

# Riley-Purgatory-Bluff Creek Watershed District

Board of Managers Regular Meeting

*Wednesday, June 5, 2019*

**7:00pm Board Meeting**

DISTRICT OFFICE

18681 Lake Drive East

Chanhasen

## Agenda

1. **Call to Order** **Action**
2. **Approve Agenda** **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 Workshop, March 19, 2019*
  - b. *Board of Manager Meeting, May 1, 2019*
  - c. *Board of Manager Workshop, April 23, 2019*

5. **Citizen Advisory Committee** **Action**
  - a. *Report*
  - b. *Motion*

### 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 May Staff Report
- b. Accept May Engineer's Report (with attached Inspection Report)
- c. Permit 2018-028: Oak Point elementary Parking Lot – Approve permit modification as presented in the proposed Board action of the permit report
- d. Permit 2018-043: Control Concepts – Approve permit modification as presented in the proposed Board action of the permit report
- e. Permit 2018-062: Lower Riley Creek Stabilization Project - Approve exception and permit as presented in the the proposed action of the permit report.

- f. Permit 2019-019: Sheldon Place – Approve permit as presented in the proposed Board action of the permit report
- g. Award 2019 Duck Lake Watershed Tree Installation Contract

**7. Action Items**

**Action**

- a. Pulled consent items
- b. Accept April Treasurer’s Report
- c. Approve Paying of the Bills
- d. Approve the DNR flood mitigation grant for 750 Pioneer Trail Resolution 2019-017
- e. Approve MAWD Summer Tour Attendees
- f. Approve Professional Services for
  - i. District Engineer
  - ii. Pool of Engineers
  - iii. Legal
  - iv. Accounting
  - v. Audit

**8. Discussion Items**

**Information**

- a. Report of Personnel Committee
- b. Report of Governance Committee
- c. Update on Flood Mitigation Grant at Pioneer Trail
- d. Rules update
- e. Wakeboard Surfing
- f. MN Lakes and River Advocates
- g. Minnesota Association of Watershed Responsibility

**9. Upcoming Board Topics**

- a. Budget Workshop

**10. Upcoming Events**

**Information**

- Smart Salting for Property Managers, June 5th, 9am-1:30pm, 18681 Lake Drive East
- Sustainable Lawns: Flowers and Fescues workshop, June 5th, 6:30-8pm, Bloomington Public Works
- Walk with the Watershed, June 7th, 12-1pm, Bluff Creek Trail
- Community Planting Event, June 8, 9am-1pm, Scenic Heights School Forest
- Wetland Walk, June 11th, 6-8pm, 18681 Lake Drive East
- Turfgrass Maintenance Training and Certification, June 18, 8am-2:30pm, Bloomington Public Works
- Boat Rides on Lake Riley, 50th Anniversary Event, June 22, 2-5pm, Riley Lake Beach

- Personnel Committee Meeting, June 24, 2019, 4:00pm, 18681 Lake Drive East
- Minnesota Association of Watershed District Summer Tour, June 26-28, Moorehead Minnesota
- Citizen Advisory Committee Meeting, June 17, 2019, 6:00pm, 18681 Lake Drive East
- Governance Committee Meeting, TBD, 18681 Lake Drive East
- Regular Board Meeting, July 10, 2019, 7:00pm, 18681 Lake Drive East

## MEETING MINUTES

### Riley-Purgatory-Bluff Creek Watershed District

March 19, 2019, Joint Workshop of the RPBCWD Board of Managers and City of Eden Prairie

#### Present

- 1 **Eden Prairie City Council:** Mayor Ron Case, Council Members Brad Aho, Kathy Nelson, Mark Freiberg, and PG  
2 Narayanan
- 3 **Eden Prairie City Staff:** City Manager Rick Getschow, Police Chief Greg Weber, Interim Fire Chief Kevin Schmieg,  
4 Public Works Director Robert Ellis, Community Development Director Janet Jeremiah, Parks and Recreation Director Jay  
5 Lotthammer, Administrative Services/HR Director Alecia Rose, Communications Manager Joyce Lorenz, City Attorney  
6 Ric Rosow, and Recorder Katie O'Connor
- 7 **RPBCWD Managers:** Jill Crafton, Treasurer; Larry Koch; Dorothy Pedersen, Vice President; Dick Ward, President;  
8 David Ziegler, Secretary
- 9 **RPBCWD Staff:** Claire Bleser, RPBCWD Administrator; Amy Herbert, Amy Herbert LLC, Recorder; Terry Jeffery,  
10 Project and Permit Manager
- 11 **Other Attendees:** Pete Iversen, RPBCWD CAC; Lori Tritz, RPBCWD CAC; Ken Wencl, Chanhassen Resident;  
12 Marilynn Torkelson, RPBCWD CAC; Brian Maloney, LRIA; Rod Rue, City of Eden Prairie; Bill Satterness, Friends of  
13 Red Rock Lake; John Tyler, Mitchell Lake Association
- 14

#### 1. Workshop

15 The joint workshop between the Riley Purgatory Bluff Creek Watershed District (RPBCWD) Board of Managers  
16 and the City of Eden Prairie was called to order at 5:30 p.m. on Tuesday, March 19, 2019, in the Heritage Room  
17 at Eden Prairie City Hall, 8080 Mitchell Road, Eden Prairie, MN.

18 After introductions and opening remarks by the City of Eden Prairie and the RPBCWD, Administrator Bleser  
19 displayed a PowerPoint presentation summarizing the District's 10-Year Watershed Management Plan and work  
20 done by the District in 2018. She talked about the District's goals, objectives, and programs. Administrator Bleser  
21 gave an overview of the District's permit program and noted that in 2018 there were 76 permits granted by the  
22 District. She talked about Aquatic Invasive Species (AIS), including AIS present in the watershed, such as the  
23 zebra mussels discovered in Lake Riley in 2018, and carp management in Rice Marsh Lake, Lake Susan, and  
24 Purgatory Creek Park. She talked about AIS education, management, and prevention strategies. Administrator  
25 Bleser briefed the group about the 2018-2019 winter fish kills on Duck Lake and Rice Marsh Lake and the 2018  
26 bluegill fish stocking.

27 Administrator Bleser summarized the watershed's 2018 lake water quality and creek health data. Eden Prairie  
28 Council Member Kathy Nelson suggested District staff consider reaching out via a direct mailing to lakeshore  
29 owners within the watershed to educate the residents about healthy-watershed tips and techniques to remember  
30 when getting their lawn ready this spring.

31 Administrator Bleser talked about the District's Cost-Share Program, volunteer program, and youth outreach  
32 program. She summarized the District's wetland management and wetland inventory programs. Administrator  
33 Bleser noted that the District is involved in stormwater pond research with the University of Minnesota. She

34 highlighted District projects within the City of Eden Prairie boundaries that took place in 2018 or are in progress.  
35 Administrator Bleser highlighted the Duck Lake Partnership project and the District's goal of working with  
36 residents in the Duck Lake subwatershed to construct 6 priority rain gardens, and 13 non-priority rain gardens and  
37 install 58 rain barrels and 10 down spout raingardens.

38 There was a brief discussion about educating residents on things they can do to improve water quality. RPBCWD  
39 staff answered questions and fielding comments from the City of Eden Prairie council members. Mr. Jeffery  
40 talked in further detail about the District's permitting process.

41 Eden Prairie Mayor Ron Case thanked the RPBWD Board and staff for their work and their participation in this  
42 evening's workshop.  
43

## 2. Adjourn

44 Mayor Case adjourned the workshop at 6:40 p.m.  
45

46 Respectfully submitted,  
47

48  
49 \_\_\_\_\_  
50 David Ziegler, Secretary

**MEETING MINUTES**

**Riley-Purgatory-Bluff Creek Watershed District**

**May 1, 2019, RPBCWD Board of Managers Monthly Meeting**

PRESENT:

Managers: Jill Crafton, Treasurer

Larry Koch

Dorothy Pedersen, Vice President

Dick Ward, President

David Ziegler, Secretary

Staff: Claire Bleser, RPBCWD Administrator

Michelle Jordan, Communication and Project Manager

Joshua Maxwell, Water Resources Coordinator

Louis Smith, Attorney, Smith Partners

Scott Sobiech, Engineer, Barr Engineering Company

Other attendees: Greg Hawks, Chan. Env. Comm.

Laurie Susla, LLCA

Elizabeth Henley, Smith Partners

Joann Syverson, Chanhassen Resident; LLCA

Ryan Majkrzak, Lake Riley Improvement Assoc.

Marc Syverson, Chanhassen Resident; LLCA

Peggy Moeller, Redpath & Co.

Lori Tritz, Chair, CAC

**1. Call to Order**

1 Manager Ward called to order the Wednesday, May 1, 2019, Board of Managers Monthly Meeting at 6:59 p.m. at  
2 the District Office, 18681 Lake Drive East, Chanhassen, MN 55317.

**2. Approval of the Agenda**

3 President Ward commented that managers have been given a copy of Resolution 2019-016, which was in the  
4 packet incorrectly labeled as 2019-015. He announced that Consent Agenda item 7e – Award Hyland Lake Alum  
5 quote – needs to be moved to Action Items as 8g. President Ward added agenda item 9f – Discussion of adding a  
6 workshop to the Board’s calendar. Manager Koch requested removing from the Consent Agenda item 7a – Accept  
7 April Staff Report, 7b -Accept April Engineer’s Report (with attached Inspection Report), 7d – Approve Going  
8 out for Bids for Lower Riley Creek Restoration Project, 7g – Approve Change Order 1 for Bluff Creek Southwest  
9 Tributary Restoration Project, and 7h – Approve Permit 2019-011 Westwind Plaza Chase Bank with Staff  
0 Recommendations. President Ward added these items to the agenda under Action Items.

1 Manager Crafton moved to accept the agenda as amended. Manager Ziegler seconded the motion. Upon a vote,  
2 the motion carried 5-0.  
3

### 3. Audit Report

4 President Ward introduced Peggy Mueller of Redpath and Company to talk about the draft audit report prepared  
5 for and provided to the District. She explained that the Board needs to take action to approve the audit report and  
6 the response of findings.

7 Ms. Mueller described the reports issued by Redpath. She summarized the first one, the Opinion on Financial  
8 Statements. She reminded the Board that the financial statements are the responsibility of management, and the  
9 auditor's responsibility is to give an opinion on the fair presentation of those financial statements. Ms. Mueller  
0 stated that Redpath follows GAAS, Generally Accepted Auditing Standards, in performing the audit. She stated  
1 that Redpath's objective is to plan and obtain reasonable assurance that the District's financial statements are free  
2 of material misstatements. She announced that again this year the District receives an unmodified, or clean,  
3 opinion on the financial statements. Ms. Mueller added it is the highest level of opinion achievable. She reviewed  
4 the report in detail.

5 Ms. Mueller presented on the Internal Control Report. She noted that Redpath does not audit the District's internal  
6 control but considers it as the audit is performed. She announced that the District receives a clean report and there  
7 are no internal control findings.

8 Ms. Mueller talked about the Legal Compliance Control Report. She stated the District receives one Legal  
9 Compliance finding, Finding 2018-001, regarding notice for Board meetings. Ms. Mueller pointed out the draft  
0 response to finding and stated that Redpath seeks either approval of or amendment of the draft response this  
1 evening so Redpath can finalize and issue reports. She read aloud the draft response. President Ward and Attorney  
2 Smith commented. Manager Crafton moved to accept the Statement of Opinion and response to finding. Manager  
3 Pedersen seconded the motion. Manager Koch moved to amend the motion to add language that Manager Koch  
4 and Manager Ziegler were not on the Board of Managers as of August 6, 2018. Manager Ziegler seconded the  
5 motion. The motion to amend carried 5-0. President Ward called the question for the amended motion. The  
6 motion to amend carried 5-0.

7 Ms. Mueller presented on the Communications Governance Report. She said there are no findings.

8 She commented that regarding six accounting standards that are yet to be implemented, GASB 87 on leases in  
9 terms of how leases are reported has potential to impact the District. Ms. Mueller said she will work with  
0 Administrator Bleser this summer so that the District will be ready by January 1, 2020, to implement changes if  
1 necessary.

2 Ms. Mueller thanked everyone from the District who assisted Redpath during the audit. She responded to  
3 questions, including Manager Koch's questions, including his question about when Redpath became the District's  
4 accountant among many other questions.

5 Manager Ziegler moved to accept the audit. Manager Pedersen seconded the motion. Upon a vote, the motion  
6 carried 4-1 [Manager Koch voted against the motion].

### 4. Matters of General Public Interest

7 President Ward explained the procedure for raising matters of general public interest and opened the floor.

8 Ms. Laurie Susla, Chanhassen Resident, commented that last month she didn't tell the Board that the Lotus Lake  
9 Conservation Alliance (LLCA) since 2012 has contributed \$70,000 toward AIS inspections as Lotus Lake. She  
0 said the group covers inspections from Labor Day until ice-in. Ms. Susla noted that the time of year from Labor

Day to ice-in is critical for inspections. She noted that the amount of AIS funding from the District has been the same each year since the funding started. Ms. Susla said it is difficult for a small non-profit to raise \$10,000 per year for inspections, and she asked the Board to consider this information.

**5. Approval of Minutes**

**a. April 3, 2019, RPBCWD Board of Managers Public Hearings and Monthly Meeting**

Manager Koch noted that on page 5, under item 11, he had requested that the language from the Resolution be inserted and he asked for it to be included in the final minutes. Manager Ziegler requested additional language on page 2, under item 4, to include the Regenerative Air Sweeper’s total cost of \$237,990. He requested a change on page 5, item 12c, so the sentence reads, “...the MNDNR has not approved the lake changes.” He had an edit to the last line of the first paragraph of 12c, so the sentence reads, “...the application to be revised and resubmitted.” Manager Ziegler also asked for clarification of the votes on page 6, item 12e, to clarify which vote was for what motion.

Manager Ziegler moved to accept the minutes as revised. Manager Pedersen seconded the motion. The motion carried 5-0.

**6. Citizen Advisory Committee (CAC)**

Ms. Lori Tritz, CAC Chair, reported that the CAC met on April 15 to advise, act, lead, and learn. She summarized the learning presentation about ground water that was given by the Carver County WMO. Ms. Tritz talked about her participation and role in organizing the second annual metro-wide environmental commission conference held April 13. She reported on topics covered at the conference, including problems with rain garden maintenance. She said the CAC Landscaping Committee is working to develop a rain garden maintenance guide, which will be piloted for the Duck Lake Project.

Ms. Tritz, referring to a raingarden discussion noted in the RPBCWD Board of Managers April 3, 2019, minutes, said the CAC believes rain gardens are worth the project costs even though they may capture less phosphorous compared to other Best Management Practices. She said rain gardens also recharge the aquafer, filter water, and provide wildlife habitat.

She reported on the CAC’s discussion on AIS and said AIS will be the topic of the CAC’s next meeting.

Ms. Tritz announced that Adopt-a-Drain is anticipated to launch soon, with only a few more contracts needing signing. She said the CAC hopes that by next month the group will be identifying projects for Adopt-a-Drain. Ms. Tritz said that the CAC subcommittees presented its charters at the last meeting. Manager Koch asked if the CAC has looked into or would consider looking into what could be done to make sure the rain gardens the District has funded are functioning. Ms. Jordan said the District conducted the first inspections of cost-share funded rain gardens two years ago and will do some this year, too. Administrator Bleser added that last year a Master Water Steward worked to guide the maintenance of the rain garden installed at Family of Christ Lutheran Church in Chanhassen. Ms. Jordan said that rain garden was inspected by the District.

President Ward noted that Manager Crafton will be attending the May 20 CAC meeting.

**7. Consent Agenda**

Manager Koch moved to adopt a resolution resolving to approve the Cooperative Agreement with the City of Eden Prairie and the Lower Minnesota River Watershed District for the Lower Riley Creek Restoration Project

6 and authorize the President and other authorized officers to execute that agreement on behalf of the District and to  
7 deliver that agreement, as signed, to the City of Eden Prairie and the Lower Minnesota River Watershed [agenda  
8 item 7c], and he further resolved that Change Order 1 for Bluff Creek Southwest Tributary Restoration Project be  
9 hereby approved [item 7g], and he further resolved that the Permit 2019-017 6650 Pawnee Drive with the  
0 resolutions set forth in the staff report be hereby adopted and **those resolutions be set forth in the minutes**, and he  
1 resolved that Permit 2019-018 for 6657 Deerwood Drive be approved with the resolutions set forward in the staff  
2 report and **those resolutions to be set forth in the minutes**. Manager Ziegler seconded the motion. Administrator  
3 Bleser noted that the Change Order 1 for Bluff Creek Southwest Tributary Restoration Project was moved to an  
4 Action Item. Manager Koch moved to amend his motion to approve Task Order 25b for Duck Lake Water Quality  
5 Improvement Project Design and Construction Administration [item 7f] instead of Change Order 1 for Bluff  
6 Creek Southwest Tributary Restoration Project. Manager Ziegler seconded the motion to amend. Upon a vote, the  
7 motion carried 5-0.

**8. Action Items**

**a. Accept March 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 Treasurer’s Report. Manager Ziegler seconded the motion. Manager Koch asked a series of questions about the report. Staff responded. Upon a vote, the motion carried 5-0.

**b. Approve Paying of Bills**

Manager Ziegler moved to pay the bills. Manager Crafton seconded the motion. Manager Koch had a question about the Smith Partners invoice. Attorney Smith responded. Upon a vote, the motion carried 5-0.

**c. Accept Audit Report**

See action taken in Agenda Item 3.

**d. MAWD Participation Clarification and Per Diem**

President Ward said this is more a matter of clarification regarding what items the managers of the Board get a per diem for or not. Manager Koch said he thinks the Board should come up with a policy and could discuss this item in a governance workshop. Attorney Smith commented that the District’s Governance policies provide language and a procedure guiding the Board on this matter, and he read the language aloud. The Board agreed it this topic should be a future discussion item.

**e. Direct Staff to Move Forward in Engaging with St. Hubert Leadership for Opportunity Project**

Ms. Jordan stated that staff is seeking Board direction on whether to continue pursuing this proposal. She provided background on the opportunity, describing the site, the malfunctioning catch basin, and erosion. Ms. Jordan described the potential campus-wide project and went into detail about the project and staff’s review of the possible project, including its criteria score of 31. She noted that the project would be on private property. Ms. Jordan said a high-level construction estimate for the campus-wide project is \$199,000-\$277,000.

Ms. Jordan stated that if the Board is interested in moving forward, the next step is for District staff to re-engage the school leadership regarding the school’s interest in participating in the project and the level of participation. She noted that the project would require the District to go through a plan amendment, and District staff would look for grant opportunities. Ms. Jordan noted the project would be slated for 2020.

The managers discussed the opportunity and concerns, such as the project being located on private property and what the school’s short and long-range plans are for the property.

Manager Ziegler moved to direct staff to engage with St. Hubert staff to see the school’s level of commitment, including financial, to this opportunity project. Manager Pedersen seconded the motion. Upon a vote, the motion carried 5-0.

President Ward adjourned the meeting for a brief break at 8:43 p.m.

President Ward called the meeting back to order at 8:47 p.m.

**f. Adopt Resolution 2019-015 Updating the Financial Assurance Schedule to Include Chloride Management**

Engineer Sobiech said that in front of the managers is a proposed updated financial assurance. He explained that the only change proposed is under Rule J, stormwater management. Engineer Sobiech noted that toward the end of the second column, a \$1,000 chloride management plan financial assurance is added. He said that the current financial assurance schedule doesn’t include a specific item related to the chloride management plan, which was incorporated into the District’s rules at the end of last year.

Engineer Sobiech said staff and legal counsel propose the District update its financial assurance schedule so that a \$1,000 fee is withheld until a chloride management plan is in place.

Manager Ziegler moved to adopt Resolution 2019-015 Updating the Financial Assurance Schedule to Include Chloride Management. Manager Pedersen seconded the motion. Manager Koch was concerned that \$1,000 wouldn’t be high enough. Engineer Sobiech said the only other WMO he knows of that has a chloride management requirement is Nine Mile Creek, and Nine Mile has a \$5,000 financial assurance requirement regarding the chloride management plan. He said that Nine Mile Creek has a creek impaired for chloride.

Attorney Smith talked about the purpose of the financial assurance, which is to ensure compliance. He addressed how parts of projects fall under different timetables and how developers are interested in financial assurances being released as soon as they can.

Manager Koch moved to amend the motion to revise the Chloride Management financial assurance to \$5,000. Manager Crafton seconded the motion to amend. Upon a vote, the motion to amend carried 5-0.

President Ward called the question on the amended motion. By call of roll, the motion carried 5-0.

<i>Manager</i>	<i>Aye</i>	<i>Nay</i>	<i>Absent</i>	<i>Abstain</i>
Crafton	X			
Koch	X			
Pedersen	X			
Ward	X			
Ziegler	X			

5 **g. Adopt Resolution 2019-016 Resolution for the Hyland Lake Alum Treatment**

6 Administrator Bleser said the Board packet includes the project quote and the Cooperative Agreement  
 7 with Three Rivers Park District and a resolution to award the project when Three Rivers Park District is  
 8 able to sign off on the project. Administrator Bleser provided details about the Hyland Lake alum  
 9 treatment project and the project bids. She explained that the Three Rivers Park District will provide the  
 0 funding to the District, which is the nature of the Cooperative Agreement.

1 Manager Pedersen moved to adopt Resolution 2019-016 Hyland Lake Alum Project. Manager Crafton  
 2 seconded the motion. By call of roll, the motion carried 5-0.

<i>Manager</i>	<i>Aye</i>	<i>Nay</i>	<i>Absent</i>	<i>Abstain</i>
Crafton	X			
Koch	X			
Pedersen	X			
Ward	X			
Ziegler	X			

3  
 4 **h. Accept April Staff Report**

5 Manager Pedersen moved to accept the April Staff Report. Manager Ziegler seconded the motion.  
 6 Manager Koch raised the questions he had regarding the staff report. Administrator Bleser responded.  
 7 Manager Koch asked questions. Administrator Bleser responded. Manager Koch asked for clarification of  
 8 the house numbers for the properties being purchased for the wetland restoration project. He noted that  
 9 the addresses reflected in the meeting minutes are different from the addresses reflected in the staff report.  
 0 Administrator Bleser said she will double check and make any necessary corrections. Manager Ziegler  
 1 noted a correction to be made on page 12. Manager Ziegler moved to accept the staff report as revised.  
 2 Manager Crafton seconded the motion. Upon a vote, the motion to accept the revised minutes carried 5-0.

3 **i. Accept April Engineer Report**

4 Manager Crafton moved to accept the April Engineer’s report as submitted. Manager Pedersen seconded  
 5 the motion. Manager Koch asked questions. Engineer Sobiech responded. Upon a vote, the motion carried  
 6 5-0.

7 **j. Approve Going out for Bids for Lower Riley Creek Restoration Project**

8 Administrator Bleser said the meeting packet includes a summary of the bid. Manager Ziegler moved to  
 9 authorize staff to go out for bids for the Lower Riley Creek Restoration Project. Manager Crafton  
 0 seconded the motion. Manager Koch asked questions. Administrator Bleser responded. Upon a vote, the  
 1 motion carried 5-0.

2 **k. Approve Change Order 1 for Bluff Creek Southwest Tributary Restoration Project**

3 Engineer Sobiech described the reason for the change order. He explained that in November-December  
 4 the U.S. Army Corps of Engineers didn’t issue their permit as they had indicated they would and instead

5 required an additional field investigation for cultural resources be conducted. Engineer Sobiech stated that  
6 the field investigation can't be done in frozen conditions and is scheduled to take place next week. He  
7 said that the contractor agreed to keep the bid open and has signed the contract but is asking for an  
8 additional five percent due to changes in union rate and to cover additional costs of materials and fuel.  
9 Engineer Sobiech said the contractor has asked for an extension of contract times for the project to be  
0 complete in 2020 instead of 2019, so basically the project has shifted a full year.

1 Manager Crafton moved to approve Change Order 1 in the amount of \$10,679.95 and to grant the  
2 extension to the contractor. Manager Ziegler seconded the motion. Manager Koch asked if there is a  
3 breach of contract issue and asked about the justifications that the contractor provided to support the five  
4 percent increase. Attorney Smith replied that he believes staff looked at the contract and believes the  
5 contract has basis because the watershed is requesting to extend the contract beyond the original contract  
6 times. Engineer Sobiech responded that the documentation for the changes in union rate wasn't officially  
7 available to the contractor until this week.

8 Manager Koch moved to amend the motion to make the approval contingent on staff receiving the  
9 supporting documentation from the contractor to justify the five percent increase. Manager Ziegler  
0 seconded the motion to amend. Upon a vote, the motion carried 5-0. President Ward called the question  
1 on the amended motion. Upon a vote, the motion carried 5-0.

2 **I. Approve Permit 2019-011 Westwind Plaza Chase Bank with Staff Recommendations**

3 Manager Ziegler moved to approve Permit 2019-011 with staff recommendations. Manager Pedersen  
4 seconded the motion. Manager Koch asked a question about the financial assurance for the chloride  
5 management plan. Engineer Sobiech responded. Manager Koch moved to amend the motion to add the  
6 \$5,000 financial assurance and to amend the recommendations to include the requirement to provide a  
7 chloride management plan. Manager Ziegler seconded the motion. Upon a vote, the motion carried 5-0.  
8 President Ward called the question on the amended motion. Upon a vote, the motion carried 5-0.

**9. Discussion Items**

9 **a. Report from Personnel Committee**

0 President Ward stated that the meeting packet includes a memo from the Personnel Committee, and he  
1 summarized the information in the memo. Manager Pedersen requested adding to the Committee's  
2 minutes at the bottom of page one, a reference to "work plan."

3 **b. Report from Governance Committee**

4 President Ward reported the Committee met twice in April and will meet in May. He said the Committee  
5 is two-thirds of the way through its review of the Governance Plan and anticipates completing the review  
6 this month.

7 **c. AIS Update– Staff Presentation**

8 Administrator Bleser, using PowerPoint slides, presented information on Aquatic Invasive Species (AIS)  
9 and the inspection plans from the City of Chanhassen and City of Eden Prairie. She reported that in regard  
0 to AIS inspections in Chanhassen, the District's contribution is \$27,275, the City of Chanhassen's  
1 contribution is \$20,679.72, and the Lotus Lake Conservation Alliance is \$12,275. Administrator Bleser  
2 said the inspection sites are at Lake Ann and Lake Susan on Fridays, Saturdays, and Sundays from May  
3 through Labor Day and on Lotus Lake May 18 to November 15.

4 Administrator Bleser said regarding AIS inspections in Eden Prairie, the District and the City have been

5 in discussions and the District will fund approximately \$25,000 and the City of Eden Prairie will fund  
6 approximately \$21,000. She added that the City will have an intern that will be working on AIS on a  
7 regular basis and will help with inspections as in-kind services. Administrator Bleser said the program  
8 will have inspections at Red Rock Lake or Mitchell Lake for one or two shifts a week from May 9-  
9 September 2 and at Lake Riley during the week starting May 9 and on the weekend after Labor Day. She  
0 said the District and LRIA are looking at increasing the inspection schedule.

1 Administrator Bleser talked about other initiatives staff is undertaking regarding AIS, including focusing  
2 on lake service providers, increasing the District's Adopt-a-Dock program, AIS lake surveys, AIS Plant  
3 Management, and carp management including blue gill stocking.

4 Manager Pedersen asked for Administrator Bleser's opinion on Lake Associations requesting more  
5 funding for inspections. Administrator Bleser responded that the District should consider all the factors of  
6 including timing and usage levels of the lakes and that she could see merit in increasing funds for  
7 inspections targeting key times and key targets, such as lake service providers. She talked about possible  
8 considerations for the program for the future.

9 President Ward said that it seems to him the best way to approach this issue is for the staff to develop and  
0 present a recommendation. Administrator Bleser said she is hearing direction from the Board to explore  
1 having a matrix and continue exploring for this season targeting the time when docks are being moved in  
2 and out by equipment and making sure there is an inspection program in place during those times.

3 **d. Wakeboarding Surfing Request**

4 Administrator Bleser introduced the topic by reminding the Board that Ms. Syverson has brought this  
5 topic to the District previously. Administrator Bleser said Ms. Syverson has concerns about the impacts of  
6 the boats' waves on the shoreline as well as safety concerns. Administrator Bleser said Ms. Syverson has  
7 presented this issue to the Chanhassen City Council about the issues arising from wakeboarding on Lotus  
8 Lake. Administrator Bleser said the City Council has asked the Lotus Lake Conservation Alliance for  
9 details about what it is proposing. She reported that she understands that the LLCA is looking to develop  
0 Boating Etiquette guidelines. She noted that the Board packet contains information that staff collected in a  
1 high-level review of research on water quality effects of wakeboarding. Administrator Bleser informed  
2 the Board that the City of Chanhassen has an ordinance in place requiring boats to be 100 feet from  
3 shoreline. She said some people feel that 100 feet is too little of a distance and the waves from the  
4 wakeboarding boats are causing shoreline erosion.

5 Administrator Bleser summarized findings of research about personal watercraft statutes and noted that  
6 wake surfing doesn't fall under the category of personal water craft. Administrator Bleser said LLCA  
7 conducted a survey of lake residents and two-thirds of respondents were concerned about safety and  
8 erosion effects from wakeboarding and one-third was not concerned. She said the staff would like  
9 direction from the Board if it wants staff to take any additional steps.

0 Manager Koch commented that he lives on Lotus Lake and has volunteered to serve on a task force to  
1 hear from lake users and to help develop lake use etiquette guidelines. He said he would like to see data  
2 about damage that is happening from or could happen from the waves from wakeboarding boats. Manager  
3 Crafton recommended residents start logging data about the areas of damage in order to provide a record  
4 of changes to the shoreline over time. Manager Koch raised the question on whether the District needs to  
5 do something to protect its investment in the Lotus Lake alum project, and whether wakeboarding impacts  
6 reduce the efficacy of the treatment.  
7

Ms. Syverson talked about her research findings, noting that water clarity is an issue as well. She said she is looking for support from this Board toward the City setting ordinances in place about wakeboarding because etiquette guidelines would not be enforceable. There was discussion, including the District’s jurisdiction. Attorney Smith stated that while the District does not have the authority to regulate surface use of the lake, it does have a charge to protect water resources, water quality, and the general watershed environment, so if the Board had information that was peer-reviewed literature that documented impact concerns, the Board would have a platform, if it wished to, for addressing the water resource impacts from this kind of activity and share that information with the jurisdictions that do have authority. He said that part of the basis would be that the District is taxing the property owners of the watershed to invest millions of dollars in water quality, so the District has a stake in their behalf for protecting that investment. Attorney Smith said that would be the nature of a comment, if the District wishes to comment, that is within the purview of the District’s purpose.

Administrator Bleser said she has a clear direction from the Board on how to move forward.

**e. Update on Internal Efforts to Improve Regulatory Program Efficiency**

Engineer Sobiech reported that he and Mr. Jeffery held a listening session on April 24. Engineer Sobiech said a survey and invites to the session went out to all permit applicants since 2014 and their consulting engineers. He said there were 12 survey results and 13 to 15 listening session attendees. Engineer Sobiech summarized the discussion, and he said most of the discussion focused on restricted sites and challenges posed by liner projects and the District’s current 5,000 liner feet threshold is too low and limits the cities abilities to do street repair projects.

Engineer Sobiech stated that there was consensus among the attendees in support of delegating more authority to District staff to approve permits so there is less of a delay. He reported that there is a meeting being coordinated with the TAC at the end of May to get additional feedback on these issues identified.

**f. Workshop Proposal**

President Ward proposed scheduling a Board workshop for later this month to discuss efficiency of meetings, the Board packet and such items. Manager Koch recommended that the District’s Legal Counsel attend this meeting, and all such meetings. He also recommended everyone put together ideas and issues with respect to the District’s operations and governance and someone collates those issues, so the Board has something to review and discuss.

**10. Upcoming Board Topics**

President Ward noted that upcoming Board topics include the selection of professional services, and he highlighted the District’s upcoming events.

**11. Upcoming Events**

President Ward highlighted upcoming events, including the RPBCWD’s Personnel Committee Meeting on May 17 at 1:00 p.m. at the District Office, Governance Committee Meeting on May 28 at 8:30 a.m. at the District Office, and the Board of Managers Regular Meeting on June 5 at 7:00 p.m. at the District Office.

Upcoming Events:

- Friday Lunch Hike with the Watershed, May 3, noon-1:00 p.m., Edenbrook Conservation Area, Eden Prairie

- RPBCWD at Eden Prairie Arbor Day Celebration, May 4, 2019, 9 a.m.-noon, Round Lake Park
- Grant Program Information Session, May 14, 6:30 p.m. – 7:30 p.m., District Office, 18681 Lake Drive East, Chanhassen
- Smart Salting for Property Managers, May 15, 9 a.m.-1 p.m., District Office, 18681 Lake Drive East, Chanhassen
- Personnel Committee Meeting, May 17, 2019, 1:00 p.m., District Office, 18681 Lake Drive East, Chanhassen
- RBPCWD at Bloomington Open House, May 18, 2019, 9 a.m.-noon, Bloomington Public Works Facility
- Sustainable Lawns: Fescues and Flowers (Public Workshop), May 21, 6:00 p.m.-7:30 p.m., Chanhassen Library
- Governance Committee Meeting, May 28, 8:30 a.m., District Office, 18681 Lake Drive East, Chanhassen
- Citizen Advisory Committee Meeting, May 20, 6:00 p.m., District Office, 18681 Lake Drive East, Chanhassen
- RBCWMD Board of Managers Regular Board Meeting, Wednesday, June 5, 7:00 p.m., District Office, 18681 Lake Drive East, Chanhassen

## 12. Adjourn

Manager Pedersen moved to adjourn the meeting. Manager Crafton seconded the motion. Upon a vote, the motion carried 5-0. The meeting adjourned at 10:28 p.m.

Respectfully submitted,

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David Ziegler, Secretary

## MEETING MINUTES

### Riley-Purgatory-Bluff Creek Watershed District

#### April 23, 2019 Workshop Meeting

#### PRESENT:

Managers: Jill Crafron, Treasurer  
Dorothy Pedersen, Vice President  
Larry Koch  
Dick Ward, President  
David Ziegler, Secretary

Staff: Claire Bleser, Administrator  
Terry Jeffery, Project and Permit Manager  
Michelle Jordan, Communications and Project Manager  
Maya Swope, Education and Outreach Coordinator  
Josh Maxwell, Water Resources Coordinator  
Zach Dickhausen, Water Resources Technician  
Scott Sobiech, Engineer  
Louis Smith, Counsel

Other attendees: Doug Thomas, Steve Christopher, Board of Water and Soil Resources

#### 1. Call to Order

President Ward called the special workshop meeting to order on Tuesday, April 23, 2019, at 1:00 p.m. at the University of Minnesota Landscape Arboretum, Chanhassen, MN. He noted that the sole item on the workshop agenda was to have a presentation and discussion about governance.

#### 2. Governance Presentation and Discussion

Doug Thomas asked each of the managers to describe their interest and motivations for serving on the board of managers. He reviewed principles of governance and process, Open Meeting Law, Data Practices Act, guidance on conflict of interest, and roles of board and staff.

Discussion ensued that included management of manager information requests, accountability and improvement processes, and ways to move forward with the District's mission.

*There being no further business, it was moved by Manager Pedersen, seconded by Manager Crafron, that the meeting of the Board of Managers be adjourned at 4:03 p.m. Upon vote, the motion carried, 5-0.*

Respectfully submitted,

David Ziegler  
Secretary

**Minutes: Monday, April 15, 2019**  
**RPBCWD Citizen's Advisory Committee Monthly Meeting**  
**Location: RPBCWD offices: 18681 Lake Street, Chanhassen**

**CAC Members**

Jim Boettcher	P	Peter Iverson	A	Sharon McCotter	P	Marilynn Torkelson	E
Scott Bryan	P	Daryl Kirt	A	Jan Neville	P	Lori Tritz	P
Anne Deuring	P	Denny Kopfmann	P	Joan Palmquist	P		
Barry Hofer	P	Matt Lindon	P	Samir Penkar	P		

Michelle Jordan	RPBCWD staff	P
Paul Moline	Guest Presenter from Carver County Water Management Organization	P
Dorothy Pedersen	Board of Managers	P

**Summary of key actions/motions for the Board of Managers:**

1. **Motion:** None

**I. Opening**

- A. **Call CAC meeting to Order:** President Lori Tritz called the meeting to order at 6:01 p.m. Welcome
- B. **Attendance:** As noted above.
- C. **Matters of general public interest:** None
- D. **Approval of Agenda:** Jim moved and Jan seconded to approve the agenda. Motion carried.
- E. **Approval of March 18, 2019 CAC Meeting Minutes:** Jan moved and Jim seconded to approve the March 18, 2019 CAC minutes. Motion carried.

**II. Learning Presentation:** Paul Moline from CCWMO presented on the topic of groundwater. A Water Management Organization is slightly different than Watershed District in that it is under the supervision of the County Board. Carver County adopted a groundwater plan in 2016 and is one of only two groundwater plans in the metro area. The shallowest ground water is found in sand layers and is easiest to access but is not predictable in quantity or quality. These sand layers can recharge in weeks, but are vulnerable to contamination. Top two aquifers are next easiest to access. The productivity varies and they are vulnerable to contamination. Old wells that have not been sealed properly can be a source of contamination of aquifers. Mt. Simon aquifer is the deepest and is the source for new wells although a permit is required to access it. Recharge is very slow at 10,000 years. It has very low vulnerability to manmade contamination, but natural arsenic can exist. It contains "vintage water" i.e. water that existed before 1953 that has no traces of tritium from bomb testing.

**III. Staff Report**

- A. Michelle reported that the staff-of-the-month next month will be Josh Maxwell, Water Resources Coordinator.
- B. There are lots of volunteer opportunities with the Watershed District: Ride-alongs, speakers bureau, data collection on lakes, shadowing wetland assessment.
- C. Duck Lake: The board approved ordering the project at their April meeting. Staff are working on next steps. The rain barrel pick-up is on April 27 and **we need volunteers**.
- D. Water Stewardship grants: The first residential grant application came in – a shoreline restoration on Mitchell Lake. The committee met and it scored in the range that requires adjustments. There were design issues, non-native plants, etc.
- E. Educator Mini Grants: There will be an info session in May promoting these grants as well as the watershed stewardship grants. Spread the word to your teacher friends. This program has been steadily growing. We are looking at possibly creating a water educators support group.
- F. We are looking at the evening of June 11 for a wetland walk. Should we walk first or have a sit down class first?

- G. Two turf alternative workshops coming up.
- H. Watershed Explorer Book has been successful. We brainstormed on educational kits: microscope cameras, explorer backpacks, paint tray squirt bottles.

#### IV. Commission Discussion

- A. **Board Meeting – April 3, 2019:** Lori reported that the Duck Lake build a road project got tabled because of dissatisfaction with flood levels and drain amendment mismanagement.

AIS discussion: There was much discussion on this topic and residents are eager to help. There was discussion about where the regulatory authority for AIS lies, and the costs associated. Our Lakes and Streams Subcommittee will present on this topic at the next meeting.

We will get an annual report distributed to the CAC and we can comment on it at the next meeting.

Is the Stewardship Grant scoring system working? There was discussion at the Board meeting that the Duck Lake Stormwater project was not economically sound. Street sweeping is an effective way to improve water. The Duck Lake project has additional benefits of groundwater filtration. Dollars per pound of phosphorus is one of many important factors. It all goes back to goals of 10 year plan, but is hard to quantify in dollars.

- B. **Metro-Wide Environmental Conservation report and follow up:** Last Saturday 60 participants and 27 cities met to discuss water, landscaping, organics, energy and transportation. There are many resources out there so no one needs to reinvent the wheel. Rain garden maintenance was big issue. MN Conservation Corps was mentioned as being a source for labor.
- C. **Adopt-a-Drain –** Michelle reported the website is finally up. Adopt-a-Drain is a project of Metro Watershed Partners (of which RPBCWD is part) and Hamline University. We put \$3000 a year into the partnership. Michelle demonstrated how we could adopt a drain on the website. We have up to \$7500 in the budget to cover sending packets to adopters containing a sign identifying the local waterway that is being protected. Michelle is currently working on getting contracts signed, so the earliest adopters won't get a packet yet. Michelle would like the drains on major roads removed from adoptability for safety reasons. We will begin promoting the program more actively after the contracts are signed.

#### V. Subcommittee Reports: Each subcommittee summarized their charter. See attached.

- A. Education and Outreach
- B. Lakes and Streams
- C. Stormwater
- D. Landscaping for Water

#### VI. Upcoming Events.

- A. RPBCWD Board of Managers meeting May 1, 7:00 pm, 18681 Lake Drive East
- B. RPBCWD CAC meeting May 20 at 6:00 pm, 18681 Lake Drive East
- C. Nature City Chalet 2019, April 26 – May 5. <http://citizenscience.umn.edu/2019-city-nature-challenge>
- D. Gathering Partners Master Naturalist Conference. <http://gatheringpartners.umn.edu>

#### VII. Adjourn CAC meeting: Jim moved and Jan seconded to adjourn the meeting. Motion carried. Meeting adjourned at 8:50.

#### Items for next month:

- Staff-of-the-month next month will be Josh Maxwell, Water Resource Manager.
- Lakes and Streams Subcommittee presentation on AIS
- Citizen lake monitoring – Sharon

# Key Takeaway from Freshwater Summit 2019

Barry Hoffer and Joan Palmquist

## Ideas related to speaker's bureau and our presentations

1. Think about how people relate to water: 78% of people have a personal connection to a specific body of water. Building public will is critical. See #1 under resources, below.
3. Not hard to talk to a variety of people if you understand their values and don't assume they are your values.
4. For our Landscaping for Water Quality: Check out great materials from the Idaho Washington Aquifer Committee (IWAC) and story of cross boarder efforts:  
<https://www.iwac.us/tag/pbac/>

## Resources:

1. The **Water Main** from American Public Media is a hub that brings people together, informs and expands perspectives, catalyzes new thinking and action, and builds community around water across the country. Amy Cole, the APM Managing Director of that program was a keynote speaker and included some interesting facts about water, including the 78% (mentioned above) came from the survey. The website can be accessed here: <https://www.thewatermain.org/> and the survey is here: <https://www.thewatermain.org/water-study?rq=study> **This is definitely worth looking at!**
2. **Stormwater Research Roadmap** for Minnesota: Researchers, practitioners, and agency and organizational leaders require a systematic and robust approach to identify knowledge gaps in stormwater management to help Minnesota best address research needs and direct resources efficiently and effectively. The goal of this component of the project is to develop an actionable stormwater research strategy or roadmap for the State for the next decade.  
[https://www.wrc.umn.edu/sites/wrc.umn.edu/files/stormwater\\_research\\_roadmap\\_-\\_11-26-18\\_submitted.pdf](https://www.wrc.umn.edu/sites/wrc.umn.edu/files/stormwater_research_roadmap_-_11-26-18_submitted.pdf)  
<https://www.wrc.umn.edu/stormwaterroadmap>
3. **Mae Davenport** mentioned several times: Mae is a PhD Professor, Department of Forest Resources Director, Center for Changing Landscapes. Publications include: Community Capacity to Engage in Water Protection and Restoration What matters most? <https://www.uwsp.edu/cnrap/UWEXLakes/Documents/programs/lakeleaders/crew12/Seminar2/Davenport-RoleOfOrganizationalCapacity.pdf>

## Miscellaneous:

1. July is Water month on MPR; lots of good programing and attention generating. *How do we tap into that?*

2. We know a lot more now about PFAs in our water and acceptable levels (Per and Polyfluoroalkyl Substances) including much more widespread impact on ground water of 3M storage facilities than originally expected.
3. Great story from Waconia where in conjunction with reconstruction of highway 5 they created a regional distribution zone, capturing and reusing water which incorporates 29 sites. Water sold at half price so there is incentive for businesses to belong.
4. Case from Rochester Public Utilities very interesting, and they actually had PSA spots featuring "Tips from Tony" <https://www.youtube.com/watch?v=AIHYEt6wECg>.

This case also demonstrates:

- a. The importance of long-range planning in managing water demand and supply (and of course the implied quality considerations). Rochester is growing rapidly, and consequently their water demands will be as well.
  - b. The interconnectedness of water needs with the communities around us. I believe they pull from some of the same aquifers that we pull groundwater from in the Twin Cities metro. This wasn't discussed, but seems to me that managing these issues long term is going to require all kinds of cooperation and partnership across the different geographies.
5. Barry attended a session on Normandale Lake interesting which described how they drained it to allow the winter temps to kill invasive vegetation (like what was done to Anderson Lake a few years ago). The focus of the presentation was on the community engagement and outreach they did to inform and engage the public on how they were managing such a visible public project.
  6. The last groundwater session spoke to promoting water conservation with interrelated programs across the population. They promoted a number of programs under the DNR and MPCA. Lots of good information on both websites. Also, the We are Water MN exhibit, a traveling exhibit organized by Minnesota Humanities Center which highlights local issues and stories wherever the exhibit goes.

*Overall a great event and opportunity to interact with those that share the same concerns and want to organize and work together to make a difference. Lots of great people and organizations doing amazing work!*

## RPBCWD May staff report

Administration		Staff update	Partners
<b>Accounting and Audit</b>	Coordinate with Accountant for the development of financial reports. Coordinate with the Auditor. Continue to work with the Treasurer to maximize on fund investments.	The Audit is complete and reports have been published on District website.	
<b>Annual Report</b>	Water Quality Fact Sheets are completed.	No new update.	
<b>Internal Policies</b>	Work with Governance Manual and Personnel Committees to review bylaws and manuals as necessary	<p>The personnel Committee met on May 17 - the committee will be reporting at the board meeting.</p> <p>The Governance Committee met May 28 to review Governance Manual - the committee will be reporting at the board meeting.</p>	
<b>Advisory Committees</b>	<p>Engage with the Technical Advisory Committee on water conservation, chloride management and emerging topics</p> <p>Engage with the Citizen Advisory Committee on water conservation, annual budget and emerging topics.</p> <p>Facilitate recruitment of CAC members for 2019.</p>	<p>The CAC met for their regular monthly meeting, May 20. Draft minutes are included in the board packet. Josh Maxwell presented on the District's carp management strategy.</p> <p>The CAC subcommittees continue to work on their goals and report back to the CAC body with their progress, ideas, and recommendations. (Updates included in CAC minutes).</p>	
<b>Membership</b>			
<b>District-Wide</b>			

<p><b>Regulatory Program</b></p>	<p>Review regulatory program to maximize efficiency. Engage Technical Advisory Committee and Citizen Advisory Committee on possible rule changes. Implement regulatory program.</p>	<p>9 permit applications received. Including 3 that were resubmittals of earlier applications. 2 permits has been issued administratively. 9 Applications are currently under review. Staff Jeffery has met with potential applicants on 1 pending project. See table at end of document for more details.</p>	
<p><b>Aquatic Invasive Species</b></p>	<p>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 as per the Riley Chain of Lakes Carp Management Plan. Review AIS inspection program. Keep abreast in technology and research in AIS.</p>	<p>Inspection report has begun. We will be launching a survey in June to lake association members to identify LSP “active” season as well to lake association leadership on AIS in general.</p>	<p>City of Chanhassen City of Eden Prairie University of Minnesota MN DNR Carver County</p>
<p><b>Cost-Share</b></p>	<p>Review program to determine efficiencies and needs. Recommend modification as necessary. Review applications and recommend implementation.</p>	<p>Approximately 12 community members attended the grants info session. The cost-share/Watershed Stewardship Grant committee reviewed two new applications. One (shoreline planting) was recommended for funding provided the applicant clear the project with the City of Eden Prairie. The application will then be forwarded to the District Administrator for final review and approval. The second application required further detail. Staff</p>	

		are communicating with the applicant. A third application was received past the monthly deadline and will be reviewed in June.	
<b>Data Collection</b>	<p>Continue Data Collection at permanent sites.</p> <p>Identify monitoring sites to assess future project sites.</p>	<p>Staff completed two creek monitoring and one lake monitoring sampling events.</p> <p>Assisted Chanhassen with CAMP program on Lake Susan.</p> <p>Carp gate was removed May 24th, 2019 due to high water and will be reinstalled when water recedes.</p> <p>Carp sampling on the PCRA has been hindered by high water. Staff were able to conduct two sampling events at the berm before high water conditions and removed almost 400 carp.</p> <p>Auto sampling units on upper Riley Creek under Powers and upper Bluff Creek under Galpin sampled multiple times this month. Staff will assess the pollutant loads and evaluate if future creek restoration is needed.</p> <p>WOMP stations: Continued bi-weekly sampling of the station.</p> <p>Continued purchasing, assembling, and coding ENVIRODIY parts for pond project data stations. Conducted first pond sampling event. Still waiting on sensors before installation of EnviroDIY units can be deployed.</p> <p>Staff assisted Wenck with the collection of sediment cores for the City of Eden Prairie.</p>	<p>Metropolitan Council</p> <p>City of Eden Prairie</p> <p>University of MN</p> <p>City of Chanhassen</p>

		<p>Bluegills were stocked early this month in Lake Lucy, Staring, Rice Marsh, Purgatory Creek Recreational Area to suppress carp recruitment.</p> <p>Three summer intern staff started work with water monitoring staff this month. The interns will continue to assist staff with regular monitoring and special monitoring projects, as well as wetland assessments throughout the summer.</p>	
<b>District Hydrology and Hydraulics Model</b>	<p>Coordinate maintenance of Hydrology and Hydraulics Model.</p> <p>Coordinate model update with LGUs if additional information is collected.</p> <p>Partner and implement with the City of Bloomington on Flood Evaluation and Water Quality Feasibility.</p>	<p>Staff, engineer and City will be meeting June 3.</p>	<p>City of Bloomington</p>
<b>Education and Outreach</b>	<p>Implement Education &amp; Outreach Plan, review at year end.</p> <p>Manage partnership activities with other organizations.</p> <p>Coordinate Public Engagement with District projects.</p>	<p>Staff Jordan and Swope visited Scenic Heights Elementary School on May 30 and taught lessons on watershed topics for 41 2/3 rd graders. Staff visited Cedar Ridge Elementary on May 8th and led an activity on aquatic macroinvertebrates with 40 students. Administrator Bleser and Staff Swope visited Clear Springs Elementary on May 22 and led a macroinvertebrate activity with 24 students.</p> <p>With the increased interest in school visits, staff are looking to engage volunteers in this programing for the 2019-2020 school year.</p>	<p>School visits:          Scenic Heights Elementary, Cedar Ridge Elementary, Clear Springs Elementary          Tabling:          City of Eden Prairie, City of Bloomington, Nine Mile Creek Watershed District          Smart Salt Parking          MPCA (funding), Fortin Consulting          Sustainable Lawns:</p>

		<p>The District hosted a Smart Salting for Property Managers pilot training with Fortin Consulting on May 15.</p> <p>Staff Swope tabled at the Eden Prairie Arbor Day festival and the Bloomington City Open House.</p> <p>Staff Swope co-hosted a “Sustainable Lawns: Flowers and Fescues” workshops with Nine Mile Creek Watershed and Carver County WMO on May 21st; there were 42 attendees.</p> <p>Staff were notified that the District has been selected as a 2019-2020 Minnesota GreenCorps member host site.</p> <p>Staff Jordan presented at the Vista’s at Bentz farm townhome association meeting about buffer and wetland best practices.</p> <p>Applications for Educator and Action grants continue to be received, reviewed, recommended, and processed.</p> <p>Staff continue to formalize and augment the volunteer program, including drafting a volunteer handbook.</p> <p>Staff continue to coordinate with other partners on implementing the Adopt a Drain program within District boundaries.</p>	<p>Nine Mile Creek Watershed District, Carver County Water Management Organization, City of Bloomington</p> <p>Adopt a Drain: Nine Mile Creek Watershed District, City of Eden Prairie, City of Bloomington, City of Minnetonka, Hamline University.</p>
<p><b>Groundwater Conservation</b></p>	<p>Work with other LGUs to monitor assess and identify gaps.</p> <p>Engage with the Technical Advisory Committee to identify potential projects.</p>	<p>No new update.</p>	<p>TBD</p>

	Develop a water conservation program (look at Woodbury model)		
<b>Lake Vegetation Management</b>	<p>Work with the University of Minnesota or Aquatic Plant Biologist, Cities of Chanhassen and Eden Prairie, lake association, and residents as well the Minnesota Department of Natural Resources on potential treatment. Implement herbicide treatment as needed.</p> <p>Secure DNR permits and contract with herbicide applicator.</p> <p>Lakes the District is monitoring for treatment include: Lake Susan, Lake Riley, Lotus Lake, Mitchell Lake, Red Rock Lake and Staring Lake.</p> <p>Work with Three Rivers Park District for Hyland Lake</p>	Surveys for curlyleaf pondweed have been performed. Two lakes were identified for treatment due to density of the CLP and also sequence of alum treatment for Lotus Lake. Red Rock and Lotus Lakes residents have been notified and treatment occurred on May 30.	<p>City of Eden Prairie</p> <p>City of Chanhassen</p> <p>University of Minnesota</p> <p>MNDNR</p>
<b>Opportunity Projects</b>	Assess potential projects as they are presented to the District	Staff have reengaged St. Hubert Catholic Community partners and are coordinating a meeting. They have also reached out to city and county representatives for interest in partnership.	St Hubert Catholic Community
<b>Total Maximum Daily Load</b>	<p>Continue working with Minnesota Pollution Control Agency on the Watershed Restoration And Protection Strategies (WRAPS).</p> <p>Engage the Technical Advisory Committee.</p>	No Updates	MPCA
<b>Repair and Maintenance Grant</b>	Develop and formalize grant program.	No Updates	
<b>University of Minnesota</b>	Review and monitor progress on University of Minnesota grant.	Field season has begun. May 2019 activities included getting gear ready	Stormwater ponds partners:

	<p>Support Dr John Gulliver and Dr Ray Newman research and coordinate with local partners.</p> <p>Keep the manager abreast to progress in the research.</p> <p>Identify next management steps.</p>	<p>and planning for sampling. Curly leaf pondweed assessments and delineations for possible herbicide treatment were conducted for Lakes Riley, Susan and Staring. It was recommended that treatments be held off for this year for curlyleaf pondweed due to finding low abundances in Staring and Susan and limited areas in Riley. Foregoing treatment may promote further native plant recovery. Very few Eurasian watermilfoil plants were seen in Lake Riley but assessment and delineation for treatment will be conducted in June. Watermilfoil was seen in Staring and will need to be monitored.</p>	<p>Bloomington, Chanhasen, Eden Prairie, Minnetonka and Shorewood Plant Management: Chanhasen Eden Prairie</p>
<b>Watershed 50 year Anniversary</b>	<p>Come explore with us!</p> <p>Finalize anniversary program for 2019.</p> <p>Implement anniversary events.</p>	<p>A second print run of the Junior Watershed Explorer booklets have been received. Registration for the June 22nd boat rides on Lake Riley with Let's Go Fishing is are filling up quickly.</p>	<p>Let's Go Fishing</p>
<b>Watershed Plan</b>	<p>Review and identify needs for amendments.</p>	<p>No changes were identified at this time.</p>	
<b>Wetland Conservation Act (WCA)</b>	<p>Administer WCA within the Cities of Shorewood and Deephaven.</p> <p>Represent the District on Technical Evaluation Panel throughout the District</p>	<p>One application for a boundary and type determination was received in Deephaven. Comments are due June 17, 2019 with a decision immediately following.</p>	<p>City of Shorewood City of Deephaven City of Chanhasen MCWD BWSR DNR</p>

		<p>No WCA applications have been received in Shorewood.</p> <p>Staff Jeffery is drafting a letter to BWSR regarding BWSR's failure to support the MNRAM application.</p>	ACOE
<b>Wetland Management</b>	Identify potential restoration/rehabilitate wetlands and wetland requiring protection.	<p>Staff has begun assessing wetlands in the western portion of the District.</p> <p>Staff Dickhuasen has been trained in MNRAM and will begin devoting time, with an intern to performing assessments.</p>	City of Chanhassen MNDNR
<b>Hennepin County Chloride Initiative</b>	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. These focus groups will help identify needs and barriers for our target audience. The consultant will compile information into a plan for implementation.	<p>Administrator Bleser has been working with Fortin Consulting and U of M Researched on the interview guide for parking lots and sidewalks applicator. At the same time, Administrator Bleser is part of committee to help develop ordinances for cities to adopt winter best practices. Administrator Bleser is part of a committee that is developing/reviewing smart salting for property managers.</p>	
<b>Lower Minnesota Chloride Cost-Share Program</b>	The Lower Minnesota River Watersheds are coming together to offer cost-share grants.	<p>Administrator has met with NMCWD, LMRWD and RBWMO to share progress on Hennepin County as well MPCA Property Manager Trainings, as well as time frame in the development of the cost-share program. RBWMO will be sending two staff members to the North American Snow Conference hosted by</p>	

		American Public Works Association and will be reporting back to the group.	
<b>Bluff Creek One Water</b>			
<b>Chanhassen High School Re-use</b>	Continue to work with all partners. Complete site restoration and start system. Finalize and implement E and O for project. Monitor Project.	The station was restarted.	ISD 212 City of Chanhassen Metropolitan Council
<b>Bluff Creek Tributary Restoration</b>	Implement and finalize restoration. Monitor Project.	Preliminary reports suggest no significant finding and USACOE will be notified with the final report.	City of Chanhassen
<b>Wetland Restoration at 101</b>	Remove 3 properties from flood zone, restore a minimum 7 acres and as many as 16 acres of wetlands, connect public with resource, reduce volume, rate, pollution loads to Bluff Creek	Resolution for 750 is on the June 5,2019 agenda.	City of Chanhassen MN DNR
<b>Riley Creek One Water</b>			
<b>Lake Riley Alum</b>	Continue to monitor the waters.	No updates	
<b>Lake Susan Improvement Phase 2</b>	Complete final site stabilization and spring start up. Finalize and implement E and O for project. Monitor Project.	Start-up of the system was performed.	City of Chanhassen Clean Water Legacy Amendment
<b>Lower Riley Creek Stabilization</b>	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.	The cooperative agreement was executed by the City of Eden Prairie and is included in the packet for approval.	City of Eden Prairie Lower Minnesota Watershed District

<b>Rice Marsh Lake Alum Treatment</b>	Monitor Project.	No updates.	City of Eden Prairie City of Chanhassen
<b>Rice Marsh Lake Watershed Load Project 1</b>	Conduct feasibility. Develop cooperative agreement with City of Chanhassen	No new updates.	City of Chanhassen
<b>Upper Riley Creek</b>	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	Project on hold.	City of Chanhassen
<b>Purgatory Creek One Water</b>			
<b>Duck Lake Raingarden Project</b>	Work with the City to implement neighborhood BMP. Identify neighborhood BMP to help improve water resources to Duck Lake. Implement neighborhood BMPs.	Rain barrels have been picked up by participants. Quotes for tree installation were solicited and received. A recommendation is included in the board packet. Site visits with homeowners to narrow down potential rain water gardens have been conducted. Coordination with the city of Eden Prairie Continues.	City of Eden Prairie
<b>Hyland Lake Internal Load control</b>	Implement Hyland Lake Alum application.	Project was awarded and treatment will start the week of June 3rd.	Three Rivers Park District City of Bloomington
<b>Lotus Lake – Internal Load Control</b>	Monitor treatment and plant populations.	No updates.	
<b>Scenic Heights</b>	Continue implementing restoration effort. Work with the City of Minnetonka and Minnetonka School District on Public	School students will be planting prairie plants on Wednesday, June 5th. The community planting will be held the following Saturday, June 8th.	Minnetonka Public School District City of Minnetonka Hennepin County

	Engagement for project as well as signage.	Trees have been planted in the gravel bed nursery again. Eagle Scouts continue to engage with potential final projects.	
<b>Silver Lake Restoration</b>	Order project Design Project Work with the City of Chanhasen for Design, cooperative agreement and implementation	Task Order will be presented at the July meeting.	City of Chanhasen
<b>Professional Development</b>			
<b>Environmental Law Institute</b>	Staff Bleser led two Wednesday, May 29 to midday Friday, May 31, 2019 at the National Conservation Training Center (NCTC) in Shepherdstown, West Virginia. Staff from all 50 states, DC, all 5 territories, 17 tribes, all 10 EPA regions, and EPA headquarters.		
<b>Field Safety &amp; Stream Monitoring Workshop</b>	On May 30th, 2019 Joshua Maxwell and Zachary Dickhausen led an educational workshop for summer interns from the University of Minnesota and Lower Minnesota River Watershed District. The training was focused on field safety while sampling streams. Staff covered how to collect basic stream data, including nutrient, site, and flow data. Staff Maxwell also presented on the CRAS, after which, the group toured multiple sites on Riley Creek and discussed the Rosgen Stream Classification		

System. A total of 16 persons attended the workshop.

**Regulatory Program**

PERMIT #	APPLICANT	PROJECT	DATE SUBMITTED ON-LINE  PAPER  COMPLETE	STATUS	RULES
2018-044	United Properties	(r)Smith Village mixed use - Eden Prairie	6/8/18 6/29/18 TBD	Incomplete-comments provided 7/9/18 & 12/11/18 On 5/21/19 additional materials were submitted & under review.	C-EPSC J-Stormwater
PERMIT #	APPLICANT	PROJECT	DATE SUBMITTED ON-LINE  PAPER  COMPLETE	STATUS	RULES
2018-066	Presbyterian Homes	(r) Castle Ridge - Eden Prairie	10/18/18  10/23/18	Application was on-hold per email correspondence w/ engineer 11/9/18 & 11/28/18 due to Eden Prairie review comments. Additional materials provided 4/5/19. Currently under review.	C-EPSC D-Buffers J-Stormwater
2018-071	MNTKA Public Schools	LAX Field Construction	12/6/18  Not received	Approved - conditions met	C - EPSC J-Stormwater
2018-072	Three Rivers Park District	Parking - Bloomington	12/20/18   12/28/18	Approved - conditions met Construction begun.	C-EPSC D- Buffers J-Stormwater

2018-073	Eden Prairie - Streets	Preserve Blvd Reconstruction	12/20/18	Approved - conditions met. Construction begun.	B-Floodplain C-EPSC D-Buffers J-Stormwater
2018-074	Eden Prairie - Utilities	Ground Storage Reservoir	12/21/18   12/26/18   1/28/19	Approved - conditions met	C-EPSC J-Stormwater
2019-001	Lennar	(r) Nelson Property - Galpin Ave, Chanhassen  "The Park"	1/11/19   1/11/19	Noticed incomplete on 2/5/19. Developer working with City on PUD. Revised submittal received on 5/21/19	B-Floodplain C-EPSC D-Buffers G-Water X-ing J-Stormwater
2019-002	Shelangoski	Single family	1/8/19	Administratively approved Construction begun	C-EPSC
<b>PERMIT #</b>	<b>APPLICANT</b>	<b>PROJECT</b>	<b>DATE SUBMITTED ON-LINE  PAPER  COMPLETE</b>	<b>STATUS</b>	<b>RULES</b>
2019-003	Wooddale Builders	(r) Stable Path	1/16/19   1/16/19	Conditionally Approved 4/3/19. Working with City and Developer to resolve maintenance agreement. Conditions met.	C-EPSC, J-Stormwater
Not Assigned	City of Chanhassen/ MNDOT	T.H. 101 Reconstruction	No application submitted.	In design and permit application phase. There have been 5 stakeholder meetings held.	B-Floodplain C-EPSC D-Buffers G-Water X-ing J-Stormwater
Not Assigned	Moments of Chanhassen, LLC	(r) Moments Senior Living	No application submitted.	Pre-application meeting with city and development team held on 12/20/18	C-EPSC D-Buffers J-Stormwater
2019-004	Eden Prairie - Engineering	Duck Lake Road	1/16/19   1/18/19	Tabled at the request of Eden Prairie until further	B-Floodplain C-EPSC D-Buffers G-Water X-ing J-Stormwater K-Variances

				notice.	
2019-005	Eden Prairie - Engineering	Single Tree Ln Improvements	1/17/19   1/22/19	Administratively approved 2/5/19 Under construction.	C-EPSC
2019-006	Minnetonka - Engineering	2019 Mill & Overlay Project	1/14/19   1/14/19	Administratively approved on 1/15/19	C-EPSC
2019-007	Great Oaks 2nd, LLC	Beverly Hills	1/25/19   2/28/19   3/08/19	Conditionally approved at 4/3/19 meeting. Awaiting FA and MD.	C-EPSC, J-Stormwater
2019-008	Eden Prairie Parks	Staring Lake Pavilion	2/19/19   1/21/19	Conditionally approved 4/3/19 meeting. Awaiting signed MA.	C-EPSC, J-Stormwater
<b>PERMIT #</b>	<b>APPLICANT</b>	<b>PROJECT</b>	<b>DATE SUBMITTED ON-LINE  PAPER  COMPLETE</b>	<b>STATUS</b>	<b>RULES</b>
2019-009	Marcus Reidel	Reidel Home Addition	2/18/19   2/6/19   2/19/19	Administratively approved 2/22/19	C-EPSC, J-Stormwater
2019-010	ISD #112	Chan HS Sanitary Service Repair	2/22/19   2/25/19	Administratively approved 3/1/19	C-EPSC
2019-011	Bre Retail Residual Owner 6	Chase Bank	3/12/19   3/14/19	On the 5/1/19 board meeting	C-EPSC, J-Stormwater
2019-012	Andrew Costigan	Outbuilding	3/21/19   3/28/19   3/28/19	Administratively approved 4/8/19	C-EPSC, J-Stormwater
2019-013	Adam & Kelly Cozine	Pool	3/22/19   3/25/19	Awaiting proof of recordation as of 4/26/19	C-EPSC, J-Stormwater
2019-014	Eden Prairie -	Hennepin Town Rd	3/7/19   3/7/19	Administratively approved	C-EPSC

	Engineering	Turn Lane		on 3/22/19	
2019-015	Chanhassen - Engineering	Lake Dr. East M & O	3/26/19   3/28/19	Administratively approved 3/28/19	C-EPSC
2019-016	Center Point	Minnetonka Boulevard	4/3/19   4/10/19	Administratively approved on 4/10/19	C-EPSC
2019-017	ANE Group	6650 Pawnee Dr	NOPV Issued 4/12/19   4/17/19	On 5/1/19 meeting. Conditionally approved	C-EPSC, J-Stormwater
2019-018	ANE Group		NOPV Issued 4/12/19   4/17/19	On 5/1/19 meeting. Conditionally approved	C-EPSC, J-Stormwater
2019-019	Timothy Brown	Sheldon Place Townhomes	4/24/19  4/26/19	On 6/5/19 meeting	C-EPSC, J-Stormwater
<b>PERMIT #</b>	<b>APPLICANT</b>	<b>PROJECT</b>	<b>DATE SUBMITTED ON-LINE  PAPER  COMPLETE</b>	<b>STATUS</b>	<b>RULES</b>
2019-020	Lecy Bros	3993 Hillcrest	5/3/19  5/4/19  5/4/19	Approved. Conditions Met	C-EPSC, J-Stormwater
2019-021	Minnetonka _ Sarah Schweiger	2019 Misc Improvements	4/23/19  4/23/19  4/24/19	Approved administratively	C-EPSC
2019-022	Timothy Brown	Woodcrest	5/23/19	Under review	
2019-023	Hennepin County Library	Minnetonka Library Improvements	5/29/19	Pre-submittal meeting w/ BKBM on 3/19/19. Under review.	C-EPSC, J-Stormwater
2019-024	Capital Development LLC	Conifer Heights	5/23/19	Pre-submittal meeting w/ Wenck on 3/22/19	C-EPSC, D-Buffers, J-Stormwater

2019-025	Eden Prairie	Homestead Circle Sump Pump Collection	5/22/19	Under review	C-EPSC
2019-026	Stephen Oliver	Ridgewood Church	5/29/19	Under review	

## Memorandum

**To:** Riley-Purgatory-Bluff Creek Watershed District Board of Managers and District Administrator  
**From:** Barr Engineering Co.  
**Subject:** Engineer's Report Summarizing May 2019 Activities for June 5, 2019, Board Meeting  
**Date:** May 30, 2019

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 May 2019.

### General Services

- a. Met with Administrator Bleser, Watershed Planning Manager Jeffery, and Project Manager Jordan on May 6<sup>th</sup> to discuss the capital improvement program. Discussion included the status of St Hubert's opportunity project, Bluff Creek Tributary restoration project, Chanhassen High School reuse, 101 Wetland restoration, Lake Susan Park Pond, Lower Riley Creek Restoration, Purgatory Creek Park berm repair, Silver Lake subwatershed project, potentially shifting Upper Riley Creek with Purgatory Creek restoration at Bent Creek Golf Course, Rice Marsh Lake subwatershed BMP, and the Duck Lake subwatershed project.
- b. Met with Watershed Planning Manager Jeffery on May 8<sup>th</sup> to discuss results of regulatory listening session, Board meeting, and potential rule revisions to achieve the goals of reducing visibility of regulatory program, streamlining permitting process, addressing city concerns about linear and "maintenance" type projects.
- c. Participated in a May 10<sup>th</sup> meeting with Administrator Bleser and the Hennepin County Regional Railroad Authority (HCRRA) to discuss their planned repair/replacement of the Purgatory Creek crossing between Bent Creek Golf Course and Valley View Road in Eden Prairie. The crossing is about 13 feet wide by 8 feet tall and 100 feet long. HCRRA indicated the wingwalls are failing and there is concern with the bottom integrity of the pipe. HCRRA is looking to coordinate with RPBCWD on projects in the area where feasible. Administrator Bleser indicated a potential to advance the Purgatory Creek restoration project that is included in the RPBCWD CIP (creek reach though Bent Creek Golf Course). Site access will be challenging because of the steep topography of the trail embankment, private property to east of the crossing and wetlands to the west. HCRRA plans to conduct a more detailed inspection later this summer to better define and evaluate remedial measures. The group will reconvene in the fall 2019.
- d. Met with Watershed Planning Manager Jeffery and Counsel Welsh on May 15<sup>th</sup> to discuss avenues to address Manager expressed concerns with regulatory program, lessening visibility of the program, need for a TAC meeting in early June, preparation of high level memo for Manger consideration of potential high value rule revisions (e.g., adjust linear project threshold, eliminate 50 cubic yard threshold in stormwater) while maintaining the water resource protectiveness of the program.

- e. Participate in May 15<sup>th</sup> prebid meeting for the Lower Riley Creek restoration project.
- f. Participated in the May 1<sup>st</sup> regular Board of Managers meeting.
- g. Prepared Engineer's Report for engineering services performed during May 2019.
- h. Miscellaneous discussions and coordination with Administrator Bleser about Duck Lake subwatershed, Bluff Creek restoration, and Lower Riley restoration projects as well as 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 permit was conditionally approved at the September 5, 2018 regular meeting. The applicant submitted a modification request on January 22, 2019. Worked with Watershed Planning Manager Jeffery to issue second permit review timeline extension in response to the applicants request. Reviewed a revised submittal received on May 10<sup>th</sup> and provided review comments on May 16<sup>th</sup>. Drafted a permit review report for the requested modification for consideration at the June 5<sup>th</sup> Board of Managers meeting
- b. *Permit 2018-043 Control Concepts:* The modified project proposes the construction of an approximately 38,000 SF Office and Warehouse facility at 8077 Century Boulevard in Chanhassen. Board conditionally approved at the August 8, 2018 meeting. The project triggers the RPBCWD Erosion Control, Wetland and Creek Buffers, and Stormwater Management Rules. Reviewed the modification submittal received on May 9<sup>th</sup> and provided review comments on May 16<sup>th</sup>. Reviewed the applicants responses to comments received May 22<sup>nd</sup> and drafted permit modification report for Board consideration at the June 5<sup>th</sup> meeting.
- c. *Permit 2018-066 Castle Ridge Redevelopment:* The project proposes to redevelopment the Castle Ridge, Broadmoor, and two adjacent owned properties at the southwest quadrant of Flying Cloud Drive and Prairie Center Drive into mixed-use senior housing, market rate apartments, hotel, and commercial/retail mixed-use project. This project will trigger RPBCWD Rules B, C, D, and J. A completeness review was started for the revised submittal received on May 22<sup>nd</sup>.
- d. *Permit 2018-073: Preserve Boulevard and Eden Lake Outlet:* The project proposes to reconstruct Preserve Blvd from Anderson Lakes Pkwy to Prairie Center Drive, replace the Eden Lake outlet with a stormwater pumping station discharging to Neil Lake, fill a portion of the Eden Lake floodplain, and provide wetland buffers. Stormwater management facilities including one wet pond, a propriety stormwater filter chamber and the use of an existing city maintained stormwater pond to provide water quality treatment and rate control for runoff prior to discharging offsite. This project triggers RPBCWD Rules B, C, D, and J. Permit was conditionally approved at the February 6, 2019 regular meeting. Participated in a May 7<sup>th</sup> conference call with city of Eden Prairie, Watershed Planning Manger Jeffery, and BioClean representatives (vendor of the proposed Kraken stormwater filter) to discuss required monitoring of the Kraken unit. BioClean representatives discussed past testing

- conducted on the unit via the State of Washington's TAPE program and protocols, the need for a robust sampling protocol, wanting a statewide method in MN, concern that proprietary devices are required to more testing than other BMPs (e.g., sand filters), the requirement should include an event or concentration rather than annual average removal percentage, and potential sampling expense. BioClean will draft a sampling protocol for District and City Review. Engineer Sobiech reiterated that the protocol needs to account for cold climate conditions and snowmelt.
- e. *Permit 2019-001: Park Development (a.k.a. Galpin Site/Nelson Property):* The project proposes to construction of a 191 lot single family residential development on approximately 161 acres west of Lake Ann and Lake Lucy (formerly the Prince property). The site is located 0.5 miles north of Highway 5 on the east side of Galpin Blvd in Chanhassen, MN. There are 14 wetlands onsite, some of which the city of Chanhassen, the local governmental unit responsible for WCA, will allow to be filled and mitigated. The large wetland complex in the center of the site will be preserved and receives all stormwater runoff from the upland areas. This wetland is directly connected to Lake Ann and Lake Lucy. The site will be mass graded prior to construction of public improvements for urban development, including storm sewer and six stormwater basins. No development is proposed along the Lake Lucy and Lake Ann shorelines. This project will trigger RPBCWD Rules B, C, D, G, and J. Received revised materials on May 21 and started completeness review.
- f. *Permit 2019-004: Duck Lake Road reconstruction:* The project includes full reconstruction of Duck Lake Road from Duck Lake Trail to Mallard Court in Eden Prairie, MN. The project also includes replacing the culvert under Duck Lake Road, installing a backyard drain behind the homes along pardons Drive, constructing an infiltration basin, and filling a portion of the floodplain of Duck Lake with only partial compensatory storage proposed). This project will trigger RPBCWD Rules B, C, D, F, G, and J. The applicant is requesting a variance from the requirement to provide compensatory storage (Rule B, subsection 3.2), the minimum wetland buffer width requirement (Rule D, subsection 3.2), no net increase in flood stage associated with a waterbody crossing (Rule G, subsection 3.2a), no increase in peak discharge (Rule J, subsection 3.1a), water quality treatment of all site runoff (Rule J, subsection 3.1c), and wetland protection criteria (Rule J, subsection 3.10bii). Met with Administrator Bleser, city of Eden Prairie, Watershed Planning Manger Jeffery, MNDNR, USACE, and BWSR on May 24<sup>th</sup> to discuss historic and current water level concerns and develop a path forward to resolve the MPARS and WCA permit application. MNDNR indicated the current outlet condition is a violation and willingness to collaborate toward a solution. MNDNR has not allowed the establishment of the outlet control level lower than about 18 inches below the ordinary high water level (OWH). The current outlet is over 24 inches lower than the OWH and therefore must be revised. In order for the outlet to be changed for the permitted 1969 condition, a thorough analysis of impacts to the lake and downstream will be needed, including riparian owner support. Administrator Bleser clarified that concerns are related to the system ecology and not just the flood elevation. MNDNR indicated they will need to see a hydraulic analysis of impacts on lake level, a robust outlet design, and support of the majority of the riparian owners. City expressed desire for RPBCWD to use its engineering expertise to conduct the hydraulic and water quality analysis.
- g. *Permit 2019-008: Staring Lake Pavilion:* the project includes the reconstruction of the existing Staring Lake Park building, the surrounding trail and plaza areas, and a small portion of the

adjacent parking area. The project includes an underground rock infiltration trench with a pre-treatment sump catch basin located south of the building on the parking lot island. The overflow from the rock infiltration trench will discharge into an infiltration basin that is to be constructed in the greenspace area just to the west of the existing driveway entrance. Received and reviewed a permit modification request on May 13, 2019. The applicant submitted a modification request to upsize the underground storage pipe and associated rock infiltration trench to accommodate additional site runoff that would otherwise not require stormwater management under the RPBCWD rules as part of the approved permit. Because this was a nonsubstantive change resulting in providing extra volume abstraction and water quality treatment, a permit modification report was draft for staff consideration in authorizing the modification.

- h. *Permit 2019-019: Sheldon Place:* The project proposes the redevelopment of a 1.01 acre parcel by removing existing structures and constructing a new 10-Unit Townhome development at 7960 Eden Prairie Rd Eden Prairie, MN 55347. Underground infiltration systems will provide stormwater runoff volume, rate, and water quality control. This project will trigger RPBCWD Rules C, and J. A complete submittal was received on April 26<sup>th</sup>, reviewed, and comments provided to the applicant on May 7<sup>th</sup>. Responded to additional questions from the applicant. A permit review report was drafted for consideration at the June 5<sup>th</sup> Board of Managers meeting.
- i. Performed erosion control inspections of active sites on May 21<sup>st</sup> and 22<sup>nd</sup> (see attached inspection report).
- j. Met with Watershed Planning Coordinator Jeffery to discuss site inspection program and revised on May 22<sup>nd</sup>.
- k. Miscellaneous conversations with Permit Manager Jeffery about technical questions on permit requirements for potential development and redevelopment projects.

#### **Data Management/Sampling/Equipment Assistance**

- a. Prepared, uploaded and verified 4 RMB laboratory (RMB) reports.
- b. Made updates to and launched upgrades to the mobile application for collecting field data.

#### **Task Order 6: WOMP Station Monitoring**

##### ***Purgatory Creek Monitoring Station at Pioneer Trail***

- a. Download and review data.
- b. Storm event sampling, including sample collection, prep, and delivery to MCES lab.

##### ***Purgatory Creek Monitoring Station at Valley View Rd***

- a. Download and review data.
- b. Troubleshoot autosampler power issue – move and attach ground wire, reprogram sampler.
- c. Storm event sampling, including sample collection, prep, and delivery to MCES lab.

### **Task Order 13b: Lake Susan Watershed Treatment and Stormwater Reuse Enhancements Design and Construction Administration**

- a. Peterson Companies installed prairie cord grass plugs around the iron-enhanced sand filter on May 6<sup>th</sup>. Barr continues to monitor the viability of the installed plugs; as of May 20<sup>th</sup> it appears as though 80-90% of the plugs will require replacement. We will coordinate with Peterson to facilitate this replacement if vegetation does not recover.
- b. Peterson was onsite at Lake Susan Park the week of May 13<sup>th</sup> to reinstall the reuse system intake in Lake Susan Pond and prepare for system start-up and updated programming
- c. Participated in the May 20<sup>th</sup> water reuse system start-up.
  1. Both pumps (irrigation supply and iron enhanced sand filter; IESF) were successfully started up.
    - i. Due to a leak in the irrigation system, after reuse water connection to the irrigation system, and a valve issue, irrigation with treated stormwater was not fully tested (treated water was not delivered to the irrigation system on this date). The City is resolving the issues with their irrigation contractor currently. The issue is not outside the normal realm of spring re-start irrigation system troubleshooting and is unrelated to the stormwater treatment system and Peterson activities.
    - ii. The IESF pump successfully delivered water to the IESF. Pumping was observed for approximately 2 hours, during which time the pump ran continuously and the filter inundated completely as designed. This demonstrates that float switch positioning within the water distribution structure and the VFD set points are appropriately set. Water was observed in the downstream water control structure indicating water is filtering through the IESF.
  2. The system was verified to function according to the functional description in specification 40 90 00, Section 1.09 with the exception of the inclusion of a pump elapsed time meter. Barr is working on a resolution to this with Peterson.
  3. Training of City of Chanhassen staff was not complete on this date due to staff availability. Peterson representative Ryan Potvin and Adam Beers of the City of Chanhassen will coordinate a separate date for training at a later time and once irrigation system issues are resolved by the City's irrigation contractor.
- d. The revised punch list is as follows:
  1. (Peterson) Update the IESF pump delay to 30 hours (instead of 24 hours). After the IESF pump turns off automatically, it cannot run again for 30 hours, regardless of pond level, in order to provide adequate time for the filter to drain and dry out.
  2. (Peterson) Remove the flashboards from the water control structure and store in the water treatment building. Removal will allow the IESF to fully drain.

**To:** Riley-Purgatory-Bluff Creek Watershed District Board of Managers and District Administrator  
**From:** Barr Engineering Co.  
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3. (Peterson) Confirm availability of a pump elapsed time meter (for both pumps) within the program. The pump run durations and the set point for the VFD will allow for the computation of flow and total volume treated by the IESF.
4. (Peterson) Provide a list of the information that the program is currently recording and the current set points (times, runtimes, flow rates, levels, all on/off levels, etc.).
5. (Barr/Peterson) Evaluate viability of prairie cord grass plugs and reinstall as determined necessary.

#### **Task Order 14b: Lower Riley Creek Final Design**

- a. The project was advertised for bid on May 3 by being posted on Quest CDN and advertised in the official District newspaper.
- b. Led a mandatory pre-bid meeting on May 15 at the project site. City of Eden Prairie's Parks Natural Resources Manager and ten different contracting companies attended the meeting. Contractors identified a significant challenge with the project will be control of water. Other questions raised were related to additional access upstream or downstream from Sky Lane, staging area relocation, if contractor would be liable for potential flood damage during construction (answer yes), can boulders be a pay item rather than incidental to other pay items (e.g. Rock vanes).
- c. Met on-site with the city of Eden Prairie Parks and Natural Resources Manager and Forester to review potential construction access, staging areas, and tree removals. The City indicated a couple more trees could be removed to allow for a staging area along the west bank of Riley Creek near the site access. The Site access route along the existing infiltration basin must remain as shown on the plans. The City also agreed to allow small tracked skid steer access through the "Big Woods" at the upstream portion of the project to facilitate dewatering.
- d. Responded to contractor calls about pedestrian bridge reference drawing, site access, project timing, and Discussed contractor request to extend the bidding period with Administrator Bleser. As a result, addendum 1 was issued which extends the bid deadline by two weeks to June 12 to provide more time to develop construction bids.

#### **Task Order 19: Chanhassen High School Stormwater Reuse Design**

- a. No activity in May.

#### **Task Order 21B: Bluff Creek Stabilization Project**

- a. Field work for the Cultural/Historical investigation being required by the US Army Corps of Engineers was completed during the week of May 13. The results of the investigation were negative so additional investigations should not be necessary. A report summarizing the investigation is expected to be ready to send to the Corps in June.

#### **Task Order 23: Scenic Heights School Forest Restoration**

- a. Spring weed control and seeding operations are underway. The remaining areas of the school forest that have not been seeded yet and appear to be free of weeds (garlic mustard

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and buckthorn re-sprouts) are having the seed bed prepared and native seed, cover crop, and straw mulch manually installed. Live stakes along the pond buffer and the vegetated swale were recently installed and new plants have been placed in the gravel bed tree nursery within the school courtyard. Children in the Minnetonka Explorers program will be caring for the gravel bed nursery plants throughout the summer.

#### **Task Order 25: Duck Lake Water Quality Improvement Project**

- a. Coordinated a tree-planting request for quotations (RFQ): sent out the RFQ to seven potential contractors, responded to contractor questions, reviewed responses and prepared recommendation memo, notice to proceed and contract documents.
- b. Prepared graphic materials for Project Manager Jordan to hand out to property owners of potential rainwater garden sites during property owner meetings.
- c. Accompanied Project Manager Jordan on property owner meetings to discuss potential rainwater garden sites.
- d. Coordinated a cost estimate for a contractor to survey potential rainwater garden sites.
- e. Scheduled a June 4 meeting with Administrator Bleser, Project Manager Jordan, and City of Eden Prairie staff to define design guidelines for rainwater gardens.

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

- a. Completed model simulations for the 500-year event for the updated Purgatory Creek and Hyland Lake models. The models were updated to include additional overland flow paths to simulate higher flows through the stormwater system.
- b. The models for both Purgatory Creek and Hyland Lake were reviewed to verify that hydrologic parameters were consistently updated, overland flow paths characterized existing topography, and delineation of inundation areas was not truncated at watershed boundaries.
- c. Scheduled a meeting with Administrator Bleser, Watershed Planning Manager Jeffery, and city of Bloomington staff for June 3, 2019 to review preliminary model results.
- d. Over the next couple of weeks, staff will combine the updated portion of the Purgatory Creek model and the Hyland Lake model with the District's model for the overall Purgatory Creek watershed. Staff will also begin to identify potentially flood-prone structures based on the updated model results.

**To:** RPBCWD Board of Managers  
**From:** Dave Melmer  
**Subject:** May 21 and 22, 2019—Erosion Inspection  
**Date:** May 29, 2019  
**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 and sediment control policies. Listed below are construction projects and the improvement needed for effective erosion control. The sites were inspected from May 21 and 22, 2019.

## Site Inspections

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<b>2015-010</b>	<b>Children's Learning Adventure - Private - Commercial/Industrial Northwest Corner of Highway 5 and Galpin Avenue Chanhassen, Minnesota 55317</b> No change since last monthly inspection. No standing water in infiltration basin. Will monitor vegetation growth and establishment thru spring growing season-2019.	<b>2019-05-22</b>
<b>2015-016</b>	<b>Blossom Hill - Private - Residential 10841 Blossom Rd Eden Prairie, Minnesota 55347</b> No change since April inspection.	<b>2019-05-21</b>
<b>2015-036</b>	<b>Saville West Subdivision - Private - Residential 5325 County Road 101 Minnetonka, Minnesota 55345</b> No change since last inspection. CA opened for downed silt fence. Site representative was notified.	<b>2019-05-22</b>
<b>2015-050</b>	<b>Arbor Glen Chanhassen - Private - Residential 9170 GREAT PLAINS BLVD Chanhassen, Minnesota 55317</b> Minor tracking to street at current house construction site. Otherwise- -No change since last inspection.	<b>2019-05-21</b>
<b>2015-055</b>	<b>Hampton Inn Eden Prairie - Private - Commercial/Industrial 11825 Technology Drive Eden Prairie, Minnesota 55344</b> Site construction continues. BMP's in place-with exception of Catch basin protection and bio-roll installed. CA closed.	<b>2019-05-21</b>
<b>2016-017</b>	<b>SWLRT - Government - Other Varies Eden Prairie, Minnesota 55344</b> Construction has begun along 95% of route. BMP's look good thru out entire site/route to date.	<b>2019-05-21</b>

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To: RPBCWD Board of Managers  
From: Dave Melmer  
Subject: May 21 and 22, 2019—Erosion Inspection  
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<b>2016-026</b>	<b>Foxwood Development - Private - Residential 9150 and 9250 Great Plains Blvd Chanhassen, Minnesota 55317</b> No change since last inspection. Multiple house construction has continues-BMP's look good- silt fences and rock entrances installed/ good perimeter control. Catch basin protection re-installed. Silt fences have been installed on unsold lots.	<b>2019-05-21</b>
<b>2016-028</b>	<b>Summit Place Apartments Drainage Improvements - Private - Residential 8501 Flying Cloud Drive Eden Prairie, Minnesota 55344</b> No construction activity observed to date. Construction completed a while ago--SE side of apartments. Biolog in place. One area of erosion needs to be addressed. Site representative was notified.	<b>2019-05-21</b>
<b>2016-032</b>	<b>CSAH 61 Improvements - Government - Linear N/A Eden Prairie, Minnesota 55347</b> No change since last monthly inspection. Construction continues. Slopes are covered with matting or have been spray tac'd. Area near creek crossing is completed.-- BMP's look good. Construction west of Lions tap continues to Eden Prairie Road. --BMP's look good. Minor tracking to street.	<b>2019-05-21</b>
<b>2016-033</b>	<b>Anderson Lakes-Purgatory Trail - Government - Other Anderson Lakes PKWY and Purgatory Creek Eden Prairie, Minnesota 55344</b> No construction observed to date.	<b>2019-05-21</b>
<b>2016-041</b>	<b>Chanhassen West Water Treatment Plant - Government - Other 2070 Lake Harrison Road Chanhassen, Minnesota 55317</b> No change since last monthly inspection. Silt fences installed on site. Construction complete. Landscaping and seeding complete--all soil covered with matting. BMP's look good. Will inspect once growing season is underway--2019.	<b>2019-05-22</b>
<b>2016-042</b>	<b>18663 St. Mellion Place--Eden Prairie (Bear Path)</b> BMP's are good. Silt fences removed-biorolls installed- adequate for now -- may need to be doubled when sediment buildup over tops log.	<b>2019-05-21</b>
<b>2017-001</b>	<b>Kopesky 2nd Addition - Private - Residential 18340 82nd St Eden Prairie, Minnesota 55347</b> No change since last monthly inspection. Site grading complete- house construction continues at two sites. Perimeter control installed. BMP's are good. Infiltration basins completed. Basin protection is good. Landscaping at house on north end underway--tracking to street observed at cul-de-sac.	<b>2019-05-21</b>

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<b>2017-006</b>	<b>6687 Horseshoe Curve Chanhassen</b>	<b>2019-05-22</b>
	No activity observed to date.	
<b>2017-007</b>	<b>Cedarcrest Stables - Private - Residential 16870 CEDARCREST DR Eden Prairie, Minnesota 55347</b>	<b>2019-05-21</b>
	No activity observed to date.	
<b>2017-022</b>	<b>Chanhassen High School Stormwater Reuse - Government - Other 220 Lyman Blvd Chanhassen, Minnesota 55317</b>	<b>2019-05-21</b>
	Construction complete. BMP's in place. Soils covered and seeded. Grass seed has sprouted and growing.	
<b>2017-023</b>	<b>Eden Prairie Assembly of God - Private - Commercial/Industrial 16591 Duck Lake Trail Eden Prairie, Minnesota 55346</b>	<b>2019-05-22</b>
	Construction complete. Perimeter control silt fence still installed. BMP's look good. Site grading is complete. Vegetation sprouted. Will inspect vegetation growth and establishment.	
<b>2017-024</b>	<b>Prairie Bluffs Senior Living - Private - Residential 10280 Hennepin Town Rd Eden Prairie, Minnesota 55347</b>	<b>2019-05-21</b>
	Construction continues. CA remains opened for lack of bio-rolls at back of curb and street tracking --sediment build up at curb. Entrances need protection. Site representative was re-notified. CA will remain open.	
<b>2017-026</b>	<b>6135 Ridge Road</b>	<b>2019-05-22</b>
	Rock entrance is good. Silt fence maintenance has been completed- down in one section--slope is stable in this area. Bare soils on upper half of slope have been covered with straw matting-vegetation has sprouted. Will have to inspect for vegetation growth and establishment in months ahead. Southwest corner has rock retaining landscaping completed.	
<b>2017-029</b>	<b>Tweet Pediatric Dentistry - Private - Commercial/Industrial 7845 Century Blvd. Chanhassen, Minnesota 55317</b>	<b>2019-05-22</b>
	No change since last monthly inspection. Infiltration pond has bio- logs staked in to control silt. Vegetation is growing.	
<b>2017-030</b>	<b>Elevate - Private - Commercial/Industrial 12900 Technology Drive Eden Prairie, Minnesota 55344</b>	<b>2019-05-21</b>
	No change since last monthly inspection. BMP's look good. Site is well maintained.	

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**2017-031**                      **Lion's Tap - Private - Commercial/Industrial**                      **2019-05-21**  
**16180 Flying Cloud Drive Eden Prairie, Minnesota 55347**  
No activity observed to date.

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**2017-032**                      **11193 Bluestem Lane - Government - Other**                      **2019-05-21**  
**11193 Bluestem Lane Eden Prairie, Minnesota 55347**  
Construction complete. All exposed soils on slope are covered and stabilized--vegetation growing--areas where seed did not sprout are observed-- matting is keeping soils stable. Bio-logs installed at toe of slope. Site is in good condition. Bio-logs can be removed. New Eden Prairie site representative contacted concerning bare areas--may need to be reseeded/garlic mustard has started to invade area.

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**2017-037**                      **The Venue - Private - Commercial/Industrial**                      **2019-05-22**  
**525 W 78th St Chanhassen, Minnesota 55317**  
No change since last inspection. Construction continues. BMP's installed. Construction continues. Additional BMP's installed--catch basin protection reinstalled. Lower parking area complete.

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**2017-038**                      **West Park - Private - Residential**                      **2019-05-21**  
**760& 781 Lake Susan Drive 8601 Great Plains Blvd Chanhassen, Minnesota 55317**  
Construction continues. BMP's look good. Street sweeping of entire site underway.

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**2017-039**                      **Mission Hill Senior Living - Private - Residential**                      **2019-05-21**  
**8600 Grate Plains Boulevard Chanhassen, Minnesota 55317**  
Construction continues. BMP's installed look good. Site perimeter control installed. Catch basin protection installed. Site is in good shape. South swale has been stabilized. Roadway installed. CA closed for tracking to street near site entrance and on site roadway has been addressed.

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**2017-047**                      **Fawn Hill - Private - Residential**                      **2019-05-22**  
**7240 Galpin Road Chanhassen, Minnesota 55331**  
Additional house sites under construction. Perimeter silt fences installed and additional silt fences installed where needed. BMP's to date look good.

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**2017-052**                      **Old Excelsior Senior Living - Private - Residential**                      **2019-05-22**  
**17705 Hutchins Drive Minnetonka , Minnesota 55345**  
Exterior Construction complete. Perimeter control installed. CA for bare soils, no protection back of curbs and tracking/sediment at curb-gutter--site representative was notified. Biorolls installed at back of curb along Excelsior: more needed for parking lot--however, site has been graded for final landscaping and biorolls may have been removed. CA will remain open.

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2017-063	<b>Clear Springs Elementary 2018 Gymnasium Addition - Government - Other</b> <b>5621 County Road #101 Minnetonka, Minnesota 55345</b> No change since last monthly inspection. Construction complete. Site is well contained. Final site grading to be completed.	2019-05-22
2017-064	<b>Scenic Heights Elementary School Forest Restoration - Government - Other</b> <b>5650 Scenic Heights Drive Minnetonka, Minnesota 55345</b> No change since last monthly inspection.	2019-05-22
2017-069	<b>Scheels Redevelopment - Private - Commercial/Industrial</b> <b>8301 Flying Cloud Dr. Eden Prairie, Minnesota 55344</b> BMP's installed. Construction continues. Parking lot to west is being redone in phases--BMP's look good to date.	2019-05-21
2017-072	<b>O'Reilly Auto Parts Eden Prairie - Private - Commercial/Industrial</b> <b>8868 AZTEC DRIVE Eden Prairie, Minnesota 55347</b> Construction has started. Perimeter control installed. Site has been cleared. Site entrance still needs to be installed. Inlet protection installed. BMP's good.	2019-05-21
2017-073	<b>Preserve Village - Private - Residential</b> <b>9625 Anderson Lakes Pkwy Eden Prairie, Minnesota 55344</b> No change since April inspection. Construction of building complete. BMP's installed. Catch basin protection is adequate. Additional areas of bare soils observed-not covered to date. Infiltration basin construction continues. Site representative was re-notified about graded soils not being covered and lack of bio-rolls back side of curbs. CA opened for uncovered soils. CA remains open.	2019-05-21
2018-001	<b>Panera - Private - Commercial/Industrial</b> <b>531 W. 79th Street Chanhassen, Minnesota 55317</b> Construction complete. BMP's installed in areas where landscaping is not complete. Filtration basin installed-- final landscaping needs to be completed.	2019-05-22
2018-004	<b>903 Lake Drive Chanhassen - Government - Other</b> <b>903 Lake Drive Chanhassen, Minnesota 55317</b> Construction completed. BMP's installed. Site is in good condition. All soils covered. Site is stable. Vegetation has sprouted--sparse in some areas.	2019-05-22
2018-011	<b>Maloney Shoreline Stabilization - Existing Single-Family</b> <b>108 Pioneer Trail Chanhassen, Minnesota 55327</b> No activity observed to date.	2019-05-21

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<b>2018-014</b>	<b>Eden Prairie Road Reconstruction</b>	<b>2019-05-21</b>
	Additional BMP's installed along with rock for tracking control. Construction continues on roadway. Road closed on north end. South end has silt fences installed -some under cutting observed-basin at lower end captures runoff.	
<b>2018-015</b>	<b>Starbucks Coffee House - Private - Commercial/Industrial 19285 Highway 7 19245 Highway 7 Shorewood, Minnesota 55401</b>	<b>2019-05-22</b>
	Construction complete. Catch basin protection removed. Sod has been installed. Areas have matting installed--no vegetation growth observed. Site is stable.	
<b>2018-016</b>	<b>Avienda - Private - Commercial/Industrial SW corner of Powers and Lyman Boulevard Chanhassen, Minnesota 55317</b>	<b>2019-05-21</b>
	No activity observed to date.	
<b>2018-020</b>	<b>9770 Sky Lane - Existing Single-Family 9770 Sky Lane Eden prairie, Minnesota 55347</b>	<b>2019-05-21</b>
	Open CA(s): Bio-rolls at street side removed--sediment runoff to street. Landscaping needs to be completed. Site representative notified. Deadline: 6/10/2019	
	Construction complete. Site grading /boulder wall installation completed.	
<b>2018-021</b>	<b>9810 Sky Lane - Existing Single-Family 9810 Sky Lane Eden prairie, Minnesota 55347</b>	<b>2019-05-21</b>
	Open CA(s): Soils on front side of house bare and no control for runoff to street Deadline: 5/26/2019	
	Construction continues. BMP's onsite are installed. Boulder retaining wall installation on west side completed. BMP's adequate. Exposed soils on west side covered where needed. Landscaping needs to be completed.	
<b>2018-024</b>	<b>Kittelson Pool - Existing Single-Family 2165 Wynsong Lane Chanhassen, Minnesota 55317</b>	<b>2019-05-22</b>
	Construction complete-pool installed. Silt fence and biorolls in place. BMP's look. Grading complete/rock wall installed. Site is prepared for sod or seeding	
<b>2018-025</b>	<b>Magellan Pipeline UCD Dig 8 through 12</b>	<b>2019-05-21</b>
	No change since last inspection.	

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2018-027	<b>MAMAC - Private - Commercial/Industrial</b> <b>8189 Century Boulevard Chanhassen, Minnesota 55317</b> No change since last inspection. Perimeter control silt fence installed. Temporary BMP's installed. Security fence installed. BMP's are good.	2019-05-22
2018-028	<b>Oak Point Elementary School Parking Lot - Government - Other</b> <b>13400 Staring Lake Parkway Eden Prairie, Minnesota 55347</b> No construction observed to date	2019-05-21
2018-034	<b>Basin 05-11-A Cleanout - Government - Other</b> <b>Corner of Sequoia and Ginger Eden Prairie, Minnesota 55346</b> No change since last monthly inspection.	2019-05-22
2018-038	<b>Eden Prairie Senior Living - Private - Residential</b> <b>8460 Franlo Rd Eden Prairie, Minnesota 55344</b> Construction continues. Perimeter control installed. BMP's look good. Street tracking observed. Rock entrances adequate. Soils onsite are being worked. CA will remain opened for tracking. Site representative was re-notified.	2019-05-21
2018-039	<b>Emerson Site Improvements - Private - Commercial/Industrial</b> <b>12001 Technology Drive Eden Prairie, Minnesota 55344</b> BMP's installed. Construction completed. Area near garage needs protection--bare soils on a slope-biorolls installed. CA closed. Storm water detention pond installed and BMP's are good.	2019-05-21
2018-040	<b>Center Point Carver Line Receiver</b> Construction complete. All temporary BMP's have been removed. Site is stable. This will be last field inspection for this permit.	2019-05-22
2018-041	<b>Abra Auto Body - Private - Commercial/Industrial</b> <b>13075 Pioneer Trail Eden Prairie, Minnesota 55347</b> Construction has started. Perimeter control installed. Rock entrances installed. BMP's are in good condition.	2019-05-21
2018-043	<b>Control Concepts - Private - Commercial/Industrial</b> <b>8077 Century Boulevard Chanhassen, Minnesota 55317</b> No activity observed to date.	2019-05-22
2018-044	<b>Smith Village - Private - Residential</b> <b>16389 Glory Lane Eden Prairie, Minnesota 55344</b> No site activity observed to date.	2019-05-22

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<b>2018-047</b>	<b>Peterson Borrow Site - Private - Commercial/Industrial</b> <b>15900 Flying Cloud Drive Eden Prairie, Minnesota 55347</b> BMP's are in place. Pit is being used. Rock ditch checks installed along with silt fences.	<b>2019-05-21</b>
<b>2018-049</b>	<b>D'Alessandro Home - Existing Single-Family</b> <b>18702 Heathcote Dr. Deephaven, Minnesota 55391</b> Construction continues. Perimeter control installed. Bio-logs installed. Rock entrance is ok. Minor tracking to street.	<b>2019-05-22</b>
<b>2018-050</b>	<b>Eden Prairie Cemetery - Private - Commercial/Industrial</b> <b>8810 Eden Prairie Road Eden Prairie, Minnesota 55437</b> Contour survey stakes recently installed onsite. No construction to date.	<b>2019-05-21</b>
<b>2018-052</b>	<b>HCRRA Culvert Replacement - Government - Linear</b> <b>Hennepin County Wayzata and Deephaven, Minnesota 55401</b> Construction complete. BMP's installed. Vegetation growth observed thru matting. Site is stable.	<b>2019-05-22</b>
<b>2018-053</b>	<b>Roberts Residence - Existing Single-Family</b> <b>5925 Ridge Road Shorewood, Minnesota 55331</b> BMP's installed. Construction resumed. BMP's are in good condition.	<b>2019-05-22</b>
<b>2018-055</b>	<b>Park Trail Improvement Project - Government - Other</b> <b>1700 W. 98th Street Bloomington, Minnesota 55431</b> East side completed. Exposed soils covered with spray-tac'd. Bio logs in place. West side-trail completed; exposed soils-spray tac'd. Curb gutter repairs in parking lot completed. BMP 's are ok.	<b>2019-05-21</b>
<b>2018-056</b>	<b>Bluff Creek Restoration - Government - Other</b> <b>Liberty on Bluff Creek, Outlot B Audubon Road Chanhassen, Minnesota 55317</b> Survey stakes observed. No construction activity observed to date. No change since last monthly inspection.	<b>2019-05-21</b>
<b>2018-058</b>	<b>Walker Home - Existing Single-Family</b> <b>9108 Stephens Pointe Eden prairie, Minnesota 55347</b> No change since last inspection. Perimeter control installed. Rock entrance is installed-recently refreshed. Excavation and foundation complete-structure construction continues. BMP's look good to date. <b>Catch basin protection needed downstream of driveway. CA opened. Site representative was re-notified. Silt fences on SE corner of site may need attention going into wet season.</b>	<b>2019-05-21</b>

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<b>2018-059</b>	<b>Mason Point Landscaping - Existing Single-Family 15363 Mason Pointe Eden Prairie, Minnesota 55347</b>	<b>2019-05-21</b>
	No change since last monthly inspection. Trees within construction area have been marked. No other activity observed to date.	
<b>2018-060</b>	<b>Loichinger Residence</b>	<b>2019-05-21</b>
	No change since last monthly inspection. Construction continues. Perimeter silt fence installed. Biorolls removed. Site representative onsite--driveway and grading to occur soon.	
<b>2018-061</b>	<b>McCoy Lake Inlet Sediment Removal - Government - Other Mitchell Road and Cumberland Road Eden Prairie, Minnesota 55347</b>	<b>2019-05-21</b>
	No change since last monthly inspection. Access to site completed. No BMP's installed to date. No construction to date.	
<b>2018-063</b>	<b>Lake Susan Trail Rehab 2018 - Government - Other 903 Lake Drive East Chanhassen, Minnesota 55317</b>	<b>2019-05-21</b>
	Construction complete. BMP's in place-bio-rolls. Soils covered and seeded. Grass has sprouted.	
<b>2018-064</b>	<b>Balaen Home - Existing Single-Family 18366 82nd St W Eden Prairie, Minnesota 55347</b>	<b>2019-05-21</b>
	Construction continues. Perimeter control installed. Rock entrance installed. BMP's look ok. Biorolls could be installed at curb side.	
<b>2018-067</b>	<b>Hennepin Co Library - Eden Prairie Branch Refurb - Government - Other 565 Prairie Center Drive Eden Prairie, Minnesota 55344</b>	<b>2019-05-21</b>
	No activity observed to date.	
<b>2018-068</b>	<b>DriSteem Warehouse Expansion - Private - Commercial/Industrial 14949 Technology Drive Eden Prairie, Minnesota 55344</b>	<b>2019-05-21</b>
	No change since last monthly inspection. ---Construction continues. Catch basin protection installed. Bio-rolls in place onsite.	
<b>2018-072</b>	<b>Hyland Park Parking Lot Improvements - Government - Other 10145 E Bush Lake Rd Bloomington, Minnesota 55438</b>	<b>2019-05-21</b>
	Construction has started. BMP's installed. Perimeter control good. Site control good.	
<b>2018-073</b>	<b>Preserve Boulevard Reconstruction- Government - Linear Preserve Boulevard Eden Prairie, Minnesota 55344</b>	<b>2019-05-21</b>

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## Riley Purgatory Bluff Creek Watershed District Permit Application Review

**Permit No:** 2018-028

**Considered at Board of Managers Meeting:** June 5, 2019

**Project Procedural History:** Permit application conditionally approved at September 5, 2018 meeting. The applicant requests approval of a modification of the application.

**Modification Request Received complete:** January 22, 2019. The applicant submitted two separate requests to extend the permit review timeline, which were approved by RPBCWD staff. The initial request extended the timeline to May 22, 2019 while the second extended the period until July 21, 2019.

**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 infiltration basin will provide storm water rate, volume and quality control.

**Location:** 13400 Staring Lake Parkway Eden Prairie, Minnesota 55347

**Reviewer:** Leslie DellAngelo, 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 June 5, 2019 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	See Comment	See rule-specific permit condition D1.	
J	Stormwater Management	Rate	Yes	
		Volume	See comment	See stipulation 1
		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. A surface infiltration basin will provide storm water rate, volume and quality control. A propriety flow control device is proposed to limit discharge leaving the infiltration basin. Purgatory Creek runs through an adjacent property that is also owned by the school district. Updated project site information based on the proposed modified design is summarized below. The conditions of the September 2018 approval were not fulfilled and the permit has not yet issued. **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 2018-028	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:	0.457 (5.7% disturbance)	0.196 (2.5% disturbance)

	Conditionally Approved 2018-028	Modification Request 2018-028
New (Increase) in Site Impervious Area (acres)	0.364 (4.6% increase)	0.677 (8.4% increase)
Post Construction Site Impervious (acres)	8.324	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 January 22, 2019
2. Permit review period extension requests were received on February 12, 2019 (first 60 day request) and April 24, 2019 (second 60 day extension request)
3. Stormwater Management Report – Oak Point Elementary Parking Lot dated January 22, 2019 (Revised May 10, 2019 and May 14, 2019)
4. Project Plan Set (10 sheets) dated January 31, 2019 (revision received May 10 ,2019 and May 14, 2019)
5. Draft Geotechnical Evaluation Report dated April 25, 2018 (Braun Intertec).
6. HydroCAD Models received January 22, 2019 (revision received May 10 ,2019 and May 14, 2019)
7. P8 Model Received January 22, 2019(revision received May 10 ,2019)
8. Draft Maintenance declaration and exhibits unsigned and undated
9. Draft Operations and Maintenance Agreement received January 22, 2019 (revision received May 10 ,2019 and May 14, 2019)
10. Stormwater Management – Restricted Site Memo dated April 5, 2019
11. Response to comments received May 10, 2019 and May 14, 2019.

#### **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.)

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.

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

- D1. The submittal included a draft maintenance agreement. Buffer areas and maintenance requirements must be documented in a written agreement after review and approval by RPBCWD in accordance with Rule D, Subsection 3.4.

**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 infiltration basin with pretreatment to provide runoff volume abstraction, water quality treatment, and rate control. A propriety flow control device is proposed to limit discharge leaving the infiltration basin. Pretreatment of runoff prior to entering the infiltration 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	1.7	0.7	3.4	1.3	7.1	3.6	0.3	0.1
South to Pond	13.4	12.5	22.9	21.0	40.3	36.5	1.0	0.9
Staring Lake Parkway	2.1	1.1	4.2	2.4	8.6	4.9	0.4	0.2

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 requires 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 includes a surface infiltration 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. Soil borings show groundwater at a boring depth of 12 feet, corresponding to elevation 826.5. Because the proposed bottom of the surface infiltration basin will be at elevation 836.8, the groundwater is at least 3 feet below the bottom of the proposed infiltration 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 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 infiltration, the engineer finds that the applicant has maximized stormwater abstraction in accordance Subsection 3.3a of Rule J. The designed abstraction performance for the project site is summarized in the table below.

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Depth (inches)	Provided Abstraction Volume (cubic feet)
1.1	3,446	0.74	2,312

The table below summarizes the volume abstraction on the site. Based on information reviewed, the proposed project conforms to Rule J, Subsection 3.3.a.

**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 infiltration 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)	736	662 (90%)	726 (98.6%)
Total Phosphorus (TP)	2.4	1.4 (60%)	2.0 (83.3%)

**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)	603	10	-593
Total Phosphorus (TP)	1.9	0.4	-1.5

**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	838.11	15.99

***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.

- J1. Maintenance requirements must be documented in a written agreement after review and approval by RPBCWD in accordance with Rule J, Subsection 3.7. The submittal included a draft maintenance agreement. Prior to signing the agreement, manufacturer maintenance information for the propriety flow control device must be submitted for review and incorporated into the agreement.

***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 and release the \$5,000 in financial assurance held for the purpose, 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.

**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. Permit close out is dependent on the permit holder providing as-built drawings that show that the project was constructed as approved by the Managers and in conformance with the RPBCWD rules and regulations.

**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 and will conform to Rules D and J if the Rule Specific Permit Conditions listed above are met.

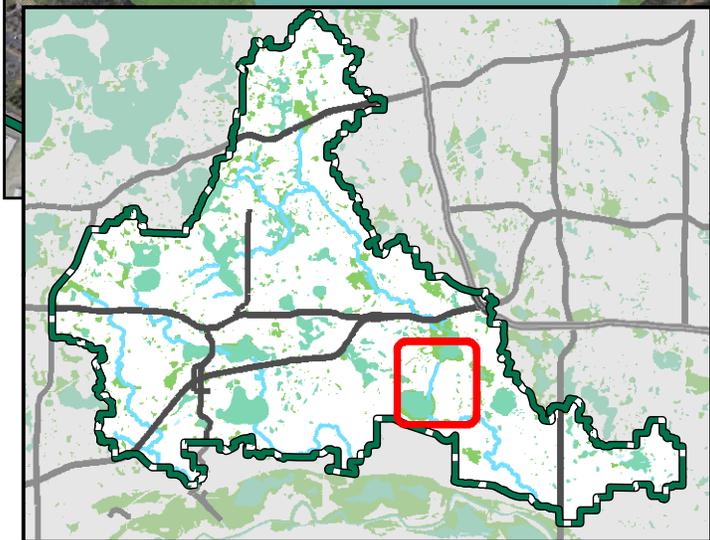
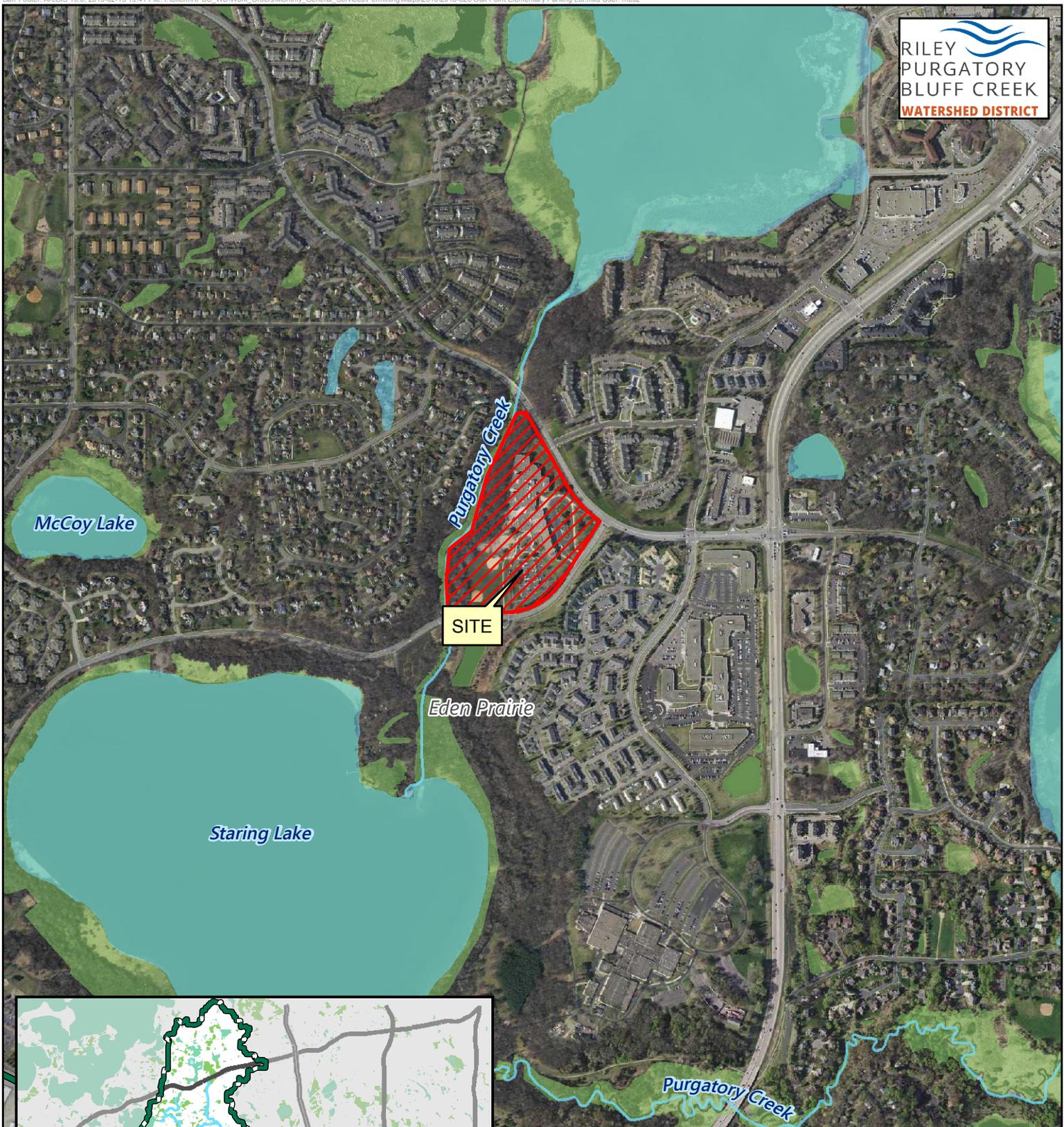
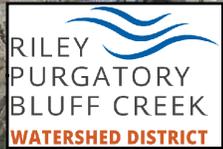
**Recommendation:**

Approval of the permit modification requested, including extension of term to September 5, 2020, contingent upon:

1. Continued compliance with General Requirements.
2. Permit applicant must enter into a maintenance agreement for the management of stormwater BMPs and buffer areas, including exhibit clearly identifying buffer area, buffer monument locations and all stormwater BMPs. The submittal included a draft maintenance agreement. Prior to signing the agreement, manufacturer maintenance information for the proprietary flow control device must be submitted for review and incorporated into the agreement.

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

1. 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 divided by 2. 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).
2. 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.
3. 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.
4. 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.



Feet



Permit Location Map

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

**PARKING LOT CONSTRUCTION**  
Oak Point Intermediate School  
EDEN PRAIRIE PUBLIC SCHOOLS  
810 School Road  
Eden Prairie, Minnesota 55344

**ANDERSON-JOHNSON ASSOCIATES, INC.**  
LANDSCAPE ARCHITECTURE • SITE PLANNING • CIVIL ENGINEERING  
715 GARDEN VALLEY ROAD, SUITE 200 • MINNETONKA, MN 55342  
PHONE 954-1739

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. 23343 Date 03/23/2018

Project No. 18079  
Date 03/15/2018  
Drawn By JRP  
Checked By JRP  
Revisions

**EXHIBIT A**

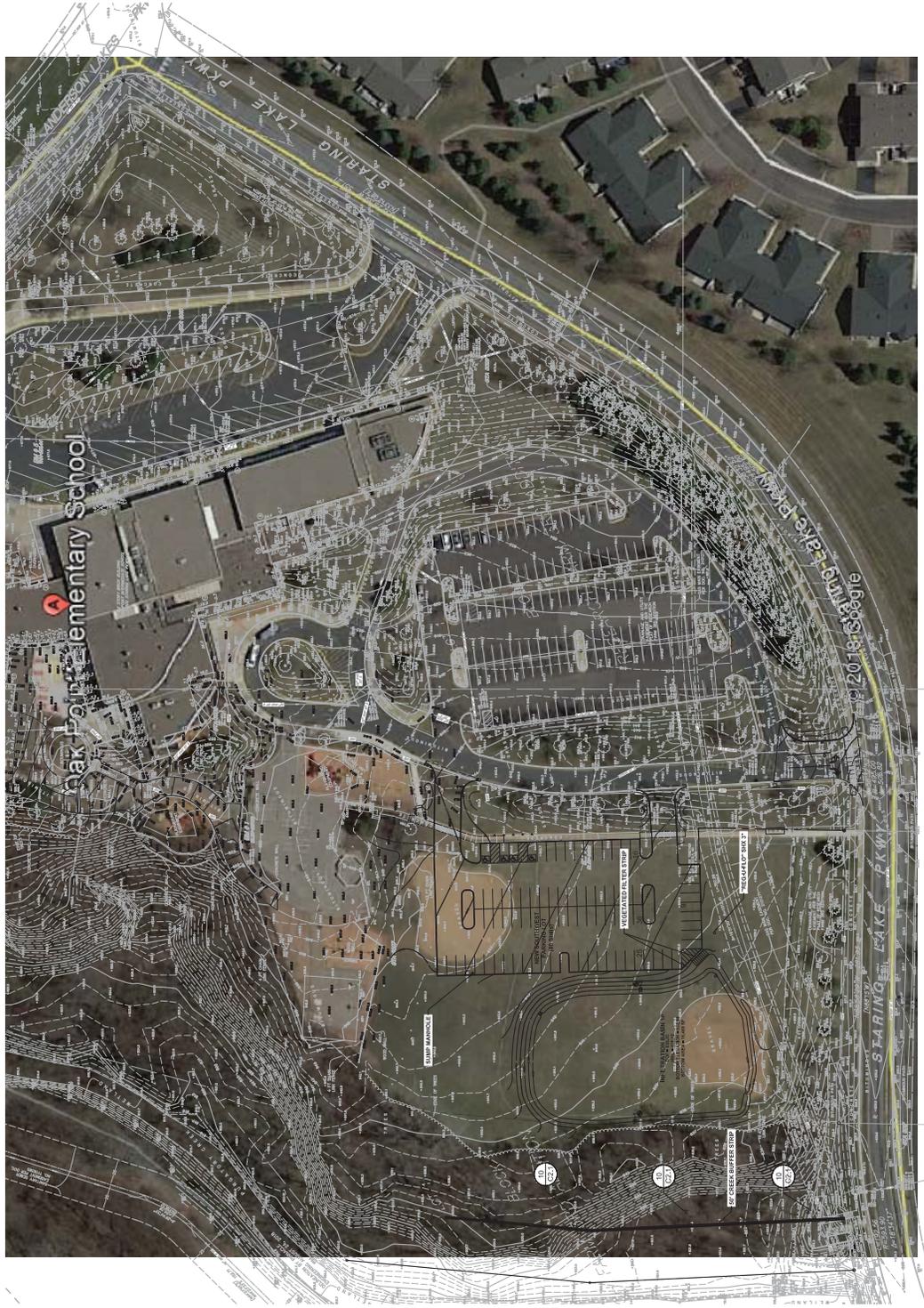


EXHIBIT A - WETLAND BUFFER  
SCALE: 1" = 50'

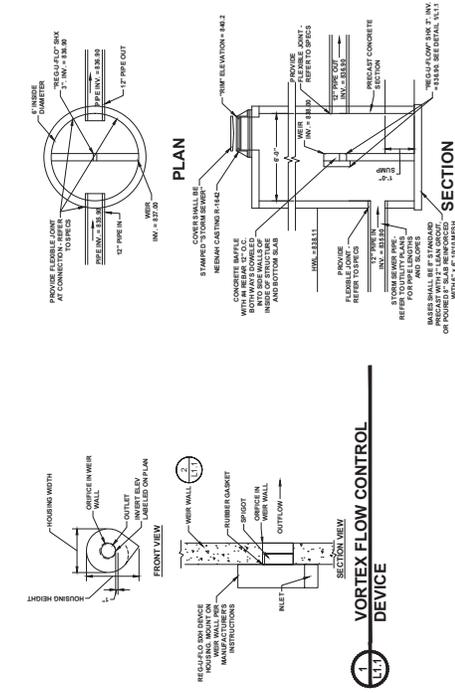
**NOT FOR CONSTRUCTION**  
2019-05.21 Watershed



**NOTES:**

- REFER TO SHEET C12, GRADING AND DRAINAGE PLAN, FOR GENERAL NOTES.
- MAINTAIN DISTANCE TO DATE AND PROTECT EXISTING VEGETATION AND SITE FEATURES (CURBS, WALKS, PAVEMENTS, OVERHEAD AND UNDERGROUND UTILITIES, SIGNAGE, FENCING, ROADWAYS, ETC.) WHICH ARE TO REMAIN.
- REPAIR OR REPLACE EXISTING PROPERTY AND SITE FEATURES, INCLUDING GRASSES AND VEGETATION, WHICH IS TO REMAIN THAT IS DAMAGED BY THE WORK, TO OWNERS SATISFACTION AND AT NO ADDITIONAL COST TO THE OWNER.
- 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.
- CONTRACTOR SHALL HIRE THE SERVICES OF A UTILITY LOCATOR COMPANY TO LOCATE ALL PRIVATELY OWNED UTILITIES THAT MAY BE DISTURBED BY CONSTRUCTION OPERATION.
- ALL APPLICABLE DIMENSIONS ARE TO FACE OF CURB, EDGE OF PAVEMENT OR PROPERTY LINE UNLESS OTHERWISE NOTED.
- STORAGE SHALL BE INSTALLED 15' BEHIND THE BACK OF CURB OR EDGE OF PAVEMENT.
- ALL DISTURBED AREAS OUTSIDE THE BUILDING PAD WHICH ARE NOT DESIGNATED TO BE PAVED SHALL RECEIVE AT LEAST 4" OF TOP SOIL AND SHALL BE SOODED.
- WHERE NEW SOO MEETS EXISTING TREE, EXISTING TREE EDGE SHALL BE CUT TO ALLOW FOR A CONSISTENT, UNIFORM STRAIGHT EDGE. JAGGED OR UNEVEN EDGES WILL NOT BE ACCEPTABLE. REMOVE TOP SOIL AT JOINT BETWEEN EXISTING AND NEW AS REQUIRED TO ALLOW NEW SOO SURFACE TO BE FLUSH WITH EXISTING.
- FAILURE OF TURF DEVELOPMENT: IN THE EVENT THE CONTRACTOR FAILS TO PROVIDE AN ACCEPTABLE TURF, THE CONTRACTOR SHALL RE-SOO ALL APPLICABLE AREAS AT NO ADDITIONAL COST TO THE OWNER, TO THE SATISFACTION OF THE ENGINEER.
- LANDSCAPE ARCHITECT MUST INSPECT AND APPROVE FINISH GRADING BEFORE CONTRACTOR PROCEEDS WITH SOODING.
- ALL TREES TO BE BALLED AND BURLAPPED.
- ALL TREES AND SHRUBS SHALL RECEIVE 4" DEPTH OF CLEAN SHREDED HARDWOOD MULCH, UNLESS OTHERWISE SPECIFIED.
- 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 BEGRUNTINGHIGHER THAN 6'.
- CONTRACTOR SHALL MAINTAIN PROPER SOO DRAINAGE AND CONSTRUCTION MUST BE DESIGNED TO AVOID A SOO. SOO COMPACTON TESTING PRESSURE OF LESS THAN 200 PSI IN THE UPPER 12 INCHES OF THE SOO PROFILE WHILE TAKING CARE TO PROTECT UTILITIES, TREE ROOTS AND OTHER EXISTING VEGETATION.

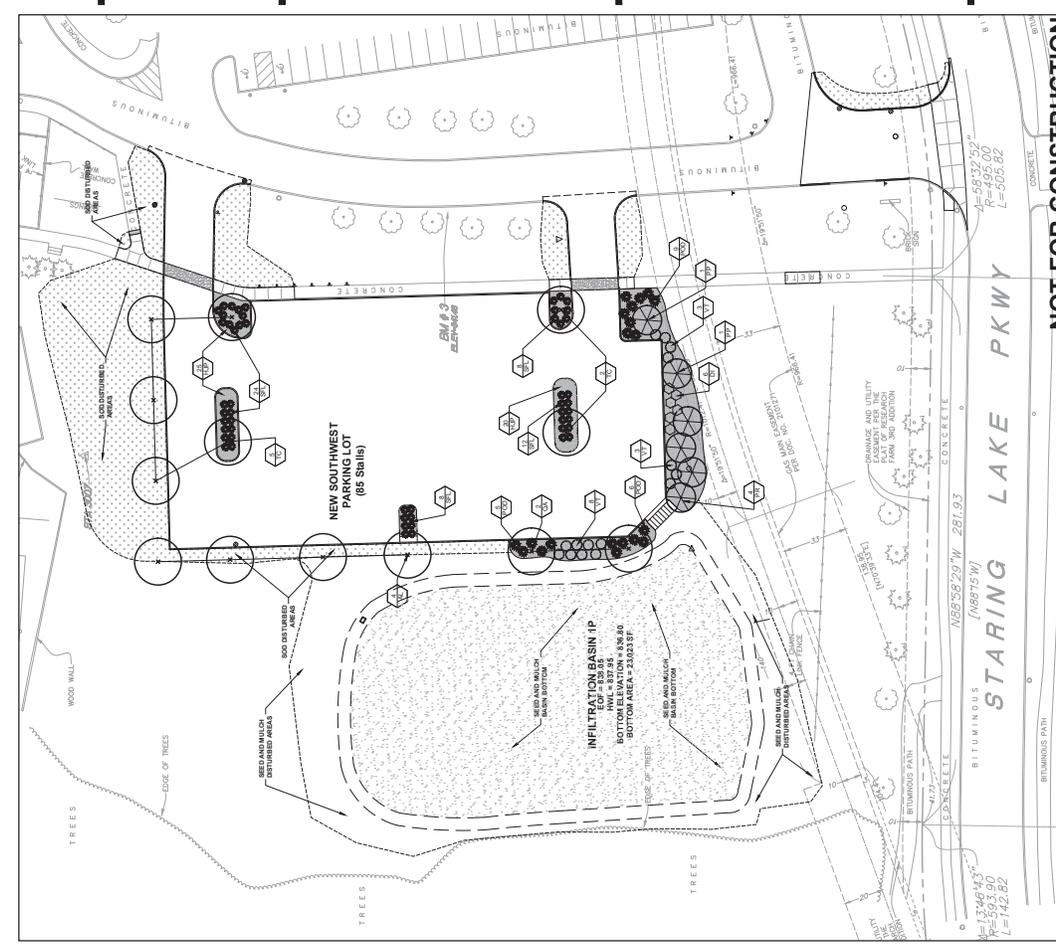
SYMBOL	COMMON NAME	SCIENTIFIC NAME	QTY.	SIZE	ROOT
<b>DECIDUOUS SHADE TREES</b>					
AL	EMERALD LUMBER MAPLE	Acer glaberrimus 'Pony'	4	12-17" cal.	B&B
TC	RED BARKED DOGWOOD	Thuja occidentalis 'Greenovo'	2	12-17" cal.	B&B
GA	SQUARES ASSEN	Thuja occidentalis	13	12-17" cal.	B&B
<b>CONIFEROUS TREES</b>					
PD	PONDEROSA PINE	Pinus ponderosa	2	6'	B&B
PR	NORWAY PINE	Pinus resinosa	4	6'	B&B
<b>SHRUBS</b>					
POD	LITTLE DEVIL NINEBARK	Physocarpus opulifolius 'Diana May'	20	#5	Cont.
GE	DWARF BUSH HONEYSUCKLE	Diervilla lonicera	6	#5	Cont.
GL	GLORIOUS GARDEN SPIDER	Spirea japonica	6	#5	Cont.
VT	COMPACT AMER CRANBERRY BUSH	Viburnum tinctoria 'Bailey Compact'	14	#5	Cont.
<b>PERENNIAL/CLIMBERAL GRASSES/VINES</b>					
HUP	JUST FLUDDY HAPPY DANTLY	Hemerocallis 'Just Plum Happy'	45	#2	Cont.



**LANDSCAPING LEGEND**

- REFERENCE KEY TO SITE DETAILS
- DETAILED TREE (TOP)
- DETAILED TREE (BOTTOM)
- PROPOSED DECIDUOUS TREE
- PROPOSED CONIFEROUS TREE
- PROPOSED SHRUBS
- APPROXIMATE SOO LIMITS
- PROPOSED SHRUBS/MULCH RED
- PROPOSED TRAFFIC CONTROL SIGN
- PROPERTY LINE

**APPROXIMATE AREAS (RELATED TO NEW PARKING LOT):**  
 NEW PARKING LOT AND DRIVE AREA = 14,103 SF. X 8% = 1,129 SF.  
 ISLAND/LANDSCAPE AREAS WITHIN AND AT EDGES OF NEW PARKING = 4,237 SF. (MEETS CITY REQ. 12%)



**LANDSCAPING PLAN**

Project No. 19051  
 Date 07/15/2019  
 Drawn By JSE  
 Check By JSE  
 Revisions

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

ANDERSON-JOHNSON ASSOCIATES, INC.  
 LANDSCAPE ARCHITECTURE • CIVIL ENGINEERING • SITE PLANNING • PLANNING  
 1000 W. WASHINGTON AVE. SUITE 200  
 MINNEAPOLIS, MN 55402  
 TEL: 612.338.1100  
 FAX: 612.338.1101  
 WWW.AJASOCIATES.COM

**EDEN PRAIRIE PUBLIC SCHOOLS**  
 Oak Point Elementary School  
 8100 School Road  
 Eden Prairie, Minnesota 55344

**PARKING LOT CONSTRUCTION**

Sheet 11

**LANDSCAPING PLAN**  
 SCALE: 1" = 30'

**NOT FOR CONSTRUCTION**  
 2019-05.21 Watershed

## Riley Purgatory Bluff Creek Watershed District Permit Application Review

**Permit No:** 2018-043

**Considered at Board of Managers Meeting:** Board Conditionally approved at the August 8, 2018 meeting. Modification considered at the June 5, 2019 meeting

**Modification Request Received complete:** May 9, 2019

**Original Application Received complete:** July 13, 2018

**Applicant:** Zion investment LLC

**Consultant:** Trevor Gruys, Loucks

**Project:** Control Concepts – This project includes the construction of an approximately 38,000 SF Office, Manufacturing and Warehouse facility, parking, drive aisle, trail and the installation of an underground detention/infiltration system with pretreatment to provide runoff volume abstraction, water quality treatment, and rate control.

**Location:** 8077 Century Boulevard, Chanhassen, Minnesota 55317

**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 June 5, 2019 meeting of the managers:

Resolved that the application for modification to Permit 2018-043 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 2018-043 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>C</b>	<b>Erosion Prevention and Sediment Control</b>	See Comment	See Rule Specific Permit Condition C1.	
<b>D</b>	<b>Wetland and Creek Buffer</b>	See Comment	See Rule Specific Permit Condition D1.	
<b>J</b>	<b>Stormwater Management</b>	Rate	Yes.	
		Volume	See Comment	See Stipulation 1.
		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	Yes.	
<b>L</b>	<b>Permit Fee</b>	See Comment	\$5,500 was received on 6/19/18.	
<b>M</b>	<b>Financial Assurance</b>	See Comment	The financial assurance has been calculated at \$324,800.	

**Project Description**

This project includes the construction of an approximately 38,000 square foot office, manufacturing, and warehouse facility, parking, drive aisle, trail, and the installation of an underground detention/infiltration system with pretreatment to provide runoff volume abstraction, water quality treatment, and rate control. Pretreatment of runoff prior to entering the underground detention/infiltration system is provided by sump manholes. Updated project site information based on the proposed modified design is summarized below. The conditions of the August 2018 approval were not fulfilled and the permit has not yet issued. **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 2018-043	Modification Request 2018-043
Total Site Area (acres)	5.23	5.23
Existing Site Impervious (acres)	0.007	0.007

	Conditionally Approved 2018-043	Modification Request 2018-043
Existing Impervious Area to be Disturbed and replaced:	0.007 (100% disturbance)	0.007 (100% disturbance)
New (Increase) in Site Impervious Area (acres)	3.23 (>100% increase)	2.509 (>100% increase)
Exempt Impervious Trail (acres)	0.074	0.074
Total Disturbed Area (acres)	4.07	4.20

Exhibits for Modification Request:

1. Email modification request received May 8, 2019
2. Control Concepts Hydrology Report dated May 3, 2019 (revised May 23, 2019)
3. Project Plan Set (15 sheet) dated May 9, 2019 (sheets C1-1 to C8-4 revised May 23, 2019)
4. HydroCAD Models received May 9, 2019 (revision received May 23, 2019)
5. P8 Model Received May 9, 2019 (revision received May 23, 2019)
6. Operations and Maintenance Plan received May 9, 2019
7. Response to comments dated May 23, 2019
8. Draft Chloride Management plan received May 23, 2019

**Rule Specific Permit Conditions**

**Rule C: Erosion and Sediment Control**

Because the project will alter 4.2 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 Loucks, 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. To conform to the RPBCWD Rule C requirements the following revisions are needed:

- C1. The Applicant must provide the name and contact information of the individual responsible for erosion control at the site. RPBCWD must be notified if the responsible individual changes during the permit term.

**Rule D: Wetland and Creek Buffers**

Because the proposed work triggers a permit under RPBCWD Rule J and the onsite wetland is protected by the state Wetland Conservation Act, Rule D, Subsections 2.1a and 3.1 require buffer on the portion of

the wetland downgradient from the proposed land-disturbing activities. No draining, filling of the onsite wetland is proposed.

A 2018 wetland delineation for the site was conducted by Terracon Consultants, Inc. and the report was included with the submittal. The MnRAM analysis submitted on July 13, 2018, indicates that the wetland onsite is a medium value wetland (Appendix D1). Rule D, Subsection 3.1.a.iii requires a wetland buffer with an average of 40 feet from the delineated edge of the wetland, minimum 20 feet. The buffer widths are summarized in the table below.

Regulated Feature	RPBCWD Wetland Value	Require Minimum Width <sup>1</sup> (ft)	Require Average Width <sup>1</sup> (ft)	Provided Minimum Width (ft)	Provided Buffer Width(ft)
Wetland	Medium	20	40	20	40

<sup>1</sup> Average and minimum required buffer width based on Rule D, Subsection 3.1.a

The Applicant is proposing revegetating disturbed areas within the proposed buffer with native vegetation 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.

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

- D1. Buffer areas and maintenance requirements must be documented in a declaration recorded after review and approval by RPBCWD in accordance with Rule D, Subsection 3.4.

**Rule J: Stormwater Management**

Because the project will alter 4.2 acres of land-surface area, increase the imperviousness of the entire site by more than 50%, the project must meet the criteria of RPBCWD’s Stormwater Management rule (Rule J, Subsection 2.3) for all the impervious surface on the site.

The project includes installation of an underground detention/infiltration system with pretreatment to provide runoff volume abstraction, water quality treatment, and rate control. Pretreatment of runoff prior to entering a detention/infiltration system is provided by sump manholes.

**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
Century Boulevard	0.4	0.2	0.7	0.3	1.4	0.5	<0.1	<0.1
Wetland	5.1	2.7	10.3	8.1	23.6	15.8	1.0	0.4

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

**Volume Abstraction**

Subsection 3.1.b of Rule J requires the abstraction onsite of 1.1 inches of runoff from the impervious surface of the parcel. An abstraction volume of 10,018 cubic feet is required from the 109,292 square feet of regulated impervious area on the project for volume retention. The project includes an underground detention/infiltration system, with pretreatment using sump manholes, 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 with one area being underlain by silty sand soils. The construction drawings indicate the project will excavate below the underground detention/infiltration system to connect the system to the underlying sands. This will improve the infiltration and abstraction capacity of the proposed project. The MN Stormwater Manual indicates an infiltration rate of 0.45 inches per hour for silty sand soils.

The soil boring at the underground infiltration system (ST-4) showed groundwater at elevation of 949 feet. Because the proposed bottom on the underground detention/infiltration system is at elevation 957.67 there is more than the required 3 feet separation (Rule J, Subsection 3.1.b.ii).

The table below summarizes the volume abstraction on the site. Based on information reviewed, the proposed project conforms to Rule J, Subsection 3.1.b.

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Depth (inches)	Provided Abstraction Volume (cubic feet)
1.1	10,018	1.11	10,141

**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 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)	2031	1828 (90%)	1848 (91%)
Total Phosphorus (TP)	6.5	3.9 (60%)	5.3 (82%)

**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)	294	181	-113
Total Phosphorus (TP)	1.3	1.0	-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 according to Rule J, Subsection 3.6. The low floor elevation of the adjacent Control Concepts building and the adjacent stormwater management feature is summarized below. The information demonstrates the project meets the requirements of Rule J, Subsection 3.6.

Location Riparian to Stormwater Facility	Low Floor Elevation of Building (feet)	100-year Event Flood Elevation of Adjacent Stormwater Facility (feet)	Freeboard (feet)
Control Concepts Building	971.4	965.44	5.96

***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.

- J1. Permit applicant must provide a draft maintenance and inspection plan. Once approved by RPBCWD, the plan must be recorded on the deed in a form acceptable to the District.

***Wetland Protection***

Because the proposed activities discharge to a wetland on the site, the proposed activities must conform to RPBCWD wetland protection criteria (Rule J, subsection 3.10). The applicant provided information demonstrating that the peak runoff rates are reduced for the 1, 2, and 10-year events and the durations of runoff only changes by less than 2 hours, thus the change in inundations conforms to the criteria in subsection 3.10a. Distributing the increased runoff volume for the 10-year event (871 cubic feet) over the area of the wetland, which extends offsite, would result in less than an inch change in inundation depth, thus the design produces discharge to the wetland that meets the RPBCWD wetland protection criteria (Rule J, subsection 3.10a).

The applicant is not proposing to use the wetland as part of the stormwater management system. As summarized in the water quality analysis above, the site runoff tributary to the wetland will be treated by an underground detention/infiltration system and vegetated swale to provide 91% TSS removal and 82% TP removal prior to discharge to onsite wetlands in accordance with Rule J, subsection 3.10b.

***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 applicant submitted a partially complete chloride management plan using the template available on the RPBCWD permitting webpage. However, the draft was missing information. To close out the permit and release the \$5,000 in financial assurance held for the purpose, Permit applicant must provide a chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan at the site.

**Rule L: Permit Fee:**

Fees for the project are:

Rule C & J .....\$3,000

The RPBCWD permit fee schedule adopted in January 2019 provides that costs of site inspections, analysis of the proposed activities, services of consultants and compliance assurance in excess of \$3,500 for properties between 5 acres and 9.99 acres will be charged to the permit applicant. In accordance with the adopted RPBCWD permit-fee schedule, because the engineer and legal time to review this permit exceeded \$3,500 the applicant must submit an additional permit fee of \$636.20 for excess cost recovery. Because the applicant provided a permit fee of \$5,500 on June 18, 2018 the \$636.20 for the excess cost of recovery is covered by the original fee submitted.

**Rule M: Financial Assurance:**

Rule C: Perimeter Control: 1,190 L.F. x \$2.50/L.F. = .....\$3,000

Inlet protection: 12 x \$100 = .....\$1,200

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

Restoration: 4.1 acres x \$2,500/acre = .....\$10,200

Rule J: Underground Detention/Infiltration: 125% of Engineer’s Opinion of Cost

(1.25\*\$220,000) = .....\$275,000

Chloride Management Plan: .....\$5,000

Contingency (10%) .....\$29,500

Total Financial Assurance.....\$324,800

**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. Return or allowed expiration of any remaining surety and permit close out is dependent on the permit holder providing proof that all required documents have been recorded and providing as-built drawings that show that the project was constructed as approved by the Managers and in conformance with the RPBCWD rules and regulations.

**Findings**

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

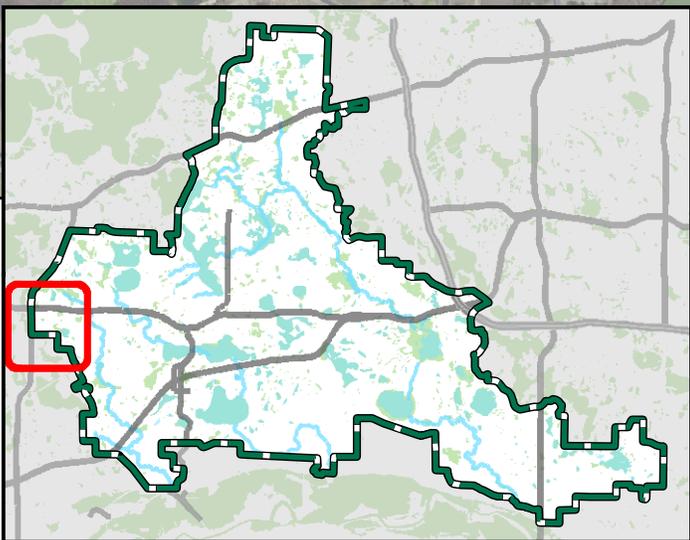
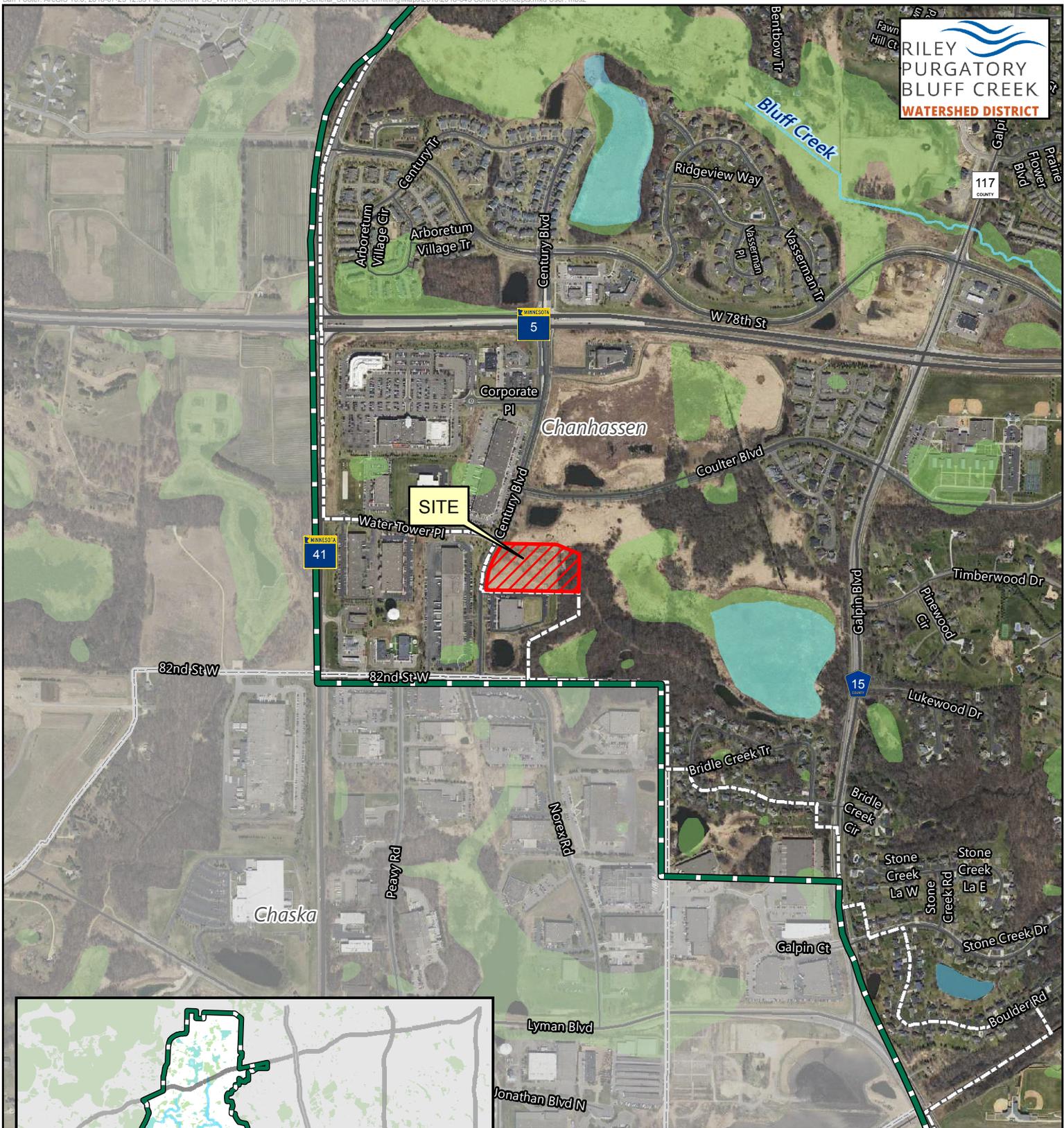
**Recommendation:**

Approval of the permit modification requested, including extension of term to August 8, 2020, contingent upon:

1. Continued compliance with General Requirements.
2. Financial Assurance in the amount of \$324,800.
3. Applicant providing the name and contact information of the individual responsible for erosion and sediment control at the site.
4. Receipt in recordation a maintenance declaration for the operation and maintenance of the buffer and stormwater management facilities. A draft must be approved by the District prior to recordation.

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

1. Per Rule J, Subsection 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 divided by 2. 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).
2. 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.
3. The work on the Control Concept parcel under the terms of permit 2018-043, 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. To close out the permit and release the \$5,000 in financial assurance held for the purpose, 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.



Feet

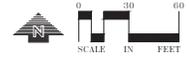


Permit Location Map

CONTROL CONCEPTS

**Permit 2018-043**

Riley Purgatory Bluff Creek  
Watershed District



NOTE:  
EXISTING CONDITIONS INFORMATION SHOWN IS PROVIDED BY LOUCKS. REFER TO ALTA/NSPS LAND TITLE SURVEY DATED 05/08/18 FOR COMPLETE SURVEY INFORMATION.

**interiors | architecture**  
701 France Avenue S. Suite 200, Edina, Minnesota 55435  
612-481-9007 Fax: 612-481-9200  
www.bdfyoung.com

Project Information  
CONTROL CONCEPTS

8077 CENTURY BLVD  
CHANHASSEN, MN

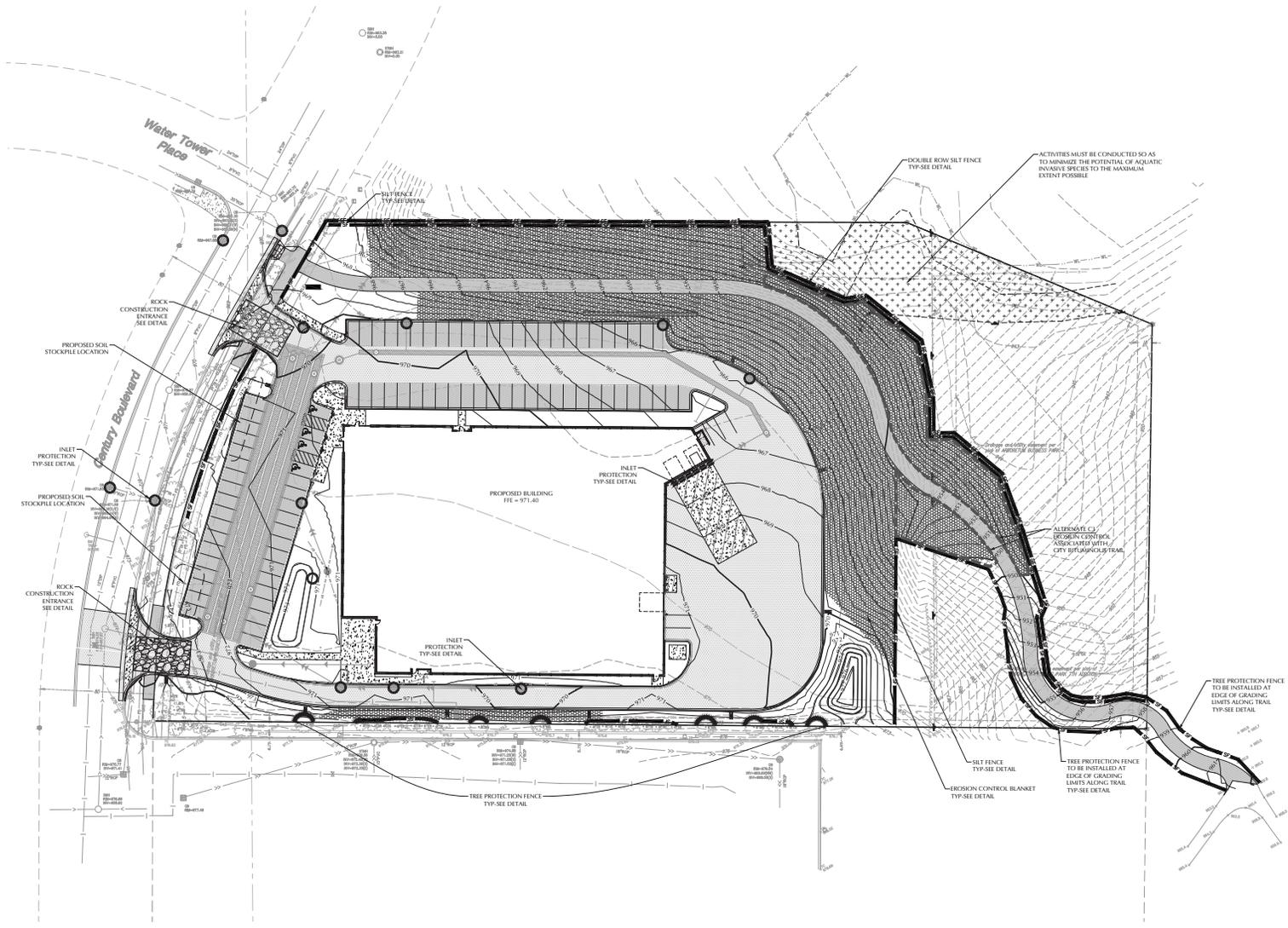
NOT FOR CONSTRUCTION

**CIVIL LEGEND**

SYMBOL	DESCRIPTION
○	STAIRWAY MANHOLE
○	STORM MANHOLE
○	SEWER MANHOLE
○	OUTLET
○	HYDRANT
○	GATE/VALVE
○	POST MOUNTED VALVE
○	LIGHT POLE
○	POWER POLE
○	SOIL
○	ROCKING
○	SOIL BORING
○	WATER MANHOLE
○	TELEPHONE MANHOLE
○	UTILITY MANHOLE
○	ELECTRIC MANHOLE
○	WATER SERVICE
○	SEWER SERVICE
○	TRUNK/UP PAVING
○	DIRECTION OF FLOW
○	PIPE ELEVATION
○	CUTWAYS
○	SEWER SHED
○	STORM SHED
○	WATERSHED
○	PROXIMITY
○	SILT FENCE
○	GRASS & BOTTLE
○	RETAINING WALL
○	TRELLIS
○	EXISTING WALL
○	SEWER LINE
○	FINISH LINE
○	UNDERGROUND TILE
○	UNDERGROUND GAS
○	UNDERGROUND FUEL OIL
○	UNDERGROUND ELECTRIC
○	UNDERGROUND CABLE TV
○	PROPERTY LINE
○	CONTOUR TREE
○	BODIGUUS TREE
○	PARKING COUNTS
○	BLUFF CREEK OVERLAY DISTRICT

**SWPPP LEGEND**

○	SILT FENCE
○	NO ROCKS
○	INLET PROTECTION
○	EXISTING DRAINAGE PATTERN
○	PROPOSED DRAINAGE PATTERN
○	EROSION CONTROL BLANKET
○	ROCK CONSTRUCTION ENTRANCE



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763.424.0200  
www.loucksinc.com  
LOUCKS PROJECT NO. 17546

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

Printed Name: *Trevor D. Gruys*  
Signature: *Trevor D. Gruys*  
Date: XX/XX/2019  
Lic # 53706

**Issue Record**

1	06-15-18	CITY SUBMITTAL
2-3		CONTACT CIVIL FOR 2-3
4	07-27-18	WATERSHED RESUBMITTAL
5	08-02-18	CITY RESUBMITTAL
6	08-03-18	GMP PRICING SET
7	08-03-18	CITY SUBMITTAL
8	08-08-18	WATERSHED SUBMITTAL
9	08-23-18	WATERSHED RESUBMITTAL

FOR INFORMATION ONLY  
Sheet Title  
STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Sheet Information

Date  
2019-23-09

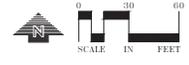
C3.2

**CALL BEFORE YOU DIG!**  
Gopher State One Call  
TOLL FREE: 1-800-552-1000

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THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT A MINIMUM 48 HOURS BEFORE ANYWHERE THE LOCATION OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, HANDHOLES, VALVES, OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ANYONE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

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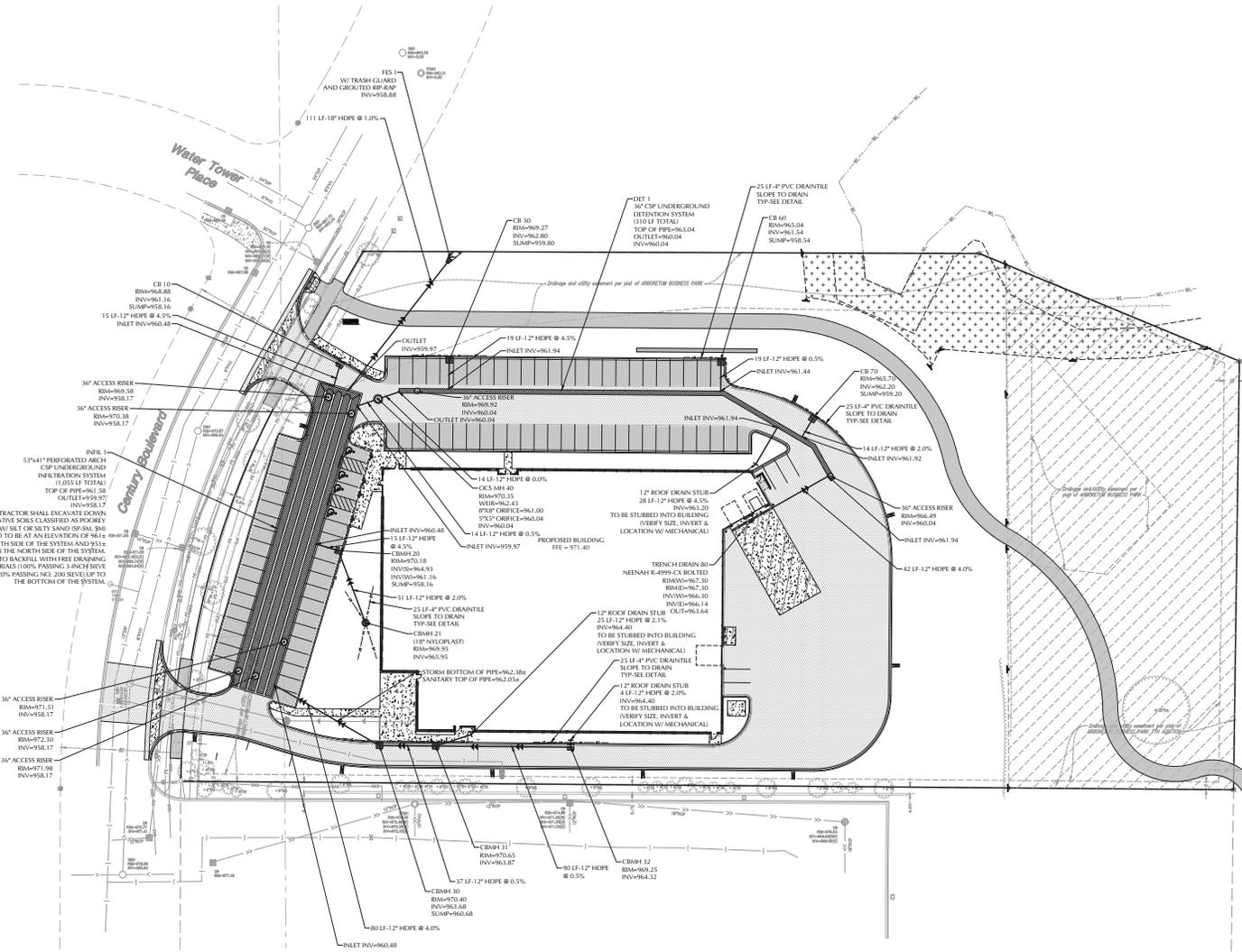
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NOTE:  
 EXISTING CONDITIONS INFORMATION SHOWN IS  
 PROVIDED BY LOUCKS. REFER TO ALTA/NPS LAND  
 TITLE SURVEY DATED 05/08/18 FOR COMPLETE  
 SURVEY INFORMATION.

**CIVIL LEGEND**

SYMBOL	DESCRIPTION
○	STORM MANHOLE
○	SEWER MANHOLE
○	ACCESS RIBBER
○	OUTLET
○	HYDRANT
○	GATEVALVE
○	PORT REGULATOR VALVE
○	LIGHT POLE
○	POWER POLE
○	SDR
○	BIODOMING
○	SOL BONDING
○	WATER MANHOLE
○	TELEPHONE MANHOLE
○	UTILITY MANHOLE
○	ELECTRIC MANHOLE
○	WATER SERVICE
○	SEWER SERVICE
○	MANHOLE PASSING
○	DIRECTION OF FLOW
○	PIPE ELEVATION
○	CONTOUR
○	SANITARY SEWER
○	STORM SEWER
○	NATURAL GAS
○	FIREWATER
○	GRANITE
○	SLT FENCE
○	GRASS BUFFER
○	RETAINING WALL
○	TRENCH
○	EMERGENCY LINE
○	SENTRY LINE
○	UNDERGROUND TIE
○	UNDERGROUND GAS
○	UNDERGROUND WATER
○	UNDERGROUND FIBER OPTIC
○	UNDERGROUND ELECTRIC
○	UNDERGROUND CABLE TV
○	PROPERTY LINE
○	CONTOUR TREE
○	BIOLOGICAL TREE
○	PARKING CONCRETE
○	BLUFF CREEK OVERLAY DISTRICT



**UTILITY NOTES**

- ALL SANITARY SEWER, STORM SEWER AND WATERMAIN UTILITIES SHALL BE FINISHED AND INSTALLED PER THE REQUIREMENTS OF THE SPECIFICATIONS, THE MINNESOTA PLUMBING CODE, THE LOCAL GOVERNING UNIT, AND THE STANDARD UTILITIES SPECIFICATION OF THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM), 2013 EDITION.
- ALL UTILITY PIPE BEDDING SHALL BE COMPACTED SAND OR FINE GRANULAR MATERIAL. ALL COMPACTON SHALL BE PERFORMED PER THE REQUIREMENTS OF THE CEAM SPECIFICATION AND THE GEOTECHNICAL REPORT.
- ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE PERFORMED PER THE REQUIREMENTS OF THE STATE AND LOCAL JURISDICTIONS. THE CITY DEPARTMENT OF ENGINEERING AND BUILDING INSPECTIONS DEPARTMENT AND THE CONSTRUCTION ENGINEER MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY WORK WITHIN THE PUBLIC RIGHT OF WAY, OR WORK IMPACTING PUBLIC UTILITIES.
- ALL STORM SEWER, SANITARY SEWER AND WATER SERVICES SHALL TERMINATE 5' FROM THE BUILDING FACE UNLESS OTHERWISE NOTED.
- A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED BETWEEN WATERMAIN AND ALL UTILITIES UNLESS OTHERWISE NOTED.
- ALL NEW WATERMAIN AND SERVICES MUST HAVE A MINIMUM OF 8.0 FEET OF COVER. EXTRA DEPTH MAY BE REQUIRED TO MAINTAIN A MINIMUM 18\"/>

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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.  
 Trevor D. Gruys - PE  
 Printed Name: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Date: 05/23/19 Lic # 53706

**Issue Record**

NO.	DATE	DESCRIPTION
1	05-15-19	CITY SUBMITTAL
2-3		CONTACT CIVIL FOR 2-3
4	07-27-19	WATERSHED RESUBMITTAL
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FOR INFORMATION ONLY



## Riley Purgatory Bluff Creek Watershed District Permit Application Review

**Permit No:** 2018-062

**Received complete:** September 28, 2018

**Board Meeting:** November 7, 2018

**Applicant:** Riley Purgatory Bluff Creek Watershed District – Attn: Claire Bleser

**Consultant:** Jeff Weiss, Barr Engineering

**Project:** Lower Riley Creek Restoration (Reach E) – The project will involve the restoration of 4,589 feet of Reach E in lower Riley Creek as well as 362 feet of a tributary ravine (site D). The deeply entrenched (5 to 9-foot headcuts) channel will be reshaped through grading and the placement of grade control structures to provide a connection to the adjacent floodplain at bankfull conditions. Some grading will be required to create floodplain in some of the more entrenched areas. Rock riffles and root wads will be strategically placed throughout the channel to reduce the risk of further erosion. The project will provide in-stream and riparian habitat in conjunction with the reduction in sediment load delivered downstream resulting from in channel erosion.

**Location:** Ridge on Riley Creek, Outlot A, Eden Prairie, MN

**Reviewer:** Terry Jeffery, Permit Coordinator

### 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 June 5, 2019 meeting of the managers:

Resolved that the application for an exception to Rule B for Permit 2019-062 is approved, subject to the conditions and stipulations set forth in the Recommendations section of the attached report;

Resolved that the application for Permit 2019-062 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 2018-062 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	No	See Rule K Exception
C	Erosion Prevention and Sediment Control	See Comment	See condition C1
D	Wetland and Creek Buffers	See Comment	See condition D1
F	Streambank Stabilization	Yes	
G	Waterbody Crossings and Structures	Yes	
K	Variances and Exceptions	See Comment	See Rule K Exception discussion
L	Permit Fee	NA	Government Entity
M	Financial Assurance	NA	Government Entity

### Project Description and Background

The proposed project includes grading the channel banks and adjacent floodplain of Reach E, the lower valley of Riley Creek, to improve connection to the floodplain and to create a more stable channel. The channel shape and capacity have been designed to minimize shear stress for the stream's baseflow and the 100-year design storm. In addition, strategically placed rock riffles, cross vanes, and step pools constructed of rock and logs will provide grade control and reduce the risk of future erosion. Additional bank stabilization measures will be used. These measures include log vanes, rock vanes, root wads, and vegetated reinforced soil slope. Wood salvaged on site will be utilized whenever possible.

There are also escarpments adjacent to Site D ranging from 15 to 40 feet in height. In addition to the aforementioned stabilization techniques, scarp toe stabilization will be incorporated to stabilize the escarpments. Again, wood salvaged on site will be used. Five existing storm sewer outfalls will be modified (or replaced) and stabilized, and a pedestrian bridge will be constructed as part of this project.



Reach E showing incision and disconnection from floodplain.

Tributary ravine (Site D3) erosion example

As previously stated, the project reach is a deeply incised channel with little to no connection to the floodplain, even in a 100-year event. This has been caused by a headcut that has moved through the project reach and eroded the channel bed. Left alone, the banks will widen, and a new, lower floodplain will be established; however, the process will take significant time and will result in thousands of tons of material washing down this reach and into impaired waters downstream. The goal of the project is to create a stable channel with a connection to the floodplain at the bankfull level. Additional design objectives include:

- Improve in-stream and riparian habitat with natural pool and riffle stream features and a connection to the floodplain
- Minimize the project footprint
- Minimize the impact to the 100-year floodplain to the extent possible
- Make cut/fill volumes as equal as possible to reduce the project footprint and costs associated with hauling material on to or away from the project site
- Preserve adjacent vegetation to the extent possible, in particular mature oak, basswood, and black cherry trees near the existing channel
- Prevent introduction of buckthorn or other non-native/invasive species

Grading the banks and channel will effectively raise the channel bed through the entire project reach 2 to 5-feet over the existing bed. The overall project will be cut-fill neutral, so there will not be a net fill into the project area. However, the grading will result in a net fill within the existing 100-year flood elevation that is often confined to the existing channel banks. There will be no adverse impacts to adjacent properties as no structures will be out of compliance with District freeboard requirements. The applicant is requesting an exception because in addition to the above stated outcomes associated with restoring the resource, the project will reduce downstream sediment delivery due to eroding banks by approximately 2,139,730 lbs of total suspended solids (TSS) per year and realize an approximate reduction in total phosphorous of 1,230 lbs per year.

The project site information is summarized below:

1. Total Site Area: 54.38 acres
2. Existing Site Impervious Area: 4,000 square feet
3. Existing Impervious Area Disturbed: 0.00 square feet
4. Proposed Site Impervious Area: 4,000 square feet
5. Increase in total Site Impervious Area: 0.00 square feet
6. Volume of excavation/fill: 6,399 cubic yards
7. Total Disturbed Area: 10.86 acres (148,104 square feet)

Exhibits:

1. Permit Application dated October 1, 2018. (Considered complete upon receipt of cooperative agreement May 1, 2019)
2. Technical Memorandum dated September 19, 2018 including,
  - a. Determination of 100-year flood plain
  - b. Cut, fill and storage calculations
3. Design Plan Sheets (Total count 39 Sheets G01 – G06, C01 – C14, D01 – D10, B01 – B04, R01 – R05) dated 8/31/2018.
4. Creek Restoration Action Strategy, May 2017.

### Rule Specific Permit Conditions

#### **Rule B: Floodplain Management and Drainage Alterations**

Because the project will result in the placement of 6,399 cubic yards of fill below the existing 100-year flood profile, the project must conform to the criteria listed in RPBCWD Rule B, Subsection 3.

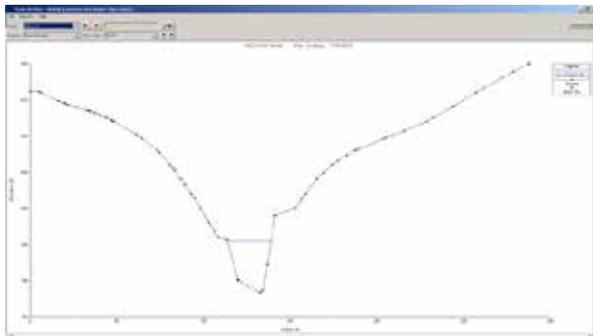


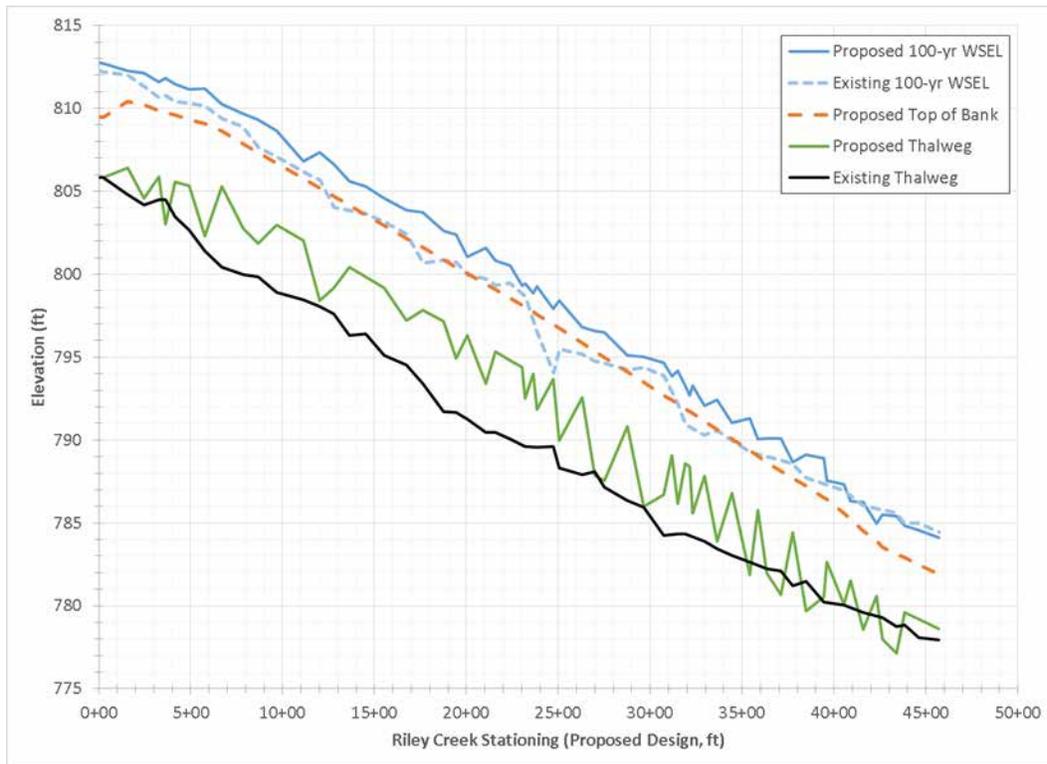
Figure 1 Typical cross-section depicting incision and 100-year elevation

The channel of Reach E of Riley Creek is deeply incised with banks approximately 5-9 feet tall on each side of the channel in many places. The channel is disconnected from its floodplain, so flood flows, and resulting energy, up to the 100-year event are contained within the main channel (Figure 1) exacerbating ongoing erosion. To correct this issue, the channel and the adjacent stream banks will be graded to create a stable channel geometry and a floodplain at bankfull elevation. This grading will

occur below the existing 100-year floodplain.

As stated, under existing conditions, the incised channel contains all design events up to the 100-year within the channel. Because the flood flows are fully contained within the channel, the flood's energy is also contained within the channel, which exacerbates channel degradation and erosion. Therefore, it is important to create a consistent connection between the channel and the floodplain, at the bankfull level, to disperse some of the flow energy.

Using this pool and riffle design to reconnect the floodplain to the channel, the proposed conditions were modeled for the various flow events. The comparison of the existing conditions to the proposed conditions is shown in Figure 1 below and illustrates the typical proposed fill below the floodplain.



**Figure 2. Existing and proposed bankfull design event profile within project limits.**

Even though the project will be cut-fill neutral, the change in channel geometry and increase in the elevation of the channel bed will result in an increase in the water surface elevations through most of the project area within Reach E and Site D. The changes in elevation vary from a reduction of 0.44 feet to an increase of 3.87 feet with an average rise of 0.997 foot.

The project meets the Rule B, Criteria 3.1 requirements for low floor elevations being a minimum of two feet above the 100-year flood elevation. Because of the location of the creek within a deep valley, the 100-year flood inundation will remain well over two feet below the lowest floor elevation of surrounding structures. The lowest structure adjacent the project area (near the downstream end of the project) has an exterior elevation of approximately 828 feet; the highest 100-year flood elevation along

the main stem of Riley Creek is 812.75 feet. This high elevation occurs 4500 feet upstream of the lowest structure.

While there will be no import or export of material from the site, there will be approximately 6,399 cubic yards of net fill below the existing 100-year floodplain. Because the proposed project fills below the existing 100-year floodplain, and compensatory storage is not provided at the same elevation within +/- 1 foot, the project is not compliant with Rule B, Subsection 3.2. The applicant is requesting that an exception be granted for this project given the main purpose of the project is to restore, enhance, and protect the resources. The criteria for the exception will be discussed in greater detail in the section pertaining to Rule K beginning on page 7.

Modeling indicates the project will not alter surface flow beyond local velocities and will maintain surface flow below target velocities within the channel and floodplain restored by the project. Because the purpose of the project is to improve water quality and riparian habitat; and the project will have no impact on groundwater hydrology or stream base flow, the proposed project conforms with Rule B, subsection 3.3 will be met.

Rule B, subsection 3.4 is met because no structures will be placed within 100 feet of the centerline of the watercourse. An erosion prevention and sediment control plan is included with the project, per Rule B, subsection 3.5, and the plans and specifications also include notes to control terrestrial and aquatic invasive species entering and leaving the site, per Rule B, subsection 3.6.

#### **Rule C: Erosion and Sediment Control**

Because the project will disturb 10.86 acres of land, 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 Barr Engineering includes installation of silt fence as appropriate, phasing of activities, a rock construction entrance, erosion control blanket and turf reinforcement mats, an inspection and maintenance schedule, protection of natural topography, retention of native topsoil onsite, final site stabilization measures including placement of a minimum of 6 inches of topsoil and decompaction of areas compacted during construction to 1,400 kilopascals or less within the upper 12-inches of the soil profile, and removal of sediment control practices upon completion. The plan also includes phasing of the project. The plans note that the party responsible for day to day maintenance of temporary and permanent erosion prevention and sediment control measures will be identified upon award of contract. To conform to the RPBCWD Rule C requirements the following revision is needed:

- C1. The applicant must provide the name and contact information of the individual responsible for erosion prevention and sediment control at the site.

#### **Rule D: Wetland and Creek Buffers**

Because the project triggers Rules B, F, and G compliance and is adjacent to a water body listed on the MnDNR Public Waters Inventory the project must comply with the criteria in subsection 3 (subsection

2.1b). Because the entire thalweg of the creek will be disturbed by the project a 50-foot average, 30-foot minimum buffer width is required by Rule D, subsection 3.1.c and 3.2.a.vi.

The buffers will be located on land owned by the city of Eden Prairie that is already managed as a natural area. The buffers are shown on the attached Sheet R-01. Statistics about the buffer width are included in the following table.

**Table 1. Creek buffer statistics**

Buffer Features	Width Required	Width Provided
Minimum Buffer Width	30	82
Average Buffer Width	50	180

Disturbed areas within the buffer area will be planted with native vegetation and maintained in a natural state (subsection 3.3). As shown on Sheet R-01 of the attached plans, the buffer markers will be placed per District criteria (subsection 3.4). The District and city of Chanhassen have entered into a cooperative agreement for long-term project maintenance, including maintenance of the buffer areas (subsection 3.5). A note was included in the plan set that requires that the contractor conduct activities in a way that will minimize the potential for the transfer of AIS (subsection 3.6).

**Rule F: Shoreline and Streambank Stabilization**

The project will be subject to a MN DNR permit for work in a public water and therefore is exempt from the criteria in Rule F.

**Rule G: Waterbody Crossing and Structures**

The project will be subject to a MN DNR permit for work in a public water and therefore is exempt from the criteria in Rule G.

**Rule J: Stormwater Management**

Although the project will disturb 10.86-acres of land surface area. The project will result in the reconstruction of approximately 4,000 square feet of the existing paved walking trail from Sky Lane. The trail to be reconstructed is 10-feet wide or less and is buffered downgradient by a distance more than half the trail width. Therefore, according to Rule J, subsection 2.2d, the project is exempt from Rule J.

**Rule K: Variances and Exceptions**

The overall project is cut-fill neutral, however it is not cut-fill neutral below the existing 100-year flood level as there will be approximately 6,399 cubic yards of net fill below the existing 100-year floodplain.

The applicant requests an exception to Rule B, Criteria 3.2 because the proposed project will not provide compensatory floodplain storage within +/- 1-foot of elevation.

As described previously, the project reach is a deeply incised channel with little to no connection to the floodplain, even in a 100-year event. This has been caused by a headcut that has moved through the project reach and eroded the channel bed. Left alone, the banks will widen, and a new, lower floodplain will be established; however, the process will take several years and will result in thousands of tons of material washing down this reach and into impaired waters downstream. The goal of the project is to create a stable channel with a connection to the floodplain at the bankfull level. Because the proposed project will achieve lower channel shear stress and provide stabilization measures capable of withstanding the erosive forces present along the creek the project demonstrates it will better protect and enhance the natural resource. Additional design objectives achieved with the project include:

- Improve in-stream and riparian habitat with natural pool and riffle stream features and a connection to the floodplain
- Minimize the project footprint
- Minimize the impact to the 100-year floodplain to the extent possible
- Make cut/fill volumes as equal as possible to reduce the project footprint and costs associated with hauling material on to or away from the project site.
- Preserve adjacent vegetation to the extent possible, in particular mature oak, linden, and black cherry trees near the existing channel

All of these objectives will be achieved while also reducing the erosion caused by the tall eroding banks by approximately 2,139,730 lbs of TSS per year and 1,230 lbs of TP per year.

Grading the banks and channel will effectively raise the channel bed through the entire project reach up to approximately 4-feet over the existing bed. The overall project will be cut-fill neutral, so there will not be a net fill into the project area. However, the grading will result in a net fill within the existing 100-year flood elevation, which is primarily confined to the existing channel banks. There will be no adverse impacts to adjacent properties as no structures will be out of compliance with District or City of Chanhassen freeboard requirements.

Other alternatives to stabilize the reach would not meet the objectives outlined above. Alternatives considered included:

- 1) Stabilizing the existing bed with cross vanes;
- 2) Raising the bed with check dams;
- 3) Establishing a floodplain connection by excavating a floodplain with the channel at its existing elevation.
- 4) Raising the bed to the old floodplain level by filling in the channel as necessary.

The following table summarizes how the alternatives meet the design objectives:

Alternatives / Objectives	Proposed Design	Alt 1: Stabilizing bed with cross vanes	Alt 2: Raising bed with check dams	Alt 3: Create floodplain only through excavation	Alt 4: Connect to floodplain only by filling in channel
Create floodplain connection along entire reach	Yes	No. Floodplain connection would be poor	Partially. Floodplain disconnected in some areas	Yes	Yes
Improve in-stream and riparian habitat with natural pool- riffle sequence	Yes	Partially.	Yes, but not as much as proposed or Alts 3 or 4.	Partially. Significant disturbance to riparian habitat will result.	Yes
Minimize the project footprint	Yes. Access primarily in channel which will be graded anyway.	Partially. Significant vegetation clearing on one bank would be necessary for access	Partially. Significant vegetation clearing on one bank would be necessary for access	No. Significant disturbance	Partially. Significant vegetation clearing on one bank would be necessary for access
Minimize the impact to the 100-year floodplain	Partially. No impacts to structures	Yes	No. More impact than proposed	Yes	No. More impact than proposed.
Make cut/fill volumes as equal as possible	Yes	Yes	No	No	No
Preserve adjacent vegetation to the extent possible	Yes	Partially. Significant vegetation clearing on one bank would be necessary for access	Partially. Significant vegetation clearing on one bank would be necessary for access	No, significantly more vegetation cleared than proposed	Partially. Significant vegetation clearing on one bank would be necessary for access

Restoring the channel to a pre-eroded condition would require import of a significant amount of fill, which would require a similar exception from Rule B, subsection 3.2. On the other hand, strict compliance with the rule, while maintaining the objectives of a natural channel with a connected floodplain, would require a large export of soil from the project area, while increasing in disturbance area, grading quantity, vegetation clearing, and vegetation restoration.

In summary, staff finds there is an adequate technical basis to restore and enhance the water resources for the managers to rely on to grant the requested exception.

**Applicable General Requirements:**

1. 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.
2. Applicant must provide the name and contact information of the individual responsible for erosion and sediment control for the project.

**Findings**

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. The applicant has requested an exception to Rule B, subsection 3.2 but otherwise will conform to Rule B.
3. The proposed project conforms to Rules D, F, and G and will conform to Rule C if the Rule Specific Permit Conditions listed above are met.

**Recommendation:**

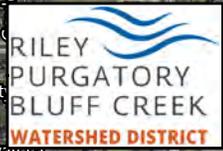
Approval, contingent upon:

1. Continued compliance with General Requirements.
2. The applicant must provide the name and contact information of the individual responsible for erosion prevention and sediment control at the site. RPBCWD must be notified if the responsible party changes during the permit term.

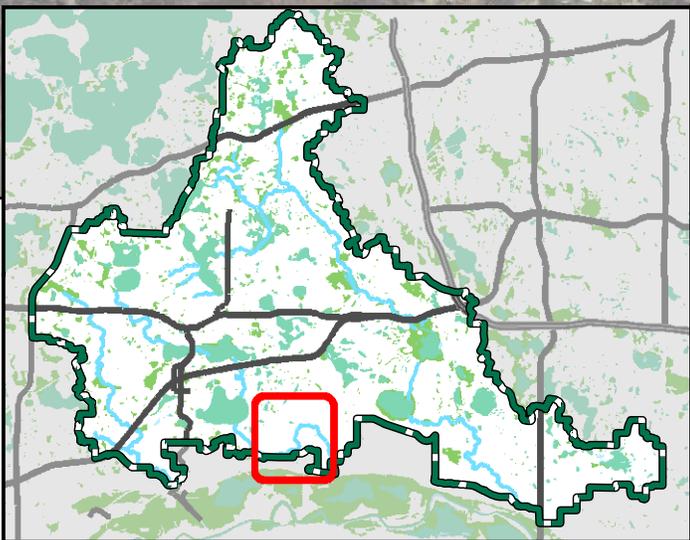
**Board Action**

It was moved by Manager \_\_\_\_\_, seconded by Manager \_\_\_\_\_ to approve the variance associated with permit application No. 2018-062.

It was moved by Manager \_\_\_\_\_, seconded by Manager \_\_\_\_\_ to approve permit application No. 2018-062 with the conditions recommended by staff.



SITE



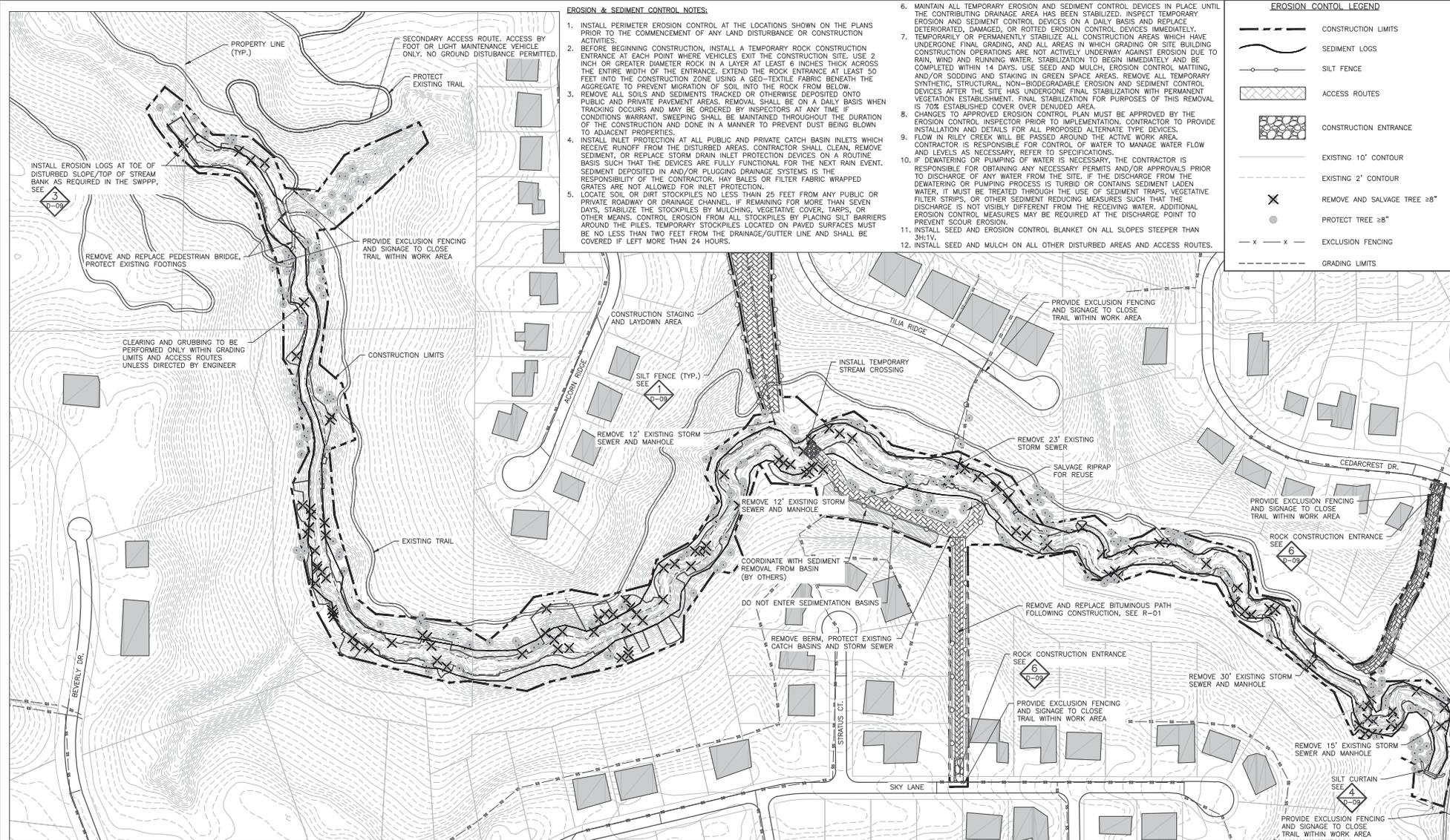
Feet



Permit Location Map

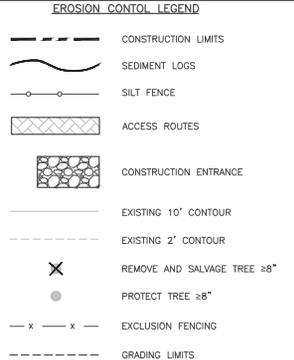
LOWER RILEY CREEK  
STABILIZATION PROJECT  
**Permit 2018-062**  
Riley Purgatory Bluff Creek  
Watershed District

CADD USER: Eric P. Fitzgerald FILE: M:\DESIGN\23700531\1\LOWER RILEY CREEK\23700531\_1\_C-03\_EROSION CONTROL PLAN\DWG PLOT SCALE: 1:2 PLOT DATE: 8/31/2018 8:48 AM  
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- EROSION & SEDIMENT CONTROL NOTES:**
1. INSTALL PERIMETER EROSION CONTROL AT THE LOCATIONS SHOWN ON THE PLANS PRIOR TO THE COMMENCEMENT OF ANY LAND DISTURBANCE OR CONSTRUCTION ACTIVITIES.
  2. BEFORE BEGINNING CONSTRUCTION, INSTALL A TEMPORARY ROCK CONSTRUCTION ENTRANCE AT EACH POINT WHERE VEHICLES EXIT THE CONSTRUCTION SITE. USE 2 INCH OR GREATER DIAMETER ROCK IN A LAYER AT LEAST 6 INCHES THICK ACROSS THE ENTIRE WIDTH OF THE ENTRANCE. EXTEND THE ROCK ENTRANCE AT LEAST 50 FEET INTO THE CONSTRUCTION ZONE USING A GEO-TEXTILE FABRIC BENEATH THE AGGREGATE TO PREVENT MIGRATION OF SOIL INTO THE ROCK FROM BELOW.
  3. REMOVE ALL SOILS AND SEDIMENTS TRACKED OR OTHERWISE DEPOSITED ONTO PUBLIC AND PRIVATE PAVEMENT AREAS. REMOVAL SHALL BE ON A DAILY BASIS WHEN TRACKING OCCURS AND MAY BE ORDERED BY INSPECTORS AT ANY TIME IF CONDITIONS WARRANT. SWEEPING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE CONSTRUCTION AND DONE IN A MANNER TO PREVENT DUST BEING BLOWN TO ADJACENT PROPERTIES.
  4. INSTALL INLET PROTECTION AT ALL PUBLIC AND PRIVATE CATCH BASIN INLETS WHICH RECEIVE RUNOFF FROM THE DISTURBED AREAS. CONTRACTOR SHALL CLEAN, REMOVE SEDIMENT, OR REPLACE STORM DRAIN INLET PROTECTION DEVICES ON A ROUTINE BASIS SUCH THAT THE DEVICES ARE FULLY FUNCTIONAL FOR THE NEXT RAIN EVENT. SEDIMENT DEPOSITED IN AND/OR FLUCCING DRAINAGE SYSTEMS IS THE RESPONSIBILITY OF THE CONTRACTOR. HAY BALES OR FILTER FABRIC WRAPPED GRATES ARE NOT ALLOWED FOR INLET PROTECTION.
  5. LOCATE SOIL OR DIRT STOCKPILES NO LESS THAN 25 FEET FROM ANY PUBLIC OR PRIVATE ROADWAY OR DRAINAGE CHANNEL. IF REMAINING FOR MORE THAN SEVEN DAYS, STABILIZE THE STOCKPILES BY MULCHING, VEGETATIVE COVER, TARPS, OR OTHER MEANS. CONTROL EROSION FROM ALL STOCKPILES BY PLACING SILT BARRIERS AROUND THE PILES. TEMPORARY STOCKPILES LOCATED ON PAVED SURFACES MUST BE NO LESS THAN TWO FEET FROM THE DRAINAGE/GUTTER LINE AND SHALL BE COVERED IF LEFT MORE THAN 24 HOURS.

6. MAINTAIN ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES IN PLACE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED. INSPECT TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES ON A DAILY BASIS AND REPLACE DETERIORATED, DAMAGED, OR ROTTED EROSION CONTROL DEVICES IMMEDIATELY.
7. TEMPORARILY OR PERMANENTLY STABILIZE ALL CONSTRUCTION AREAS WHICH HAVE UNDERGONE FINAL GRADING, AND ALL AREAS IN WHICH GRADING OR SITE BUILDING CONSTRUCTION OPERATIONS ARE NOT ACTIVELY UNDERWAY AGAINST EROSION DUE TO RAIN, WIND AND RUNNING WATER. STABILIZATION TO BEGIN IMMEDIATELY AND BE COMPLETED WITHIN 14 DAYS. USE SEED AND MULCH. EROSION CONTROL MATTING, AND/OR SOODING AND STAKING IN GREEN SPACE AREAS. REMOVE ALL TEMPORARY SYNTHETIC STRUCTURAL, NON-BIODEGRADABLE EROSION AND SEDIMENT CONTROL DEVICES AFTER THE SITE HAS UNDERGONE FINAL STABILIZATION WITH PERMANENT VEGETATION ESTABLISHMENT. FINAL STABILIZATION FOR PURPOSES OF THIS REMOVAL IS 70% ESTABLISHED COVER OVER DENUDED AREA.
8. CHANGES TO APPROVED EROSION CONTROL PLAN MUST BE APPROVED BY THE EROSION CONTROL INSPECTOR PRIOR TO IMPLEMENTATION. CONTRACTOR TO PROVIDE INSTALLATION AND DETAILS FOR ALL PROPOSED ALTERNATE TYPE DEVICES.
9. FLOW IN RILEY CREEK WILL BE PASSED AROUND THE ACTIVE WORK AREA. CONTRACTOR IS RESPONSIBLE FOR CONTROL OF WATER TO MANAGE WATER FLOW AND LEVELS AS NECESSARY. REFER TO SPECIFICATIONS.
10. IF DEWATERING OR PUMPING OF WATER IS NECESSARY, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND/OR APPROVALS PRIOR TO DISCHARGE OF ANY WATER FROM THE SITE. IF THE DISCHARGE FROM THE DEWATERING OR PUMPING PROCESS IS TURBID OR CONTAINS SEDIMENT LOADED WATER, IT MUST BE TREATED THROUGH THE USE OF SEDIMENT TRAPS, VEGETATIVE FILTER STRIPS, OR OTHER SEDIMENT REDUCING MEASURES SUCH THAT THE DISCHARGE IS NOT VISIBLY DIFFERENT FROM THE RECEIVING WATER. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AT THE DISCHARGE POINT TO PREVENT SCOUR EROSION.
11. INSTALL SEED AND EROSION CONTROL BLANKET ON ALL SLOPES STEEPER THAN 3H:1V.
12. INSTALL SEED AND MULCH ON ALL OTHER DISTURBED AREAS AND ACCESS ROUTES.



1 PLAN: EROSION CONTROL AND REMOVALS  
 SCALE IN FEET 0 100 200

**ISSUED FOR BID  
 NOT FOR CONSTRUCTION**

NO.	BY	CHK	APP	DATE	REVISION DESCRIPTION
0	EPP	PAR2	JDW	08/31/2018	ISSUED FOR BID

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.

PRINTED NAME: JEFFERY D. WEISS  
 SIGNATURE: [Signature]  
 DATE: 08/31/2018 LICENSE # 48031

RELEASED TO/ FOR	DATE RELEASED
A	
B	
C	
0	
1	
2	
3	

**BARR**  
 Corporate Headquarters  
 Minneapolis, Minnesota  
 Phone: 1-800-433-2277

Project Office:  
 BARR ENGINEERING CO.  
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 Phone: 1-800-433-2277  
 Fax: (652) 832-2601  
 www.barr.com

Scale	AS SHOWN
Issue	08/31/2018
Drawn	EJF
Checked	PJH2
Designed	BARR
Approved	JDW

**RILEY PURGATORY BLUFF CREEK  
 WATERSHED DISTRICT**

**RILEY CREEK STABILIZATION  
 EDEN PRAIRIE, MN.  
 EROSION CONTROL AND REMOVALS PLAN**

BARR PROJECT No.	23/27-0053.14
CLIENT PROJECT No.	
DWG. No.	G-03
REV. No.	0

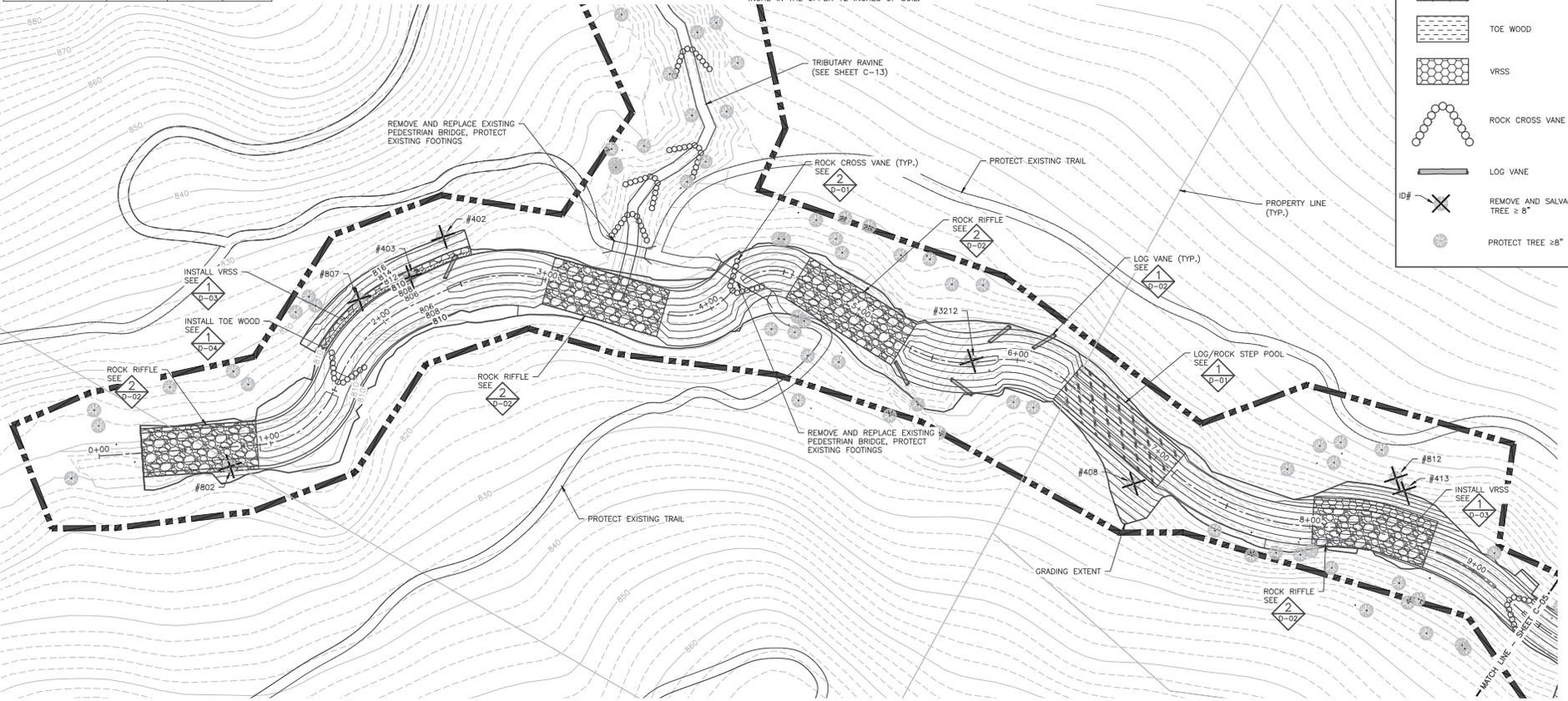
Trees ≥ 8" to be Removed				
Tree ID Number	Genus	DBH (inches)	Significant Tree	Tree Health
402	Maple	11		Healthy
403	Ash	20		Dead
408	Maple	23		Dead
413	Maple	25	YES	Healthy
802	Maple	10		Healthy
807	Maple	10		Healthy
812	Balswood	14	YES	Healthy
3212	Maple	12	YES	Healthy
Total Significant			51	3

**NOTES:**

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- ALL EXISTING ROADS, PARKING LOTS, TRAILS, FENCES, SIGNS, OR SIMILAR SHALL BE PROTECTED DURING CONSTRUCTION. CONTRACTOR RESPONSIBLE TO COORDINATE SURVEYS WITH THE CITY AND/OR OWNER TO DOCUMENT PRE-CONSTRUCTION EXISTING CONDITION ISSUES.
- CONTRACTOR SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL BMPs PRIOR TO COMMENCEMENT OF GRADING FOR EACH LOCATION DURING CONSTRUCTION. EROSION CONTROL PLANS ARE PROVIDED INSIDE THE PROJECT STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
- ALL GROUND DISTURBANCE GENERATED FROM GRADING ACTIVITIES SHALL BE STABILIZED AND RESTORED WITH A MINIMUM OF 6 INCHES OF TOPSOIL, SEED W/COVER CROP AND EROSION CONTROL BLANKET OR STRAW MULCH. THE TOPSOIL USED FOR RESTORATION MAY BE STOCKPILED FROM GRADING AREAS. CONSTRUCTION LIMITS AS SHOWN ARE APPROXIMATE FINAL CONSTRUCTION LIMITS TO BE COORDINATED WITH THE CITY OF EDEN PRAIRIE AND STAKED IN THE FIELD.
- CLEARING AND GRUBBING TO BE PERFORMED ONLY WITHIN GRADING LIMITS AND ACCESS ROUTES UNLESS DIRECTED BY ENGINEER.
- TREES TO BE CLEARED WILL BE MARKED IN THE FIELD BY ENGINEER. ALL TREES >= 8" IN DIAMETER NOT MARKED FOR REMOVAL SHALL BE PROTECTED.
- TREES IDENTIFIED BY ENGINEER FOR ADDITIONAL PROTECTION SHALL BE PROTECTED AGAINST ROOT COMPACTION, DAMAGE AND DISFIGUREMENT IN ACCORDANCE WITH MDOT SPEC. 2572. PROTECTION OF TREES NOT IDENTIFIED TO BE REMOVED SHALL BE INCIDENTAL.
- TREE SURVEY WAS COMPLETED 01/19/2018. "SIGNIFICANT TREES" MEET THE DEFINITION OF THE CITY OF EDEN PRAIRIE TREE REPLACEMENT REQUIREMENTS.
- CONTRACTOR SHALL TAKE PRECAUTIONS TO MINIMIZE THE TRANSFER OF AQUATIC AND TERRESTRIAL INVASIVE SPECIES TO THE MAXIMUM EXTENT POSSIBLE.
- COMPACTED SOIL MUST BE DECOMPACTED TO A SOIL COMPACTION TESTING PRESSURE OF LESS THAN 1,400 KILOPASCALS OR 200 POUNDS PER SQUARE INCH IN THE UPPER 12 INCHES OF SOIL.

**SYMBOL AND PATTERN LEGEND**

- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- CONSTRUCTION LIMITS
- CITY STORM SEWER
- LOG/ROCK STEP POOL
- ROCK RIFFLE
- TOE WOOD
- VRSS
- ROCK CROSS VANE
- LOG VANE
- REMOVE AND SALVAGE TREE ≥ 8"
- PROTECT TREE ≥ 8"



1 STABILIZATION PLAN: RILEY CREEK (STA. 0+00 TO 9+00)

0 30 60  
HORIZONTAL SCALE IN FEET

**ISSUED FOR BID  
NOT FOR CONSTRUCTION**

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NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION
0	EPF	PAR2	JDW	08/31/2018	ISSUED FOR BID

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.

PRINTED NAME: JEFFERY D. WEISS  
SIGNATURE: [Signature]  
DATE: 08/31/2018 LICENSE # 48031

CLIENT	BID	CONSTRUCTION	DATE RELEASED
BARR ENGINEERING CO.			08/31/2018

**BARR**  
Corporate Headquarters  
Minneapolis, Minnesota  
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4300 MARKETPOINTE DRIVE  
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Ph: 1-800-832-2277  
Fax: (952) 832-2601  
www.barr.com

Scale	AS SHOWN
Date	08/31/2018
Drawn	EPF
Checked	PJH2
Designed	BARR
Approved	JDW

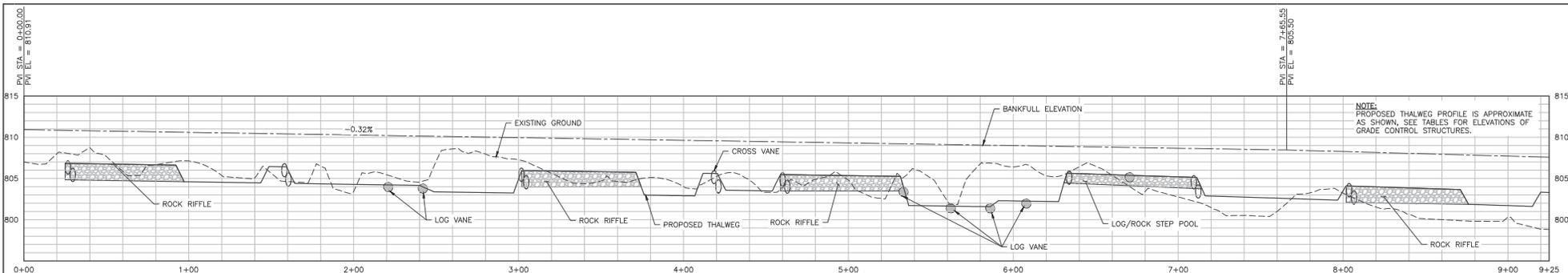
**RILEY PURGATORY BLUFF CREEK  
WATERSHED DISTRICT**

**RILEY CREEK STABILIZATION  
EDEN PRAIRIE, MN.**

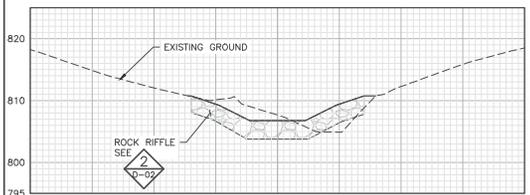
**STABILIZATION PLAN  
(STA. 0+00 TO 9+00)**

BARR PROJECT No.	23/27-0053.14
CLIENT PROJECT No.	
DWG. No.	C-03
REV. No.	0

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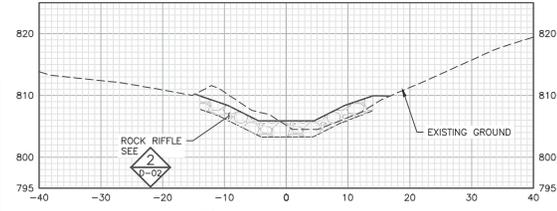


1 PROFILE: RILEY CREEK (STA. 0+00 TO 9+00) 0 30 60 0 8 12  
 HORIZONTAL SCALE IN FEET VERTICAL SCALE IN FEET

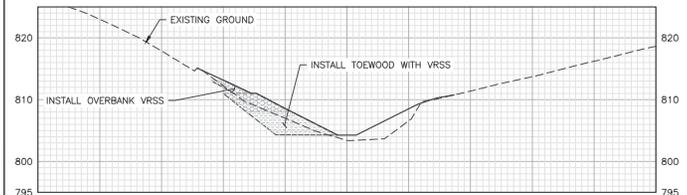


2 SECTION: STA. 0+50 0 10 20  
SCALE IN FEET

GRADE CONTROL STRUCTURES												
Feature type	X1 Station	X1 Elevation	X1 Bankfull	X2 Station	X2 Elevation	X2 Bankfull	X3 Station	X3 Elevation	Length	Approx. Log/vane Spacing	Typical Section	Notes
Rock riffle	0+25.0	806.83	810.83	0+92.2	806.43	810.61	1+19.6	804.45	67.2	--	Wide riffle	
Cross vane	1+53.2	806.43	810.42	--	--	--	--	--	--	--	Wide riffle	
Rock riffle	3+01.9	805.95	809.94	3+71.2	805.62	809.73	3+91.5	802.86	69.3	--	Wide riffle	
Cross vane	4+16.2	805.62	809.59	--	--	--	--	--	--	--	Wide riffle	Align to protect ex. bridge footings
Rock riffle	4+58.8	805.47	809.45	5+31.6	805.03	809.24	5+88.3	801.57	72.8	--	Wide riffle	
Log/rock step pool	6+32.5	805.03	808.93	7+11.4	804.09	808.43	7+56.7	802.37	78.9	39.4	Standard Riffle	Transition from wide to narrow riffle
Rock riffle	8+01.8	804.09	807.85	8+71.1	803.33	807.40	8+96.0	801.62	69.3	--	Narrow riffle	

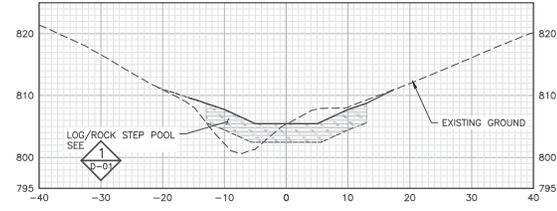


5 SECTION: STA. 3+25 0 10 20  
SCALE IN FEET

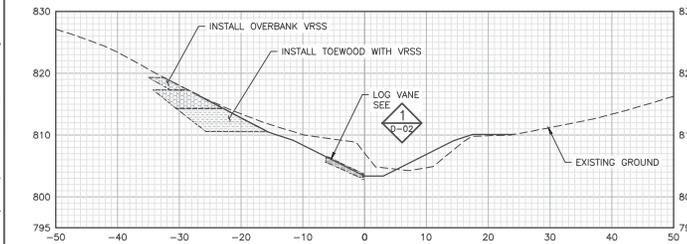


3 SECTION: STA. 2+00 0 10 20  
SCALE IN FEET

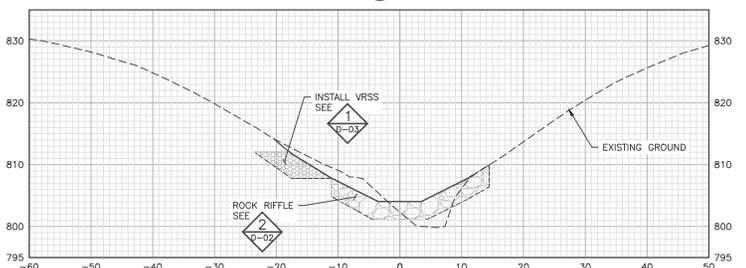
BANK STRUCTURES										
Feature type	Begin (X1) Station	X1 Elevation	Begin (X1) Bankfull	End Station	End Bankfull	Height Above Bankfull	Length	Side	Notes	
Toe wood w/ VRSS	1+64.2	805.95	810.38	2+60.0	810.08	--	95.8	Left	2' bankfull bench	
Overbank VRSS	1+64.2	--	810.38	2+60.0	810.08	2	95.8	Left	2' bankfull bench	
Log vane	2+18.1	804.21	810.21	--	--	--	--	Left		
Log vane	2+43.8	804.13	810.13	--	--	--	--	Left		
Log vane	5+31.6	805.25	809.24	--	--	--	--	Right	Tie in to u/s riffle	
Log vane	5+63.8	801.64	809.14	--	--	--	--	Right		
Log vane	5+86.0	801.57	809.07	--	--	--	--	Left		
Log vane	6+08.2	802.25	808.99	--	--	--	--	Left		
Overbank VRSS	8+01.8	--	807.85	8+71.1	807.40	4	69.3	Left	No bankfull bench	



6 SECTION: STA. 6+50 0 10 20  
SCALE IN FEET



4 SECTION: STA. 2+50 0 10 20  
SCALE IN FEET



7 SECTION: STA. 8+00 0 10 20  
SCALE IN FEET

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION
0	EPP	PAR2	JDW	08/31/2018	ISSUED FOR BID

RELEASED TO/FOR	A	B	C	0	1	2	3
DATE RELEASED							

**BARR**  
 Project Office:  
 BARR ENGINEERING CO.  
 4300 MARKETPOINTE DRIVE  
 SUITE 200  
 MINNEAPOLIS, MN 55435  
 Phone: 1-800-832-2277  
 Fax: (612) 832-2601  
 www.barr.com

Scale	PJH2
Date	08/31/2018
Drawn	EPP
Checked	AKH
Designed	BARR
Approved	JDW

RILEY PURGATORY BLUFF CREEK  
 WATERSHED DISTRICT

RILEY CREEK STABILIZATION  
 EDEN PRAIRIE, MN.  
 PROFILE & SECTIONS  
 (STA. 0+00 TO 9+00)

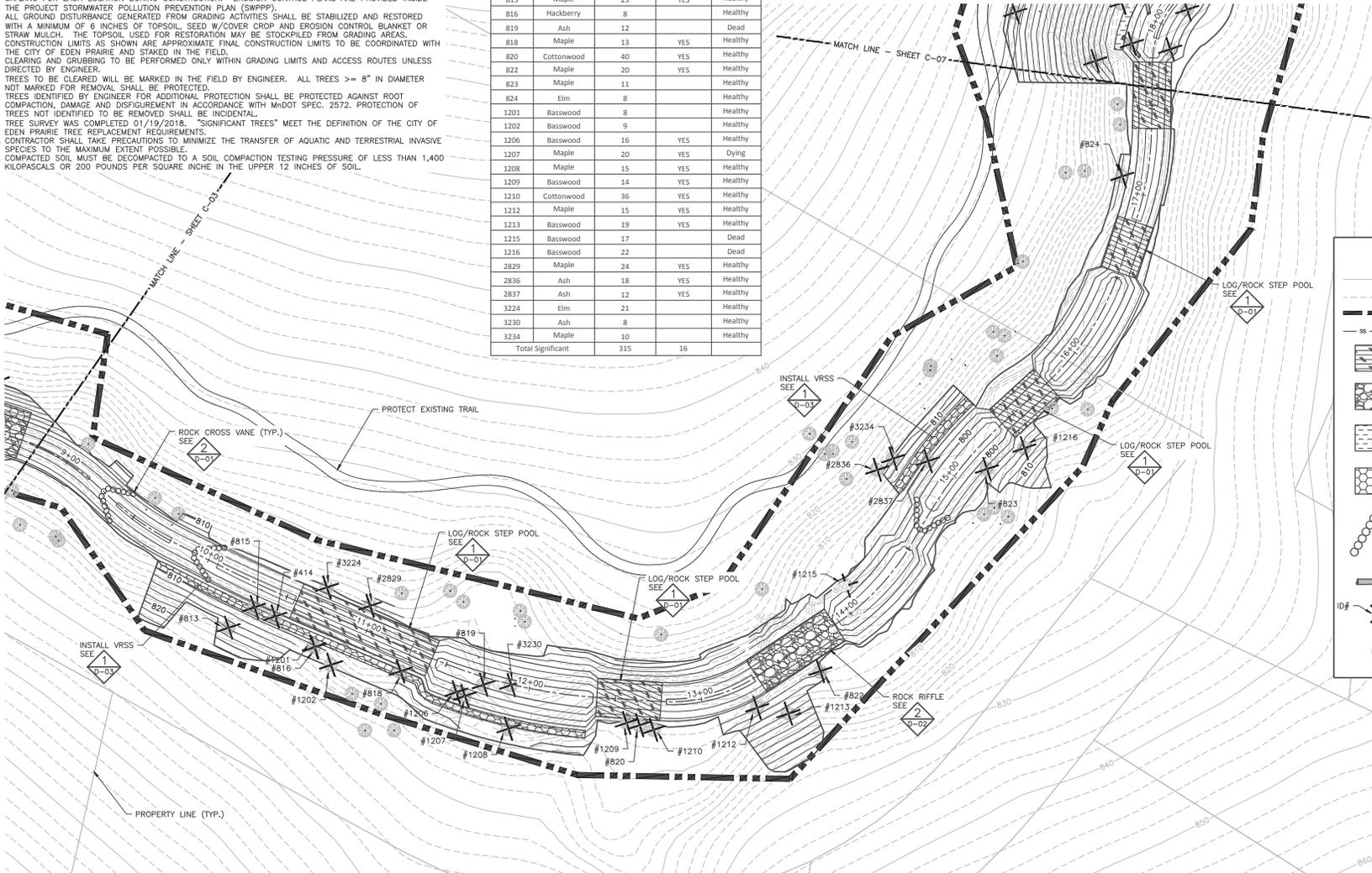
BARR PROJECT No.  
 23/27-0053.14  
 CLIENT PROJECT No.  
 DWG. No.  
 C-04  
 REV. No.  
 0

ISSUED FOR BID  
NOT FOR CONSTRUCTION

**NOTES:**

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- TREES IDENTIFIED BY ENGINEER FOR ADDITIONAL PROTECTION SHALL BE PROTECTED AGAINST ROOT COMPACTION, DAMAGE AND DISFIGUREMENT IN ACCORDANCE WITH MnDOT SPEC. 2572. PROTECTION OF TREES NOT IDENTIFIED TO BE REMOVED SHALL BE INCIDENTAL.
- TREE SURVEY WAS COMPLETED 01/19/2018. "SIGNIFICANT TREES" MEET THE DEFINITION OF THE CITY OF EDEN PRAIRIE TREE REPLACEMENT REQUIREMENTS.
- CONTRACTOR SHALL TAKE PRECAUTIONS TO MINIMIZE THE TRANSFER OF AQUATIC AND TERRESTRIAL INVASIVE SPECIES TO THE MAXIMUM EXTENT POSSIBLE.
- COMPACTED SOIL MUST BE DECOMPACTED TO A SOIL COMPACTION TESTING PRESSURE OF LESS THAN 1,400 KILOPASCALS OR 200 POUNDS PER SQUARE INCH IN THE UPPER 12 INCHES OF SOIL.

Trees $\geq 8"$ to be Removed				
Tree ID Number	Genus	DBH (Inches)	Significant Tree	Tree Health
414	Maple	12	YES	Healthy
813	Oak	18	YES	Healthy
815	Maple	23	YES	Healthy
816	Hackberry	8		Healthy
819	Ash	12		Dead
818	Maple	13	YES	Healthy
820	Cottonwood	40	YES	Healthy
822	Maple	20	YES	Healthy
823	Maple	11		Healthy
824	Elm	8		Healthy
1201	Basswood	8		Healthy
1202	Basswood	9		Healthy
1206	Basswood	16	YES	Healthy
1207	Maple	20	YES	Dying
1208	Maple	15	YES	Healthy
1209	Basswood	14	YES	Healthy
1210	Cottonwood	36	YES	Healthy
1212	Maple	15	YES	Healthy
1213	Basswood	19	YES	Healthy
1215	Basswood	17		Dead
1216	Basswood	22		Dead
2829	Maple	24	YES	Healthy
2836	Ash	18	YES	Healthy
2837	Ash	12	YES	Healthy
3224	Elm	21		Healthy
3230	Ash	8		Healthy
3234	Maple	10		Healthy
Total Significant		315	16	



SYMBOL AND PATTERN LEGEND	
	EXISTING 10' CONTOUR
	EXISTING 2' CONTOUR
	CONSTRUCTION LIMITS
	CITY STORM SEWER
	LOG/ROCK STEP POOL
	ROCK RIFFLE
	TOE WOOD
	VRSS
	ROCK CROSS VANE
	LOG VANE
	REMOVE AND SALVAGE TREE $\geq 8"$
	PROTECT TREE $\geq 8"$

1 STABILIZATION PLAN: RILEY CREEK (STA. 9+00 TO 17+00)

0 30 60  
HORIZONTAL SCALE IN FEET

ISSUED FOR BID  
NOT FOR CONSTRUCTION

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NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION
0	EPF	PAR2	JDW	08/31/2018	ISSUED FOR BID

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.

PRINTED NAME: JEFFERY D. WEISS  
SIGNATURE:   
DATE: 08/31/2018 LICENSE # 48031

CLIENT	B/S/R	30/90/30	90/10/0	30/70/0
BARR ENGINEERING CO.				
CONSTRUCTION				
RELEASED TO/FOR	A	B	C	0 1 2 3
DATE RELEASED				

**BARR**  
Corporate Headquarters  
Minneapolis, Minnesota  
Ph: 1-800-433-2277

Project Office:  
BARR ENGINEERING CO.  
4300 MARKETPOINTE DRIVE  
Suite 200  
MINNEAPOLIS, MN 55435  
Ph: 1-800-433-2277  
Fax: (652) 832-2601  
www.barr.com

Scale	AS SHOWN
Date	08/31/2018
Drawn	EPF
Checked	PJH2
Designed	BARR
Approved	JDW

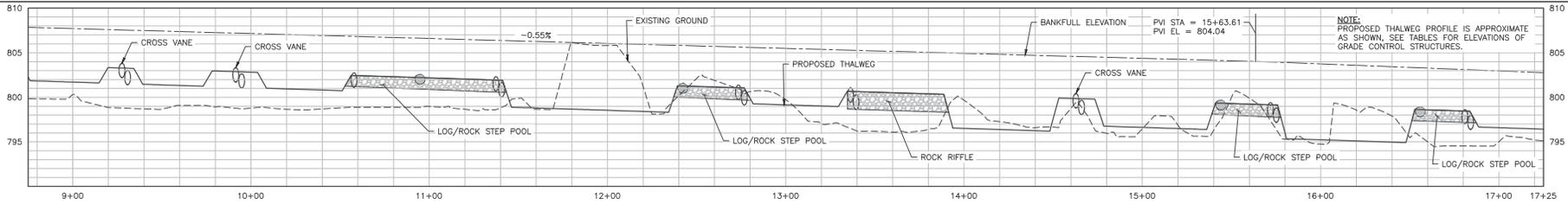
RILEY PURGATORY BLUFF CREEK  
WATERSHED DISTRICT

RILEY CREEK STABILIZATION  
EDEN PRAIRIE, MN.  
STABILIZATION PLAN  
(STA. 9+00 TO 17+00)

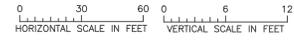
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23/27-0053.14  
CLIENT PROJECT No.

DWG. No.  
C-05  
REV. No.  
0

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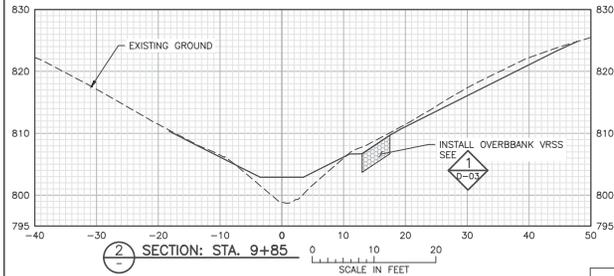


1 PROFILE: RILEY CREEK (STA. 9+00 TO 17+00)



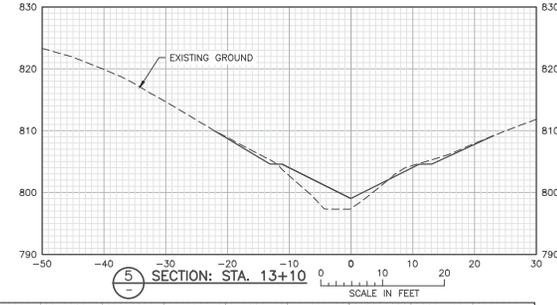
NOTE:  
 PROPOSED THALWEG PROFILE IS APPROXIMATE  
 AS SHOWN. SEE TABLES FOR ELEVATIONS OF  
 GRADE CONTROL STRUCTURES.

PI STA = 15+63.61  
 PI EL = 804.04

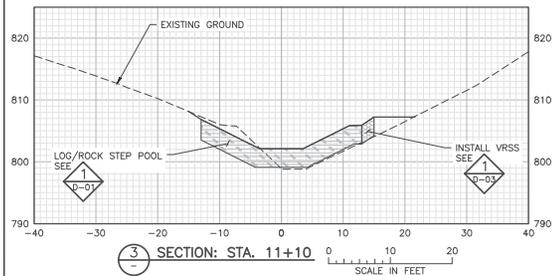


2 SECTION: STA. 9+85

GRADE CONTROL STRUCTURES											
Feature type	X1 Station	X1 Elevation	X1 Bankfull	X2 Station	X2 Elevation	X2 Bankfull	X3 Station	X3 Elevation	Length	Approx. Log/vane Spacing	Typical Section
Cross vane	9+27.0	803.33	807.04	--	--	--	--	--	--	--	Narrow riffle
Cross vane	9+89.9	802.96	806.64	--	--	--	--	--	--	--	Narrow riffle
Log/rock step pool	10+56.2	802.46	806.22	11+41.1	801.29	805.67	11+90.8	798.32	85.0	42.5	Narrow riffle
Log/rock step pool	12+39.3	801.29	805.05	12+76.7	800.68	804.81	13+04.7	798.96	37.4	--	Narrow riffle
Rock riffle	13+34.5	800.68	804.44	13+88.7	799.92	804.09	14+21.0	796.2	54.2	--	Narrow riffle
Cross vane	14+62.4	799.92	803.62	--	--	--	--	--	--	--	Narrow riffle
Log/rock step pool	15+41.1	799.35	803.11	15+75.9	798.64	802.89	16+13.1	794.92	34.8	34.8	Narrow riffle
Log/rock step pool	16+52.9	798.64	802.40	16+83.7	798.09	802.20	17+10.7	796.37	30.8	30.8	Narrow riffle

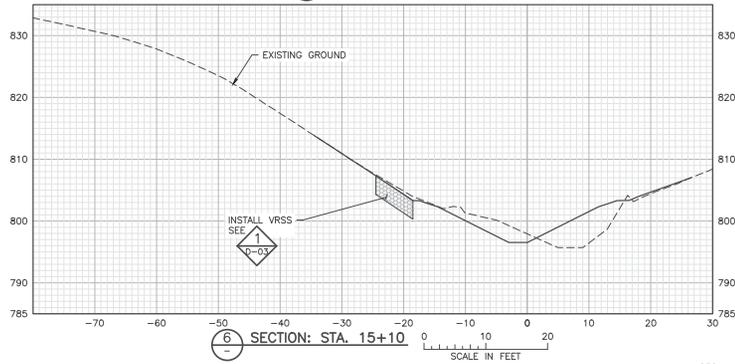


5 SECTION: STA. 13+10

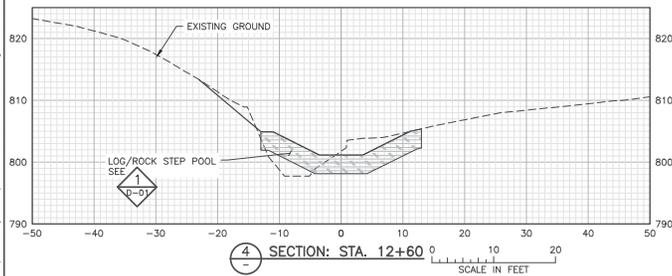


3 SECTION: STA. 11+10

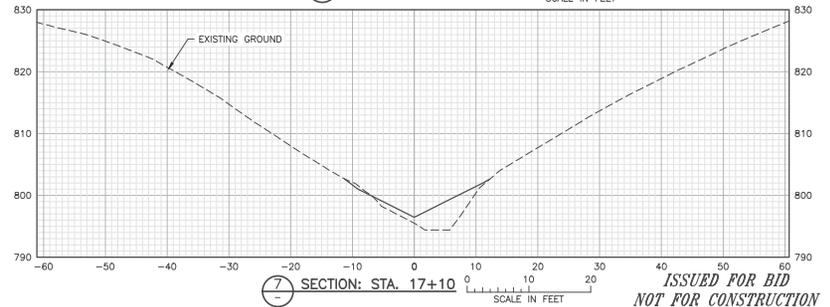
BANK STRUCTURES									
Feature type	Begin (X1) Station	X1 Elevation	Begin (X1) Bankfull	End Station	End Bankfull	Height Above Bankfull	Length	Side	Notes
Overbank VRSS	9+74.8	--	806.74	12+34.3	805.08	3	259.5	Right	2' bankfull bench
Overbank VRSS	14+73.4	--	803.55	15+36.9	803.14	4	63.5	Left	2' bankfull bench



6 SECTION: STA. 15+10



4 SECTION: STA. 12+60



7 SECTION: STA. 17+10

ISSUED FOR BID  
 NOT FOR CONSTRUCTION

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION
0	EPF	PHJ	JDW	08/31/2018	ISSUED FOR BID

RELEASED TO/FOR	DATE RELEASED
A B C 0 1 2 3	

**BARR**  
 Corporate Headquarters  
 Minneapolis, Minnesota  
 Ph: 1-800-432-2277  
 Fax: (652) 832-2601  
 www.barr.com

Scale	Scale
PJH2	08/31/2018
Done	EPF
Checked	AKH
Designed	BARR
Approved	JDW

RILEY PURGATORY BLUFF CREEK  
 WATERSHED DISTRICT

RILEY CREEK STABILIZATION  
 EDEN PRAIRIE, MN.  
 PROFILE & SECTIONS  
 (STA. 9+00 TO 17+00)

BARR PROJECT No.  
**23/27-0053.14**  
 CLIENT PROJECT No.

DWG. No.  
**C-06**

REV. No.  
**0**

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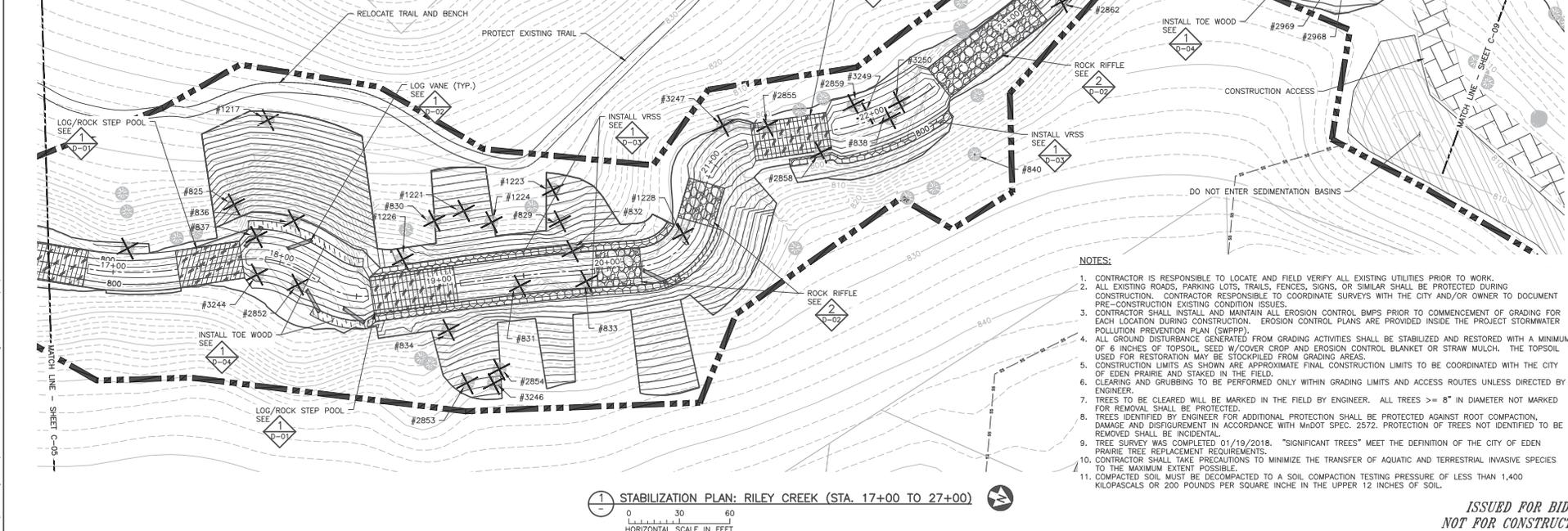
**SYMBOL AND PATTERN LEGEND**

	EXISTING 10' CONTOUR
	EXISTING 2' CONTOUR
	CONSTRUCTION LIMITS
	CITY STORM SEWER
	LOG/ROCK STEP POOL
	ROCK RIFFLE
	TOE WOOD
	VRSS
	ROCK CROSS VANE
	LOG VANE
	REMOVE AND SALVAGE TREE ≥ 8"
	PROTECT TREE ≥ 8"

**Trees ≥ 8" to be Removed**

Tree ID Number	Genus	DBH (inches)	Significant Tree	Tree Health
825	Maple	19	YES	Healthy
829	Maple	15	YES	Healthy
830	Oak	12	YES	Healthy
831	Maple	16	YES	Healthy
832	Maple	15	YES	Healthy
833	Ash	13		Healthy
834	Basswood	21	YES	Healthy
836	Maple	19	YES	Healthy
837	Oak	15	YES	Healthy
838	Maple	15	YES	Dying
840	Oak	27	YES	Healthy
841	Maple	21	YES	Healthy
842	Maple	18	YES	Healthy
1217	Oak	18	YES	Healthy
1221	Maple	26	YES	Healthy
1223	Maple	8		Healthy
1224	Maple	14	YES	Healthy
1226	Maple	15	YES	Healthy
1228	Maple	15	YES	Healthy
1231	Maple	21	YES	Healthy
1601	Maple	13	YES	Dying
1602	Ash	22		Healthy
2001	Basswood	15	YES	Healthy
2002	Maple	16	YES	Healthy
2003	Basswood	17	YES	Healthy
2004	Maple	12	YES	Healthy
2852	Elm	10		Healthy
2853	Elm	18		Healthy
2854	Ash	9		Healthy
2855	Maple	15	YES	Healthy

2856	Ash	22	YES	Healthy
2859	Elm	20		Healthy
3262	Walnut	10		Healthy
2967	Oak	16	YES	Healthy
2968	Ironwood	8		Healthy
2969	Maple	10		Healthy
2973	Ash	18	YES	Healthy
3244	Maple	12	YES	Healthy
3246	Ash	13	YES	Healthy
3247	Maple	12	YES	Healthy
3249	Maple	15	YES	Healthy
3250	Ash	22	YES	Healthy
3258	Elm	11		Healthy
3343	Ash	18	YES	Healthy



- NOTES:**
1. CONTRACTOR IS RESPONSIBLE TO LOCATE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO WORK.
  2. ALL EXISTING ROADS, PARKING LOTS, TRAILS, FENCES, SIGNS, OR SIMILAR SHALL BE PROTECTED DURING CONSTRUCTION. CONTRACTOR RESPONSIBLE TO COORDINATE SURVEYS WITH THE CITY AND/OR OWNER TO DOCUMENT PRE-CONSTRUCTION EXISTING CONDITION ISSUES.
  3. CONTRACTOR SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL BMPs PRIOR TO COMMENCEMENT OF GRADING FOR EACH LOCATION DURING CONSTRUCTION. EROSION CONTROL PLANS ARE PROVIDED INSIDE THE PROJECT STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
  4. ALL GROUND DISTURBANCE GENERATED FROM GRADING ACTIVITIES SHALL BE STABILIZED AND RESTORED WITH A MINIMUM OF 6 INCHES OF TOPSOIL, SEED W/COVER CROP AND EROSION CONTROL NETTING OR STRAW MULCH. THE TOPSOIL USED FOR RESTORATION MAY BE STOCKPILED FROM GRADING AREAS.
  5. CONSTRUCTION LIMITS AS SHOWN ARE APPROXIMATE FINAL CONSTRUCTION LIMITS TO BE COORDINATED WITH THE CITY OF EDEN PRAIRIE AND STAKED IN THE FIELD.
  6. CLEARING AND GRUBBING TO BE PERFORMED ONLY WITHIN GRADING LIMITS AND ACCESS ROUTES UNLESS DIRECTED BY ENGINEER.
  7. TREES TO BE CLEARED WILL BE MARKED IN THE FIELD BY ENGINEER. ALL TREES ≥ 8" IN DIAMETER NOT MARKED FOR REMOVAL SHALL BE PROTECTED.
  8. TREES IDENTIFIED BY ENGINEER FOR ADDITIONAL PROTECTION SHALL BE PROTECTED AGAINST ROOT COMPACTION, DAMAGE AND DISFIGUREMENT IN ACCORDANCE WITH MADOT SPEC. 2572. PROTECTION OF TREES NOT IDENTIFIED TO BE REMOVED SHALL BE INCIDENTAL.
  9. TREE SURVEY WAS COMPLETED 01/19/2018. "SIGNIFICANT TREES" MEET THE DEFINITION OF THE CITY OF EDEN PRAIRIE TREE REPLACEMENT REQUIREMENTS.
  10. CONTRACTOR SHALL TAKE PRECAUTIONS TO MINIMIZE THE TRANSFER OF AQUATIC AND TERRESTRIAL INVASIVE SPECIES TO THE MAXIMUM EXTENT POSSIBLE.
  11. COMPACTED SOIL MUST BE DECOMPACTED TO A SOIL COMPACTION TESTING PRESSURE OF LESS THAN 1,400 KILOPASCALS OR 200 POUNDS PER SQUARE INCH IN THE UPPER 12 INCHES OF SOIL.

1 STABILIZATION PLAN: RILEY CREEK (STA. 17+00 TO 27+00)

0 30 60  
HORIZONTAL SCALE IN FEET

ISSUED FOR BID  
NOT FOR CONSTRUCTION

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION
0	EPF	PAR	JDW	08/31/2018	ISSUED FOR BID

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.

PRINTED NAME: JEFFERY D. WEISS  
 SIGNATURE:   
 DATE: 08/31/2018 LICENSE # 48031

RELEASED TO/ FOR	DATE RELEASED
A	
B	
C	
0	
1	
2	
3	

**BARR**  
 Corporate Headquarters  
 Minneapolis, Minnesota  
 Ph: 1-800-433-2277

Project Office:  
 BARR ENGINEERING CO.  
 4300 MARKETPOINTE DRIVE  
 Suite 200  
 MINNEAPOLIS, MN 55435  
 Ph: 1-800-433-2277  
 Fax: (652) 832-2601  
 www.barr.com

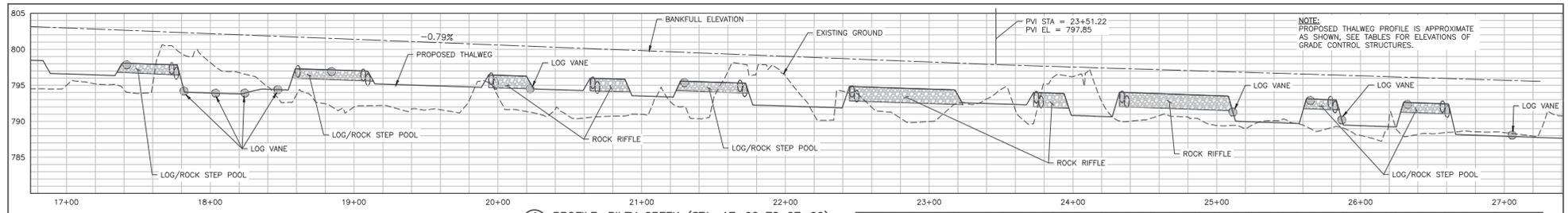
Scale	AS SHOWN
Date	08/31/2018
Drawn	EPF
Checked	PJH2
Designed	BARR
Approved	JDW

RILEY PURGATORY BLUFF CREEK  
 WATERSHED DISTRICT

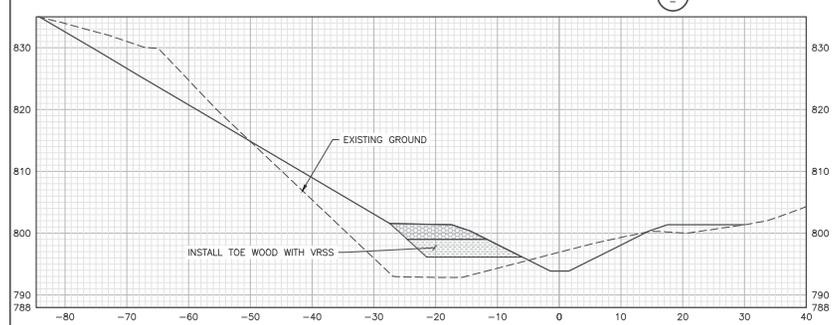
RILEY CREEK STABILIZATION  
 EDEN PRAIRIE, MN.  
 STABILIZATION PLAN  
 (STA. 17+00 TO 27+00)

BARR PROJECT No.	23/27-0053.14
CLIENT PROJECT No.	
DWG. No.	C-07
REV. No.	0

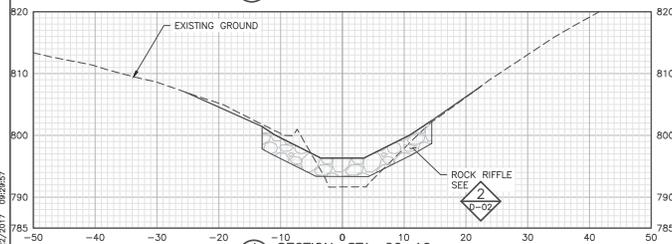
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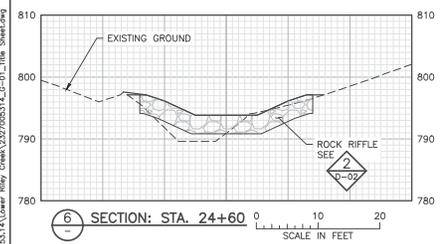
1 PROFILE: RILEY CREEK (STA. 17+00 TO 27+00)



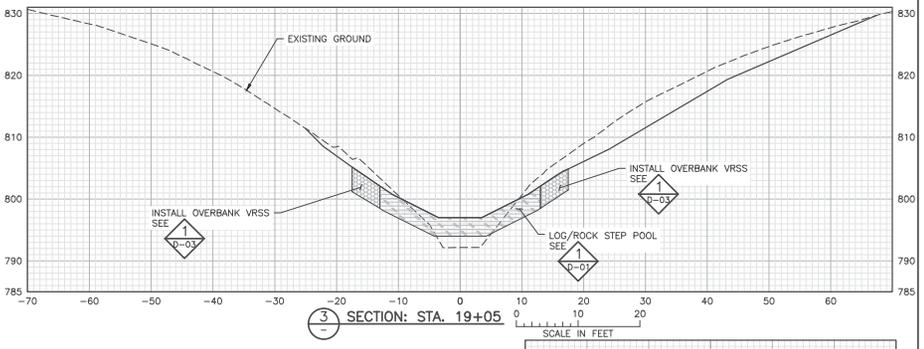
2 SECTION: STA. 18+10



4 SECTION: STA. 20+10

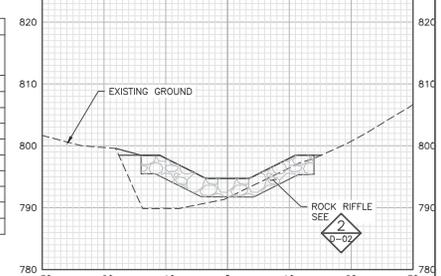


6 SECTION: STA. 24+60



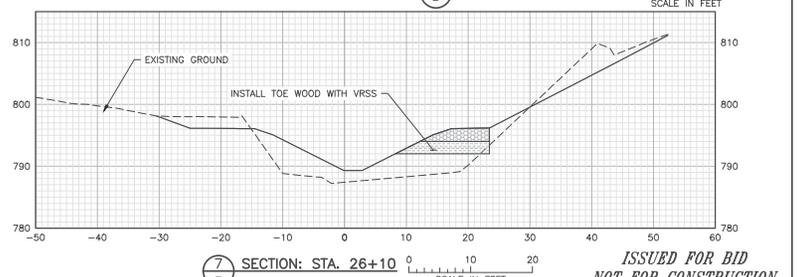
3 SECTION: STA. 19+05

GRADE CONTROL STRUCTURES												
Feature type	X1 Station	X1 Elevation	X1 Bankfull	X2 Station	X2 Elevation	X2 Bankfull	X3 Station	X3 Elevation	Length	Approx. Log/vane Spacing	Typical Section	Notes
Log/rock step pool	17+38.7	798.09	801.85	17+77.0	797.31	801.60	18+20.6	793.81	38.3	38.3	Narrow riffle	
Log/rock step pool	18+59.2	797.31	801.08	19+09.5	796.45	800.76	19+50.4	794.73	50.3	25.1	Narrow riffle	
Rock riffle	19+93.6	796.45	800.22	20+19.9	796	800.05	20+41.5	794.28	26.2	--	Narrow riffle	
Rock riffle	20+64.3	796	799.77	20+88.3	795.58	799.61	21+08.1	793.38	24.1	--	Narrow riffle	
Log/rock step pool	21+29.5	795.58	799.35	21+72.3	794.84	799.08	22+07.9	791.88	42.9	42.9	Narrow riffle	
Rock riffle	22+44.6	794.84	798.61	23+17.9	794.02	798.14	23+44.8	792.3	73.4	--	Narrow riffle	
Rock riffle	23+72.7	794.02	797.77	23+93.8	793.85	797.62	24+13.2	790.63	21.1	--	Narrow riffle	
Rock riffle	24+32.4	793.85	797.35	25+08.2	793.12	796.81	25+35.9	789.71	75.8	--	Standard riffle	Transition from narrow to standard riffle
Log/rock step pool	25+62.4	793.12	796.42	25+83.1	792.64	796.28	26+06.5	789.23	20.7	20.7	Standard riffle	
Log/rock step pool	26+30.0	792.64	795.94	26+61.3	791.69	795.72	27+14.6	787.52	31.3	31.3	Standard riffle	



5 SECTION: STA. 22+60

BANK STRUCTURES									
Feature type	Begin (X1) Station	X1 Elevation	Begin (X1) Bankfull	End Station	End Bankfull	Height Above Bankfull	Length	Side	Notes
Log vane	17+79.1	796.31	801.59	--	--	--	--	Left	Tie in to u/s riffle
Toe wood w/ VRSS	17+82.0	797.31	801.57	18+54.2	801.11	--	72.1	Left	10' bankfull bench
Log vane	18+01.3	793.93	801.45	--	--	--	--	Left	
Log vane	18+21.4	793.81	801.32	--	--	--	--	Right	
Toe wood w/ VRSS	18+31.4	797.31	801.26	18+59.2	801.08	--	27.7	Right	5' bankfull bench
Log vane	18+44.5	794.41	801.17	--	--	--	--	Right	
Overbank VRSS	18+59.2	--	801.08	20+36.3	799.95	3	177.1	Right	No bankfull bench
Overbank VRSS	18+59.2	--	801.08	20+56.9	799.81	3	197.7	Left	No bankfull bench
Log vane	20+19.9	795.70	800.05	--	--	--	--	Right	Tie in to u/s riffle
Toe wood w/ VRSS	20+29.5	796.00	799.99	20+64.3	799.77	--	34.8	Right	2' bankfull bench
Overbank VRSS	21+47.0	--	799.24	22+39.6	798.64	3	92.6	Right	2' bankfull bench
Log vane	25+08.2	793.50	796.81	--	--	--	--	Left	Tie in to u/s riffle
Log vane	25+84.5	792.02	796.27	--	--	--	--	Right	Tie in to u/s riffle
Toe wood w/ VRSS	25+88.0	792.64	796.24	26+30.0	795.94	--	42.0	Right	6' bankfull bench
Log vane	27+04.4	787.91	795.41	--	--	--	--	Left	



7 SECTION: STA. 26+10

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION
0	EPP	PAR	JDW	08/31/2018	ISSUED FOR BID

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.  
 PRINTED NAME: JEFFERY D. WEISS  
 SIGNATURE: [Signature]  
 DATE: 08/31/2018 LICENSE # 48031

**BARR**  
 Corporate Headquarters  
 Minneapolis, Minnesota  
 Ph: 1-800-832-2277  
 Fax: (652) 832-2601  
 www.barr.com

Project Office:  
 BARR ENGINEERING CO.  
 4300 MARKETPOINTE DRIVE  
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 MINNEAPOLIS, MN 55435  
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RILEY PURGATORY BLUFF CREEK  
 WATERSHED DISTRICT

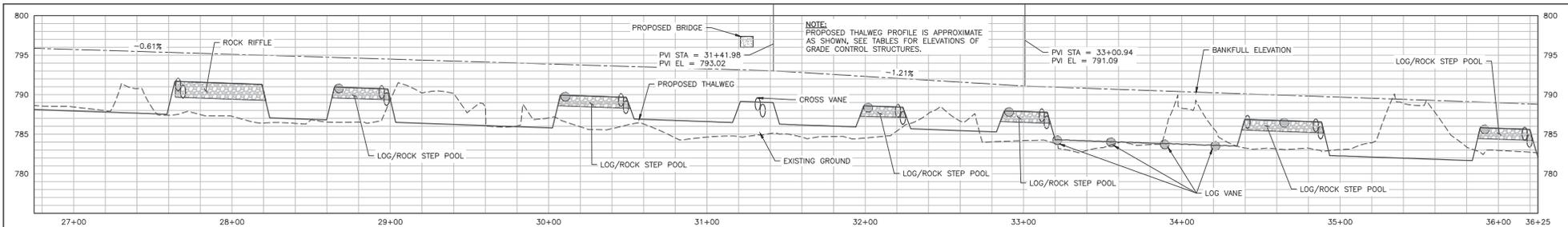
RILEY CREEK STABILIZATION  
 EDEN PRARIE, MN.  
 PROFILE & SECTIONS  
 (STA. 17+00 TO 27+00)

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 CLIENT PROJECT No. C-08  
 DWG. No. C-08  
 REV. No. 0

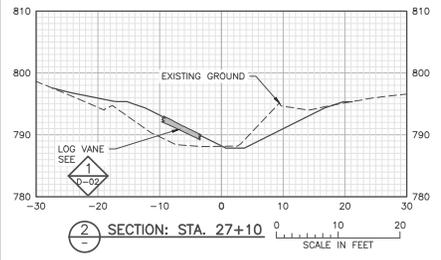
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 NOT FOR CONSTRUCTION



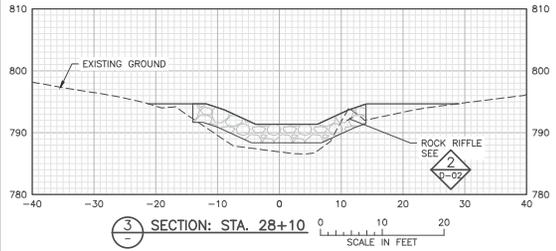
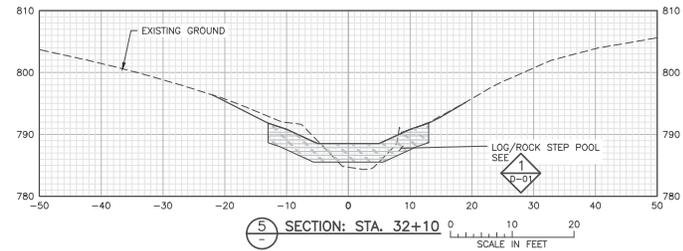
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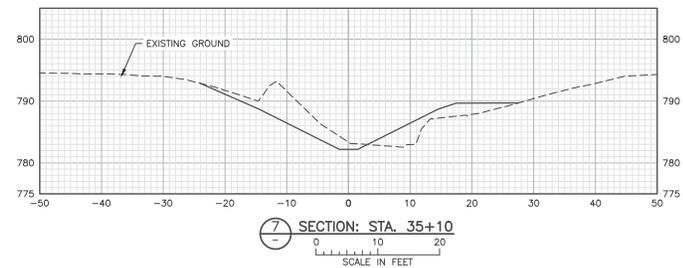
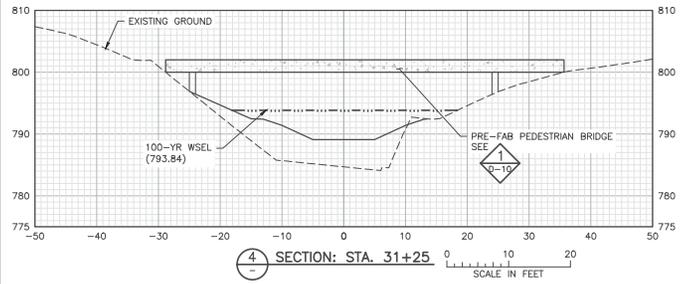
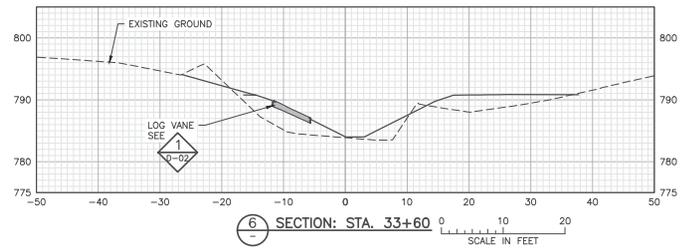
① PROFILE: RILEY CREEK (STA. 27+00 TO 36+00)



GRADE CONTROL STRUCTURES											
Feature type	X1 Station	X1 Elevation	X1 Bankfull	X2 Station	X2 Elevation	X2 Bankfull	X3 Station	X3 Elevation	Length	Approx. Log/vane Spacing	Typical Section
Rock riffle	27+63.9	791.69	794.99	28+18.8	790.97	794.60	28+42.0	786.8	54.9	--	Standard riffle
Log/rock step pool	28+64.7	790.97	794.28	28+98.4	789.95	794.04	29+41.6	785.79	33.7	--	Standard riffle
Log/rock step pool	30+07.5	789.95	793.26	30+49.1	789.14	792.97	30+85.5	786.48	41.6	41.6	Standard riffle
Cross vane	31+31.8	789.14	792.38	--	--	--	--	--	--	--	Standard riffle
Log/rock step pool	31+99.1	788.59	791.90	32+23.8	787.95	791.73	32+55.0	785.29	24.7	24.7	Standard riffle
Log/rock step pool	32+87.9	787.95	791.27	33+15.1	786.88	791.06	33+79.4	783.46	27.1	27.1	Standard riffle
Log/rock step pool	34+39.8	786.88	790.17	34+88.4	785.82	789.83	35+37.5	781.66	48.6	24.3	Standard riffle
Log/rock step pool	35+88.5	785.82	789.12	36+19.9	785.28	788.893	36+42.0	781.87	31.4	31.4	Standard riffle



BANK STRUCTURES									
Feature type	Begin (X1) Station	X1 Elevation	Begin (X1) Bankfull	End Station	End Bankfull	Height Above Bankfull	Length	Side	Notes
Log vane	33+20.1	784.27	791.02	--	--	--	--	Left	
Log vane	33+51.4	784.10	790.80	--	--	--	--	Left	
Log vane	33+86.5	783.80	790.55	--	--	--	--	Right	
Toe wood w/ VRSS	33+98.0	786.88	790.47	34+39.8	790.17	--	41.8	Right	6' bankfull bench
Log vane	34+21.1	783.61	790.30	--	--	--	--	Right	



ISSUED FOR BID  
NOT FOR CONSTRUCTION

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION
0	EPF	PAR	JDW	08/31/2018	ISSUED FOR BID

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.  
 PRINTED NAME: JEFFERY D. WEISS  
 SIGNATURE: [Signature]  
 DATE: 08/31/2018 LICENSE # 48031

RELEASED TO/ FOR	DATE RELEASED
A B C 0 1 2 3	

**BARR**  
 Corporate Headquarters:  
 Minneapolis, Minnesota  
 Ph: 1-800-432-2277  
 Project Office:  
 BARR ENGINEERING CO.  
 4300 MARKETPOINTE DRIVE  
 Suite 200  
 MINNEAPOLIS, MN 55435  
 Ph: 1-800-832-2277  
 Fax: (652) 832-2601  
 www.barr.com

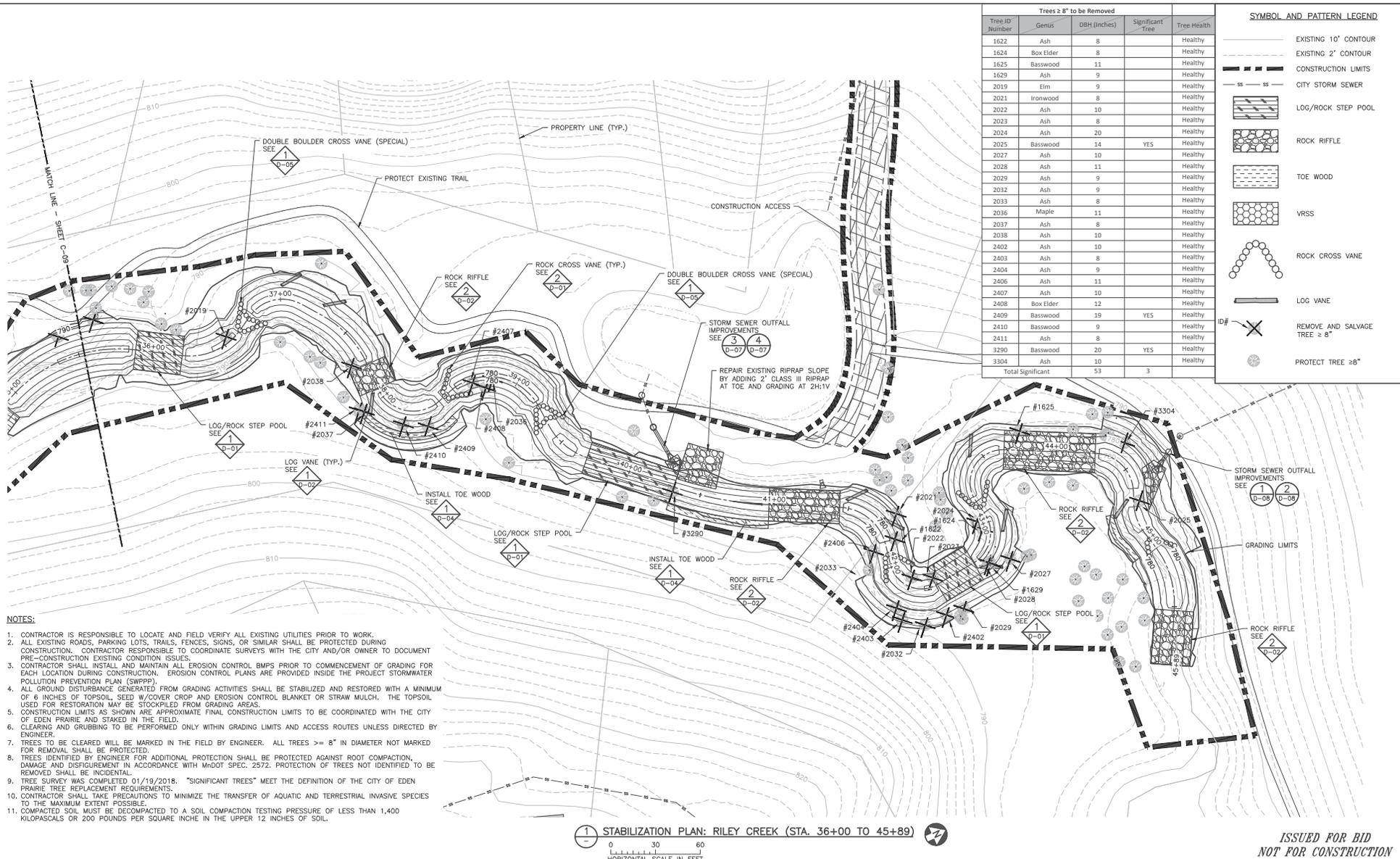
Scale	PJ#2
Open	08/31/2018
Drawn	EPF
Checked	AKH
Designed	BARR
Approved	JDW

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

RILEY CREEK STABILIZATION  
 EDEN PRAIRIE, MN.  
 PROFILE & SECTIONS  
 (STA. 27+00 TO 36+00)

BARR PROJECT No.	CLIENT PROJECT No.
23/27-0053.14	
DWG. No.	REV. No.
C-10	0

CAD USER: Eric P. Fitzgerald FILE: M:\EDEN\2370053.1\ALUMNER RILEY CREEK\2370053.1\_C-11\_PLAN & PROFILE\DWG\_PLOT SCALE: 1:2 PLOT DATE: 9/12/2018 10:41 AM  
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Trees ≥ 8" to be Removed				Significant Tree	Tree Health
Tree ID Number	Genus	DBH (inches)			
1622	Ash	8			Healthy
1624	Box Elder	8			Healthy
1625	Basswood	11			Healthy
1629	Ash	9			Healthy
2019	Elm	9			Healthy
2021	Ironwood	8			Healthy
2022	Ash	10			Healthy
2023	Ash	8			Healthy
2024	Ash	20			Healthy
2025	Basswood	14	YES		Healthy
2027	Ash	10			Healthy
2028	Ash	11			Healthy
2029	Ash	9			Healthy
2032	Ash	9			Healthy
2033	Ash	8			Healthy
2036	Maple	11			Healthy
2037	Ash	8			Healthy
2038	Ash	10			Healthy
2402	Ash	10			Healthy
2403	Ash	8			Healthy
2404	Ash	9			Healthy
2406	Ash	11			Healthy
2407	Ash	10			Healthy
2408	Box Elder	12			Healthy
2409	Basswood	19	YES		Healthy
2410	Basswood	9			Healthy
2411	Ash	8			Healthy
3290	Basswood	20	YES		Healthy
3304	Ash	10			Healthy
Total Significant				53	3

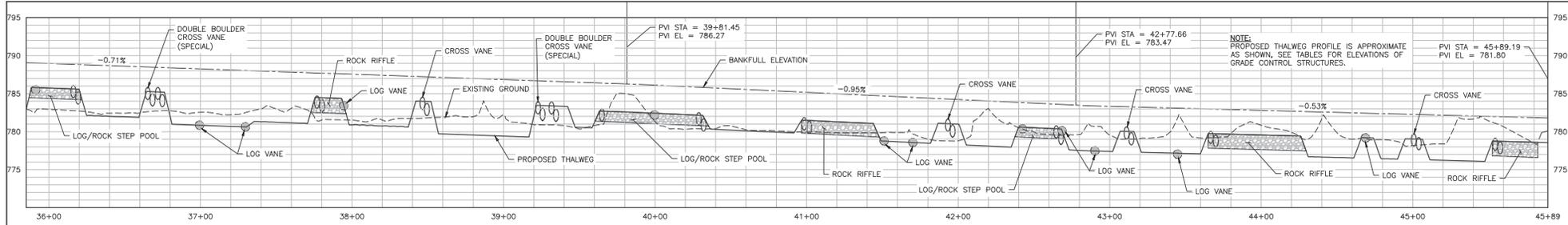
SYMBOL AND PATTERN LEGEND	
	EXISTING 10' CONTOUR
	EXISTING 2' CONTOUR
	CONSTRUCTION LIMITS
	CITY STORM SEWER
	LOG/ROCK STEP POOL
	ROCK RIFFLE
	TOE WOOD
	VRSS
	ROCK CROSS VANE
	LOG VANE
	REMOVE AND SALVAGE TREE ≥ 8"
	PROTECT TREE ≥ 8"

- NOTES:**
- CONTRACTOR IS RESPONSIBLE TO LOCATE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO WORK.
  - ALL EXISTING ROADS, PARKING LOTS, TRAILS, FENCES, SIGNS, OR SIMILAR SHALL BE PROTECTED DURING CONSTRUCTION. CONTRACTOR RESPONSIBLE TO COORDINATE SURVEYS WITH THE CITY AND/OR OWNER TO DOCUMENT PRE-CONSTRUCTION EXISTING CONDITION ISSUES.
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  - ALL GROUND DISTURBANCE GENERATED FROM GRADING ACTIVITIES SHALL BE STABILIZED AND RESTORED WITH A MINIMUM OF 6 INCHES OF TOPSOIL, SEED W/COVER CROP AND EROSION CONTROL BLANKET OR STRAW MULCH. THE TOPSOIL USED FOR RESTORATION MAY BE STOCKPILED FROM GRADING AREAS.
  - CONSTRUCTION LIMITS AS SHOWN ARE APPROXIMATE FINAL CONSTRUCTION LIMITS TO BE COORDINATED WITH THE CITY OF EDEN PRAIRIE AND STAKED IN THE FIELD.
  - CLEARING AND GRUBBING TO BE PERFORMED ONLY WITHIN GRADING LIMITS AND ACCESS ROUTES UNLESS DIRECTED BY ENGINEER.
  - TREES TO BE CLEARED WILL BE MARKED IN THE FIELD BY ENGINEER. ALL TREES >= 8" IN DIAMETER NOT MARKED FOR REMOVAL SHALL BE PROTECTED.
  - TREES IDENTIFIED BY ENGINEER FOR ADDITIONAL PROTECTION SHALL BE PROTECTED AGAINST ROOT COMPACTION, DAMAGE AND DISFIGUREMENT IN ACCORDANCE WITH MnDOT SPEC. 2572. PROTECTION OF TREES NOT IDENTIFIED TO BE REMOVED SHALL BE INCIDENTAL.
  - TREE SURVEY WAS COMPLETED 01/19/2018. "SIGNIFICANT TREES" MEET THE DEFINITION OF THE CITY OF EDEN PRAIRIE TREE REPLACEMENT REQUIREMENTS.
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  - COMPACTED SOIL MUST BE DECOMPACTED TO A SOIL COMPACTION TESTING PRESSURE OF LESS THAN 1,400 KILOPASCALS OR 200 POUNDS PER SQUARE INCH IN THE UPPER 12 INCHES OF SOIL.

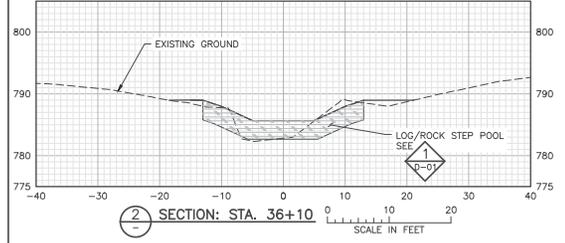
**1 STABILIZATION PLAN: RILEY CREEK (STA. 36+00 TO 45+89)**

**ISSUED FOR BID**  
**NOT FOR CONSTRUCTION**

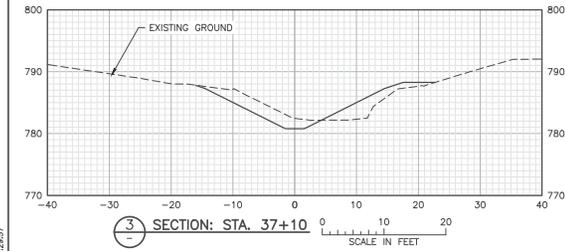
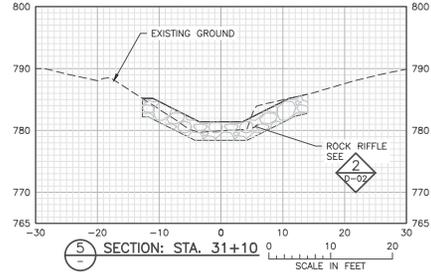
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINTED NAME: JEFFERY D. WEISS SIGNATURE: DATE: 08/31/2018 LICENSE # 48031		CLIENT: BARR ENGINEERING CO., 4300 MARKETPOINTE DRIVE, SUITE 200, MINNEAPOLIS, MN 55435 PROJECT: RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT		SCALE: AS SHOWN DATE: 08/31/2018 CHECKED: PJH2 DESIGNED: BARR APPROVED: DJW		BARR PROJECT No. 23/27-0053.14 CLIENT PROJECT No.	
RELEASED TO/ FOR: A B C O 1 2 3 DATE RELEASED:		PROJECT: RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT		PROJECT: RILEY CREEK STABILIZATION EDEN PRAIRIE, MN.		DWG. No. C-11 REV. No. 0	



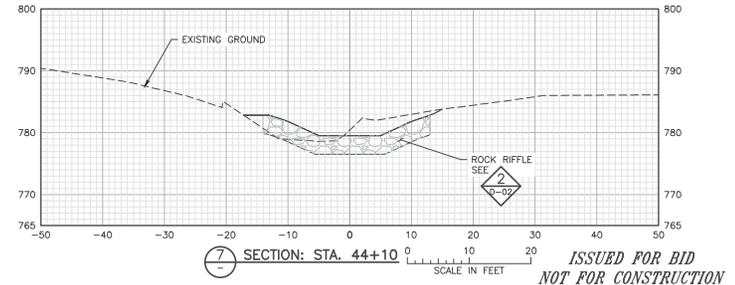
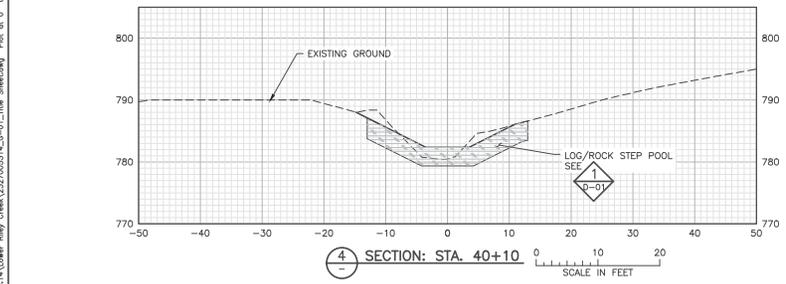
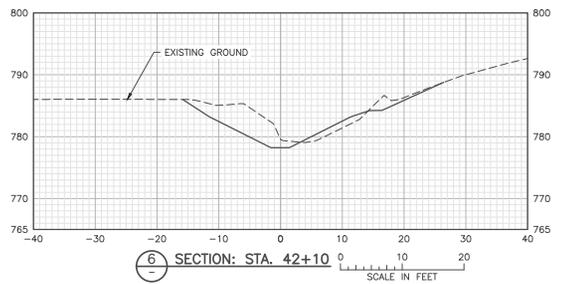
1 PROFILE: RILEY CREEK (STA. 36+00 TO 45+89)



GRADE CONTROL STRUCTURES												
Feature type	X1 Station	X1 Elevation	X1 Bankfull	X2 Station	X2 Elevation	X2 Bankfull	X3 Station	X3 Elevation	Length	Approx. Log/vane Spacing	Typical Section	Notes
Cross vane (double)	36+64.4	785.28	788.58	36+76.2	784.89	788.49	--	--	--	--	Standard riffle	Double vane
Rock riffle	37+75.7	784.5	787.79	37+93.2	784.02	787.66	38+17.3	780.61	17.6	--	Standard riffle	
Cross vane	38+47.0	784.02	787.28	--	--	--	--	--	--	--	Standard riffle	
Cross vane (double)	39+21.8	783.46	786.75	39+35.6	783.07	786.65	--	--	--	--	Standard riffle	Double vane
Log/rock step pool	39+70.1	782.67	786.41	40+31.5	781.52	785.88	40+64.5	779.82	61.3	30.7	Standard riffle	
Rock riffle	40+96.6	781.52	785.27	41+44.1	781.12	784.81	41+65.4	778.46	47.5	--	Narrow riffle	
Cross vane	41+94.1	781.12	784.34	--	--	--	--	--	--	--	Standard riffle	
Log/rock step pool	42+40.0	780.61	783.90	42+68.2	780.06	783.64	42+87.3	777.39	28.2	28.2	Standard riffle	
Cross vane	43+11.7	780.06	783.34	--	--	--	--	--	--	--	Standard riffle	
Rock riffle	43+64.9	779.75	783.06	44+26.1	779.22	782.73	44+59.6	776.39	61.1	--	Standard riffle	
Cross vane	45+01.3	779.06	782.33	--	--	--	--	--	--	--	Standard riffle	
Rock riffle	45+52.6	778.76	782.06	45+89.0	778.57	781.87	--	--	36.4	--	Standard riffle	



BANK STRUCTURES										
Feature type	Begin (X1) Station	X1 Elevation	Begin (X1) Bankfull	End Station	End Bankfull	Height Above Bankfull	Length	Side	Notes	
Log vane	37+00.2	780.83	788.32	--	--	--	--	Left		
Log vane	37+30.4	780.62	788.11	--	--	--	--	Left		
Log vane	37+94.7	783.36	787.65	--	--	--	--	Right	Tie in to u/s riffle	
Toe wood w/ VRSS	38+01.9	784.02	787.60	38+40.7	787.32	--	38.9	Right	2' bankfull bench	
Toe wood w/ VRSS	40+31.5	781.52	785.88	40+96.6	785.27	--	65.1	Right	No bankfull bench	
Log vane	41+52.0	778.75	784.74	--	--	--	--	Left		
Log vane	41+71.0	778.57	784.56	--	--	--	--	Left		
Log vane	42+69.5	779.62	783.62	--	--	--	--	Left		
Log vane	42+92.3	777.44	783.44	--	--	--	--	Right		
Log vane	43+44.5	777.16	783.17	--	--	--	--	Left		
Log vane	44+69.9	779.22	782.50	--	--	--	--	Right	Acts as grade control	
Toe wood w/ VRSS	44+78.9	779.06	782.45	44+06.4	782.31	--	27.5	Right	No bankfull bench	



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NO. BY CHK. APP. DATE REVISION DESCRIPTION									

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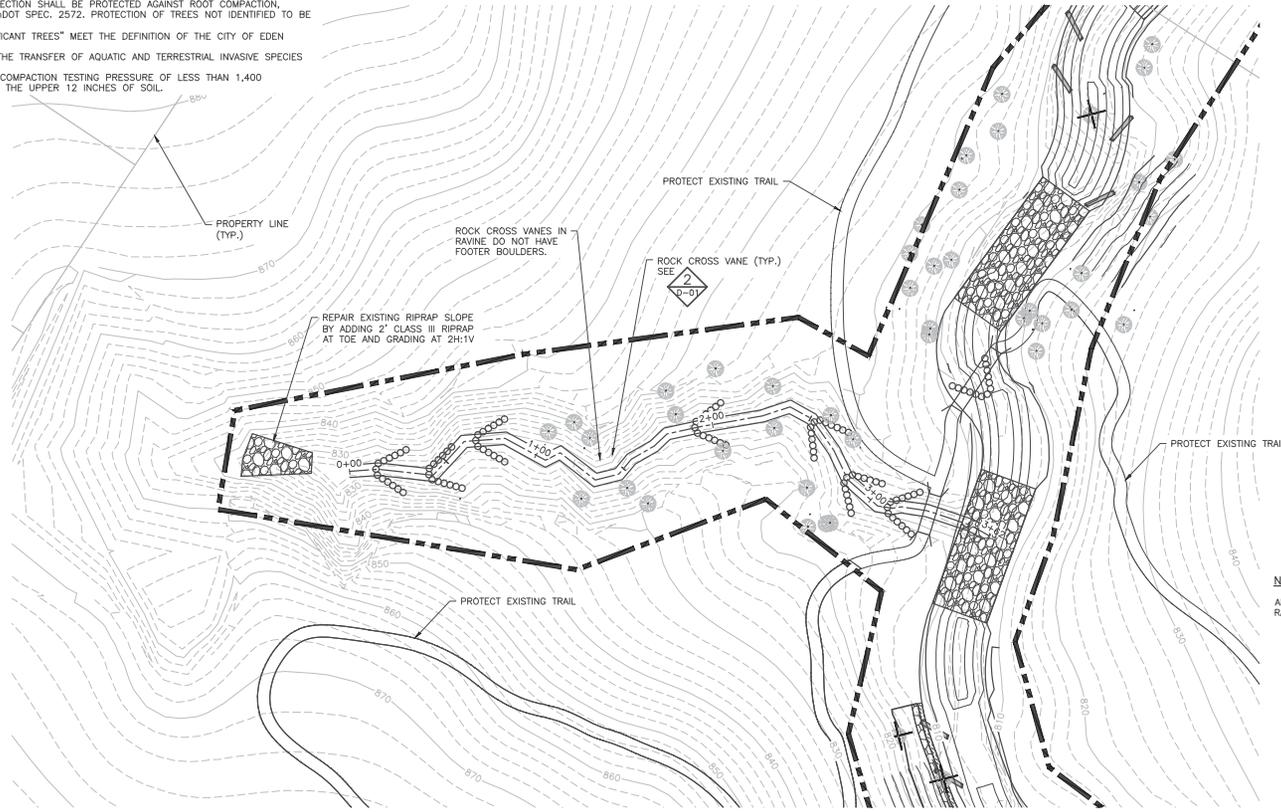
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NOT FOR CONSTRUCTION

**NOTES:**

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**SYMBOL AND PATTERN LEGEND**

- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- CONSTRUCTION LIMITS
- CITY STORM SEWER
- LOG/ROCK STEP POOL
- ROCK RIFFLE
- TOE WOOD
- VRSS
- ROCK CROSS VANE
- LOG VANE
- REMOVE AND SALVAGE TREE  $\geq 8"$
- PROTECT TREE  $\geq 8"$



**NOTE:**  
ALL ROCK CROSS VANES ON THE TRIBUTARY RAVINE ARE TO BE FIELD FIT TO EXISTING GROUND.

1 PLAN: TRIBUTARY RAVINE  
0 30 60  
HORIZONTAL SCALE IN FEET

*ISSUED FOR BID  
NOT FOR CONSTRUCTION*

CADD USER: Eric P. Fitzgerald FILE: M:\DESIGN\23270053.1\OWNER RILEY CREEK\23270053.1\_C-13\_PLAN & PROFILE\_SITE D3LWG PLOT SCALE: 1:2 PLOT DATE: 9/12/2018 10:43 AM

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION
0	EPF	PJH2	JDW	08/31/2018	ISSUED FOR BID

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PRINTED NAME: JEFFERY D. WEISS  
SIGNATURE:   
DATE: 08/31/2018 LICENSE # 48031

CLIENT	B/S	R/S	C/S	H/S	A/S
CONSTRUCTION					
RELEASED TO/FOR	A	B	C	0	1 2 3
DATE RELEASED					

**BARR**  
Corporate Headquarters  
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Ph: 1-800-432-2277  
Fax: (652) 832-2601  
www.barr.com

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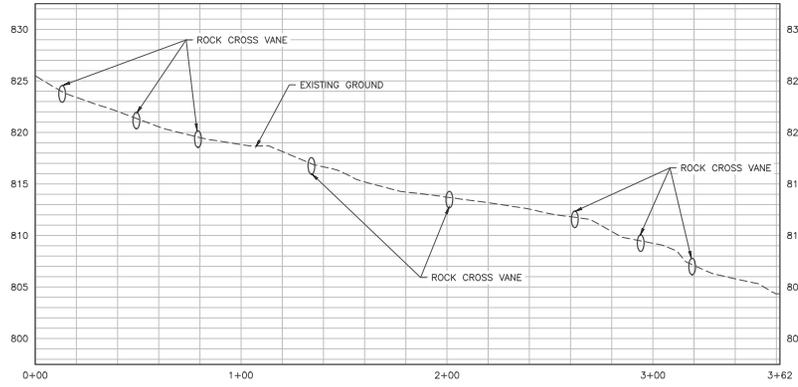
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Date	08/31/2018
Drawn	EPF
Checked	PJH2
Designed	BARR
Approved	JDW

RILEY PURGATORY BLUFF CREEK  
WATERSHED DISTRICT

RILEY CREEK STABILIZATION EDEN PRAIRIE, MN.		BARR PROJECT No.
DESIGN PLAN TRIBUTARY RAVINE		23/27-0053.14 CLIENT PROJECT No.
DWG. No.	C-13	REV. No.
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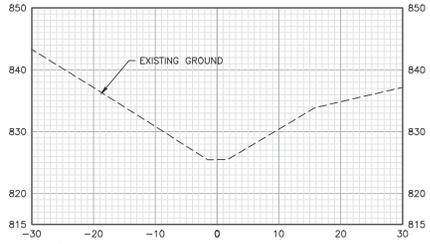
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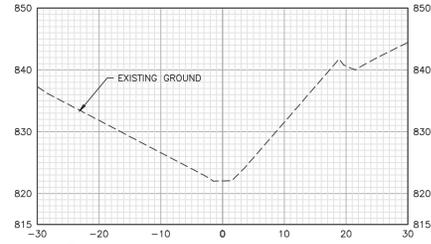


1 PROFILE: TRIBUTARY RAVINE  
 HORIZONTAL SCALE IN FEET: 0, 30, 60  
 VERTICAL SCALE IN FEET: 0, 6, 12

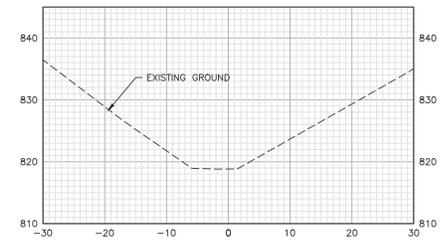
**NOTE:**  
 PLACEMENT AND ELEVATIONS OF VANES TO BE CONFIRMED BY ENGINEER IN THE FIELD. BOULDER VANES IN RAVINE DO NOT HAVE FOOTER BOULDERS.



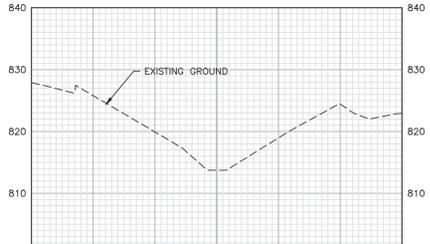
2 SECTION: TRIBUTARY RAVINE (STA. 0+00)  
 SCALE IN FEET: 0, 10, 20



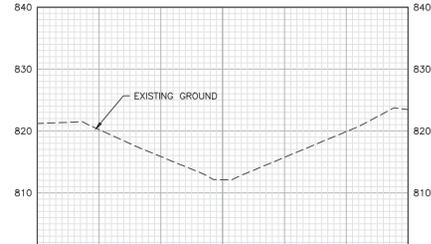
3 SECTION: TRIBUTARY RAVINE (STA. 0+40)  
 SCALE IN FEET: 0, 10, 20



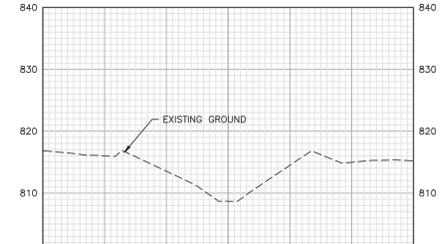
4 SECTION: TRIBUTARY RAVINE (STA. 1+00)  
 SCALE IN FEET: 0, 10, 20



5 SECTION: TRIBUTARY RAVINE (STA. 2+00)  
 SCALE IN FEET: 0, 10, 20



6 SECTION: TRIBUTARY RAVINE (STA. 2+50)  
 SCALE IN FEET: 0, 10, 20



7 SECTION: TRIBUTARY RAVINE (STA. 3+00)  
 SCALE IN FEET: 0, 10, 20

ISSUED FOR BID  
 NOT FOR CONSTRUCTION

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION
0	EPF	PJH2	JDW	08/31/2018	ISSUED FOR BID

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.  
 PRINTED NAME: JEFFERY D. WEISS  
 SIGNATURE: [Signature]  
 DATE: 08/31/2018 LICENSE # 48031

CLIENT	BID	CONSTRUCTION	RELEASED TO/FOR	DATE RELEASED
			A B C 0 1 2 3	

**BARR**  
 Corporate Headquarters:  
 Minneapolis, Minnesota  
 Ph: 1-800-433-2277  
 Fax: (652) 832-2601  
 www.barr.com

Scale	AS SHOWN
Date	08/31/2018
Drawn	EPF
Checked	PJH2
Designed	BARR
Approved	JDW

RILEY PURGATORY BLUFF CREEK  
 WATERSHED DISTRICT

BARR PROJECT No.	CLIENT PROJECT No.
23/27-0053.14	
DWG. No.	REV. No.
C-14	0



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

## Riley Purgatory Bluff Creek Watershed District Permit Application Review

**Permit No:** 2019-019

**Considered at Board of Managers Meeting:** June 5, 2019

**Received complete:** April 26, 2019

**Applicant:** Timothy Brown

**Consultant:** Anderson Engineering of MN LLC, Gary Anderson

**Project:** Sheldon Place Townhomes – Redevelopment of a 1.01 acre parcel by removing existing structures and constructing a new 10-Unit Townhome development at 7960 Eden Prairie Rd Eden Prairie, MN 55347. Underground infiltration systems will provide stormwater runoff volume, rate, and water quality control.

**Location:** 7960 Eden Prairie Rd Eden Prairie, MN 55347

**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 June 5, 2019 meeting of the managers:

Resolved that the application for Permit 2019-019 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 2019-019 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>C</b>	<b>Erosion Control Plan</b>	See comment.	See rule-specific permit condition C1.	
<b>J</b>	<b>Stormwater Management</b>	Rate	Yes.	
		Volume	See comment.	See stipulation 1.
		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	No wetlands onsite or adjacent to the parcel
<b>L</b>	<b>Permit Fee</b>	Yes.	\$1,500 received April 26, 2019	
<b>M</b>	<b>Financial Assurance</b>	See comment.	The financial assurance is calculated at \$103,619	

**Background**

The applicant is proposing demolition of the existing house, garage, seven sheds, and other existing impervious surface to construct a 10-unit townhome development at 7960 Eden Prairie Rd Eden Prairie, MN 55347. The project includes a subsurface infiltration system with a upstream sump manholes for pre-treatment of runoff before entering the infiltration system. The subsurface infiltration system is located on the east edge of the disturbed area partially beneath the access road. The overflow from the systems will discharge into the existing stormsewer to the east of the site. The underground infiltration system provides stormwater quantity, volume and quality control. The project site information is summarized below:

Project Site Information	Area (acres)
Total Site Area	1.04
Existing Site Impervious	0.26
Disturbed Site Impervious Area	0.26 (100%)
Proposed Site Impervious Area	0.66
Change in Site Impervious Area	0.4 (>100% increase)
Total Disturbed Area	1.01

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

1. Signed Application dated April 25, 2019
2. Civil Construction Plan Sheets (9 sheets) dated April 14, 2019 (Revised May 21, 2019)
3. Stormwater Management Plan dated April 12, 2019 (Revised May 21, 2019)
4. Electronic HydroCAD models received on April 26, 2019 (Revised May 21, 2019)
5. Electronic MIDS model received on April 26, 2019 (Revised May 21, 2019)
6. Geotechnical Exploration Report dated March 25, 2019
7. StormTech MC-3500 & MC-4500 Design Manual
8. Response to review comments dated May 22, 2019
9. Engineer's opinion of probable construction cost for the underground infiltration system received May 22, 2019

#### **Rule C: Erosion and Sediment Control**

Because the project will involve 1.01 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 Anderson Engineering, LLC. includes installation of silt fence, inlet protection, a rock construction entrance, restoration with six inches of topsoil, 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 1.01 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 site because the project will disturb more than 50% of the existing impervious surface on the parcel (Rule J, Subsection 2.3).

The developer is proposing construction of a subsurface infiltration system to provide the rate control, volume abstraction and water quality management on the site. Sump manholes will serve as pretreatment for runoff prior to discharging into the subsurface 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 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 proposed project is in conformance with RPBCWD Rule J, Subsection 3.1.a.

2-Year Discharge (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)		10-Day Snowmelt (cfs)	
Ex	Prop	Ex	Prop	Ex	Prop	Ex	Prop
0.5	0.1	1.3	1.0	3.6	3.4	0.2	<0.1

**Volume Abstraction**

Subsection 3.1.b of Rule J requires the abstraction onsite of 1.1 inches of runoff from all new or disturbed impervious surface of the parcel. An abstraction volume of 2,615 cubic feet is required from the 28,532 square feet) of proposed impervious area on the site for volume retention.

Soil borings performed by Haugo Geotechnical Services on March 18, 2019 show that soils in the project area are primarily silty sand and poorly graded sand. Groundwater was not encountered in any of the five soil borings to a depth of 20 feet. Because no groundwater was encountered to a depth of the boring termination (about elevation 880 msl) and the bottom of the subsurface infiltration system is proposed at elevation 887.7, the project will achieve the required 3-foot separation. The applicant selected a design infiltration rate of 0.8 inches per hour for poorly graded sand based on guidance in the MPCA’s MN Stormwater Manual, thus the subsurface basin will drawdown within 48 hours (Rule J, subsection 3.1biii). The table below summarizes the volume abstraction for the site. The engineer concurs with the modeling, and finds that the proposed project conforms with Rule J, Subsection 3.1.b.

	Abstraction Depth (inches)	Abstraction Volume (cubic feet)
Requirement	1.1	2,615
Provided	1.5	3,633

**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 a subsurface infiltration system 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)	238	214 (90%)	217 (91%)
Total Phosphorus (TP)	1.31	0.79 (60%)	1.2 (91%)

**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)	137	21	-116
Total Phosphorus (TP)	0.75	0.12	-0.63

**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. The low floor elevation of the homes and the adjacent stormwater management feature is summarized below and shows proposed project is in conformance with Rule J, subsection 3.6.

Location Riparian to Stormwater Facility	Low Floor Elevation of Building (feet)	100-year Event Flood Elevation of Adjacent Stormwater Facility (feet)	Freeboard to 100-year Event (feet)
Lowest floor of all Units	898.4	892.92	5.48

**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.

- J1. Permit applicant must provide a maintenance and inspection declaration. A maintenance declaration template is available on the permits page of the RPBCWD website. (<http://www.rpbcd.org/permits/>). A draft declaration must be provided for District review prior to recording.

**Wetland Protection**

Because the applicant has demonstrated, and the engineer concurs, that there are no wetlands on the site or immediately adjacent to the site, Rule J, Suction 3.10 does not apply to the proposed project.

**Chloride Management**

Subsection 3.8 of Rule J requires the submission of chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt

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

**Rule L: Permit Fee:**

Fees for the project are:

Rule C & J .....\$1,500

**Rule M: Financial Assurance:**

Rules C: Silt fence and bio-logs: 833 L.F. x \$2.50/L.F. = .....\$2,083

Inlet protection: 7 x \$100 = .....\$700

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

Restoration: 1.01 acres x \$2,500/acre = .....\$2,525

Rules J: Subsurface Infiltration systems: \$66,394 x 125% of engineer’s opinion of cost= .....\$82,992

Chloride Management Plan: .....\$5,000

Contingency (10%) .....\$9,420

Total Financial Assurance.....\$103,619

**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. Return or allowed expiration of any remaining surety and permit close out is dependent on the permit holder providing proof that all required documents have been recorded and providing as-built drawings that show that the project was constructed as approved by the Managers and in conformance with the RPBCWD rules and regulations.

**Findings**

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

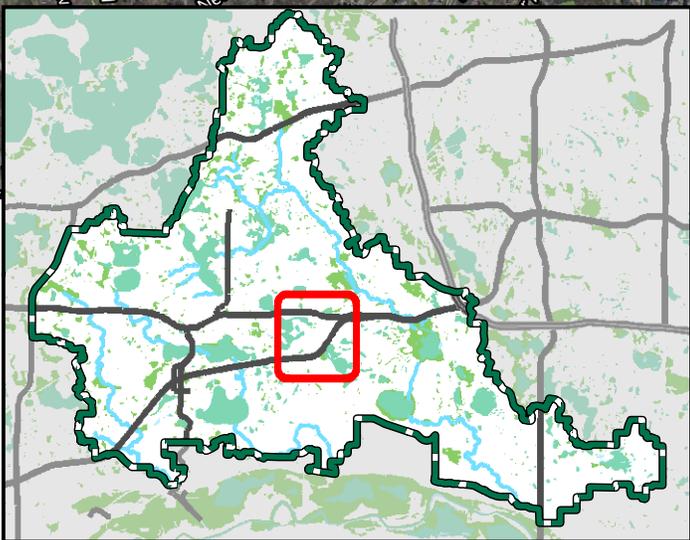
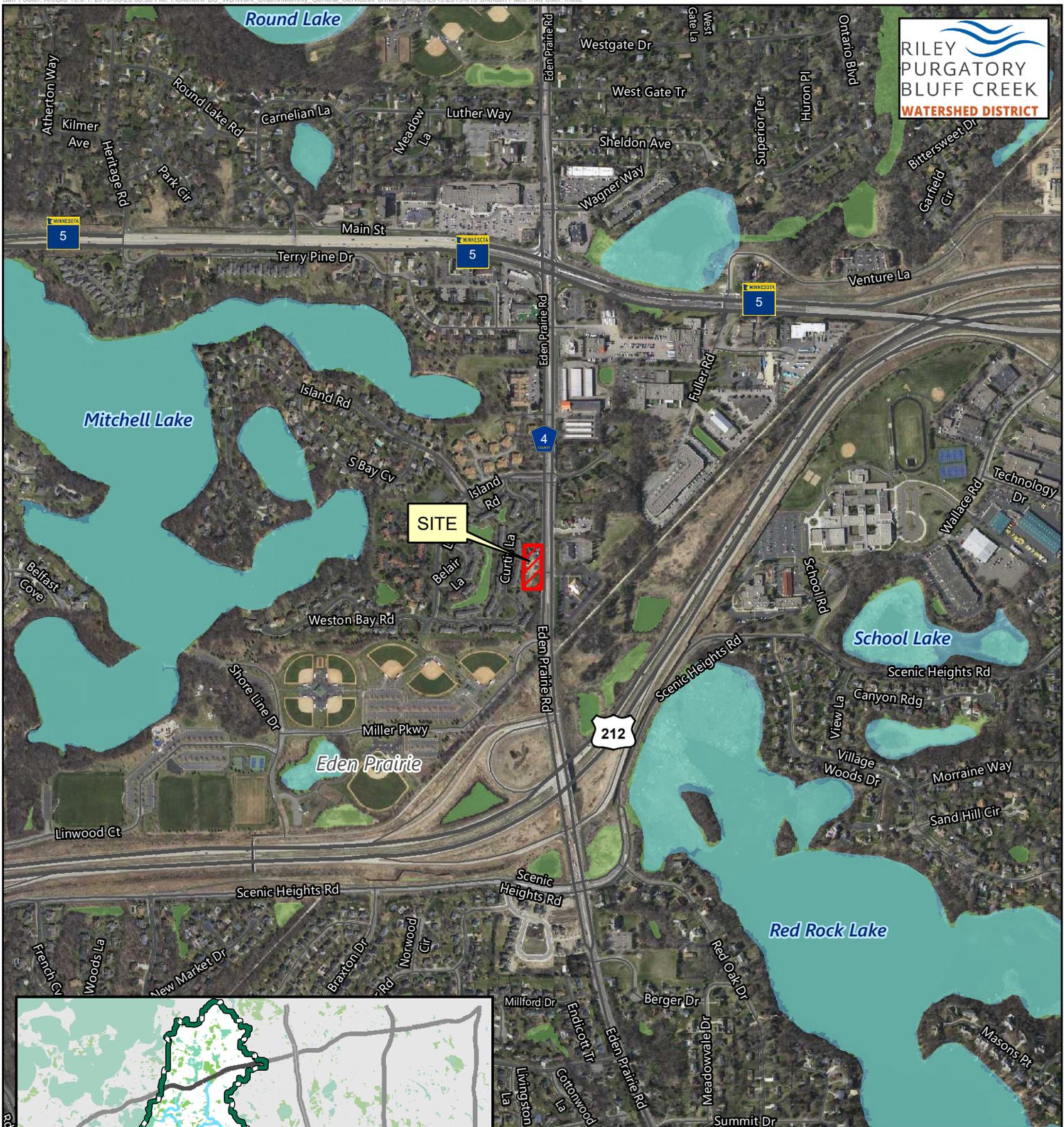
**Recommendation:**

Approval of the permit issuance contingent upon:

1. Continued compliance with General Requirements.
2. Financial Assurance in the amount of \$103,619.
3. The applicant providing the name and contact information of the general contractor responsible for the site.
4. Receipt in recordation a maintenance declaration for the stormwater management facilities. 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 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 divided by 2. 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).
2. 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.
3. The work on the Sheldon Place parcel under the terms of permit 2019-019, 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. To close out the permit and release the \$5,000 in financial assurance held for the purpose, 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.



Permit Location Map



Feet



SHELDON PLACE  
**Permit 2019-019**  
Riley Purgatory Bluff Creek  
Watershed District

**STORM WATER POLLUTION PREVENTION PLAN NOTES:**

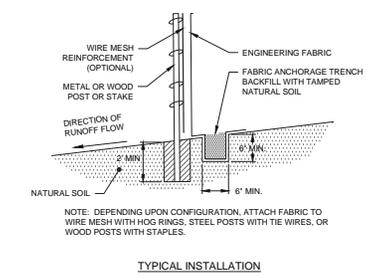
- GRADING CONTRACTORS SHALL VERIFY LOCATIONS AND ELEVATIONS OF ALL UNDERGROUND UTILITIES WITH THE SPECIFIC UTILITY COMPANIES PRIOR TO CONSTRUCTION.
- ALL EROSION CONTROL MEASURES CALLED FOR ON THESE PLANS AND SPECIFICATIONS, WHICH MAY INCLUDE SILT FENCE, SEDIMENTATION BASINS OR TEMPORARY SEDIMENT TRAPS, SHALL BE CONSTRUCTED AND SERVICABLE IN THE FOLLOWING MANNER:
  - A. SOIL CONSTRUCTION ENTRANCES A MINIMUM OF SIX FEET
  - B. TEMPORARY GULLIES
  - C. TEMPORARY SEDIMENTATION BASINS AND OUTFALL FACILITIES
  - D. DOWNSTREAM FOND CONSTRUCTION
  - E. COMBINATION EROSION AND EMBANKMENT GRADING
  - F. SEED AND MULCH ON SOIL
  - G. SPECIAL ANALYSIS AS REQUIRED GRADED AREAS

- GRADING CONTRACTORS SHALL PROVIDE AND MAINTAIN ALL EROSION CONTROL MEASURES IN ACCORDANCE WITH CITY AND WISCONSIN PERMITS AND REQUIREMENTS AS WELL AS EROSION CONTROL MEASURES AS MAY BE SHOWN ON THESE PLANS OR SPECIFICATIONS. GRADING CONTRACTORS SHALL MAINTAIN ANY ADDITIONAL EROSION CONTROL MEASURES AS CALLED FOR ON THESE PLANS AND SPECIFICATIONS.
- ALL EROSION CONTROL FACILITIES SHALL BE MAINTAINED BY THE CONTRACTOR DURING GRADING OPERATIONS. ANY TEMPORARY FACILITIES WHICH ARE TO BE REMOVED AS CALLED FOR ON THESE PLANS AND SPECIFICATIONS SHALL BE REMOVED BY THE GRADING CONTRACTOR WHEN DIRECTED BY THE ENGINEER. THE GRADING CONTRACTOR SHALL RESTORE THE SUBSEQUENTLY DISTURBED AREA IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS.
- THE GRADING CONTRACTOR SHALL SUBMIT THE SILT FENCE BARRIER SO THAT CONSTRUCTION OF A SILT CONTROLLED FILL WILL BE FURNISHED TO THE OWNER DURING AND UPON COMPLETION OF THE PROJECT.

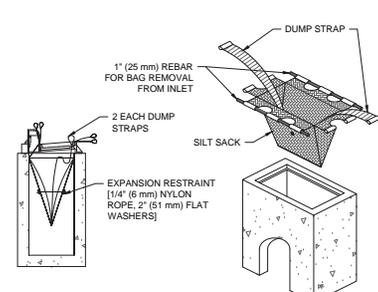
- ALL DISTURBED AREAS, EXCEPT AREAS TO BE PAVED AND/OR SPECIALLY DESIGNED BY A LANDSCAPE PLAN, SHALL BE COVERED WITH A MINIMUM OF TOP SOIL OR AS INDICATED IN SPECIFICATIONS OR LANDSCAPE PLAN. ALL DISTURBED AREAS SHALL BE SEED & MULCHED AT THE PRESCRIBED RATES WITHIN 10 DAYS OF FINAL GRADING UNLESS OTHERWISE NOTED.
 

SEED MIX	METHOD	METHOD NO.	SEED RATE (LB/1000 SQ YD)
GRASS	TYPICAL	25-41	50
FERTILIZER	TYPICAL	25-5-5	50
- ALL EXPOSED SOIL, MIXED WITH CONTAMINATED POSITIVE SLOPE WITHIN 30' LOCAL FEET OF ANY SURFACE WATER, MUST HAVE TEMPORARY EROSION PROTECTION OR PERMANENT COVER FOR THE EXPOSED SOIL AREAS. VARIOUS METHODS ACCORDING TO THE FOLLOWING TABLE SHALL BE USED:
 

TYPE OF SOIL	TIME	MINIMUM AREA (SQ YD)	MINIMUM PERCENT COVER
CLAY TO SILT	4 DAYS	100	90
SILT TO SAND	10 DAYS	100	80
SAND TO GRAVEL	15 DAYS	100	70
- THE EXISTING TOPOGRAPHY AND CONTOUR ELEVATIONS SHOWN ON THE PLAN WERE TAKEN FROM A PLAN FURNISHED BY OWNER.
- CONTRACTORS GRADING AND EROSION CONTROL OPERATIONS SHALL TAKE PLACE WITHIN THE CONSTRUCTION LIMITS.
- IF IT IS DETERMINED THAT SOIL TRACKED FROM THE SITE BY MOTOR VEHICLES BE CLEANED FROM PAVED ROADWAYS SURFACES THROUGHOUT THE CONSTRUCTION.
- PROVIDE TEMPORARY SEDIMENTATION BASINS AS DIRECTED BY THE ENGINEER.
- ALL REQUIREMENTS OF THE LOCAL WATERSHED DISTRICT SHALL BE SATISFIED FOR THE APPROVED PERMIT.
- ALL EROSION & SEDIMENT CONTROL MEASURES SHOWN ON THIS PLAN AND IMPROVED TO THE FIELD AS DIRECTED BY THE ENGINEER SHALL CONFORM TO THE APPROVED PROTECTIVE WATER QUALITY PLAN (PWQP) PERMITS.
- DEMARCATIONS AND COLOR-BRANDING DEVICES SHALL BE DIRECTED TO SEDIMENTATION BASINS WHERE POSSIBLE. ALL DEMARCATION POINTS SHALL BE ACQUAINTLY PROTECTED FROM BROGERS & SCOUR THROUGH USE OF APPROVED EROSION PROTECTION.
- ALL SOIL INVASE (CONSTRUCTION DEBRIS) SHALL BE DISPOSED OF IN ACCORDANCE WITH APCA REQUIREMENTS. INDOORSE MATERIALS SHALL BE STORED IN A SECURE LOCATION TO PREVENT LEAKS OR SPILLS.
- CONTRACTOR SHALL USE SAFE DEMARCATION METHODS PER AINOT 301 AS NEEDED DURING THE COURSE OF THE WORK TO MAINTAIN COMPLIANCE WITH THE CITY AND APCA'S PERMIT REQUIREMENTS. THIS WORK SHALL COMPLY WITH OPERATIONAL NECESSITIES TO MAINTAIN STABLE SOIL SURFACE AREA TO PREVENT OFF SITE SEDIMENTATION. CONTRACTOR SHALL MAINTAIN NORMAL WORKING HEIGHTS. THIS WORK SHALL BE CONDUCTED IN SMALL AREAS THAT MAY OR MAY NOT BE ACCESSIBLE BY VEHICLES. THE DETAILS SHOWN ON THE PLANS, AND THE FOLLOWING APPLICABLE AND STANDARD SPECIFICATIONS, THE DETAILS SHOWN ON THE PLANS, AND THE FOLLOWING:
  - 1. THESE ARE FIVE STANDARD METHODS APPROVED FOR THESE OPERATIONS. THESE METHODS MAY BE COMBINED INDEPENDENTLY OR IN COMBINATION.
  - 2. THESE EFFORTS WILL BE INCIDENTAL TO THE EROSION CONTROL, AND PERMITS.



**TYPICAL INSTALLATION**



**SEDIMENT INLET PROTECTION DETAIL**

**STORMWATER POLLUTION PREVENTION PLAN SCHEDULE OF INSTALLATION & MAINTENANCE**

ITEM	INSTALLATION	INSPECTION & MAINTENANCE	REMOVAL
SILT FENCE	PRIOR TO COMMENCEMENT OF EARTHWORK OPERATIONS.	INSPECT & MAINT. AFTER EACH RAIN EVENT. REMOVE SEDIMENTS AS REQUIRED.	AFTER TRIBUTARY DRAINAGE AREA IS RESTORED.
ROCK CONST. ENTRANCE	PRIOR TO COMMENCEMENT OF EARTHWORK OPERATIONS.	INSPECT REGULARLY. MAINTAIN AS NEEDED.	PRIOR TO PAVING.
OUTLET SKIMMER STRUCTURE	AFTER POND GRADING IS COMPLETED.	INSPECT REGULARLY. MAINTAIN AS NEEDED.	PERMANENT.
RIP RAP & FILTER	UPON COMPLETION OF POND GRADING. CONC. SWALE CONST. AND OUTLET INSTALLATION.	INSPECT & MAINTAIN AT LEAST ANNUALLY AND AFTER HEAVY RAINFALL EVENT.	PERMANENT.
DETENTION POND	DURING EARTHWORK OPERATIONS.	AFTER HEAVY RAINFALL EVENTS REMOVE SEDIMENTS AS NEEDED.	PERMANENT.
SEED & MULCH	AFTER POND GRADING IS COMPLETED.	INSPECT & MAINTAIN AFTER HEAVY RAINS. REPLACE WASH OUT AREAS IMMEDIATELY.	NO REMOVAL NECESSARY.
INLET PROTECTION	UPON INLET CONSTRUCTING.	WHEN 1/2 CAPACITY OF BMP IS REACHED.	AFTER TRIBUTARY AREAS ARE FULLY RESTORED.

**CONSTRUCTION ROCK ENTRANCE**

**LEGEND**

- PROPERTY LIMITS
- - - CONSTRUCTION LIMITS
- - - 966 EXISTING MINOR CONTOUR
- - - 965 EXISTING MAJOR CONTOUR
- - - 966 PROPOSED MINOR CONTOUR
- - - 965 PROPOSED MAJOR CONTOUR
- × 959.4 EXISTING SPOT ELEVATION
- ⊕ 95.1 SOIL BORING LOCATION (APPROX.)
- DRAINAGE ARROW
- == PROPOSED B612 CONCRETE C&G SPOT ELEVATION
- SF SILT FENCE / BIO-ROLL AS APPROPRIATE
- INLET SEDIMENT PROTECTION
- ⊕ ROCK CONSTRUCTION ENTRANCE

**CONTRACTOR NOTES**

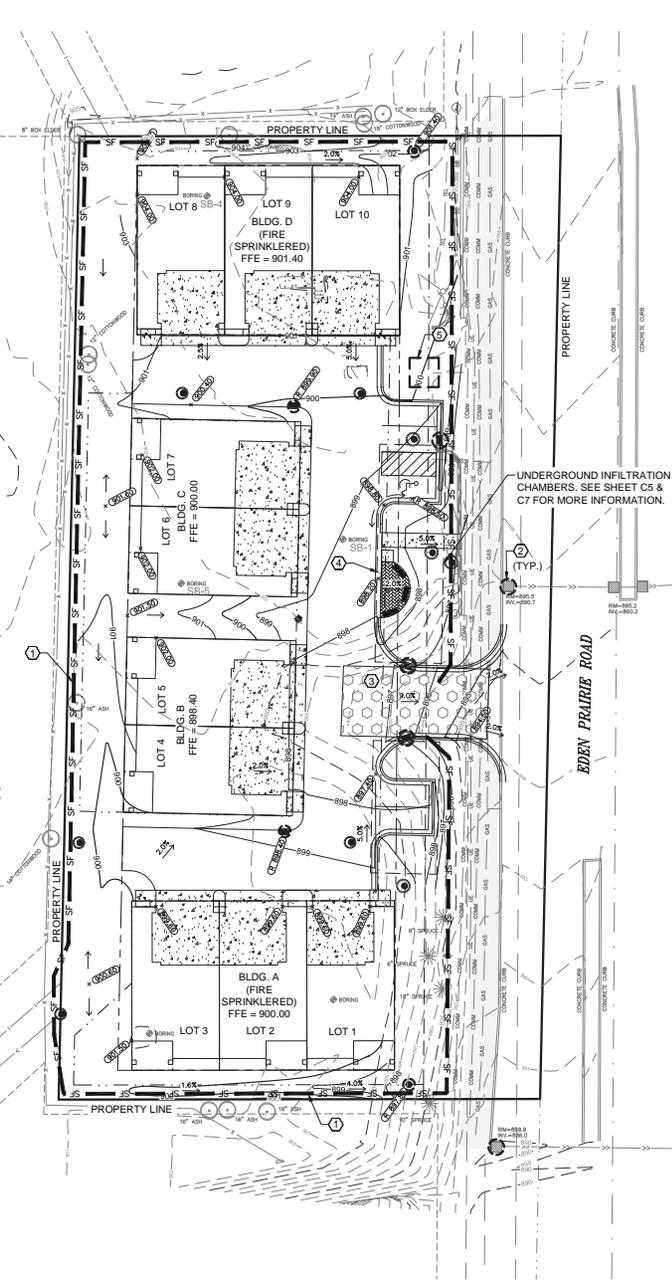
- CONTRACTOR IS RESPONSIBLE FOR INSTALLATION, MAINTENANCE AND REMOVAL OF ALL APPLICABLE EROSION & SEDIMENT CONTROL ITEMS.
- SPECIFIED EROSION/SEDIMENT CONTROL MEASURES ARE THE MINIMUM. ADDITIONAL PRACTICES MAY BE REQUIRED DURING THE COURSE OF CONSTRUCTION.
- THE TOTAL DISTURBED AREA IS EQUAL TO 1.84 ACRES. AN MPCA PERMIT IS REQUIRED. PROVIDE DOCUMENTATION TO THE CITY PRIOR TO ANY GRADING WORK BEGINNING.
- THE TOTAL PROPOSED NEW IMPERVIOUS AREA UPON COMPLETION IS EQUAL TO 28,080 SF RESULTING IN A TOTAL VOLUME RETENTION OF 2,574 CF.
- PROPOSED SPOT ELEVATIONS ARE TO TOP OF FINISHED SURFACE UNLESS OTHERWISE NOTED IN LEGEND.
- TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES. LOCATIONS OF UTILITIES SHOWN BASED ON SURVEY AND AS-BUILT INFORMATION AND MAY NOT REPRESENT ACTUAL CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR UTILIZING UTILITY LOCATES PRIOR TO STARTING ANY WORK.

**KEY NOTES**

- INSTALL & MAINTAIN SILT FENCE PERIMETER SEDIMENT PROTECTION IN TURF AREAS. USE BIO-ROLLS AS NOT IN PAVED AREA FOR PHASING PURPOSES.
- INSTALL AND MAINTAIN INLET SEDIMENT PROTECTION.
- INSTALL TEMP ROCK ENTRANCE AT CONSTRUCTION INGRESS & EGRESS LOCATION(S).
- RIBBON CURB
- INSTALL CONCRETE WASHSTATION

**GRADING & DRAINAGE NOTES**

- NATURAL TOPOGRAPHY AND SOIL CONDITIONS MUST BE PROTECTED, INCLUDING RETENTION ON SITE OF NATIVE TOPSOIL, TO THE GREATEST EXTENT POSSIBLE.
- 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.
- 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 200 POUNDS PER SQUARE INCH IN THE UPPER 12 INCHES OF THE SOIL PROFILE WHILE TAKING CARE TO PROTECT UTILITIES, TREE ROOTS, AND OTHER EXISTING VEGETATION.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 1 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.



1:\136051036\SCHAEFCO - 7960 EDEN PRAIRIE RD - EDEN PRAIRIE, MN\_07.dwg, PLOT DATE: 05/21/2019 11:03AM  
 User: Gary Johnson 11/20/2018 11:03AM  
 Title: 136051036.dwg

**ANDERSON**  
 13605 1st Avenue N, #100  
 Plymouth, MN 55441 | a@ae-mn.com  
 P 763.412.4000 | F 763.412.4090  
 Anderson Engineering of Minnesota, LLC

**SHELDON PLACE TOWNHOMES**

7960 EDEN PRAIRIE RD.  
 EDEN PRAIRIE, MN 55347

SCHAEFCO DEVELOPMENT, LLC

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.

PRINT NAME: GARY R. JOHNSON, P.E.

SIGNATURE: NOT FOR CONSTRUCTION  
 DATE: 05/21/2019 LICENSE NO. 42010

**REVISION LOG**

NO.	DATE	DESCRIPTION OF REVISIONS
01	05/21/19	REVISED PER WATERSHED COMMENTS

**PRELIMINARY DOCUMENTS**

MAY 21TH, 2019

DESIGNED:	DRAWN:	CHECKED BY:
GRU	BJF	GRU

**DRAWING TITLE**

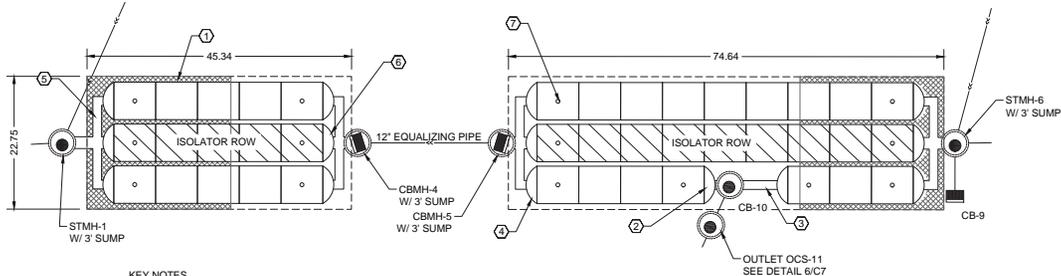
**GRADING & DRAINAGE PLAN**

DRAWING NO.

**C4**

PLOTTED:	COMM. NO.
---	15365

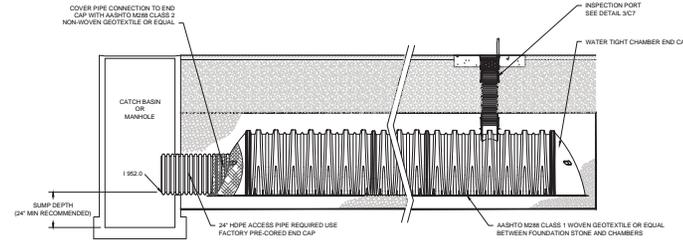




**KEY NOTES**

- ① PLACE MIN. 17.5' OF ADS GEOSYNTHETICS 315WTM WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS
- ② 18" CORED END CAP, PART# MC3500IEPP18BC TYP OF ALL 18" BOTTOM CONNECTIONS
- ③ 18" ADS N-12 BOTTOM MANIFOLD INVERT 1.77' ABOVE CHAMBER BASE (SEE NOTES)
- ④ 18" CORED END CAP, PART# MC3500IEPP18TC TYP OF ALL 18" TOP CONNECTIONS
- ⑤ 18" ADS N-12 TOP MANIFOLD INVERT 20.03' ABOVE CHAMBER BASE (SEE NOTES)
- ⑥ 24" CORED END CAP, PART# MC3500IEPP24BC, TYP OF BOTTOM CONNECTIONS AND ISOLATOR ROWS
- ⑦ INSPECTION PORT (TYP.) SEE DETAIL 3/C7

① UNDERGROUND INFILTRATION CHAMBERS LAYOUT



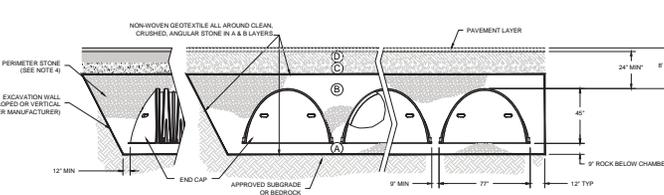
② ISOLATOR ROW DETAIL

Proposed Layout	
40	STORMTECH MC-3500 CHAMBERS
14	STORMTECH MC-3500 END CAPS
12	STONE ABOVE (in)
9	STONE BELOW (in)
40	% STONE VOID
7865	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)
2722	SYSTEM AREA (SF)
331	SYSTEM PERIMETER (ft)
4"	PAVEMENT THICKNESS
0.8	INFILTRATION RATE (in/hr)
3.2	MIN. DRAWDOWN HEIGHT (48hrs)
PROPOSED ELEVATIONS	
901.20	MAX ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
895.70	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
895.20	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
895.20	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
895.20	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
894.20	TOP OF STONE
893.20	TOP OF MC-3500 CHAMBER
892.12	18" TOP MANIFOLD INVERT
889.62	24" BOTTOM CONNECTION INVERT
889.62	24" ISOLATOR ROW INVERT
889.60	18" BOTTOM MANIFOLD INVERT
889.45	BOTTOM OF MC-3500 CHAMBER
888.70	BOTTOM OF STONE
890.90	OUTLET MAN INVERT
891.00	10" KEYHOLE ORIFICE
893.20	4" WIDE SHARP CORNERED WEIR SPILLOVER
896.80	OVERFLOW STRUCTURE INVERT

**ACCEPTABLE FILL MATERIALS:**

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDEDMENT STONE (E LAYER) TO 24" (609.6mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M40* A1, A1.4, A1.5 OR AASHTO M40* 3, 3B, 4, 4B, 5, 5B, 5F, 6, 6F, 6L, 7, 7B, 8, 8B, 9, 10	BEGIN COMPACTIONS AFTER 24" (609.6mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300mm) MAX LIFTS TO A MIN. 90% PROCTOR OR GREATER WELLS GRADED MATERIAL AND 90% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBEDMENT STONE FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (E LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M40* 3.4	NO COMPACTION REQUIRED.
A	FOUNDATION STONE FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBERS.	AASHTO M40* 3.4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. †

PLEASE NOTE:  
 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR, NO. 4 (AASHTO M40) STONE."  
 2. TYPICAL COMPACTION REQUIREMENTS ARE SET FOR 4' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 8" (200mm) MAX LIFTS USING TWO FULL CONVERGERS WITH A VIBRATORY COMPACTOR.  
 3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT.

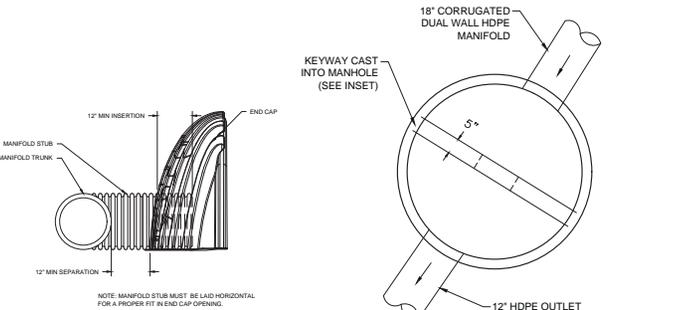


**NOTES:**

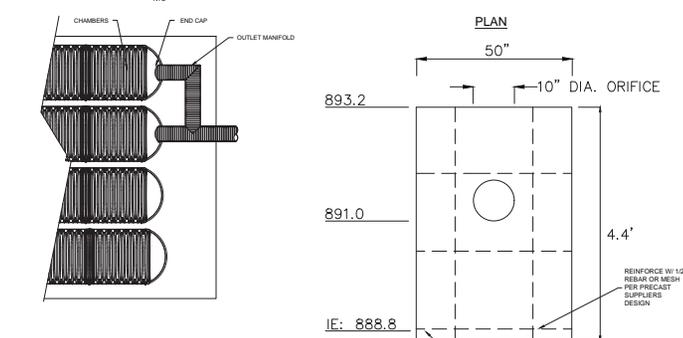
1. CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2419 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2419 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDEDMENT, AND FILL MATERIALS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. ONCE LAYER 'C' IS PLACED, ANY SOL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOLS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

③ INSPECTION PORT DETAIL

④ STANDARD CROSS SECTION AND FILL MATERIAL



⑤ CAP INSERTION DETAIL



⑥ OUTLET MANHOLE OCS-11 DETAIL W/ KEYWAY

**SHELDON PLACE TOWNHOMES**  
 7960 EDEN PRAIRIE RD.  
 EDEN PRAIRIE, MN 55347  
 SCHAEFCO DEVELOPMENT, LLC

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.  
 PRINT NAME: GARY R. JOHNSON, P.E.  
 SIGNATURE: NOT FOR CONSTRUCTION  
 DATE: 05/21/2019 | LICENSE NO. 42010

**REVISION LOG**

NO.	DATE	DESCRIPTION OF REVISIONS
1	5/21/19	REVISED PER WATERSHED COMMENTS

May 21, 2019 4:32pm  
 Xref Pathname: I:\15365...  
 Y:\15365\15365\SCHAEFCO - 7960 EDEN PRAIRIE RD. - EDEN PRAIRIE, MN.DWG  
 User: Gary Johnson | 15365...  
 Sheet: 15365...

## Memorandum

**To:** Riley-Purgatory-Bluff Creek Watershed District Board of Managers  
**From:** Barr Engineering Co.  
**Subject:** Duck Lake Subwatershed Tree Installation Quotes– Recommendation to Award Project  
**Date:** May 29, 2019  
**Project:** 23270053.14 025B  
**c:** Michelle Jordan – RPBCWD Project Manager, Claire Bleser – RPBCWD Administrator

The RPBCWD’s 2018 Watershed Management Plan (Planning for the Next 10 Years 2018-2027; Plan) and 2018 budget identified the Duck Lake DL\_3 phosphorus load reduction project for implementation in 2018. RPBCWD staff attempted to coordinate this potential project with the city of Eden Prairie’s planned reconstruction of Duck Lake Road. The City’s current plan is to construct stormwater management facilities that are sufficient solely for their road reconstruction project needs rather than coordinating with the potential RPBCWD load reduction project. Therefore, RPBCWD staff identified a need for a subwatershed assessment and project implementation to identify and construct effective projects within the Duck Lake watershed to achieve the goals outlined in the 10-year plan.

Following the capital improvement process in the 10-year plan, a watershed assessment was conducted to identify opportunities for alternative stormwater management best management practices (BMPs) distributed throughout the Duck Lake Watershed. RPBCWD staff presented the results of the assessment at a public hearing on April 3, 2019. Following the public hearing, the RPBCWD Board of Managers ordered the project.

On May 2, 2019, a request for quotes was sent to the following seven companies for the tree installation portion of the project.

1. Minnesota Native Landscapes
2. Landbridge Ecological
3. Outdoor Lab Landscapes:
4. Field Outdoor Spaces
5. Magnolia Landscapes:
6. JL Theis Inc.
7. Kankhe Brothers Tree Farm

The number of trees to be installed was reduced from 50 trees as outlined in the assessment to 40 trees based on the public interest. Two quotes were received by the 10:00 AM deadline on May 10, 2019. Table 1 summarizes the two quotes RPBCWD received for the 2019 Duck Lake Watershed Tree Installation.

**Table 1. Summary of Quotes Received for the 2019 Duck Lake Watershed Tree Installation**

Bidder	Total Base Bid Entered on the Bid Form <sup>1</sup>
LandBridge Ecological	\$20,332.50
JL Theis, Inc.	\$33,100.00

<sup>1</sup>Engineer’s opinion of probable cost (OPC) for 50 trees was \$22,800 with a range from \$18,300 to \$34,200. Scaled for 40 trees, the OPC would be \$18,200 with a range from \$14,600 to \$28,400.

The recommended action below includes a contingency to account for this significant uncertainty.

**To:** Riley-Purgatory-Bluff Creek Watershed District Board of Managers  
**From:** Barr Engineering Co.  
**Subject:** Duck Lake Subwatershed Tree Installation Quotes- Recommendation to Award Project  
**Date:** May 29, 2019  
**Page:** 2

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**The engineer finds that LandBridge Ecological is the lowest responsible and responsive contractor providing a quote and recommends that the RPBCWD Board of Managers:**

- **Award the project to LandBridge Ecological at the bid price of \$20,332.50.**
- **Authorize the Administrator to notify the contractor of the award, as well as signing the agreement and notice to proceed on satisfaction of all conditions precedent for each.**
- **Authorize the Administrator to execute change orders increasing the contract price up to an aggregate total of 10% of the contract amount or adjusting the contract times as necessary to implement the project as ordered.**

If the Board of Managers decides to award the project the following next steps would be completed:

- Notify the LandBridge Ecological of the award
- Notify JL Theis, Inc. of the Board's decision to award to LandBridge Ecological
- LandBridge Ecological provides the following information:
  - Three fully executed counterparts of the Form of Agreement
  - Certificate of Insurance and all other required insurance documentation
- Project Manager Jordan and Barr Engineering will coordinate with the LandBridge Ecological regarding the installation schedule
- Issue Notice to Proceed
- Final completion will be no later than June 28, 2019



May 30, 2019

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

Dear Claire:

Enclosed please find the checks and Treasurer's Report for Riley Purgatory Bluff Creek Watershed District for the one month and four months ending April 30, 2019.

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

Sincerely,

REDPATH AND COMPANY, LTD.

A handwritten signature in black ink that reads "Mark Gibbs".

Mark C. Gibbs, CPA  
Enclosure



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

### **Accountant's Opinion**

The Riley Purgatory Bluff Creek Watershed District is responsible for the accompanying April 30, 2019 Treasurer's Report in the prescribed form. We have performed a compilation engagement in accordance with the Statements on Standards for Accounting and Review promulgated by the Accounting and Review Services Committee of AICPA. We did not audit or review the Treasurer's Report nor were we required to perform any procedures to verify the accuracy or completeness of the information provided by the Riley Purgatory Bluff Creek Watershed District. Accordingly, we do not express an opinion, a conclusion, nor provide any form of assurance on the Treasurer's Report.

### **Reporting Process**

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

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

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

A handwritten signature in black ink that reads "Redpath and Company, LTD." in a cursive script.

REDPATH AND COMPANY, LTD.  
St. Paul, Minnesota  
May 30, 2019

# **RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT**

## **Treasurers Report**

**April 30, 2019**

### **REPORT INDEX**

<b><u>Page #</u></b>	<b><u>Report Name</u></b>
1	Cash Disbursements
2	Fund Performance Analysis – Table 1
3	Multi-Year Project Performance Analysis – Table 2
4	Balance Sheet
5	VISA Activity
6	VISA Activity

**RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT**  
**Cash Disbursements**  
**April 30, 2019**

**Accounts Payable:**

<u>Check #</u>	<u>Payee</u>	<u>Amount</u>
4798	Barr Engineering	42,036.37
4799	William Beckfeld	3,500.00
4800	CenturyLink	199.89
4801	City of Chanhassen	93.75
4802	Coverall of the Twin Cities	159.99
4803	CSM Financial, LLC	8,281.20
4804	Dunn & Semington, LLC	385.00
4805	Freshwater Society	6,250.00
4806	Goeden Fisheries	1,325.00
4807	HAB Aquatic Solutions	13,414.87
4808	HealthPartners	4,686.56
4809	Jennifer Heyer	249.50
4810	Iron Mountain	89.95
4811	Kari Jo Johnson	400.00
4812	Lincoln National Life Insurance	448.21
4813	Kyle & Rachel Mairose	1,635.00
4814	Minnetonka Community Education	570.00
4815	Public Employees Retirement Association	3,858.56
4816	PLM Lake & Land Management	4,477.61
4817	Recycling Association of Minnesota	4,740.00
4818	Redpath & Company, Ltd.	16,060.66
4819	Carol Reno	249.50
4820	RMB Environmental Laboratories	2,677.00
4821	Smith Partners	17,088.02
4822	Wenck, Inc.	8,959.80
4823	Xcel Energy	402.69
<b>Total Accounts Payable:</b>		<b><u><u>\$142,239.13</u></u></b>

**Payroll Disbursements:**

Payroll Processing Fee	191.55
Employee Salaries	33,725.72
Employer Payroll Taxes	2,557.91
Employer Benefits (H.S.A. Match)	525.00
Employee Benefit Deductions	(396.26)
Staff Expense Reimbursements	4,717.68
PERA Match	2,506.33
<b>Total Payroll Disbursements:</b>	<b><u><u>\$43,827.93</u></u></b>
VISA	12,907.22

**TOTAL DISBURSEMENTS:**

**\$198,974.28**

**Memos**

The 2019 mileage rate is .58 per mile. The 2018 rate was .54.5  
Klein Bank VISA will be paid on-line.

**RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT**  
**Fund Performance Analysis - Table 1**  
**April 30, 2019**

	2019 Budget	Fund Transfers	Revised 2019 Budget	Current Month	Year-to-Date	Year-to Date Percent of Budget
<b>REVENUES</b>						
Plan Implementation Levy	\$3,602,500.00	-	\$3,602,500.00	-	-	0.00%
Permit	50,000.00	-	50,000.00	3,550.00	10,100.00	20.20%
Grant Income	708,079.00	-	708,079.00	62,500.00	267,940.00	37.84%
Investment Income	35,000.00	-	35,000.00	2,384.23	34,269.15	97.91%
Past Levies	2,511,789.00	-	2,511,789.00	-	-	0.00%
Partner Funds	432,000.00	-	432,000.00	-	-	0.00%
<b>TOTAL REVENUE</b>	<b>\$7,339,368.00</b>	<b>\$0.00</b>	<b>\$7,339,368.00</b>	<b>\$68,434.23</b>	<b>\$312,309.15</b>	<b>4.26%</b>
<b>EXPENDITURES</b>						
<b>Administration</b>						
Accounting and Audit	42,000.00	-	42,000.00	16,252.21	25,978.23	61.85%
Advisory Committees	5,000.00	-	5,000.00	702.02	931.42	18.63%
Insurance and bonds	20,000.00	-	20,000.00	-	-	0.00%
Engineering Services	106,000.00	-	106,000.00	16,843.90	41,416.40	39.07%
Legal Services	78,000.00	-	78,000.00	7,374.45	31,990.17	41.01%
Manager Per Diem/Expense	20,000.00	-	20,000.00	165.00	2,096.53	10.48%
Dues and Publications	12,000.00	-	12,000.00	-	11,319.50	94.33%
Office Cost	144,000.00	-	144,000.00	11,104.92	50,166.07	34.84%
Permit Review and Inspection	135,000.00	(25,000.00)	110,000.00	3,202.25	56,643.73	51.49%
Permit and Grant Database	-	39,900.00	39,900.00	-	1,480.75	3.71%
Recording Services	10,000.00	-	10,000.00	-	3,865.57	38.66%
Staff Cost	550,000.00	-	550,000.00	48,488.93	185,845.25	33.79%
<b>Subtotal</b>	<b>\$1,122,000.00</b>	<b>\$14,900.00</b>	<b>\$1,136,900.00</b>	<b>\$104,133.68</b>	<b>\$411,733.62</b>	<b>36.22%</b>
<b>Programs and Projects</b>						
<b>District Wide</b>						
10-year Management Plan	5,000.00	-	5,000.00	-	1,825.40	36.51%
AIS Inspection and early response	75,000.00	-	75,000.00	-	324.78	0.43%
Cost-share	267,193.00	(14,900.00)	252,293.00	3,522.50	4,639.69	1.84%
Creek Restoration Action Strategies Phase	-	-	-	-	-	---
Data Collection and Monitoring	186,000.00	-	186,000.00	17,893.91	45,125.23	24.26%
District Wide Floodplain Evaluation - Atlas 14/SMM model	30,000.00	18,000.00	48,000.00	5,968.50	7,161.50	14.92%
Education and Outreach	119,000.00	-	119,000.00	7,521.55	19,232.61	16.16%
Plant Restoration - U of M	42,000.00	-	42,000.00	-	8,295.85	19.75%
Repair and Maintenance Fund *	177,005.00	-	177,005.00	2,122.50	6,209.00	3.51%
Wetland Management*	145,272.00	-	145,272.00	28.71	80.25	0.06%
District Groundwater Assessment	-	-	-	-	-	---
Groundwater Conservation*	130,000.00	-	130,000.00	-	-	0.00%
Lake Vegetation Implementation	75,000.00	-	75,000.00	4,501.88	4,501.88	6.00%
Opportunity Project*	200,000.00	-	200,000.00	-	8,522.42	4.26%
TMDL - MPCA	10,000.00	-	10,000.00	-	-	0.00%
Stormwater Ponds - U of M	86,092.00	-	86,092.00	-	-	0.00%
Hennepin County Chloride Initiative	120,800.00	-	120,800.00	-	1,040.95	0.86%
Lower Minnesota Chloride Cost-Share	217,209.00	-	217,209.00	-	-	0.00%
<b>Subtotal</b>	<b>\$1,885,571.00</b>	<b>\$3,100.00</b>	<b>\$1,888,671.00</b>	<b>\$41,559.55</b>	<b>\$106,959.56</b>	<b>5.66%</b>
<b>Bluff Creek</b>						
Bluff Creek Tributary*	291,091.00	-	291,091.00	21.00	890.50	0.31%
Chanhassen High School *	41,905.00	-	41,905.00	385.00	411.00	0.98%
Wetland Restoration at Pioneer	561,870.00	-	561,870.00	-	2,343.52	0.42%
<b>Subtotal</b>	<b>\$894,866.00</b>	<b>\$0.00</b>	<b>\$894,866.00</b>	<b>\$406.00</b>	<b>\$3,645.02</b>	<b>0.41%</b>
<b>Riley Creek</b>						
Lake Riley - Alum Treatment*	5,000.00	-	5,000.00	-	-	0.00%
Lake Susan Water Quality Improvement Phase 2 *	13,420.00	-	13,420.00	-	-	0.00%
Rice Marsh Lake in-lake phosphorus load	73,983.00	-	73,983.00	13,414.87	13,414.87	18.13%
Rice Marsh Lake Water Quality Improvement Phase 1	150,000.00	-	150,000.00	-	-	0.00%
Riley Creek Restoration (Reach E and D3)	1,680,562.00	-	1,680,562.00	8,717.04	9,964.38	0.59%
Lake Riley & Rice Marsh Lake Subwatershed Assessment	72,500.00	-	72,500.00	4,989.11	4,989.11	6.88%
Upper Riley Creek Stabilization	425,000.00	-	425,000.00	-	-	0.00%
<b>Subtotal</b>	<b>\$2,420,465.00</b>	<b>\$0.00</b>	<b>\$2,420,465.00</b>	<b>\$27,121.02</b>	<b>\$28,368.36</b>	<b>1.17%</b>
<b>Purgatory Creek</b>						
Purgatory Creek Rec Area- Berm/retention area - feasibility/design	50,000.00	-	50,000.00	-	-	0.00%
Lotus Lake in-lake phosphorus load control	105,772.00	-	105,772.00	-	90.30	0.09%
Silver Lake Restoration - Feasibility Phase 1	168,013.00	-	168,013.00	-	-	0.00%
Scenic Heights	111,226.00	-	111,226.00	1,663.00	1,735.00	1.56%
Hyland Lake in-lake phosphorus load control	120,000.00	-	120,000.00	8,764.72	10,472.75	8.73%
Mitchell Lake Subwatershed Assessment	87,500.00	-	87,500.00	4,081.45	4,081.45	4.66%
Duck Lake watershed load	213,955.00	-	213,955.00	11,244.86	20,817.82	9.73%
<b>Subtotal</b>	<b>\$856,466.00</b>	<b>\$0.00</b>	<b>\$856,466.00</b>	<b>\$25,754.03</b>	<b>\$37,197.32</b>	<b>4.34%</b>
<b>Reserve</b>	<b>\$160,000.00</b>	<b>(\$18,000.00)</b>	<b>142,000.00</b>	-	-	<b>0.00%</b>
<b>TOTAL EXPENDITURE</b>	<b>\$7,339,368.00</b>	<b>\$0.00</b>	<b>\$7,339,368.00</b>	<b>\$198,974.28</b>	<b>\$587,903.88</b>	<b>8.01%</b>
<b>EXCESS REVENUES OVER (UNDER) EXPENDITURES</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>(\$130,540.05)</b>	<b>(\$275,594.73)</b>	

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

**RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT**

**Multi-Year Project Performance Analysis - Table 2**

**April 30, 2019**

Programs and Projects	Total Project	FUNDING SOURCE			Month Ended 04/30/19	Year To-Date	Lifetime Costs	Remaining
		District funds	Partner Fund	Grants				
<b>District Wide</b>								
District Wide Floodplain Evaluation - Atlas 14/SMM model	48,000.00	48,000.00	-	-	5,968.50	7,161.50	7,161.50	40,838.50
Repair and Maintenance Fund	202,005.00	177,005.00	-	-	2,122.50	6,209.00	31,209.00	170,796.00
Wetland Management	150,000.00	150,000.00	-	-	28.71	80.25	29,808.56	120,191.44
Groundwater Conservation	130,000.00	130,000.00	-	-	-	-	-	130,000.00
Opportunity Project*	200,000.00	200,000.00	-	-	-	8,522.42	8,522.42	191,477.58
Hennepin County Chloride Initiative	120,800.00	19,000.00	-	101,800.00	-	1,040.95	1,040.95	119,759.05
Lower Minnesota Chloride Cost-Share	217,209.00	20,000.00	-	197,209.00	-	-	-	217,209.00
Stormwater Ponds - U of M	86,092.00	44,092.00	42,000.00	-	-	-	-	86,092.00
<b>Subtotal</b>	<b>\$1,154,106.00</b>	<b>\$788,097.00</b>	<b>\$42,000.00</b>	<b>\$299,009.00</b>	<b>\$8,119.71</b>	<b>\$23,014.12</b>	<b>\$77,742.43</b>	<b>1,076,363.57</b>
<b>Bluff Creek</b>								
Bluff Creek Tributary*	292,362.00	242,362.00	50,000.00	-	21.00	890.50	96,550.04	195,811.96
Chanhassen High School *	508,000.00	208,000.00	100,000.00	200,000.00	385.00	411.00	451,506.10	56,493.90
Wetland Restoration at Pioneer	561,870.00	450,000.00	0.00	111,870.00	-	2,343.52	2,343.52	559,526.48
<b>Subtotal</b>	<b>\$1,362,232.00</b>	<b>\$900,362.00</b>	<b>\$150,000.00</b>	<b>\$311,870.00</b>	<b>\$406.00</b>	<b>\$3,645.02</b>	<b>\$550,399.66</b>	<b>\$811,832.34</b>
<b>Riley Creek</b>								
Lake Riley - Alum Treatment 1st dose *	260,000.00	260,000.00	-	-	-	-	254,999.83	5,000.17
Lake Susan Water Quality Improvement Phase 2 *	662,491.00	330,000.00	99,091.00	233,400.00	-	-	649,070.80	13,420.20
Rice Marsh Lake in-lake phosphorus load	150,000.00	150,000.00	-	-	13,414.87	13,414.87	89,432.81	60,567.19
Riley Creek Restoration (Reach E and D3) *	1,565,000.00	1,265,000.00	300,000.00	-	8,717.04	9,964.38	190,459.53	1,374,540.47
Lake Riley & Rice Marsh Lake Subwatershed Assessment	72,500.00	12,500.00	5,000.00	55,000.00	4,989.11	4,989.11	4,989.11	67,510.89
Upper Riley Creek Stabilization	450,000.00	450,000.00	0.00	-	-	-	-	450,000.00
<b>Subtotal</b>	<b>\$3,159,991.00</b>	<b>\$2,467,500.00</b>	<b>\$404,091.00</b>	<b>\$288,400.00</b>	<b>\$27,121.02</b>	<b>\$28,368.36</b>	<b>\$1,188,952.08</b>	<b>\$1,971,038.92</b>
<b>Purgatory Creek</b>								
Purgatory Creek Rec Area- Berm/retention area - feasibility/design	50,000.00	50,000.00	-	-	-	-	-	50,000.00
Lotus Lake in-lake phosphorus load control	345,000.00	345,000.00	-	-	-	90.30	239,317.34	105,682.66
Scenic Heights	260,000.00	165,000.00	45,000.00	50,000.00	1,663.00	1,735.00	150,508.76	109,491.24
Mitchell Lake Subwatershed Assessment	87,500.00	12,500.00	5,000.00	70,000.00	4,081.45	4,081.45	4,081.45	83,418.55
Duck Lake watershed load	220,000.00	220,000.00	-	-	11,244.86	20,817.82	26,862.32	193,137.68
<b>Subtotal</b>	<b>\$962,500.00</b>	<b>\$792,500.00</b>	<b>\$50,000.00</b>	<b>\$120,000.00</b>	<b>\$16,989.31</b>	<b>\$26,724.57</b>	<b>\$420,769.87</b>	<b>\$541,730.13</b>
<b>Total Multi-Year Project Costs</b>	<b>\$6,638,829.00</b>	<b>\$4,948,459.00</b>	<b>\$646,091.00</b>	<b>\$1,019,279.00</b>	<b>\$52,636.04</b>	<b>\$81,752.07</b>	<b>\$2,237,864.04</b>	<b>\$4,400,964.96</b>

**Riley Purgatory Bluff Creek Watershed District**  
**Balance Sheet**  
**As of April 30, 2019**

**ASSETS**

**Current Assets**

General Checking-Klein	\$511,944.09
Checking-Klein/BMW	1,200,502.69
Investments-Standing Cash	10,242.61
Investments-Wells Fargo	4,115,942.75
Accrued Investment Interest	22,486.64
Due From Other Governments	25,021.73
Taxes Receivable-Delinquent	29,411.16
Pre-Paid Expense	31,216.36
Security Deposits	7,244.00

**Total Current Assets:** \$5,954,012.03

**LIABILITIES AND CAPITAL**

**Current Liabilities**

Accounts Payable	\$230,559.23
Retainage Payable	23,657.38
Salaries Payable	17,878.76
Permits & Sureties Payable	761,416.00
Deferred Revenue	29,411.16

**Total Current Liabilities:** \$1,062,922.53

**Capital**

Fund Balance-General	\$5,166,684.23
Net Income	(\$275,594.73)

**Total Capital** \$4,891,089.50

**Total Liabilities & Capital** \$5,954,012.03

**RILEY PURGTORY BLUFF CREEK WATERSHED DISTRICT**  
**Klein Bank VISA Activity**  
**April 30, 2019**

DATE	PURCHASED FROM	AMOUNT	DESCRIPTION	ACCOUNT #	RECEIPT
04/17/19	Microsoft	120.96	Software	10-00-4203	Y
04/18/19	Minnesota Landscape Arboretum	150.00	Board/Staff Workshop	10-00-4010	Y
04/18/19	Freshwater Society	160.00	Water Summit Registration	10-00-4800	Y
04/18/19	Freshwater Society	160.00	Water Summit Registration	10-00-4800	Y
04/18/19	Freshwater Society	160.00	Water Summit Registration	10-00-4800	Y
04/18/19	Freshwater Society	160.00	Water Summit Registration	10-00-4800	Y
04/19/19	UPS	11.92	Postage	10-00-4260	Y
04/21/19	Verizon	292.05	Telecommunications	10-00-4240	Y
04/23/19	Amazon	24.99	Office Supplies	10-00-4200	Y
04/24/19	Aramark	151.18	Board/Staff Workshop	10-00-4010	Y
04/26/19	Randy Sanitation	66.83	Trash Services	10-00-4220	Y
04/30/19	Fleet Landing	38.16	Dinner Expense at Conference	10-00-4321	N
05/02/19	Francis Marion	13.10	Staff Conference Expense	10-00-4321	Y
05/02/19	Francis Marion	1,232.81	Staff Conference Expense	10-00-4321	Y
05/02/19	CHS Taxi	18.00	Staff Conference Expense	10-00-4321	Y
05/03/19	AWRA	25.00	Abstract Fee	10-00-4321	Y
05/04/19	Adobe	16.10	Software	10-00-4203	Y
05/06/19	AWRA	25.00	Abstract Fee	10-00-4321	Y
05/10/19	Microsoft	120.96	Software	10-00-4203	Y
05/13/19	American Water Resources	89.00	Membership	10-00-4321	Y
05/14/19	Wayfair	481.02	Office Supplies	10-00-4200	Y
05/14/19	Team Building	385.55	Team Building	10-00-4260	Y
		<b>\$3,902.63</b>	<b>General Administration Total</b>		
04/15/19	SuperAmerica	28.71	Vehicle Fuel	20-13-4322	Y
04/16/19	Facebook	13.00	Publication	20-08-4260	Y
04/16/19	Teledyne Isco	117.18	Data Collection Equipment	20-05-4635	Y
04/16/19	Amazon	20.37	Safety Supplies	20-05-4635	Y
04/18/19	Amazon	6.48	Supplies for Adopt-A-Dock	20-08-4635	Y
04/19/19	Home Depot	140.40	Data Collection	20-05-4260	Y
04/19/19	Menards	49.21	Data Collection	20-05-4260	Y
04/19/19	SuperAmerica	53.84	Vehicle Fuel	20-05-4322	Y
04/19/19	Southwest Metro	30.00	Advertising	20-08-4250	Y
04/19/19	Menards	124.93	Data Collection	20-05-4260	Y
04/22/19	Hach Company	1,427.10	Data Collection Equipment	20-05-4635	Y
04/22/19	SuperAmerica	75.00	Vehicle Fuel	20-05-4322	Y
04/23/19	Meadowlark	480.00	Educational Workshop	20-08-4321	Y
04/23/19	Menards	47.29	Data Collection	20-05-4260	Y
04/23/19	Buca Catering	383.54	Event Lunch	20-08-4345	Y
04/23/19	Cub	96.07	Event Lunch	20-08-4345	Y
04/24/19	Davanni's	71.28	Food for E & O Event	20-08-4345	Y
04/24/19	Hach Company	371.73	Data Collection	20-05-4635	Y
04/24/19	Buca Catering	330.67	Food for E & O Event	20-08-4345	Y
04/24/19	Buca Catering	(383.54)	Food for E & O Event	20-08-4345	Y
04/25/19	Kowalski's	3.69	Food for E & O Event	20-08-4345	Y
04/25/19	Brueggers	27.34	Food for E & O Event	20-08-4345	Y
04/26/19	Grainger	92.45	Data Collection	20-05-4260	Y
04/28/19	Amazon	37.98	Data Collection	20-05-4260	Y
05/02/19	Amazon	10.99	Data Collection	20-05-4260	Y
05/03/19	Lakewinds	16.28	Food for E & O Event	20-08-4345	Y
05/03/19	Facebook	25.00	Publication	20-08-4260	Y
05/05/19	ExxonMobil	68.62	Vehicle Fuel	20-05-4322	Y
05/06/19	Voltaic Systems	514.95	Data Collection Equipment	20-08-4260	Y
05/06/19	Merlin's Ace Hardware	70.46	Data Collection	20-05-4260	Y
05/07/19	World Auto Repair	732.12	Vehicle Repair	20-08-4322	Y

**RILEY PURGTORY BLUFF CREEK WATERSHED DISTRICT**  
**Klein Bank VISA Activity**  
**April 30, 2019**

DATE	PURCHASED FROM	AMOUNT	DESCRIPTION	ACCOUNT #	RECEIPT
05/08/19	Hach Company	905.75	Data Collection Equipment	20-08-4635	Y
05/08/19	Hach Company	410.00	Data Collection Equipment	20-08-4635	Y
05/10/19	Office Depot	91.88	Postcards	20-15-4275	Y
05/10/19	Voltaic Systems	70.95	Data Collection	20-05-4635	Y
05/10/19	Voltaic Systems	(117.00)	Data Collection Equipment	20-08-4260	Y
05/11/19	Amazon	31.18	Data Collection	20-05-4260	Y
05/13/19	Speedy Buttons	228.95	Education Materials	20-08-4260	Y
05/14/19	American Water Resources	40.00	Education Training	20-08-4265	Y
05/14/19	American Water Resources	585.00	Early Registration	20-08-4265	Y
05/14/19	American Water Resources	90.00	Education Training Access	20-08-4265	Y
05/14/19	Costco	188.12	Food for E & O Event	20-08-4345	Y
05/14/19	Amazon	15.98	Adopt A Dock	20-08-4635	Y
05/14/19	Amazon	79.36	Adopt A Dock	20-08-4635	Y
05/14/19	Lunds & Byerly's	6.99	Food for E & O Event	20-08-4345	Y
05/15/19	Crumb	443.00	Food for E & O Event	20-08-4345	Y
05/15/19	Holiday	7.89	Ice	20-05-4260	Y
05/15/19	Cole Parmer Instrument	65.48	Data Collection	20-05-4260	Y
05/16/19	SuperAmerica	60.74	Vehicle Fuel	20-05-4322	Y
05/16/19	Town & Country Fence	461.09	Data Collection	20-05-4260	Y
05/16/19	Facebook	16.38	Publication	20-08-4260	Y
		<b>\$8,764.88</b>	<b>District-Wide Total</b>		
		<b>\$12,667.51</b>	<b>GRAND TOTAL</b>		

**2019 - 017 750 Pioneer Trail  
Local Government Resolution**

BE IT RESOLVED that the Riley Purgatory Bluff Creek Watershed District, hereinafter referred to as the "Applicant" act as legal sponsor for the project contained in the **Flood Damage Reduction Grant Assistance Program Application** to be submitted on June 6, 2019 and that Claire Bleser, Administrator is hereby authorized to apply to the Department of Natural Resources for funding of this project on behalf of the Applicant.

BE IT FURTHER RESOLVED that the Applicant has the legal authority to apply for financial assistance, and the institutional, administrative, and managerial capability to ensure adequate acquisition, maintenance and protection of the proposed project.

BE IT FURTHER RESOLVED that the Applicant has the financial capability to provide any required matching funds.

BE IT FURTHER RESOLVED that the Applicant has not incurred any costs and has not entered into any written agreements to purchase property proposed by this project.

BE IT FURTHER RESOLVED that the source of Applicant's matching funds shall not include other State funds.

BE IT FURTHER RESOLVED that the source of Applicant's matching funds shall be **\$138,700 as identified in the 2019 Annual Budget under the line item "Wetland Restoration and Flood Mitigation."**

BE IT FURTHER RESOLVED that the Applicant hereby pledges to complete the project or phase if it exceeds the total funding provided by the Department of Natural Resources and any required local match.

BE IT FURTHER RESOLVED that the Applicant has not violated any Federal, State, or local laws pertaining to fraud, bribery, graft, kickbacks, collusion, conflict of interest or other unlawful or corrupt practice.

BE IT FURTHER RESOLVED that upon approval of its application by the state, the Applicant may enter into an agreement with the State of Minnesota for the above- references project, and that the Applicant certifies that it will comply with all applicable laws and regulations as stated in the contract agreement.

NOW, THEREFORE BE IT RESOLVED that District Administrator is hereby authorized to execute such agreements as are necessary to implement the project on behalf of the applicant.

I CERTIFY THAT the above resolution was adopted by the Board of Managers of the Riley Purgatory Bluff Creek Watershed District on June 5, 2019.

**SIGNED:**

**WITNESSED:**

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

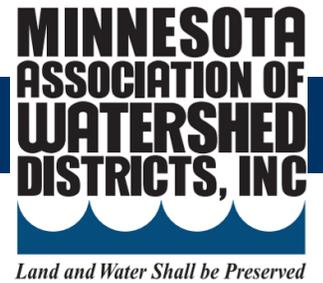
\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Date)

# MAWD SUMMER TOUR

MN Association of Watershed Districts, 595 Aldine St, St. Paul MN 55104  
(651) 440-9407 office | [www.mnwatershed.org](http://www.mnwatershed.org) | @mnwd46 | [facebook.com/mnwd46](https://facebook.com/mnwd46)



MAWD would like to thank this year's tour hosts: the Red River Basin Commission, Red River Watershed Management Board, Buffalo Red River Watershed District, Bois de Sioux Watershed District, Red River Retention Authority, and Red River Joint Resource District. THANK YOU!

## Wednesday, June 26, 2019 Meetings, Social, and Dinner



9-noon MN Association of Watershed Administrators Meeting  
1-4 p.m. MAWD Board of Directors Meeting  
4-6 p.m. Registration (Shuttles start leaving the Marriott at 5 p.m.)  
6-9 p.m. Social and Dinner at the Hjemkomst Center, the home of the Hjemkomst Viking Ship! Mark Peihl, Red River Historian, will discuss the history of the steamboat industry on the Red and other fun historical river facts. We will also have presenters from River Keepers and take a short walk down to the river. Other tours of the museum and ship will be offered throughout the evening.

## Thursday, June 27, 2019

### Red River Basin Bus Tour (Minnesota and North Dakota sites)



7-8 a.m. Registration (Buses will depart the Marriott at 8:30 a.m.)  
8:30 a.m.-5 p.m. Bus Tour  
Hop on the bus for an up close and personal look at some exciting projects in the Southern Red River Basin in both Minnesota and North Dakota. The projects showcase benefits for water quality, drainage, flood damage reduction, soil conservation, and fish, wildlife and outdoor recreation. We will also be having lunch at one of the Minnesota's Discovery Farms - Nordick Farm.

## Friday, June 28, 2019

### Spotlight on the Red River Basin Workshop



8:30-11:30 a.m. Presentations at the Marriott, Moorhead  
This session will include presentations on the 2019 flood, along with an overview of the efforts to provide flood protection in the rural areas, as well as large cities like Fargo and Moorhead. Hear how multiple watersheds, states, and countries work together to plan and implement flood reduction projects, including an overview of the Fargo-Moorhead Diversion Project.

## Hotel Accommodations and Registration Details

Call the Courtyard by Marriott-Moorhead directly at (218) 284-1000 for \$129/night reservations using code MNW. The discounted hotel rate expires May 25, 2019. Visit [www.mnwatershed.org/summer-tour](http://www.mnwatershed.org/summer-tour) to register for events.

For more information, contact Emily Javens at (651) 440-9407 or [emily@mnwatershed.org](mailto:emily@mnwatershed.org).

## MEMORANDUM

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TO: RPBCWD Board of Managers

FROM: Claire Bleser, PhD, District Administrator  
Terry Jeffery, Watershed Planning Manager

DATE: June 5, 2019

RE: Staff recommendation for engineering, legal, and accounting services based upon submitted qualifications.

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In January of this year, pursuant to *Minnesota Statutes Section 103B.227, Subd. 5* the RPBCWD solicited qualifications for engineering, legal, and accounting services. These submittals were due March 1, 2019.

### DISTRICT ENGINEER

Eight engineering firms submitted qualifications by the deadline. All eight requested to be included in project specific pool of engineers. Of these eight, three explicitly stated their desire to be considered for the position of District Engineer: ISG, Wenck, and Barr.

In reviewing the nine service areas for which qualifications were requested, only Barr and Wenck had the capacity to provide for all nine service areas. ISG did not submit for the technology/website enhancement service area. Further, ISG's permitting experience is limited to that of an applicant, having not provided plan review and permitting services on behalf of an agency with regulatory authority. Further, ISG's experience with education and outreach is limited to project specific stakeholder engagement rather than education and outreach specific to the goals advanced in a local water management plan. Primarily for these reasons, ISG is not being recommended for the role of District Engineer.

Being that both Barr and Wenck provide District Engineering services for several watershed district throughout the metropolitan area, share several attributes that make them well suited to act as the District Engineer for Riley Purgatory Bluff Creek Watershed District including;

1. Wide-ranging experience in watershed and water resource planning, ranging from UAA to LWMP
2. Numerous successful lake, wetland, and stream restoration projects.
3. Extensive experience in water resource permitting in their capacity as District Engineer.

4. Demonstrated innovative urban stormwater BMP design and construction management, including survey.
5. Demonstrated knowledge on numerous water quality and H&H modeling applications.

There were two areas where Barr distinguished themselves from Wenck; innovative use of Geographic Information Systems and Technology/Website Enhancement. In addition to using GIS to support project design and implementation, the Barr submittal demonstrated how they use GIS to support a regulatory program.

Based upon the submitted qualifications, Wenck's experience appears limited to developing content for project specific web pages. In addition, the Barr submittal demonstrated experience with the development of mobile and interactive applications as well as database services; many of which are used by the RPBCWD currently.

#### STAFF RECOMMENDATIONS

##### *District Engineer*

Given the limited experience in a variety of the key roles and responsibilities of the District Engineer, ISG should not be considered for the role of District Engineer. Staff is confident that both Barr and Wenck would adequately fulfill the role of District Engineer. However, Barr has a few attributes that sets them apart from Wenck.

1. Continuity of services.
  - a. Barr was very involved in the development of the 10-Year Water Management Plan and many of the project priority tools developed as part of the process.
  - b. Barr currently maintains various databases used by RPBCWD.
  - c. Barr has extensive knowledge of the water resources and currently installed BMPs within the District.
  - d. Staff and the current District Engineer, and support staff work efficiently together and have a good working relationship.
2. Technology.
3. GIS. Barr has an innovative and responsive GIS department.

Staff therefore recommends that Barr be retained to provide District Engineering services to the District.

##### *Project Specific Engineering Pool*

Given the breadth of services, and the specialties of the consulting firms, staff recommends that all consulting firms to submit should be included within the project specific pool.

#### ACCOUNTING, AUDITING, AND LEGAL SERVICE

Only one submittal was provided for each of these three service areas. Staff finds all qualified to fulfill the role for which they submitted. Therefore, staff recommends that Red Path & Company out of White Bear Lake be named district auditor, that Red Path & Company out of St. Paul be named district accountant and that Smith Partners, LLP be named district legal counsel.

Consulting Firm	District Engineer	Watershed Management	Lake, Wetland, and Stream Restoration	H&H and WQ Modeling	Stormwater BMP	Permitting	Land Surveying	GIS	Education and Outreach	Technology	Legal	Accounting	Auditing
Barr													
HDR													
HTPO													
Houston													
ISG													
Limno Tech													
SRF													
Wenck													
Red Path & Co. White Bear Lk													
Red Path & Co. St. Paul													
Smith Partners, LLP													

The above list represents all responses received by RPBKWD to the District's request for proposal for professional services. There is no staff recommendation or action to be taken at this time. These are intended for the managers to take home and review so that a decision can be made at the May meeting.

Manager Recommendation

Manager \_\_\_\_\_ and seconded by Manager \_\_\_\_\_ motion to approve BARR engineering as District Engineer and HDR, HTPO, Houston Eng, ISG, Limno Tech, SRF and Wenck in the District engineering Pool as well as Red Path & Co White Bear Lake for Accounting, Red Path & Co Saint Paul for Auditing and Smith Partners, LLP as Legal for the District.

## MEMORANDUM

TO: Board of Managers  
FROM: Terry Jeffery, Watershed Planning Manager, Michael Welch, Legal Counsel, and Scott Sobiech, PE, District Engineer  
DATE: May 31, 2019  
RE: Potential Rule Revisions

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### INTRODUCTION

This memo provides the board with background on and options for rule revisions to address concerns raised by managers and stakeholders.

No official action is needed; staff is seeking board feedback and direction on the potential revisions and timelines outlined below

### STATEMENT OF ISSUES

A listening session was held at the RPBCWD office on April 24, 2019 to collect feedback on the regulatory program. Thirteen people (two consultants, two developers, nine city staff) attended the session. Most of the discussion concerned RPBCWD's stormwater rule and tracked results of a survey RPBCWD had sent to all past permit applicants. Staff and the engineer have also heard concerns from several managers, and have held independent meetings with city staff. The following summarizes the major symptoms/concerns and potential underlying drivers/challenges.

#### **1. Major symptoms/concerns raised:**

- a. Small street repair projects (e.g., pothole repair) trigger an RPBCWD permit
- b. The permitting process involves excessive requests for information
- c. Review comments too detailed
- d. Too much focus on regulatory program, undermining collaborative approach to projects and other work by RPBCWD
- e. Treatment of runoff should be credited toward compliance with stormwater-management requirements
- f. Time –simple city projects result in engineering costs greater than cost of actual repair

#### **2. Underlying Drivers/Challenge**

- a. Variances – applicant's inability to meet a regulatory criterion results in substantial required information

- b. The RPBCWD stormwater-management threshold/trigger for linear (street) projects is significantly lower than other watershed organizations' (i.e. it is over-inclusive)
- c. For "restricted sites" – as defined in the stormwater rule – narrative standards ("at least" and "maximum extent practicable") necessarily require judgment of engineer and involve disproportionate discussion between the applicant and engineer/staff that can be frustrating for applicants
- d. Compliance with other narrative standards – for example "no adverse impact" or "minimal impact solution" is very difficult to demonstrate
- e. Staff and Engineer require data and demonstration of analytical methodologies rather than accepting applicants' stated results

Since the reinstatement of the program in 2014, RPBCWD staff have worked to improve the efficiency with which the rules are administered by incorporating some of the requested changes into the 2018 rule refresh (e.g., incorporating exemptions for dredging when a no loss determination and regional stormwater management options), working to develop standardized, overarching maintenance agreements, and seeking increased authority for administrative permit approvals.

#### POTENTIAL REVISIONS

The definitive criteria written into the regulatory program, established and adopted by the board to protect water resources, allow the rules to be applied with consistency and uniformity to all applicants. To address the concerns noted above while maintaining a high level of resource protection, staff have identified the following options. These changes are not tweaks, but are designed to produce meaningful reduction in the scope and extent of RPBCWD's regulatory framework. (Staff will provide additional detail and explanation of these options at the June meeting.)

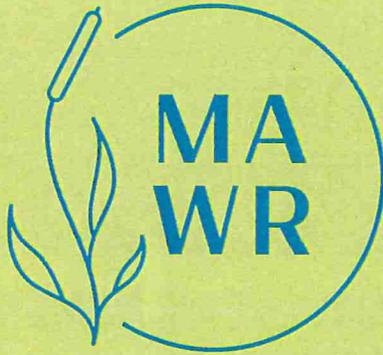
- Exempt flared end section repair/replacement and other small repair/replacement-in-kind projects from the Floodplain Management and Drainage Alterations Rule
- Remove 50 cubic yard trigger from Stormwater Management Rule
- Increase linear project threshold/trigger from 5,000 square feet or more of new and/or fully reconstructed impervious surface to, e.g., 10,000 square feet of new impervious and 0.5 acre of disturbed impervious
- Incorporate offsite treatment (in same subwatershed, protecting same resources) in lieu of onsite treatment (retaining onsite rate-control requirement)
- Incorporate extended detention into restricted-site sequencing for channel protection
- Look for options to eliminate or mitigate narrative standards (e.g., "will not adversely affect...") where feasible
- Allow for the use of green infrastructure as a practice to achieve compliance with the Stormwater Management Rule.
- Remove Rule I - Appropriation of Groundwater

Staff considered but does not recommend a fee-in-lieu option for stormwater compliance or credit for treatment of runoff.

#### POTENTIAL TIMELINE

If the managers agree, staff would like to continue proactively addressing the concerns raised to identify solutions as soon as possible. Staff is requesting board feedback on the information presented above and the tentative timeline below.

- June 17, 2019 : Citizen Advisory Committee meeting to present potential revision concepts and solicit input
- June 18, 2019 : Technical Advisory Committee meeting to present potential revision options and solicit input; staff intends to also solicit input from past applicants
- July 10, 2019 : Present draft revisions to managers at regular July meeting and solicit input
- Week of July 22 : Present draft rule revisions to TAC and solicit input
- August 7, 2019 : Present draft rule revisions and supporting memo to managers and consider releasing for public comment
- October 2, 2019 : Present comments and draft responses at RPBCWD board meeting
- November 6, 2019 : Adopt revised rules



# Minnesota Association for Watershed Responsibility

## OUR VISION

We represent landowners and developers regulated by watershed districts; we advocate for better protections from excessive, unreasonable watershed regulations; and we promote rational, common-sense regulations at the legislature.

## OUR VALUES

Bring reasonable watershed regulations back to the capitol. Encourage the legislature to impose requirements for watersheds to do cost-benefit-balancing before adopting new rules, prevent excessive buffer zones which waste land resources, and protect the existing water rights of permit holders and land owners.

## OUR PLAN

Last year, well-respected local lobbyist Reid LeBeau has introduced the "Watershed Permit Holder's Bill of Rights" at the legislature. This year we are continuing to push that bill and are working with legislative committees and members to help them understand the issue and our concerns. We continue to meet with Legislators to increase awareness and build support for the bill. We are lobbying leadership in both bodies, the Governor's office and at the agency level to promote protections for you. As we move forward, we want to build a network of developers and landowners who can share education, experiences, and solutions.

...FOR DEVELOPERS  
AND LANDOWNERS AGAINST  
**UNREASONABLE  
WATERSHED  
REGULATIONS!**



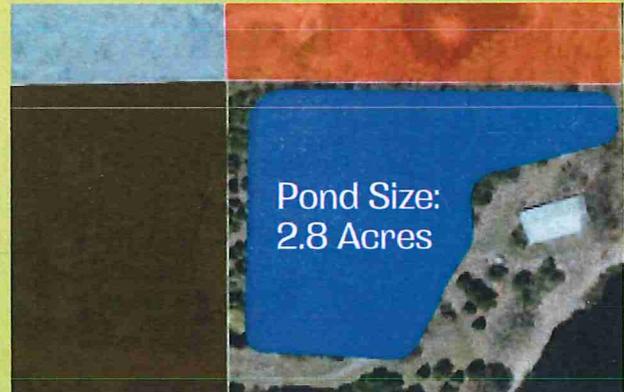
## EXAMPLE OF EXCESSIVE WATERSHED REGULATIONS...

This example is from one of our own member projects which shows the potential extremes of required ponding for a large development site.

### REQUIRED POND SIZE PER PROPERTY LOCATION WATERSHED RULES:



### REQUIRED POND SIZE PER ADJACENT WATERSHED RULES:



## WE NEED YOU!

Until now, the only voice at the capitol was the watershed and their own lobbying group (MAWD). The legislators had no idea how far reaching and burdensome these watershed regulations have become to landowners.

We need you to join us and be the voice of reason. Together we can make a difference!

## LEARN MORE

[www.MAWR.info](http://www.MAWR.info)

Have questions or want to become a member?  
[membership@mawr.info](mailto:membership@mawr.info)  
(651) 705 - 3322



Minnesota Association for  
Watershed Responsibility

[www.MAWR.info](http://www.MAWR.info)

## LEGISLATION UPDATE: MAY 2019 FROM THE PRESIDENT

Dear Members:

### **Background on the 2019 Legislative Session**

Most of the major budget bills are ready to go into conference committee. This means that the remainder of the session will focus on ironing out the differences between the House and the Senate budget bills and hopefully find a compromise that the Governor will sign into law.

### **Bills that Impact Watersheds**

The omnibus environment and natural resources budget bills in both the House and the Senate contain provisions that give the Board of Water and Soil Resources (BWSR) and Watershed Districts' significantly more authority. One proposal would create a "One Watershed/One Plan" and change the Clean Water Legacy Act. These changes would create additional, even more restrictive rules for those of us trying to develop land with very little recourse.

### **Removing Protections for Land Owners**

Currently, if a watershed district wants to create a rule (e.g. require ponding based on a 5-year storm event) they do not have to complete a Statement of Need and Reasonableness (SONAR). A SONAR is required by administrative agencies to justify the need for a new rule. They must balance the "need" for the new rule with the impact on the regulated parties. Watershed districts, although controlled by the administrative agency BWSR, are seemingly exempt from the SONAR requirement.

A SONAR is mandated by law if BWSR wants to implement a new rule. If a person or entity has an issue with a BWSR rule they can go before an ALJ (Administrative Law Judge) to contest that rule. Unfortunately, watershed districts do not offer the same protection; there is no ability to go before an ALJ to contest watershed district rules.

The one watershed bill would allow BWSR to become like the watersheds and circumvent the protective rulemaking process. It would remove the ability to go before an ALJ if a person or business had concerns with a BWSR rule. The bill would also remove the SONAR requirement.

### **One Watershed/Worst Plan**

The proposed One Watershed/One Plan would combine the metro watershed districts into one watershed and allow BWSR to disburse funds directly to a watershed district. The result of this bill is that the **watershed districts would be given even more power**. Of major concern is that once combined into one watershed – the rules adopted FOR EVERYONE would likely be **the most onerous in the state** (similar to Brown's Creek Watershed District, Riley Purgatory Bluff Watershed District...).



## Minnesota Association for Watershed Responsibility

### How We are Working to Stop the Watershed Overreach

This newly formed MAWR is working hard to combat these proposals. This year, we re-introduced a bill called the "Watershed Permit Holder's Bill of Rights" as a counterpoint to the One Watershed/One Plan. The bill would provide landowners additional protections via a required SONAR for any watershed rule change or adoption. It also includes language to protect landowners existing water rights, meaning if your site currently drains off water it should be allowed to continue to do so unless you are provided just compensation.

Unfortunately, the bill did not get a hearing before the deadline this session, but we are working on an informational hearing to bring the issue in front of key legislators. An amendment to the omnibus bill has also been prepared which may be offered in conference committee to minimize the watershed bill's impact.

We have begun to make inroads with key legislators involved with both the individual bills and the omnibus bills. **But we need your help.** A major part of the problem is that the legislators have no idea how aggressive and overreaching these watersheds have become. With your assistance we can reach out to more legislators as a constituent-based-organization. MAWR has two membership options, a Founding Membership for \$3,000 a year which includes a position on the board and the ability to help determine policy goals. This membership also provides direct access to the lobbyist. But we also recognize that some of you may want to help but are looking for less commitment, which is why have the "Just Want to Help" membership for \$695 a year.

It is always more powerful to meet with a legislator when you live in their district. Please let us know if you are willing to speak to or meet with your local legislator. We are happy to provide talking points and information about the very real damage that has been caused by the unchecked power of these watershed districts and BWSR and the damage that will continue to be caused by their unreasonableness if it is not stopped. We hope that you found this update helpful and informative. Please let us know if you have any other questions.

Sincerely,

*Mark Lambert*

President, MAWR

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(651) 705 - 3322