DISTRICT GOALS

ISSUE	GOALS	ANTICIPATED PROJECT BENEFIT ● Meaningful/Measurable		
		VEG & HYDRO	VEG ONLY	HYDRO ONLY
Stormwater Runoff Management	Achieve the Revised TMDL Load Reduction for Phosphorous of 848 lb./yr. assigned to Brown's Creek in the Implementation Plan for the Lake St. Croix Nutrient TMDL (February 2013)	●		●
	Protect and maintain the quantity and quality of groundwater recharge	●		●
	Identify and implement rate control projects to reduce rate-related impacts to water bodies.	●		●
Stream Management	Manage the watershed to mimic natural (pre-settlement) hydrologic conditions	●		●
Wetland Management	Ensure no net loss of wetland functions and values within BCWD.			
	Enhance the functions and values of the District's degraded wetlands	●	●	●
	Increase the quality of buffers around the wetlands in the District.			
Groundwater Management	Work with state and other local partners to maintain or restore presettlement recharge conditions within the District.			

1919 University Avenue West, Suite 300 St. Paul, MN 55104 T/ 651.770.8448 F/ 651.770.2552 www.eorinc.com

Ecological Health	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)			
	Protect and maintain the quantity and quality of groundwater recharge	●		●
	Identify and implement methods to provide thermal protection to Brown's Creek to achieve the thermal loading reduction identified in the Brown's Creek TMDL Implementation Plan	●		●
	Reduce volume-related impacts to the watershed's water bodies (e.g., stormwater impacts such as wetland bounce and duration)	●		●
	Achieve a healthy and diverse community of native plants and animals (City of Stillwater Lake Management Plans, Wenck Associates INC, 2007)	●	●	
	Initiate and support terrestrial invasive species management projects on private and public lands where connected to water quality management			
Recreation	Enhance public knowledge and appreciation for the District's water resources through an increase in passive and active voluntary stewardship activities.			
Education, Outreach and Stewardship	Increase citizen awareness of surface water, groundwater, and natural resource protection, restoration, and stewardship.			
Land Conservation	Identify and pursue opportunities to preserve and restore land within the watershed based on the District's identified conservation priorities.	●	●	●

Karen Kill

From: Karen Kill
Sent: Thursday, November 2, 2023 3:16 PM
Cc: Cameron Blake; ccorrell@eorinc.com
Subject: BCWD Board Homework Assignment - Due November 15th
Attachments: BCWD Enhanced Stakeholder Engagement Sheet_by Organization Type.pdf; BCWD Enhanced Stakeholder Engagement Sheet_aplabetical.pdf; BCWD Enhanced Stakeholder Engagement Sheet_by Stakeholder Group.pdf

All BCWD Managers have been blind copied:

Dear Managers,

At our meeting last month we had a wonderful presentation by Camilla Correll, BCWD engineer, about an upcoming effort to prepare for our next 10 year management plan.
The presentation was recorded when given to the citizen advisory committee and can be viewed here for background information and context on the BCWD enhanced stakeholder engagement effort *(run time 40 minutes)*:
https://youtu.be/TPVIspAGhrM

We have a homework assignment for you! (The citizen advisory committee is participating as well.)

Attached to this email, please find the three (3) PDFs of the spreadsheet we are developing for the BCWD's Enhanced Stakeholder Engagement planning effort. We would like everyone to review the list of organizations who may represent people who haven't historically been part of the conversation.

The same information is included on all three PDFs, it is just organized differently as follows:

1. By Organization
2. Alphabetically
3. By Stakeholder Group (or *who* that organization/entity most represents)

The homework assignment:

1. **Review these three documents to see who the BCWD has identified to date**. The organizations/entities on these lists represent groups of people that the BCWD may or may not have an existing relationship with. In an effort to broaden participation in watershed management, the BCWD is taking a more comprehensive look at everyone who is living, working, and/or recreating in the watershed. Once we have collected a complete list of organizations/entities, we will narrow down the list and reach out to those organizations/entities that have been most under-represented in watershed management planning and activities. The goal is to better understand who is benefiting (or not benefitting) from the work we do and how can we do things differently to provide more benefits to the community at large.
2. **Add any Organizations/Groups that may be missing from the list**. These organizations can be big or small. Who is in your network that isn't represented on this list?
3. **Identify which Organizations/Groups you have a connection to**. Do you know someone who works or volunteers at one of these organizations? Would you be willing to reach out to this individual to chat about the BCWD and explore connections between the work we do and the services they provide to the community? We are trying to build relationships and broaden our understanding of the community's needs through conversation. **We are looking for each person to have a minimum of FIVE that you will personally connect with in the next steps.**

Please feel free to edit the PDF and email it back to us or make a copy and write your ideas down on the paper. Whatever works for you, works for us. Our goal is to collect this information in the next two weeks so please submit your information by November 15, 2023.

Thank you for your participation in this important effort.

Best Regards,
Karen

Organization / Group	Stakeholder Group
21 Roots Farm	Agriculture / Producers
4H	Youth Groups
Aamodt Apple Orchard	Economic / Business
Afton Bayport Lakeland Lions Club	Social /Cultural
Applewood Hills Golf Club	Recreation
Arcola Mills Historic Foundation	Economic / Business
Art Reach St. Croix	Social /Cultural
Artreach Alliance	Social /Cultural
Axdahl's Garden Farm & Greenhouse	Agriculture / Producers
Bayport Legion Post 491	Social /Cultural
Bayport Public Library	Social /Cultural
Beattystone Farms	Agriculture / Producers
Blue Thumb	Environmental
Blueberry Fields of Stillwater	Agriculture / Producers
Board of Water and Soil Resources	Regulatory Bodies
Boutwell Farms HOA	Regulatory Bodies
Boy Scouts	Youth Groups
Brown’s Creek Cove HOA	Regulatory Bodies
Cabin Inn the Woods - cabin rental	Economic / Business
Calibre Ridge Twinhomes HOA	Regulatory Bodies
Carnelian Marine St Croix Watershed District	Regulatory Bodies
Carpenter Nature Center	Education
Category Choices	Stakeholder Group
Chesterton Academy of St. Croix Valley	Education
City of Grant	Regulatory Bodies
City of Hugo	Regulatory Bodies
City of Lake Elmo	Regulatory Bodies
City of Oak Park Heights	Regulatory Bodies
City of Stillwater	Regulatory Bodies
Comfort Lake Forest Lake Watershed District	Regulatory Bodies
Community Gardens	Social /Cultural
Community Kitchen at Ascension Episcopal Church (food bank)	Healthcare / Wellness
Community Supported Agriculture	Environmental
Community Thread	Social /Cultural
Costa Produce Farm & Greenhouse	Agriculture / Producers
Country Messenger	Economic / Business
Courage Centre	Social /Cultural
Crabtree Farm	Agriculture / Producers
Curio Dance Studio	Economic / Business
Developers	Economic / Business
Double H Stables	Recreation
Ducks Unlimited	Environmental
East Metro Groundwater Management Group	Environmental

Organization / Group	Stakeholder Group
East Metro Water Resources Education Program (EMWREP)	Education
Engineers	Economic / Business
Evolve Action Coach	Economic / Business
Exclusive Equine Centre	Recreation
Family Means	Healthcare / Wellness
First Presbyterian Church	Religious Groups
First United Methodist Church	Religious Groups
Fox Glen HOA	Regulatory Bodies
Future Farmers of America (FFA)	Youth Groups
Girl Scouts	Youth Groups
Good Samaritan Society - Stillwater	Social /Cultural
Gravel mining	Economic / Business
Great Lakes Indian Fish & Wildlife Commission (GLIFWC)	Tribal
Great Lakes Indian Fish & Wildlife Commission (GLIFWC)	
Greater Stillwater Chamber of Commerce	Economic / Business
Heifort Estates HOA	Regulatory Bodies
Heritage Ridge HOA	Regulatory Bodies
Hidden Pines Ranch	Recreation
Hill Murray School	Education
Hometown Hero Outdoors	Healthcare / Wellness
Hope House of St. Croix Valley	Healthcare / Wellness
Housing First MN	Healthcare / Wellness
Hugo Area Business Association	Economic / Business
Hunting Clubs	Recreation
Idylwood Equestrian Centre	Recreation
Indian Hills Golf Course	Recreation
Keystone Weddings & Events	Economic / Business
Klingsporn Farm	Agriculture / Producers
Knights of Columbus	Social /Cultural
Lake Area Discovery Center - Our Savior's Lutheran Site	Religious Groups
Lake Elmo Rotary Club	Social /Cultural
Lakeview Health Foundation	Healthcare / Wellness
Lakeview Hospital	Healthcare / Wellness
Landscaping	Economic / Business
Lawns to Legumes	Environmental
Liberty Classical Academy	Education
Lily Lake Elementary School	Education
Local Builders	Economic / Business
Lodges of Settlers Glen HOA	Regulatory Bodies
Logger's Trail Golf Course	Recreation
Lower St. Croix One Watershed One Plan Workgroup	Regulatory Bodies
Mahtomedi Highschool	Education
Master Gardeners Program - UofM-extension	Recreation

Organization / Group	Stakeholder Group
Master Naturalists	Environmental
May Township	Regulatory Bodies
Middle St Croix Watershed Management Organization	Regulatory Bodies
Millbrook HOA	Regulatory Bodies
Minnesota Department of Agriculture (MDA)	Regulatory Bodies
Minnesota Erosion Control Association (MECA)	Regulatory Bodies
Minnesota Polluction Control Agency (MPCA)	Regulatory Bodies
MN Department of Health	Regulatory Bodies
MN Department of Natural Resources - Ecological Services	Regulatory Bodies
MN Department of Natural Resources - Fisheries	Regulatory Bodies
MN Department of Natural Resources - Trails	Regulatory Bodies
MN Department of Natural Resources - Waters	Regulatory Bodies
MN Department of Natural Resources - Wildlife Division	Regulatory Bodies
MN Department of Transportation	Regulatory Bodies
MN Lakes & Rivers	Environmental
MN Land Trust	Environmental
MN Watersheds (previously MAWD)	Environmental
National Honors Scoiety	Youth Groups
National Park System	Recreation
Natural Resources Conservation Service	Regulatory Bodies
New Heights School	Education
North Woods and Waters fo the St.Croix Heritage Area Group	Environmental
Oak Glen Golf Course	Recreation
Ole Sawmill Marina	Recreation
Our Savior's Lutheran Church (ELCA)	Religious Groups
Pheasants Forever	Environmental
Ponds of Heifort Hills HOA	Regulatory Bodies
Ramsey Washington Metro Watershed District	Regulatory Bodies
Realtors	Economic / Business
Rice Creek Watershed District	Regulatory Bodies
River Market Coop	Agriculture / Producers
River Valley Athletic Club	Social /Cultural
Rolling Hills Estate Children's Camp	Recreation
Rutherford Elementary School	Education
Rutherford Station HOA	Regulatory Bodies
Saint Croix Vineyards	Agriculture / Producers
Sal’s Restaurant	Economic / Business
Salem Lutheran Church	Religious Groups
Salem Lutheran School	Education
Settlers Glen (multiple in various additions) HOA	Regulatory Bodies
Snow Removal	Economic / Business

Organization / Group	Stakeholder Group
South Washington Watershed District	Regulatory Bodies
Spring Meadow Farm	Agriculture / Producers
Spruce Hill Farms Horse Boarding	Economic / Business
St Croix Boat & Packet Company	Economic / Business
St Mary's Catholic Church	Religious Groups
St. Anthony Falls Laboratory	Research / Monitoring
St. Croix Preparatory Academy	Education
St. Croix Soccer Club	Recreation
St. Croix Valley Recreation Center	Recreation
St. Michael's Catholic Church	Religious Groups
St.Croix Catholic School	Education
Stillwater American Legion	Social /Cultural
Stillwater Area Community Foundation	Healthcare / Wellness
Stillwater Area Kiwanis Club	Social /Cultural
Stillwater Armory - Minnesota National Guard	Social /Cultural
Stillwater Chamber of Commerce	Economic / Business
Stillwater Community Education - community courses	Recreation
Stillwater Country Club	Recreation
Stillwater Elks Lodge	Social /Cultural
Stillwater Event Center	Social /Cultural
Stillwater Farmers Market	Agriculture / Producers
Stillwater Gazette	Economic / Business
Stillwater High School	Education
Stillwater Highschool - Minority Clubs	Youth Groups
Stillwater Highschool - Wildlife Club	Youth Groups
Stillwater Lions Club	Social /Cultural
Stillwater Medical Group	Healthcare / Wellness
Stillwater Middle School	Education
Stillwater Printing	Economic / Business
Stillwater Public Library	Social /Cultural
Stillwater Seventh-day Adventist Church	Religious Groups
Stillwater Sunrise Rotary Club	Social /Cultural
Stillwater township	Regulatory Bodies
Stonebridge Elementary School	Education
StyleXchange	Economic / Business
Summer Tuesdays Inc.	Social /Cultural
Sunnybrook Apple Orchard	Agriculture / Producers
Surveyors	Economic / Business
Sustainable Stillwater	Environmental
Sustainable Stillwater MN’s Bird City Workgroup	Environmental
The Connect Center	Social /Cultural
The Gateway Brown's Creek trail Association	Recreation
The Lakes of Stillwater – senior living center	Economic / Business

Organization / Group	Stakeholder Group
The Lowdown (local paper)	Economic / Business
The Nature Conservancy	Environmental
The Partnership Plan (non-profit org)	Social /Cultural
The Zephyr Theatre	Social /Cultural
Tribal Representation	
Trinity Lutheran Church	Religious Groups
Trout Unlimited	Environmental
Trust for Public Lands	Environmental
Tu Vien Van Phat, Buddhist Temple (Hugo, MN)	Religious Groups
U of MN Raptor Center	Research / Monitoring
United Hmong America Association	
United Hmong Asian American Community Centre	
United Hmong Family Org.	Social /Cultural
United way of Washington County East	Healthcare / Wellness
University of Minnesota	Research / Monitoring
University of Minnesota Extension Service	Research / Monitoring
US Environmental Protection Agency	Regulatory Bodies
US Fish and Wildlife Service	Regulatory Bodies
US Geological Survey	Regulatory Bodies
Valley Branch Watershed District	Regulatory Bodies
Valley Friendship Club (non-profit org)	Social /Cultural
Valley Outreach (non-profit organization)	Social /Cultural
Veterans of Foreign Wars	Social /Cultural
Washington Conservation District	Environmental
Washington County - Emergency Services	Regulatory Bodies
Washington County - Public Health & Environment	Regulatory Bodies
Washington County - Public Works	Regulatory Bodies
Washington County Compost/Recycling Center	Economic / Business
Washington County Emergency Management	Regulatory Bodies
Washington County Historical Society	Social /Cultural
Washington County Land and Water Legacy	Environmental
Washington County Parks Department	Regulatory Bodies
Washington County Public Health	Regulatory Bodies
Washington County Water Consortium	Regulatory Bodies
Watermark Church	Religious Groups
Westridge HOA	Regulatory Bodies
Wild Ones - St.Croix Oak Savana	Environmental
Wild Rivers Conservancy (previously St. Croix River Association)	Environmental
Wilder Forest	Environmental
Wildwood Elementary School	Education
Wolf Marina	Recreation
Young Life	Healthcare / Wellness
Youth Advantage	Healthcare / Wellness

Organization / Group	Stakeholder Group
Youth Service Bureau	Healthcare / Wellness
Zen Bridge Community	Religious Groups

Organization / Group	Organization Type
21 Roots Farm	Business
Aamodt Apple Orchard	Business
Applewood Hills Golf Club	Business
Axdahl's Garden Farm & Greenhouse	Business
Beattystone Farms	Business
Blueberry Fields of Stillwater	Business
Cabin Inn the Woods - cabin rental	Business
Carpenter Nature Center	Business
Costa Produce Farm & Greenhouse	Business
Country Messenger	Business
Crabtree Farm	Business
Curio Dance Studio	Business
Developers	Business
Double H Stables	Business
Engineers	Business
Evolve Action Coach	Business
Exclusive Equine Centre	Business
Gravel mining	Business
Hidden Pines Ranch	Business
Hunting Clubs	Business
Idylwood Equestrian Centre	Business
Indian Hills Golf Course	Business
Keystone Weddings & Events	Business
Klingsporn Farm	Business
Landscaping	Business
Liberty Classical Academy	Business
Local Builders	Business
Logger's Trail Golf Course	Business
Oak Glen Golf Course	Business
Ole Sawmill Marina	Business
Realtors	Business
Rolling Hills Estate Children's Camp	Business
Saint Croix Vineyards	Business
Sal’s Restaurant	Business
Snow Removal	Business
Spring Meadow Farm	Business
Spruce Hill Farms Horse Boarding	Business
St Croix Boat & Packet Company	Business
St. Croix Soccer Club	Business
Stillwater Country Club	Business
Stillwater Event Center	Business
Stillwater Farmers Market	Business
Stillwater Gazette	Business

Organization / Group	Organization Type
Stillwater Printing	Business
StyleXchange	Business
Sunnybrook Apple Orchard	Business
Surveyors	Business
The Lakes of Stillwater – senior living center	Business
The Lowdown (local paper)	Business
The Zephyr Theatre	Business
Washington County Compost/Recycling Center	Business
Wolf Marina	Business
	Business
Stillwater Medical Group	County
Washington County - Emergency Services	County
Washington County - Public Health & Environment	County
Washington County - Public Works	County
Washington County Emergency Management	County
Washington County Historical Society	County
Washington County Parks Department	County
Washington County Public Health	County
Washington County Water Consortium	County
	County
National Park System	Federal
Natural Resources Conservation Service	Federal
US Environmental Protection Agency	Federal
US Fish and Wildlife Service	Federal
US Geological Survey	Federal
	Federal
Chesterton Academy of St. Croix Valley	Municipal
City of Grant	Municipal
City of Hugo	Municipal
City of Lake Elmo	Municipal
City of Oak Park Heights	Municipal
City of Stillwater	Municipal
Hill Murray School	Municipal
Lakeview Health Foundation	Municipal
Lakeview Hospital	Municipal
Lily Lake Elementary School	Municipal
Mahtomedi Highschool	Municipal
May Township	Municipal
Middle St Croix Watershed Management Organization	Municipal
New Heights School	Municipal
Rutherford Elementary School	Municipal
Salem Lutheran School	Municipal
St. Anthony Falls Laboratory	Municipal

Organization / Group	Organization Type
St. Croix Preparatory Academy	Municipal
St. Croix Valley Recreation Center	Municipal
St.Croix Catholic School	Municipal
Stillwater Area Community Foundation	Municipal
Stillwater Community Education - community courses	Municipal
Stillwater High School	Municipal
Stillwater Highschool - Minority Clubs	Municipal
Stillwater Highschool - Wildlife Club	Municipal
Stillwater Middle School	Municipal
Stillwater Public Library	Municipal
Stillwater township	Municipal
Stonebridge Elementary School	Municipal
Wildwood Elementary School	Municipal
	Municipal
	Native American Tribe
4H	Non-profit
Afton Bayport Lakeland Lions Club	Non-profit
Arcola Mills Historic Foundation	Non-profit
Art Reach St. Croix	Non-profit
Artreach Alliance	Non-profit
Bayport Legion Post 491	Non-profit
Bayport Public Library	Non-profit
Blue Thumb	Non-profit
Boy Scouts	Non-profit
Community Gardens	Non-profit
Community Kitchen at Ascension Episcopal Church (food bank)	Non-profit
Community Supported Agriculture	Non-profit
Community Thread	Non-profit
Courage Centre	Non-profit
Ducks Unlimited	Non-profit
East Metro Groundwater Management Group	Non-profit
East Metro Water Resources Education Program (EMWREP)	Non-profit
Family Means	Non-profit
First Presbyterian Church	Non-profit
First United Methodist Church	Non-profit
Future Farmers of America (FFA)	Non-profit
Girl Scouts	Non-profit
Good Samaritan Society - Stillwater	Non-profit
Hometown Hero Outdoors	Non-profit
Hope House of St. Croix Valley	Non-profit
Housing First MN	Non-profit
Knights of Columbus	Non-profit
Lake Area Discovery Center - Our Savior's Lutheran Site	Non-profit

Organization / Group	Organization Type
Lake Elmo Rotary Club	Non-profit
Lawns to Legumes	Non-profit
Master Gardeners Program - UofM-extension	Non-profit
Master Naturalists	Non-profit
National Honors Scoiety	Non-profit
Our Savior's Lutheran Church (ELCA)	Non-profit
Pheasants Forever	Non-profit
River Market Coop	Non-profit
River Valley Athletic Club	Non-profit
Salem Lutheran Church	Non-profit
St Mary's Catholic Church	Non-profit
St. Michael's Catholic Church	Non-profit
Stillwater American Legion	Non-profit
Stillwater Area Kiwanis Club	Non-profit
Stillwater Armory - Minnesota National Guard	Non-profit
Stillwater Elks Lodge	Non-profit
Stillwater Lions Club	Non-profit
Stillwater Seventh-day Adventist Church	Non-profit
Stillwater Sunrise Rotary Club	Non-profit
Summer Tuesdays Inc.	Non-profit
Sustainable Stillwater	Non-profit
Sustainable Stillwater MN’s Bird City Workgroup	Non-profit
The Connect Center	Non-profit
The Gateway Brown's Creek trail Association	Non-profit
The Nature Conservancy	Non-profit
The Partnership Plan (non-profit org)	Non-profit
Trinity Lutheran Church	Non-profit
Trout Unlimited	Non-profit
Tu Vien Van Phat, Buddhist Temple (Hugo, MN)	Non-profit
United Hmong Family Org.	Non-profit
United way of Washington County East	Non-profit
Valley Friendship Club (non-profit org)	Non-profit
Valley Outreach (non-profit organization)	Non-profit
Veterans of Foreign Wars	Non-profit
Watermark Church	Non-profit
Wild Ones - St.Croix Oak Savana	Non-profit
Wilder Forest	Non-profit
Young Life	Non-profit
Youth Advantage	Non-profit
Youth Service Bureau	Non-profit
Zen Bridge Community	Non-profit
	Non-profit

Category Choices	Organization Type

Organization / Group	Organization Type
Boutwell Farms HOA	Regional Group
Brown's Creek Cove HOA	Regional Group
Calibre Ridge Twinhomes HOA	Regional Group
Carnelian Marine St Croix Watershed District	Regional Group
Comfort Lake Forest Lake Watershed District	Regional Group
Fox Glen HOA	Regional Group
Greater Stillwater Chamber of Commerce	Regional Group
Heifort Estates HOA	Regional Group
Heritage Ridge HOA	Regional Group
Hugo Area Business Association	Regional Group
Lodges of Settlers Glen HOA	Regional Group
Lower St. Croix One Watershed One Plan Workgroup	Regional Group
Millbrook HOA	Regional Group
North Woods and Waters fo the St.Croix Heritage Area Group	Regional Group
Ponds of Heifort Hills HOA	Regional Group
Ramsey Washington Metro Watershed District	Regional Group
Rice Creek Watershed District	Regional Group
Rutherford Station HOA	Regional Group
Settlers Glen (multiple in various additions) HOA	Regional Group
South Washington Watershed District	Regional Group
Stillwater Chamber of Commerce	Regional Group
Trust for Public Lands	Regional Group
Valley Branch Watershed District	Regional Group
Washington Conservation District	Regional Group
Washington County Land and Water Legacy	Regional Group
Westridge HOA	Regional Group
Wild Rivers Conservancy (previously St. Croix River Association)	Regional Group
	Regional Group
Board of Water and Soil Resources	State
Minnesota Department of Agriculture (MDA)	State
Minnesota Erosion Control Association (MECA)	State
Minnesota Polluction Control Agency (MPCA)	State
MN Department of Health	State
MN Department of Natural Resources - Ecological Services	State
MN Department of Natural Resources - Fisheries	State
MN Department of Natural Resources - Trails	State
MN Department of Natural Resources - Waters	State
MN Department of Natural Resources - Wildlife Division	State
MN Department of Transportation	State
MN Lakes & Rivers	State
MN Land Trust	State
MN Watersheds (previously MAWD)	State
U of MN Raptor Center	State

Organization / Group	Organization Type
University of Minnesota	State
University of Minnesota Extension Service	State
	State
Great Lakes Indian Fish & Wildlife Commission (GLIFWC)	Tribe
Great Lakes Indian Fish & Wildlife Commission (GLIFWC)	
Tribal Representation	
United Hmong America Association	
United Hmong Asian American Community Centre	

Organization / Group	Stakeholder Group
21 Roots Farm	Agriculture / Producers
Axdahl's Garden Farm & Greenhouse	Agriculture / Producers
Beattystone Farms	Agriculture / Producers
Blueberry Fields of Stillwater	Agriculture / Producers
Costa Produce Farm & Greenhouse	Agriculture / Producers
Crabtree Farm	Agriculture / Producers
Klingsporn Farm	Agriculture / Producers
River Market Coop	Agriculture / Producers
Saint Croix Vineyards	Agriculture / Producers
Spring Meadow Farm	Agriculture / Producers
Stillwater Farmers Market	Agriculture / Producers
Sunnybrook Apple Orchard	Agriculture / Producers
Aamodt Apple Orchard	Economic / Business
Arcola Mills Historic Foundation	Economic / Business
Cabin Inn the Woods - cabin rental	Economic / Business
Country Messenger	Economic / Business
Curio Dance Studio	Economic / Business
Developers	Economic / Business
Engineers	Economic / Business
Evolve Action Coach	Economic / Business
Gravel mining	Economic / Business
Greater Stillwater Chamber of Commerce	Economic / Business
Hugo Area Business Association	Economic / Business
Keystone Weddings & Events	Economic / Business
Landscaping	Economic / Business
Local Builders	Economic / Business
Realtors	Economic / Business
Sal’s Restaurant	Economic / Business
Snow Removal	Economic / Business
Spruce Hill Farms Horse Boarding	Economic / Business
St Croix Boat & Packet Company	Economic / Business
Stillwater Chamber of Commerce	Economic / Business
Stillwater Gazette	Economic / Business
Stillwater Printing	Economic / Business
StyleXchange	Economic / Business
Surveyors	Economic / Business
The Lakes of Stillwater – senior living center	Economic / Business
The Lowdown (local paper)	Economic / Business
Washington County Compost/Recycling Center	Economic / Business
Liberty Classical Academy	Education
Carpenter Nature Center	Education
Chesterton Academy of St. Croix Valley	Education
East Metro Water Resources Education Program (EMWREP)	Education

Organization / Group	Stakeholder Group
Lily Lake Elementary School	Education
New Heights School	Education
Rutherford Elementary School	Education
Salem Lutheran School	Education
St.Croix Catholic School	Education
Stillwater High School	Education
Stillwater Middle School	Education
Stonebridge Elementary School	Education
Wildwood Elementary School	Education
Hill Murray School	Education
Mahtomedi Highschool	Education
St. Croix Preparatory Academy	Education
Blue Thumb	Environmental
Community Supported Agriculture	Environmental
Ducks Unlimited	Environmental
East Metro Groundwater Management Group	Environmental
Lawns to Legumes	Environmental
Master Naturalists	Environmental
MN Lakes & Rivers	Environmental
MN Land Trust	Environmental
MN Watersheds (previously MAWD)	Environmental
North Woods and Waters fo the St.Croix Heritage Area Group	Environmental
Pheasants Forever	Environmental
Sustainable Stillwater	Environmental
Sustainable Stillwater MN's Bird City Workgroup	Environmental
The Nature Conservancy	Environmental
Trout Unlimited	Environmental
Trust for Public Lands	Environmental
Washington Conservation District	Environmental
Washington County Land and Water Legacy	Environmental
Wild Ones - St.Croix Oak Savana	Environmental
Wild Rivers Conservancy (previously St. Croix River Association)	Environmental
Wilder Forest	Environmental
Community Kitchen at Ascension Episcopal Church (food bank)	Healthcare / Wellness
Family Means	Healthcare / Wellness
Hometown Hero Outdoors	Healthcare / Wellness
Hope House of St. Croix Valley	Healthcare / Wellness
Housing First MN	Healthcare / Wellness
Lakeview Health Foundation	Healthcare / Wellness
Lakeview Hospital	Healthcare / Wellness
Stillwater Area Community Foundation	Healthcare / Wellness
Stillwater Medical Group	Healthcare / Wellness
United way of Washington County East	Healthcare / Wellness

Organization / Group	Stakeholder Group
Young Life	Healthcare / Wellness
Youth Advantage	Healthcare / Wellness
Youth Service Bureau	Healthcare / Wellness
Applewood Hills Golf Club	Recreation
Double H Stables	Recreation
Exclusive Equine Centre	Recreation
Hidden Pines Ranch	Recreation
Hunting Clubs	Recreation
Idylwood Equestrian Centre	Recreation
Indian Hills Golf Course	Recreation
Logger's Trail Golf Course	Recreation
Master Gardeners Program - UofM-extension	Recreation
National Park System	Recreation
Oak Glen Golf Course	Recreation
Ole Sawmill Marina	Recreation
Rolling Hills Estate Children's Camp	Recreation
St. Croix Soccer Club	Recreation
St. Croix Valley Recreation Center	Recreation
Stillwater Community Education - community courses	Recreation
Stillwater Country Club	Recreation
The Gateway Brown's Creek trail Association	Recreation
Wolf Marina	Recreation
Calibre Ridge Twinhomes HOA	Regulatory Bodies
Fox Glen HOA	Regulatory Bodies
Board of Water and Soil Resources	Regulatory Bodies
Boutwell Farms HOA	Regulatory Bodies
Brown’s Creek Cove HOA	Regulatory Bodies
Carnelian Marine St Croix Watershed District	Regulatory Bodies
City of Grant	Regulatory Bodies
City of Hugo	Regulatory Bodies
City of Lake Elmo	Regulatory Bodies
City of Oak Park Heights	Regulatory Bodies
City of Stillwater	Regulatory Bodies
Comfort Lake Forest Lake Watershed District	Regulatory Bodies
Heifort Estates HOA	Regulatory Bodies
Heritage Ridge HOA	Regulatory Bodies
Lodges of Settlers Glen HOA	Regulatory Bodies
Lower St. Croix One Watershed One Plan Workgroup	Regulatory Bodies
May Township	Regulatory Bodies
Middle St Croix Watershed Management Organization	Regulatory Bodies
Millbrook HOA	Regulatory Bodies
Minnesota Department of Agriculture (MDA)	Regulatory Bodies
Minnesota Erosion Control Association (MECA)	Regulatory Bodies

Organization / Group	Stakeholder Group
Minnesota Polluction Control Agency (MPCA)	Regulatory Bodies
MN Department of Health	Regulatory Bodies
MN Department of Natural Resources - Ecological Services	Regulatory Bodies
MN Department of Natural Resources - Fisheries	Regulatory Bodies
MN Department of Natural Resources - Trails	Regulatory Bodies
MN Department of Natural Resources - Waters	Regulatory Bodies
MN Department of Natural Resources - Wildlife Division	Regulatory Bodies
MN Department of Transportation	Regulatory Bodies
Natural Resources Conservation Service	Regulatory Bodies
Ponds of Heifort Hills HOA	Regulatory Bodies
Ramsey Washington Metro Watershed District	Regulatory Bodies
Rice Creek Watershed District	Regulatory Bodies
Rutherford Station HOA	Regulatory Bodies
Settlers Glen (multiple in various additions) HOA	Regulatory Bodies
South Washington Watershed District	Regulatory Bodies
Stillwater township	Regulatory Bodies
US Environmental Protection Agency	Regulatory Bodies
US Fish and Wildlife Service	Regulatory Bodies
US Geological Survey	Regulatory Bodies
Valley Branch Watershed District	Regulatory Bodies
Washington County - Emergency Services	Regulatory Bodies
Washington County - Public Health & Environment	Regulatory Bodies
Washington County - Public Works	Regulatory Bodies
Washington County Emergency Management	Regulatory Bodies
Washington County Parks Department	Regulatory Bodies
Washington County Public Health	Regulatory Bodies
Washington County Water Consortium	Regulatory Bodies
Westridge HOA	Regulatory Bodies
First Presbyterian Church	Religious Groups
First United Methodist Church	Religious Groups
Lake Area Discovery Center - Our Savior's Lutheran Site	Religious Groups
Our Savior's Lutheran Church (ELCA)	Religious Groups
Salem Lutheran Church	Religious Groups
St Mary's Catholic Church	Religious Groups
St. Michael's Catholic Church	Religious Groups
Stillwater Seventh-day Adventist Church	Religious Groups
Trinity Lutheran Church	Religious Groups
Tu Vien Van Phat, Buddhist Temple (Hugo, MN)	Religious Groups
Watermark Church	Religious Groups
Zen Bridge Community	Religious Groups
St. Anthony Falls Laboratory	Research / Monitoring
U of MN Raptor Center	Research / Monitoring
University of Minnesota Extension Service	Research / Monitoring

Organization / Group	Stakeholder Group
University of Minnesota	Research / Monitoring
Afton Bayport Lakeland Lions Club	Social /Cultural
Art Reach St. Croix	Social /Cultural
Artreach Alliance	Social /Cultural
Bayport Legion Post 491	Social /Cultural
Bayport Public Library	Social /Cultural
Community Gardens	Social /Cultural
Community Thread	Social /Cultural
Courage Centre	Social /Cultural
Good Samaritan Society - Stillwater	Social /Cultural
Knights of Columbus	Social /Cultural
Lake Elmo Rotary Club	Social /Cultural
Stillwater Public Library	Social /Cultural
River Valley Athletic Club	Social /Cultural
Stillwater American Legion	Social /Cultural
Stillwater Area Kiwanis Club	Social /Cultural
Stillwater Armory - Minnesota National Guard	Social /Cultural
Stillwater Elks Lodge	Social /Cultural
Stillwater Event Center	Social /Cultural
Stillwater Lions Club	Social /Cultural
Stillwater Sunrise Rotary Club	Social /Cultural
Summer Tuesdays Inc.	Social /Cultural
The Connect Center	Social /Cultural
The Partnership Plan (non-profit org)	Social /Cultural
The Zephyr Theatre	Social /Cultural
United Hmong Family Org.	Social /Cultural
Valley Friendship Club (non-profit org)	Social /Cultural
Valley Outreach (non-profit organization)	Social /Cultural
Veterans of Foreign Wars	Social /Cultural
Washington County Historical Society	Social /Cultural
Great Lakes Indian Fish & Wildlife Commission (GLIFWC)	Tribal
4H	Youth Groups
Boy Scouts	Youth Groups
Future Farmers of America (FFA)	Youth Groups
Girl Scouts	Youth Groups
National Honors Scoiety	Youth Groups
Stillwater Highschool - Minority Clubs	Youth Groups
Stillwater Highschool - Wildlife Club	Youth Groups

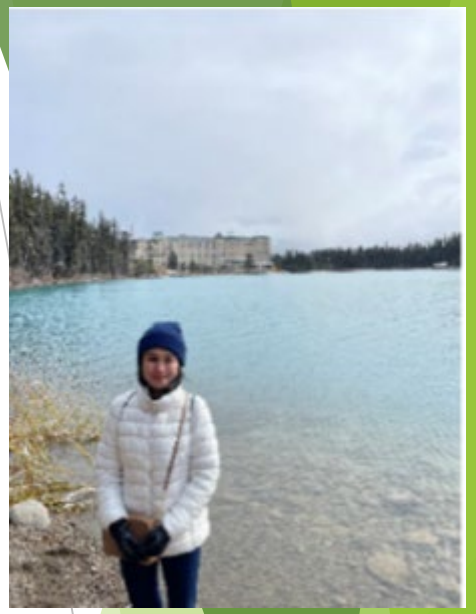
BROWN'S CREEK WATERSHED DISTRICT

Citizen's Advisory Committee 2023 Events Summary

Cameron Blake

CAC Members

- George Vania- Co-Chair
- Anne Maule Miller- Co- Chair
- Jyneen Thatcher
- George Vania
- Yihong Gao
- Steve Merchant
- Ron and Patty Johnson
- Aimee Eberle



Open Yard Events

- Monthly (April/May through September/October)
- Started in 2017 as a way to highlight conservation projects that residents can learn from and implement on their own
  - Raingardens, prairies, shoreline plantings, etc.
- Has transitioned into a variety of topics such as touring BCWD CIP projects and exploring other topics of interest to the district
- CAC members pick and plan the events each year

Long Lake Birding Walk- April 29

Wildflower Walk- May 17

Millbrook Restoration Tour- June 21

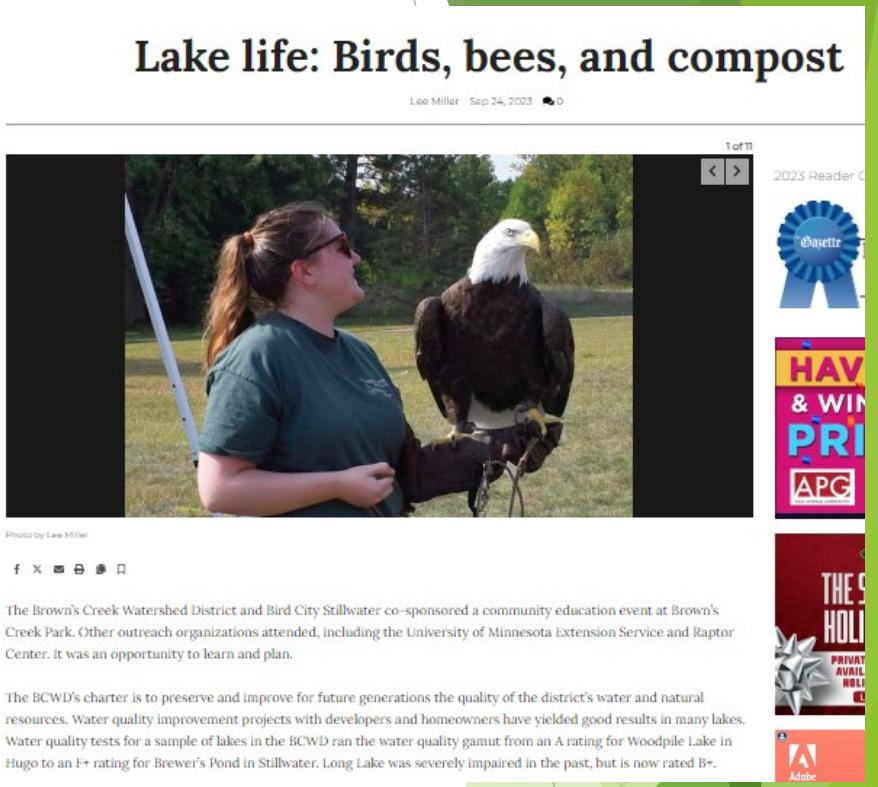
Fly Fishing Workshop- July 19

Brown’s Creek Tributary Tour- August 9

Long Lake Buckthorn Brigade- September 23

Brown's Creek Conservation Area Buckthorn Brigade- October 7

Community Event and Bird Festival- September 16



Lake life: Birds, bees, and compost

Lee Miller Sep 24, 2023 0

1 of 11

Photo by Lee Miller

The Brown's Creek Watershed District and Bird City Stillwater co-sponsored a community education event at Brown's Creek Park. Other outreach organizations attended, including the University of Minnesota Extension Service and Raptor Center. It was an opportunity to learn and plan.

The BCWD's charter is to preserve and improve for future generations the quality of the district's water and natural resources. Water quality improvement projects with developers and homeowners have yielded good results in many lakes. Water quality tests for a sample of lakes in the BCWD ran the water quality gamut from an A rating for Woodpile Lake in Hugo to an F+ rating for Brewer's Pond in Stillwater. Long Lake was severely impaired in the past, but is now rated B+.

September 24th Gazette Article by Lee Miller

Project Name |	BCWD Permit Program	**Date** |	11/03/2023
To / Contact info |	BCWD Board of Managers		
Cc / Contact info |	Karen Kill, District Administrator		
From / Contact info |	John Sarafolean, EOR; Paul Nation, PE / 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 10/04/2023 through 11/03/2023.

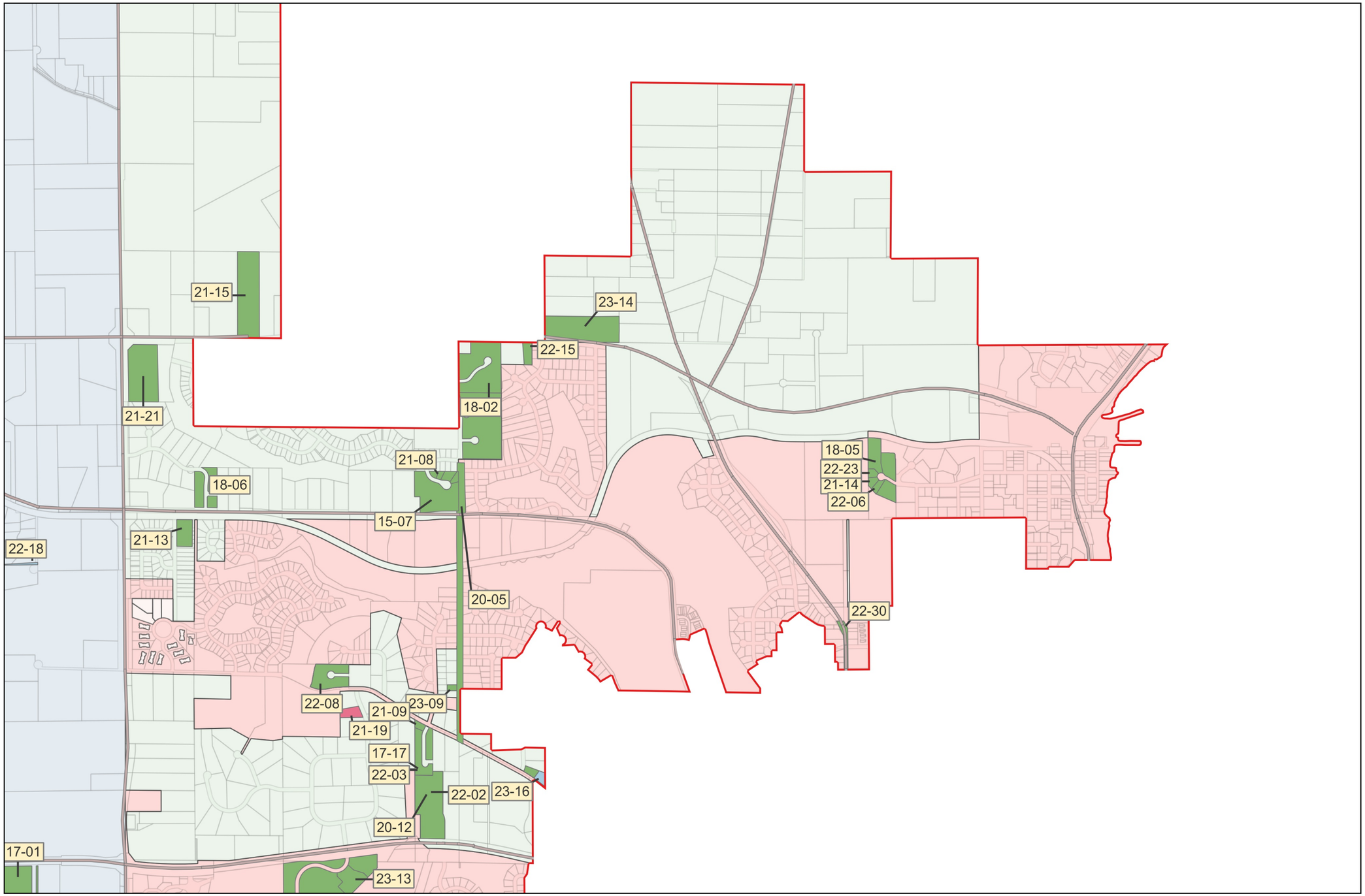
Inspection of Existing Permits

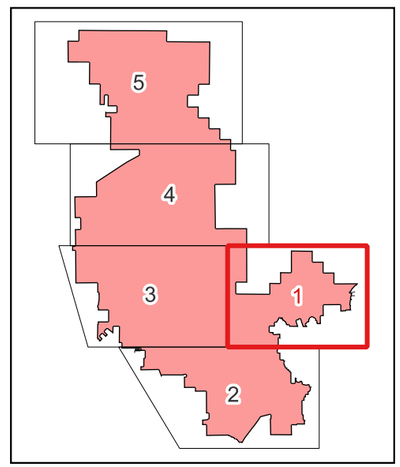
Project Name	Permit ID	Date	Grade
Westridge Development	17-17	10/20/2023	B
White Pine Ridge Development	20-12	10/20/2023	C
Bond Residence	21-22	10/20/2023	B
Gonyea at White Pine Ridge	22-02	10/20/2023	B
WOS Lot 106 Wiechmann Residence	22-11	10/13/2023	F
		10/24/2023	D
Popeyes OPH	22-20	10/26/2023	C
WOS Lot 109 Benjamin Mohammed Residence	22-24	10/24/2023	C
WOS Lot 113 Miller Duis Residence	22-25	10/24/2023	C
CSAH 5 Phase 2	22-30	10/13/2023	B
CSAH 61 Improvements	23-01	10/20/2023	A
WOS Lot 114 Tweden Residence	23-02	10/24/2023	B
Boutwell Farms Lot 1	23-03	10/13/2023	C
Westridge Block 1 Lot 4	23-04	10/20/2023	C
WOS lot 118 Villa Rococo Residence	23-07	10/24/2023	B
72nd St. Road Improvements 2023	23-08	10/20/2023	B
WOS Lot 122 Freiroy Residence	23-11	10/24/2023	C
CSAH 9 Culvert Replacement	23-12	10/20/2023	C
The Lakes Sandhill Shores	23-13	10/13/2023	C
Wiskow Berm	23-14	10/13/2023	C
WOS lot 102 Mensah Residence	23-15	10/24/2023	C

Explanation of Grades:

Permit 22-11, Wiechmann Residence (WOS Lot 106): Inspection grades for this site are due to disturbed soils eroding and transporting sediment past erosion control measures due to large areas of disturbed soils. Continued cooperation with the landscape architect for the project has led to erosion control bmp maintenance, getting the soils stabilized, and final landscaping complete. Expect to see a better grade during the month of November.

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
21-07	Brown's Creek Cove Lot 11	Active
21-08	Brown's Creek Cove Lot 14	Active
21-09	Westridge B1L1	Active
21-13	Marylane Gateway	Active
21-14	Heritage Ridge (lot 3)	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
22-06	Heritage Ridge Lot 2	Active
22-08	Boutwell Farm, remaining lots	Active
22-14	Cahill Residence (Heritage Ridge Lots 5/6)	Active
22-15	13199 Dellwood Rd	Active
22-18	Stillwater Oaks	Review
22-23	Ferguson Residence (Heritage Ridge Lot 4)	Active
22-30	CSAH 5 Phase 2	Active
23-09	Kirn Residence	Active
23-13	Sandhill Shores (Phase III of Lakes at Stillwater)	Active
23-14	Wiskow Berm	Active
23-16	Brock Residence	Review



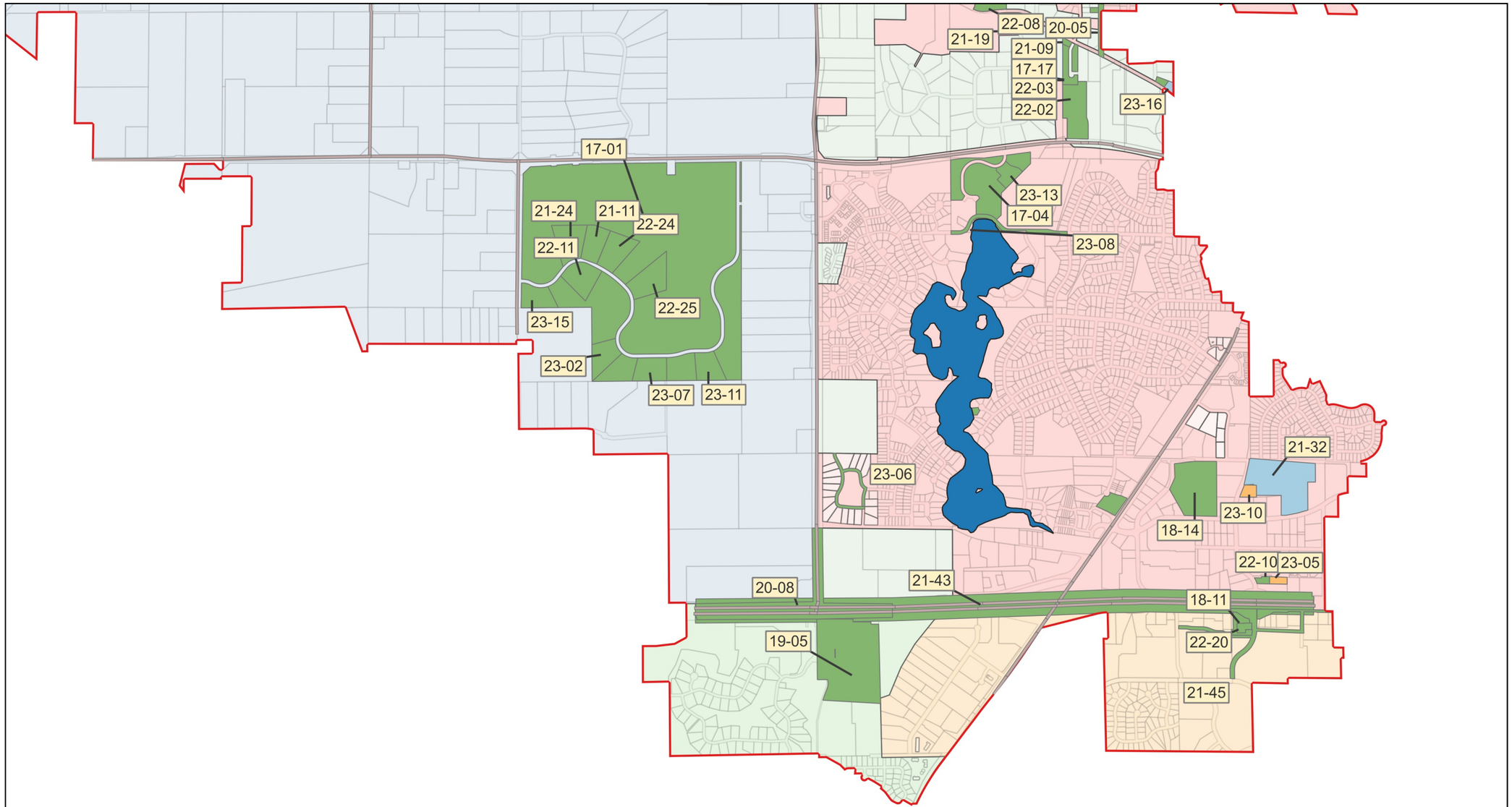


Active Permit
Conditional Approval
Under Review
BCWD Political Boundary

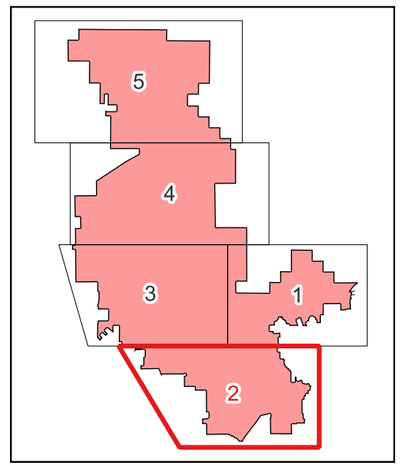
BCWD Permit Sites
November 3rd, 2023

N
0 1,000 2,000 ft

Date: 2023-11-03T16:25:33.360
Document Path: X:\Clients_WD\041_BCWD\001_PERMIT_PROGRAM\09_GIS\2023\BCWD_Permit_Map.dgz
Author: Allison Mark
Layout: Permit Update Map



Permit No.	Applicant/Permit Name	Status
17-01	White Oaks Savanna	Active
17-04	The Lakes of Stillwater	Active
17-14	Parkwood Townhomes	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
21-09	Westridge B1L1	Active
21-11	Hegarty Residence (WOS Lot 107)	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
22-08	Boutwell Farm, remaining lots	Active
22-10	Caribou	Active
22-11	Wiechmann Residence	Active
22-19	Miller Flood Protection	Active
22-20	Popeyes OPH	Active
22-24	Benjamin-Mohammed Residence (WOS Lot 109)	Active
22-25	Miller-Duis Residence (WOS Lot 113)	Active
23-02	Tweden Residence	Active
23-05	Rocket Carwash	Pending
23-06	Stillwater 2023 Street Improvements	Active
23-07	Villa Rococo Residence	Review
23-08	72nd St Improvement	Active
23-09	Kirn Residence	Active
23-10	Curio Dance Studio	Pending
23-11	Freiroy Residence	Active
23-13	Sandhill Shores (Phase III of Lakes at Stillwater)	Active
23-15	Mensah Residence	Active
23-16	Brock Residence	Review



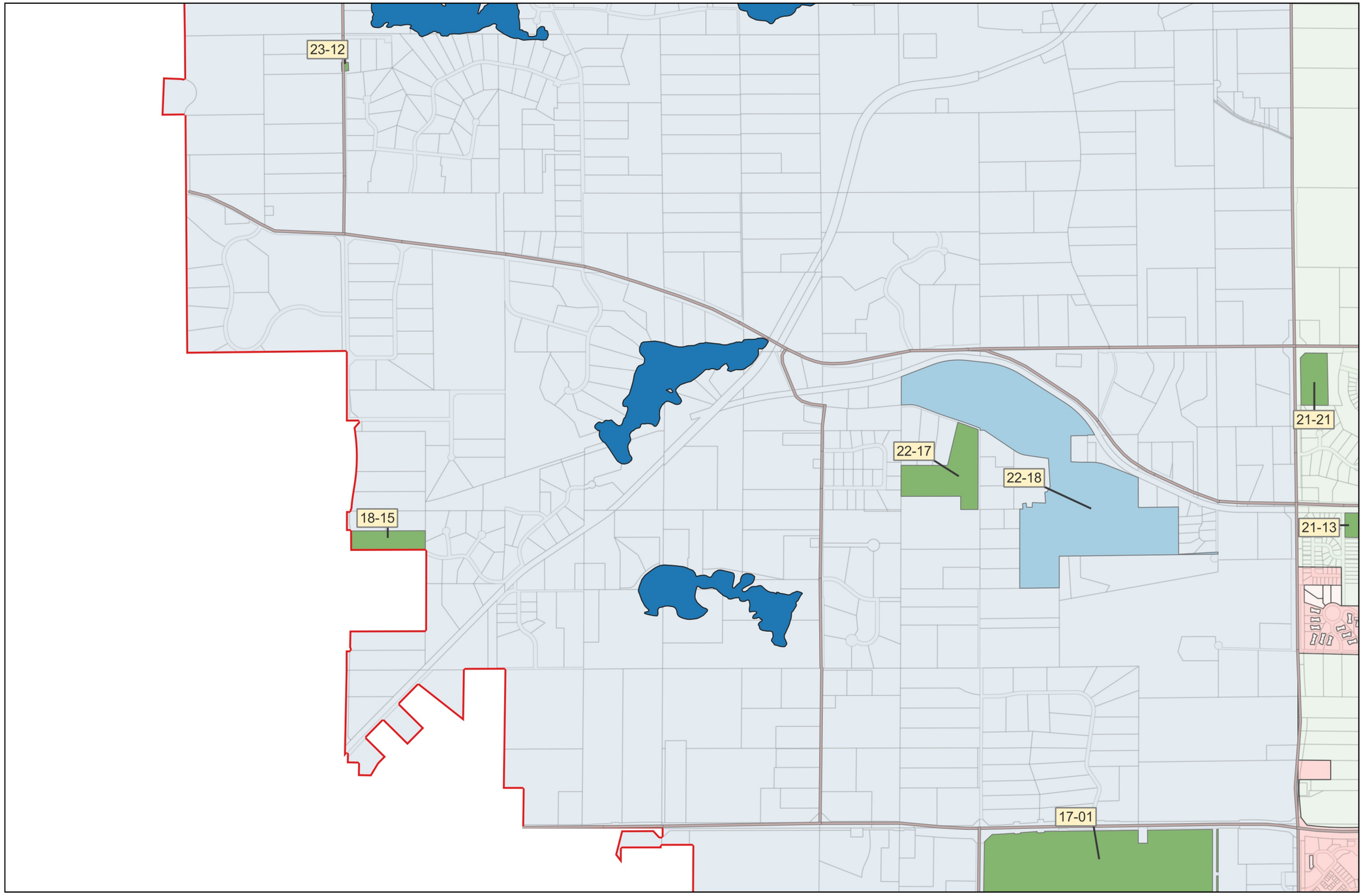
Date: 2023-11-03T16:25:43.679
Document Path: X:\Clients_WD\041_BCWD\001_PERMIT_PROGRAM\09_GIS\2023\BCWD_Permit_Map.qgz
Author: Allison Mark
Layout: Permit Update Map

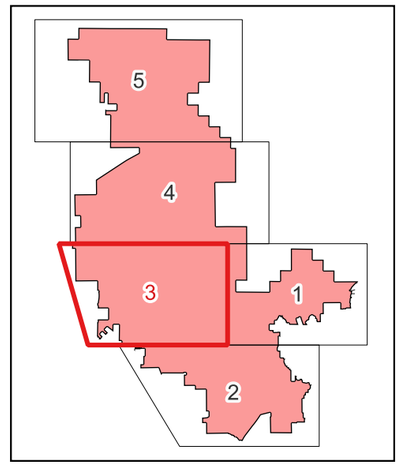
Active Permit
Conditional Approval
Under Review
BCWD Political Boundary

BCWD Permit Sites
November 3rd, 2023

N
0 1,000 2,000 ft

Permit No.	Applicant/Permit Name	Status
17-01	White Oaks Savanna	Active
18-15	Rogness Residence	Active
21-13	Marylane Gateway	Active
21-21	Millbrook West Park	Active
22-17	Read Residence	Active
22-18	Stillwater Oaks	Review
23-12	CSAH 9 Culvert Replacement	Active





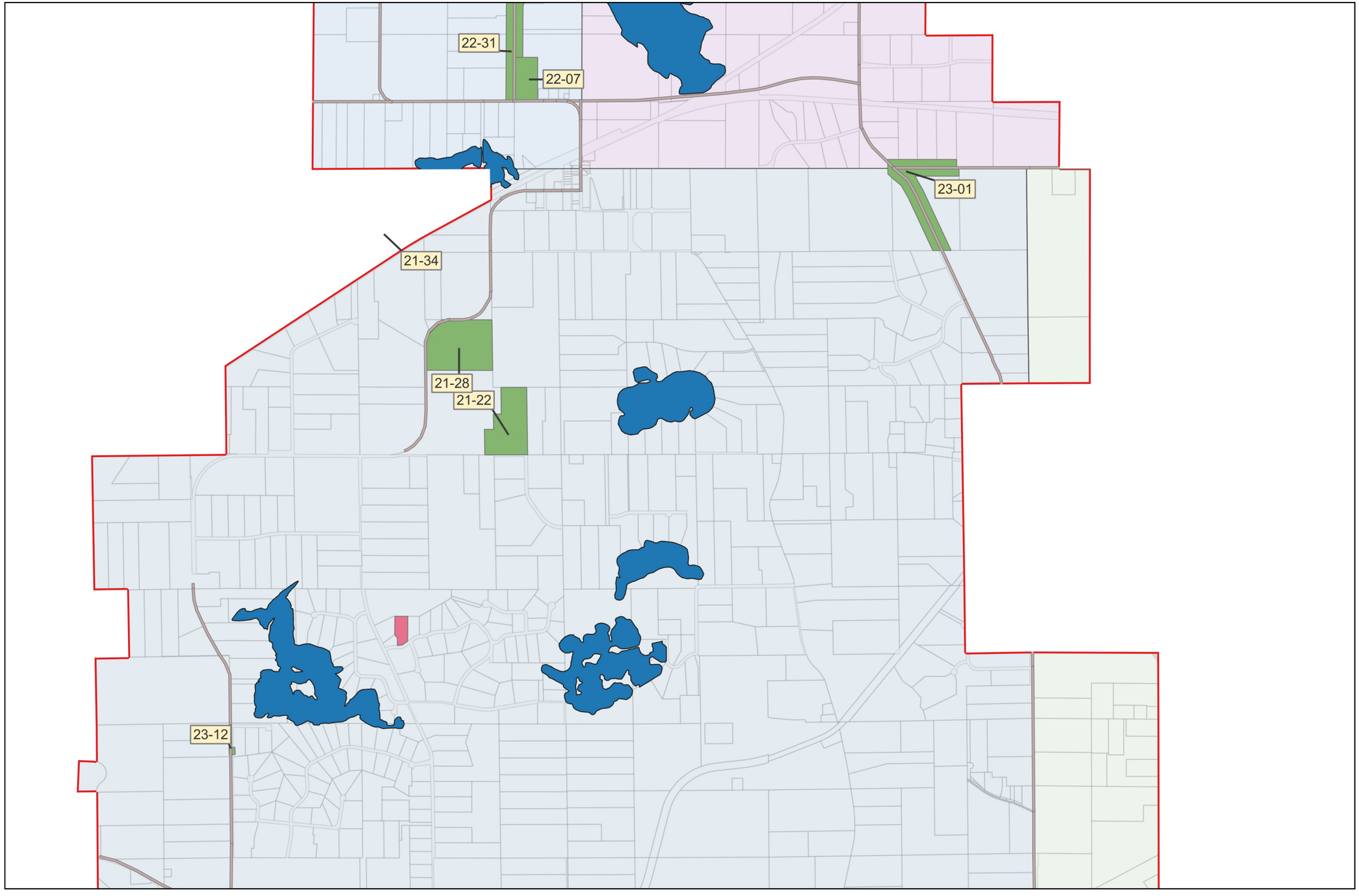
Date: 2023-11-03T16:25:49.881
Document Path: X:\Clients_WD\041_BCWD\001_PERMIT_PROGRAM\09_GIS\2023\BCWD_Permit_Map.qgz
Author: Allison Mark
Layout: Permit Update Map

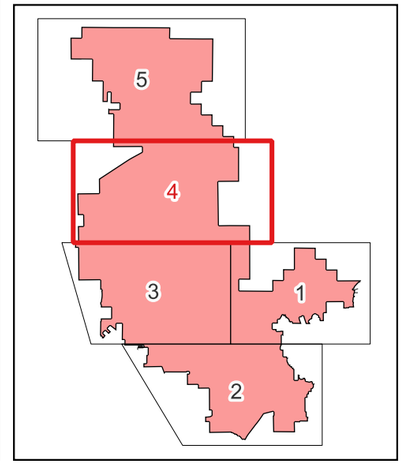
Active Permit
Conditional Approval
Under Review
BCWD Political Boundary

BCWD Permit Sites
November 3rd, 2023

N
0 1,000 2,000 ft

Permit No.	Applicant/Permit Name	Status
21-22	Bond Residence	Active
21-28	Guerrino Residence	Active
21-34	Fahey Residence	Active
22-07	Liberty Classical Academy	Active
22-31	County Road 57 Culverts	Active
23-01	County Road 61 Improvements	Active
23-12	CSAH 9 Culvert Replacement	Active





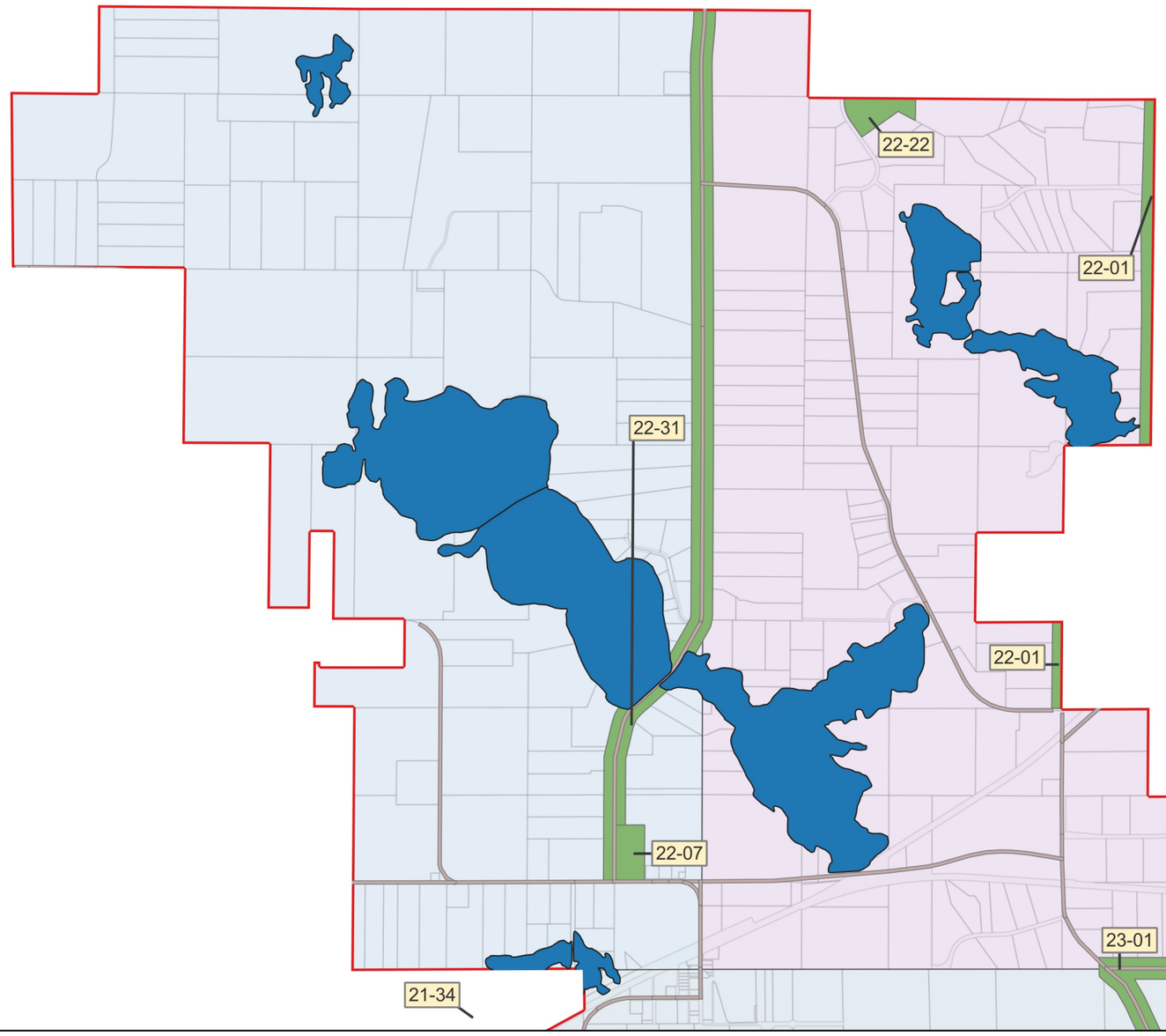
Active Permit
Conditional Approval
Under Review
BCWD Political Boundary

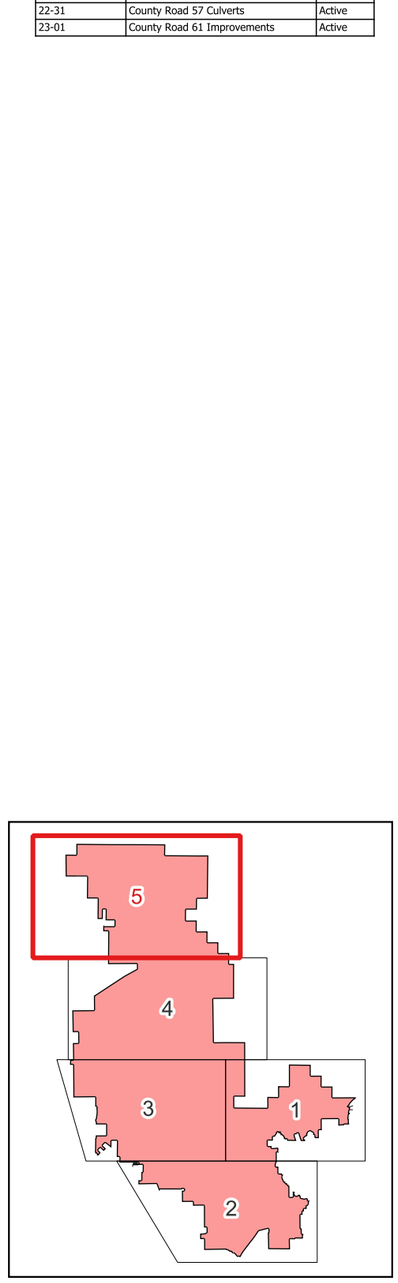
BCWD Permit Sites
November 3rd, 2023

N
0 1,000 2,000 ft

Date: 2023-11-03T16:25:54.671
Document Path: X:\Clients_WD\041_BCWD\001_PERMIT_PROGRAM\09_GIS\2023\BCWD_Permit_Map.qgz
Author: Allison
Layout: Mark
Permit Update Map

Permit No.	Applicant/Permit Name	Status
21-34	Fahey Residence	Active
22-01	CSAH 15 Culverts	Active
22-07	Liberty Classical Academy	Active
22-22	Fanberg Residence	Active
22-31	County Road 57 Culverts	Active
23-01	County Road 61 Improvements	Active





Map
Update
Permit
Layout:
Mark
Allison
Author:
2023-11-03T16:25:59.657
Document Path: X:\Clients_WD\041_BCWD\001_PERMIT_PROGRAM\09_GIS\2023\BCWD_Permit_Map.qgz
Date:

Active Permit
Conditional Approval
Under Review
BCWD Political Boundary

BCWD Permit Sites
November 3rd, 2023

N
0 1,000 2,000 ft

Member Services

MINNESOTA WATERSHEDS
Connecting People. Protecting Water.

What is Minnesota Watersheds?

Minnesota Watersheds is a 501c(4) non-profit and membership based organization serving local governments that manage water on watershed boundaries rather than political boundaries. Members benefit from having an organization that **supports and advocates for leaders in watershed management** and works diligently to maximize the availability of tools and resources to **establish excellence and innovation** in member organizations.

Fortify the infrastructure to ensure reliable delivery of services.

We maintain regular communication with our members to ensure they are informed of the latest watershed news including trainings they may find useful, changes to legislation that may impact them, and information to help them stay in compliance with governmental regulations and laws. **Strategic Plan efforts:** Ensure our governance and management are aligned with the Strategic Plan, continued commitment to communication through newsletters and distributing meeting information.

Serve as a liaison to collaborate with statewide agencies and associations.

We continue to maximize relationships with state agencies and associations as the best way to advance initiatives, especially with the legislature. **Strategic Plan efforts:** continue collaborative efforts with the Minnesota Association of Watershed Administrators and the Board of Water and Soil Resources.

Ensure strong legislative policies are in place for watershed management.

Members drive the organization's policies through an annual resolutions process. From these resolutions, our Board of Directors sets each year's priorities. Our lobbyist works to influence political decisions on our behalf. **Strategic Plan efforts:** develop clearly defined legislative policies that accurately state our positions and follow through with lobbyist succession plan.

Enhance the skills of watershed district and watershed management organization boards.

Every year, we provide members with opportunities to learn from other members and industry experts at our events. Training topics include watershed planning, permitting, flood control, education and outreach programs, innovative technologies, public relations, data collection and analysis, aquatic invasive species, drainage, governance, and leadership. **Strategic Plan efforts:** maintain our watershed handbook and providing training at events.

Build a watershed community that supports one another.

The Board of Directors appreciates your watershed's support through attendance at the Legislative Day at the Capitol, Summer Tour, and Annual Conference. We value the opportunity to work with board members and staff at these events. We welcome your involvement in the Board of Directors and on our committees. This is **YOUR** organization. We look forward to serving you in the coming year. **Strategic Plan efforts:** increase participation at our events and share member services information.

> Coming together is a **beginning;** keeping together is **progress;** working together is **SUCCESS.**
>
> - Henry Ford

Member Services

MINNESOTA WATERSHEDS
Connecting People. Protecting Water.

Our Members

Region I		
Bois de Sioux	Buffalo-Red River	Cormorant Lakes
Joe River	Middle-Snake-Tamarac Rivers	Pelican River
Red Lake	Roseau River	Sand Hill River
Two Rivers	Warroad	Wild Rice

Region II		
Cedar River	Clearwater River	Crooked Creek
High Island Creek	Kanaranzi-Little Rock	Lac qui Parle-Yellow Bank
Middle Fork Crow River	North Fork Crow River	Okabena-Ocheda
Shell Rock River	Turtle Creek	Upper Minnesota River
Yellow Medicine River		

Region III		
Bassett Creek WMC	Brown's Creek	Capitol Region
Carnelian Marine St. Croix	Comfort Lake-Forest Lake	Coon Creek
Minnehaha Creek	Mississippi WMO	Nine Mile Creek
Ramsey-Washington Metro	Rice Creek	Riley-Purgatory-Bluff Creek
South Washington	Vadnais Lake Area WMO	Valley Branch

Minnesota Watersheds offers opportunities to increase watershed management skills, build relationships, and develop partnerships with like-minded groups and organizations

Minnesota Watersheds | 1005 Mainstreet, Hopkins, MN 55343 | 507-822-0921 | jvoit@mnwatersheds.com