Riley-Purgatory-Bluff Creek Watershed District

Board of Managers Regular Meeting

Wednesday, **November 4, 2020, 7:00pm Regular Meeting**

Virtual Meeting via ZOOM

https://us02web.zoom.us/j/85294742660

Agenda

1. **Call to Order** **Action**

2. **CAC Workshop 5-6pm**

3. **Approval of the agenda** **Action**

4. **Kerber pond ravine feasibility presentation** **Information**

5. **Matters of general public interest** **Information**

   Welcome to the Board Meeting. Anyone may address the Board on any matter of interest in the watershed. Speakers will be acknowledged by the President; please come to the podium, state your name and address for the record. Please limit your comments to no more than three minutes. Additional comments may be submitted in writing. Generally, the Board of Managers will not take official action on items discussed at this time, but may refer the matter to staff for a future report or direct that the matter be scheduled on a future agenda.

6. **Reading and approval of minutes** **Action**
   a. Board of Managers Budget Workshop, October 7, 2020
   b. Board of Managers Special Meeting Minutes, October 14, 2020

7. **Citizen Advisory Committee** **Action**
   a. No meeting

8. **Consent Agenda**
   (The consent agenda is considered as one item of business. It consists of routine administrative items or items where discussion isn't essential to understanding. Any manager may remove an item from the consent agenda for action.)
   a. Accept October Staff Report
   b. Accept October Engineer's Report
   c. Accept October Construction Inspection Report
   d. Approve Pay App #10 - Scenic Heights
   e. Approve Permit 2020-054 Lake Minnetonka Care Center as presented in the proposed board action of the permit report
   f. Approve Cooperative Agreement with St Hubert Catholic Community

9. Action Items **Action**

a. Pulled consent items
b. Accept September Treasurer's Report
c. Approve Paying of the Bills
d. Elect two MAWD delegates and alternate and MAWD participation

10. Discussion Items **Information**

a. Manager Report
b. Administrator Report
c. Rice Marsh Lake update
d. Plan Amendments
    i. DEI
    ii. Rules
    iii. Soil
e. Other

11. Upcoming Board Topics

a. Public Hearing for Ordering Rice Marsh Lake Water Quality (December)
b. Bloomington Flood Mapping and Prioritization Tool
c. other

12. Upcoming Events **Information**

- Citizen's Advisory Committee meeting Nov 16, 6pm, virtual
- Explore Your Waterway with the U.S. EPA! Webinar, Nov 17, 12pm
- Minnesota Association of Watershed District Virtual Annual Conference, December 1-4
- Board of Managers monthly meeting, Dec 9, 7pm, virtual

Please check www.rpbcwd.org for the most current meeting details.

MEETING MINUTES

Riley-Purgatory-Bluff Creek Watershed District

October 7, 2020, RPBCWD Board of Managers Monthly Meeting

PRESENT:

Managers:	Jill Crafton, Treasurer	
	Larry Koch	
	Dorothy Pedersen, Vice President	
	Dick Ward, President	
	David Ziegler, Secretary	
Staff:	Amy Bakkum, Administrative Assistant	
	Claire Bleser, RPBCWD Administrator	
	Zach Dickhausen, Water Resources Technician II	
	Terry Jeffery, Watershed Planning Manager	
	B Lauer, Groundwater and Stewardship Program Coordinator	
	Josh Maxwell, Water Resources Coordinator	
	Louis Smith, Attorney, Smith Partners	
	Scott Sobiech, Engineer, Barr Engineering Company	
Other attendees:	Pat Andrican	Mary Krause
	David Benedict	Matt Lindon
	Joe Bischoff	Tom Lindquist
	Jim Boettcher	Jane Paulus
	Rod Fisher	Rod Rue
	Craig Frick	Leslie Stovring
	Paul Granos	Marilynn Torkelson
	Elizabeth Henly	Jeff Weiss
	Duane Hookum	

Note: this meeting was held remotely via meeting platform Zoom in abidance with state mandates in response to Covid-19.

1. Call to Order

President Ward called to order the Wednesday, October 7, 2020, Board of Managers Regular Monthly Meeting at 7:00 p.m. The meeting was held remotely via meeting platform Zoom.

2. Approval of Agenda

Manager Koch requested removing from the Consent Agenda items, 8d – Approve Vehicle Purchase per Staff Recommendation, 8e – Approve Pay App for Duck Lake Community Project Outdoor Lab, 8f – Approve Pay App for Duck Lake Community Project Landbridge Ecological Inc. and adding items 9b – Accept August Treasurer's Report, 9c – Approve Paying Bills, 9k – LLCA Follow Up, 9l –Adopt Change in Official Publication for Eden Prairie to Eden Prairie Sun Current – Resolution 2020-15. Manager Koch requested laying over item 9i – Adopt Governance Manual – Resolution 2020-14 – until a future meeting and for the District to hold a Board Workshop or special meeting to discuss the Governance Manual. Manager Crafton requested pulling off the Consent Agenda item 9a – Accept September Staff Report.

Manager Koch moved to approve the agenda as amended. Manager Crafton seconded the motion. Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

3. Duck Lake Road Bridge Partnership Plan Amendment Public Hearing Continued

President Ward opened the public hearing on the Duck Lake Road Bridge Partnership minor plan amendment.

Administrator Bleser presented a PowerPoint deck, summarized the project, and went through the anticipated resource benefits of the project. She reported the total estimated project cost is $4,700,000 and said the District is proposing to provide $1,175,000 over five years for the project due to its water quality and habitat benefits.

Administrator Bleser read into the record a comment submitted by email by resident John Berman of 16920 South Shore Lane, sharing his comments that he is in favor of the project to connect the sides of the lake and to include a pedestrian walkway.

Mr. Rod Fisher confirmed that his comments are included in the meeting packet.

Mr. Tom Lindquist, Eden Prairie resident who lives on Duck Lake, commented he is very much in favor of the proposed improvements including the improvement of the lake water level, which should reduce winter fish kill and improve fish habitat in the lake.

Manager Pedersen moved to close the public hearing. Manager Crafton seconded the motion. Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

4. Fairway Woods Watershed Stewardship Grant Public Hearing Continued

President Ward continued the public hearing on the Fairway Woods Watershed Stewardship Grant. Ms. B Lauer summarized the stewardship grant proposal, which includes removing the existing tennis court, walking path, fencing, fence post, and invasive species and restoring area to native prairie. Ms. Lauer explained the ways the project supports District goals as identified in the District's 10-year plan. She noted the project has opportunity for signage. Ms. Lauer summarized the condominium association is requesting $20,000. Ms. Lauer reported the District reviewed the application and determined the project's total eligible costs are $28,970 of the $33,210 estimated total project costs.

Mr. Ward called for public comments. Ms. Jane Paulus, representing the Homeowners Association/grant applicant, provided comments about the project and the Association's goal to restore native prairie. Manager Crafton requested that the District ensures it has access to the project and uses the project to gather soil organic matter data to benchmark soil information and evaluate if soil health changes over time.

Manager Crafton moved to close the public hearing. Manager Ziegler seconded the motion. Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

5. Matters of General Public Interest

Mr. David Benedict of 8600 Appletree Lane, Chanhassen, asked if the District has any recent water quality test results for Lake Susan, including results on the effectiveness of the Lake Susan spent lime treatment project, and if the District has future plans for Lake Susan water quality projects such as an alum treatment and timelines for any such projects. Mr. Jeffery said he will follow up directly with Mr. Benedict to discuss and provide information.

6. Reading and Approval of Minutes

a. August 17, 2020, RPBCWD Board of Managers Budget Workshop

Manager Ziegler noted on page 1, line 2, the word "monthly" should be deleted after the word "Special." Manager Ziegler moved to accept the minutes as amended. Manager Pedersen seconded the motion. Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

b. September 2, 2020, RPBCWD Board of Managers Regular Monthly Meeting

Manager Crafton moved to accept the minutes as presented. Manager Pedersen seconded the motion. Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

c. September 9, 2020, RPBCWD Board of Managers Special Meeting and Public Hearing

Manager Ziegler requested edits on page 2, line 34 to remove the "absence" and insert "fiscal disparity" and to correct the figure to $180,000. He noted a change on page 6, line 110 to delete "and end the public hearing." Manager Ziegler requested the word "for" be inserted on page 2, line 24.

Manager Ziegler moved to accept the minutes as amended. Manager Pedersen seconded the motion. Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

7. CAC

Mr. Matt Lindon provided a summary of the CAC's most recent meeting. He talked about the committee members' expectations and the discussion about the role of the CAC and if it will be focused on responding to Board matters or focused on subcommittees or a combination of both. President Ward added that the Board and staff will be proposing a joint workshop between the Board and CAC at a future date.

8. Consent Agenda

Manager Crafton moved to approve the Consent Agenda [as amended in agenda item 2]. Manager Ziegler seconded the motion. The Consent Agenda included item 8b – Accept September Engineer's Report, 8c – Accept September Construction Inspection Report, 8g – Approve Pay App #3 Bluff Creek Tributary, 8h – Approve Permit 2020-056 Minnetonka High School Ali Center Parking Lot as Presented in the Proposed Board Action of the Permit Report, 8i –.Approve Permit 2020-045 The Bluffs at Lake Lucy as Presented in the Proposed Board Action of the Permit Report, 9b –Accept August Treasurer's Report , 9c – Paying of the Bills, 9k –. LLCA Follow Up, and 9l – Adopt Change in Official Publication for Eden Prairie to Eden Prairie Sun Current – Resolution 2020-15.

Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

9. Action Items

a. Pulled Consent Agenda items

i. Accept September Staff Report

Manager Crafton asked about the grant referenced in the September staff report. Administrator Bleser clarified there isn't a grant but rather a group working to determine how to distribute grant funds. She provided information on the committee and its discussions on projects and targeted partners that would receive

grant funds. She added that the group has discussed developing a task force on rough fish.

Manager Koch asked about software that staff recently selected and asked if an IT consultant recommended it. Administrator Bleser responded the District is receiving IT consulting through the City of Eden Prairie. Manager Koch said he would like to see the District move forward to secure IT consulting services. He commented he would like to see the additions Smith Partners is recommending regarding the diversity information in the District's Governance Manual and he would like to see the information prior to the Board taking action to approve the manual.

Manager Koch remarked about the Local Surface Water Management Plan review process and said he remains extremely reluctant to turn any part of the District's regulatory process to the City of Chanhassen.

Manager Koch asked staff which lake the District sampled for zebra mussels as referenced in the September staff report. Mr. Maxwell responded Lotus Lake, and he described the sampling process and reported staff did not find any zebra mussels. Manager Koch stated he would like District staff to research whether low dose copper could be a successful pre-emptive treatment for veligers.

Manager Koch moved to accept the September staff report. Manager Ziegler seconded the motion. Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

ii. **Approve Vehicle Purchase per Staff Recommendation**

Manager Koch commented that vehicles and acquisitions such as this request are typically part of a budget discussion. He said this purchase should have been on the staff and Board's radar during the Board and staff's 2021 budget discussion. Manager Koch recommended laying this item over for discussion after the first of the new year. Manager Crafton asked about the urgency of this vehicle purchase request. Mr. Maxwell explained the reasons behind the vehicle request and the need for a four-wheel drive vehicle that could handle the terrain staff needs to

access for data collection. He added that there are funds remaining in the District's 2020 Data Collection budget that could be used for the purchase.

Manager Koch remarked he thinks it is important to set up a process for these types of requests and for that process to be followed and the District should have a vehicle replacement schedule.

Mr. Jeffery and Administrator Bleser provided further insights on the staff's use of vehicles and the request for a vehicle purchase. President Ward commented that items like this vehicle request need to be reflected in the annual budget. He said $22,000 is a significant expenditure. Administrator Bleser said that going forward she will add this type of purchase request into the annual budget discussion.

Manager Ziegler moved to approve the vehicle purchase per staff recommendations. Manager Pedersen seconded the motion. Manager Koch made the friendly amendment to identify that funds from the District's 2020 Data Collection budget will be used for the vehicle purchase and that in the future, this type of expenditure will be included in the District's annual budget. Managers Ziegler and Pedersen agreed to the friendly amendment. Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

iii. Approve Pay App - Duck Lake Community Project - Outdoor Lab and Approve Pay App - Duck Lake Community Project - Landbridge Ecological Inc.

Manager Koch stated his question applies to both pay apps. He said apparently the foundations that were originally specified were not done for some of the recipients of the planter boxes. He asked if that is ok with staff and consistent with the project and was there a price adjustment done or necessary regarding the amount the District should pay. Engineer Sobiech provided information, explaining the grading for the foundation wasn't needed for several of the locations and how the contractor was responsible for coordinating with the

homeowners to install to the homeowners' satisfaction. Manager Koch expressed his concern on whether the District should allow the homeowners to change specifications because in this case it may cause the planter boxes to be in contact with excess moisture. He said in the future the District should keep in mind the project specifications. Manager Koch moved to approved both pay apps presented for the Duck Lake Community Project. Manager Ziegler seconded the motion. Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

b. Liability Coverage

Manager Koch moved to authorize the District to acquire liability coverage at the $2,000,000 level at the cost to the District of $15,476. Attorney Smith commented the District is acting to act to waive or not waive the liability coverage limits, and he provided perspectives of watershed boards that have waived and of those who have acted to not waive the limits. Manager Pederson seconded the motion and made the friendly amendment to waive the statutory coverage limit and to authorize the District to acquire coverage at the $2,000,000 level at the cost to the District of $15,476. Manager Koch agreed to the friendly amendment.

Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

c. Task Order 33 for Phase I Wetland Assessment

Mr. Jeffery displayed a PowerPoint presentation about the District's Wetland Inventory and Assessment Program. He talked about District staff undertaking work for MNRAM [Minnesota Rapid Assessment Methodology] and the work is approximately 75% complete. He reminded the Board of the program's purpose: inventory the wetlands and apply it to the regulatory program. Mr. Jeffery went through the District's wetland decision tree, which guides the District in evaluating whether there is a wetland that has been drained that can be restored or a wetland that has degraded that can be rehabilitated and to determine if there is someone willing to partner with the District on such projects.

Mr. Jeffery described how the wetland assessment work meets District goals, and he talked about the District's capital project assessment process.

Mr. Jeffery noted the full scope of work for Task Order 33 is included in the meeting packet. Mr. Jefferey, Engineer Sobiech , and Mr. Bischoff answered manager questions.

Manager Koch moved to approve the Task Order at $102,000 and authorize work on tasks 1-6 with discretion to stop at task 5 if appropriate. The motion died due to lack of a second.

Manager Ziegler moved to approve Task Order 33 as presented. Manager Crafton seconded the motion. Upon a roll call vote, the motion carried 4-1.

Manager	*Action*
Crafton	Aye
Koch	No
Pedersen	Aye
Ward	Aye
Ziegler	Aye

d. Consider Adoption of the Duck Lake Plan Amendment - Resolution 2020-13

Administrator Bleser summarized the feedback the District received about the proposed minor plan amendment from the reviewing agencies, including BWSR, MNDNR, the City of Eden Prairie, and the public, noting all feedback was in favor of the plan amendment.

Manager Ziegler moved to adopt the plan amendment. Manager Crafton seconded the motion. Attorney Smith asked staff to verify the resolution number. He summarized the action the Board is seeking to take, explaining the Board is considering approval of the

plan amendment as proposed and ordering the project. He recommended the Board defer this item until later in the meeting and in the meantime he and staff can find the information and resolution language and make sure it is in front of the Board at this meeting. President Ward deferred this agenda item until later in the meeting.

e. Consider Approval of Fairway Woods Condominium Association Watershed Stewardship Grant

Ms. B Lauer noted the Watershed Stewardship Grant application by the Fairway Woods Condominium Association is in the meeting packet and the project was summarized during the public hearing. Manager Koch commented he doesn't think the removal of the tennis court should be part of the District's costs. He said approval of the grant should be subject to conditions such as signage, maintenance, and District access to the property for soil testing. Manager Koch remarked he thinks the District should pay based on percentage of cost and that the Homeowners Association should be required to obtain multiple bids. Mr. Jeffery pointed out that this project is an opportunity to provide storage in the flood plain. Ms. Lauer described the maintenance clause, noting 10 years of maintenance will be required and noted language about providing for District access to the site for data collection.

Manager Pedersen moved to approve the stewardship grant with the addition of language in the agreement to provide for District access to the property for a soil health study. Manager Crafton seconded the motion. Manager Koch proposed to amend the motion that there be an agreement entered into with the applicant that incorporates the terms of the District grant program and limits the expenditure of the money to the items listed by B. Lauer. The motion to amend died due to lack of a second.

Upon a roll call vote, the motion carried 4-1.

Manager	*Action*
Crafton	Aye
Koch	No
Pedersen	Aye
Ward	Aye
Ziegler	Aye

f. Consider Approval of Pax Christi Catholic Community Watershed Stewardship Grant

Ms. B Lauer went through a review of the proposed project, which includes removing

invasive species and planting native grasses, sedges, and fobs. She went through the staff review of the grant application. She listed the three District goals supported by the project. Ms. Lauer stated the total estimated project costs are $16,523.00 and the eligible costs are $14,103.00 and the grant requests 75%, which is $10,577.25. She added there is a three-year maintenance agreement.

Manager Koch remarked it seems like the District is being asked to pay for someone's landscaping. He asked for more information on the project's benefits to the watershed. Manager Pedersen noted that the plantings described in the information in the Board packet are varieties deer like to eat and there are likely better choices. Ms. Lauer said she will communicate that information to the applicant. Mr. Jeffery described the District's grant application review and project scoring matrix. There was manager discussion about reviewing the recommendation in more detail. Mr. Jeffery suggested staff bring the project scoring matrix to the Board this winter for input on revisions. Manager Pedersen stated that the District has a process, and the project needs to be evaluated based on that process that was in place when the applicant submitted the application. She said this project provides some education and erosion control benefits. President Ward agreed with her statements and said he would like the District to review the project score matrix sometime after January 1, 2021.

Manager Pedersen moved to approve the Pax Christie Catholic Community Watershed Stewardship Grant. Manager Ziegler seconded the motion. Upon a roll call vote, the motion carried 5-0.

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

g. Consider Adoption of the Duck Lake Plan Amendment - Resolution 2020-13 - Continued

Administrator Bleser reported the Resolution is number 2020-13 and pointed out the changes to the whereas statements compared to the document in the meeting packet. She explained the revisions included language that public hearings on the plan amendment took place on September 9, 2020, and October 7, 2020. She read aloud the whereas statements and resolving statements of Resolution 2020-13.

Manager Ziegler withdrew his previous motion and made a new motion to adopt Resolution 2020-13. Manager Crafton seconded the motion.

Manger Koch asked many questions about the project, its water quality benefits, and the cost to the District to put in a culvert to equalize the water levels. Manager Pedersen moved to close the debate and call the question. Manager Crafton seconded the motion. Upon a roll call vote, the motion carried 4-1.

Manager	*Action*
Crafton	Aye
Koch	No
Pedersen	Aye
Ward	Aye
Ziegler	Aye

President Ward called the vote on the motion to adopt Resolution 2020-13. Manager Koch moved to amend the motion to lay this item over until the information he has requested on the lake levels and the outlet can be provided. The motion to amend died due to lack of a second.

Upon a roll call vote, the original motion carried 4-1.

Manager	*Action*
Crafton	Aye
Koch	No
Pedersen	Aye
Ward	Aye
Ziegler	Aye

h. Permit# 2020-041 Eliasen Shoreline After-the-Fact Permit Consideration

Mr. Jeffery stated that the District's erosion intensity scoresheet for the Eliasen's

property determined the shoreline erosion requires a bioengineering or rip rap with vegetation. He said at this point meeting that requirement would mean removing the rip rap that was installed and then installing bioengineered rip rap or rip rap with vegetation.

Mr. Jeffery described the site and displayed a PowerPoint with a plan proposed by the property owners. Mr. Jeffery noted that one of the property owners is a Master Water Steward, and the property owners propose to use the project as a demonstration project. Mr. Jeffery walked through the proposed project and said it is for the Board's consideration of the proposal as an exception in the case that what the property owners are proposing to do will provide a better water quality benefit than if they don't do the proposed work and instead remove the installed rip rap and replace it with vegetated rip rap.

Mr. Eliasen, one of the property owners, talked about the process he and his wife went through, including asking the City of Chanhassen if any other permits were required, to which the City said there were no other permits the Eliasens needed.

There was lengthy discussion of the rip rap, the lack of a watershed permit, and options.

Manager Koch remarked that putting in rain gardens isn't addressing the issue of the rip rap. He said the property owner could request a variance from the District's rules or provide the District with a proposal showing the rip rap is appropriate. Engineer Sobiech stated he believes the removal of the rip rap would be detrimental and for that reason the action should be moving forward with a variance, exception, or redesign. Mr. Jeffery talked about the District's Rule K and summarized how the rule discusses variances and exceptions.

Mr. Jeffery proposed that he and Mr. Eliasen talk tomorrow about these options in more detail, and Mr. Eliasen agreed.

i. Approval to Hire Outreach Manager and Administrative Assistant to the District.

Manager Pedersen summarized the recent updates made to the District's organization chart. She noted that the staff is down two members and she is hearing it is difficult for the staff to continue covering their own responsibilities and those of the unfilled staff positions.

Manager Crafton remarked the Personnel Committee couldn't meet and hasn't had the opportunity to discuss the job descriptions for the open staff positions. Manager Koch commented he needs to be able to review a table showing the District's current and anticipated staff, salary, and benefits, and he has asked for the information previously and still hasn't received it.

Manager Koch moved to table this item until the Board's next meeting following the Personnel Committee's October 29th meeting. The Board indicated consent to tabling the item. President Ward said with Board consensus, this item is tabled until the Board's November 4th meeting. He directed staff and the Personnel Committee to have all pertinent information collected for the November 4th discussion and action on the item, including the job descriptions and payroll details for 2020-2021. He noted he doesn't think it's the Board's role to finalize the job descriptions to the minute detail.

j. Permit 2020-062 - 481 Bighorn Rule C After-the-Fact Permit Consideration

Mr. Jeffery provided history on the work done on the property without a watershed permit. He said the work that has been done and is proposed falls under the District's erosion control and sediment rule for a single-family property, which can be handled administratively except when there is a permit violation. He explained that permit violations must be brought to the Board of Managers. Mr. Jeffery displayed the plan and went into detail about the project, and he recommended approval of the plan.

Manager Koch commented the District will need to inspect the project to ensure the boulders are placed correctly, meaning not in the 100-year flood plain, and he said the applicant should pay the costs and expenses incurred for Mr. Jeffery's time. Manager Koch noted he thinks the Board and staff should discuss in the future how the District rules should consider soil health.

Manager Koch moved to approve granting the permit for the project to be prepared by staff in accordance with the District's rule requirements and for the District inspect the installation.

Mr. Jeffery stated the District can require an as-built survey and he has informed the contractor the District requires an $800 financial assurance and a $300 permit application fee. Mr. Jeffery said he has already exhausted his permit review time covered by the $300 permit fee. Manager Koch made the amendment to his motion to require the as-built survey and the $800 financial assurance, and to direct the applicant to pay all additional permit review expenses.

Attorney Smith asked if the applicant was notified about this meeting and agenda item as well as the corrective actions that the Board would be discussing. Mr. Jeffery said yes. He said Craig Frick of Superior Lawn and Landscape was attending the meeting earlier in the evening. Attorney Smith said his concern is how the District can achieve permit compliance with the least amount of staff and legal costs going forward. He said typically the District achieves such compliance by providing advance notice of the proposed action of the Board, providing opportunity for comment, hearing from the property owner, and with that communication, the District knows if there isn't permit compliance, the District has a tight record to go to court, if that is a necessary action and the Board's desire. Attorney Smith asked if staff has enough of a record of communication and clarity with the actions that have been taken in order to be confident that the motion will be an efficient resolution. Mr. Jeffery said yes. Attorney Smith said if Mr. Jeffery is confident the action the Board has proposed will be complied with and there won't be enforcement issues, then the Board can take the risk and move ahead.

Manager Koch amended motion to add that the requirements added in his friendly amendment are conditions to the permit. Manager Ziegler agreed to Manager Koch's friendly amendment.

Upon a roll call vote, the original motion carried 5-0.

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

President Ward recommended that due to the length of tonight's meeting and the late hour, the Board continue this meeting until the Board's Special Meeting about the District's Governance Manual. Manager Koch moved continue the meeting and to lay over the remaining items to the Board's Special Meeting and to direct staff to notice the special meeting and to adjourn this meeting. Manager Pedersen seconded the motion. Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

k. Schedule CAC Board Workshop

Deferred to next Board meeting.

10. Discussion Items

a. Manager Reports

Deferred to next Board meeting.

b. Administrator Report

Deferred to next Board meeting.

c. Work without a Permit

Deferred to next Board meeting

d. City of Chanhassen LSWMP (Update)

Deferred to next Board meeting.

e. Other

Deferred to next Board meeting.

11. Upcoming Board Topics

Upcoming Board topics and events were listed on the meeting agenda and included the St. Hubert Community Cooperative Agreement and the public hearing at the Board's November regular meeting for ordering the Rice Marsh Lake Water Quality Project.

12. Upcoming Events

- MPCA Smart Salting Training: Parking Lots and Sidewalks, October 13th, 9am-3pm, virtual
- Citizen Advisory Committee Meeting, October 18, 2020, 6:00 p.m., virtual meeting
- Metro MAWD, October 20th, virtual
- MN Water Resources Conference, October 20 & 21, virtual
- Board of Managers Public Hearing and Regular Meeting, November 4, 2020, 7:00 p.m., virtual meeting

13. Adjournment

Manager Koch moved to lay over the remaining items to the Board's Special Meeting and to direct staff to notice the special meeting. Manager Pedersen seconded the motion. Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

The meeting adjourned at 10:27 p.m.

Respectfully submitted,

David Ziegler, Secretary

MEETING MINUTES

Riley-Purgatory-Bluff Creek Watershed District

RPBCWD Board of Managers 10/14/20 Special Meeting: Continuation of 10/7/20 Meeting

PRESENT:

Managers:	Jill Crafton, Treasurer
	Dorothy Pedersen, Vice President
	Dick Ward, President
	David Ziegler, Secretary
Staff:	Amy Bakkum, Administrative Assistant
	Claire Bleser, RPBCWD Administrator
	Zach Dickhausen, Water Resources Technician II
	Terry Jeffery, Watershed Planning Manager
	B Lauer, Groundwater and Stewardship Program Coordinator
	Louis Smith, Attorney, Smith Partners
	Scott Sobiech, Engineer, Barr Engineering Company
Other attendees:	No other attendees

Note: this meeting was held remotely via meeting platform Zoom in abidance with state mandates in response to Covid-19.

1. Call to Order

President Ward called to order the Wednesday, October 14, 2020, continuation of the Board of Managers October 7, 2020, Regular Monthly Meeting at 4:00 p.m. The meeting was held remotely via meeting platform Zoom.

2. Approval of Agenda

President Ward announced that this special meeting is a continuation of the Board's October 7, 2020, meeting and the agenda items include the Managers Report, Administrator's Report, Work without a Permit, Chanhassen Local Surface Water Management Plan Update, and Adopt Governance Manual – Resolution 2020-14. Manager Ziegler moved to approve the agenda as presented. Manager Crafton seconded the motion. Upon a roll call vote, the motion carried 4-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Absent
Pedersen	Aye
Ward	Aye
Ziegler	Aye

3. Manager Report

Manager Pedersen reported about the Netflix documentary "Kiss the Ground," which focuses on how carbon is sequestered in soil. She explained the documentary is available for groups to host screenings, and the host is required to moderate a discussion after the screening. Manager Pedersen commented she thought this would be a good opportunity for the Board, CAC, and Master Water Stewards, and she would like the District to move forward to organize one or more screenings of "Kiss the Ground." Managers and staff commented on the idea. Administrator Bleser said it sounded like the Board was in consensus for staff to look into the details and any restrictions for hosting the screening, so staff will look into the process and procedure.

4. Administrator's Report

Administrator Bleser reported about a Minnesota Pollution Control Agency tool available for the public and designed to provide information about the condition of local waters based on data provided to the Environmental Protection Agency. She said the tool, "How's My Waterway", looks at water at a community level. She noted it was neat to see the District's water quality data available through the tool.

5. Work Without a Permit

Mr. Jeffery noted this item was added to the agenda per Manager Koch's request. Mr. Jeffery talked about the District's Rule N "Enforcement," explaining it doesn't provide for a rapid response. Mr. Jeffery summarized each of the four steps in the District's Rule N:

- Investigation of non-compliance;
- Board hearing; Administrative compliance order;
- District court enforcement; and,
- Liability for enforcement costs.

Mr. Jeffery offered to answer any questions. There were no questions raised.

6. Chanhassen Surface Water Management Plan

Mr. Jeffery reminded the Board that in August the City of Chanhassen submitted to the District changes to the City's Local Surface Water Management Plan (LSWMP) for review. He summarized District staff's review, including the meeting he and Engineer Sobiech held with the City to walk through the District's comments on the City's changes to its LSWMP. Mr. Jefferey stated that Manager Koch has commented several times that he is not comfortable with the City assuming local controls. Mr. Jeffery remarked that in the case that the City provides equal or greater restrictions and would provide equal protection to the watershed's resources, he is unsure if the District has the authority to determine the City could not take on those controls. Mr. Jeffery stated the District could include in its memorandum to the City the watershed's understanding of the District's expectations of notification and things of that nature. He pointed out the City has incorporated the District's rules by reference. Mr. Jeffery talked about lot line adjustments in Chanhassen.

Mr. Jeffery talked about the memorandum of understanding to the City that the District would draft to clearly communicate how the District should be notified by the City, when the District should be involved, detail that any variance from the rules must come to the District's Board of Managers, and other such information. He said there is no action for the Board to take today, and he anticipates bringing an action item to the Board in December. Administrator Bleser emphasized that the District staff's conversations with the City have been good dialogs.

7. Adopt Governance Manual – Resolution 2020-14

President Ward summarized the process and the work undertaken on the District's Governance Manual over the past year. Attorney Smith stated the policy statements he inserted into the District's Code of Conduct regarding diversity were largely taken from the Capitol Region Watershed District. He said he selected what he considered to be the general guiding principles for inclusion in the District's Governance Manual. He pointed out that the policy is the first step about diversity inclusion, and the significant work is the ongoing implementation and review of progress. He said the Governance Manual puts the policy in place, and the process is to be carried out outside the scope of the Governance Manual.

Attorney Smith reviewed the proposed changes incorporated to the Governance Manual regarding the District's the financial process of reviewing bills and invoices and preparation of the Treasurer's Report. He said he received comments from Manager Crafton on four pieces of the financial process, and he said she could review those suggestions with the Board. Attorney Smith stated Manager Koch forwarded recommended suggestions, and Attorney Smith will take the Board's direction on the comments and suggestions. Manager Crafton went through her comments, and Attorney Smith recorded notes about her recommended changes.

Manager Ziegler noted that the Governance Manual references the District's Audit and Finance Committee and states the Committee shall consist of two managers appointed by the Board. Attorney Smith said his notes indicate the Board made that change at its August workshop, and it was a change suggested by Manager Koch.

Manager Pedersen moved to adopt Resolution 2020-14: Adoption of RPBCWD Governance Manual. Manager Ziegler seconded the motion.

Attorney Smith reviewed the District's current bylaws, which are proposed to be amended, and he reported the bylaws may be amended upon approval of 4/5's majority vote of the Board with 30 days written notice of the proposed changes, unless such notice is waived by all of the managers. He summarized that the District provided 30 days written notice of all the proposed changes except the ones suggested by Manager Crafton earlier in the discussion. President Ward suggested the Board consider approving the Governance Manual as provided in the 30 days written notice and address Manager Crafton's suggestions in the near future.

Manager Pedersen moved to amend her motion to adopt Resolution 2020-14: Adoption of the RPBCWD Governance Manual as presented. Manager Ziegler seconded the motion.

Upon a roll call vote, the motion to amend carried 4-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Absent
Pedersen	Aye
Ward	Aye
Ziegler	Aye

Upon a roll call vote, the amended motion to adopt Resolution 2020-14: Adoption of the RPBCWD Governance Manual as presented carried 4-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Absent
Pedersen	Aye
Ward	Aye
Ziegler	Aye

Administrator Bleser noted that the District reviews its Governance Manual yearly, and the Board could incorporate Manager Crafton's suggestions into that annual review process, which could start as early as January 2021. Manager Crafton agreed to that suggestion.

8. Adjournment

Manager Ziegler moved to adjourn. Manager Crafton seconded the motion. Upon a roll call vote, the motion carried 3-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Absent
Pedersen	Aye
Ward	Absent
Ziegler	Aye

The meeting adjourned at 4:53 p.m.

Respectfully submitted,

_____

David Ziegler, Secretary

RPBCWD October Staff Report

Administration		Staff update	Partners
Accounting and Audit	Coordinate with Accountants for the development of financial reports. Coordinate with the Auditor. Continue to work with the Treasurer to maximize on fund investments.	Staff Bakkum and Administrator Bleser have prepared the financials accordance in accordance to Internal Control Measures.	
Administration		Medify air purifiers were purchased and placed in the common areas of the District office and made available to staff for individual offices. These purifiers filter to .1 microns and provide another layer of protection as staff continue to maintain safety measures. Staff Bleser is also updating staff on COVID best practices at weekly staff meetings.	
Annual Report	Compile, finalize and submit an annual report to agencies	Started compiling data to begin the annual report.	
BWSR	Discuss Targeted Watershed Grant Distribution	• BWSR staff has asked RPBCWD some further details in the funding of one of three options for targeted watershed grant. Next meeting will be November 4th.	9-Mile WD Eden Prairie BWSR Bloomington Chanhassen Carver Co. Hennepin Co. LMRWD Minnetonka Waconia
DEI	Diversity, Equity and Inclusion	Staff have updated and added language to the Code of Conduct section of the Personnel	

		handbook. The language awaits review by legal and the Personnel Committee. Staff Lauer has continued regular communications on specific DEI topics to staff. Staff Lauer has engaged in conversations with other Watershed Districts to explore the steps that they are taking to become more equitable and inclusive. Staff Lauer prepared a report outlining the DEI related activities and conversations staff have taken part in thus far including a list of staff recommendations for consideration by the Board of Managers. Staff Lauer has prepared a proposed amendment to the 10-Year Plan outlining goals and strategies to integrate DEI principles into the District.	
Human Resources	General Human Resources	Administrator Bleser submitted answers to questionnaire and submitted General Assessment.	
Internal Policies	Work with Governance Manual and Personnel Committees to review bylaws and manuals as necessary	The Governance manual is included in the board packet.	
Advisory Committees	Engage with the Technical Advisory Committee on water conservation, chloride management and emerging topics Engage with the Citizen Advisory Committee on water conservation, annual budget and emerging topics.	Staff Lauer met with CAC member Kim Behrens to debrief the September CAC workshop and discuss next steps. Staff Lauer engaged with CAC member Sharon McCotter to create promotional materials for the Chanhassen CleanUp. Administrator Bleser led a joint TAC meeting on October 28th to obtain input and feedback on the floodplain mapping tool. Staff Lauer co-hosted the meeting.	

Local Surface Water Management Plan		Staff continues with the City of Chanhassen on the possibility of taking on some of the regulatory program.	
MAWD		The conference will be virtual.	
District-Wide			
Regulatory Program	Review regulatory program to maximize efficiency. Engage Technical Advisory Committee and Citizen Advisory Committee on possible rule changes. Implement a regulatory program.	Staff met with Chanhassen regarding their proposed plan revision and local control updates. The meeting was productive and Chanhassen will be implementing the changes discussed and bringing it back to RPBCWD for consideration. HEI has completed the beta version of the public interface. Staff met with HEI to review the interface and comment on functionality. HEI will be updating the interface based upon this meeting. Upon completion of updates, the database will be populated with our permits from our current databases. Staff hopes to be able to present the database at the December meeting for a full rollout that month. Four permit applications have been submitted since the October meeting. Two of these permits only trigger Rule C (EPSC) and can be processed administratively: a single family residential home and a directional drilling of a gas line. The remaining two will be brought before the board at a future meeting. One is a shoreline stabilization project on Lake Susan and the other is a commercial development in Eden Prairie.	

		Staff Bakum has been helping staff Jeffery with administration of the permit program which has been extremely beneficial. This is made more so as with the end of the year approaching, many applicants are looking to close out permits meaning refund of any application balance and release of any financial assurances must be processed.	
Aquatic Invasive Species	Review AIS monitoring program Develop and implement Rapid Response Plan as appropriate Coordinate with LGUs and keep stakeholders aware of AIS management activities. Manage and maintain the aeration system on Rice Marsh Lake Riley Chain of Lakes Carp Management Purgatory Chain of Lakes Carp Management Review AIS inspection program. Keep abreast in technology and research in AIS. Zebra mussel adult and veliger monitoring.	The Purgatory Creek fish barrier was pulled again this month to be cleaned and reset. The permit for the operation of the aeration unit on Rice Marsh Lake is currently in the review process and should be granted shortly. Regular carp monitoring began at the end of July and was completed in early October: Fyke Netting (completed): ● 16 young of year (YOY) carp were captured in lower Purgatory Creek Recreational Area wetland (PCRA) indicating some limited recruitment did occur. Additionally, not many other fish were captured in l ower PCRA. ● All other lakes sampled had no YOY captured. These lakes include Rice Marsh, Lucy, and Staring. Rice Marsh and Lucy bluegill populations increased since the past winterkills and the overall size structure seemed to have improved. Electrofishing: ● All electrofishing transects have been completed this month.	City of Chanhassen City of Eden Prairie University of Minnesota MN DNR Carver County

		● Without diving into the analysis, it appears carp levels have increased in Staring. These fish most likely shifted down from the Rec Area as Rec Area carp levels appear to have decreased. ● Lake Susan Park Pond again had high adult carp levels in comparison to its size and continues to be utilized to remove carp from the Riley Creek system. ● Very low carp levels were again observed on Lake Susan in 2020. Adopt-a-Dock results: ● All riley plates have adult zebra mussels attached ● No zebra mussels detected on non-riley plates	
Cost-Share	Schedule and coordinate site visits. Review applications and recommend implementation.	Staff Lauer prepared and presented two applications to the Board of Managers. Staff Lauer prepared and negotiated six funding agreements for grants awarded at the end of September and those granted by the Board of managers on October 14th. Staff Lauer prepared and submitted four reimbursement requests for projects completed in October. Staff Lauer continues to coordinate initial and close-out site visits with the CCWMO technician. The District received two applications for Watershed Stewardship Grants, which will be reviewed by the application review committee. The Watershed Stewardship Grant application period closes on October 31st.	Carver County Soil and Water Conservation District

		Staff Lauer along with the application review committee have begun discussions surrounding program evaluation and review. Staff Lauer has begun exploration of maintenance programs other Watershed Districts and WMOs have in place.	
Data Collection	Continue Data Collection at permanent sites. Identify monitoring sites to assess future project sites.	Staff completed one round of regular stream and did not collect lake samples in October. WOMP stations: samples were collected 3 times this month for the Metropolitan Council. Lake level sensors were checked, downloaded, and pulled at the end of the month. Pond data has been collected biweekly since the end of May. The EnviroDIY monitoring stations have been working better this year. Staff have been cleaning the sensors during every visit and calibrating the sensors when needed. These units were pulled this month and the data is being compiled. Stream EnviroDIY stations were checked (checked biweekly) and have been working. They will be pulled soon. Upper Bluff Creek auto sampling unit to assess upstream pollutant loading has been pulled this month. The data is currently being compiled. Macro Invertebrates were collected on Bluff Creek this year as part of the regular stream rotation. The samples were sent into Dean Hansen for identification and enumeration.	Metropolitan Council City of Eden Prairie University of MN City of Chanhassen MNDNR City of Minnetonka

		Phytoplankton analysis was completed by Margaret Rattei from Barr Engineering this month. Staff has been walking the remaining lower reaches of Purgatory Creek to update MSHA and Modified Pfankuch assessments this year. This month, Staff assessed reach P-2 and most of P-1. The last three subreaches to be walked of P-1 will be finished at the start of November.	
District Hydrology and Hydraulics Model	Coordinate maintenance of Hydrology and Hydraulics Model. Coordinate model update with LGUs if additional information is collected. Partner and implement with the City of Bloomington on Flood Evaluation and Water Quality Feasibility.	District Administrator and Engineer Barnes have been working with MPCA to finalize the grant agreement. The District held a joint TAC meeting (Oct 28) with NMCWD and RBLWMO on the Bloomington Flood Mapping and Prioritization Tool to get feedback from the TAC. The District received positive feedback. 28 members attended. We will be presenting to the board in December.	City of Bloomington City of Minnetonka City of Eden Prairie City of Deephaven City of Shorewood.
Education and Outreach	Implement Education & Outreach Plan, review at year end. Manage partnership activities with other organizations. Coordinate Public Engagement with District projects.	The District will be collaborating with Nine Mile Creek Watershed District to hold a screening of the Kiss the Ground Documentary. Date TBD. Administrator Bleser secured speakers from the U.S. EPA to speak at a webinar about the online How's My Waterway Tool. Administrator Bleser and Staff Lauer have created promotional materials and have been actively promoting the event. Staff Lauer and Administrator Bleser reviewed the rain garden owners handbook and submitted feedback to Barr engineering. Staff	Adopt a drain: City of Eden Prairie, City of Minnetonka, City of

		Lauer met with Barr engineering on October 30th to discuss next steps. Staff Lauer, Staff Bakkum, and the CCWMO technician performed maintenance on a rain garden at EPHS that was installed by a former MN Water Steward. The site will be replanted in the spring. Saplings from the gravel bed tree nursery were distributed to interested Silver Lake area residents with remaining trees made available to all District residents. Communication will be sent to follow up on the transplanted trees. Hundreds of follow up postcards were sent to Duck Lake area residents to highlight Duck Lake Partnership accomplishments. 29 people became Smart Salting certified after attending the Smart Salting Parking Lots and Sidewalks training held virtually on October 13. Multiple attendees have reached out and communication continues with those interested in teaching condensed versions of the class to their own staff. Intern Olivia Holstein created a newsletter.	Bloomington, Hamline University, Nine Mile Creek Watershed District, MPCA, Fortin Consulting
Groundwater Conservation	Work with other LGUs to monitor, assess, and identify gaps. Engage with the Technical Advisory Committee to identify potential projects. Develop a water conservation program (look at Woodbury model)	Staff Lauer met with staff from Nine Mile Creek Watershed District to discuss potential collaborative efforts. Staff Lauer continues to work on the RPBCWD Guide to Water Conservation.	Metropolitan Council City of Eden Prairie City of Shorewood City of Bloomington City of Minnetonka City of Chanhassen
Lake Vegetation Management	Work with the University of Minnesota or Aquatic Plant Biologist, Cities of Chanhassen and Eden Prairie, lake association, and residents as well as	no new update	City of Eden Prairie City of Chanhassen University of Minnesota

	the Minnesota Department of Natural Resources on potential treatment. Implement herbicide treatment as needed. Secure DNR permits and contracts with herbicide applicators. Lakes the District is monitoring for treatment include: Lake Susan, Lake Riley, Lotus Lake, Mitchell Lake, Red Rock Lake and Staring Lake. Work with Three Rivers Park District for Hyland Lake		MNDNR
Opportunity Projects	Assess potential projects as they are presented to the District	No new updates	ISG Staring Lake Outdoor Center The Preserve Association
Total Maximum Daily Load	Continue working with Minnesota Pollution Control Agency on the Watershed Restoration And Protection Strategies (WRAPS). Engage the Technical Advisory Committee.	No new updates	MPCA
Repair and Maintenance Grant	Develop and formalize grant program.	No new update.	
University of Minnesota	Review and monitor progress on University of Minnesota grant. Support Dr John Gulliver and Dr Ray Newman research and coordinate with local partners. Keep the manager abreast to progress in the research. Identify next management steps.	Iron filing ponds are being monitored biweekly and with continuous monitoring stations. Staff Lauer gave a seminar about groundwater at the RPBCWD Groundwater to an Urban Water Resources Management class.	Stormwater ponds partners: Bloomington, Chanhassen, Eden Prairie, Minnetonka, Shorewood, and Limnotech.

			Plant Management: Chanhassen Eden Prairie
Watershed Plan	Review and identify needs for amendments.	Duck Lake Plan Amendment is in the board packet.	
Wetland Conservation Act (WCA)	Administer WCA within the Cities of Shorewood and Deephaven. Represent the District on Technical Evaluation Panel throughout the District	No WCA applications have been received in Deephaven. No WCA applications have been received in Shorewood. Staff Jeffery has provided comment on applications in Chanhassen, and Eden Prairie.	City of Shorewood City of Deephaven City of Chanhassen City of Eden Prairie MCWD BWSR DNR ACOE
Wetland Management	Assess known existing wetlands, identify previously unknown wetlands, and identify potential restoration and rehabilitate wetlands and wetland requiring additional protection.	Staff Jeffery, Staff Dickhausen and staff Nicklay have wrapped up the wetland assessments throughout southern Eden Prairie and Bloomington. They will begin the update of the MNRAM Access database recently updated by Barr. Staff Jeffery, Administrator Bleser, Engineer Sobeich, and Joe Bischoff of Barr had a kickoff meeting to discuss the schedule and responsibilities for the wetland ecosystem services project. A subsequent meeting was held to discuss three of the proposed ecosystem services to be evaluated.	City of Chanhassen City of Eden Prairie Hennepin County Carver County MNDNR BWSR
Hennepin County Chloride Initiative	Phase 1: Develop a plan to target commercial and association-based sources or chloride pollution - businesses, malls, HOAs, property management companies and the private applicators that they hire. We will hire a consultant to facilitate focus groups with private applicators,	A meeting is being set for November to discuss next steps and potential 2 pilot systems.	

	as well as those that execute contracts with private applicators. These focus groups will help identify needs and barriers for our target audience. The consultant will compile information into a plan for implementation.		
Lower Minnesota Chloride Cost-Share Program	The Lower Minnesota River Watersheds are coming together to offer cost-share grants.	Website is being finalized and hope to getting it to be live early november	LMRWD, RBWMO, NMCWD
Bluff Creek One Water			
Bluff Creek Tributary Restoration	Implement and finalize restoration. Monitor Project.	The contractor finished plantings and sites are stil stable.	City of Chanhassen
Wetland Restoration at 101	Remove 3 properties from flood zone, restore a minimum 7 acres and as many as 16 acres of wetlands, connect public with resources, reduction of volume, rate, pollution loads to Bluff Creek	Staff Jeffery, Engineer Sobeich and Karen Wold of Barr Engineering met to discuss current status of wetland restoration and next steps.	City of Chanhassen MN DNR Carver County
Riley Creek One Water			
Lake Riley Alum	Continuing to monitor the Lake.	Alum was successfully applied in June. Staff continues to monitor water quality.	
Lake Susan Improvement Phase 2	Complete final site stabilization and spring start up. Finalize and implement E and O for the project. Monitor project.	No new updates.	City of Chanhassen Clean Water Legacy Amendment

Lake Susan Spent Lime	2020 startup and monitoring.	Monitoring is continuing to assess total phosphorus removal efficiencies. The unit appears to be removing anywhere from 50-90% of total phosphorus concentrations based on sample analysis. The unit was winterized this month.	City of Chanhassen
Lower Riley Creek Stabilization	Coordinate agreement and acquire easements if needed for the restoration of Lower Riley Creek reach D3 and E. Implement Project. Continue Public Engagement for project and develop signage of restoration.	Staff planted trees from our gravel bed nursery at the lower Riley restoration site.	City of Eden Prairie Lower MN River Watershed District
Rice Marsh Lake Alum Treatment	Continuing to monitor the Lake.	No new updates.	City of Eden Prairie City of Chanhassen
Rice Marsh Lake Watershed Load Project 1	Conduct feasibility. Develop cooperative agreement with City of Chanhassen	Public Hearing has been delayed and scheduled December 9 board meeting.	City of Chanhassen
Upper Riley Creek	Work with City to develop scope of work (in addition to stabilizing the creek can we mitigate for climate change) Conduct feasibility Develop cooperative agreement with the City of Chanhassen Order Project Start design	Engineering staff are workly closely with the City in the development of the corridor enhancement plan.	City of Chanhassen
Middle Riley Creek	Work with Bearpath HOA/Golf Course to develop scope of work (in addition to stabilizing the creek can we mitigate for climate change and	Surveying and delineation of Middle Riley is complete. Administrator Bleser and engineering consultant are working with the City of Chanhassen on the corridor enhancement plan.	Bearpath Neighborhood Association. CIty of Eden Prairie

	provide for an improved recreational experience) Draft feasibility report Develop cooperative agreement with Bearpath Order Project Start design	Staff Dickhausen and Nicklay have finished the MNRAM assessments for the wetlands within Bearpath including those within the Middle Riley project area. These MNRAMS, in addition to their other functions, will be used to determine applicable buffer areas during the design phase of the project. A delineation report will be prepared and submitted to Eden Prairie for design purposes.	Dept. of Natural Resources
St Hubert Water Quality Project		Cooperative agreement is included in your packet. SRF is working with the school and is approaching 90% design.	CCSWCD Metropolitan Council City of Chanhassen
Purgatory Creek One Water			
PCRA Berm		No new update.	City of Eden Prairie
Duck Lake Water Quality Project	Work with the City to implement neighborhood BMP. Identify neighborhood BMP to help improve water resources to Duck Lake. Implement neighborhood BMPs.	Administrator Bleser and District Engineer Sobiech have met with Eden Prairie Staff Members Mary Krause and Rod Rue to discuss the term sheet for the cooperative agreement. The agreement is now being drafted.	City of Eden Prairie
Lotus Lake – Internal Load Control	Monitor treatment and plant populations.	No new updates	
Scenic Heights	Continue implementing restoration effort. Work with the City of Minnetonka and Minnetonka School District on Public Engagement for project as well as signage.	Final pay app for the project is being processed this month.	Minnetonka Public School District City of Minnetonka Hennepin County
Silver Lake Restoration	Order project Design Project	Engineer is close to 60% design and will be sending to City for review.	City of Chanhassen

	Work with the City of Chanhassen for Design, cooperative agreement and implementation		
Professional Development	Staff Dickhausen has started the cartography course as a part of MSU's professional GIS certificate. Staff Lauer attended the MN Water Resources Conference and attended multiple sessions concerning groundwater quality and quantity. Staff Dickhausen attended The wetland special session of the Minnesota Water Resources Conference, as well as several sessions of BWSR Academy. Staff Bakkum attended BWSR Academy sessions which focused on holding more effective meetings and how to interact with local legislators. Staff Lauer and Staff Bakkum are in the final stages of becoming notaries public.		

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BARR

Memorandum

To: Riley-Purgatory-Bluff Creek Watershed District Board of Managers and District Administrator
From: Barr Engineering Co.
Subject: Engineer's Report Summarizing October 2020 Activities for November 3, 2020, Board Meeting
Date: October 30, 2020

The purpose of this memorandum is to provide the Riley-Purgatory-Bluff Creek Watershed District (RPBCWD) Board of Managers and the District Administrator with a summary of the activities performed by Barr Engineering Co., serving in the role of District Engineer, during October 2020.

General Services

a. Assisting Administrator Bleser on revisions to the Environmental Assistance Climate Adaptation Grant work plan and budget. The MPCA requested additional information about the project partner, city of Eden Prairie, be added to the work plan and budget estimates.

b. Coordinated with Staff Lauer on district comments on the draft Rain Garden Owner's Manual development by the CAC.

c. Participated in virtual meeting with staff Jeffery and city of Chanhassen on October 5th to discuss Chanhassen's local surface water management plan and intention to pursue implementing RPBCWD regulatory requirements as part of updated ordinances.

d. Participated in the October 1st American Standard Test Method (ASTM) Stormwater Control Measures Committee as requested by Administrator Bleser. ASTM is developing a group to establish testing standards and similar products for stormwater management products and practices (public domain and proprietary BMPs). This effort would complement the MPCA's effort to develop a crediting system for manufactured treatment devices (MTDs)

    a. Identified need for standardization across many practices (something similar to Washington States TAPE program)

    b. Cover all types of BMPs/topics including water quality treatment, volume control, flow management, detention, and reuse (i.e. hydrodynamic separators, filters, bio-boxes, non-point control measures, compost/biochar biofiltration, O&M/longevity)

e. Participate in the October 28th technical advisory committee (TAC) meeting to discuss the result of the Bloomington resiliency and prioritization efforts.

f. Met with Administration Bleser and staff Jeffery and Maxwell on October 27th to discussion potential revisions to the maintenance provision in the Shoreline and Streambank stabilization rule and a shoreline assessment program similar to the CRAS.

g. Met with Administrator Bleser and Watershed Planning Coordinator Jeffery to discuss a plan amendment for soil health. Prepared draft plan amendment text about soil health for staff review

h. Conducted a site review of upper Bluff Creek with Administrator Bleser on October 13th to assess 2021 CIP potential.

i. Participated in the October 7th regular Board of Managers meeting.

j. Participated in the October 14th special Board of Managers meeting.

k. Prepared Engineer's Report for engineering services performed during October 2020.

l. Miscellaneous discussions and coordination with Administrator Bleser about the status of current CIP projects, shoreline considerations and upcoming Board meeting agenda.

Permitting Program

a. *Permit 2020-045: The Bluffs at Lake Lucy* – This project is an approximately 33-acre development that consists of 31 residential lots, with new impervious areas (6.07 acres) including roads, sidewalks, trails, and buildings. Stormwater management facilities include one detention pond with an infiltration bench and a second wet detention pond. Reviewed maintenance declarations and worked with District staff for permit issuance.

b. *Permit 2020-054: Lake Minnetonka Care Center* – This project consists of constructing a new building, parking lot, drive, sidewalks, and related utilities at 16913 State Hwy 7 in Minnetonka. A subsurface stormwater management system will provide stormwater rate, volume and water quality control. The project triggers the erosion prevention, wetland buffers, and sediment control rule and the stormwater management rule. Reviewed September 30th, October 21st and October 27th revised submittals. A permit report was drafted for the Board's consideration at the November 4th meeting.

c. *Permit 2020-065: Terry Pine Coffee Shop*– This project consists of constructing a new building, parking lot, drive, sidewalks, and related utilities at proposed construction of a coffee shop and associated parking/drive lanes at 16315 Terry Pine Drive in Eden Prairie. A subsurface stormwater management system will provide stormwater rate, volume and water quality control. The project triggers the erosion prevention and sediment control rule and the stormwater management rule. Reviewed October 23rd submittal. Notified the applicant on October 30th that the submittal was considered incomplete because it was missing on-site infiltration testing and an engineer's opinion of probable cost.

d. Fielded miscellaneous calls from developer's engineers with questions about floodplain compensatory storage requirement, buffer criteria, shoreline stabilization requirements, and storm water management criteria.

e. Participated in a virtual meeting with Houston Engineering and staff Jeffry to review the new pubic interface of the regulatory database and provide input on revisions.

f. Conducted erosion prevention and sediment control inspection on October 20th for permits in Hennepin County only because district staff inspected all permits in Carver County this month. Provided a summary of sites with open corrective actions to Watershed Planning Manager Jeffery on October 22nd. Watershed Planning Manager Jeffery plans to incorporate the information into a combined, standalone construction site inspection report. Please see the separate item

g. Preapplication review for a potential shoreline stabilization project on Lake Susan at 8600 Apple Tree Lane, including review of erosion intensity worksheet, site photos, and sending comments to the property owner's landscaper. The applicant approached the district for a permit for riprap but the erosion intensity score sheet does not support a high energy site.

h. Miscellaneous conversation with Watershed Planning Manager Jeffery about rules, shoreline fast-track maintenance permits, permit database status, financial assurances, and inspections.

Data Management/Sampling/Equipment Assistance

a. Prepared, loaded, and verified 8 RMB laboratory (RMB) reports.

b. Prepared field data collected with the Survey123 mobile application for the Ponds and Lakes monitoring programs.

c. Provided a summary memo of results for the water quality data and sediment core in stormwater pond RML12 investigation to staff for review and incorporated staff comments.

Task Order 6: WOMP Station Monitoring

Purgatory Creek Monitoring Station at Pioneer Trail

a. Download and review data.

Purgatory Creek Monitoring Station at Valley View Rd

a. Download and review data.

b. Storm event sampling.

c. Review and approve MCES Laboratory invoice.

Task Order 14b: Lower Riley Creek Final Design

a. Worked with Administrator Bleser to install several trees and shrubs from the district's gravel bed tree nursery.

Task Order 21B: Bluff Creek Stabilization Project

a. Worked with Contractor to review requested shrub substitutions.

Task Order 23: Scenic Heights School Forest Restoration

a. Prepared payment application #10 for Board consideration at the November 4th meeting.

Task Order 24B: Silver Lake Water Quality Improvement Project

a. Development and review of 60% design and plan set of proposed system design, including review of City standard plates and details, site grading, and development of IESF design details.

b. Development of 60% engineer's opinion of cost

c. Site visit for wetlands Technical Evaluation Panel for review/approval.

d. Field investigations for soil health, soil type, and accumulated sediment

e. Follow-up on USACE permitting/jurisdiction

f. Further discussion of potential wetland restoration options at downstream end of ravine.

g. Coordination of 60% design review meeting with district and city staff.

Task Order 26: Stormwater Model Update and Flood-Risk Area Prioritization Identification for the Bloomington Portion of Purgatory Creek

a. Staff met with Administrator Bleser on October 22nd to prepare for upcoming TAC meeting. The upcoming TAC meeting is a joint meeting with NMCWD and RBWMO TACs to present the flood-risk prioritization framework and request feedback on the prioritization criteria and approach to developing a prioritized list.

b. Presented flood-risk prioritization at October 28th TAC meeting. There were 28 attendees at the TAC meeting. There was general consensus of the variables used in the prioritization and most of the group saw the methodology as a useful tool to help objectively inform decision makers and the public about why certain flood prone areas take precedent over others.

c. Following receipt of comments, preliminary results will be discussed with Administrator Bleser and City of Bloomington staff to evaluate if further adjustments to the framework are recommended. The preliminary framework will be presented to the Board at a future Board of Manager meeting.

Task Order 29B: Middle Riley Creek (Reach R3) Stabilization Project Design

a. RPBCWD staff provided Barr with updated wetland boundary data September 24th, and provided MNRAM wetland values October 2nd

b. Barr provided wetland buffer figure to RPBCWD for review/comment October 10th, discussed with RPBCWD on October 11th

c. Provided Bearpath and Nicklaus Design updated PDF of preliminary buffer zones for review and discussion on October 20th

d. Working with representatives from Bearpath and Nicklaus Design to schedule a meeting to review updated/new wetland delineation boundaries and potential buffer areas

Task Order 30B: Pioneer Trail Wetland Restoration Design

a. Held a kick-off meeting with staff Jeffery on October 26th to review survey and wetland data collected by district staff. Staff will work on completing the wetland delineation report and permitting for the project over the winter while Barr starts the design to improve water stability, promote diverse vegetation, and increase flood storage. The goal is to have the design and permitting complete so construction could start in the summer of 2021.

Task Order 31A: Kerber Pond Ravine Stabilization Feasibility

a. Review and follow-up on draft feasibility report comments as provided by City and District Staff and finalize report.

b. Preparation for presentation to RPBCWD Managers at November 2020 meeting

Task Order 032A: Upper Riley Creek Ecological Enhancement Plan

a. Provided Administrator Bleser project description for use in adjacent landowner coordination efforts. Staff are working on coordinating a stakeholder meeting.

b. Continued work on the Ecological Enhancement Plan.

Task Order 033: Wetland Assessment – Phase 1

a. Conducted kick-off meeting with District staff on October 22nd to discuss timeline, available data, and general approach for completing the wetland assessment project.

b. Conducted internal kick-off meeting for Barr staff to get organized assign tasks, and make sure Barr staff are all on the same page.

c. Conducted first meeting with District Staff on October 29th to refine goals and ecosystem service definitions.

PROJECT NAME	PERMIT #	DATE INSPECTED	COMPLIANT	CORAC	DATE TO COMPLY	FOLLOW UP	COMPLIANT	NOTES
Saville West Subdivision	2015-036	10/20/2020	YES	NA	NA			No Activity as they have not fullfilled permit obligations.
Hampton Inn Eden Prairie	2015-055	10/20/2020	YES	NA	NA			See 2018-0005
SWLRT	2016-017	10/20/2020	YES	NA	NA			
County Rd 61	2016-032	10/21/2020	YES	NA	NA			
Kopesky 2nd Addition	2017-001	10/19/2020	YES	NA	NA			
Cedarcrest Stables	2017-007	10/20/2020	YES	NA	NA			
Prairie Bluffs Sr Living	2017-024	10/19/2020	YES					
Tweet Pediatric Dental	2017-029	10/20/2020	YES	NA	NA			Ready for closeout
Elevate	2017-030	CLOSED	YES	NA	NA			
Lion's Tap	2017-031	10/19/2020	YES	NA	NA			
Lake Susan Hills	2017-033	10/21/2020	YES	NA	NA			
Basin 0512C Cleanout	2017-040	8/12/2020	YES	NA	NA			
Fawn Hills	2017-047	10/21/2020	YES	NA	NA			
EP 2017 Overlay Project	2017-048	10/19/2020	YES	NA	NA			Ready for closeout
O'Reilly	2017-072	10/20/2020	NO	YES	ASAP	11/2/2020		
Hampton Inn	2018-005	10/20/2020	YES	NA	NA			
ECE I, LLC	2018-012		YES	NA	NA			SITE IS READY FOR CLOSEOUT
Soccer Field #11	2018-013	CLOSED						
Eden Prairie Road	2018-014	9/15/2020	YES	NA	NA			
Starbucks Coffee Shop	2018-015	CLOSED						
Avienda	2018-016	10/19/2020	YES	NA	NA			NO WORK YET
Eden Prairie ASC Parking Expans	2018-017							
MAMAC Systems	2018-027	CLOSED						
Oak Point ES School	2018-028	10/20/2020	YES	NA	NA			
Eden Prairie Senior Living	2018-038	10/19/2020	YES	NA	NA			Site finished. A few clean up items then close out
Smith Village	2018-044	10/20/2020	YES	NA	NA			
CSAH 61 - Peterson Borrow	2018-047	10/19/2020	YES	NA	NA			
Kampe Landscape	2018-048	CLOSED						
D'Alessandro Home	2018-049	CLOSED						
Cedarcrest Stables	2018-051	10/20/2020	YES	NA	NA			Requested LC reduction. Calculate reduction amount
HCRRA Culvert Replacement	2018-052	CLOSED						
Bluff Creek Tributary	2018-056	10/19/2020	YES	NA	NA			
Walker Home	2018-058	CLOSED						
McCoy Lake Sediment Removal	2018-061	EXPIRED						
Lower Riley Creek Stabilization	2018-062	10/21/2020	YES	NA	NA			Inspections can cease until spring
Castle Ridge	2018-066	10/26/2020	NO	YES	11/2/2020			
Hennepin Cnty Library - EP	2018-067	10/20/2020	YES	NA	NA			Ready for closeout
Dristeem	2018-068	CLOSED						
CR 101 Pipeline Repair	2018-069	CLOSED						
4917 Vine Hill Rd	2018-070	10/20/2020	YES	NA	NA			
Minnetonka HS LAX fields	2018-071	CLOSED						
Hyland Park Parking Lots	2018-072	10/20/2020	YES	NA	NA			
Preserve Blvd Recon	2018-073	10/19/2020	YES	NA	NA			
Ground Storage Reservoir	2018-074	10/20/2020	YES	NA	NA			
The Park	2019-001	10/19/2020	YES	NA	NA			
Shelangoski Home	2019-002	CLOSED						

PROJECT NAME	PERMIT #	DATE INSPECTED	COMPLIANT	CORAC	DATE TO COMPLY	FOLLOW UP	COMPLIANT	NOTES
Stable Path	2019-003	10/20/2020	YES	NA	NA			Contacted RPBCWD about educational signage
Duck Lake Rd	2019-004	PENDING						
Singletree Lane Streetscape	2019-005	CLOSED						
2019 Mill and Overlay	2019-006	CLOSED						
Beverly Hills	2019-007	10/20/2020	YES	NA	NA			
Staring Lake Pavilion	2019-008							
5995 Ridge Rd Remodal	2019-009	10/20/2020	YES	NA	NA			
Chan HS Conession San Service	2019-010	CLOSED						PERMIT EXPIRED
Westwind Plaza: Chase Bank	2019-011	10/19/2020	YES	NA	NA			
Lake Drive East M&O	2019-015	CLOSED						
MNTKA Blvd Natural Gas Pipe	2019-016	CLOSED						
6650 Pawnee Dr	2019-017	10/19/2020	YES					
6657 Deerwood Dr	2019-018	10/19/2020	YES					
Sheldon Place Townhomes	2019-019	10/20/2020	YES	NA	NA			
3993 Hillcrest	2019-020	10/21/2020	YES	NA	NA			Ready for closeout
2019 Misc Drainage Improvements	2019-021	CLOSED						
Woodcrest	2019-022	9/16/2020	NO ACTIVITY					
Minnetonka Library Improvemen	2019-023	10/21/2020	YES	NA	NA			
Conifer Heights	2019-024	10/20/2020	YES	NA	NA			
Homestead Cr Sump Collection	2019-025	CLOSED						
Ridgewood Church	2019-026	9/16/2020	YES	NA	NA			
EP M&O	2019-027	CLOSED						
LifeTime Parking Expansion	2019-028	CLOSED						
Sheldon Ave Storm Sewer	2019-029	NO ACTIVITY						
Koeppen Shoreline	2019-030	CLOSED						
Leddy Shoreline	2019-031	CLOSED						
Applebees Parking Lot	2019-032	10/19/2020	YES	NA	NA			Have requested closeout. Still have vegetation to establish and silt fence to remove.
Spring Rd Ped Improvements	2019-033	8/14/2020	YES	NA	NA			
Lion's Tap	2019-034	10/21/2020	YES	NA	NA			
Lot 2, Block 1, Shadowood 3rd	2019-035							
Miller Pool	2019-036	CLOSED						SITE IS READY FOR CLOSEOUT
Maple Leaf Drive SPSC	2019-037							SITE IS READY FOR CLOSEOUT
Costco Fuel Facility Expansion	2019-038	WITHDRAWN						
Maple Leaf Drive Draintile	2019-039	CLOSED						
Homes By Legacy	2019-040	10/20/2020	YES	NA	NA			
Englestad Pool	2019-041	8/13/2020	YES	NA	NA			
TH 101	2019-042	NO ACTIVITY						
Cedarcrest Stables	2019-043	10/20/2020	YES	NA	NA			Some street tracking. Dan Blake to address
Magnolia	2019-046							SITE IS READY FOR CLOSEOUT
Vogelsburg Demolition	2019-047	CLOSED						
EPPS-CMS Addition	2019-048	10/20/2020	NO	YES	11/2/2020			Exposed slopes with not protection
Powers Turn Lanes	2019-049	10/19/2020	YES	NA	NA			
SP 8825-629	2019-050	CLOSED						
Berrospid Addition	2019-051	NO ACTIVITY						
5545 Kipling Ave	2019-052	10/20/2020	YES	NA	NA			
The Overlook	2020-001	WITHDRAWN						

PROJECT NAME	PERMIT #	DATE INSPECTED	COMPLIANT	CORAC	DATE TO COMPLY	FOLLOW UP	COMPLIANT	NOTES
Lennar Drive Removal	2020-002	CLOSED						
Moments of Chanhassen	2020-003	PENDING						
Doan Home (Dove Ct)	2020-004							SITE IS READY FOR CLOSEOUT
Silver Home	2020-005	10/20/2020	YES	NA	NA			
TH 5 Regional Trail	2020-007	NO ACTIVITY						
Eden Ridge, LLC	2020-008	10/20/2020	YES	NA	NA			
ECKANKAR	2020-009	CLOSED						
Ginder Home	2020-010	10/20/2020	YES	NA	NA			
Mntka HS 2020 Parking Lot EXP	2020-011							SITE IS READY FOR CLOSEOUT
PMP Street Maintenance	2020-012	NO ACTIVITY						
Hillcrest Drive	2020-013							SITE IS READY FOR CLOSEOUT
Johnson Shoreline	2020-014	CLOSED						
Vassallo Shoreline	2020-015	CLOSED						
2020 HSIP Project	2020-016	NO ACTIVITY						
Deephaven 2020 Street Maintenance	2020-017	CLOSED						
Deerfield Trail	2020-018	9/16/2020	YES	NA	NA			Ready for closeout
CR 101 Paving	2020-019	NO ACTIVITY						
Lakeview Rd Pool	2020-020							
Purgatory Park Pipe Replacement	2020-021	CLOSED						
Elim Shores Trail	2020-022							SITE IS READY FOR CLOSEOUT
2020 SPCS - Kimberly & Chennault	2020-023	CLOSED						
2020 SPCS - Kristie Ln	2020-024							SITE IS READY FOR CLOSEOUT
Homestead Cr Sump Collection	2020-025	CLOSED						
Target ADA Ped Improvements	2020-026							SITE IS READY FOR CLOSEOUT
Pleasantview Rd Drainage Imp	2020-027	CLOSED						
UHG Tech Drive Pipe Replacement	2020-028							
CORTRUST Bank	2020-029	PENDING						
Vinehill and Purgatory Park	2020-030	CLOSED						
Prairie Heights	2020-031	10/20/2020	YES	NA	NA			
Henderson Pool	2020-032							SITE IS READY FOR CLOSEOUT
Chan 2020 Pavement Rehab	2020-033	WITHDRAWN						
Lake Lucy Rd Rehab	2020-034	WITHDRAWN						
Honeysuckle	2020-035	10/20/2020	YES	NA	NA			
EP 2020 PMP	2020-036	CLOSED						
Oster Sand Blanket	2020-037	CLOSED						
Jones Shoreline	2020-038	PENDING						
Berkshire Townhomes Ret Wall	2020-039	CLOSED						
Dooling shoreline	2020-040	10/19/2020	YES	NA	NA			
Eliasen rip rap	2020-041							
Brady Home - Cedarcrest	2020-042	10/20/2020	YES	NA	NA			
GBM Realty Parking Lot	2020-043	10/19/2020	YES	NA	NA			
Barry Home	2020-044	10/19/2020	YES	NA	NA			
Galpin Project	2020-045							
Tenner Pool	2020-046	10/26/2020	YES	NA	NA			
Abdul Landscaping Project	2020-047	10/20/2020	YES	NA	NA			
Pogge Project	2020-048							SITE IS READY FOR CLOSEOUT

PROJECT NAME	PERMIT #	DATE INSPECTED	COMPLIANT	CORAC	DATE TO COMPLY	FOLLOW UP	COMPLIANT	NOTES
Metes and Bounds 901 Carver Beach Rd	2020-049	WITHDRAWN						
Parkhurst Addition	2020-050	NO ACTIVITY						
Biolyph Parking Lot Addn	2020-051	PENDING						
White Pool	2020-052	10/19/2020	YES	NA	NA			
0	2020-053	WITHDRAWN						
Minnetonka Care Center	2020-054	PENDING						
Warmuth Project	2020-055	WITHDRAWN						
Minnetonka High School 2021 Arts Center Parking Lot	2020-056	PENDING						
Bluff 25 Culvert Rehab Project	2020-057	10/20/2020	YES	NA	NA			
Eagle Ridge Dr Drain Tile	2020-058	PENDING	NO ACTIVITY					LOC returned
Billings Pool	2020-059	PENDING	NO ACTIVITY					
Christian Brothers Automotive	2020-060	PENDING						
Purgatory Creek Estates 2nd Addition	2020-061	PENDING	NO ACTIVITY					
481 Bighorn	2020-062	10/20/2020	YES	NA	NA			

resourceful. naturally.
engineering and environmental consultants

BARR

October 21, 2020

President Dick Ward and Board of Managers
Riley-Purgatory-Bluff Creek Watershed District
14500 Martin Drive Suite 1500
Eden Prairie, MN 55344

Re: Scenic Heights Elementary School Forest Restoration Project – Pay Application #10
Barr Project # 23/27-0053.14-023

Dear President Ward and Board of Managers:

Enclosed is the Application for Payment #10 from Landbridge Ecological for work completed in August 2020, on the above-referenced project. Upon your review and approval, please sign three copies and return one copy to me, one copy to the contractor and retain the remaining copy for your files.

Major items of work covered by this pay application include two site management visits including spot mowing and herbicide applications to control garlic mustard and reed canary grass. Barr staff has visited with management crews on-site and have reviewed conditions before and after management treatments have taken place. Other weeds of concern being managed include motherwort, burdock, yellow sweet clover, poison ivy, and Canadian thistle. A critical overspray of the remaining buckthorn and honeysuckle re-sprouts is still set for this fall after other deciduous plants have dropped their leaves. There will likely be just one more pay application before completion of this project.

Barr Engineering has reviewed the application for payment, confirmed that the work for which payment is requested has been performed, believes to the best of our knowledge that the work has been performed in accordance with the terms of the contract with the Riley Purgatory Bluff Creek Watershed District, and is recommending payment in the amount of **$5,000.00**. Payments shall be made directly to Landbridge Ecological at 670 Vandalia Street, St. Paul, MN 55114.

Please call me at 952-832-2649 if you have any questions or concerns about the application for payment, or about any other related matters.

Matt Kumka, PLA
Barr Engineering Co.

c: Claire Bleser, RPBCWD
Elissa Thompson, Landbridge Ecological

Enclosure #1 – Application for Payment – Progress Payment 10

Scenic Heights School Forest Restoration Project
Progress Payment Number 10

1.0	Total Completed Through This Period	$175,022.50		
2.0	Total Completed Previous Period		$5,000.00	
3.0	Total Completed This Period			$5,000.00
4.0	Amount Retained, Previous Period		$4,980.62	
5.0	Amount Retained, This Period (See Note 1)		$0.00	
6.0	Total Amount Retained		$4,980.62	
7.0	Retainage Released Through This Period:			$0.00
8.0	Amount Due This Period			$5,000.00

Note 1: At rate of 5% until Completed to Date equals 50% of current Contract Price and a rate of 0% thereafter.
Note 2: Current Contract Price $199,225.00

SUBMITTED BY:
Name: Elissa Thompson Date: 10/21/2020
Title: Project Manager
Contractor: Landbridge Ecological

Signature:

RECOMMENDED BY:
Name: Matt Kumka Date: 10/21/2020
Title: Project Manager
Engineer: Barr Engineering Co.

Signature:

APPROVED BY:
Name: Dick Ward Date:
Title: President
Owner: Riley-Purgatory-Bluff Creek Watershed District

Signature:

Scenic Heights School Forest Restoration Project
Riley Purgatory Bluff Creek Watershed District
Summary of Work Completed through October 21, 2020 for Progress Payment Number 10 (INVOICE #4189)

Item	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY	BID - LANDBRIDGE ECOL UNIT COST	BID - LANDBRIDGE ECOL EXTENSION	(1) Total Completed Through This Period Quantity	(1) Total Completed Through This Period Amount	(2) Total Completed Through This Period Quantity	(2) Total Completed Through This Period Amount	(3) Total Completed Through This Period Quantity	(3) Total Completed Through This Period Amount	(4) Total Completed Through This Period Quantity	(4) Total Completed Through This Period Amount	(5) Total Completed Through This Period Quantity	(5) Total Completed Through This Period Amount	(6) Total Completed Through This Period Quantity	(6) Total Completed Through This Period Amount	(7) Total Completed Through This Period Quantity	(7) Total Completed Through This Period Amount	(8) Total Completed Through This Period Quantity	(8) Total Completed Through This Period Amount	(9) Total Completed Through This Period Quantity	(9) Total Completed Through This Period Amount	(10) Total Completed Through This Period Quantity	(10) Total Completed Through This Period Amount
1.06.A	Mobilization/Demobilization	L.S.	1	$15,500.00	$15,500.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$15,500.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 B	Erosion Control Construction Entrance	Each	1	$2,500.00	$2,500.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06.C	Desirable Plant Marking for Protection	L.S.	1	$1,750.00	$1,750.00	1	$1,750.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 D	Clear and Grub Woody Invasive Plant Removal (Trees under 8")	AC	7	$4,500.00	$31,500.00	6	$27,000.00	1	$4,500.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 F	Clear and Grub Woody Invasive Plant Removal (Trees over 8")	Each	40	$450.00	$18,000.00	33	$14,850.00	7	$3,150.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 H	Remove and Dispose of Adopt-A-Plots Signs	Each	30	$85.00	$2,550.00	30	$2,550.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 I	Heavy Duty Silt Fence	L.F.	85	$15.50	$1,317.50	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 J	Erosion Control Blanket	S.Y.	125	$5.50	$687.50	0	$0.00	125	$687.50	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 K	Remove and Salvage Topsoil (P)	C.Y.	80	$45.00	$3,600.00	0	$0.00	80	$3,600.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 L	Grading	L.S.	1	$5,900.00	$5,900.00	0	$0.00	1	$5,900.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 M	Rock Riffle	Each	3	$3,500.00	$10,500.00	0	$0.00	3	$10,500.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 N	Woodland Seed Mix with Cover Crop (Custom Mix)	AC	4.7	$2,200.00	$10,340.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	4.7	$10,340.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 O	Prairie Seed Mix with Cover Crop (MnDOT 35-221)	AC	1.3	$1,950.00	$2,535.00	0	$0.00	0	$0.00	0	$0.00	1.3	$2,535.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 P	Woodland Edge Seed Mix with Cover Crop (MnDOT 36-711)	AC	1.2	$1,850.00	$2,220.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1.2	$2,220.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 Q	Wet Meadow Seed Mix with Cover Crop (MnDOT 34-261)	AC	0.5	$3,500.00	$1,750.00	0	$0.00	0.3	$1,050.00	0	$0.00	0	$0.00	0.2	$700.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 R	Live Stake (Furnish and Install)	Each	148	$15.50	$2,294.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	148	$2,294.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 S	#10 Cont. Tree (Furnish and Install)	Each	30	$350.00	$10,500.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	30	$10,500.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 T	Shrub, Bare Root (Furnish and Install)	Each	182	$25.50	$4,641.00	0	$0.00	101	$2,575.50	0	$0.00	0	$0.00	81	$2,065.50	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 U	Herbaceous Plug (Furnish, Install by others)	Each	2520	$1.50	$3,780.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	2520	$3,780.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 U	Straw Mulch	AC	7.7	$1,550.00	$11,935.00	0	$0.00	0	$0.00	0	$0.00	1	$1,550.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 V	Shredded Hardwood Mulch	C.Y.	45	$65.00	$2,925.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	45	$2,925.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 W	Herbaceous Management Site Visit 2018	Each	7	$2,500.00	$17,500.00	0	$0.00	3	$7,500.00	3	$7,500.00	1	$2,500.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00
1.06 X	Herbaceous Management Site Visit 2019	Each	7	$2,500.00	$17,500.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	1	$2,500.00	1	$2,500.00	2	$5,000.00	0	$0.00	0	$0.00	0	$0.00
1.06 Y	Herbaceous Management Site Visit 2020	Each	7	$2,500.00	$17,500.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$0.00	2	$5,000.00	2	$5,000.00	2	$5,000.00
	CONSTRUCTION SUBTOTAL				**$199,225.00**		**$46,150.00**		**$39,463.00**		**$7,500.00**		**$6,585.00**		**$52,824.50**		**$2,500.00**		**$5,000.00**		**$5,000.00**		**$5,000.00**		**$5,000.00**

LANDBRIDGE
ECOLOGICAL

SCENIC HEIGHTS ELEMENTARY FOREST RESTORATION MANAGEMENT REPORT

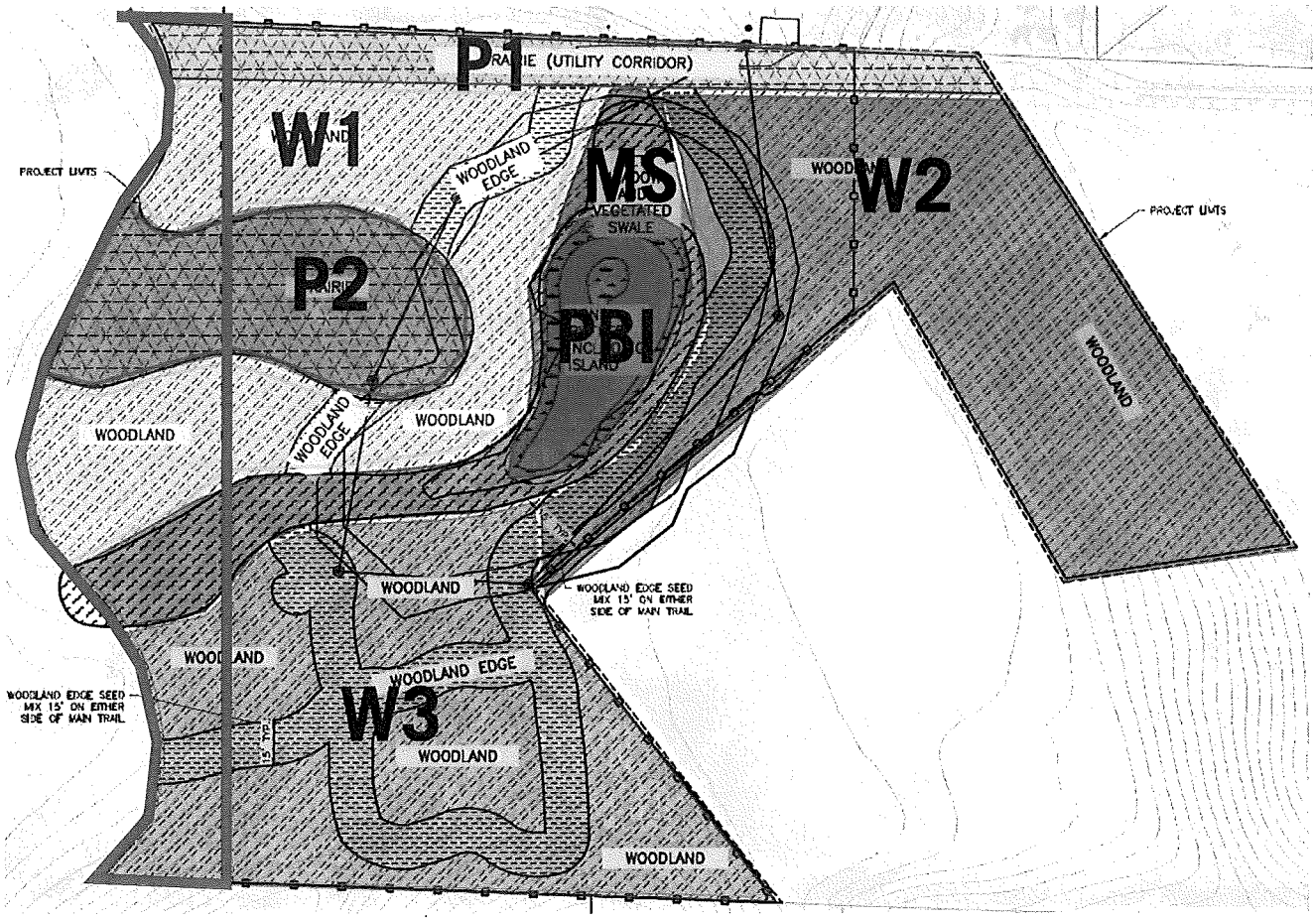
5650 Scenic Heights Dr, Minnetonka, MN 55345

Date: 8/28/20

Report Prepared by: Jen Merth

Maintenance Task(s) Performed:	**Date:** 8/07 **Task Description:** 1) Spot mow annual and biennial weed species.	**Date:** 8/07 **Task Description:** 2) Critical period cut on city property	**Date:** 8/24 **Task Description:** 1) Spot mow annual and biennial weed species. 2) spot spray perennial weed species	**Date:** **Task Description:**
Equipment Used:	weed whips	brushsaws	weed whips, walk behind tractor, backpack sprayers	
Herbicide(s)Used/ Quantity:	N/A	N/A	2 gal of Garlon 3a at 1oz/gal	
Species Managed:	sweet clover, daisy fleabane, RCG, common mullein	common buckthorn, honeysuckle, prickly ash.	1)Foxtail, barnyard grass, sweet clover, sowthistle, marestail, fleaban 2) C. thistle	

670 Vandalia Street
Saint Paul, MN 55114
612.503.4420
www.landbridge.eco



RESTORATION AND PLANTING AREAS

WOODLAND 1 (W1)
WOODLAND 2 (W2)
WOODLAND 3 (W3)
PRAIRIE 1(P1)
PRAIRIE 2 (P2)
MEADOW AND SWALE (MS)
POND BUFFER AND ISLAND (PBI)

AREAS MANAGED:

Date: 8/07	**Date:** 8/07	**Date:** 8/24	**Date:**
Area Description: (ex. south half of W1, all of P2): 1) whole site	**Area Description:** 2) Pink outlined area	**Area Description:** 1) whole site 2) W2	**Area Description:**
Notes: followup in 3-4 weeks with a spot spray	**Notes:** follow up in fall with a foliar spray	**Notes:** fleabane becoming aggressive. Continue to mow.	**Notes:**

LANDBRIDGE ECOLOGICAL

670 Vandalia Street
Saint Paul, MN 55114
612.503.4420
www.landbridge.eco

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INVOICE # 4189

BILL TO Riley Purgatory Bluff Creek WD
18681 Lake Dr. E.
Chanhassen, MN 55317

PROJECT 17-054 Scenic Heights Restoration
DATE 10/21/20
TERMS Net 30

DESCRIPTION	QTY	RATE	AMOUNT
Herbaceous Management Site Visit 2020 (EA)	2	2,500.00	5,000.00

TOTAL	$5,000.00
PAYMENTS / CREDITS	$0.00
BALANCE DUE	**$5,000.00**

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

18681 Lake Drive East
Chanhassen, MN 55317
952-607-6512
www.rpbcwd.org

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2020-054

Considered at Board of Managers Meeting: November 4, 2020

Received complete: September 30, 2020

Applicant:	Lake Minnetonka Care Center - Jeff Sprinkel
Representative:	Larsen Engineering- Nathan Nohner
Project:	The Lake Minnetonka Care Center Development will consist of the redevelopment of a single-family home property, with construction of a new building, parking lot, drive, sidewalks, related utilities and an underground stormwater detention/infiltration system, a filtration basin, and vegetated buffers to provide volume control, water quality, and rate control.
Location:	16913 State Hwy, Minnetonka, Minnesota 55345
Reviewer:	Scott Sobiech, P.E., Barr Engineering

Proposed Board Action

Manager _____ moved and Manager _____ seconded adoption of the following resolutions based on the permit report that follows and the presentation of the matter at the November 4, 2020 meeting of the managers:

Resolved that the application for Permit 2020-054 is approved, subject to the conditions and stipulations set forth in the Recommendations section of the attached report;

Resolved that on determination by the RPBCWD administrator that the conditions of approval of the permit have been affirmatively resolved, the RPBCWD president or administrator is authorized and directed to sign and deliver to the applicant, Permit 2020-054 on behalf of RPBCWD.

Upon vote, the resolutions were adopted, _____ [VOTE TALLY].

Applicable Rule Conformance Summary

Rule	Issue		Conforms to Rule?	Comments
C	**Erosion Control Plan**		See comment.	See rule-specific permit condition C1.
D	**Wetland and Creek Buffers**		See comment.	See rule-specific permit condition D1.
J	**Stormwater Management**	Rate	Yes	
		Volume	Yes	See rule-stipulations 4
		Water Quality	Yes	
		Low Floor Elev.	Yes	
		Maintenance	See comment.	See rule-specific permit condition J1.
		Chloride Management	See comment.	See rule-stipulations 5
		Wetland Protection	Yes	
L	**Permit Fee**		Yes.	$3,000 received August 20, 2020.
M	**Financial Assurance**		See comment.	The financial assurance is calculated at $170,453

Background

There is a single-family home and associated appurtenances on the existing site. The applicant proposes demolition and removal of the single-family home for construction of new building, parking lot, drive, sidewalks, related utilities and an underground stormwater detention/infiltration system, filtration basin, and vegetated buffer to provide volume control, water quality, and rate control. The site is located 0.4 miles east of County Road 101 on State Highway 7 in Minnetonka, MN. There is also a medium value wetland in the southeast corner of the site.

The project site information is summarized in Table 1

Table 1. Project site information

Project Site Information	Area (acres)
Total Site Area	2.36
Existing Site Impervious	0.37
Post Construction Site Impervious	0.76

Project Site Information	Area (acres)
New (Increase) in Site Impervious Area	0.39 (>100% increase)
Sidewalk and Trial Exempt Impervious Area (acres)	0.0
Disturbed impervious surface (acres)	0.37 (99% disturbance)
Total Disturbed Area	1.77

Exhibits:

1. Permit application dated August 19, 2020 (Notified applicant on August 30, 2020 that submittal was incomplete)
2. Project Plan set dated August 11, 2020 (revised September 30, 2020 October 21, 2020, and October 27, 2020)
3. Stormwater Report dated August 7, 2020 (revised September 30, 2020, October 21, 2020, and October 27, 2020)
4. Wetland Delineation Report with MnRAM Assessment dated September 16, 2020 (Midwest Natural Resources)
5. Design Phase Geotechnical Report by Chosen Valley Testing, Inc dated April 17, 2020
6. Supplemental Geotechnical Report by Chosen Valley Testing, Inc dated September 28, 2020
7. Existing and Proposed HydroCAD Models received August 19, 2020 (revised September 30, 2020 and October 21, 2020)
8. P8 Existing and Proposed Conditions Models received October 21, 2020 and October 27, 2020
9. Review Responses dated September 30, 2020 (i.e., the applicant's responses to the August 30th incomplete notice/review comments)
10. Review Responses dated October 21, 2020
11. Review Responses dated October 27, 2020
12. Engineers Opinion of construction cost received September 30, 2020 (revised October 21, 2020).
13. Draft maintenance declaration received October 21, 2020 (revised October 27, 2020).

Rule Specific Permit Conditions

Rule C: Erosion and Sediment Control

Because the project will alter 1.77 acres of land-surface area the project must conform to the requirements in the RPBCWD Erosion and Sediment Control rule (Rule C, Subsection 2.1).

The erosion control plan prepared by Larson Engineering includes installation of silt fence, inlet protection for storm sewer catch basins, rock berm construction entrances, daily inspection, placement of a minimum

of 6 inches of topsoil, decompaction of areas compacted during construction, and retention of native topsoil onsite. To conform to RPBCWD Rule C requirements the following revisions are needed:

C1. The Applicant must provide the name and contact information of the general contractor responsible for the site. RPBCWD must be notified if the responsible party changes during the permit term. This information is required prior to issuance of the permit.

Rule D: Wetland and Creek Buffers

Because the proposed work triggers a permit under RPBCWD Rule J and there is a wetland (wetland A) protected by the state Wetland Conservation Act downgradient from the proposed construction activities, Rule D, Subsections 2.1a and 3.1 require buffer on the edges of the wetland that is downgradient from the land-disturbing activities (a wetland map is provided below for reference). No disturbance of the wetland is proposed.

Delineated Wetland
16913 Hwy 7
Minnetonka, MN

Figure 5

Using the MNRAM functions and values assessment dated September 16, 2020 the onsite wetland was determined to be medium value. The land-disturbing activities are located upgradient from the medium value wetland requiring a 40-foot average, 20-foot minimum buffer width (Rule D, Subsection 3.2b.iii). The buffer widths are summarized in the Table 2 below and demonstrate that the minimum and average buffers widths provided with the project to Rule D, subsection 3.2b.

Table 2. Wetland Buffer Analysis Summary

Wetland ID	RPBCWD Wetland Value	Required Minimum Width[1] (ft)	Required Average Width[1] (ft)	Provided Minimum Width (ft)	Provided Average Width (ft)
A	Medium	20	40	20	40.4

[1] Average and minimum required buffer width under Rule D, Subsection 3.2.b.

The plan requires revegetating disturbed areas within the proposed buffer with native vegetation, thus conforming with Rule D, Subsection 3.3. The drawing show the proposed buffer sign locations will conform with Rule D, subsection 3.4. A note is included on the plan sheet indicating the project will be constructed so as to minimize the potential transfer of aquatic invasive species (e.g., zebra mussels, Eurasian watermilfoil, etc.) to the maximum extent possible conforming to Rule D, Subsection 3.5.

A draft maintenance declaration was provided for review and conforms to the RPBCWD Rule D requirements. The following information is needed:

D1. In accordance with Rule D, Subsection 3.4, a copy of the recorded declaration must be provided prior to issuance of a permit.

Rule J: Stormwater Management

Because the project will involve 1.77 acres of land-disturbing activity, the project must meet the criteria of RPBCWD's Stormwater Management rule (Rule J, Subsection 2.1). The criteria listed in Subsection 3.1 will apply to the entire site because the project will disturb more than 50% of the existing impervious surface on the parcel (Rule J, Subsection 2.3).

The project includes construction of an underground detention/infiltration system and a filtration basin to provide runoff volume abstraction, water-quality treatment, and rate control. Pretreatment of runoff prior to entering the underground detention/infiltration system is provided by sump manholes and a portion of underground systems dedicated to pretreament before the runoff enters the information portion of the system (i.e., a sediment row).

Rate Control

In order to meet the rate control criteria listed in Subsection 3.1.a, the 2-, 10-, and 100-year post development peak runoff rates must be equal to or less than the existing discharge rates at all locations where stormwater leaves the site. The applicant used a HydroCAD hydrologic model to simulate runoff rates for pre- and post-development conditions for the 2-, 10-, and 100-year frequency storm events using a nested rainfall distribution, and a 100-year frequency, 10-day snowmelt event. The existing and proposed 2-, 10-, and 100-year frequency discharges from the site are summarized in Table 3. The proposed project is in conformance with RPBCWD Rule J, Subsection 3.1.a.

Table 3. Rate control summary

Discharge Location	2-Year Discharge (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)		10-Day Snowmelt (cfs)	
	Ex	Prop	Ex	Prop	Ex	Prop	Ex	Prop
Northwest	0.9	0.8	1.9	1.5	4.5	3.2	0.4	0.3
Northeast	5.9	5.6	11.6	11.0	25.9	24.5	2.5	2.4
South	0.6	0.4	1.3	0.7	3.1	1.7	0.2	0.1

Volume Abstraction

Subsection 3.1.b of Rule J requires the abstraction onsite of 1.1 inches of runoff from the impervious surface of the parcel. An abstraction volume of 0.07 acre-feet (3,047 cubic feet) is required from the 0.76 acres of impervious area. The project includes an underground detention/infiltration system and a filtration basin with pretreatment to provide runoff volume abstraction, water quality treatment, and rate control. Pretreatment of runoff prior to entering the underground detention/infiltration system is provided by sump manholes and a dedicated sediment row while the pretreatment for the filtration basin is provided by a grass filter strip.to conform to Rule J, Subsection 3.1b.ii.2.

Soil borings performed by Chosen Valley Testing show that soils below the proposed underground detention/infiltration system consist poorly graded sand with silt and silty sand. The MN Stormwater Manual indicates an infiltration rate of 0.45 inches per hour for sandy lean clay. Soil borings at other locations show predominately Hydrologic Soil Group (HSG) Type D soils onsite (i.e., clay soils). Groundwater was encountered in the soil borings located at the proposed underground detention/infiltration system at elevation 895.55 feet. The bottom of the proposed subsurface infiltration system is at an elevation of 899.0 feet. This indicates that groundwater is at least 3 feet below the bottom of the proposed stormwater management systems (Rule J, Subsection 3.1.b.ii.2). An abstraction volume of 3,340 cubic feet is provided by the underground detention/infiltration system.

While the underground detention/infiltration system is large enough to provide all the project's required abstraction, site grades prevent all the project's impervious surfaces from being routed the underground

detention/infiltration system. The applicant considered relocation of the project elements and placed the proposed underground detention/infiltration system at a location where soils are conducive to infiltration and to use maximize the tributary impervious area. Because of the site soils and site topography the RPBCWD engineer determines that the site qualifies as restricted under subsection 3.3. of Rule J.

For restricted sites, subsection 3.3 of Rule J requires rate control in accordance with subsection 3.1.a and that abstraction and water-quality protection be provided in accordance with the following sequence: (a) Abstraction of at least 0.55 inches of runoff from site impervious surface determined in accordance with paragraphs 2.3, 3.1 or 3.2, as applicable, and treatment of all runoff to the standard in paragraph 3.1c; or (b) Abstraction of runoff onsite to the maximum extent practicable and treatment of all runoff to the standard in paragraph 3.1c; or (c) Off-site abstraction and treatment in the watershed to the standards in paragraph 3.1b and 3.1c.

The site constraints result in runoff from roughly 22,017 square feet (66.2%) of the regulated impervious surface being routed to the underground detention/infiltration areas for volume management. This results in an abstraction volume of 2,018 cubic feet from the tributary impervious area which is equivalent to 0.73 inches of runoff from the regulated impervious surface on the site. The abstraction achieved by the project is summarized in Table 4. The proposed project is in conformance with Rule J, Subsection 3.3.a.

Table 4. Volume abstraction summary

Stormwater Management System	Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Depth (inches)	Provided Abstraction Volume (cubic feet)
Underground detention/infiltration system	1.1	3,047	0.73	2,018

The proposed stormwater facilities provide adequate surface area to drawdown the abstraction volumes within the required 48 hour period, thus conforming with Rule J, Subsection 3.1.b.ii.3.

While the geotechnical report lists a suggested infiltration rate of 0.45 inches per hour based on soil classification, it does not contain infiltration or hydraulic conductivity testing results at the bottom of the infiltration facilities as required by Rule J, Subsection 3.1.b.ii.c. The applicant must submit documentation verifying the infiltration capacity of the soils and that the volume control capacity is calculated using the measured infiltration rate prior to project close-out. If infiltration capacity is less than needed to conform with the volume abstraction requirement in subsection 3.1b, design modifications to achieve compliance with RPBCWD requirements will need to be submitted (in the form of an application for a permit modification or new permit).

Water Quality Management

Subsection 3.1.c of Rule J requires the Applicant to provide for at least 60 percent annual removal efficiency for total phosphorus (TP), and at least 90 percent annual removal efficiency for total suspended solids (TSS) from site runoff. The Applicant is proposing an underground detention/infiltration system, filtration basin, and vegetated buffer to provide water-quality treatment and rate control for runoff prior to discharging offsite. A P8 water quality model was developed to estimate the TP and TSS loading from the watersheds and the removal capacity of the proposed BMPs. The results of this modeling are summarized in Tables 5 and 6 below. The engineer concurs with the modeling and finds that the proposed project will be in conformance with Rule J, Subsection 3.1.c.

Table 5. Annual TSS and TP removal summary:

Pollutant of Interest	Regulated Site Loading (lbs/yr)	Required Load Removal (lbs/yr)[1]	Provided Load Reduction (lbs/yr)
Total Suspended Solids (TSS)	670.7	603.6 (90%)	606.7 (90.5%)
Total Phosphorus (TP)	2.2	1.3 (60%)	1.6 (72.8%)

[1]Required load reduction is calculated based on the removal criteria in Rule J, Subsection 3.1c and the new and reconstructed impervious area site loading

Table 6. Summary of net change in TSS and TP leaving the site

Pollutant of Interest	Existing Site Loading (lbs/yr)	Proposed Site Load after Treatment (lbs/yr)	Change (lbs/yr)
Total Suspended Solids (TSS)	96.9	62.7	-34.2
Total Phosphorus (TP)	0.7	0.6	-0.1

Low floor Elevation

No structure may be constructed or reconstructed such that its lowest floor elevation is less than 2 feet above the 100-year event flood elevation according to Rule J, Subsection 3.6. The low floor elevations of the proposed structure (899.67 ft) is less than the required 2 feet above 100-year event flood elevation of underground detention/infiltration system, existing wetland, and proposed filtration basin. The applicant completed an analysis in accordance with Appendix J1 for the proposed structure as summarized in Table 7. Based on the analysis provided, the engineer concurs that the low floor of the proposed structure will be in compliance with Plot 2 in Appendix J1. The RPBCWD Engineer concurs that the proposed project is in conformance with Rule J, Subsection 3.6.

Table 7. Summary Low Floor Analysis

Stormwater Facility	Low Floor Elevation of Building (feet)	100-year Event Flood Elevation Stormwater Facility (feet)	Provided Distance Between Building and Adjacent Stormwater Feature (feet)	Groundwater Elevation at Proposed Low Floor (feet)	Required Separation to Groundwater based on Appendix J, Plot 1 (feet)	Provided Separation to Groundwater based on Appendix J, Plot 1 (feet)
Underground detention/infiltration System	899.67	902.46	42	886.35	8	13.32
Filtration Basin	899.67	907.39	53	886.45	6.5	13.22
Wetland A	899.67	897.80	96	886.45	3	13.22

Maintenance

Subsection 3.7 of Rule J requires the submission of a maintenance plan. All stormwater management structures and facilities must be designed for maintenance access and properly maintained in perpetuity to assure that they continue to function as designed. The applicant provided a draft maintenance declaration for review.

J1. Permit applicant must provide a revised draft maintenance and inspection declaration. The exhibits need to be updated to reflect all vegetated buffers used for water quality treatment. A draft of the revised declaration must be provided for District approval prior to recording.

Wetland Protection

Because the proposed activities discharge to wetlands on the site and alter the discharge the wetland receive from the site, the proposed activities must conform to RPBCWD wetland protection criteria (Rule J, subsection 3.10). The applicant provided and the Engineer concurs with the below analysis of potential wetland impacts based on Table J1 of RPBCWD Rule J.

The onsite wetland is medium value. Table 8 summarizes the allowable change in bounce and inundation duration from Table J1 of RPBCWD Rule J. The information summarized in Table 9 summarizes the applicant's analysis for wetland protection and the potential impacts on the wetlands.

Table 8: Summary of allowable impacts on onsite wetland from Rule J, Table J1

Wetland Value/ Waterbody	Permitted Bounce for, 10-Year Event	Inundation Period for 1- and 2-Year Event	Inundation Period for 10-Year Event	Runout Control Elevation
Medium	Existing + 1.0 feet	Existing+2 days	Existing +14 days	0 to 1.0 ft above existing runout

Table 9: Impacts of Project on Wetlands

Wetland	RPBCWD Wetland Value	Change in Bounce for, 10-Year Event (feet)	1-year change in Inundation Period (days)	2-year change in Inundation Period (days)	10-year change in Inundation Period (days)	Runout Control Elevation
Wetland A	Medium	-0.1	0	0	0	No change

The proposed project conforms to the wetland bounce and inundation requirements.

The applicant's water quality analysis, summarized in Table 10, demonstrates the project will treat the site runoff prior to discharging to the onsite wetland in accordance with Rule J, subsection 3.10b.

Table 10. Annual TSS and TP removal summary for runoff to Wetland A:

Pollutant of Interest	Required Removal	Provided Removal
Total Suspended Solids (TSS)	90%	93%
Total Phosphorus (TP)	60%	61%

Chloride Management

Subsection 3.8 of Rule J requires the submission of chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan. To close out the permit and release the $5,000 in financial assurance held for the purpose of chloride management, the permit applicant must provide a chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan at the site.

Rule L: Permit Fee:

The RPBCWD permit fee schedule adopted in February 2020 requires permit applicants to submit a permit-fee deposit of $3,000 to be held in escrow and applied to reimburse RPBCWD for the permit-application processing fee and permit review and inspection-related costs. When the permit application is approved, the deposit must be replenished to the applicable deposit amount by the applicant before the permit will

be issued to cover actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules. A permit fee deposit of $3,000 was received on August 19, 2020.

Rule M: Financial Assurance:

Rule C:

Perimeter Control: 1,425 L.F. x $2.50/L.F. = ...$3,563

Restoration: 1.77 acres x $2,500/acre = ...$4,425

Inlet Protection: 5 x $100/each =.....$500

Construction Entrance: 1 x $250/each =.....$250

Rule D:

Wetland and Creek Buffer: $5,000 + $1,000/acre over 10 acres = ...$5,000

Rules J:

Stormwater facilities: 125% of Engineer's Opinion of Cost (1.25*$108,975) = ...$136,219

Chloride Management Plan = ...$5,000

Contingency (10%) $15,496

Total Financial Assurance.....$170,453

Applicable General Requirements:

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. Construction shall be consistent with the plans and specifications approved by the District as a part of the permitting process. The date of the approved plans and specifications is listed on the permit.
3. Construction must be consistent with the plans, specifications, and models that were submitted by the applicant that were the basis of permit approval. The date(s) of the approved plans, specifications, and modeling are listed on the permit. The grant of the permit does not in any way relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.
4. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
5. The issuance of this permit does not convey any rights to either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
6. In all cases where the doing by the permittee of anything authorized by this permit involves the taking, using or damaging of any property, rights or interests of any other person or persons, or of any publicly owned lands or improvements or interests, the permittee, before proceeding therewith, must acquire all necessary property rights and interest.

7. RPBCWD's determination to issue this permit was made in reliance on the information provided by the applicant. Any substantive change in the work affecting the nature and extent of applicability of RPBCWD regulatory requirements or substantive changes in the methods or means of compliance with RPBCWD regulatory requirements must be the subject of an application for a permit modification to the RPBCWD.
8. If the conditions herein are met and the permit is issued by RPBCWD, the applicant, by accepting the permit, grants access to the site of the work at all reasonable times during and after construction to authorized representatives of the RPBCWD for inspection of the work.

Findings

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. The proposed project will conform to Rules C, D and J if the Rule Specific Permit Conditions listed above are met.

Recommendation:

Approval of the permit contingent upon:

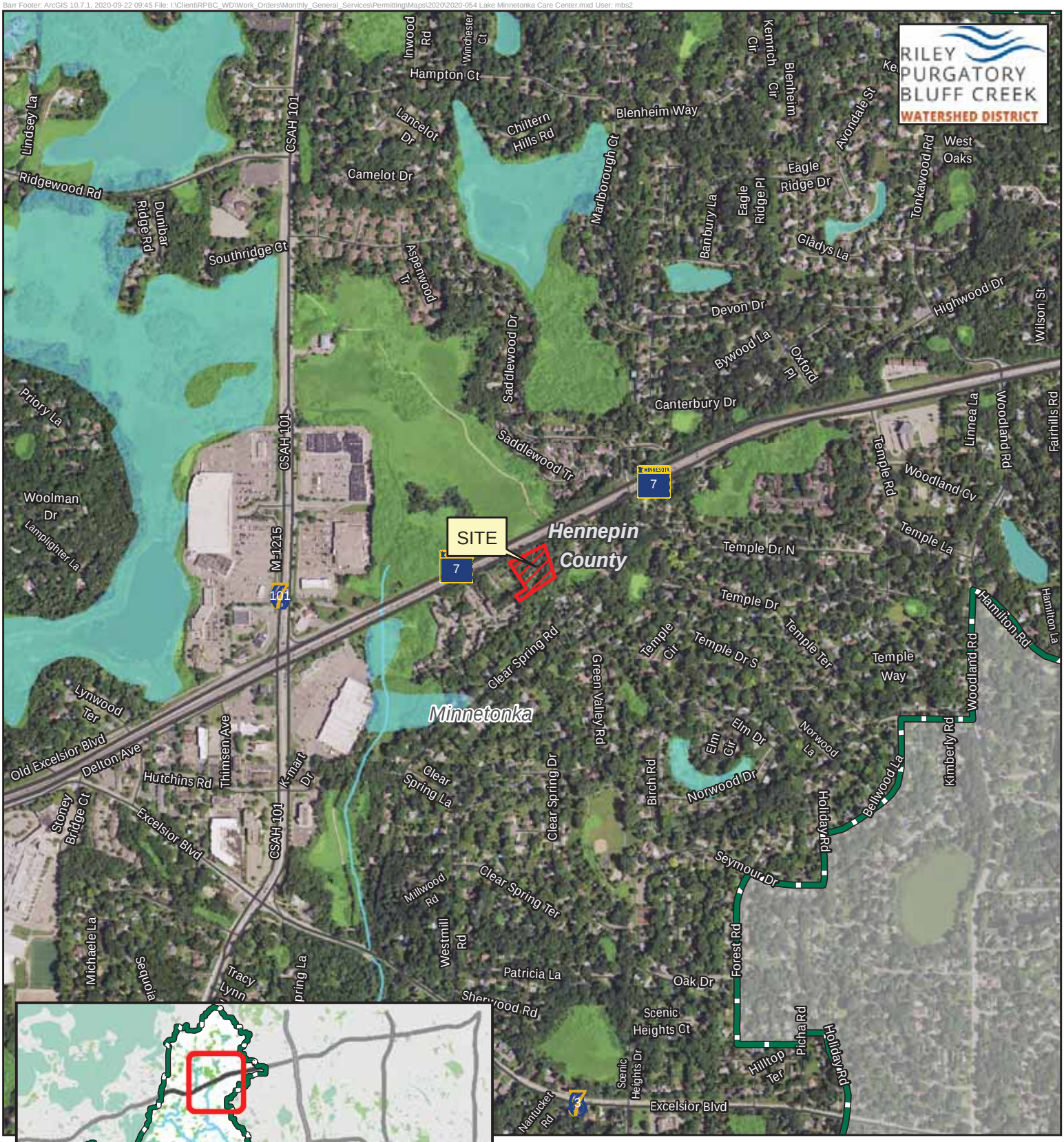
1. Continued compliance with General Requirements.
2. Financial Assurance in the amount of $170,453.
3. The applicant providing the name and contact information of the general contractor responsible for the site.
4. Receipt in recordation of a revised maintenance declaration for the operation and maintenance of the buffer and stormwater management facilities. A draft must be approved by the District prior to recordation.

By accepting the permit, when issued, the applicant agrees to the following stipulations:

1. Per Rule J Subsection 4.5, upon completion of the site work, the permittee must submit as-built drawings demonstrating that at the time of final stabilization, the pretreatment manholes and subsurface stormwater facility conform to design specifications and function as intended and approved by the District. As-built/record drawings must be signed by a professional engineer licensed in Minnesota and include, but not limited to:
    a) the surveyed bottom elevations, water levels, and general topography of all facilities;
    b) the size, type, and surveyed invert elevations of all stormwater facility inlets and outlets;
    c) the surveyed elevations of all emergency overflows including stormwater facility, street, and other;
    d) other important features to show that the project was constructed as approved by the Managers and protects the public health, welfare, and safety.
2. Providing the following additional close-out materials:

a) Documentation that constructed infiltration and reuse facilities perform as designed. This may include infiltration testing, flood testing, or other with prior approval from RPBCWD
b) Documentation that disturbed pervious areas remaining pervious have been decompacted per Rule C.2c criteria

3. The work on the Minnetonka Care Center development under the terms of permit 2020-054, if issued, must have an impervious surface area and configuration materially consistent with the approved plans. Design that differs materially from the approved plans (e.g., in terms of total impervious area) will need to be the subject of a request for a permit modification or new permit, which will be subject to review for compliance with all applicable regulatory requirements.
4. Per Rule J, Subsection 3.1.b.ii measured infiltration capacity of the soils at the bottom of the infiltration systems must be provided. The applicant must submit documentation verifying the infiltration capacity of the soils and that the volume control capacity is calculated using the measured infiltration rate. If infiltration capacity is less than needed to conform with the volume abstraction requirement in subsection 3.1b, design modifications to achieve compliance with RPBCWD requirements will need to be submitted (in the form of an application for a permit modification or new permit).
5. To close out the permit and release the $5,000 in financial assurance held for the purpose of the chloride management, the permit applicant must provide a chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan at the site.
6. Replenish the permit fee deposit to the original amount or such lesser amount as the RPBCWD administrator deems sufficient within 45 days of receiving notice that such deposit is due in order to cover continued actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules.



Feet

0 1,000

Permit Location Map

LAKE MINNETONKA CARE CENTER

Permit 2020-054

Riley Purgatory Bluff Creek Watershed District

SYMBOL LEGEND

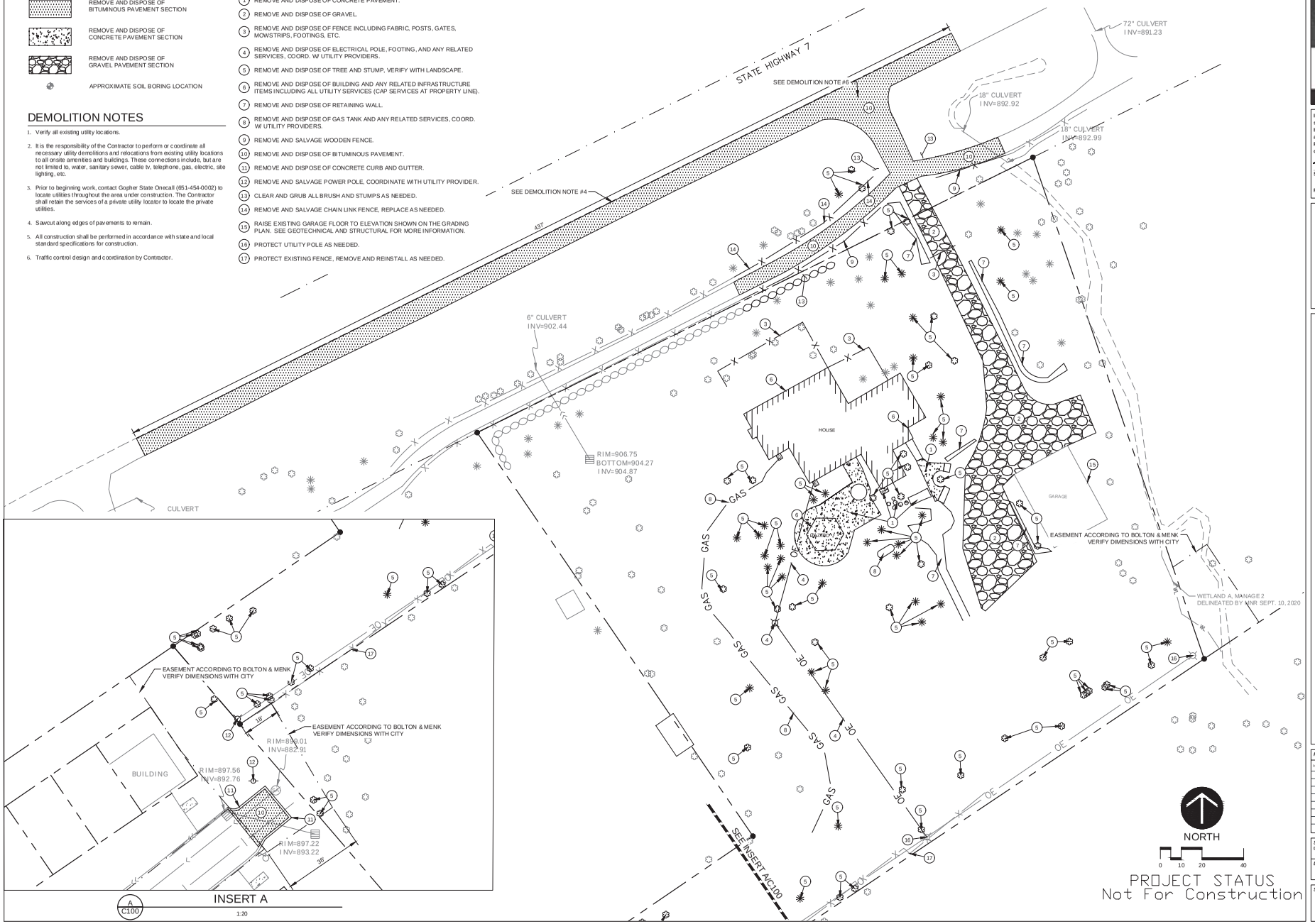
- REMOVE AND DISPOSE OF BITUMINOUS PAVEMENT SECTION
- REMOVE AND DISPOSE OF CONCRETE PAVEMENT SECTION
- REMOVE AND DISPOSE OF GRAVEL PAVEMENT SECTION
- APPROXIMATE SOIL BORING LOCATION

DEMOLITION NOTES

1. Verify all existing utility locations.
2. It is the responsibility of the Contractor to perform or coordinate all necessary utility demolitions and relocations from existing utility locations to all onsite amenities and buildings. These connections include, but are not limited to, water, sanitary sewer, cable tv, telephone, gas, electric, site lighting, etc.
3. Prior to beginning work, contact Gopher State Onecall (651-454-0002) to locate utilities throughout the area under construction. The Contractor shall retain the services of a private utility locator to locate the private utilities.
4. Sawcut along edges of pavements to remain.
5. All construction shall be performed in accordance with state and local standard specifications for construction.
6. Traffic control design and coordination by Contractor.

KEY NOTES

1. REMOVE AND DISPOSE OF CONCRETE PAVEMENT.
2. REMOVE AND DISPOSE OF GRAVEL.
3. REMOVE AND DISPOSE OF FENCE INCLUDING FABRIC, POSTS, GATES, MOWSTRIPS, FOOTINGS, ETC.
4. REMOVE AND DISPOSE OF ELECTRICAL POLE, FOOTING, AND ANY RELATED SERVICES, COORD. W/ UTILITY PROVIDERS.
5. REMOVE AND DISPOSE OF TREE AND STUMP, VERIFY WITH LANDSCAPE.
6. REMOVE AND DISPOSE OF BUILDING AND ANY RELATED INFRASTRUCTURE ITEMS INCLUDING ALL UTILITY SERVICES (CAP SERVICES AT PROPERTY LINE).
7. REMOVE AND DISPOSE OF RETAINING WALL.
8. REMOVE AND DISPOSE OF GAS TANK AND ANY RELATED SERVICES, COORD. W/ UTILITY PROVIDERS.
9. REMOVE AND SALVAGE WOODEN FENCE.
10. REMOVE AND DISPOSE OF BITUMINOUS PAVEMENT.
11. REMOVE AND DISPOSE OF CONCRETE CURB AND GUTTER.
12. REMOVE AND SALVAGE POWER POLE, COORDINATE WITH UTILITY PROVIDER.
13. CLEAR AND GRUB ALL BRUSH AND STUMPS AS NEEDED.
14. REMOVE AND SALVAGE CHAIN LINK FENCE, REPLACE AS NEEDED.
15. RAISE EXISTING GARAGE FLOOR TO ELEVATION SHOWN ON THE GRADING PLAN. SEE GEOTECHNICAL AND STRUCTURAL FOR MORE INFORMATION.
16. PROTECT UTILITY POLE AS NEEDED.
17. PROTECT EXISTING FENCE, REMOVE AND REINSTALL AS NEEDED.



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PROJECT STATUS
Not For Construction

Miller ARCHITECTS & BUILDERS

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

Signature : Thomas J. Herkenhoff, P.E.

Reg. No. : 25520 Date : 09/30/20

Larson Engineering, Inc.
3524 Labore Road
White Bear Lake, MN 55110
651.481.9120 (f) 651.481.9201
www.larsoneng.com

LAKE MINNETONKA CARE CENTER
NEW CARE CENTER
16913 STATE HWY. 7
MINNETONKA, MINNESOTA 55345

REVISIONS

Issue ID	Issue Name	Issue Date

SHEET TITLE
DEMOLITION PLAN

DRAWN BY:	DATE:	PROJ. NO.
NJN	09/30/20	122 06002.000

SHEET NO.
C100

P:\Projects\Projects - 2020\122060002 - LM Care Center\C. Design\Drawing Files\122060002 - C100 - Demo.dwg

SYMBOL LEGEND

- NEW BITUMINOUS PAVEMENT SEE DETAIL 1/C500
- MATCH EXISTING PAVEMENT SECTION
- NEW 7" BITUMINOUS PAVEMENT OVER NEW 11" CRUSHED AGGREGATE BASE (CLASS 6) AND 12" SELECT GRANULAR SEE DETAIL 11/C500
- NEW LIGHT-DUTY CONCRETE PAVEMENT SEE DETAIL 2/C500
- NEW HEAVY-DUTY CONCRETE PAVEMENT SEE DETAIL 3/C500
- NEW STOOP SEE STRUCTURAL

WETLAND BUFFER NOTES

- PROPOSED WETLAND BUFFER AREA
- WL — DELINEATED WETLAND (SEPT. 2020)
- WETLAND BUFFER SIGN

REQUIRED BUFFER AREA (40' WIDTH) = 4,009 SF

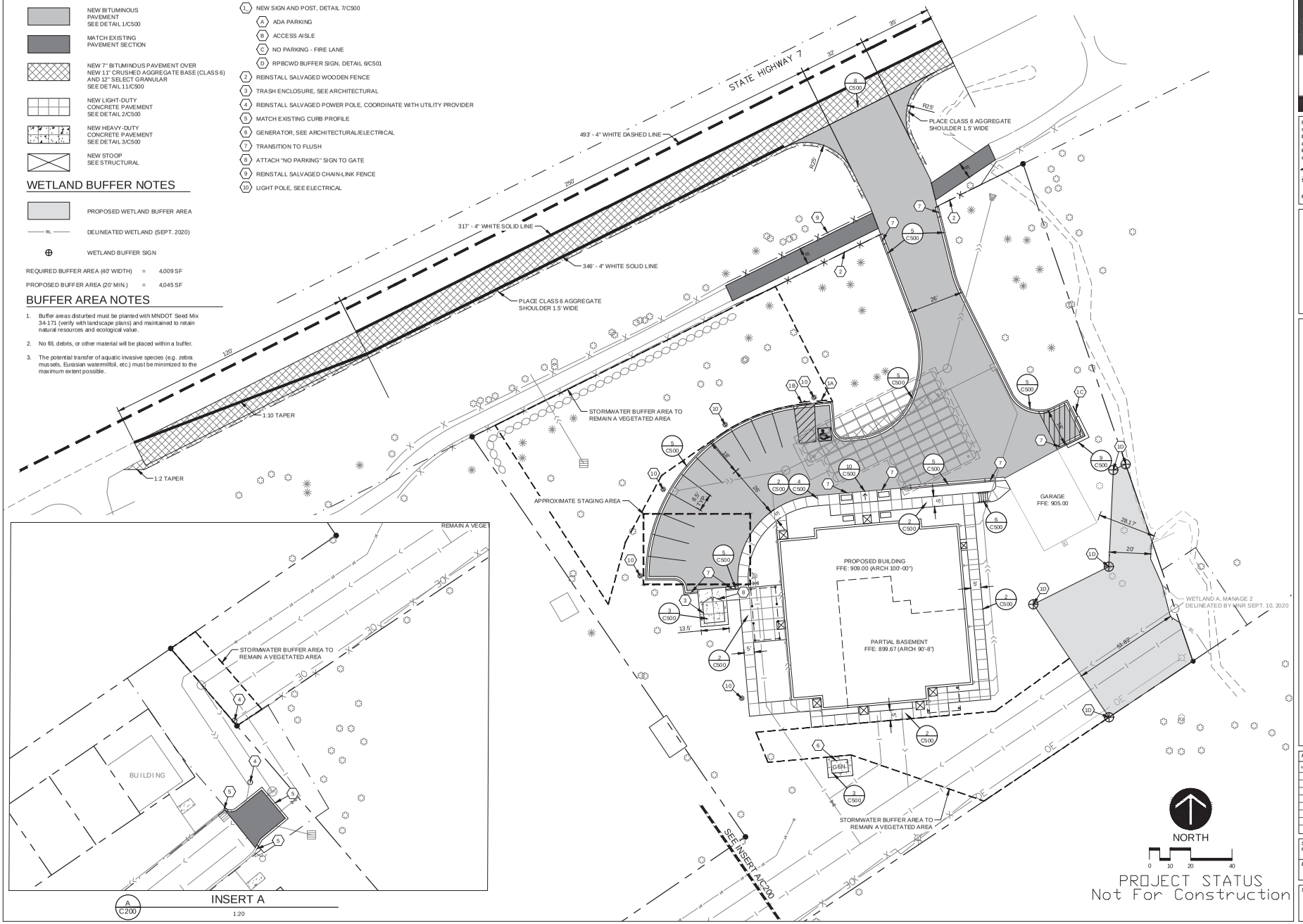
PROPOSED BUFFER AREA (20' MIN.) = 4,045 SF

BUFFER AREA NOTES

1. Buffer areas disturbed must be planted with MNDOT Seed Mix 34-171 (verify with landscape plans) and maintained to retain natural resources and ecological value.
2. No fill, debris, or other material will be placed within a buffer.
3. The potential transfer of aquatic invasive species (e.g. zebra mussels, Eurasian watermilfoil, etc.) must be minimized to the maximum extent possible.

KEY NOTES

1. NEW SIGN AND POST, DETAIL 7/C500
   - A ADA PARKING
   - B ACCESS AISLE
   - C NO PARKING - FIRE LANE
   - D RPBCWD BUFFER SIGN, DETAIL 6/C501
2. REINSTALL SALVAGED WOODEN FENCE
3. TRASH ENCLOSURE, SEE ARCHITECTURAL
4. REINSTALL SALVAGED POWER POLE, COORDINATE WITH UTILITY PROVIDER
5. MATCH EXISTING CURB PROFILE
6. GENERATOR, SEE ARCHITECTURAL/ELECTRICAL
7. TRANSITION TO FLUSH
8. ATTACH "NO PARKING" SIGN TO GATE
9. REINSTALL SALVAGED CHAIN-LINK FENCE
10. LIGHT POLE, SEE ELECTRICAL



A C200 INSERT A
1:20

Miller Architects & Builders

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

Signature : Thomas J. Heikenhoff, P.E.

Reg. No. : 25520 Date : 09/30/20

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LAKE MINNETONKA CARE CENTER
NEW CARE CENTER
16913 STATE HWY. 7
MINNETONKA, MINNESOTA 55345

REVISIONS

Issue ID	Issue Purpose	Issue Date

SHEET TITLE: PAVING PLAN

DRAWN BY:	DATE:	PROJ. NO.
NJN	09/30/20	122000 62.000

SHEET NO. **C200**

SYMBOL LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS - MAJOR INTERVAL
- PROPOSED CONTOURS - MINOR INTERVAL
- GRADE BREAK LINE
- GRADE SLOPE
- SILT FENCE
- RIP-RAP / ROCK CONST. ENTRANCE
- EROSION CONTROL BLANKET
- INLET PROTECTION
- CONCRETE WASHOUT STATION (LOCATE DURING CONSTRUCTION)

SPOT ABBREVIATIONS:

950.00 TC / 949.50 GL

- TC - TOP OF CURB
- GL - GUTTER LINE
- B - BITUMINOUS
- C - CONCRETE
- EOF - EMERGENCY OVERFLOW
- TW - TOP OF WALL
- BW - BOTTOM OF WALL (F/G)
- CC - CURB CUT
- G - GRAVEL
- (*) - EXISTING TO BE VERIFIED

- DECOMPACTION LIMITS
- FILTRATION BASIN

GRADING NOTES

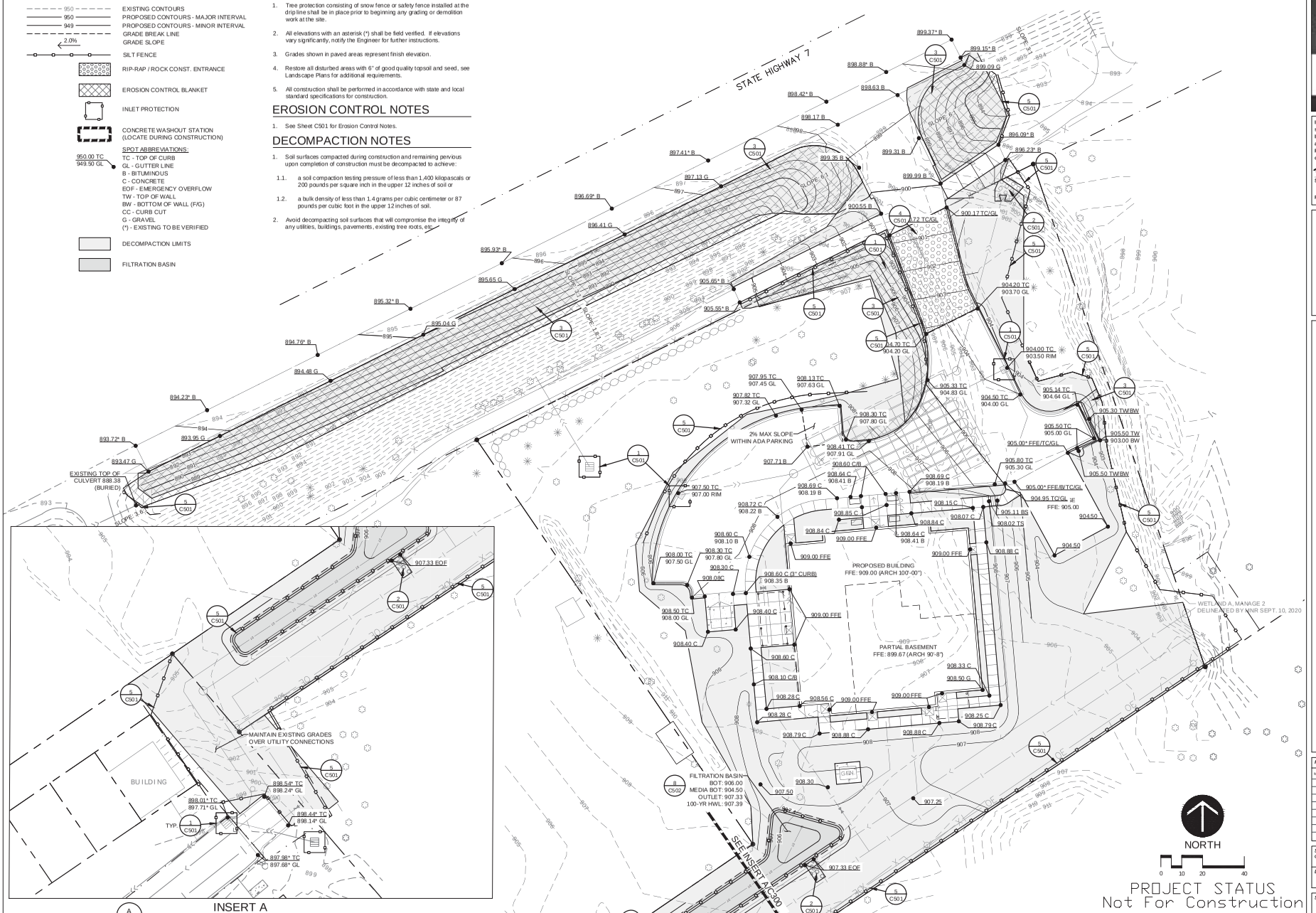
1. Tree protection consisting of snow fence or safety fence installed at the drip line shall be in place prior to beginning any grading or demolition work at the site.
2. All elevations with an asterisk (*) shall be field verified. If elevations vary significantly, notify the Engineer for further instructions.
3. Grades shown in paved areas represent finish elevation.
4. Restore all disturbed areas with 6" of good quality topsoil and seed, see Landscape Plans for additional requirements.
5. All construction shall be performed in accordance with state and local standard specifications for construction.

EROSION CONTROL NOTES

1. See Sheet C501 for Erosion Control Notes.

DECOMPACTION NOTES

1. Soil surfaces compacted during construction and remaining pervious upon completion of construction must be decompacted to achieve:
   - 1.1. a soil compaction testing pressure of less than 1,400 kilopascals or 200 pounds per square inch in the upper 12 inches of soil or
   - 1.2. a bulk density of less than 1.4 grams per cubic centimeter or 87 pounds per cubic foot in the upper 12 inches of soil.
2. Avoid decompacting soil surfaces that will compromise the integrity of any utilities, buildings, pavements, existing tree roots, etc.



A C300 INSERT A
1:20

NORTH
0 10 20 40

PROJECT STATUS
Not For Construction

Miller ARCHITECTS & BUILDERS

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Reg. No. : 25520 Date : 09/30/20

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REVISIONS

Issue ID	Issue Number	Issue Date

SHEET TITLE: GRADING AND EROSION CONTROL PLAN

DRAWN BY:	DATE:	PROJ. NO.
NJN	09/30/20	122000 62.000

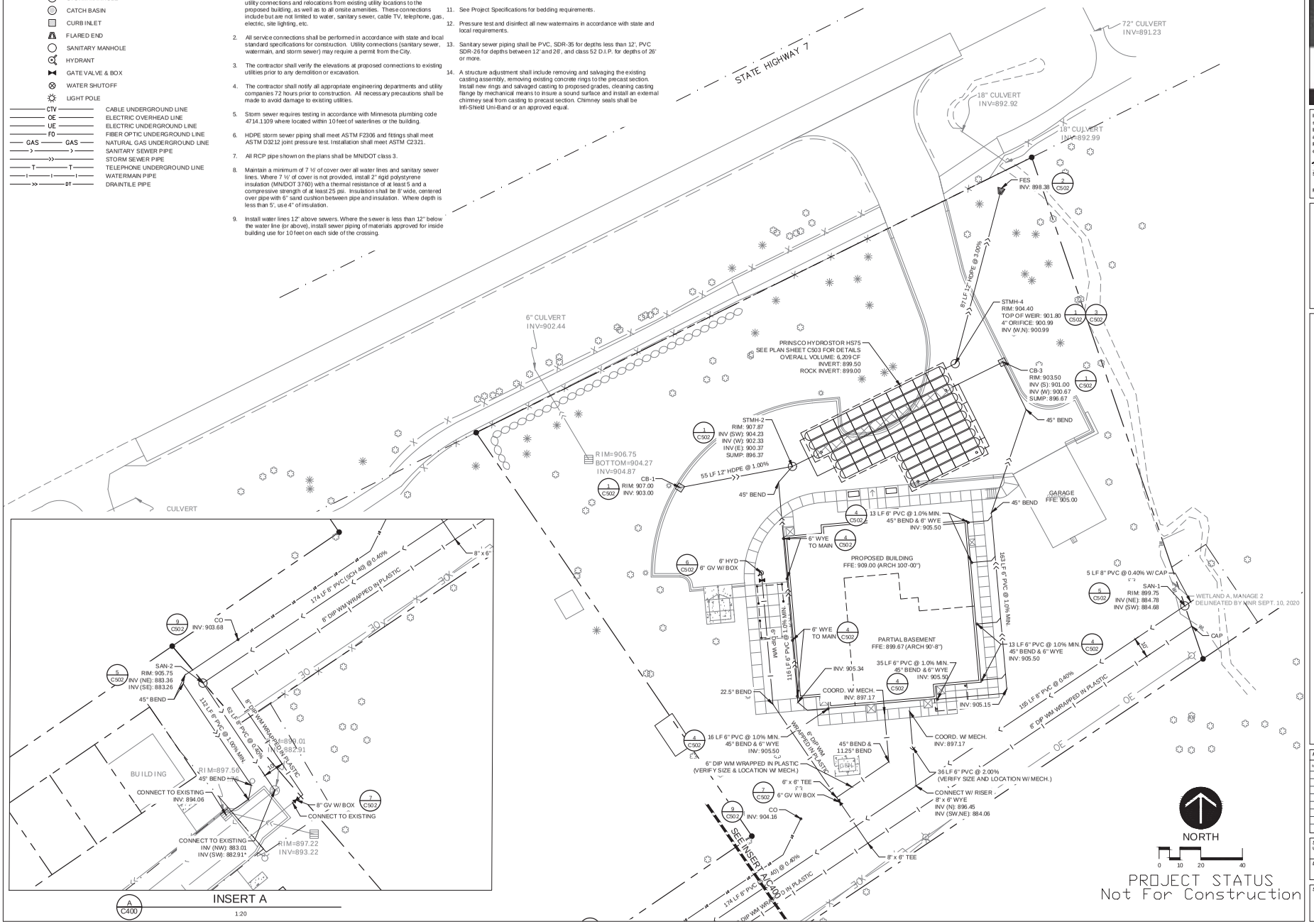
SHEET NO. C300

SYMBOL LEGEND

- STORM MANHOLE
- CATCH BASIN
- CURB INLET
- FLARED END
- SANITARY MANHOLE
- HYDRANT
- GATE VALVE & BOX
- WATER SHUTOFF
- LIGHT POLE
- CTV — CABLE UNDERGROUND LINE
- OE — ELECTRIC OVERHEAD LINE
- UE — ELECTRIC UNDERGROUND LINE
- FO — FIBER OPTIC UNDERGROUND LINE
- GAS — NATURAL GAS UNDERGROUND LINE
- SANITARY SEWER PIPE
- STORM SEWER PIPE
- T — TELEPHONE UNDERGROUND LINE
- WATERMAIN PIPE
- DT — DRAINTILE PIPE

UTILITY NOTES

1. It is the responsibility of the contractor to perform or coordinate all necessary utility connections and relocations from existing utility locations to the proposed building, as well as to all onsite amenities. These connections include but are not limited to water, sanitary sewer, cable TV, telephone, gas, electric, site lighting, etc.
2. All service connections shall be performed in accordance with state and local standard specifications for construction. Utility connections (sanitary sewer, watermain, and storm sewer) may require a permit from the City.
3. The contractor shall verify the elevations at proposed connections to existing utilities prior to any demolition or excavation.
4. The contractor shall notify all appropriate engineering departments and utility companies 72 hours prior to construction. All necessary precautions shall be made to avoid damage to existing utilities.
5. Storm sewer requires testing in accordance with Minnesota plumbing code 4714.1109 where located within 10 feet of waterlines or the building.
6. HDPE storm sewer piping shall meet ASTM F2306 and fittings shall meet ASTM D3212 joint pressure test. Installation shall meet ASTM C2321.
7. All RCP pipe shown on the plans shall be MN/DOT class 3.
8. Maintain a minimum of 7 ½' of cover over all water lines and sanitary sewer lines. Where 7 ½' of cover is not provided, install 2" rigid polystyrene insulation (MN/DOT 3760) with a thermal resistance of at least 5 and a compressive strength of at least 25 psi. Insulation shall be 8' wide, centered over pipe with 6" sand cushion between pipe and insulation. Where depth is less than 5', use 4" of insulation.
9. Install water lines 12" above sewers. Where the sewer is less than 12" below the water line (or above), install sewer piping of materials approved for inside building use for 10 feet on each side of the crossing.
10. All watermain piping shall be class 52 ductile iron pipe unless noted otherwise.
11. See Project Specifications for bedding requirements.
12. Pressure test and disinfect all new watermains in accordance with state and local requirements.
13. Sanitary sewer piping shall be PVC, SDR-35 for depths less than 12'; PVC SDR-26 for depths between 12' and 26', and class 52 D.I.P. for depths of 26' or more.
14. A structure adjustment shall include removing and salvaging the existing casting assembly, removing existing concrete rings to the precast section. Install new rings and salvaged casting to proposed grades, cleaning casting flange by mechanical means to insure a sound surface and install an external chimney seal from casting to precast section. Chimney seals shall be Infi-Shield Uni-Band or an approved equal.



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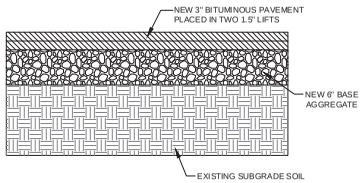
REVISIONS

Issue ID	Issue Name	Issue Date

SHEET TITLE
UTILITY PLAN

DRAWN BY:	DATE:	PROJ. NO.
NJN	09/30/20	12200.062.000

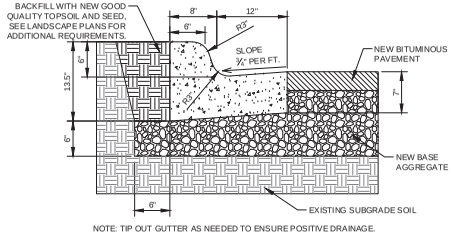
SHEET NO.
C400



BITUMINOUS PAVEMENT SECTION

1 C500

NOT TO SCALE

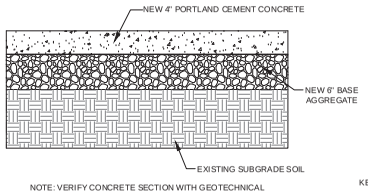


NOTE: TIP OUT GUTTER AS NEEDED TO ENSURE POSITIVE DRAINAGE.

B612 CONCRETE CURB & GUTTER DETAIL

5 C500

NOT TO SCALE

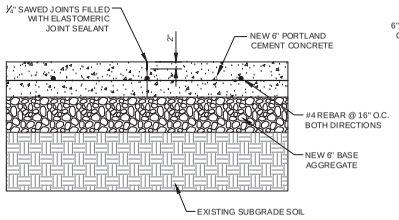


NOTE: VERIFY CONCRETE SECTION WITH GEOTECHNICAL

LIGHT-DUTY CONCRETE CONSTRUCTION DETAIL

2 C500

NOT TO SCALE

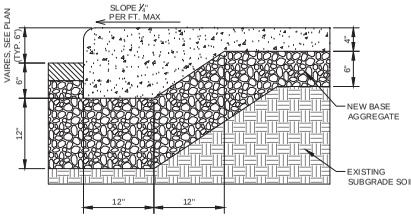


NOTE: VERIFY CONCRETE SECTION WITH GEOTECHNICAL

HEAVY-DUTY CONCRETE CONSTRUCTION DETAIL

3 C500

NOT TO SCALE

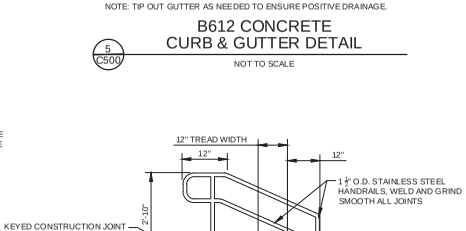


NOTE: VERIFY CONCRETE SECTION WITH GEOTECHNICAL

INTEGRAL CURB AND SIDEWALK DETAIL

4 C500

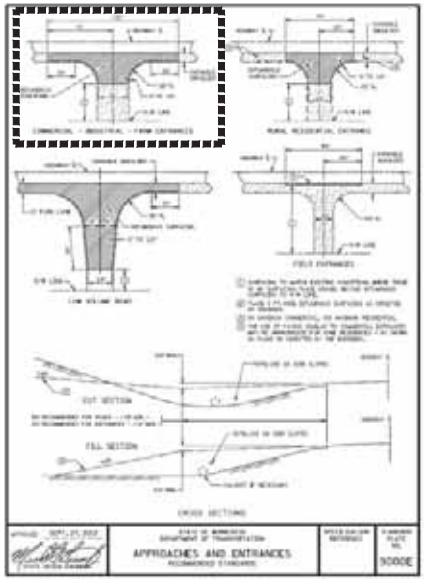
NOT TO SCALE



CONCRETE STAIR SECTION AND RAILING DETAIL

6 C500

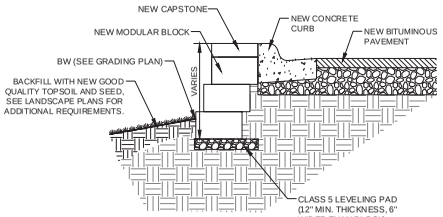
NOT TO SCALE



MNDOT APPROACHES AND ENTRANCES

8 C500

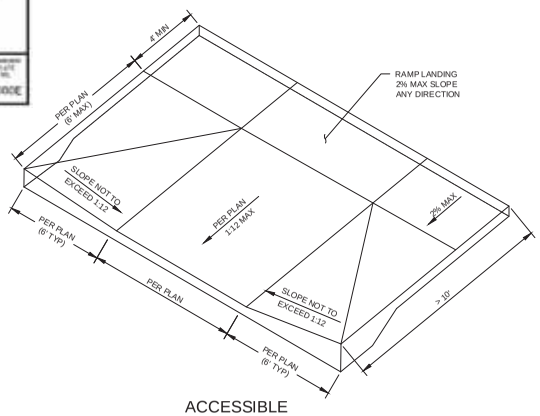
NOT TO SCALE



RETAINING WALL DETAIL

9 C500

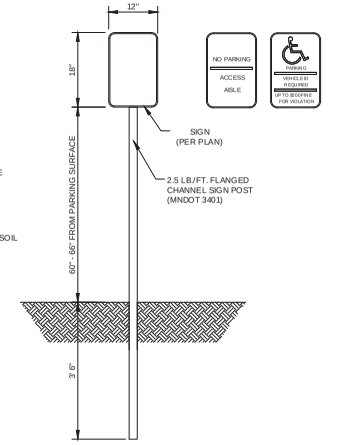
NOT TO SCALE



ACCESSIBLE CURB RAMP DETAIL

10 C500

NOT TO SCALE



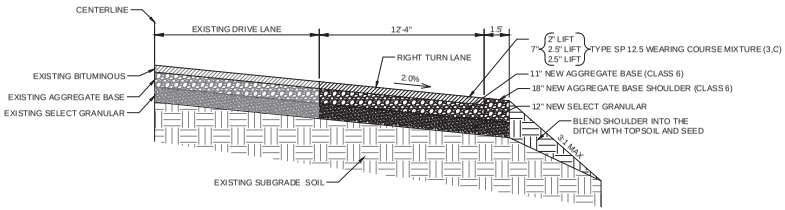
NOTES:

1. SIGN POSTS TO BE 18" BEHIND THE BACK OF CURB, UNLESS OTHERWISE DIRECTED.
2. ALL SIGNS TO BE INSTALLED IN ACCORDANCE WITH MMUTCD AND MNDOT 2017 SIGNS MANUAL.
3. ALL SIGNS SHALL BE REVIEWED AND APPROVED BY OWNER/ENGINEER PRIOR TO CONSTRUCTION.
4. SHARE POST WHERE APPLICABLE.

PARKING SIGN AND POST DETAIL

7 C500

NOT TO SCALE



NOTE: PAVEMENT SECTION VERIFIED WITH MnDOT (IZAAK PETERSON)

RIGHT TURN LANE

11 C500

NOT TO SCALE

PROJECT STATUS
Not For Construction

Miller
ARCHITECTS & BUILDERS

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Reg. No.: 25520 Date: 09/30/20

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REVISIONS

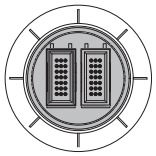
Issue ID	Issue Name	Issue Date

SHEET TITLE
DETAILS

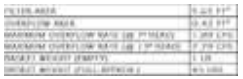
DRAWN BY:	DATE:	PROJ. NO.
NJN	09/30/20	122060 62.000

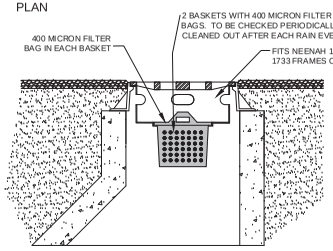
SHEET NO.

C500



PLAN





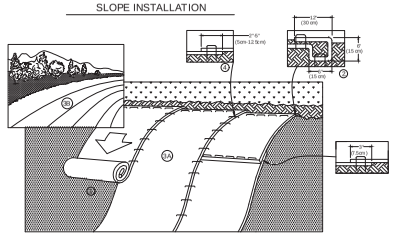
PROFILE

INFRASAFE INLET PROTECTION DEVICE (OR APPROVED EQ.)

1 / C501

NOT TO SCALE

SLOPE INSTALLATION



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
NOTE WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT'S SYSTEM , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE

*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

NORTH AMERICAN GREEN
EROSION CONTROL Products Guaranteed SOLUTIONS
1-4949 HIGHWAY 41 NORTH
EVANSVILLE, IN 47725
800-772-2040
www.nagreen.com

Category 4 Erosion Control Blanket:
North American Green S150 erosion control blanket or approved equal.

Top Net
Polypropylene
1.5 lbs/1,000 ft2
(0.73 kg/100 m2) approx. wt.

Bottom Net
Polypropylene
1.5 lbs/1,000 ft2
(0.73 kg/100 m2) approx. wt.

Straw Fiber
0.50 LBS/YD2
(0.27 KG/M2)

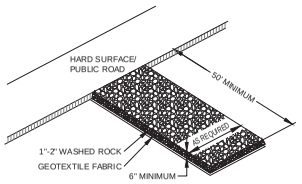
Thread
Photodegradable

Staples/Anchors:
The type of anchors used to secure the blanket to the ground shall be Steel wire11 Gauge 1" wide x 8" long.

EROSION CONTROL BLANKET

3 / C501

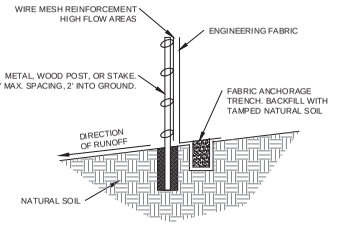
NOT TO SCALE



ROCK CONSTRUCTION ENTRANCE

4 / C501

NOT TO SCALE

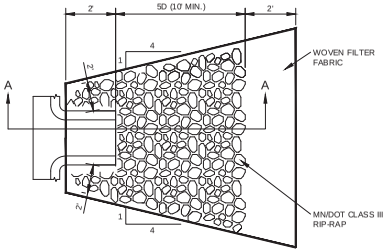


NOTE: DEPENDING UPON CONFIGURATION, ATTACH FABRIC TO WIRE MESH WITH HOG RINGS, STEEL POSTS WITH WIRES, OR WOOD POSTS WITH STAPLES.

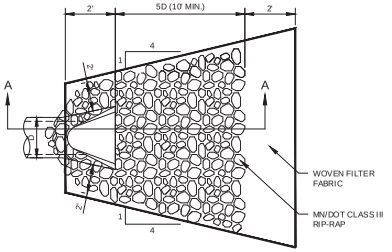
SILT FENCE INSTALLATION DETAIL

5 / C501

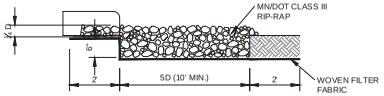
NOT TO SCALE



CURB CUT PLAN



FLARED END SECTION PLAN



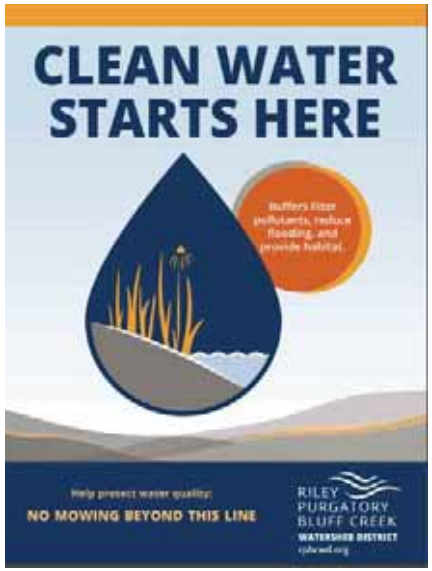
SECTION A-A

NOTE:
500X MIRAFI FABRIC OR EQUAL

RIP-RAP DETAIL

2 / C501

NOT TO SCALE



NOTE: WETLAND BUFFER SIGNS TO BE INSTALLED PRIOR TO CONSTRUCTION TO ENSURE PROTECTION OF THE BUFFER AREA DURING AND AFTER LAND-DISTURBING ACTIVITIES.

WETLAND BUFFER SIGN PANEL DETAIL

6 / C501

NOT TO SCALE

EROSION CONTROL NOTES

1. Owner and Contractor shall obtain MPCA-NPDES permit. Contractor shall be responsible for all fees pertaining to this permit. The SWPPP shall be kept onsite at all times.
2. Install temporary erosion control measures (inlet protection, silt fence, and rock construction entrances) prior to beginning any excavation or demolition work at the site.
3. Erosion control measures shown on the erosion control plan are the absolute minimum. The contractor shall install temporary earth dikes, sediment traps or basins, additional siltation fencing, and/or disk the soil parallel to the contours as deemed necessary to further control erosion. All changes shall be recorded in the SWPPP.
4. All construction site entrances shall be surfaced with crushed rock across the entire width of the entrance and from the entrance to a point 50' into the construction zone.
5. The toe of the silt fence shall be trenched in a minimum of 6". The trench backfill shall be compacted with a vibratory plate compactor.
6. All grading operations shall be conducted in a manner to minimize the potential for site erosion. Sediment control practices must be established on all down gradient perimeters before any up gradient land disturbing activities begin.
7. All exposed soil areas must be stabilized as soon as possible to limit soil erosion but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Temporary stockpiles without significant silt, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) and the constructed base components of roads, parking lots and similar surfaces are exempt from this requirement.
8. The normal wetted perimeter of any temporary or permanent drainage ditch or swale that drains water from any portion of the construction site, or diverts water around the site, must be stabilized within 200 lineal feet from the property edge, or from the point of discharge into any surface water. Stabilization of the last 200 lineal feet must be completed within 24 hours after connecting to a surface water. Stabilization of the remaining portions of any temporary or permanent ditches or swales must be complete within 14 days after connecting to a surface water and construction in that portion of the ditch has temporarily or permanently ceased.
9. Pipe outlets must be provided with energy dissipation within 24 hours of connection to surface water.
10. All riprap shall be installed with a filter material or soil separation fabric and comply with the Minnesota Department of Transportation Standard Specifications.
11. All storm sewers discharging into wetlands or water bodies shall outlet at or below the normal water level of the respective wetland or water body at an elevation where the downstream slope is 1 percent or flatter. The normal water level shall be the invert elevation of the outlet of the wetland or water body.
12. All storm sewer catch basins not needed for site drainage during construction shall be covered to prevent runoff from entering the storm sewer system. Catch basins necessary for site drainage during construction shall be provided with inlet protection.
13. In areas where concentrated flows occur (such as swales and areas in front of storm catch basins and intakes) the erosion control facilities shall be backed by stabilization structure to protect those facilities from the concentrated flows.
14. Inspect the construction site once every seven days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. All inspections shall be recorded in the SWPPP.
15. All BMPs must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches 1/3 of the capacity of the BMP. These repairs must be made within 24 hours of discovery, or as soon as field conditions allow access. All repairs shall be recorded in the SWPPP.
16. If sediment escapes the construction site, off-site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off-site impacts.
17. All soils tracked onto pavement shall be removed daily.
18. All infiltration areas must be inspected to ensure that no sediment from ongoing construction activity is reaching the infiltration area and these areas are protected from compaction due to construction equipment driving across the infiltration area.
19. Temporary soil stockpiles must have silt fence or other effective sediment controls, and cannot be placed in surface waters, including stormwater conveyances such as curb and gutter systems, or conduits and ditches unless there is a bypass in place for the stormwater.
20. Collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other wastes must be disposed of properly and must comply with MPCA disposal requirements.
21. Oil, gasoline, paint and any hazardous substances must be properly stored, including secondary containment, to prevent spills, leaks or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with MPCA regulations.
22. External washing of trucks and other construction vehicles must be limited to a defined area of the site. Runoff must be contained and waste properly disposed of. No engine degreasing is allowed onsite.
23. All liquid and solid wastes generated by concrete washout operations must be contained in a leak-proof containment facility or impermeable liner. A compacted clay liner that does not allow washout liquids to enter ground water is considered an impermeable liner. The liquid and solid wastes must not contact the ground, and there must not be runoff from the concrete washout operations or areas. Liquid and solid wastes must be disposed of properly and in compliance with MPCA regulations. A sign must be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.
24. Upon completion of the project and stabilization of all graded areas, all temporary erosion control facilities (silt fences, hay bales, etc.) shall be removed from the site.
25. All permanent sedimentation basins must be restored to their design condition immediately following stabilization of the site.
26. Contractor shall submit Notice of Termination for MPCA-NPDES permit within 30 days after Final Stabilization.
27. Natural topography and soil conditions must be protected, including retention onsite of native topsoil to the greatest extent possible.
28. Construction should include minimization of the disturbance intensity and duration, including phasing of disturbance to minimize quantity of disturbed area at any one time.
29. Hydraulic mulching or other practices must be installed on slopes of 3:1 (H:V) or steeper to provide adequate stabilization.
30. Infiltration facilities must not be excavated to within 3 feet final grade until the contributing drainage area has been constructed and fully stabilized. Any accumulated sediment in an infiltration facility must be removed in manner that prevents compaction of the facility bottom. To provide a well-aerated, highly porous surface, the soils below an infiltration practice must be loosened to a minimum depth of 18 inches prior to installation or planting.
31. Final site stabilization shall specify that at least six inches of topsoil or organic matter be spread and incorporated into underlying soil during final site treatment wherever topsoil has been removed.
32. All temporary erosion prevention and sediment control BMPs must be removed upon final site stabilization.
33. The permittee must inspect all erosion prevention and sediment control facilities and soil stabilization measures to ensure integrity and effectiveness. The permittee must repair, replace or supplement all nonfunctional BMPs with functional BMPs within 48 hours of discovery and prior to the next precipitation event unless adverse conditions preclude access to the relevant area of the site, in which case the repair must be completed as soon as conditions allow. When active land-disturbing activities are not under way, the permittee must perform these responsibilities at least weekly until vegetative cover is established. The permittee will maintain a log of activities under this section for inspection by the District on request.

PROJECT STATUS
Not For Construction

Miller ARCHITECTS & BUILDERS

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

Signature : Thomas J. Heikenhoff, P.E.

Reg. No.: 25520 Date: 09/30/20

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16913 STATE HWY. 7
MINNETONKA, MINNESOTA 55345

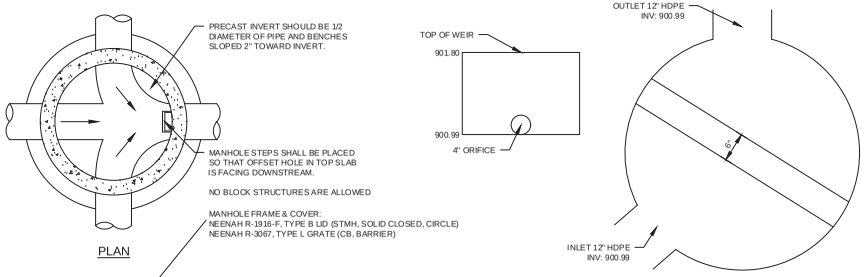
REVISIONS

Issue ID	Issue Name	Issue Date

SHEET TITLE
DETAILS

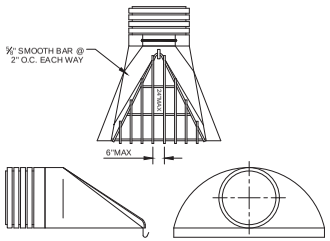
DRAWN BY:	DATE:	PROJ. NO.
NJN	09/30/20	122060 62.000

SHEET NO.
C501



1 C502 CATCH BASIN MANHOLE DETAIL

NOT TO SCALE

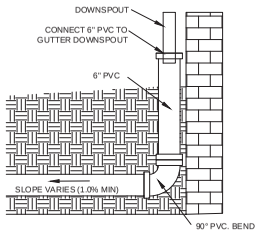


2 C502 FLARED END SECTION DETAIL

NOT TO SCALE

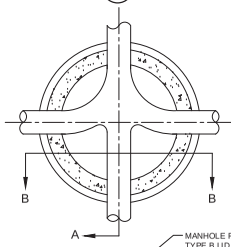
3 C502 STMH-4 WEIR DETAILS

NOT TO SCALE



4 C502 INLINE DRAIN DETAIL

NOT TO SCALE



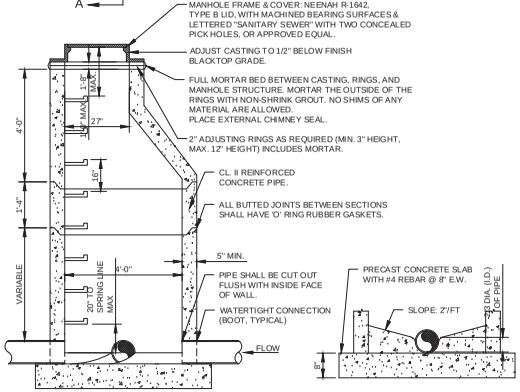
NOTES:

1.) GROUT BOTTOM OF MANHOLE TO 1/2 OR 2/3 DIAMETER OF PIPE AND SLOPE GROUT 2" PER FOOT.

2.) 1/4" TO 1/2" IS MAX. MORTAR THICKNESS WITH USED FOR CASTING ADJUSTMENT.

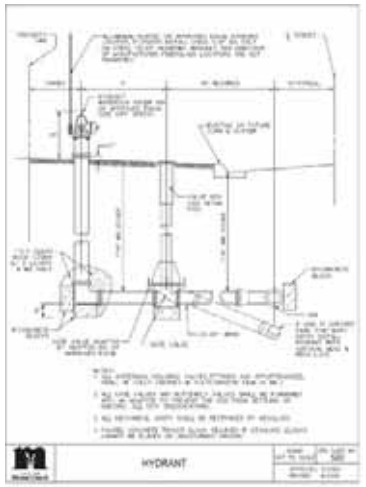
3.) COPOLYMER POLYPROPYLENE PLASTIC, WITH 1/2" GRADE 60 STEEL REINFORCEMENT OR APPROVED EQUAL, STEPS 16" O.C. DOWNSTREAM SIDE.

4.) KOR-N-SEAL MANHOLE OR EQUAL CONSIDERED ACCEPTABLE ALTERNATE.



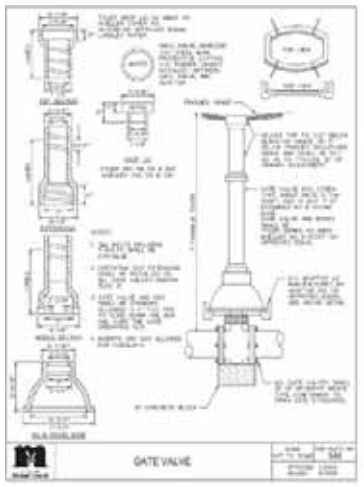
5 C502 SANITARY SEWER JUNCTION MANHOLE DETAIL

NOT TO SCALE



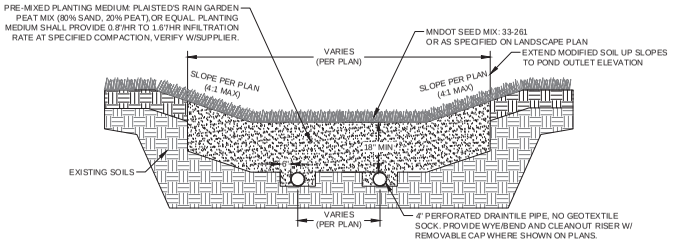
6 C502 HYDRANT & GATE VALVE INSTALLATION DETAIL

NOT TO SCALE



7 C502 GATE VALVE DETAIL

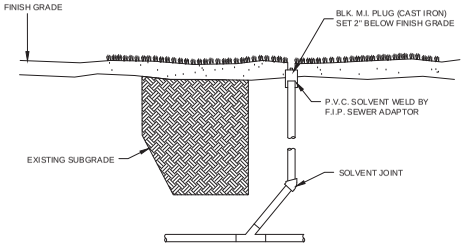
NOT TO SCALE



NOTES:
1. SOILS WITHIN FILTRATION AREAS SHALL BE PROTECTED FROM COMPACTION DUE TO CONSTRUCTION TRAFFIC. AREAS SHALL BE STAKED AND MARKED OFF, WITH ONLY LOW IMPACT EQUIPMENT (TRACKED OR SIMILAR) ALLOWED.

8 C502 FILTRATION BASIN CROSS SECTION

NOT TO SCALE



9 C502 CLEANOUT DETAIL

NOT TO SCALE

PROJECT STATUS
Not For Construction

Miller ARCHITECTS & BUILDERS

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

Signature : Thomas J. Heikenhoff, P.E.

Reg. No.: 25520 Date: 09/30/20

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MINNETONKA, MINNESOTA 55345

REVISIONS

Issue ID	Issue Purpose	Issue Date

SHEET TITLE: DETAILS

DRAWN BY:	DATE:	PROJ. NO.
NJN	09/30/20	122000 62.000

SHEET NO.

C502

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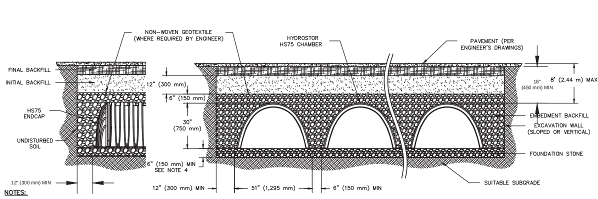

NOTES:

1. HYDROSTOR HS75 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM D2418. HS75 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S LATEST INSTALLATION GUIDELINES.
2. SUBGRADE: TRENCH BOTTOMS WITH UNSTABLE OR UNYIELDING MATERIAL SHALL BE EXCAVATED TO A DEPTH DIRECTED BY THE ENGINEER AND REPLACED WITH SUITABLE MATERIAL. FOR UNSTABLE MATERIALS, GEOTEXTILE MAY BE USED TO STABILIZE THE TRENCH BOTTOM, IF DIRECTED BY THE ENGINEER. THE DESIGN ENGINEER IS RESPONSIBLE FOR VERIFYING SUBGRADE SUITABILITY.
3. GEOTEXTILE: A 4 oz/yd² (136 g/m²) OR HEAVIER NON-WOVEN GEOTEXTILE FILTER FABRIC SHOULD BE USED FOR EMBEDMENT BACKFILL MATERIAL SIZED 3/4 – 1 1/2 INCH (19 – 38 mm). A 6 oz/yd² (203 g/m²) NON-WOVEN GEOTEXTILE FILTER FABRIC SHOULD BE USED FOR EMBEDMENT BACKFILL MATERIAL SIZED 1 1/2 – 2 INCH (38 – 51 mm). GEOTEXTILE FILTER FABRIC IS PLACED AROUND THE SYSTEM TO PREVENT NATIVE SOIL FROM MIGRATING INTO THE EMBEDMENT BACKFILL MATERIAL. TO ENSURE FABRIC IS SUITABLE WITH IN SITU SOILS, A GEOTECHNICAL ENGINEER SHOULD BE CONSULTED.
4. FOUNDATION STONE: SUITABLE MATERIAL SHALL BE A 3/4 – 2 INCH (19 – 51 mm), WASHED, CRUSHED ANGULAR STONE, OR AASHTO M43 SIZES (3, 357, 4, 467, 5, 56, 57) WITH WASHED, CRUSHED, ANGULAR STONE ADDED TO THE GRADATION, e.g., WASHED, CRUSHED, ANGULAR #3 (AASHTO M43) STONE. MINIMUM FOUNDATION STONE THICKNESS TO BE DETERMINED BY DESIGN ENGINEER. MINIMUM OF 6" (150 mm) RECOMMENDED. REFER TO PRINSCO DESIGN MANUAL FOR ADDITIONAL GUIDANCE. COMPACTION SHOULD BE DONE IN LIFTS OF NO MORE THAN 6 INCHES (150 mm) TO A DENSITY OF 95% STANDARD PROCTOR DENSITY.
5. EMBEDMENT BACKFILL: SUITABLE MATERIAL SHALL BE A 3/4 – 2 INCH (19 – 51 mm), WASHED, CRUSHED ANGULAR STONE, OR AASHTO M43 SIZES (3, 357, 4, 467, 5, 56, 57) WITH WASHED, CRUSHED, ANGULAR STONE ADDED TO THE GRADATION, e.g., WASHED, CRUSHED, ANGULAR #3 (AASHTO M43) STONE. EMBEDMENT BACKFILL SHALL EXTEND FROM TOP OF BEDDING TO NOT LESS THAN 6" (150 mm) INCHES ABOVE THE TOP OF THE CHAMBER. NO COMPACTION IS REQUIRED BUT AN EFFORT SHOULD BE MADE TO HAND KNIFE STONE IN BETWEEN ALL CORRUGATIONS.
6. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE A GRANULAR, WELL GRADED SOIL WITH LESS THAN 35% FINES OR AASHTO M43 SIZES (3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10). MOST PAVEMENT SUBBASE MATERIALS FALL WITHIN THIS GRADING CRITERIA. INITIAL BACKFILL SHALL EXTEND FROM TOP OF EMBEDMENT BACKFILL TO NOT LESS THAN 18 INCHES (450 mm) ABOVE THE TOP OF THE CHAMBER. COMPACT TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY.
7. FINAL BACKFILL: SUITABLE MATERIALS SHALL BE ANY SOIL DIRECTED BY THE ENGINEER. FINAL BACKFILL SHALL EXTEND FROM TOP OF INITIAL BACKFILL TO NO MORE THAN 8 FEET (2.44 m) ABOVE THE TOP OF THE CHAMBER. COMPACTION LEVELS SHOULD FOLLOW ENGINEERS RECOMMENDATIONS.
8. MINIMUM COVER: FOR TRAFFIC APPLICATIONS A MINIMUM COVER OF 18 INCHES (450 mm) IS REQUIRED, MEASURED FROM THE TOP OF THE CHAMBER TO THE BOTTOM OF THE FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING MAY OCCUR, INCREASE COVER TO 24 INCHES (600 mm). ADDITIONAL COVER MAY BE REQUIRED FOR CONSTRUCTION LOADS.
9. MAXIMUM COVER: A COVER HEIGHT OF OVER 8 FEET (2.44 m) IS NOT RECOMMENDED. COVER HEIGHT IS MEASURED FROM THE TOP OF THE CHAMBER TO THE TOP OF THE PAVEMENT
10. LOAD RATING: HS75 CHAMBERS ARE TRAFFIC RATED FOR H–20 VEHICLES WITH ADDITIONAL CONSIDERATION FOR LANE LOADING, COMMONLY REFERRED TO AS HL–93 LOAD RATING (AASHTO DESIGN TRUCK).

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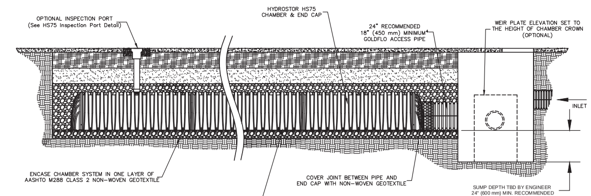
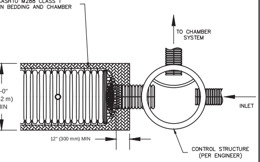
TITLE: HYDROSTOR HS75 – CROSS SECTION | DRAWN BY: ARB | DATE: 02–Jun–17 | SCALE: NTS | SHEET: 1 OF 1 | DRAWING NUMBER: D–7–300A



NOTES:

1. HYDROSTOR HS75 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM D2418. HS75 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S LATEST INSTALLATION GUIDELINES.
2. GEOTEXTILE: TWO DIFFERENT GEOTEXTILES WILL BE USED IN CREATING A FUNCTIONING SEDIMENT ROW. TO ENSURE FABRIC IS SUITABLE WITH IN SITU SOILS, A GEOTECHNICAL ENGINEER SHOULD BE CONSULTED.
   - A NON-WOVEN GEOTEXTILE FILTER FABRIC 4 oz/yd² (136 g/m²) OR HEAVIER SHOULD BE USED AROUND THE PERIMETER OF THE CHAMBER SYSTEM FOR EMBEDMENT BACKFILL MATERIAL SIZED 3/4 – 1 1/2 INCH (19 – 38 mm). A 6 oz/yd² (203 g/m²) NON-WOVEN GEOTEXTILE FILTER FABRIC SHOULD BE USED FOR EMBEDMENT BACKFILL MATERIAL SIZED 1 1/2 – 2 INCH (38 – 51 mm). GEOTEXTILE FILTER FABRIC IS PLACED AROUND THE SYSTEM TO PREVENT NATIVE SOIL FROM MIGRATING INTO THE EMBEDMENT BACKFILL MATERIAL.
   - TWO LAYERS OF 6 oz/yd² (203 g/m²) WOVEN FABRIC IS PLACED BETWEEN THE BEDDING AND THE CHAMBER FOR THE CREATION OF THE SEDIMENT ROW. THE TWO LAYERS PROVIDE A PROTECTIVE BARRIER FOR THE EMBEDMENT BACKFILL BUT STILL ALLOWING WATER TO INFILTRATE INTO THE SYSTEM. THE WOVEN GEOTEXTILE IS DURABLE ENOUGH TO ALLOW JETTING TO CLEAN THE SEDIMENT ROW.
3. INSPECTION AND MAINTENANCE: INSPECTION OF THE SYSTEM SHOULD OCCUR BIANNUALLY TO ENSURE LARGE AMOUNTS OF SEDIMENT OR DEBRIS HAVE NOT BEEN DEPOSITED IN THE SEDIMENT ROW. DURING THE FIRST YEAR, INSPECTION SHOULD OCCUR MORE FREQUENTLY DUE TO CONSTRUCTION SEDIMENT LOADING. TO CLEAN THE SYSTEM, A JET/VAC PROCESS CAN BE USED TO REMOVE SEDIMENT AND DEBRIS FROM THE SEDIMENT ROW. FOR MORE INFORMATION, REFER TO PRINSCO'S "RETENTION/DETENTION CLEANING AND MAINTENANCE" TECHNICAL NOTE.
4. ACCESS PIPE: PRINSCO RECOMMENDS A 24 INCH (600 mm) DIAMETER ACCESS PIPE TO THE SEDIMENT ROW. A 24 INCH (600 mm) INTERNAL SLEEVE ADAPTER (PART # HS75A–24) WILL BE REQUIRED TO CONNECT TO HS75 END CAPS. CONTACT YOUR LOCAL SALES REPRESENTATIVE WITH ANY QUESTIONS.



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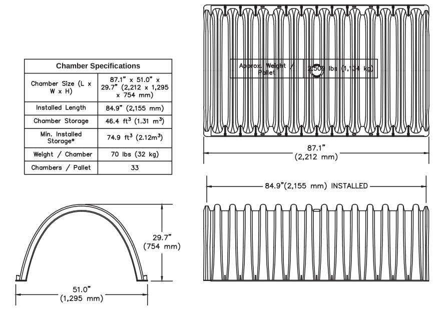
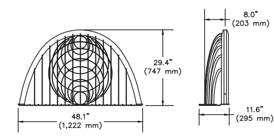
TITLE: HYDROSTOR HS75 – SEDIMENT ROW | DRAWN BY: ARB | DATE: 02–Jun–17 | SCALE: NTS | SHEET: 1 OF 1 | DRAWING NUMBER: D–7–302

HydroStor HS75

Chamber Specifications	
Chamber Size (L x W x H)	87.1" x 51.0" x 29.7" (2,212 x 1,295 x 754 mm)
Installed Length	84.9" (2,155 mm)
Chamber Storage	46.4 ft³ (1.31 m³)
Min. Installed Storage*	74.9 ft³ (2.12m³)
Weight / Chamber	70 lbs (32 kg)
Chambers / Pallet	33



End Cap Specifications	
End Cap Size (L x W x H)	11.6" x 48.1" x 29.4" (295 x 1,222 x 747 mm)
Installed Length	8.0" (203 mm)
End Cap Storage	2.75 ft³ (0.08 m³)
Min. Installed Storage*	12.02 ft³ (0.34 m³)
Weight	12 lbs (5.44 kg)



*ASSUMES 6" (150 mm) STONE ABOVE CHAMBERS/END CAPS, 6" (150 mm) OF STONE FOR FOUNDATION STONE, 6" (150 mm) OF STONE BETWEEN CHAMBERS/END CAPS, 12" (300 mm) OF STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

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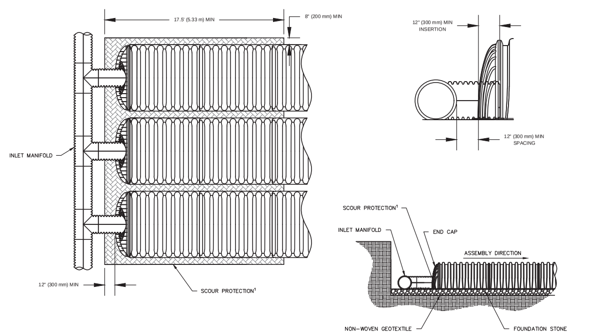
TITLE: HYDROSTOR HS75 – SPECIFICATION | DRAWN BY: ARB | DATE: 02–Jun–17 | SCALE: NTS | SHEET: 1 OF 1 | DRAWING NUMBER: D–7–301



NOTES:

1. SCOUR PROTECTION SHOULD USE A MIN 6 oz/yd² (203 g/m²) WOVEN GEOTEXTILE.
   GEOTEXTILE SHOULD MEET AASHTO M288 CLASS 1 SPECIFICATION.
2. SCOUR PROTECTION IS ONLY NEEDED WITH CHAMBER ROWS CONNECTED TO THE INLET MANIFOLD.

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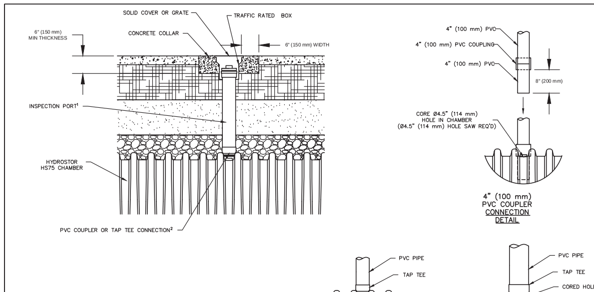
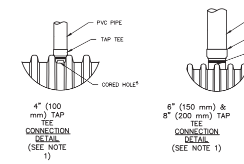
TITLE: HYDROSTOR HS75 – SCOUR PROTECTION | DRAWN BY: ARB | DATE: 02–Jun–17 | SCALE: NTS | SHEET: 1 OF 1 | DRAWING NUMBER: D–7–307





NOTES:

1. 4" (100 mm) INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CIRCULAR CUT OUT POINT, LOCATED AT THE CENTER OF EACH HS75 CHAMBER. 6" (150 mm) OR 8" (200 mm) INSPECTION PORTS MAY BE CONNECTED THROUGH A CORED HOLE, CENTERED ON A CORRUGATION.
2. TAP TEE CONNECTION CAN CONSIST OF QWICKSEAL, INSERTA TEE OR APPROVED ENGINEERING EQUIVALENT.
3. ALL PVC FITTINGS TO BE SOLVENT CEMENTED.
4. PVC MAY BE EITHER SDR 35 OR SCH 40
5. CORED HOLE SIZES AS FOLLOWS: 4" (100 mm) CUT TO 5" (125 mm); 6" (150 mm) CUT TO 7" (180 mm); 8" (200 mm) CUT TO 9" (230 mm)

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TITLE: HYDROSTOR HS75 – INSPECTION PORT | DRAWN BY: ARB | DATE: 02–Jun–17 | SCALE: NTS | SHEET: 1 OF 1 | DRAWING NUMBER: D–7–303

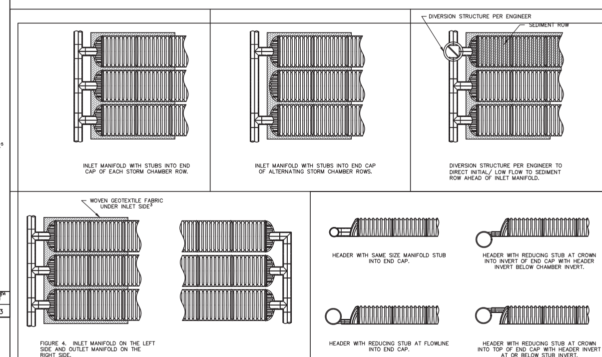

FIGURE 4. INLET MANIFOLD ON THE LEFT SIDE AND OUTLET MANIFOLD ON THE RIGHT SIDE.

NOTES:
1. THERE ARE MANY INLET HEADER AND OUTLET HEADER POSSIBILITIES. THE CONFIGURATIONS SHOWN ON THIS DRAWING ARE JUST A FEW OF THE OPTIONS.
2. INLET AND OUTLET MANIFOLDS SHALL BE INSERTED AT LEAST 12" (300 mm) INTO CHAMBER END CAPS. MANIFOLD HEADERS SHALL BE AT LEAST 12" (300 mm) FROM THE BASE OF THE END CAPS.
3. PRINSCO RECOMMENDS A SCOUR CONTROL MEASURE AT INLETS SUCH AS A WOVEN GEOTEXTILE FABRIC TO PROTECT FOUNDATION STONE. REFER TO PRINSCO'S SCOUR PROTECTION DETAIL.

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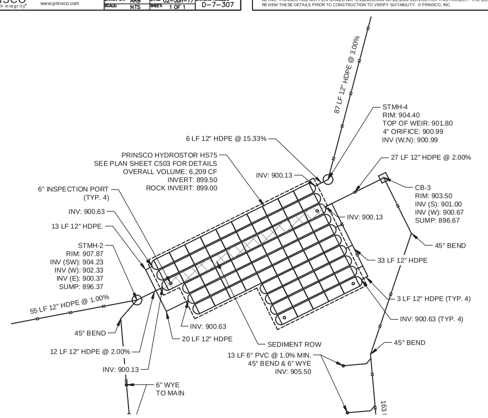
TITLE: HYDROSTOR CHAMBER – HEADER CONFIGURATIONS | DRAWN BY: ARB | DATE: 02–Jun–17 | SCALE: NTS | SHEET: 1 OF 1 | DRAWING NUMBER: D–7–100



PROJECT STATUS
Not For Construction

[redacted]

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

Signature : Thomas J. Herkenhoff, P.E.

Reg. No. : 25520 Date : 09/30/20

Larson Engineering, Inc.
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LAKE MINNETONKA CARE CENTER
NEW CARE CENTER
16913 STATE HWY. 7
MINNETONKA, MINNESOTA 55345

REVISIONS

Issue ID	Issue Name	Issue Date

SHEET TITLE
DETAILS

DRAWN BY:	DATE:	PROJ. NO.
NJN	09/30/20	12206062.000

SHEET NO.
C503

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

PROJECT DESCRIPTION / LOCATION

THE PROJECT CONSISTS OF A NEW BUILDING, PARKING LOT, UTILITY CONSTRUCTION, STORMWATER INFILTRATION BASIN, AND ALL ASSOCIATED GRADING AND EROSION CONTROL MEASURES. THE PROJECT SITE IS LOCATED AT 16913 STATE HWY 7, MINNETONKA, MN 55345. STORMWATER RUNOFF FROM THE EXISTING SITE DRAINS TO THE HWY 7 DITCH, THE EAST WETLAND, AND OFF SITE TO THE SOUTH.

THE PROJECT INCLUDES:
*GRADING
*UTILITIES
*STORM SEWER
*TURF ESTABLISHMENT

PLANS

THE PLANS SHOW THE PROJECT LIMITS.

ENVIRONMENTALLY SENSITIVE AREAS

PUBLIC WATERS LOCATED WITHIN 1 MILE OF THE PROJECT BOUNDARY AREA IDENTIFIED IN THE TABLE BELOW.

RECEIVING WATERS — IMPAIRMENT

PURGATORY CREEK — NONE

OUTSTANDING RESOURCE VALUE WATERS (ORVWs)

NONE

CALCAREOUS FENS

THERE ARE NO CALCAREOUS FENS WITHIN 1 MILE OF THE PROJECT BOUNDARY.

ARCHAEOLOGICAL, HISTORICAL, AND ARCHITECTURAL RESOURCES

THERE ARE NO ARCHAEOLOGICAL, HISHORICAL, OR ARCHITECTURAL RESOURCES WITHIN THE PROJECT BOUNDARY.

ENDANGERED AND THREATENED SPECIES REVIEW

THERE ARE NO ENDANGERED OR THREATENED SPECIES IDENTIFIED WITHIN THE PROJECT BOUNDARY.

TOTAL MAXIMUM DAILY LOAD (TMDL) WATERS

NA

LAND FEATURE CHANGES

TOTAL PROJECT AREA DISTURBED:	1.77 ACRES±
TOTAL EXISTING IMPERVIOUS SURFACE AREA:	0.37 ACRES
TOTAL EXISTING PERVIOUS SURFACE AREA:	1.99 ACRES
TOTAL PROPOSED IMPERVIOUS SURFACE AREA:	0.76 ACRES
TOTAL PROPOSED PERVIOUS SURFACE AREA:	1.60 ACRES

TIMING OF BMP INSTALLATION

THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS SHALLL BE INSTALLED AS NECESSARY TO MINIMIZE EROSION FROM DISTURBED SURFACES AND CAPTURE SEDIMENT ON SITE. EROSION AND SEDIMENT CONTROL SHALL BE INSTALLED PRIOR TO ANY DEMOLITION AND/OR CONSTRUCTION.

DRAINAGE COMPUTATIONS

STORMWATER RUNOFF FROM THE SITE IS DIRECTED TO THE NEW INFILTRATION BASIN TO MEET WATER QUALITY REQUIREMENTS, THEN TO THE EXISTING HIGHWAY DITCH AND WETLAND.

PROJECT CONTACTS

PROJECT ENGINEER:
LARSON ENGINEERING
816 WEST ST. GERMAIN, SUITE 38
ST. CLOUD, MN 56301
320-774-1944

OWNER:
JEFF SPRINKLE
20395 SUMMERVILLE ROAD
DEEPHAVEN, MN 55331
612-202-1554

CONTRACTOR:
MILLER ARCHITECTS AND BUILDERS
3335 WEST ST. GERMAIN
PO BOX 1228
ST. CLOUD, MN 56301
320-251-4109

MPCA 24 HOUR EMERGENCY NOTIFICATION:

651-649-5451
800-422-0798

SWPPP DESIGN, INSTALLATION & MANAGEMENT

DESIGN: TOM HERKENHOFF (LARSON ENGINEERING) 320.428.5824

INSTALLER: TBD

MANAGEMENT: TBD

CONSTRUCTION NOTES

CONSTRUCTION SHALL BE GOVERNED BY THE PROJECT MANUAL. THE CONTRACTOR SHALL KEEP AND MAINTAIN THE INSPECTION AND MAINTENANCE RECORDS.

PERMANENT STORMWATER MANAGEMENT

PERMANENT STORM WATER IS BEING TREATED BY THE INFILTRATION BASIN LOCATED ON SITE. THE OWNER SHALL BE RESPONSIBLE FOR THE INSPECTION AND MAINTENANCE OF THE INFILTRATION BASIN, RAIN GUARDIAN, AND UPSTREAM CATCH BASIN SUMPS AFTER PROJECT COMPLETION AND ACCEPTANCE.

SEQUENCE OF CONSTRUCTION ACTIVITIES

1. INSTALL TEMPORARY EROSION CONTROL AS SHOWN ON THE PLANS.
2. COMPLETE THE REMOVALS AS NOTED ON THE PLANS.
3. CONSTRUCT ALL TEMPORARY SEDIMENT TRAPS.
4. CONSTRUCT DOWNSTREAM STORM SEWER.
5. CONDUCT SITE GRADING.
6. TEMPORARILY SEED DENUDED AREAS PER NPDES REQUIRMENTS.
7. CONTINUALLY STABILIZE THE NORMAL WETTER PERIMETER OF ALL AREAS WITHIN THE 200 LINEAL FEET OF THE SURFACE WATER OR THE PROPERTY EDGE.
8. COMPLETE PERMANENT STABILIZATION.

BMP PROJECT QUANTITY ESTIMATE

(QUANTITIES ARE AN ESTIMATE ONLY AND MAY VARY)

SILT FENCE:	1,425 LF
INLET PROTECTION:	5 EA
TEMPORARY TURF ESTABLISHMENT:	0.50 AC±
PERMANENT TURF ESTABLISHMENT:	1.04 AC±
EROSION CONTROL BLANKET:	1,350 SY±
ROCK CONSTRUCTION ENTRANCE:	1 EA

STORM WATER POLLUTION PREVENTION PLAN (CONSTRUCTION ACTIVITY REQUIREMENTS)

1. THE CONTRACTOR WILL NEED TO IDENTIFY AN EROSION CONTROL SUPERVISOR IN GOOD STANDING WHO WILL BE KNOWLEDGEABLE AND HAS THE APPROPRIATE MPCA LICENSURE IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL, BEST MANAGEMENT PRACTICES.
2. EROSION CONTROL MEASURES SHOWN THE EROSION CONTROL PLAN ARE THE ABSOLUTE MINIMUM. THE CONTRACTOR SHALL INSTALL TEMPORARY EARTH DIKES, SEDIMENT TRAPS OR BASINS, ADDITIONAL SILTATION FENCING, AND/OR DISK THE SOIL PARALLEL TO THE CONTOURS AS DEEMED NECESSARY TO FURTHER CONTROL EROSION. ALL CHANGES SHALL BE RECORDED IN THE SWPPP.
3. THE EROSION CONTROL SUPERVISOR WILL WORK WITH THE PROJECT ENGINEER TO OVERSEE THE IMPLEMENTATION OF THE SWPPP, AND THE INSTALLATION, INSPECTION AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS BEFORE, DURING AND AFTER CONSTRUCTION AS REQUIRED. THE BMP MEASURES SHALL REFERENCE CITY BMP DETAILS.
4. THE GENERAL CONTRACTOR IS RESPONSIBLE TO COMPLY WITH THE CONSTRUCTION STORMWATER PERMIT.
5. THE CONTRACTOR WILL DEVELOP A CHAIN OF COMMAND WITH ALL OPERATORS ON THE SITE TO ENSURE THAT THE SWPPP WILL BE IMPLEMENTED AND STAY IN EFFECT UNTIL THE CONSTRUCTION PROJECT IS COMPLETE, THE ENTIRE SITE HAS UNDERGONE FINAL STABILIZATION, AND A NOTICE OF TERMINATION (NOT) HAS BEEN SUBMITTED TO THE MPCA.
6. THE CONTRACTOR WILL PREPARE A WRITTEN WEEKLY SCHEDULE OF PROPOSED EROSION CONTROL ACTIVITIES FOR THE PROJECT ENGINEERS APPROVAL.
7. THE CONTRACTOR WILL PREPARE AND SUBMIT A SITE PLAN FOR THE FOR THE PROJECT ENGINEERS APPROVAL FOR WORK IN CRITICAL AREAS AS IDENTIFIED ON THE PLANS OR AS REQUESTED BY THE PROJECT ENGINEER.
8. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY REMOVAL WORK AND/OR DISTURBING ACTIVITIES AND SHALL BE MAINTAINED UNTIL THE POTENTIAL FOR EROSION HAS BEEN ELIMINATED.
9. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN 7 DAYS OR AS REQUIRED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FOR CONSTRUCTION ACTIVITY ON THAT PORTION OF THE SITE THAT HAS TEMPORARY OR PERMANENT CONSTRUCTION ACTIVITY COMPLETION.
10. WORK IN DRAINAGE SWALES OR THE NORMAL WETTED PERIMETER OF ANY SURFACE WATER WILL REQUIRE STABILIZATION WITHIN 24 HOURS OF CONNECTION. THESE AREAS WILL INCLUDE ALL AREAS THAT DRAIN WATER WITHIN 200 FEET FROM THE PROPERTY EDGE OR POINT OF DISCHARGE TO ANY SURFACE WATER. RAPID STABILIZATION WILL BE USED IN THESE AREAS.
11. DITCHES AND EXPOSED SOILS MUST BE KEPT IN A SMOOTH ROUGH GRADED CONDITION IN ORDER TO BE ABLE TO APPLY EROSION CONTROL MULCHES AND BLANKETS.
12. ALL EXPOSED SOIL AREAS WILL BE STABILIZED PRIOR TO THE ONSET OF WINTER. ANY WORK STILL BEING PERFORMED WILL BE SNOW MULCHED, SEEDED, OR BLANKETED.
13. SEDIMENT CONTROL DEVICES MUST BE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITIES BEGIN. THE TIMING OF THE INSTALLATION OF THE SEDIMENT CONTROL DEVICES CAN BE ADJUSTED TO ACCOMMODATE SHORT-TERM ACTIVITIES SUCH AS CLEARING AND GRUBBING, OR PASSAGE OF VEHICLES. ANY SHORT TERM ACTIVITY MUST BE COMPLETED AS QUICKLY AS POSSIBLE AND THE SEDIMENT CONTROL DEVICES MUST BE INSTALLED IMMEDIATELY AFTER THE ACTIVITY IS COMPLETED IN ACCORDANCE WITH THE NPDES PERMIT.
    A. SILT FENCE SHALL BE INSTALLED SO THAT IT FOLLOWS AS CLOSE AS POSSIBLE TO A SINGLE CONTOUR TO CAPTURE OVERLAND, LOW-VELOCITY SHEET FLOWS DOWN GRADIENT OF ALL EXPOSED SOILS AND PRIOR TO DISCHARGING TO SURFACE WATERS WITH THE SILT FENCE J-HOODED AT A MAXIMUM OF 100 FOOT INTERVALS AND SHALL CONTAIN NO MORE THAN 1/4 ACRE OF DRAINAGE AREA.
    B. DITCH CHECKS WILL BE INSTALLED AS INDICATED ON THE PLANS DURING ALL PHASES OF CONSTRUCTION.
        * TEMPORARY DITCH CHECKS WILL CONSIST OF USING ROCK DITCH CHECKS AND ROCK WEEPERS IN FRONT OF CULVERT INLETS.
    C. SEDIMENT DAMAGE FROM STOCKPILES WILL BE MINIMIZED BY PLACING A ROW OF SILT FENCE 6 FEET FROM THE TOE.
    D. ALL EXPOSED STOCKPILES LEFT FOR A PERIOD OF TIME SHALL BE TEMPORARILY STABILIZED ACCORDING TO THE NPDES PERMIT REQUIREMENTS BUT IN NO CASE LATER THAN 7 DAYS.
14. STREET SURFACES SHALL BE SWEPT WITHIN 24 HOURS OF DISCOVERY OF SEDIMENT OR TRACKING WITH A VACUUM OPERATED BROOM SWEEPER. NO OPEN-BROOM SWEEPERS WILL BE ALLOWED.
15. STORM SEWER INLETS WILL BE PROTECTED WITH THE APPROPRIATE BMPS FOR EACH SPECIFIC PHASE OF CONSTRUCTION.
16. THE CONTRACTOR WILL COMPLY WITH THE REQUIREMENTS REGARDING POLLUTION PREVENTION MANAGEMENT DURING CONSTRUCTION, WHICH WILL INCLUDE PROVIDING:
    A. CONCRETE WASHOUT FACILITIES/PROCESSES ACCORDING TO THE NDPES PERMIT REQUIREMENTS
    B. SOLID WASTE COLLECTION AND REMOVAL
    C. SECONDARY CONTAINMENT
    D. HAZARDOUS WASTE STORAGE CONTAINERS AND SPILL KITS

** INSPECT THE CONSTRUCTION SITE ONCE EVERY 7 DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. RAINFALL SHALL BE MEASURED USING AN ONSITE RAIN GAUGE.

17. BUILDING PRODUCTS WITH POLLUTANT POTENTIAL SHALL BE STORED UNDER COVER (PLASTIC SHEETING, TEMPORARY ROOFS) OR IN SECURE CABINETS TO MINIMIZE CONTACT WITH STORMWATER.
18. CHEMICALS (PESTICIDES HERBICIDES, FERTILIZERS, TREATMENT CHEMICALS, ETC.) SHALL BE STORED UNDER COVER (PLASTIC SHEETING, TEMPORARY ROOFS) OR IN SECURE CABINETS TO MINIMIZE CONTACT WITH STORMWATER.
19. HAZARDOUS MATERIALS AND TOXIC WASTE (OIL, GAS, PAINT, ETC.) SHALL BE STORED IN SEALED CONTAINERS IN A STORAGE AREA WITH RESTRICTED ACCESS. STORAGE AREAS SHALL BE PROVIDED WITH SECONDARY CONTAINMENT PER MINNESOTA CHAPTER 7045. ALL DISPOSAL SHALL BE IN ACCORDANCE WITH STATE REGULATIONS.
20. COLLECTION, STORAGE, AND DISPOSAL OF SOLID WASTE SHALL COMPLY WITH MINNESOTA ADMINISTRATIVE RULES 7035.0300 TO 7035.2915. STORAGE OF GARBAGE, REFUSE, AND OVERSIZE WASTE SHALL COMPLY WITH 7035.0700. RENOVATION AND DEMOLITION OPERATIONS SHALL COMPLY WITH 7035.0805.
21. PORTABLE TOILETS SHALL BE MANAGED IN ACCORDANCE WITH MINNESOTA ADMINISTRATIVE RULES CHAPTER 7041.
22. FUELING OF VEHICLES AND EQUIPMENT WILL BE PERFORMED IN A DESIGNATED, CONTAINED AREA. SPILL KITS SHALL BE READILY AVAILABLE AND DISPOSAL SHALL BE IN ACCORDANCE WITH STATE REGULATIONS. SPILLS WILL BE REPORTED IN ACCORDANCE WITH MINNESOTA STATUTE 115.061.
23. WASHING OF VEHICLES AND EQUIPMENT WILL BE PERFORMED IN A DESIGNATED, CONTAINED AREA. RUNOFF FROM THE WASHING AREA SHALL BE CONTAINED IN A SEDIMENT BASIN AND WASTE SHALL BE DISPOSED OF IN ACCORDANCE WITH STATE REGULATIONS.
24. CONCRETE AND WASHOUT WASTES (STUCCO, PAINT, RELEASE OILS, CURING COMPOUNDS, ETC.) SHALL BE PERFORMED IN A DESIGNATED, CONTAINED AREA, SO THAT WASTES DON NOT CONTACT THE GROUND. LIQUID AND SOLID WASTES SHALL BE DISPOSED OF IN ACCORDANCE WITH STATE REGULATIONS. A SIGN SHALL BE POSTED AT THE WASHOUT AREA FOR IDENTIFICATION AND INSTRUCTIONS.
25. DEWATERING OR BASIN DRAINING ACTIVITIES OF TURBID OR SEDIMENT LADEN WATER WILL BE DISCHARGED TO TEMPORARY SEDIMENT BASINS WHENEVER POSSIBLE. IN THE EVENT THAT IT IS NOT POSSIBLE TO DISCHARGE THE SEDIMENT LADEN WATER TO A TEMPORARY SEDIMENT BASIN THE WATER MUST BE TREATED SO THAT IT DOES NOT ADVERSELY AFFECT RECEIVING WATERS OR DOWNSTREAM LANDOWNERS.
26. THE CONTRACTOR WILL NEED TO PROVIDE A LICENSED EROSION CONTROL SUPERVISOR WHO CAN INSPECT THE SITE FOR NDPES PERMIT COMPLIANCE. MAINTENANCE OF ALL BEST MANAGEMENT PRACTICES (BMPS) WILL BE REQUIRED AS SET FORTH IN THE PREVIOUSLY NAMED SECTIONS.
    A. THE EROSION CONTROL SUPERVISOR WILL NEED TO CONDUCT ROUTINE INDPECTIONS OF THE ENTIRE CONSTRUCTION SITE AS REQUIRED BY THE NPDES PERMIT
    B. DATE AND TIME OF INSPECTION
    C. NAME OF PERSONS CONDUCTING INSPECTIONS
    D. CORRECTIVE ACTIONS TAKEN
    E. DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 0.5 INCHES IN 24 HOURS
    F. DOCUMENTS AND CHANGES MADE TO THE SWPPP
    G. MAINTANENCE ACTIVITIES
27. MAINTENANCE WILL BE PERFORMED WITHIN A PERIOD PER PERMIT REQUIREMENTS.
    A. SILT FENCE REPAIRS SHOULD BE MADE WHEN IT BECOMES NON-FUNCTIONAL OR SEDIMENT REACHES 1/3 THE HEIGHT OF THE FENCE
    B. INLET PROTECTION DEVICES SHOULD BE REPAIRED WHEN THEY BECOME NON-FUNCTIONAL OR SEDIMENT REACHES 1/3 THE HEIGHT AND/OR DEPTH OF THE DEVICE
    C. TEMPORARY SEDIMENT BASIN MUST HAVE THE SEDIMENT REMOVED ONCE THE SEDIMENT HAS REACHED 1/2 THE STORAGE VOLUME
    D. TRACKED SEDIMENT MUST BE REMOVED WITHIN 24 HOURS OF DISCOVERY OF OFF SITE TRACKING ONTO PAVED SURFACES
    E. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL BMPS UNTIL WORK HAS BEEN COMPLETED, SITE HAS GONE UNDER FINAL STABILIZATION, AND THE NOTICE OF TERMINATION HAS BEEN SUBMITTED TO THE MPCA IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT
28. BURNING OF TREES, BRUSH, OR OTHER VEGETATED MATERIAL IS NOT ALLOWED WITHIN THE PROJECT BOUNDARIES.
29. THE CONTRACTOR MAY SKIP TEMPORARY OR RAPID STABILIZATION METHODS IF THEY CHOOSE TO STABILIZE AN AREA WITH PERMANENT STABILIZATION WITHIN THE APPROPRIATE TIME FRAMES OUTLINED IN THE PERMIT FOR THE DIFFERENT ACTIVITIES.
30. IF TEMPORARY OR PERMANENT COVER WILL NOT BE ESTABLISHED BY NOVEMBER 15, PROVIDE ADEQUATE MEASURES TO CONTROL SPRING EROSION AND SEDIMENTATION.
31. ALL SEDIMENT DEPOSITED INTO A WATER OF THE STATE MUST BE REMOVED IMMEDIATELY OR AS REQUIRED BY THE NPDES PERMIT.
32. OUTLETS INTO SURFACE WATERS SHALL BE STABILIZED WITH ENERGY DISSIPATION WITHIN 24 HOURS. ALL RIP RAP SHALL BE INSTALLED WITH A FILTER MATERIAL OR SOIL SEPARATION AND COMPLY WITH THE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
33. A 50 FOOT NATURAL BUFFER SHALL BE PRESERVED ADJACENT TO SURFACE WATERS. IF WORK ENCROACHES THE SURFACE WATER AS A COMPONENT OF THE WORK, REDUNDANT SEDIMENT CONTROLS SHALL BE INSTALLED.
34. ALL FILTRATION AREAS MUST BE INSPECTED TO ENSURE THAT NO SEDIMENT FROM ONGOING CONSTRUCTION ACTIVITY IS REACHING THE FILTRATION AREA AND THESE AREAS ARE TO BE PROTECTED FROM COMPACTION DUE TO CONSTRUCTION EQUIPMENT DRIVING ACROSS THE FILTRATION AREA. ONLY LOW IMPACT EQUIPMENT SHALL BE ALLOWED IN THE FILTRATION AREAS WHICH SHALL BE STAKED AND MARKED OFF.

PROJECT STATUS
Not For Construction

Miller
ARCHITECTS & BUILDERS

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

Signature : Thomas J. Herkenhoff, P.E.

Reg. No.: 25520 Date: 09/30/20

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REVISIONS

Issue ID	Issue Rights	Issue Date

SHEET TITLE: SWPPP

DRAWN BY:	DATE:	PROJ. NO.
NJN	09/30/20	122000 62.000

SHEET NO.
C600

COOPERATIVE AGREEMENT
Between St. Hubert Catholic Community and
Riley-Purgatory-Bluff Creek Watershed

St. Hubert Water Quality Project

DRAFT May 26, 2020

This cooperative agreement is made by and between St. Hubert Catholic Community, a Minnesota Catholic School and Parish.(St. Hubert), and Riley-Purgatory-Bluff Creek Watershed District, a watershed district created pursuant to Minnesota Statutes chapters 103B and 103D (RPBCWD); to achieve shared water-resource protection and improvement goals through design, construction and maintenance of a runoff volume and rate reduction; water quality improvement; ecological biodiversity enhancement; and educational opportunity creation project on the campus of St. Hubert Catholic School (the St. Hubert Property, which is owned in fee by St. Hubert Catholic Community.

Recitals

WHEREAS RPBCWD has an approved water resources management plan pursuant to Minnesota Statutes section 103B.231, subdivisions 3 through 10, (the Plan) that has as a primary goal the improvement of water quality in Rice Marsh Lake, Lake Riley and the Riley Creek watershed generally;

WHEREAS in 2016, RPBCWD completed the Rice Marsh Lake and Lake Riley Use Attainability Analysis Update, showing that Rice Marsh Lake fails to meet MPCA shallow lake water quality standards and that 64% of the phosphorus load is from external sources (44% watershed runoff, 20% discharge from Lake Susan into Rice Marsh Lake); RPBCWD implemented an alum treatment on Rice Marsh Lake in 2018 to reduce the internal phosphorus load, a measure that can be both more effective and longer lasting by maximizing management of external load;

WHEREAS in 2018, RPBCWD was contacted by St. Hubert about partnering on a rain garden on the St. Hubert Property; initial consultation identified the potential for multiple best management practices on the site that would progress RPBCWD goals;

WHEREAS RPBCWD's Opportunity Projects program was created with the adoption of the Plan in 2018 specifically to address previously unidentified projects and partnerships, and a stormwater retrofit of the St. Hubert Property was identified as a potential project for this program;

WHEREAS in April 2019, consultant SRF, retained by RPBCWD to work with St. Hubert stakeholders to identify potential best management practices for the St. Hubert Property that would meet RPBCWD goals, produced a memo identifying four project areas with multiple practices that would reduce runoff volume and rate; improve water quality; enhance ecological biodiversity; and develop educational opportunities (the "Project");

WHEREAS the Project is expected to treat 3.6 acres of runoff; reduce TSS by 455 lbs/year and reduce TP by 1.8 lbs/year; restore 0.7 acres of prairie ecosystem habitat; and

increase public awareness of water quality issues and improvements due to the accessible location of the project for St. Hubert students, St. Hubert staff, over 2,600 families, and the Summer Wood Retirement Community; RPBCWD staff scored the Project according to the Opportunity Project prioritization rubric in the Plan, resulting in a score of 33;

WHEREAS on or about August 7, 2019, RPBCWD distributed a draft amendment describing the Project and proposing to add it to the capital improvements program in the Plan;

WHEREAS on September 4, 2019, RPBCWD held a duly noticed public hearing to receive public comment on the proposed minor plan amendment for the Project, and no comments were received;

WHEREAS on October 2, 2019, the RBCWD board of managers amended the Plan to include the St. Hubert Catholic Community Opportunity Project;

WHEREAS on February 5, 2020, the RPBCWD board of managers conducted a duly-noticed public hearing to receive testimony from interested parties on whether to order the design of the Project; the RPBCWD board of managers considered the comments received, and ordered the design phase of the Project in accordance with Minnesota Statutes section 103B.251;

WHEREAS on April 1, 2020, the RPBCWD board of managers authorized design of the Project;

WHEREAS St. Hubert has committed to contribute a total amount of up to $45,000 to the Project, $15,000 of which will be disbursed annually over the three years following completion of the Project, and up to $5,000 per year to maintain the Project on the St. Hubert Property for the expected life of the Project; RPBCWD will cover the remaining costs of the Project, the total estimated cost of which is $277,000, through $75,000 in grant funds from the Metropolitan Council and through its ad valorem property tax levy to implement its watershed management plan pursuant to Minnesota Statutes Section 103B.21, 77% of which is paid by RPBCWD property taxpayers in Hennepin County and 23% is paid by RPBCWD property taxpayers in Carver County; Carver County Soil and Water Conservation District will contribute funds toward Project design costs;

WHEREAS the Project will be constructed entirely on the St. Hubert Property in the area depicted and labeled “Project Area” in Exhibit B, attached to and incorporated into this agreement;

WHEREAS St. Hubert will own and provide routine maintenance of the Project when it is completed, and the parties will separately agree to terms under which RPBCWD will provide additional technical assistance and specialized maintenance activities as needed (the Maintenance Plan);

WHEREAS St. Hubert and RPBCWD acknowledge that their ability to achieve Project objectives depends on each party satisfactorily and promptly performing individual obligations and working cooperatively with the other party to this agreement; and

WHEREAS Minnesota Statute §103D.335, subdivisions 7 and21 authorizes RPBCWD to enter this cooperative agreement with St. Hubert.

Agreement

NOW, THEREFORE St. Hubert and RPBCWD enter into this agreement to document their understanding as to the scope of the Project, affirm their commitments as to the responsibilities of and tasks to be undertaken by each party, grant and assign the necessary land-use rights, and facilitate communication and cooperation to successfully complete the Project.

1 Organization and Relationship of the Parties

A. The RPBCWD administrator and St. Hubert's Director of School Operations will serve as project leads and the principal contacts for their respective organizations for the Project, charged to conduct the day-to-day activities necessary to ensure that the Project is completed in accordance with the terms of this agreement.

B. The project leads will coordinate and communicate informally and formally to timely address any issues of concern to ensure the successful completion of the Project.

C. St. Hubert and RPBCWD enter this agreement solely for the purposes of improving water quality in Rice Marsh Lake and Lake Riley. Only contractual remedies are available for the failure of a party to fulfill the terms of this agreement.

D. Notwithstanding the foregoing or any other provision of this agreement, St. Hubert's and RPBCWD's obligations and rights under paragraphs 2E, 3B, 5C, 6A and 6C of the agreement will survive the termination of the agreement.

E. This agreement creates no right in and waives no immunity, defense or liability limitation with respect to any non-party.

2 Project Design, Construction and Maintenance

A. The Project is further defined for purposes of this cooperative agreement as the work specified in the phase 1 and phase 2 designs that RPBCWD will generate with its consulting engineer, and plans and specifications attached to and incorporated into this agreement as Exhibit C.

B. On or before **November 23 2020**, RPBCWD will present the 90% level design for Project to St. Hubert for its approval by **December 4, 2020**, such approval not to be unreasonably withheld. Joint work on design will continue, and RPBCWD will present final design of the Project to St. Hubert on or before **January 29, 2021** for its approval by **February 26, 2021**, such approval not to be unreasonably withheld.

C. The Project will include, after completion of construction, assessment of the effectiveness of the Project by the parties and development by the RPBCWD consulting engineer of specific written schedules, procedures and protocols for routine and major operation and maintenance of the Project. This agreement also provides terms and conditions for post-construction operation and maintenance of the Project.

D. **Construction contracting**. RPBCWD will solicit bids in accordance with applicable state and federal law, and will contract with the bidder it determines is the lowest-cost responsible and responsive bidder. The contract for construction will:

i. Require the contractor to indemnify, defend and hold harmless St. Hubert, its officers, employees and agents, from any and all actions, costs, damages and liabilities of any nature arising from the contractor's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty, or a subcontractor's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty owed by the contractor to RPBCWD;

ii. Require that the contractor for the Project name St. Hubert as an additional insured for general liability with primary and noncontributory coverage for general liability and provide a certificate showing same prior to construction;

iii. Extend the contractor's warranties under the agreement to St. Hubert;

iv. Require the contractor to determine and obtain all permits and other regulatory approvals applicable to the Project on behalf of RPBCWD and St. Hubert.

E. **Construction**.

i. RPBCWD, or the RPBCWD consulting engineer on RPBCWD's behalf, will provide construction oversight for and oversee implementation of the Project. RPBCWD may adjust the plans and specifications for the work during implementation, as long as the revised plans do not require RPBCWD to exceed the scope of the rights granted under this agreement, and such changes are made in coordination with St. Hubert to ensure compatibility of the Project with St. Hubert's continued use and operation of the St. Hubert's Property for its customary and intended purposes. Construction of the Project is planned to commence on or about June 1, 2021 and to be completed on or about August 15, 2021.

ii. RPBCWD will timely engage and consult St. Hubert on material changes to the Project plans and specifications.

iii. Until substantial completion of construction of the Project for the purposes intended, if RPBCWD, in its judgment, should decide that the Project is infeasible, RPBCWD, at its option, may declare the agreement rescinded and annulled. If RPBCWD so declares, all obligations herein, performed or not, will be voided, except that RPBCWD will return the St. Hubert Property materially to its prior condition or to a condition agreed to by St. Hubert.

iv. RPBCWD will notify St. Hubert within five business days of receipt of a certification of substantial completion from the contractor contracted to construct the Project.

v. Within 90 days of certification of substantial completion or termination of this agreement, RPBCWD will ensure that the Project site is restored to a condition consistent with the use of the Property for its intended purposes.

F. **Maintenance**.

i. After completion of the three-year construction and establishment period for the Project, St. Hubert, will provide, at its sole expense, ongoing routine maintenance and repair of the Project, in an amount not to exceed $5,000 per year, and shall not be in

default for failure to provide routine maintenance and repair if the same would result in an excess of $5,000 per year. RPBCWD will provide, at its sole expense, ongoing technical assistance and support for maintenance of the Project.

ii. After completion of the three-year construction and establishment period for the Project, RPBCWD will contract with the RPBCWD consulting engineer for the development, in collaboration with St. Hubert, of a draft Maintenance Plan. The Maintenance Plan will delineate necessary maintenance and repair of the Project, as well as roles and responsibilities supplemental to and consistent with the terms of this agreement for implementation of maintenance work. The Maintenance Plan will identify routine maintenance activities.

iii. St. Hubert will approve the Maintenance Plan within 45 days of receipt from RPBCWD, such approval not to be unreasonably withheld. Failure by St. Hubert to timely act on its rights and obligations under this paragraph will constitute approval of the Maintenance Plan. If St. Hubert disapproves the Maintenance Plan, all maintenance necessary to assure that the Project will continue to effectively function as designed will become the sole responsibility of St. Hubert. On approval of the Maintenance Plan, St. Hubert will perform all routine maintenance and monitoring of the Project, along with reporting as may be required by the Maintenance Plan, from the date the Project is substantially complete for its intended purposes. The Maintenance Plan will not require St. Hubert to expend greater than $5,000 per year for routine maintenance tasks and St. Hubert shall not be in default for failure to perform routine maintenance tasks if the same would be in excess of $5,000 per year..

iv. The Maintenance Plan will be implemented as follows:

a. Routine maintenance and repair work under the Maintenance Plan will be completed by St. Hubert at St. Hubert's sole expense with technical support as provided in accordance with paragraph 2.E.i.;

b. Specialized maintenance work under the Maintenance Plan will be completed by RPBCWD at its expense.

v. RPBCWD may conduct monitoring of the performance of the Project.

G. **Grant reporting.** RPBCWD will comply with any grant-reporting requirements related to the Project, except that St. Hubert will provide any data on the Project reasonably requested by RPBCWD to meet grant-reporting obligations related to the Project.

3 Costs

A. Except for reimbursement as provided in paragraph 3C and 3D herein, each party will be responsible for the costs of performance of its obligations (subject to the amounts set forth herein) and exercise of its rights under this agreement.

B. As provided in paragraph 2.E.i herein, St. Hubert will be responsible for the costs, not to exceed $5,000 per year, of routine post-construction maintenance of the Project to standards reasonably determined by St. Hubert, after the three-year establishment period, in conformance with the Maintenance Plan.

C. On receipt of documentation of payment as may be reasonably requested, St. Hubert will reimburse RPBCWD $15,000 per year in each of the three years subsequent to completion of construction, for a total reimbursement of $45,000, of documented costs of construction of the Project.

D. If St. Hubert sells or materially redevelops [specifically identified native plant restoration site] of the Project Area prior to the end of the tenth year following completion of the Project, St. Hubert will reimburse RPBCWD a pro-rated portion of $20,000 that will be calculated based on the number of years remaining in the ten year period from the date of sale or material redevelopment.

E. The entirety of the Project work will be the subject of a single permit prepared and submitted by RPBCWD; RPBCWD will be responsible for any other permits needed for Project work; St. Hubert will be responsible for any other permits for its work related to the Project.

F. Except as specifically provided otherwise herein, each of the parties will bear the costs of fulfilling its responsibilities and obligations under this agreement and, in the event of cancellation, the parties will bear all costs incurred prior to RPBCWD's issuance of notice to St. Hubert in accordance with paragraph 2.D.iii herein.

4 Grant of Property-Use Rights

For purposes of facilitating RPBCWD's exercise of its rights and performance of its responsibilities under this agreement,

A. St. Hubert, which holds in fee simple the parcel(s) legally described in Exhibit A to this Agreement, agrees to grant RPBCWD a non-exclusive easement over the areas identified in Exhibit B as phase 2 of the Project Area. This easement will provide for access and use of the identified burdened areas for purposes of construction and ongoing inspection and maintenance of the Project, and provide for conservation of the Project and related buffer areas. The parties agree that refinements to the easement description and identification of burdened areas and other reasonable terms and conditions of the easement will occur upon completion and mutual approval of design of the Project.

B. St. Hubert hereby grants and conveys to RPBCWD, its contractors, agents, and assigns a nonexclusive irrevocable term license over, under, upon, and across reasonable portions of the Property identified in Exhibit B as phase 1 of the Project Area for purposes of and until completion of the Project. The license granted hereby includes the right of reasonable ingress and egress and to pass over and through the Property on foot and using motorized equipment for purposes of completing the Project, so long as such ingress and egress shall not unreasonably interfere with the use and operations of the Property. RPBCWD, on reasonable notice to St. Hubert, may temporarily restrict or preclude public access to the Project Area to ensure safety while construction, restoration or maintenance activities are under way. RPBCWD will restore any portions of St. Hubert's property outside the Project to conditions materially similar to conditions existing prior to commencement of the Project construction.

C. St. Hubert will forbear from any material activity that would unreasonably interfere with RPBCWD's ability to exercise its rights or meet its obligations under this agreement, including the transfer of ownership of the Property. Subject to its interest in preserving public safety, St. Hubert will facilitate RPBCWD's reasonable exercise of its rights under this agreement with regard to access to and use of the School Property as described herein so long as the same shall not materially affect its use and operations of the Property and improvements thereon. St. Hubert will not knowingly take any materially adverse action within or adjacent to the Project Area that could reasonably be expected to materially diminish the effectiveness or function of the Project for the purposes intended.

D. The license granted by this agreement terminates on the earlier of completion of the Project or December 31, 2022, whichever is sooner.

5 RPBCWD's Further Rights and Obligations

A. RPBCWD will not be deemed to have acquired by entry into or performance under this agreement any form of interest or ownership in the St. Hubert Property. RPBCWD will not by entry into or performance under this agreement be deemed to have exercised any form of control over the use, operation or management of any portion of the St. Hubert Property or adjacent property so as to render RPBCWD a potentially responsible party for any contamination or exacerbation of any contamination conditions under state and/or federal law except to the extent of RPBCWD's gross negligence or wilfull misconduct and that of its agents or contractors.

B. RPBCWD will provide as-built construction drawings of the Project to St. Hubert within 90 days of certification of the Project as substantially complete for the intended purposes.

C. RPBCWD contracted with the RPBCWD consulting engineer for the development of the plans and specification for the Project, along with all necessary construction documentation and the Maintenance Plan. Notwithstanding the foregoing, and except for 2.C above, RPBCWD makes no warranty to St. Hubert regarding the RPBCWD consulting engineer's or another non-party's performance in design, construction or construction management for the Project.

6 General Terms

A. **Publicity and endorsement**. RPBCWD and St. Hubert will collaboratively develop, produce and disseminate public education and outreach materials and conduct at least one, and possibly annual, public educational and informational meetings about the Project. Each party, at its sole expense, may develop, produce and, after approval of the other parties, distribute educational, outreach and publicity materials related to the Project. Any publicity regarding the Project must identify St. Hubert and RPBCWD as sponsoring entities. For purposes of this provision, publicity includes notices, informational pamphlets, press releases, research, reports, signs and similar public notices prepared by or for St. Hubert or RPBCWD individually or jointly with others, or any subcontractors, with respect to the Project.

B. **Data management**. All designs, written materials, technical data, research or any other work in progress will be shared among the parties to this agreement on request, except as prohibited by law. As soon as is practicable, the party preparing plans, specifications, contractual documents, materials for public communication or education will provide them to the other parties for recordkeeping and other necessary purposes.

C. **Data Practices**. All data created, collected, received, maintained or disseminated for any purpose in the course of this agreement is governed by the Minnesota Government Data Practices Act, Minnesota Statutes chapter 13, and any state rules adopted to implement the act, as well as federal regulations on data privacy

D. **Entire agreement**. This agreement, as it may be amended in writing, contains the complete and entire agreement between the parties relating to the subject matter hereof, and supersedes all prior negotiations, agreements, representations and understandings, if any, between the parties respecting such matters. The recitals stated at the outset are incorporated into and made a part of the agreement.

E. **Force majeure**. RPBCWD will not be liable for failure to complete the Project if the failure results from an act of God (including fire, flood, earthquake, storm, other natural disaster or other weather conditions that make it infeasible or materially more costly to perform the specified work), embargo, labor dispute, strike, lockout, riot, pandemic, governmental shut down or emergency order, or interruption or failure of public utility service. In asserting force majeure, RPBCWD must demonstrate that it took reasonable steps to minimize delay and damage caused by foreseeable events, that it substantially fulfilled all non-excused obligations, and that it timely notified St. Hubert of the likelihood or actual occurrence of the force majeure event. Delay will be excused only for the duration of the force majeure. St. Hubert shall not be liable for any maintenance or repair obligations if the inability or failure or delay to perform the same arises from an act of God (including fire, flood, earthquake, storm, other natural disaster or other weather conditions that make it infeasible or materially more costly to perform the specified work), embargo, labor dispute, strike, lockout, riot, pandemic, governmental shut down or emergency order, or interruption or failure of public utility service.

F. **Waivers**. The waiver by St. Hubert of any breach or failure to comply with any provision of this agreement by the other parties will not be construed as nor will it constitute a continuing waiver of such provision or a waiver of any other breach of or failure to comply with any other provision of this agreement.

G. **Notices**. Any notice, demand or communication under this agreement by any party to the others will be deemed to be sufficiently given or delivered if it is dispatched by registered or certified mail, postage prepaid to:

St. Hubert Catholic School	RPBCWD
Robert Schlegel	Claire Bleser
Director of School Operations	Administrator
8201 Main Street	18681 Lake Drive East
Chanhassen, MN, 55317	Chanhassen, MN 55317
rob.schlegel@school.sthubert.org	cbleser@rpbcwd.org
952-934-6003	952-607-6512

H. **Term; termination.** This agreement is effective on execution by each of the parties and will terminate three years from the date of execution of this agreement or on the written agreement of all three parties.

[SIGNATURE PAGE FOLLOWS.]

IN WITNESS WHEREOF, the parties have caused the agreement to be duly executed intending to be bounded thereby.

St. Hubert

_____

By: NAME, TITLE

Date: _____

and

_____

By: [NAME],

Date: _____

Approved as to form & execution:

_____

Riley-Purgatory-Bluff Creek Watershed District

_____

By: Dick Ward, President

Date: _____

Approved as to form & execution:

_____

RPBCWD counsel

EXHIBIT A
Legal Description of the St. Hubert Property

[This should come from St. Hubert]

EXHIBIT B
Easement and Project Area

EXHIBIT C
Project Design

REDPATH AND COMPANY

October 29, 2020

Claire Bleser
District Administrator
Riley Purgatory Bluff Creek Watershed District
18681 Lake Drive E.
Chanhassen, Minnesota 55317

Dear Claire:

Enclosed please find the checks and Treasurer's Report for Riley Purgatory Bluff Creek Watershed District for the one month and nine months ending September 30, 2020.

Please examine these statements and if you have any questions or need additional copies, please call me.

Sincerely,

REDPATH AND COMPANY, LTD.

Mark C. Gibbs, CPA
Enclosure

REDPATH AND COMPANY

To The Board of Managers
Riley Purgatory Bluff Creek Watershed District
Chanhassen, Minnesota

Accountant's Opinion

The Riley Purgatory Bluff Creek Watershed District is responsible for the accompanying September 30, 2020 Treasurer's Report in the prescribed form. We have performed a compilation engagement in accordance with the Statements on Standards for Accounting and Review promulgated by the Accounting and Review Services Committee of AICPA. We did not audit or review the Treasurer's Report nor were we required to perform any procedures to verify the accuracy or completeness of the information provided by the Riley Purgatory Bluff Creek Watershed District. Accordingly, we do not express an opinion, a conclusion, nor provide any form of assurance on the Treasurer's Report.

Reporting Process

The Treasurer's Report is presented in a prescribed form mandated by the Board of Managers and is not intended to be a presentation in accordance with accounting principles generally accepted in the United States of America. The reason the Board of Managers mandates a prescribed form instead of GAAP (Generally Accepted Accounting Principles) is this format gives the Board of Managers the financial information they need to make informed decisions as to the finances of the watershed.

GAAP basis reports would require certain reporting formats, adjustments to accrual basis and supplementary schedules to give the Board of Managers information they need, making GAAP reporting on a monthly basis extremely cost prohibitive. An independent auditing firm is retained each year to perform a full audit and issue an audited GAAP basis report. This annual report is submitted to the Minnesota State Auditor, as required by Statute, and to the Board of Water and Soil Resources.

The Treasurer's Report is presented on a modified accrual basis of accounting. Expenditures are accounted for when incurred. For example, payments listed on the Cash Disbursements report are included as expenses in the Treasurer's Report even though the actual payment is made subsequently. Revenues are accounted for on a cash basis and only reflected in the month received.

REDPATH AND COMPANY, LTD.

Redpath and Company, Ltd.

St. Paul, Minnesota
October 29, 2020

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Treasurers Report

September 30, 2020

REPORT INDEX

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
Cash Disbursements
September 30, 2020

Accounts Payable:

Check #	Payee	Amount	
5369	MAMAC	$51,095.00	**Issued 10/19/20**
5370	Scott Walker	5,000.00	**Issued 10/19/20**
5371	League of MN Cities Trust WC	2,540.00	**Issued 10/27/20**
5372	Stewart & Deborah Anderson	3,790.26	
5373	Barr Engineering	62,930.98	
5374	B9 Polar Waters, LLC	7,620.19	
5375	CenturyLink	371.36	
5376	City of Chanhassen	32.82	
5377	Coverall of the Twin Cities	316.76	
5378	Anne & Stuart Deuring	962.89	
5379	Dorsey & Whitney, LLP	6,013.36	
5380	Dunn & Semington, LLC	59.14	
5381	ECM Publishers, Inc.	452.20	
5382	Dean Hansen	2,775.00	
5383	HealthPartners	3,899.77	
5384	Amy Herbert, LLC	1,155.00	
5385	Olivia R. Holstine	496.86	
5386	Masha Hoy	2,664.75	
5387	Iron Mountain	162.57	
5388	Larry Koch	923.50	
5389	Landbridge Ecological Services	5,000.00	
5390	Natural Shores Technology	1,000.00	
5391	Olson Construction Co., Inc.	48,790.00	
5392	Principal Life Insurance Company	404.01	
5393	Redpath & Company	1,941.47	
5394	Regents of the University of Minnesota	12,369.44	
5395	RMB Environmental Laboratories, Inc.	2,269.00	
5396	RMB Environmental Laboratories, Inc.	3,041.00	
5397	RMB Environmental Laboratories, Inc.	2,825.00	
5398	RMB Environmental Laboratories, Inc.	167.00	
5399	Tim Sandry & Ellen Wersan	4,836.00	
5400	Smith Partners	8,751.50	
5401	Southwest News Media	808.80	
5402	SRF Consulting Group, Inc.	617.61	
5403	Wenck, Inc.	6,808.00	
5404	What Works, Inc.	2,535.00	
	Total Accounts Payable:	**$255,426.24**	

Payroll Disbursements:

Payroll Processing Fee	211.70	
Employee Salaries	45,055.74	
Employer Payroll Taxes	3,591.43	
Employer Benefits (H.S.A. Match)	466.66	
Employee Benefit Deductions	(494.40)	
Staff Expense Reimbursements	948.40	
PERA Match	3,272.06	
Total Payroll Disbursements:	**$53,051.59**	
VISA - 9/11/20	6,816.54	
Check #5369 - MAMAC - Surety Refund	(51,095.00)	
Check #5370 - Scott Walker - Surety Refund	(5,000.00)	

TOTAL DISBURSEMENTS: **$259,199.37**

Memos
The 2020 mileage rate is .575 per mile. The 2019 rate was .58
Old National VISA will be paid on-line.

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
Fund Performance Analysis - Table 1
September 30, 2020

	2020 Budget	Fund Transfers	Revised 2020 Budget	Current Month	Year-to-Date	Year-to Date Percent of Budget
REVENUES						
Plan Implementation Levy	$3,703,000.00	-	$3,703,000.00	-	$1,916,340.82	51.75%
Permit	25,000.00	-	25,000.00	6,950.00	53,624.00	214.50%
Grant Income	346,719.00	-	346,719.00	-	75,950.00	21.91%
Investment Income	75,000.00	-	75,000.00	282.54	51,264.76	68.35%
Past Levies	3,699,097.00	-	3,699,097.00	-	-	0.00%
Miscellaneous Income	-	-	-	300.00	3,788.84	---
Reimbursements	-	-	-	25.00	119,204.05	---
Partner Funds	612,698.00	-	612,698.00	-	-	0.00%
TOTAL REVENUE	**$8,461,514.00**	-	**$8,461,514.00**	**$7,557.54**	**$2,220,172.47**	**26.24%**
EXPENDITURES						
Administration						
Accounting and Audit	$42,000.00	-	$42,000.00	$2,153.17	$42,702.98	101.67%
Advisory Committees	5,000.00	-	5,000.00	200.00	337.48	6.75%
Insurance and bonds	20,000.00	-	20,000.00	2,540.00	17,520.00	87.60%
Engineering Services	109,000.00	-	109,000.00	8,057.00	72,128.19	66.17%
Legal Services	84,000.00	-	84,000.00	5,914.89	77,693.76	92.49%
Manager Per Diem/Expense	20,000.00	-	20,000.00	1,000.00	11,369.76	56.85%
Dues and Publications	14,000.00	-	14,000.00	39.00	12,276.00	87.69%
Office Cost	150,000.00	-	150,000.00	10,640.42	124,811.73	83.21%
Permit Review and Inspection	135,000.00	-	135,000.00	15,768.08	139,876.42	103.61%
Permit and Grant Database	39,900.00	-	39,900.00	-	23,500.00	58.90%
Professional Services	-	-	-	2,535.00	10,627.00	---
Recording Services	17,000.00	-	17,000.00	1,155.00	9,204.48	54.14%
Staff Cost	600,000.00	-	600,000.00	43,630.71	381,100.80	63.52%
Subtotal	**$1,235,900.00**	-	**$1,235,900.00**	**$93,633.27**	**$923,148.60**	**74.69%**
Programs and Projects						
District Wide						
10-year Management Plan	$5,000.00	-	$5,000.00	$1,338.84	$12,820.76	256.42%
AIS Inspection and early response	85,000.00	-	85,000.00	-	2,783.52	3.27%
Cost-share	398,723.00	-	398,723.00	15,741.24	100,467.90	25.20%
Data Collection and Monitoring	192,000.00	-	192,000.00	35,827.50	158,410.15	82.51%
Community Resiliency	63,130.00	-	63,130.00	3,842.00	14,008.00	22.19%
Education and Outreach	123,000.00	-	123,000.00	8,861.09	80,873.30	65.75%
Plant Restoration - U of M	58,762.00	-	58,762.00	-	13,534.43	23.03%
Repair and Maintenance Fund *	267,730.00	-	267,730.00	340.00	55,139.58	20.60%
Wetland Management*	165,685.00	-	165,685.00	3,241.54	18,306.62	11.05%
Groundwater Conservation*	179,750.00	-	179,750.00	-	120.00	0.07%
Lake Vegetation Implementation	125,937.00	-	125,937.00	1,585.40	35,111.98	27.88%
Opportunity Project*	287,501.00	-	287,501.00	-	13,666.29	4.75%
Stormwater Ponds - U of M	79,985.00	-	79,985.00	12,621.44	45,190.40	56.50%
Hennepin County Chloride Initiative	114,830.00	-	114,830.00	-	21,859.46	19.04%
Lower Minnesota Chloride Cost-Share	217,209.00	-	217,209.00	-	-	0.00%
Subtotal	**$2,364,242.00**	-	**$2,364,242.00**	**$83,399.05**	**$572,292.39**	**24.21%**
Bluff Creek						
Bluff Creek Tributary*	$65,037.00	-	$65,037.00	$1,062.50	$55,274.41	84.99%
Wetland Restoration at Pioneer	308,674.00	-	308,674.00	56,477.57	87,397.86	28.31%
Subtotal	**$373,711.00**	-	373,711.00	**$57,540.07**	**$142,672.27**	**38.18%**
Riley Creek						
Lake Riley - Alum Treatment*	$305,000.00	-	$305,000.00	-	$255,914.74	83.91%
Rice Marsh Lake in-lake phosphorus load	60,568.00	-	60,568.00	-	14,307.26	23.62%
Rice Marsh Lake Water Quality Improvement Phase 1	300,000.00	-	300,000.00	-	15,742.50	5.25%
Riley Creek Restoration (Reach E and D3)	1,773,623.00	-	1,773,623.00	372.00	1,937,328.37	109.23%
Lake Riley & Rice Marsh Lake Subwatershed Assessment	29,961.00	-	29,961.00	3,342.20	33,851.77	112.99%
Upper Riley Creek Stabilization	1,100,000.00	(250,000.00)	850,000.00	1,861.00	38,132.02	4.49%
Middle Rice Creek	-	268,900.00	268,900.00	8,594.60	72,006.65	26.78%
Lake Ann Wetland Restoration	150,000.00	(100,000.00)	50,000.00	-	-	0.00%
St. Hubert Water Quality Project	-	100,000.00	100,000.00	617.61	27,178.99	27.18%
Subtotal	**$3,719,152.00**	**$18,900.00**	3,738,052.00	**$14,787.41**	**$2,394,462.30**	**64.06%**
Purgatory Creek						
Purgatory Creek Rec Area- Berm/retention area - feasibility/design	$50,000.00	-	$50,000.00	-	$12,359.28	24.72%
Lotus Lake in-lake phosphorus load control	104,106.00	-	104,106.00	-	24,880.41	23.90%
Silver Lake Restoration - Feasibility Phase 1	255,931.00	-	255,931.00	3,311.00	30,979.18	12.10%
Scenic Heights	55,459.00	-	55,459.00	-	2,557.50	4.61%
Hyland Lake in-lake phosphorus load control	1,388.00	-	1,388.00	-	-	0.00%
Duck Lake watershed load	125,422.00	-	125,422.00	806.67	90,462.49	72.13%
Michell Lake Subwatershed Assessment	46,203.00	-	46,203.00	1,880.40	52,071.47	112.70%
Lotus Lake Kerber Pond	30,000.00	-	30,000.00	3,841.50	14,337.50	47.79%
Subtotal	**$668,509.00**	**$0.00**	$668,509.00	**$9,839.57**	**$227,647.83**	34.05%
Reserve	**$100,000.00**	**($18,900.00)**	81,100.00	-	-	0.00%
TOTAL EXPENDITURE	**$8,461,514.00**	**$0.00**	**$8,461,514.00**	**$259,199.37**	**$4,260,223.39**	**50.35%**
EXCESS REVENUES OVER (UNDER) EXPENDITURES	**$0.00**	**$0.00**	**$0.00**	**($251,641.83)**	**($2,040,050.92)**	

***Denotes Multi-Year Project - See Table 2 for details**

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
Muti-Year Project Performance Analysis - Table 2
September 30, 2020

		FUNDING SOURCE			Month Ended	Year	Lifetime	
	Total Project	District funds	Partner Fund	Grants	09/30/20	To-Date	Costs	Remaining
Programs and Projects								
District Wide								
Community Resiliency	**98,000.00**	98,000.00	-	-	3,842.00	14,008.00	48,877.50	49,122.50
Repair and Maintenance Fund	**277,005.00**	277,005.00	-	-	340.00	55,139.58	89,415.08	187,589.92
Wetland Management	**200,000.00**	200,000.00	-	-	3,241.54	18,306.62	77,621.68	122,378.32
Groundwater Conservation	**180,000.00**	180,000.00	-	-	-	120.00	370.00	179,630.00
Opportunity Project*	**300,000.00**	300,000.00	-	-	-	13,666.29	26,165.29	273,834.71
Stormwater Ponds - U of M	**106,092.00**	64,092.00	42,000.00	-	12,621.44	45,190.40	71,297.41	34,794.59
Hennepin County Chloride Initiative	**120,800.00**	19,000.00	-	101,800.00	-	21,859.46	27,829.77	92,970.23
Lower Minnesota Chloride Cost-Share	**217,209.00**	20,000.00	-	197,209.00	-	-	-	217,209.00
Subtotal	**$1,499,106.00**	**$1,158,097.00**	**$42,000.00**	**$299,009.00**	**$20,044.98**	**$168,290.35**	**$341,576.73**	**1,157,529.27**
Bluff Creek								
Bluff Creek Tributary*	**436,750.68**	386,750.68	50,000.00	-	1,062.50	55,274.41	376,987.19	59,763.49
Wetland Restoration at Pioneer	**857,820.00**	450,000.00	-	407,820.00	56,477.57	87,397.86	636,545.88	221,274.12
Subtotal	**$1,294,570.68**	**$836,750.68**	**$50,000.00**	**$407,820.00**	**$57,540.07**	**$142,672.27**	**$1,013,533.07**	**$281,037.61**
Riley Creek								
Lake Riley - Alum Treatment 1st dose *	**560,000.00**	560,000.00	-	-	-	255,914.74	510,914.57	49,085.43
Rice Marsh Lake in-lake phosphorus load	**150,000.00**	150,000.00	-	-	-	14,307.26	103,740.07	46,259.93
Rice Marsh WQ 1	**300,000.00**	300,000.00	-	-	-	15,742.50	15,742.50	284,257.50
Riley Creek Restoration (Reach E and D3) *	**2,168,148.00**	1,615,000.00	553,148.00	-	372.00	1,937,328.37	2,205,460.64	(37,312.64)
Lake Riley & Rice Marsh Lake Subwatershed Assessment	**72,500.00**	12,500.00	5,000.00	55,000.00	3,342.20	33,851.77	76,390.74	(3,890.74)
Upper Riley Creek Stabilization	**450,000.00**	1,100,000.00	0.00	-	1,861.00	38,132.02	38,132.02	411,867.98
Subtotal	**$3,700,648.00**	**$3,737,500.00**	**$558,148.00**	**$55,000.00**	**$5,575.20**	**$2,295,276.66**	**$2,950,380.54**	**$750,267.46**
Purgatory Creek								
Purgatory Creek Rec Area- Berm/retention area - feasibility/design	**50,000.00**	50,000.00	-	-	-	12,359.28	12,359.28	37,640.72
Lotus Lake in-lake phosphorus load control	**345,000.00**	345,000.00	-	-	-	24,880.41	265,773.75	79,226.25
Silver Lake Restoration Project WQ1	**268,013.00**	268,013.00	-	-	3,311.00	30,979.18	43,061.01	224,951.99
Scenic Heights	**260,000.00**	165,000.00	45,000.00	50,000.00	-	2,557.50	207,098.75	52,901.25
Hyland Lake Internal Load	**150,000.00**	130,000.00	20,000.00	-	-	-	128,612.41	21,387.59
Duck Lake watershed load	**220,000.00**	220,000.00	0.00	0.00	806.67	90,462.49	185,039.51	34,960.49
Mitchell Lake Subwatershed Assessment	**87,500.00**	12,500.00	5,000.00	70,000.00	1,880.40	52,071.47	93,368.11	(5,868.11)
Subtotal	**$1,380,513.00**	**$1,190,513.00**	**$70,000.00**	**$120,000.00**	**$5,998.07**	**$213,310.33**	**$935,312.82**	**$445,200.18**
Total Multi-Year Project Costs	**$7,874,837.68**	**$6,922,860.68**	**$720,148.00**	**$881,829.00**	**$89,158.32**	**$2,819,549.61**	**$5,240,803.16**	**$2,634,034.52**

Riley Purgatory Bluff Creek Watershed District
Balance Sheet
As of September 30, 2020

ASSETS

Current Assets

General Checking-Old National	$1,450,695.43	
Checking-Old National/BMW	23,256.03	
Investments-Standing Cash/Wells Fargo	4,033,445.33	
Accrued Investment Interest	21,874.72	
Due From Other Governments	51,116.73	
Taxes Receivable-Delinquent	36,003.36	
Pre-Paid Expense	24,742.32	
Security Deposits	7,244.00	
Total Current Assets:		**$5,648,377.92**

LIABILITIES AND CAPITAL

Current Liabilities

Accounts Payable	$494,415.44	
Retainage Payable	12,521.39	
Salaries Payable	19,726.03	
Permits & Sureties Payable	592,694.50	
Deferred Revenue	36,003.36	
Unearned Revenue	199,470.00	
Total Current Liabilities:		**$1,354,830.72**

Capital

Fund Balance-General	$6,333,598.12	
Net Income	(2,040,050.92)	
Total Capital		**$4,293,547.20**
Total Liabilities & Capital		**$5,648,377.92**

RILEY PURGTORY BLUFF CREEK WATERSHED DISTRICT
OLD NATIONAL BANK VISA ACTIVITY
September 30, 2020

DATE	PURCHASED FROM	AMOUNT	DESCRIPTION	ACCOUNT #	RECEIPT
09/16/20	U of M Continuing Learning	425.00	Conference Registration	10-00-4010	Y
09/17/20	EB 2020 MAISRC Research	12.24	MAISRC Event	10-00-4010	Y
09/21/20	Verizon Wireless	411.30	Telecommunications	10-00-4240	Y
09/24/20	Costco	99.58	Office Supplies	10-00-4200	Y
09/28/20	Randy's Sanitation	98.90	Trash & Recycling	10-00-4220	N
10/04/20	Adobe Acropro	16.10	Office Software	10-00-4203	Y
10/05/20	General Delivery	28.29	Courier	10-00-4280	Y
10/13/20	Microsoft	134.41	Computer Software	10-00-4203	Y
10/13/20	SP*Medifyair	1,425.45	Air Purifiers	10-00-4200	Y
		$2,651.27	**General Administration Total**		
09/15/20	EB Step In and Experi.	116.31	Webinar	20-08-4265	Y
09/16/20	EB Learning Tips	116.31	Webinar	20-08-4265	Y
09/16/20	EB Dive In and Explore	116.31	Webinar	20-08-4265	Y
09/18/20	HACH Company	266.37	Data Collection	20-05-4322	Y
09/22/20	Chanhassen Goodyear	27.15	Tire Repair	20-05-4322	Y
09/24/20	Prairie Moon	72.04	Seeds for Silver Lake Program	20-08-4275	Y
09/30/20	Speedway	70.46	Data Collection	20-05-4322	Y
10/01/20	U of M Continuing Learning	115.00	Wetland Program	20-13-4265	Y
10/01/20	Prairie Moon	95.71	Education & Outreach	20-08-4275	Y
10/02/20	U of M Continuing Learning	115.00	Conference Registration	20-13-4265	Y
10/07/20	Holiday Stations	21.76	Wetlands Fuel	20-13-4322	Y
10/07/20	Holiday Stations	42.66	Data Collection Fuel	20-05-4322	Y
10/08/20	Amazon	111.65	Data Collection Supplies	20-05-4201	Y
10/14/20	Walgreens	1.99	Data Collection Supplies	20-05-4201	Y
		$1,288.72	**District-Wide Total**		
		$3,939.99	**GRAND TOTAL**		

resourceful. naturally.
engineering and environmental consultants

BARR

Technical Memorandum

To: RPBCWD Administrator
From: Kevin Menken and Scott Sobiech
Subject: Pond RML12 sediment and water quality assessment
Date: October 29, 2020
Project: 23270053.13 028

1.0 Background

1.1 Water Quality Studies and Targets

Rice Marsh Lakes' position within the Riley chain of lakes makes its water quality management critical for protecting and enhancing downstream waters including Lake Riley and lower Riley Creek. Because water leaving Rice Marsh Lake discharges directly to Lake Riley, it is important to keep phosphorus concentrations as low as possible in Rice Marsh Lake (and the upstream lakes Susan, Ann, and Lucy). To that end, RPBCWD prioritized water quality management in Rice Marsh Lake and its watershed for the past 15 years. In 2005, the RPBCWD completed the Lake Riley water quality improvement project including existing pond enhancement and new stormwater pond construction in the Rice Marsh Lake watershed (e.g., pond RML12). RPBCWD also implemented extensive carp management techniques in the chain of lakes including extensive carp netting and removal, as well as installing a winter aeration system in the lake to promote blue gill survival.

While these measures reduced the phosphorus and chlorophyll-a concentration and increased water clarity in the lake, the lake did not achieve MPCA standards. To establish the next phase in water quality improvements for the lake, the Rice Marsh Lake UAA was updated in January 2016 providing recommended remedial measures to improve the water quality. The recommendations included watershed and internal load reductions. The required reductions are summarized in Table 1. It is important to note that The Lower Minnesota River Watershed Total Maximum Daily Load Part II (Agency, 2020) utilized the UAA to determine pollutant loading to the lake and estimate the required load reductions to meet the water quality goals. The TMDL indicates a 29% reduction in the watershed loading is needed to achieve and maintain the long-term water quality goals.

Table 1 Rice Marsh Lake estimated load reductions required to meet TP water quality goal for 2014 water year(1)

Measured growing season average TP concentration (µg/L)	Modeled growing season average TP concentration (µg/L)	Estimated 2014 TP loading rate (lbs/yr)	TP concentration goal (µg/L)	Estimated Loading Capacity to meet WQ goal (lbs/yr)	Percent reduction needed to achieve goal (%)
107	110(2)	1,642	60	961	41%

(1) Values cited from RPBCWD's 2016 Rice Marsh Lake and Lake Riley Use Attainability Analysis
(2) Volumetric average concentration for entire water column

Using the UAA and the TMDL as a roadmap for improving water quality in Rice Marsh Lake and downstream waters, the District's 2018 Plan incorporated watershed and internal load reduction measures for Rice Marsh Lake as part of the 10-year capital improvement program. RPBCWD began implementing the 10-year plan by completing a partial in-lake alum treatment of Rice Marsh Lake in September 2018. Follow up monitoring of the alum treatment concluded the sediment phosphorus release was effectively reduced by 85% and the phosphorus concentration in the lake was reduced by 67%.

Given the significant investment by the District to conduct the partial alum treatment, additional watershed and upstream load reduction measure should help increase the longevity of the alum treatment and maximizing the District's investment. The Rice Marsh Lake UAA recommends and the district's 10-year CIP prioritizes the implementation of a watershed best management practice near Pond RML12. The UAA identified the 240-acre tributary watershed, including a significant portion of downtown Chanhassen, that drains to pond RML12 as a significant opportunity to reduce water phosphorus loading (see Figure 1). The estimated watershed loading at this location is 232 pounds annually representing roughly 32% of the external load, the largest inflow load to the lake.

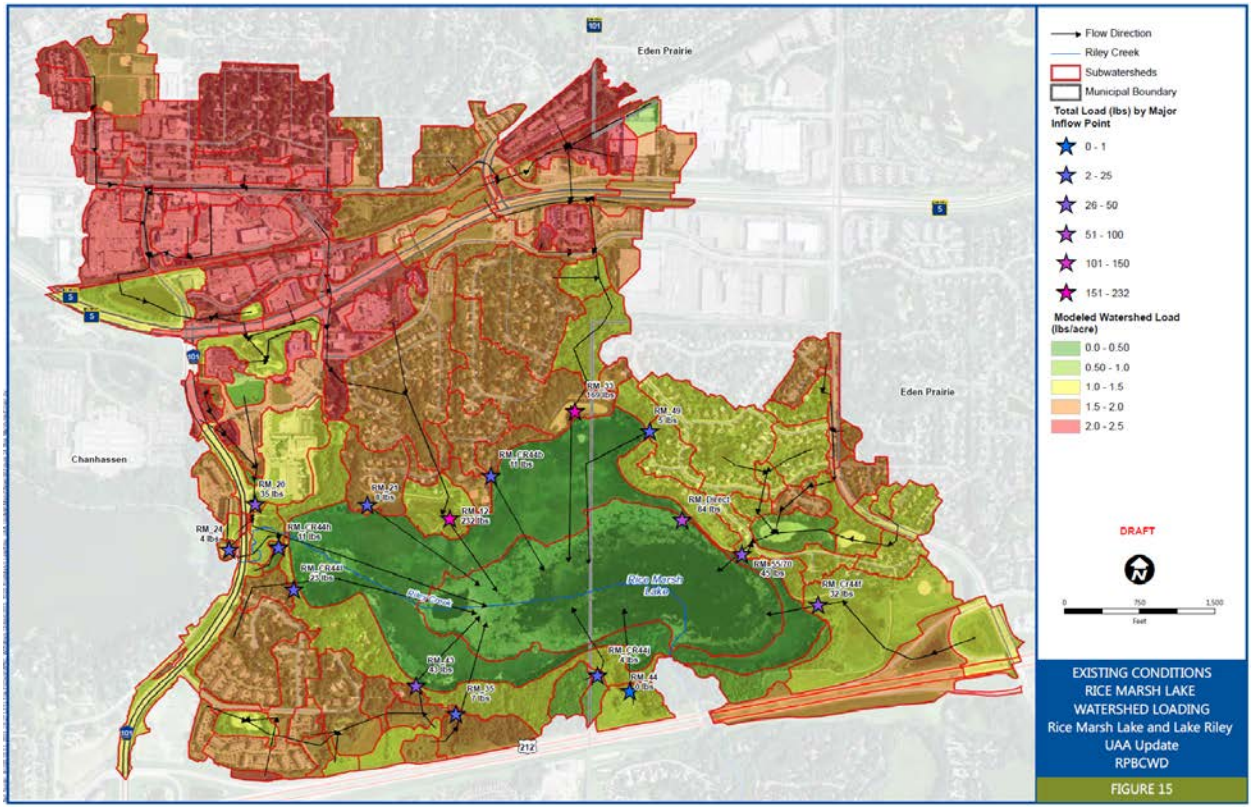


Figure 1. Existing Watershed Loads to Rice Marsh Lake estimated in the UAA.

1.2 Rice Marsh Lake Subwatershed RM 12a Feasibility Assessment

To further explore and refine options for reducing phosphorus loading from the RML 12a subwatershed, a feasibility study to evaluate BMP alternatives was undertaken. As a part of this study, RPBCWD collected

field data just upstream of the inflow to Pond RML 12 as well as several samples in the pond to validate and refine model assumptions (Barr 2020). One of the key findings from the monitoring data, a summary of 2018 data is shown in Figure 2, was that a significant portion of the phosphorus in the runoff was associated with particulate materials rather than in the dissolved form as suggested by the water quality modeling in the 2016 UAA update.

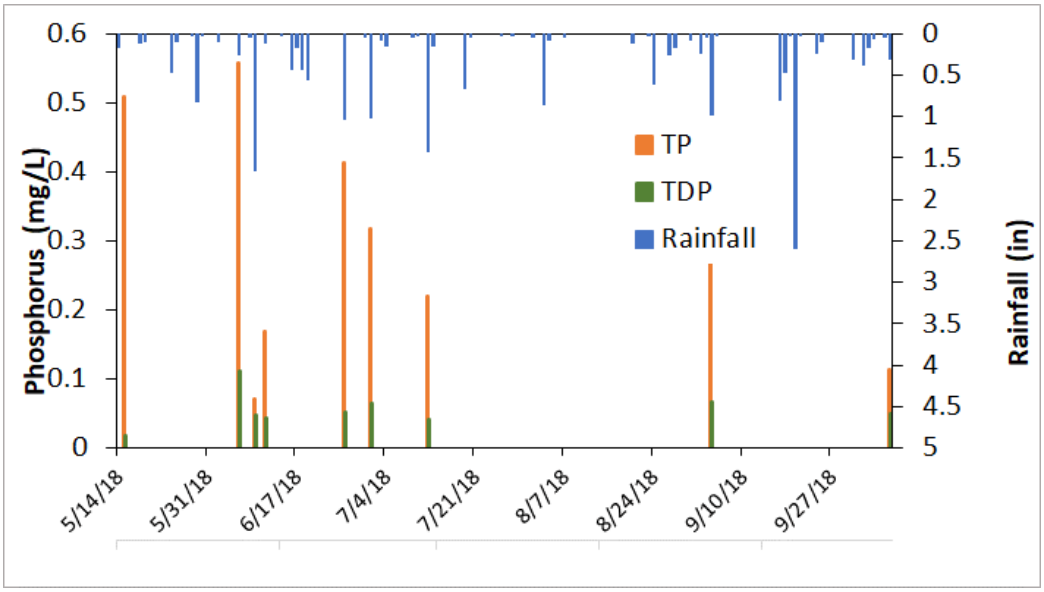


Figure 2. Summary of 2018 water quality monitoring data upstream of Pond RML 12.

The following performance information was estimated based on the validated model:

- The watershed load entering Rice Marsh Lake from Pond RML12 is 170-190 lbs annually.
- The water quality modeling from the feasibility study estimates a slightly lower total phosphorus concentration (110 µg/L) in Pond RML12 than the surface grab samples near the outlet (135 µg/L), suggesting the model may be slightly over-estimating the performance of the pond or is missing other phosphorus dynamics occurring in the basin.
- The current pond conditions result in roughly a 37% total phosphorus removal efficiency (about 99 pounds annually). This is significantly lower than a typical wet pond (50-60% TP removal typical design).
- The pond does not detain runoff for an extended duration because of the significant inflow and large overflow outlets.
- Restoring the pond to the original construction configuration was estimated to only increase the annual phosphorus removal in the pond by 7 pounds, resulting in an annual removal efficiency of 39%. The opinion of probable cost to dredge the roughly 4,180 cubic yard of material is about $574,000 with a range of $460,000 - $861,000 based on the concept level of design in the feasibility report.
- Even with significant revisions to the pond configuration (adding extended detention storage and a restrictive outlet), modeling suggests the performance of the pond would only improve marginally to 41%, remove an additional 14 pounds over existing condition. This would be

extremely challenging to implement given the soil conditions underlying and surrounding the existing pond. It would also likely result in wetland and floodplain impacts that would require mitigation.

To identify the cause of reduced pond volume and increase our understanding of phosphorus dynamics in the pond, sediment and water quality sample were collected in late August 2020.

2.0 Pond RML 12 Assessment

Pond RML12 is a constructed stormwater pond located to the northwest of Rice Marsh Lake, in the City of Chanhassen. The pond is 2.5 acres in size, and approximately 6.5 feet at its deepest point. A large cattail marsh separates the pond from Rice Marsh Lake. The pond was constructed in 2005 by excavating and removing an area of cattails on the northern edge of the marsh. Stormwater discharges to the northeast corner of the pond. Surface water discharge from the pond occurs in the southeast area of the pond, and flows through the cattail marsh to Rice Marsh Lake.

August 1, 2020 photograph of Pond RML12 showing extensive duckweed growth

Because Pond RML12 is critical in providing water quality treatment to Rice Marsh Lake, the May 2020 Feasibility Study evaluated alternatives to reduce phosphorus loading to Rice Marsh Lake. However, prior to embarking on a large engineering solution, more information on the current pond condition was desired to ensure the best approach is selected. To achieve that goal, Pond RML12 sediment and water chemistry were assessed to address concerns about possible high amount of sediment accumulation in the pond, as well as potential impacts to water quality from accumulated sediment. The study had three main objectives:

1. Measure water depths with a rod to determine whether previous bathymetric survey conducted with sonar depth finder equipment several years ago by the city of Chanhassen is representative of current pond conditions.
2. Collect sediment cores and analyze for phosphorus fractions, percent moisture, and percent organic matter.
3. Collect water samples and analyze for total phosphorus (TP), total dissolved phosphorus (TDP), total suspended solids (TSS), and chlorophyll-a.

2.1 Results of water depth measurements and sediment accumulation

Water depths were measured at more than a dozen locations with a survey rod. A 6-inch diameter plastic disk was attached to the end of the rod to facilitate feeling the surface of the soft sediment, as water clarity did not allow for visually observing when rod reached pond bottom. Results of water depth measurements collected on August 13, 2020 are presented on Figure 3 (attached to end of memo). Bathymetric contours from the city survey are also included on Figure 3. The 2020 depth measurements generally agree with the city survey. According to the bathymetry survey, the pond has experienced a loss of approximately 2.6 ac-ft (about 4,180 cubic yards) of storage below the normal water level, roughly 18% of the design volume (14 ac-ft). In some locations, the pond is less than 2.0 feet deep.

In addition to the depth measurements, general observations of sediment accumulation were recorded from the sediment cores. Sediment cores were collected with a gravity coring device, consisting of a plastic coring tube attached to a weighted device lowered on a rope. The coring device is typically able to penetrate 30cm (1.0ft) or more into soft pond sediment with the attached weights but will not penetrate far into firm soil or peat (i.e. the original pond bottom after excavation). Field staff observed the sediment coring device stopping quickly when hitting firm soil or peat at each location, and the maximum recovered core length was 14cm (0.46ft). Some notable observations are listed below:

- At depth measurement location "point 8", field staff encountered a submerged object. It could not be observed visually through the water but using the survey rod it was determined to be about 1ft tall relative to surrounding pond bottom, and a few feet to several feet in diameter. It is most likely a sunken cattail root wad that broke off from dense cattails mats at edge of pond.

- Although there was little submerged aquatic vegetation visible at the pond surface, aquatic vegetation was present at many locations in the pond, as determined with the survey rod or a quick toss of a rake attached to a rope. Vegetation was very sparse or absent in the deepest areas of the pond. Coontail was the most abundant submerged plant. A stem fragment of the invasive curlyleaf pondweed was also encountered, identified by its characteristic turion attached to stem. A couple of turions were also found in sediment cores when processing in the laboratory.

Submerged vegetation observed during August 13th field assessment

Observations of sediment accumulation as determined in individual sediment in cores include:

- P12-C: Recovered 13cm soft sediment (muck and dead plant matter), core tube stopped at firm soil. Small amount of gray clay recovered at 13cm.
- P12-SE: Recovered 16cm soft sediment, fibrous peat soil 16-18cm.
- P12-W: Recovered 15cm soft sediment (muck and dead plant matter), core tube stopped at firm soil. More peat-like in appearance at 14-15cm interval.
- P12-N: Firm silty sand bottom, recovered 6cm of silty sand.

Example sediment core

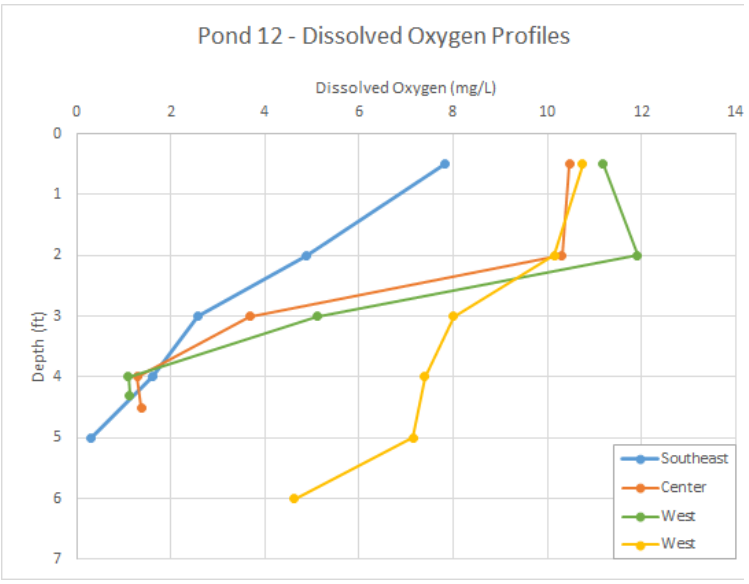
Sediment cores indicate that in central areas of pond, accumulated sediment thickness is 12-16cm (0.4-0.5ft) comprised primarily of dead aquatic plant matter. There were no visible layers of clay, sand, or other inorganic matter that might be indicative of heavy watershed sediment loading. Therefore, one driver for volume reduction in the pond could be the result of aquatic plant growth and senescence (annual die off). Since this material is highly organic and degradable, it is unlikely to significantly reduce the pond volume in the near term. However, it may contribute to sediment P release in the long term.

2.2 Water quality results

Surface water samples were collected from 3 location in Pond RML12, as well as 1 location in the small open water area adjacent on southwest edge of pond. A water sample was also collected from near bottom in south portion of pond. Depth profiles of field parameters were recorded at several locations in the pond as well. Water quality sampling locations are indicated on Figure 4. Water quality measurements are summarized in Table 2 (attached to end of memo).

Surface water TP concentrations were relatively low for stormwater ponds and do not indicate a strong sediment P release (124 to 178 µg/L TP). It should be noted that this is based on a single sampling event and further monitoring would be needed to verify internal loading. In addition, the presence of coontail, which typically doesn't root in the soil so it gets most of its phosphorus from the water column, could be helping reduce the phosphorus concentrations in the water column. The concentration of total phosphorus (TP) in the surface water at the center of the pond was 124 µg/L, and the TP concentration near the bottom was 165 µg/L showing only a weak phosphorus gradient. A water sample was collected from the adjacent open water area to the south of the pond, and the TP result was 285ug/L; however, field staff were unable to collect a sample among the thick duckweed covering the surface without entraining some duckweed in the sample. Since this sample was almost twice the average in the pond, there could be some sediment P release occurring in this area of the pond contributing P to surface water.

Dissolved oxygen (DO) profiles demonstrate strong stratification in the pond with concentrations were near or above saturation at the pond surface (7.8-11.2mg/L) and anoxic (~1-1.5 mg/L) near the bottom at most locations. The low oxygen levels were surprising given that the watershed received roughly 5.5 inches of rain only a few days before the measurement. Decomposition of the dead plant matter and organic rich sediment in the pond is likely driving anoxic conditions at the bottom of the pond.



August 13, 2020 dissolved oxygen profiles in Pond RML12

2.3 Sediment coring and phosphorus fractionation results

Sediment cores were sliced into discreet 2cm interval samples from 0cm to 10cm, and 4cm slices below 10cm. Sediment samples were analyzed for mobile and immobile phosphorus fractions in Barr's laboratory. The percent moisture content was determined by drying samples in an oven at 105°C. The organic matter content was determined by loss on ignition (LOI) at 550°C, where organic matter in a dried sampled is combusted in a laboratory furnace. LOI is reported as the percent mass lost in the sample during combustion; some amount of ash from organic matter is retained in the burnt sample, and therefore not included in the LOI fraction.

Various phosphorus fractions were determined by subjecting sediment samples to various extract solutions in sequence:

1. Mobile-phosphorus – pH buffered sodium dithionite solution. The dithionite reduces iron to soluble ferrous iron, releasing iron-bound phosphorus.
2. Aluminum-bound phosphorus – 0.1 M sodium hydroxide (NaOH) solution
3. Organic phosphorus – 0.1M NaOH solution, digested with potassium persulfate
4. Calcium phosphorus – 0.5M hydrochloric acid (HCl) solution

The percent moisture and percent LOI results are presented on Figure 5. The results of sediment phosphorus fractionation are included in Figure 6 in concentrations of phosphorus per mass of dry sediment (mg P/g dry sediment). Phosphorus fractionation results in Figure 7 are presented as mass of phosphorus per volume of wet sediment (mg P/cm^3).

There is a noticeable change in percent LOI in the 8-10cm depth interval each core. In core P12-C, where the underlying soil appeared to be a gray clay, the %LOI decreased at 8-10cm depth. In Cores P12-SE and

PW-W where underlying soil appears to be peat, the %LOI values continued to increase with each depth interval below 8-10cm interval.

Mobile-P and organic-P concentrations were high enough that both mobile-P and organic-P could potentially contribute to internal loading in Pond RML12. Core P12-C had the highest concentration of organic-P in the top 4cm of sediment (Figure 7). Using literature regressions (Taguchi et al. 2020), the mobile and organic P concentrations in the top 4 cm at P12-C would result in a moderately high sediment P release rate of 4 to 6 mg P/m^2/day. P12-C is the deepest site and would experience the longest duration of anoxia. While it is difficult to determine the duration of anoxia in ponds without frequent monitoring data, other ponds in the District have demonstrated sustained anoxia though the summer season. Using the duration of anoxia in similar ponds, pond RML 12a could be releasing as much as 10 to 20 pounds of P from pond sediments.

2.4 Other observations

The west end of pond was completely covered in dense duckweed. Additionally, several dozen dead and decaying panfish were floating among the duckweed. Neighboring residents commented to field staff that the pond is a great place to catch bass or northern pike at other times of year, suggesting larger fish are able to travel through small channel(s) in cattail marsh from Rice Marsh Lake.

3.0 Conclusions

- Sediment coring in Pond RML12 indicates there is approximately 0.3ft-0.5ft of sediment accumulation in the center areas of the pond. The accumulated sediment appears to be primarily decaying organic matter. Sources of organic matter would include aquatic plants, algae, cattails on edge of pond, and stormwater (e.g. tree leaves).
    - Duckweed completely covered surface of western portion of pond, and submerged vegetation (coontail) was present on much of the pond bottom. Small pieces of cattail marsh were also observed having broken off edge of pond and migrated deeper into pond.
    - Near the stormwater outfall that discharges to the pond, there was little organic sediment accumulation, and the pond bottom was silty sand, with water depth of 6.5ft.
    - This information suggests that the loss in storage volume below the ponds normal water level is likely due to detritus and some rebound of the organic bottom following construction.
- Phosphorus analyses of the sediment indicate Pond RML12 sediment has concentrations of mobile-P and organic-P that could contribute as much as 10 to 20 pounds of P as a result internal loading of phosphorus.
- Restoring the pond to the original construction configuration was estimated to only increase the annual phosphorus removal in the pond by 7 pounds, resulting in an annual removal efficiency of 39%. The opinion of probable cost to dredge the roughly 4,180 cubic yard of material is about $574,000 with a range of $460,000 - $861,000 based on the concept level of design in the

feasibility report. Including maintenance, this equates to roughly $3,260/lb. with a range of $2,790 to $4,640/lbs. over a 30-year period.

- The pond does not detain runoff for an extended duration because of the significant inflow and large overflow outlets. However, even with significant revisions to the pond configuration (adding detention storage and a restrictive outlet), modeling suggests the performance of the pond would only improve marginally to 41%, removing only an additional 14 pounds of phosphorus annually compared to the existing pond configuration. This would be extremely challenging to implement given the soil conditions underlying and surrounding the existing pond. It would also likely result in wetland and floodplain impacts that would require mitigation.

4.0 Recommendations

Pond RML12 is located at a key discharge point to Rice Marsh Lake and is critical in providing water quality treatment of a highly developed, 240-acre subwatershed. However, pond RML12 is undersized when compared to standard ponds designs, resulting in lower than desired phosphorus removal rates. A feasibility study completed in May of 2020 recommended the diversion of stormwater entering the pond to a proprietary filter to remove P prior to discharging back into the pond. The proprietary filter is estimated to remove 52-59 pounds of phosphorus annually. The opinion of probable design and construction cost for the proprietary filter is $611,000 with an annual cost per pound of phosphorus removed of $600 per pound over a 30-year period. This cost per pound of phosphorus is roughly 18% of the cost per pound of phosphorus for dredging the basin. Further, the pond RML12 is likely contributing P to surface waters through sediment P release reducing its overall effectiveness for P removal. The following recommendations based on the above assessment.

1. Pond RML12 is not providing the level of stormwater treatment and P removal necessary to protect Rice Marsh Lake. Consequently, diversion and treatment of stormwater remains a reasonable approach to improving water quality in Rice Marsh Lake.
2. Because the pond is undersized, diverted stormwater should be discharged directly to Rice Marsh Lake. This will improve the settling efficiency of Pond RML12 while minimizing the mobilization of P released from the sediments of the pond. Further, this approach is more feasible and cost effective than attempting to increase the dead storage of Pond RML12 to improve removal efficiency.
3. The District should consider an alum treatment on Pond RML 12 to reduce sediment P release. An alum treatment could occur at the same time as the second half dose application on Rice Marsh Lake and would cost approximately $20,000 to $30,000.
4. Further DO monitoring in pond RML12 will improve the estimate of the duration of anoxia.

Table 2. August 2020 Monitoring Data

Depth (ft)	Temperature (°C)	Specific Conductivity (µS/cm)	pH	Dissolved Oxygen (mg/L)	ORP (mV)	Total Phosphorus (ug/L)	Dissolved Phosphorus (ug/L)	Total Suspended Solids (mg/L)
Southeast								
0.5	21.7	400	7.19	7.8	198	178	37	13.4
2	21.1	431	7.16	4.9	198	--	--	--
3	20.9	438	6.99	2.6	199	--	--	--
4	20.7	445	6.91	1.6	201	--	--	--
5	20.5	478	6.70	0.3	-65	--	--	--
Center								
0.5	22.7	393	8.04	10.5	158	124	29	7.8
2	22.2	400	8.03	10.3	159	--	--	--
3	21.0	461	7.74	3.7	171	--	--	--
4	20.9	472	7.45	1.3	60	--	--	--
4.5	20.6	475	7.19	1.4	49	165	61	--
West								
0.5	23.2	388	8.02	11.2	109	--	--	--
2	22.2	388	8.24	11.9	113	--	--	--
3	21.4	430	7.83	5.1	130	--	--	--
4	20.8	498	7.44	1.1	122	--	--	--
4.3	20.6	499	7.20	1.1	118	--	--	--
Northeast								
0.5	23.2	395	8.12	10.8	131	--	--	--
2	22.8	404	8.07	10.2	134	--	--	--
3	21.4	407	7.97	8.0	140	--	--	--
4	21.2	413	7.81	7.4	144	--	--	--
5	21.0	406	7.73	7.2	145	--	--	--
6	20.8	411	7.59	4.6	150	--	--	--

POND 12
AUGUST 2020
DEPTH MEASUREMENTS

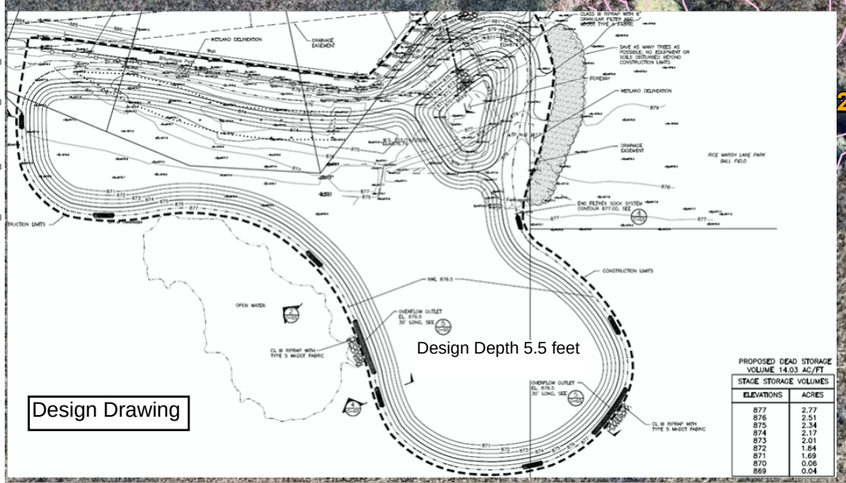
FIGURE 3

Park Trail

RM_12 Pond

Pt 1 4.7'
Pt 2 5.2'
Pt 3 4.6'
Pt 4 3.4'
Pt 5 3'
Pt 6 4.7'
Pt 7 4.6'
Pt 8 possible submerged cattail root wad, top 3.7', adjacent 4.8'
Pt 9 5.3'
Pt 10 4.2'
Pt 11 4.6'
Pt 12 2.9'
Pt 13 2.4'
Pt 14 2.8'
Pt 15 5'
Pt 16 6.2'
Pt 17 4.5'
Pt 18 3'
P12-C 4.5'
P12-N 6.5'
2-SW

2.2 1.7 0.2 1.2 0.7 2.7 3.2 3.7 4.2 4.7 6.2 5.2 5.7



- August 2020 Depth Measurements
- Existing Manhole
- Existing Stormsewer

City of Chanhassen Bathymetry (~2017)

- 0.5-Foot Approx. Depth Interval
- 2-Foot Approx. Depth Interval

N

0 37.5 75 150 Feet

Nearmap Imagery Circa Sept. 24, 2019

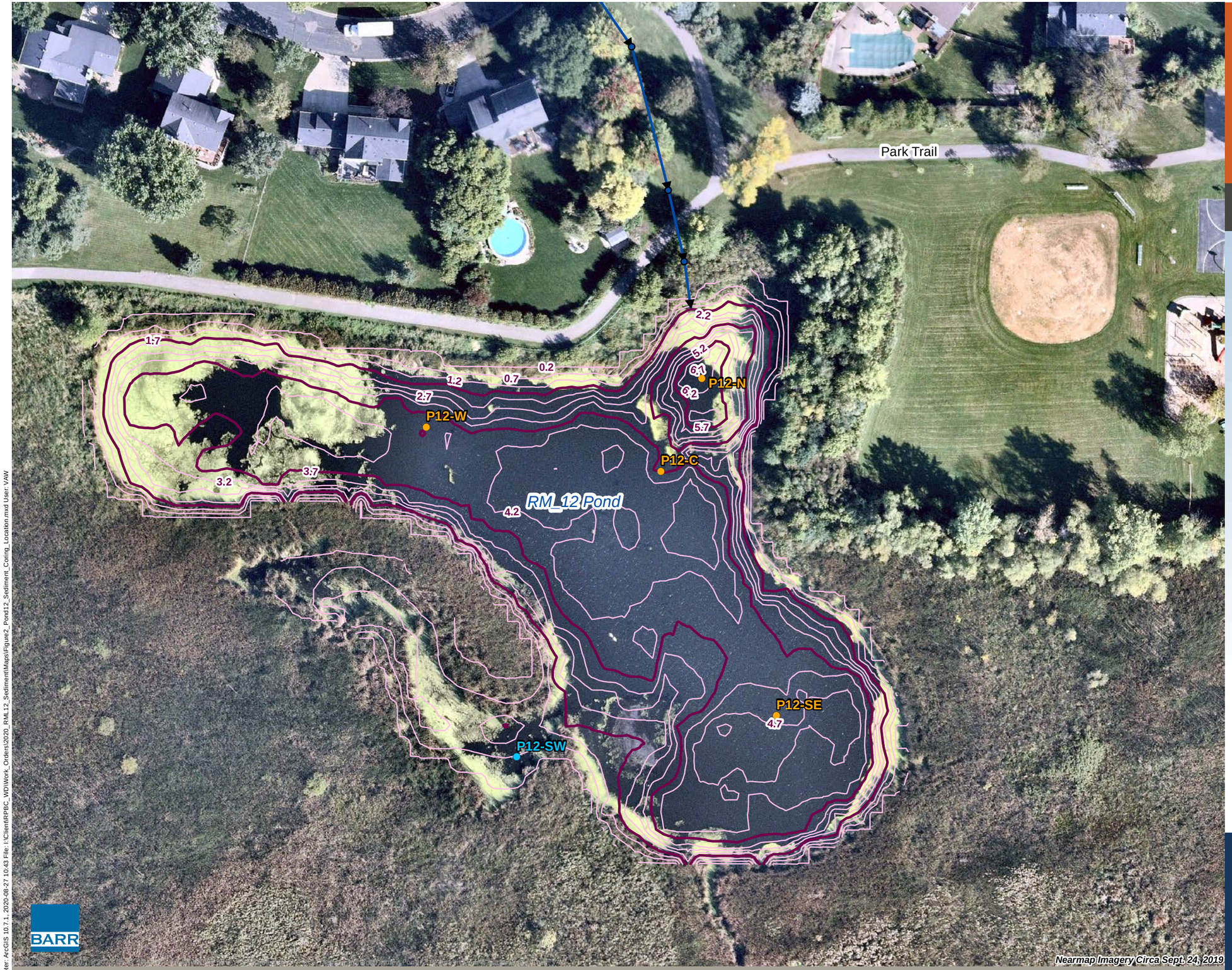
RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Riley Purgatory Bluff Creek Watershed District

Barr Footer: ArcGIS 10.7.1, 2020-08-27 10:39 File: I:\Client\RPBC_WD\Work_Orders\2020_RML12_SedimentMaps\Figure1_Pond12_Depth_Measurements.mxd User: VAW

POND 12
AUGUST 2020
SEDIMENT CORING LOCATIONS

FIGURE 4



- Sediment Coring Location
- Surface Water Sampling
- Existing Manhole
- Existing Stormsewer

City of Chanhassen Bathymetry (~2017)

- 0.5-Foot Approx. Depth Interval
- 2-Foot Approx. Depth Interval

N

0 37.5 75 150 Feet

Nearmap Imagery Circa Sept. 24, 2019

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Riley Purgatory Bluff Creek Watershed District

BARR

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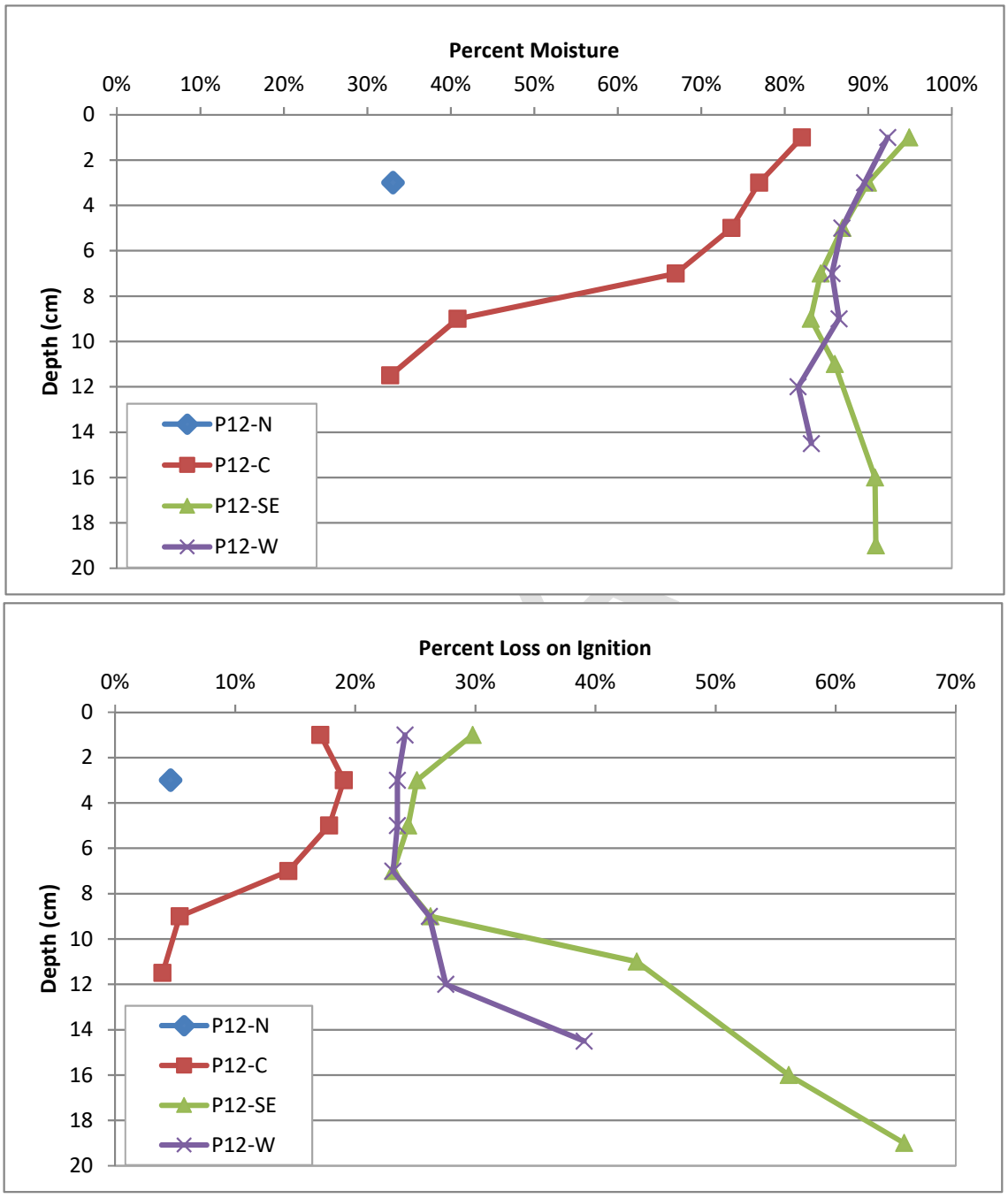
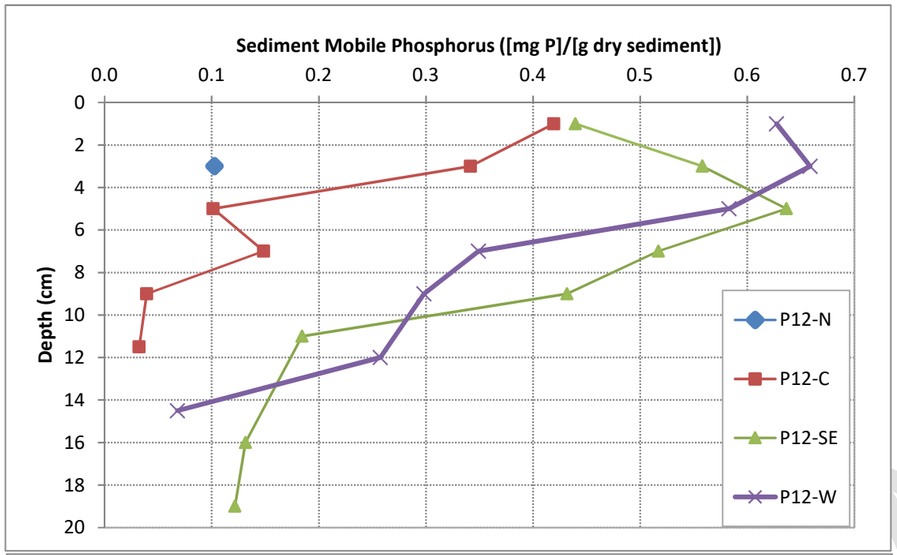
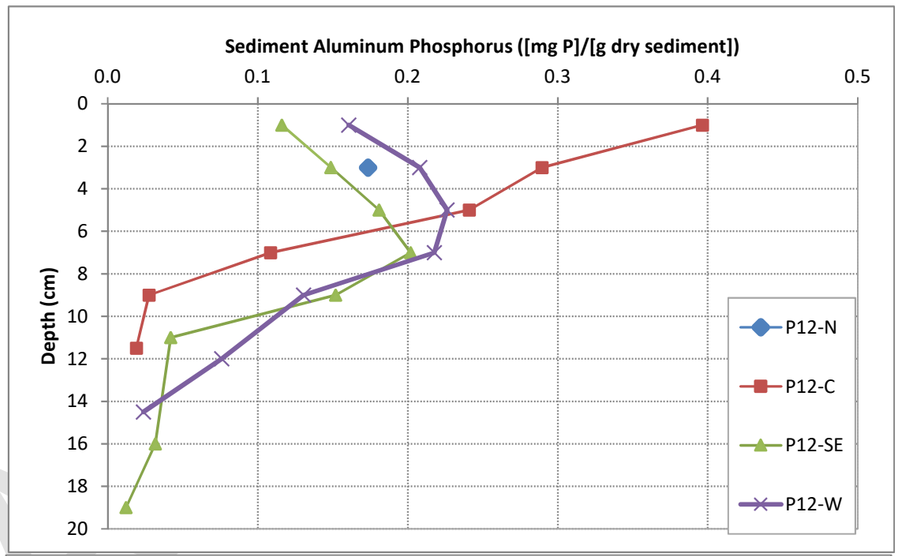
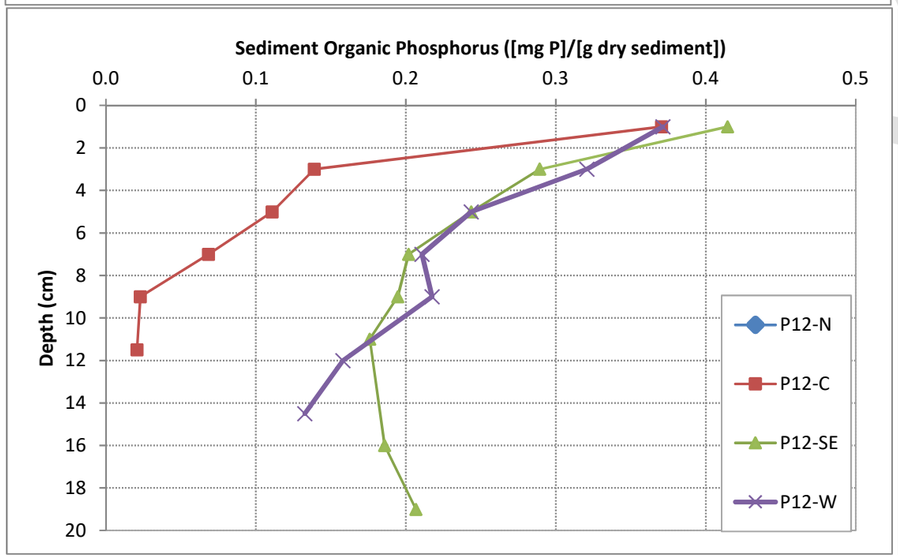


Figure 5. Pond 12 Sediment Percent Moisture and Percent LOI.







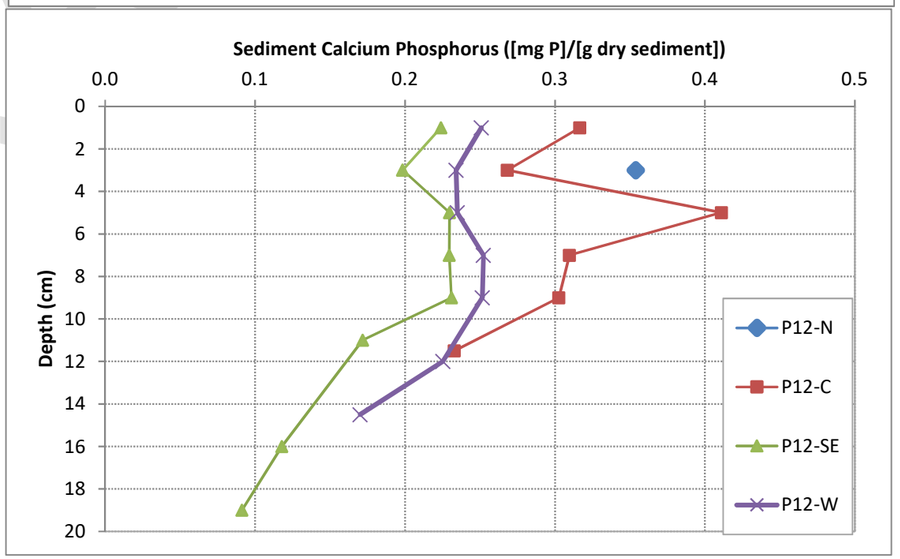
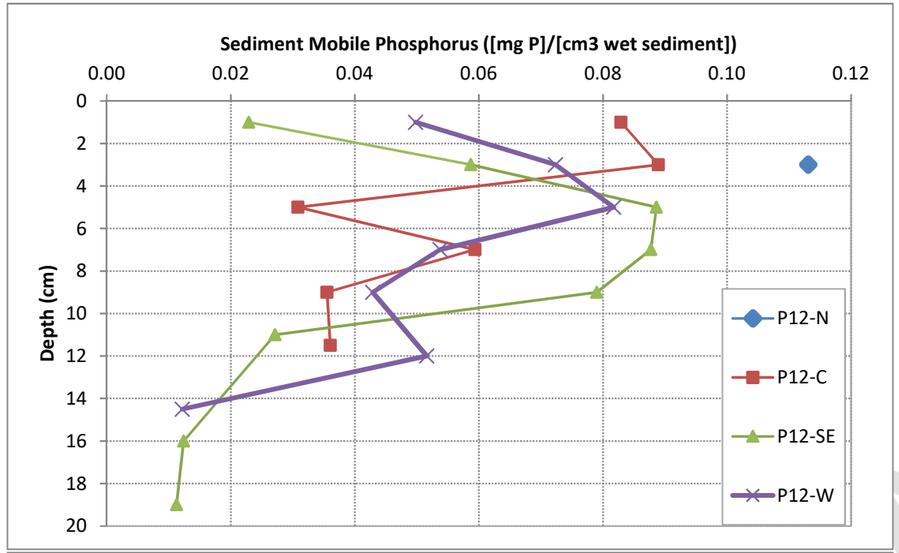
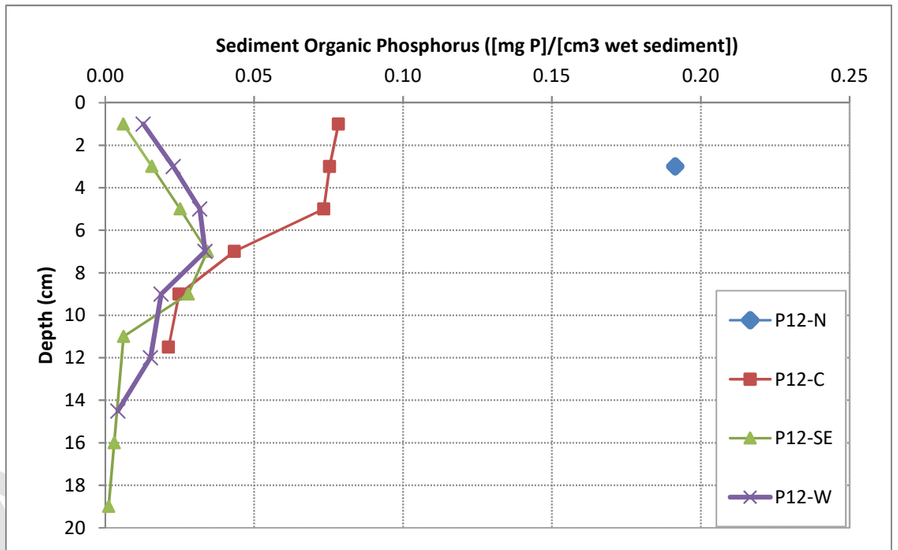
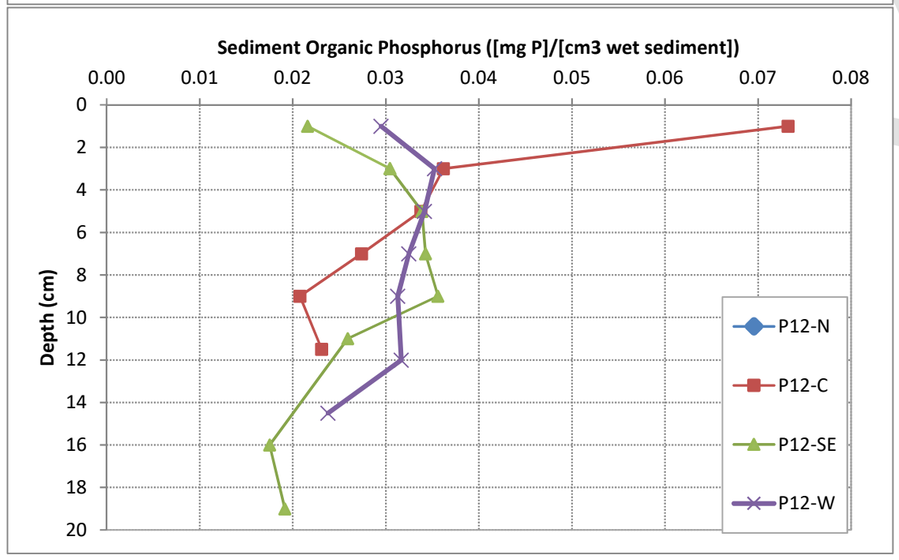


Figure 6. Pond 12 Sediment Phosphorus Fractionation, Dry Weight.







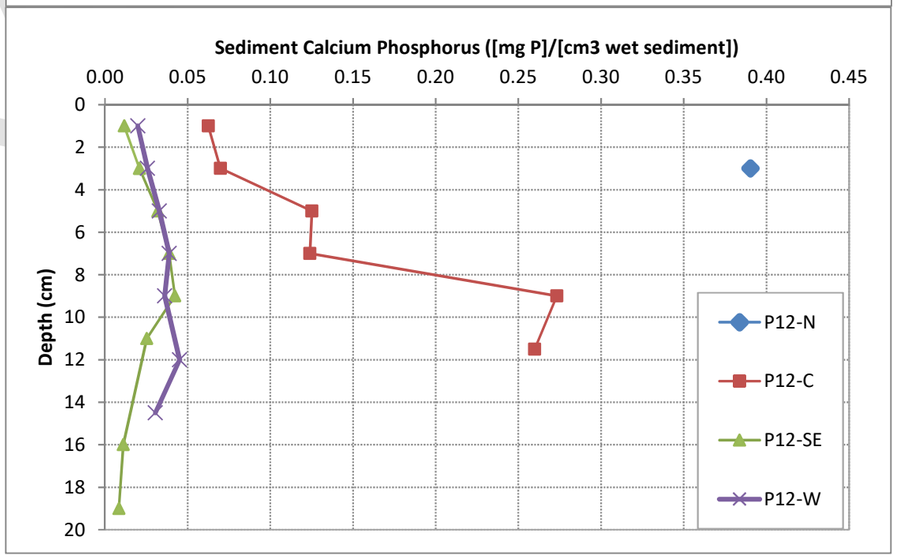


Figure 7. Pond 12 Phosphorus Fractionation, Wet Volume

RILEY PURGATORY BLUFF CREEK
WATERSHED DISTRICT

18681 Lake Drive East
Chanhassen, MN 55317
952-607-6512
www.rpbcwd.org

MEMORANDUM

TO: Board of Managers

FROM: Claire Bleser, District Administrator

DATE: November 4, 2020

RE: Plan Amendments

Managers,

Staff has prepared 3 plan amendments for your consideration.

DEI
This Plan Amendment would be to include Diversity, Equity and Inclusion goals and strategies to the 10-year management plan. (Enclosed DEI report and Plan Amendment language)

Rules
Under the current iteration of Rule F, it is difficult for applicants to meet the Rule F, Subsection 3.4 criteria, for a project to be considered as maintenance. Staff is recommending language revisions to allow for reconstruction of existing rip-rap provided there is no increase in length of shoreline being treated. (Enclosed Memo with recommended language to be amended to the rules)

Soils
The board has had several discussions over the last few months centered around soil health. In August and September, the board submitted a resolution to MAWD to consider requiring a goal related to soils within comprehensive planning. Staff has pulled this information together, to incorporate within the District's 10-year plan. (Enclosed Plan Amendment language)

If the board is willing to move these forward our next steps would be:

- Present to CAC for comments (November 16)
- Present to board at December 9 and get board approval for release and scheduling of public hearing
- Public Hearing January 6, 2021
- Consider adoption at February 3, 2021

Sincerely,

Claire Bleser

10/30/2020

BUILDING A STRONGER DISTRICT TOGETHER

DIVERSITY, EQUITY, AND INCLUSION AT RPBCWD

Background

Diversity, equity and inclusion (DEI) are all important concepts to explore as a progressive workplace. Diversity refers to the differences between people be they differences in gender, sex, race, ethnicity, religion, or ability. The World Health Organization defines equity as "the absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically, or geographically". Equity is different from equality (see Fig. 1). Equality does not recognize systems of oppression that have left groups of people at a more disadvantaged status. Inclusion occurs when all of those within a diverse group feel safe, welcomed, and valued. DEI has become a common phrase in organizations when referring to the work of meeting these goals. Another common term to include when progressing DEI work is Justice. Justice, in this context, refers to the removal of the barriers that oppress groups of people on the basis of identity.

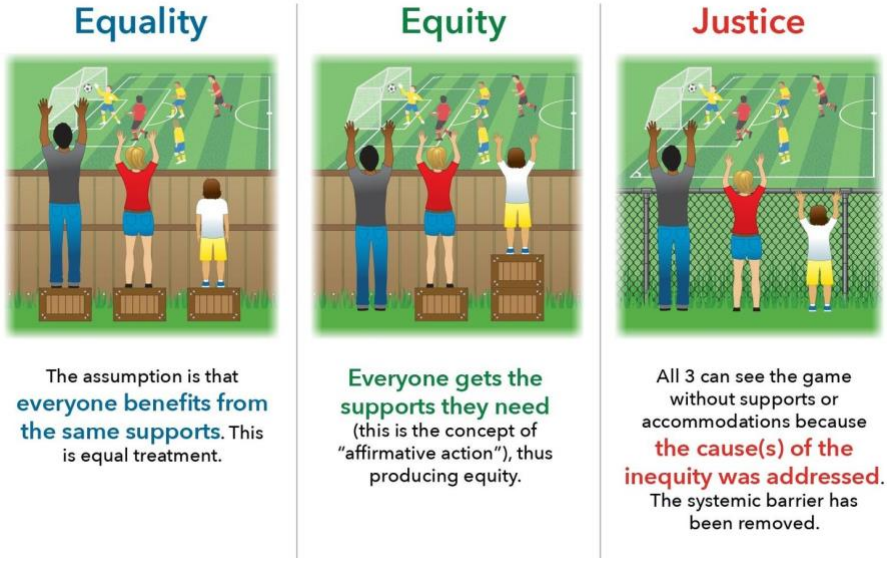


Fig. 1 An infographic demonstrating the differences between equality, equity and justice. [1]

Though the charge of the Riley Purgatory Bluff Creek Watershed District is to protect, manage and restore the water resources within the boundaries of our district, human involvement is crucial to the work we do. Internally, staff, Managers, and members of the Citizen Advisory Committee (CAC) work with one another to ensure that the organization runs efficiently. Externally, staff and volunteers are constantly interacting with members of the public. Because of these interactions, the District has an obligation to ensure that we are operating in an equitable and inclusive manner.

[1] "Environmental Equity Vs. Environmental Justice: What's the Difference". Mobilize Green. October 1, 2018. https://www.mobilizegreen.org/blog/2018/9/30/environmental-equity-vs-environmental-justice-whats-the-difference

According to the National Center for Public Policy and Higher Education, the workforce has been rapidly and consistently becoming more diverse since 1980. This is in part due to the entry of a younger and more diverse group of workers entering the workplace as many white Americans of the Silent and Baby Boomer generations reach retirement age.[2] The Pew Research Center projects that Millennials (age 24-39) and Generation Z (born after 1996) are on track to be the most diverse and best educated generations yet[3] [4]. These new generations will not only comprise our future workforce but also our future constituents.

The Boston Consulting Group studied 1,700 different companies of differing sizes and industries across 8 different countries and found that those with more diverse management teams were more innovative and achieved higher revenues[5]. Research shows that workplaces that not only strive to cultivate a diverse staff, but work to support that diverse staff with an inclusive environment have lower turnover rates. According to Chrobot-Mason and Aramovich, (2013) when organizations worked to ensure that employees feel the ability to be and express themselves freely, they feel more empowered to be innovative, make decisions, and identify more strongly with the organization[6] .

Over the course of history, we as a society have grappled with reckoning the wrongs of the past and although progress has been made, there is still room to grow. 2020 has offered an opportunity to join a reinvigorated wave of progress toward a fair and just society for all. In order to remain a relevant organization in the eyes of our community and fulfill our mission, the District must adapt to society around us.

This opportunity to incorporate DEI principles into our work not only has the potential to advance the work of the District, but also creates the opportunity to be a leader amongst LGUs, many of which are seeking to implement similar strategies.

Process

Introduction

In the fall of 2019, staff began discussing the role the District plays in environmental justice. Staff formed an informal subcommittee that met regularly, conducted demographic

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[2] "Fact #1: The U.S. Workforce is Becoming More Diverse". The National Center for Public Policy and Higher Education. November 2005. http://www.highereducation.org/reports/pa_decline/decline-f1.shtml

[3] Fry, Richard and Kim Parker. "Early Benchmarks Show 'Post-Millennials' on Track to Be Most Diverse, Best-Educated Generation Yet". Pew Research Center. November 15, 2018. https://www.pewsocialtrends.org/2018/11/15/early-benchmarks-show-post-millennials-on-track-to-be-most-diverse-best-educated-generation-yet/

[4] Parker, Kim and Ruth Igielnik. "On the Cusp of Adulthood and Facing and Uncertain Future: What We Know About Gen Z So Far". Pew Research Center.May 14, 2020. https://www.pewsocialtrends.org/essay/on-the-cusp-of-adulthood-and-facing-an-uncertain-future-what-we-know-about-gen-z-so-far/

[5] Lorenzo, Rocío, Nicole Voigt, Miki Tsusaka, Matt Krentz, and Katie Abouzahr. "How Diverse Leadership Teams Boost Innovation". Boston Consulting Group. January 23, 2018. https://www.bcg.com/en-us/publications/2018/how-diverse-leadership-teams-boost-innovation

[6] Chobrot-Mason, Donna and Nicholas P. Aramovich. "The Psychological Benefits of Creating an Affirming Climate for Workplace Diversity". October 31, 2013. Group & Organization Management 38 (6): 659-689.

research, met with representatives from other LGUs, and began building the capacity to make recommendations for how to become a more equitable organization.

In May of 2020, in the wake of George Floyd's murder in the City of Minneapolis, it became clear this work should move from theoretical to actionable. The same informal subcommittee of staff joined together with other staff members to devise a plan to engage all staff in discussions surrounding race, racism, environmental justice, equity and justice. Specific questions were posed to staff to guide discussion. Resources were provided in order to ensure that each staff member had appropriate context for each discussion.

Operating Principles

In order to ensure that all felt safe and heard in these difficult and, at times, uncomfortable discussions, staff formulated a list of operating principles. Operating principles define the ways in which the group engages. It is imperative for conversations in which all are coming from varying starting points that the time is taken to define the wants and needs of the group through operating principles. Our operating principles included ensuring that we created a safe space for everyone to speak, feel, make mistakes, and grow.

Convenings

Due to the Covid-19 pandemic, one convening was held over Zoom video conferencing tool and another was held in the parking lot of the District office with masks and social distancing in place. Below is a breakdown of the guiding questions and resources provided for each meeting.

Meeting 1: June 19, 2020

- Guiding question: It can be uncomfortable to talk about race and prejudice, especially at work. Why us it difficult for us to have this conversation? What can we all do to help work through this?
- Follow up resources:
    - A really great (and short) introduction to environmental racism in the Twin Cities. (Attached to this email)
    - 3-minute video about "what is environmental racism" https://www.youtube.com/watch?v=TrbeuJRPM0o
    - A slightly longer presentation on how environmental justice concepts can fit into the "mainstream" environmental movement. https://bioneers.org/van-jones-towards-a-green-alliance-birthing-a-new-politics-bioneers/
    - A tool to use to do more personal reflection on yourself and your experiences with race https://www.racialequitytools.org/resourcefiles/mcintosh.pdf

Meeting 2: July 10th, 2020

- Guiding question: What actions can the District take to work toward being more equitable and just?

- **Meeting structure:** Staff members were asked to write each one of their ideas on a sticky note. Individual staff members then placed each sticky note on a whiteboard on which a timeline was drawn. Staff members placed their idea on the timeline based on how long they thought their idea would take to implement. The options were immediately, 1-3 months, 3-6 months, 6 months – 1 year, and 1 year- 5 years. Each idea was read aloud to the group before it was affixed to the timeline.

The sticky notes, containing strategies identified by individual staff members, were transcribed and coded by multiple staff members in an attempt to reduce bias in coding. See Appendix A for full transcript and coding.

Recommendations

Through research, staff engagement, advanced training on DEI, and meetings with DEI experts, staff have identified a number of opportunities to incorporate the principles of diversity, equity, and inclusion into the District in a holistic manner.

Governance Manual

Staff recommend the addition of a section concerning inclusion and diversity to the Governance Manual. This language should demonstrate the Districts commitment to fostering diversity in the workplace, creating a welcoming and inclusive environment for staff, volunteers, and all stakeholders, and a commitment to serving all communities, especially those that are traditionally underserved.

Personnel Policy Manual

Staff recommend the addition of language to the Personnel Policy Manual in the Standards of Conduct section surrounding creating an inclusive and equitable workplace in which diversity is respected and valued. This will include updates to language to make it more inclusive, the addition of language surrounding microaggressions in the workplace, and a policy surrounding expectations of staff when it comes to valuing diversity and supporting an inclusive and equitable workplace.

Staff Equity Officer

Staff Lauer has been serving as the informal Equity Officer. Though not a formalized role, the intention of the position is to lead conversations surrounding equity, serve as a conduit for resources necessary to have informed conversations and continue professional development, and stay abreast of new developments in the world of DEI. The Equity Officer has been creating and sending regular email communications containing information and resources surrounding a specific topic in the genre of DEI. See Figure 3 for an example of a communication.

It is recommended that the role of Equity Officer become formalized, that associated expectations be added to necessary job descriptions, and that the assigned Equity Officer continue the work stated above.

Hello team!

The Context:

Last week Supreme Court Justice Ruth Bader Ginsberg died of complications of pancreatic cancer. Ginsberg has been harrowed as a champion of gender equality. Ginsberg helped pass many laws equipping women with basic rights such as the right to attend a state-funded school, the right to financial independence and equal benefits, and the right to participate fully in civic duties such as jury duty. The "Notorious RBG" also fought for protections that were not inherently awarded to men such as the right to the same caregiving and Social Security rights and privileges as women. Ginsberg tirelessly fought for equal rights for historically marginalized communities including the LGBTQ+ community.

The Topic:

The topic this week is gender inclusivity. Before we get too far, I'd like to define a few terms: Sex and gender. According to the Canadian institute of Health Research: "Sex is usually categorized as female or male, but there is variation in the biological attributes that comprise sex and how those attributes are expressed… Gender refers to the socially constructed roles, behaviors, expressions and identities of girls, women, boys, men, and gender diverse people. Gender identity is not confined to a binary, nor is it static." (more reading on these definitions HERE and HERE). Gender identity is often described as more of a spectrum with male and female (or feminine and masculine) being on the two ends. Folks can identify as one or the other, anywhere in between, or not with any gender at all. A person may not necessarily present physically as the gender with which they identify. It is important to be able to differentiate between sex and gender as they are often conflated in a way that is harmful towards non cisgender folks. It is illegal to discriminate against employees on the basis of race, gender or sex (thanks Title VII), but how can we continue to go beyond that to ensure that our workplace is a welcoming and inclusive environment for those of all gender identities?

Why Does this Matter?

According to Dr. Amy Edmondson, a Professor at Harvard Business School, "psychological safety" is defined as "a climate in which people are comfortable being and expressing themselves". She posits that phycological safety drives productivity, learning behavior, quality improvements, and engagement.

Strategies

While our organization already implements some strategies to make a gender inclusive workplace (such as gender neutral bathrooms), here are some other ideas for how to continue to create an inclusive workspace:

- Normalize use of pronouns. Pronouns (she/him/they etc.) are one common way in which gender identities are brought up in regular conversation. By normalizing the act of sharing your pronouns, one can help create a more inclusive environment by reducing the stigma surrounding sharing of pronouns, making those with gender neutral pronouns (they/them/theirs) or pronouns that may not necessarily match their gender expression more comfortable to share. This can manifest as sharing the pronouns you use when you meet new folks ("Hi I'm B and I use the pronouns she/her/hers"). You can also normalize this practice when hosting meetings or events in which everyone introduces themselves. Some organizations also include pronouns in email signatures and on business cards. More on how to use pronouns in an inclusive way HERE.
- Modeling gender inclusive language. Using gender inclusive language is another way of making people of all gender identities feel safe and welcomed. When writing materials, avoid the use of he/ she when speaking in the abstract about people (e.g. substitute "we would expect he/ she to submit an application" for "we would expect the employee/ the applicant/ the student to submit an application"). More tips for gender inclusive writing HERE. Be aware of the colloquial terms you use to refer to groups of people. Words like "guys" and "ladies" can be substituted for "folks" or "friends" when referring to groups of people whose gender identities you don't know.
- We all hold internal biases as assumptions. Our own internal biases as they relate to gender and classical gender norms could be affecting the way we interact with those around us. Be aware of the assumptions you may be making about folks and analyze whether they may be a product of your own internal gender biases. More about internal gender bias in the workplace HERE.

As always, if you have any questions or wish to discuss any points further, please don't hesitate to contact me!

Be kind,

B

Figure 3. An example of a communication to staff outlining a specific topic. Context, research, strategies, and options for further exploring are provided, as well as an offer to follow up with the Equity Officer with questions.

Engagement with Citizen's Advisory Committee

The purpose of the Citizen's Advisory Committee (CAC) is to serve the Board of Managers as a representative body of citizens of the District. There is precedent for engaging the CAC on matters for which community input is needed. As such, Staff recommend the engagement of the CAC surrounding how the District may incorporate the principles of DEI into the activities of the District. Staff recommend one or more facilitated meetings of the CAC to provide appropriate context and background knowledge and have meaningful discussions surrounding how the District can achieve its goals.

10-Year Plan Amendment

The purpose of the 10-Year Watershed Management Plan is to guide how the District will manage activities in the watershed between 2018-2028. The plan presents a summary of the goals, strategies, and activities necessary to accomplish the District's mission during the life of the Plan. Staff recommend an amendment to the 10-Year Plan be considered in order to ensure

the continued commitment to integrating DEI principles into the function of the District. See Figure 3 for proposed amendment.

3.1 District Mission and Vision

Vision

The Riley-Purgatory-Bluff Creek Watershed District will protect, manage, and restore water resources under its jurisdiction. The District views all the following elements as essential to achieving its mission:

- Effective administration and judicious use of public resources
- Data collection and analysis to ensure decisions are based on sound science
- Planning to achieve District goals in a strategic and equitable manner
- Education and outreach to promote watershed stewardship
- Regulation to protect District natural resources from degradation
- Projects and programs addressing both surface water and groundwater quality and quantity, and related habitat
- Ensuring inclusive and equitable execution of watershed activities

Addition to Goals and Strategies Section 3.2

3.2.7 Diversity, Equity and Inclusion

3.2.7.1 Diversity, Equity and Inclusion goals

DEI 1. Ensure an inclusive environment that is welcoming of diverse staff, volunteers, and stakeholders

DEI 2. Equitable implementation of projects and programs throughout the watershed

3.2.7.2 Diversity, Equity and Inclusion Strategies

DEI S1. The District will use inclusive language and language surrounding DEI in all guiding District documents.

DEI S2. The District will provide access to resources and continued learning opportunities as part of regular professional development of staff, Board, and CAC

DEI S3. The District will consider social vulnerability and changing demographics when considering future projects, grants, development, and plans.

DEI S4. The District will regularly evaluate and adapt programs to ensure equitable implementation.

DEI S5. The District will incorporate and use equitable practices when creating internal SOPs.

DEI S6. The District will inspire a new generation of water resource advocates through the Education and Outreach program.

DEI S7. The District will build authentic relationships with communities, community leaders, cultural organizations etc. and collaborate with key partners on local and regional initiatives.

Addition to Section 9.0 Implementation: The Next 10 years

9.18 : Diversity, Equity and Inclusion

The District embraces and values diversity and is committed to maintaining an inclusive and equitable environment for staff, volunteers, and all stakeholders. District staff and representatives will work tirelessly to ensure that all District activities, programs, and projects are implemented in an equitable manner. The District will develop and implement evaluations of existing programs, work with key stakeholders to evaluate new opportunities, and strive to meet outlined goals through the identified strategies. The District will evaluate strategies regularly for effectiveness

Figure 3. Proposed amendment to the 10-Year Plan

Other strategies as identified by Staff

When staff met on July 10th, 2020 we collectively created a list of strategies to make the District a more inclusive and equitable organization. Strategies were placed on a timeline ranging from strategies that can be implemented immediately, in 1-3 months, 1 year, and 5 years. There were a number of major themes that arose. See Figure 4 for a table of major themes.

Implementation Timeline	Strategy
Immediate	Spend district funds in an equitable manner when purchasing from vendors
	Include inclusive language and language surrounding DEI in all guiding District documents
	Identify professional development opportunities for staff, Board and CAC surrounding fostering diversity, creating an equitable and inclusive workplace, and implementing equitable and inclusive projects and programs
	Evaluate existing programs for equity
	Identify underserved communities within the District
1-3 months	Ensure conversations about DEI are happening at MAWD
	Evaluate hiring practices for equity
	Gather community input
	Evaluate how we can expand Education and Outreach programming and public events to reach new audiences and be more accessible
	Staff, Board, and CAC participate in professional development and/ or DEI assessments
6 months- 1 year	Build authentic relationships with community leaders, cultural groups, and BIPOC led organizations.
	Increase and diversify engagement with youth to inspire next generation of water resource management professionals
	Investigate addition of equity component to grant review and project prioritization processes
	Work with other WD/WMOs to normalize DEI work being a hallmark of watershed management
	Increase access to water resources for community members and visitors
1-5 years	Plan with changing demographics in mind
	Represent community demographics in Board, Staff, and CAC
	Collaborate with community partners and LGUs to make the District more welcoming for all
	Help build a green economy
	Promote equitable development

Figure 4. A table of the major themes from as identified by Staff in a visioning workshop held on July 10th. Themes are sorted based on proposed implementation timeline.

Appendix A: Transcription and Coding of Staff Responses from July 10th Convening

Timeframe	Action/ goal	Category as defined by individual staff	Internal or external (facing)	Internal or External (changes that can be made w/ or w/o reliance on partners)	Department	Potential partners
Immediate						
	Buy from small businesses where feasible	internal	internal	Internal	General Admin-Planning	
	Ensure we are not using racist/ oppressive vendors	internal	internal	Internal	General Admin-Planning	
	Building knowledge within	internal	internal	Internal	General Admin-Planning	
	Include inclusion language in manual, guiding documents	Professional development	internal	Internal	General Admin-Training and Education	

	Microaggression and language training for staff, Board and CAC	professional development	internal	Internal	General Admin-Training and Education	
	Re-evaluate permit fees for affordable housing	permitting	internal	Internal	Permit Review and Inspection	
	find better data. Census data does not always accurately represent BIPOC	Research	internal	External	General Admin-Planning	
	Governance manual	Board	internal	Internal	General Admin-Governance	
	Employee handbook	Internal	internal	Internal	General Admin-Personnel	
	Continuing ed training	Professional development	internal	Internal	General Admin-Training and Education	
	Diversity and equality training	Professional development	internal	Internal	General Admin-Training and Education	
	More civic engagement to better know community	E&O	external	Internal		

	Work to use BIPOC owned businesses as vendors (catering, equipment, etc)	internal	external	Internal	General Admin-Planning	
1-3 months						
	Ensure convos about equity are happening at MAWD	Board	external	External	General Admin-Personnel and Governance Committees	MAWD, other watersheds
	Diversify outreach avenues beyond web-based (print, text)	E&O	external	Internal	Education and Outreach	
	Undergo IDI assessment (Board and staff)		internal	External	General Admin-Training and Education	IDI consultant
	require anti-racism training for staff/ Board/ CAC	professional development	internal	External	General Admin-Training and Education	Equity consultant
	Bias training for all staff (+microaggression training)	professional development	internal	External	General Admin-Training and Education	Equity consultant
	Ensure social license to operate for all big projects		external			

	Hiring practices, removing barriers	Admin	internal	Internal	General Admin-Personnel	HR consultant
	Evaluate necessary education requirements in job descriptions/ postings	Admin	internal	Internal	General Admin-Personnel	HR consultant
	Evaluate hiring practices	admin	internal	Internal	General Admin-Personnel	HR consultant
	Evaluate hiring practices	admin	internal	Internal	General Admin-Personnel	HR consultant
	Investigate and re-evaluate hiring practices to ensure equity	admin	internal	Internal	General Admin-Personnel	HR consultant
	Investigate hiring process. Are we being inviting to POCs (full term/ intern	admin	internal	Internal	General Admin-Personnel	HR consultant
	Hiring practices (Who can apply? How)	admin	internal	Internal	General Admin-Personnel	HR consultant
	More presence at job fairs, career days, etc	admin	external	Internal	Education and Outreach	
	How do we recruit for jobs/ internships Identify and survey underrepresented communities (then design programs)	admin	internal	Internal	General Admin-Personnel	

	Community input through polls (demographics/ languages)	E&O	external	External	Education and Outreach	Cities
	Hold community listening sessions to learn from BIPOC community members about how we can serve and support them best	E&O	external	External	Education and Outreach	Cities
	Expand E & O to high schools	E&O	external	External	Education and Outreach	Local school leaders
	Think more about programs for visitors to district as opposed to just residents	E&O	internal	Internal	Education and Outreach	Cities
	Are there areas where we would fund Watershed Stewardship Grants (any grant) @100%?	Grants	internal	Internal	Cost-share	
	(When in person grants resume) Host more meetings/ workshops @community gathering spaces (library, rec, etc)	E&O	external	External	Cost-share	Cities
	Targeted E&O outreach events -Lake Riley (Let's go fishing events)	E&O	external	External	Education and Outreach	Cities, LGF
	Improve access to public meetings (transportation, childcare, food, timing, etc)	Admin	internal	Internal	General Admin-Meeting Supplies	Cities, catering, small businesses
	Means based grants	Grants	external	Internal	Cost-share	
6 months						

	Water quality of lower income areas in the District	DC	external	Internal	Data Collection and Monitoring	
	Talking with white community members about environmental justice	E&O	external	External	Education and Outreach	Cities
	Host public presentations or conversations on environmental justice	E&O	external	External	Education and Outreach	Cities, consultants
	Pop-up events for walkers/ bikers (esp, in EP and Minnetonka)	E&O	external	External	Education and Outreach	Cities, EJ consultant
	Resident survey "if fees were removed would you be more likely to participate in land grants?"	permitting	external	Internal	Education and Outreach	
	Resident survey in general	E&O	external	Internal	Education and Outreach	
	Make environmental science more accessible to learn about	E&O	external	Internal	Education and Outreach	Language consultant, website planner
	Translate materials	E&O	external	External	Education and Outreach	Language consultant,
	Translate written outreach	E&O	external	External	Education and Outreach	Language consultant

	Translate major E&O resources and official documents	E&O	external	External	Education and Outreach	Language consultant
	Other languages	E&O	external	External	Education and Outreach	Language consultant
	Live stream meetings with live questions	Admin; E&O	external	Internal	General Admin, Education and Outreach	
	Evaluate fees for non-profits, low income housing organizations	permitting	internal	Internal	Permit Review and Inspection	Consultant
1 Year						
	More high school volunteers out in the field	E&O, DC	external	Internal	Education and Outreach, Data Collection and Monitoring	
	Job shadowing program for local youth (esp. in DC)	E&O, DC	external	Internal	Education and Outreach, Data Collection and Monitoring	High Schools

	Job shadowing program?		external	Internal	Education and Outreach, Data Collection and Monitoring	High Schools
	Work with community development (cities) to identify underserved goals and possibilities	E&O, Admin, Planning	external	External	Education and Outreach, General Admin-Planning	
	Public Transportation links to water resources	Research	external	External	General Admin	
	Set example for other/ pressure other LGUs to work towards equity and justice	Org. Wide	external	Internal	General Admin	Cities
	Summer Camps (provide child care and introduces kids to environmental science and water resource management)	E&O	external	External	Education and Outreach	Cities, non-profits
	Increase contribution for educators working with underserved youth	Grants	external	Internal	Cost-share	
	Go to the community instead of having them come to us (like 50th activities)	E&O	external	Internal	Education and Outreach	Cities, non-profits,
	Transportation	?	external	External	General Admin	

	CIP opportunities	CIP	external	Internal	General Admin-Planning	
	Expand outreach to common areas of diverse groups in District	E&O	external	Internal	Education and Outreach	
	Engage non-riparian owners	Grants, E&O	external	Internal	Education and Outreach	
	Working with GIS can we use public census data to see if there is land equity issues? That could correlate with district improvement projects.	Research	external	Internal	Data Collection and Monitoring	
	Incorporate environmental justice framework in planning	planning	internal	Internal	General Admin-Planning	
	Addition of equity component to grant review process	Grants	internal	Internal	Cost-share	
	Addition of equity component to project prioritization tool	CIP	internal	Internal	General Admin-Planning	
	Evaluate CIP scoring for equity	CIP	internal	Internal	General Admin-Planning	

	Team up with other districts to get youth engaged in field	E&O	external	External	Education and Outreach, Data Collection and Monitoring	other watersheds
	Reach out to underserved youth about environmental field	E&O	external	Internal	Education and Outreach, Data Collection and Monitoring	
	Pay contractors directly for residential/ non-profit grants	grants	internal	External	Cost-share	
	Redefining "affordable housing" --> Marginalizing	planning	internal	Internal	General Admin-Planning	Cities
	Develop relationships in communities beyond	E&O, CIP, Planning	external	External	Education and Outreach	
	work with community leaders and get engagement/ build engagement	E&O, CIP, Planning	external	External	Education and Outreach	
	Build authentic and sustainable relationships with local BIPOC lead orgs and leaders	E&O, CIP, Planning	external	External	Education and Outreach	

	Build connections with community/ cultural/ religious groups	E&O, CIP, Planning	external	External	Education and Outreach	
	Reshape grant programs to provide opportunity for low-income households	Grants	internal	Internal	Education and Outreach, Cost-share	
5 years						
	Prepare our upcoming planning for changing demographics	internal	internal	Internal	General Admin-Planning	
	Work with partners to make suburbs more welcoming to all	E&O, CIP, Planning	external	External	Education and Outreach	
	Increase number of BIPOC members of staff, Board, and CAC	Internal, Admin, Board	internal	Internal	General Admin-Personnel	
	Introduce possible green economy jobs, building water resource related projects, solar panels???	?	external	External	General Admin-Planning	non-profits, local business
	Low income housing , habitat for humanity?, research other orgs	Research	external	Internal	Education and Outreach	
	Work with housing companies/ apartment managers to implement education or individual commitment initiatives	E&O	external	External	Education and Outreach	
??						
	Good source? Woody Love, retired Minnehaha watershed Board and passionate about equity					

	More transparency in how managers are appointed			Internal	General Admin	counties
	scholarships?			External	Education and Outreach	schools
	Good source? Don Shelby, Green house- NG Lectures/ expert, Excelsior, MN					
	Eco and Green Economy, how can we teach about it?					
	Do we charge for school programs?					
	Conversation mediators, help correct/ change hurtful and inaccurate language					
	Lake mansions blocking and hijacking public access					
	Increase access to water resources for marginalized communities (fish, swim, boat, classes) us? City? DNR?					
	Is there a way to find out stats on diversity and areas where groups are?					

Appendix B: Glossary of terms

- **DEI:** Diversity, equity, and inclusion
- **Diversity:** individual differences (e.g. life experiences, learning and working styles, personality types) and groups/ social differences (e.g. race, socio-economic status, class, gender, sexual orientation, country of origin, ability, intellectual traditions and perspectives, as well as cultural, political, religious, and other affiliations) that can be engaged to achieve excellence in teaching, learning, research, scholarship, and administrative and support services. [7]
- **Equity:** the fair treatment, access, opportunity, and advancement for all people, while at the same time striving to identify and eliminate barriers that have prevented the full participation of some groups.[8]
- **Inclusion:** The active, intentional, and ongoing engagement with diversity – in people and in communities (e.g. intellectual, social, cultural, geographic) with which individuals might connect. [7]
- **BIPOC:** Black, Indigenous, and People of Color
- **Microaggression:** a comment or action that subtly and often unconsciously or unintentionally expresses a prejudiced attitude toward a member of a marginalized group (such as a racial minority)[9]
- **Low income:** A household that earns 80% of an area median income or less, relative to household size. This would include a family of four with a gross income of $75,500 or less[10]
- **Affordable housing:** When a household with a low income pays no more than 30% of its gross income for housing costs, including basic utilities. [10]
- **IDI:** Intercultural Development Inventory®
- **Bias:** a strong feeling in favor or against one group of people, or one side in an argument, often not based on fair judgement[11]
- **Social license to operate** existing when a project has the ongoing approval within the local community and other stakeholders, ongoing approval or broad social acceptance and, most frequently, as ongoing acceptance[12]

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[7] "Diversity and Inclusion Defined". The George Washington University. https://diversity.gwu.edu/diversity-and-inclusion-defined

[8] Kapila, Monisha, Ericka Hines, and Martha Searby. "Why Diversity, Equity, and Inclusion Matter". Independent Sector. October 6, 2016. https://independentsector.org/resource/why-diversity-equity-and-inclusion-matter/#:~:text=Equity%20is%20the%20fair%20treatment,full%20participation%20of%20some%20groups.

[9] "Definition of Microaggression". Merriam-Webster Dictionary. https://www.merriam-webster.com/dictionary/microaggression

[10] "Affordable Housing Facts". Metropolitan Council. https://metrocouncil.org/About-Us/Facts/HousingF/FACTS-Affordable-Housing.aspx

[11] "Definition of Bias Noun from the Oxford Advanced Learner's Dictionary". Oxford Advanced Learner's Dictionary.https://www.oxfordlearnersdictionaries.com/us/definition/english/bias_1 - :~:text=%2F%CB%88ba%C9%AA%C9%99s%2F,favour to one political party)

[12] "What is the Social License". SocialLicense.com. http://socialicense.com/definition.html

- Environmental Justice: the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This goal will be achieved when everyone enjoys the same protection from environmental and health hazards, and equal access to the decision- making process to have a healthy environment in which they live, learn, and work. [13]
- Green Economy: low carbon, resource efficient, and socially inclusive. In a green economy, growth in employment and income are driven by public and private investment into suck economic activities, infrastructure and assets that allow reduced carbon emissions and pollution, enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services. [14]

[13]"Environmental Justice". United States Environmental Protection Agency. October 22, 2020. https://www.epa.gov/environmentaljustice

[14]"Green Economy". United Nations. https://www.unenvironment.org/regions/asia-and-pacific/regional-initiatives/supporting-resource-efficiency/green-economy

RILEY PURGATORY BLUFF CREEK
WATERSHED DISTRICT

18681 Lake Drive East
Chanhassen, MN 55317
952-607-6512
www.rpbcwd.org

MEMORANDUM

TO: Board of Managers

FROM: Terry Jeffery, Watershed Planning Manager

DATE: November 4, 2020

RE: Rule F: Shoreline and Streambank Stabilization
Section 3.4 Proposed Modifications

STATEMENT OF ISSUE

Under the current iteration of Rule F, it is often not possible to meet the Rule F, Subsection 3.4 criteria for a project to be considered as maintenance. As a result, applicants have been required to comply with all the of Rule F provisions, including the sequencing to align the shoreline stabilization measure with the erosive energy at the site. In many instances this has required the applicant to revise their proposed design to include bioengineering or bioengineering with vegetated rip-rap. Currently, on some lakes as many as 52% of the riparian lots have at least some portion of the shoreline stabilized with rip-rap. Of those that have been brought to the RPBCWD for review, many of these were found to be installed in a manner inconsistent with the recognized best practices for rip-rap installation. These areas are likely to be introducing sediment into the respective lake.

Staff finds it is incongruent with the desire to maintain and improve water quality while allowing for suboptimal practices to contribute sediment to the water body in question. In order to properly install rip-rap, the underlying ground must be disturbed for any of a variety of reasons: properly embedding the toe boulders, properly installing the underlying filter fabric, providing compensatory storage for the fill being placed in the form of rip-rap, and maintaining a 3 foot horizontal run for every 1 foot of vertical rise without extending further than six (6) feet waterward of the OHW.

Further, the current rule states that it is “fast-track” but, in fact, it is generally no quicker than other stabilization applications. While permit applications reviewed under §3.4 of Rule F does require fewer materials be submitted, it still must go through the same review process and be presented to the Board of Managers for approval. Staff is not recommending administratively approval at this time. Instead, staff recommends removing the term “fast-track” from the rules.

POTENTIAL RESOLUTIONS

OPTION 1. Leave as is
Although the maintenance provision was added during the last iteration with a high bar to encourage applicants to install practices more conducive to healthy shorelines, this option does not address the issues stated above. The unintended consequences may, in and of themselves, have a deleterious impact on water quality and habitat. For this reason, staff is not recommending this option.

OPTION 2. Allow for reconstruction of shoreline stabilization practice, including rip-rap if a buffer or vegetated rip-rap is provided

While this option would provide for greater protection of the resource, staff is not recommending this option. In 2014, as RPBCWD was developing the rules, lacustrine buffers were proposed. This proposal met with significant resistance from the public and the Board of Managers opted not to pursue requisite buffering of lacustrine lots. Additionally, it is not clear that maintenance activities can be required to provide additional mitigative measures.

OPTION 3. Allow for reconstruction of existing shoreline stabilization practice, including rip-rap provided there is no increase in length of shoreline being treated

Under this option, an applicant would need to demonstrate that an area is currently stabilized with rip-rap, the practice is in disrepair, and they will not expand the length of shoreline which is to be rip-rapped. They may disturb the underlying soils to assure that the rip-rap is installed consistent with the criteria in Rule F. Under this option, the application would still need to go before the Board of Managers for approval, but they would not need to go through the sequencing to demonstrate the need for rip-rap.

PREFERED OPTION

As stated in the preceding section, staff is recommending Option 3. To implement this change, staff is recommending the following changes to Rule F.

3.4 **Maintenance**. Where an applicant can establish that a shoreline stabilization practice was constructed before February 1, 2015, or after that date in compliance with a duly issued District permit, the District will issue a permit for maintenance of the practice as long as the applicant submits plans compliant with the criteria in subsection 3.3 documenting that maintenance work will not increase the length of the practice, beyond existing conditions, as measured in lineal feet of shoreline.

Deleted: Fast-track maintenance

Deleted: Notwithstanding the requirements and criteria in subsections 3.1 to 3.3, where

Deleted: , width or depth

Deleted: and will not disturb underlying soils

Applicants could maintain existing rip-rap or other stabilization practices, installed according to RPBCWD rules or prior to implementation of RPBCWD rules, provided the installation of the practice is consistent with our rules and there is no increase in the length of shoreline stabilized as measured in lineal feet. All shoreline improvements would still require compliance with other applicable RPBCWD rules and require board approval prior to implementation.

TIMELINE

This would constitute a minor plan amendment and require a 30-day review. Staff proposes the following schedule of adoption:

December 2, 2020 – Authorize distribution of proposed amendment for review.

January 6, 2020 – Hold public hearing on proposed revisions. If no significant comments received, adopt changes at this meeting.

February 3, 2020 – If significant comments were received at the January meeting, adoption would occur at this meeting provided comments were adequately addressed.

9.17 Soil Health

The Natural Resources Conservation Service (NRCS) defines "soil health, also referred to as soil quality, as the continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans. This definition speaks to the importance of managing soils so they are sustainable for future generations." Because the water resources are directly impacted by what happens on the land within the resource's watershed, understanding and promoting soil health is an important avenue to achieving the many RPBWCD's goals identified the 10-year plan, Planning for the Next Ten Years 2018-2027. Table 9-7 summarizes various RPBCWD goals and strategies that have some connection to healthy soils.

Table 9-7 Soil Health Connection to RPBCWD Goals and Strategies

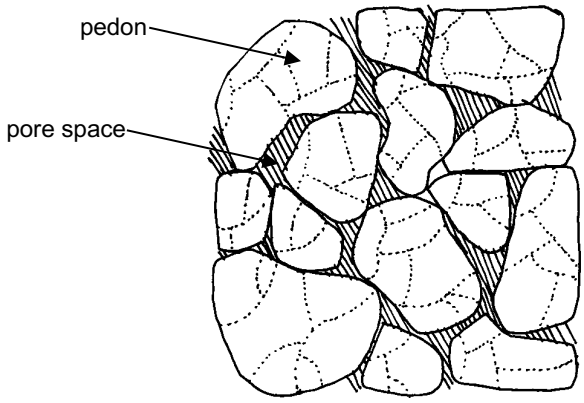
Goal	Description	Applicable Strategies
EO 1	Design, maintain, and implement Education and Outreach programs to educate the community and engage them in the work of protecting, managing, and restoring water resources.	EO S4, EO S7 EO S9
Plan 2	Include sustainability and the impacts of climate change in District projects, programs, and planning.	Plan S2 Plan S3 Plan S7
WQual 1	Protect, manage, and restore water quality of District lakes and creeks to maintain designated uses.	WQual S1 WQual S3 WQual S6 WQual S8 WQual S11 WQual S13 WQual S14 WQual S18
WQual 2	Preserve and enhance the quantity, as well as the functions and values of District wetlands.	
WQual 3	Preserve and enhance habitat important to fish, waterfowl, and other wildlife.	
Ground 1	Promote the sustainable management of groundwater resources.	Ground S1 Ground S2
WQuan 1	Protect and enhance the ecological function of District floodplains to minimize adverse impacts.	WQuan S1 WQuan S2 WQuan S3 WQuan S6 WQuan S7 WQuan S8 WQuan S9 WQuan S10
WQuan 2	Limit the impact of stormwater runoff on receiving waterbodies.	

Therefore, in addition to any of the aforementioned BMPs, tilling to loosen soils and amending with compost within the construction extents of the BMPs would result in additional runoff retention and reduce TP loading to the water resources throughout the district. Typically, a soil with good structure (defined below) has 25% of the pore space

available to retain water. That means that eight inches of healthy amended/tilled soil can retain two inches of water during a storm event. This assumes that the soil is vegetated so that the water flow is slowed to allow for infiltration rather than run across the surface.

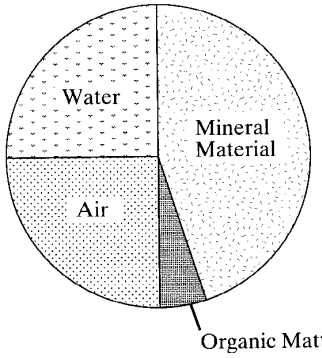
9.17.1 Soil Structure

Soil structure refers to how the sand, silt, and clay in soils are grouped together into aggregates called pedons. With the formation of pedons, pore space is provided in soils – the combination of pedons and pore spaces promotes the development of good soil structure.



Soil pedons are formed by:

- humus (highly decomposed compost and organic matter),
- organic glues created by fungi and bacteria in the decomposing organic matter, and
- polymers and sugars excreted from plant roots.



Soils with ideal soil structure contain 50% mineral material and 50% pore space. Water readily infiltrates into the soil and is held in this pore space. Plants grown on soils with good soil structure are healthy and resilient to stresses of flood, drought, insects, and disease.

Soil scooped from a badger mound in a prairie that has never been tilled, compacted, or otherwise disturbed. All soil processes are functioning. Pedons are visible that make up soil structure.

Much of the watershed has low infiltrating, clayey soil, and so infiltration of runoff on landscaped areas is a challenge. Clay soils have a very dense

(poor) soil structure because this soil is characterized by very small clay particles that tightly bond together to form a very dense soil. In addition, while the clay soil has a lot of tiny pore spaces, the water is held very tightly within these pore spaces. These properties make it difficult for plant roots to grow deep into the soil, for water to infiltrate, and for plants to use the water stored in the soil. Plant growth should be encouraged by tilling organic matter amendments into the soil to provide additional larger pore space and to facilitate structure enhancement by the soil food web (described below) to increase aeration and infiltration.

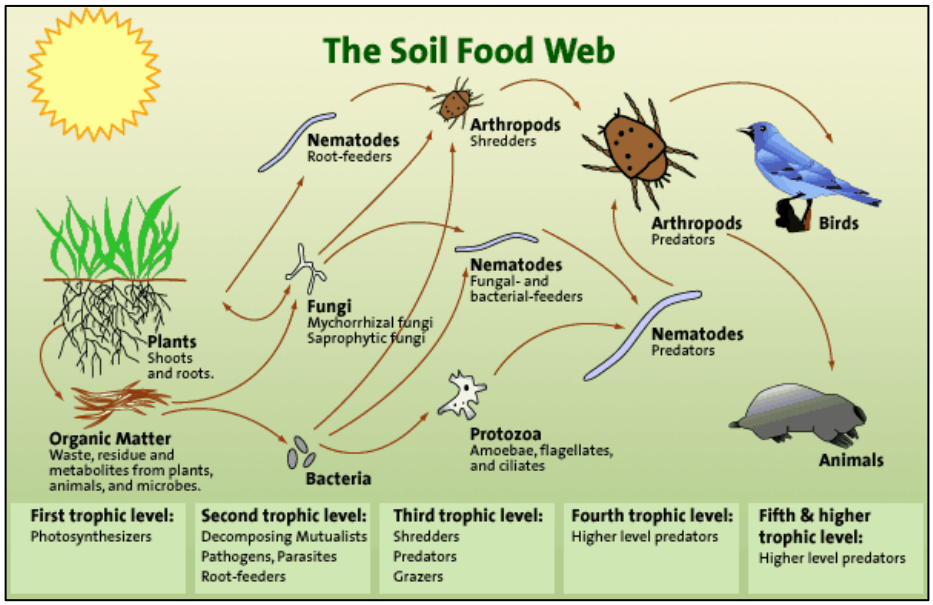
Soil being tilled to incorporate organic matter in a compacted urban landscape. This method helps to provide nutrients and promote development of soil structure for plants to thrive.

Soil compaction through mass grading, soil stripping and construction (including lawns) destroys soil structure and significantly reduces the ability of water to soak into ground. Amending lawns and landscapes with organic matter increases infiltration and facilitates pollutant removal by binding contaminants to soil particles or breakdown by microbes. In most cases, amending any soil type with organic matter is beneficial; amending sandy soil improves nutrient and water holding capacity, while amending clay soil improves drainage and aeration. Organic matter is any decomposed plant or animal material (compost, mulch, rotted manure, etc.) which improves soil structure and porosity.

Compost produced from yard waste by metro cities.

There are many advantages to building soil structure by amending soils with organic matter. Good soil structure means that the porous soil will:

- Readily accept stormwater, allowing for quick infiltration of large volumes of water.
- Hold large volumes of water in the soil for future availability to plants. This makes for healthier, more resilient plantings.



- Reduce the amount of phosphorus reaching water bodies because first, large volumes of water are intercepted by soils, and second because soils readily and strongly adhere phosphorous to soil particles. Phosphorus is an essential plant nutrient. Its best held in the soil where landscape and native plants can use it rather than letting it run to lakes where it feeds algae.
- Hold oxygen in the soil. This is essential for root respiration and diversity of microbes in the soil.
- Provide nutrients to plants as compost further breaks down soil microbes.
- Provide food and habitat for microbes living in the soil which break down organic matter and supply nutrients to plants. In exchange, they consume sugars and proteins release from plant roots, therefore feeding the soil food web. Larger organisms, like nematodes and arthropods, burrow through the soil, mixing it, providing the mechanism for soil aeration, increased infiltration, and physically developing soil pedons.

Soil under a dry lawn that is devoid of organic matter. Organic matter (black topsoil) was added as an amendment to promote plant growth and water infiltration.

Organic matter is naturally found in the upper soil layers (topsoil). The color of the topsoil can provide some clues as to how much organic matter is in the soil. Typically, darker color soil has more organic matter caused by the carbon in the organic matter. Conversely, a lighter color soil would have less organic matter (because there is less carbon).

Organic matter acts like glue to bind soil particles into pedons, which improves the soil structure and water holding capacity. Organic matter can also reduce soil erosion by promoting infiltration (rather than runoff) and improving the stabilization of soil pedons (so pedons stay in place).

Soil structure is destroyed by:

- Compaction – through construction activities, driving vehicles, or excessive foot traffic. Compaction reduces pore space, limits oxygen circulation and plant growth, and decreases water infiltration.
- Stripping of topsoil and mass grading – which eliminates or mixes topsoil deep into the soil profile and out of reach for plants.
- Pesticides and other contaminants – which kill soil organisms that are the backbone of developing and maintaining soil structure.
- Fertilizers – which throw off the nutrient balance for microbes, and impact the soil food web by altering the function of bacteria.
- Excessive tilling – which destroys soil structure and vital fungal systems. This is mainly a problem in agricultural settings. Initial tilling of compost into a depleted or compacted soil is an essential first step in restoring soil.

While most native soils are 2 to 10 percent organic matter, urban soils typically contain a minimal amount of organic matter due to the action of mass grading and mixing soil

deep in the ground. Therefore, the addition of organic matter to feed the soil food web is a key component for soil restoration. Tilling 6 to 8 inches of compost into the top 8 inches of soil will help restore the soil food web by providing pathways for oxygen and sources of nutrition to sustain microbes, which maintain the looseness of the soil. Tilling can initially promote a flush of beneficial microbial activity in the soil, increasing the rate of decomposition. As the food webs of microbes and invertebrates (fed by the nutrients released from the decomposing organic material) in the amended soil develop and become more active, they help to improve porosity and infiltration capacity of the soil.

9.17.2 Soil Amendments

Amendments such as compost, manure, biochar, or any other form of decomposed organic material can be used to amend the soil. Biochar is a charcoal-like material that is made by burning biomass (wood, grasses, etc.) in the absence of oxygen, and stores carbon, the key component of organic matter. Biochar is a stable solid that remains intact in soils for a long time. It is used as a soil amendment because it increases the water holding capacity of the soil. If soil pH is an issue, amendments to balance it include lime (raises pH and lowers acidity) and gypsum (modifies calcium) which, if used correctly, will change pH and modify the soil structure allowing better infiltration. A soil test should be conducted before adding these amendments. As landscapes and lawns are established, incorporating soil amendments helps turf, trees, and shrubs survive drought periods (because the water-holding capacity of the soil is increase) and prevents sogginess during wet periods (because water infiltrates deeper into the soil profile).

9.17.3 Potential District Soil Health Activities

Some of the potential soil health activities under data collection, education and outreach, regulatory program, and groundwater conservation in **Error! Reference source not found.** include, but are not limited to, the following:

- **District capital improvement projects**. For capital projects, the district will consider incorporating eight inches of compost into the top eight inches of existing soil within the construction extents of the chosen BMP. For the surface BMP options, the amended soil would serve as an infiltration bench surrounding the basin, providing additional abstraction of runoff from basin overflow during large storm events.

- **District Assessment.** RPBCWD will work with various stakeholders and partners to undertake a study to better understand the health (structure) of soils throughout the watershed. The study could document the potential for healthy, well-structured soils to improve water quality, to reduced flood potential, and to enhance community resiliency. This study could include:

    - **Assessment of sentinel sites**. Collecting soil samples at various land use locations throughout the District to document the background health of soils. These sentinel soil sites could include both undisturbed and disturbed soils including: the "Big Woods", bluff area, wetlands west of Lake Ann, sample residential properties, parks, and commercial/industrial areas. Soil samples would be collected and analyzed for compaction, percent organic matter and microbial function.
    - **Literature review**. Extensive research exists on soil health and its effects on improved water quality. A literature review could be conducted to compile research findings and to identify best practices for soil improvement and soil guidance/policies for water quality improvement in the District.
    - **Develop recommendations**. From the soils analysis of sentinel sites and the literature review, summarize findings to include:
        - the comparison of soils in sentinel sites.
        - a summary of literature findings of soil health to water quality.
        - a summary of potential guidance and policies for soil improvement.
    - **How to guide**. Develop a primer on soil health and protocols for soil improvement could be developed for citizens of the District and contractors developing projects within the District.

Outcomes of the district soil health efforts will:

- provide data and logic behind the funding (cost-share efforts) of soil amendment projects,
- provide permit applicants a mechanism to better understand the benefits of incorporating soil amendments as a BMP for meeting volume abstraction requirements, and
- support RPBCWD groundwater and wetland function by providing means to improve surficial groundwater recharge and baseflows.