Riley-Purgatory-Bluff Creek Watershed District

Board of Managers Regular Meeting

Wednesday, August 5, 2020, 7:00pm Regular Meeting

Virtual Meeting via ZOOM

https://us02web.zoom.us/j/85842496298

Agenda

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

2. **Approval of the regular meeting agenda at 7pm** **Action**

3. **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.

4. **Reading and approval of minutes** **Action**
   a. Board of Manager Regular Meeting, July 8, 2020

5. **Citizen Advisory Committee** **Action**
   a. Report
   b. Motion
   c. Application updates

6. **Consent Agenda**
   (The consent agenda is considered as one item of business. It consists of routine administrative items or items not requiring discussion. Any manager may remove an item from the consent agenda for action.)
   a. Accept July Staff Report
   b. Accept July Engineer's Report
   c. Accept July Construction Inspection Report
   d. Approve Pay App #1 Duck Lake Rain Gardens
   e. Approve Pay App #5 Lower Riley Creek Stabilization
   f. Approve modification to Permit 2018-028 Oak Point Elementary Parking Lot as presented in the proposed board action of the permit report
   g. Approve Permit 2019-051 Berrospid Addition as presented in the proposed board action of the permit report
   h. Approve Permit 2020-021 Purgatory Park Emergency Pipe Replacement as presented in the proposed board action of the permit report

i. Approve Permit 2020-030 Vine Hill Rd Crossing as presented in the proposed board action of the permit report
j. Approve Permit 2020-031 Prairie Heights Addition as presented in the proposed board action of the permit report
k. Approve Permit 2020-040 6605 Horseshoe Curve - Shoreline as presented in the proposed board action of the permit report
l. Authorize President to execute Cooperative Agreement with Bearpath Golf and Country Club for the Middle Riley Creek Stabilization Project
m. Authorize Administrator to solicit Request For Proposals for Banking Services

7. Action Items **Action**

a. Pulled consent items
b. Accept June Treasurer's Report
c. Approve Paying of the Bills
d. Consider Permit 2020-041 7420 Chanhassen Road - Shoreline as presented in the permit review report
e. MAWD Resolutions
    i. Pesticides
    ii. Wakeboat
    iii. Groundwater irrigation in urban areas

8. Discussion Items **Information**

a. Manager Report
b. Administrator Report
c. Schedule Personnel committee meeting
d. Schedule Governance committee meeting
e. Schedule Budget Workshop
f. Shoreline Stabilization Regulations and Policies
g. Rice Marsh Lake Sediment Chemistry Post-Alum
h. Other

9. Upcoming Board Topics

a. Public Hearing for Ordering Rice Marsh Lake Water Quality
b. Public Hearing for Duck Lake Plan Amendment
c. St Hubert Community Cooperative agreement
d. other

10. Upcoming Events **Information**

- Citizen Advisory Committee Meeting, Aug 17, 2020, 6:00pm, Zoom Meeting
- Board of Managers Budget Workshop, TBD. Zoom Meeting
- Board of Managers Budget Public Hearing and Regular Meeting, September 2, 2020, 7pm 2020. Zoom Meeting

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

MEETING MINUTES

Riley-Purgatory-Bluff Creek Watershed District

July 8, 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, MN Green Corps Member, RPBCWD	
	Claire Bleser, RPBCWD Administrator	
	Zach Dickhausen, Water Resources Technician II	
	Terry Jeffery, Watershed Planning Manager	
	B Lauer, Education and Outreach Assistant	
	Josh Maxwell, Water Resources Coordinator	
	Louis Smith, Attorney, Smith Partners	
	Scott Sobiech, Engineer, Barr Engineering Company	
Other attendees:	Martha Capps	Fred Rozumalski, Barr Engineering
	Elizabeth Henley, Smith Partners	Marilynn Torkelson, CAC
	David Knaeble	Lori Tritz, CAC
	Jack McGrath	

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, July 8, 2020, Board of Managers Regular Monthly Meeting at 7:02 p.m. The meeting was held remotely via meeting platform Zoom.

2. Approval of Agenda

Manager Ziegler moved to approve the agenda. Manager Pedersen seconded the motion. Manager Koch asked to remove Consent Agenda items 7a – Accept June Staff Report, 7b – Accept June Engineer's Report (with attached inspection report), 7c – Authorize Administrator to Enter into Cooperative Agreement with the City of Chanhassen for the Silver Lake Water Quality Project; 7d – Approve Request for Additional Construction Services Administration Budget for Lower Riley Creek Restoration Project, 7e – Approve Pay App #8 for Scenic Heights Forest Restoration,

7g – Adopt Resolution 2020-09 to Order and Notice Public Hearing for Duck Lake Partnership, and 7h – Adopt Resolution 2020-10 to Order and Notice Public Hearing for Rice Marsh Lake, Adopt Resolution 2020-11 COVID Action Plan.

President Ward moved those items off the Consent Agenda and to 7a – Pulled Consent Items. Administrator Bleser noted item 8g – Approve the letter to the City of Chanhassen regarding the City's LSWMP – has been added to the agenda. President Ward noted item 9aiii – Ground Water Conservation – has been added to the agenda as well. Manager Ziegler moved to amend the motion to include the changes to the agenda as described. Manager Pedersen seconded the motion.

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

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

The amended motion carried by unanimous consent.

3. Rice Marsh Lake Water Quality Project Feasibility Study Presentation

Engineer Sobiech presented on the Rice Marsh Lake water quality project feasibility study, the background on the study, and water quality goals for Rice Marsh Lake. He introduced the 11 concepts evaluated and discussed the concept comparison, which compared for each of the 11 concepts data such as the design, estimated annual total phosphorous reduction, tree impacts, engineer's opinion of probable cost, anticipated maintenance cost over a 30-year lifecycle, and annual cost per pound of total phosphorous removed. Engineer Sobiech said the recommended concept is Conceptual Design 2d – Kraken (or similar) Filter. He described how the Kraken filter works. Engineer Sobiech introduced Fred Rozumalski to talk about soil health, since the feasibility study includes soil health recommendations.

Mr. Fred Rozumalski of Barr Engineering talked about soil health and soil structure, why to improve soil health, and how to restore soil health. Mr. Rozumalski provided recommendations, which included soil structure enhancement and a District-wide study of existing soil health and, further out, creating a public information how-to guide on improving soil health.

Engineer Sobiech said next steps for the Board, if it wants to keep moving ahead with the Rice Marsh Lake Water Quality Project, include the Board ordering a public hearing for its August 5th meeting, ordering the project with the recommended Conceptual Design 2d – Kraken (or similar) Filter, and entering into a Cooperative Agreement with the City of Chanhassen.

Manager Koch asked if it is premature to act on the project because the District is still gathering information on the iron-enhanced filings and spent lime water quality treatment projects. He shared his reservations about the Kraken filter and proprietary equipment because there isn't a lot of data on whether it works and would the District be a test case. Manager Koch said it seems pre-mature to add this project now. He spoke in favor of the District adding soil health as a component of District projects.

Manager Ziegler asked for more information on how the Kraken filter would be cleaned. Mr. Jeffery and Mr. Sobiech responded.

President Ward noted this is a presentation only, and the Board will discuss the project later in the agenda.

4. Matters of General Public Interest

Ms. Marilynn Torkelson thanked Mr. Sobiech and Mr. Rozumalski for their presentations, and she asked if the Board would craft a soil health resolution to introduce at the MAWD annual meeting.

5. Reading and Approval of Minutes

a. June 1, 2020, RPBCWD Board of Managers Special Meeting

Manager Ziegler moved to accept the minutes as presented. 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

b. June 3, 2020, RPBCWD Board of Managers Special Meeting

Manager Ziegler moved to accept the minutes as presented. Manager Crafton seconded the motion. Manager Crafton noted a non-substantive edit on line 35 to remove an extra word. Manager Ziegler accepted Manager Crafton's friendly amendment to include the edit. 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. June 3, 2020, RPBCWD Board of Managers Regular Monthly Meeting

Manager Ziegler moved to accept the minutes of the June 3, 2020, RPBCWD Board of Managers Regular Meeting. Manager Crafton seconded the motion. Manager Ziegler noted that on line 98 the name should be corrected to read, "Rod Fisher." Manager Koch noted on line 14 his vote should reflect he voted yes. Manager Pedersen noted a typo on line 125. Manager Crafton noted the word "about" should be added on line 165 so the send reads, "…asked about the open CAs." Manager Ziegler and Manager Crafton accepted the edits as friendly amendments. Upon a roll call vote, the motion carried 5-0 as follows:

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

d. June 26, 2020, RPBCWD Board of Managers Special Meeting

Manager Ziegler moved to accept the minutes of the June 26, 2020, RPBCWD Board of Managers Special Meeting. Manager Pedersen seconded the motion. Manager Pedersen had a non-substantive edit on line 24 and noted a spelling correction on line 123. Upon a roll call vote, the motion carried 5-0 as follows:

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

6. CAC

Ms. Marilynn Torkelson summarized the two key CAC motions made at the CAC's most recent meeting. She highlighted the discussions held at the meeting. Ms. Torkelson raised the topic of the required yearly reporting by Cost-Share Grant recipients and confusion around what type of information should be submitted. She suggested the District develop a standard reporting form and send the form and yearly reminder to the grant recipients.

Manager Koch moved to forward the two key motions to District staff and direct the staff to provide input and report back to the Board at the next monthly 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 managers discussed the open seat on the CAC due to one member leaving the Committee. The Board reached consensus that the CAC would complete the year with the current membership instead of opening the application process to fill the vacated position.

7. Consent Agenda

Manager Koch moved to approve the Consent Agenda. Manager Crafton seconded the motion. The Consent Agenda included item 7F – Approve Pay App #2 for Spent Lime Unit Modification. Upon a roll call vote, the motion carried 5-0 as follows:

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

8. Action Items

a. Pulled Consent Agenda items

i. Accept June Staff Report

Manager Koch asked for more details about the WOMP program. Mr. Maxwell responded, talking about the WOMP stations and their locations in the watershed. Manager Koch asked for information on how District staff plans to get the word out about the District's available education and outreach videos. Ms. Lauer described how staff plans to highlight the videos on the District's social media and website as well as Seesaw, which is a platform many educators use. Manager Koch suggested staff try to get an article about the videos placed in the City of Chanhassen's quarterly publication.

Manager Ziegler moved to accept the June staff report as presented. Manager Koch 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. **Accept June Engineer's Report (with Attached Inspection Report)**

Manager Ziegler moved to accept the June Engineer's Report (with Attached Inspection Report). Manager Crafton seconded the motion. Manager Koch asked what the District is doing about the permit violations. Mr. Jeffery provided an update on the five permit violations.

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. **Authorize Administrator to enter into Cooperative Agreement with the City of Chanhassen on the Silver Lake Water Quality Project**

Manager Pedersen moved to authorize the Administrator to enter into a Cooperative Agreement with the City of Chanhassen for the Silver Lake Water Quality Project. Manager Crafton seconded the motion. Manager Koch noted he didn't see construction costs addressed in the agreement. Administrator Bleser responded that the City is taking on the maintenance, but the City is not providing project funds. Upon a roll call vote, the motion carried 5-0 as follows:

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

iv. **Approve Request for Additional Construction Administration Services Budget for Lower Riley Creek Restoration Project**

Manager Ziegler moved to approve the request for additional construction administrative services budget for the Lower Riley Creek Restoration Project. Manager Crafton seconded the motion. Manager Koch asked how much work was done on the project during June and how close the project is to completion. Engineer Sobiech answered the questions.

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

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

v. **Approve Pay App #8 for Scenic Heights Forest Restoration**

Manager Ziegler moved to approve pay app #8 in the amount of $5,000 for the Scenic Heights Reforestation project. Manager Crafton seconded the motion. Manager Koch asked questions about the funding source of the $5,000. He said the amount seems to not have anything to do with time, materials, or labor. He asked for more details. Engineer Sobiech said the bid included plant site visits,

and this contractor included two site visits at a cost of $2,500 each. Manager Koch asked the District to be mindful of these types of provisions in agreements going forward.

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

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

vi. **Adopt Resolution 2020-09 to Order and Notice Public Hearing for Duck Lake Partnership**

Manager Ziegler moved to adopt Resolution 2020-09 to order and notice the public hearing for the Duck Lake partnership. 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

vii. **Adopt Resolution 2020-10 to Order and Notice Public Hearing for Rice Marsh Lake**

Manager Ziegler moved to adopt resolution 2020-10 to order and notice the public hearing for Rice Marsh Lake. Manager Pedersen seconded the motion. Manager Koch commented he thinks the District is putting the cart before the horse. He

said the Board should table this item until the Board has more information, particularly about the timing of the project, such as information on whether the timing of the proposed project would interfere with cleaning out the pond.

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

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

viii. **Adopt Resolution 2020-11 COVID Action Plan**

Attorney Smith explained the purpose of this resolution is to make sure the Board is aware of the plan and supports it. Manager Ziegler moved to adopt Resolution 2020-11 approving the COVID action plan. Manager Crafton seconded the motion. Manager Koch commented he doesn't think the content in the plan is sufficient, so he will be voting against the motion. Upon a roll call vote, the motion carried 4-1 as follows:

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

b. Accept May Treasurer's Report

Treasurer Crafton communicated that the report has been reviewed in accordance with the District's internal controls and procedures. She moved to accept the May Treasurer's

Report as submitted. Manager Pedersen seconded the motion. Manager Koch asked for an update on the District's review of bills paid in the previous fiscal year in relation to any late payments or interest owed on late payments. Manager Crafton said it was determined that the District did not owe anything. Manger Koch noted the report lists accrued investment interest, but accrued investment interest is contrary to the process documented in the report letter. He asked staff to investigate to make sure the letter and Treasurer's report are consistent. Manager Koch stated the report lists Visa as a vendor, but Visa is a lender, so this practice of listing Visa as the vendor isn't a proper accounting procedure. He recommended the District get a letter from the accountant and auditors that this practice complies with generally accepted accounting principles or the District changes its practice.

Upon a roll call vote, the motion carried 4-1 as follows:

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

c. Approve Paying of the Bills

Manager Crafton moved to approve paying of the bills. 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

d. Approve Permit 2020-029 CorTrust Bank variance request as presented in the proposed board action of the permit review report

Engineer Sobiech noted the applicant's engineer, Mr. David Knaeble, is present on the meeting call. Engineer Sobiech summarized the proposed project, which includes restoring the property's parking lot to its late-1990s state. He explained the applicant has two variance requests: one for floodplain management and one for the wetland buffer.

Engineer Sobiech went through the District's criteria, starting with the floodplain management criteria and the floodplain management variance request. He went through the Engineer's review of the floodplain management variance request, addressed the occurrence of the practical difficulty, noting the parking lot settled over time. Engineer Sobiech summarized that he is making no determination on whether there is adequate technical basis for the variance. He opened the floor for questions.

Manager Pedersen asked if the engineer and applicant looked at reconfiguring the storm pond and raised the question of how many parking lot spaces are needed. Engineer Sobiech responded that if an analysis was done to determine how many parking spots are needed or to examine redesign of the parking lot, the information wasn't provided to the District. Mr. Knaeble commented that the parking lot as constructed wasn't in the floodplain and wasn't in the floodplain until settlement occurred. There was discussion about floodplain capacity, the idea of reducing the size of the parking lot, and whether the reconstructed parking lot would settle.

Manager Koch moved to approve the floodplain management variance based on the Engineer's findings set forth in the Engineer's report and as the variance complies with the District's variance requirements. The motion died due to lack of a second.

Engineer Sobiech went through the District's criteria for wetland buffers and went through his review of the wetland buffers variance request. He stated the Engineer has found adequate technical basis to support this variance.

Manager Koch moved to grant the variance on the minimum buffer width based on the Engineer's findings as set forth in the Engineer's report. Manager Ziegler seconded the motion. Upon a roll call vote, the motion carried 3-2 as follows:

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

e. Approve Permit 2020-029 CorTrust Bank permit as presented in the proposed board action of the permit review report

Manager Koch moved to approve Permit 2020-029 based on the language and any conditions as presented in the Engineer's report. Manager Ziegler seconded the motion. Upon a roll call vote, the motion carried 3-2 as follows:

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

f. Personnel Update and Request to Approve Temporary to Full Time for B Lauer

Administrator Bleser provided background on this personnel update and stated the District has funds in its staff budget to transfer B Lauer's role from temporary to full time. Manager Pedersen moved to approve the request to transfer B Lauer's position from temporary to a full-time with the job description as outlined and provided in the meeting packet. Manager Crafton 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. Approve the Letter to Chanhassen in Regard to LSWMP, with Authority to the Administrator to Finalize in Consultation with Counsel and with such Non-substantive Changes as Necessary

Administrator Bleser reminded the Board that in 2018 it conditionally approved the City of Chanhassen's Local Surface Water Management Plan (LSWMP). She talked about the plan's lack of clarity and said that recently the City has been talking to the District about regulatory authority. Administrator Bleser said the letter addresses the status of the District's conditional approval of the LSWMP and how to be a regulatory body. She noted the original letter will be appended.

Manager Crafton moved to authorize the Administrator to finalize the letter with counsel and send the letter to the City. Manager Ziegler seconded the motion. Manager Koch commented he hasn't had time to review the letter and will abstain from the vote. Upon a roll call vote, the motion carried 4-0.

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

9. Discussion Items

a. Manager Reports

Manager Koch talked about a rip rap project installed on a property on the southwest corner of Lotus Lake. He said the project did not have a permit. Mr. Jeffery provided information on the technical memorandum the District recently received on the project. He said he talked with the property owner to let the owner know the District requires the permit application and permit fee for the project. Mr. Jeffery said he will bring this project in front of the managers at the next monthly Board meeting. President Ward said the District needs a policy in place about handling non-permitted activities.

b. Administrator Report

Administrator Bleser provided a brief update on staff work, including data collection.

c. MAWD Resolutions

President Ward said the Board could send the resolution on wake boarding and the

resolution on pesticides that the Board submitted last year to MAWD again this year. Manager Koch announced he would like to draft a resolution regarding groundwater conservation to prohibit lawn sprinklers from being used between 7 a.m. and 7 p.m. during the months of June, July, and August. He said he would bring the draft resolution to the Board next month. The Board indicated consent to sending the wake boarding and pesticides resolutions to MAWD and Manager Koch introducing his draft resolution at the next monthly Board meeting. Manager Crafton reminded the Board about the CAC's draft resolution recommendation regarding soil health. Administrator Bleser summarized the topics of the four resolutions and noted she would look into finding partners for the resolutions.

10. Upcoming Board Topics

President Ward noted upcoming Board topics and events are listed on the meeting agenda and mentioned the following upcoming Board meeting topics: the public hearing for ordering the Rice Marsh Lake Water Quality project, the public hearing for the Duck Lake plan amendment, and the St. Hubert Community cooperative agreement.

11. Upcoming Events

- Citizen Advisory Committee Meeting, July 20, 2020, 6:00 p.m., Zoom Meeting
- Board of Managers Budget Workshop, July 27, 1:00 p.m., Zoom Meeting
- Board of Managers Regular Meeting and Public Hearing, August 5, 2020, 7:00 p.m., Zoom Meeting

12. Adjournment

Manager Pedersen moved to adjourn the meeting. 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

The meeting adjourned at 10:14 p.m.

Respectfully submitted,

_____

David Ziegler, Secretary

DRAFT Minutes: Monday, July 20, 2020
RPBCWD Citizen's Advisory Committee Monthly Meeting
Location: VIRTUAL VIA ZOOM OR TELEPHONE

CAC Members *(By each name, put a P=Present, E=Excused, not present but with notification or A=Absent with no notification)*

Jim Boettcher	P	Barry Hofer	E	Sharon McCotter	P	Marilynn Torkelson	P
Kim Behrens	P	Peter Iverson	E	Jan Neville	A	Lori Tritz	P
Michelle Frost	P	Terry Jorgenson	P	Vanessa Nordstrom	E		
Heidi Groven	P	Matt Lindon	E	Joan Palmquist	P		

Claire Bleser	RPBCWD Administrator	E
B Lauer	RPBCWD staff	P
David Ziegler	Board of Managers	A

Key MOTIONS for the Board of Managers:
Motion 1: Joan formulated the motion and Marilynn seconded it; motion approved.
The rain garden owner's manual should be finished and made available to anyone doing a project like this.

Motion 2: Joan formulated the motion and Jim seconded it; motion approved.
The CAC requests regular, work direction from the board on specific topics they would like CAC input on. (We understand many government agencies i.e. The Chanhassen Parks and Rec Commission, the DNR AIS committee, Carver County Water Management Organization and the Carver County Parks Department have their agendas set by the managing bodies with input from the CAC. That process ensures the CAC is providing input on relevant topics and that members achieve satisfaction from their contribution.)

Key CONSENSUS ITEMS: On July 27th the Board of Managers is having a special meeting to hear the first pass of the 2021 budget. The CAC would like to have the materials presented to the managers on the 27th, sent to the CAC right after that meeting, to allow time for us to review the presentation before it is formally given to us by Claire at our August 17th meeting. This would be particularly useful for new members who are new to this process.

Key DISCUSSION ITEMS:
Continued discussion on how the CAC can support the managers through action and input. CAC members want their input to be requested and valued and to feel like they are accomplishing something and not wasting time or creating work just to be deemed valuable.

I. Opening

A. Call CAC meeting to Order: President Lori Tritz called the meeting to order at 6:03 pm.

B. Attendance: As noted above.

C. Matters of general public interest: None

D. Changes in agenda structure. Times were assigned to the agenda per the CAC request from our June meeting. Joan is our timekeeper.

E. **Approval of Agenda:** Claire was unavailable due to a family emergency. In lieu of her presentation, B offered an alternative learning presentation. Joan made a motion and Marilynn seconded to approve showing the video in lieu of the learning presentation. Motion carried. No other changes to the agenda were offered. Marilyn moved and Joan seconded to approve the agenda as amended. Motion carried.

F. **Approval of June 15, 2020 CAC Meeting Minutes**: Joan moved and Marilynn seconded to approve the minutes as written. Motion carried.

II. Learning Presentation: During Covid, the watershed Education and Outreach team is creating short videos as a way to share information and keep people connected. B shared a video entitled, Our Gravel Bed Nursery. Unfortunately the audio did not work via Zoom so B shared the link with us to view sometime in the future on our own. https://youtu.be/tKsLFs0sfvQ

III. Board Meeting Recap and Discussion (Marilynn):

- Request for a Riley Marsh Lake water quality study was made. Biggest impact to the lake is from downtown Chanhassen, specifically with all of its hard surfaces. Multiple options were offered with the Kracken Filter being the most cost-effective/effective. An 11-point criteria was used in the decision-making process. Next steps will be a public hearing.
- Excellent Healthy Soils presentation done by Fred. The top 12 inches of healthy soil can store up to 3 inches of water. Fred recommends the district do a district wide study on its soil health.
- At prior meetings, the CAC made two requests/recommendations. One was for a standard water stewardship reporting form that recipients can use each year (including those who have received the award in the past) and a story map that would detail where BMP's are located, building on awards from the past. Managers Ward and Koch have asked staff for their input on these requests.
- The Covid return to work action plans were approved and discussed. They are posted on the district website.
- Significant discussion on Core Trust Bank (7 & 101) request for variances. The building was built in the 90's. The 30-car parking lot has sunk down so much now it's into flood plain storage. Two variances required are with storage and buffer width. One manager noted the 10-year plan has 0 tolerance for variations. The votes were close and demonstrated a diversity in perspectives. Vote was 3-2 in favor of giving the permit if they can store the excess water on site. The vote was also 3-2 to approve the permit if they can compensate for the lost flood plain storage on site. The buffer variance was approved because they will continue to meet the average required buffer width.
- B is now a permanent employee. Yippee!
- Manager Koch shared a rip rap project on the SW corner of Lotus Lake that is happening without a permit. A reminder for all of us to be the eyes and ears of the district; see something, say something.
- Several resolutions were suggested for MAWD this year:
    - Groundwater conservation proposal – no sprinklers from 7 AM to 7 PM. (Concerns were raised by the CAC that watering after 7 could accelerate mold growth on some plants/grasses and that this proposal seems to penalize people without an automated sprinkler system.
    - Wake boarding
    - Pesticide use
- Manager Crafton followed up on the Soil Health Resolution the CAC submitted in February. Claire will find a partner to work with.

IV. Program and Project Updates

A. Additional specific program/project updates from July board meeting not discussed in section III - None

B. Year of the Trees update. This was a theme for the Education and Outreach team for 2020. The Covid outbreak has delayed/cancelled some of the plans. Thus far they put together the tree nursery on site which will primarily be used for Silver Lake. The additional trees will be used for other projects throughout the district. One additional tree event is a webinar on the benefits of trees. Timing - TBD

C. CAC questions from their review of the board packet:

- Duck Lake Rain gardens are in. One company working on downspouts has completed their work and the second company is not done yet. Questions on the status of the Duck Lake rain garden owner's manual were again posed to staff. The CAC would like to see the manual be made available to anyone with a rain garden. B will check on the status with Claire. Consensus item stated earlier on in these minutes.
- B will get with Terry for an update on the wetlands project

V. Staff Engagement with CAC

Staff actively keeps CAC in mind when doing their project planning and discussion. Currently no action plans for us this month. There was general discussion on how to engage Master Water Stewards especially the smaller percent that are not Staff, CAC, or managers. Marilynn asked about the review of the Plant recommendations formerly completed by BARR which Marilynn hopes will include some of the benefits of native plants since they are required in shoreline and habitat restoration. Her feeling is if people know the benefits they are more likely to replace more turfgrass. The project has been paused but will be starting again. Staff is determining whether they can do this in house, send to BARR to do or possibly other solutions that might involve specific CAC sub-committees.

VI. CAC Business

A. CAC yearly volunteer event –in person on hold due to Covid19. The volunteer event also has a teambuilding/social aspect. We decided it would be helpful to learn more about each other, talents, interests, etc. Those that are interested in participating will provide their address and B will put together a district map with our locations. (The form for your address and consent to put it on the map is in the CAC Google Drive. Please enter your info ASAP.) We also agreed to spend the first 10 minutes of the meeting doing roll call at which time members will answer, what water resource in our watershed do we love. Kim will facilitate. An additional role call idea by Joan, for future meetings, is to do 2 truths and a lie. We may need to do that exercise over the course of a couple of meetings to allow us the appropriate time to answer and dialogue.

B. Other topics - None

C. Shared Nuggets – Sharon sent a separate email prior to the meeting with the lake finder access/address provided to her by Josh. Great tool to find the location of a specific lake. Everyone is encouraged to share nuggets as they find them either at the meeting or prior in a separate email if that is appropriate.

D. What advice or input would the managers like from the CAC – Significant discussion on how the CAC can serve more at the pleasure of the board. We struggle on how to add value. Members want to be more active, more involved. While Covid has imposed new limitations on all of us, this request is not a new one. Created a motion (in earlier section) to request managers provide specific work direction to the CAC.

E. Topics and suggestions for next meeting – Discussion topic with Staff about how the CAC can provide more meaningful input to the managers. We need manager direction on what areas/topics they want input on. We need specifics to be actionable and timely. We often end up "observing" the process or giving input after decisions are made. Some suggested it's possibly a timing issue of when we get and give information although we have examined that in the past. Jim shared his experience with other committees and how they accomplish work at each of their meetings. Sharon shared that other watershed CAC's don't meet as frequently and when they do, she believes the agenda is very purposeful and set by managers and/or staff with input from staff and CAC. Sharon to follow-up with 9 mile and Minnehaha CAC's to confirm. Bottom line, if the CAC's primary function is to advise the managers and

take direction from the managers, we need more specificity to do our job and feel a sense of pride and accomplishment in our membership. We need the managers help for the CAC be useful!

VII. Subcommittee Reports:

- **A. Education and Outreach/Speaker's Bureau**: Wild Ones Prairie Edge chapter is working with the city of Eden Prairie to present Landscaping for Water Sustainability August 5th and Rethinking Lawns: Landscaping for Climate Mitigation with Native Plants on August 19th
- **B. Lakes and Streams**: None
- **C. Landscaping for Water**: We're waiting for feedback on the Raingarden Maintenance manual and the revisions for the Plant Recommendations which will hopefully include the benefits of native plants.
- D. **Youth Engagement in CAC:** None

VIII. Upcoming Events

1. **Native Prairie Webinar July 23rd hosted by the Scott County Soil and Water Conservation District** 6:30-8:00; register at scottswsd.org or call 952-492-5448 to register
2. **RPBCWD Board of Managers meeting** August 5, 2020 at 7pm Virtual Zoom meeting - Sharon to attend as CAC representative.
3. **RPBCWD CAC meeting** August 17, 2020 at 6:00 pm, Virtual Zoom meeting
4. Wild Ones partnership presentations through the City of Eden Prairie (for links go to Eden Prairie city FB page or website or Wild Ones Prairie Edge FB page)
    a. Landscaping for Water Quality-August 5, 6:30pm (Lori)
    b. Rethinking Lawns: Landscaping for Climate Mitigation with Native Plants -August 19, 6:30pm (Marilynn)
5. **On-going habitat restoration project** adjacent to 9 Mile watershed district building-contact Sharon with questions. Meeting Wednesday mornings indefinitely. Multiyear project to remove invasive plants and restore native plants.
6. B to check on funds for attending the Salt Seminar August 4 and 5

IX. Adjourn CAC meeting: Joan moved & Sharon seconded a motion to adjourn. Motion carried. Meeting adjourned at 7:53 PM.

resourceful. naturally.
engineering and environmental consultants

BARR

July 15, 2020

President Dick Ward and Board of Managers
Riley-Purgatory-Bluff Creek Watershed District
18681 Lake Drive East
Chanhassen, MN 55317

Re: Duck Lake Watershed Rain Garden Construction – Pay Application #1
Barr Project # 23/27-0053.14-025

Dear President Ward and Board of Managers:

Enclosed is the Application for Payment #1 from Sunram Construction Company for work completed through 6/29/2020, on the above-referenced project. Upon your review and approval, please sign and return one copy to me. Barr will distribute a scan to the contractor and RPBCWD Administrator for district files.

Major items of work covered by this pay application include:

- Excavation and placement of rain garden soils for two rain garden sites
- Construction of a permeable paver driveway
- Construction of curb inlets and splash block assemblies

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 **$45,961.48**. Payments should be made directly to Sunram Construction Company.

Please call me at 952-832-2755 if you have any questions or concerns about the application for payment, or about any other related matters.

Sincerely,

Scott Sobiech, P.E.
Barr Engineering Co.

c: Claire Bleser, RPBCWD
Ryan Sunram, Sunram Construction Company

Enclosure #1 – Application for Payment – Progress Payment 1

Duck Lake Watershed Rain Garden Construction
Progress Payment Number 1

1.0	Total Completed Through This Period	$48,380.50		
2.0	Total Completed Previous Period		$0.00	
3.0	Total Completed This Period			$48,380.50
4.0	Amount Retained, Previous Period		$0.00	
5.0	Amount Retained, This Period (See Note 1)		$2,419.03	
6.0	Total Amount Retained		$2,419.03	
7.0	Retainage Released Through This Period:			$0.00
8.0	Amount Due This Period			**$45,961.48**

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 $59,973.00

SUBMITTED BY:
Name: Ryan Sunram Date: 6/29/2020
Title: Project Manager
Contractor: Sunram Construction
Signature: Ryan M. Sunram

RECOMMENDED BY:
Name: Scott Sobiech Date: 7/8/2020
Title: Vice President
Engineer: Barr Engineering Co.
Signature: Scott Sobiech

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

Signature:

2020 Duck Lake Watershed Rain Garden Construction, Eden Prairie, MN
Riley-Purgatory-Bluff Creek Watershed District
Invoices for construction

				Sunram Construction, Inc.		(1) Total Completed Thru this Period 6/29/20 (BID COSTS)	
Item	**Description**	**Unit**	**Estimated Quantity**	**Unit Price**	**Extension**	**Quantity**	**Amount**
17040 South Shore Lane Rain Garden							
A	Mobilization/Demobilization/Traffic Control/Erosion Control	L.S.	1	$3,000.50	$3,000.50	1	$3,000.50
B	Sawcut Bituminous Pavement	L.F.	16	$3.00	$48.00	16	$48.00
C	Remove and Dispose of Pavement	S.F.	12	$5.00	$60.00	12	$60.00
D	Sawcut, Remove and Dispose of Curb and Gutter	L.F.	10	$17.00	$170.00	10	$170.00
E	Remove Sod	C.Y.	41	$35.00	$1,435.00	41	$1,435.00
F	Excavate, Haul, and Dispose Materials	C.Y.	6	$35.00	$210.00	6	$210.00
G	Grading	L.S.	1	$2,900.00	$2,900.00	1	$2,900.00
H	Soil Loosening	S.Y.	40	$1.00	$40.00	40	$40.00
I	Clean Sand	C.Y.	5	$215.00	$967.50	5	$1,075.00
J	Planting Soil (12" depth- 75% Sand, 25% Leaf compost- MnDOT Grade II)	C.Y.	14	$63.00	$882.00	13.4	$844.20
K	Twice-Shredded Hardwood Mulch (3" depth)	C.Y.	4	$80.00	$320.00		$0.00
M	Bituminous Pavement Patch	L.S.	1	$2,000.00	$2,000.00	1	$2,000.00
N	Transition Curb & Gutter	L.F.	10	$190.00	$1,900.00	10	$1,900.00
O	Splash Block Assembly	L.S.	1	$920.00	$920.00	1	$920.00
Q	Neenah Curb Opening R-3262-4	Each	1	$650.00	$650.00	1	$650.00
R	4" Perforated (CPEP) Draintile w/o sock (Underdrain)	L.F.	20	$23.00	$460.00	20	$460.00
S	4" PVC SCH 40 Pipe	L.F.	19	$26.00	$494.00	20	$520.00
T	Draintile Cleanout	Each	1	$550.00	$550.00	1	$550.00
U	Connect Draintile to Catch Basin	Each	1	$1,200.00	$1,200.00	1	$1,200.00
V	4" Black Powder Coated Steel Landscape Edging	L.F.	79	$12.00	$948.00		$0.00
W	Sod (Furnish and Install)	S.Y.	22	$15.00	$330.00		$0.00
X	#1 Container Perennial (Furnish and Install)	Each	99	$19.00	$1,881.00		$0.00
Y	Inlet Protection	Each	2	$150.00	$300.00	2	$300.00
Z	Establishment Activities	Each	2	$1,000.00	$2,000.00		$0.00
			SUBTOTAL		**$23,666.00**		**$18,282.70**
17309 Duck Lake Trail Rain Garden and Permeable Paver Driveway Section							
A	Mobilization/Demobilization/Traffic Control/Erosion Control	L.S.	1	4,500.50	4,500.50	1	$4,500.50
B	Sawcut Bituminous Pavement	L.F.	18	3.00	54.00	18	$54.00
C	Remove and Dispose of Pavement	S.F.	511	1.50	766.50	425	$637.50
E	Remove Sod	S.Y.	41	35.00	1,435.00	41	$1,435.00
F	Excavate, Haul, and Dispose	C.Y.	11	35.00	385.00	10	$350.00
G	Grading	L.S.	1	2,900.00	2,900.00	1	$2,900.00
H	Soil Loosening	S.Y.	40	1.00	40.00	40	$40.00
J	Planting Soil (12" depth- 75% Sand, 25% Leaf compost- MnDOT Grade II)	C.Y.	14	63.00	882.00	12.6	$793.80
K	Twice-Shredded Hardwood Mulch (3" depth)	C.Y.	4	80.00	320.00		$0.00
L	Permeable Pavers with Bedding Course and Joint Filler	S.F.	425	40.00	17,000.00	425	$17,000.00
O	Splash Block Assembly	L.S.	1	920.00	920.00	1	$920.00
P	Splash Block Assembly (small)	L.S.	1	525.00	525.00	1	$525.00
R	4" Perforated (CPEP) Draintile w/o sock (Underdrain)	L.F.	20	23.00	460.00	20	$460.00
S	4" PVC SCH 40 Pipe	L.F.	10	26.00	260.00	7	$182.00
V	4" Black Powder Coated Steel Landscape Edging	L.F.	74	12.00	888.00		$0.00
W	Sod (Furnish and Install)	S.Y.	59	15.00	885.00		$0.00
X	#1 Container Perennial (Furnish and Install)	Each	94	19.00	1,786.00		$0.00
Y	Inlet Protection	Each	2	150.00	300.00	2	$300.00
Z	Establishment Activities	Each	2	1,000.00	2,000.00		$0.00
			SUBTOTAL		**36,307.00**		**$30,097.80**
	PROJECT TOTAL FOR TWO (2) SITES				**59,973.00**		**$48,380.50**

DUCK LAKE WATERSHED RAIN GARDENS
RILEY PURGATORY BLUFF CREEK WATERSHED

Line Item	Unit	Bid Qty	Unit Price	Total Bid	6/29/2020 Quantity Pay 1	Quantity Pay 2	Quantity Pay 3	Quantity Pay 4	Total Complete			
17040 SOUTH SHORE LANE RAIN GARDEN												
MOBILIZATION	LS	1	$3,000.50	$ 3,000.50	1				$3,000.50			
SAWCUT BITUMINOUS PAVEMENT	LF	16	$3.00	$ 48.00	16				$48.00			
REMOVE & DISPOSE OF PAVEMENT	SF	12	$5.00	$ 60.00	12				$60.00			
SAWCUT, REMOVE & DISPOSE OF CURB & GUTTER	LF	10	$17.00	$ 170.00	10				$170.00			
REMOVE SOD	CY	41	$35.00	$ 1,435.00	41				$1,435.00			
EXCAVATE, HAUL & DISPOSE MATERIALS	CY	6	$35.00	$ 210.00	28				$980.00			
GRADING	LS	1	$2,900.00	$ 2,900.00	1				$2,900.00			
SOIL LOOSENING	SY	40	$1.00	$ 40.00	40				$40.00			
CLEAN SAND	CY	4.5	$215.00	$ 967.50	7.1				$1,526.50	10 TONS	/1.4 =	7.1
PLANTING SOIL	CY	14	$63.00	$ 882.00	13.4				$844.20	18.7 TONS	/1.4 =	13.4
TWICE SHREDDED HARDWOOD MULCH	CY	4	$80.00	$ 320.00					$0.00			
BITUMINOUS PAVEMENT PATCH	LS	1	$2,000.00	$ 2,000.00	1				$2,000.00			
TRANSITION CURB & GUTTER	LF	10	$190.00	$ 1,900.00	10				$1,900.00			
SPLASH BLOCK ASSEMBLY	LS	1	$920.00	$ 920.00	1				$920.00			
NEENAH CURB OPENING R-3262-4	EA	1	$650.00	$ 650.00	1				$650.00			
4" PERFORATED CPEP DRAINTILE W/O SOCK	LF	20	$23.00	$ 460.00	20				$460.00			
4" PVC SCH 40 PIPE	LF	19	$26.00	$ 494.00	20				$520.00			
DRAIN TILE CLEAN OUT	EA	1	$550.00	$ 550.00	1				$550.00			
CONNECT DRAIN TILE TO CATCH BASIN	EA	1	$1,200.00	$ 1,200.00	1				$1,200.00			
4" BLACK POWDER COATED STEEL EDGING	LF	79	$12.00	$ 948.00					$0.00			
F&I SOD	SY	22	$15.00	$ 330.00					$0.00			
F&I #1 CONTAINER PERENNIAL	EA	99	$19.00	$ 1,881.00					$0.00			
INLET PROTECTION	EA	2	$150.00	$ 300.00	2				$300.00			
ESTABLISHMENT ACTIVITIES	EA	2	$1,000.00	$ 2,000.00					$0.00			
17309 DUCK LAKE TRAIL RAIN GARDEN												
MOBILIZATION	LS	1	$4,500.50	$ 4,500.50	1				$4,500.50			
SAWCUT BITUMINOUS PAVEMENT	LF	18	$3.00	$ 54.00	18				$54.00			
REMOVE & DISPOSE OF PAVEMENT	SF	511	$1.50	$ 766.50	425				$637.50			
REMOVE SOD	SY	41	$35.00	$ 1,435.00	41				$1,435.00			
EXCAVATE, HAUL & DISPOSE MATERIALS	CY	11	$35.00	$ 385.00	10				$350.00			
GRADING	LS	1	$2,900.00	$ 2,900.00	1				$2,900.00			
SOIL LOOSENING	SY	40	$1.00	$ 40.00	40				$40.00			
PLANTING SOIL	CY	14	$63.00	$ 882.00	12.6				$793.80	17.7 TONS	/1.4 =	12.6
TWICE SHREDDED HARDWOOD MULCH	CY	4	$80.00	$ 320.00					$0.00	HOFFMAN		
PERMEABLE PAVERS W/BEDDING COURSE/FILLER	SF	425	$40.00	$ 17,000.00	425				$17,000.00			
SPLASH BLOCK ASSEMBLY	LS	1	$920.00	$ 920.00	1				$920.00			
SPLASH BLOCK ASSEMBLY (SMALL)	LS	1	$525.00	$ 525.00	1				$525.00			
4" PERFORATED CPEP DRAINTILE W/O SOCK	LF	20	$23.00	$ 460.00	20				$460.00			
4" PVC SCH 40 PIPE	LF	10	$26.00	$ 260.00	7				$182.00			
4" BLACK POWDER COATED STEEL EDGING	LF	74	$12.00	$ 888.00					$0.00			
F&I SOD	SY	59	$15.00	$ 885.00					$0.00			
F&I #1 CONTAINER PERENNIAL	EA	94	$19.00	$ 1,786.00					$0.00			
INLET PROTECTION	EA	2	$150.00	$ 300.00	2				$300.00			
ESTABLISHMENT ACTIVITIES	EA	2	$1,000.00	$ 2,000.00					$0.00			
				$ -					$0.00			
				$ -					$0.00			
				$ -					$0.00			
				$59,973.00					$49,602.00			

Pay App 1 $49,602.00

RPBCWD July 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.	Administrator Bleser trained temporary employee Amy Bakkum to assist in the preparation of financials and implement separations of duties.	
Annual Report	Compile, finalize and submit an annual report to agencies	Completed	
Internal Policies	Work with Governance Manual and Personnel Committees to review bylaws and manuals as necessary	No new updates.	
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. Facilitate recruitment of CAC members for 2019.	The CAC met for their regular meeting on July 20th. Staff Lauer shared with the CAC the new educational video about gravel bed tree nurseries, and answered associated questions. Staff Lauer answered questions regarding The Board of Managers meeting and well as provided any requested project and program updates.	
Local Surface Water Management Plan		Staff continues with the City of Chanhassen on the possibility of taking on some of the regulatory program.	
MAWD		Staff is working on draft resolutions.	
District-Wide			
Regulatory Program	Review regulatory program to maximize efficiency.	Staff is still working with Chanhassen staff to finalize their local water management plan	

	Engage Technical Advisory Committee and Citizen Advisory Committee on possible rule changes. Implement a regulatory program.	with the expressed intent of Chanhassen assuming most regulatory responsibilities. Four administrative permits for new home construction or pools have been submitted since the July meeting. One shoreline stabilization permit has also been submitted. This brings the total of shoreline stabilization applications submitted in 2020 to (7) seven. All seven were on Lotus Lake. From the reinstatement of District regulatory authority through 2019 only two (2) shoreline stabilization applications were received. Of these, one was on Lotus and one was on Red Rock Lake. The following permits were administratively approved since the July meeting. ● 2020-039 Berkshire Townhome Retaining Wall ● 2020-042 Brady Single Family Home ● 2020-043 GBM Parking Lot Rehabilitation ● 2020-044 Barry In-ground pool	
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.	The fish barrier between the Purg Rec Area and Staring Lake was placed in early June. Staff conducted a boat electrofishing removal event in Upper Purg Rec Area, but only captured 36 carp. Water levels cooperated twice in June and fish congregated at the berm which allowed for removals with the block net and backpack electrofisher (81 & 101 fish totals). The runs coincided with rain events. Staff will continue to monitor the barrier and berm.	City of Chanhassen City of Eden Prairie University of Minnesota MN DNR Carver County

	Keep abreast in technology and research in AIS. Zebra mussel veliger testing.	Zebra mussel veliger sampling occurred in July across all lakes. Results will be available in August. Regular carp monitoring began at the end of July: Electrofishing: ● Staring - 21 carp in 1hr 45min ● Upper Rec - 8 carp in 47min	
Cost-Share	Schedule and coordinate site visits. Review applications and recommend implementation.	Staff Lauer continues to schedule and coordinate initial, follow up and close out site visits with residents and the CCWMO technician. Approximately 25 site visits were conducted in the month of June. The Watershed Stewardship Grant review committee met on July 28th to review four complete applications. Three of these applications were recommended for funding. These will now go to Administrator Bleser for final approval. The District awarded two grants in the month of July: two residential shoreline restorations on Lake Mitchell Administrator Bleser approved one grant extension for a 2019 grant for a residential raingarden. Staff Lauer is actively working with multiple applicants to complete their applications. Staff Lauer worked with many potential applicants, providing recommendations, educational materials and advice to assist in the process of formulating projects and beginning the application process. Staff Lauer has been working closely with the CCWMO technician to ensure that all those that	Carver County Soil and Water Conservation District

		receive a site visit receive proper, site specific advice and recommendations for their property.	
Data Collection	Continue Data Collection at permanent sites. Identify monitoring sites to assess future project sites.	Staff completed two-three rounds of regular stream and lake sample collection in July. WOMP stations: samples were collected 3 times this month. Lake level sensors were checked. Staff also assisted Chanhassen in setting up and installing an EnviroDIY lake level radar on Minnewashta. Pond data has been collected biweekly since the end of May. The EnviroDIY monitoring stations have been working well this year. Historical zooplankton database has been completed. Stream EnviroDIY stations were deployed this month. Covid-19 District Operational Protocols were updated to match the new Executive Order guidelines. Upper Bluff auto sampling unit to assess upstream pollutant loading was working well till the end of the month but then stopped at the end of the month. Staff is waiting for a part. Staff Maxwell led the first Southwest Metro Rough Fish Monitoring Group meeting this month. This initial meeting was intended to brainstorm ideas about the formation and function of a collaborative southwest metro rough fish management group. A collaborative effort would hopefully reduce costs, share expertise, and possibly allow for a more competitive way to apply for clean water funds	Metropolitan Council City of Eden Prairie University of MN City of Chanhassen MNDNR City of Minnetonka

		to support the effort of rough fish management. The two main rough fish species discussed included goldfish and common carp.	
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.	Administrator Bleser discussed with MPCA grant application status for community resiliency. The MPCA will be making a final decision this fall but it appears that the District is a finalist.	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.	Adopt a dock volunteers continue to check monitoring plates for invasive zebra mussels and report findings to staff. Staff are working to coordinate online smart salting trainings coming up this fall. Staff created and published a short video on our gravel bed nursery and the importance of trees in the local landscape. The video can be found on our RPBCWD youtube page. Staff continue to plan, create, and distribute a series of virtual lessons and activities, so that the youth program can continue to support the work of educators. Activities will be designed to help youth understand local waterways and processes, and to encourage stewardship of natural resources. Educator mini-grants and action grants are still open and accepting digital applications. Community members continue to sign up to adopt storm drains and keep them clear of leaves, dirt, and other debris through the Adopt-a-drain.org partnership. **Equity/ Environmental Justice:**	Adopt a drain: City of Eden Prairie, City of Minnetonka, City of Bloomington, Hamline University, Nine Mile Creek Watershed District Service learner: University of Minnesota

		Staff Swope, with Staff Lauer and Administrator Bleser, has led a series of conversations on diversity, equity, inclusion. All staff have participated in conversations about race and inclusion, and have collaboratively begun to identify short- and long-term goals to make the District more equitable. Some staff have also attended online trainings and other continuing education opportunities to further their knowledge. Staff Swope is in continued conversation with other watershed district staff on equity/inclusion in outreach efforts Interns: Artist intern Aimi Dickel continues working with staff to generate graphics for a variety of print and digital materials. Aimi has created a series of infographics to describe the varied work of the district. Other projects include signs, logos, and images for flyers.	
MN GreenCorps Update		Member Bakkum continues the Silver Lake Water Quality Improvement project and is expanding the tree sapling giveaway to include native seed mixes with planting guidance, as well as an online raffle of a downspout planter box and rain barrel. Member Bakkum was invited to present at an MPCA Water Issues seminar where she presented her year's work in chloride reduction to over 40 members of MPCA staff. Member Bakkum completed 1700 service hours on July 10 and is transitioning into a temporary position at the District. She will continue projects begun this year and take on more responsibility	MPCA

		as a tentatively titled Education and Outreach Assistant. Staff Bakum has already begun helping staff Jeffery, et al fulfill their duties. RPBCWD is fortunate to have her talents.	
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 and Administrator Bleser met with staff from the City of Minnetonka to discuss launching the smart water meter pilot program in their city. Staff Lauer continues to work on a Water Conservation Guide for homeowners and property managers. Staff Lauer has engaged a group of Water Conservation Advisor Master Water Stewards to assist in the creation of educational materials surrounding Water Conservation as a part of the Education Collaborative.	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 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	Update from University of Minnesota June point-intercept surveys for Lakes Riley, Susan and Staring have been completed and data are being entered. The biomass samples have been dried and weighed for Lake Susan and Staring and processing for Lake Riley is underway. Coontail was the predominant taxa found within each of the lakes this season. Curlyleaf pondweed was also common in Lake Susan. Eurasian watermilfoil was abundant at more than 15 points in Staring but was at very low abundance and frequency in Riley; no milfoil was found in Susan. Water clarity was good in Riley	City of Eden Prairie City of Chanhassen University of Minnesota MNDNR

		(4.5m Secchi), and fair in Susan (1.8m) and Staring (1.6m). August point-intercept and biomass sampling are planned for Lakes Susan and Riley, and Staring Lake. Olson is continuing to work on a thesis research proposal for his committee.	
Opportunity Projects	Assess potential projects as they are presented to the District	ISG should have a final feasibility report at the September Meeting.	
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.	District sent pond data to U of MN on early season collected data. Ponds are being monitored biweekly and with continuous monitoring stations.	Stormwater ponds partners: Bloomington, Chanhassen, Eden Prairie, Minnetonka, Shorewood, and Limnotech. Plant Management: Chanhassen Eden Prairie
Watershed Plan	Review and identify needs for amendments.	No new updates.	

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 continue to perform the assessments throughout southern Eden Prairie. Barr Engineering has completed the updates to the MNRAM. Staff Jeffery is working with the field data collected above to bug test the beta version. Administrator Bleser and Staff Jeffery are working on an RFQ to utilize ecological services to develop a more appropriate wetland assessment and prioritization methodology. This will be based upon work performed in MCWD to avoid duplicative exercises and to realize an efficiency of efforts.	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, as well as those that execute contracts with private applicators.	No additional updates.	

	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.	Grant eligibility has been finalized and calls for application will be released soon. Information should be available at the September meeting.	
Bluff Creek One Water			
Bluff Creek Tributary Restoration	Implement and finalize restoration. Monitor Project.	Contractor is working on plantings and erosion control.	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	The transfer of the property at 730 Pioneer Trail is being completed. The City is working with the MN OMB to satisfy their concerns. The resolution from the special June meeting should satisfy OMB concerns. Shallow monitoring wells have reached a stasis. Survey work is mostly complete and will be provided to Barr for design purposes. HTPO will be retained to set control point, elevation benchmark and perform boundary survey for design work. Staff Jeffery and Staff Dickhausen have finished the delineation and are preparing the wetland delineation report for submittal to the LGU for review and approval. Staff Jeffery and Engineer Sobeich will continue to work with other experts to assure a design that is as beneficial to multiple uses as possible.	City of Chanhassen MN DNR

Riley Creek One Water			
Lake Riley Alum	Continuing to monitor the Lake.	Alum was successfully applied.	
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 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.	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.	No new updates.	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.	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	Barr Engineering staff finished surveying and delineating wetland areas around Upper Riley Creek.	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 provide for an improved recreational experience) Draft feasibility report Develop cooperative agreement with Bearpath Order Project Start design	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. Staff Dickhausen and Nicklay are finishing up 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.	Bearpath Neighborhood Association. CIty of Eden Prairie Dept. of Natural Resources
Purgatory Creek One Water			
PCRA Berm		Feasibility is almost complete.	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.		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.	Staff Swope continues to check on site and monitor progress. Videos from this spring's restoration will be processed soon. District volunteer work on the site is currently on hold, due to social distancing measures.	Minnetonka Public School District City of Minnetonka Hennepin County

Silver Lake Restoration	Order project Design Project Work with the City of Chanhassen for Design, cooperative agreement and implementation	No new updates.	City of Chanhassen
Professional Development			
Professional Development	Multiple staff members attended a webinar hosted by the American Water Resources Association on diversity, equity, and inclusion. The first webinar in the series of two was on "Inclusion by Design," and included tips for ensuring that diverse voices can be actively heard in a workplace. The second webinar in the series was on inclusive leadership. Multiple staff attended a webinar series hosted by 3CMA (City- County Communications and Marketing Association) titled "How to Address Microaggressions and Known Offensive Language in Your Department/Municipality." The series introduced the ideas of unconscious bias as well as microaggressions before providing guidance as to how to create a safe, welcoming, and inclusive workplace for all.		

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Memorandum

To: Riley-Purgatory-Bluff Creek Watershed District Board of Managers and District Administrator
From: Barr Engineering Co.
Subject: Engineer's Report Summarizing July 2020 Activities for August 5, 2020, Board Meeting
Date: July 29, 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 July 2020.

General Services

a. Participated in the July 24th virtual meeting to discuss the 60% design drawings and concepts for the restoration of Middle Riley Creek with Bearpath representatives. Bearpath's comments were supportive of the direction the project is taking and manly focused on incorporating their planned work to redo #13 tee box, permit coordination, and implementation timeline.

b. Participated in July 7th and July 29th meetings with MPCA workgroup about manufactured treatment devices (MTDs). The three goals of this meeting where to determine variables to consider in a certification/crediting process, identify the information needed to fit the variable into the certification process, and identify the process for moving forward. The group discussed the challenges (testing limitations, device type variability, cautiousness), how to assess performance based on a volume basis (e.g., 1 inch of runoff per the construction stormwater permit) and hydraulic performance (e.g., assessing performance during storm events), translation of performance from other geographical regions, and maintenance is essential.

c. Follow-up with Peterson Companies regarding status of alarm triggered on July 27 for "Control Power Alarm (Alarm 005)" This is related to a power outage or surge and unrelated to previous alarm for the UV cooling system. This alarm one will reset itself unless it was a hard surge or lightning strike

d. Participated in conference calls on July 8th with Administrator Bleser and city of Chanhassen staff to discuss city's revisions to their local surface water management plan and ordinances. Participated in a follow-up discussion with Counsel Welch to strategize review process and timeline. It was determined that the city changes are attempting to bring the LSWMP into compliance with the conditions mentioned RPBCWD 2018 conditional approval letter. Close coordination with the city will be needed as they may pursue regulatory authority for floodplain, erosion control, and stormwater through the development of a memorandum of understanding.

e. Participated in a regulatory regroup call on July 9th with Administrator Bleser, Watershed Planning Manger Jeffery, and Manager Koch to discuss the shoreline and streambank stabilization rule, review timelines, and need to inform stakeholders of requirements.

f. Took part in a July 9th meeting with Administrator Bleser and city of Chanhassen staff to discuss field work conducted for the Upper Riley Creek corridor enhancement plan and next steps. No areas of concern were observed during the Phase I environment work and Phase I historical/cultural investigations did not discover areas of interested that would require additional investigation.

g. Held a virtual meeting on July 17th with Administrator Bleser, Manager Crafton, and Counsel Smith to discuss potential revisions to invoice content.

h. Participated in a virtual meeting with Administrator Bleser and Watershed Planning Manager Jeffery to review all the line items in RPBCWD's draft 2021 budget in preparation for the July 27th budget workshop.

i. Conducted a conference call with Paisley Park's Executive Director on July 24th to discuss the future Upper Riley Creek restoration project and their goal of restoring the stormwater pond's aesthetic conditions. Discussed the potential to coordinate efforts and enhance the educational opportunities by connecting the property to the creek corridor.

j. Provided floodplain elevation along Purgatory Creek at 17101 Stodola Road (866.7 NGVD29) and 17117 Stodola Road (867.8 NGVD29) to Sarah Schweiger, Minnetonka's water resources engineer.

k. Participated in the July 8th regular Board of Managers meeting.

l. Prepared Engineer's Report for engineering services performed during July 2020.

m. Miscellaneous discussions and coordination with Administrator Bleser about planning for CIP project budgets, 2021 budgeting, project staffing, and upcoming Board meeting agenda.

Permitting Program

a. *Permit 2018-028 Oak Point Elementary Parking Lot*: This project involves construction of a new parking lot and walkway in the southwest portion of the Oak Point Elementary School parcel on Staring Lake Parkway in Eden Prairie. The applicant submitted a permit modification request to convert the stormwater infiltration basin into a filtration basin because infiltration testing at the site revealed an immeasurable infiltration rate at the site. Reviewed modification request and drafted a permit report for the Board's consideration at the August 5, 2020 regular meeting.

b. *Permit 2019-051: Berrospid Addition* – This project is proposing to split an existing lot with one single family home at 7406 Frontier Trail in Chanhassen, MN into three separate lots for the addition of two single family homes. The proposed project triggers RPBCWD's floodplain management, erosion control, wetland and creek buffer, and storm water management rules. Reviewed June 23rd revised submittal and provided review comments on June 25th. Drafted permit review report but waiting for applicant to revise design to achieve the required 90% TSS removal. Because they were considered complete on June 3rd, the 60-day review period will expire on August 2nd which is before the August meeting. Worked with Watershed Planning Manager to issue a 60-day extension for the review period from August 2nd to October 1st. Assisted applicants engineering with rate control and water quality modeling questions. Reviewed revised submittals and drafted permit review report for Board consideration at the August 5th meeting.

c. *Permit 2020-021 Purgatory Park Storm Sewer Replacement*– In July 2019, the city of Minnetonka undertook an emergency replacement of a collapsed corrugated metal storm sewer pipe with discharge to Purgatory Creek within Purgatory Park as allowed under Rule A, subsection 2.5. District staff have been working with the City on getting an after the fact permit since July 2019. The City hired the consulting engineering firm Bolton and Menk to prepare and submit a permit application on May 26th. The bank of Purgatory Creek has erode leaving the CMP projecting from the bank. The replacement of the collapsed pipe will also include creek bank grading, resurfacing a small section of the entrance drive to the park, and stabilizing the outfall with rip rap that meets the District requirements. The project triggers RPBCWD's Floodplain, Erosion Prevention and Sediment Control, Wetland and Creek Buffer, and Waterbody Crossing and Structures rules. Reviewed revised submittals and drafted permit review report for Board consideration at the August 5th meeting.

d. *Permit 2020-028 UHG Technology Drive 1 Watermain Repair* – This project involves the repair of an existing private 12-inch watermain along a private roadway located at 13625 Technology Drive in Eden Prairie. Proposed work includes repair of the existing 12-inch watermain, pit excavation for infrastructure connection, site restoration including replacement of disturbed pavement and sidewalks in like kind, and stabilization of disturbed landscape. Two permits have previously been issued for work at the UnitedHealth Group property. Applicant submitted revised plans on June 18th including watermain lining in lieu of full watermain replacement to reduce site disturbance limits below storm water management Rule J threshold. Revised submittal triggers RPBCWD's erosion prevention and sediment control rule. Coordinated with Watershed Planner Manager Jeffery and applicant on items needed prior to release of the permit.

e. *Permit 2020-029: CorTrust Bank* – This project proposes reconstruction of the CorTrust bank building parking lot constructed in the 1990s located in Minnetonka, MN. The project will restore the parking lot to the intended grade and improve storm sewer drainage to an existing storm water pond on the east side of the site. The existing storm water pond, as well as, tree plantings will provide runoff volume abstraction, water quality treatment, and rate control. The proposed project triggers RPBCWD's floodplain Management and Drainage Alterations, erosion prevention and sediment control, wetland and creek buffers, and storm water management rules. Informed applicant of Board's denial of floodplain variance, approval of buffer variance, and conditional approval of the permit. Discussed potential floodplain mitigation ideas with applicants engineer.

f. *Permit 2020-030 Vine Hill Road Culvert Replacement*– In October 2019, the city of Minnetonka undertook an emergency replacement of a deteriorated reinforced arch pipe under Vine Hill Road along the Silver Lake Branch of Purgatory Creek. Because a sinkhole had formed adjacent to the roadway the City undertook this emergency repair as allowed under Rule A, subsection 2.5. District staff have been working with the City on getting an after the fact permit since October 2019. The City submitted an after the fact permit application on May 26, 2020. Work to replace the failed pipe included creek bank grading, resurfacing a small section of Vine Hill Road and pedestrian trail, and stabilizing the outfall with rip rap that meets the District requirements. The project triggers RPBCWD's floodplain, erosion prevention and sediment control, Wetland and Creek Buffer, and Waterbody Crossing and

Structures rules. Reviewed revised submittals and drafted permit review report for Board consideration at the August 5th meeting.

g. *Permit 2020-031: Prairie Heights:* This project involves the construction of 24 new single-family homes, extension of sanitary sewer, watermain, and sidewalk through the development. The proposed development is split between RPBCWD and LMRWD. Stormwater management facilities, including three infiltration basins, will be constructed within the RPBCWD to provide volume control, water quality, and rate control for runoff prior to discharging offsite. The application was considered complete as of July 1st. Review comments were provided to the applicant on July 10th. The applicant responded to comments on July 16th. A review summary was drafted for inclusion in the August board packet for manager consideration.

h. *Permit 2020-040 6605 Horseshoe Curve Shoreline* – This project involved stabilization of about 145 feet of Lotus Lake shoreline using bioengineering techniques on an existing single-family home property at 6605 Horseshoe Curve in Chanhassen. Because the proposed shoreline stabilization project involves work below the ordinary high water level of Lotus Lake and below the 100-year flood elevation of Lotus Lake, the project will need to confirm to RPBCWD's permit requirements for Rule B-Floodplain Management, Rule C- Erosion Prevention and Sediment Control and Rule F- Shoreline and Streambank Stabilization. Reviewed and provided comments on the complete application was received on July 1st. Drafted permit review report for Board consideration at the August 5th meeting.

i. *Permit 2020-041: 7420 Chanhassen Road Shoreline* – The applicant submitted a permit application in response to the notice of probable violation (NOPV) issued on February 11, 2020 and again on May 6th for the placement of riprap to stabilize the Lotus Lake shoreline at 7420 Chanhassen Road without first receiving a permit from district. The project involved installation of riprap along 140 feet of Lotus Lake shoreline. Because the project needs to confirm to RPBCWD's permit requirements for Rule B-Floodplain Management, Rule C-Erosion Prevention and Sediment Control and Rule F- Shoreline and Streambank Stabilization. Reviewed submittal and notified the applicant on July 16th that the submittal is incomplete because a) no information has been submitted to demonstrate how the proposed project complies with RPBCWD's floodplain management criteria in Rule B, b) an erosion control plan or documentation showing compliance with Rule C was not provided, c) a shoreline erosion intensity worksheet (EIW) to determine the appropriate stabilization method was not provided and d) the submittal did not include provide a site plan showing the proposed construction that is signed by a registered engineer or landscape architect as required by Rule F. Participated in a July 27th call with the applicant to discuss review comments. Drafted a permit report for the Board's consideration at the August 5th meeting.

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

k. Participated in a virtual meeting on July 7th with Watershed Planning Manger Jeffery and Houston Engineering to discuss status and revisions to the permitting database and inspection tool under development.

l. Conducted erosion prevention and sediment control inspection on July 18-19 for permits in Hennepin County only because district staff indicated they would be inspecting all permits in Carver County this month. Provided a summary of sites with open corrective actions to Watershed Planning Manager Jeffery on July 20th. In the interest of providing the managers with information in a more digestible form, and with transition to a new database and staff time allocation, Watershed Planning Manager Jeffery and Engineer Sobiech thought it would be more appropriate to provide a standalone construction site inspection report. Please see the separate item

m. Miscellaneous conversation with Watershed Planning Manager Jeffery about rules, permit status, financial assurances, and inspections.

Data Management/Sampling/Equipment Assistance

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

b. Prepared, loaded, and verified field data collected with the Survey123 mobile application for the UMN Ponds project.

c. Communicated with RMB to correct electronic data deliverables.

d. Deployed upgrades to the Survey123 mobile application for collecting pond data.

Repair and Maintenance

Lake Susan spent lime filter modification

a. The Lake Susan spent lime filter is online, and water is filtering through the system. Initial laboratory test results indicated that the filtration system continues removing phosphorus.

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.

Task Order 14b: Lower Riley Creek Final Design

a. Visited the site on July 21st to review channel repair and restoration of Cedarcrest access.

Restored Cedarcrest access.

Restored log/rock vane located downstream of new pedestrian bridge.

b. Prepared and processed Change Order #3 regarding substitution of bare-root trees for the specified ball & burlap trees and the addition of erosion control and seeding at the Cedarcrest access route.

c. Began reviewing payment request #5 and requested additional supporting information from the contractor.

Task Order 21B: Bluff Creek Stabilization Project

a. Met with contractor on site on July 20th to discuss additional rock riffle installation, side channel repair, slope grading, and vegetation establishment.

Additional Rock Riffle being install where head-cut began forming this spring

Area with limited vegetation growth needing attention

b. Worked with Administrator Bleser to develop and execute change order #3 for a contract time extension for the substantial completion date to allow the trees and shrubs to be planted under more favorable temperatures. The executed change order modified the substantial completion date from June 15, 2020 to November 1, 2020.

Task Order 23: Scenic Heights School Forest Restoration

a. No work conducted this month.

Task Order 24B: Silver Lake Water Quality Improvement Project

a. Conducted a site visit to review changes since the survey conducted during the feasibility study.

b. Continued developing 60% design and plan set of proposed system design, including review of City standard plates and details.

c. Finalize wetland delineation report for permitting.

d. Work with City to identify and review record drawing for sanitary sewer alignments and depths within the project area.

Task Order 25: Duck Lake Water Quality Improvement Project

a. Conducted construction observation of curb side rainwater gardens at 17309 Duck Lake Trail (below, left) and 17040 South Shore Lane (below, right), including plant installation. Construction was substantially completed by July 13. The Duck Lake Trail garden includes a permeable paver driveway section to enhance rainfall infiltration. Both gardens will include signs indicating that they are RPBCWD projects.

b. Reviewed and process payment application #1 for the Duck Lake Rain Garden installation by Sunram Construction.

c. Reviewed and approved proposed plant substitutions for the downspout planter boxes.

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

a. Staff begin applying the prioritization framework to areas within Bloomington that include commercial land use. Areas with commercial land use were not well represented in the initial pilot area. Staff anticipate that the evaluation of the additional area will be complete in August. After completion, preliminary results will be discussed with Administrator Bleser and City of Bloomington staff.

Task Order 28A: Rice Marsh Lake Subwatershed 12a Water Quality Project

a. Compiled water quality monitoring data per Administrator Bleser's request.

b. Reviewed existing pond performance and model estimated removals.

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

a. At the request of Bearpath representative Kevin Cashman, provided preliminary plan sketch to RPBCWD Administrator Bleser and Bearpath representative Kevin Cashman on July 13th, for their use during a site walk-through with architect from Nicklaus Design.

b. Provided 60% design drawings to RPBCWD and Bearpath on July 17, 2020.

c. Reviewed 60% design drawings with Bearpath representative Kevin Cashman on July 24th.

d. Developed additional drawings showing existing conservation easements, drainage and utility easements and the 100-year floodplain.

Task Order 30B: Pioneer Trail Wetland Restoration Design

a. Discussions with Watershed Planning Manager about field survey coding and potential need for additional survey support.

b. Planned schedule for development of restoration plans is on hold until field survey and wetland delineation data become available.

Task Order 31A: Kerber Pond Ravine Stabilization Feasibility

a. Led the July 13th stakeholder meeting with the city of Chanhassen, USACE, MNDNR and Watershed Planning Manager Jeffery. Discussions focused on past erosion observations, trail overtopping, permitting, and initial thoughts on remedial measures. The USACE and MNDNR did not foresee any permitting hurdles with restoring the ravine. The City suggested potential collaboration if the project can be coordinated with reconstruction of Frontier Trail sometime between 2023 and 2025.

b. Revised the hydrologic modeling to improve flow estimates in the ravine.

c. Conducted a site visit to review current condition of ravine. Erosion was observed in the upper portion of the ravine and riprap at the outlet from Kerber Pond appears to have moved downslope due to flows. Some sediment deposition was seen just upstream of Frontier Trail.

Task Order 032A: Upper Riley Creek Ecological Enhancement Plan

a. Held a second project update meeting with Administrator Bleser, Barr staff, and representatives from the City of Chanhassen on July 9th.

b. Completed vegetation assessment, field wetland delineation, Phase I Environmental Assessment site walk, and cultural resources assessment site walk. No issues of concern were identified, and reporting is either underway or completed.

c. Scheduled a technical stakeholder meeting for mid-August to gather agency feedback on initial plan and potential ecological enhancement concepts/methods.

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Construction stormwater inspection checklist

Note: This inspection checklist is appropriate for small construction sites. Large construction sites and linear projects require more extensive/more location specific inspection requirements. The completion of this checklist does not guarantee that all permit requirements are in compliance; it is the responsibility of the Permittee(s) to read and understand the permit requirements.

Facility information

Site name: Pawnee and Deerwood

Site address: 6650 Pawnee Drive/6657 Deerwood Permit number: 2018-017/-018

City: Chanhassen State: MN Zip code: 55317

Inspection information

Inspector name: TRJ Phone number: 952.807.6885

Organization/Company name: RPBCWD

Date (mm/dd/yyyy): 07/27/2020 Time: ☐ am ☒ pm

Is this inspection routine or in response to a storm event: ☒ 7 day ☐ Rain

Rainfall amount (24 hrs / 7 days): 0.02 / 0.46

What is the receiving water?

☒ Lake LOTUS

☐ Stream [Type here]

☒ Wetland[Type here]

☐ Other[Type here]

Erosion prevention requirements

		Yes	No	NA
1.	Are soils stabilized where no construction activity has occurred for 14 days (including stockpiles)? (7 days where applicable, or 24 hours during Minnesota Department of Natural Resources [DNR] Fish Spawning restrictions)	☒	☐	☐
2.	Has the need to disturb steep slopes been minimized?	☐	☐	☒
3.	If steep slopes are disturbed, are stabilization practices designed for steep slopes used?	☐	☐	☒
4.	All ditches/swales stabilized 200' back from point of discharge or property edge within 24 hours? (Mulch, hydromulch, tackifier, or similar best management practices [BMPs] are not acceptable in ditches/swales if the slope is greater than 2%)	☐	☐	☒
5.	Do pipe outlets have energy dissipation (within 24 hours of connection)?	☐	☐	☒
6.	Is construction phasing being followed in accordance with the EPSC Plan?	☒	☐	☐
7.	Are areas not to be disturbed marked off (flags, signs, etc.)?	☐	☒	☐

Comments:

Sediment control requirements

	Yes	No	NA
1. Are perimeter sediment controls installed properly on all down gradient perimeters?	☐	☒	☐
2. Are appropriate BMPs installed protecting inlets, catch basins, and culvert inlets?	☐	☒	☐
3. Is a 50-foot natural buffer preserved around all surface waters during construction?	☐	☐	☒
If No, have redundant sediment controls been installed?	☐	☐	☒
4. Do all erodible stockpiles have perimeter control in place?	☐	☐	☒
5. Is there a temporary sediment basin on site, and is it sized appropriately and outlet so as to prevent sediment laden water from discharging?	☐	☒	☐
6. Is soil compaction being minimized where not designed for compaction?	☐	☒	☐
7. Is topsoil being preserved unless infeasible?	☐	☒	☐
8. If chemical flocculants are used, is there a chemical flocculant plan in place?	☐	☐	☒

Comments:

While Deerwood has nearly 100% vegetative cover, Pawnee has sparse cover (approximately 35%) and rivulets are forming on the lawn. The temporary basin, while sized appropriately, has filled with sediment and needs to be excavated. Perimeter silt fence is greater than ½ full with sediment. Inlet protection needs to be cleaned out.

Maintenance and inspections

	Yes	No	NA
1. Are all previously stabilized areas maintaining ground cover?	☐	☒	☐
2. Are perimeter controls maintained and functioning properly, sediment removed when one-half full?	☐	☒	☐
3. Are inlet protection devices maintained and adequately protecting inlets?	☐	☒	☐
4. Are the temporary sediment basins being maintained and functioning properly?	☐	☒	☐
5. Are vehicle tracking BMPs at site exists in place and maintained and functioning properly?	☒	☐	☐
6. Is all tracked sediment being removed within 24 hours?	☐	☒	☐
7. Have all surface waters, ditches, conveyances, and discharge points been inspected?	☒	☐	
8. Were any discharges seen during this inspection (i.e., sediment, turbid water, or otherwise)?	☐	☒	

If yes, record the location of all points of discharge. Photograph and describe the discharge (size, color, odor, foam, oil sheen, time, etc.). Describe how the discharge will be addressed. Was the discharge a sediment delta? If yes, will the delta be recovered within seven days and in accordance with item 11.5 of the permit?

Comments:

Silt fence, inlet protection and temporary sediment basin all need maintenance. They are not currently releasing sediment off site but are at risk of failure. The ground cover on Pawnee is sparse and is poorly established.

Pollution prevention

	Yes	No	NA
1. Are all construction materials that can leach pollutants under cover or protected?	☐	☐	☒
2. Are hazardous materials being properly stored?	☐	☐	☒
3. Are appropriate BMPs being used to prevent discharges associated with fueling and maintenance of equipment or vehicles?	☐	☐	☒
4. Are all solid wastes being properly contained and disposed of?	☐	☐	☒
5. Is there a concrete/other material washout area on site and is it being used?	☐	☐	☒
6. Is the concrete washout area marked with a sign?	☐	☐	☒
7. Are the concrete/other material washout areas properly maintained?	☐	☐	☒

Comments:

No hazardous materials or construction waste were observed on the site.

Other

	Yes	No	NA
1. Is a copy of the SWPPP, inspection records, and training documentation located on the construction site, or can it be made available within 72 hours? (Only for 1 acre sites)	☐	☐	☒
2. Has the EPSC Plan been followed and implemented on site, and amended as needed?	☐	☒	☐
3. Is any dewatering occurring on site?	☐	☒	☐
If yes, what BMPs are being used to ensure that clean water is leaving the site and the discharge is not causing erosion or scour?			
4. Will a permanent stormwater management system be created for this project if required and in accordance with RPBCWD Rule J?	☒	☐	☐
If yes, describe: Raingarden and filtration swale.			
5. If infiltration/filtration systems are being constructed, are they marked and protected from compaction and sedimentation?	☐	☒	☐

6. Description of areas of non-compliance noted during the inspection, required corrective actions, and recommended date of completion of corrective actions:

   The infiltration area is being used as a temporary sediment basin. This will need to be excavated and ripped to decmpact the bottom.

7. Proposed amendments to the EPSC Plan:

8. Potential areas of future concern:

   The infiltration basin will need to be excavated and the soils will need to be amended to function properly.

9. Additional comments:

   Site will be inspected August 7th to see that silt fence and inlet protection has been addressed.

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Construction stormwater inspection checklist

Note: This inspection checklist is appropriate for small construction sites. Large construction sites and linear projects require more extensive/more location specific inspection requirements. The completion of this checklist does not guarantee that all permit requirements are in compliance; it is the responsibility of the Permittee(s) to read and understand the permit requirements.

Facility information

Site name: Riedesel Home

Site address: 6675 Horseshoe Curve Permit number: 2018-036

City: Chanhassen State: MN Zip code: 55317

Inspection information

Inspector name: TRJ Phone number: 952.807.6885

Organization/Company name: RPBCWD

Date (mm/dd/yyyy): 07/27/2020 Time: ☐ am ☒ pm

Is this inspection routine or in response to a storm event: ☒ 7 day ☐ Rain

Rainfall amount (24 hrs / 7 days): 0.02 / 0.46

What is the receiving water?

☒ Lake Lotus

☐ Stream [Type here]

☐ Wetland[Type here]

☐ Other[Type here]

Erosion prevention requirements

	Yes	No	NA
1. Are soils stabilized where no construction activity has occurred for 14 days (including stockpiles)? (7 days where applicable, or 24 hours during Minnesota Department of Natural Resources [DNR] Fish Spawning restrictions)	☒	☐	☐
2. Has the need to disturb steep slopes been minimized?	☐	☐	☒
3. If steep slopes are disturbed, are stabilization practices designed for steep slopes used?	☐	☐	☒
4. All ditches/swales stabilized 200' back from point of discharge or property edge within 24 hours? (Mulch, hydromulch, tackifier, or similar best management practices [BMPs] are not acceptable in ditches/swales if the slope is greater than 2%)	☐	☒	☐
5. Do pipe outlets have energy dissipation (within 24 hours of connection)?	☐	☐	☒
6. Is construction phasing being followed in accordance with the EPSC Plan?	☒	☐	☐
7. Are areas not to be disturbed marked off (flags, signs, etc.)?	☐	☒	☐

Comments:

Sediment control requirements

	Yes	No	NA
1. Are perimeter sediment controls installed properly on all down gradient perimeters?	☐	☐	☐
2. Are appropriate BMPs installed protecting inlets, catch basins, and culvert inlets?	☐	☐	☒
3. Is a 50-foot natural buffer preserved around all surface waters during construction?	☒	☐	☐
If No, have redundant sediment controls been installed?	☐	☐	☒
4. Do all erodible stockpiles have perimeter control in place?	☐	☐	☒
5. Is there a temporary sediment basin on site, and is it sized appropriately and outlet so as to prevent sediment laden water from discharging?	☐	☐	☒
6. Is soil compaction being minimized where not designed for compaction?	☐	☒	☐
7. Is topsoil being preserved unless infeasible?	☐	☒	☐
8. If chemical flocculants are used, is there a chemical flocculant plan in place?	☐	☐	☒

Comments:

The swale is being used as the site ingress and egress. This activity is resulting in compaction of the soils in the swale area. No stockpile of topsoil was observed.

Maintenance and inspections

	Yes	No	NA
1. Are all previously stabilized areas maintaining ground cover?	☐	☐	☐
2. Are perimeter controls maintained and functioning properly, sediment removed when one-half full?	☐	☐	☐
3. Are inlet protection devices maintained and adequately protecting inlets?	☐	☐	☐
4. Are the temporary sediment basins being maintained and functioning properly?	☐	☐	☐
5. Are vehicle tracking BMPs at site exists in place and maintained and functioning properly?	☐	☐	☐
6. Is all tracked sediment being removed within 24 hours?	☐	☐	☐
7. Have all surface waters, ditches, conveyances, and discharge points been inspected?	☐	☐	
8. Were any discharges seen during this inspection (i.e., sediment, turbid water, or otherwise)?	☐	☐	

If yes, record the location of all points of discharge. Photograph and describe the discharge (size, color, odor, foam, oil sheen, time, etc.). Describe how the discharge will be addressed. Was the discharge a sediment delta? If yes, will the delta be recovered within seven days and in accordance with item 11.5 of the permit?

Comments:

Pollution prevention

	Yes	No	NA
1. Are all construction materials that can leach pollutants under cover or protected?	☐	☐	☒
2. Are hazardous materials being properly stored?	☐	☐	☒
3. Are appropriate BMPs being used to prevent discharges associated with fueling and maintenance of equipment or vehicles?	☐	☐	☒
4. Are all solid wastes being properly contained and disposed of?	☒	☐	☐
5. Is there a concrete/other material washout area on site and is it being used?	☐	☐	☒
6. Is the concrete washout area marked with a sign?	☐	☐	☒
7. Are the concrete/other material washout areas properly maintained?	☐	☐	☒

Comments:

There are no materials being stored on site. There was no evidence of fueling the mini-excavator on site.

Other

	Yes	No	NA
1. Is a copy of the SWPPP, inspection records, and training documentation located on the construction site, or can it be made available within 72 hours? (Only for 1 acre sites)	☐	☐	☒
2. Has the EPSC Plan been followed and implemented on site, and amended as needed?	☒	☐	☐
3. Is any dewatering occurring on site?	☐	☒	☐
If yes, what BMPs are being used to ensure that clean water is leaving the site and the discharge is not causing erosion or scour?			
4. Will a permanent stormwater management system be created for this project if required and in accordance with RPBCWD Rule J?	☒	☐	☐
If yes, describe: Raingarden and filtration swale.			
5. If infiltration/filtration systems are being constructed, are they marked and protected from compaction and sedimentation?	☒	☐	☐

6. Description of areas of non-compliance noted during the inspection, required corrective actions, and recommended date of completion of corrective actions:

   The site is in compliance but the swale will need to be stabilized within 48-hours after cessation of construction activities.

7. Proposed amendments to the EPSC Plan:

8. Potential areas of future concern:

   Compaction within the swale as it is being used for ingress/egress also.

9. Additional comments:

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Construction stormwater inspection checklist

Note: This inspection checklist is appropriate for small construction sites. Large construction sites and linear projects require more extensive/more location specific inspection requirements. The completion of this checklist does not guarantee that all permit requirements are in compliance; it is the responsibility of the Permittee(s) to read and understand the permit requirements.

Facility information

Site name: The Park

Site address: Galpin Avenue Permit number: 2020-009

City: Chanhassen State: MN Zip code: 55317

Inspection information

Inspector name: TRJ Phone number: 952.807.6885

Organization/Company name: RPBCWD

Date (mm/dd/yyyy): 07/27/2020 Time: ☐ am ☒ pm

Is this inspection routine or in response to a storm event: ☒ 7 day ☐ Rain

Rainfall amount (24 hrs / 7 days): 0.02 / 0.46

What is the receiving water?

☒ Lake Ann

☐ Stream [Type here]

☒ Wetland[Type here]

☐ Other

Erosion prevention requirements

		Yes	No	NA
1.	Are soils stabilized where no construction activity has occurred for 14 days (including stockpiles)? (7 days where applicable, or 24 hours during Minnesota Department of Natural Resources [DNR] Fish Spawning restrictions)	☐	☒	☐
2.	Has the need to disturb steep slopes been minimized?	☐	☐	☒
3.	If steep slopes are disturbed, are stabilization practices designed for steep slopes used?	☐	☐	☒
4.	All ditches/swales stabilized 200' back from point of discharge or property edge within 24 hours? (Mulch, hydromulch, tackifier, or similar best management practices [BMPs] are not acceptable in ditches/swales if the slope is greater than 2%)	☒	☐	☐
5.	Do pipe outlets have energy dissipation (within 24 hours of connection)?	☒	☐	☐
6.	Is construction phasing being followed in accordance with the EPSC Plan?	☒	☐	☐
7.	Are areas not to be disturbed marked off (flags, signs, etc.)?	☒	☐	☐

Comments:

Sediment control requirements

	Yes	No	NA
1. Are perimeter sediment controls installed properly on all down gradient perimeters?	☒	☐	☐
2. Are appropriate BMPs installed protecting inlets, catch basins, and culvert inlets?	☒	☐	☐
3. Is a 50-foot natural buffer preserved around all surface waters during construction?	☐	☒	☐
If No, have redundant sediment controls been installed?	☒	☐	☐
4. Do all erodible stockpiles have perimeter control in place?	☒	☐	☐
5. Is there a temporary sediment basin on site, and is it sized appropriately and outlet so as to prevent sediment laden water from discharging?	☒	☐	☐
6. Is soil compaction being minimized where not designed for compaction?	☐	☒	☐
7. Is topsoil being preserved unless infeasible?	☒	☐	☐
8. If chemical flocculants are used, is there a chemical flocculant plan in place?	☒	☐	☐

Comments:

Topsoil is being set aside but is, in many cases, being co-mingled with underlying clay.

Maintenance and inspections

	Yes	No	NA
1. Are all previously stabilized areas maintaining ground cover?	☒	☐	☐
2. Are perimeter controls maintained and functioning properly, sediment removed when one-half full?	☒	☐	☐
3. Are inlet protection devices maintained and adequately protecting inlets?	☒	☐	☐
4. Are the temporary sediment basins being maintained and functioning properly?	☒	☐	☐
5. Are vehicle tracking BMPs at site exists in place and maintained and functioning properly?	☒	☐	☐
6. Is all tracked sediment being removed within 24 hours?	☒	☐	☐
7. Have all surface waters, ditches, conveyances, and discharge points been inspected?	☒	☐	
8. Were any discharges seen during this inspection (i.e., sediment, turbid water, or otherwise)?	☐	☒	

If yes, record the location of all points of discharge. Photograph and describe the discharge (size, color, odor, foam, oil sheen, time, etc.). Describe how the discharge will be addressed. Was the discharge a sediment delta? If yes, will the delta be recovered within seven days and in accordance with item 11.5 of the permit?

Comments:

Site is in good shape.

Pollution prevention

	Yes	No	NA
1. Are all construction materials that can leach pollutants under cover or protected?	☒	☐	☐
2. Are hazardous materials being properly stored?	☒	☐	☐
3. Are appropriate BMPs being used to prevent discharges associated with fueling and maintenance of equipment or vehicles?	☒	☐	☐
4. Are all solid wastes being properly contained and disposed of?	☒	☐	☐
5. Is there a concrete/other material washout area on site and is it being used?	☒	☐	☐
6. Is the concrete washout area marked with a sign?	☒	☐	☐
7. Are the concrete/other material washout areas properly maintained?	☒	☐	☐

Comments:

Other

	Yes	No	NA
1. Is a copy of the SWPPP, inspection records, and training documentation located on the construction site, or can it be made available within 72 hours? (Only for 1 acre sites)	☒	☐	☐
2. Has the EPSC Plan been followed and implemented on site, and amended as needed?	☒	☐	☐
3. Is any dewatering occurring on site?	☐	☒	☐
If yes, what BMPs are being used to ensure that clean water is leaving the site and the discharge is not causing erosion or scour?			
4. Will a permanent stormwater management system be created for this project if required and in accordance with RPBCWD Rule J?	☒	☐	☐
If yes, describe: Several infiltration basins.			
5. If infiltration/filtration systems are being constructed, are they marked and protected from compaction and sedimentation?	☒	☐	☐

6. Description of areas of non-compliance noted during the inspection, required corrective actions, and recommended date of completion of corrective actions:

   Site is well maintained and compliant.

7. Proposed amendments to the EPSC Plan:

8. Potential areas of future concern:

   None

9. Additional comments:

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Construction stormwater inspection checklist

Note: This inspection checklist is appropriate for small construction sites. Large construction sites and linear projects require more extensive/more location specific inspection requirements. The completion of this checklist does not guarantee that all permit requirements are in compliance; it is the responsibility of the Permittee(s) to read and understand the permit requirements.

Facility information

Site name: Shelangoski Home

Site address: 7516 Frontier Trail Permit number: 2019-002

City: Chanhassen State: MN Zip code: 55317

Inspection information

Inspector name: TRJ Phone number: 952.807.6885

Organization/Company name: RPBCWD

Date (mm/dd/yyyy): 07/27/2020 Time: ☐ am ☒ pm

Is this inspection routine or in response to a storm event: ☒ 7 day ☐ Rain

Rainfall amount (24 hrs / 7 days): 0.02 / 0.46

What is the receiving water?

☒ Lake LOTUS

☐ Stream [Type here]

☐ Wetland[Type here]

☐ Other[Type here]

Erosion prevention requirements

		Yes	No	NA
1.	Are soils stabilized where no construction activity has occurred for 14 days (including stockpiles)? (7 days where applicable, or 24 hours during Minnesota Department of Natural Resources [DNR] Fish Spawning restrictions)	☒	☐	☐
2.	Has the need to disturb steep slopes been minimized?	☐	☒	☐
3.	If steep slopes are disturbed, are stabilization practices designed for steep slopes used?	☒	☐	☐
4.	All ditches/swales stabilized 200' back from point of discharge or property edge within 24 hours? (Mulch, hydromulch, tackifier, or similar best management practices [BMPs] are not acceptable in ditches/swales if the slope is greater than 2%)	☐	☐	☒
5.	Do pipe outlets have energy dissipation (within 24 hours of connection)?	☐	☐	☒
6.	Is construction phasing being followed in accordance with the EPSC Plan?	☒	☐	☐
7.	Are areas not to be disturbed marked off (flags, signs, etc.)?	☐	☒	☐

Comments:

Sediment control requirements

	Yes	No	NA
1. Are perimeter sediment controls installed properly on all down gradient perimeters?	☒	☐	☐
2. Are appropriate BMPs installed protecting inlets, catch basins, and culvert inlets?	☐	☒	☐
3. Is a 50-foot natural buffer preserved around all surface waters during construction?	☐	☐	☒
If No, have redundant sediment controls been installed?	☐	☐	☒
4. Do all erodible stockpiles have perimeter control in place?	☐	☐	☒
5. Is there a temporary sediment basin on site, and is it sized appropriately and outlet so as to prevent sediment laden water from discharging?	☐	☒	☐
6. Is soil compaction being minimized where not designed for compaction?	☐	☒	☐
7. Is topsoil being preserved unless infeasible?	☐	☒	☐
8. If chemical flocculants are used, is there a chemical flocculant plan in place?	☐	☐	☒

Comments:

Sediment logs should be realigned to better capture runoff but generally are placed properly.

Maintenance and inspections

	Yes	No	NA
1. Are all previously stabilized areas maintaining ground cover?	☒	☐	☐
2. Are perimeter controls maintained and functioning properly, sediment removed when one-half full?	☒	☐	☐
3. Are inlet protection devices maintained and adequately protecting inlets?	☐	☐	☒
4. Are the temporary sediment basins being maintained and functioning properly?	☐	☐	☒
5. Are vehicle tracking BMPs at site exists in place and maintained and functioning properly?	☒	☐	☐
6. Is all tracked sediment being removed within 24 hours?	☒	☐	☐
7. Have all surface waters, ditches, conveyances, and discharge points been inspected?	☒	☐	
8. Were any discharges seen during this inspection (i.e., sediment, turbid water, or otherwise)?	☐	☒	

If yes, record the location of all points of discharge. Photograph and describe the discharge (size, color, odor, foam, oil sheen, time, etc.). Describe how the discharge will be addressed. Was the discharge a sediment delta? If yes, will the delta be recovered within seven days and in accordance with item 11.5 of the permit?

Comments:

Some of the pea rock from the drive is being discharged into Frontier Trail. Might be best to place rock logs or similar across the driveway. The hillside adjacent to Frontier has been stabilized but the remainder of the yard is actively being graded.

Pollution prevention

	Yes	No	NA
1. Are all construction materials that can leach pollutants under cover or protected?	☐	☐	☒
2. Are hazardous materials being properly stored?	☐	☐	☒
3. Are appropriate BMPs being used to prevent discharges associated with fueling and maintenance of equipment or vehicles?	☐	☐	☒
4. Are all solid wastes being properly contained and disposed of?	☐	☐	☒
5. Is there a concrete/other material washout area on site and is it being used?	☐	☐	☒
6. Is the concrete washout area marked with a sign?	☐	☐	☒
7. Are the concrete/other material washout areas properly maintained?	☐	☐	☒

Comments:

No hazardous materials or construction waste were observed on the site.

Other

	Yes	No	NA
1. Is a copy of the SWPPP, inspection records, and training documentation located on the construction site, or can it be made available within 72 hours? (Only for 1 acre sites)	☐	☐	☒
2. Has the EPSC Plan been followed and implemented on site, and amended as needed?	☒	☐	☐
3. Is any dewatering occurring on site?	☐	☒	☐
If yes, what BMPs are being used to ensure that clean water is leaving the site and the discharge is not causing erosion or scour?			
4. Will a permanent stormwater management system be created for this project if required and in accordance with RPBCWD Rule J?	☒	☐	☐
If yes, describe: Filtration swale.			
5. If infiltration/filtration systems are being constructed, are they marked and protected from compaction and sedimentation?	☒	☐	☐

6. Description of areas of non-compliance noted during the inspection, required corrective actions, and recommended date of completion of corrective actions:

7. Proposed amendments to the EPSC Plan:

8. Potential areas of future concern:

9. Additional comments:

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Construction stormwater inspection checklist

Note: This inspection checklist is appropriate for small construction sites. Large construction sites and linear projects require more extensive/more location specific inspection requirements. The completion of this checklist does not guarantee that all permit requirements are in compliance; it is the responsibility of the Permittee(s) to read and understand the permit requirements.

Facility information

Site name: West 79th Street Parking Lot

Site address: West 79th Street Permit number: 2019-032

City: Chanhassen State: MN Zip code: 55317

Inspection information

Inspector name: TRJ Phone number: 952.807.6885

Organization/Company name: RPBCWD

Date (mm/dd/yyyy): 07/27/2020 Time: ☐ am ☒ pm

Is this inspection routine or in response to a storm event: ☒ 7 day ☐ Rain

Rainfall amount (24 hrs / 7 days): 0.02 / 0.46

What is the receiving water?

☒ Lake Rice Marsh Lake

☐ Stream [Type here]

☐ Wetland[Type here]

☐ Other

Erosion prevention requirements

		Yes	No	NA
1.	Are soils stabilized where no construction activity has occurred for 14 days (including stockpiles)? (7 days where applicable, or 24 hours during Minnesota Department of Natural Resources [DNR] Fish Spawning restrictions)	☐	☒	☐
2.	Has the need to disturb steep slopes been minimized?	☐	☐	☒
3.	If steep slopes are disturbed, are stabilization practices designed for steep slopes used?	☐	☐	☒
4.	All ditches/swales stabilized 200' back from point of discharge or property edge within 24 hours? (Mulch, hydromulch, tackifier, or similar best management practices [BMPs] are not acceptable in ditches/swales if the slope is greater than 2%)	☒	☐	☐
5.	Do pipe outlets have energy dissipation (within 24 hours of connection)?	☒	☐	☐
6.	Is construction phasing being followed in accordance with the EPSC Plan?	☒	☐	☐
7.	Are areas not to be disturbed marked off (flags, signs, etc.)?	☒	☐	☐

Comments:

Side slopes of infiltration basin and ground at back of curb either not stabilized or are not stabilized with appropriate vegetation. No earth work has occurred on the site for months.

Sediment control requirements

	Yes	No	NA
1. Are perimeter sediment controls installed properly on all down gradient perimeters?	☐	☒	☐
2. Are appropriate BMPs installed protecting inlets, catch basins, and culvert inlets?	☐	☒	☐
3. Is a 50-foot natural buffer preserved around all surface waters during construction?	☐	☒	☐
If No, have redundant sediment controls been installed?	☒	☐	☐
4. Do all erodible stockpiles have perimeter control in place?	☐	☐	☒
5. Is there a temporary sediment basin on site, and is it sized appropriately and outlet so as to prevent sediment laden water from discharging?	☐	☒	☐
6. Is soil compaction being minimized where not designed for compaction?	☐	☒	☐
7. Is topsoil being preserved unless infeasible?	☐	☒	☐
8. If chemical flocculants are used, is there a chemical flocculant plan in place?	☐	☐	☒

Comments:

Infiltration basin not properly protected. Perimeter control at toe of slope needed until side slopes permanently stabilized.

Maintenance and inspections

	Yes	No	NA
1. Are all previously stabilized areas maintaining ground cover?	☐	☒	☐
2. Are perimeter controls maintained and functioning properly, sediment removed when one-half full?	☐	☒	☐
3. Are inlet protection devices maintained and adequately protecting inlets?	☐	☐	☒
4. Are the temporary sediment basins being maintained and functioning properly?	☐	☐	☒
5. Are vehicle tracking BMPs at site exists in place and maintained and functioning properly?	☐	☐	☒
6. Is all tracked sediment being removed within 24 hours?	☐	☐	☒
7. Have all surface waters, ditches, conveyances, and discharge points been inspected?	☒	☐	
8. Were any discharges seen during this inspection (i.e., sediment, turbid water, or otherwise)?	☐	☒	

If yes, record the location of all points of discharge. Photograph and describe the discharge (size, color, odor, foam, oil sheen, time, etc.). Describe how the discharge will be addressed. Was the discharge a sediment delta? If yes, will the delta be recovered within seven days and in accordance with item 11.5 of the permit?

Comments:

Silt fence in need of maintenance, especially adjacent to sediment pond. Final lift of topsoil not placed. Any vegetation establishing are pioneer species (i.e. weeds).

Pollution prevention

	Yes	No	NA
1. Are all construction materials that can leach pollutants under cover or protected?	☐	☐	☒
2. Are hazardous materials being properly stored?	☐	☐	☒
3. Are appropriate BMPs being used to prevent discharges associated with fueling and maintenance of equipment or vehicles?	☐	☐	☒
4. Are all solid wastes being properly contained and disposed of?	☐	☐	☒
5. Is there a concrete/other material washout area on site and is it being used?	☐	☐	☒
6. Is the concrete washout area marked with a sign?	☐	☐	☒
7. Are the concrete/other material washout areas properly maintained?	☐	☐	☒

Comments:

No hazardous materials or construction waste were observed on the site.

Other

	Yes	No	NA
1. Is a copy of the SWPPP, inspection records, and training documentation located on the construction site, or can it be made available within 72 hours? (Only for 1 acre sites)	☐	☐	☒
2. Has the EPSC Plan been followed and implemented on site, and amended as needed?	☒	☐	☐
3. Is any dewatering occurring on site?	☐	☒	☐
If yes, what BMPs are being used to ensure that clean water is leaving the site and the discharge is not causing erosion or scour?			
4. Will a permanent stormwater management system be created for this project if required and in accordance with RPBCWD Rule J?	☒	☐	☐
If yes, describe: Infiltration basin has been constructed with a pretreatment structure.			
5. If infiltration/filtration systems are being constructed, are they marked and protected from compaction and sedimentation?	☒	☐	☐

6. Description of areas of non-compliance noted during the inspection, required corrective actions, and recommended date of completion of corrective actions:

   Final stabilization has not been achieved on the site. No topsoil has been placed and any vegetation establishing is weeds. There is inadequate protection of the infiltration basin and the side slopes of the basin need to be stabilized. Perimeter control must be placed at the toe of the side sloped into the infiltration basin.

7. Proposed amendments to the EPSC Plan:

8. Potential areas of future concern:

   While the infiltration basin is function consistent with the approved permit, it is at risk of loss of infiltrative capacity if not addressed. No topsoil has been placed and appropriate soil will not be established without proper seeding or topsoil placement.

9. Additional comments:

   The site representative and the City of Chanhassen have been notified.

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Construction stormwater inspection checklist

Note: This inspection checklist is appropriate for small construction sites. Large construction sites and linear projects require more extensive/more location specific inspection requirements. The completion of this checklist does not guarantee that all permit requirements are in compliance; it is the responsibility of the Permittee(s) to read and understand the permit requirements.

Facility information

Site name: Eckenkar Parking Lot

Site address: 7450 Powers Blvd Permit number: 2020-009

City: Chanhassen State: MN Zip code: 55317

Inspection information

Inspector name: TRJ Phone number: 952.807.6885

Organization/Company name: RPBCWD

Date (mm/dd/yyyy): 07/27/2020 Time: ☐ am ☒ pm

Is this inspection routine or in response to a storm event: ☒ 7 day ☐ Rain

Rainfall amount (24 hrs / 7 days): 0.02 / 0.46

What is the receiving water?

☒ Lake Ann

☐ Stream [Type here]

☐ Wetland[Type here]

☐ Other

Erosion prevention requirements

		Yes	No	NA
1.	Are soils stabilized where no construction activity has occurred for 14 days (including stockpiles)? (7 days where applicable, or 24 hours during Minnesota Department of Natural Resources [DNR] Fish Spawning restrictions)	☐	☒	☐
2.	Has the need to disturb steep slopes been minimized?	☐	☐	☒
3.	If steep slopes are disturbed, are stabilization practices designed for steep slopes used?	☐	☐	☒
4.	All ditches/swales stabilized 200' back from point of discharge or property edge within 24 hours? (Mulch, hydromulch, tackifier, or similar best management practices [BMPs] are not acceptable in ditches/swales if the slope is greater than 2%)	☒	☐	☐
5.	Do pipe outlets have energy dissipation (within 24 hours of connection)?	☒	☐	☐
6.	Is construction phasing being followed in accordance with the EPSC Plan?	☒	☐	☐
7.	Are areas not to be disturbed marked off (flags, signs, etc.)?	☒	☐	☐

Comments:

Sediment control requirements

	Yes	No	NA
1. Are perimeter sediment controls installed properly on all down gradient perimeters?	☐	☒	☐
2. Are appropriate BMPs installed protecting inlets, catch basins, and culvert inlets?	☐	☒	☐
3. Is a 50-foot natural buffer preserved around all surface waters during construction?	☐	☒	☐
If No, have redundant sediment controls been installed?	☒	☐	☐
4. Do all erodible stockpiles have perimeter control in place?	☐	☐	☒
5. Is there a temporary sediment basin on site, and is it sized appropriately and outlet so as to prevent sediment laden water from discharging?	☐	☒	☐
6. Is soil compaction being minimized where not designed for compaction?	☐	☒	☐
7. Is topsoil being preserved unless infeasible?	☐	☒	☐
8. If chemical flocculants are used, is there a chemical flocculant plan in place?	☐	☐	☒

Comments:

Maintenance and inspections

	Yes	No	NA
1. Are all previously stabilized areas maintaining ground cover?	☒	☐	☐
2. Are perimeter controls maintained and functioning properly, sediment removed when one-half full?	☒	☐	☐
3. Are inlet protection devices maintained and adequately protecting inlets?	☒	☐	☐
4. Are the temporary sediment basins being maintained and functioning properly?	☐	☐	☒
5. Are vehicle tracking BMPs at site exists in place and maintained and functioning properly?	☐	☐	☒
6. Is all tracked sediment being removed within 24 hours?	☐	☐	☒
7. Have all surface waters, ditches, conveyances, and discharge points been inspected?	☒	☐	
8. Were any discharges seen during this inspection (i.e., sediment, turbid water, or otherwise)?	☐	☒	

If yes, record the location of all points of discharge. Photograph and describe the discharge (size, color, odor, foam, oil sheen, time, etc.). Describe how the discharge will be addressed. Was the discharge a sediment delta? If yes, will the delta be recovered within seven days and in accordance with item 11.5 of the permit?

Comments:

Site looks good. Inlet protection is functioning but could stand for being cleaned before being removed.

Pollution prevention

	Yes	No	NA
1. Are all construction materials that can leach pollutants under cover or protected?	☐	☐	☒
2. Are hazardous materials being properly stored?	☐	☐	☒
3. Are appropriate BMPs being used to prevent discharges associated with fueling and maintenance of equipment or vehicles?	☐	☐	☒
4. Are all solid wastes being properly contained and disposed of?	☐	☐	☒
5. Is there a concrete/other material washout area on site and is it being used?	☐	☐	☒
6. Is the concrete washout area marked with a sign?	☐	☐	☒
7. Are the concrete/other material washout areas properly maintained?	☐	☐	☒

Comments:

No hazardous materials or construction waste were observed on the site.

Other

	Yes	No	NA
1. Is a copy of the SWPPP, inspection records, and training documentation located on the construction site, or can it be made available within 72 hours? (Only for 1 acre sites)	☐	☐	☒
2. Has the EPSC Plan been followed and implemented on site, and amended as needed?	☒	☐	☐
3. Is any dewatering occurring on site?	☐	☒	☐
If yes, what BMPs are being used to ensure that clean water is leaving the site and the discharge is not causing erosion or scour?			
4. Will a permanent stormwater management system be created for this project if required and in accordance with RPBCWD Rule J?	☐	☒	☐
If yes, describe:			
5. If infiltration/filtration systems are being constructed, are they marked and protected from compaction and sedimentation?	☐	☐	☒

6. Description of areas of non-compliance noted during the inspection, required corrective actions, and recommended date of completion of corrective actions:

7. Proposed amendments to the EPSC Plan:

8. Potential areas of future concern:

   None

9. Additional comments:

resourceful. naturally.
engineering and environmental consultants

BARR

To: RPBCWD Board of Managers
From: Dave Melmer
Subject: July 18-19, 2020—Erosion Prevention and Sediment Control Inspection (Hennepin County Only)
Date: July 27, 2020
Project: 23/27-0053.14 PRMT 9016

Barr staff has inspected construction sites in the Riley Purgatory Bluff Creek Watershed District for conformance to erosion prevention and sediment control policies. Only permits in Hennepin County where inspected by Barr staff because district staff indicated they would be inspecting all permits in Carver County this month. Listed below are construction projects and the improvement needed for effective erosion prevention and sediment control. The sites were inspected from July 18-19, 2020.

Site Inspections

2015-055	**Hampton Inn Eden Prairie - Private - Commercial/Industrial** **11825 Technology Drive Eden Prairie, MN 55344** Site is compliant	**7/18/2020**
2016-017	**SWLRT - Government - Other** **Varies Eden Prairie, MN 55344** Site is compliant	**7/18/2020**
2016-032	**CSAH 61 Improvements - Government - Linear** **N/A Eden Prairie, MN 55347** Site is compliant	**7/18/2020**
2016-033	**Anderson Lakes-Purgatory Trail - Government - Other** **Anderson Lakes PKWY and Purgatory Creek Eden Prairie, MN 55344** Site is compliant. All temporary BMP's have been removed. Vegetation is established. Site is stable. This will be last field inspection for this permit.	**7/18/2020**
2017-001	**Kopesky 2nd Addition - Private - Residential** **18340 82nd St Eden Prairie, MN 55347** Site is compliant	**7/18/2020**
2017-023	**Eden Prairie Assembly of God - Private - Commercial/Industrial** **16591 Duck Lake Trail Eden Prairie, MN 55346** Site is compliant	**7/18/2020**

2017-024	**Prairie Bluffs Senior Living - Private - Residential** **10280 Hennepin Town Rd Eden Prairie, MN 55347** Terry Jeffery's will coordinate with Leslie as the LGU for WCA. This will be last field inspection for this permit. All Corrective Actions closed.	**7/18/2020**
2017-026	**6135 Ridge Road** Site is compliant	**7/18/2020**
2017-043	**Flying Cloud Dr Trail Improvements - Government - Other** **8251 FLYING CLOUD DR Eden Prairie, MN 55344** Site is compliant	**7/18/2020**
2017-069	**Scheels Redevelopment - Private - Commercial/Industrial** **8301 Flying Cloud Dr. Eden Prairie, MN 55344** Site is compliant	**7/18/2020**
2017-072	**O'Reilly Auto Parts Eden Prairie - Private - Commercial/Industrial** **8868 AZTEC DRIVE Eden Prairie, MN 55347** Open CA(s): Sediment at curb. Catch basin protection need clean up/maintenance. Site representative was notified. Deadline: 7/30/2020 Watershed Planning Coordinator Jeffery notified on 7/20/20 of issue	**7/18/2020**
2018-003	**19475 Waterford Place, Existing Single-Family** **19475 Waterford Place, Excelsior, MN, 55331** No change at site since June Inspection. Corrective action remains open and have not heard from realtor about property transfer. Watershed Planning Manager Jeffery notified on 7/20/20 of issue.	
2018-014	**Eden Prairie Road Reconstruction - Government - Linear** **Eden Prairie, MN 55347** Site is compliant	**7/18/2020**
2018-028	**Oak Point Elementary School Parking Lot - Government - Other** **13400 Staring Lake Parkway Eden Prairie, MN 55347** Site is compliant	**7/18/2020**
2018-034	**Basin 05-11-A Cleanout - Government - Other** **Corner of Sequioa and Ginger Eden Prairie, MN 55346** Site is compliant. All temporary BMP's have been removed. Vegetation is established. Site is stable. This will be last field inspection for this permit.	**7/19/2020**

2018-035	**7440 Chanhassen Rd Sand Blacket - Existing Single-Family** **7440 Chanhassen Rd Chanhassen, MN 55317** Not inspected—large gathering of people—did not want to enter area: Covid Procedures—avoid large gatherings.	**7/18/2020**
2018-038	**Eden Prairie Senior Living - Private - Residential** **8460 Franlo Rd Eden Prairie, MN 55344** Site is compliant	**7/18/2020**
2018-044	**Smith Village - Private - Residential** **16389 Glory Lane Eden Prairie, MN 55344** Site is compliant	**7/18/2020**
2018-047	**Peterson Borrow Site - Private - Commercial/Industrial** **15900 Flying Cloud Drive Eden Prairie, MN 55347** Site is compliant	**7/18/2020**
2018-052	**HCRRA Culvert Replacement - Government - Linear** **Hennepin County Wayzata and Deephaven, MN 55401** Silt fences still in place on eastern part of site. Permit has been closed. Site representative was notified about silt fence removal. Since permit is closed— this will be last field inspection for this permit.	**7/19/2020**
2018-055	**Park Trail Improvement Project - Government - Other** **1700 W. 98th Street Bloomington, MN 55431** Site is compliant. All temporary BMP's have been removed. Vegetation is established. Site is stable. This will be last field inspection for this permit.	**7/18/2020**
2018-058	**Walker Home - Existing Single-Family** **9108 Stephens Pointe Eden prairie, MN 55347** Open CA(s): Additional sediment offsite to neighbors yard. Neighbors dock entrance still not addressed. Site representative was notified. Deadline: 7/18/2020. Watershed Planning Coordinator Jeffery notified on 7/20/20 of issue Difficult to adequately address as neighbor has an impervious fabric covered with mulch. Vegetation cannot be established and fabric behaves like a shoot. - TRJ	**7/18/2020**
2018-059	**Mason Point Landscaping - Existing Single-Family** **15363 Mason Pointe Eden Prairie, MN 55347** Site is compliant	**7/18/2020**

2018-060	**Loichinger Residence - Existing Single-Family** **16396 Stratus Court Eden Prairie, MN 55347** Site is compliant	**7/18/2020**
2018-062	**Lower Riley Creek Stabilization Project - Government - Other** **Ridge on Riley Creek, Outlot A Eden Prairie, MN 55344** Site is compliant	**7/18/2020**
2018-065	**New Build - Arbit Residence – Existing Single Family** **3611 Rainbow Dr Minnetonka, MN 55345** Site is compliant. All temporary BMP's have been removed. Vegetation is established. Site is stable. This will be last field inspection for this permit.	**7/19/2020**
2018-066	**Castle Ridge Redevelopment - Private - Residential** **615-635 Prairie Center Drive Eden Prairie, MN 55344** Site is compliant	**7/18/2020**
2018-067	**Hennepin Co Library - Eden Prairie Branch Refurb - Government - Other** **565 Prairie Center Drive Eden Prairie, MN 55344** Site is compliant	**7/18/2020**
2018-068	**DriSteem Warehouse Expansion - Private - Commercial/Industrial** **14949 Technology Drive Eden Prairie, MN 55344** Site is compliant	**7/18/2020**
2018-072	**Hyland Park Parking Lot Improvements - Government - Other** **10145 E Bush Lake Rd Bloomington, MN 55438** Site is compliant	**7/18/2020**
2018-073	**Preserve Boulevard Reconstruction - Government - Linear** **Preserve Boulevard Eden Prairie, MN 55344** Site is compliant	**7/18/2020**
2018-074	**Eden Prairie Ground Storage Reservoir - Government - Other** **XXXX Eden Prairie Road Eden Prairie, MN 55344** Site is compliant	**7/18/2020**
2019-003	**Stable Path - Private - Residential** **9650 Stable Path Eden Prairie, MN 55347**	**7/18/2020**

	Site is compliant	
2019-007	**Beverly Hill - Private - Residential** **16540 Beverly Drive & 9800 Eden Prairie Road Eden Prairie, MN 55347** Site is compliant	**7/18/2020**
2019-008	**Staring Lake Pavilion - Government - Other** **14800 Pioneer Trail Eden Prairie, MN 55347** Site is compliant. All temporary BMP's have been removed. Vegetation is established. Site is stable. This will be last field inspection for this permit.	**7/18/2020**
2019-009	**5995 Ridge Rd Remodel - Existing Single-Family** **5995 Ridge Rd Shorewood, MN 55331** Site is compliant	**7/18/2020**
2019-011	**Westwind Plaza - Private - Commercial/Industrial** **4795 County Rd. 101 Minnetonka, MN 55345** Site is compliant	**7/19/2020**
2019-019	**Sheldon Place - Private - Residential** **7960 Eden Prairie Rd Eden Prairie, MN 55347** Site is compliant	**7/18/2020**
2019-020	**Dixon new home - Existing Single-Family** **3993 Hillcrest Road Deephaven, MN 55391** Site is compliant	**7/19/2020**
2019-022	**Woodcrest Place - Private - Residential** **17170 Beverly Drive Eden Prairie, MN 55347** Site is compliant	**7/18/2020**
2019-023	**Minnetonka Library - Government - Other** **17524 Excelsior Blvd. Minnetonka, MN 55345** Site is compliant	**7/18/2020**
2019-024	**Conifer Heights - Private - Residential** **5615 Conifer Trail 5616 Mahoney Ave Minnetonka, MN 55345** Site is compliant / recent soil / grading work. Will contact site representative to confirm that bare soils on slope will be stabilized/covered soon.	**7/19/2020**

2019-025	**Homestead Circle Sump Pump Collection - Government - Linear** **Homestead Circle Green Ridge Drive Pheasant Circle, MN 55346** Site is compliant	**7/18/2020**
2019-026	**Ridgewood Church Parking Lot** **4420 County Road 101 Minnetonka, MN 55345** Site is compliant	**7/19/2020**
2019-029	**Sheldon Ave Storm Sewer Improvements - Government - Linear** **16032 Sheldon Avenue Eden Prairie, MN 55344** No activity observed to date	**7/18/2020**
2019-033	**Spring Rd Pedestrian Crossing - Government - Linear** **Spring Rd and Prospect Rd Eden Prairie, MN 55344** Site is compliant	**7/18/2020**
2019-034	**Lion's Tap - Private - Commercial/Industrial** **16180 Flying Cloud Dr Eden Prairie, MN 55347** Site is compliant	**7/18/2020**
2019-040	**5328 Spring Ln - Private - Residential** **5328 Spring Lane Minnetonka , MN 55345** No activity observed to date	**7/19/2020**
2019-041	**Engelstad Pool - Existing Single-Family** **17773 Cascade Dr Eden Prairie, MN 55344** Open CA(s): Sediment to curb line. No runoff protection of bare soils. Unprotected catch basin. Site representative was notified. Deadline: 7/18/2020. Watershed Planning Manager Jeffery notified on 7/20/2020 Inquiry has been made to city as to if they can sweep the area and invoice the applicant.	**7/18/2020**
2019-043	**Cedarcrest Stables - Private - Residential** **16870 Cedarcrest Dr Eden Prairie, MN 55347** Site is compliant	**7/18/2020**
2019-045	**16820 Excelsior Blvd, Minnetonka - Existing Single-Family** **16820 Excelsior BLVD Minnetonka, MN 55345** Site is compliant	**7/18/2020**

2019-048	**Eden Prairie Central Middle School - Government - Other** **8025 School Road Eden Prairie, MN 55344** Site is compliant	**7/18/2020**
2019-052	**5545 Kipling Avenue** Site is compliant	**7/19/2020**
2020-001	**The Overlook - Private - Residential** **9955 Spring Road Eden Prairie , MN 55347** No activity observed to date	**7/18/2020**
2020-005	**Silver Home, 4052 Thrushwood Ln, Minnetonka** **4052 Thrushwood Ln Minnetonka, MN 55345** Open CA(s): Silt fence overtopped NW corner of site. Site representative has been notified. Deadline: 7/19/2020. Watershed Planning Manager Jeffery notified on 7/20/2020 Site is compliant	**7/19/2020**
2020-008	**Eden Ridge - Private - Residential** **15817 Valley View Road 15807 Valley View Road Eden Prairie, MN 55344** Open CA(s): Sediment to street. No back of curb protection for bare soils. Bare soils not covered. Sedimentation basin to west has silt fence down. Deadline: 7/18/2020. Watershed Planning Manager Jeffery notified on 7/27/2020 Ralph Murphy of Homestead Partners and Aaron Carrell of HTPO were notified on 7/27/2020. Aaron Carrell responded on 7/28/2020 that they had instructed the contractor to address these items in addition to other punch list items they had.	**7/18/2020**
2020-010	**Ginder Residence, Existing Single-Family** **10070 Sapphire Skies, Eden Prairie, MN 55347** Site is compliant	**7/18/2020**
2020-011	**Minnetonka HS 2020 Parking Lot - Government - Other** **18301 Hwy. 7 Minnetonka, MN 55345** Site is compliant	**7/18/2020**
2020-013	**Hillcrest Paving - Centerpoint Energy** **Hillcrest Rd Deephaven, MN 55345** No activity observed to date	**7/19/2020**

2020-016	**HSIP Project - Hennepin County - Government - Other** **Bloomington and Eden Prairie, MN 55431** No activity observed to date , No activity observed to date	**7/18/2020**
2020-017	**Deephaven 2020 Street Improvements - Hillcrest R/W - Government - Linear** **4000 Hillcrest Rd Deephaven, MN 55391** No activity observed to date	**7/19/2020**
2020-018	**Deerfield Trail, Eden Prairie - Government - Linear** **Deerfield Trail Eden Prairie, MN 55344** Site is compliant	**7/18/2020**
2020-019	**TH 101 Paving - Centerpoint – Private** **Energy County Rd 101 Minnetonka, MN 55345** No activity observed to date	**7/19/2020**
2020-021	**Purgatory Park Emergency Pipe Replacement– Government-Other; Minnetonka, MN 55345** Site is compliant	**7/18/2020**
2020-022	**Elim Shores Trail Project – Private-Residential** **7900 Timber Lake Drive Eden Prairie, MN 55347** Site is compliant	**7/18/2020**
2020-023	**2020 SPCS Project - Kimberly Ln and Chennault Way – Government – Other** **7578 Kimberly Lane (& EP Right-of-Way) Eden Prairie, MN 55344** Site is compliant	**7/18/2020**
2020-024	**2020 SPCS Project - Kristie Ln – Government – Other** **19184 Kristie Lane Eden Prairie, MN 55344** Site is compliant Not inspected—large gathering of people—did not want to enter area: Covid Procedures—avoid large gatherings.	**7/18/2020**
9999	**19475 Waterford Place** No change since May/2020 inspection., Site is compliant	**7/18/2020**

Please contact me at 952.832-2687 or dmelmer@barr.com if you have questions on the projects listed above or any additional items that need to be addressed for the erosion control inspections.

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engineering and environmental consultants

BARR

July 24, 2020

President Dick Ward and Board of Managers
Riley-Purgatory-Bluff Creek Watershed District
18681 Lake Drive East
Chanhassen, MN 55317

Re: Riley Creek Branch Stabilization Project – Pay Application #5
Barr Project # 23/27-0053.14-014

Dear President Ward and Board of Managers:

Enclosed is the Application for Payment #5 from Rachel Contracting, Inc. for work completed through 7/15/20, on the above-referenced project. Upon your review and approval, please sign and return one copy to me. Barr will distribute a scan to the contractor and RPBCWD Administrator for district files.

Major work items covered by this pay application include:

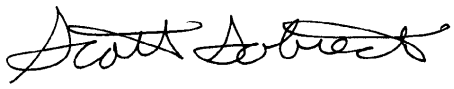
- Project mobilization/demobilization
- Installation of erosion control practices (periodic sweeping of the access roadways, seeding/erosion control blanket, erosion control logs).
- Installation of specified trees and shrubs
- Modifications to installation of in-stream features (rock riffles and rock/log step pools) downstream of pedestrian bridge to improve feature stability
- Removal of existing and installation of new bituminous trail along Sky Lane access.

There are several items that have exceeded the bid quantities for the project which are recommended for payment in accordance with Section 01 22 00 Item 1.02 of the contract documents. This section indicates "Changes in quantities of a Bid Item will be made by calculating the product of the Contractor bid quantity, plus or minus the quantity change, and the Unit Price. Actual quantities will not be measured in the field as the basis for payment unless specifically indicated in the Specifications for the individual Bid Item as indicated by the term "measured in the field." Payment for certain specific Bid Items will be on a unit price basis as indicated by the term "measured in the field" on the measurement description line for the Bid Item. Payment for these Bid Items will be the product of the actual field-measured quantity and the Unit Price."

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 **$184,152.62**. Payments should be made directly to Rachel Contracting, LLC.

Please call me at 952-832-2755 if you have any questions or concerns about the application for payment, or about any other related matters.

Sincerely,



Scott Sobiech, P.E.
Barr Engineering Co.

c: Claire Bleser, RPBCWD
Dave Lyste, Rachel Contracting, Inc.

Enclosure #1 – Application for Payment – Progress Payment 5

Riley Creek Stabilization Project
Progress Payment Number 5

1.0	Total Completed Through This Period	$1,978,712.31		
2.0	Total Completed Previous Period		$1,794,559.69	
3.0	Total Completed This Period			$184,152.62
4.0	Amount Retained, Previous Period		$44,019.77	
5.0	Amount Retained, This Period (See Note 1)		$0.00	
6.0	Total Amount Retained		$44,019.77	
7.0	Retainage Released Through This Period:			$0.00
8.0	Amount Due This Period			$184,152.62

Note 1: At rate of 5% until Completed to Date equals 50% of current Contract Price and a rate of 0% thereafter.

SUBMITTED BY:

Name: Dave Lyste Date: 7/24/20

Title: Vice President

Contractor: Rachel Contracting, LLC

Signature: Dave Lyste

RECOMMENDED BY:

Name: Scott Sobiech Date: 7/24/2020

Title: District Engineer

Engineer: Barr Engineering Company

Signature: Scott Sobiech

APPROVED BY:

Name: Dick Ward Date: _____

Title: President

Owner: Riley Purgatory Bluff Creek Watershed District

Signature: _____

Lower Riley Creek Stabilization Project
Piley Purgatory Bluff Creek Watershed District
Summary of Work Completed Through July 15th, 2020 - for Progress Payment Number 5

						(1) Total Completed Through This Period		Percent Complete	(5) Total Completed This Period	
1.04 Item	Description	Unit	Estimated Quantity	Unit Price	Extension	Quantity	Amount		Quantity	Amount
A	Mobilization	L.S.	1	$ 132,210.00	$ 132,210.00	1	$132,210.00	100%	0.1	$13,221.00
B	Control of Water	L.S.	1	$ 118,950.00	$ 118,950.00	1	$118,950.00	100%	0	$0.00
C	Traffic Control	L.S.	1	$ 6,240.00	$ 6,240.00	1	$6,240.00	100%	0.1	$624.00
D	Rock Construction Entrance	Each	2	$ 24,270.00	$ 48,540.00	2	$48,540.00	100%	0.4	$9,708.00
E	Silt Fence, Type MS	L.F.	3,600	$ 4.20	$ 15,120.00	0	$0.00	0%	0	$0.00
F	Sediment Control Log, Type Compost	L.F.	8,900	$ 4.80	$ 42,720.00	8900	$42,720.00	100%	1780	$8,544.00
G	Floating Silt Curtain	Each	1	$ 1,390.00	$ 1,390.00	1	$1,390.00	100%	0.2	$278.00
H	Inlet Protection	Each	6	$ 317.00	$ 1,902.00	6	$1,902.00	100%	1	$317.00
I	Street Sweeping	L.S.	1	$ 7,170.00	$ 7,170.00	1	$7,170.00	100%	0.1	$717.00
J	Temporary Stream Crossing	Each	1	$ 18,270.00	$ 18,270.00	1	$18,270.00	100%	0	$0.00
K	Clearing and Grubbing (Medium Density)	Acre	3	$ 8,110.00	$ 25,952.00	3.2	$25,952.00	100%	0	$0.00
L	Select Tree Removal and Salvage with Root Wad (8-12" Diameter)	Each	63	$ 156.50	$ 9,859.50	60	$9,390.00	95%	0	$0.00
L	Select Tree Removal and Salvage with Root Wad (Greater than 12" Diameter)	Each	63	$ 197.00	$ 12,411.00	63	$12,411.00	100%	0	$0.00
M	Channel Clean-up, Debris Removal and Disposal	L.S.	1	$ 4,530.00	$ 4,530.00	1	$4,530.00	100%	0	$0.00
N	Remove Storm Sewer (12" to 27" RCP and FES) - CO#2	L.F.	76.8	$ 58.80	$ 4,515.84	76.8	$4,515.84	100%	0	$0.00
O	Remove Storm Sewer Manhole (48" Diameter) - CO#2	Each	1	$ 2,360.00	$ 2,360.00	1	$2,360.00	100%	0	$0.00
P	Remove Bituminous Path	S.Y.	590	$ 8.60	$ 5,074.00	667	$5,736.20	113%	667	$5,736.20
Q	Furnish & Install Manhole (48" Diameter) - CO#2	Each	1	$ 5,780.00	$ 5,780.00	1	$5,780.00	100%	0	$0.00
Q	Furnish & Install Manhole (60" Diameter)	Each	2	$ 8,040.00	$ 16,080.00	2	$16,080.00	100%	0	$0.00
R	Connect to Existing Manhole	Each	1	$ 1,950.00	$ 1,950.00	1	$1,950.00	100%	0	$0.00
S	Salvage and Install Manhole Casting - CO#2	Each	1	$ 710.00	$ 710.00	1	$710.00	100%	0	$0.00
T	Furnish & Install Manhole Casting	Each	2	$ 849.00	$ 1,698.00	2	$1,698.00	100%	0	$0.00
U	Furnish & Install Storm Sewer, 15" RC Pipe Class III - CO#2	L.F.	29	$ 100.00	$ 2,880.00	29	$2,900.00	101%	0.2	$20.00
V	Furnish & Install Storm Sewer, 15" RC FES - CO#2	Each	1	$ 2,890.00	$ 2,890.00	1	$2,890.00	100%	0	$0.00
U	Furnish & Install Storm Sewer, 27" RC Pipe Class III	L.F.	27	$ 159.00	$ 4,293.00	27	$4,293.00	100%	0	$0.00
V	Furnish & Install Storm Sewer, 27" RC FES	Each	1	$ 3,980.00	$ 3,980.00	1	$3,980.00	100%	0	$0.00
U	Furnish & Install Storm Sewer, 36" RC Pipe Class III	L.F.	27	$ 237.00	$ 6,399.00	27	$6,399.00	100%	0	$0.00
V	Furnish & Install Storm Sewer, 36" RC FES	Each	2	$ 6,780.00	$ 13,560.00	2	$13,560.00	100%	0	$0.00
W	Common Excavation (P)	C.Y.	5,650	$ 10.70	$ 60,455.00	5650	$60,455.00	100%	0	$0.00
X	Grading (P)	S.Y.	23,480	$ 1.70	$ 39,916.00	23480	$39,916.00	100%	0	$0.00
Y	Furnish & Install Class II Fieldstone Riprap - CO#2	Ton	3,129	$ 54.90	$ 171,760.14	3231.6	$177,414.84	103%	130	$7,137.00
Y	Furnish & Install Class III Fieldstone Riprap - CO#2	Ton	174	$ 54.90	$ 9,552.60	179.26	$9,841.37	103%	0	$0.00
Z	Furnish & Install Granular Filter Aggregate - CO#2	Ton	2,056	$ 51.30	$ 105,477.93	3862	$198,120.60	188%	39	$2,000.70
AA	Furnish & Install Boulder Vane, no Footers - CO#2	L.F.	520	$ 73.30	$ 38,116.00	577	$42,294.10	111%	0	$0.00
AA	Furnish & Install Boulder Vane, with Footers - CO#2	L.F.	1,390	$ 73.30	$ 101,887.00	1432	$104,965.60	103%	0	$0.00
BB	Install Log Vane - CO#2	Each	57	$ 262.50	$ 14,962.50	59	$15,487.50	104%	0	$0.00
CC	Install Toe Wood - CO#2	L.F.	513	$ 45.80	$ 23,472.50	592	$27,113.60	116%	0	$0.00
DD	Furnish & Install VRSS	L.F.	4,190	$ 27.70	$ 116,063.00	4657	$128,998.90	111%	0	$0.00
EE	Import Topsoil	C.Y.	2,110	$ 18.30	$ 38,613.00	4672	$85,497.60	221%	0	$0.00

1.04 Item	Description	Unit	Estimated Quantity	Unit Price	Extension	(1) Total Completed Through This Period Quantity	Amount	Percent Complete	(5) Total Completed This Period Quantity	Amount
FF	Seed Area	Acre	5.22	$ 637.00	$ 3,325.14	5.66	$3,605.42	108%	0.66	$420.42
GG	Cover Crop Seed Mix	Lbs.	140	$ 1.70	$ 238.00	160	$272.00	114%	20	$34.00
GG	Floodplain Forest Seed Mix	Lbs.	80	$ 86.90	$ 6,952.00	80	$6,952.00	100%	0	$0.00
GG	Upland Construction Seed Mix	Lbs.	17	$ -	$ -	5	$0.00	29%	0	$0.00
HH	Plant Shrub, Bare Root	Each	1,934	$ 11.00	$ 21,274.00	1934	$21,274.00	100%	1934	$21,274.00
HH	Plant Shrub, #2 Container	Each	309	$ 64.30	$ 19,868.70	309	$19,868.70	100%	309	$19,868.70
II	Plant Tree, Bare Root	Each	43	$ 41.10	$ 1,767.30	43	$1,767.30	100%	43	$1,767.30
II	Plant Tree, 2.5" Ball & Burlap	Each	53	$ 666.00	$ 35,298.00	53	$35,298.00	100%	53	$35,298.00
JJ	Furnish & Install Erosion Control Blanket Category 3N	S.Y.	20,000	$ 2.40	$ 48,000.00	27327	$65,584.80	137%	3222	$7,732.80
KK	Furnish & Install Straw Mulch	S.Y.	5,220	$ 2.60	$ 13,572.00	1669	$4,339.40	32%	581	$1,510.60
LL	Bituminous Path	S.Y.	590	$ 60.70	$ 35,813.00	667	$40,486.90	113%	667	$40,486.90
MM	Furnish & Install Buffer Markers	Each	76	$ 227.50	$ 17,290.00	76	$17,290.00	100%	76	$17,290.00
NN	Vegetation Establishment and Warranty Period (Three Years)	L.S.	1	$ 14,590.00	$ 14,590.00	0	$0.00	0%	0	$0.00
PP	Import Boulders - CO#2	Ton	824	$ 67.40	$ 55,544.34	1047.74	$70,617.68	127%	0	$0.00
				Total Base Bid:	**$ 1,511,242.49**					

Bid Add Alternate

Item	Description	Unit	Estimated Quantity	Unit Price	Extension	(1) Total Completed Through This Period Quantity	Amount	Percent Complete	(9) Total Completed This Period Quantity	Amount
OO	Pre-Fabricated Pedestrian Birdge and Footings	L.S.	1	$ 120,750.00	**$ 120,750.00**	1	$120,750.00	100%	0	$0.00
				Total Including Alternate:	**$ 1,631,992.49**		**$1,800,738.35**			**$193,985.62**

Change Order #2 Additions

1.04 Item	Description	Unit	Estimated Quantity	Unit Price	Extension	Quantity	Amount		Quantity	Amount
V	Furnish & Install Storm Sewer, 12" RC FES	L.S.	1	$ 3,420.00	$ 3,420.00	1	$3,420.00	100%	0	$0.00
QQ	Install geotextile fabric (based on planned quantity)	S.Y.	935	$ 5.77	$ 5,394.95	935	$5,394.95	100%	0	$0.00
RR	Import Common (load count based on 16 CY per load)	C.Y.	2000	$ 38.22	$ 76,440.00	3088	$118,023.36	154%	0	$0.00
SS	Furnish & Install Class IV Fieldstone Riprap	Ton	220	$ 62.10	$ 13,662.00	110.78	$6,879.44	50%	0	$0.00
TT	Export Unsuitable Soil	C.Y.	300	$ 49.27	$ 14,781.00	588	$28,970.76	196%	0	$0.00
UU	Restocking of materials associated witih storm structure (Sta. 40+19)	L.S.	1	$ 3,690.95	$ 3,690.95	1	$3,690.95	100%	0	$0.00
VV	Additional cost for storm sewer installation (Sta. 44+48)	L.S.	1	$ 21,427.50	$ 21,427.50	1	$21,427.50	100%	0	$0.00
XX	Toewood option 1 (Detail 3/D-11)	L.F.	0	$ 45.80	$ -	0	$0.00	0%	0	$0.00
YY	Toewood option 2 (Detail 4/D-11)	L.F.	0	$ 78.60	$ -	0	$0.00	0%	0	$0.00
ZZ	Cedar tree revetment (Per detail 5/D-11) (to be used in place of log vane as directed)	Each	0	$ 998.00	$ -	0	$0.00	0%	0	$0.00
					Total of CO#2 Additions =	**$138,816.40**	**$187,806.96**			**$0.00**

Change Order #3 Revisions

1.04 Item	Description	Unit	Estimated Quantity	Unit Price	Extension	Quantity	Amount		Quantity	Amount
GG	Fescue Seed Mix	LBS	100	$ 3.70	$ 370.00	150	$555.00	150%	150	$555.00
	Tree substitution Reduction	Each	53	$ (196.00)	$ (10,388.00)	53	-$10,388.00	100%	53	-$10,388.00
					Total of CO#2 Additions =	**-$10,018.00**	**-$9,833.00**			**-$9,833.00**
					Total Extensions	**$1,760,790.89**	**$1,978,712.31**			**$184,152.62**

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: 2018-028

Considered at Board of Managers Meeting: August 5, 2020

Project Procedural History: Permit application conditionally approved at September 5, 2018 meeting. A modification request was conditionally approved at the June 5, 2019 meeting with an extension until September 5, 2020. The applicant requests approval of a second modification of the application including extension of term to March 5, 2021.

Modification Request Received complete: July 19, 2020

Applicant: Eden Prairie Schools
Consultant: Anderson-Johnson Associated, Inc. Bill Diede
Project: Oak Point Elementary Parking Lot –Construction of a new parking lot and reconstruction of the site entrance, including new bituminous pavement, concrete curb and gutter, and storm sewer on the Eden Prairie School property. A surface filtration basin will provide storm water rate, volume and quality control.
Location: 13400 Staring Lake Parkway Eden Prairie, Minnesota 55347
Reviewer: Scott Sobiech, PE, 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 August 5, 2020 meeting of the managers:

Resolved that the modification to the application for Permit 2018-028 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 have been affirmatively resolved, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2018-028 to the applicant on behalf of RPBCWD.

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

Applicable Rule Conformance Summary

Rule	Issue		Conforms to RBPCWD Rules?	Comments
C	**Erosion Control Plan**		Yes	
D	**Wetland and Creek Buffers**		Yes	
J	**Stormwater Management**	Rate	Yes	
		Volume	Yes	
		Water Quality	Yes	
		Low Floor Elev.	Yes	
		Maintenance	See Comment	See Rule Specific Permit Condition J1.
		Chloride Management	See Comment	See stipulation 4.
		Wetland Protection	NA	
L	**Permit Fee**		NA	Governmental Agency
M	**Financial Assurance**		Na	Governmental Agency

Background

The proposed redevelopment includes the construction of a new parking lot and reconstruction of the site entrance, including new bituminous pavement, concrete curb and gutter, and storm sewer on the Eden Prairie School property. The application was conditionally approved by the Board at the June 2019 meeting. The applicant fulfilled the conditions of approval, the permit was issued, and land-disturbing activities commenced. However, during construction, testing results showed an infiltration rate of 0.0 in/hr, meaning infiltration is not feasible at this site. Because infiltration was not measured during the testing, this further restricts the site for purposes of RPBCWD Rule J analysis. The 2019 conditionally approved project plans included a surface infiltration basin with a proprietary flow control device at the outlet to provide storm water rate, volume and quality control. Because infiltration is no longer reasonably feasible, the infiltration basin will be converted into filtration basin with pre-treatment sumps. The combination of these best management practices provides stormwater quantity and quality control.

Purgatory Creek runs through the site on an adjacent property that is also owned by the school district. Updated project site information based on the proposed modified design is summarized below. **This report and proposed terms and conditions of approval of the modification request, as provided below and as may be modified by the managers, will supplant the prior approvals in their entirety.**

	Conditionally Approved 2019 Modification Request 2018-028	2020 Modification Request 2018-028
Total Site Area (acres)	23.05	23.05
Existing Site Impervious (acres)	7.96	7.96
Existing Impervious Area to be Disturbed and replaced:	0.196 (2.5% disturbance)	0.196 (2.5% disturbance)
New (Increase) in Site Impervious Area (acres)	0.677 (8.4% increase)	0.677 (8.4% increase)
Post Construction Site Impervious (acres)	8.637	8.637
Total Disturbed Area (acres)	2.20	2.20

The following materials were reviewed in support of the permit modification request:

1. Email modification request received June 2, 2020 (submittal was incomplete because no updated stormwater exhibits were included)
2. Double ring infiltrometer testing result by Bruan Intertec dated May 21, 2020
3. Updated Stormwater Management narrative describing changes to stormwater management plan received July 19, 2020
4. Project Plan Set (2 sheets) received July 19, 2020
5. HydroCAD Models received July 19, 2020 (revised snowmelt modeling received July 29, 2020)
6. P8 Model received July 19, 2020 (revised July 29, 2020)
7. Response to comments received July 29, 2020.

Rule C: Erosion and Sediment Control

Because the project will alter 2.2 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 Anderson-Johnson Associated, Inc. includes installation of silt fence, inlet protection for storm sewer catch basins, daily inspection, placement of a minimum of 6 inches of topsoil, decompaction of areas compacted during construction, and retention of native topsoil onsite. Jason Krause of Bituminous Roadways, Inc. the individual responsible for erosion control at the site. The proposed project is in conformance with RPBCWD Rule C.

Rule D: Wetland and Creek Buffers

Because the proposed work triggers a permit under RPBCWD Rule J and Purgatory Creek is onsite, Rule D, Subsections 2.1a and 3.1 require buffer on the portion of the creek downgradient from the proposed

land-disturbing activities. (The creek will not be disturbed by the proposed work.) The proposed changes to the design do not change the buffer requirements.

Purgatory Creek flows through the project site and requires an average buffer width of 50 feet from the creek centerline, minimum 30 feet in accordance with Rule D, Subsection 3.1.a.v for a public waters watercourse. The applicant provided a buffer zone and marker location map confirming that the proposed buffer area extends the required average widths as summarized in the table below.

Regulated Feature	Require Minimum Width (ft)	Require Average Width (ft)	Provided Minimum Width (ft)	Provided Buffer Width(ft)
Purgatory Creek	30	50	50	50

The Applicant is not proposing to disturb any area within the proposed buffer and will maintain the area in a natural state in conformance with Rule D, Subsection 3.2. 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. Before the permit was issued, the buffer areas and maintenance requirements were documented in a written agreement with RPBCWD in accordance with Rule D, Subsection 3.4. The project conforms to the RPBCWD Rule D requirements.

Rule J: Stormwater Management

Because the project will alter 2.2 acres of land-surface area, increase the imperviousness of the entire site by less than 50%, and disturb less than 50% of the existing imperviousness the project must meet the criteria of RPBCWD's Stormwater Management rule (Rule J, Subsection 2.3) for the disturbed and replaced and new impervious surface on the site.

The project includes installation of a surface filtration basin with pretreatment to provide runoff volume abstraction, water quality treatment, and rate control. A proprietary flow control device is proposed to limit discharge leaving the filtration basin. The applicant is providing several trees to provide abstraction to the maximum extent practicable. Pretreatment of runoff prior to entering the filtration basin is provided by a grass filter strip on the east overland flow inlet and a sump manhole on the north storm sewer inlet.

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 the table below.

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
Purgatory Creek	1.7	0.7	3.4	1.3	7.1	2.8	0.3	0.3
Pond South of Road	13.4	12.9	22.9	21.4	40.3	40.0	1.0	1.0
Staring Lake Parkway	2.1	1.2	4.2	2.4	8.6	4.9	0.4	0.4

The proposed project is in conformance with RPBCWD Rule J, Subsection 3.1.a.

Volume Abstraction

Subsection 3.1.b and 2.3 of Rule J require the abstraction onsite of 1.1 inches of runoff from all disturbed and additional impervious surface of the parcel. An abstraction volume of 3,446 cubic feet is required from the 0.863 acre of regulated impervious area on the project for volume retention. The project proposes to construct a surface filtration basin, with pretreatment using a grass filter strip and a sump manhole, to abstract runoff from the site (Rule J, Subsection 3.1b.i).

Soil borings performed by Braun Intertec show that soils in the project area are typically lean clay soils. The MN Stormwater Manual indicates an infiltration rate of 0.06 inches per hour for such soils. However, soil conditions observed during construction reveal clayey, low-infiltrating soils. Infiltration testing results indicate an infiltration rate of 0.0 in/hr, thus infiltrating is not feasible at this site. Soil borings show groundwater at a boring depth of 12 feet, corresponding to elevation 826.5. Because the proposed bottom of the surface filtration basin will be at elevation 836.8, the groundwater is at least 3 feet below the bottom of the proposed filtration basin (Rule J, Subsection 3.1.b.ii).

Because the engineer concurred that the soil boring information support that the abstraction standard in subsection 3.1 of Rule J cannot practicably be met, the site is considered a restricted site and stormwater runoff volume is required to be managed in accordance with 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. Given the measured infiltration rate of 0.0 in/hr, clay soils, along with a Magellan gas line easement on the south side of the property that does not allow for construction of stormwater BMPs and established woods in the areas of the property where soils are suited to filtration, the engineer finds that the 0.55-inch abstraction standard in subsection (a) cannot be achieved. The applicant has therefore maximized stormwater abstraction in accordance Subsection 3.3b of Rule J by providing trees to extend over a portion of the impervious surface. The designed abstraction performance for the project site is summarized in the table below.

	Abstraction Depth (inches)	Abstraction Volume (cubic feet)
Requirement	1.1	3,446
Provided	0.02	94[1]

[1] Abstraction volume from trees calculated using the Center for Watershed Protection's published Document for *Stormwater Performance-Based Credit. Crediting Framework Product #7 for the project Making Urban Trees Count: A Project to Demonstrate the Role of Urban Trees in Achieving Regulatory Compliance for Clean Water*

Water Quality Management

Subsection 3.1.c of Rule J requires the Applicant 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, and no net increase in TSS or TP loading leaving the site from existing conditions. The Applicant is proposing an filtration basin to achieve the required TP and TSS removals and submitted a P8 model to estimate the TP and TSS removals. The results of this modeling are summarized in Tables below showing the annual TSS and TP removal requirements are achieved and that there is no net increase in TSS and TP leaving the site. The engineer concurs with the modeling, and finds that the proposed project is in conformance with Rule J, Subsection 3.1.c.

Annual TSS and TP removal summary:

Pollutant of Interest	Regulated Site Loading (lbs/yr)	Required Load Removal (lbs/yr)	Provided Load Reduction (lbs/yr)
Total Suspended Solids (TSS)	714	642 (90%)	711 (99.6%)
Total Phosphorus (TP)	2.3	1.4 (60%)	1.6 (69.6%)

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)	561	65	-496
Total Phosphorus (TP)	1.8	0.9	-0.9

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 elevation of the school building and the adjacent stormwater management feature is summarized below. The information demonstrates the project meets the requirements of Rule J, Subsection 3.6.

Structure	Low Floor Elevation of Building (feet)	100-year Event Flood Elevation of Adjacent Stormwater Facility (feet)	Freeboard (feet)
School Building	854.1	838.15	15.95

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. A maintenance agreement was executed based on the prior stormwater management system. Because the proposed filtration basin is different than the system in the existing maintenance agreement and trees are proposed for abstraction, the permit applicant must amend the maintenance and inspection agreement to provide maintenance consistent with the revised stormwater-management system, including the trees. A draft of the modification of the agreement must be provided for District review and approval prior to execution.

Chloride Managements

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 the 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.

Applicable General Requirements:

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.

2. 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 above. 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.
3. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
4. 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.
5. 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.
6. RPBCWD's determination to issue this permit was made in reliance on the information provided by the applicant. Any change in the work substantively 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.
7. 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 conforms to Rules C and D and will conform to Rule J if the Rule Specific Permit Conditions listed above are met.

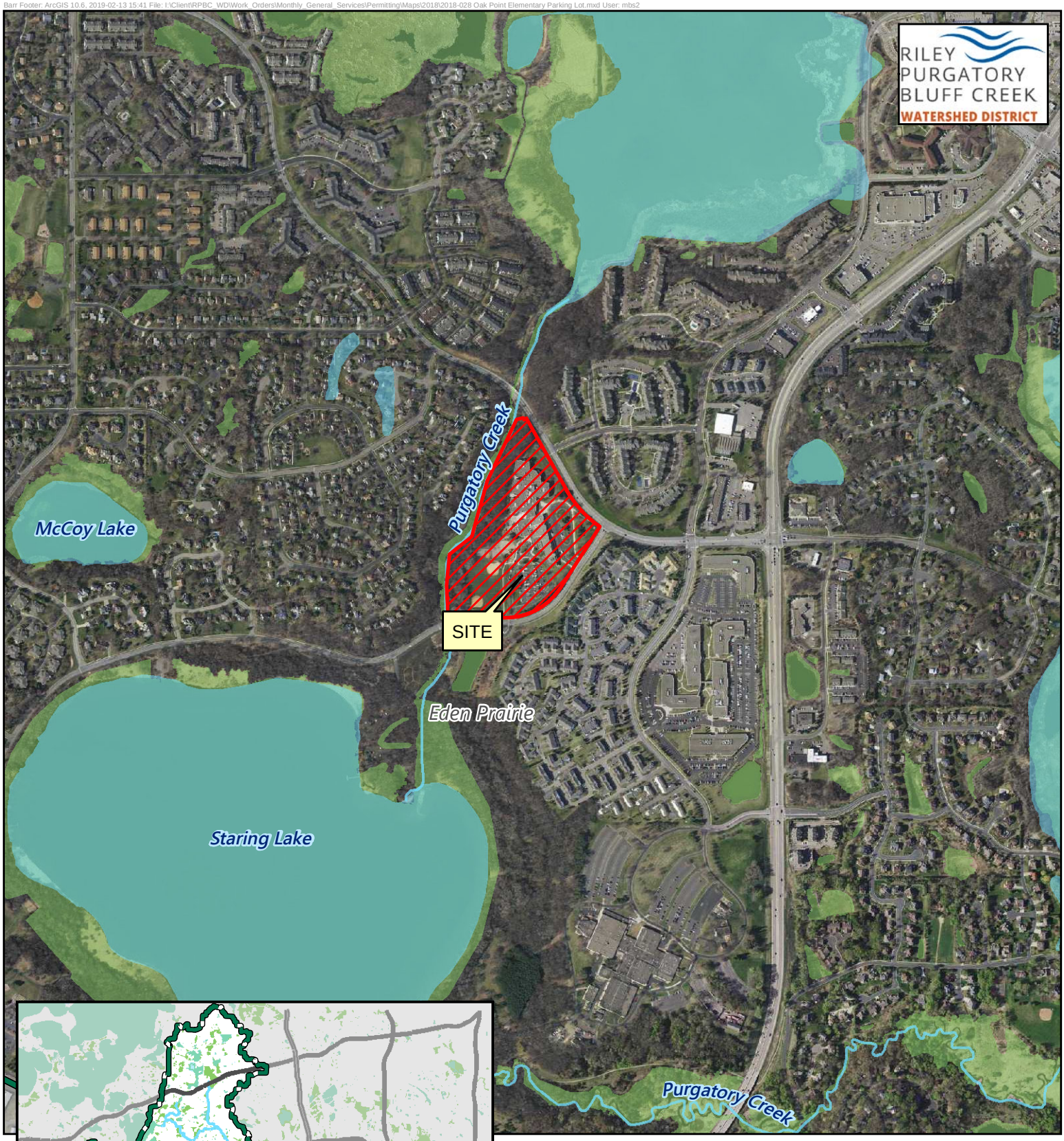
Recommendation:

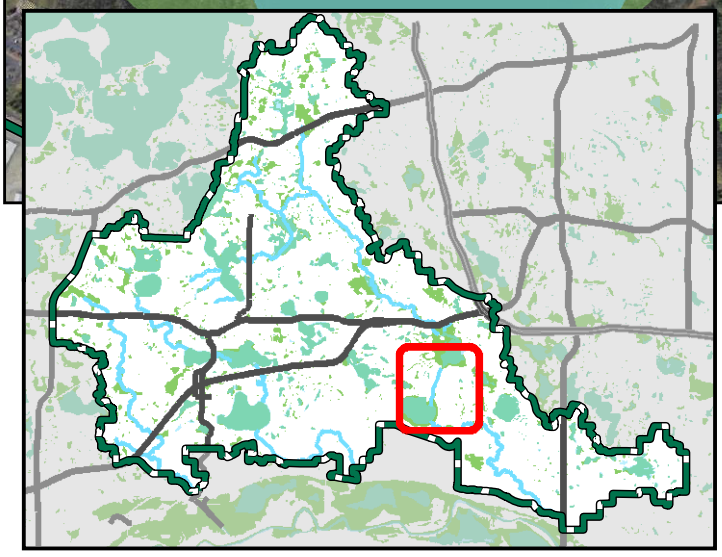
Approval of the permit modification requested, including extension of term to March 5, 2021, contingent upon:

1. Continued compliance with General Requirements.
2. Submission of a draft amendment to the existing stormwater-management agreement or vacating and superseding agreement to provide maintenance consistent with the revised stormwater-management system and trees. A draft of the modification of the agreement must be provided for District review and approval prior to recording.

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, stormwater facilities conform to design specifications as approved by the District.
2. The work on the Oak Point parcel under the terms of permit 2018-028, 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.
3. To close out the permit, 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.





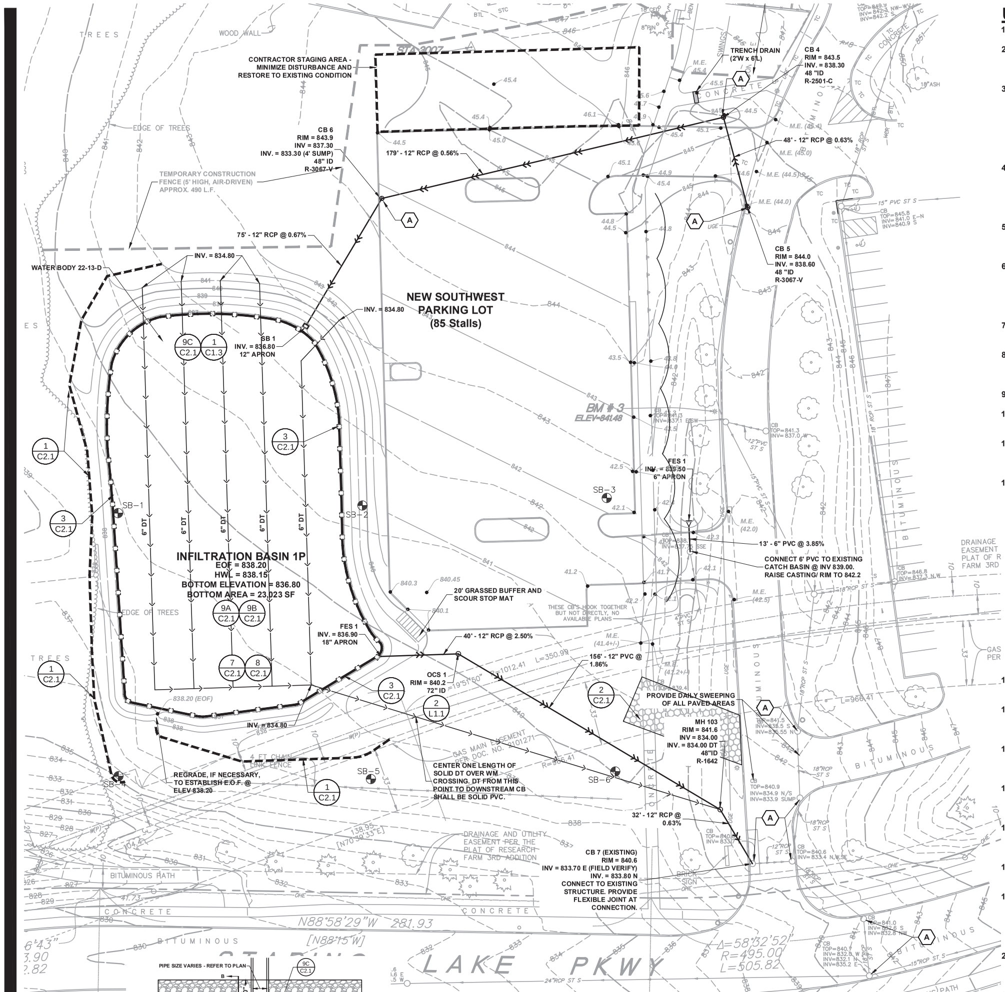
N

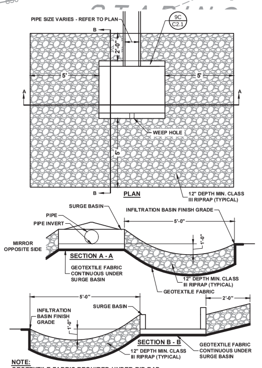
Feet

0 1,000

Permit Location Map

OAK POINT ELEMENTARY SCHOOL
PARKING LOT
Permit 2018-028
Riley Purgatory Bluff Creek
Watershed District





1 / C1.3 RIPRAP AT SURGE BASIN

LEGEND

1 / C2.1	REFERENCE KEY TO SITE DETAILS DETAIL I.D NUMBER (TOP) DETAIL SHEET NUMBER (BOTTOM)	○	PROPOSED MANHOLE (MH) 6 / C2.1
—840—	EXISTING CONTOUR	⊗	PROPOSED CATCH BASIN (CB) 5 / C2.1
× 840.6	EXISTING SPOT ELEVATION	◁	PROPOSED FLARED END SECTION 7 / C2.1, 8 / C2.1
845	PROPOSED CONTOUR	▫	PROPOSED SURGE BASIN 9C / C2.1, 1 / C1.3
45.6	PROPOSED SPOT ELEVATION ME = MATCH EXISTING EOF = EMERGENCY OVERFLOW	Ⓐ	SEDIMENT CONTROL DEVICE AT STORM SEWER INLET
	PROPOSED GRADING LIMITS		PROPOSED SILT FENCE 1 / C2.1
	PROPOSED STORM SEWER 4A / C2.1, 4B / C2.1		PROPOSED SEDIMENT CONTROL LOG 3 / C2.1
	PROPOSED DRAINTILE / FINGER DRAIN 13 / C2.1		PROPOSED ROCK CONSTRUCTION ENTRANCE 2 / C2.1
			PROPERTY LINE
		SB-1	APPROXIMATE SOIL BORING LOCATION

UTILITY AND SEDIMENT CONTROL NOTES

1. REFER TO SHEET C1.2, GRADING AND DRAINAGE PLAN, FOR GENERAL NOTES.
2. ALL STORM SEWER PIPE SHALL BE RCP, CLASS III (MIN.), WITH FLEXIBLE WATERTIGHT JOINTS IN ACCORDANCE WITH ASTM C-361 OR PVC PIPE (ASTM D3034, SDR 35) INSTALLED IN ACCORDANCE WITH ASTM D2321, UNLESS OTHERWISE NOTED.
3. FLEXIBLE JOINTS AT STORM SEWER PIPE CONNECTIONS TO STRUCTURES:
   a. IN ACCORDANCE WITH MINNESOTA PLUMBING CODE, PROVIDE FLEXIBLE JOINTS AT ALL PIPE CONNECTIONS TO ALL STORM SEWER STRUCTURES.
   b. ACCEPTABLE MANUFACTURERS / PRODUCTS:
   i. FERNCO, "CONCRETE MANHOLE ADAPTORS" OR "LARGE-DIAMETER WATERSTOPS"
   ii. PRESS-SEAL, WATERSTOP GROUTING RINGS"
   iii. OR APPROVED EQUAL.
4. ANY MANHOLE, CATCH BASIN, STORM SEWER, DRAINTILE OR OTHER POTENTIAL SOURCE FOR CONTAMINATION SHALL BE INSTALLED AT LEAST 10 FEET HORIZONTALLY FROM ANY WATERMAIN PER MINNESOTA PLUMBING CODE. THIS ISOLATION DISTANCE SHALL BE MEASURED FROM THE OUTER EDGE OF THE PIPE TO THE OUTER EDGE OF THE CONTAMINATION SOURCE (OUTER EDGE OF STRUCTURES OR PIPING OR SIMILAR).
5. LOCATE ALL EXISTING UTILITIES, VERIFY LOCATION, SIZE AND INVERT ELEVATION OF ALL EXISTING UTILITIES. VERIFY LOCATIONS, SIZES AND ELEVATIONS OF SAME BEFORE BEGINNING CONSTRUCTION.
6. CONTRACTOR SHALL STAKE LIMITS OF WALKS AND CURBING PRIOR TO INSTALLATION OF CATCH BASINS AND MANHOLES. MANHOLE LOCATIONS SHALL BE ADJUSTED TO AVOID PLACEMENT OF THESE STRUCTURES IN WALKS AND CURB AND GUTTER. CURB AND GUTTER SHALL BE STAKED TO ALLOW CURB INLET TYPE CATCH BASINS TO BE PROPERLY LOCATED IN LINE WITH CURBING.
7. REFER TO SWPPP NARRATIVE (SECTION 01 89 13) FOR CONSTRUCTION SEQUENCING AND EROSION CONTROL REQUIREMENTS.
8. MAINTAIN ADJACENT PROPERTY AND PUBLIC STREETS CLEAN FROM CONSTRUCTION CAUSED DIRT AND DEBRIS ON A DAILY BASIS. PROTECT DRAINAGE SYSTEMS FROM SEDIMENTATION AS A RESULT OF CONSTRUCTION RELATED DIRT AND DEBRIS.
9. MAINTAIN DUST CONTROL DURING GRADING OPERATIONS.
10. ALL EROSION CONTROL METHODS SHALL COMPLY WITH MPCA AND OTHER LOCAL REGULATIONS.
11. IF EROSION AND SEDIMENT CONTROL MEASURES TAKEN ARE NOT ADEQUATE AND RESULT IN DOWNSTREAM SEDIMENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING OUT DOWNSTREAM STORM SEWERS AS NECESSARY, INCLUDING ASSOCIATED RESTORATION.
12. SEDIMENT CONTROL DEVICE AT STORM SEWER INLETS. AT THE INLETS TO ALL STORM SEWER STRUCTURES, PROVIDE A PRODUCT FROM THE FOLLOWING LIST. ACCEPTABLE PRODUCTS:
   A. WIMCO TOP SLAB™ MODEL RD 27.
   B. INFRASAFE® SEDIMENT CONTROL BARRIER, DISTRIBUTED BY ROYAL ENVIRONMENTAL SYSTEMS, INC. SCB'S SHALL BE SIZED SPECIFICALLY FOR THE STRUCTURE AND CASTING SPECIFIED. SCB'S SHALL BE EQUIPPED WITH FRAME AND PERFORATED SHROUD AND SHALL BE WRAPPED ON THE OUTSIDE, COVERING THE PERFORATED WALL ONLY, WITH A GEOTEXTILE SOCK.
   C. DANDY BAG® OR DANDY BAG II® DISTRIBUTED BY BROCK WHITE COMPANY, ST. PAUL, MN (615) 647-0950. DANDY BAG SHALL BE USED ONLY FOR CURB INLETS AFTER PAVEMENT (BINDER COURSE OR WEAR COURSE) IS INSTALLED OR AT EXISTING PAVED AREAS.
   D. INFRASAFE® DEBRIS COLLECTION DEVICE BY ROYAL ENVIRONMENTAL SYSTEMS, INC., DISTRIBUTED BY ESS BROTHERS, 9350 COUNTY ROAD 19, CORCORAN, MN 55357 DCD'S SHALL BE SIZED SPECIFICALLY FOR THE STRUCTURE AND CASTING SPECIFIED. PROVIDE FILTER BAGS AND TIES FOR COMPLETE INSTALLATION.
   E. OR APPROVED EQUAL.
13. NATURAL TOPOGRAPHY AND SOIL CONDITIONS MUST BE PROTECTED, INCLUDING RETENTION ONSITE OF NATIVE TOPSOIL TO THE GREATEST EXTENT POSSIBLE.
14. ADDITIONAL MEASURES, SUCH AS HYDRAULIC MULCHING AND OTHER PRACTICES AS SPECIFIED BY THE DISTRICT MUST BE USED ON SLOPES OF 3:1 (H:V) OR STEEPER TO PROVIDE ADEQUATE STABILIZATION.
15. FINAL SITE STABILIZATION MEASURES SHALL INCLUDE AT LEAST SIX INCHES OF TOPSOIL OR ORGANIC MATTER BE SPREAD AND INCORPORATED INTO THE UNDERLYING SOIL DURING FINAL SITE TREATMENT WHEREVER TOPSOIL HAS BEEN REMOVED.
16. CONSTRUCTION SITE WASTE SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER AND SANITARY WASTE SHALL BE PROPERLY MANAGED.
17. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS SHALL BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND VEGETATION IS ESTABLISHED SUFFICIENTLY TO ENSURE STABILITY OF THE SITE, AS DETERMINED BY THE WATERSHED DISTRICT.
18. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS SHALL BE REMOVED UPON FINAL STABILIZATION.
19. SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED THROUGH SOIL AMENDMENT AND/OR RIPPING TO A DEPTH OF 18 INCHES WHILE TAKING CARE TO AVOID UTILITIES, TREE ROOTS AND OTHER EXISTING VEGETATION PRIOR TO FINAL REVEGETATION OR OTHER STABILIZATION.
20. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 7 CALENDAR DAYS AFTER LAND-DISTURBING WORK HAS TEMPORARILY OR PERMANENTLY CEASED ON A PROPERTY THAT DRAINS TO AN IMPAIRED WATER, WITHIN 14 DAYS ELSEWHERE.
21. THE CONTRACTOR SHALL, AT A MINIMUM, INSPECT, MAINTAIN AND REPAIR ALL DISTURBED SURFACES AND ALL EROSION AND SEDIMENT CONTROL FACILITIES AND SOIL STABILIZATION MEASURES EVERY DAY WORK IS PERFORMED ON THE SITE AND AT LEAST WEEKLY UNTIL LAND-DISTURBING ACTIVITY HAS CEASED. THEREAFTER, PERFORM THESE RESPONSIBILITIES AT LEAST WEEKLY UNTIL VEGETATIVE COVER IS ESTABLISHED. MAINTAIN A LOG OF ACTIVITIES UNDER THIS SECTION FOR INSPECTION BY THE WATERSHED DISTRICT ON REQUEST.
22. ACTIVITIES MUST BE CONDUCTED SO AS TO MINIMIZE THE POTENTIAL TRANSFER OF AQUATIC INVASIVE SPECIES (E.G., ZEBRA MUSSELS, EURASIAN WATERMILFOIL, ETC.) TO THE MAXIMUM EXTENT POSSIBLE.
23. THE RESPONSIBLE PARTY FOR IMPLEMENTATION OF THE SWPPP SHALL ALSO BE RESPONSIBLE FOR ALL MONITORING, DATA ENTRY, AND REPORTING TO THE PERMITRACK ESC WEB-BASED EROSION AND SEDIMENT PERMIT TRACKING PROGRAM UTILIZED BY THE CITY OF EDEN PRAIRIE.

LOW FLOOR ELEVATION	
LOW FLOOR	854.1'
INFILTRATION AREA HWL	838.1
FREEBOARD INFILTRATION AREA	16.0'

APPROXIMATE EROSION CONTROL DEVICE QUANTITIES

SILT FENCE = 425 L.F.

SEDIMENT CONTROL DEVICE AT STORM SEWER INLET = 8

PROPOSED ROCK CONSTRUCTION ENTRANCE = 25 CY

SEDIMENT CONTROL LOG = 595 L.F.

EXCERPT FROM THE SWPPP NARRATIVE

The following is from the Storm Water Pollution Prevention Plan Narrative, Section 01 89 13 of the Project Manual. In accordance with Section 31 00 00, the Contractor shall be responsible for full implementation of and maintenance required by the SWPPP Narrative until the Notice of Termination is approved by the MPCA. Should differences arise between the SWPPP Narrative information described below and the information contained within the SWPPP Narrative, bound into the Project Manual, the SWPPP in the Project Manual shall govern.

I. General Construction Sequence

A. Erosion Control Devices, noted herein, include:
1. Silt fence
2. Sediment Control Device at storm sewer inlets
3. Sediment log
4. Rock construction entrance
5. Rock check dams
6. Rip rap
7. Storm water treatment basins
8. Temporary sediment basins
9. Storm sewer systems
10. Temporary outlet pipes
11. Erosion control blanket
12. Temporary seeding
13. Final seeding / sodding
14. Temporary / permanent vegetation
15. Other features identified by the Minnesota Pollution Control Agency, City or Engineer as a Best Management Practice (BMP) device.

B. Contractor shall apply for NPDES Phase II Permit within 24 hours of award of Contract.
1. The Contractor shall post the permit in the job site trailer or other suitable temporary storage area.

C. Review the SWPPP and its sequencing and requirements. The Contractor shall notify the Engineer if site conditions, construction sequencing, or other items are different or require modification from this written SWPPP. The Engineer will review the suggested modifications and amend the SWPPP accordingly.

D. Following review of the SWPPP plans commence with the following construction sequence:
1. Install perimeter silt fence where indicated on the Drawings. Silt fence shall be as specified in Section 31 25 00.
2. Construct Sediment Control Devices (SCDs) at existing storm sewer inlets (hay bales around castings and silt fence under castings will not be acceptable). SCDs shall be installed and maintained at structures scheduled for removal until these structures are removed.
3. Have silt fence and other erosion control devices inspected by local authorities, as required by the local authority.
4. Delineate limits of proposed infiltration areas and provide visual barrier around these areas to prohibit construction traffic within these zones. It is suggested that orange snow fence be installed around the full perimeter of the area. No construction equipment staging, material staging, contractor parking, or other construction related access will be permitted within the area. Maintain visual barrier on a regular basis.
   a. Work in these areas shall be minimized until upstream tributary areas are stabilized (either temporary or permanent stabilization). Maintain existing vegetation cover as much as possible.
5. Construct the rock construction entrance.
6. Establish concrete truck washout areas and post with signs.
7. Remove all items scheduled for removal or, in the way of construction operations.
8. Strip and stockpile topsoil. Provide temporary seed and mulch as described herein.
9. Provide daily sweeping of the paved surfaces surrounding the project site.
10. Rough and finish grade bituminous parking lot, drive and walk subgrades following the procedures identified in Section 31 00 00 Earthwork.
11. Once pavement subgrade testing is complete, construct the stabilized aggregate base course. This will serve as temporary stabilization for the parking lot, drive, and paths.
12. Construct concrete curbs.
13. Construct the first lift of pavement. This will serve as permanent stabilization for the parking lot and drive.
14. Construct the Infiltration Area.
   a. The site relies on this area for storm drainage. Therefore, it is critical to maintain or enhance the infiltrating properties of the soils within the area. Options to accomplish include the following:
      (1) Limit construction traffic within these areas as much as possible to avoid compacting the soils in these areas.
      (2) Use a toothed bucket backhoe to excavate soils. Use off road trucks to haul and dump soils to other parts of the site.
      (3) Use a bucket and backhoe to place soils (where fill is required).
      (4) Use a toothed bucket for rough grading.
      (5) Use manual labor for finish grading.
      (6) Do not use equipment on the surface of the areas as this will compact the soils. Minimize smearing of the soils with mechanical equipment.
      (7) No stockpiling of soils or other materials shall occur within the areas.
   b. Rough grade the Infiltration area to specified tolerances and in accordance with the procedures listed in Section 31 00 00 Earthwork.
      (1) Access the area at a single location to minimize disturbance to the surrounding areas.
      (2) Use of self propelled equipment shall be limited within the Filtration Areas. Self propelled equipment will compact the soils and adversely affect filtration. As much as possible, access work in the Filtration areas from the edges, outside of the Infiltration Area limits.
      (3) Use a backhoe with long reach ability for final excavation that reaches from outside the area.
      (4) Remove all debris by hand.
      (5) Scarify the existing underlying soils as specified in Section 31 00 00 Earthwork.
   c. Provide final grading and final restoration at the Infiltration Area, including:
      (1) Access the area at a single location to minimize disturbance to the surrounding areas.
      (2) Use of self propelled equipment shall be as described above. Do not use skid steer equipment with the areas.
      (3) Final grade by hand.
      (4) Seed the areas by hand.
      (5) Establish vegetation by watering with a temporary irrigation system. Refer to Section 31 00 00 Earthwork for additional information.
16. Spread topsoil and finish grade the outlying areas.
17. Construct final lift of pavement and concrete walks.
18. Finish grade topsoil and prepare these areas for seed. Seed following soil preparation.
19. Provide final stabilization and cleanup of the site.

E. Provide maintenance to erosion control devices and BMP's to comply with the requirements of the permit.

F. Re-install all sediment control practices that have been adjusted or removed to accommodate short-term activates, such as passage of construction vehicles or equipment, immediately after the short-term activity has been completed. All sediment control practices shall be re-installed before the next precipitation event if the short term activity is not complete.

G. Inspect erosion control devices and provide routine maintenance as follows:
1. Inspect erosion control devices a minimum of once per week and after each rain event measuring 0.5" or more. Inspect, repair and cover erosion-damaged areas by the end of the next business day after discovery or as soon as field conditions allow access unless another time frame is specified.
   a. All perimeter control devices must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches one-half (½) of the height of the device. These repairs must be made by the end of the next business day after discover, or thereafter as soon as field conditions allow access.
2. Record inspection on log posted in Contractor's construction trailer or other suitable temporary storage area. All inspections and maintenance shall be recorded within 24 hours
   a. Records of each inspection and maintenance activity shall include:
      (1) Date and time of inspections
      (2) Name of person conducting inspection
      (3) Findings of inspections, including recommendations for corrective actions
      (4) If any discharge is observed to be occurring during the inspection, a record of all points of the property, from which there is a discharge must be made, and the discharge should be described (i.e., color, odor, floating, settled, or suspended solids, foam, oil sheen, and other obvious indicators of pollutants. Photographs shall be taken and kept with the inspection log.
      (5) Corrective actions taken (including dates, times, and party completing maintenance activities
      (6) Date and amount of all rainfall events greater than one half inch (0.5 inch) in 24 hours. Rainfall amounts must be obtained by a properly maintained rain gauge installed onsite, a weather station that is within 1 mile of the project site, or a weather reporting system that provides site specific rainfall data from radar summaries.
      (7) Documentation of changes made to the SWPPP as required by the NPDES General Stormwater Permit for Construction Activity (MN R100001)
   b. Inspections are not required where the ground is frozen. The required inspections and maintenance schedule must begin within 24 hours after runoff occurs at the site or 24 hours prior to resuming construction, whichever comes first.
3. Provide maintenance for all devices as follows:
   a. Silt fences, sediment logs, temporary berms, and erosion control devices at storm sewer inlets shall be inspected for depth of sediment, tears, to see if fabric is securely attached to support posts or structure, and to see that posts and devices are securely in place.
   b. Silt fences, sediment logs, temporary berms, and erosion control devices at storm sewer inlets, and other erosion control devices shall be cleaned when sediment reaches 1/3 the height of the erosion control device, within 24 hours.
   c. Rock construction entrances shall be inspected for clogging of river rock. River rock that has become clogged with sediment shall be removed and replaced with fresh river rock.
   d. Repairs or replacements to all erosion control devices shall occur within 24 hours of discovery.
   e. Temporary diversion berms shall be inspected and any breaches promptly repaired.
   f. Tracked sediment from construction vehicles on to public streets and paved areas (including paved areas on the construction site) shall be removed within 24 hours of discovery. Streets and other areas adjacent to the project must be inspected for evidence of off-site accumulations of sediment. If sediment is present, it must be removed in a manner and at a frequency sufficient to minimize off-site impacts.
   g. Removal of sediment and restabilization of Surface Waters shall be accomplished within 7 days of discovery (**note: surface waters include curb and gutter, pavements, storm sewer, swales, or other similar storm water conveyance devices**).
   h. Inlet protection may be removed if a local unit of government directs the permitee to do so because of a specific safety concern.

H. Provide dewatering of excavations as identified in Section 31 00 00.

I. Temporary Soil Stockpiles:
1. Temporary soil stockpiles shall not be placed in surface waters of the state, including surface conveyances such as curb and gutter, swales, or ditches.
2. Install silt fence at the base of the temporary soil stockpile (full perimeter).
3. Temporary soil stockpiles shall be seeded with temporary seed mix and hydromulch when stockpiles are left inactive for seven (7) days. Note, this does not apply to aggregate stockpiles or other stockpiles without significant silt, clay or organic components (clean aggregate stockpiles, clean rock, clean sand and similar clean aggregates).

J. Stabilize denuded areas (including stockpiles) within the following number of days of last construction activity (temporary or permanent) in that area:
1. As soon as possible but in no case later than seven (7) days, except:
   a. Temporary soil stockpiles shall be treated with appropriate erosion control measure, including silt fence and temporary seeding when stockpiles are left inactive for periods longer than 7 days. Note, this does not apply to aggregate stockpiles or other stockpiles without significant silt, clay or organic components (clean aggregate stockpiles, clean rock, clean sand and similar clean aggregates).

K. Provide maintenance of all sodded areas until fully established.

L. Provide cleaning of storm sewer system at the completion of the project. Cleaning shall include removal of accumulated sediment from all surface waters as defined by the permit (for example, curb and gutter, pavements, swales, and storm sewer piping and structures).

M. Remove silt fence and erosion control devices at storm sewer inlets following full establishment of site vegetation. Dispose materials properly off-site.

N. Apply for Notice of Termination (NOT) with MPCA. NOT must be submitted within 30 days after:
1. Site has undergone Final Stabilization (at least 80% vegetative cover), and
2. Removal of all temporary erosion control measures (silt fence, etc.), and
3. Final cleanout and maintenance of all permanent storm water facilities, and
4. Completion of all maintenance activities and site cleanup.

Project No.	19051
Date	01/31/2019
Drawn By	WJD
Ck. By	DAR
Revisions	CITY 05-31-19
	07-16-20

UTILITY AND SEDIMENT CONTROL PLAN

I hereby certify that this plan 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.

DAVID A. REY
Reg. No. 40180 Date 01/31/2019

ANDERSON - JOHNSON ASSOCIATES, INC.
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PARKING LOT CONSTRUCTION
Oak Point Elementary School

EDEN PRAIRIE PUBLIC SCHOOLS
8100 School Road
Eden Prairie, Minnesota 55344

Sheet **C1.3** of 11

NOTES:

1. REFER TO SHEET C1.2, GRADING AND DRAINAGE PLAN, FOR GENERAL NOTES.
2. MINIMIZE DISTURBANCE TO SITE AND PROTECT EXISTING VEGETATION AND SITE FEATURES (CURBS, WALKS, PAVEMENTS, OVERHEAD AND UNDERGROUND UTILITIES, SIGNAGE, FENCING, ROADWAYS, ETC.) WHICH ARE TO REMAIN.
3. REPAIR OR REPLACE EXISTING PROPERTY AND SITE FEATURES, INCLUDING GRASS AND VEGETATION, WHICH IS TO REMAIN THAT IS DAMAGED BY THE WORK, TO OWNER'S SATISFACTION AND AT NO ADDITIONAL COST TO THE OWNER.
4. VISIT THE SITE PRIOR TO BIDDING; BE FAMILIAR WITH ACTUAL CONDITIONS IN THE FIELD. EXTRA COMPENSATION WILL NOT BE ALLOWED FOR CONDITIONS WHICH COULD HAVE BEEN DETERMINED OR ANTICIPATED BY EXAMINATION OF THE SITE, THE CONTRACT DRAWINGS AND THE INFORMATION AVAILABLE PERTAINING TO EXISTING SOILS, UTILITIES AND OTHER SITE CHARACTERISTICS.
5. THE CONTRACTOR SHALL HIRE THE SERVICES OF A UTILITY LOCATOR COMPANY TO LOCATE ALL PRIVATELY OWNED UTILITIES THAT MAY BE DISTURBED BY CONSTRUCTION OPERATIONS
6. ALL APPLICABLE DIMENSIONS ARE TO FACE OF CURB, EDGE OF PAVEMENT OR PROPERTY LINE UNLESS OTHERWISE NOTED.
7. CHECK ALL PLAN AND DETAIL DIMENSIONS AND VERIFY SAME BEFORE FIELD LAYOUT.
8. SIGNAGE SHALL BE INSTALLED 18" BEHIND THE BACK OF CURB OR EDGE OF PAVEMENT.
9. ALL DISTURBED AREAS OUTSIDE THE BUILDING PAD WHICH ARE NOT DESIGNATED TO BE PAVED SHALL RECEIVE AT LEAST 6" OF TOPSOIL AND SHALL BE SODDED.
10. WHERE NEW SOD MEETS EXISTING TURF, EXISTING TURF EDGE SHALL BE CUT TO ALLOW FOR A CONSISTENT, UNIFORM STRAIGHT EDGE. JAGGED OR UNEVEN EDGES WILL NOT BE ACCEPTABLE. REMOVE TOPSOIL AT JOINT BETWEEN EXISTING AND NEW AS REQUIRED TO ALLOW NEW SOD SURFACE TO BE FLUSH WITH EXISTING.
11. FAILURE OF TURF DEVELOPMENT: IN THE EVENT THE CONTRACTOR FAILS TO PROVIDE AN ACCEPTABLE TURF, THE CONTRACTOR SHALL RE-SOD ALL APPLICABLE AREAS, AT NO ADDITIONAL COST TO THE OWNER, TO THE SATISFACTION OF THE ENGINEER.
12. LANDSCAPE ARCHITECT MUST INSPECT AND APPROVE FINISH GRADING BEFORE CONTRACTOR PROCEEDS WITH SODDING.
13. ALL TREES TO BE BALLED AND BURLAPPED.
14. ALL TREES AND SHRUBS SHALL RECEIVE 4" DEPTH OF CLEAN SHREDDED HARDWOOD MULCH, UNLESS OTHERWISE SPECIFIED.
15. ALL PLANT MATERIALS SHALL BE NO. 1 QUALITY, NURSERY GROWN AND SPECIMENS MUST BE MATCHED. ALL OVERSTORY TREES ADJACENT TO DRIVE AND IN PARKING LOT SHALL BEGIN BRANCHING NO LOWER THAN 6'.
16. SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED TO ACHIEVE A SOIL COMPACTION TESTING PRESSURE OF LESS THAN 200 PSI IN THE UPPER 12 INCHES OF THE SOIL PROFILE WHILE TAKING CARE TO PROTECT UTILITIES, TREE ROOTS, AND OTHER EXISTING VEGETATION.

PLANT SCHEDULE

SYMBOL	COMMON NAME	SCIENTIFIC NAME	QTY	SIZE	ROOT
DECIDUOUS SHADE TREES					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
			[illegible]		
CONIFEROUS TREES					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
			[illegible]		
SHRUBS					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
			[illegible]		
PERENNIALS/ORNAMENTAL GRASSES/VINES					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

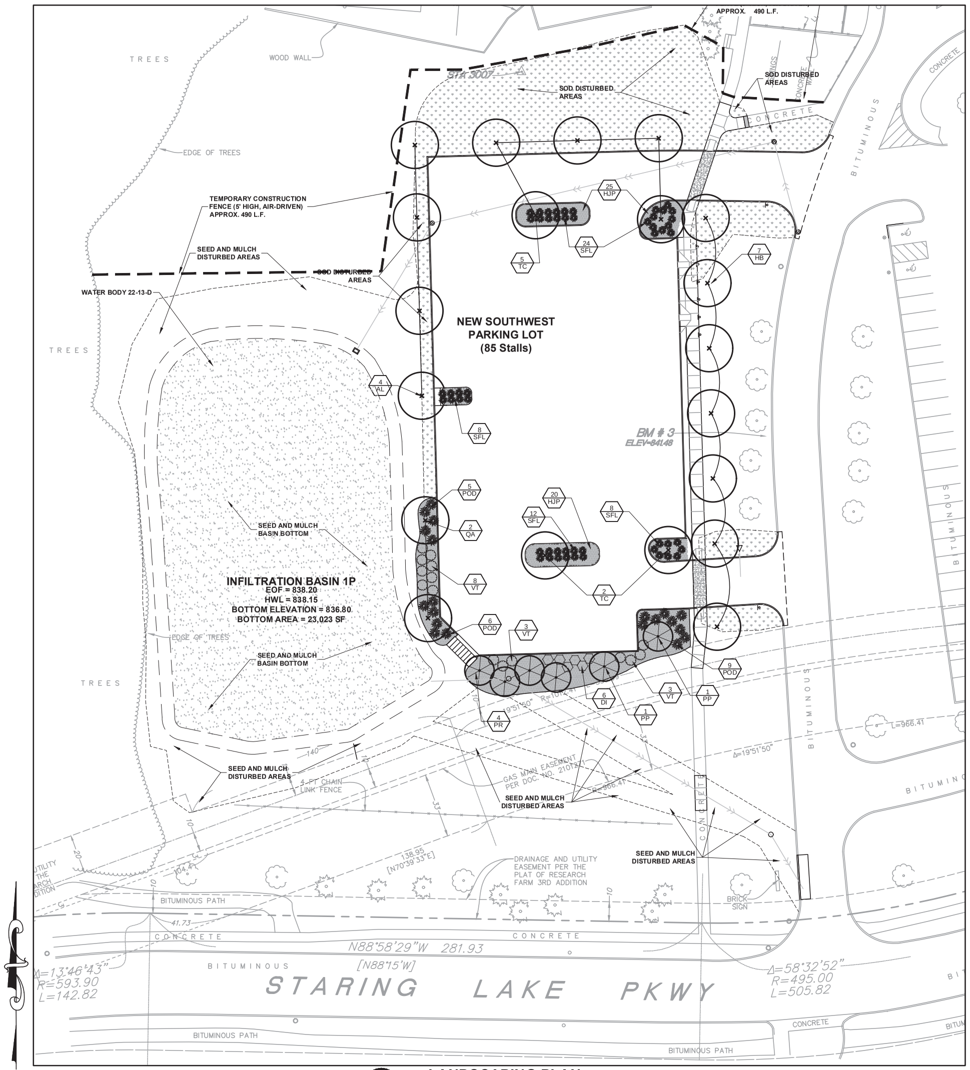
LANDSCAPING LEGEND

- (1 / C2.1) REFERENCE KEY TO SITE DETAILS — DETAIL I.D NUMBER (TOP), DETAIL SHEET NUMBER (BOTTOM)
- PROPOSED DECIDUOUS TREE (17 / C2.1)
- PROPOSED CONIFEROUS TREE (18 / C2.1)
- PROPOSED SHRUBS (19 / C2.1)
- APPROXIMATE SOD LIMITS
- PROPOSED SHRUB / MULCH BED
- PROPOSED TRAFFIC CONTROL SIGN (14 / C2.1) (15 / C2.1)
- PROPERTY LINE

APPROXIMATE AREAS (RELATED TO NEW PARKING LOT):

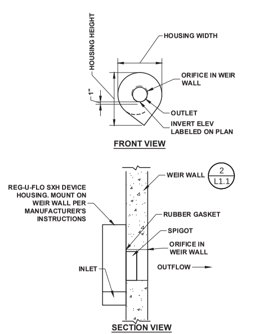
NEW PARKING LOT AND DRIVE AREA = 34,102 S.F. X 5% = 1,700 S.F.

ISLAND/ LANDSCAPE AREAS WITHIN AND AT EDGES OF NEW PARKING = 4,387 S.F. (MEETS CITY REQ., 12.9%)

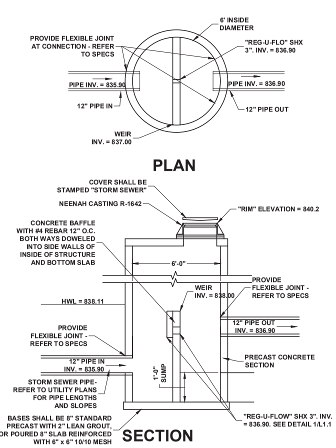


0 15 30

1 / L1.1 **LANDSCAPING PLAN**
SCALE: 1" = 30'



1 / L1.1 **VORTEX FLOW CONTROL DEVICE**



2 / L1.1 **OUTLET CONTROL STRUCTURE (OCS 1)**

Project No.	19051
Date	01/31/2019
Drawn By	JRP
Ck. By	JRP
Revisions	CITY 05-31-19
	07-16-20

LANDSCAPING PLAN

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed Landscape Architect under the laws of the State of Minnesota.

JAY R. POMEROY
Reg. No. 23543 Date 01/31/2019

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PARKING LOT CONSTRUCTION
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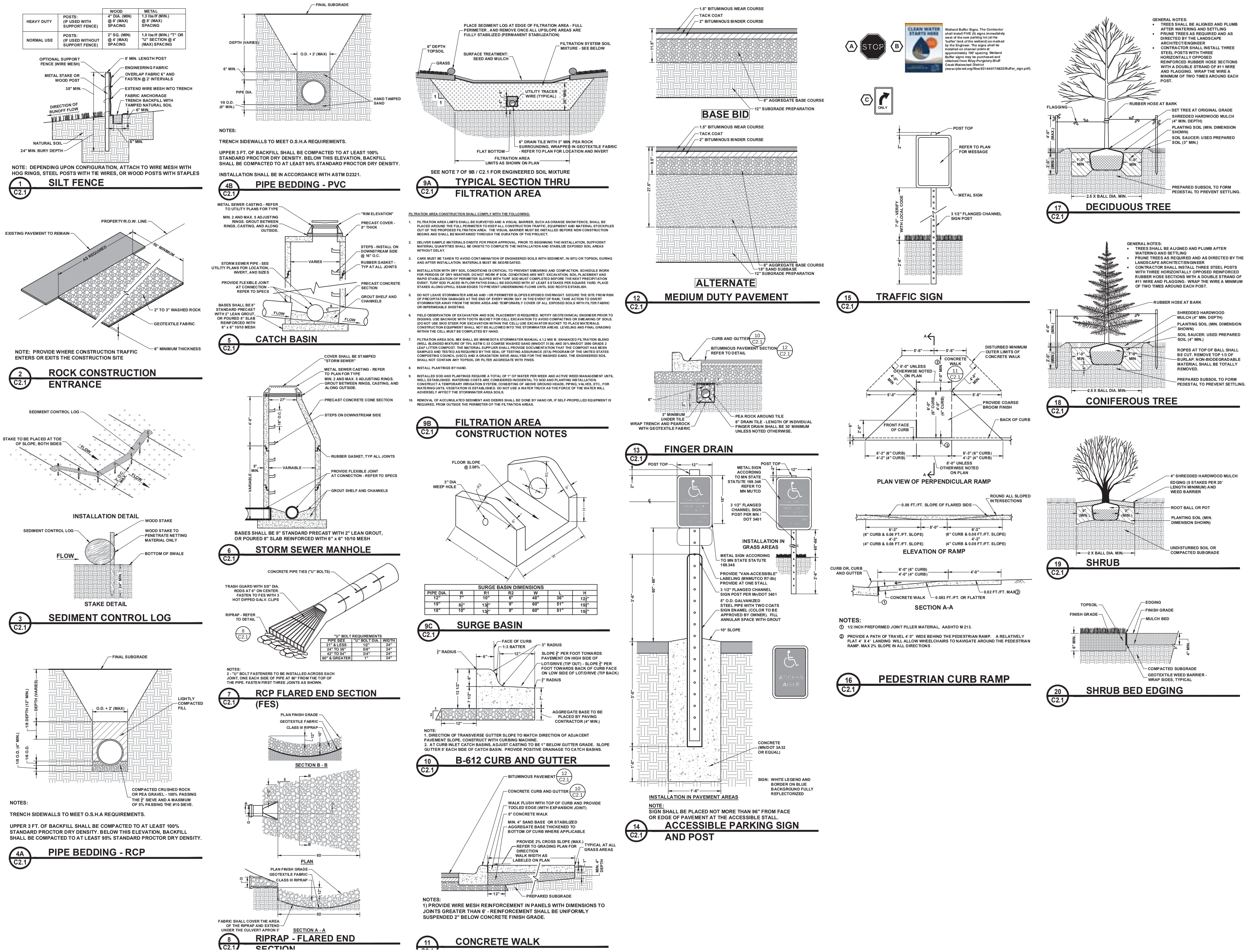

9B C2.1 FILTRATION AREA CONSTRUCTION NOTES

FILTRATION AREA CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING:

1. FILTRATION AREA LIMITS SHALL BE SURVEYED AND A VISUAL BARRIER, SUCH AS ORANGE SNOW FENCE, SHALL BE PLACED AROUND THE FULL PERIMETER TO KEEP ALL CONSTRUCTION TRAFFIC, EQUIPMENT AND MATERIAL STOCKPILES OUT OF THE PROPOSED FILTRATION AREA. THE VISUAL BARRIER MUST BE INSTALLED BEFORE NEW CONSTRUCTION BEGINS AND SHALL BE MAINTAINED THROUGH THE DURATION OF THE PROJECT.
2. DELIVER SAMPLE MATERIALS ONSITE FOR PRIOR APPROVAL. PRIOR TO BEGINNING THE INSTALLATION, SUFFICIENT MATERIAL QUANTITIES SHALL BE ONSITE TO COMPLETE THE INSTALLATION AND STABILIZE EXPOSED SOIL AREAS WITHOUT DELAY.
3. CARE MUST BE TAKEN TO AVOID CONTAMINATION OF ENGINEERED SOILS WITH SEDIMENT, IN-SITU OR TOPSOIL DURING AND AFTER INSTALLATION. MATERIALS MUST BE SEGREGATED.
4. INSTALLATION WITH DRY SOIL CONDITIONS IS CRITICAL TO PREVENT SMEARING AND COMPACTION. SCHEDULE WORK FOR PERIODS OF DRY WEATHER. DO NOT WORK IF SOIL CONDITIONS ARE WET. EXCAVATION, SOIL PLACEMENT AND RAPID STABILIZATION OF PERIMETER SLOPES WITH TURF SOD MUST COMPLETED BEFORE THE NEXT PRECIPITATION EVENT. TURF SOD PLACED IN FLOW PATHS SHALL BE SECURED WITH AT LEAST 6 STAKES PER SQUARE YARD. PLACE STAKES ALONG UPHILL SEAM EDGES TO PREVENT UNDERMINING FLOWS UNTIL SOD ROOTS ESTABLISH.
5. DO NOT LEAVE STORMWATER AREAS AND / OR PERIMETER SLOPES EXPOSED OVERNIGHT. SECURE THE SITE FROM RISK OF PRECIPITATION DAMAGES AT THE END OF EVERY WORK DAY. IN THE EVENT OF RAIN, TAKE ACTION TO DIVERT STORMWATER AWAY FROM THE WORK AREA AND TEMPORARILY COVER OF ALL EXPOSED SOILS WITH FILTER FABRIC OR IMPERMEABLE SHEETING.
6. FIELD OBSERVATION OF EXCAVATION AND SOIL PLACEMENT IS REQUIRED. NOTIFY GEOTECHNICAL ENGINEER PRIOR TO DIGGING. USE BACKHOE WITH TOOTH BUCKET FOR CELL EXCAVATION TO AVOID COMPACTING OR SMEARING OF SOILS. (DO NOT USE SKID STEER FOR EXCAVATION WITHIN THE CELL) USE EXCAVATOR BUCKET TO PLACE MATERIALS. CONSTRUCTION EQUIPMENT SHALL NOT BE ALLOWED INTO THE STORMWATER AREAS. LEVELING AND FINAL GRADING WITHIN THE CELL MUST BE COMPLETED BY HAND.
7. FILTRATION AREA SOIL MIX SHALL BE MINNESOTA STORMWATER MANUAL 4.1.2 MIX B: ENHANCED FILTRATION BLEND (WELL BLENDED MIXTURE OF 70% ASTM C-33 COARSE WASHED SAND (MN/DOT 3126) AND 30% MN/DOT 3890 GRADE 2 LEAF LITTER COMPOST. THE MATERIAL SUPPLIER SHALL PROVIDE DOCUMENTATION THAT THE COMPOST HAS BEEN SAMPLED AND TESTED AS REQUIRED BY THE SEAL OF TESTING ASSURANCE (STA) PROGRAM OF THE UNITED STATES COMPOSTING COUNCIL (USCC) AND A GRADATION SIEVE ANALYSIS FOR THE WASHED SAND. THE ENGINEERED SOIL SHALL NOT CONTAIN ANY TOPSOIL OR FILTER AGGREGATE WITH FINES.
8. INSTALL PLANTINGS BY HAND.
9. INSTALLED SOD AND PLANTINGS REQUIRE A TOTAL OF 1" OF WATER PER WEEK AND ACTIVE WEED MANAGEMENT UNTIL WELL ESTABLISHED. WATERING COSTS ARE CONSIDERED INCIDENTAL TO SOD AND PLANTING INSTALLATION. CONSTRUCT A TEMPORARY IRRIGATION SYSTEM, CONSISTING OF ABOVE GROUND HEADS, PIPING, VALVES, ETC., FOR WATERING UNTIL VEGETATION IS ESTABLISHED. DO NOT USE A WATER TRUCK AS THE FORCE OF THE WATER WILL ADVERSELY AFFECT THE STORMWATER AREA SOILS.
10. REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS SHALL BE DONE BY HAND OR, IF SELF-PROPELLED EQUIPMENT IS REQUIRED, FROM OUTSIDE THE PERIMETER OF THE FILTRATION AREAS.

Project No.	19051
Date	01/31/2019
Drawn By	JRP/MJD
Ck. By	JRP
Revisions	ADDEND1 9/24/18
	CITY 05-31-19
	10-02-19
	07-16-20

SITE DETAILS

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed Landscape Architect under the laws of the State of Minnesota.
JAY R. POMEROY
Reg. No. 23543 Date 01/31/2019

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8100 School Road
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Sheet
C2.1
of 11

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: 2019-051

Considered at Board of Managers Meeting: August 5, 2020

Received complete: June 3, 2020

Applicant: Luis Berrospid

Consultant: James R Hill Inc; Rick Osberg

Project: Construction of 2 new single family homes, extension of sanitary sewer, watermain, and shared driveway. One underground stormwater detention/infiltration facility, ditch checks and vegetated swales will be constructed to provide volume control, water quality, and rate control for runoff prior to discharging offsite.

Location: 7406 Frontier Trail, Chanhassen

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 August 5, 2020 meeting of the managers:

Resolved that the application for Permit 2019-051 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 have been affirmatively resolved, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2019-051 to the applicant on behalf of RPBCWD.

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

Applicable Rule Conformance Summary

Rule	Issue		Conforms to RBPCWD Rules?	Comments
B	**Floodplain Management**		Yes	
C	**Erosion Control Plan**		See comment.	See rule-specific permit condition C1.
J	**Stormwater Management**	Rate	Yes.	
		Volume	See comment.	See stipulation #5
		Water Quality	Yes.	
		Low Floor Elev.	Yes.	
		Maintenance	See comment.	See rule-specific permit condition J1.
		Chloride Management	Yes.	
		Wetland Protection	NA	No wetlands have been identified on or downgradient from the site.
L	**Permit Fee Deposit**		See comment.	$1,500 was received on 1/31/2020
M	**Financial Assurance**		See comment.	The financial assurance is calculated at $64,629

Project Description

The proposed construction includes splitting an existing single family home property into a 3 lot subdivision. The existing home will remain on one lot while 2 new single-family home sites, extension of sanitary sewer and watermain, and shared driveway will be constructed. One underground stormwater detentions/infiltration facility will be constructed to provide volume control, water quality, and rate control for runoff prior to discharging offsite. The project site information is summarized below:

	Total Project Site
Total Site Area (acres)	2.02
Existing Site Impervious (acres)	0.17
Proposed Site Impervious Area (acres)	0.42 (>100% increase)
New (Increase) in Site Impervious Area (acres)	0.25 (>100% increase)
Existing Impervious Area Disturbed (acres)	0.06 (35% disturbed)
Total Disturbed Area (acres)	0.99

Rule Specific Permit Conditions

Rule B: Floodplain Management and Drainage Alterations

Because the proposed construction involves the placement of 112 cubic yards of fill below the 100-year flood elevation (919.44) to produce a buildable lot, the project activities must conform to the RPBCWD's Floodplain Management and Drainage Alterations rule (Rule B).

The lowest proposed building will be constructed with low floor elevations of 927.0 thus providing the required two feet of freeboard above the 100-year flood elevation of the wetland complying with Rule B, Subsection 3.1. Rule B, Subsection 3.4 imposes no requirements on the project because no work in the floodplain of a watercourse is proposed. The supporting materials demonstrate, and the RPBCWD Engineer concurs, that 112 cubic yards of fill will be placed and 281 cubic yards of compensatory storage will be created below the 100-year floodplain, thus providing a net increase in the floodplain storage. The compensatory storage is provided below the same elevation of the fill within the 100-year floodplain, thus the project conforms to Rule B, Subsection 3.2. Because the applicant has demonstrated and the engineer concurs that the project will preserve the existing 100-year flood level, the project will not alter surface flows, complying with subsection 3.3. The Applicant submitted an erosion control plan in conformance with Rule C, per Rule B, Subsection 3.5. A note on plan sheet 2.1 indicates that activities must be conducted to minimize the potential transfer of aquatic invasive species conforming to Rule B, Subsection 3.6.

The proposed project conforms to the floodplain management and drainage alteration requirements of Rule B.

Rule C: Erosion and Sediment Control

Because the project will alter 0.99 acres of land-disturbing activity, 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 James R Hill, Inc includes installation of silt fence, inlet protection to protect storm sewer catch basins, a rock construction entrance, decompaction of areas compacted during construction, and retention of native topsoil onsite. To conform to the RPBCWD Rule C the following revisions are needed:

C1. The name and contact information of the general contractor responsible for the site must be provided.

Rule J: Stormwater Management

Because the project will disturb 0.99 acres of land-surface area, 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 project site because the project will increase the imperviousness of the entire site by more than 100 percent (Rule J, Subsection 2.3).

The developer is proposing construction of an underground detention/ infiltration system, ditch checks, and vegetated swales to provide the rate control, volume abstraction, and water quality management on the site. A sump manhole will provide pretreatment for the underground detention/infiltration system.

Rate Control

In order to meet the rate control criteria listed in Subsection 3.1.a, the 2-, 10-, and 100-year post redevelopment 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 disturbed site area are summarized in the table below. The proposed project is in conformance with RPBCWD Rule J, Subsection 3.1.a.

Modeled 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
SE Corner	3.3	2.6	6.2	6.2	12.2	11.9	0.4	0.4

Volume Abstraction

Subsection 3.1.b and 2.3 of Rule J requires the abstraction onsite of 1.1 inches of runoff from all the proposed impervious surface of the parcel. An abstraction volume of 1,679 cubic feet is required from the 0.42 acres (18,318 square feet) of impervious area on the proposed project for volume retention.

The Applicant proposes an underground detention/infiltration system with pretreatment of runoff provided by a sump manhole. Soil borings performed by Haugo Geotechnical Services show that soils in the project area are sandy lean clay; the MN Stormwater Manual indicates an infiltration rate of 0.06 inches per hour for the clayey soils. Soil borings performed by Haugo Geotechnical Services show no groundwater to a boring depth of 21 feet. While this provides some evidence that groundwater is at least 3 feet below the bottom of the proposed underground detention/infiltration system (Rule J, Subsection 3.1.b.ii), the boring was not located at the proposed BMP location.

The applicant excavated a small test pit at the to conduct in-situ infiltration testing at the location at which the applicant first proposed to construct an above-ground BMP and discovered a perched groundwater table and was unable to conduct infiltration tests. The applicant changed the stormwater design to the proposed underground detention/infiltration system at a different location on the site to achieve the required separation to groundwater (Rule J, Subsection 3.1.b.ii). Because the engineer concurred that the clayey soils will limit the infiltration capacity and the groundwater elevation restricts

the location of potential BMP placement, and that the abstraction standard in subsection 3.1 of Rule J cannot practicably be met, the site is considered restricted and stormwater runoff volume is required to be managed in accordance with 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. Given the expected low infiltration capacity of the soils and high groundwater conditions, location of existing offsite structures, and site topography the engineer finds that the applicant has maximized stormwater abstraction in accordance Subsection 3.3b of Rule J by maximizing the footprint of the underground detention/infiltration system. The applicant is also implementing better site design methods by proposing soil amendments of the disturbed pervious areas in improve the water holding capacity of pervious surfaces and further reduce site runoff. The designed abstraction performance for the project site is summarized in the table below. The proposed project is in conformance with Rule J, Subsection 3.1.b.

	Abstraction Depth (inches)	Abstraction Volume (cubic feet)
Requirement	1.1	1,679
Provided	0.27	414

The geotechnical report does not appear to contain measured infiltration or hydraulic conductivity testing results at the underground detention/infiltration system as required by Rule J, subsection 3.1.b.ii.C. 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 that used in the design of the BMP, 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 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, and no net increase in TSS or TP loading leaving the site from existing conditions. The Applicant is proposing an underground detention/ infiltration system, ditch checks, and vegetated swales to achieve the required TP and TSS removals and submitted a P8 model to estimate the TP and TSS removals. The results of this modeling are summarized in tables below showing the annual TSS and TP removal requirements are achieved and that there is no net increase in TSS and

TP leaving the site. The engineer concurs with the modeling, and finds that the proposed project is in conformance with Rule J, Subsection 3.1.c.

Annual TSS and TP removal summary:

Pollutant of Interest	Regulated Site Loading (lbs/yr)	Required Load Removal (lbs/yr)	Provided Load Reduction (lbs/yr)
Total Suspended Solids (TSS)	409	368 (90%)	368 (90%)
Total Phosphorus (TP)	1.3	0.78 (60%)	0.95 (73%)

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)	50.9	9.8	-41.1
Total Phosphorus (TP)	0.4	0.1	-0.3

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 or less than 1 foot above the emergency overflow according to Rule J, Subsection 3.6. In addition, no stormwater management system may be constructed or reconstructed in a manner that brings the low floor elevation of an adjacent structure into noncompliance according to Rule J, Subsection 3.6. The low floor elevation of the homes and the adjacent stormwater management feature is summarized below.

Location Riparian to Stormwater Facility	Low Floor Elevation of Building (feet)	100-year Event Flood Elevation Stormwater Facility (feet)	Freeboard to 100-year Event (feet)	Provided Distance Between Building and Adjacent Stormwater Feature (feet)	Required Separation to Groundwater based on Appendix J, Plot 2 (feet)	Provided Separation to Groundwater based on Appendix J, Plot 2 (feet)
Lot 1	927.0	925.0	2.0	NA	NA	NA
Lot 2	934.0	925.0	9.0	NA	NA	NA
Adjacent Home to South	919.28	925.0	-4.54	113	0.8	1.08

The low floor elevations of the existing off-site home at 7460 Frontier Trail (919.28 ft) is less than the required 2 feet above 100-year event flood elevation of underground detention/infiltration system The applicant completed an analysis in accordance with Appendix J1 for this home as summarized in the above table. Based on the analysis provided, the engineer concurs that the low floors of the existing 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.

Maintenance

Subsection 3.7 of Rule J requires the submission of 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.

J1. Permit applicant must provide a draft maintenance and inspection declaration. Once approved by RPBCWD, the declaration must be recorded on the deed for the property and a stamped copy of the declaration provided to the RPBCWD after recordation.

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. The RPBCWD chloride-management plan requirement applies only to the streets and common areas of the project site, and not the individual single-family homes. the proposed development conforms with Rule J, subsection 3.8.

Rule L: Permit Fee Deposit:

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 $1,500 was received on January 31, 2020.

Rule M: Financial Assurance:

Rules C: Silt fence: 440 L.F. x $2.50/L.F. = ... $1,100

Inlet protection: 2 x $100 = ... $200

Rock Entrance: 1 x $900 = ... $900

Restoration: 0.99 acres x $2,500/acre = ... $2,475

Rules J: Infiltration Basins: $39,263 x 125% of engineer's opinion of cost= $49,079

Chloride Management $5,000

Contingency (10%) $5,875

Total Financial Assurance $64,629

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 conforms to Rule B.
3. The proposed project will conform to Rules C and J if the Rule Specific Permit Conditions listed above are met.

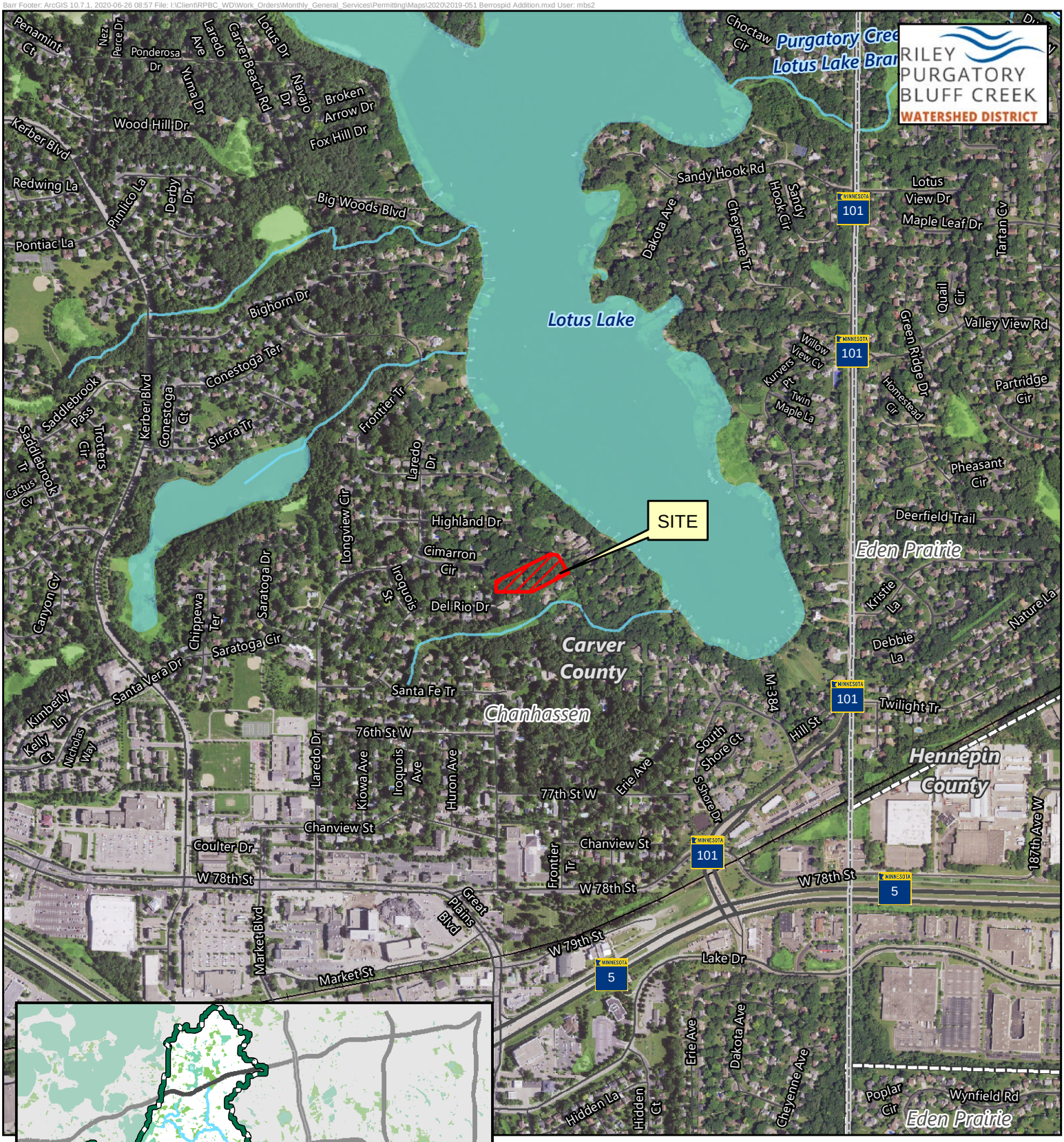
Recommendation:

Approval, contingent upon:

1. Continued compliance with General Requirements
2. Financial Assurance in the amount of $64,629
3. Receipt of documentation of recordation of a maintenance declaration for the stormwater management facilities after approval by RPBCWD staff. Drafts of any and all documents to be recorded 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, stormwater facilities conform to design specifications as approved by the District.
2. The work on the Berrospid parcel under the terms of permit 2019-051, 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.
3. 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.
4. The applicant provide proof of recordation that drainage and flowage easements over all land below the 100-year flood elevation have been conveyed to the municipality with jurisdiction, if required.
5. 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 that used in the design of the BMP, 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).
6. To close out the permit, the 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.



Permit Location Map

BERROSPID ADDITION
Permit 2019-051
Riley Purgatory Bluff Creek
Watershed District

BERROSPID ADDITION

CHANHASSEN, MINNESOTA

SITE DEVELOPMENT PLANS

FOR

LUIS BERROSPID

7406 FRONTIER TRAIL, CHANHASSEN, MINNESOTA

PHONE: (763)-280-0528

SINGLE FAMILY REQUIREMENT & DATA (P.U.D.)

MIN. LOT AREA	15,000 S.F.
MIN. LOT WIDTH AT SETBACK	100 FEET
	(100 FEET NECK/FLAG LOT)
MIN. LOT DEPTH	125 FEET

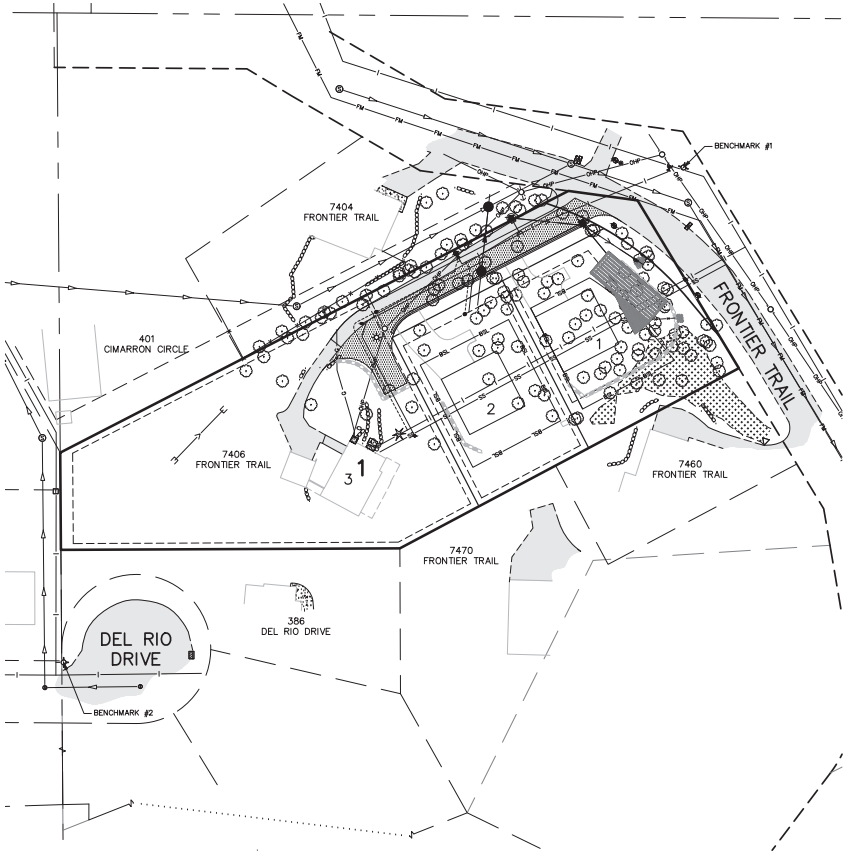
MINIMUM SETBACKS FOR SINGLE FAMILY

FRONT	30 FEET
SIDE (INTERIOR)	10 FEET
SIDE (STREET)	30 FEET
REAR	30 FEET

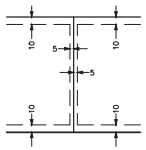
LOCATION MAP

SCALE: 1"=1600'

PROJECT COORDINATES
N 44° 52' 7"
W 93° 31' 48"



DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:



BEING 5 FEET IN WIDTH AND ADJOINING SIDE LOT LINES AND 10 FEET IN WIDTH ADJOINING STREET LINES AND REAR LOT LINES, UNLESS OTHERWISE INDICATED ON THE PLAT.

BENCHMARK

#1 TOP NUT HYDRANT EAST OF PROPERTY ON EAST SIDE OF FRONTIER TRAIL
ELEV=930.78

#2 TOP NUT HYDRANT SOUTH OF PROPERTY ON DEL RIO DRIVE CUL-DE-SAC
ELEV=981.89

PROJECT CONTACTS

PROJECT ENGINEER:	RICK OSBERG, P.E. - JAMES R. HILL, INC.	(952)-890-6044 (O)
DEVELOPER:	LUIS BERROSPID	(763)-280-0528 (O)
CITY ENGINEER:	JASON WEDEL	(952)-227-1169 (O)
NPDES OFFICER:	BRIAN GREEN	(507)-206-2610 (O)
GENERAL CONTRACTOR REPRESENTATIVE:	TBD	

INDEX

LEGEND

- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING OVERHEAD POWER LINE
- EXISTING LIGHT POLE
- EXISTING TELEPHONE PEDESTAL
- EXISTING TV PEDESTAL
- EXISTING CURB & GUTTER
- EXISTING FENCE
- EXISTING RETAINING WALL
- EXISTING TREELINE/TREES
- EXISTING ASPHALT
- EXISTING CONCRETE
- EXISTING GRAVEL
- PROPOSED WATERMAIN
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED CURB & GUTTER
- PROPOSED CONCRETE
- PROPOSED ASPHALT SURFACE

811 Know what's below. Call 811 before you dig.

N

SCALE IN FEET
0 50 100 150
1 inch = 50 feet

James R. Hill, Inc.
PLANNERS / ENGINEERS / SURVEYORS
2999 W. Cty. Rd. 42, Suite 100, Burnsville MN 55306
PHONE: (952)890-6044 FAX: (952)890-6244

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed professional Engineer under the laws of the State of Minnesota.
RICK OSBERG, P.E.
Date: 03/05/19 Reg.No. 22098

BERROSPID ADDITION
CHANHASSEN, MINNESOTA
TITLE SHEET
FOR
LUIS BERROSPID
7406 FRONTIER TRAIL, CHANHASSEN, MINNESOTA

DRAWN BY
JSO

DATE
03/05/19

REVISIONS

04/22/19 DRIVEWAY/STORM SEWER
08/05/19 TREE PLAN & PLAT
04/30/20 WATERSHED COMMENTS
06/03/20 WATERSHED COMMENTS
06/23/20 WATERSHED COMMENTS
07/24/20 WATERSHED COMMENTS

CAD FILE
23520TS

PROJECT NO.
23520

1.0

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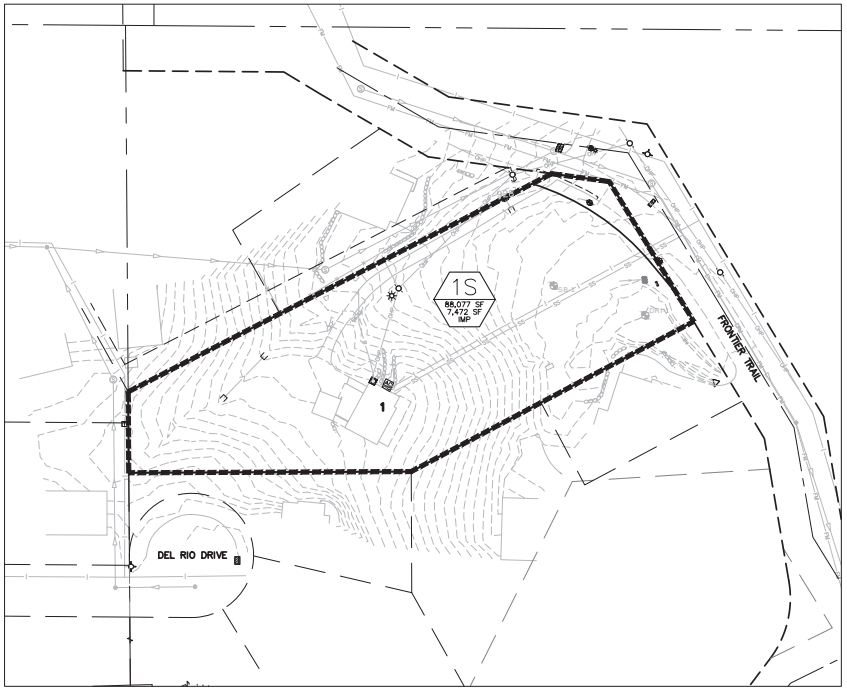

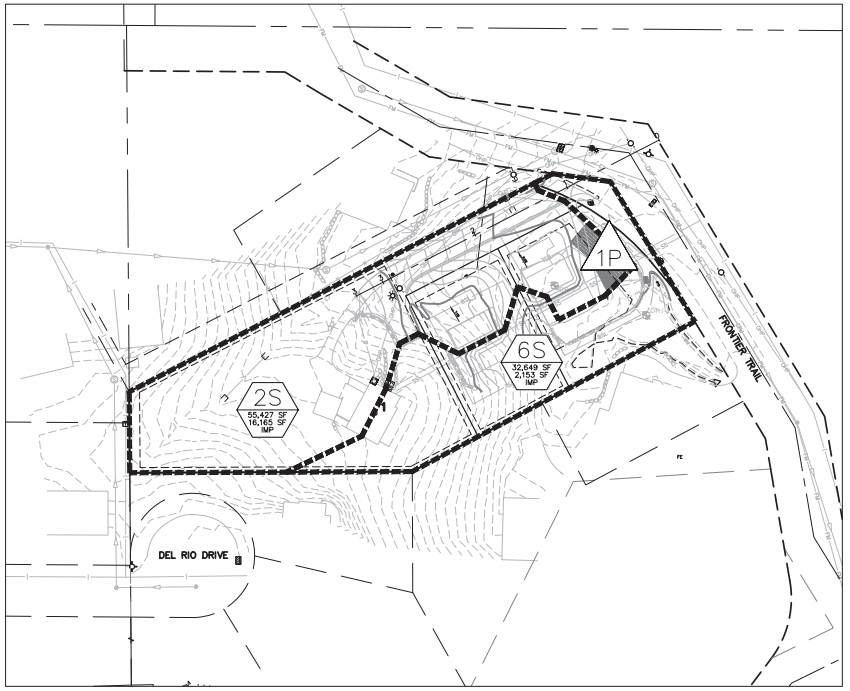

DRAINAGE SUMMARY

	EXISTING (1S)	PROPOSED NORTH(7L)
2-YEAR (2.87")	3.27 CFS	2.87 CFS
10-YEAR (4.27")	6.24 CFS	6.24 CFS
100-YEAR (7.41")	12.22 CFS	11.85 CFS
10 DAY SNOW-MELT	0.39 CFS	0.38 CFS

VOLUME REDUCTION REQUIREMENT

TOTAL PROPOSED IMPERVIOUS = 18,318 SF
0.55" OVER IMPERVIOUS AREA (RESTRICTED SITE) = 0.55"/12" PER FT x 18,318 SF = 840 CF
VOLUME PROVIDED BELOW OUTLET (INFILTRATION) = 414 CF

LEGEND

1P — POND AREA

1S — TOTAL DRAINAGE AREA 336,710 SF; IMPERVIOUS AREA 0 SF IMP — DRAINAGE AREA

N

SCALE IN FEET
0 60 120 180
1 Inch = 60 feet

James R. Hill, Inc.
PLANNERS / ENGINEERS / SURVEYORS
2999 W. Cty. Rd. 42, Suite 100, Burnsville MN 55306
PHONE: (952)890-6044 FAX: (952)890-6244

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
RICK J. ROSBERG, P.E.
Date: 03/05/19 Reg.No. 22208

BERROSPID ADDITION
CHANHASSEN, MINNESOTA
SITE INFORMATION
FOR
LUIS BERROSPID
7406 FRONTIER TRAIL, CHANHASSEN, MINNESOTA

DRAWN BY
EPF
DATE
03/05/19
REVISIONS
04/22/19 DRIVEWAY/STORM SEWER
08/05/19 TREE PLAN & PLAT
04/30/20 WATERSHED COMMENTS
06/03/20 WATERSHED COMMENTS
06/23/20 WATERSHED COMMENTS
07/24/20 WATERSHED COMMENTS
CAD FILE
23520-SI
PROJECT NO.
23520
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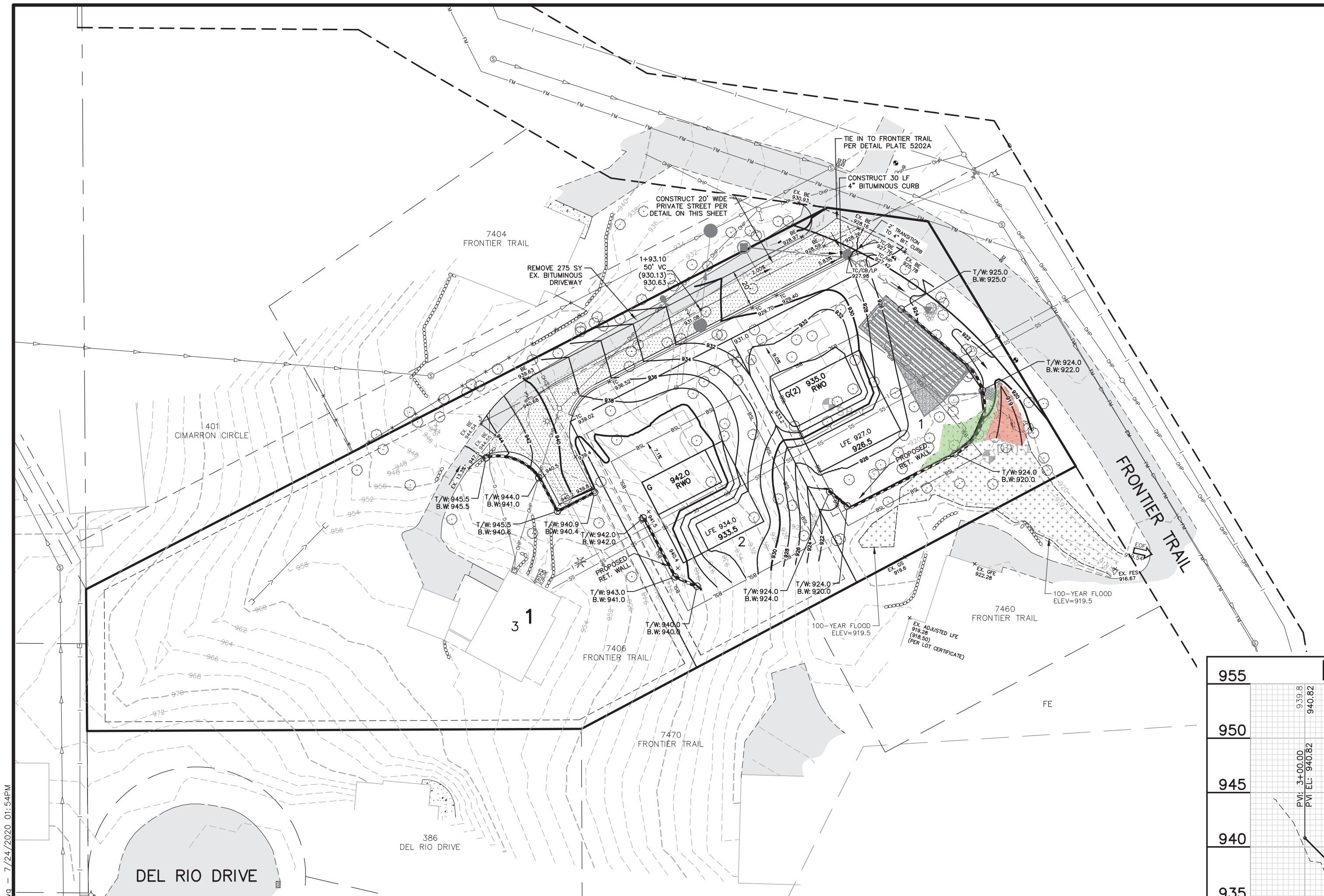
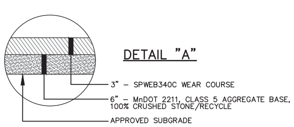


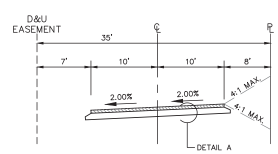
LEGEND

- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING OVERHEAD POWER LINE
- EXISTING LIGHT POLE
- EXISTING TELEPHONE PEDESTAL
- EXISTING TV PEDESTAL
- EXISTING CURB & GUTTER
- EXISTING FENCE
- EXISTING RETAINING WALL
- 1002 EXISTING CONTOUR
- EXISTING TREELINE/TREES
- EXISTING ASPHALT
- EXISTING CONCRETE
- EXISTING GRAVEL
- PROPOSED STORM SEWER
- PROPOSED CURB & GUTTER
- PROPOSED RETAINING WALL
- 1002 PROPOSED CONTOUR
- SB#1 SOIL BORING LOCATION
- EOF EMERGENCY OVERFLOW
- PROPOSED CONCRETE
- PROPOSED BITUMINOUS
- TC × 946.50 PROPOSED SPOT ELEVATION
  - TC=TOP OF CURB
  - G=GUTTER
  - GS=GROUND SHOT
  - LP=LOW POINT
  - HP=HIGH POINT
  - EX=EXISTING
  - RE=RIM ELEVATION
  - CB=TOP OF CATCH BASIN
- PROPOSED SILT FENCE
- PROPOSED WIMCO/INLET PROTECTION —POST STORM SEWER CONSTRUCTION
- PROPOSED FLARED END PROTECTION —POST STORM SEWER CONSTRUCTION

FLOOD STORAGE SUMMARY

CUT WITHIN FLOODPLAIN = 281 CF
FILL WITHIN FLOODPLAIN = 112 CF
CHANGE IN STORAGE CAPACITY = + 169 CF

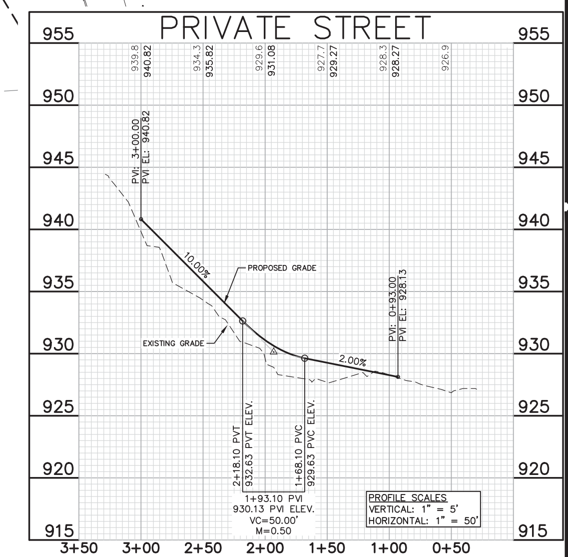




PRIVATE STREET DETAIL
NOT TO SCALE

Know what's below.
Call 811 before you dig.

SCALE IN FEET
0 30 60 90
1 inch = 30 feet



James R. Hill, Inc.
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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
RICK L. OSBERG, P.E.
Date 03/05/19 Reg. No. 22709

BERROSPID ADDITION
CHANHASSEN, MINNESOTA
GRADING PLAN
FOR
LUIS BERROSPID
7406 FRONTIER TRAIL, CHANHASSEN, MINNESOTA

DRAWN BY	JSO
DATE	03/05/19

REVISIONS

- 04/22/19 DRIVEWAY/STORM SEWER
- 08/05/19 TREE PLAN & PLAT
- 04/30/20 WATERSHED COMMENTS
- 06/03/20 WATERSHED COMMENTS
- 06/23/20 WATERSHED COMMENTS
- 07/24/20 WATERSHED COMMENTS

CAD FILE	23520G
PROJECT NO.	23520
	2.0

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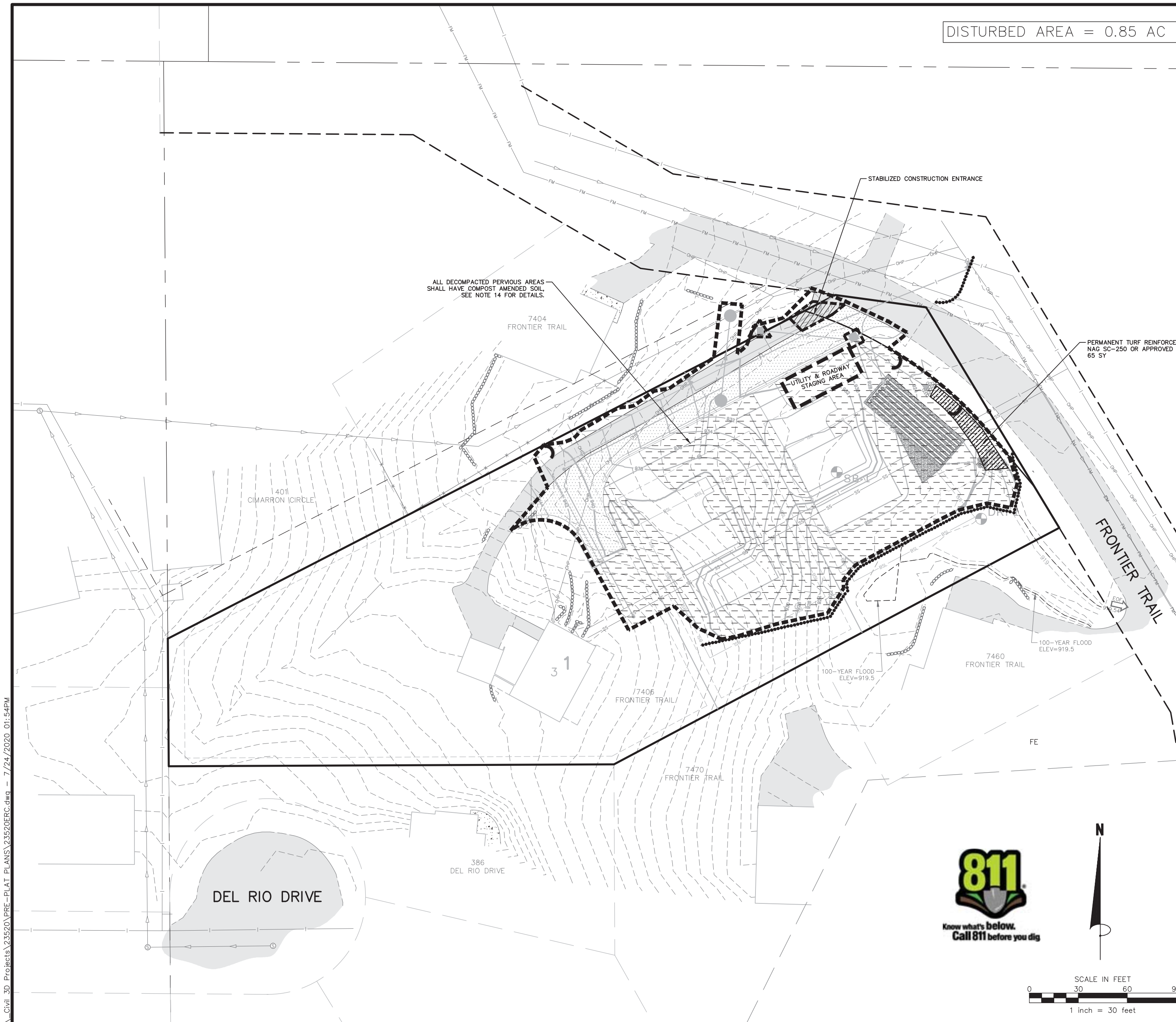
DISTURBED AREA = 0.85 AC



LEGEND

- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING OVERHEAD POWER LINE
- EXISTING LIGHT POLE
- EXISTING TELEPHONE PEDESTAL
- EXISTING TV PEDESTAL
- EXISTING CURB & GUTTER
- EXISTING FENCE
- EXISTING RETAINING WALL
- EXISTING CONTOUR (1002)
- EXISTING WETLAND
- EXISTING TREELINE/TREES
- EXISTING ASPHALT
- EXISTING CONCRETE
- EXISTING GRAVEL
- PROPOSED STORM SEWER
- PROPOSED CURB & GUTTER
- PROPOSED CONTOUR (1002)
- PROPOSED SILT FENCE
- PROPOSED DISTURBANCE LIMITS
- PROPOSED WIMCO-POST STORM SEWER CONSTRUCTION
- PROPOSED YARD CB INELT PROTECTION – POST STORM SEWER CONSTRUCTION
- MNDOT TYPE 3 DITCH CHECK
- SB#1 SOIL BORING LOCATION
- EOF EMERGENCY OVERFLOW
- PROPOSED CONCRETE
- PROPOSED TEMPORARY ROCK CONSTRUCTION ENTRANCE
- PROPOSED EROSION CONTROL BLANKET – MnDOT CATEGORY 3
- DE-COMPACT PERVIOUS AREA TO GREATEST EXTENT PRACTICABLE
- PERMANENT TURF REINFORCEMENT MAT

EROSION CONTROL NOTES

1. ACTIVITIES MUST BE CONDUCTED SO AS TO MINIMIZE THE POTENTIAL TRANSFER OF AQUATIC INVASIVE SPECIES (e.g. ZEBRA MUSSELS, EURASIAN WATERMILFOIL, ETC.) TO THE MAXIMUM EXTENT POSSIBLE.
2. NATURAL TOPOGRAPHY AND SOIL CONDITIONS MUST BE PROTECTED, INCLUDING RETENTION ONSITE OF NATIVE TOPSOIL TO THE GREATEST EXTENT POSSIBLE.
3. CONSTRUCTION SHOULD INCLUDE MINIMIZATION OF THE DISTURBANCE INTENSITY AND DURATION, INCLUDING PHASING OF DISTURBANCE TO MINIMIZE QUANTITY OF DISTURBED AREA AT ANY ONE TIME.
4. ADDITIONAL MEASURES, SUCH AS HYDRAULIC MULCHING AND OTHER PRACTICES AS SPECIFIED BY THE DISTRICT MUST BE USED ON SLOPES OF 3:1 (H:V) OR STEEPER TO PROVIDE ADEQUATE STABILIZATION.
5. ALL STORMWATER-MANAGEMENT FACILITIES MUST BE PROTECTED WITH EROSION PREVENTION AND SEDIMENT CONTROL BMPS.
6. FINAL SITE STABILIZATION MEASURES MUST SPECIFY THAT AT LEAST SIX INCHES OF TOPSOIL OR ORGANIC MATTER BE SPREAD AND INCORPORATED INTO THE UNDERLYING SOIL DURING FINAL SITE TREATMENT WHEREVER TOPSOIL HAS BEEN REMOVED.
7. CONSTRUCTION SITE WASTE, SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER, AND SANITARY WASTE MUST BE PROPERLY MANAGED
8. STAKING OFF AND MARKING OF PROPOSED INFILTRATION FACILITIES TO PREVENT SOIL COMPACTION BY HEAVY EQUIPMENT, STOCKPILING OF MATERIALS, AND TRAFFIC. IF INFILTRATION FACILITIES ARE IN PLACE DURING CONSTRUCTION ACTIVITIES, BEST PRACTICES MUST BE DEPLOYED TO PREVENT SEDIMENT AND OTHER MATERIAL FROM ENTERING THE PRACTICE(S). INFILTRATION FACILITIES MUST NOT BE EXCAVATED TO WITHIN 3 FEET OF FINAL GRADE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN CONSTRUCTED AND FULLY STABILIZED. ANY ACCUMULATED SEDIMENT IN AN INFILTRATION FACILITY MUST BE REMOVED IN A 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.
9. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPs MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND VEGETATION IS ESTABLISHED SUFFICIENTLY TO ENSURE STABILITY OF THE SITE, AS DETERMINED BY THE DISTRICT.
10. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPs MUST BE REMOVED UPON FINAL STABILIZATION.
11. SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED TO ACHIEVE:
    a. 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

    b. 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.
12. THE PERMITTEE MUST, AT A MINIMUM, INSPECT, MAINTAIN, AND REPAIR ALL DISTURBED SURFACES AND ALL EROSION AND SEDIMENT CONTROL FACILITIES AND SOIL STABILIZATION MEASURES EVERY DAY WORK IS PERFORMED ON THE SITE AND AT LEAST WEEKLY UNTIL LAND-DISTURBING ACTIVITY HAS CEASED. THEREAFTER, 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.
13. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 7 CALENDAR DAYS AFTER LAND-DISTURBING WORK HAS TEMPORARILY OR PERMANENTLY CEASED ON A PROPERTY THAT DRAINS TO AN IMPAIRED WATER, WITHIN 14 DAYS ELSEWHERE.
    a. INTERIM STABILIZATION (PRIOR TO HOME CONSTRUCTION) SHALL INCLUDE SEED AND MULCHING OF ALL DISTURBED AREAS.

    b. ALL DISTURBED AREAS SHALL BE STABILIZED WITH SOD OR LANDSCAPING UPON COMPLETION OF HOME CONSTRUCTION.
14. DECOMPACTION OF DISTURBED PERVIOUS AREAS SHALL INCLUDE THE AMENDMENT OF TOPSOIL. 3 INCHES OF COMPOST MATERIAL SHALL BE PLACED ON THE RESPREAD TOPSOIL, AND BLENDED TO A DEPTH OF 6 INCHES, MINIMUM, TO COMPLETE THE AMENDMENT.

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RICK L. OSBERG, P.E.
Date: 03/05/19 Reg.No. 22709

BERROSPID ADDITION
CHANHASSEN, MINNESOTA

EROSION & SEDIMENT CONTROL PLAN
FOR
LUIS BERROSPID
7406 FRONTIER TRAIL, CHANHASSEN, MINNESOTA

DRAWN BY: JSO
DATE: 03/05/19

REVISIONS
04/22/19 DRIVEWAY/STORM SEWER
08/05/19 TREE PLAN & PLAT
04/30/20 WATERSHED COMMENTS
06/03/20 WATERSHED COMMENTS
06/23/20 WATERSHED COMMENTS
07/24/20 WATERSHED COMMENTS

CAD FILE: 23520ERC
PROJECT NO.: 23520
2.1

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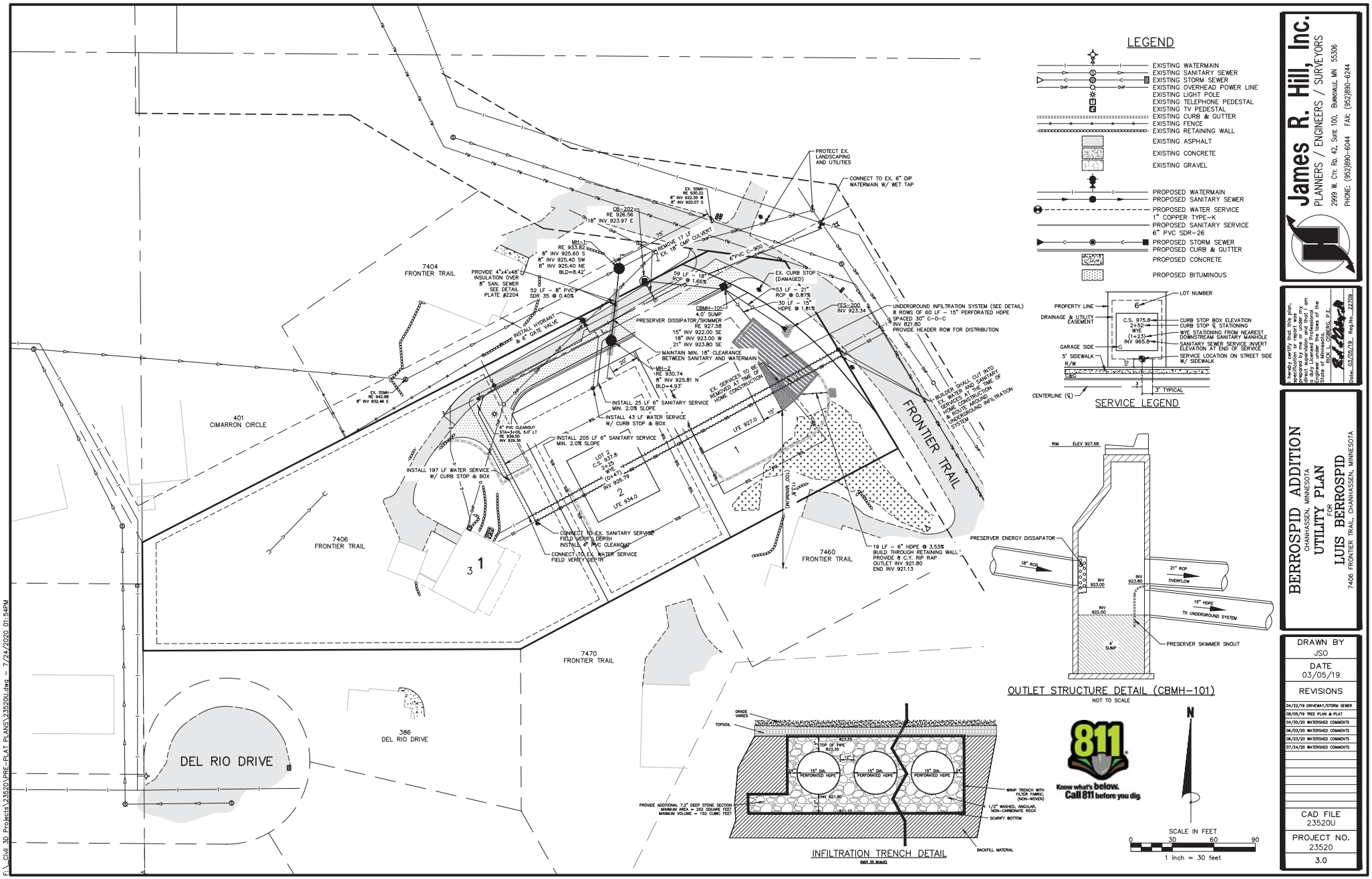
LEGEND
EXISTING WATERMAIN
EXISTING SANITARY SEWER
EXISTING STORM SEWER
EXISTING OVERHEAD POWER LINE
EXISTING LIGHT POLE
EXISTING TELEPHONE PEDESTAL
EXISTING TV PEDESTAL
EXISTING CURB & GUTTER
EXISTING FENCE
EXISTING RETAINING WALL
EXISTING ASPHALT
EXISTING CONCRETE
EXISTING GRAVEL
PROPOSED WATERMAIN
PROPOSED SANITARY SEWER
PROPOSED WATER SERVICE
1" COPPER TYPE-K
PROPOSED SANITARY SERVICE
6" PVC SDR-26
PROPOSED STORM SEWER
PROPOSED CURB & GUTTER
PROPOSED CONCRETE
PROPOSED BITUMINOUS
SERVICE LEGEND
OUTLET STRUCTURE DETAIL (CBMH-101)
NOT TO SCALE
INFILTRATION TRENCH DETAIL
NOT TO SCALE
FRONTIER TRAIL
DEL RIO DRIVE
CIMARRON CIRCLE
7404 FRONTIER TRAIL
7406 FRONTIER TRAIL
7460 FRONTIER TRAIL
7470 FRONTIER TRAIL
401 CIMARRON CIRCLE
386 DEL RIO DRIVE
PROTECT EX. LANDSCAPING AND UTILITIES
CONNECT TO EX. 6" DIP WATERMAIN W/ WET TAP
REMOVE 17 LF 2' EX. 18" CMP CULVERT
PROVIDE 4"x4"x48" INSULATION OVER 8" SAN. SEWER SEE DETAIL PLATE #2204
INSTALL HYDRANT & 6" GATE VALVE
PRESERVER DISSIPATOR/SKIMMER
MAINTAIN MIN. 18" CLEARANCE BETWEEN SANITARY AND WATERMAIN
EX. SERVICES TO BE REMOVED AT TIME OF HOME CONSTRUCTION
INSTALL 25 LF 6" SANITARY SERVICE MIN. 2.0% SLOPE
INSTALL 43 LF WATER SERVICE W/ CURB STOP & BOX
INSTALL 205 LF 6" SANITARY SERVICE MIN. 2.0% SLOPE
INSTALL 197 LF WATER SERVICE W/ CURB STOP & BOX
CONNECT TO EX. SANITARY SERVICE FIELD VERIFY DEPTH INSTALL 4" PVC CLEANOUT
CONNECT TO EX. WATER SERVICE FIELD VERIFY DEPTH
UNDERGROUND INFILTRATION SYSTEM (SEE DETAIL) 8 ROWS OF 60 LF - 15" PERFORATED HDPE @ SPACED 30" C-O-C
PROVIDE HEADER ROW FOR DISTRIBUTION
BUILDER SHALL CUT INTO EX. WATER AND SANITARY SERVICES AT THE TIME OF HOME CONSTRUCTION & INSTALL AROUND UNDERGROUND INFILTRATION SYSTEM
19 LF - 6" HDPE @ 3.53% BUILD THROUGH RETAINING WALL PROVIDE 6 C.Y. RIP RAP OUTLET INV 921.80 END INV 921.13
PRESERVER ENERGY DISSAPATOR
PRESERVER SKIMMER SNOUT
WRAP TRENCH WITH FILTER FABRIC, (NON-WOVEN)
1 1/2" WASHED, ANGULAR, NON-CARBONATE ROCK
SCARIFY BOTTOM
BACKFILL MATERIAL
PROVIDE ADDITIONAL 7.2" DEEP STONE SECTION MINIMUM AREA = 252 SQUARE FEET MINIMUM VOLUME = 152 CUBIC FEET
Know what's below. Call 811 before you dig.
SCALE IN FEET
0 30 60 90
1 inch = 30 feet
James R. Hill, Inc.
PLANNERS / ENGINEERS / SURVEYORS
2999 W. Cty. Rd. 42, Suite 100, Burnsville, MN 55306
PHONE: (952)890-6044 FAX: (952)890-6244
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Date: 03/05/19 Reg.No. 22208
BERROSPID ADDITION
CHANHASSEN, MINNESOTA
UTILITY PLAN
FOR
LUIS BERROSPID
7406 FRONTIER TRAIL, CHANHASSEN, MINNESOTA
DRAWN BY JSO
DATE 03/05/19
REVISIONS
04/22/19 DRIVEWAY/STORM SEWER
08/05/19 TREE PLAN & PLAT
04/30/20 WATERSHED COMMENTS
06/03/20 WATERSHED COMMENTS
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07/24/20 WATERSHED COMMENTS
CAD FILE 23520U
PROJECT NO. 23520
3.0
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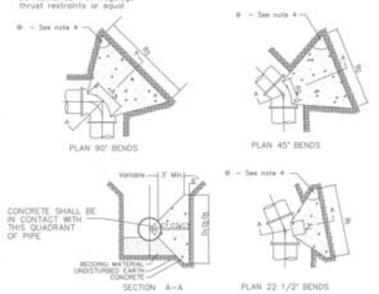
NOTES:

1. Shape of back of buttress may vary as long as poured against firm undisturbed earth.
2. Dimension C1,C2,C3 should be large enough to make angle D equal to or larger than 45°.
3. Dimension A1,A2,A3 should be as large as possible without interfering with MJ bolts.
4. Θ = 45° Minimum.
5. Place polyethylene between concrete & pipe.
6. All bends & fittings shall be restrained with Megalugs thrust restraints or equal

BUTTRESS DIMENSIONS

PIPE SIZE	22 1/2° BEND		45° BEND		90° BEND/TEE	
	B_1	D_1	B_2	D_2	B_3	D_3
6"	1'-5"	1'-5"	1'-5"	1'-5"	2'-1"	1'-6"
8"	1'-5"	1'-1"	2'-1"	1'-6"	2'-8"	2'-0"
12"	1'-10"	1'-0"	3'-4"	2'-0"	4'-9"	2'-6"
16"	3'-0"	2'-0"	3'-10"	3'-0"	6'-2"	3'-6"
20"	3'-6"	2'-5"	5'-6'	3'-4"	8'-4"	4'-0"
24"	4'-4"	3'-0"	6'-10"	3'-10"	9'-8"	5'-0"
30"	–	–	9'-3"	6'-0"	17'-0"	6'-0"



CITY OF CHANHASSEN

CONCRETE THRUST BLOCKING

REVISED: 2-08

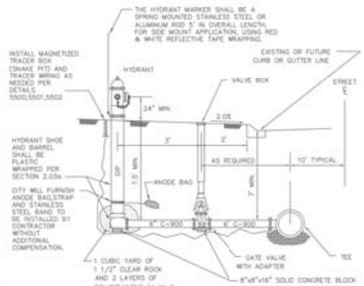
FILE NAME: G:\ENG\SPECS\1002

ENGINEERING DEPARTMENT

PLATE NO.: 1002

HYDRANTS SHALL BE CLOW MEDALLION (SHOWN) OR MUELLER SUPER CENTURION

ALL HYDRANTS MUST BE PRE-APPROVED BY THE CITY



NOTES:

1. ALL HYDRANTS SHALL HAVE WEEP HOLES.
2. HYDRANT BURY DEPTH SHALL BE AS PER MANUFACTURES RECOMMENDATION WITH A MINIMUM OF 7.5' COVER OVER HYDRANT LEAD.
3. ALL PAINTED SURFACES SHALL BE SUBJECT TO TWO YEAR WARRANTY PERIOD AS NOTED IN SECTION 2.09 OF THE WATERMAIN SPECIFICATIONS.
4. HYDRANT INSTALLATION SHALL INCLUDE A HYDRANT MARKER.
5. ALL JOINTS SHALL BE RESTRAINED VIA MEGA-LUGS MECHANICAL JOINT RESTRAINT.
6. ALL HYDRANT TO BE PLUMB TO VERTICAL AXIS, MAXIMUM ALLOWABLE TO BE 1/2" PER FOOT OF HYDRANT.
7. HYDRANT TO BE SECURELY COVERED WITH PLASTIC WRAP OR BAG TO INDICATE THAT IT IS OUT OF SERVICE.

CITY OF CHANHASSEN

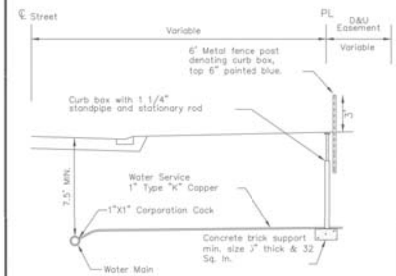
TYPICAL HYDRANT INSTALLATION

REVISED: 11-16

FILE NAME: G:\ENG\SPECS\1004

ENGINEERING DEPARTMENT

PLATE NO.: 1004



NOTES:

1. Do not plug end of curb stop.
2. Add 6" crimped pigtail to curb stop.
3. The copper service line between the main and curb box shall be one continous piece of piping, splices will not be permitted
4. Corporation cock to be of the quick compression type as stated in section 2.11 of the watermain specifications.
5. All taps require use of stainless steel saddles on all mains.
6. Saddles shall be Smith Blair 371-372 or approved equal as per section 2.14 of the watermain specifications.

CITY OF CHANHASSEN

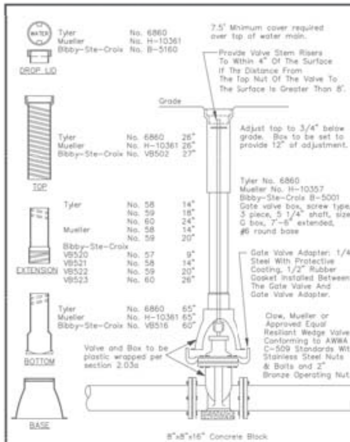
TYPICAL WATER SERVICE

REVISED: 10-16

FILE NAME: G:\ENG\SPECS\1005

ENGINEERING DEPARTMENT

PLATE NO.: 1005



CITY OF CHANHASSEN

TYPICAL GATE VALVE AND BOX INSTALLATION

REVISED: 3-16

FILE NAME: G:\ENG\SPECS\1006

ENGINEERING DEPARTMENT

PLATE NO.: 1006

MINIMUM FEET OF RESTRAINED *PIPE REQUIRED* ON EACH SIDE OF BEND FOR DUCTILE IRON PIPE

INCREASE MINIMUM LENGTHS BY THE FOLLOWING AMOUNTS IF PIPE IS WRAPPED IN POLYETHYLENE.

50% INCREASE ON ALL DEAD ENDS.
20% INCREASE ON ALL BENDS.

	7.0' COVER				7.5' COVER				8.0' COVER			
PIPE SIZE	22.5°	45°	90°	DEAD END	22.5°	45°	90°	DEAD END	22.5°	45°	90°	DEAD END
4"	2	3	8	18	2	3	8	18	1	3	8	17
6"	2	5	12	26	2	5	11	25	2	4	11	25
8"	3	6	15	34	3	6	15	33	3	6	14	32
12"	4	9	22	50	4	9	21	48	4	8	20	46
16"	6	12	29	65	5	11	27	63	5	11	26	61
20"	7	15	35	80	7	14	34	77	6	13	32	75
24"	8	17	41	95	8	16	40	92	8	16	38	89
30"	10	21	50	117	10	20	48	113	9	19	46	109
36"	12	24	59	138	11	23	57	133	11	22	54	129
42"	13	28	67	159	13	27	65	153	12	26	62	148
48"	15	31	75	179	14	30	72	173	14	29	69	167

THE TABLE WAS DEVELOPED FROM CRITERIA IDENTIFIED IN THE 1992 EDITION OF "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE", AS PUBLISHED BY THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA). THE TABLE ASSUMES COH-GRAN SOIL AND TYPE LAYING CONDITIONS. REFER TO DIPRA FOR MINIMUM LENGTHS IF DIFFERENT SOIL OR LAYING CONDITIONS ARE ENCOUNTERED.

CITY OF CHANHASSEN

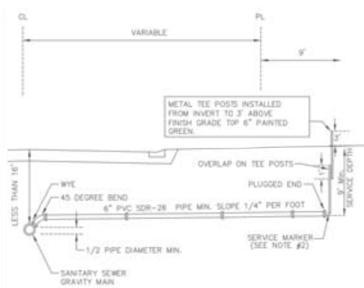
RESTRAINED PIPE REQUIREMENT FOR DIP

REVISED: 2-08

FILE NAME: G:\ENG\SPECS\1011

ENGINEERING DEPARTMENT

PLATE NO.: 1011



NOTES:

1. SOLVENT WELD ALL JOINTS. (NON GASKETED)
2. WHEN SANITARY SEWER SERVICE IS NOT ACCOMPANIED BY A WATER SERVICE IN THE SAME TRENCH, INSTALL A HEAVY METAL TEE POSTS FROM INVERT TO 3' ABOVE FINISHED GRADE AND PAINT TOP 6" OF POST FLORESCENT GREEN PAINT.
3. CLEANOUT REQUIRED ON PRIVATE PROPERTY IF DISTANCE FROM MAIN TO HOUSE EXCEEDS 90 FEET.
4. ALL PIPE SHALL BE BEDDED ON GRANULAR BEDDING (3149.2-F) OR COURSE FILTER AGGREGATE (3149.2-H).

CITY OF CHANHASSEN

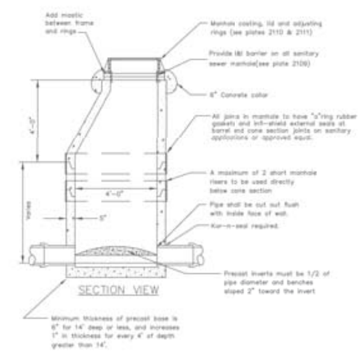
TYPICAL SANITARY SEWER SERVICE (LESS THAN 16' DEEP)

REVISED: 10-16

FILE NAME: G:\ENG\SPECS\2001

ENGINEERING DEPARTMENT

PLATE NO.: 2001



NOTE:

1. Kor-n-seal manhole or equal considered acceptable alternate.
2. All dog houses shall be grouted on inside and outside.
3. When the manhole structure is constructed outside the traveled roadway a witness post and sign (MH) shall be installed next to the manhole.
4. Minimum of 2-2" adjusting rings, maximum of 3 adjusting rigs or a total of 8" of stock height for new construction.

CITY OF CHANHASSEN

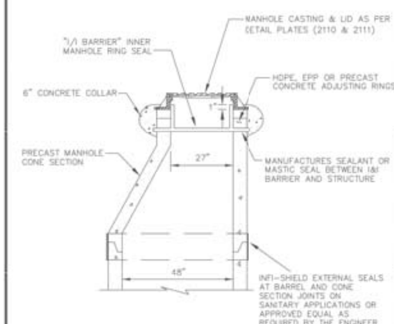
STANDARD SANITARY MANHOLE

REVISED: 3-16

FILE NAME: G:\ENG\SPECS\2101

ENGINEERING DEPARTMENT

PLATE NO.: 2101



NOTES:

1. TRIM TOP OF SEAL TO 1" ABOVE TOP OF RINGS. CASTING SHOULD NOT REST ON SEAL.
2. PLACE "MASTIC" ON TOP OF CONE SECTION AND BENEATH SEAL.
3. NOT TO BE USED WHEN THERE ARE NO RINGS OR MORE THAN 18" OF ADJUSTMENT RINGS.

CITY OF CHANHASSEN

I & I BARRIER

REVISED: 10-16

FILE NAME: G:\ENG\SPECS\2109

ENGINEERING DEPARTMENT

PLATE NO.: 2109

James R. Hill, Inc.
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RICK L. OSBERG, P.E.
Date: 03/05/19 Reg.No. 22709

BERROSPID ADDITION
CHANHASSEN, MINNESOTA
CONSTRUCTION DETAILS
FOR
LUIS BERROSPID
7406 FRONTIER TRAIL, CHANHASSEN, MINNESOTA

DRAWN BY: JSO

DATE: 03/05/19

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07/24/20 WATERSHED COMMENTS

CAD FILE: 23520D

PROJECT NO.: 23520

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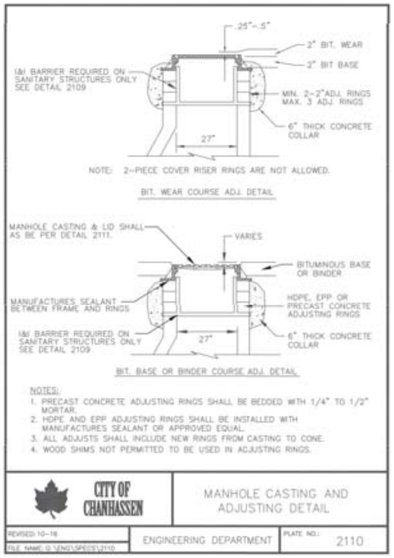

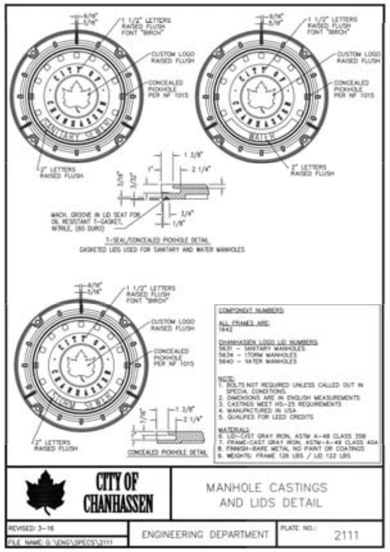

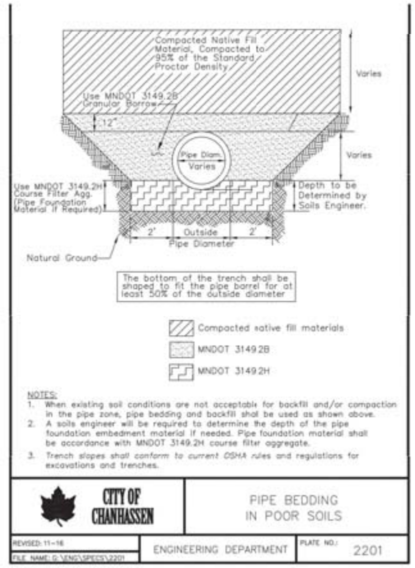

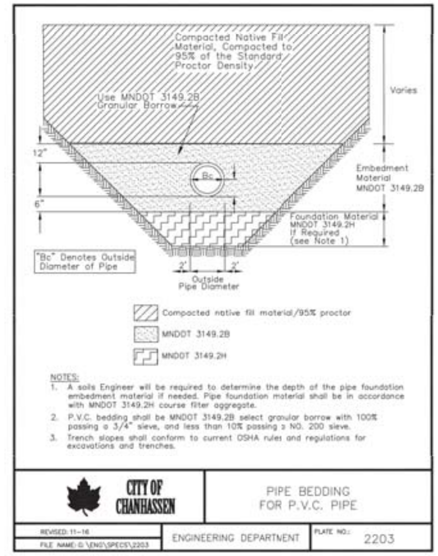

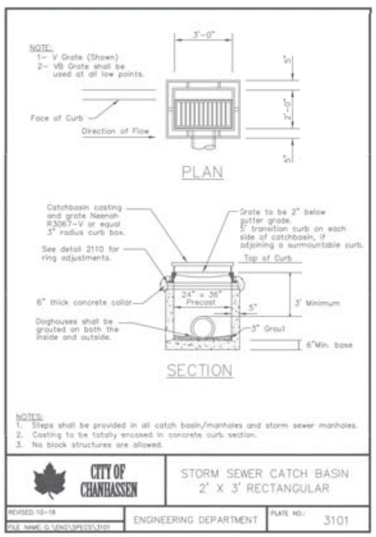

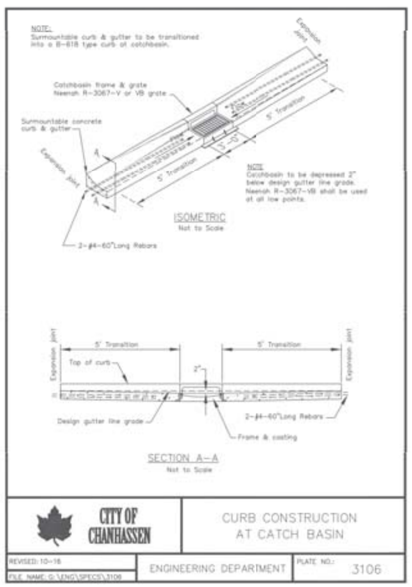

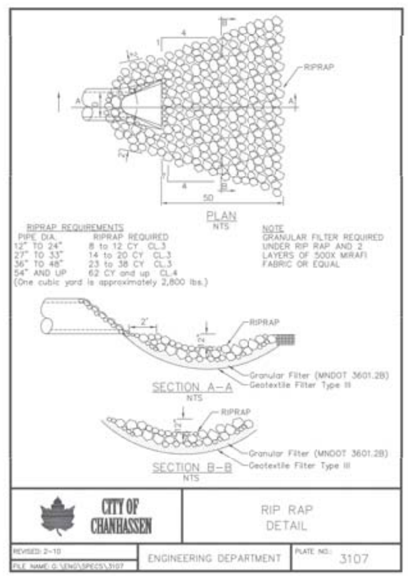

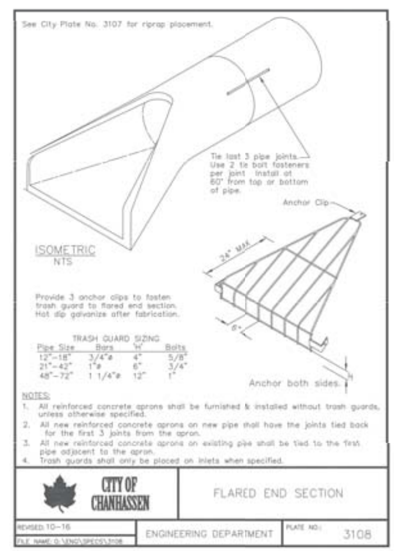

James R. Hill, Inc.
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PHONE: (952)890-6044 FAX: (952)890-6244

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
RICK L. OSBERG, P.E.
Date 03/05/19 Reg.No. 22709

BERROSPID ADDITION

CHANHASSEN, MINNESOTA

CONSTRUCTION DETAILS

FOR

LUIS BERROSPID

7406 FRONTIER TRAIL, CHANHASSEN, MINNESOTA

DRAWN BY
JSO

DATE
03/05/19

REVISIONS

04/22/19 DRIVEWAY/STORM SEWER
08/05/19 TREE PLAN & PLAT
04/30/20 WATERSHED COMMENTS
06/03/20 WATERSHED COMMENTS
06/23/20 WATERSHED COMMENTS
07/24/20 WATERSHED COMMENTS

CAD FILE
23520D

PROJECT NO.
23520

4.1

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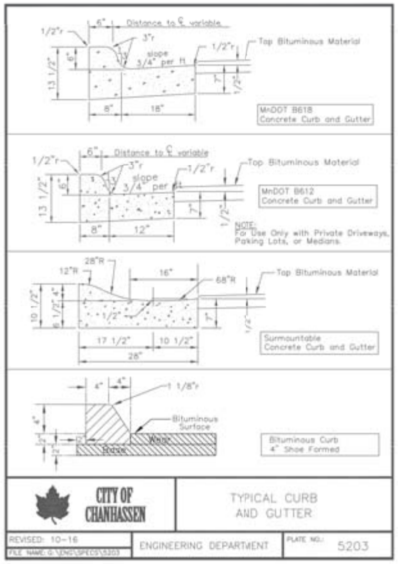

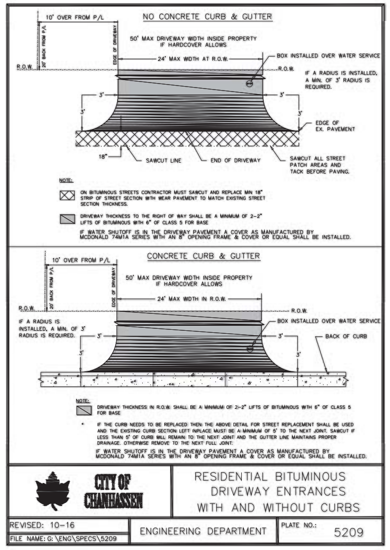

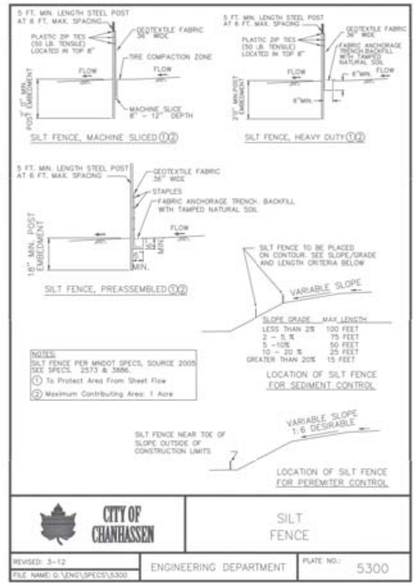

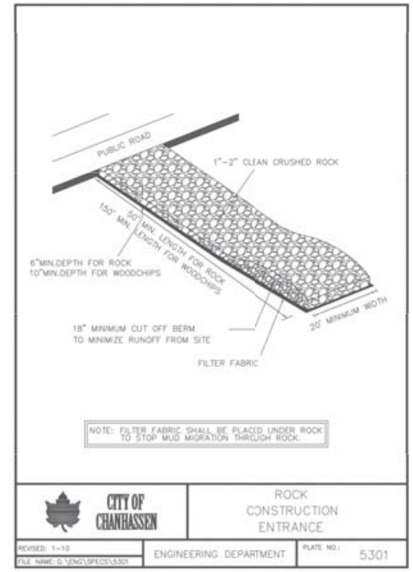

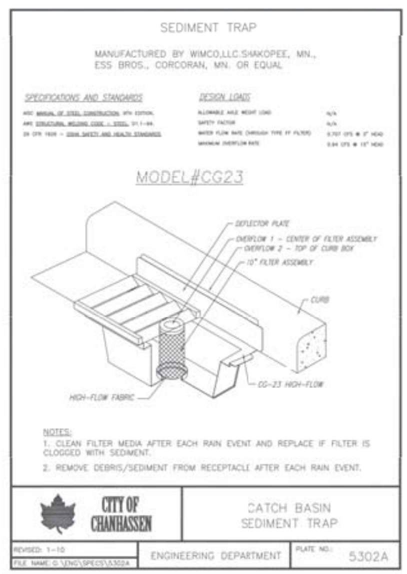

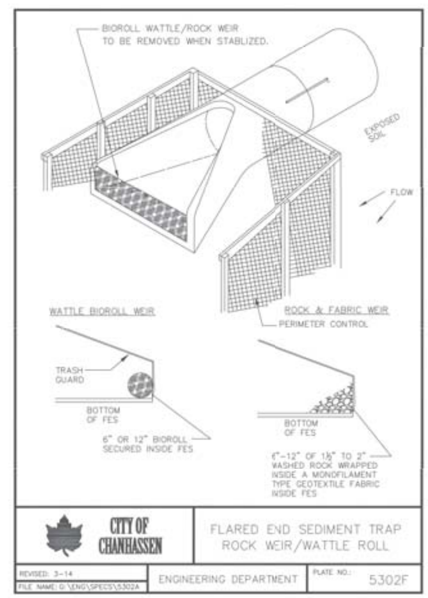

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RICK L. OSBERG, P.E.
Date 03/05/19 Reg.No. 22709

BERROSPID ADDITION
CHANHASSEN, MINNESOTA

CONSTRUCTION DETAILS
FOR
LUIS BERROSPID
7406 FRONTIER TRAIL, CHANHASSEN, MINNESOTA

DRAWN BY
JSO

DATE
03/05/19

REVISIONS
04/22/19 DRIVEWAY/STORM SEWER
08/05/19 TREE PLAN & PLAT
04/30/20 WATERSHED COMMENTS
06/03/20 WATERSHED COMMENTS
06/23/20 WATERSHED COMMENTS
07/24/20 WATERSHED COMMENTS

CAD FILE
23520D

PROJECT NO.
23520

4.2

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LEGEND

REMOVE TREE

EXISTING TREE TO REMAIN

PROPOSED TREE FENCE

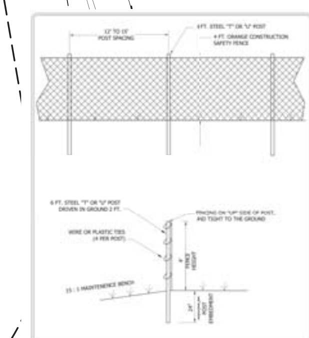
TREE CANOPY COVERAGE SUMMARY

EXISTING SITE AREA	88,076 SF
PROPOSED SITE AREA (EXISTING MINUS R-O-W DEDICATION)	85,277 SF
EXISTING CANOPY COVERAGE AREA	82,517 SF
PROPOSED CANOPY COVERAGE REMOVAL	-33,298 SF
PROPOSED CANOPY COVERAGE AREA	49,219 SF

SCALE IN FEET

0 30 60 90

1 inch = 30 feet



TREE FENCE DETAIL

TREE REMOVALS	
REF. #	SIZE & TYPE
107	6" MAPLE
108	19" ELM
109	10" ASH
110	11" ELM
111	20" ASH
112	6" MAPLE
113	8" BOX ELDER
114	9" BOX ELDER
115	8" BOX ELDER
116	7" BOX ELDER
117	8" BOX ELDER
124	21" BOX ELDER
125	8" BOX ELDER
126	15" BOX ELDER
127	8" BOX ELDER
128	6" MAPLE
129	16" BOX ELDER
130	14" ASH
131	8" MAPLE
132	9" MAPLE
133	7" MAPLE
134	7" MAPLE
135	8" MAPLE
136	21" BOX ELDER
137	7" BOX ELDER
138	9" BOX ELDER
139	17" BOX ELDER
140	17" BOX ELDER
141	10" BOX ELDER
142	6" MAPLE
143	9" BOX ELDER
144	6" MAPLE
145	13" BOX ELDER
146	15" BOX ELDER
149	6" MAPLE
150	12" BOX ELDER
153	14/13/10" MAPLE
154	10" ELM
155	14/13" ASH
156	9" MAPLE
157	7" MAPLE
158	12" MAPLE
159	12" MAPLE
160	8" MAPLE
161	9" MAPLE
162	7" MAPLE
163	11" MAPLE
164	12" MAPLE
165	7" MAPLE
166	8" MAPLE
167	7" MAPLE
168	7" MAPLE
169	22" ELM
170	10" MAPLE
171	9" MAPLE
172	11" MAPLE
173	12" MAPLE
174	6" MAPLE
175	12" HACKBERRY
176	13" MAPLE
177	15" ASH
178	8" MAPLE
179	16" MAPLE
180	15" ELM
181	11" MAPLE

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RICK L. OSBERG, P.E.

Date: 03/05/19 Reg.No. 22709

BERROSPID ADDITION

CHANHASSEN, MINNESOTA

TREE PRESERVATION PLAN

FOR

LUIS BERROSPID

7406 FRONTIER TRAIL, CHANHASSEN, MINNESOTA

DRAWN BY
JSO

DATE
03/05/19

REVISIONS
04/22/19 DRIVEWAY/STORM SEWER
08/05/19 TREE PLAN & PLAT
04/30/20 WATERSHED COMMENTS
06/03/20 WATERSHED COMMENTS
06/23/20 WATERSHED COMMENTS
07/24/20 WATERSHED COMMENTS

CAD FILE
23520TP

PROJECT NO.
23520

5.0

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: 2020-021

Considered at Board of Managers Meeting: August 5, 2020

Received complete: July 15, 2020

Applicant: City of Minnetonka

Consultant: Bolton and Menk, Chad Booth

Project: Purgatory Park Outfall Replacement– The city of Minnetonka undertook an emergency replacement of a collapsed corrugated metal storm sewer pipe with discharge to Purgatory Creek within Purgatory Park in Minnetonka

Location: 17315 Excelsior Boulevard, Minnetonka, Minnesota

Reviewer: Scott Sobiech, PE, 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 August 5, 2020 meeting of the managers. Resolved that the application for Permit 2020-021 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 have been affirmatively resolved, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2020-21 to the applicant on behalf of RPBCWD.

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

Rule Conformance Summary

Rule	Issue	Conforms to RBPCWD Rules?	Comments
B	**Floodplain Management and Drainage Alterations**	Yes	
C	**Erosion Control Plan**	Yes	
D	**Wetland and Creek Buffer**	See Comment	See Rule Specific Permit Condition D1.
G	**Waterbody Crossing and Structures**	Yes	
L	**Permit Fee**	NA	Governmental Entity
M	**Financial Assurance**	NA	Governmental Entity

Project Background

In July 2019, the city of Minnetonka undertook an emergency replacement of a collapsed, 18-inch corrugated metal storm sewer pipe under the park entrance road with a new 18-inch PVC pipe as allowed under Rule A, subsection 2.5.The pipe, which discharges to Purgatory Creek within Purgatory Park in Minnetonka , needed emergency replacement to prevent potential harm to the public using the entrance road.. District staff have been working with the City on getting an after the fact permit since July 2019. The City hired the consulting engineering firm Bolton and Menk to prepare the necessary documentation and submitted a permit application on May 26, 2020. The applicant was notified on June 14, 2020 that the submittal was incomplete because a signed application was not included with the submittal.

The bank of Purgatory Creek was erode leaving the CMP projecting from the bank. The replacement of the collapsed pipe also included creek bank grading, resurfacing a small section of the entrance drive to the park, and stabilizing the outfall with rip rap that meets the District requirements. No fill beyond the pre-existing footprint was added as the area excavated was filled with rip rap to the same elevation. The project site information is summarized below:

Description	Area (acres)
Total Site Area	139
Existing Site Impervious	0.8
Post Construction Site Impervious	0.8
New (Increase) in Site Impervious Area	0
Disturbed impervious surface	0.004
Total Disturbed Area	0.014

Exhibits:

1. Unsigned permit application received May 26, 2020 (signed application received on July 15, 2020)
2. Submittal letter dated May 26, 2020 (including site layout figure and SSA modeling summary)
3. Site Layout drawing dated May 26, 2020 (Revision received July 15, 2020)
4. Site Layout drawing certified by a professional engineer dated July 29, 2020
5. Comment response letter signed by a professional engineer dated June 25, 2020 (including updated site layout figure and SSA modeling summary)
6. Draft maintenance agreement received July 15, 2020

Rule Specific Permit Conditions

Rule B: Floodplain Management and Drainage Alterations

Because the project disturbed land below the 100-year flood elevation to replace the discharge location into Purgatory Creek, the project must conform to the requirements in the RPBCWD Floodplain Management and Drainage Alteration rule (Rule B, Subsection 2.1).

The storm sewer outfall replacement project conforms to Rule B, Subsections 3.1 and 3.4 because no buildings were constructed or reconstructed as part of the project, and the impervious surface repaved within 50 feet of the creek is an exempt 10-foot wide trail. The cross section information provided on the drawings shows that the bank was excavated and riprap placed below the existing ground, thus confirming the project did not place fill below the 100-year floodplain, the 100-year flood elevation was not impacted and the project conforms to Rule B, Subsection 3.2. The modeling provided by the applicant shows the 2-, 10-, and 100- year post project discharges (5.8 cfs, 6.1 cfs and 6.5 cfs) remains unchanged under post project conditions, thus the project did not alter surface flows (Rule B, Subsection 3.3).

The plan prepared by Bolton and Menk show the includes installation of erosion prevention measures confirming the project met the applicable provision of Rule C, Section 3 (Rule B, subsection 3.5)

The proposed project conforms to the floodplain management and drainage alteration requirements of Rule B.

Rule C: Erosion and Sediment Control

Because the project disturbed more than 50 cubic yards of material the project must conform to the requirements in the RPBCWD Erosion and Sediment Control rule (Rule C, Subsection 2.1).

The plan prepared by Bolton and Menk includes installation of silt fence, inlet protection for storm sewer catch basins, and retention of native topsoil onsite. The applicant verified a minimum of six inches of topsoil was placed by potholing at two locations and provided compaction testing results confirming soil compaction testing pressure of less than 200 pounds per square inch in the upper 12 inches of soil. The project conforms to the RPBCWD Rule C requirements.

Rule D: Wetland and Creek Buffers

Because the proposed work triggers a permit under RPBCWD rules B, and G for the storm sewer outfall replacement work and Purgatory Creek is a public waters watercourse, Rule D, Subsections 2.1a requires buffer adjacent to this watercourse. Creek buffer averaging 50 feet from the creek centerline, 30 feet minimum is required on the streambank downgradient from the land-disturbing activity regulated by the District and 50 feet from each of the upstream and downstream extent of disturbance, per Rule D Subsection 3.1c.

The site layout figure indicates that buffer signs, consistent with the design and text provided by RPBCWD, will be installed 50 feet from the centerline of the creek (Rule D, subsections 3.1c, and 3.2). A note on the figure indicates the disturbed areas within the proposed buffer were revegetated with native vegetation in conformance with Rule D, Subsection 3.3.

To conform to the RPBCWD Rule D the following revisions are needed:

D1. The applicant must provide the required creek buffer exhibit to be attached to the maintenance agreement for review. The buffer areas and sign locations should be clearly shown on the exhibit. The buffer signs must be installed in the field per the approved exhibit.

Rule G: Waterbody Crossings and Structures

Because the project replaced an outfall structure in the bank of Purgatory Creek, a public waters watercourse, the project requires conformance with RPBCWD's Waterbody Crossings and Structures Rule (Rule G). The proposed work falls within the scope of Minnesota Department of Natural Resources General Permit #2015-1192. (Rule F: Stormwater and Streambank Stabilization is not triggered because the riprap being installed in bank of the creek is to prevent erosion more so than stabilize the bank.)

This work represents a demonstrated public benefit by maintaining existing drainage patterns, reducing erosion potential from the deteriorated corrugated pipe, and providing a useable park entrance (Rule G, Subsection 3.1a).

The project construction incorporated a small stilling basin at the outfall prior to the discharge entering Purgatory Creek., thus the design is in conformance with Rule G, Subsection 3.3.

The engineer concurs with the applicant's analysis dismissing a "no action" alternative because the settlement of the roadway would limit public use of the access road and lead to increased the potential sediment transport into Purgatory Creek. The applicant also considered eliminating the outfall to the creek and allowing overland flow to the creek. Similar to the "no action" this alternative, this option was dismissed because it increases the erosion potential. Placement of the proposed outfall structure represents the minimal impact solution by minimizing concentrated overland flow resulting from the collapsed pipe which would have exacerbated soil erosion potential and promote sediment discharge into the creek from upgradient sources, thus meet criteria in Rule G, Subsection 3.5a. The project proposes to match existing elevations along the creek at the outfall to minimize encroachment and change along the creek, thus the design is in conformance with Rule G, Subsection 3.5b.

As discussed in the Rule B narrative above, the propose project complied with the District floodplain rule, as required by subsection 3.5c.

Design calculations show the maximum flow velocity of 4 feet per second during the 100-year storm at the pipe outlet. RPBCWD's engineer concurs that the installed riprap size (Class III) is appropriately sized for velocities up to 8 ft/sec according to the MnDOT Drainage Based on the riprap construction and stabilization methods, the outfall structure is not reasonably likely to cause adverse effects to water

quality and the physical or biological character of the waterbody, thus conforming to Rule G, Subsection 3.5d.

Because the work was conducted in July 2019, no work affected the bed or banks of a protected water between March 15 and June 15 (Rule G, Subsection 3.7a). Disturbed areas near and along the banks were immediately stabilized after completion of the work and revegetated (Rule G, Subsection 3.7b).

Plans submitted confirm that riprap was sized appropriately in relation to the erosion potential. MNDOT Class III (9 inches in diameter) was installed and is appropriately sized to withstand the anticipated discharge velocity of 4.0 feet per second, thus conforming to Rule F, Subsection 3.3b (i). Plans submitted confirm the proposed outfall construction along the bank of Riley Creek follows the natural alignment of the bank and did not cover emergent vegetation (Rule F, Subsection 3.3b (ii) and 3.3b (iv)). The site layout figure and details indicate that a transitional layer consisting of graded gravel, at least 6 inches deep with an appreciate geotextile fabric was placed between the underlying soils and riprap, thus conforming to Rule F, Subsection 3.3b (iii). As shown in the riprap detail in the plans, the riprap is proposed to extend to the area around the top of the pipe below the Purgatory Creek 100-year floodplain elevation of 945 NGVD29, consistent with Rule F, Subsection 3.3b (v). The riprap design reflects energy dissipation and stabilization necessary to minimize erosion at the streambank and is not placed for cosmetic purposes per Rule F, Subsection 3.3b (vi).

The applicant provided a draft maintenance agreement for the outfall for review, in accordance with Rule G, Section 5. The project conforms to the RPBCWD Rule G requirements.

Applicable General Requirements:

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. 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 above and on the permit. The granting of the permit does not in any way relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.
3. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
4. 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.
5. 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.

6. 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.
7. 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.

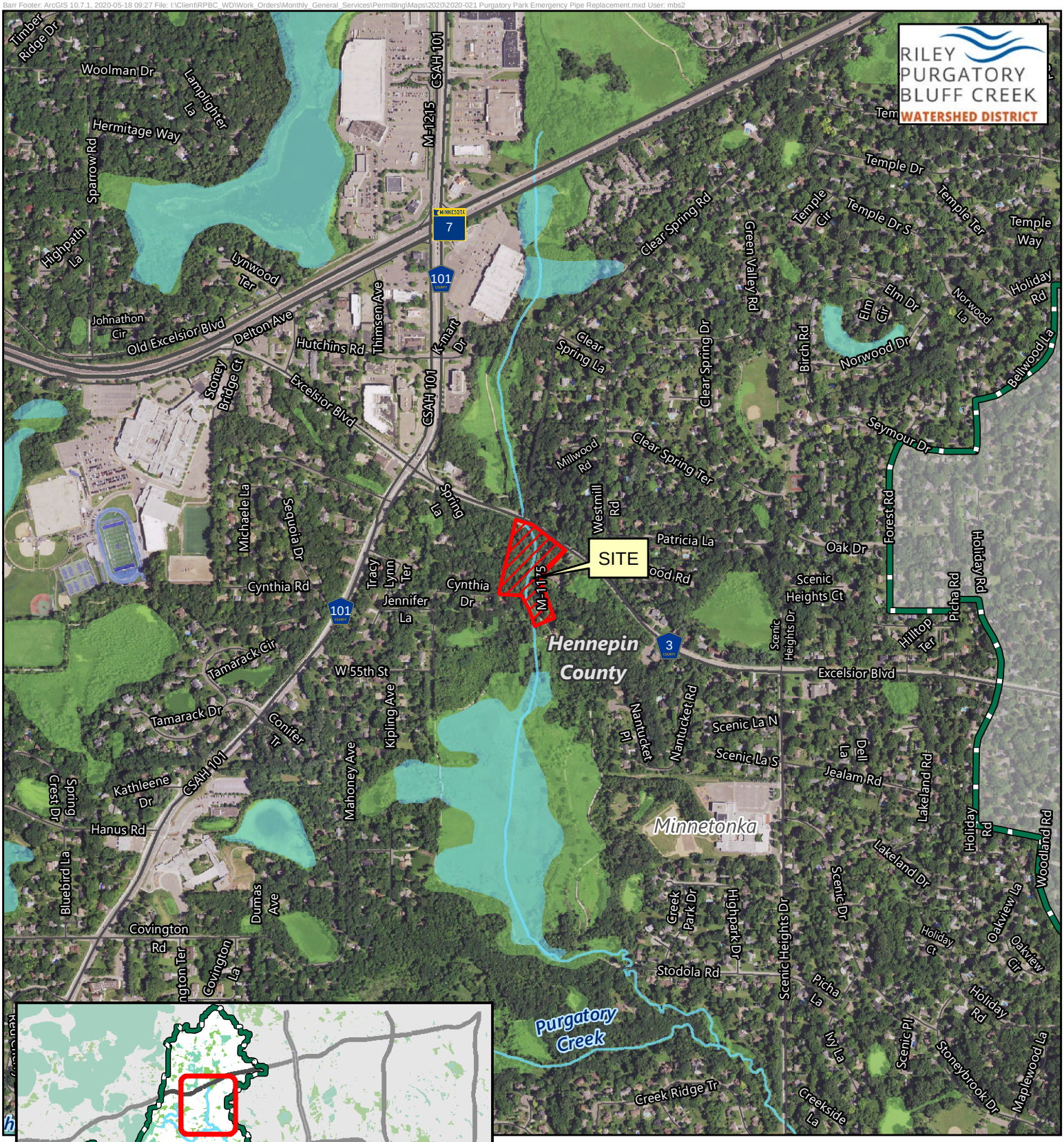
Findings

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. The proposed project conforms to Rule B, C and G.
3. The proposed project will conform to Rule D if the conditions listed above are met.
4. Under Minnesota Department of Natural Resources General Permit 2015-1192 (attached to this report), approval of work under RPBCWD rule(s) G constitutes approval under applicable DNR work in waters rules. Compliance with conditions on approval and payment of applicable fees, if any, are necessary to benefit from general permit approval and the responsibility of the applicants.

Recommendation:

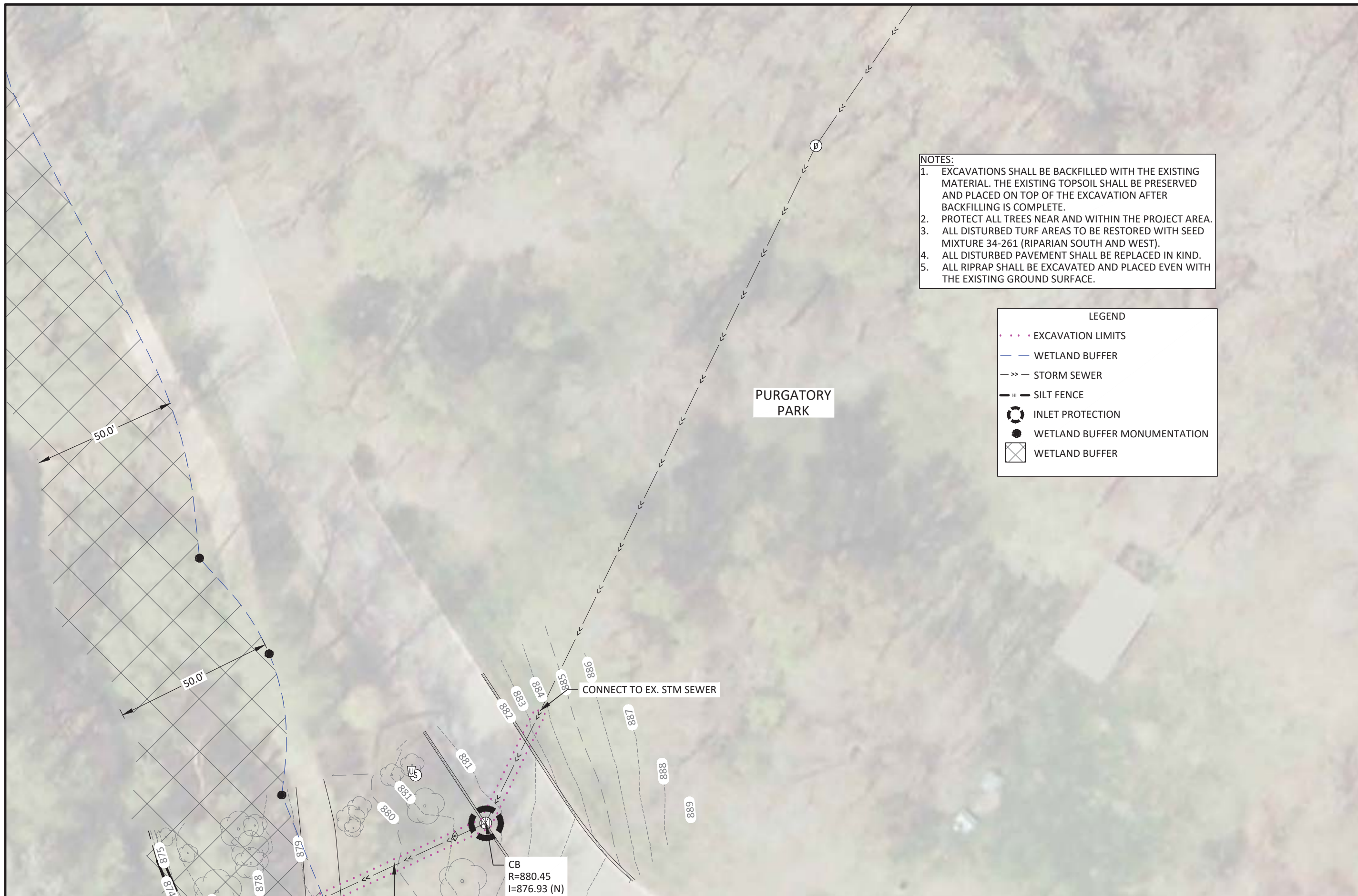
Approval of the permit contingent upon:

1. Continued compliance with General Requirements.
2. Receipt of a maintenance agreement for the maintenance of the buffer and storm sewer outfall. A draft Exhibit A to the maintenance agreement should be provided that clearly depicts the buffer area and sign locations. The applicant must execute the agreement on approval of the RPBCWD administrator.



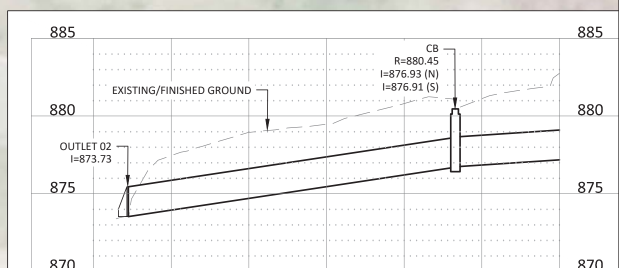
Permit Location Map

PURGATORY PARK
EMERGENCY PIPE REPLACEMENT
Permit 2020-021
Riley Purgatory Bluff Creek
Watershed District



NOTES:
1. EXCAVATIONS SHALL BE BACKFILLED WITH THE EXISTING MATERIAL. THE EXISTING TOPSOIL SHALL BE PRESERVED AND PLACED ON TOP OF THE EXCAVATION AFTER BACKFILLING IS COMPLETE.
2. PROTECT ALL TREES NEAR AND WITHIN THE PROJECT AREA.
3. ALL DISTURBED TURF AREAS TO BE RESTORED WITH SEED MIXTURE 34-261 (RIPARIAN SOUTH AND WEST).
4. ALL DISTURBED PAVEMENT SHALL BE REPLACED IN KIND.
5. ALL RIPRAP SHALL BE EXCAVATED AND PLACED EVEN WITH THE EXISTING GROUND SURFACE.

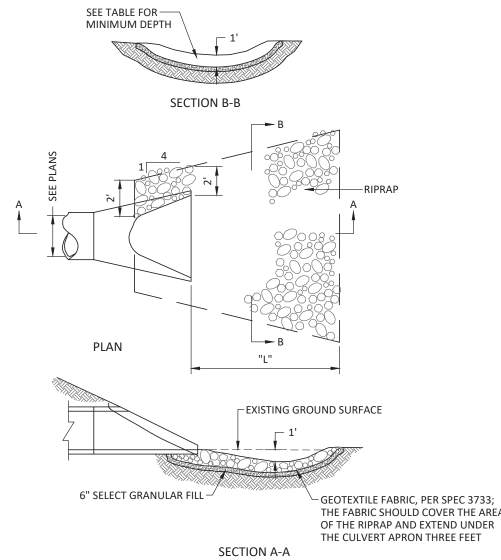
LEGEND
- EXCAVATION LIMITS
- WETLAND BUFFER
- STORM SEWER
- SILT FENCE
- INLET PROTECTION
- WETLAND BUFFER MONUMENTATION
- WETLAND BUFFER



WETLAND BUFFER SIGNAGE

NOT TO SCALE

DIA OF ROUND PIPE (IN)	L (FT)	CLASS II d50=6" 12" DEPTH RIPRAP (CU YD)	CLASS III d50=9" 18" DEPTH RIPRAP (CU YD)	CLASS IV d50=12" 24" DEPTH RIPRAP (CU YD)
12	8	5	8	10
15	8	5	8	10
18	10	6	10	15
21	10	8	15	15
24	12	10	15	20
27	12	10	15	20
30	14	15	20	25
36	16	18	25	30
42	18	20	30	40
48	20	20	40	50



RIPRAP AT RCP CULVERT END

NOT TO SCALE

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

MICHAEL J. WALTMAN

LIC. NO. 48696 DATE 7/29/2020

BOLTON & MENK

DESIGNED CB
DRAWN CB
CHECKED MW
CLIENT PROJ. NO.

NO.	ISSUED FOR	DATE

MINNETONKA, MINNESOTA

PURGATORY PARK PIPE REPLACEMENT

FIGURE 1: SITE LAYOUT

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: 2020-030

Considered at Board of Managers Meeting: August 5, 2020

Received complete: July 16, 2020

Applicant: City of Minnetonka, Chris Long

Consultant: NA

Project: Vine Hill Road Culvert Replacement– The city of Minnetonka undertook an emergency replacement of the existing deteriorated 36"x60" reinforced concrete arch pipe crossing of the Silver Lake Branch of Purgatory Creek at Vine Hill Road in late-2019 with two arch culverts.

Location: 5767 Vine Hill Road, Minnetonka, MN

Reviewer: Scott Sobiech, PE, 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 August 5, 2020 meeting of the managers. Resolved that the application for Permit 2020-030 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 have been affirmatively resolved, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2020-030 to the applicant on behalf of RPBCWD.

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

Rule Conformance Summary

Rule	Issue	Conforms to RBPCWD Rules?	Comments
B	**Floodplain Management and Drainage Alterations**	Yes	
C	**Erosion Control Plan**	Yes	
D	**Wetland and Creek Buffer**	See Comment	See Rule Specific Permit Condition D1.
G	**Waterbody Crossing and Structures**	Yes	
L	**Permit Fee**	NA	Governmental Entity
M	**Financial Assurance**	NA	Governmental Entity

Project Background

In October 2019, the city of Minnetonka undertook an emergency replacement of a deteriorated reinforced arch culvert under Vine Hill Road along the Silver Lake Branch of Purgatory Creek with two reinforced arch culverts. Because a sinkhole had formed adjacent to the roadway, which placed the roadway at risk of collapse, the City undertook this emergency repair as allowed under Rule A, subsection 2.5. District staff have been working with the City on getting an after the fact permit since October 2019. The City prepared the necessary documentation and submitted an after the fact permit application on May 26, 2020. The applicant was notified on June 14, 2020 that the submittal was incomplete because no information was provided to demonstrate compliance with the applicable criteria of RPBCWD Rule D, Wetland and Creek Buffers.

Work to replace the failed pipe included creek bank grading, resurfacing a small section of Vine Hill Road and pedestrian trail, and stabilizing the outfall with rip rap that meets the District requirements. No fill beyond the pre-existing footprint was added as the area excavated was filled with riprap to the same elevation. The project site information is summarized below:

Description	Area (acres)
Total Site Area	0.04
Existing Site Impervious	0.02
Post Construction Site Impervious	0.02
New (Increase) in Site Impervious Area	0
Disturbed impervious surface	0.02
Total Disturbed Area	0.04

Exhibits:

1. Permit Application received May 26, 2020
2. Record Drawing dated November 20, 2019 (Revision submitted July 16, 2020)
3. RPBCWD's Flood profile for the Silver Lake Branch of Purgatory Creek
4. Post-Construction photos received May 26, 2020
5. Response letter dated July 16, 2020 to RPBCWD's June 15, 2020 incomplete notice and comments
6. Draft maintenance agreement received July 16, 2020

Rule Specific Permit Conditions

Rule B: Floodplain Management and Drainage Alterations

Because the project disturbed land below the 100-year flood elevation to replace the culvert under Vine Hill Road along Purgatory Creek, the project must conform to the requirements in the RPBCWD Floodplain Management and Drainage Alteration rule (Rule B, Subsection 2.1).

The proposed culvert-replacement project conforms to Rule B, Subsections 3.1 because no buildings were constructed or reconstructed as part of the project. Because the impervious surface that was repaved within 50 feet of the creek is associated with a waterbody crossing regulated under Rule G, Rule B, subsection 3.4 does not apply to the activities. The cross section information provided on the drawings show excavation occurred to align the side slopes of the roadway culverts and associated riprap with the existing ground surface, thus confirming the project did not place fill below the 100-year floodplain and the project conforms to Rule B, Subsection 3.2. Because the 100- year water surface level at the Vine Hill crossing is controlled by backwater caused by the downstream creek crossing under Covington Road as shown on the RPBCWD flood profiles, the Engineer concurs with the modeling conducted for the crossing that shows the project did not alter flood elevations or surface flows (Rule B, Subsection 3.3).

The proposed project conforms to the floodplain management and drainage alteration requirements of Rule B.

Rule C: Erosion and Sediment Control

Because the project disturbed more than 50 cubic yards of material the project must conform to the requirements in the RPBCWD Erosion and Sediment Control rule (Rule C, Subsection 2.1).

The record drawings prepared by the City of Minnetonka included several erosion control notes requiring the contractor to temporary erosion control measure be installed and approved by the city prior to work starting and the streets be swept clean during construction. The applicant verified a minimum of six inches of topsoil was placed and provided compaction testing results confirming soil compaction testing pressure of less than 200 pounds per square inch in the upper 12 inches of soil. The project conforms to the RPBCWD Rule C requirements.

Rule D: Wetland and Creek Buffers

Because the proposed work triggers a permit under RPBCWD Rule B and G for the crossing replacement work and Purgatory Creek is a public waters watercourse, Rule D, Subsections 2.1a requires buffer adjacent to this watercourse. Creek buffer averaging 50 feet from the creek centerline, 30 feet minimum is required on the streambank downgradient from the land-disturbing activity regulated by the District and 50 feet from each of the upstream and downstream extent of disturbance, per Rule D Subsection 3.1c.

The record drawing indicate that buffer signs, consistent with the design and text provided by RPBCWD, will be installed 50 feet from the centerline of the creek at the city right of way (Rule D, subsections 3.1c, 3.2, and 3.4). A note on the record drawings indicates the disturbed areas within the proposed buffer were revegetated with native vegetation in conformance with Rule D, Subsection 3.3.

To conform to the RPBCWD Rule D the following revisions are needed:

D1. The applicant must provide the required creek buffer exhibit to be attached to the maintenance agreement for review. The buffer areas and sign locations must be clearly shown on the exhibit.

Rule G: Waterbody Crossings and Structures

Because the project replaced an outfall structure along the bank of Purgatory Creek, a public watercourse, the project requires conformance with RPBCWD's Waterbody Crossings and Structures Rule (Rule G). The proposed work falls within the scope of Minnesota Department of Natural Resources General Permit #2015-1192. (Rule F: Stormwater and Streambank Stabilization is not triggered because the riprap being installed in bank of the creek is to prevent erosion more so than stabilize the bank.)

This work represents a public benefit by replacing a deteriorating culvert and maintaining transportation connectivity (Rule G, Subsection 3.1a)

The engineer concurs with the applicant submitted flood profiles developed by RPBCWD of this portion Purgatory Creek which show the flood elevation at Vine Hill Road are controlled by backwater created by the downstream Covington Road crossing. In addition, modeling shows that replacing the existing 36-inch by 60-inch culvert with two 40-inch by 65-inch arch culverts provides adequate hydraulic capacity to maintain the existing flood elevations, thus the design is in conformance with Rule G, Subsection 3.2a. The proposed crossing was modeled in SWMM. The analysis shows that the proposed 100-year frequency flood elevation upstream of the crossing (897.8 NGVD29) match the existing elevation 897.8 NGVD29 and the downstream flood elevation also matches the existing flood elevation of 897.8 NGVD29, thus confirming the project did not increase the flood stage of the existing water body conforming to Rule G, Subsection 3.2a.

This portion of Purgatory Creek is not used for navigation, thus the requirement of Rule G, Subsection 3.2b does not apply to this project. The project did not adversely affect water quality or cause increased scour or erosion because the stabilization materials are sized and designed appropriately to withstand the erosion potential along an Purgatory Creek and provide a stable creek system consistent with the criteria in Rule G, Subsection 3.2c.

Because this replacement involved similar arch culverts and the same surface overflow wildlife continues to be able to use Purgatory Creek as it is used under pre-project conditions, thus preserving wildlife passage. The potential for fish passage was enhanced by the replacement because the applicant buried the bottom of the culverts to allow slight sedimentation in the culvert resulting in a natural bottom, thus consistent with Rule G, Subsection 3.2d.

A no-build option would result in flows through the existing deteriorating arch culvert continuing to undermine the pedestrian trail and ultimately the roadway. A bridge spanning the creek was discussed with the city in 2019 and determined to not be feasible because of existing utilities present between the culvert and road. Because the downstream Convington Road crossing creates a backwater in this area, replacing the deteriorated culvert with two arch culverts option did not change the flow characteristic, thus having the minimal impact to the area and the creek system which is consistent with Rule G, Subsection 3.2e.

As discussed in the Rule B narrative above, the project complied with the District floodplain rule, as required by subsection 3.5c.

Based on the crossing construction stabilization methods, the culvert replacement structure is not reasonably likely to cause adverse effects to water quality and the physical or biological character of the waterbody because the applicant installed the bottom of the pipe below the existing creek bed to promote the creation of natural bottom pipes and the flood elevations and flows are governed by the more restrictive downstream crossing at Covington Road, thus conforming to Rule G, Subsection 3.5d.

Because the work was conducted in October 2019, no work affected the bed or banks of a protected water shall occur between March 15 and June 15 (Rule G, Subsection 3.7a). Disturbed areas near and along the banks were immediately stabilized after completion of the work (Rule G, Subsection 3.7b).

Record drawings submitted confirm that riprap is sized appropriately in relation to the erosion potential. Riprap is sized at 24 inches in diameter which is appropriately sized to withstand the designed discharge velocity 6.3 feet per second, thus conforming to Rule F, Subsection 3.3b (i). Record drawings submitted confirm the proposed crossing follows the existing alignment of the creek (Rule F, Subsection 3.3b (ii) and 3.3b (iv)). The record drawings indicate that a granular transitional layer with a minimum thickness of 6 inches and a geotextile fabric was placed, thus conforming to Rule F, Subsection 3.3b (iii). As shown in the riprap detail in the record drawings and post-construction photos, the riprap extends to the area around the top of the pipe below the Purgatory Creek 100-year floodplain elevation of 897.79 NGVD29, consistent with Rule F, Subsection 3.3b (v). The riprap design reflects energy dissipation and stabilization necessary to minimize erosion at the streambank and is not placed for cosmetic purposes per Rule F, Subsection 3.3b (vi).

The applicant provided a draft maintenance agreement for the outfall for review, in accordance with Rule G, Section 5. The project conforms to the RPBCWD Rule G requirements.

Applicable General Requirements:

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. 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 above and on the permit. The granting of the permit does

not in any way relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.

3. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
4. 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.
5. 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.
6. 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.
7. 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.

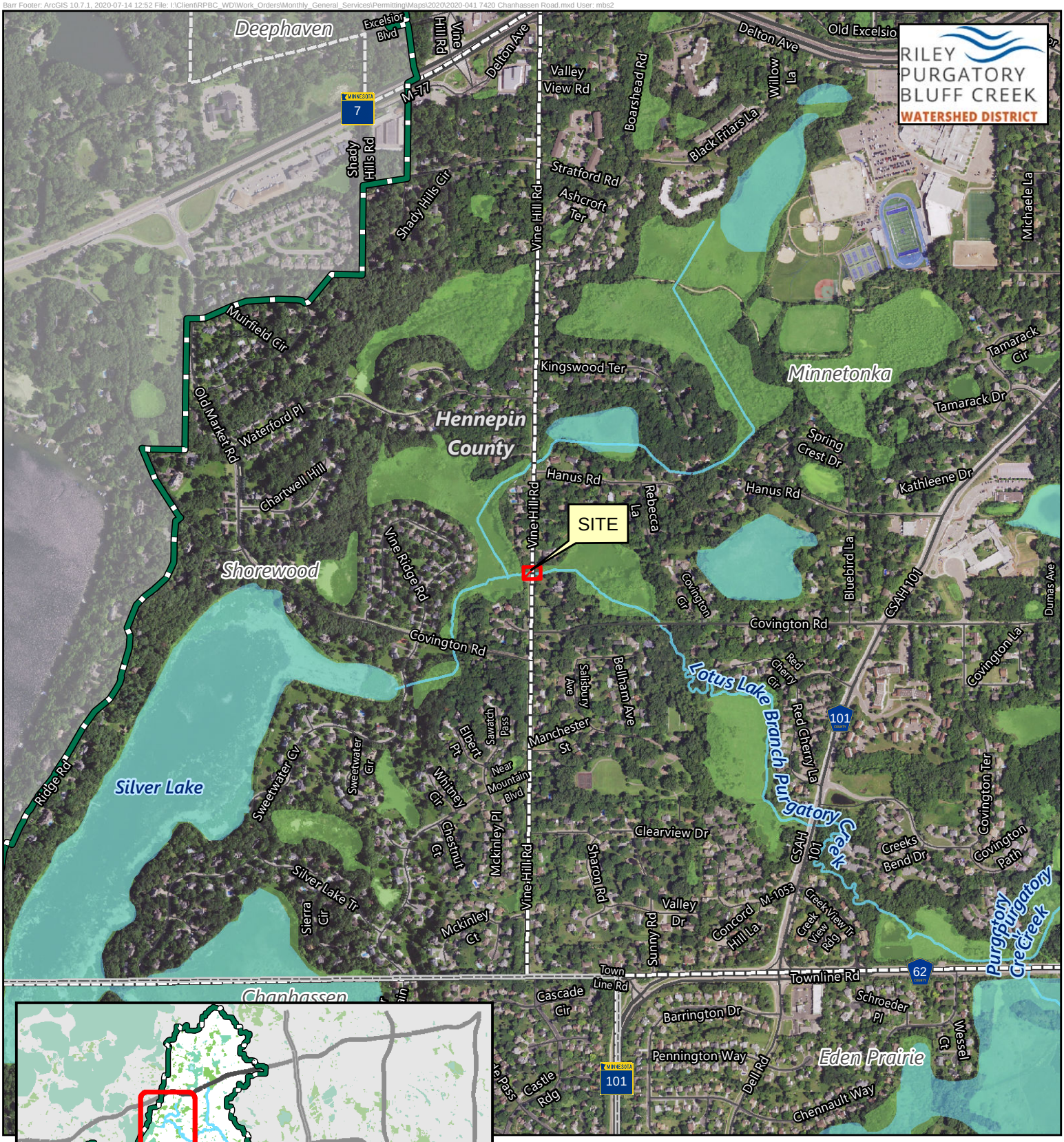
Findings

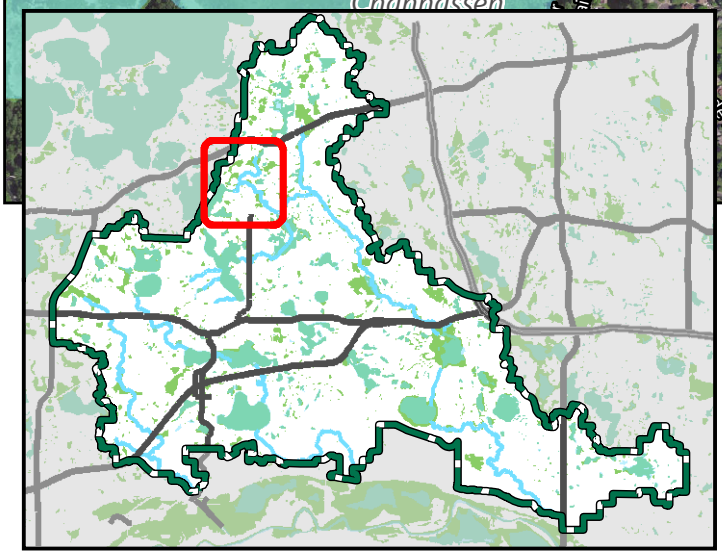
1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. The proposed project conforms to Rule B, C and G.
3. The proposed project will conform to Rules D if the conditions listed above are met.
4. Under Minnesota Department of Natural Resources General Permit 2015-1192 (attached to this report), approval of work under RPBCWD rule(s) G constitutes approval under applicable DNR work in waters rules. Compliance with conditions on approval and payment of applicable fees, if any, are necessary to benefit from general permit approval and the responsibility of the applicants.

Recommendation:

Approval of the permit contingent upon:

1. Continued compliance with General Requirements.
2. Receipt of a maintenance agreement for the maintenance of the buffer and waterbody crossing. A draft Exhibit A to the maintenance agreement should clearly depict the buffer area and sign location and be provided for RPBCWD review prior to executing the agreement.





N

Feet

0 1,000

Permit Location Map

VINE HILL ROAD CROSSING

Permit 2020-030

Riley Purgatory Bluff Creek Watershed District

CITY OF MINNETONKA

HENNEPIN COUNTY, MINNESOTA

2019 MISCELLANEOUS DRAINAGE
VINE HILL RD & PURGATORY CREEK

MINNETONKA CITY PROJECT NO. N/A

LEGEND

- CITY BORDER LINE
- EXISTING ROW/PROPERTY LINE
- EXISTING ROW CENTERLINE
- EXISTING BUILDING
- EXISTING BRIDGE
- EXISTING CONC. CURB & GUTTER
- EXISTING BITUMINOUS CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING DRIVEWAY
- EXISTING GUARDRAIL
- EXISTING RAILROAD
- EXISTING SIDEWALK/TRAIL EDGE
- EXISTING SIGN
- EXISTING TRAFFIC SIGNAL
- EXISTING FENCE
- EXISTING MAILBOX
- EXISTING POST
- EXISTING RETAINING WALL
- EXISTING SOIL BORING
- EXISTING SPOT ELEVATION (932.4)
- EXISTING INDEX CONTOUR (970)
- EXISTING INTERMEDIATE CONTOUR
- EXISTING SANITARY SEWER LINE
- EXISTING SANITARY SEWER M.H.
- EXISTING SANITARY SEWER F.M.
- EXISTING SANITARY SEWER L.S.
- EXISTING STORM SEWER LINE
- EXISTING STORM SEWER M.H.
- EXISTING STORM SEWER C.B.
- EXISTING STORM SEWER CULVERT
- EXISTING STREETLIGHT
- EXISTING UTILITY BOX
- EXISTING UNDERGROUND CABLE TV (CTV)
- EXISTING UNDERGROUND GAS (G)
- EXISTING UNDERGROUND POWER (P)
- EXISTING UNDERGROUND TELEPHONE (T)
- EXISTING UTILITY OVERHEAD LINE (OH)
- EXISTING UTILITY POLE
- EXISTING WATER LINE
- EXISTING WATER GATEVALVE
- EXISTING WATER HYDRANT
- EXISTING BUSH OR SHRUB
- EXISTING HEDGE
- EXISTING TREES
- EXISTING TREE GROUP EDGE
- EXISTING WETLAND BORDER
- EXISTING WETLAND SYMBOL
- EXISTING SHORELINE, STREAMS
- EXISTING WATER ELEVATION (W.E. 938.1)
- PROPOSED ROW LINE
- PROPOSED ALIGNMENT LINE
- PROPOSED CONTOUR (970)
- PROPOSED SANITARY SEWER LINE
- PROPOSED SANITARY SEWER M.H.
- PROPOSED STORM SEWER LINE
- PROPOSED STORM SEWER M.H.
- PROPOSED STORM SEWER C.B.
- PROPOSED WATER LINE
- PROPOSED WATER GATEVALVE
- PROPOSED WATER HYDRANT

PROJECT AREA

PLAN SET SCALES

LOCATION MAP 1" = 600'

PLAN 1" = 50'

GOVERNING SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION". SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI. "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

INDEX

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE Christopher W. Long

DATE: 2019-10-04 LICENSE # 47106 PRINT NAME: CHRISTOPHER W. LONG, P.E.

ST-149

REVISIONS

DATE	SHT. NO.	BY	REMARKS
11-20-19	2	SO	RECORD DRAWING *REVISED 7-14-2020*
12-5-19	2	SO	EDIT ANNOTATIONS AND NOTES
12-5-19	3	SO	EDIT TITLESHEET & ADD STORM STRUCTURE SCHEDULE

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO GUIDELINES OF CI/ASCE 38-02. ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

LEGEND

- CONSTRUCTION LIMITS
- NEW BITUMINOUS ROADWAY PAVEMENT
- SOD & EROSION CONTROL BLANKET CAT. 3
- BIOROLLS
- EXCESS MATERIAL REMOVAL AREA
- B618 CURB & GUTTER

NOTES

Erosion Control:

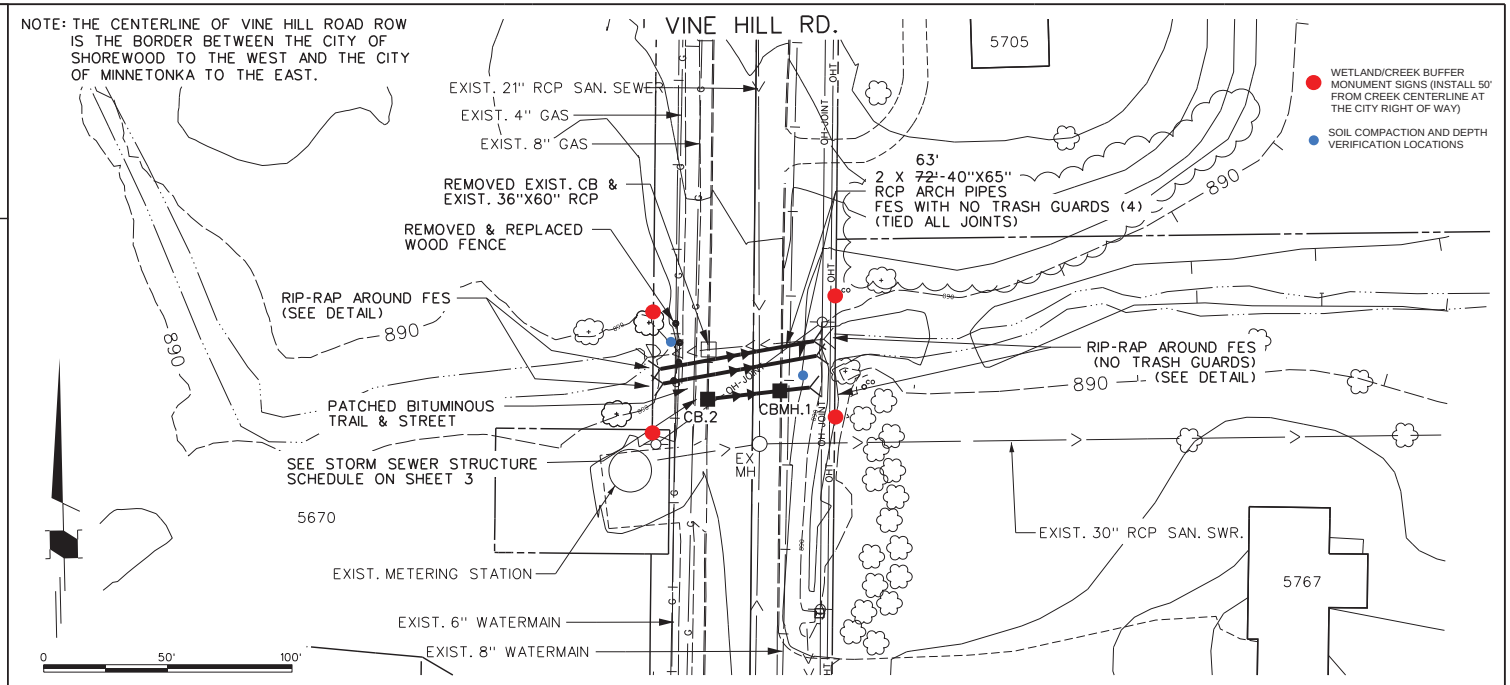
1. All streets in and adjacent to the project shall remain clean and passable at all times. Adjacent street and curb line to be swept free of debris at the end of each work day, or as often as needed to ensure public safety.
2. Erosion control must be in place and approved by the engineer before construction can begin.
3. All storm sewer structures shall be protected from infiltration of silt during construction by approved inlet protection.
4. Stabilization of disturbed areas shall be done by the methods specified in the plans and specfications.
5. All stockpiles must have perimeter sediment control implenented and maintained at all times.
6. Additional erosion and sediment control may be added during any phase of construction as directed by the engineer.

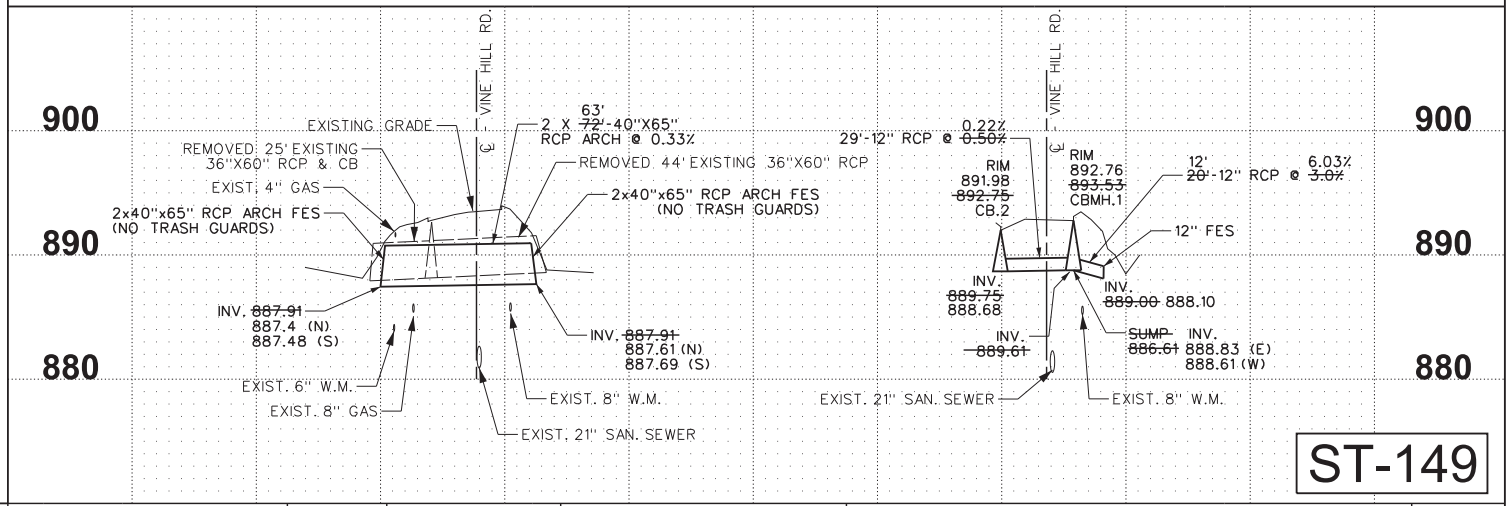
RECORD PLAN NOTE: ALL DISTURBED AREAS WERE RESTORED WITH BLANKET AND SEED MIXTURE 34-261 (RIPARIAN SOUTH AND WEST)

Traffic:

1. Access to residences and businesses shall be maintained at all times throughout the contract.
2. The Contractor shall provide a traffic control plan approved by the Engineer and, furnish, install, and maintain the devices in the traffic control plan. In place signing must also be maintained or temporarily relocated for construction activities.
3. All traffic control devices shall conform and be installed in accordance with the latest edition of the Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD) and including the latest field manual for temporary traffic control zone layouts. Traffic control not in compliance with MN MUTCD will be subject to violation in accordance with Special Provisions.

NOTE: THE CENTERLINE OF VINE HILL ROAD ROW IS THE BORDER BETWEEN THE CITY OF SHOREWOOD TO THE WEST AND THE CITY OF MINNETONKA TO THE EAST.





ST-149

REVISIONS		
DATE	BY	REMARKS
11-20-19	SO	RECORD DRAWING
12-5-19	SO	EDIT ANNOTATIONS & NOTES

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 ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

PRINT NAME: CHRISTOPHER W. LONG, P.E.

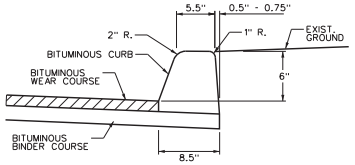
DATE: 2019-10-04 LICENSE NO. 47106

PROJECT NO(S)	SCALE: 1"=50' (H) / 1"=10' (V)	
	DRAWN BY SAO	DESIGNED BY CWL
BID NO.	CHECKED BY CWL	DATE 2019/10/02

CITY OF MINNETONKA
14600 Minnetonka Blvd, Mtka, Mn. 55345
952-939-8200 / www.eminnetonka.com

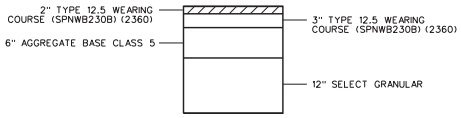
STORM SEWER PLAN
2019 MISCELLANEOUS DRAINAGE
VINE HILL RD & PURGATORY CREEK

SHEET 2 OF 3

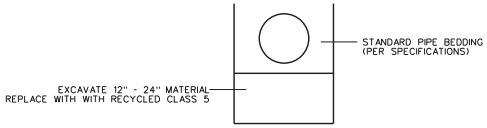


BITUMINOUS CURB DETAIL
(NOT TO SCALE)

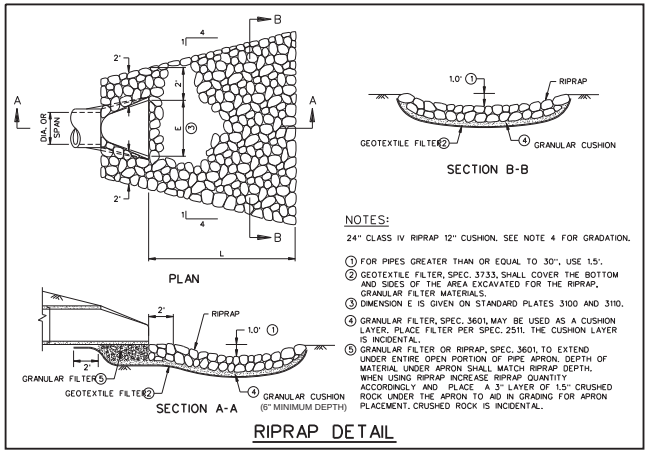
STORM SEWER STRUCTURE SCHEDULE							
STRUCTURE	TYPE	SIZE	CASTING	RING TYPE	RING HEIGHT (INCHES)	DRAIN TILE CONNECTIONS	SPECIAL COMMENTS
CBMH-1	CBMH	48"	R-3290-VB	CONCRETE	5	0	CITY OF MINNETONKA
CB-2	CB	2'X3'	R-3290-VB	CONCRETE	23	0	CITY OF SHOREWOOD



TYPICAL PAVEMENT SECTION
(NOT TO SCALE)
NOTE: CONTRACTOR TO MATCH EXISTING SECTION



PIPE SUPPORT (AS DIRECTED BY ENGINEER)
(NOT TO SCALE)
NOTE: CONTRACTOR SHALL BE PREPARED FOR ADDITIONAL WORK DEPENDING ON IN SITU SOILS



RIPRAP DETAIL

ST-149

REVISIONS		
DATE	BY	DESCRIPTION
12-5-19	SO	RECORD DRAWING
12-5-19	SO	EDIT TITLEBLOCK & ADD STORM STRUCTURE SCHEDULE

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 ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
PRINT NAME: CHRISTOPHER W. LONG, P.E.
DATE: 2019-10-04 LICENSE NO. 47106

PROJECT NO(S)
BID NO.
SCALE: N/A
DRAWN BY SAO
DESIGNED BY CWL
CHECKED BY CWL
DATE 2019/09/13

CITY OF MINNETONKA
14600 Minnetonka Blvd, Mtka, Mn. 55345
952-939-8200 / www.eminnetonka.com

DETAILS
2019 MISCELLANEOUS DRAINAGE
VINE HILL RD & PURGATORY CREEK

SHEET 3 OF 3

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: 2020-031

Received complete: July 1, 2020

Applicant: Norton Homes, LLC

Consultant: Alliant Engineering; Alyssa Armstrong

Project: Construction of 24 new single-family homes, extension of sanitary sewer, watermain, and sidewalk through the development. Stormwater management facilities, including three infiltration basins, will be constructed to provide volume control, water quality, and rate control for runoff prior to discharging offsite.

Location: 12701 Pioneer Trail, Eden Prairie

Reviewer: Scott Sobiech, 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 August 5, 2020 meeting of the managers:

Resolved that the application for Permit 2020-031 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 have been affirmatively resolved, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2020-031 to the applicant on behalf of RPBCWD.

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

Applicable Rule Conformance Summary

Rule	Issue		Conforms to RBPCWD Rules?	Comments
C	**Erosion Control Plan**		Yes	
J	**Stormwater Management**	Rate	Yes.	
		Volume	See Comment.	See stipulation #2.
		Water Quality	Yes.	
		Low Floor Elev.	Yes.	
		Maintenance	See comment.	See rule-specific permit condition J1.
		Chloride Management	Yes.	
		Wetland Protection	NA	No wetlands have been identified that receive runoff directly from the site.
L	**Permit Fee Deposit**		See comment.	$3,000 was received on 6/1/2020
M	**Financial Assurance**		See comment.	The financial assurance is calculated at $78,376

Project Description

The proposed construction includes 24 new single-family home sites, extension of sanitary sewer and watermain, and sidewalk through the development. Stormwater management facilities, including three infiltration basins, will be constructed to provide volume control, water quality, and rate control for runoff prior to discharging offsite. The site includes land within the RPBCWD and Lower Minnesota River Watershed District (LMRWD). The applicant proposes to-construct three stormwater infiltration basins within RPBCWD to accommodate anticipated stormwater management requirements from the entire site. While the following analysis reviews the entire site relative to RPBCWD requirements, work under this permit, should the managers elect to approve and subject to all conditions and stipulation as determined by the PRBCWD managers, only authorizes land-disturbing activities within RPBCWD. The project site information is summarized below:

	Within LMRWD	Within RPBCWD	Total Project Site
Total Site Area (acres)	2.5	6.86	9.36
Existing Site Impervious (acres)	0.045	0.249	0.294
Disturbed Site Impervious Area (acres)	0.045 (100%)	0.249 (100%)	0.294 (100%)
Proposed Site Impervious Area	0.928	2.399	3.327

	Within LMRWD	Within RPBCWD	Total Project Site
(acres)	(>100% increase)	(>100% increase)	(>100% increase)
New (Increase) in Site Impervious Area (acres)	0.928 (>100% increase)	2.15 (>100% increase)	3.078 (>100% increase)
Total Disturbed Area (acres)	2.71	6.89	9.6

Exhibits Reviewed:

1. Permit Application dated May 26, 2020 with permit fee being received on June 4, 2020.
2. Stormwater Management Plan dated May 18, 2020 (revised July 1, 2020 and July 16, 2020).
3. Design Plans Sheets 1 through 19 dated May 18.2020 (revised July 1, 2020 and July 16, 2020, sheets 8, 10 & 11 revised July 27, 2020)
4. Geotechnical Exploration Report prepared by Haugo Geotechnical Services dated May 12, 2020
5. MN Wetland Conservation Act Notice of Decision dated October 19, 2018
6. Existing and Proposed Conditions HydroCAD models received July 1, 2020 (updated July 16, 2020)
7. Response to June 16, 2020 incomplete notice and comments received July 1, 2020
8. Response to comments received July 16, 2020
9. Infiltration testing results dated June 24, 2020
10. Engineer's opinion of probable cost dated July 16, 2020

Rule Specific Permit Conditions

Rule C: Erosion and Sediment Control

Because the project will alter 6.86 acres of land-disturbing activity within RPBCWD, 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 Alliant Engineering, Inc includes installation of silt fence, inlet protection to protect storm sewer catch basins, a rock construction entrance, decompaction of areas compacted during construction, rip-rap at outfalls into the infiltration basin, and retention of native topsoil onsite. Pat Hiller of Norton Homes will be the responsible party for erosion control during construction (763-551-0100; path@nortonhomes.com) The proposed project conforms to the RPBCWD Rule C requirements.

Rule J: Stormwater Management

Because the project will disturb 6.86 acres of land-surface area within RPBCWD, 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 project site because the project work within RPBCWD's

jurisdiction will increase the imperviousness of the site by more than 100 percent (Rule J, Subsection 2.3).

The developer is proposing construction of three infiltration basins to provide the rate control, volume abstraction, and water quality management on the site. Sump manholes and a vegetated swale will provide pretreatment for the infiltration basins.

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 disturbed site area are summarized in the table below. The modeling provided shows a slight increase (~0.1 cfs) in the 100-year, 10-day snowmelt event which is within the modeling tolerances. The proposed project is in conformance with RPBCWD Rule J, Subsection 3.1.a.

Modeled 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
South Runoff	0.6	0.4	1.2	1.2	9.5	9.4	1.0	0.7
CB Ex Storm	0.1	0.0	0.8	0.2	3.1	0.5	0.1	**0.2**
Pioneer Trail	0.1	<0.1	0.3	0.1	1.2	0.3	<0.1	<0.1
East CB	0.8	0.7	1.2	1.1	5.7	3.1	0.9	0.7
East Runoff	0.1	0	0.2	0	0.5	0.1	0.1	0.1

Volume Abstraction

Subsection 3.1.b and 2.3 of Rule J requires the abstraction onsite of 1.1 inches of runoff from all disturbed and additional impervious surface of the parcel. An abstraction volume of 9,579 cubic feet is required from the 2.399 acres (104,500 square feet) of new and reconstructed impervious area on the project for volume retention. The Applicant proposes three infiltration basins with pretreatment of runoff provided by a sump manhole and vegetated swale. Soil borings performed by Haugo Geotechnical Services show that soils in the project area are poorly graded sand (at two of the infiltration basins) to clayey sand (at one of the infiltration basins); the MN Stormwater Manual indicates an infiltration rate of 0.45 in/hr for the poorly graded sand. Infiltration testing conducted by Haugo Geotechnical Services at one of the proposed infiltration basins produced a measured infiltration

rate of 1.67 in/hr. Soil borings performed by Haugo Geotechnical Services show no groundwater to a boring depth of 21 feet. This indicates that groundwater is at least 3 feet below the bottom of the proposed infiltration basins (Rule J, Subsection 3.1.b.ii). The table below summarizes the volume abstraction on the site. The proposed project is in conformance with Rule J, Subsection 3.1.b.

	Abstraction Depth (inches)	Abstraction Volume (cubic feet)
Requirement	1.1	9,579
Provided	1.5	14,447

While infiltration testing was conducted at one infiltration basin (Basin A), the bottoms of the other two basins were not accessible due to the depth of the proposed construction. Thus no information was provided for the measured infiltration or hydraulic conductivity testing results at two of the infiltration basin (Basins B and C) as required by Rule J, subsection 3.1.b.ii.C. 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).

Water Quality Management

Subsection 3.1.c of Rule J requires the Applicant provide volume abstraction in accordance with 3.1b or 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, and no net increase in TSS or TP loading leaving the site from existing conditions. Because the BMPs proposed by the applicant provide more volume abstraction than is require in accordance with 3.1b, the engineer concurs with the modeling, and finds that the proposed project is in conformance with Rule J, Subsection 3.1.c.

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. Two of the proposed lots and four of the off-site, adjacent homes utilized the guidance provided in RPBCWD Rule J, Appendix J1 to prove the proposed project meets the low floor elevation requirements. The results of this analysis are summarized in the two tables below. The RPBCWD Engineer concurs that the proposed project is in conformance with the low floor criteria in Rule J, Subsection 3.6.

Nearest Basin	Block	Lot	100-yr High Water Level, ft	Lowest Floor Elevation, ft	Freeboard, ft
Basin A	2	11	843.17	849.0	5.83

Nearest Basin	Block	Lot	100-yr High Water Level, ft	Lowest Floor Elevation, ft	Freeboard, ft
Basin A	2	12	843.17	849.5	6.33
Basin A	2	13	843.17	851.3	8.13
Basin A	2	14	843.17	853.0	9.83
Basin A	2	17	843.17	874.8	31.63
Basin A	2	18	843.17	877.3	34.13
Basin A	2	19	843.17	878.4	35.23
Basin B	2	1	821.48	830.5	9.02
Basin B	2	2	821.48	835.1	13.62
Basin B	2	3	821.48	839.5	18.02
Basin B	2	4	821.48	848.5	27.02
Basin B	2	5	821.48	853.5	32.02
Basin B	2	6	821.48	853.5	32.02
Basin B	2	7	821.48	849.5	28.02
Basin B	2	8	821.48	849.6	28.12
Basin B	2	9	821.48	849.9	28.42
Basin B	Off-site, Adjacent Home at 9660 Tree Farm Rd.		821.48	830.3	8.82
Basin B	Off-site, Adjacent Home at 9676 Tree Farm Rd.		821.48	824.9	3.42
Basin B	Off-site, Adjacent Home at 9692 Tree Farm Rd		821.48	818.2	-3.28 See table below
Basin B	Off-site, Adjacent Home at 9708 Tree Farm Rd.		821.48	817.3	-4.18 See table below
Basin B	Off-site, Adjacent Home at 9724 Tree Farm Rd.		821.48	812.3	-9.18 See table below
Basin C	1	1	858.27	852.0	-6.27 See table below
Basin C	1	2	858.27	859.0	0.73 See table below
Basin C	Off-site, Adjacent Home at 12661 Pioneer Trail		858.27	850	-8.27 See table below

Existing, Off-Site Home Location	Lowest Floor Elevation (feet)	General Soil Profile	Water Table Elevation (feet)	Nearest Basin	100-yr High Water Level	Appendix J1, Plot 1 Depth to Water Table (feet)	Plot 1 Required Setback (feet)	Proposed/Existing Home Setback (feet)
9692 Tree Farm Rd	818.2	Silt	801.3	Basin B	821.48	16.9	8	68
9708 Tree Farm Rd	817.3	Silt	801.3	Basin B	821.48	16	10	84
9724 Tree Farm Rd	812.3	Silt	801.3	Basin B	821.48	11	27	138
Block 1, Lot 1	852.0	Silt	836.0	Basin C	858.27	16	10	20
Block 1, Lot 2	859.0	Silt	836.0	Basin C	858.27	23	5	20
12661 Pioneer Trail	850.0	Silt	836.0	Basin C	858.27	14	17	137

Maintenance

Subsection 3.7 of Rule J requires the submission of 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.

J1. Permit applicant must provide a draft maintenance and inspection declaration. Once approved by RPBCWD, the declaration must be recorded on the deed for the property and a stamped copy of the declaration provided to the RPBCWD after recordation.

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. The RPBCWD chloride-management plan requirement applies to the streets and common areas of the project site, but not the individual single-family homes. Because the streets within the proposed residential development are within public right of way that will be maintained by the city of Eden Prairie and the City has provided its chloride management plan and its designated state-certified chloride applicator is Eden Prairie's Streets Division Manager, Larry Doig, the proposed development conforms with Rule J, subsection 3.8.

Rule L: Permit Fee Deposit:

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 June 1, 2020.

Rule M: Financial Assurance:

Rules C: Silt fence: 3,412 L.F. x $2.50/L.F. = ... $8,530

Inlet protection: 17 x $100 = ... $1,70000

Rock Entrance: 1 x $250 = ... $250

Restoration: 6.89 acres x $2,500/acre = ... $17,225

Rules J: Infiltration Basins: $34,837x 125% of engineer's opinion of cost= $43,546

Contingency (10%) $7,125

Total Financial Assurance..... $78,376

Applicable General Requirements:

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. 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 in this report. 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.
3. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
4. 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.
5. 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.
6. 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.

7. 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 conforms to Rule C.
3. The proposed project will conform to Rule J if the conditions listed above are met.

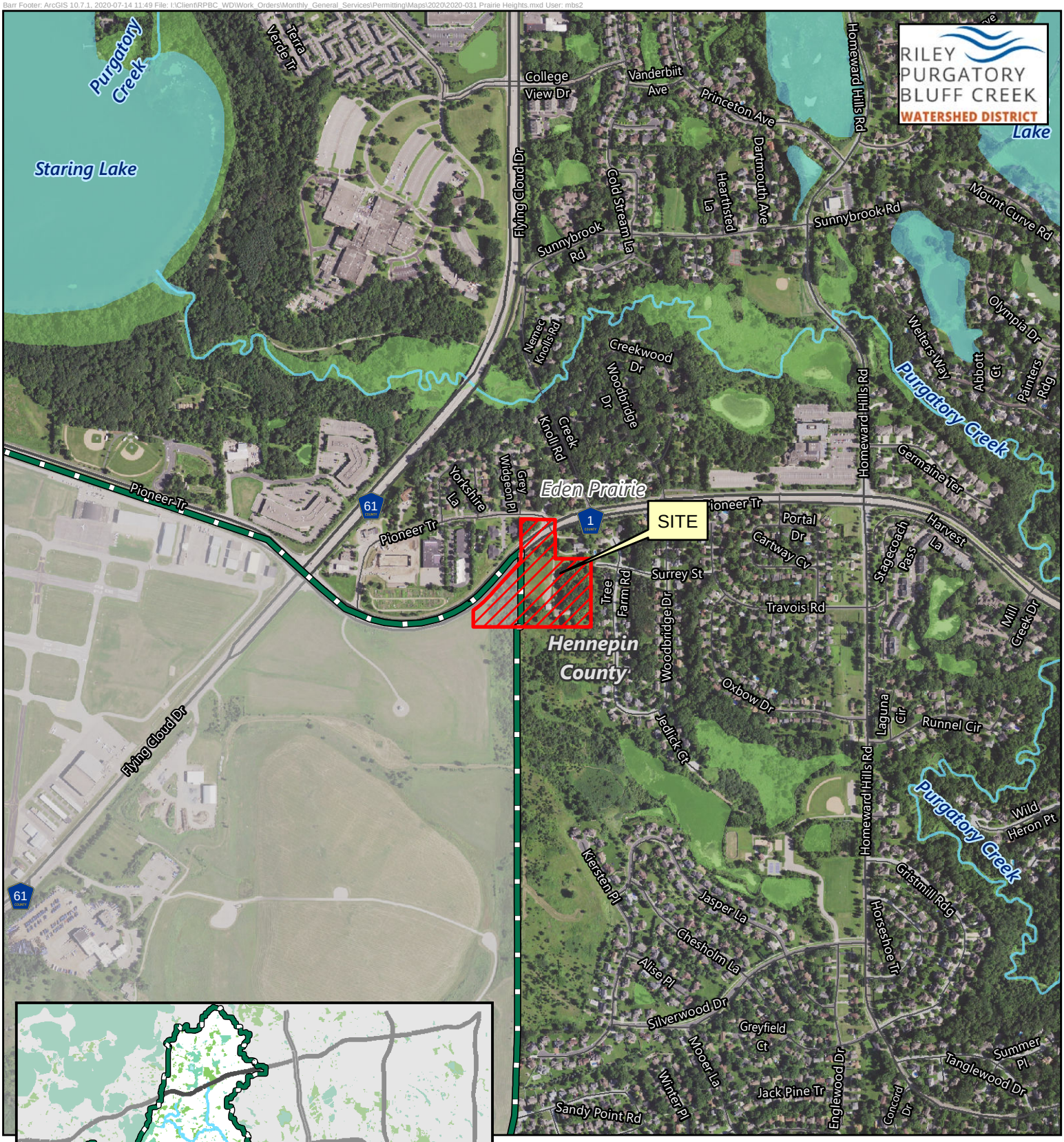
Recommendation:

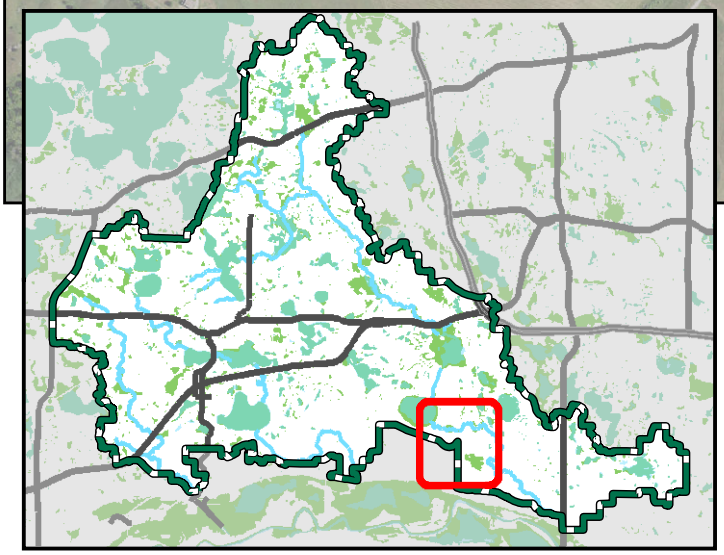
Approval, contingent upon:

1. Continued compliance with General Requirements
2. Financial Assurance in the amount of $78,376
3. Receipt of documentation of recordation of a maintenance declaration for the stormwater management facilities after approval by RPBCWD staff. Drafts of any and all documents to be recorded 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, stormwater facilities conform to design specifications as approved by the District.
2. 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 at Basins B and C. 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).
3. The work on the Prairie Height parcel under the terms of permit 2020-031, 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. 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.





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Feet

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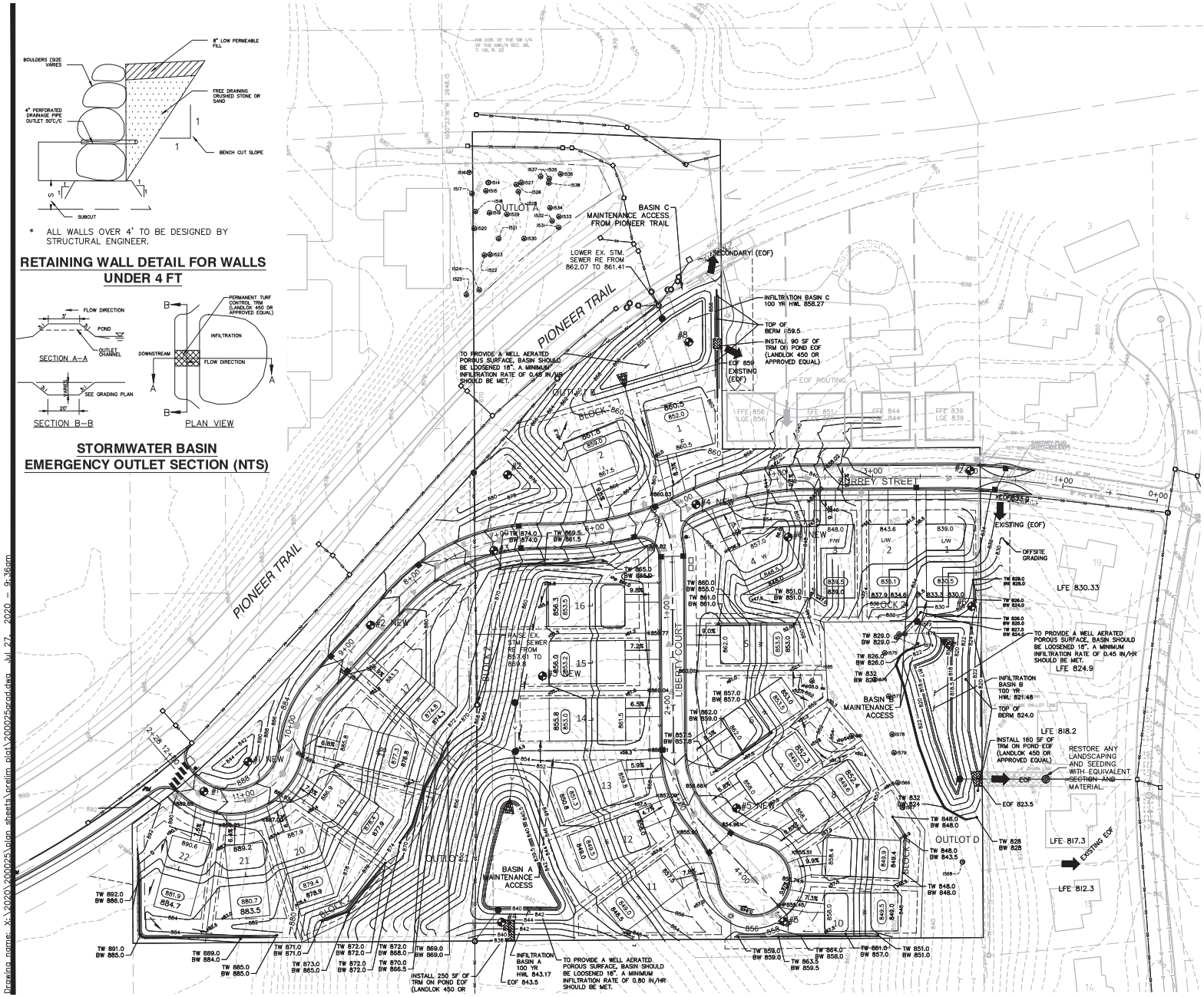
Permit Location Map

PRAIRIE HEIGHTS

Permit 2020-031

Riley Purgatory Bluff Creek Watershed District



* ALL WALLS OVER 4' TO BE DESIGNED BY STRUCTURAL ENGINEER.

RETAINING WALL DETAIL FOR WALLS UNDER 4 FT

STORMWATER BASIN EMERGENCY OUTLET SECTION (NTS)

RETAINING WALL NOTES:

RETAINING WALL MASS GRADING PREPARATION

1. ALL RETAINING WALLS SHALL BE ROUGH GRADED AT A 2:1 SLOPE WITH BASE OF SLOPE AT PROPOSED WALL FACE.
2. PROPOSED RETAINING WALL AREAS BETWEEN BUILDING PADS ARE TO BE ROUGH GRADED AT A 2:1 SLOPE WITH BASE OF SLOPE COINCIDING WITH COMMON LOT LINE.
3. THE RETAINING WALL SLOPE AREAS ARE TO BE MAINTAINED UNTIL RETAINING WALL CONSTRUCTION OCCURS. ANY EROSION SHALL BE REMEDIED AND RESTORED.
4. BUILDING PERMITS ARE REQUIRED FOR ALL RETAINING WALLS 4 FEET IN HEIGHT OR GREATER AND THE WALLS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER WITH DESIGN REVIEWED AND APPROVED BY THE CITY PRIOR TO INSTALLATION. ANY QUESTIONS REGARDING THE BUILDING PERMITS SHALL BE DIRECTED TO THE CITY BUILDING INSPECTOR.
5. INSTALL SAFETY RAILING ATOP ALL WALLS WHERE REQUIRED BY CODE.
6. RETAINING WALL CONTRACTOR AND/OR RETAINING WALL STRUCTURAL ENGINEER ARE RESPONSIBLE TO REVIEW CIVIL SITE ENGINEERING DRAWINGS. ANY OBSERVED CONCERNS WITH CIVIL SITE ENGINEERING DESIGN ELEMENTS RELATED TO RETAINING WALLS THAT REQUIRE MODIFICATIONS TO THE CIVIL SITE DESIGN IS THEIR RESPONSIBILITY TO COORDINATE WITH PROJECT OWNER AND CIVIL SITE ENGINEER. IF NO COORDINATION IS REQUESTED IT SHALL BE UNDERSTOOD THAT ALL CONDITIONS WITHIN THE CIVIL SITE DESIGN AND PLANS ARE ACCEPTABLE AND ABLE TO BE PROVIDED FOR IN THE RETAINING WALL DESIGN AND CONSTRUCTION.
7. RETAINING WALLS ARE TO BE FINAL DESIGNED AND PERMITTED BY OTHERS.
8. RETAINING WALLS DEPICTED ON ALLIANT GRADING PLAN AS BIG BLOCK MODULAR RETAINING WALLS.
9. DRAINTILE INLETS TO TIE INTO PUBLIC STORM SEWER OR WALL DRAINTILE SYSTEM. TO BE COMPLETED WITH FINAL WALL DESIGN.

DECOMPACTION NOTES:

REFER TO SHEET 12 FOR DECOMPACTION AREAS.

SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED TO ACHIEVE:

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 ON
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.

IN ADDITION, UTILITIES, TREE ROOTS AND OTHER EXISTING VEGETATION MUST BE PROTECTED UNTIL FINAL REVEGETATION OR OTHER STABILIZATION OF THE SITE.

GRADING LEGEND:

- FRONT OF PAD 854.3 — GARAGE FLOOR ELEVATION
- (1) — ADDITIONAL REQUIRED STEPS BEYOND TYPICAL 0.67' DIFF.
- W — HOUSE TYPE
- 853.0 — LOWEST FLOOR ELEVATION
- REAR OF PAD 857.4 — REAR ELEVATION
- 789 — EXISTING CONTOUR
- 789 — PROPOSED CONTOUR
- ×62.44 ×962.44 — PROPOSED SPOT ELEVATION
- TW XXX — TOP OF WALL ELEVATION
- BW XXX — BOTTOM OF WALL ELEVATION
- 2.00% — DIRECTION OF DRAINAGE
- F — FULL BASEMENT
- L — LOOK OUT
- W — WALK OUT
- EMERGENCY OVERFLOW ROUTING
- RETAINING WALL
- PROPOSED CATCH BASINS
- PROPOSED STORM SEWER
- PROPOSED EASEMENT
- PROPERTY LINE
- SETBACK LINE
- LOT LINE
- RIGHT–OF–WAY
- TREE CLEARING LIMITS LIMITS
- ×567 ×566 — EXISTING TREE TO REMAIN (PROTECT FROM GRADING ACTIVITIES)
- SOIL BORING

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NOT FOR CONSTRUCTION

N

0 25 50 100
SCALE IN FEET

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REZONE, PRELIMINARY PLAT, & PUD
GRADING AND DRAINAGE PLAN

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of MINNESOTA

DAVE NASH, PE

Date License No.

QUALITY ASSURANCE/CONTROL

BY	DATE

DATE	ISSUE
5-18-20	PRELIM. PLAT SUBMITTAL
6-8-20	BRD SET
7-1-20	CITY & RPWD COMMENTS
7-16-20	RPWD COMMENTS

PROJECT TEAM DATA

DESIGNED:	DN
DRAWN:	AA
PROJECT NO:	220-0025

8

SHEET 8 OF 19

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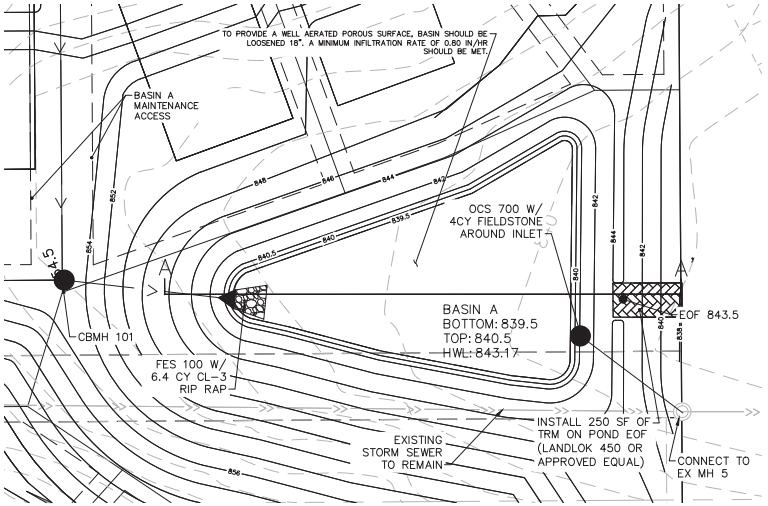

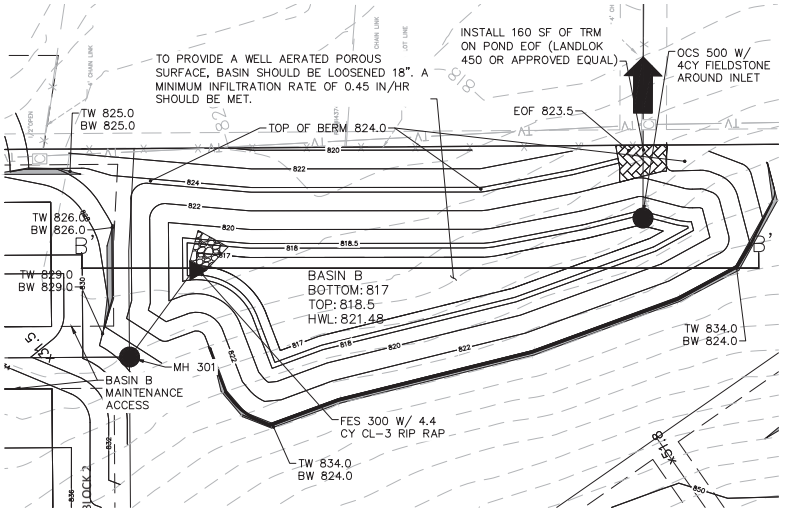

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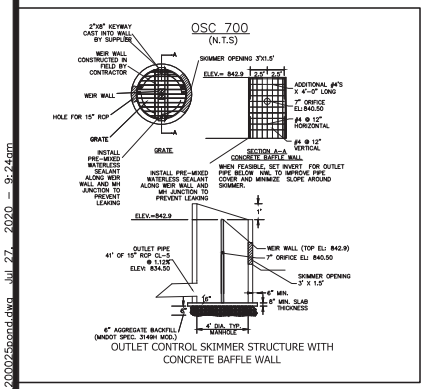
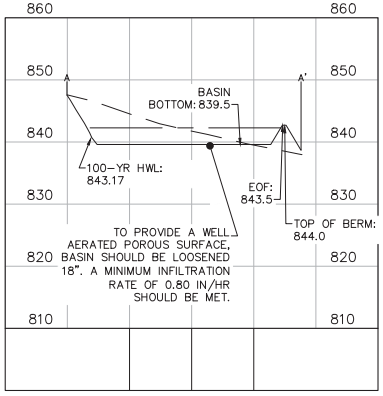


INFILTRATION BASIN A



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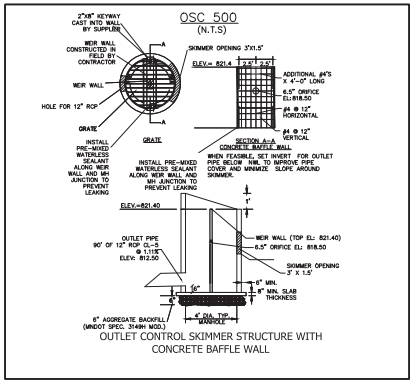
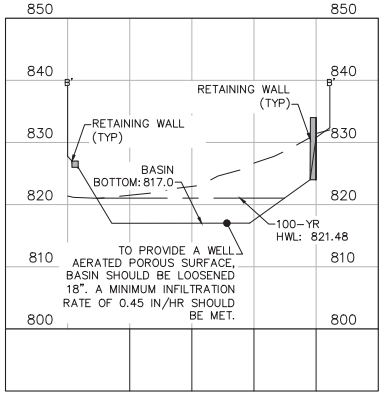


INFILTRATION BASIN B



LEGEND:

- LOT LINE
- PROPERTY LINE
- BUILDING SETBACK
- EASEMENT LINE
- ROW

INFILTRATION BASIN NOTES:

1. IF INFILTRATION BASIN TO BE UTILIZED AS TEMPORARY SEDIMENT BASINS, 3' OF COVER OVER PROPOSED BOTTOM ELEVATION OR EXCAVATION ELEVATION TO BE LEFT IN PLACE DURING CONSTRUCTION.
2. IF COMPACTION OCCURS AT THE BASE OF THE BASIN, THE SOIL SHALL BE REFRACTURED TO A DEPTH AT LEAST 36". IF SMEARING OCCURS, THE SMEARED AREAS OF THE INTERFACE SHALL BE CORRECTED BY RAKING OR ROTO-TILLING.
3. ON SITE MATERIAL TO BE UTILIZED FOR BACKFILL IN REMOVAL OF UNSUITABLE INFILTRATION MATERIAL LAYERS AS APPROVED BY THE GEOTECHNICAL ENGINEER.
4. INFILTRATION RATE TO BE A MINIMUM OF 0.80 IN/HR IN BASIN A AND 0.45IN/HR IN BASIN B AND C.
5. TOP 6" OF BASIN BOTTOM SHALL CONSIST OF PLANTING MEDIUM. 85% SAND AND 15% ONSITE TOPSOIL TO ENSURE HEALTHY PLANT GROWTH.

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BASIN CROSS SECTIONS

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DAVE NASH, PE

Date License No.

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BY DATE

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PROJECT TEAM DATA
DESIGNED: DN
DRAWN: AA
PROJECT NO: 220-0025

10

SHEET 10 OF 19

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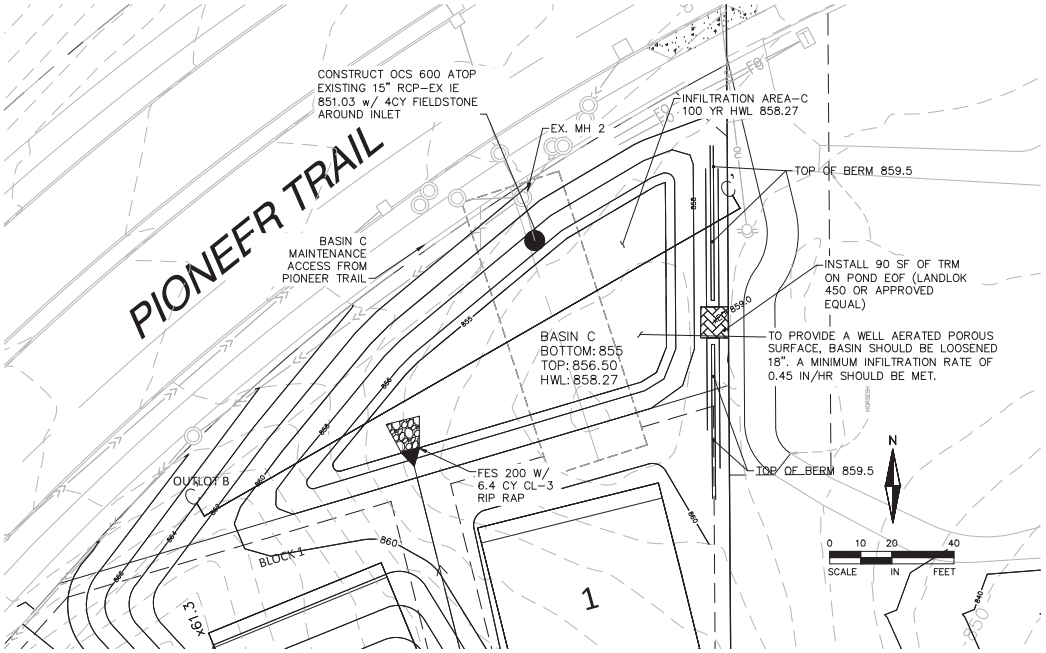

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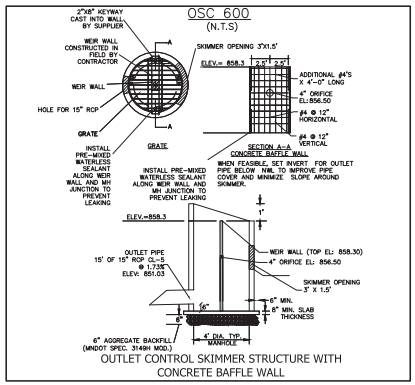
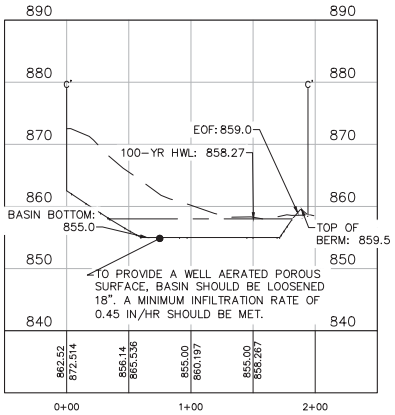


OUTLET CONTROL SKIMMER STRUCTURE WITH CONCRETE BAFFLE WALL

INFILTRATION BASIN C



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BASIN CROSS SECTIONS

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DAVE NASH, PE
Date License No.

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7-16-20	RPWD COMMENTS

PROJECT TEAM DATA
DESIGNED: MPR
DRAWN: ELL
PROJECT NO: 220-0025

11

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

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952-607-6512
www.rpbcwd.org

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2020-040

Considered at Board of Managers Meeting: August 5, 2020

Received complete: June 23, 2020

Applicant:	Patrick Doolings
Consultant:	Natural Environments Corporation, Terry Sanders
Project:	Shoreline Stabilization – The applicant proposes stabilization of about 145 feet of Lotus Lake shoreline on an existing single-family home property at 6605 Horseshoe Curve in Chanhassen.
Location:	6605 Horseshoe Curve, Chanhassen, MN
Reviewer:	Scott Sobiech, PE, 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 August 5, 2020 meeting of the managers. Resolved that the application for Permit 2020-014 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 have been met, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2020-014 to the applicant on behalf of RPBCWD.

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

Rule Conformance Summary

Rule	Issue	Conforms to RBPCWD Rules?	Comments
B	**Floodplain Management and Drainage Alterations**	Yes	
C	**Erosion Prevention and Sediment Control**	Yes	
F	**Shoreline and Streambank Stabilization**	Yes	
L	**Permit Fee**	See Comment	$200 fee deposit received on July 1, 2020
M	**Financial Assurance**	See Comment	The financial assurance is calculated at $17,587

Project Background

The project is located at the residence at 6605 Horseshoe Curve in Chanhassen riparian to Lotus Lake. The proposed project includes installation of bioengineering materials to stabilize the property shoreline along Lotus Lake. The project site information is summarized below:

Description	Area
Total Site Area	1.05 acres
Length of Shoreline impacted	145 feet
New (Increase) in Site Impervious Area	0
Disturbed impervious surface	0
Total Disturbed Area	0.09 acres

Exhibits received during the application review:

- Permit application dated June 23, 2020
- Erosion intensity worksheet received March 5, 2020 (revised March 10, 2020)
- Site photos received March 5, 2020 and June 23, 2020
- Construction drawing dated February 20, 2020 (revised June 18, 2020 and July 8, 2020)

Rule Specific Permit Conditions

Rule B: Floodplain Management and Drainage Alterations

Because the project will involve land-disturbing activities below the 100-year floodplain of Lotus Lake (897.4 msl) to stabilize an eroding shoreline, the project must conform to the requirements in the RPBCWD Floodplain Management and Drainage Alteration rule (Rule B, Subsection 2.1).

Rule B, Subsections 3.1 and 3.4 are not relevant because no buildings will be constructed or reconstructed as part of the project, and the no impervious surface will be created or re-created within 50 feet of a watercourse. Because the cross section information provided on the drawing shows proposed excavation and installation of stabilization measures entirely below the existing ground level, the proposed project will not result in loss of flood storage below the 100-year flood elevation and the project conforms to Rule B, Subsection 3.2. Because the applicant has demonstrated and the engineer concurs that the project will preserve the existing 100-year flood level, the project will not alter surface flows, complying with subsection 3.3. The applicant has prepared an erosion control plan as required by Rule B, Subsection 3.5. The plan includes a note 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 B, Subsection 3.6.

The RPBCWD Engineer finds that the proposed project conforms to the floodplain management and drainage alteration requirements of Rule B.

Rule C: Erosion and Sediment Control

Because the project trigger RPBCWD Floodplain Management rule and will alter more than 50 cubic yards of earth, the project must conform to the requirements in the RPBCWD Erosion and Sediment Control rule (Rule C, Subsection 2.1).

The drawing prepared by Natural Environments Corporation. includes installation of floating silt curtain, installation of a construction entrance, placement of a minimum of 6 inches of topsoil, and decompaction of areas compacted during construction. The drawing indicates that Terry Sanders, Natural Environments Corporation (763-544-8002; t@naturalenvironmentcorp.com.com) is the general contractor responsible for erosion prevention and sediment control for the site must be provided. The proposed project conforms to the Rule C criteria.

Rule F: Shoreline and Streambank Stabilization

Because the proposed project will stabilize a portion of the shoreline of Lotus Lake, the project must conform to the requirements in the RPBCWD Shoreline and Streambank Stabilization rule (Rule F, Subsection 2). The proposed work falls within the scope of Minnesota Department of Natural Resources General Permit #2015-1192.

The main purpose of the project is to stabilize and restore an eroded shoreline along Lotus Lake. The RPBCWD Engineer conducted a site visit and concurs that the photographs of the site provided by the applicant demonstrate existing erosion as well as ice heaving and a need to restore the eroded shoreline which meets the requirements in Rule F, Subsection 3.1.

The Applicant provided a completed erosion intensity scoresheet which indicates that the total erosion intensity score for the site is 49. RPBCWD engineer's review of the scoresheet revealed a couple discrepancies between the selected score and the correct application of the associated guidance materials for bank stability, shore orientation, and boat wakes. Adjusting these scores results in an erosion intensity score of 38, thus indicating a low erosion intensity classification, which supports the need to complete the project using bioengineering stabilization methods (Rule F, Subsection 3.2a).

The design plans, which are certified by a registered landscape architect, call for bioengineering methods (coir logs) and native vegetation to be used in the shoreline erosion protection in accordance with the criteria in paragraph 3.3ai.

Because the proposed slope shown on the design plan is 3:1 (horizontal to vertical) or flatter waterward of the ordinary high water level, the project conforms to Rule F, Subsection 3.3.a.ii. Design plans also indicate proposed stabilization will follow the configuration of the existing shoreline and will not encroach horizontally from existing conditions. As a result, the proposed project conforms to Rule F, Subsection 3.3.a.iii. The applicant developed their design based on site erosion intensity using RPBCWD

erosion intensity scoresheet which accounts for fetch, prevailing wind direction and soils at the site, thus conforming to Rule F, Subsection 3.3.a.iv.

The RPBCWD Engineer finds that the proposed project conforms to the relevant design criteria in Rule F.

Rule L: Permit Fee Deposit:

The RPBCWD permit fee schedule adopted in February 2020 requires permit applicants to deposit $200 For land-disturbing activities on record single-family residential property to be held in escrow and applied to cover the $10 permit-processing fee and reimburse RPBCWD for permit review and inspection-related costs and when a 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 $200 was received on June 23, 2020.

Rule M: Financial Assurance:

Rules C: Floating silt curtain: 145 L.F. x $2.50/L.F. = ... $363

Rock Entrance: 1.0 x $900 = ... $900

Restoration: 0.09 acres x $2,500/acre = ... $225

Rule F: Shoreline or Streambank Stabilization:145 L.F. x $100/L.F. = ... $14,500

Contingency (10%) $1,599

Total Financial Assurance..... $17,587

Applicable General Requirements:

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. 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 above and 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.
3. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority, except as may be provided under Minnesota Department of Natural Resources General Permit 2015-1192, compliance with which, including payment of any applicable fee, is entirely the responsibility of the permittee.
4. 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.
5. 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.

6. 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.
7. 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.

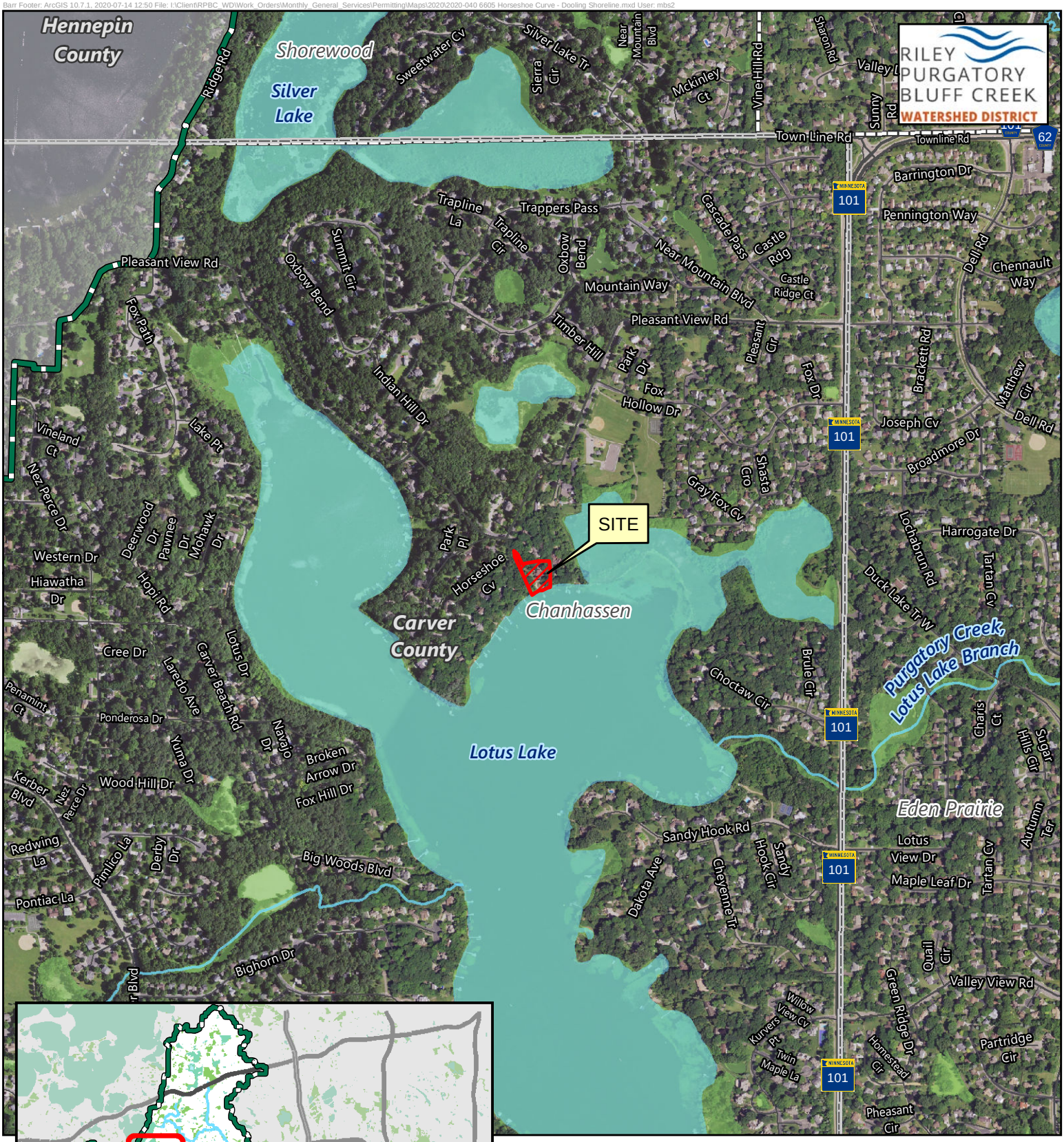
Findings

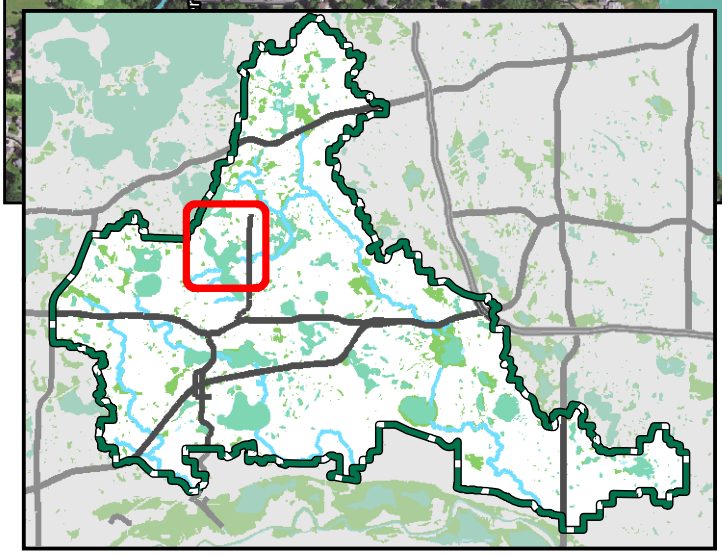
1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. The proposed project conforms to Rules B, C, and F.
3. Under Minnesota Department of Natural Resources General Permit 2015-1192 (attached to this report), approval of work under RPBCWD rule(s) F constitutes approval under applicable DNR work in waters rules. Compliance with conditions on approval and payment of applicable fees, if any, are necessary to benefit from general permit approval and are the responsibility of the applicants.

Recommendation:

Approval of the permit contingent upon:

1. Continued compliance with General Requirements.
2. Receipt of a financial assurance in the amount of $17,587.





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Feet

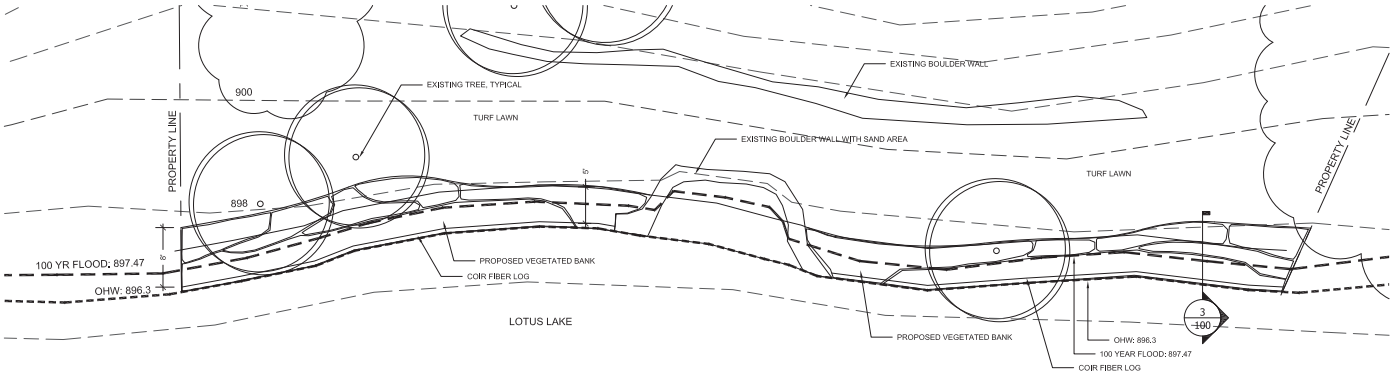
0 1,000

Permit Location Map

6605 HORSESHOE CURVE - DOOLING SHORELINE

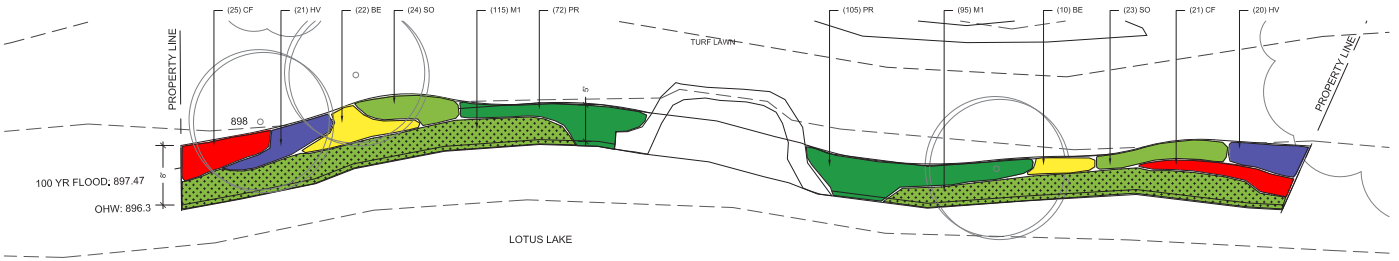
Permit 2020-040

Riley Purgatory Bluff Creek Watershed District



1 SHORELINE PLAN

Scale: 1/8"=1'



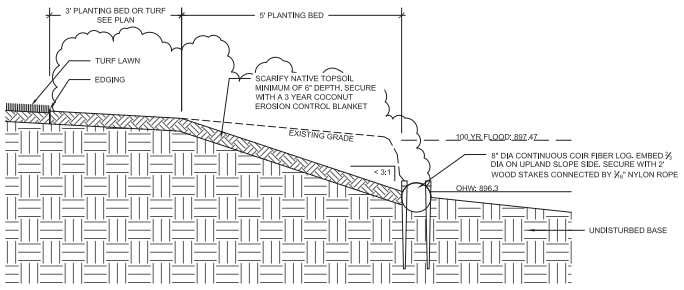
2 SHORELINE PLANTING PLAN

Scale: 1/8"=1'

PLANTING NOTES

- INSTALL 3 YEAR COCONUT EROSION CONTROL BLANKET ON ALL DISTURBED PLANTING BEDS
- ALL VEGETATED BANK SLOPES TO BE LESS THAN 3:1 HORIZONTAL TO VERTICAL DISTANCE

PLANT KEY CODE	COMMON NAME	LATIN NAME	SIZE	COUNT	NOTES	HEIGHT	SPACING
SO	Side Oats Gramma	*Bouteloua curtipendula*	2" plug	47	Dry to Mesic	1-3'	16" O.C.
BE	Black Eyed Susan	*Rudbeckia hirta*	2" plug	32	Dry to Wet	1-3'	16" O.C.
HV	Hoary Vervain	*Verbena stricta*	2" plug	43	Mesic	2-3'	16" O.C.
CF	Cardinal Flower	*Lobelia cardinalis*	2" plug	46	Mesic to Wet	2-3'	16" O.C.
PR	Path Rush	*Juncus tenuis*	2" plug	177	Dry to Wet	1'	12" O.C.
M1	Flood Plain Mix			210	16" On Center. Random species clusters of 3 to 15 plants		
	Fox Sedge	*Carex vulpinoidea*	2" plug	40	Wet	2-3'	
	Soft Rush	*Juncus effusus*	2" plug	50	Wet	1-2'	
	Canada Anemone	*Anemone canadensis*	2" plug	20	Wet	1-2'	12" O.C.
	Rattlesnake Manna Grass	*Glyceria canadensis*	2" plug	35	Wet to Emergent	1-3'	
	Blue Flag Iris	*Iris versicolor*	2" plug	40	Wet to Emergent	1-3'	
	Great Blue Lobelia	*Lobelia siphilitica*	2" plug	25	Wet to Emergent	2-3'	



3 TYPICAL VEGETATED BANK SECTION

Scale: 3/4"=1'

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www.naturalenvironmentscorp.com

ISSUANCE

Permit

PROJECT NAME

Dooling Residence
6605 Horseshoe Curve
Chanhassen, MN 55317

SIGNATURE

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

SIGNATURE:
PRINTED NAME: JONATHAN BLASEG
DATE: 07.08.2020
LICENSE NUMBER: 56704

REVISION DATE

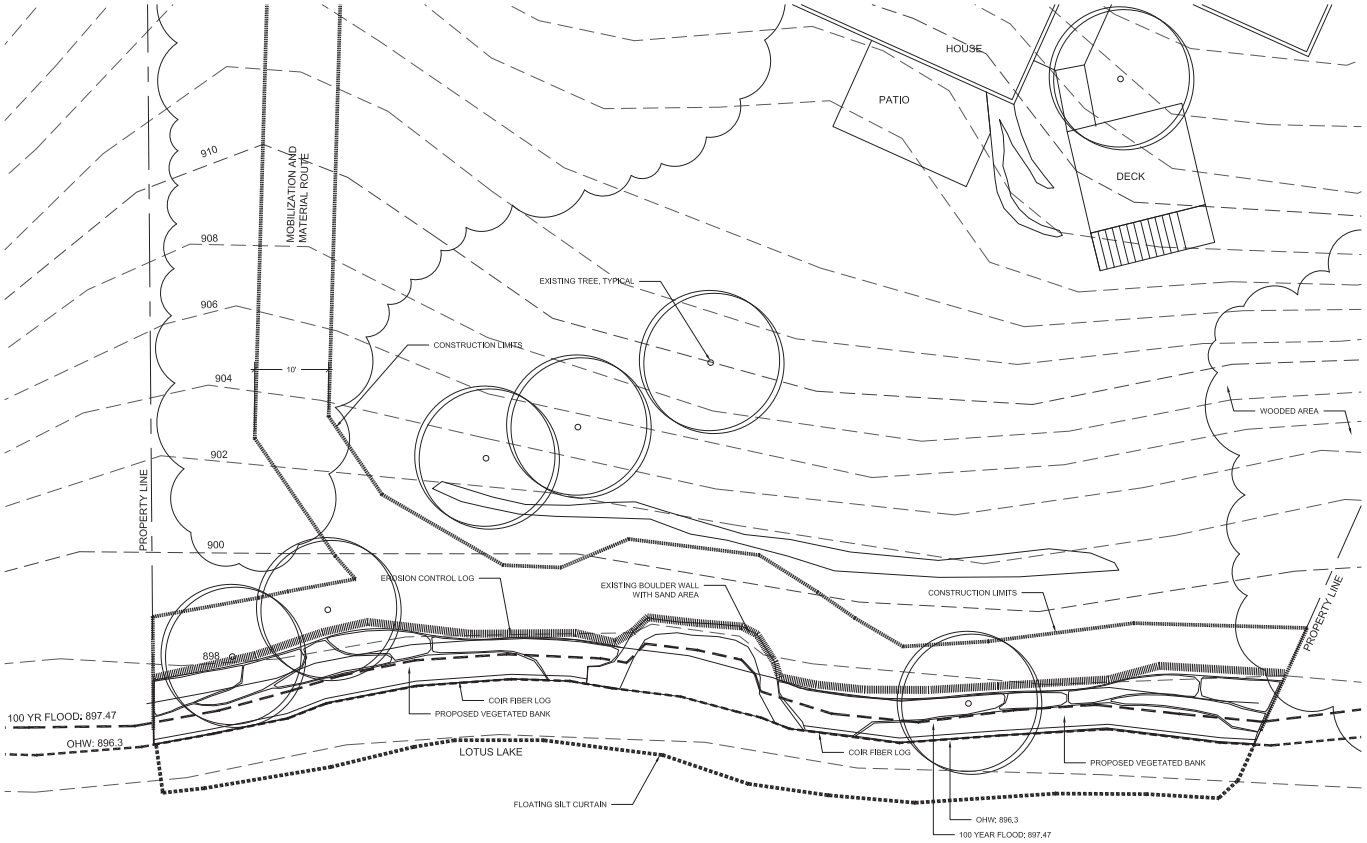
02/20/2019
06/18/2020
07/08/2020
Date
Date

SHEET NAME

RPBC SHORELINE PLAN

SHEET NUMBER

L100



1 RPBC EROSION CONTROL PLAN

Scale: 1/8"=1'

NOTES

- NATURAL TOPOGRAPHY AND SOIL CONDITIONS TO BE PROTECTED, INCLUDING RETENTION ONSITE OF NATIVE TOPSOIL TO THE GREATEST EXTENT POSSIBLE
- HYDRAULIC MULCHING AS SPECIFIED BY THE DISTRICT MUST BE USED ON SLOPES OF 3:1 (H:V) OR STEEPER TO PROVIDE ADEQUATE STABILIZATION
- SIX INCHES (+) OF TOP SOIL TO BE SPREAD AND INCORPORATED INTO THE UNDERLYING SOILS DURING FINAL SITE TREATMENT WHEREVER TOPSOIL HAS BEEN REMOVED
- CONSTRUCTION SITE WASTE MATERIALS SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER AND SANITARY WASTE TO BE PROPERLY MANAGED
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S TO BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND VEGETATION IS ESTABLISHED SUFFICIENTLY TO ENSURE STABILITY OF THE SITE, AS DETERMINED BY THE DISTRICT
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS MUST BE REMOVED UPON FINAL STABILIZATION
- SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED TO ACHIEVE: 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) 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. IN ADDITION, UTILITIES, TREE ROOTS AND OTHER EXISTING VEGETATION MUST BE PROTECTED UNTIL FINAL RE-VEGETATION OR OTHER STABILIZATION OF THE SITE
- ALL DISTURBED AREAS TO BE STABILIZED WITHIN 7 CALENDAR DAYS AFTER LAND-DISTURBING WORK HAS TEMPORARILY OR PERMANENTLY CEASED ON A PROPERTY THAT DRAINS TO AN IMPAIRED WATER, WITHIN 14 DAYS ELSEWHERE
- THE PERMITTEE MUST, AT A MINIMUM, INSPECT, MAINTAIN AND REPAIR ALL DISTURBED SURFACES AND ALL EROSION AND SEDIMENT CONTROL FACILITIES AND SOIL STABILIZATION MEASURES EVERY DAY WORK IS PERFORMED ON THE SITE AND AT LEAST WEEKLY UNTIL LAND DISTURBING ACTIVITY HAS CEASED. THEREAFTER, 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
- ACTIVITIES MUST BE CONDUCTED SO AS TO MINIMIZE THE POTENTIAL TRANSFER OF AQUATIC INVASIVE SPECIES (E.G., ZEBRA MUSSELS, EURASIAN MILFOIL, ETC.) TO THE MAXIMUM EXTENT POSSIBLE
- ALL EXISTING FIELDSTONE RUBBLE TO REMAIN IN PLACE
- NATURAL ENVIRONMENTS CORP TO BE RESPONSIBLE FOR EROSION PREVENTION AND SEDIMENT CONTROL DURING CONSTRUCTION

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EROSION CONTROL PLAN

SHEET NUMBER

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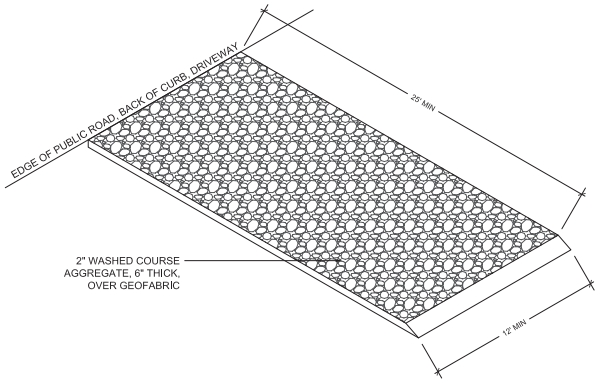

2 TEMPORARY ROCK CONSTRUCTION ENTRANCE DETAIL

Scale: 1/4"=1'

1 CONSTRUCTION ENTRANCE PLAN

Scale: 1/16"=1'

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06/18/2020
07/08/2020
Date
Date

SHEET NAME

CONSTRUCTION ENTRANCE PLAN

SHEET NUMBER

L102

RPBCWD: Erosion Intensity (EI) Score Worksheet*.

RPBCWD Engineer Comment

SHORELINE VARIABLES	DESCRIPTIVE CATEGORIES EROSION INTENSITY VALUE IS LOCATED IN PARENTHESIS ON LEFT SIDE OF EACH CATEGORY BOX							ASSIGNED EI	
AVERAGE FETCH[1]-, average distance (miles), across the open water to the opposite shore measure 45^0 other side of the perpendicular to the shoreline.	(0) <1/10	(2) 1/10 – 1/3	(4) 1/3-1 .34	(7) 1 –3	(10) 3-10	(13) 10-30	(16) >30	4	Ok
DEPTH AT 20 FEET, Depth of water (feet) 20 feet from shoreline	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12	(5) >12			3	Ok
DEPTH AT 100 FEET, depth of water (feet) 100 feet from shoreline	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12	(5) >12			3	Ok
BANK HEIGHT[2], height of bank (feet), measure from toe of the bank to top of the bank-lip.	(1)<1	(2) 1-5	(3) 5-10	(4) 10-20	(5) >20			2	Ok
BANK COMPOSITION composition and degree of cementation of the sediments	(0) rock, marl, tight clay, well cemented sand (dig with a pick)		(7) soft clay, clayey sand, moderately cemented (easily dug with a knife)		(15) uncemented sands or peat (easily dug with your hand)			7	Ok
INFLUENCE OF ADJACENT STRUCTURES, likelihood that adjacent structures are causing flank erosion at the site	(0) no hard armoring on either adjacent property	(1) hard armoring on one adjacent property	(2) hard armoring on both adjacent properties	(3) hard armoring on one adjacent property with measurable recession	(4) hard armoring on both adjacent properties with measurable recession adjacent to both structures			0	Ok
AQUATIC VEGETATION[3] type and abundance of vegetation occurring in the water off the shoreline	(0) rocky substrates unable to support vegetation.	(1) dense or abundant emergent, floating or submerged vegetation		(4) scattered or patchy emergent, floating or submergent vegetation		(7) lack of emergent, floating or submergent vegetation		4	Ok
BANK VEGETATION, type and abundance of the vegetation occurring on the bank face and immediately on top of the bank lip	(0) bank compose of rocky outcropping unable to support vegetation		(1) dense vegetation, upland trees, shrubs and grasses, including lawns		(4) clumps of vegetation alternating with areas lacking vegetation		(7) lack of vegetation (cleared), crop or agricultural land	4	Ok
BANK STABILITY, The degree to which bank and adjacent area (within 10 feet of the bank-lip) is stabilized by natural ground, shrub, and canopy vegetation (outside a 10' pier access corridor). Human disturbance is typified by tree removal, brushing, mowing, and lawn establishment.	(0) established lawn with few canopy trees	(1) established lawn with moderate to dense canopy trees	(4) moderate to dense natural ground vegetation and canopy trees with shrub layer substantially reduced; or few canopy trees with moderate to dense natural shrub layer.			(7) moderate to dense canopy trees with moderate to dense natural shrub layer; or other natural features prevents establishment of vegetation.		1	0 lawn w/in 10'
SHORELINE GEOMETRY general shape of the shoreline at the point of interest plus 200 yards on either side.	(1) coves or bays			(4) irregular shoreline or straight shoreline		(8) headland, point, or island		1	Ok
SHORE ORIENTATION[4] geographic direction the shoreline faces	(0) < 1/3 mile fetch	(1) north to east to south-southeast (349^0-360^0, 1^0-168^0)		(4) south to west-southwest (169^0-258^0)		(8) west to north-northwest (259^0-349^0)		8	4 S to SE exposure
BOAT WAKES[5] proximity to and use of boat channels	(1) no channels within 100 yards, broad open water body, or constricted shallow water body; or channels within no-wake zones		(6) thoroughfare within 100 yards carrying limited traffic, or thoroughfare 100 yards to ½ mile offshore carrying intensive traffic		(12) thoroughfare within 100 yards carrying intensive traffic (unregulated boating activity)			12	6
EROSION INTENSITY SCORE (EI) →								49	38

Note: * The Erosion Intensity Worksheet is adapted from Wisconsin Department of Natural Resources Chapter NR 328: SHORE EROSION CONTROL STRUCTURES IN NAVIGABLE WATERWAYS which developed the information from Knutson, P. L., H. H. Allen, and J. W. Webb, 1990. "Guidelines for Vegetative Erosion Control on Wave-Impacted Coastal Dredged Material Sites, "Dredging Operations Technical Support Program Technical Report D-90-13,U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS 39180, 35 pp.

DEPARTMENT OF NATURAL RESOURCES

MNDNR PERMITTING AND REPORTING SYSTEM

General Permit Number

2015-1192

Amended

Public Waters Work General Permit

Expiration Date: 05/01/2025

Pursuant to Minnesota Statutes, Chapter 103G, and on the basis of statements and information contained in the permit application, letters, maps, and plans submitted by the applicant and other supporting data, all of which are made part hereof by reference, **PERMISSION IS HEREBY GRANTED** to the applicant to perform actions as authorized below. This permit supersedes the original permit and all previous amendments.

Project Name:	**County:**	**Watershed:**	**Resource:**
Riley-Purgatory-Bluff Creek Watershed District General Permit	Hennepin and Carver	Lower Minnesota River - Shakopee	All Public Waters within Riley-Purgatory-Bluff Creek Watershed

Purpose of Permit:	**Authorized Action:**
Sediment Removal, Sand Blanket w/o Excavation, Sand Blanket w/ Excavation, Riprap (Natural Rock), Retaining Wall, Erosion Control/Stabilization Fill & Grading, Culvert Construction/Modification/Replacement, Bridge Construction/Modification/Replacement, Bioengineering	Place natural rock riprap; shape banks/shorelines for placement of riprap or bioengineering; install beach sand blankets; construct retaining walls, bridges and culverts; remove structures; remove sediment; all in accordance with the Conditions of this permit. For actions addressed by this general permit, no separate GP Authorization is needed from the DNR.
Permittee:	**Authorized Agent:**
Riparian Property Owners within Riley-Purgatory-Bluff Creek Watershed District	N/A

Property Description (*land owned or leased or where work will be conducted*):

Issued Date:	**Effective Date:**	**Expiration Date:**
06/15/2020	05/01/2020	05/01/2025

Authorized Issuer:	**Title:**	**Email Address:**	**Phone Number:**
Tom Hovey	Water Regulations Unit Supervisor	tom.hovey@state.mn.us	651-259-5654

This permit is granted **subject to** the following **CONDITIONS**:

APPLICABLE FEDERAL, STATE, OR LOCAL REGULATIONS: The permittee is not released from any rules, regulations, requirements, or standards of any applicable federal, state, or local agencies; including, but not limited to, the U.S. Army Corps of Engineers, Board of Water and Soil Resources, MN Pollution Control Agency, watershed districts, water management organizations, county, city and township zoning.

NOT ASSIGNABLE: This permit is not assignable by the permittee except with the written consent of the Commissioner of Natural Resources.

NO CHANGES: The permittee shall make no changes, without written permission or amendment previously obtained from the Commissioner of Natural Resources, in the dimensions, capacity or location of any items of work authorized hereunder.

SITE ACCESS: The permittee shall grant access to the site at all reasonable times during and after construction to authorized representatives of the Commissioner of Natural Resources for inspection of the work authorized hereunder.

TERMINATION: This permit may be terminated by the Commissioner of Natural Resources at any time deemed

CONDITIONS continued on next page...

GENERAL PERMIT CONDITIONS (*Continued from previous page*)

necessary for the conservation of water resources of the state, or in the interest of public health and welfare, or for violation of any of the conditions or applicable laws, unless otherwise provided in the permit.

COMPLETION DATE: Construction work authorized under this permit shall be completed on or before the date specified above. The permittee may request an extension of the time to complete the project by submitting a written request, stating the reason thereof, to the Commissioner of Natural Resources.

WRITTEN CONSENT: In all cases where the permittee by performing the work authorized by this permit shall involve 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 thereon or interests therein, the permittee, before proceeding, shall obtain the written consent of all persons, agencies, or authorities concerned, and shall acquire all property, rights, and interests needed for the work.

PERMISSIVE ONLY / NO LIABILITY: This permit is permissive only. No liability shall be imposed by the State of Minnesota or any of its officers, agents or employees, officially or personally, on account of the granting hereof or on account of any damage to any person or property resulting from any act or omission of the permittee or any of its agents, employees, or contractors. This permit shall not be construed as estopping or limiting any legal claims or right of action of any person other than the state against the permittee, its agents, employees, or contractors, for any damage or injury resulting from any such act or omission, or as estopping or limiting any legal claim or right of action of the state against the permittee, its agents, employees, or contractors for violation of or failure to comply with the permit or applicable conditions.

EXTENSION OF PUBLIC WATERS: Any extension of the surface of public waters from work authorized by this permit shall become public waters and left open and unobstructed for use by the public.

GP AUTHORIZATION - APPLY USING MPARS: The permittee shall apply for prior authorization for all projects to be constructed under this General Permit using the MNDNR Permitting and Reporting System (MPARS) at www.mndnr.gov/mpars/signin . Users will need to create an account the first time they access the system. Once created, click on the link for ‘Apply for a New Permit/Authorization’ under the Actions box and complete the application questions.

WETLAND CONSERVATION ACT: Where the work authorized by this permit involves the draining or filling of wetlands not subject to DNR regulations, the permittee shall not initiate any work under this permit until the permittee has obtained official approval from the responsible local government unit as required by the Minnesota Wetland Conservation Act.

INVASIVE SPECIES - EQUIPMENT DECONTAMINATION: All equipment intended for use at a project site must be free of prohibited invasive species and aquatic plants prior to being transported into or within the state and placed into state waters. All equipment used in designated infested waters, shall be inspected by the Permittee or their authorized agent and adequately decontaminated prior to being transported from the worksite. The DNR is available to train inspectors and/or assist in these inspections. For more information refer to the "Best Practices for Preventing the Spread of Aquatic Invasive Species" at http://files.dnr.state.mn.us/publications/ewr/invasives/ais/best_practices_for_prevention_ais.pdf. Contact your regional Invasive Species Specialist for assistance at www.mndnr.gov/invasives/contacts.html. A list of designated infested waters is available at www.mndnr.gov/invasives/ais/infested.html. A list of prohibited invasive species is available at www.mndnr.gov/invasives/laws.html#prohibited.

CONSTRUCTION DEWATERING - GENERAL: All construction dewatering in excess of 10,000 gallons per day or one million gallons per year must be authorized by a separate water appropriation permit. All worksite discharge water must be treated for sediment reduction prior to return to the surface water. Water from designated infested waters shall not be diverted to other waters, transported on a public road, or transported or appropriated off property riparian to infested waters without a DNR permit specifically for this use. All equipment in contact with infested waters must be decontaminated upon leaving the site.

EROSION AND SEDIMENT CONTROL: In all cases, methods that have been determined to be the most effective and practical means of preventing or reducing sediment from leaving the worksite shall be installed in areas that slope to the water and on worksite areas that have the potential for direct discharge due to pumping or draining of areas from within the worksite (e.g., coffer dams, temporary ponds, stormwater inlets). These methods, such as mulches, erosion control blankets, temporary coverings, silt fence, silt curtains or barriers, vegetation preservation, redundant methods, isolation of flow, or other engineering practices, shall be installed concurrently or within 24 hours after the start of the project, and will be maintained for the duration of the project in order to prevent sediment from leaving the worksite. DNR requirements may be waived in writing by the authorized DNR staff based on site conditions, expected weather conditions, or project completion timelines.

CONDITIONS continued on next page...

GENERAL PERMIT CONDITIONS (*Continued from previous page*)

EXCAVATED MATERIALS - FLOODPLAIN CONCERN: Excavated material shall not be permanently placed within community designated floodplain areas or shoreland areas, unless all necessary local permits and approvals have been obtained.

AQUATIC PLANT MANAGEMENT: For projects where vegetation is placed waterward of the ordinary high water level, a separate Aquatic Plant Management (APM) permit is needed from the DNR Regional APM Specialist. See contact list at: http://www.dnr.state.mn.us/apm/index.html. A permit shall be obtained (no fee required) for each site in order to monitor plant source, species, and planting location. Vegetation must be appropriate for the site and free of invasive species. This condition does not apply when only woody vegetation is used, such as willow and dogwood.

APPLICABLE PROJECTS: A project not meeting applicable conditions of this permit or a project the DNR identifies as having the potential for significant resource impacts, is not authorized herein. Rather, such projects will require an individual DNR permit application.

ENVIRONMENTAL REVIEW: If the project proposal is part of a project that requires mandatory environmental review pursuant to MN Environmental Quality Board rules, then the permit is not valid until environmental review is completed.

RETAINING WALLS: Retaining walls are generally discouraged because their impact on the near-shore aquatic environment can be severe and they restrict wildlife movement, however, they may be permitted if the following conditions are met: a. Existing or expected erosion problems shall preclude the use of riprap shore protection with a finished slope of 2:1 (horizontal to vertical) or more gentle, due to steep banks, nearby structures or other extenuating circumstances; or there shall be a demonstrated need for direct shoreland docking. b. Design shall be consistent with existing uses in the area. Examples are: riverfront commercial-industrial areas having existing structures of this nature, dense residential areas where similar retaining walls are common, or where barges are utilized to carry equipment and supplies. c. Adequate engineering studies shall be performed on foundation conditions, tiebacks, internal drainage, construction materials, and protection against flanking. d. The facility shall not be an aesthetic intrusion upon the area and is consistent with all applicable local, state, and federal management plans and programs for the water body. e. Encroachment below the ordinary high water elevation shall be limited to the absolute minimum necessary for construction.

ICE RIDGE REMOVAL: Ice ridge removal projects must meet the DNR "no permit required" conditions for ice ridge removal specified in Minn. Rules part 6115.0215, Subpart 4. If not, a DNR Individual permit is required as District rules do not address this category of project.

HYDROLOGIC / HYDRAULIC DATA REPORTING :: Unless waived by the DNR Area Hydrologist, hydrologic modeling to show the impacts of a bridge or culvert constructed in a Public Water to the 100-year flood elevation is required . Additional modeling may also be required for temporary fill or temporary structures required during demolition or construction. Calculations showing calculated velocities through the structures at 2-year peak flows may also be required.

FISHERY PROTECTION - EXCLUSION DATES: No activity affecting the bed of the protected water may be conducted between March 15 and April 15 on watercourses, or between April 1 and June 30 on all other waterbodies, to minimize impacts on fish spawning and migration. If work during this time is essential, it shall be done only upon written approval of the Area Fisheries Manager. See contact list at: http://files.dnr.state.mn.us/fisheries/management/dnr_fisheries_managers.pdf Should work begin elsewhere in the project area within these dates, all exposed soils that are within 200 feet of Public Waters and drain to those waters must complete erosion control measures within 24 hours of its disturbance to prevent sediment from entering Public Waters.

REPORTING: The Riley-Purgatory-Bluff Creek Watershed District shall submit annually or as requested a summary report of the projects authorized under this General Permit to the Area Hydrologist.

CONSTRUCTION AIDS: No construction is allowed of temporary channel diversions or placement of fill for temporary work pads, bypass roads, access roads, or coffer dams to aid in the construction of any authorized structure unless approved in writing by the Area Hydrologist prior to beginning work .

FISH PASSAGE: Bridges, culverts and other crossings shall provide for fish movement unless the structure is intended to impede rough fish movement or the stream has negligible fisheries value as determined by the DNR Area Hydrologist in consultation with the Area Fisheries Manager. The accepted practices for achieving these conditions include: Where possible a single culvert or bridge shall span the natural bankfull width adequate to allow for debris and sediment transport rates to closely resemble those of upstream and downstream conditions. A single culvert shall be recessed in order to pass bedload and sediment load. Additional culvert inverts should be set at a higher elevation. All culverts should match the alignment and slope of the natural stream channel, and extend through the toe of the road side slope. "Where

CONDITIONS continued on next page...

GENERAL PERMIT CONDITIONS (*Continued from previous page*)

possible" means that other conditions may exist and could take precedence, such as unsuitable substrate, natural slope and background velocities, bedrock, flood control, 100 year flood elevations, wetland/lake level control elevations, local ditch elevations, and other adjacent features. Rock Rapids or other structures may be used to retrofit crossings to mimic natural conditions.

PHOTOS AND AS-BUILTS: Upon completion of the authorized work, the permittee may be required to submit a copy of established benchmarks, representative photographs, and may be required to provide as-built surveys of Public Watercourse crossing changes.

EXCAVATION OF PUBLIC WATERS: Excavation of Public Waters is authorized by this permit only when the proposed excavation is consistent with Minnesota Rules 6115.0200 and 6115.0201.

REMOVAL OF STRUCTURES: Removal of structures from public waters is authorized by this permit when the proposed removal is consistent with Minnesota Rules 6115.0211 subp. 8.

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cc: John Gleason, EWR District Manager

COOPERATIVE AGREEMENT
Between Bearpath Golf and Country Club and
Riley-Purgatory-Bluff Creek Watershed District

Middle Riley Creek Stabilization Project

This cooperative agreement is made by and between Bearpath Golf and Country Club, a Minnesota limited partnership (Bearpath) 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 stabilization project along Middle Riley Creek on the campus of Bearpath Golf and Country Club (the Bearpath Property,which is owned in fee by Bearpath Golf and Country Club.

Recitals

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

WHEREAS the Plan identifies creek restoration and stabilization at Riley Creek as a Proposed Project in the Riley Creek Watershed (Plan, Section 8, Table 8-2);

WHEREAS Riley Creek is listed on the Minnesota Pollution Control Agency's list of impaired waters for turbidity, aquatic macroinvertebrate bioassessments, fishes bioassessments, and *E. coli*, and the Minnesota River, into which Riley Creek flows, is impaired for nutrients/eutrophication and turbidity;

WHEREAS RPBCWD and Bearpath recognized a mutual opportunity to address streambank erosion, impairments, and golf course impacts by partnering in a project to restore a section of Middle Riley Creek (R3);

WHEREAS at the direction of the RPBCWD board of managers and in collaboration with Bearpath, the RPBCWD engineer studied the feasibility of providing a biologically diverse stream reach that significantly reduces streambank erosion and sediment and phosphorus loading to Riley Creek and downstream waterbodies; improves water quality, and improves natural stream habitat for aquatic organisms along 815 feet of Riley Creek Reach R3 (the Project); the engineer estimated that the Project would result in 0.2 acres of in-channel habitat improvements and 0.5 acres of riparian habitat improvements; reduce TSS by 16,640 lbs/yr and reduce TP by 8.3 lbs/yr; restore 815 feet of reach R3; and generally would help protect Riley Creek from erosion by moving the stream away from the banks;

WHEREAS the Project will increase public awareness of erosion issues and water quality of Riley Creek due to the accessible location of the project for Bearpath members; stabilize the slope failure area on the Hole 16 green and the bank erosion that is exposing golf course infrastructure next to the Hole #13 tee box; provide a natural stream corridor and additional and improved habitat by increasing stream length; provide greater stream depth variability and other in-stream enhancements that will potentially allow more opportunities for

macroinvertebrates and fish to use this reach of Riley Creek; and improve long-term stability of the reach of Riley Creek that passes through the Bearpath Property;

WHEREAS on April 1, 2020, the RPBCWD board of managers conducted a duly-noticed public hearing on and ordered the Project in accordance with Minnesota Statutes section 103B.251;

WHEREAS Bearpath has committed to contribute $43,500 in cash and other in kind contributions to for a total equivalent value not to exceed $82,500; RPBCWD will cover the remaining costs of the Project, the total estimated cost of which is $290,000 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;

WHEREAS the Project will be constructed entirely on the Bearpath Property in the area depicted and labeled "Project Area" in Exhibit B, attached to and incorporated into this agreement;

WHEREAS Bearpath will own and maintain the Project when it is completed;

WHEREAS Bearpath 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 Bearpath.

Agreement

NOW, THEREFORE Bearpath 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 Bearpath's owner 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. Bearpath and RPBCWD enter this agreement solely for the purposes of improving water quality and stabilizing and reducing erosion in Riley Creek. 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, Bearpath'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 designs that RPBCWD will generate with its engineer, and plans and specifications attached to and incorporated into this agreement as Exhibit C. On or before June 1, 2020, RPBCWD will present the 60% level design with Bearpath for its review and approval by July 1, 2020, such approval not to be unreasonably withheld, so that Bearpath may coordinate its design and relocation of Hole #13 of the golf course. Joint work on design will continue, and RPBCWD will present final design to Bearpath on or before September 1, 2020 for its approval by September 15, 2020, such approval not to be unreasonably withheld.

B. The Project will include, after completion of construction, assessment of the effectiveness of the Project by the parties and development by the RPBCWD 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.

C. **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 Bearpath, 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 Bearpath 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 Bearpath;

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

D. **Construction**.

i. RPBCWD, or the RPBCWD 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 Bearpath to ensure compatibility of the Project with Bearpath's continued use and operation of the Bearpath Property for its customary and intended purposes. Construction is planned to

commence on or about November 1, 2020, with site restoration and planting to take place in spring 2021 before the golf season commences.

ii. RPBCWD will coordinate construction activities with Bearpath's construction to relocate Hole #13.

iii. RPBCWD will timely engage and consult Bearpath on material changes to the Project plans and specifications.

iv. 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 Bearpath Property materially to its prior condition or to a condition agreed to by Bearpath.

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

vi. 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.

E. **Maintenance**.

i. After completion of the three-year construction and establishment period for the Project, Bearpath will provide, at its sole expenseongoing routine maintenance of the Project. RPBCWD will provide, at its sole expense, ongoing technical assistance and support for routine maintenance of the Project, and conduct specialized maintenance and repairs.

ii. After completion of the three-year construction and establishment period for the Project, RPBCWD will contract with the RPBCWD engineer for the development in collaboration with Bearpath of a draft plan for the maintenance of the Project (the Maintenance Plan). The Maintenance Plan will delineate necessary routine maintenance 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 and define specialized maintenance and repair work (Specialized Maintenance and Repairs).

iii. Bearpath will approve the Maintenance Plan within 45 days of receipt from RPBCWD, such approval not to be unreasonably withheld. Failure by Bearpath to timely act on its rights and obligations under this paragraph will constitute approval of the Maintenance Plan. If Bearpath 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 Bearpath. On approval of the Maintenance Plan, Bearpath will perform all routine maintenance and monitoring of the Project, along with reporting as may be required by the Maintenance Plan, from the date of completion of the three-year construction and establishment period for the Project for its intended purposes. The Maintenance Plan will not require Bearpath to expend greater financial resources

for routine maintenance tasks (subject to normal inflationary increases) than are expended by Bearpath for the Project area at the time of execution of this agreement.

iv. The Maintenance Plan will be implemented as follows:

a. Routine maintenance work under the Maintenance Guide will be completed by Bearpath at Bearpath's sole expense with technical support as provided in accordance with paragraph F.i. herein.

b. RPBCWD will contract for the performance of Specialized Maintenance and Repair.

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

3 Costs

A. Except for reimbursement as provided in paragraph 3C herein, each party will be responsible for the costs of performance of its obligations and exercise of its rights under this agreement.

B. As provided in paragraph 2.F.i herein, Bearpath will be responsible for the costs of routine post-construction maintenance of the Project in conformance with the Maintenance Plan.

C. On receipt of documentation of payment as may be reasonably requested, Bearpath will reimburse RPBCWD $43,500 of documented costs of construction of the Project. Additionally, Bearpath will commit the following expenditures or in-kind contributions:

i. $950 in payment to Barr Engineering for conceptual design development, information from which was used in the Middle Riley Creek Stabilization Feasibility Report;

ii. $6,550 in future payments planned, and under contract, from Bearpath to Barr Engineering, for consulting on final golf-related design development and golf feature construction related to the Project;

iii. All design and construction costs, estimated at $24,700, related to relocation of Hole #13 to accommodate the Project;

iv. In-kind long-term maintenance of the Project, in accordance with the Maintenance Plan, excluding material costs associated with implementing the Maintenance Plan, an estimated value of $6,800 (40 hours of labor per year);

D. The entirety of the Project work will be the subject of one single permit jointly prepared and submitted by Bearpath and RPBCWD, including Bearpath's in-kind work on Hole #13 tee; Bearpath will be responsible for any other permits for its work related to the Project;

E. 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 Bearpath in accordance with paragraph 2.E.iv herein.

4 Grant of Property-Use Rights

Bearpath holds fee simple on the parcel(s) legally described in Exhibit A to this Agreement and agrees to grant RPBCWD an easement over the areas identified in Exhibit B to this Agreement. This easement will provide for access and use of the 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 will occur upon completion and mutual approval of the ninety percent (90%)-level design of the Project.

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 Bearpath 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 Bearpath 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.

B. RPBCWD will provide, in both digital and paper copy format) as-built construction drawingsof the Project to Bearpath within 90 days of certification of the Project as substantially complete for the intended purposes.

C. RPBCWD contracted with the RPBCWD 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, RPBCWD makes no warranty to Bearpath regarding the RPBCWD 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 Bearpath 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 Bearpath 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 Bearpath 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 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 Bearpath of the likelihood or actual occurrence of the force majeure event. Delay will be excused only for the duration of the force majeure.

F. **Waivers**. The waiver by Bearpath 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:

Bearpath	RPBCWD
James Senske	Claire Bleser
Owner	Administrator
18100 Bearpath Trail	18681 Lake Drive East
Eden Prairie, MN, 55347	Chanhassen, MN 55317
Email address	cbleser@rpbcwd.org
Phone number	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.

Bearpath

_____

By: James Senske, Owner

Date: _____

and

_____

By: ,

Date: _____

Riley-Purgatory-Bluff Creek Watershed District

_____

By: Dick Ward, President

Date: _____

Approved as to form & execution:

_____

RPBCWD counsel

EXHIBIT A
Legal Description of the Bearpath Property

[This should come from Bearpath.]

EXHIBIT B
Easement

Riley Purgatory Bluff Creek Watershed District

REQUEST FOR PROPOSALS
FOR BANKING SERVICES

The Riley Purgatory Bluff Creek Watershed District (RPBCWD), 18681 Lake Drive East, Chanhassen, Minnesota, 55317, requests proposals from qualified institutions for high quality depository and banking services offered at a competitive price for RPBCWD. A proposer must be a Federal or State of Minnesota chartered banking institution with the ability to comply with Minnesota Statutes chapter 118A.

RPBCWD may, at its discretion, reject any or all proposals received; accept or reject any part(s) of a proposal; and waive any informality. RPBCWD may award an agreement to a proposer of any single service or all services. RPBCWD may request information or clarification from a proposer, and may allow a proposer to correct an error or omission in a proposal. RPBCWD may retain all proposals submitted in response to this RFP, and may use content and ideas contained in a proposal regardless of whether RPBCWD selects the proposal.

Nothing in this RFP will be construed to prevent or prohibit RPBCWD from maintaining any types of accounts at other depositories.

I. General Terms

A. Term; Effective Date. The term of the contract for banking services (Contract) is for a two-year period beginning on or about October 1, 2020. The Contract is effective when fully executed by the parties and will remain in force until the termination date, unless earlier terminated as set forth herein.

B. Termination; Continuation of Obligations. RPBCWD may terminate the Contract at its convenience, by a written termination notice stating specifically what prior authorized or additional tasks or services it requires the successful proposer to complete. The successful proposer will receive full compensation for all authorized work performed on an hourly and direct cost reimbursement basis. In the event the successful proposer does not complete performance of the required banking services (Services), whether due to a party's breach or otherwise, the parties will have, in addition to any specific remedies stated in the agreement, remedies in accordance with ordinary contract law. Insurance obligations; duty of care; obligations to defend, indemnify and hold harmless; and document-retention requirements will survive the completion of the Services and the term of the Contract and are included in the successful proposer's responsibilities for any subconsultants.

C. Prices. The prices quoted in the proposal must be guaranteed for at least two years. RPBCWD may at its discretion permit cost adjustments necessitated by increased costs

outside of the successful proposer's control. The successful proposer must document and provide to RPBCWD for its review any cost adjustment, and RPBCWD must approve the adjustment, prior to the implementation of any cost adjustment.

D. Scope of Work. This RFP and the successful proposer's supplemental responses, including all promises, warranties, commitments, and representations, become binding contractual obligations incorporated by reference in the Contract. RPBCWD and the successful proposer will sign Automated Clearing House (ACH) and wire transfer agreements on execution of the Contract.

E. Notification and Acceptance. The successful proposer, on receiving RPBCWD's notification that it has been selected to provide the Services, has thirty (30) days to execute a contract for banking services with RPBCWD. After thirty (30) days, RPBCWD may select a different proposing banking institution or re-open its call for proposals.

F. Duty of Care. The banking institution responding to this RFP represents that a qualified representative of the institution has read and understands the RFP and that its proposal conforms to the requirements of this RFP. Further, a banking institution responding to this RFP represents that it is familiar with local conditions under which the services are to be performed, and that it understands that its proposal is based on the required services, equipment, and abilities in this RFP.

G. Indemnification. The successful proposer will indemnify, defend and hold harmless RPBCWD, its board members, employees and agents from any and all actions, costs, damages and liabilities of any nature arising from: (a) the successful proposer's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty, including the duty of due professional care; or (b) a subconsultant's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty owed by the successful proposer to RPBCWD.

H. Independent Contractor. The successful proposer is an independent contractor under the Contract The successful proposer will select the means, method and manner of performing the Services and will be entirely responsible for the selection, training, outfitting, direction, supervision and safety of those performing the Services. The successful proposer is not the agent, representative or employee of RPBCWD in any manner, and will not purport to speak for or make any commitment on behalf of the RPCWD. Persons performing the Services under the Contract will not be considered employees of RPCWD and will not be entitled to any compensation, rights or benefits of any kind from RPCWD.

I. Subcontract and Assignment. The successful proposer may use subconsultants but may not otherwise assign or transfer any obligation or interest in the Contract or any of the Services. RPBCWD consent to subconsulting does not relieve the successful proposer of its legal obligations or duty of care with respect to the Services or any part thereof, nor in

any respect its duty of care, insurance, indemnification, duty to defend or agreement to hold harmless with respect to the Services.

J. Noncollusion Statement. The banking institution responding to this RFP hereby affirms that the RFP proposal is signed by an authorized representative of the banking institution. The proposing banking institution affirms that the attached proposal has been compiled independently and without collusion or agreement or understanding with any other vendor. The proposing banking institution affirms that it or its agents have not communicated the contents of this RFP proposal to anyone who is not an employee or agent of the proposing banking institution.

K. Governing Law. The Contract will be construed under and governed by the laws of the State of Minnesota.

II. Banking Services

A. General. The successful proposer will provide all banking services typically provided by a banking institution to a commercial customer, including processing and clearing of all checks and drafts issued by RPBCWD; the processing of deposits made by RPBCWD; and the maintenance of all accounts placed with the selected banking institution.

B. Required Services. The successful proposer must provide the following Services:

Availability of funds. RPBCWD will follow the banking institution's standard availability schedule.

Returned check processing. The successful proposer must automatically process returned checks a second time.

Wire transfer services. The successful proposer will provide RPBCWD the ability to make wire transfers on the internet. The successful proposer will provide written confirmation of all wire transfers to RPBCWD within twenty-four (24) hours. The successful proposer will promptly process wire transfers and notify RPBCWD when a wire transfer is confirmed.

Automated clearing house. The successful proposer must have and maintain Automated Clearing House (ACH) origination bank capabilities. The successful proposer must conform to National Automated Clearing House Association (NACHA) and Uniform Commercial Code Article 4A (UCC4A) rules. RPBCWD may choose to use the ACH network for monthly direct deposit payroll transactions processed by electronic files on the internet. The successful proposer will provide for electronic funds transfers of all federal and state withholding taxes as directed by RPBCWD.

Collateral. The successful proposer will provide collateral for all deposits of RPBCWD

of type and in the amounts as required by state and local laws and policies. The successful proposer will provide a collateral report that lists the type of collateral and its market value.

Balance information and reporting. The successful proposer will provide internet access to all RPBCWD accounts for updated balance and account inquiries. The RPBWD must be able to obtain accurate information regarding its account balances. Ledger balance, available balance, collected balance, and detailed information listing debit and credit items must be accurately maintained and available. If controlled disbursement is elected, two presentments for controlled disbursement transactions must be available by 10:30 a.m. daily.

Account reconcilement. The successful proposer will provide monthly statements to RPBCWD by the seventh working day of the month for the previous month, along with a monthly account analysis report listing the transactions processed and the average balances. The statements must include tracking all debits (wire transfers, dishonored items, investment transfer, ACH returns), and credits (deposit detail). The successful proposer will provide a listing of outstanding checks, a listing of paid checks, a summary of outstanding checks, cancellations (voids/stop payments), paid no issues, and bank originating entries (with backup). The successful proposer must document all miscellaneous debits as to date, amount, and reason for issuance. The successful proposer must provide RPBCWD with computerized detailed paid check information. The successful proposer must provide storage for all paid checks.

Remote deposit. The successful proposer will provide RPBCWD the ability to participate in remote deposit.

Fraud prevention. The successful proposer will have fraud prevention measures available for RPBCWD to utilize to securely maintain funds. Tools available should include, and not be limited to: positive pay; ACH blocks and filters; intra-day access; payee positive pay; multi-factor authentication; and various administration levels.

III. Proposal Submission

A. Estimated timeline for process

August 7, 2020	RFP issued
August 24, 2020	Proposal due by 5:00 p.m.
August 25, 2020	Selection process begins
September 2, 2020	Bid award
October 1, 2020	Contract start date (target date)

Proposals received after the due date and time may not be considered.

B. Submission requirements

Please submit two (2) copies and one electronic copy of the proposal to:

Riley Purgatory Bluff Creek Watershed District
Attn: Claire Bleser, District Administrator
18681 Lake Drive East
Chanhassen, Minnesota, 55317
cbleser@rpbcwd.org

C. Inquiries

Prospective service providers may submit questions by mail, e-mail, or phone.

Riley Purgatory Bluff Creek Watershed District
Attn: Claire Bleser, District Administrator
18681 Lake Drive East
Chanhassen, Minnesota, 55317
Phone: 952-607-6512
cbleser@rpbcwd.org

RESOLUTION NO. 20-
RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
BOARD OF MANAGERS

AUTHORIZATION TO RELEASE REQUEST FOR PROPOSALS FOR BANKING SERVICES

WHEREAS the Riley Purgatory Bluff Creek Watershed District (District) has an obligation to manage District funds carefully and prudently;

WHEREAS the District's Board of Managers finds that it would be prudent to solicit competitive proposals from financial institutions to provide banking services to the District;

WHEREAS, the District staff have prepared, and the Board of Managers has reviewed the Request for Proposals for Banking Services;

NOW, THEREFORE BE IT RESOLVED that the Riley Purgatory Bluff Creek Watershed District Board of Managers hereby authorizes the District Administrator to issue the Request for Proposals for Banking Services, with any technical revisions recommended by the District's accountant or legal counsel.

The question was on the adoption of the resolution and there were _____ yeas and ____ nays as follows:

	Yea	**Nay**	**Abstain**	**Absent**
CRAFTON				
KOCH				
PEDERSEN				
WARD				
ZIEGLER				

Upon vote, the president declared the resolution _____.

Dated: August ___, 2020.

_____

David Ziegler, Secretary

* * * * * * * * * * * *

I, David Ziegler, secretary of the Riley Purgatory Bluff Creek Watershed District, do hereby certify that I have compared the above resolution with the original thereof as the same appears of record and on file with the District and find the same to be a true and correct transcription thereof.

IN TESTIMONY WHEREOF, I set my hand this _____ day of _____, 2020.

_____

David Ziegler, Secretary

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: 2020-041

Considered at Board of Managers Meeting: August 5, 2020

Received complete: July 29, 2020

Applicant: Albert Eliasen

Consultant: Civil Methods, Kent Brander

Project: Shoreline Stabilization – The applicant stabilized of about 140 feet of Lotus Lake shoreline on an existing single-family home property at 7420 Chanhassen Road in Chanhassen without receiving a permit from RPBCWD or the MNDNR.

Location: 7420 Chanhassen Road, Chanhassen, MN

Reviewer: Scott Sobiech, PE, Barr Engineering

Rule Conformance Summary

Rule	Issue	Conforms to RBPCWD Rules?	Comments
B	**Floodplain Management and Drainage Alterations**	See comment.	See rule specific condition B1-B2.
C	**Erosion Prevention and Sediment Control**	See comment.	See rule specific conditionC1-C3.
F	**Shoreline and Streambank Stabilization**	See comment.	See rule specific condition F1-F3.
L	**Permit Fee**	See Comment	$300 fee deposit received on July 9, 2020
M	**Financial Assurance**	See Comment	The financial assurance is calculated at $16,113

Project Background

The applicant installed riprap and filter material to stabilize the shoreline of his property along Lotus Lake without receiving a permit from Riley Purgatory Bluff Creek Watershed District (RPBCWD) or the state Department of Natural Resources. The project is located at the residence at 7420 Chanhassen Road in Chanhassen. RPBCWD staff issued a notice of probable violation (NOPV) on February 11, 2020 for the placement of riprap without a permit. In conjunction with the transmittal of the original NOPV RPBCWD's Watershed Planning Manager Jeffery included a completed Shoreline Erosion Intensity Worksheet and aerial photography. Watershed Planning Manager Jeffery sent a second NOPV on May 6, 2020. The applicant submitted materials prepared by Civil Methods, Inc on June 26th and a signed permit application with associated permit fee on July 9th. The RPBCWD managers briefly discussed the status of the NOPV at their July 8th meeting and requested this to be brought to them at the August meeting for further discuss and direction on a course of action at that time

Because the shoreline stabilization project involved work below the 100-year flood elevation of Lotus Lake and stabilized a portion of Lotus Lake shoreline, the project needs to confirm to RPBCWD's permit requirements for Rule B-Floodplain Management, Rule C- Erosion Prevention and Sediment Control and Rule F- Shoreline and Streambank Stabilization. Because the submittal was missing drawings certified by a professional engineer and an erosion intensity worksheet, the applicant was notified via email on July 16, 2020 that their submittal was considered incompleteThe applicant's engineer submitted an as-built drawing on July 29, 2020. The project site information is summarized below:

Description	Area
Total Site Area	1.06 acres
Length of Shoreline impacted	140 feet
New (Increase) in Site Impervious Area	0
Disturbed impervious surface	0
Total Disturbed Area	0.019 acres

Exhibits reviewed:

- Permit application dated July 9, 2020
- Technical memorandum by Civil Methods, Inc dated June 26, 2020. Memo includes project narrative, pre and post photographs, May 6, 2020 NOPV, hand sketch of cross section of stabilization installation
- Draft Erosion Intensity worksheet prepared by Watershed Planning Manager Jeffery sent February 6, 2020
- An as-built Shoreline Protection Plan certified by Kent Brander, a professional engineer in Minnesota, dated July 29, 2020 (revised July 30, 2020)

Rule Specific Permit Conditions

Rule B: Floodplain Management and Drainage Alterations

Because the project disturbed land below the 100-year floodplain of Lotus Lake (897.4 msl) to stabilize an eroding shoreline, the project must conform to the requirements in the RPBCWD Floodplain Management and Drainage Alteration rule (Rule B, Subsection 2.1).

Rule B, Subsections 3.1 and 3.4 are not relevant because no buildings was constructed or reconstructed as part of the project, and the no impervious surface was created or re-created within 50 feet of a watercourse. Because the cross section information provided on the as-built shows excavation and installation of stabilization measures entirely below the existing ground level, the project did not result in the loss of flood storage volume below the 100-year floodplain, the project conforms to Rule B, Subsection 3.2. Because the applicant has demonstrated that the project did not place fill in the floodplain, the the engineer concurs that the project preserves the existing 100-year flood level and the project did not alter surface flows, complying with subsection 3.3.

To conform to RPBCWD Rule B, the following revisions are needed:

B1. To document compliance with RPBCWD's Rule B subsection 3.5 criteria, an erosion control plan in compliance with Rule C or documentation of compliance with Rule C erosion-control requirements must be submitted (e.g., verify 6" of topsoil was place, verify the soil was decompacted to 200 psi or less, verify final site restoration measure)

B2. Verification in the form of a signed statement from contractor or applicant documenting the measures implemented during construction to minimize the potential transfer of aquatic invasive species (e.g., zebra mussels, Eurasian watermilfoil, etc.) to the maximum extent possible.

Rule C: Erosion and Sediment Control

In accordance with paragraph 3.5 of Rule B, the project must conform to the requirements in the RPBCWD Erosion and Sediment Control rule. Because the construction activities are complete and the applicant is pursuing an after the fact permit, documentation must be provided to demonstrate construction of the project did not introduce sediment into Lotus Lake and that the site was restored in

accordance with the criteria in Rule C. To conform to the RPBCWD Rule C the following revisions are needed:

C1. Demonstrate that the final site stabilization measures resulted in at least six (6) inches of topsoil or organic matter being spread and incorporated into the underlying soil during final site treatment wherever topsoil was removed.
C2. Demonstrate the permanent site restoration measured used to prevent erosion of exposed soils.
C3. Demonstrate soil surfaces compacted during construction and remaining pervious upon completion of construction were decompacted to achieve 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 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.

Rule F: Shoreline and Streambank Stabilization

Because the applicant installed riprap to stabilize a portion of the shoreline of Lotus Lake, the project must conform to the requirements in the RPBCWD Shoreline and Streambank Stabilization rule (Rule F, Subsection 2). The work falls within the scope of Minnesota Department of Natural Resources General Permit #2015-1192. The applicant requested this project to be considered maintenance of existing riprap installed prior to February 1, 2015. Photographic information submitted shows that riprap boulders were present on the site in 2014. However, photo evidence indicates that the new riprap appears to extend wider than the prior-installed materials. In addition, the as-built cross section indicates the installation of the granular filter and toe boulders disturbed the underlying soils. As a result, the project does not qualify as maintenance for fast-track permitting under Rule F 3.4.

The main purpose of the project was to stabilize and restore an eroded shoreline along Lotus. The RPBCWD Engineer concurs that the photograph of the preexisting condition of the property provided by the applicant demonstrates some existing erosion and a need to restore the eroded shoreline which meets the requirements in Rule F, Subsection 3.1.

The Applicant did not provide a completed erosion intensity worksheet (EIW) as required by Rule F, Subsection 3.2a. Watershed Planning Coordinator Jeffery provided a draft EIW as part of the NOPV. The draft EIW resulted in a total score of 47. RPBCWD's engineer also reviewed the EIW and discovered that the average fetch is reasonably found to be slightly longer than originally estimated, thus increasing the draft EIW score to 48 – a medium energy site. Medium energy shorelines may be stabilized using a combination bioengineering and vegetated riprap stabilization practices. Because riprap was installed, which reflects a stabilization method different than what the shoreline EIW rating indicates, the applicant provided a proposed plan and profile drawing illustrating proposing modifications to incorporate native vegetation above the riprap. Typically, bioengineering and vegetated riprap would incorporate native vegetation (e.g., willow wattles, brush layering, live willow stakes, etc.) into the riprap section. These techniques are typically incorporated during construction to minimize the potential to adversely impact the integrity of the underlying aggregate filter and geotextile. While it

may be possible to incorporate some plantings between riprap boulders above the OHWL with minimal site disturbance, a combination of bioengineering and fully vegetated riprap would require significant reconstruction of the shoreline stabilization features.

Based on the as-built drawing, site photograph and site visit conducted by Watershed Planning Coordinator Jeffery in February 2020, the riprap used in the shoreline erosion protection was sized in accordance with the criteria in paragraph 3.3b for riprap placement along shorelines and was fieldstone boulders between 6" and 30" in diameter. The riprap size takes into account the potential for wave action at the site and the resulting erosional forces.

Because the as-built slope shown on the design plan is 3:1 (horizontal to vertical) or flatter waterward of the ordinary high water level, the project conforms to Rule F, Subsection 3.3.a.ii. The riprap stabilization appears to have followed the configuration of the existing shoreline and did not encroach horizontally from existing conditions. The as-built plan indicates no riprap or filter material was placed more than six (6) feet waterward of the ordinary high-water level (OHW) of elevation 896.3. As a result, the project conforms to Rule F, Subsection 3.3.a.iii.

The riprap to be used in the shoreline erosion protection was natural stone between 6" and 30" in diameter to disperse wave energy and resist movement to meet the requirements of Rule F, Subsection 3.3.b.i. The as-built drawing indicates that the riprap was placed to conform to the natural alignment of the shoreline to meet the criteria in Rule F, Subsection 3.3.b.ii. Consistent with the requirements in Rule F, Subsection 3.3.b.iii, a filter fabric conforming to Minnesota Department of Transportation (MnDOT) specification 3733 and 6 inches of granular fill conforming to MnDOT specification 3601.2 were provided as a transitional layer between the existing shoreline and the riprap. In addition, a note on the as-built drawing indicates riprap was not placed to cover emergent vegetation, consistent with Rule F, Subsection 3.3iv. The cross section on the as-built drawing and site photograph confirm that the riprap was installed to the approximately the top of bank elevation which conforms to Rule F, Subsection 3.3.b.v. As required by Rule F, Subsection 3.3.b.vi, the applicant demonstrated with a site photo and the engineer concurs that project was needed to stabilize an eroding shoreline from future erosion and it was not for cosmetic purposes.

The applicant provided an as-built drawing certified by a professional engineer in Minnesota documenting the installed riprap location and thickness, riprap material, finished slope, transition layer materials and thickness, 100-year flood elevation, ordinary high-water level, and topographic contours. Because the riprap installation was complete, adding a baseline with fixed measuring points would serve no purpose during construction and thus was not shown on the as-built. The drawing also shows the proposed modification to incorporate native vegetation above the installed riprap.

The RPBCWD Engineer finds that the following revisions are needed to conform to Rule F:

F1. The applicant must submit signed concurring the submission of the final erosion intensity worksheet on its behalf.

F2. The drawing calls for native vegetation planting plan to be determined. The applicant must provide a detailed landscaping plan listing the native vegetation proposed for RPBCWD review and approval. The native vegetation needs to be deep-rooted native species that tend to grow in a cascading fashion, to provide additional vegetative cover over installed riprap. Also, native vegetation must be added between the riprap boulders above the OWHL.

F3. There appears to be an inconsistency between the dimension labeled and the vertical axis on the both cross sections. The cross section lists a dimension of 2 feet but the vertical axis indicates about 6 inches. Please revise the dimension or vertical axis for consistency and confirm that the toe boulders were installed at least 50% buried and at least 1.25 times the maximum stone diameter (Rule F, subsection 3.3iii).

Rule L: Permit Fee Deposit:

The RPBCWD permit fee schedule adopted in February 2020 requires permit applicants to deposit $200 For land-disturbing activities on record single-family residential property to be held in escrow and applied to cover the $10 permit-processing fee and reimburse RPBCWD for permit review and inspection-related costs and when a 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 $300 was received on July 9, 2020.

Rule M: Financial Assurance:

Rules C: Floating silt curtain: 140 L.F. x $2.50/L.F. =.....$350

Rock Entrance: 1.0 x $250 =.....$250

Restoration: 0.019 acres x $2,500/acre =.....$48

Rule F: Shoreline or Streambank Stabilization:140 L.F. x $100/L.F. =.....$14,000

Contingency (10%) $1,465

Total Financial Assurance.....$16,113

Applicable General Requirements:

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. 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 above and on the permit. The granting of the permit does not in any way relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.
3. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority, except as may be provided under Minnesota Department of Natural Resources General Permit 2015-1192, compliance with which, including payment of any applicable fee, is entirely the responsibility of the permittee.

4. 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.
5. 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.
6. 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.
7. 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

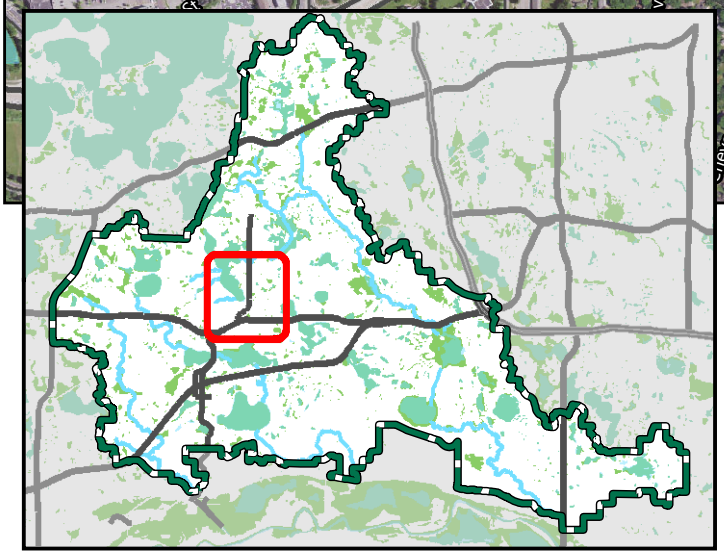
1. The applicant is requesting after the fact approval for the installation of riprap along 140 feet of Lotus Lake shoreline.
2. The application is considered incomplete because of missing information needed to assess compliance with RPBCWD's floodplain, erosion prevention and sediment control, and shoreline and streambank stabilization rules.
3. The project will conform to Rules B, C, and F if the rule specific comments detailed above are addressed.
4. Under Minnesota Department of Natural Resources General Permit 2015-1192 (attached to this report), approval of work under RPBCWD rule(s) F constitutes approval under applicable DNR work in waters rules. Compliance with conditions on approval and payment of applicable fees, if any, are necessary to benefit from general permit approval and are the responsibility of the applicants.

Recommendation:

Because this analysis is on a site for which a notice of probable violation has been issued for construction without a permit, it is recommended that the managers discuss the adequacy of the installed shoreline stabilization measures relative to the erosion intensity score (i.e., does the proposed vegetation above the riprap satisfy the requirement to implement a combination of bioengineering and vegetated riprap on sites with medium erosion intensity).

- If the board determines it does not, the applicant would need to request a variance for board consideration.

- If the board elects to conditionally approve the submittal as provided, it is recommended that the approval of the permit contingent upon the following, as modified by the board of managers:
    1. Continued compliance with General Requirements.
    2. Submission of signed concurrence of the applicant in the submission of the final erosion intensity worksheet on its behalf.
    3. Submission of a signed statement from contractor or applicant documenting the measures implemented during construction to minimize the potential transfer of aquatic invasive species (e.g., zebra mussels, Eurasian watermilfoil, etc.) to the maximum extent possible.
    4. Demonstrate that the final site stabilization measures resulted in at least six (6) inches of topsoil or organic matter being spread and incorporated into the underlying soil during final site treatment wherever topsoil was removed.
    5. Demonstrate soil surfaces compacted during construction and remaining pervious upon completion of construction were decompacted to achieve 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 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.
    6. Receipt of a detailed landscaping plan listing the native vegetation proposed for installation for RPBCWD review and approval. The native vegetation needs to be deep-rooted native species that tend to grow in a cascading fashion, to provide additional vegetative cover over installed riprap. Also, native vegetation must be added between the riprap boulders above the OWHL.
    7. Receipt of an updated as-built drawing that resolves the apparent inconsistency between the dimension labeled and the vertical axis on the both cross sections. The cross section lists a dimension of 2 feet but the vertical axis indicates about 6 inches. Please revise the dimension or vertical axis for consistency and confirm that the toe boulders were installed at least 50% buried and at least 1.25 times the maximum stone diameter (Rule F, subsection 3.3iii).
    8. Receipt of a financial assurance in the amount of $16,113.



N

Feet

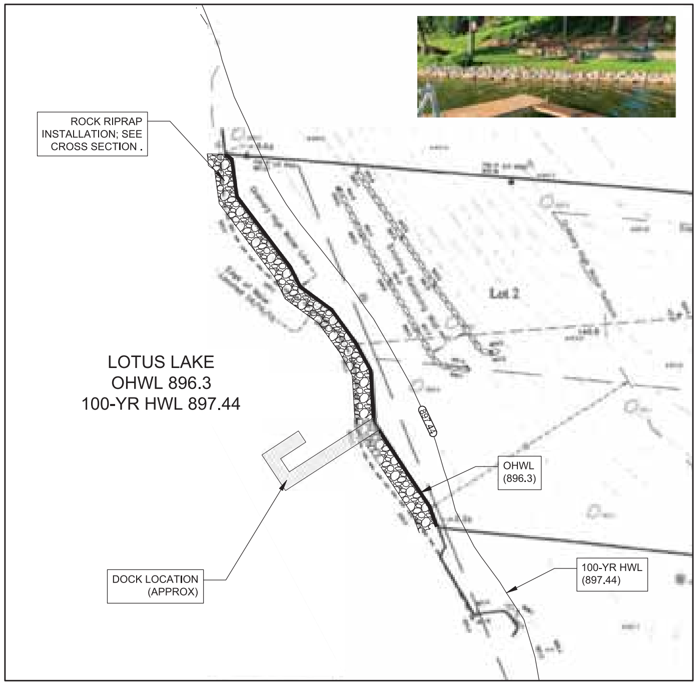
0 1,000

Permit Location Map

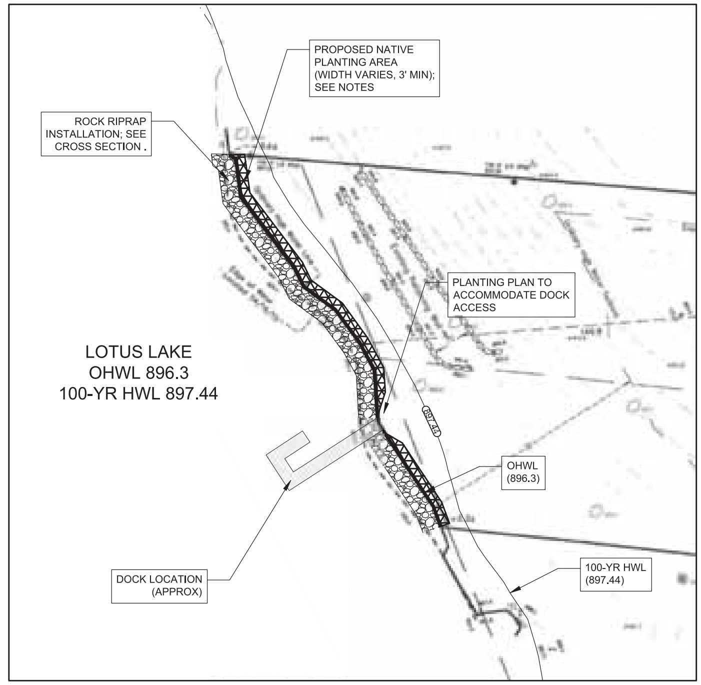
7420 CHANHASSEN ROAD

Permit 2020-041

Riley Purgatory Bluff Creek Watershed District



AS-BUILT



PROPOSED

Existing Elevation Information from
MN Dept of Natural Resources
MnTOPO Application

LEGEND:

- PROPERTY BOUNDARY
- PROPOSED CONTOUR
- EXISTING CONTOUR
- RIPRAP W/ FABRIC
- NATIVE PLANTING AREA (APPROX)

N

0 20 40 Feet

AS-BUILT NOTES:

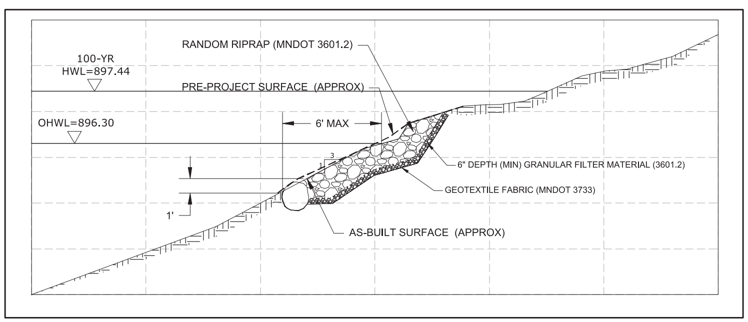
1. Project was a repair of existing riprap with the intent not to add more than was originally in place. Existing riprap reused where appropriate.
2. No fill placed in floodplain (100-yr HWL 897.44). No compensatory storage required.
3. No riprap placed more than 6' waterward of OHWL.
4. Contractor followed all best practices for construction, including vegetation and property protection, minimization of transfer of aquatic invasive species, erosion control, and site restoration.
5. Contractor performed due diligence for permitting.
6. Riprap placed is random (MnDOT 3601) with fabric (MnDOT 3733). Larger boulders placed at toe.
7. Riprap consists only of natural rock, between 6"-30" in diameter, free of debris that may cause pollution or siltation. Limestone and dolomite not used for riprap.
8. Riprap does not cover emergent vegetation.
9. Rock riprap was previously placed at the site for purposes of bank stabilization.
10. Riprap placed so that the final profile below the 100-year HWL (897.44) is essentially equivalent to that of pre-construction conditions. Any material removed for placement of fabric, granular filter material, or riprap was not placed in any location below the floodplain.

CONTRACTOR INFORMATION

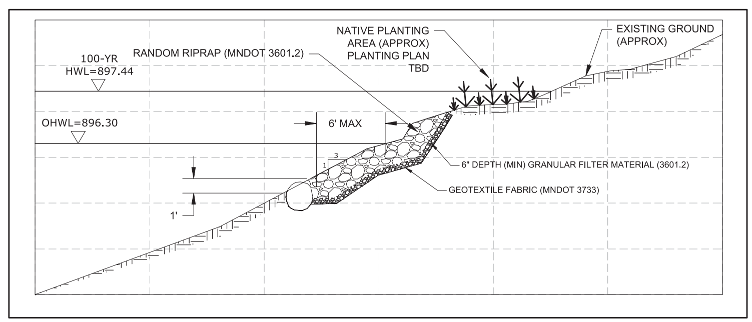
Hagen Lawn and Landscape
Attn: Chris Hagen
850 Flying Cloud Drive
Chaska, MN 55318
Ph: 612-799-5534
Email: chris@hagenll.com

PROPOSED NOTES:

1. Final width and planting plan for native planting area to be determined by Owner, subject to approval by Watershed District.
2. Planting plan shall include species that tend to grow in a cascading fashion, to provide additional vegetative cover to installed riprap without disrupting the as-built riprap/soil interface.
3. Planting bed shall be prepared as required for selected native plugs/seed.
4. Plantings to be installed in such a way as to minimize disturbance and prevent any potential erosion.



RIPRAP PROFILE (TYP.) - AS-BUILT



RIPRAP PROFILE (TYP.) - PROPOSED

Know what's below. Call before you dig.

CIVIL METHODS, INC. 1551 Livingston Avenue, Suite 104 West St. Paul, MN 55118 o:763.210.5713 | www.civilmethods.com	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. KENT E. BRANDER DATE: 07-29-2020 LIC. NO.: 44578	DESIGNED: KEB DRAWN: KEB CHECKED: DMP	DATE / REVISION: 07-29-2020 As-Built Plan Documentation and Proposed Modifications Per Discussion	OWNER: **ALBERT ELIASEN** 7420 CHANHASSEN ROAD CHANHASSEN, MN	TITLE: **SHORELINE PROTECTION PLAN** SHORELINE PROTECTION PLAN CHANHASSEN, MN
					SHEET NO: C01

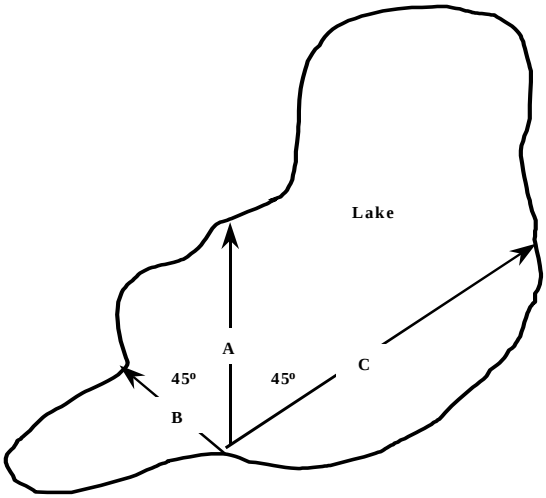
Completed by Watershed Planning Manager Jeffery

RPBCWD: Erosion Intensity (EI) Score Worksheet*.

SHORELINE VARIABLES	DESCRIPTIVE CATEGORIES EROSION INTENSITY VALUE IS LOCATED IN PARENTHESIS ON LEFT SIDE OF EACH CATEGORY BOX							ASSIGNED EI	RPBCWD Engineer
AVERAGE FETCH[1]-, average distance (miles), across the open water to the opposite shore measure 45^0 other side of the perpendicular to the shoreline.	(0) <1/10	(2) 1/10 – 1/3 0.251 mi	(4) 1/3-1 6800+700 = 7500/2 =3750 =0.7mi	(7) 1 –3	(10) 3-10	(13) 10-30	(16) >30	2	4
DEPTH AT 20 FEET, Depth of water (feet) 20 feet from shoreline	(1) <1	(2) 1-3 +/-3 feet	(3) 3-6	(4) 6-12	(5) >12			2or3	Agree
DEPTH AT 100 FEET, depth of water (feet) 100 feet from shoreline	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12 8 feet	(5) >12			4	Agree
BANK HEIGHT[2], height of bank (feet), measure from toe of the bank to top of the bank-lip.	(1)<1	(2) 1-5 1.5 feet	(3) 5-10	(4) 10-20	(5) >20			2	Agree
BANK COMPOSITION composition and degree of cementation of the sediments	(0) rock, marl, tight clay, well cemented sand (dig with a pick)		(7) soft clay, clayey sand, moderately cemented (easily dug with a knife)		(15) uncemented sands or peat (easily dug with your hand)			7	Agree
INFLUENCE OF ADJACENT STRUCTURES, likelihood that adjacent structures are causing flank erosion at the site	(0) no hard armoring on either adjacent property	(1) hard armoring on one adjacent property	(2) hard armoring on both adjacent properties	(3) hard armoring on one adjacent property with measurable recession	(4) hard armoring on both adjacent properties with measurable recession adjacent to both structures			3	Agree
AQUATIC VEGETATION[3] type and abundance of vegetation occurring in the water off the shoreline	(0) rocky substrates unable to support vegetation.	(1) dense or abundant emergent, floating or submerged vegetation		(4) scattered or patchy emergent, floating or submergent vegetation		(7) lack of emergent, floating or submergent vegetation		4	Agree
BANK VEGETATION, type and abundance of the vegetation occurring on the bank face and immediately on top of the bank lip	(0) bank compose of rocky outcropping unable to support vegetation		(1) dense vegetation, upland trees, shrubs and grasses, including lawns		(4) clumps of vegetation alternating with areas lacking vegetation		(7) lack of vegetation (cleared), crop or agricultural land	1	Agree
BANK STABILITY, The degree to which bank and adjacent area (within 10 feet of the bank-lip) is stabilized by natural ground, shrub, and canopy vegetation (outside a 10' pier access corridor). Human disturbance is typified by tree removal, brushing, mowing, and lawn establishment.	(0) established lawn with few canopy trees	(1) established lawn with moderate to dense canopy trees		(4) moderate to dense natural ground vegetation and canopy trees with shrub layer substantially reduced; or few canopy trees with moderate to dense natural shrub layer.			(7) moderate to dense canopy trees with moderate to dense natural shrub layer; or other natural features prevents establishment of vegetation.	1	Agree
SHORELINE GEOMETRY general shape of the shoreline at the point of interest plus 200 yards on either side.	(1) coves or bays			(4) irregular shoreline or straight shoreline			(8) headland, point, or island	4	Agree
SHORE ORIENTATION[4] geographic direction the shoreline faces	(0) < 1/3 mile fetch	(1) north to east to south-southeast (349^0-360^0, 1^0-168^0)		(4) south to west-southwest (169^0-258^0)		(8) west to north-northwest (259^0-349^0)		4	Agree
BOAT WAKES[5] proximity to and use of boat channels	(1) no channels within 100 yards, broad open water body, or constricted shallow water body; or channels within no-wake zones		(6) thoroughfare within 100 yards carrying limited traffic, or thoroughfare 100 yards to ½ mile offshore carrying intensive traffic		(12) thoroughfare within 100 yards carrying intensive traffic (unregulated boating activity)			12	Agree
EROSION INTENSITY SCORE (EI) →								46 or 47	48 or 49

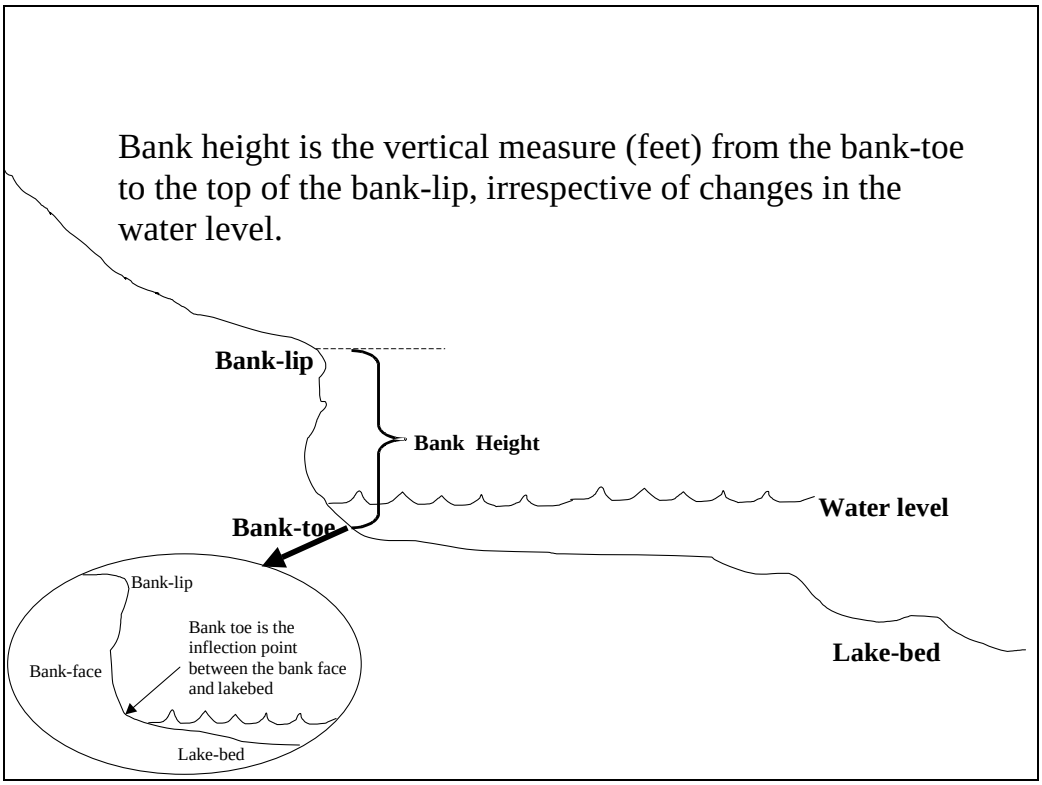
Note: * The Erosion Intensity Worksheet is adapted from Wisconsin Department of Natural Resources Chapter NR 328: SHORE EROSION CONTROL STRUCTURES IN NAVIGABLE WATERWAYS which developed the information from Knutson, P. L., H. H. Allen, and J. W. Webb, 1990. "Guidelines for Vegetative Erosion Control on Wave-Impacted Coastal Dredged Material Sites, "Dredging Operations Technical Support Program Technical Report D-90-13,U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS 39180, 35 pp.

[1] Average fetch: The following diagram describes the calculation of average fetch.

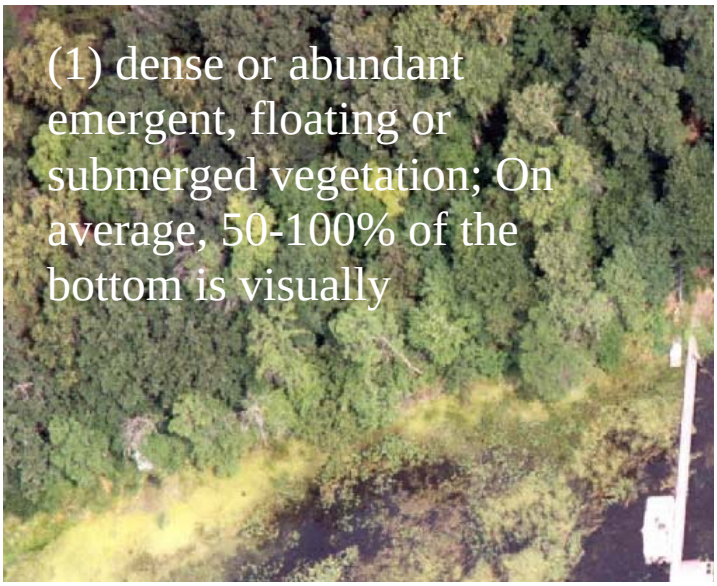


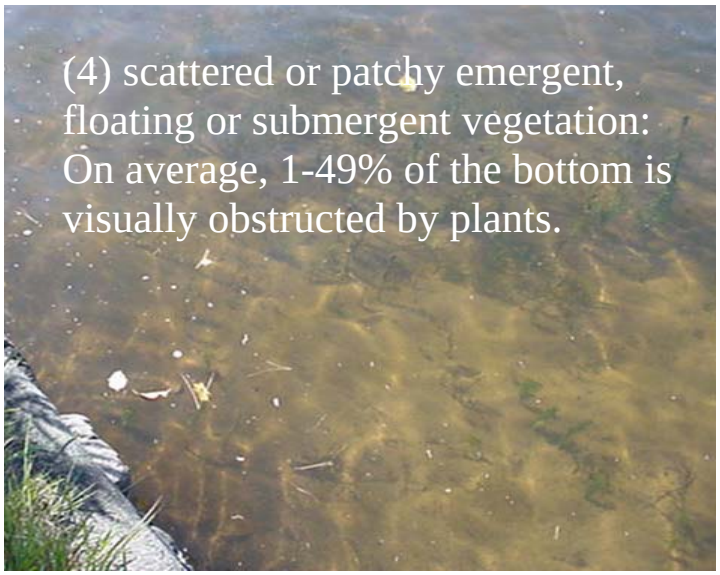
$$ave.\ fetch = (B + C)/2$$

[2] Bank height: The following diagram describes the features of the bank for the purpose of accurately measuring bank height

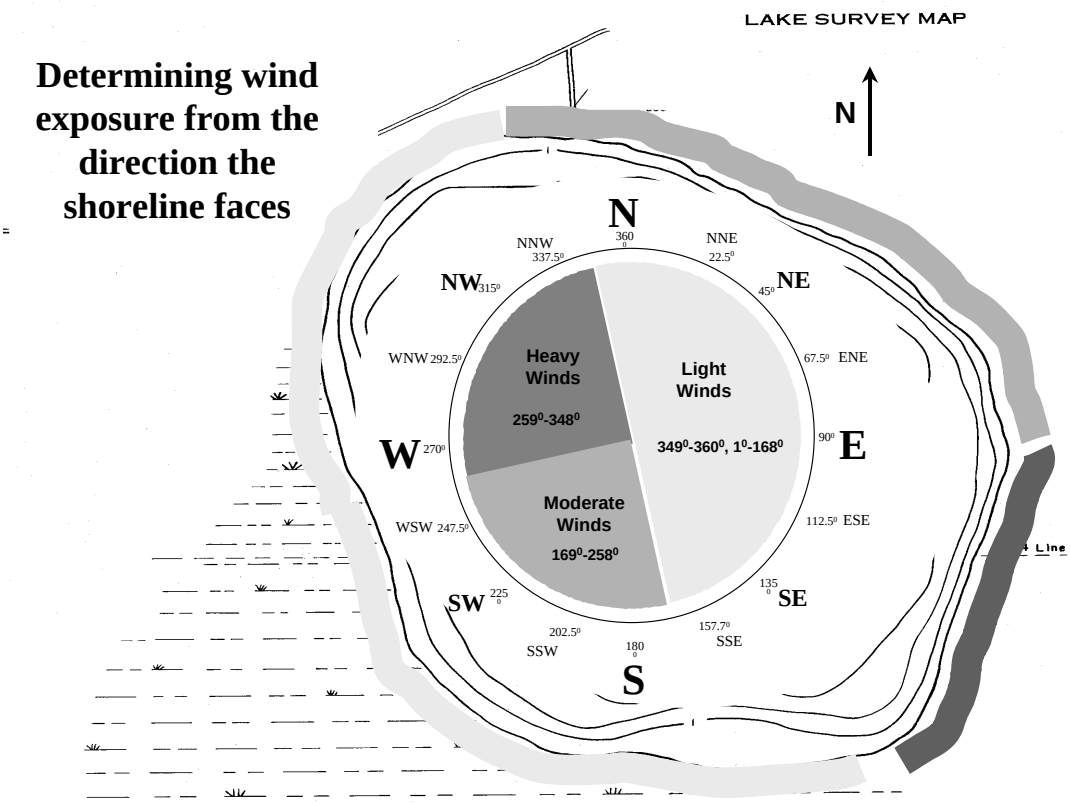


[3]**Aquatic vegetation:** Dense or abundant means that on average 50-100% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15. Scattered or patchy means that on average 1-49% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15. Absent means that on average < 1% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15.





[4] **Shoreline Orientation:** The following lake map shows an example of accurately determining shoreline orientation



[5]**Boating**: A thoroughfare is identified as physical narrowing of the waterbody that by its nature intensifies boating activity near the shore. Thoroughfares which are 250 yards or wider are not scored 12 points, unless the depth contours of the thoroughfare constricts boating activity in close proximity to one shore, and the traffic is intensive. Intensive traffic is defined by a location where at least 50% of the public boating access available must pass through the thoroughfare to reach the open water of the lake, provided the waterway has a total of more than 60 car-trailer units. Limited traffic is defined by a location where at least 30% of the public boating access available must pass through the thoroughfare to reach the open water of the lake, provided the waterway has a total of more than 40 car-trailer units.

CIVIL METHODS, INC.
PROFESSIONAL ENGINEERS
LAND | WATER | INFRASTRUCTURE
1551 Livingston Ave, Ste 104, St. Paul, MN 55118 (763) 210-5713 www.civilmethods.com

TECHNICAL MEMORANDUM

Date:	June 26, 2020
Subject:	Shoreline and Streambank Stabilization Permit – RPBCWD Rule F Eliasen / Lotus Lake / 7420 Chanhassen Road
Prepared For:	Riley Purgatory Bluff Creek Watershed District (RPBCWD)
Prepared By:	Kent Brander, PE

A. INTRODUCTION

The purpose of this Technical Memorandum is to document fulfillment of the requirements to obtain the RPBCWD Shoreline and Streambank Stabilization Permit for the property located at 7420 Chanhassen Road, Chanhassen, MN 55317. The requirements are outlined in Rule F and other related agency documents.

B. BACKGROUND

Some key elements of the background to this project are as follows:

1. In the fall of 2019, Al Eliasen (Owner) contacted Hagen Landscaping (Contractor) with the goal of repairing riprap that was already in place, to mitigate ongoing erosion that Owner perceived was getting worse over time.
2. Prior to starting work, Contractor inquired with the city of Chanhassen to see if a permit was required for repair of existing riprap. The City indicated that no permit is required.
3. Contractor completed the work in February of 2020. The contractor based their work on the typical riprap cross section they use for other similar projects.
4. On February 10, 2020, the RPBCWD issued a Notice of Probable Violation (NOPV) for the project, for having failed to secure a RPBCWD permit (NOPV included as Attachment 1).

This timeline shows that both the Owner and Contractor considered this to be a maintenance project to restore the function of riprap that had been in place for a long time, and that they approached the project with the goal of complying with all permit requirements.

The City's response that no permit is required also reflects the overall intention of RPBCWD Rule F, Section 3.4, "Fast-track maintenance", which broadly allows for maintenance of shoreline stabilization practices put in place prior to February 1, 2015, provided certain criteria are met. The riprap at this location was installed long before that date and would therefore fall under the fast-track maintenance purview.

Given the circumstances, this background information is relevant to consideration of the permit or related actions by the RPBCWD. The Owner and Contractor were clearly not attempting to avoid any requirements, and they should therefore be given the benefit of the doubt where some judgment is required in evaluating the permit for retroactive approval.

C. FAST-TRACK MAINTENANCE CRITERIA MET

Based on the criteria listed in RPBCWD Rule F, Section 3.4, this project would appear to qualify for a fast-track maintenance permit.

Practice Constructed Prior to February 1, 2015

As required for consideration in this section of the rule, the shoreline stabilization practice (riprap) at this location was constructed well before February 1, 2015. Based on discussions with neighbors and other information, the Owner estimates the original riprap had been in place since the 1980s. Figure 1 is an aerial image from October 2014 that clearly shows the riprap in place, both on the subject property as well as adjacent properties.

Figure 1. October 2014 Aerial Image Showing Riprap

Practice Length, Width, and Depth Maintained

It must also be shown that the maintenance work would not increase the length, width, or depth of the practice, and will not disturb underlying soils. First, the length of the practice for both pre-existing and as-built conditions are the same (the entire shoreline, approximately 140 FT).

For as-built conditions, the width and depth of the practice were governed by the typical standards required by the Minnesota DNR and other agencies. As indicated in the sketch plan (Attachment 2) provided by the contractor (who is well aware of and accustomed to meeting these requirements) the riprap was to be placed no more than 6 FT waterward of the OHWL, at a maximum 3:1 slope, and no higher than the top of bank in order to avoid the need for compensatory floodplain storage. To some degree, these criteria dictate the width and depth of the practice and ensure a reasonable level of stability. No design plans or other information were available to estimate the width or depth of the original installation. However, clearly there was no intention of significantly increasing the width or depth of riprap or changing the fundamental nature of the shoreline protection.

Figure 2 shows the as-built conditions along with a small piece of the neighboring property visible in the background. As was presumably the case with the original installation, this riprap is a very typical installation that blends into the surroundings. While there is no specific measurement available of the initial width or depth of the practice, the work is clearly in accordance with the intention of the rule, in that no additional shoreline was riprapped, and the project simply restored the level of protection that had been in place previously.

Figure 2. As-built Conditions with Neighboring Property in Background

Underlying Soils Not Disturbed

The fast-track maintenance rule indicates that underlying soils must not be disturbed with the maintenance. This requirement helps to ensure that the installed practice will not disrupt the existing soil structure and result in additional susceptibility to erosion, and it requires that the construction activities be conducted in such a way that they do not destabilize the bank or the upland property and vegetation.

With construction already having been completed, the best way to check this requirement is to review the contractor's plans and typical practice, and to evaluate the results. The contractor's plan documents are included in Attachment 2.

The first item to note in the plans is the geotextile fabric and granular filter material. This filter, required for typical riprap installations, specifically ensures a stable interface between the riprap and the underlying soil. It is not known what type of filter (if any) was provided with the original installation, but this is clearly an improvement with respect to stability of the underlying soils.

It is also worth noting that the work was completed in early February during frozen conditions. This facilitates the construction process and significantly reduces the likelihood of soil disturbance, both near the bank as well as upland (in access areas). As noted on the plan, work was done over the ice. The plan

also notes that seed and erosion control blanket were installed behind the riprap in disturbed areas. As can be seen in Figure 2, any disturbed vegetation on the site was clearly restored and the site was left in a stable condition.

D. ADDITIONAL CONSIDERATIONS

CMI conducted a site visit on May 20, 2020 to observe the as-built conditions and discuss the project with the Owner. The riprap appeared to be stable and properly installed with quality workmanship. It was noted that a City sanitary sewer runs parallel to the shore approximately 10 FT inland. The shoreline of the neighboring property to the north was also observed to have a riprap installation that is in need of similar maintenance action. A pipe protruding from the bank of that property provides a visual reference for ongoing erosion. Based on discussion with the owner, the pipe exposure has increased significantly in recent years. Indicating approximately 4-5 FT of shoreline receding due to increased erosion. The pipe is shown in Figure 3.

Figure 3. Pipe Protruding from Bank on Neighboring Property

Finally, although it is requested that the permit for this project be granted based on the fast-track maintenance allowance for pre-existing stabilization practices, we would suggest that riprap is the proper approach to shoreline stabilization in this case even if it had not been installed previously. Considering the significant evidence of erosion on the neighboring property, the increasing amount of wakeboard activity and the associated wave action, and the presence of the City sewer, a standard riprap installation meeting all applicable agency requirements is an appropriate solution at this site.

E. CONCLUSION

The riprap project completed on the subject property meets the criteria for a permit as described in RPBCWD Rule F, Section 3.4.

NOTICE OF PROBABLE VIOLATION

Riley-Purgatory-Bluff Creek Watershed District
18681 Lake Drive East, Chanhassen, MN 55317
www.rpbcwd.org

Subject Property: PIN 258400020

Address: 7420 Chanhassen Road, Chanhassen, MN 55317

Property Owner: Albert A Eliasen

Permit Number: No Permit Issued Permitee (if different) _____

Contractor: Hagen Landscape and Barge Service

Date and Time: 02/10/2020 1500

The following apparent violations have been observed by RPBCWD staff:

	Rule/Permit/Order	Description
1.	Rule F -Shoreline Stabilization	No permit has been applied for or issued by the RPBCWD or DNR
2.		
3.		

You are requested to take the following actions to address the circumstances described above:

	Action	Requested Date/Time for Compliance
1.	Apply to the RPBCWD for applicable permits, with requisite fees, plans, and exhibits consistent with RPBCWD rules. www.pbcwd.org/permits Rule F requires that the applicant demonstrate that the selected method of stabilization is appropriate for the conditions. A copy of the RPBCWD scoresheet is attached.	May 26, 2020 for presentation at July 8, 2020 meeting of the RPBCWD Board of Managers
2.		

Additional Notes/Comments

A Notice of Probable Violation (NOPV) was sent on February 11, 2020 stating that shoreline stabilization work had been performed without a permit from the RPBCWD or the MN DNR. The contractor, Chris Hagen, contacted the RPBCWD on Feb 21, 2020 and provided a plan. However, no application was submitted including all the supporting materials as required under Rule F – Shoreline and Streambank Stabilization (see section 4 and subsection 3.2).

http://www.rpbcwd.org/application/files/1215/7781/4335/Rule_F-_Shoreline_and_Streambank_Stabilization_12.19.pdf

In the transmittal for the original NOPV, I included a Shoreline Erosion Intensity Worksheet (EIW)and an aerial photograph showing some of the requisite supporting information. This EIW did not demonstrate a need to riprap the shoreline. I have included that again for your use. You may also download a blank EIW here: http://www.rpbcwd.org/application/files/8715/5594/6148/Erosion_Intensity_Worksheet_RPBCWDVersion.pdf

Please contact Scott Sobiech at 952.832.2755 or myself at 952.807.6885 if you have any questions. Otherwise, submit your application on-line. Provide a signed copy of the application, the supporting materials as spelled out in section 4 of Rule F, and the $200 permit application fee/deposit. These can be emailed to me at terryjeffery@comcast.net and the check can be mailed to 18681 Lake Drive East, Chanhassen, MN 55317

This is not a legally binding order of the Riley-Purgatory-Bluff Creek Watershed District. **However, if you do not complete the actions requested above by the indicated deadline(s), RPBCWD staff will schedule an enforcement hearing before the RPBCWD board of managers. You will be provided with notice of the scheduled hearing and, at the hearing, an opportunity to appear before and be heard by the managers.** The timeliness and completeness of your actions will be considered by the board of managers in deciding whether to take further enforcement steps. The board may issue an order requiring remedial, corrective, preventative or other actions to achieve compliance with applicable RPBCWD requirements.

The listing of apparent violations above does not prevent the board from finding additional or other violations on the basis of evidence presented. Under Minnesota Statutes section 103D.545, failure to comply with RPBCWD rules, the conditions of your permit or an order of the board of managers subjects you to possible civil and criminal penalties. Pursuant to RPBCWD Rule L, you will be liable for all costs incurred by RPBCWD in obtaining and monitoring your compliance with applicable RPBCWD rules, permit terms and conditions, and orders of the board of managers, including consultants' costs and attorneys' fees.

This notice does not affect the ability of any other federal, state or local body of government to take enforcement action against you pursuant to its own laws and regulations.

ISSUED BY:

Terry Jeffery / Watershed Planning Manager
Name/Title (Print)

Signature

Mar 6, 2020
Date

ISSUED VIA:

[_] EMAIL
[_] IN PERSON
[X] OTHER (specify: US Mail)

ISSUED TO/RECEIVED BY:

Albert A. Eliasen
Name/Title (Print)

Date: February 10, 2020

_____
Title/Organization (Print)

_____

_____
Address & Telephone

_____
Signature

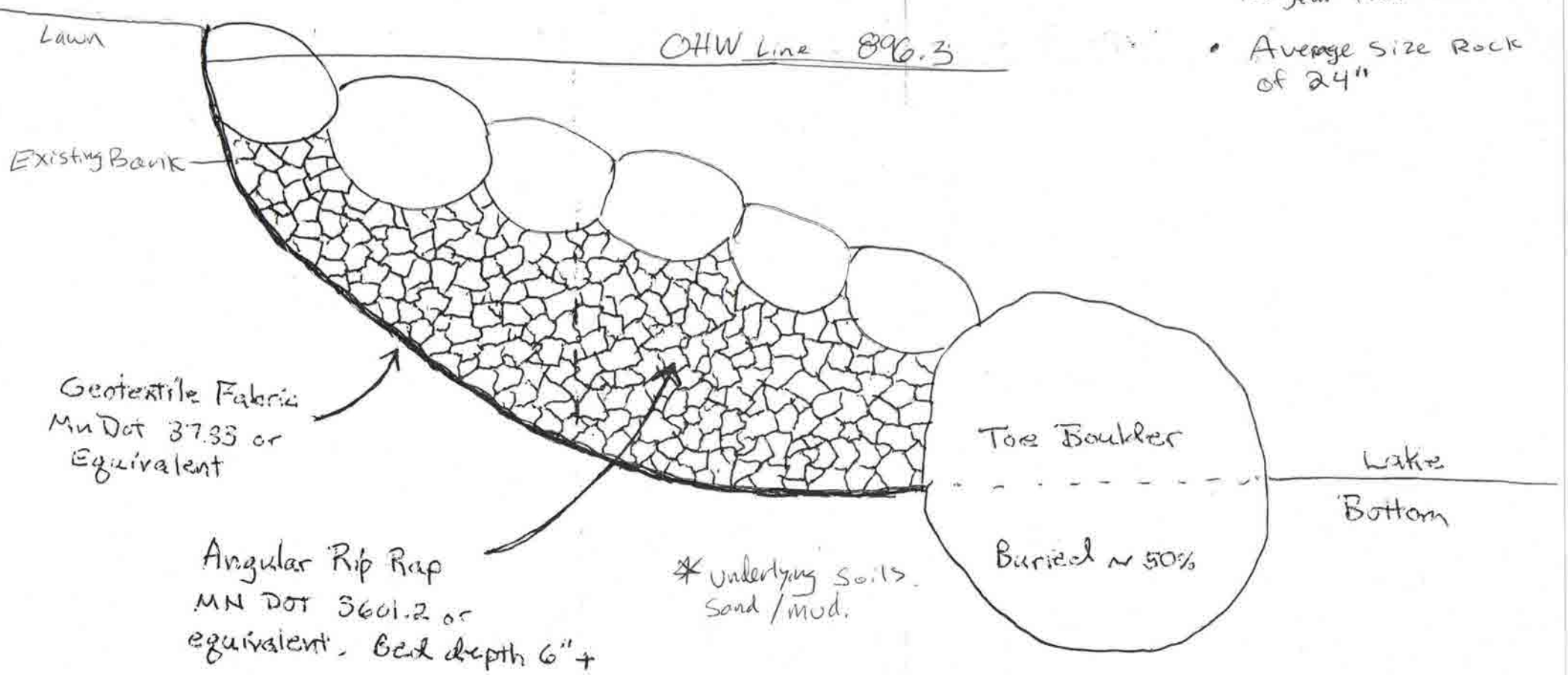
Your signature here indicates only that you received this notice. Your signature does not constitute an admission of any kind with respect to the apparent violations listed above.

cc (via email):
Claire Bleser, RPBCWD administrator; Scott Sobiech, District Engineer; RPBCWD legal counsel; City of Chanhassen; Carver County Soil and Water Conservation District; MN DNR

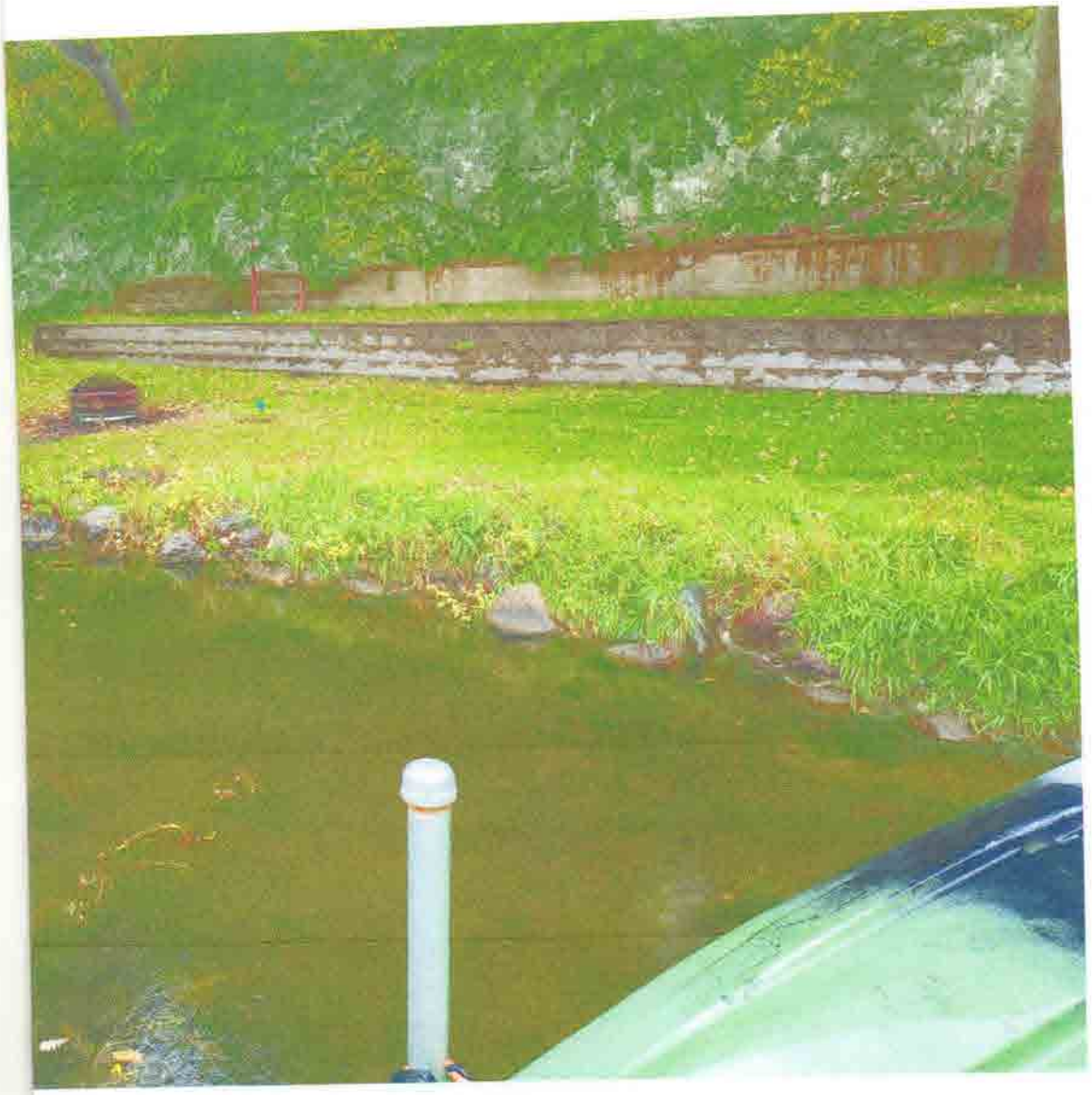
Riprap Cross-Section Example

3
Slope
1

- 100 year Floodplain
- OHW Elevation
- Maximum 6 foot Waterward of OHW
- Finished Rip Rap 3:1 slope.
- Rip Rap no higher than top of Bank which is lower than 100 year flood plain
- Average size Rock of 24"



- All work done over the Ice.
- Seed / erosion Blanket installed behind Rip Rap in disturbed areas.



Existing riprap shoreline indicating erosion prior to construction.

Technical Memo

WENCK
Responsive partner.
Exceptional outcomes.

To: Claire Bleser, Riley Purgatory Bluff Creek Watershed District

From: Joe Bischoff, Wenck Associates, Inc.

Date: July 29, 2020

Subject: Rice Marsh Lake Post Alum Treatment Assessment

INTRODUCTION

Rice Marsh Lake is a eutrophic, shallow lake, located on the border of Chanhassen and Eden Prairie, MN. No assessment has been conducted on Rice Marsh Lake to determine impairment status, however, total phosphorus concentrations are well above shallow lake standards. Rice Marsh Lake is considered polymictic, which means it experiences intermittent thermal stratification and anoxic periods throughout the growing season. The most recent Rice Marsh Lake Use Attainability Assessment UAA estimated that internal phosphorus loading accounts for 34% (539 lbs/yr) of the total annual phosphorus budget (Barr, 2016). An alum dose for Rice Marsh Lake was developed in January of 2018 using traditional dosing methods (Wenck 2018; Rydin and Welch 1999; James and Bischoff 2015). However, sediment phosphorus in Rice Marsh Lake is predominantly labile organic phosphorus which is atypical for lakes recently dosed in Minnesota and Wisconsin. Since the sediment phosphorus fraction is expected to release at a slower rate than redox-P and modern dosing techniques more typically address the redox-P fraction, the dose prescribed for Rice Marsh Lake was evaluated using several approaches (Wenck 2018). The final dose recommended to control internal loading with the high labile P fraction was between 80 and 240 g Al/m^2. Therefore, Wenck recommended a multi-year application of 50 g Al/m^2 with follow up monitoring (Figure 1). The first application of 33,058 gallons of alum (50 g Al/m^2) was completed in September 2018 (Figure 2).

Claire Bleser
Riley Purgatory Bluff Creek
Watershed District
July 29, 2020

WENCK ASSOCIATES
Responsive partner.
Exceptional outcomes.

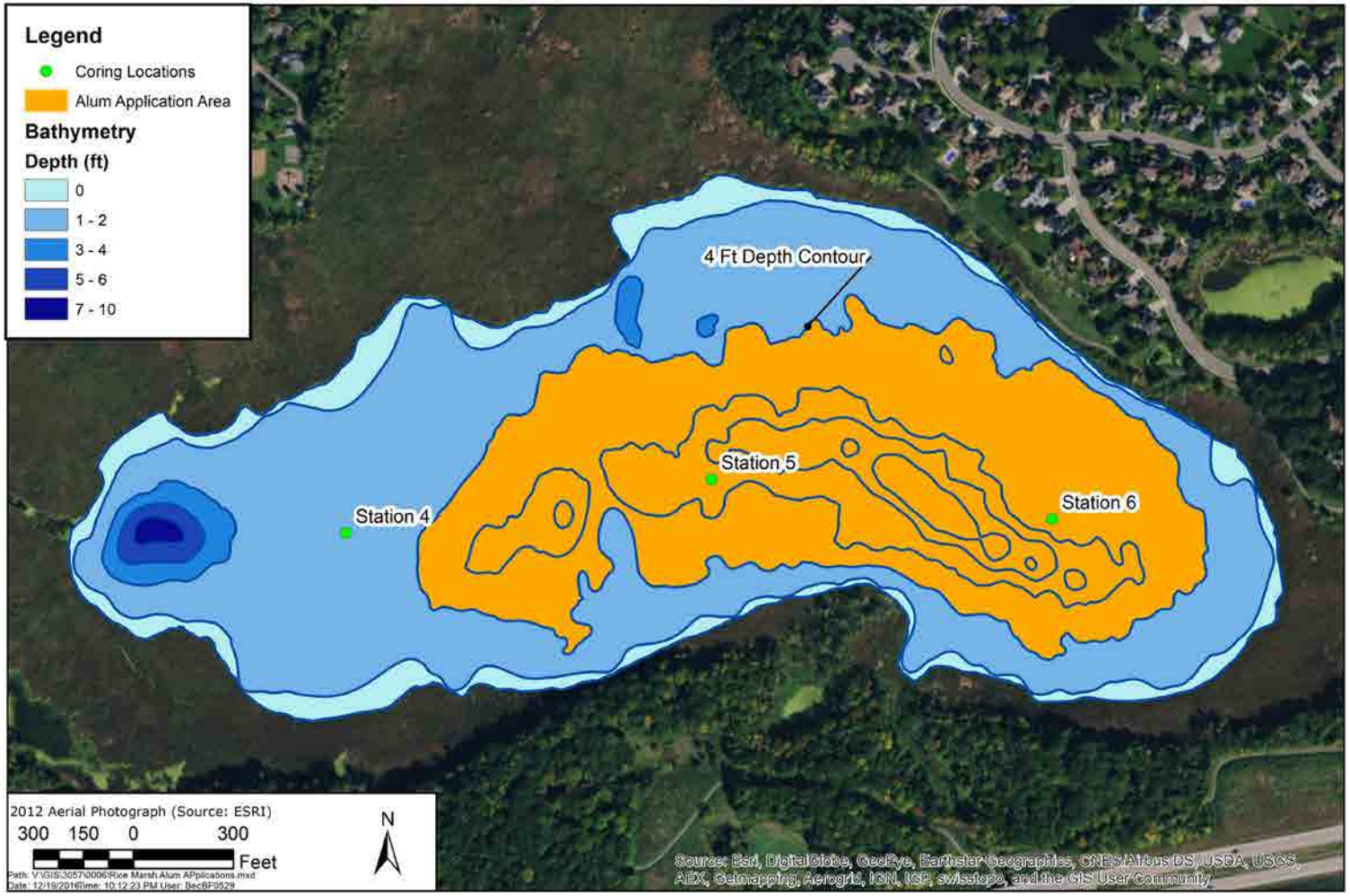


Figure 1. Alum application area for Rice Marsh Lake.

Figure 2. Rice Marsh Lake: Alum Application Coverage 9/25/18

METHODS

To evaluate internal phosphorus release and sediment chemistry, a gravity sediment coring device (Aquatic Research Instruments, Hope ID) equipped with an acrylic core liner (6.5-cm ID and 50-cm length) was used to collect sediment in February, 2016 and again in February 2020 following the initial alum treatment (Figure 1). Three intact sediment cores were collected from station 5 for determination of P release rates under anaerobic conditions. Additional sediment cores were sectioned vertically at 2-cm intervals over the upper 10-cm layer and 5-cm intervals below 10 cm to evaluate variations in sediment physical-textural and chemical characteristics (Figure 3).

Claire Bleser
Riley Purgatory Bluff Creek
Watershed District
July 29, 2020

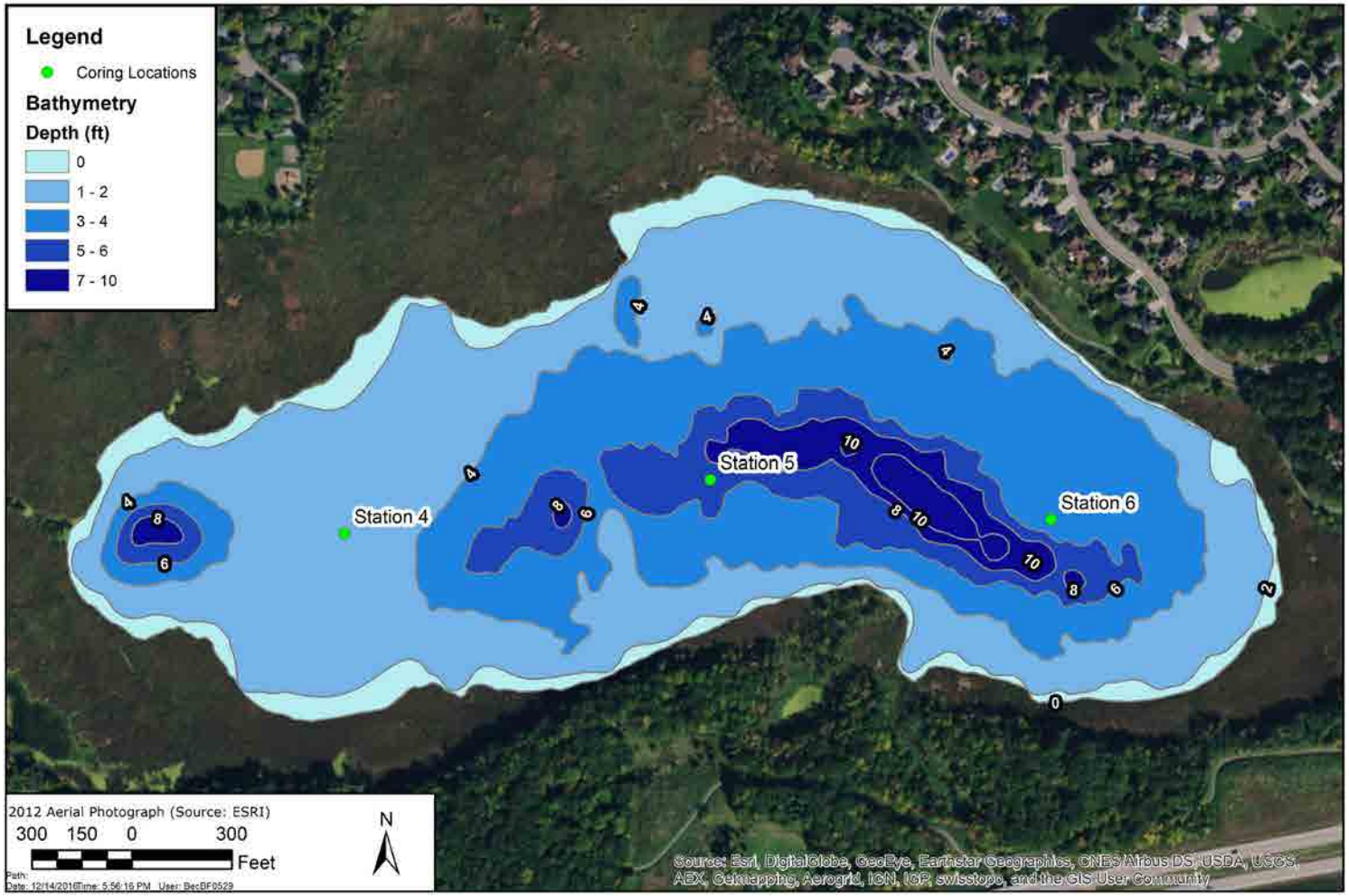


Figure 3. Sediment sampling locations on Rice Marsh Lake

PHOSPHORUS RELEASE AND INTERNAL PHOSPHORUS LOADING

Previous measurements of phosphorus release rates in 1988 and 2004 were reported to be greater than 20 mg/m^2/day (Barr 2016). Wenck also measured anaerobic and aerobic release rates in 2016, which were 6.3 mg/m^2/day and 0.13 mg/m^2/day, respectively. The rates measured by Wenck are substantially lower than those previously measured, however, it is unclear if similar methodologies were used to measure release rates in each study, which makes direct comparisons difficult. According to measurements conducted by Wenck Associates, anaerobic release rates are moderately high suggesting that an internal load reduction would have a substantial impact on the nutrient budget.

Following the initial alum treatment in 2016, sediment P release was reduced by 85% (Figure 4). Surface water total phosphorus concentrations also demonstrated a 67% reduction in concentrations demonstrating the alum treatment was effectively controlling sediment P release resulting in improved water quality on the lake (Figure 5).

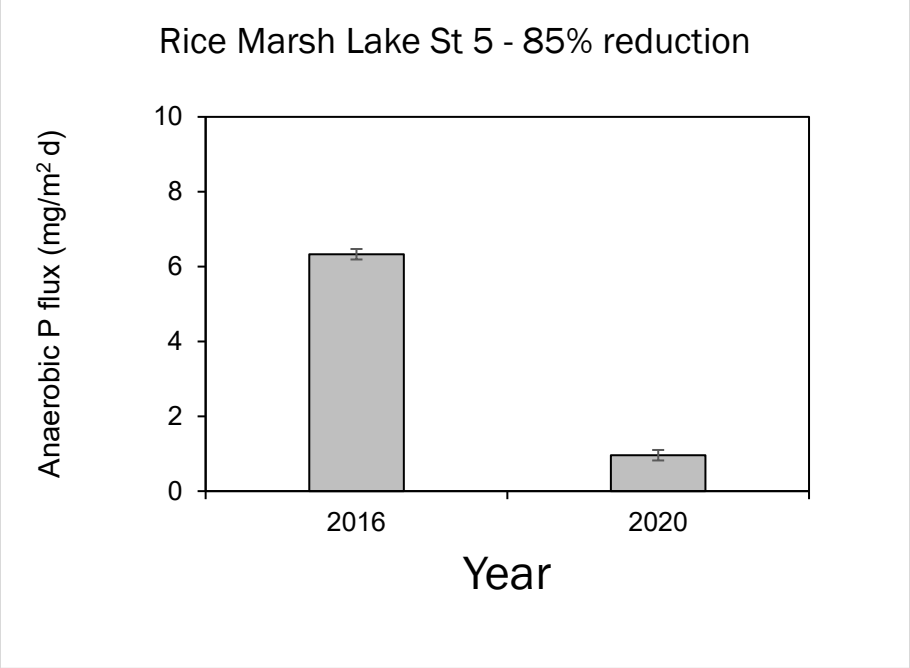


Figure 4. Sediment phosphorus release pre- and post-alum treatment.

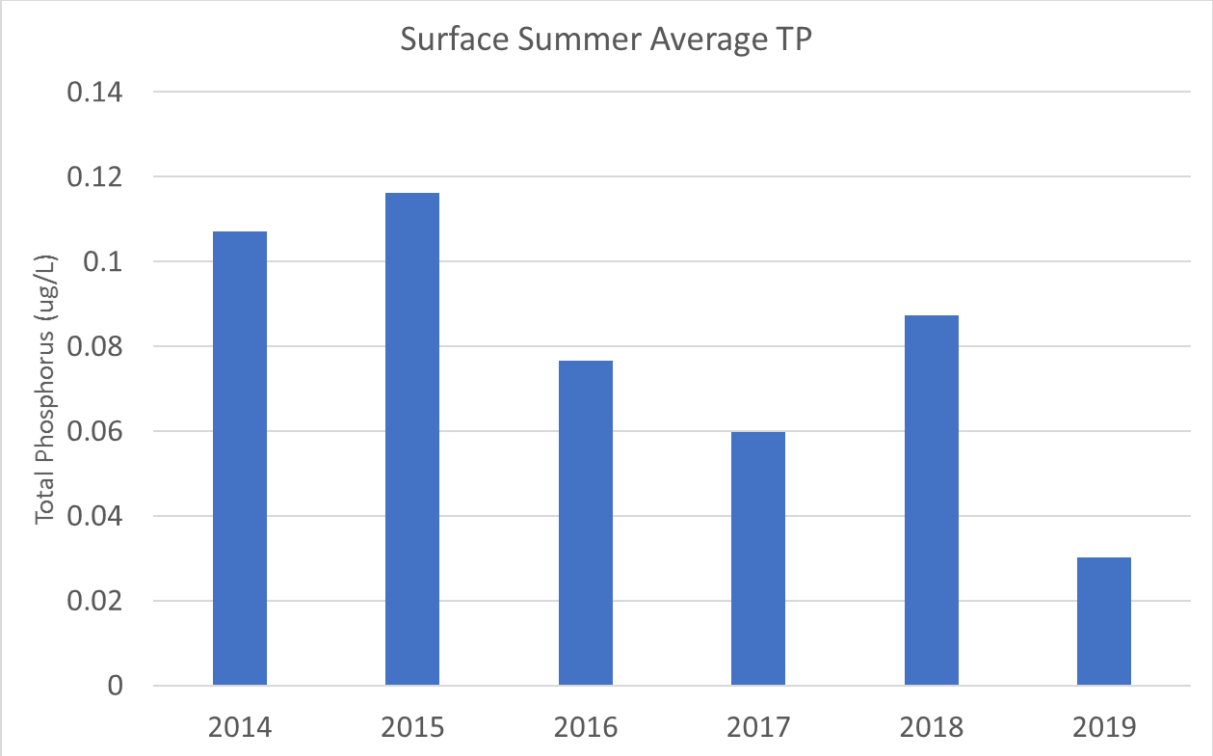


Figure 5. Summer average total phosphorus concentrations in Rice Marsh Lake.

SEDIMENT CHEMISTRY

In most lakes the primary factor driving internal loading in lakes is phosphorus bound to iron (iron-bound P) and phosphorus contained in labile organic matter (labile organic P). Vertical sediment chemistry profiles were measured in Rice Marsh Lake in addition to sediment phosphorus release rates. Results indicated that the phosphorus typically associated with anoxic sediment release (redox-P, primarily as iron bound P) was unusually low for a lake that has moderately high phosphorus release rates. Rice Marsh Lake, unlike many other lakes with high internal phosphorus loading, has sediments that are dominated by labile-organic P. The accumulation of large amounts of labile organic phosphorus is likely due to macrophyte growth throughout the lake and high algal growth due to Rice Marsh Lake's hypereutrophic state.

Following the alum treatment in 2016, aluminum bound P increased at Stations 5 and 6 where the alum treatment was completed (Figure 6). Station 4, which did not receive alum, remained the same as the previously monitored year. Redox-P, which was already low prior to the alum treatment, did not change significantly. Similarly, labile P phosphorus was not reduced following the alum treatment (Figure 6). This was not a surprise as alum is inefficient at converting labile P to Al-P and the liberation of phosphate from the labile P fraction is generally assumed to be slow. However, the P release from the sediment was significantly reduced.

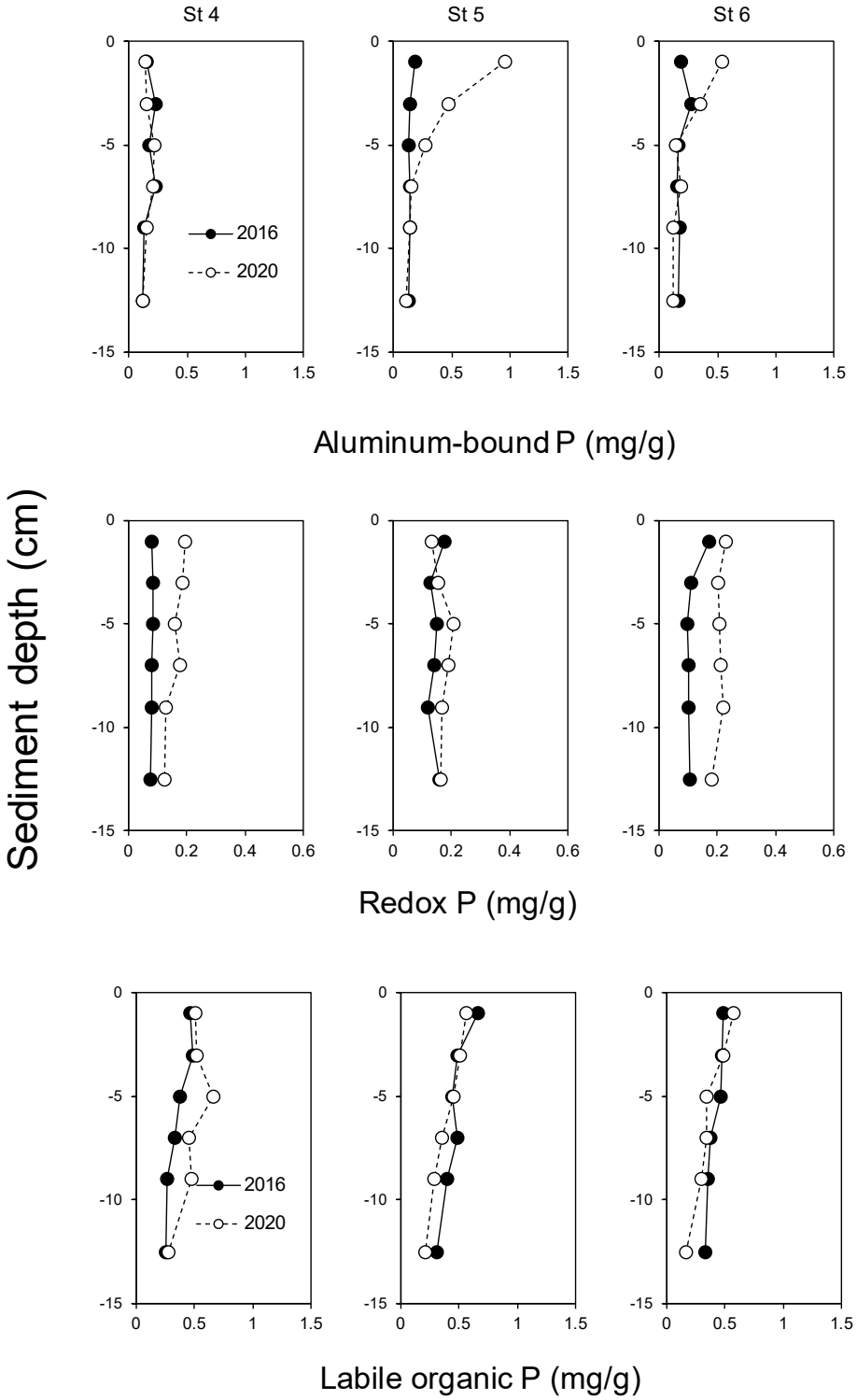


Figure 6. Sediment phosphorus fractions pre- and post-alum treatment in Rice Marsh Lake.

Claire Bleser
Riley Purgatory Bluff Creek
Watershed District
July 29, 2020

SUMMARY AND RECOMMENDATIONS

The 2016 alum treatment on Rice Marsh Lake reduced sediment P release by 85% percent thereby reducing surface water TP by 65%. Rice Marsh Lake is meeting water quality standards for the first time since the early 2000s. The alum treatment resulted in significant conversion of phosphate to Al-P which is not susceptible to recycling. However, since labile P was not significantly reduced as expected, continued monitoring of water quality is needed to determine when the next alum treatment is necessary. For planning purposes, the next alum treatment of 50 g Al/m^2 is scheduled to occur in 2022 (Table 1). If water quality holds in the current pattern, the District may consider delaying the next treatment until such time as water quality is degrading.

Table 1. Rice Marsh Lake alum application time table.

Year	2017	2022
Annual Dose (g Al/m^2)	50	50
Cumulative Dose (g Al/m^2)	50	100

The phosphorus source driving sediment P release remains unclear in Rice Marsh Lake. While labile P is the likely source of released P, that source may never be reduced even with future alum treatments as plants and algae continue to add to the sediment P pool. As the District moves forward with managing Rice Marsh Lake, they may need to consider alternatives to future alum treatments to maintain water quality. It is plausible that the shallow lake will reach a new equilibrium and maintain good water quality without future alum applications, the ultimate goal for lake managers. The District should continue to manage Rice Marsh Lake adaptively focusing on a better understanding of P sources to the lake.

REFERENCES

Barr Engineering. 2016. *Rice Marsh Lake and Lake Riley: Use Attainability Analysis*. Technical Report

Wenck 2018. Updated Rice Marsh Lake Alum Dosing. Technical Memorandum date June 29, 2018.