



ADMINISTRATIVE OFFICE: 3235 Fernbrook Lane N • Plymouth, MN 55447  
763.553.1144 • Fax: 763.553.9326

June 10, 2022

Representatives  
Pioneer-Sarah Creek Watershed  
Management Commission  
Hennepin County, Minnesota

*The meeting packet for this meeting  
may be found on the Commission's website:  
[http://www.pioneersarahcreek.org/minutes--  
meeting-packets.html](http://www.pioneersarahcreek.org/minutes--meeting-packets.html)*

Dear Representatives:

A regular meeting of the Pioneer-Sarah Creek Watershed Management Commission will be held Thursday, June 16, 2022, at 6:00 p.m. This will be an **in-person** meeting held at Maple Plain City Hall, 5050 Independence Street, Maple Plain, MN.

A light supper will be served. **RSVPs are requested** so that the appropriate amount of food is available. At the time of your response, please let us know if you will be eating supper with us.

In order to ensure a quorum for the regular meeting, please telephone 763.553.1144 or email me at [amy@jass.biz](mailto:amy@jass.biz) to indicate if you or your Alternate will be attending. It is your responsibility to ascertain that your community will be represented at the meeting

Regards,

Amy A. Juntunen, Administrator  
AAJ:tim

cc: Alternates  
Paul Stewart, Kris Guentzel, HCEE  
Brian Vlach, TRPD  
Joel Jamnik, Attorney

Andrew Vistad, Hakanson-Anderson  
City Clerks MPCA  
Met Council BWSR  
official newspapers DNR

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**REGULAR MEETING AGENDA**

**June 16, 2022 • 6:00 p.m.**

*The meeting packet can be found on the Commission's website:*

<http://pioneersarahcreek.org/pages/Meetings/>

1. Call to Order.
2. Approve Agenda.\*
3. Consent Agenda.
  - a. May meeting minutes.\*
  - b. June Claims/Treasurer's Report.\*
4. Open forum.
5. Action Items.
  - a. 2022-001 Bushwood Hills Reserve, Greenfield.\*
  - b. 2022-007 7655 County Road 15, Minnetrista.\*
  - c. Engineering Expense for Project Design.\*\*
6. Old Business.
7. New Business.
  - a. Dance Hall Creek BMP Analysis.\*
8. Watershed Management Plan.
9. Education.
10. Grant Updates.
11. Communications.
12. Staff Reports.
  - a. Engineer's Report.\*
  - b. HCEE Report.\*
  - c. TRPD Report.
13. Commissioner Reports.
14. Other Business.
15. Adjournment. (Next scheduled meeting: July 21, 2022).

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**REGULAR MEETING**

**Minutes**

**May 19, 2022**

**1. CALL TO ORDER.** A regular meeting of the Pioneer-Sarah Creek Watershed Management Commission was called to order by Chair Joe Baker at 6:04 p.m., Thursday, May 19, 2022, at Maple Plain City Hall at Maple Plain City Hall, 5050 Independence Street, Maple Plain, MN.

Present: Mark Workcuff, Greenfield; Joe Baker, Independence; Brenda Daniels, Loretto; Caitlin Cahill, Maple Plain; Pat Wulff, Medina; John Tschumperlin, Minnetrista; Kris Guentzel and Paul Stewart, Hennepin County Environment and Energy (HCEE); Brian Vlach, Three Rivers Park District (TRPD); Andrew Vistad, Hakanson-Anderson; and Amy Juntunen, JASS.

**2. AGENDA.** Motion by Cahill, second by Wulff to approve the agenda\* as presented. *Motion carried unanimously.*

**3. CONSENT AGENDA.** Motion by Tschumperlin, second by Daniels to approve the Consent Agenda as presented.

**a. April Regular Meeting Minutes.\***

**b. May Treasurer's Report/Monthly Claims \*** totaling \$5,383.05

*Motion carried unanimously.*

**4. OPEN FORUM.**

**5. ACTION ITEMS.**

**a. 2022-005 Koch Farm Sanctuary, Independence.\*** This is a 141.4 acre residential development with 33 lots. The existing site is predominantly row crops with some vegetation located onsite in wetlands, as well as an old farmstead with outbuildings. The site is adjacent to and drains to Lake Independence, which has an approved TMDL for nutrients. The development is proposing to treat stormwater via eight wet sedimentation basins due to high groundwater making infiltration infeasible. To offset increased runoff generated from impervious surfaces the development proposes significant tree preservation areas and additional wetland buffers. The Commission's management plan requires compliance for Stormwater Management (Rule D), Erosion Control (Rule E), and Buffer Strips (Rule I). Post development runoff rates for the 2-, 10-, and 100 year events are decreasing. Due to the size of the development a SWPPP is required but has not yet been received.

Staff recommends approval contingent on: 1) receipt and approval of a SWPPP for the development; 2) receipt of a recorded Operations and Maintenance plan; 3) and receipt of a letter from BWSR affirming that the plat meets the RIM easement requirements.

Motion by Baker, second by Workcuff to approve project 2022-005 with those three

contingencies. *Motion carried unanimously.* Vistad will follow up with the developer re incorporation of HR 95 in the project. There is a BWSR RIM wetland easement on the property in the HR95 area so any project in that area would need to be approved by the SWCD and BWSR.

**b. Approve Engineering Expenses for Project Plans.\*\*** At the TAC meeting staff discussed the need for engineering design services to move projects to shovel-ready status. HCEE does not have the resources to provide this for several projects identified and recommended that the Commission fund the preliminary engineering work as lead on the projects identified in subwatershed assessments. This work will result in plans that can be used to obtain bids for construction. Proposed engineering cost to design a stream restoration project is not-to-exceed \$7,000. Vistad will research and develop an engineering cost estimate for designs for the HR 84 and HR 68 projects for consideration at the June meeting.

**6. OLD BUSINESS.**

**7. NEW BUSINESS.**

**8. WATERSHED MANAGEMENT PLAN.**

**9. EDUCATION.**

**10. GRANT UPDATES.**

**11. COMMUNICATIONS.**

**12. STAFF REPORTS.**

**a. Engineer's Report.** An application for Bushwood Hills Reserve in Greenfield for a 34.8 acre residential development of five lots has been received but revisions have been requested from the City. It is expected to be on the agenda at the June meeting. Greenfield and Independence have a few other developments in the preliminary plat phase. Baker and Vistad visited the HR68/JB Gully project site today.

**b. HCEE Report.\*** The **Watershed Services Agreement** has been approved and signed by both the Commission and County.

The **Spurzem Creek SWA** rough draft was just completed and TRPD provided comments to be incorporated into the report. HCEE will schedule a meeting with stakeholders to share the findings in June and expects to conduct a project meeting in early July.

HCEE Staff are working through the design phase with landowners on two **lakeshore restoration opportunities** on Lake Independence with a goal of having the projects ready for implementation in early summer.

The **Dance Hall Creek SWA Update** report is in the refinement process and should be completed within the next two weeks. Small projects have been identified for fall implementation.

HCEE Staff are working with landowners on culvert elevations and farm structures from the **Lake Rebecca SWA**.



The **McComb project** is awaiting drier weather to begin construction. The Zurah Shrine Horsemen have been approved for USDA funding for pasture work and some subwatershed BMPs.

Engineering on the **1215 Copeland Road project** found larger than expected flow through the area, which is an issue for NRCS. The project is also within a CRP boundary which makes the construction design project more complicated. HCEE Staff will want to work with Vistad on this project to completed a larger hydrologic analysis to determine what can be done within CRP rules.

Over **700 mailers** were sent to Lake Independence and South Lake Sarah watershed residents based on the completed SWAs to solicit landowners to participate in project implementation. So far 40 mailers have been returned from interested landowners. HCEE will provide outreach and due diligence for potential projects with a goal of installing BMPs this summer/fall.

A feasibility study is needed for the **Budd Street project**. This may be another project for Vistad to provide an estimate for engineering costs.

The County **tree sale** was a success with a little over 2,000 trees sold.

c. **TRPD Report.** The **Whaletail alum feasibility study Agreement** and **Lake Independence TMDL update Agreement** will be executed by next week so work can begin on those projects.

A phone call from the homeowner on the channel between Ardmore and Independence reported that **carp are going over the barrier** while the water levels were elevated. Several were caught downstream and died when the water level dropped. If carp regularly get past the barrier, a retro fit may be needed.

Vlach met with Hennepin County regarding a potential project on the west side of Kingswood Road in Minnetrista to reduce erosion flowing to the wetland area.

### 13. COMMISSIONER REPORTS.

a. **Baker** thanked Vlach for presenting at the Lake Sarah Improvement Association (LSIA) meeting. The CLPW herbicide application is expected to occur within a month. The lake vegetation study was recently completed.

b. **Wulff** noted that Lake Independence shore owners are talking about how high the water level is this year.

c. **Workcuff.** New manure piles were showing up on Sioux Trail. The issue has been referred to MPCA for enforcement. One homeowner with plugged culverts is causing upstream flooding near Dance Hall Creek. The homeowner doesn't want to pay for culvert replacement.

d. **Tschumperlin.** Three landowners requested a zoning change from Ag Preserve to Ag with intent to sell as 10+ acre lots. The city granted the zoning change.

e. **Cahill.** Maple Plain's Party in the Park event will be held June 4 at 5 p.m. at Veterans Memorial Park.

**14. OTHER BUSINESS.**

The **next regular meeting** is scheduled for June 16, 2022 at Maple Plain City Hall.

**15. ADJOURNMENT.** There being no further business, motion by Daniels, second by Wulff to adjourn. *Motion carried unanimously.* The meeting was adjourned at 8:03 p.m.

Respectfully submitted,



Amy Juntunen  
Administrator  
AAJ:tim

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**Pioneer-Sarah Creek Watershed  
Cash Disbursements Journal  
For the Period From Jun 1, 2022 to Jun 30, 2022**

Filter Criteria includes: Report order is by Date. Report is printed in Detail Format.

<b>Date</b>	<b>Check #</b>	<b>Account ID</b>	<b>Line Description</b>	<b>Debit Amount</b>	<b>Credit Amount</b>
6/16/22		50100	Engineering / Technical Consulting - Hilltop Prairie	874.00	
		50100	Engineering / Technical Consulting - General	368.00	
		10100	Hakanson Anderson Associates, Inc.		1,242.00
6/16/22		51100	Administration	649.18	
		51100	Meeting-related	640.68	
		51100	Bookkeeping	229.63	
		51400	Website	135.00	
		51120	Project Reviews	137.31	
		52000	TAC and Convene	52.50	
		10100	Judie Anderson's Secretarial Service		1,844.30
6/16/22		57000	2022 Membership	500.00	
		10100	WaterShed Partners		500.00
<b>Total</b>				<b>3,586.30</b>	<b>3,586.30</b>

## METRO WATERSHED PARTNERS



MINNESOTA WATER  
LET'S KEEP IT CLEAN

### INVOICE

651-523-2812  
jabere01@hamline.edu

Attention: Amy Juntunen  
Pioneer-Sarah Creek WMC  
3235 Fernbrook Lane N.  
Plymouth, MN 55447  
Date: 5/26/22

Metro Watershed Partners  
Hamline University  
1536 Hewitt Ave. MS-A1760  
Saint Paul, MN 55104

Project Title: Clean Water Minnesota

Description	Cost
2022 Membership: Clean Water MN and Adopt-a-Drain	\$500.00
<b>TOTAL</b>	<b>\$500.00</b>

#### Benefits of membership

- You and your colleagues are invited to attend our monthly meetings, to network and share information with other watershed education professionals, and to hear monthly speakers on topics relevant to our work. The Watershed Partners meet on the second Wednesday of the month from 9 – 11am. Right now all meeting are held on Zoom.
- You and your colleagues are invited to be added to our listserv on Mobilize, where you can receive meeting notifications and partner updates, and send messages to, and receive announcements from, other partners. If you would like to be added to Mobilize, please email Jenni Abere ( [jabere01@hamline.edu](mailto:jabere01@hamline.edu) ) and request to be added.
- Your organization will be listed as a supporting partner on [cleanwatermn.org/about-us](http://cleanwatermn.org/about-us)
- Your organization will be listed as a supporting partner on [adopt-a-drain.org](http://adopt-a-drain.org) whenever someone clicks on a drain in your service area, and on email communication to adopters in your area.
- You will have access to an administrative portal on [Adopt-a-Drain.org](http://Adopt-a-Drain.org) that allows you to access data about drains and program participants in your area.
- You will receive an annual report that includes summary data about drains and program participants in your area.
- You are able to access print resources to promote Adopt-a-Drain to residents in your area here: <https://www.cleanwatermn.org/partners/adopt-a-drain-resources/> (password: CleanWater)
- Portable educational exhibits are available for checkout. Find more information at: <https://www.cleanwatermn.org/partners/>
- For an additional fee, participants in your area can receive yard signs and a printed "welcome kit" in the mail. Please contact Jenni Abere for more information.

Duration of service: January 1 - December 31st, 2022. Unspent funds will rollover to support program activities in 2023.

# INVOICE SUMMARY

PIONEER SARAH WATERSHED MANAGEMENT COMMISSION

INVOICES FOR APRIL 2022

Project ID & Description	Invoice Number	Invoice Date	Amount
PSC209 2022-03 HILLTOP PRAIRIE	48453	05/31/22	874.00
PSC901-2022 GENERAL ENGINEERING FOR PIONEER SARAH WMC 2022	48454	05/31/22	368.00
			<b>1,242.00</b>



3601 Thurston Avenue  
Suite 101  
Anoka, MN 55303

Pioneer Sarah Watershed Management Commission  
3235 Fernbrook Lane  
Plymouth, MN 55447

Invoice number 48453  
Date 05/31/2022

Project **PSC209 2022-03 HILLTOP PRAIRIE**

Professional Services Provided Through 04/30/2022

**2022-03 HILLTOP PRAIRIE**

**MUNICIPAL REVIEW**

Professional Fees

	Date	Hours	Rate	Billed Amount
Andrew Vistad REVIEW RESUBMITTED MATERIALS	04/12/2022	4.00	92.00	368.00
Andrew Vistad DEVELOPMENT REVIEW	04/14/2022	5.50	92.00	506.00
<b>PROFESSIONAL FEES SUBTOTAL</b>				<b>874.00</b>
<b>MUNICIPAL REVIEW SUBTOTAL</b>				<b>874.00</b>
<b>AMOUNT DUE THIS INVOICE</b>				<b>874.00</b>

Invoice Summary		Current Billed	Prior Billed	Total Billed
	Total	874.00	1,196.00	2,070.00



3601 Thurston Avenue  
Suite 101  
Anoka, MN 55303

Pioneer Sarah Watershed Management Commission  
3235 Fernbrook Lane  
Plymouth, MN 55447

Invoice number 48454  
Date 05/31/2022

Project **PSC901-2022 GENERAL ENGINEERING  
FOR PIONEER SARAH WMC 2022**

Professional Services Provided Through 04/30/2022

## GENERAL ENGINEERING

### Professional Fees

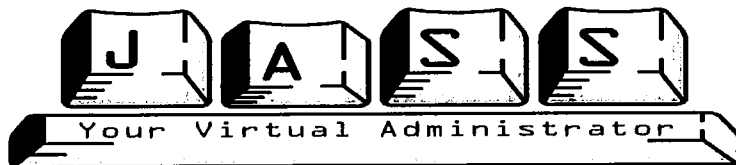
	Date	Hours	Rate	Billed Amount
Andrew Vistad 8395 OX YOKE FLOODPLAIN PERMIT	04/05/2022	1.50	92.00	138.00
Andrew Vistad 8395 OX YOKE FLOODPLAIN PERMIT	04/14/2022	1.00	92.00	92.00
Andrew Vistad MONTHLY MEETING	04/21/2022	1.50	92.00	138.00

**PROFESSIONAL FEES SUBTOTAL 368.00**

**GENERAL ENGINEERING SUBTOTAL 368.00**

**AMOUNT DUE THIS INVOICE 368.00**

Invoice Summary		Current Billed	Prior Billed	Total Billed
	Total	368.00	1,906.00	2,274.00



Pioneer-Sarah Creek Watershed Management Commission  
3235 Fernbrook Lane Plymouth, MN 55447

3235 Fernbrook Lane  
Plymouth MN 55447

June 10, 2022

General Administration					Total Project Area	
Administrative		65.00	0.000			
Administrative	0.83	70.00	58.100			
Administrative - virtual		75.00	0.000			
Office Support	7.00	70.00	490.000			
Public storage	1.00	101.08	101.080			
Data Processing/File Mgmt		70.00	0.000			
Archiving		60.00	0.000			
Reimbursable Expense		1.00	0.000	649.180	Administration	
Meeting packets, attendance, Minutes and Meeting follow-up						
Administrative		65.00	0.000			
Administrative	5.13	70.00	359.100			
Admin - offsite	3.75	75.00	281.250			
Reimbursable Expense	0.33	1.00	0.330	640.680	Meeting-related activities	
Bookkeeping						
Bookkeeping		65.00	0.000			
Bookkeeping, budget, audit requests	1.16	70.00	81.200			
Treasurer's Reports	0.83	70.00	58.100			
Audit Prep		65.00	0.000			
Audit Prep	1.00	70.00	70.000		Bookkeeping/TRs	
Reimbursable Expense	20.33	1.00	20.330	229.630	Bookkeeping/TRs	
Website						
Weebly hosting - 1 year	100.00	1.00	100.000			
Pages, links, uploads	0.50	70.00	35.000			
Administrative		70.00	0.000	135.000	Website	
Project Reviews						
Administrative		65.00	0.000			
Administrative	1.67	70.00	116.900			
File Management/Archiving		65.00	0.000			
Reimbursable Expense	20.41	1.00	20.410	137.310	Project Reviews	
TAC and Convene Meetings						
Secretarial		65.00	0.000			
Administrative	0.75	70.00	52.500			
Offsite - Virtual		75.00	0.000			
Reimbursable Expense		1.00	0.000	52.500	TAC and Convene	
			1,844.300	1,844.300		





## **Bushwood Hills Reserve** **Greenfield, Project #2022-001**

**Project Overview:** Bushwood Hills Reserve is a 5 lot 35.84-acre residential development. The residential property is located within the City of Greenfield. The existing site is predominantly row crops with some vegetation located onsite in wetlands. The site is adjacent to and drains to Hafften Lake, which has a TMDL approved for nutrients. The development is proposing to treat stormwater via biofiltration basins that will capture runoff from the newly created impervious surfacing. The Commission's management plan requires compliance for Stormwater Management (Rule D), Erosion Control (Rule E), and Buffer Strips (Rule I).

**Applicant:** DSV Development, Inc., P.O. Box 848, Wayzata, MN 55391. Phone: 612-267-5253. Email: ben5050@gmail.com

**Agent/Engineer:** Plowe Engineering, Inc., 6776 Lake Drive Suite 110, Lino Lakes, MN 55014. Phone: 561-361-8210. Email: [chuck@plowe.com](mailto:chuck@plowe.com).

### **Exhibits:**

- 1) PSCWMC Request for Plan Review received May 10, 2022
- 2) Project review fees for project, \$2192.00
- 3) Civil Plans, dated May 31, 2022
- 4) Stormwater Management Plan, dated May 31, 2022
- 5) MIDS Water Quality Calculations, dated May 31, 2022
- 6) Wetland Delineation Report, dated September 21, 2020

### **Findings:**

- 1) A complete application was received May 10, 2022. The initial 60-day decision period expires on July 9, 2022.
- 2) The applicant proposes to divide a 35.8-acre parcel into 5 rural type residential lots.
- 3) The City of Greenfield is the LGU in charge of administering the 1991 Wetland Conservation Act on this site.

**Stormwater Management (Rule D):**

- 4) Stormwater from the norther portion of the proposed development flows to the north through a residential development to discharge into Hafften Lake. The southern portion of the development Flows to a wetland on the eastern portion of the site, through a culvert under County Road 50 to discharge into Dance Hall Creek.
- 5) Stormwater is proposed to be managed by ditches, swales, and culverts. Four biofiltration basins will be constructed as part of this development.

Drainage area = 28.8 acres to North	<b>2-yr (cfs)</b>	<b>10-yr (cfs)</b>	<b>100-yr (cfs)</b>
<b>Pre-Development Rates</b>	<b>70.69</b>	<b>126.25</b>	<b>250.43</b>
<b>Post-Development Rates</b>	<b>34.75</b>	<b>87.5</b>	<b>212.95</b>

Drainage area = 9.4 acres to East	<b>2-yr (cfs)</b>	<b>10-yr (cfs)</b>	<b>100-yr (cfs)</b>
<b>Pre-Development Rates</b>	<b>0.00</b>	<b>0.00</b>	<b>2.13</b>
<b>Post-Development Rates</b>	<b>0.00</b>	<b>0.00</b>	<b>1.28</b>

Water Quality Calculations	<b>Total Phosphorus (TP lb/yr)</b>	<b>Total Suspended Solids (TSS lb/yr)</b>
<b>Pre-Development Rates</b>	<b>32.72</b>	<b>6,445</b>
<b>Post-Development Rates</b>	<b>15.85</b>	<b>2,697</b>

- 6) The bio-filtration basins and land use change result in a reduction of total phosphorus runoff by 52% and a reduction of total suspended solids runoff by 58%
- 7) Please provide an ownership and maintenance agreement acceptable to City and Watershed standards for review and provide records that the agreement is recorded with the titles of each property.

**Erosion and Sediment Controls (Rule E):**

- 8) Land disturbing activities of greater than 1 acre, either individual or part of a larger common plan, require a SWPPP and are required to apply for a NPDES/SDS construction permit. The proposed development will cause more than 1 acre of disturbance and a SWPP has been prepared and provided.

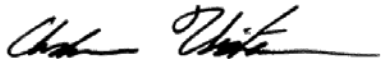
**Buffer Strips (Rule I):**

- 9) The applicant shall submit to the member city an executed buffer maintenance plan and agreement for the first two growing seasons following establishment, and provide an escrow or an alternative surety to assure successful vegetation establishment.

**Recommendation:** Approval contingent upon the following conditions:

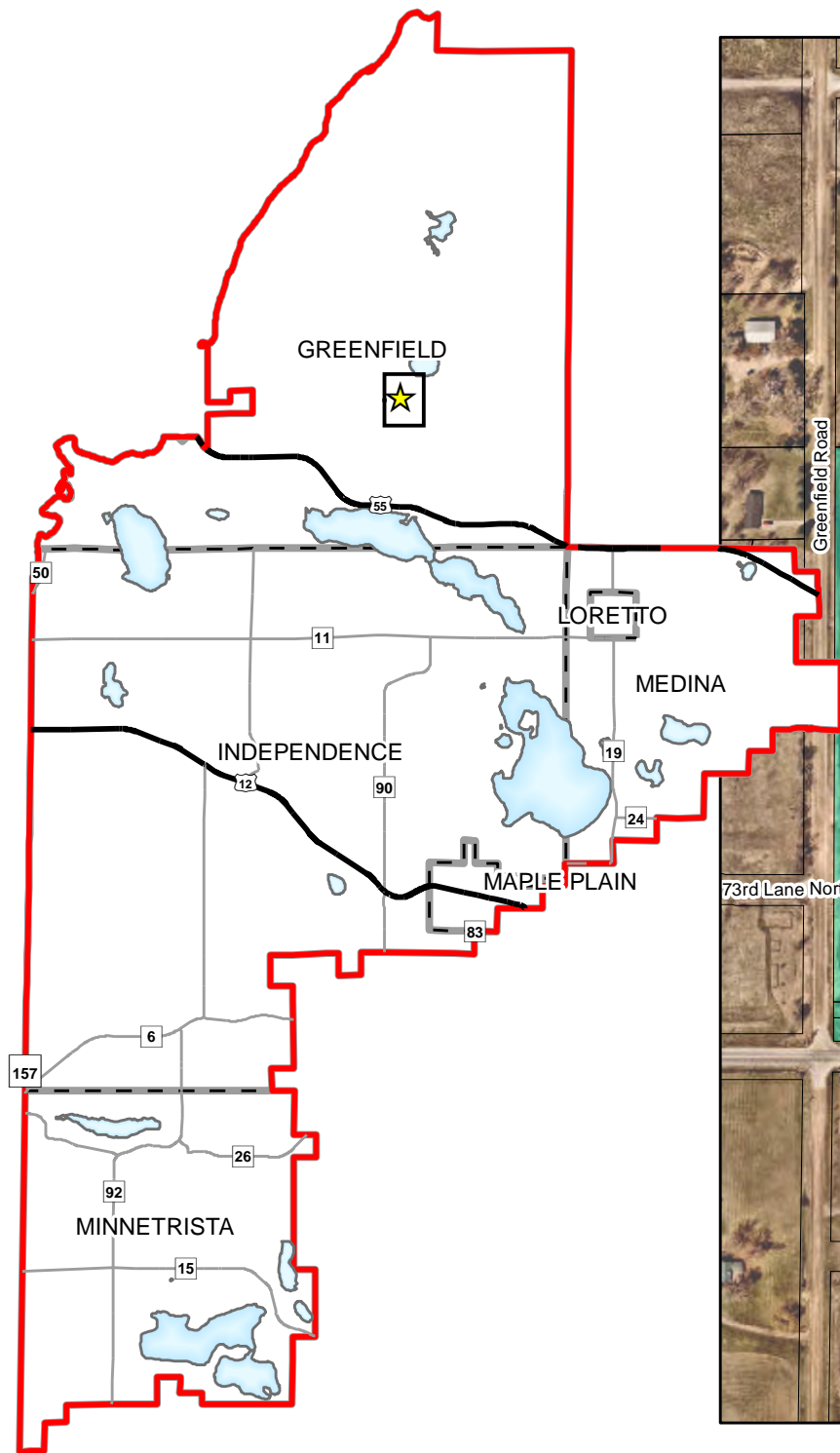
- 1) Receiving a receipt indicating the recording of the O&M declaration.
- 2) Receiving an approved buffer establishment plan for establishing onsite wetland buffers.

Advisor to the Commission



Andrew Vistad, PE

June 8, 2022  
Date









## **7655 County Road 15** **Minnetrista, Project #2022-007**

**Project Overview:** Black Dog Homes has submitted a permit application for the construction of a driveway, residential dwelling, and septic system. The application is being submitted due to the proximity to the wetlands that surround Whale Tail Lake. The dwelling, septic system, and driveway construction will result in approximately 1/3 acre of disturbance. Silt fence is provided between the home construction and grading and the wetlands. The Commission's management plan requires compliance for Erosion Control (Rule E).

**Applicant:** Black Dog Homes, 1905 Wayzata Blvd Suite 100, Wayzata, MN 55391. Phone: 952-484-4480. Email: nleighton@blackdoghomes.com

**Agent/Engineer:**

**Exhibits:**

- 1) PSCWMC Request for Plan Review received June 7, 2022
- 2) Project review fees for project, \$300.00
- 3) 7765 County Road 15 Site Plan, dated May 10, 2022

**Findings:**

- 1) A complete application was received June 7, 2022. The initial 60-day decision period expires on August 6, 2022.
- 2) The applicant proposes to construct a residential dwelling, septic site, and driveway.
- 3) The City of Minnetrista is the LGU in charge of administering the 1991 Wetland Conservation Act on this site.
  - o No wetland impacts are proposed as part of this project.

**Erosion and Sediment Controls (Rule E):**

- 4) Erosion and sediment control is required for land disturbing activities. The site is proposing to install sediment control between the home construction pad and the adjacent wetlands. Site grading will be approximately 75-100 feet away from the on-site wetlands.

**Recommendation:** Approval.

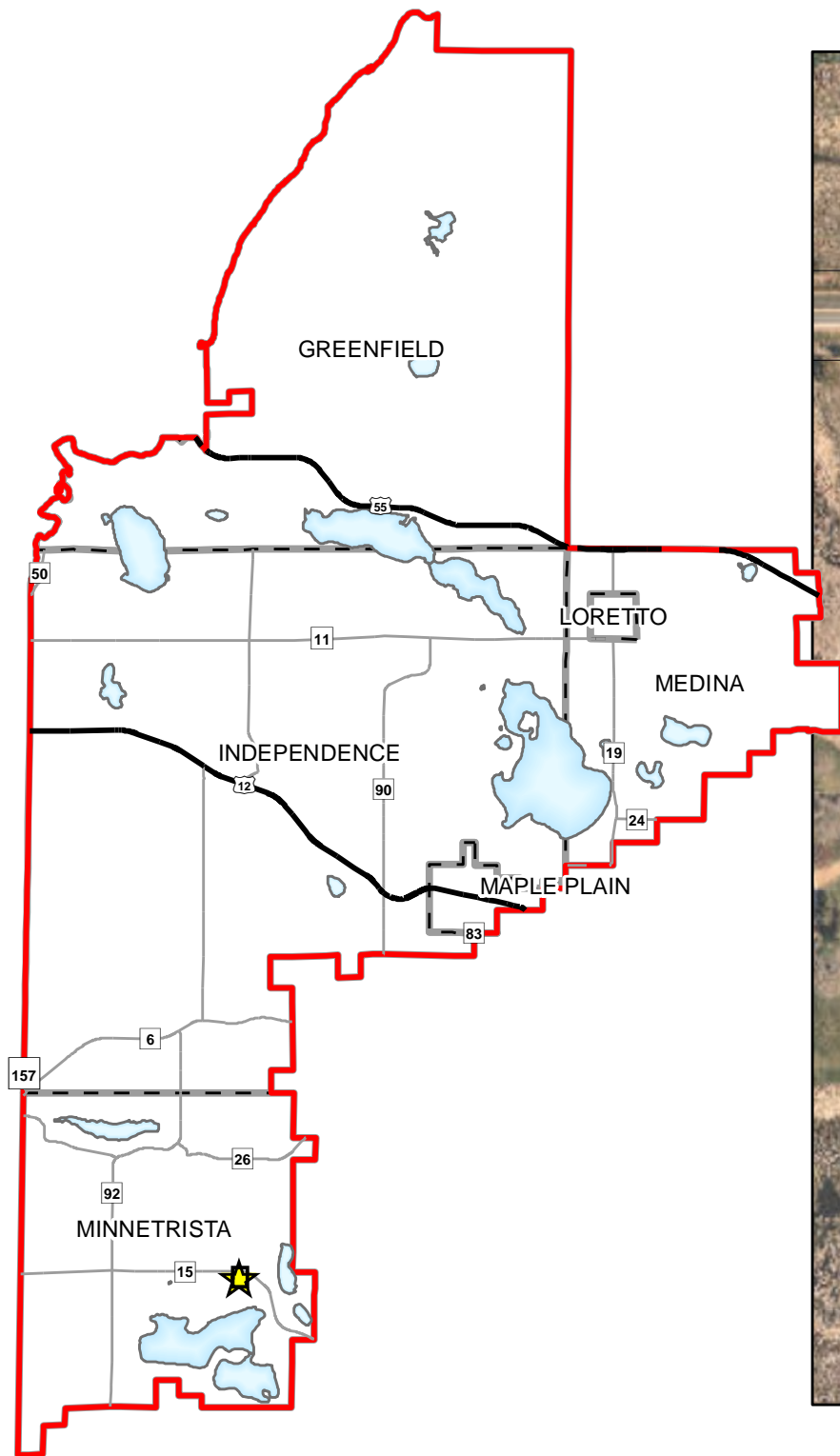
Advisor to the Commission

A handwritten signature in black ink, appearing to read "Andrew Vistad", with a long horizontal flourish extending to the right.

Andrew Vistad, PE

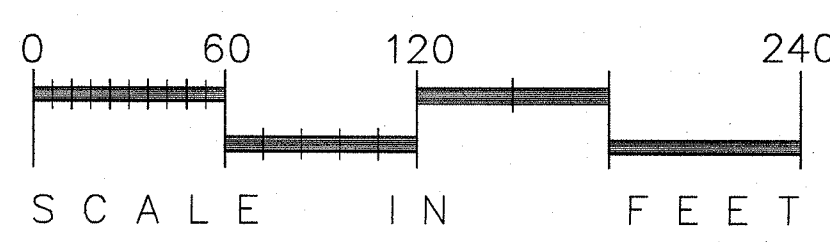
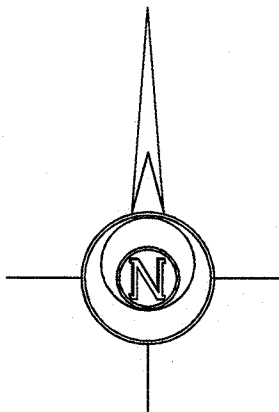
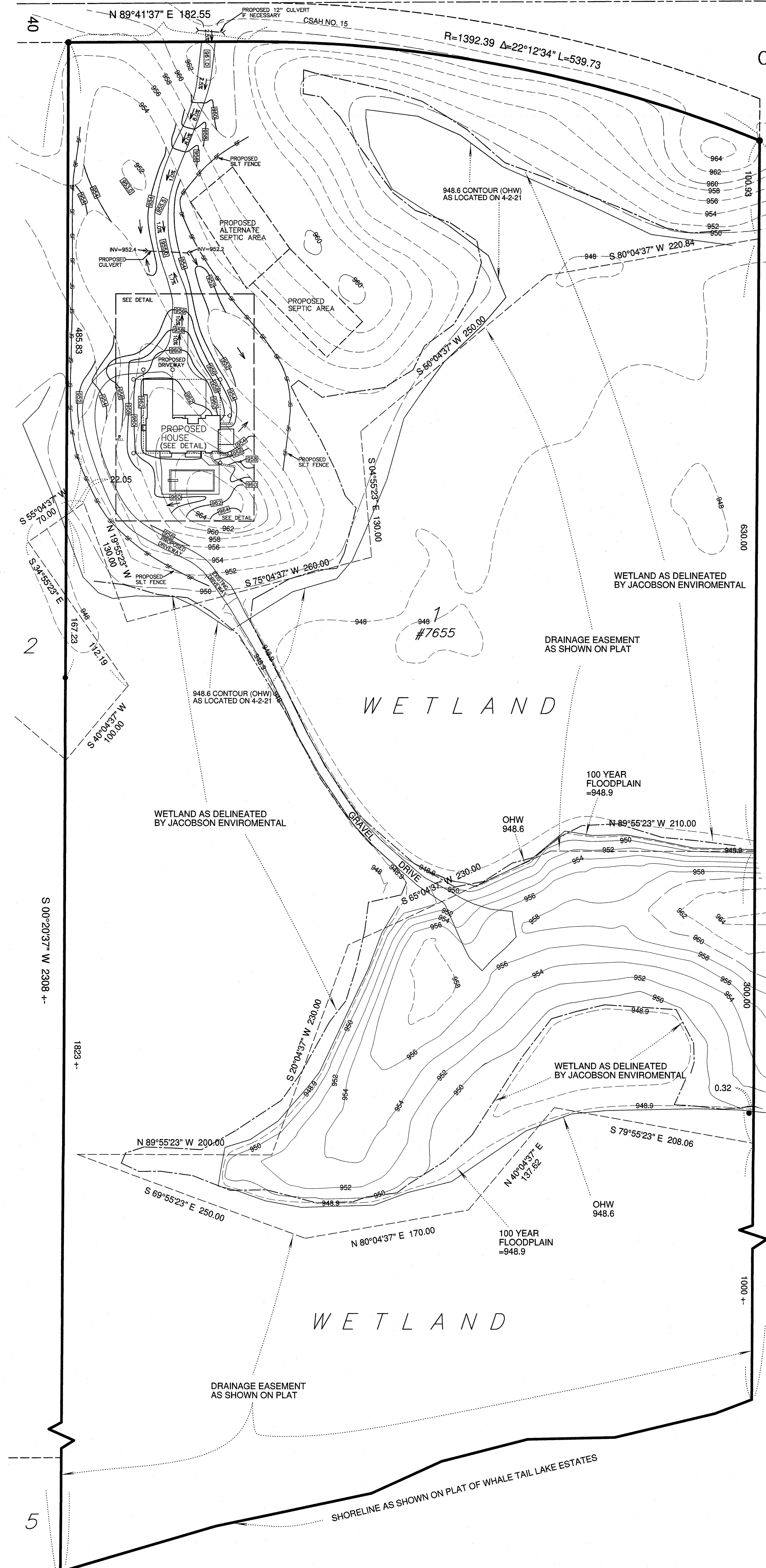
June 9, 2022  
Date







CERTIFICATE OF SURVEY FOR  
**BLACK DOG HOMES**  
OF LOT 1, BLOCK 1, WHALE TAIL ESTATES  
HENNEPIN COUNTY, MINNESOTA



LEGAL DESCRIPTION:  
Lot 1, Block 1, WHALE TAIL LAKE ESTATES

- (966.3) : Denotes proposed spot elevation
- 952 : Denotes existing contour
- 950 : Denotes proposed contour line
- o : Denotes iron marker set
- : Denotes iron marker found

This survey intends to show the topography around the "island" portion on the above lot, the location of a gravel driveway, and OHW and 100 year flood plain elevations, and the proposed location of a proposed house, driveway and grades thereon. It does not purport to show any other improvements or encroachments.

PID = 16-117-24-21-0005

ADDRESS: 7655 COUNTY ROAD 15

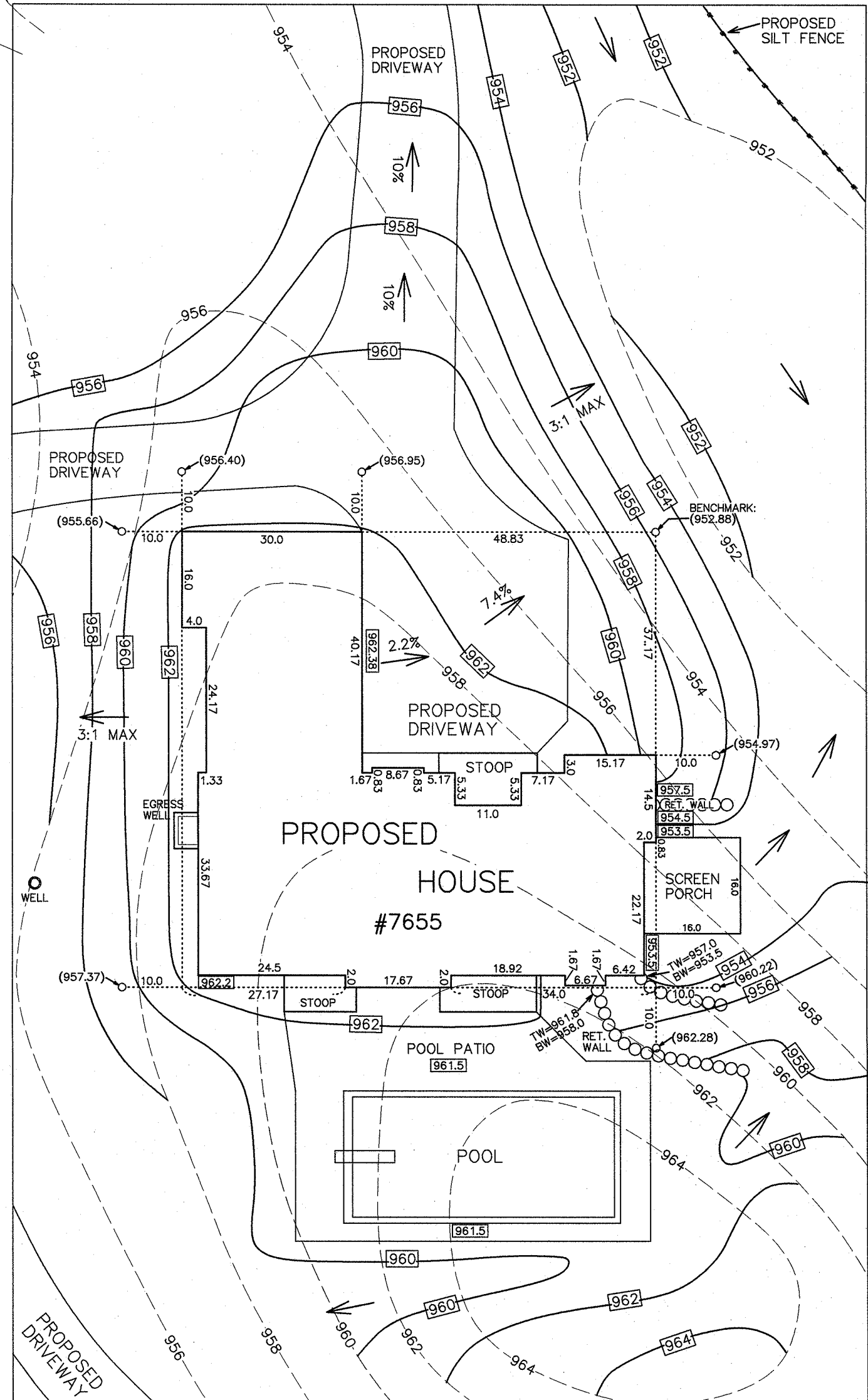
NOTE: Topography on island and the road leading to it are field located. Topography on the northern area is from Hennepin County Topographic maps.

PROPOSED ELEVATIONS : (verify)

- 1) Garage = 962.38
- 2) Top of foundation = 962.71
- 3) Main floor = 964.56
- 4) Basement = 954.0

PROPOSED HARDCOVER :

Lot area = 1,032,943 Sq. ft.  
Proposed house = 3669 sf  
Screen porch = 254 sf  
Stoops (3) = 273 sf  
Pool = 870 sf  
Pool patio = 1329 sf  
Driveway = 17,868 sf  
Total = 24,263 Sq. ft.  
24,263 / 1,032,943 x 100 = 2.35%



**HOUSE DETAIL**  
1" = 20' SCALE

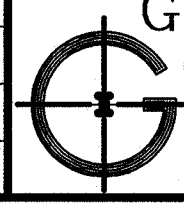
Redundant Silt Fence Required When  
Within 50 ft of Wetlands

DATE	REVISIONS
8-14-19	WETLAND ADDED
10-25-19	ADDED TOPOGRAPHY
4-15-21	ADDED OHW
2-7-22	PROPOSED HOUSE, DRIVEWAY AND GRADES
5-10-22	PROPOSED SEPTIC AREAS
5-13-22	REVISED PROPOSED HOUSE
6-7-22	ADDITIONAL INFORMATION

I hereby certify that this plan, specification, or report was prepared by me, or under my direct supervision, and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.  
*Mark S. Gronberg*  
Mark S. Gronberg Minnesota License Number 12755

PROJECT

DATE  
3-29-19  
SCALE  
1"=60'  
JOB NO.  
22-028



**GRONBERG & ASSOCIATES, INC.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS  
445 NORTH WILLOW DRIVE LONG LAKE, MN 55356  
952-473-4141



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To:	Hennepin County & Dance Hall Creek Technical Advisory Team	From:	Erik Megow, PE, Stantec Anne Wilkinson, PhD, Stantec
File:	227704157	Date:	February 24, 2022

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**Reference: Dance Hall Creek Best Management Practice (BMP) Analysis****Overview**

This memo provides an overview of the best management practice (BMP) analysis for the Dance Hall Creek Subwatershed Integrated Natural Resource Plan (INRP). The focus of the BMP analysis is to provide regional treatment options that to treat off-site loads flowing through study area. This report did not consider BMPs necessary to meet the City of Greenfield or Pioneer-Sarah Creek Watershed Management Commission's (PSCWMC) stormwater rules and requirements for planned development within the study area. The BMP analysis consisted of water quality modeling to drive the development of a planning-level design and cost-benefit analysis for regional BMPs along Dance Hall Creek. The following sections outline the process taken to develop the water quality models and then site and design stormwater cost-effective regional BMPs to work with the natural resource and land-use master plan.

**Existing Dance Hall Creek Loading Analysis**

The first step in the BMP analysis was to develop a water quality model outlining total phosphorus (TP) and total suspended solids (TSS) loads along Dance Hall Creek and at the project area boundary. Stantec created a P8 model to determine the existing TP and TSS loads from subwatersheds and existing wetlands.

**P8 Model Inputs**

The P8 model used subwatersheds from the Three Rivers Park District's SWAT model developed for the Lake Sarah TMDL (Figure 1). The subwatersheds were then processed in GIS with Hennepin County 2020 Land-Use data and the most recent SSURGO Soils data to determine the hydrology and impervious surface inputs for the Existing Conditions P8 hydrology and pollutant loads. The P8 model uses rainfall data from the Minneapolis-St. Paul (MSP) Airport. With preliminary results, the P8 model was then calibrated to determine BMP Priority areas based on the largest pollutant loading junctions within the Master Plan.

**Existing P8 Model Calibration**

Stantec ran a calibration simulation using data provided by Three Rivers Park District (TRPD) from the 2014 growing season to determine model performance. TRPD had the most extensive data set from 2014 with 19 water quality grab samples, compared to the 10 samples that TRPD collected in 2007 and 2008. This was the only data available and was collected at Highway 55 where Dance Hall creek discharges to Lake Sarah. It is important to note that the 2014 growing season was extremely wet and produced very high volumes and high loads. After adding major wetlands and adjusting the permanent pool volumes of the wetlands to 1 foot of depth, the existing P8 modeled TP load (3,547 lbs) was very consistent to the 2014 growing season load data (3,550 lbs) measured from Three Rivers Park District.

**BMP Priority Areas**

Following calibration, the P8 model was run for a 20-year period to calculate yearly pollutant loads. The existing conditions P8 Model for Dance Hall Creek estimated a yearly TP load to Lake Sarah of 416 lbs/yr between 2000-2020 (Figure 2). This load is much less than the 2014 load but is more consistent with the loads measured in 2007 and 2008 by TRPD. It is important to note that concentration of the soluble reactive

**Reference: Dance Hall Creek Best Management Practice (BMP) Analysis**

phosphorous (SRP) measured in 2014 was very high. Ditched wetlands, like those in the existing conditions, can act as significant sources of SRP downstream. SRP is difficult and expensive to remove via conventional BMPs and has potential to fuel high primary productivity (i.e., chlorophyll-a) downstream. This high SRP fraction informed the selection of proposed BMPs. Stantec focused on BMPs which increase inundation and decrease potential flushes of SRP downstream.

**Minor Drainageways**

Outside of the major streams and drainageways entering the project area, there are three areas highlighted on Figure 2 showing Minor Drainageways that will need to be stabilized and managed during development of the parcels within the study area. These areas were highlighted by City and County staff as areas with high erosion potential that convey off-site drainage to Dance Hall Creek. These drainageways will likely be the basis of site-specific stormwater BMPs implemented during the development of the private parcels within the study area. The site-specific BMPs will need to be designed to meet City and PSCWMC stormwater management requirements for volume, rate, and water quality control.

**Preliminary BMPs Cost-Benefit Analysis**

Stantec reviewed the priority areas and developed preliminary BMPs and sizes that worked within the master plan. Stantec developed and initially sited six BMP for the study area and further analyzed four for pollutant load reductions and cost-benefits. The cost-benefit for BMP areas #5 and #6 was not analyzed as these BMPs would not have a significant pollutant load reduction. The benefits of BMPs listed in areas #5 and #6 would mainly be ecological.

Figure 3 summarizes the four BMP that were analyzed through P8 for the project area. The estimated TP removal for each BMP is listed in Table 1. The overall effect of the BMPs were also analyzed on a global level as a yearly discharge to Lake Sarah from Dance Hall Creek. The existing conditions P8 model for Dance Hall Creek estimated a TP load of 415.5 lbs/yr, over a 20-year period between 2000-2020. The proposed model, which incorporates the four BMPs above, estimates a TP load of 353.3 lbs/yr resulting in an overall reduction of 62.2 lbs/yr.

Table 1: BMP TP Load Removal Summary

BMP ID	Description	Net TP (lbs/yr)
1	Wetland Enhancement (Bounce)	38.5
2	Stormwater Pond/Wetland Restoration	54.0
3	Stormwater Pond and Filter	29.0
4	Wetland Enhancement and Filter	5.4

Please note, the 62.2 lbs/yr is less than the total for each stand-alone BMP as the removals will decrease for BMPs 1 and 2 when upstream BMPs are included in the treatment train.

**Reference:** Dance Hall Creek Best Management Practice (BMP) Analysis

### Cost Benefit Analysis

After siting the BMPs, a cost-benefit analysis was calculated by:

- a Phosphorus and TSS removal were estimated using P8,
  - Estimated removals were calculated in pounds/year (lbs/yr), over a 20-year period
- an Initial Capital Cost was estimated, which includes:
  - Construction Costs based on recent bids for similar projects (mobilization/demobilization, excavation, restoration, major structures, etc.),
  - Design and Construction Engineering (15-20%), and
  - Contingency (20%).
- a Normalized [30-year] Lifecycle Cost (\$/lb) which incorporates:
  - the estimated Initial Capital Cost,
  - includes an estimated 30-year O&M Costs (with 2.3% inflation), and
  - then normalizes it over an estimated 30-year TP reduction.

A breakdown of the estimated costs for each BMP are shown in Appendix A. Table 2 is a summary of the estimated TP removal, capital cost, lifecycle cost and the normalized lifecycle cost (cost-benefit) over a 30-year period for each BMP.

Table 2: BMP Cost-Benefit Analysis Overview

BMP ID	Description	Net TP (lbs/yr)	Capital Cost	Lifecycle Cost	Normalized Lifecycle Cost (\$/lb)
1	Wetland Enhancement (Bounce)	38.5	\$ 94,700	\$ 113,250	\$ 98
2	Stormwater Pond/Wetland Restoration	54.0	\$ 1,067,751	\$ 1,166,971	\$ 720
3	Stormwater Pond and Filter	29.0	\$ 307,096	\$ 406,316	\$ 467
4	Wetland Enhancement and Filter	5.4	\$ 261,242	\$ 360,463	\$ 2,225

### Recommendations

Based on previous project experience, the proposed irrigation/reuse project may be very expensive compared to the relative water quality benefit it would provide. Typically, water quality projects are considered cost effective if they can be implemented for \$500 to \$2,000 per pound of TP removal over the project lifecycle. Lifecycle costs of \$2,000 to \$5,000 per pound of TP removal may be acceptable if the project also accomplishes other goals such as bank stabilization, floodplain creation, and wetland or ecological restoration.

From the preliminary analysis shown in Table 2, Stantec recommends prioritizing BMP 1 and BMP 2. Both BMPs fit with the objectives of the Master Plan and provide multiple benefits. Restoring ditched wetlands, increasing inundation, and providing storage upstream creates an opportunity for TP reduction, ecological restoration, and removal of SRP. These options are also advantageous because they are cost effective and require minimum maintenance.

# FIGURES



V:\2277\active\227704157\gis\Pro\Mapow\_Working.aprx Revised: 2022-02-18 By: kberglund

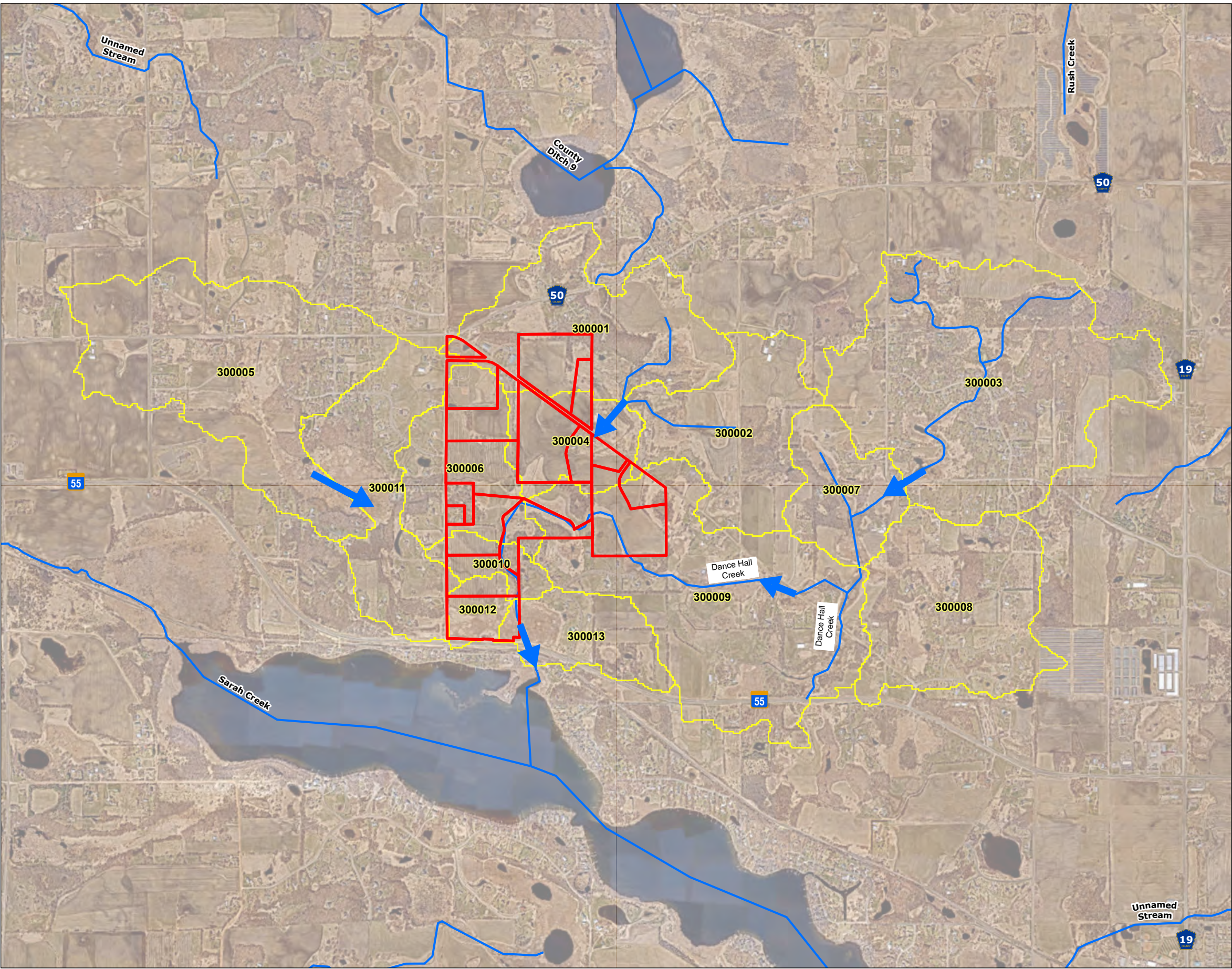


Figure No.  
**1**

Title  
**Dance Hall Creek Overview Map**

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Client/Project  
Hennepin County  
Dance Hall Creek  
BMP Analysis

Project Location  
Greenfield, Hennepin County, MN

22774157

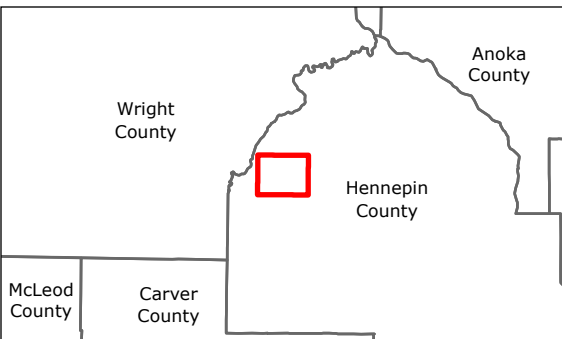
Prepared by KAB on 2022-02-16

N

0 900 1,800 Feet  
(At original document size of 11x17)  
1:21,600

Legend

- Project Area
- DHC Subwatersheds
- Rivers and Streams



**Notes**

1. Coordinate System: NAD 1983 HARN Adj MN Hennepin Feet
2. Data Sources: Hennepin County, DNR
3. Background: 2020 Hennepin County Aerial Imagery

**Stantec**



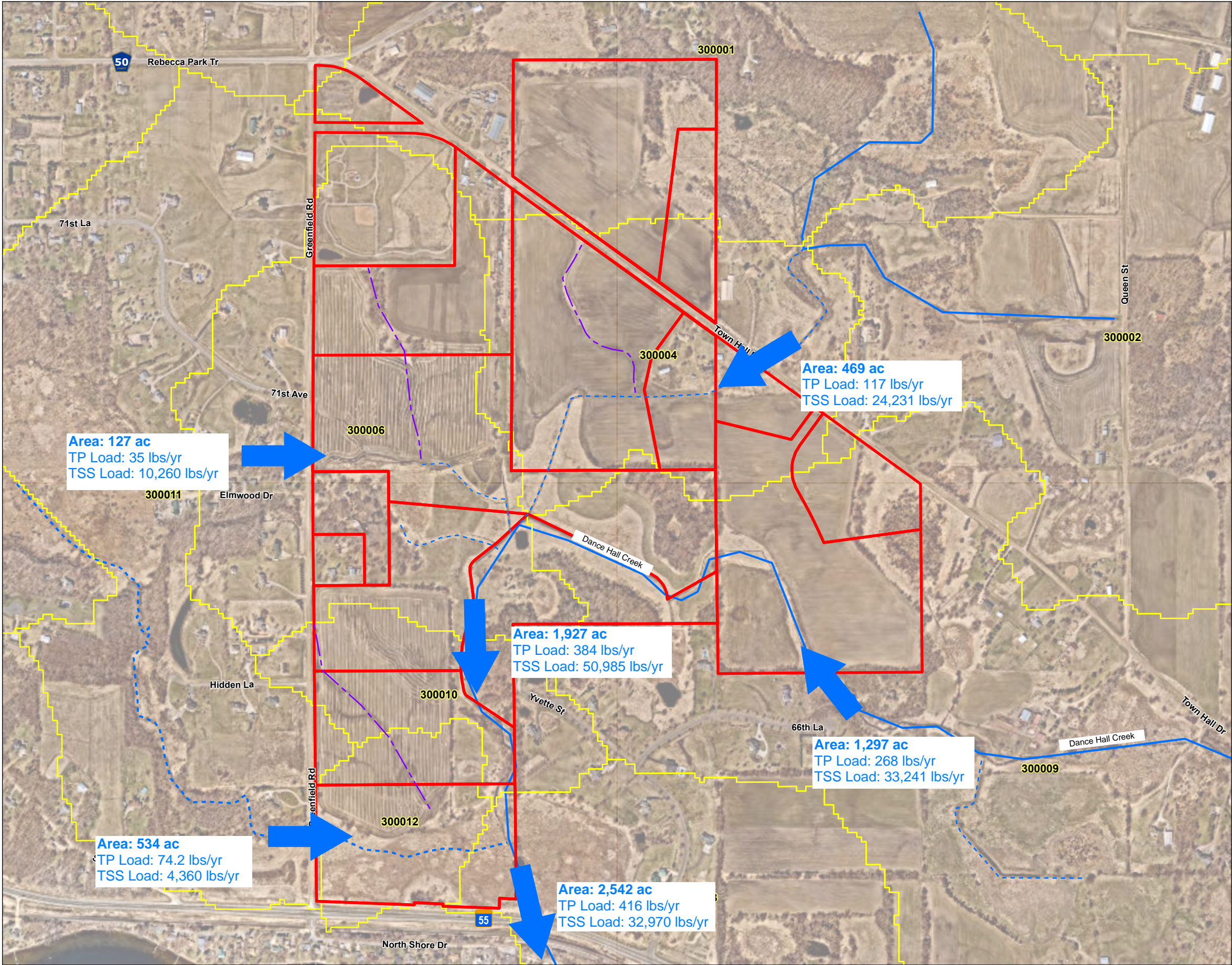
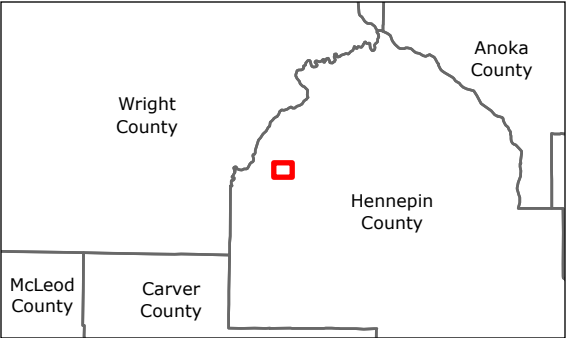


Figure No.  
**2**  
Title  
**Dance Hall Creek Pollutant Loading Map**

Client/Project  
Hennepin County  
Dance Hall Creek  
BMP Analysis  
Project Location  
Greenfield, Hennepin County, MN  
22774157  
Prepared by KAB on 2022-02-16



- Legend
- Project Area
  - DHC Subwatersheds
  - Rivers and Streams
  - Major Drainageway
  - Minor Drainageway



Notes  
1. Coordinate System: NAD 1983 HARN Adj MN Hennepin Feet  
2. Data Sources: Hennepin County, DNR  
3. Background: 2020 Hennepin County Aerial Imagery





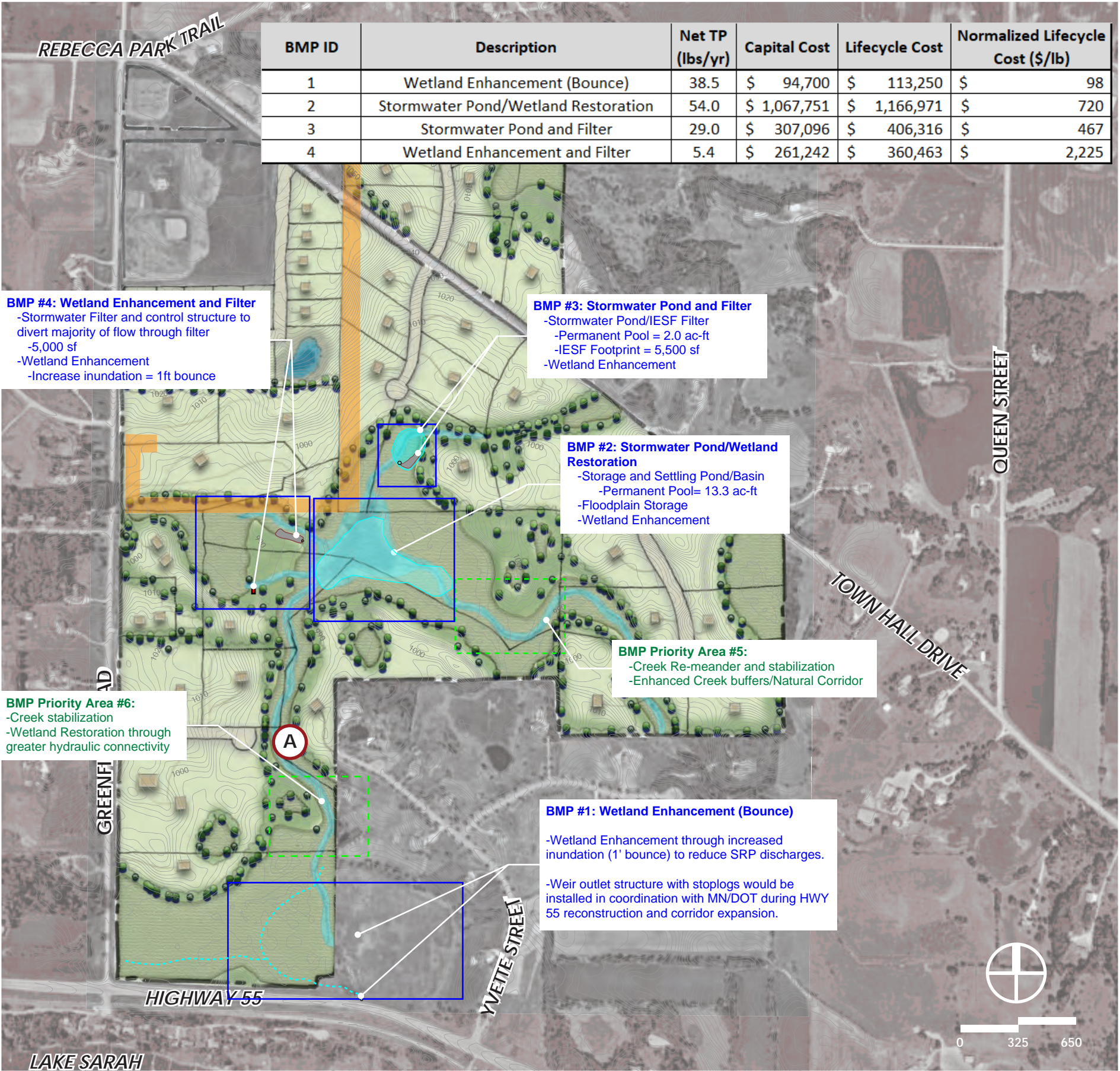


Figure No.  
**3**

Title  
**Dance Hall Creek BMP Overview Map**

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Client/Project  
Hennepin County  
Dance Hall Creek  
BMP Analysis

Project Location  
Greenfield, Hennepin County, MN

Prepared by ERM on 2021-08-06  
TR by XXX on 2021-XX-XX  
IR by XXX on 2021-XX-XX

N

LEGEND

- Project Site Boundary
- Existing Gas Easement
- Wetland
- Creek / Open Water / Stormwater BMP
- Wetland Buffer and Tree Line
- Proposed and Existing Parcel Boundaries
- Preserve Possible Future Connection to Yvette Street





# APPENDIX A

## Cost-Benefit Analysis Details

BMP 1: Wetland Enhancement (Bounce)					
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	LS	\$ 3,700.00	\$ 3,700.00
2	Dewatering	1	LS	\$ 15,000.00	\$ 15,000.00
2	Erosion Control	1	LS	\$ 5,000.00	\$ 5,000.00
3	Common Excavation	50	CY	\$ 30.00	\$ 1,500.00
4	Outlet Control Structure	1	LS	\$ 25,000.00	\$ 25,000.00
5	Site Restoration	1	LS	\$ 5,500.00	\$ 5,500.00
TOTAL					\$ 55,700.00
PERMITS AND LEGAL FEES (10% ASSUMED)					\$ 6,000.00
DESIGN AND CONSTRUCTION ENGINEERING (30% ASSUMED)					\$ 17,000.00
CONTINGENCY (20% ASSUMED)					\$ 16,000.00
<b>TOTAL</b>					<b>\$ 94,700.00</b>

Alternative	BMP 1
Initial Capital investment	\$ 94,700.00
Annual Maintenance	\$ 500.00
10-year Cost	\$ 2,500.00
Inflation	2.30%
Discount Rate	3.50%
<b>Total Lifecycle Cost</b>	<b>\$ 113,250</b>

BMP 1: Wetland Enhancement (Bounce) O&M Costs			
	Annual	10-year	
Year	Inflation	Maintenance/ Overhaul Costs	Present Value
1	\$ 512	\$ -	\$ 494
2	\$ 523	\$ -	\$ 488
3	\$ 535	\$ -	\$ 483
4	\$ 548	\$ -	\$ 477
5	\$ 560	\$ -	\$ 472
6	\$ 573	\$ -	\$ 466
7	\$ 586	\$ -	\$ 461
8	\$ 600	\$ -	\$ 455
9	\$ 614	\$ -	\$ 450
10	\$ 628	\$ 3,138	\$ 2,670
11	\$ 642	\$ -	\$ 440
12	\$ 657	\$ -	\$ 435
13	\$ 672	\$ -	\$ 430
14	\$ 687	\$ -	\$ 425
15	\$ 703	\$ -	\$ 420
16	\$ 719	\$ -	\$ 415
17	\$ 736	\$ -	\$ 410
18	\$ 753	\$ -	\$ 405
19	\$ 770	\$ -	\$ 401
20	\$ 788	\$ 3,940	\$ 2,376
21	\$ 806	\$ -	\$ 391
22	\$ 825	\$ -	\$ 387
23	\$ 844	\$ -	\$ 382
24	\$ 863	\$ -	\$ 378
25	\$ 883	\$ -	\$ 374
26	\$ 903	\$ -	\$ 369
27	\$ 924	\$ -	\$ 365
28	\$ 945	\$ -	\$ 361
29	\$ 967	\$ -	\$ 357
30	\$ 989	\$ 4,945	\$ 2,114

BMP 2: Stormwater Pond and Wetland Restoration					
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	LS	\$ 64,613.70	\$ 64,613.70
2	Erosion Control	1	LS	\$ 20,000.00	\$ 20,000.00
3	Common Excavation	21,481	CY	\$ 25.00	\$ 537,037.04
4	Turf Reinforcement Mat	100	SY	\$ 20.00	\$ 2,000.00
5	Outlet Control Structure	1	EA	\$ 12,500.00	\$ 12,500.00
6	36" RCP	40	LF	\$ 90.00	\$ 3,600.00
7	Clay Berm	400	CY	\$ 15.00	\$ 6,000.00
8	36" RCP FES & Riprap	2	EA	\$ 7,500.00	\$ 15,000.00
9	Site Restoration	1	LS	\$ 50,000.00	\$ 50,000.00
TOTAL					\$ 710,750.74
PERMITS AND LEGAL FEES (10% ASSUMED)					\$ 72,000.00
DESIGN AND CONSTRUCTION ENGINEERING (15% ASSUMED)					\$ 107,000.00
CONTINGENCY (20% ASSUMED)					\$ 178,000.00
TOTAL					\$ 1,067,750.74

Alternative	BMP 2
Initial Capital investment	\$ 1,067,751
Annual Maintenance	\$ 2,000.00
2-year Cost	\$ 2,000.00
10-year Cost	\$ 10,000.00
Inflation	2.30%
Discount Rate	3.50%
Total Lifecycle Cost	\$ 1,166,971

BMP 2: Stormwater Pond and Wetland Restoration O&M Costs				
	Annual	2-year	10-year	
Year	Inflation	Maintenance/ Overhaul Costs	Maintenance/ Overhaul Costs	Present Value
1	\$ 2,046	\$ -	\$ -	\$ 1,977
2	\$ 2,093	\$ 2,093	\$ -	\$ 3,908
3	\$ 2,141	\$ -	\$ -	\$ 1,931
4	\$ 2,190	\$ 2,190	\$ -	\$ 3,818
5	\$ 2,241	\$ -	\$ -	\$ 1,887
6	\$ 2,292	\$ 2,292	\$ -	\$ 3,730
7	\$ 2,345	\$ -	\$ -	\$ 1,843
8	\$ 2,399	\$ 2,399	\$ -	\$ 3,644
9	\$ 2,454	\$ -	\$ -	\$ 1,801
10	\$ 2,511	\$ 2,511	\$ 12,553	\$ 12,459
11	\$ 2,568	\$ -	\$ -	\$ 1,759
12	\$ 2,627	\$ 2,627	\$ -	\$ 3,478
13	\$ 2,688	\$ -	\$ -	\$ 1,719
14	\$ 2,750	\$ 2,750	\$ -	\$ 3,397
15	\$ 2,813	\$ -	\$ -	\$ 1,679
16	\$ 2,878	\$ 2,878	\$ -	\$ 3,319
17	\$ 2,944	\$ -	\$ -	\$ 1,640
18	\$ 3,012	\$ 3,012	\$ -	\$ 3,243
19	\$ 3,081	\$ -	\$ -	\$ 1,603
20	\$ 3,152	\$ 3,152	\$ 15,758	\$ 11,088
21	\$ 3,224	\$ -	\$ -	\$ 1,566
22	\$ 3,298	\$ 3,298	\$ -	\$ 3,095
23	\$ 3,374	\$ -	\$ -	\$ 1,529
24	\$ 3,452	\$ 3,452	\$ -	\$ 3,023
25	\$ 3,531	\$ -	\$ -	\$ 1,494
26	\$ 3,612	\$ 3,612	\$ -	\$ 2,954
27	\$ 3,695	\$ -	\$ -	\$ 1,460
28	\$ 3,780	\$ 3,780	\$ -	\$ 2,886
29	\$ 3,867	\$ -	\$ -	\$ 1,426
30	\$ 3,956	\$ 3,956	\$ 19,782	\$ 9,867

BMP 3: Stormwater Pond with Filter					
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	LS	\$ 16,463.24	\$ 16,463.24
2	Erosion Control	1	LS	\$ 5,000.00	\$ 5,000.00
3	IESF Media	255	CY	\$ 205.00	\$ 52,199.07
4	Course Filter Media	204	CY	\$ 90.00	\$ 18,333.33
5	Draintile System	1	LS	\$ 10,000.00	\$ 10,000.00
6	Common Excavation	1,600	CY	\$ 25.00	\$ 40,000.00
7	Turf Reinforcement Mat	100	SY	\$ 20.00	\$ 2,000.00
8	Outlet Control Structure	1	EA	\$ 12,500.00	\$ 12,500.00
9	24" RCP	40	LF	\$ 90.00	\$ 3,600.00
10	Clay Berm	400	CY	\$ 15.00	\$ 6,000.00
11	24" RCP FES & Riprap	2	EA	\$ 5,000.00	\$ 10,000.00
12	Site Restoration	1	LS	\$ 5,000.00	\$ 5,000.00
TOTAL					\$ 181,095.65
PERMITS AND LEGAL FEES (10% ASSUMED)					\$ 19,000.00
DESIGN AND CONSTRUCTION ENGINEERING (30% ASSUMED)					\$ 55,000.00
CONTINGENCY (20% ASSUMED)					\$ 52,000.00
TOTAL					\$ 307,095.65

Alternative	BMP 3
Initial Capital investment	\$ 307,095.65
Annual Maintenance	\$ 2,000.00
2-year Cost	\$ 2,000.00
10-year Cost	\$ 10,000.00
Inflation	2.30%
Discount Rate	3.50%
Total Lifecycle Cost	\$ 406,316

BMP 3: Stormwater Pond with Filter O&M Costs				
	Annual	2-year	10-year	
Year	Inflation	Maintenance/ Overhaul Costs	Maintenance/ Overhaul Costs	Present Value
1	\$ 2,046	\$ -	\$ -	\$ 1,977
2	\$ 2,093	\$ 2,093	\$ -	\$ 3,908
3	\$ 2,141	\$ -	\$ -	\$ 1,931
4	\$ 2,190	\$ 2,190	\$ -	\$ 3,818
5	\$ 2,241	\$ -	\$ -	\$ 1,887
6	\$ 2,292	\$ 2,292	\$ -	\$ 3,730
7	\$ 2,345	\$ -	\$ -	\$ 1,843
8	\$ 2,399	\$ 2,399	\$ -	\$ 3,644
9	\$ 2,454	\$ -	\$ -	\$ 1,801
10	\$ 2,511	\$ 2,511	\$ 12,553	\$ 12,459
11	\$ 2,568	\$ -	\$ -	\$ 1,759
12	\$ 2,627	\$ 2,627	\$ -	\$ 3,478
13	\$ 2,688	\$ -	\$ -	\$ 1,719
14	\$ 2,750	\$ 2,750	\$ -	\$ 3,397
15	\$ 2,813	\$ -	\$ -	\$ 1,679
16	\$ 2,878	\$ 2,878	\$ -	\$ 3,319
17	\$ 2,944	\$ -	\$ -	\$ 1,640
18	\$ 3,012	\$ 3,012	\$ -	\$ 3,243
19	\$ 3,081	\$ -	\$ -	\$ 1,603
20	\$ 3,152	\$ 3,152	\$ 15,758	\$ 11,088
21	\$ 3,224	\$ -	\$ -	\$ 1,566
22	\$ 3,298	\$ 3,298	\$ -	\$ 3,095
23	\$ 3,374	\$ -	\$ -	\$ 1,529
24	\$ 3,452	\$ 3,452	\$ -	\$ 3,023
25	\$ 3,531	\$ -	\$ -	\$ 1,494
26	\$ 3,612	\$ 3,612	\$ -	\$ 2,954
27	\$ 3,695	\$ -	\$ -	\$ 1,460
28	\$ 3,780	\$ 3,780	\$ -	\$ 2,886
29	\$ 3,867	\$ -	\$ -	\$ 1,426
30	\$ 3,956	\$ 3,956	\$ 19,782	\$ 9,867

BMP 4: Wetland Enhancement and Filter					
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	LS	\$ 14,022.04	\$ 14,022.04
2	Erosion Control	1	LS	\$ 5,000.00	\$ 5,000.00
3	IESF Media	231	CY	\$ 205.00	\$ 47,453.70
4	Course Filter Media	185	CY	\$ 90.00	\$ 16,666.67
5	Draintile System	1	LS	\$ 10,000.00	\$ 10,000.00
6	Common Excavation	1,000	CY	\$ 25.00	\$ 25,000.00
7	Turf Reinforcement Mat	100	SY	\$ 20.00	\$ 2,000.00
8	Outlet Control Structure	1	EA	\$ 12,500.00	\$ 12,500.00
9	24" RCP	40	LF	\$ 90.00	\$ 3,600.00
10	Clay Berm/Ditch Plug	200	CY	\$ 15.00	\$ 3,000.00
11	24" RCP FES & Riprap	2	EA	\$ 5,000.00	\$ 10,000.00
12	Site Restoration	1	LS	\$ 5,000.00	\$ 5,000.00
TOTAL					\$ 154,242.41
PERMITS AND LEGAL FEES (10% ASSUMED)					\$ 16,000.00
DESIGN AND CONSTRUCTION ENGINEERING (30% ASSUMED)					\$ 47,000.00
CONTINGENCY (20% ASSUMED)					\$ 44,000.00
TOTAL					\$ 261,242.41


Alternative	BMP 4
Initial Capital investment	\$ 261,242.41
Annual Maintenance	\$ 2,000.00
2-year Cost	\$ 2,000.00
10-year Cost	\$ 10,000.00
Inflation	2.30%
Discount Rate	3.50%
Total Lifecycle Cost	\$ 360,463

BMP 4: Wetland Enhancement and Filter O&M Costs				
Year	Annual Inflation	2-year Maintenance/ Overhaul Costs	10-year Maintenance/ Overhaul Costs	Present Value
1	\$ 2,046	\$ -	\$ -	\$ 1,977
2	\$ 2,093	\$ 2,093	\$ -	\$ 3,908
3	\$ 2,141	\$ -	\$ -	\$ 1,931
4	\$ 2,190	\$ 2,190	\$ -	\$ 3,818
5	\$ 2,241	\$ -	\$ -	\$ 1,887
6	\$ 2,292	\$ 2,292	\$ -	\$ 3,730
7	\$ 2,345	\$ -	\$ -	\$ 1,843
8	\$ 2,399	\$ 2,399	\$ -	\$ 3,644
9	\$ 2,454	\$ -	\$ -	\$ 1,801
10	\$ 2,511	\$ 2,511	\$ 12,553	\$ 12,459
11	\$ 2,568	\$ -	\$ -	\$ 1,759
12	\$ 2,627	\$ 2,627	\$ -	\$ 3,478
13	\$ 2,688	\$ -	\$ -	\$ 1,719
14	\$ 2,750	\$ 2,750	\$ -	\$ 3,397
15	\$ 2,813	\$ -	\$ -	\$ 1,679
16	\$ 2,878	\$ 2,878	\$ -	\$ 3,319
17	\$ 2,944	\$ -	\$ -	\$ 1,640
18	\$ 3,012	\$ 3,012	\$ -	\$ 3,243
19	\$ 3,081	\$ -	\$ -	\$ 1,603
20	\$ 3,152	\$ 3,152	\$ 15,758	\$ 11,088
21	\$ 3,224	\$ -	\$ -	\$ 1,566
22	\$ 3,298	\$ 3,298	\$ -	\$ 3,095
23	\$ 3,374	\$ -	\$ -	\$ 1,529
24	\$ 3,452	\$ 3,452	\$ -	\$ 3,023
25	\$ 3,531	\$ -	\$ -	\$ 1,494
26	\$ 3,612	\$ 3,612	\$ -	\$ 2,954
27	\$ 3,695	\$ -	\$ -	\$ 1,460
28	\$ 3,780	\$ 3,780	\$ -	\$ 2,886
29	\$ 3,867	\$ -	\$ -	\$ 1,426
30	\$ 3,956	\$ 3,956	\$ 19,782	\$ 9,867



# PRELIMINARY CONCEPT PLAN

## LEGEND

-  Project Site Boundary
-  Existing Gas Easement
-  Wetland
-  Creek / Open Water / Stormwater BMP
-  Wetland Buffer and Tree Line
-  Proposed and Existing Parcel Boundaries
-  Preserve Possible Future Connection to Yvette Street

## PROPOSED LAND USE AREAS

- Total Project Area: 306.8 acres
- Institutional: 3.6 acres
- Park: 17.6 acres
- Rural Residential: 277.6 acres
  - Gross Housing Density: 277.6 acres/49 units = 5.7 acres/unit
- Proposed Road Right-Of-Way: 8 acres

## Water Quality Improvement Options

- ① Wetland Enhancement (Bounce) - Weir Outlet Structure
- ② Stormwater Pond/Wetland Restoration
- ③ Stormwater Pond and Filter
- ④ Wetland Enhancement and Filter
- ⑤ Creek Re-meander and Stabilization, Enhanced Creek buffers/Natural Corridor
- ⑥ Creek Stabilization, Wetland Restoration





## MEMORANDUM

**TO:** Pioneer-Sarah Creek Watershed Management Commission  
**FROM:** Andrew Vistad, Hakanson-Anderson  
**DATE:** June 10, 2022  
**SUBJECT:** Staff Report

- 1. 2016-05 Proto Labs Parking Lot Expansion, Maple Plain.** The Commission approved this project contingent upon three conditions. One condition remains open - receipt of an Operation and Maintenance agreement on the biofiltration basin per Staff findings dated September 6, 2016. The agreement has been signed but remains to be recorded on the property title.
- 2. 2017-03 Equestrian Facility (Bel Farms) Independence.** This is a 16.5-acre rural residential parcel located approximately 500 feet north of the intersection of CR6 and Nelson Road. The owner is proposing to construct a new garage/apartment, horse stall barn, indoor arena, outdoor arena, six grass and four sand paddocks for horses. Because this project disturbs greater than 1.0 acre and creates 3.1 acres of additional impervious area, it triggers the Commission's review for Rules D and E. Staff provided grading and erosion control approval contingent upon (1) the applicant assuming the risk and responsibility for any changes to the site plans necessary for final Commission approval and (2) the City of Independence approving a grading permit. In September 2017 the Commission approved the Stormwater Management Plan contingent upon receipt of an approved long-term pond/basin O&M plan between the landowner and City, to be recorded on the land title. No new information has been received.
- 3. 2017-05 Ostberg Equestrian Facility, Independence.** This is a 40-acre agriculture parcel located just southwest of the intersections of CSAH 6 and Game Farm Road. The owner is proposing to construct a new home, two garages, a horse stall barn, indoor arena, outdoor ring, eight horse paddocks and an access drive off of CSAH 6. The project will disturb 7 acres during construction and create 1.69 acres of new impervious areas. Because this project disturbs more than 1.0 acre and creates 1.7 acres of additional impervious area, it triggers the Commission's review for Rules D and E. There are also two wetlands that have been delineated on this site, so the Commission wetland buffer requirements (Rule I) are triggered. The project was approved by the Commission at their November 2017 meeting contingent upon receipt of an approved long-term pond/basin O&M plan between the landowner and the City, to be recorded on the land title. This information has not yet been received.
- 4. 2018-010 Chippewa Estates, Loretto.** This is a 1.54-acre parcel located in the far northeast corner of Loretto on Chippewa Road. The project is proposing to subdivide the lot into four single family residential lots and triggers the Commission's review for Rules D and E. At their August 16, 2018 meeting, the Commission approved Staff findings with three conditions regarding the operations and maintenance plan, sequencing, and retrofitting of the pond. The only remaining item necessary for final approval is the Operation and Maintenance agreement on the stormwater system. If the City chooses not to maintain the filter system, the applicant must provide an O&M maintenance plan that is acceptable to the City and the Commission and must be recorded on the title to the property.
- 5. 2018-017 Crow River Overlook, Greenfield.** This is a 42-acre agriculture parcel located on CR 10 just north of 84th Avenue. Approximately 38 acres are east of CR 10 and 4 acres are located west of CR 10 along the Crow River. The applicant proposes to subdivide the property into an 8 large lot residential development. Lot sizes will range from 2.85 acres up to 10.1 acres. One cul-de-sac street will be constructed for access to the lots, with one street platted for future access to the property east of this project. One additional outlot will remain on the west side of CR 10. This project was reviewed for Rules

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RULE D - STORMWATER MANAGEMENT

RULE E - EROSION AND SEDIMENT CONTROL

RULE F - FLOODPLAIN ALTERATION

*Language in red indicates current updates*

\* indicates enclosure

RULE G - WETLAND ALTERATION

RULE H - BRIDGE AND CULVERT CROSSINGS

RULE I - BUFFERS

D, E, F and I. Staff findings of January 16, 2019 were approved by the Commission at their January 17, 2019 meeting. Approval was contingent upon (1) an Operation and Maintenance agreement with city or HOA, (2) planting and seeding plans for the biofiltration basins and buffer areas that fall into the cropland areas that require seeding and (3) typical emergency overflow details noted on the plans. Items 2 and 3 have been completed; Staff are awaiting the O & M agreement.

**6. 2019-03 John Segal 9255 CR 6, Independence.** This is an existing 78-acre parcel located on CR 6 about one-quarter mile east of the county border. The owner is proposing to construct a new indoor riding arena, parking, drive lanes, future hay barn, shed and hot-walker ring. Because this project disturbs greater than 1.0 acres and creates 1.1 acres of additional impervious area, it triggers the Commission's review for Rules D and E. At their August meeting, the Commission approved this project conditioned on receipt of a long-term O & M plan meeting Commission requirements and recorded on the land title with a copy provided to the Commission.

**7. 2019-05 Green Acres East, Greenfield.** This is a six-lot residential subdivision proposed on 34 acres at Schendel Lake Drive and Pioneer Trail. Initial findings found the site plans did not meet the Commission's requirements. An updated wetland replacement plan was received on August 1 and re-noticed per WCA public notice requirements. An updated site plan was received on August 6. In their findings dated September 13, 2019 Staff recommended approval contingent upon (1) an operations and maintenance plan being developed for the infiltration basins and approved by the City of Greenfield and the Commission. The O & M plans must be recorded on the property titles on lots 4, 5 and 6 (unless an HOA will be responsible, then it will be required in the HOA deed documents) and (2) no wetland impacts can occur until (a) wetland replacement credit purchases from BWSR Bank Accounts 1546 and 1542 have been certified by BWSR or (b) a \$21,500 cash or letter of credit escrow is received by the Commission. This plan was originally approved with conditions by the Commission at the September 19, 2019 meeting.

The developer submitted significant site plan changes in October, removing wetland impacts and reducing the number of lots from six to three plus an outlot. An infiltration basin will still be installed on the outlot to mitigate future impervious surface. Because the plan revision is a reduction of the previously approved plan, Staff administratively approved the project contingent on the original requirement, an O&M agreement for the infiltration basin recorded on the property deed or association documents. No wetland impacts can occur from this project and any future wetland impacts will need to be reviewed by the WCA LGU to be approved.

**8. 2019-08 Adams Pest Control, Medina.** Adam's Pest Control is planning to expand their current Medina facility. This property is located on the north side of State Highway 55, just west of Willow Drive. The entire parcel is 46-acres, but only the southern portion (Lot 1-26.6 acres) is being proposed for development at this time. This site plan consists of two new buildings which includes an office building and a warehouse/maintenance building with parking. This project will disturb 10.9 acres and create 4.6 acres of new impervious areas. The Commission's stormwater management plan requires compliance with Rules D, E, F and I. At their November meeting, the Commission approved this project conditioned on an O&M plan for the basins being recorded on the title and provided to the Commission; construction sequencing details for the filter basins meeting Commission requirements; and wetland buffer planting and maintenance plans being provided for areas not in permanent vegetative cover.

**9. 2022-002 Huotari Residence.** Jeff Huotari has submitted a permit application for the construction of a driveway, residential dwelling, and septic system. The application was a requirement as a result of a wetland TEP meeting that determined that a portion of the installed drive had impacted an on-site wetland. The residential lot is located along County Road 11 south of Lake Rebecca. The project will disturb approximately 1 acre of land. This project was reviewed for Rule E.

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The PSC TAC has reviewed and approved modifications to the watershed application, fee schedule, and rules to comply with updated MS4 rules and better clarify the application process. The updated documents are enclosed as part of the watershed packet.

**10. 2022-003 Hilltop Prairie.** The Hilltop Prairie development is a 13 lot 62.6-acre residential development located in the City of Independence. The development is proposing to handle stormwater rate control with 4 NURP basins located within the development. Due to confining soils and high groundwater levels infiltration or filtration is not feasible. The applicant is creating sections of tree preservation and is also providing additional buffer to gain abstraction credits to offset the lack of infiltration. Additional wetland buffer and tree preservation generate 0.5" of credit over their proposed areas. Stormwater ponds within the development will be maintained by the property owners, an operations and maintenance declaration has been obtained and well be recorded with the lots. Water quality modeling for the site indicates that a 33% reduction in total phosphorus and a 60% reduction in total suspended solids will be achieved. This project was reviewed for Rule D, Rule E, and Rule I.

**11. 2022-05 Koch Farm, Sanctuary.** The Koch Farm Sanctuary development is a 33 lot 141.4-acre residential development located in the City of Independence. The development is proposing to handle stormwater rate control with 9 NURP basins located within the development. Due to confining soils and high groundwater levels infiltration or filtration is not feasible. The applicant is creating sections of tree preservation and is also providing additional buffer to gain abstraction credits to offset the lack of infiltration. Additional wetland buffer and tree preservation generate 0.5" of credit over their proposed areas. Stormwater ponds within the development will be maintained by the property owners/HOA, an operations and maintenance declaration has been obtained and well be recorded with the lots. Water quality modeling for the site indicates that a 32% reduction in total phosphorus and a 56% reduction in total suspended solids will be achieved. This project was reviewed for Rule D, Rule E, and Rule I.

**\*12. 2022-01 Bushwood Hills Reserve.** is a 5 lot 34.8-acre residential development located in the City of Greenfield. The development is proposing to handle stormwater rate control with 4 Biofiltration basins located within the development. The bio-filtration basins and land use change are expected to reduce phosphorus runoff by 52% and total suspended solids runoff by 58%. Additionally, the bio-filtration basins are providing some abstraction that is working to reduce the volume of runoff that is leaving the site. The engineer has supplied a SWPPP for the development that meets all watershed rules. The developer has not supplied a buffer maintenance plan that outlines establishing the new wetland buffers. Example plans have been provided. This project was reviewed for Rule D, Rule E, and Rule I.

**13. 2022-06 Creekside Meadows,** is a 15 lot 79.2 acre residential development located within the City of Greenfield. The development is proposing to handle stormwater with 2 filtration basins and 1 wet sedimentation basin. Currently the development is not meeting watershed rules requiring abstraction, bio-filtration, or enhanced filtration. The project was reviewed for Rule D, Rule E, and Rule I.

**\*14. 2022-07 7655 County Road 15,** is a residential dwelling construction that is in close proximity to the wetland surrounding Whale Tail Lake. The home builder is proposing to build a residential home, septic sites, and relocate an existing driveway. The proposed building pad is located greater than 100 feet away from the wetlands and silt fence is being provided down gradient from all earth moving activity.

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# HENNEPIN COUNTY

## MINNESOTA

DATE: June 10, 2022

TO: Pioneer-Sarah Creek Watershed Management Commission

FROM: Paul Stewart and Kris Guentzel; Hennepin County Department of Environment and Energy

RE: June Commission Project, Program, Outreach, and Grant Updates

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### **Easement Discussion**

New: Paul and Kris met with other county staff in charge of easement establishment and management (Kristine Maurer and Matt Stasica) to pull together guidance materials for the Commission. The group decided on the following:

- 1) For June PSCWMC Meeting: Gather questions from PSCWMC Commissioners and staff regarding what specially they want to learn about easements.
- 2) For July PSWCWMC Meeting: Kristine Maurer will come to present and will provide answers to those questions, along with an overview of easements.

### **Subwatershed Assessments**

#### **Dance Hall Creek Subwatershed Assessment Refinement (PS)**

Update: Final landowner meetings are slated for June and possible projects will be prioritized. See attached document; Final draft of the project.

#### **Spurzem Creek Subwatershed Assessment (KG/PS)**

Update: A draft of the report was provided via email to stakeholders on June 3<sup>rd</sup>, along with a request of availability for a project meeting in late June. That meeting will be scheduled next week. If anyone was missed from that stakeholder email please let us know and we will include them. Currently, stakeholders include interested staff and officials from the County, TRPD, and the cities of Corcoran, Independence, and Medina.

#### **Lake Rebecca Subwatershed Assessment (KG/PS)**



*Update:* County staff are ~90% complete in surveying critical points need for hydrological and hydraulic modeling and ground-truthing preliminary BMP locations. A project letter was sent to all landowners living within the subwatershed this spring to update them on project work and to ask for access to survey conservation opportunities on their property. Survey points will be provided to EOR in mid- to late-June to finalize the modeling and BMP assessment report.

## **Projects & Outreach**

### **Buffer Inspections**

Buffer inspection will take place north of County Road 6 in 2022

### **Lake Independence/Remaining Baker Park Ravine CWF Funds**

#### **a. 2772 Becker Road, Independence (PS)**

*Update:* June start date and locates are called in.

*Previous:* Scheduling is being setup for spring 2022 construction. Project is waiting for a dry window now that seasonal load limits on state and local road have been lifted. Pre-construction project staking was completed by County staff and the design engineer. Additional staking may occur with the contractor. To be installed in November as weather, and contractor's schedule, allows. Operation and maintenance is being finalized. Work is out for bid and will be reviewed over the next weeks. Contracting process has started. Landowner meeting regarding final design and alignment has been completed and both have accepted the plan and alignment. Hennepin County will be working with landowners in the next few weeks to get contractor bids on the project. The City of Independence is looking into the culvert under Becker Road and will provide some direction on the condition any potential work. Hennepin County is working on an O&M draft to provide the City of Independence and possibilities of a shared O&M. Landowner has asked to reevaluate the cost share percentage once the contractor bids come in.

#### **b. 2000 Block Independence Road, Independence (KG)**

*Update:* Contractor has been hired for wetland restoration. Permits are finalized and installation is awaiting a dry window now that seasonal load limits on state and local road have been lifted.

*Previous:* Designs and contracting is complete. County staff, on behalf of the landowner, have applied for permits with the City of PSCWMC. Installation expected later this year. Started pre-construction on an agriculture drained wetland restoration in partnership with Minnesota Land Trust following the closing of a conservation easement on this property over the winter. Once restoration is complete the .75 acre wetland will filter approximately 9 acres of agriculture grass/hay field. Additional habitat restoration and enhancement will occur over the next several years on these 4 acres of maple/basswood forest and grassland adjacent to Pioneer Creek at the outlet of Lake Independence.

### **Lake Rebecca/Zuhrah Shrine Horsemen (ZSH) (4505 CR 92, Independence) BMPs (PS)**

*Update:* Grazing plan has been completed. Spring work planning.

*Previous:* NRCS wetland delineation has been completed. Hennepin County and NRCS over saw ag drainage repair that were completed last month. Soil sampling is completed as part of pasture management. Main drain line running to TRPD has been pot-holed at north property line. It has been confirmed that there is sediment blockages withing 300 ft of the hold. Horsemen are requesting help for next steps to restore drainage.

## **Other Cost Share BMP Projects in Progress**

### **a. 1215 Copeland Road, Independence: (PS)**

*Update:* More analysis and data is needed. Modeling is showing a 100 cfs flow on a 10 yr rain event. With the design requirements needed to meet NRCS and CRP rules we will be looking at the feasibility of this project over the next few months. Hennepin to submit a CIP. Project is at engineer's office for preliminary design.

*Previous:* Survey is complete, and data sent in to engineering for pre-construction plans and estimate. Outreach work will continue into 2021 for upstream work. NRCS will be partnering with the landowner LO and County to do a BMP analysis for the entire 63-acre parcel.

### **Landowner Outreach Associated with Dance Hall Creek Study (KG/PS)**

*New:* See above Dance Hall Creek Subwatershed Assessment Refinement

### **Landowner Outreach Associated with Lake Rebecca Study (KG/PS)**

*New:* See above Lake Rebecca Subwatershed Assessment

### **Landowner Outreach General (PS)**

*New:* 40 mailers have been received by Hennepin County with more coming in every day. More site visit are being scheduled for the next few weeks.

*Previous:* 22 mailers have been received by Hennepin County with more coming in every day. 5 site visits have taken place with 4 possible projects to be evaluated. As more mailer, call and email come in we will be adding them to our project list for evaluation and priority.

Mailers were sent out to all landowners identified in the Lake Sarah and Lake Independence SWA. This will help identify projects in the sub watershed.

Hennepin County will be drafting targeted BMP mailers for SWA and areas on Pioneer Creek south of Lake Independence for spring 2022

## **Potential Lakeshore Restorations (KG)**

### **2934 and 2936 Lindgren Lane, Independence**

*No update.*

*Previous:* The lakeshore restoration design and engineer's estimate was provided to the landowners. Lakeshore landowners reached out in late summer 2021 with interest in restoring their shoreline along two parcels Lake Independence. The 220 feet of shoreline is heavily eroded in the northern parcel and less

eroded in the southern parcel. County staff, with their water resources engineer, conducted an on-site survey in fall. A restoration design was drafted in late winter.

### **Address Unassigned (PIDS 2411824110006 and 2411824110007 on Lake Independence in City of Independence)**

Update: Landowner was provided a summary of recent feasibility work and County staff are waiting on feedback.

Previous: Landowner requested evaluation for lakeshore restoration in 2022. Properties are adjacent and on south shore of Lake Independence. Lakeshore is experiencing significant wave erosion with nearly vertical and undercutting banks. County staff have engaged both MN DNR and our water resource engineer to better assess feasibility and cost before moving forward with project designs. Landowner had also reached out in 2020 but project install did not move forward at that time.

### **New Inquiries and Other Opportunities**

#### **a. 2015 Budd Street, Independence: (PS)**

Update: Work with Watershed Engineer on data transfer and next steps.

Previous: Hennepin County to submit a CIP for this project. Landowner would like Hennepin County, City of Maple Plain, City of Independence and PSCWMC to consider the drainage area for a 2022 project(s). Hennepin County met with Maple Plain staff to info share about the current state for the grass waterway and ravine. Working towards another meeting in fall to start looking at drainage and stormwater data and see if there are opportunities to help regulate flow. Hennepin County has reached out the City staff in Maple Plain to schedule time to go over this project now that storm drain work is complete at the park. Given other priorities and staff capacity constraints, this project opportunity will be on hold until after the 2021 field season. In order to proceed, staff need to understand recent stormwater improvements in the City of Maple Plain.

Landowner reported that water levels and velocity in the past year have caused out-of-bank erosion in rock-armored areas and gulying in grass waterway. Armoring and grassed waterway were installed as a cost share project in 2004. Site visit completed on May 1, 2020 revealed significant channel erosion in the grassed waterway. Volume and debris coming down the gully cause backups at spillway. Flow changes course during heavy volume events, flowing overland through a farm field. Severe cutting in the grass waterway has resulted in the flow path changing course – now bypasses sediment pond. The water velocity has also washed out the rock crossing. See photos of unnamed gully and drainage boundary in May 2020 Staff Report.

This gully is the primary drainage between Maple Plain/Northside Park and DNR Public Water Wetland 393W and Pioneer Creek. Landowner has expressed concern about drainage work that

#### **b. Unassigned address, Marsh Land Properties LLC PID 2411824320015: (PS)**

Update: No Update

Previous: Hennepin County met with Maple Plain to share information on the OM concern. Maple Plain will look into this. has reached out to city staff in Maple Plain to schedule time to go over operation and maintenance concerns and planning for 2022.

Hennepin County has reached out to city staff in Maple Plain to schedule time to go over operation and maintenance concerns and planning for 2022. Will work with Maple Plain City Staff early 2021. Landowner inquired about Proto Lab parking lot addition storm drainage using stormwater pond on property, who holds the OM and how to get help for erosion. See map erosion areas highlighted in red in May Staff Report

**c. 5590 Lake Sarah Height Dr, Independence:**

Update. Hennepin County will restart project scoping this spring with PSC engineer.

Previous: JB Gully, HR67 & HR68 page 69 Lake Sarah and Lake Independence Stormwater Retrofit Analysis. Site visit on May 1, 2020 to look at road wash-out and unnamed stream (JB gully). Identified that field crossing was cleaned at HR 67 and 68 and opened up flow. Due to site constraints of the unnamed stream restoration, will need more analysis. HR67 and HR68 show potential for restoration and flow control structure.

**d. Hennepin County Tree Sale (PS)**

Update. Tree sale was a success. Looking forward to 2023 sale.