RCWD
RICE CREEK WATERSHED DISTRICT

JANUARY

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FEBRUARY

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RCWD BOARD OF MANAGERS WORKSHOP

Monday, January 8, 2024, 9:00 a.m.

Rice Creek Watershed District Conference Room
4325 Pheasant Ridge Drive NE, Suite 611, Blaine, Minnesota
Join Zoom Meeting
https://us06web.zoom.us/j/86774129209?pwd=qSkNC6aUMDiaW8PqGPvjppfJU18sBq.1
Meeting ID: 867 7412 9209
Passcode: 051994
Dial by your location +1 312 626 6799 US (Chicago)
Meeting ID: 867 7412 9209
Passcode: 051994

Agenda

ITEMS FOR DISCUSSION (times are estimates only)

9:00 BWSR – Mn Watersheds 103D Housekeeping

9:30 Centerville Lake In-Lake Treatment Financial Approach, Next Steps

10:00 Draft Compensation Philosophy

10:15 Anoka County Ditch 10-22-32 (ACD 10-22-32) ACSIC Available Documentation Overview, HEI Task Order

11:00 Anoka County Ditch 10-22-32 (ACD 10-22-32) Alt. 4 – Pine St. Culvert – Wetland Impact Evaluation

11:30 Public Drainage Beaver Management Policy

Administrator Updates (If Any)

9:30 Centerville Lake In-Take Treatment Financial Approach, Next Steps

MEMORANDUM
Rice Creek Watershed District

Date: January 3, 2024
To: RCWD Board of Managers
From: Matt Kocian, Lake and Stream Manager
Subject: Centerville Lake Alum Project: Grant Update and Financial Plan

Introduction

Centerville Lake Alum Project:

1. Grant update: District awarded Clean Water Fund Grant, $954,500
2. Seeking consensus on a financial plan

Background

Centerville Lake experiences severe and frequent blue-green algae blooms. The beach at the adjacent Rice Creek Chain of Lakes regional park (Anoka Co Parks) is regularly closed due to health concerns from blue-green algae. Residents frequently express concerns.

Recently completed diagnostic studies[1] suggest the internal phosphorus loading – specifically, sediment-phosphorus release – is a significant driver of algae blooms. The most commonly used tool for addressing this problem is aluminum sulfate, or *alum*. District staff were directed by the Board to prepare and submit a BWSR Clean Water Fund grant application to partially fund this project. Other sources of funding include District *ad-valorem*, contributions from partners (e.g. City of Centerville, Anoka County), and a new Water Management District for residents of Centerville Lake.

Blue-green algae in Centerville Lake, 2023

[1] *Internal Load Investigation for Centerville Lake*, Wenck Associates, 2019; *Centerville Lake Phosphorus Dynamics*, Houston Engineering, 2022

District staff prepared and submitted a Clean Water Fund (CWF) grant in August of 2023. The Board of Water and Soil Resources (BWSR) – the agency that administers CWF grants – received 52 grant applications totaling nearly $21 million, with approximately $9.3 million in available funds. **On December 14, 2023, BWSR notified the District that our grant application for the Centerville Lake Alum Project had been approved. Of the 52 grant applications received by BWSR, the District's application was ranked #1.** The District's grant ($954,500) was the second largest grant awarded in this cycle.

The CWF grant will provide most of the necessary funding to complete the Centerville Lake Alum Project. In past years, CWF grants required a 25% local match. New in 2024, only a 10% grant match is required. Thus, a higher portion of the total project cost will be covered by the grant. The Board had previously directed District staff to develop funding scenarios that included contributions from local partners (Cities and County), as well as a new Water Management District for Centerville Lake residents. To maximize the CWF grant, engage local partners and landowners, and ensure very long-lasting water quality results on Centerville Lake, District staff are proposing to proceed with the Centerville Lake Alum treatment in two phases. Phase 1 would be the grant-support alum treatment, consisting of two alum applications between 2024 and 2026 (the grant window). Phase 2 would be a smaller alum application, completed in approximately 2029. The phases are outlined in the figure and table below.

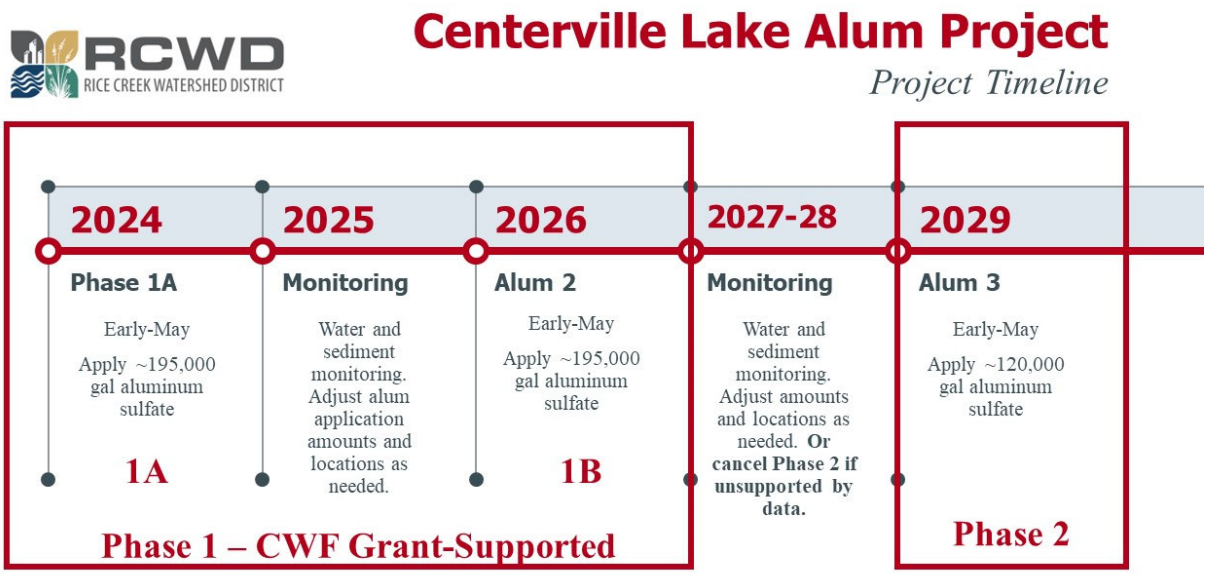

Figure 1. The proposed timeline for the Centerville Lake Alum Project

		Budget	%					
Revenue for Phase 1 **only**	CWF Grant	$954,500	86%	fixed				
	Centerville WMD	$106,400	10%	140/70, rates x 10 years, 95% collection rate				
	RCWD	$30,684	3%					
	Partners	$18,000	2%	6k each, Centerville, Lino, Anoka Co				
	Total Revenue	$1,109,584	100%					
	needed	$1,109,584						

Table 1. Proposed revenue scenario with shared match for Phase 1 **only**

		Budget	%	
Revenue for Phase 1 **only**	CWF Grant	$954,500	86%	fixed
	Centerville WMD	$0	0%	
	RCWD	$155,084	14%	
	Partners	$0	0%	
	Total Revenue	$1,109,584	100%	
	needed	$1,109,584		

Table 2. Proposed revenue scenario with RCWD-only match for Phase 1 **only**

		Budget	%					
Revenue for Phases 1 and 2	CWF Grant	$954,500	60%	fixed				
	Centerville WMD	$152,000	10%	200/100, rates x 10 years, 95% collection rate				
	RCWD	$340,422	21%					
	Partners	$150,000	9%	50k each, Centerville, Lino, Anoka Co				
	Total Revenue	$1,596,922	100%					
	needed	$1,596,922						

Table 3. Proposed revenue scenario with shared match for Phases 1 and 2

Revenue notes:

- Budget scenarios are for the full project timeline, shown in Figure 1 (i.e. not annual costs)
- The District has budgeted $300,00 for the Centerville Lake Alum Project in 2024 alone
- The unofficial minimum (based on past precedent) for establishing a Water Management District is $100,000, which is why that approximate amount was chosen in Table 1.
- Tables 1 and 2 include a 5% contingency to meet the needed revenue. Table 3 includes a 10% contingency and 10% inflation for alum costs.

Staff Recommendation

To maximize the CWF grant, engage local partners and landowners, and ensure very long-lasting water quality results on Centerville Lake, District staff are proposing to proceed with the Centerville Lake Alum treatment in two phases. This approach is outlined in Table 3.

Consensus Items

- Proceed with plans to initiate a new Water Management District for Centerville Lake
- Proceed with partner meetings (Cities of Centerville and Lino Lakes, and Anoka County), referencing budget scenario outlined in Table 3

10:00 Draft Compensation Philosophy

MEMORANDUM
Rice Creek Watershed District

Date: January 3, 2024
To: RCWD Board of Managers
From: Nick Tomczik, Administrator
Subject: RCWD Compensation Philosophy – Employee Handbook

Introduction
The Board of Managers is being asked to consider a compensation philosophy to augment the content of the RCWD Employee Handbook section 4.10.

Background
The District engaged with Gallagher for a salary market analysis and compensation matters. This included review of current compensation strategies. At the RCWD December workshop Allen Johanning of Gallagher recommended the District development and adoption of a formal "compensation philosophy".

A compensation philosophy is simply a formal statement documenting an entity's employee compensation position. It explains the "why" behind employee pay and creates a framework for consistency.

This is important in:

- Helping support organization strategy
- Aiding in attracting top talent
- Increasing employee engagement and motivation
- Ensuring fairness and equity
- Increasing retention and talent development
- Ensuring legal and regulatory compliance
- Promoting transparency and communication

The key components of a compensation philosophy are:

- Market Competitiveness
- Internal Equity
- Career Growth
- Market Research and Continuous Improvement
- Legally Compliant

Staff worked with Gallagher to develop the attached language to amend the RCWD Employee Handbook section 4.10.

Request for Board Consensus
The Board to consider and comment on proposed compensation language for handbook.

Attachment

- RCWD Employee Handbook Section 4 10 Amendments Draft final 2023 12 31

4.10 SALARY ADMINISTRATION – COMPENSATION PHILOSOPHY

The Rice Creek Watershed District is committed to delivering a competitive total compensation package that attracts, develops, and retains a competent and diverse workforce dedicated to protecting our environment and serving our communities.

Our compensation philosophy is designed to be fair, competitive, and sustainable while reflecting the District's mission, vision and financial resources. We are committed in our efforts to stay abreast of compensation trends through market research, which includes other local, public entities, as well as similarly situated regional Water Districts. We will regularly benchmark our compensation packages against similar institutions and adjust our strategies in response to market conditions and best practices.

We are committed to promoting fairness and objectivity by ensuring that compensation decisions are absent of discrimination and bias. Likewise, pay structures and wage scales are developed transparently based on clear criteria, including the level of responsibility, required qualifications/experience, and job complexity.

The RCWD mission is to manage, protect, and improve the water resources of the District through flood control and water quality projects and programs. Overall, our compensation goal is that the Water District will be an employer of choice within the community through this balanced and comprehensive approach, allowing us to:

- Attract and retain the talent the District needs to achieve its mission
- Engage staff in regular performance discussions to encourage professional development
- Remain competitive with public and private labor markets
- Reflect the organization's strategic priorities
- Provide for internal equity by consistently evaluating jobs and pay programs
- Reward employees on the basis of mission driven performance and tenure
- Comply with all state and federal laws and regulations
- Be transparent and build on a trusting relationship with staff

The District encourages continual improvement in performance and the ongoing development of ability in each employee through a sound, well-administered salary and performance review program.

~~Effective Salary Administration is to establish and maintain salary structures that will enable the District to attract and retain qualified and competent personnel essential to function effectively and achieve its stated objectives for quality, consistent service.~~

The District seeks to follow the principle of equal pay for equal work and maintain salary relationships among positions within the organization, which are internally consistent in recognizing significant differences in position responsibilities and requirements, and in compliance with applicable government requirements and regulations.

The District will generally compensate employees based on the District and general economic

conditions, competitive market practices, employee performance, and staff development. All salary actions must be approved by the Administrator.

10:15 Anoka County Ditch 10-22-32 (ACD 10-22-32) ACSIC Available Documentation Overview, HEI Task Order

SCOPE OF SERVICES

Task Order No. 2024-001
Rice Creek Watershed District

ACD 10-22-32 Documentation Review

RCWD Administrative Information:

Account No.: 80-03

Account Name: Repair Reports

Houston Engineering Project No.: R005555-0353

Task Order Purpose:

The purpose of this task order is to provide the RCWD Board of Managers an overview of available documentation on the ACD 10-22-32 public drainage system and describe how this documentation was utilized to determine the as-constructed and subsequently improved condition (ACSIC) of the drainage system. The Board ordered the reestablishment of the public drainage system record on May 11, 2022 based on the engineer's Technical Memorandum dated May 13, 2021 and an addendum to that memo dated January 13, 2022. The order (#2022-11) itemizes the documents considered in the technical evaluation.

To address continuing concerns regarding the ACSIC grade and the documentation utilized to determine its condition, this task order envisions multiple Board workshops to review this documentation and its relevance to the ACSIC. Houston Engineering, Inc. (HEI) will assist with these workshops by developing Powerpoint presentations ahead of each workshop and leading the technical discussion.

Professional Services Rendered:

We envision the following content to be discussed at each workshop:

<u>Workshop #1</u>

- Purpose and goals of the workshops;
- Overview of the how an ACSIC is determined for any system
- What are "relevant documents" and how they may affect the determination of the ACSIC

<u>Workshop #2</u>

- Unique challenges in determining ACSIC on ACD 10-22-32
- Overview of documents relevant to ACD 10-22-32
- Rationale for ACD 10-22-32 ACSIC profile determination
- Comparison of ACD 10-22-32 ACSIC profile to prior profile investigations

Deliverables:

The deliverables for this Task Order consist of Powerpoint presentations and attendance to two (2) Board workshops.

Schedule and Compensation:

HEI recommends budgeting **$5,000** for engineering services described within this task order. HEI shall not exceed this amount for the completion of this work without prior authorization from the Rice Creek Watershed District.

SIGNATURES:

These services described by this Task Order are being provided in accordance with the Professional Services Agreement between the Rice Creek Watershed District and Houston Engineering dated May 14, 2008, as amended and extended. This **Task Order** shall be effective **January 3, 2024** as authorized by the signatures of representatives of the Rice Creek Watershed District and Houston Engineering, Inc.

Rice Creek Watershed District	**Houston Engineering, Inc.**
By: _____	By: _____
Name: Michael Bradley	Name: Chris Otterness, P.E.
Title: President	Title: District Engineer
Date: _____	Date: January 3, 2024

11:00 Anoka County Ditch 10-22-32 (ACD 10-22-32) Alt. 4 – Pine St. Culvert – Wetland Impact Evaluation

Technical Memorandum

To: Nick Tomczik
RCWD District Administrator
Cc: Tom Schmidt
From: Chris Otterness PE
Houston Engineering, Inc.
Subject: ACD 10-22-32 Pine Street Culvert
Lateral Effect Assessment
Date: December 27, 2023
Project: ACD 10-22-32 Regulatory

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

Christopher Otterness 12/27/2023
Reg. No. 41961

INTRODUCTION

The Rice Creek Watershed District, as the drainage authority, is investigating the effects of lowering the Pine Street culvert along Anoka County Ditch 10-22-32 from its current elevation to the elevation of the as-constructed and subsequently improved condition (ACSIC). This culvert modification is a component of Alternative 4 as described in the Houston Engineering, Inc. (HEI) memorandum *Anoka County Ditch 10-22-32 Evaluation of Maintenance Alternatives* dated January 23, 2023.

Currently, the existing 24" RCP culvert sits approximately 2.2' above the ACSIC profile. Lowering this culvert may have effects on wetlands upstream of Pine Street via lateral surface and subsurface drainage. To determine the extent of any potential impacts, wetlands were first delineated under the report *FINAL FIELD AQUATIC RESOURCES DELINEATION REPORT – Anoka County Ditch 10-22-32 (North of Pine Street)*, dated September 25, 2023. The delineation was approved by the Local Government Unit (LGU) via a Notice of Decision dated November 29, 2023

The purpose of this report as follows is to summarize calculations performed to determine the likely effect of lowering the Pine Street culvert on adjacent wetland drainage and estimate mitigation requirements.

ANALYSIS

The wetlands in the study area included Types 1, 2, 3, and 6. No designated Public Waters are located in the study area. Under the federal CWA, drainage system maintenance or repair is exempt

from regulation. Under the state WCA, activities related to maintenance or repair of a public drainage system are exempt from replacement, include:

- Maintenance or repair of a public drainage system which drains Type 1, 2, 6, 7, or 8 wetlands; and
- Maintenance or repair of a public drainage system which drains Type 3, 4, or 5 wetlands that have existed for 25 years or less.

Lowering culverts to the ACSIC grade is considered “maintenance or repair.”

The type and extent of wetlands in the study area were verified in the wetland delineation report. The study area includes seven Type 3 wetlands and other areas of Type 1/2/6 wetlands.

The van Schilfgaarde equation was used to determine the likely extent of lateral effects of the drainage system in the area north of Pine Street under existing and proposed conditions. Originally developed to determine recommend spacing of pattern drain tile, the van Schilfgaarde equation allows for evaluation of the impact of surface and subsurface drainage systems on wetlands. It incorporates many variables, including the depth to the free water surface (assessed during a growing season, see below discussion) and the hydraulic conductivity (obtained from web soil survey). The van Schilfgaarde equation was applied consistent with guidance from Appendix 5 of the Minnesota Public Drainage Manual. **Appendix A** includes a description of the parameters used within the equation and the values assigned for this analysis.

An Autodesk Storm and Sanitary Analysis (SSA) model of the ACD 10-22-32 system was used to determine the average depth to the water surface averaged over the course of a growing season, for use in the van Schilfgaarde equation. 1979 rainfall data was used as a representative “average rainfall year” for the model runs. Minimal edits from the existing model were applied to obtain the proposed model, consisting of lowering the culvert and downstream channel elevations until a positive drainage tie-in was achieved, a distance of around 700 ft downstream from Pine Street.

The existing ditch currently imparts some lateral drainage on the adjacent wetlands even with the higher culvert elevation at Pine Street. Therefore, to determine the extent of lateral effect wetland impacts on the nearby wetlands, both the existing and proposed lateral effect were calculated, and the difference between the two was assumed to be the lateral effect wetland impact.

The results of the calculations are summarized in the below **Table 1.**

Table 1: Results of hydrologic modeling and van Schilfgaarde equation.

	Existing Condition	Proposed Condition (ACSIC)
Water Level[1] (average over growing season)	899.27	897.22
One Side Lateral Effect (ft)	72	141

The resultant estimated lateral effect zones are shown on **Figure 1** below. The modeled lateral effects under existing conditions extends to the edge of five of the six Type 3 wetlands near this portion of ACD 10-22-32. This supports the veracity of the calculations and supporting assumptions used in the van Schilfgaarde equation.

The calculated additional wetland impact is **1.018 acres** over the six relevant Type 3 wetlands.

CONCLUSION

The area of investigation is located within the Columbus Comprehensive Wetland Protection and Management Plan (CWPMP). The Columbus CWPMP establishes alternative wetland mitigation ratios from the Wetland Conservation Act (WCA) based on the characteristics and value of the wetlands. The wetlands proposed to be impacted are considered to be degraded and located within a wetland management corridor (WMC). For this condition, the CWPMP specifies a mitigation ration of 2:1. Based on the estimated impact of 1.018 acres (44,344 square feet) the required mitigation is 2.036 acres (88,688 square feet). We recommend the RCWD, in coordination with the Cities of Columbus and Lino Lakes, proceed with the lowering of the culvert and utilizing the RCWD's Browns Preserve wetland bank for mitigation of impacts.

[1] All elevations provided herein are in feet, based on North American Vertical Datum of 1988 (NAVD 88).

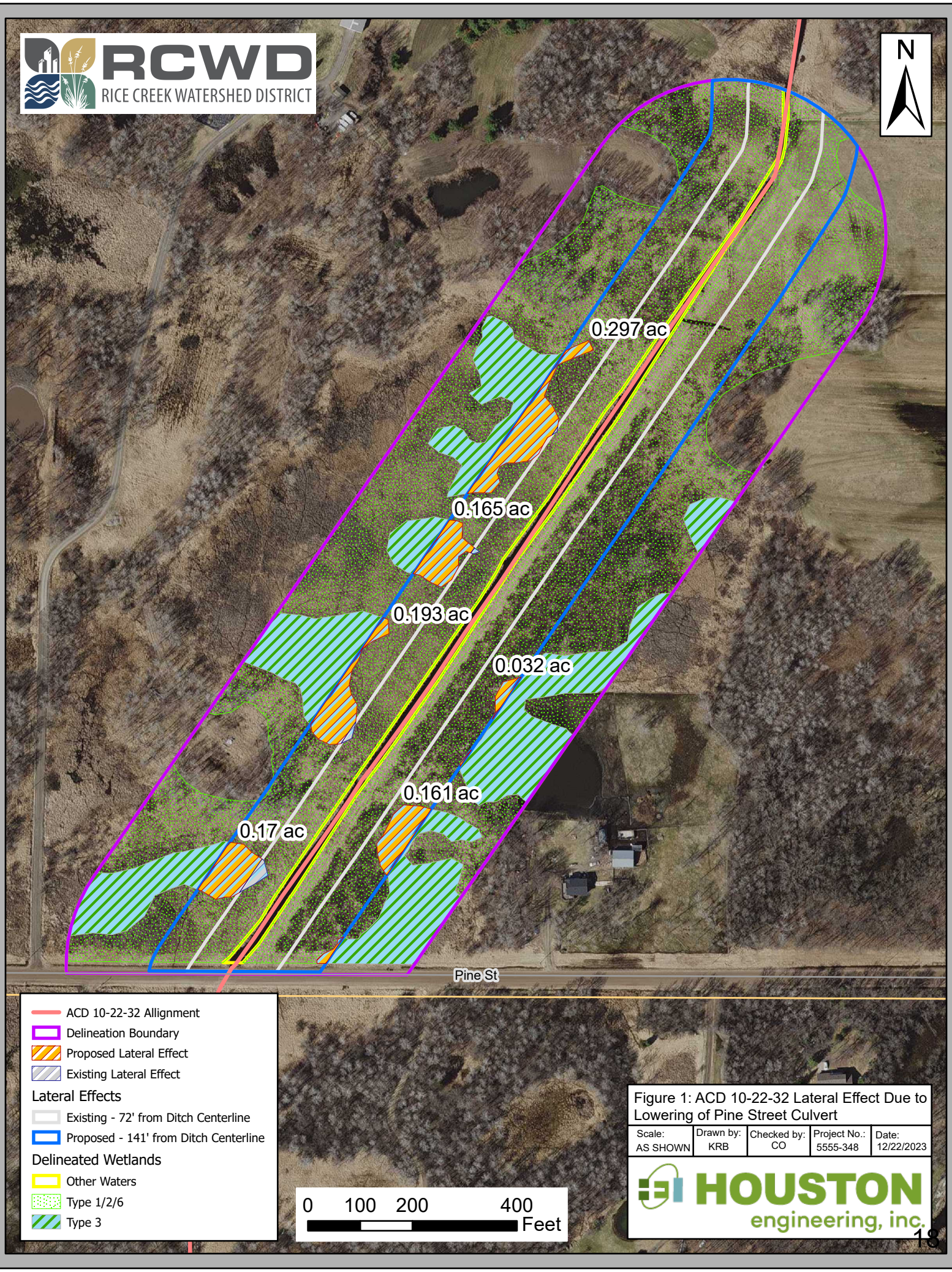

Figure 1: ACD 10-22-32 Lateral Effect Due to Lowering of Pine Street Culvert

Scale:	Drawn by:	Checked by:	Project No.:	Date:
AS SHOWN	KRB	CO	5555-348	12/22/2023

HOUSTON engineering, inc.

Appendix A: van Schilfgaarde equation parameters and equation

See Appendix 5 of the MN Public Drainage Manual (attached) for further discussion.

Parameter	Existing	Proposed	Units	Definition
S	143	281	ft	Drain spacing
S'	143	281	ft	Estimated drain spacing (iterative)
K	12.75	12.75	ft/day	hydraulic conductivity
a	8.67	6.62	ft	Depth from the free water surface to the impermeable layer
D	10	10	ft	Total depth to the impermeable layer from the ground surface
d	1.33	3.38	ft	Depth to free water surface from the ground surface. Calculated from model.
de	7.69	6.41	ft	Equivalent depth from the drainage feature to the impermeable barrier
t	14	14	days	Time for water table to drop from m_0 to m
m_0	1.33	3.38	ft	Initial height of water table above the center of the drainage feature
m	0.33	2.38	ft	Height of water table above the center of the drainage feature
f	0.45	0.45	ft/ft	Drainable porosity of the water-conducting soil
f_1	0.45	0.45	ft/ft	Drainable porosity adjusted for surface roughness
s	0.01	0.01	ft	Water trapped on the surface by soil roughness
r_e	1	1	ft	Effective radius of the drainage feature

Van Schilfgaarde Equation and Parameters

The predicted impact of surface drainage systems on wetlands can be evaluated through the use of the van Schilfgaarde equation. This equation may be used to estimate lateral drainage effects at a single location or programmed into a spreadsheet or GIS tool to estimate lateral drainage effects along multiple segments of an entire drainage system. The Van Schilfgaarde equation was developed for non-steady state conditions and is a natural fit for the unsteady (i.e., continuous simulation) modeling found within the EPA-SWMM modeling engine.

The following is a description of the input parameters for the van Schilfgaarde equation and a description of parameter derivation, based on Part 650, Engineering Field Handbook, Chapter 19, Hydrology Tools for Wetland Determination.

$$S = \sqrt{\frac{9K\,t\,d_e}{f'\left[\ln m_o(2d_e + m) - \ln m(2d_e + m_o)\right]}}$$

The estimated spacing (S') is then used with the appropriate equation to calculate d_e.

$$d_e = \frac{a}{1 + (a/S')\left[(8/\pi)\ln(a/r_e) - 3.4\right]};\ for\ a/S' < 0.3$$

$$d_e = \frac{S'\pi}{8\left[\ln(S'/r_e) - 1.15\right]};\ for\ a/S' > 0.3$$

- **S =** drain spacing (ft); as calculated with the equation. The drain spacing is equivalent to two times the lateral effect distance perpendicular to the drainage feature centerline. Effectively, this becomes the computed distance of altered wetland hydrology.
- **S' =** estimated drain spacing (ft).
- **K =** hydraulic conductivity (ft/day); Based upon values for soil types. A weighted average value may be obtained from SSURGO databases.
- **a =** depth from the free water surface to the impermeable layer (ft); The value for this parameter is based upon the total depth to the impermeable layer from the ground surface (D) and the depth to the free water surface from the ground surface (d) (a = D – d).
- **D =** total depth to the impermeable layer from the ground surface (ft); The Chapter 19 guidance states that when an impermeable barrier is not encountered, a depth of 10 feet should be used for this parameter. It is assumed the soil at this depth will have a reduced permeability, due to the weight of the soil above.
- **d =** depth to free water surface from the ground surface (ft); The van Schilfgaarde equation greatly simplifies the drawdown inputs by defining a static starting water level and determining the drawdown to be the bottom of the drainage feature. This works well for tile systems. However,

since open channels public drainage systems typically have relatively flat grades and rarely drain completely dry (especially during the wetland defining period for seasonal wetlands), a more accurate and conservative methodology may be required.

To estimate the depth to the free water surface, an average daily water level within the open channel during a typical growing season may be determined utilizing a continuous hydrology/hydraulics simulation (e.g. EPA-SWMM or proprietary programs that utilize that modeling engine). Natural ground elevations adjacent to the open channel may then be used to compute parameter d, which is the difference between the ground surface elevation and free water surface elevation. This approach conforms generally with US Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual guidance for the determination of wetland hydrology.

- **d_e =** equivalent depth from the drainage feature to the impermeable barrier (ft); This is the equivalent depth from the tile or ditch bottom to the impermeable barrier, given S', a, and the effective radius of drainage tile (re). This is the second step in the iterative process, where the estimated drain spacing is used to calculate the equivalent depth.
- **t =** time for water table to drop from m0 to m (days); When utilizing the van Schilfgaarde equation for analyzing lateral drainage effects, this parameter is set with the intent to see where the wetland hydrology indicator is met or not met after the defined continuous period in the growing season. According to the USACE 1987 Wetland Delineation Manual, the wetland hydrology criterion is met if the water table is normally within 12 inches of the soil surface for a continuous period of 5% to 12.5% of the growing season. "t" may thus be set as a value of approximately 10% of the growing season days within the area of study.
- **m_0 =** initial height of water table above the center of the drainage feature (i.e., the open channel) at time t=0 (ft); It is assumed that the starting water levels within the wetlands are at the surface of the soil column and the value is set equal to d.
- **m =** height of water table above the center of the drainage feature at mid-plane after time t (ft); This parameter can be set to be 1 foot less than m_0, in accordance with the wetland hydrology determination status from the USACE. For segments where the average daily water level over the growing season was within 1 foot of the ground surface, this term can be set equal to zero because, given the assumptions used for meeting wetland hydrology criterion, wetland status will be maintained in these areas.
- **ƒ =** drainable porosity of the water-conducting soil (ft/ft); This is described as the amount of water that could be removed via subsurface drainage, also called gravitational water, or the amount of water between soil saturation and field capacity. Values for different soil types can be obtained from county soil surveys.
- **$ƒ^1$ =**drainable porosity adjusted for surface roughness (ft/ft); The adjusted drainable porosity is equal to $ƒ+(s/(m_0-m))$.
- **s =** water trapped on the surface by soil roughness (ft); This is the small amount of moisture that may be held on the surface of the soil by the particles. This is also equivalent to the initial abstraction or depressional storage. The Chapter 19 guidance states that a value of 0.1 inches (0.0083 feet) should be used for Minnesota.

- **r_e =** effective radius of the drainage feature (ft); For tiles, this is simply the radius of the pipe. Chapter 19 guidance states that 1 foot should be used to estimate the effective radius of an open channel.
- **π =** 3.1416

11:30 Public Drainage Beaver Management Policy

MEMORANDUM
Rice Creek Watershed District

Date: January 2, 2024
To: RCWD Board of Managers
From: Ashlee Ricci, Drainage & Facilities Manager
Subject: RCWD Public Drainage Beaver Management Policy

Introduction

The District intends to memorialize its protocols for beaver management as related to its public drainage authority and obligations.

Background

Rice Creek Watershed District staff through public drainage inspection and increasing landowner reports are aware of beaver activity and dams resulting in obstructions on public drainage systems. In the past, these obstructions have been located primarily in the rural portions of the District. As the land in the District continues to rapidly develop, occurrences on the public drainage systems have increased.

The District has a legal obligation under MS 103E to maintain the efficiency of the public drainage systems within its jurisdiction for the benefitting parties. As part of addressing its obligation, the District has established a comprehensive policy on the maintenance of the public drainage system. The comprehensive policy acknowledges the need to evolve and adapt to meet emerging and ever changing water management issues. It further acknowledges the need to serve current land uses, planning for future land use changes while weighing other resource issues and needs.

The purpose of this memo is to document the considerations the District utilizes specific to the management of nuisance beaver. This policy does not pertain to emergency situations where the Board and staff may choose to act directly for the benefit of the public.

Considerations

Beavers play an important role in Minnesota's ecosystems and provide many benefits. They can also become nuisances and cause property damage. Guidance from the MN Department of Natural Resources (MN DNR) and the United States Department of Agriculture on effective management strategies are attached. The interactions between beaver populations and urban environments can be especially detrimental due to the close proximity of structures and stormwater features. The jurisdiction of the Watershed District as the drainage authority, along with the unique landscape which is relatively flat and has limited stormwater storage, results in damage by beavers that is challenging to manage effectively. Lethal and nonlethal options are considered by staff for beaver management and the District considers both options for best results.

When new beaver activities (chew marks, downed trees, food caches, etc.) are identified along a public drainage system, staff are to increase the frequency and focus of inspections for diminished functional capacity of the public drainage system. If a dam is found on a public drainage system during inspection and the below criteria are met, the beavers shall be removed:

1. As determined by District Drainage Staff, a blockage exists in the drainage system that is directly contributing to reduced efficiency of the system.
2. As determined by District Drainage Staff, non-action (leaving the dam in place) would result in upstream or downstream impacts (reduced capacity, increased erosion, flooding, damage to public infrastructure or private property, etc.).
3. As determined by District Drainage Staff, non-action (leaving the dam in place) may result in increased surface water ponding that would limit future Drainage Authority abilities to repair the drainage system.
4. As determined by District Drainage Staff, alternative nonlethal options would not achieve the objectives of the Watershed Management Plan or the legal obligations of MS 103D and 103E.

Once District staff have determined the need to remove beavers, the following measures[1] should be considered and/or communicated to the hired contractor. District Staff will encourage the contractor to utilize the safest methods possible given site conditions and the following considerations.

1. Is the contractor licensed in MN?
    a. Contractors must comply with all local, state, and federal regulations.
2. Are permits needed to remove the animals?
    a. As directed by MN DNR: Federal, state, county, township or local governmental employees, while on duty as a representative of that government do not need a permit while doing beaver removal on land under their jurisdiction.[2]
3. How is the dam accessed?
    a. All work on the public drainage system should be accessed from the public drainage system right-of-way.
    b. If access outside of the right-of-way is needed, District Staff must coordinate with the landowner(s) and the District will obtain a statement of indemnification from the landowner.
4. Is the dam located near public infrastructure (stormwater BMPs, trails, roads)?
    a. Staff should consider public visibility and safety and communicate the need to address safety to the contractor.
    Staff will coordinate as needed with the local municipalities and road authorities to expeditiously remove beavers and obstructions to prevent property damage.

[1] This list is intended to serve as general guidance. The District and all hired contractors shall adhere to all applicable laws.
[2] This policy is subject to change with federal, state, and local regulations.