Riley-Purgatory-Bluff Creek Watershed District

Board of Managers Workshop and Regular Meeting

Wednesday, **July 12, 2017**
5:30pm Board Workshop
7:00pm Regular Board Meeting
DISTRICT OFFICE
18681 Lake Drive East
Chanhassen

Draft Agenda

1. Call to Order

2. **Board Workshop - 10 Year Plan** **Information**

3. **Approval of the Agenda** (Additions/Corrections/Deletion)

4. Matters of general public interest

   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.

5. **Reading and approval of minutes** **Action**

   Board of Manager Meeting, June 7, 2017

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 Staff Report
   b. Accept Engineer's Report (with attached Inspection Report)
   c. Approve Salary Adjustment for Community Outreach Coordinator with updated Community Outreach Coordinator Job Description
   d. Approve Permit 2017-024: Prairie Bluff Senior Living with staff recommendations
   e. Approve Permit 2017-038: West Park subdivision and site plan review with staff recommendations

f. Approve Purgatory Creek Restoration at Highway 101 Pay Application #3
g. Approve Permit 2017-040: Basin 05-12-C Pond Cleanout with staff recommendations
h. Approve Lotus Lake Alum Feasibility Task Order
i. Approve staff recommendations for Single Family Homeowner Cost-Share Applications
    i. 8583 Red Oak Drive, Eden Prairie (lake buffer)
    ii. 7935 S Bay Curve, Eden Prairie (lake buffer)
    iii. 8513 Red Oak Drive, Eden Prairie (lake buffer)
    iv. 17689 Sheffield Lane, Eden Prairie (wetland buffer)
    v. 4557 Timber Woods Lane, Minnetonka (pond buffer)
j. Approve Task Order 24:Silver Lake Phase 1

7. Citizen Advisory Committee **Information**

8. Action Items **Action**
    a. Accept May Treasurer's Report
    b. Approve Paying of the Bills
    c. Order Lake Susan Park Pond
    d. Approve Permit 2017-030: Elevate
        i. Approve variance request
        ii. Approve permit with staff recommendations
    e. Approve Permit 2017-044: Toft Shoreline Naturalization exception with staff recommendations
        i. Approve exception
        ii. Approve permit with staff recommendations
    f. Approve Permit 2015-016 (expired): Blossom Hills Letter of Credit Reduction

9. Discussion Items **Information**

    a. Upcoming Meeting

10. Upcoming Events **Information**

- Citizen Advisory Committee, District Office, July 17th, 6:30pm, 18681 Lake Drive East, Chanhassen
- Save the Date: Watershed Tour 10 year plan highlight, District Office, July 31st, 4:00pm
- Board of Managers Regular Meeting and Workshop, August 2nd, Riley Purgatory Bluff Creek Watershed District office, 5:30pm
- Citizen Advisory Committee, District Office, August 21st, 6:30pm

MEETING MINUTES

Riley-Purgatory-Bluff Creek Watershed District

June 7, 2017, Board of Managers Plan Workshop and Monthly Meeting

PRESENT:

Managers:	Mary Bisek, Secretary	
	Richard Chadwick	
	Jill Crafton, Treasurer	
	Perry Forster, President	
	Leslie Yetka, Vice President	
Staff:	Claire Bleser, District Administrator	
	Zach Dickhausen, Water Resources Technician**	
	Michelle Jordan, Community Outreach Coordinator	
	Louis Smith, Attorney (Smith Partners)	
	Scott Sobiech, Engineer (Barr Engineering Company)	
Other attendees:	Brian Beck, Wenck Assoc.*	Larry Koch, Chanhassen Resident
	John Bender, Westwood**	Dave Modrow, City of Eden Prairie**
	Joe Bischoff, Wenck*	Peggy Moeller, Redpath &Co.**
	Jim Bracke, Friends of Red Rock Lake Association**	Bonnie Noterrman, Lion's Tap**
	Dan Blake, Pemtom**	Rev. Dr. Jack Perrin, Eden Prairie Assembly**
	Paul Bulger, CAC**	Robin Ruben, Eden Prairie Resident**
	Mark Costello, Eden Prairie Resident**	Zac Stillwell, Eden Prairie Assembly**
	Roger Humphrey, Stantec**	JoAnn Syverson, Chanhassen Resident**
	John Kirk, Eden Prairie Planning Comm.**	David Ziegler, CAC

*Indicates attendance at the plan workshop only ** Indicates attendance at the board meeting only

1. Plan Workshop

President Forster called to order the Wednesday, June 7, 2017, Board of Managers Plan Workshop at 5:41 p.m. in the District Office, 18681 Lake Drive East, Chanhassen, MN 55317.

Administrator Bleser reminded the Board of its interest in learning more about the timing of alum treatments. She stated that the first part of the workshop would be a presentation by Mr. Joe Bischoff of Wenck Associates on that topic. She said that the second part of the workshop would be an update on the progress on the 10-year plan and manager feedback on chapters already presented and the distribution of new chapters.

Mr. Bischoff presented information, using PowerPoint slides about alum treatment timing in lakes. He reviewed internal phosphorous loading processes. He identified the points to be considered when deciding the timing of alum treatments. Mr. Bischoff talked about causes of in-lake phosphorous release, alum treatment lifespan, the

lake response model, sedimentation model assumptions, and the Alum Risk Assessment including possible drawbacks to the assessment method. He said the Alum Risk Assessment framework could be incorporated into the District's decision matrix to help decide when an alum treatment may or may not be appropriate.

Administrator Bleser reviewed the decision matrix and described how the Alum Risk Assessment could be incorporated. She noted that watershed improvements still need to get done in order to help the longevity of alum treatments. She also noted the usefulness of the lake sediment cores and sediment chemistry data.

Administrator Bleser and Mr. Bischoff responded to questions.

Administrator Bleser moved on to the 10-year plan and handed out the updated Watershed Management Plan Update Process and Timeline. She pointed out that a component has been added to introduce the public to the 10-Year Plan including the process involved in developing it, what's in the plan, and moving forward with the plan. Administrator Bleser emphasized that the added public component is a public information session and is not the public hearing. She also pointed out that the new timeline anticipates final approval of the plan in mid-2018.

She asked for comments and questions about the updated process and timeline and asked for confirmation that the Board is fine with it and with the addition of the additional public information session. The Board indicated approval, and Administrator Bleser said that this updated information will get posted on the District's website and the District will email information to people who signed up to receive 10-Year Plan updates.

Administrator Bleser handed out sections 6, 7, and 8, which is considered the "One Waters" sections. She summarized these new chapters. She explained that if managers have comments on these sections, staff will collect the hard copies with the comments. She asked if managers have any feedback right now on anything in the plan that they have reviewed to-date. Administrator Bleser collected comments from the managers and Attorney Smith.

Manager Crafton moved to adjourn the workshop. Manager Chadwick seconded the motion. Upon a vote, the motion carried 5-0. President Forster closed the Plan Workshop at 6:56 p.m.

2. Monthly Board Meeting Call to Order

President Forster called to order the Wednesday, June 7, 2017, Board of Managers Monthly Meeting at 7:05 p.m. in the District Office, 18681 Lake Drive East, Chanhassen, MN 55317. He noted that immediately prior to this monthly meeting the Board held a plan workshop.

3. Approval of the Agenda

President Forster requested moving item ahead in the agenda, to immediately follow Matters of General Public Interest, Action Items 8d – Permit 2017-007: Cedarcrest Stables Variance Request and 8e – Permit 2017-031 Lion's Tap Variance Request and then following 8e adding an agenda item – Presentation of Annual Audit by Redpath & Co. President Forster also requested a reversal in the order of two action items so that item 8a is Accept the April Treasurer's Report and item 8b is Approve Paying of the Bills.

Manager Crafton moved to approve the agenda as amended. Manager Chadwick seconded the motion. Upon a vote, the motion carried 5-0.

4. Matters of General Public Interest

President Forster explained the procedure for bringing forward matters of general public interest and opened the

floor.

Ms. JoAnn Syverson, Chanhassen Resident, stated that she lives on Lotus Lake and is a Board member of the Lotus Lake Conservation Alliance. She thanked the Board for allowing her to speak and thanked the District for agreeing to participate in the June 20th meeting between the City of Chanhassen, the RPBCWD, and other Lotus Lake stakeholders to discuss Lotus Lake water quality. She said that the LLCA feels like it is in a partnership with the District. She talked about this season's water quality of Lotus Lake including mats of algae, Curlyleaf pondweed, and fish kills. Ms. Syverson said that the LLCA wants to know what is causing these issues and problems that are a Lotus Lake subwatershed problem. She stated that the LLCA hopes that the problems and solutions as well as funding identification will be discussed at the June 20th meeting. President Forster directed Administrator Bleser to public notice the June 20th meeting.

Mr. Jim Bracke of the Friends of Red Rock Lake read aloud a letter of appreciation to the RPBCWD from the Friends of Red Rock Lake and concluded by stating that the Friends of Red Rock Lake hopes that the District will continue such activities [as described in letter] and other in 2017 and beyond.

Mr. David Ziegler, Eden Prairie Resident, commented that he has been out on some of the watershed's lakes this season including Mitchell Lake and Duck Lake and he has seen a lot of algae blooms and dead fish so it seems that issues raised by Ms. Syverson span many of the area lakes.

President Forster called for additional comments. Upon hearing none, he moved on to the next agenda item.

5. Permit 2017-007: Cedarcrest Stables Variance Request

President Forster reminded the Board that this item was tabled at a previous Board meeting until this meeting. Engineer Sobiech noted that at the May meeting the Board talked about this permit application and variance requests and at that time the Board requested additional information. Engineer Sobiech presented the additional information and talked about the site's drainage patterns, pond capacity, the site's restrictions, and the applicant's two variance requests. Mr. Sobiech responded to questions. Mr. Modrow with the City of Eden Prairie provided input upon request regarding recent maintenance of the two ponds discussed. Engineer Sobiech stated that the Engineer recommends approval of both variances based on the conditions he has described.

Manager Chadwick moved to approve both variance requests based on the specific reasons identified by the District Engineer. Manager Crafton seconded the motion. Upon a vote, the motion carried 5-0.

Manager Chadwick moved to approve permit 2017-007 Cedarcrest Stables based on the specific conditions described by the District Engineer. Manager Crafton seconded the motion. Upon a vote, the motion carried 5-0.

6. Permit 2017-031 Lion's Tap Variance Request

Engineer Sobiech stated that the applicant proposes to re-do the site's parking lot. He explained the variance request and described the site, the flow of water through the site, the alternatives investigated by the applicant and the site's practical difficulties. There was a discussion of practical difficulties and a confirmation by Attorney Smith that under the District's variance criteria, cost alone cannot be the basis for granting a variance.

Manager Crafton moved to approve the variance for permit 2017-031 with the conditions recommended by staff. Manager Bisek seconded the motion. Upon a vote, the motion carried 5-0.

Manager Crafton moved to approve permit 2017-031 based on the conditions recommended by staff. Manager Bisek seconded the motion. Upon a vote, the motion carried 5-0.

7. Presentation of Annual Audit: Redpath & Company

Administrator Bleser introduced Peggy Moeller of Redpath & Company. Ms. Moeller reported that the 2016 audit is complete as was issued on May 2016. She explained that four reports are issued in conjunction with the annual audit: the financial report, which includes the auditor's opinion on the financial statement, the internal control report, the legal compliance report, and the communication of those charges governance. She stated the auditor's responsibility and presented a summary of each of the four reports. She noted that the audit was delayed due to a delay in receiving materials from the District. Manger Chadwick asked several questions and Ms. Moeller responded.

Manager Crafton moved to accept the auditor's report as presented. Manager Yetka seconded the motion. Administrator Bleser said that for all three findings staff and Manager Crafton and President Forster worked to provide management response. Manager Chadwick raised the issue of the transparency of the $50,000 settlement from CH2M Hill in 2016. Manger Crafton, President Forster, and Administrator Bleser responded. Upon a vote, the motion carried 5-0.

8. Reading and Approval of Minutes

a. May 3, 2017, RPBCWD Board of Managers Plan Workshop and Monthly Meeting

Manager Bisek requested a spelling correction on page 5.

Manager Crafton moved to accept the minutes as amended. Manager Yetka seconded the motion. Upon a vote, the motion carried 5-0.

b. May 15, 2017, RPBCWD Board of Managers Public Hearing and Special Meeting

President Forster requested a spelling correction of his name on page 3. Manager Crafton requested an edit on page 1 to change the name "Bassett Creek" to "Bluff Creek."

Manager Crafton moved to accept the minutes as amended. Manager Yetka seconded the motion. Upon a vote, the motion carried 5-0.

9. Consent Agenda

President Forster read aloud the Consent Agenda items: a. Accept Engineer's Report (with attached inspection report); b. Accept Staff Report; d. Approve Permit 2015-036: Saville West Modification Request with staff recommendations; e. Approve Permit 2015-050: Arbor Glen Modification Request with Staff Recommendations; f. Approve Permit 2017-023: Eden Prairie Assembly of God Church Addition with Staff Recommendations; g. Approve Permit 2017-036: Minnetonka High School Upper Field Access Road with Staff Recommendations; h. Approve Review Period Extension 2017-024: Prairie Bluffs Senior Living; i. Approve Lake Riley Alum Monitoring Task Order with Wenck.

Manager Crafton moved to approve the Consent Agenda as presented. Manager Yetka seconded the motion. Upon a vote, the motion carried 5-0.

10. Citizen Advisory Committee (CAC)

Mr. Paul Bulger reported that the CAC requests a vote or response in writing to the two items listed in the CAC minutes: provide draft chapters of the 10-year plan by the June date and by July 10th provide materials for the

July workshop on the 10-year plan. He said that the CAC developed its schedule based on the 10-year plan timeline. President Forster responded that the CAC won't receive the information by June 8th. He said that it is possible that information could be provided by the July date. President Forster said that he thinks it is important that the Board and staff have time to work on the plan, and he noted that in this evening's 10-year plan workshop a new timeline with new dates was handed out. President Forster summarized the new timeline and dates. Mr. Bulger said that the CAC would like to have time to provide additional input into the 10-year plan for example if the CAC thinks that things are missing and not just provide editorial comments. He said that the CAC trusts and anticipates that the Board will be receptive to the CAC's comments at the time as indicated on the timeline. Mr. Bulger described other items the CAC discussed at its meeting including feedback on the Education and Outreach Plan and website updates and proposed changes. He also talked about the CAC trying out a new format utilizing subcommittees. Manager Yetka asked him to list the subcommittees and he said that he can provide a list.

11. Action Items

a. Accept April Treasurers Report

Manager Crafton moved to accept the Treasurer's Report as presented. Manager Yetka seconded the motion. Manager Chadwick asked if there is anything unusual in the report. Manager Crafton responded no. Manager Chadwick asked for details on the payment to the Freshwater Society. Administrator Bleser responded. Upon a vote, the motion carried 5-0.

b. Approve Paying of Bills

Manager Crafton moved to pay the bills. Manager Bisek seconded the motion. Upon a vote, the motion carried 5-0.

c. Order Lake Susan Park Pond

Administrator Bleser stated that the Engineer's update and timeline is in the meeting packet. She said she would like to table this item until next month because the District is still in discussion with the City of Chanhassen. There was a short discussion of the timeline. The Board agreed to table the item until the next monthly meeting.

d. Accept Engineer's Recommendation for Chanhassen High School Reuse Project and Authorize Rebidding of Project

Engineer Sobiech recommended that the Board direct the Engineer and staff to reject all the bids received, notify the bidders, return the bid bonds to the bidders and rebid the project, combining it with the Lake Susan Park Pond project if that project moves forward.

Manager Chadwick moved the Engineer's recommendation as stated. Manager Yetka seconded the motion. Upon a vote, the motion carried 5-0.

12. Discussion Items

a. Upcoming Meetings

President Forster noted that the next monthly meeting and workshop will be on July 12. He stated that he, Manager Chadwick and Administrator Bleser are attending the LLCA meeting on June 20 at 6:30 p.m. at the Chanhassen Library and said that anyone else interested in invited to attend. President Forster said that on June 12 he and Administrator Bleser will present to the Shorewood City Council about the watershed plan. Administrator Bleser highlighted that on July 31 the District will hold its watershed tour

and the focus of the tour will be the Watershed Plan.

The managers discussed the date of the July monthly meeting. Manager Crafton moved to change the July 5, 2017, meeting to Wednesday, July 12, 2017, and to direct staff to advertise in the newspaper the change. Manager Chadwick seconded the motion. Upon a vote, the motion carried 5-0.

13. Upcoming Events

- Citizen Advisory Committee, Monday, June 19, 6:30 p.m., District Office, 18681 Lake Drive East, Chanhassen
- Board of Managers Regular Meeting and Workshop, Wednesday, July 12, 5:30 p.m. , District Office, 18681 Lake Drive East, Chanhassen
- Citizen Advisory Committee, Monday, July 17, 6:30 p.m., District Office, 18681 Lake Drive East, Chanhassen
- Save the Date: Watershed Tour – 10 Year Plan highlight. Monday, July 31, District Office, 18681 Lake Drive East, Chanhassen
- Board of Managers Regular Meeting and Workshop, Wednesday, August 2, 5:30 p.m. , District Office, 18681 Lake Drive East, Chanhassen

14. Adjourn

Manager Crafton moved to adjourn the meeting of the Board of Managers. Manager Chadwick seconded the motion. Administrator Bleser asked about the date of her review. The Board decided to conduct her review on Monday, July 17 at 7 p.m. Upon a vote, the motion carried 5-0. The meeting adjourned at 8:29 p.m.

Respectfully submitted,

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Mary Bisek, Secretary

RPBCWD Staff Report
July 12, 2017

Administrative

10-Year Plan
Staff continues to work on the 10-year plan.

Aquatic Invasive Species
Herbicide treatment was performed on Lake Riley as part of the Water Quality project. Staff went out and collected lake profile data and water samples to assess the herbicide dissipation in Lake Riley. Staff have been working with Ray Newman from the University of Minnesota; samples were sent in for analysis.

Zebra mussel veliger sampling occurred on all lakes in June. All lakes were sample once with both Lotus and Riley sampled twice because of the higher volume of traffic.

Budget
Administrator is working on a budget proposal for 2018.

City Engagement
Staff Jeffery and Administrator Bleser are coordinating a meeting with Public Works Directors and City Engineers to discuss:

a.) help with potential shortfalls in the BWSR Road Replacement Program,
b.) address water conservation, and
c.) to manage and mitigate flooding.

Data Request
We had several data requests this month pertaining to information pertaining to our 10-year plan as well information from our last board meeting.

Grants
No new updates.

Office
Signage for our Office will be installed mid-July.

Permitting
It is another busy month. Staff Jeffery has been working with permit applicants explaining the permitting process as well as guiding them through the permit application. A few permits were issued administratively in conformity to the adopted resolution of the board.

Site Investigations
Staff received a phone call from a Lotus Lake resident concerning algae (spirogyra) growth and dead fish found on Lotus Lake in early June. Staff distributed our spirogyra fact sheet and explained the columnaris bacterium which is most likely what has caused some fish to perish (happened last year on Lotus).

Citizens Advisory Committee

June meeting
The CAC met for their regular monthly meeting on June 19. Two members of the CAC have resigned their positions: Dennis Yockers and Judy McClellan. Draft minutes are included in the board packet.

Technical Advisory Committee

No additional updates.

Programs and Projects

District-Wide

Cost-share program

Please see board packet for information on cost-share recommendations. Third round applications are being accepted with a deadline of August 15.

MPCA Community Resiliency Grant

We are finalizing reporting to cities from our workshop. Two cities have received drafts and are providing comments for suggestions.

Total Maximum Daily Load

No additional updates.

Data Collection (J. Maxwell)

Rice Marsh Aeration
Staff will pulse the unit once a month to make sure lines remain clear. Barr Engineering will repair the motor that went down this year and the District has purchased another one as a back up.

Summer Field Season
Staff began regular lake and creek sampling near the end of April which has continued through June. In addition to zooplankton collection, staff has added phytoplankton sampling once a month to gauge harmful algae levels and overall health of the lake. The Lake Lucy level sensor was installed in early June after having issues connecting with the field computer and staff sent in the unit to ISCO for repair. The sensors internal battery had been depleted so staff ordered an

external battery pack which can be connected directly to the sensor. Many of our lake level sensors are aging, so this will be a good test to see how the battery packs work and if we want to purchase more in the future. A fisheries permit was sent to the MN DNR at the end of June which requested placing trap nets in Staring Lake to collect native fish for the educational event at the Staring Lake Outdoor Center involving Conservation Corps students which is to happen on July 10th. We are waiting for the permit to be approved. The auto sampling unit placed on the NorthWest side of Rice Marsh Lake (same place as last year) to collect additional nutrient data entering the lake, had some issues early on, but appears to be working now. Staff collected a base flow sample from the drainage and the pond since some rain events were missed.

Fish spawning was witnessed this month on most lakes which finished up by mid June. Staff witnessed minor fish kills (bluegills and crappies) occurring on Lotus Lake and Hyland Lake which was most likely caused by the columnaris bacterium which occurs naturally in the water. When a rapid increase in temperature occurs coupled with increase fish stress from spawning, columnaris bacteria can be enough to kill fish or cause secondary infections which result in fish death. Staff has been working with MN DNR to publish a fact sheet that can be distributed when such events occur.

Carp Management

The barrier was opened on March 3rd to allow northern pike to move up into the recreational area to spawn and return to Staring Lake. The barrier was closed on April 4th as temperatures reached above 10 degrees Celsius on multiple days prior to closing. The floating trap net was deployed April 11th to capture fish for education and outreach events and gauge carp movement. The City of Eden Prairie opened, cleaned, and closed the fish barrier multiple times this spring due to high water levels in the Purgatory Recreational Area this spring. Fish species captured included mainly northern pike, black crappie, freshwater drum, bigmouth buffalo, bluegills, and black bullheads. The first carp was captured on April 21st and the kill count is up to about 150 carp so far. We had hoped a larger number of fish would have been captured by the trap net, but as an experimental gear we were unsure of how many would be captured. At one point we did have 300-500 fish trapped between the fish barrier and the net however the net became overcome with a large rain event and the fish escaped by the time we could arrange the use of a backpack electrofisher. Staff has been looking into the purchase of such a unit to prevent the situation from occurring in the future. Staff have been tracking carp movement via telemetry this spring, but were not able to get out last month. Staff have found two carp in the net that had been tagged last year, but they lost their tags, so more care will be taken this year to ensure limited tag loss. Staff reached out to the SMSC Organics Recycling Facility in Shakopee, MN with regards to the disposal of carp captured; the facility is allowing the District to bring carp to facility to be composted, waiving any organics disposal fees. Staff will bring excessive numbers of carp caught to the recycling facility. Regular carp monitoring will begin at the end of July.

The City of contacted the District this month after receiving an inquiry from residents located near Pond A and Pond B about carp found in the ponds. Staff went out to check for tagged fish in both ponds and Neil Lake to see if they were from Staring Lake (most likely). Staff have hypothesized that since the carp were prevented from accessing the Purgatory Recreational Area to spawn, they moved downstream from Staring and accessed the ponds. It is unknown whether

the carp in the ponds would be successful at spawning due to the high salinity concentrations, shallow depths, and high water temperatures, but staff will continue to monitor the ponds. If successful recruitment occurs, the District may want to look into placing a fitted gate on the outlet culvert from the ponds.

Bighead Carp on the Move!

Former District intern Nick Amunrud contacted the District on June 4th after arrowing a large carp in his family farm gravel pond located near Belview, MN on the Minnesota River. He requested confirmation that the carp was an invasive bighead carp and asked what he should do with the fish. District staff directed him to contact the area DNR office to report the fish. The fish was a large adult female weighing 61.7 lbs and measuring 47.5 in. The pond is located in the floodplain of the Minnesota River which allows fish to move into it during high flows. This bighead carp was captured about 80 miles upstream from the only other bighead carp captured in the Minnesota River. The DNR further netted and electrofished the pond, but did not find any additional fish. Water samples to be tested for bighead and silver carp eDNA were also collected and are pending.

Creek Restoration Action Strategy

Barr Engineering and District staff have been working on an updated edition of the CRAS and on a future publication for a professional journal. Additionally, staff have been working on a final creek walk summary book to have on hand to easily reference.

Staff conducted creek walks of the two most southern ravine tributaries of Lotus Lake this spring. Overall, scores were fairly similar to estimated scores; the stream sections were in fairly

good shape. Staff will conduct more stream assessments in the fall as the surrounding vegetation has become dense.

University of Minnesota Grant
21 June 2017
Ray Newman, University of Minnesota, with input from TJ Ostendorf
Riley Purgatory Bluff Creek Watershed District (RPBCWD) Aquatic Plant progress report for June 2017.

Pre-treatment point intercept surveys have been processed and data entered. Peak curlyeaf surveys were completed on Mitchell, Riley and Susan; Staring will be completed this week. Preliminary observations suggest lake-wide control of curlyleaf in Riley, Susan and Staring and good control in Mitchell. Milfoil herbivore surveys were conduced in Riley and Susan. Eurasian watermilfoil was delineated in Lake Riley and treatment areas proposed. The lake was treated on 21 June with triclopyr (west side blocks) and 2,4-d (east side blocks) and herbicide residue samples are being collected.
Plans for the rest of June and July include sample processing, data entry and herbivore surveys. Melaney Dunne will defend her MS thesis entitled The Response of Aquatic Macrophytes to Lake Management Practices and the Role of Light in the Germination of Macrophyte Propagules at 9AM, Skok Hall, St Paul Campus on 29 June.

WOMP Station - Metropolitan Council
Staff have visited the WOMP stations twice this month and have been using the Met Council's new procedures.

Service Learners
No new update.

Volunteering
Volunteers are being recruited to help with water quality and fisheries monitoring this summer and fall.

Education and Outreach (M. Jordan)

Adopt a Dock Program
Volunteers continue to check their plates. No invasive mussels have been identified. District staff built 19 plates for the Nine Mile Creek Watershed District to use in launching the program on their local lakes.

AIS Jr Inspector
Nine Mile Creek Watershed District requested to use the toy boat version of the activity with their new pop-up education cart this summer. Staff will also be utilizing the activity in July at two schools in the Minnetonka school district.

Earth Day Mini Grants
Another recipient submitted their report for reimbursement. Rachel Valek from Chanhassen Elementary was able to take 60 4th graders to the Rapids Lake Wildlife Refuge. In Rachel's words from her report: "With limited access to outdoor learning at our school, the refuge provides a wonderful outdoor space right along the Minnesota River. It is much more meaningful to the students to experience nature rather than talk about it back at school….The first station, the river nature hike, focused on how water and wind contribute to erosion. We investigated several areas of the river that have changed since the refuge opened. We tied this to our recent unit on geology and what types of rocks must be present along the Minnesota River, as well as our water unit with a mini-lesson on "Who Polluted the Minnesota River". This was a great time to visit as the river was 13.0 feet above flood stage. "

Lakes and Creeks Water Quality Report

No new updates.

Master Water Stewards Program
2016 stewards continue to work on logging their volunteer hours, while 2017 stewards work on their capstone projects. We are currently recruiting for the next cohort of stewards, and will be looking for up to 6 community members to participate.

Project WET
Planning continues, and registrations are being collected.

Shoreline Restoration Workshop
The June 29th workshop was well attended and well received. Participants learned how to identify common weeds, techniques for maintenance, and had time for questions and answer and to test out their new skills. The hands-on workshop took place on-site at the Timber Lakes Association lakeshore buffer on Mitchell Lake. This project was a 2015 cost-share grant recipient. Based on the reception, this would be a good event to repeat on an annual basis.

Summer Watershed Tour

Planning is well underway for the tour and registrations are coming in. The theme for this year's tour is the 10-Year Plan, and we'll be highlighting the draft goals of the new plan.

Website & Newsletter
The July newsletter was published the first week of July. Work continues on the website update.

Winter & Turf Maintenance Training
A level II winter training will be hosted at the district August 8th.

Bluff Creek One Water

Chanhassen High School
No new updates.

Bluff Creek
No new updates.

Riley Creek One Water

Lake Susan Park Pond
Working with all of our partners to determine contribution and if additional funds needed to complete the project.

Riley Creek
Staff is working with the City of Eden Prairie to determine final financial support for the project. Lower Minnesota River Watershed District will be contributing $150,000.

Lake Riley CLP Treatment
Herbicide on Lake Riley for EWM was performed. University of Minnesota researchers will be evaluating effectiveness.

Lake Riley Water Quality Project (Alum)
No new updates.

Lake Susan CLP Treatment
No new updates.

Purgatory Creek One Water

Fire Station 2
The primary site sign has been finalized and approved (see below), and work has begun on the signage for the cisterns. Seeding of the site was conducted mid-June and the reuse system is set to be installed mid to late August.

Purgatory Recreational Area Berm
No new update.

Purgatory Creek at 101
Purgatory Creek restoration at 101 is complete. We will continue to monitor it. During the last wind storm a couple trees have fallen in the creek. We notified the City of Minnetonka. One of the trees will need to be removed. The City will be removing it.

Mitchell Lake Plant Management
Herbicide treatment is completed.

Red Rock Lake Plant Management
Herbicide treatment is completed.

Scenic Heights School Forest
Working with the School District and the City to finalize cooperative agreements. Design is ongoing. We are working on public engagement pieces.

Staring Lake Plant Management
Herbicide treatment is completed.

Professional Workgroups and Continuing Education

The Fundamentals of River Science: Applied Geomorphology and Ecology Workshop

Joshua Maxwell attended the The Fundamentals of River Science: Applied Geomorphology and Ecology Workshop on June 19th - 23rd. The MNDNR training occurred in Fergus Falls, MN. The trainings main purpose was to teach the fluvial geomorphological processes involved in creating and maintaining a streams shape and stability, as well as the fundamental hydrology and hydraulics of rivers. We utilized/familiarized ourselves with the Rosgen Stream Classification System to identify stream and valley type. We learned surveying techniques to determine a stream segments type and degree of stability by collecting pertinent field data including bankfull dimensions, cross sectional area, flood prone width, entrenchment, hydraulic radius, shear stress movable particles, sinuosity, radius of curvature, slope, etc. Students collected actual field data to be used by the MNDNR on two waterbodies; Longbranch Creek and Buffalo River. AFter which students were required to process all the data and present what they found the following day. Students utilized two main software packages to analyze the collected data which included RiverMorph and Mecklenburg. Students also visited multiple stream/river sites of varying stream types and looked at multiple large scale restorations that had occurred.

Overall the training was very beneficial and skills learned can be directly applied within the District. Some main take home topics include: 1) We shouldn't necessarily be attempting to restore streams to what naturally existed before because of the massively transformed watersheds we live in. We should be gearing our restorations to allow for our streams to return to an equilibrium state based on the current stream conditions. 2) You cannot design a project to fix every problem. Some problems cannot be fixed due to the large scale of the project, watershed impacts, limited funding, stakeholder restraint, space limitations, etc. 3) Stream restorations should not focus on installing structures (mainly in regards to trout). All segments of a stream (riffle, run, pools) are critical for life in a stream not just deep pools. Eventually, all structures will fail so the key is to design the restoration correctly using the data collected. Sinuosity and channel dimensions are critical in order to dissipate stream energy and reduce shear stress. If you account for these factors the stream will create its own "structure" and be more stable than any built structures can do.

As the CRAS is further developed we plan to incorporate some of the monitoring techniques into our monitoring to collect more and better data. This class would allow the District staff to collect or assist in the collection of data pre and post restoration on both restoration and reference sites, to evaluate the success of such projects. The class will also allow Josh to attend future MN DNR trainings in the River Science Series to further his skills as it was a prerequisite. Possible future trainings include:

- -River Restoration: Design and Application
- -River Monitoring and Assessment
- -Restoration Solutions in a Fragmented River Ecosystem

The Art of Hosting

Staff attended at two-day Art of Hosting facilitation training. This style of facilitation training was used in the public input process of the 10-Year Plan update with much success. Through the training, staff increased their knowledge and proficiency in utilizing the facilitation techniques. The Art of Hosting is a highly effective way of harnessing the collective wisdom and self-organizing capacity of groups of any size. Based on the assumption that people give their energy and lend their resources to what matters most to them – in work as in life – the Art of Hosting blends a suite of powerful conversational processes to invite people to step in and take charge of the challenges facing them. Groups and organizations using the Art of Hosting as a working practice report better decision-making, more efficient and effective capacity building and greater ability to quickly respond to opportunity, challenge and change. People who experience the Art of Hosting typically say that they walk away feeling more empowered and able to help guide the meetings and conversations they are part of move towards more effective and desirable outcomes. Many people experience meetings that waste time, conversations that feel more like debates, and invitations to input which turn out to be something altogether different. People want to contribute, but they can't see how. Leaders want contribution, but they don't know how to get it. The Art of Hosting offers a blend of some of the most powerful methods to create open and meaningful conversation that leads to commitment and good results. Working with a range of collaborative methods – like Circle, World Café, Appreciative Inquiry, Open Space Technology, ProAction Café, storytelling and more – practitioners can tailor the approach to their context and purpose.

Minnesota Association of Watershed District

The MAWD tour focused on water-level management as well as fisheries management. Manager Forster and Crafton represented the District in their MAWD meeting. Request for the annual meeting have been finalized and will be distributed out. There was discussion on pre-mawd workshop. Workshops could include an human resources track and a field safety track.

Watershed Partners

The district is participating in watershed partners again in 2017, and supporting their Clean Water Minnesota project. “Clean Water Minnesota is a collaborative outreach project of the Metro Watershed Partners. Working together, we provide resources, training, and support to partners as they work with homeowners in the Twin Cities metro area to keep water clean and healthy. In 2016, we kicked off the first year of a three-year project to produce the very best clean water educational messages and programs, based on the latest research in social science, for our partners to use in their outreach and communications. We promoted our program, gained new partners, and raised $120,000 to support this work.We launched a new website at cleanwatermn.org, with new photography, blog stories, and downloadable informational resources. We created and implemented a system to track engagement with these resources, that measures the impact of the campaign overall, and in each member's service area. With your support, we will continue to build on these successes in 2017. We will produce twelve new, seasonally appropriate blog stories about community members in the metro area taking action to protect lakes and rivers, along with new photographs and informational resources for our partners to use in their education and outreach work. We will continue to build our following on social media, and help you build yours. We will host trainings and meetings to help our partners use Clean Water MN resources, and build new audiences for clean water messages. In addition, we will begin to build the foundation and framework for a metro-wide Adopt-a-Drain program, with promotional resources and activities, including a toolkit to support community clean-up events with a neighborhood focus, aimed to inspire residents to sweep up, rake up, and pick up streets and sidewalks in the metro area. To do this work, we need to raise $120,000 per year. Your contribution will ensure that the people you are trying to reach hear you. Please contribute membership funds now, and make a plan to support us throughout this 3-year campaign. For MPCA permitted cities and watersheds, your membership contribution helps you meet your MS4 public education requirements.”

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BARR

Memorandum

To: Riley-Purgatory-Bluff Creek Watershed District Board of Managers and District Administrator
From: Barr Engineering Co.
Subject: Engineer's Report Summarizing June 2017 Activities for July 12, 2017, Board Meeting
Date: June 30, 2017

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 June 2017.

General Services

a. Met with Administrator Bleser and Lower MN River Watershed District on June 29th to discuss potential boundary revisions.

b. Met with NMCWD Engineer to discuss potential boundary revisions.

c. Met with Permitting Coordinator Jeffery and Counsel Welch on June 21st to brainstorm and discuss opportunities to streamline and improve RPBCWD regulatory program.

d. Assisted Administrator Bleser with preparation for 10-year plan update to Board of Manager's at June 7th workshop.

e. Participated in June 7, 2017 regular Board meeting.

f. Prepared Engineer's Report for engineering services performed during June 2017.

g. Regular and frequent communication and coordination with Administrator Bleser discussing Board workshop, meeting agenda, and status updates for various task orders.

h. Overall project management, administration, webmap data management, and coordination of task orders.

Permitting Program

a. *Permit 2015-025: Blossom Hill Development*- Subdividing a 6.5 acre lot into 12 single family lots at 10841 Blossom Road, Eden Prairie, MN. Discussions with Permit Coordinator Jeffery about partial financial assurance release.

b. *Permit 2016-030: IDI Distribution Building Expansion* – Expansion of existing building and northern parking lot. Stormwater management facilities, including pervious pavers, a filtration basin with underlying infiltration, and a water reuse system will be constructed to provide volume control, water quality, and rate control for runoff prior to discharging offsite. The site is located at 8303 Audubon Road, Chanhassen, MN. Analyzed a revised permit modification resubmittal on June 6, 2017. The modification request is considered complete as of the June 6th submittal. Notified applicant the needed revisions to comply with stormwater criteria

on June 19th. Answered applicant questions about comments and received new information from Applicant on June 30th.

c. *Permit 2015-036: Saville West:* This is a residential development in Minnetonka located at the southeast quadrant of CSAH 101 and Excelsior Boulevard. The project was conditionally approved at the Board's September 7, 2016 meeting. Notified applicant of conditionally approved modification request at the June 7th meeting. Met with applicant and Permit Coordinator Jeffery on June 20 to discuss financial assurance.

d. *Permit 2016-043*: Bongards Redevelopment: This project involves expansion of an existing building and adjacent parking lot at Bongards Creamery at 8330 Commerce Drive, Chanhassen. The project will trigger Rules C and J. Permit was conditionally approved at the December 7, 2016 meeting. Responded to questions from applicant's engineer about potential modifications based on City's requirement to demonstrate proof of parking and coordinated with Permit Coordinator Jeffery.

e. *Permit 2017-007:* Cedarcrest Stables: This project involves construction of a 17-lot single family home subdivision. The project will trigger Rules C and J. Notified applicant of Board's conditional approval at June 7th meeting.

f. *Permit 2017-010*: Riley Lake Park: This project involves construction of site improvements at Riley Lake Park and the public boat launch. The project will trigger Rules B, C, E, F, G, and J. Reviewed submittal and provided comments to applicant. Reviewed information in support of fulfilling conditional approval items, including relocating one BMP due to soil condition to provide the approved abstraction amount.

g. *Permit 2017-023*: Eden Prairie Assembly of God: This project involves construction of a building addition and associated site modifications at 16591 Duck Lake Trail. The project will trigger Rules C and J. Notified applicant of Board's conditional approval at June 7th meeting.

h. *Permit 2017-024*: Prairie Bluffs Senior Living: This project involves construction of a senior living facility, parking lot, and landscaping at 10280 Hennepin Town Road in Eden Prairie. The project will trigger Rules C, D, and J. Reviewed revised submittal and drafted staff report for Manager consideration at July 12th meeting.

i. *Permit 2017-029*: Elevate Apartments: This project involves construction of 222 apartments combined with approximately 12,000 square feet for commercial retail and associated site infrastructure located near the intersection of Prairie Center Drive and Highway 212. Stormwater reuse, green roof, permeable pavement and a tree trench system will provide storm water quantity, volume and quality control. Reviewed two revised submittal packages and drafted staff report for Manager consideration at July 12th meeting.

j. *Permit 2017-032*: 11193 Bluestem Lane: This project involves stabilization of a roughly 100 reach of lower Purgatory Creek and an associated ravine with groundwater seep. Several discussion with Permitting Coordinator Jeffery. Met onsite with applicant (Eden Prairie), applicants engineer (WSB) and Permitting coordinator Jeffery to strategize restoration methods and clarify permitting requirements.

k. *Permit 2017-036*: Minnetonka High School Upper Field Access Road: This project involves construction of 480 foot impervious access road and 190 feet of retaining wall on the

Minnetonka High School property. An existing underground detention system will provide the required storm water rate, volume and quality control. The project will trigger Rules C and J. Notified applicant of Board's conditional approval at June 7th meeting.

l. Attended several preapplication meeting with developers and Permit Coordinator Jeffery.

m. Met with Permit Coordinator Jeffery on June 29th to discuss permitting process, tracking database, coordination between staff, engineer, and legal, permit workloads.

n. Met with Permitting Coordinator Jeffery and Counsel Welch on June 21, 2017 to identify opportunities to improve and simplify RPBCWD rules and regulatory process.

o. Performed erosion control inspections of active sites during the week of June 15th (see attached inspection report).

p. Conversations with several project engineers/developers about permit requirements for potential development and redevelopment projects.

Data Management/Sampling/Equipment Assistance

a. Built database and prepared beta user interface to collect field and stream data using a hand-held electronic device while in the field. Testing this tool will begin in early July.

b. Uploaded 2015 Hyland Lake data provided by the MPCA. Verified, and adjusted when needed, previously uploaded 1994-2014 and 2016 data against MPCA records.

c. Uploaded and verified 12 laboratory reports to EQuIS.

Task Order 6: WOMP Station Monitoring

Purgatory Creek Monitoring Station at Pioneer Trail

a. Download and review data.

b. Storm event sampling – set station for sampling; collect, prep, and deliver sample to lab.

Purgatory Creek Monitoring Station at Valley View Rd

a. Downloaded and reviewed data.

b. Storm event sampling – set station for sampling; collect, prep, and deliver sample to lab.

c. Review MCES Lab invoice.

d. Data QA/QC.

Task Order 7b: Purgatory Creek Stabilization near Hwy 101—Construction

a. Reviewed payment application #3 submitted by the contractor and prepared payment recommendation for Manager consideration at July meeting.

b. Construction of this project is substantially complete. Project close-out items and the vegetation warranty period remain.

Task Order 13a: Lake Susan Watershed Treatment and Stormwater Reuse Enhancements

a. Discussion with Administrator Bleser and Project Manager Jeffery about questions from Emerson, permit budgeting, and task order development.

Task Order 14b: Lower Riley Creek Final Design

a. Worked with Administrator Bleser to help draft an agreement with the city of Eden Prairie.

b. At the direction of Administrator Bleser, project was put on hold several weeks during June as potential project funding was coordinated with the city of Eden Prairie.

Task Order 16: Watershed Management Plan Refresh

a. Met with Administrator Bleser and Project Manager Jeffery on June 16th to go over status of various subsections of the implementation chapter of the Plan and incorporate staffs revisions to the draft implementation table and lake management strategy.

b. Continued work on draft of the 2017 Watershed Management Plan document, including revisions to document formatting to reflect District branding and document organization.

c. Developed draft text and tables of the implementation section.

d. Drafted watershed sections (formerly "One Water" sections) text, figures and tables and provided drafts to Managers and Administrator Bleser for review.

e. In the next month, Barr staff will continue drafting text of the plan document, including associated tables and figures. Barr will provide Administrator Bleser draft sections as they are completed.

Task Order 18: MPCA Resiliency Grant

a. Presented results for the Community Resilience Workshop series in an open public meeting at Discovery Point in Eden Prairie.

b. Completed the development of four-page graphical workshop reports for the participating cities of Bloomington and Edina as well as initial draft report for the city of Hopkins. The reports highlight the specific concerns workshop participants have about the impacts of climate change in their communities along with the actions they believe to be most appropriate. Community actions addressed three different areas including impacts to infrastructure, environment and people. These recommended actions will be incorporated into each city's Comprehensive Plan to be completed in 2018.

Task Order 19: Chanhassen High School Stormwater Reuse Design

a. Recommendation to Board to delay awarding the bid and rebidding the project in the winter 2017/2018.

b. Coordination with Peterson regarding value engineering the system (future meeting to be scheduled end of July).

Task Order 20: Hyland Lake UAA Update

a. Organized and attended initial stakeholder meeting on June 23rd with RPBCWD, the city of Bloomington, Three Rivers Park District, and Barr staff. Discussed known issues with the lake's water quality and potential best management practices to investigate.

b. Began reviewing and compiling historical water quality data and reports.

c. Reviewed the water quality modeling that was done for the 2016 TMDL and 2002 UAA studies.

d. Started writing the report text and creating figures and graphs.

Task Order 21: Bluff Creek Feasibility Study

a. Reviewed hydraulic modeling and the design approach.

b. Began developing plan sheets.

Task Order 22: Groundwater Assessment

a. Developed draft report and figures.

b. Held meeting with District staff on June 19 to go over progress and draft report/figures.

c. Currently revising figures and text based on feedback from District staff.

Task Order 23: Scenic Heights School Forest Restoration

a. Finalizing design on the forest restoration plans and specifications, including the redesign of the failed flared end section draining into the pond on site. Project scheduling for bidding and construction has been outlined and will be discussed at upcoming meetings.

b. Met with Eagle Scout candidates to discuss potential project on the site.

c. Met with School District and Three Rivers Park District staff to discuss outdoor learning classrooms and miscellaneous site amenities.

Lake Susan Spent Lime System Update

This spring Barr completed additional evaluation, field investigations, and laboratory testing for the Lake Susan spent lime system, at no cost to the District. As a result of the additional evaluation, we identified modifications to the system to improve system performance. Barr contracted directly with Minger Construction to make the modifications this past month. Here is a brief summary of the investigations Barr performed and work Minger performed. After completing the modifications on June 30th, the system was brought back online and Barr staff confirmed that water was flowing through the spent lime and collected some grab samples for analysis.

Field Testing/Observation
Several field tests were completed within the filtration system.

1. Double-ring infiltrometer measurements of infiltration capacity indicated the hydraulic conductivity of the lime material was approximately 18 inches per hour, which is similar to what was used for design of the system.
2. Filling the system with water and timing the drawdown with no outlet restriction. Cameras in the header pipe with allow us to see preferential inflows. Field tests indicated the hydraulic conductivity of the lime material similar to the double-ring infiltrometer test.
3. Field observations noted that the black film that has accumulated on the surface at the Lake Susan system is likely decomposing leaves and at the time of the field investigation did not appear to be affecting the performance of the system.
4. Water levels in the upstream wetland have not fluctuated as anticipated based on predesign field observations and model simulations. This could be because of the wet conditions since the system went online last year.
5. Lastly, a dye test was conducted to determine flow patterns at the surface to see if water is flowing downward through the media, or horizontally to the walls, bypassing the media. Dye test results indicated that velocities were too low to be conclusive regarding preferential flow paths along the walls. However, there were preferential flow paths identified towards the cleanouts.

Data Analysis

1. We confirmed with the City that the upward trend of the water surface observed in the wetland was a result of the upstream pipe being blocked by tree roots or other organic matter and not the spent lime system. The City removed tree roots and cleaned the pipe and water levels in the upstream wetland receded.
2. Barr collected influent and effluent samples, and had them tested. Results generally confirmed testing provided by the District.
3. During Barr sampling we confirmed that there was positive flow out of the spent lime system (i.e., the creek was not back flowing into the chamber).

Laboratory Experiments

1. We evaluated phosphorus removal in using jar tests. Tests were conducted using spent lime from the Lake Susan system, water from the Lake Susan system that was spiked due to very low P levels, and spent lime from the Wakefield Lake system (the one other system installed several years ago). For all tests, SRP removals were on the order of 80-90%.
2. We evaluated phosphorus removal using column tests. Column test were conducted to simulate the contact time within the Lake Susan system. Column test showed removals of 30-40% SRP.
3. We reviewed continuous test results previously completed by Barr using spent lime from the City of Fairmont wastewater facility. Tests indicated that even after 2 weeks of continuous flow spent lime was still removing phosphorus (nearly 50% removal of total phosphorus). Two weeks is when the study was stopped.

Modifications to the system by Minger

Observations made during the field investigation identified that there was potential for short circuiting within the filtration system. The proposed modifications to the system are intended to address the potential flow paths that allow for short circuiting within the system. In general modifications will include:

- Replacing the cleanout pipes to eliminate leaky joints
- Modifying the header pipe so that pipe joints have welded connections
- Filling holes at the bottom of splash basin at the entrance to the system

- Filling the 3-inch monitoring hole in the side of the chamber
- Added some more spent lime to the system
- Removed one stoplog in manhole with the intention of promoting water level fluctuation in the spent lime system.
- The system was brought back online on June 30th.

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To: RPBCWD Board of Managers

From: Dave Melmer

Subject: June 15, 2017—Erosion Inspection

Date: June 30, 2017

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 June 15, 2017.

Site Inspections

2015-005	**CSAH 101 Mntka**	**2017-06-16**
	Eastern side streets have had final top coat laid-vegetation is established-catch basin protection has been removed in many areas. BMP's look good. Site is inspected and well maintained by contractor/site inspector. Construction is completed at creek crossing-BMP's look good at this location. Curb/gutter/side walk installation at south end and eastern side of project continues (June-2017). Many areas have been spray-tac'd. Street cleanup is done quite frequently. Paving and sidewalk work continues. Entire site is being graded and matted or sod is installed. (June-2017)	
2015-008	**3520 Meadow Lane**	**2017-06-16**
	Site BMP's are adequate. Silt fence is down in some areas on west side--will not affect site runoff. Site cleanup and house painting underway. (June-2017)	
2015-010	**Children's Learning Adventure**	**2017-06-15**
	Open CA(s): Pond slope to west has failed-- causing slope erosion to pond downstream. Site representative was notified of Corrective Action. Deadline: 7/15/2017 Building construction complete. Inlet protection has been removed. Site BMP's look good. Parking lot curb/gutter installation complete. Asphalt has been installed. Landscaping is complete. Sod was installed and application of spray tac to exposed soils. Vegetation growing thru mats and in spray-tac'd areas.	
2015-011	**Eden Prairie Ponds**	**2017-06-15**
	Construction and gas line work complete. Vegetation established. Site is stable. All temporary BMP's have been removed. Wetland buffer signage location in place. This will be last field inspection for this permit.	

2015-012	**Meditech Site Improvements**	**2017-06-16**
	Construction activities complete. Inlet protection has been removed. Bio-logs still in place at SE parking lot. Bio-logs at catch basin near east entrance need to be removed. Site representative was notified that BMP's can/should be removed. June--: bio-logs have been removed. All temporary BMP's have been removed. Site is stable. This will be last field inspection for this permit.	
2015-014	**12420 Sunnybrook Road**	**2017-06-15**
	Site has been surveyed. No construction has started.	
2015-016	**Blossom Hill**	**2017-06-15**
	Construction on second, third and fourth home sites has begun. BMP' look good look ok for unsold lots.	
2015-027	**Bloomington Hyland Greens Pond Storm Sewer Maintenance**	**2017-06-15**
	Construction has not started.	
2015-035	**LaMettry's Chanhassen**	**2017-06-15**
	Building construction continues. Rock entrances have been upgraded and tracking to street has been addressed. Minor tracking to street observed. Future parking lot areas are full rock base now. North slope grading and landscaping under way...swale BMP' look good- north slope has erosion control mat over entire area. Curb and gutter installation complete. Soil grading continues.	
2015-036	**Saville West Subdivision**	**2017-06-16**
	No earthwork has begun to date. Trees have been tagged along street side and trees/brush has been cleared near power lines. Wetland has been delineated. Utility flags installed along with some site surveying. (June-2017)	
2015-037	**Purgatory Creek at Hwy 101 Restoration**	**2017-06-16**
	BMP's are in place. Erosion mats are installed and stream stabilization complete. Exposed soils have been covered with spray tac-some areas have vegetation growing. Walked entire stream reach. -BMP's are excellent--some minor erosion at far southeast end of reach and large trees down across stream from storms. (June-2017)	
2015-038	**Improvements to Field 8 at Miller Park**	**2017-06-15**
	BMP's look good. Site construction complete. Soils have been covered---vegetation is growing.	
2015-048	**Pagel II Ice Facility Addition**	**2017-06-16**

	Construction of building foundation/walls complete. Silt fences in place. Parking lot paved and staging area dismantled. Site BMP's look good. Site grading underway. Slope on south side of building --covered with plastic and silt fences installed. Erosion and silt runoff on southwest corner of site has been cleaned up. Catch basin protection installed.	
2015-050	**Arbor Glen Chanhassen**	**2017-06-15**
	No construction has started.	
2015-053	**RBSC Chanhassen LLC**	**2017-06-15**
	No construction has begun. Site was being used as lay down yard for Hwy. 5 construction. Demobilization is complete. Catch basin protection still in place. Exposed soils have been covered and now vegetation is established.	
2015-056	**Oster Property**	**2017-06-15**
	Construction complete. Silt fences /bio-logs have been removed. Vegetation mats and wood chips have been installed on all bare soils. All other BMP's look good. Vegetation s growing. (June-2017)	
2015-058	**Prairie Center Clinic Addition**	**2017-06-15**
	Construction complete on building. Some BMP's have been removed for landscaping. Vegetation growing in some areas. Prep for final parking lot top coat complete. Landscaping and final grading underway.	
2015-060	**Optum Parking Expansion**	**2017-06-15**
	Construction complete. BMP's have been removed. East parking lot is complete and stable-catch basin protection has been removed. Asphalt on west lot is complete and curb-gutter have been installed. Vegetation mats installed (fall-2016)-vegetation has sprouted and is growing/sparse in areas. Overall site conditions are good.	
2015-061	**Ingram Property**	**2017-06-15**
	No construction observed to date.	
2016-004	**Round Lake Park Improvements**	**2017-06-15**
	BMP's look good. Site construction complete--parking lot/lots- curb gutter and asphalt has been installed. (November). Vegetation has sprouted/growing--some sparse areas observed.	
2016-006	**Soccer Field 10 at Miller Park**	**2017-06-15**
	BMP's look good. Site construction complete. Vegetation established. Site is stable. BMP's still in place.	

2016-009	**Stratus Court Stormsewer Outfall**	**2017-06-15**
	No activity to date.	
2016-012	**Minnetonka HS Parking Additions**	**2017-06-16**
	Construction is complete. Parking lot curb/gutter installed-asphalt is in place. BMPs have been removed. All exposed soils have been spray-tac'd and vegetation has started growing. Areas of bare soil exposed --no vegetation will grow. Site representative was notified concerning bare soils--they will be addressing the lack of vegetation growth.	
2016-014	**Chanhassen Chick-Fil-A**	**2017-06-15**
	Construction complete. Landscaping complete. Parking lot construction complete. Temporary BMP's have been removed. Vegetation mats installed-no growth observed to date. Sod installed at street side of project.	
2016-015	**18321 Heathcote Lane**	**2017-06-16**
	Silt fences installed/in good condition. Rock/gravel entrance is good. BMP's look good. House construction continues. (June-2017)	
2016-017	**SWLRT**	**2017-06-15**
	No construction observed to date.	
2016-018	**6830 Utica Terrace**	**2017-06-15**
	House construction complete. Silt fences/bio-logs have been removed. Rock walls are complete. Landscaping underway--yard area has been seeded and is growing. Downstream catch basin protection still onsite.	
2016-019	**Powers Ridge Lot 2**	**2017-06-15**
	No construction has begun to date.	
2016-021	**Cedar Hills Park**	**2017-06-15**
	Earthwork has begun. Rock entrance has been "refreshed". Silt fences have been installed. Work near creek is complete-foot bridge installed. BMP's look good. Walking path location has been surveyed and marked.	
2016-022	**SP 1017-105 Cable Barrier**	**2017-06-15**
	Construction complete. Vegetation mats in place and vegetation is growing thru. Vegetation established. All visible BMP's have been removed. Site is stable. This will be last field inspection for this permit.	

2016-024	**Bandimere Park Improvements**	**2017-06-15**
	Construction complete. Silt fences installed. BMP's are good. Sprayed tac and landscaping completed. Ice rink installation completed. Vegetation growing/some bare areas.	
2016-025	**18374 Heathcote Lane**	**2017-06-16**
	Construction of additions complete. Driveway installed and landscaping complete. Site is stable. Bio-logs can be removed. Site representative was notified that BMP's can be removed- one log still in place to date.	
2016-026	**Foxwood Development**	**2017-06-15**
	House construction has begun-BMP's look good- silt fences and rock entrances installed/ good perimeter control. Curb and gutter have been installed/road bed is being prepped for asphalt. Silt fences installed on entire site. BMP's look. Areas of exposed soils have been covered with straw and vegetation is growing. Slight tracking to street.	
2016-028	**Summit Place Apartments Drainage Improvements**	**2017-06-15**
	No construction observed to date.	
2016-030	**IDI Distribution Building Expansion**	**2017-06-15**
	Construction of addition complete .Catch basin protection has been installed. Silt fences on north side installed. Some over topping of first row of silt fence- 2 additional fences have been installed. Rock entrance installed at new entrance has been refreshed. Catch basin protection at Basin east southeast of entrance has been installed. Stockpiles of dirt have been removed--silt fences still in place.	
2016-031	**MN River Bluffs Trail Crossing**	**2017-06-15**
	Construction complete. Catch basin protection has been removed. All temporary BMP's have been removed. Vegetation is established and site is stable. This will be last field inspection for this permit.	
2016-032	**County Highway 61**	**2017-06-15**
	No construction started. Survey crews onsite.	
2016-033	**Anderson Lakes-Purgatory Trail**	**2017-06-15**
	No construction observed to date.	
2016-035	**Riley Lake Road Sidewalk**	**2017-06-15**
	Construction complete. Sidewalk in place. BMP's removed. Sod and vegetation mats installed. Sod was installed last fall--Some areas are dead	

	due to lack of watering. Vegetation established. All temporary BMP's have been removed. Site is stable. This will be last field inspection for this permit.	
2016-036	**Collegeview Drive Sidewalk**	**2017-06-15**
	Construction complete. Spray tac applied to soils-fall 2016. Some vegetation growing to date: poor vegetation growth. Wood chip bio-logs in place. (June-2017)	
2016-037	**Prestige Day Care**	**2017-06-15**
	Earthwork and construction continues. Perimeter control silt fence in place, Rock entrance installed. Site looks good.	
2016-038	**Optum Technology Drive Improvements**	**2017-06-15**
	Hillside has been scraped--And covered with erosion mats. BMP's installed and are good. Vegetation has sprouted and growing-sparse in some areas.	
2016-039	**Powers Ridge Senior Apartments**	**2017-06-15**
	Construction continue. BMP's are good. Slight tracking to street from concrete trucks.	
2016-040	**18995 Minnetonka Blvd**	**2017-06-16**
	Construction of house continues. Silt fence in place. Slopes with vegetation mats have growth showing. Southwest corner has more BMP's to control sediment erosion. Corrective Action items completed. BMP's installed are adequate.	
2016-041	**Chanhassen West Water Treatment Plant**	**2017-06-15**
	Silt fences have been installed on site. Construction continues. Earthwork underway. Rock entrance is updated. BMP's look good to date. Minor tracking to street observed. (June)	
2016-042	**18663 St. Mellion Place--Eden Prairie (Bear Path)**	**2017-06-15**
	Construction continues. BMP's are good. Silt fence in one small area is at 40% of height. Some erosion on hill is causing silt fence to fill, will monitor.	
2016-043	**Bongards Redevelopment**	**2017-06-15**
	Construction has started. BMP's are adequate. Parking lot installed-- catch basins installed and protected--pavement installation still needs to be completed. (June)	
2016-044	**Dell Rd & Riley Creek Repair Project**	**2017-06-15**
	Construction complete. Site will be straw/mat covered until spring. Vegetation	

will be installed in spring-2017. BMP's are good. Observed some erosion near newly beehive catch basin-city is aware of erosion and will repair. (May). Repairs have been made. Vegetation is growing.

2016-045 **MCES Blue Lake Interceptor Rehab** **2017-06-15**

No construction observed to date.

2016-046 **Lifetime Fitness Chanhassen** **2017-06-15**

Construction/earthwork has begun. BMP's installed and look good. Rock entrance installed. Minor tracking to street. Construction continues. BMP's are installed. Underground storage/infiltration is being installed today.

2016-046 **Lifetime Fitness Chanhassen** **2017-06-15**

Construction/earthwork has begun. BMP's installed and look good. Rock entrance installed. Minor tracking to street, Construction continues. BMP's are installed. Underground storage/infiltration is being installed today.

2016-047 **9507 Sky Lane Eden Prairie** **2017-06-15**

Open CA(s): Catch basin between properties needs protections and soils covered. Site representative was notified. Deadline: 7/15/2017

Construction continues. Silt fences down in some areas but secondary containment is good. Rock entrance has been refreshed. Catch basin protection needs to be maintained (street side CB). Catch basin between properties needs protections and soils covered. Tracking to street needs to be cleaned up. Site representative will be notified.

2016-FT02 **Mitchell and McCoy Lake Outlet Sediment Removal** **2017-06-15**

Site construction complete. Bio-log still in place. Vegetation established.

2017-002 **7012 Dakota Ave** **2017-06-15**

BMP's installed. Bio-log perimeter installed. House tear down complete. New house construction underway. Site in good condition.

2017-003 **18761 Heathcote Dr Building Addition** **2017-06-16**

House construction continues. BMP's are adequate for stockpile-silt fence would've been best--bio-logs are working. Minor tracking to street observed. Pool installation underway--additional silt fence install and working good.

2017-004 **9627 Sky Lane Eden Prairie** **2017-06-15**

Minor tracking to street. BMP's have been installed. Driveway installed and landscaping/earthwork is underway. Catch basin protection in front of property has been removed. BMP's look good.

2017-005	**9527 Sky Lane Eden Prairie**	**2017-06-15**
	Open CA(s): Catch basin protection needs to be maintained (street side CB). Tracking to street needs to be cleaned up. Site representative was notified. Deadline: 7/15/2017 Construction continues. Silt fences down in some areas but secondary containment is good. Rock entrance has been refreshed. Catch basin protection needs to be maintained (street side CB). Catch basin between properties needs protections and soils covered. Tracking to street needs to be cleaned up. Site representative was notified.	
2017-006	**6687 Horseshoe Curve Chanhassen**	**2017-06-15**
	No activity observed to date.	
2017-007	**Cedarcrest Stables**	**2017-06-15**
	No activity observed to date.	
2017-008	**Prairie Meadows Site Renovation**	**2017-06-15**
	Construction has begun. BMP's in place. Site looks good. Some minor tracking to street- catch basin protection is installed.	
2017-009	**Emerson Chanhassen East Renovation**	**2017-06-15**
	Construction has started. BMP's installed. Rock entrance in place.	
2017-010	**Riley Lake Park Renovations**	**2017-06-15**
	No activity to date.	
2017-011	**Galpin Blvd Watermain Improvements**	**2017-06-15**
	Supplies are staged for installation. Construction has begun. Bio-logs are being used for erosion control where needed. BMP's are adequate.	
2017-012	**9667 Sky Lane**	**2017-06-15**
	BMP's look good. Minor tracking to street. Dirt stockpile in backyard does not have protection but is surrounded by sod and area is flat. (June)	
2017-013	**16201 Berger Drive**	**2017-06-15**
	All temporary BMP's removed. House construction complete. Sod installed. Site is stable. This will be last field inspection for this permit.	

2017-014	**3410 Groveland Lane**	**2017-06-16**
	BMP's installed. Construction complete. Landscaping needs to be completed. (June-2017)	
2017-015	**9995 Lawson Lane**	**2017-06-15**
	BMP's in place are ok. Landscaping/earthwork underway.	
2017-016	**9982 Windsor Terrace**	**2017-06-15**
	BMP's in place are ok. Construction continues.	
2017-017	**9989 Windsor Terrace**	**2017-06-15**
	Landscaping complete --sod installed. All temporary BMP's have been removed. Site is stable. This will be last field inspection for this permit.	
2017-018	**Bloomington 2017-102 Street Maint**	**2017-06-15**
	No activity observed to date.	
2017-019	**Bloomington 2017-110 Trail Improvements**	**2017-06-15**
	Construction has begun. Catch basin protection in place. Silt fences installed where needed. Sidewalk has been installed--landscaping still needs to be completed. Some minor debris in curb.	
2017-020	**8512 Ellet Circle**	**2017-06-15**
	BMP's installed. Driveway installed along with sidewalk on south side of house. Some minor erosion on south side.	
2017-021	**8544 Ellet Circle**	**2017-06-15**
	BMP's installed. Construction continues. Some minor tracking to street observed.	
2017-023	**Eden Prairie Assembly of God**	**2017-06-15**
	Site has been surveyed. No construction activity to date.	
2017-025	**735 Pleasantview Road**	**2017-06-15**
	Construction continues. BMP's installed. Bio-logs for perimeter control--adequate. Site has recently been graded. Bio-logs on road side slope signs of overtopping during recent rainfalls. Street has been cleaned up.	

2017-026	**6135 Ridge Road**	**2017-06-15**
	Site has been cleared and surveyed. BMP's installed --silt fence for erosion perimeter control. Photos taken of existing conditions.	

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

RILEY PURGATORY BLUFF CREEK
WATERSHED DISTRICT

14500 Martin Drive | Suite 1500
Eden Prairie, MN 55344
952-607-6512
www.rpbcwd.org

Monday, June 26, 2017

Re: Personnel Matters

Dear Managers,

The District has completed personnel review for staff member Michelle Jordan. As part of the review, Staff Jordan's job description was significantly modified to reflect all the work she has been preforming. The job description expands on her roles and duties but also reflects her supervisory role that she has taken on while building capacity for the District.

It is recommended that Michelle Jordan's salary be adjusted to $49,500 beginning July 15th based on the Job Description changes and responsibilities. Mrs Jordan will be then placed on a 6 months probation period in her new role.

This matter was reviewed and approved to go to the board for approval with the Personnel Committee Members Manager Crafton and Manager Bisek.

Sincerely,

Claire Bleser

Claire Bleser, Administrator

Staff Recommendation

Manager _____, Seconded by Manager _____ to approve salary adjustment for Mrs Jordan under her new role as Community Outreach Coordinator.

Community Outreach Coordinator
2017 Job Description

POSITION TITLE: Community Outreach Coordinator
REPORTS TO: Administrator
STATUS: Full time, exempt (from Fair Labor Standards Act)

SALARY RANGE: $47,500 – $62,500

PRIMARY OBJECTIVE:

The role of the Community Outreach Coordinator is to design, maintain, and implement an Education and Outreach (E&O) Program to protect, manage, and restore water resources. The E&O Program directly contributes to the goals of the District's 10-Year Plan, and improves water quality by leveraging the power of residents, students, professionals, and local leaders to effect change. By fostering an engaged community, the District can increase awareness, grow stewardship, and build capacity to do the shared work of protecting our water resources

ESSENTIAL FUNCTIONS

1. Engage the District's audiences (residents, K-12, businesses/professionals, local leaders) in projects and programs by building and maintaining connections with, and a presence in, the communities it serves.
    a. Plan and implement formal and informal communication efforts: website and social media, electronic newsletter, press releases, annual communication, and others.
    b. Manage project specific passive (ex: flyers, articles) and active (ex: community meetings, tours, open houses) engagement.
2. Build community awareness of local resources, issues, and best practices. Tailor strategies to present complex and/or technical issues in a manner appropriate for each audience.
    a. Coordinate K-12 education programs and opportunities.
    b. Coordinate outreach and trainings for local leaders, businesses, and professionals.
    c. Develop events/programs for residents that include educational and recreational opportunities.
3. Provide resources to increase stewardship within the community. Identify and respond to District and community resource needs.
    a. Manage the Cost Share Program, including organizing site visits, leading funding recommendation committees, preparing funding recommendations and grant agreements, and tracking individual grant budgets and reimbursement requests.
    b. Coordinate and present at workshops, trainings, and community events.
4. Build community capacity by working with District audiences to develop a network of watershed champions.
    a. Build connections with existing community groups and volunteer organizations.
    b. Identify opportunities for partnership and collaboration.
    c. Develop and manage volunteer programs.
5. Collect data, evaluate, and adjust the E&O program to improve effectiveness.
6. Other
    a. Research and stay up to date on developments in the fields of water resources, facilitation, education, and communications.
    b. Serve as liaison to Citizen Advisory Committee.
    c. Supervise District interns, service learners, and volunteers as appropriate.
    d. Support project management team to identify E&O needs and opportunities.

e. Assist District staff as needed (ex. data collection).
f. Other duties as assigned.

REQUIRED KNOWLEDGE & SKILLS

1. Bachelors in environmental science/natural resources, or education/communications.
2. 5 years of related experience.
3. Understanding of the principals of stormwater management and aquatic ecosystems.
4. Project or program management experience.
5. Supervisory experience.
6. Ability to present and communicate effectively to a wide range of audiences.
7. Experience working with K-12 students, either formally or informally.
8. Availability to work evenings and weekends.
9. Ability to manage multiple deadlines concurrently.
10. Valid driver's license.

DESIRED KNOWLEDGE & SKILLS

1. Masters degree in environmental science/natural resources, or education/communications.
2. Project WET certification.
3. Graphic design experience.
4. Art of Hosting or similar facilitation training.

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

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

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2017-024

Received complete: May 1, 2017 (60 day review period extension approved on June 7, 2017)

Applicant: Prairie Bluff Senior Living, LLC, Albert Miller

Consultant: Civil Site Group, David Knaeble

Project: Prairie Bluffs Senior Living – Construction of two new senior living buildings along with new parking lots, underground parking and landscaping. Two underground detention facilities with elevated draintile to provide infiltration and one surface infiltration basin will provide stormwater quantity, volume and quality control.

Location: 10280 Hennepin Town Road, Eden Prairie, MN

Reviewer: Scott Sobiech, PE- Barr Engineering

Rules: Applicable rules checked

X	Rule B: Floodplain Management		Rule H: Appropriation of Public Waters
X	Rule C: Erosion and Sediment Control		Rule I: Appropriation of Groundwater
X	Rule D: Wetland and Creek Buffers	X	Rule J: Stormwater Management
	Rule E: Dredging and Sediment Removal		Rule K: Variances and Exceptions
	Rule F: Shoreline/Streambank Stabilization	X	Rule L: Permit Fees
	Rule G: Waterbody Crossings	X	Rule M: Financial Assurances

Rule Conformance Summary

Rule	Issue		Conforms to RBPCWD Rules?	Comments
B	**Floodplain Management**		Yes	
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 Rule Specific Permit Condition J1.
		Water Quality	Yes	
		Low Floor Elev.	Yes	
		Maintenance	See Comment	See Rule Specific Permit Condition J2.
L	**Permit Fee**		See Comment	$1,500 was received on April 25, 2017. Additional $973.30 for excess cost recovery
M	**Financial Assurance**		See Comment	The financial assurance has been calculated at $102,400.

Project Description

The project proposes the construction of two new senior living buildings along with new parking lots, underground parking and landscaping on a site in the SW quadrant of US 169 and Pioneer Trail in Eden Prairie. The existing site is primarily wooded with an access road for a city of Eden Prairie owned lift station creating approximately 0.3 acres of existing impervious surfaces. Two underground detention facilities with elevated draintile to provide infiltration and one surface infiltration basin will provide stormwater quantity, volume and quality control. The construction drawing also suggest work to construct a right turn lane on Hennepin Town Road. The right turn lane work will not be authorized by this permit, if issued. The applicant confirmed in the May 31, 2017 response to comments the work to construct the right turn lane will be a city of Eden Prairie project and the City will be responsible to provide any required stormwater management. The city must submit a separate application with necessary supporting materials for the Eden Prairie Road work.

The project site information is summarized below:

1. Total Site Area: 4.7 acres
2. Existing Site Impervious Area: 0.3 acres (13,068 square feet)
3. Post Construction Site Impervious: 2.46 acres (107,294square feet)
4. New (Increase) in Site Impervious Area: 2.16 acres (94,089 square feet) (>100% increase in site impervious area)
5. Disturbed impervious surface: 0.3 acres (13,068 square feet) (100% of existing site impervious area)
6. Total Disturbed Area: 4.7 acres

Exhibits:

1. Permit Application dated May 1, 2017.
2. Design Plan Sheets (Sheets 1-28) dated March 16, 2017 (revised May 19, 2017).
3. Stormwater Management Plan dated March 16, 2017 (revised May 19, 2017).
4. MIDS Model received June 6, 2017.
5. Existing and Proposed Conditions HydroCAD Model received June 6, 2017.
6. Geotechnical Evaluation Report by PSI dated September 25, 2015.
7. Geotechnical Evaluation Report for Phase II by PSI dated July 28, 2016.
8. Geotechncial Exploration Report Addendum #1 dated May 31, 2017
9. Level I Environmental Assessment dated September 11, 2015.
10. Wetland Delineation Report dated November 9, 2015
11. MNRAM dated September 24, 2015
12. Response to Comments Letter dated May 1, 2017.

13. Response to Comments Letter dated May 19, 2017.

Rule Specific Permit Conditions

Rule B: Floodplain Management and Drainage Alterations

Because the proposed construction involves the placement of 161 cubic yards of fill below the 100-year flood elevation of the wetland (914.45), the project activities must conform to the RPBCWD's Floodplain Management and Drainage Alterations rule (Rule B).

The proposed two senior living buildings adjacent to the wetland will be constructed with low floor elevations of 919.56 thus providing the required two feet of freeboard above the 100-year flood elevation of the wetland complying with Rule B, Subsection 3.1. Rule B, Subsection 3.4 imposes no requirements on the project because no work in the floodplain of a watercourse is proposed. The supporting materials demonstrate, and the RPBCWD Engineer concurs, that 161 cubic yards of fill will be placed and 318 cubic yards of compensatory storage will be created below the 100-year floodplain, thus providing a net increase in the floodplain storage. The compensatory storage is provided at the same elevation (+/- 1 foot) below the 100-year floodplain, thus the project conforms to Rule B, Subsection 3.2. The project will not alter surface flows (Rule B, Subsection 3.3). A note on plan sheet C2.0 indicates that activities must be conducted to minimize the potential transfer of aquatic invasive species conforming to Rule B, Subsection 3.5.

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

Rule C: Erosion and Sediment Control

Because the project will alter 4.7 acres (204,732 square feet) 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 Civil Site Group includes installation of silt fence, inlet protection for storm sewer catch basins, a rock construction entrance, placement of a minimum of 6 inches of topsoil, decompaction of areas compacted during construction, and retention of native topsoil onsite. Greg Johson, Nottingham Construction, will be responsible for erosion control at the site. The proposed project conforms to the erosion and sediment control requirements of Rule C.

Rule D: Wetland and Creek Buffers

Because the proposed work triggers a permit under RPBCWD Rules B and 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 2015 wetland delineation for the site was included with the submittal. The MnRAM analysis dated September 24, 2015 indicates that the wetland onsite is a medium value wetland according to 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 applicant proposed wetland buffers for the wetland which provide a 45-foot average, 20-foot minimum consistent with the widths identified in Rule D, Subsection 3.1 for medium value wetlands. The applicant is proposing buffer monument locations consistent with criteria in Rule D, Subsection 3.3. 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 plan sheet C2.0 indicating the potential transfer of aquatic invasive species must be minimized 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 4.7 acres (204,732 square feet) of surface area, approval under the RPBCWD Stormwater Management Rule is required. The proposed land-disturbing activities will disturb 100% of the existing impervious area (i.e., more than 50 percent of the existing impervious area), therefore under the paragraph 2.3 redevelopment framework, the RPBCWD stormwater management criteria apply to the entire project site.

The developer is proposing a combination of two underground detention facilities with elevated draintile to provide infiltration, one surface infiltration basin, six sump manholes and one sump manhole with SAFL baffle to provide the required rate control, volume abstraction and water quality management on the site. The Level I Environmental Assessment report indicated no recognized environmental conditions and no recognized historical environmental conditions thus indicating there no apparent contamination on the site.

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.

Modeled Discharge Location	2-Year Discharge (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)		10-Day Snowmelt (cfs)	
	Ex	Prop	Ex	Prop	Ex	Prop	Ex	Prop
DA1	5.1	5.0	9.0	8.6	13.9	12.5	2.4	2.4
DA2	0.2	0.1	1.0	0.9	3.3	3.1	0.2	0.1
DA3	0.1	0.0	0.4	0.0	1.4	0.0	0.1	0.0
DA4	0.1	0.1	0.6	0.3	2.1	0.9	0.1	<0.1

The proposed project conforms to 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 all impervious surface of the parcel. An abstraction volume of 9,835cubic feet is required from the 2.46 acres (107,294square feet) of impervious area on the project for volume retention. The Applicant proposes two underground detention facilities with elevated draintile and pretreatment sump manholes, one surface infiltration basin with a pretreatment sump manhole with a SAFL baffle, and wetland buffer to abstract runoff from the site. The table below summarizes the volume abstraction on the site.

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Volume (cubic feet)
1.1	9,835	10,787

Soil borings performed by Professional Service Industries, Inc. (PSI) show that soils in the project area below the upper layer of topsoil and fill consist primarily of sand and silty sand (Loamy sand) to the depths of 15± feet below existing site grades. The MN Stormwater Manual indicates an infiltration rate of 0.8 inches per hour for loamy sand soils and 0.45 inches per hour for silty sand soils. The soil boring information summarized in the table below shows that groundwater is at least 3 feet below the bottom of the proposed infiltration basins (Rule J, Subsection 3.1.b.ii).

Proposed BMP	Groundwater Elevation (feet)	BMP Bottom Elevation (feet)	Separation (feet)
Underground Infiltration System 1	No groundwater observed at nearest boring bottom (el 802)	817.5	15.5
Underground Infiltration System 2	Nearest boring observed groundwater at el 814	809.6	See condition
Infiltration Basin 3	No groundwater observed to boring bottom (el 799)	822.5	23.5

The phase II geotechnical investigations states "Groundwater was observed during drilling operations at a depth of 14 feet below existing site grades in Borings B-12, B-13, and B-14 (elevations 811± to 814± feet). Groundwater at the location nearest infiltration area 2 (B-12) was observed at elevation 811 during drilling but not at the boring completion but the soils water waterbearing." While these boring are close to the proposed Underground Infiltration System 2 they do not appear to be within the system footprint as required in Rule J, subsection 4.3c. An additional analysis provided by the applicant's geotechnical consultant indicates the silt soils may create a perched groundwater condition during times of high precipitin and runoff. This suggests there is not 3 feet of separation between the proposed bottom of Underground Infiltration System 2 (809.6) and the seasonal high groundwater unless additional investigations show groundwater at the proposed BMP location is lower than the current boring suggest or remedial design measure are implemented. While design alternatives are discussed in the geotechnical memo no plan for remedial measures is shown on the proposed construction drawings. To conform to the RPBCWD Rule J, Subsection 3.1.b the following revision is needed:

J1. Paragraph 4.3c of the rule requires a soil boring at the proposed infiltration sites to demonstrate that the bottoms of the infiltration basins are at least 3 feet above the water table, the soils present below the basin and confirm the infiltration capacity. The applicant must submit documentation verifying the soils present, infiltration capacity of the soil and the groundwater elevation at the proposed underground infiltration system 2. This can be accomplished by soil boring, infiltrometer test, potholing or other methods. If the soils, groundwater elevation or infiltration capacity are less than anticipated, design modifications for underground infiltration system 2 would be required.

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. The Applicant is proposing two underground detention facilities with elevated draintile with pretreatment sump manholes and one surface infiltration basin with a pretreatment sump manhole with a SAFL The table below summarized the water quality treatment

provided for the site. Based on information reviewed, the proposed project conforms to Rule J, Subsection 3.1.c.

Pollutant of Interest	Regulated Site Loading (lbs/yr)	Required Load Removal (lbs/yr)[1]	Provided Load Reduction (lbs/yr)
Total Suspended Solids (TSS)	947	853 (90%)	891 (94%)
Total Phosphorus (TP)	5.24	3.14 (60%)	4.64 (88.5%)

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

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 and no stormwater management system may be constructed or reconstructed in a manner that brings the low floor elevation of an adjacent structure into noncompliance according to Rule J, Subsection 3.6.

The low floor elevations of the structure and the adjacent stormwater management feature are summarized below.

Location Riparian to Stormwater Facility	Low Floor Elevation of Building (feet)	100-year Event Flood Elevation of Adjacent Stormwater Facility (feet)	Freeboard (feet)	Provided Distance Between Building and Adjacent Stormwater Feature (feet)	Required Separation to Groundwater based on Appendix J, Plot 5 (feet)	Provided Separation to Groundwater (feet)
Northern Building	819.56	822.98 (Onsite inundation from stormwater facility west Hennepin Town Rd)	-3.42	23	2.9	5.56
Northern Building	819.56	814.9 (Wetland)	4.62	-	-	-
Northern Building	819.56	815.04 (Infiltration System 2)	4.52	-	-	-
Southern Building	819.56	822.47 (Infiltration System 1)	-2.91	40	2.3	20.56
Southern Building	819.56	824.83 (Infiltration Basin 3)	-5.27	15	3.3	20.56

An analysis in accordance with Appendix J1 was completed for the proposed structures and adjacent stormwater feature when the low floor elevation of the proposed structures was less than the required 2 feet above the 100-year event flood elevation of the adjacent stormwater feature.

The horizontal distance between the northern building and the existing NW low area is 23 feet; therefore, the required separation to groundwater at the building is 3.3 feet in order to be in compliance with Plot 5 in Appendix J1. As shown in the above table the proposed northern structure provides 5.56 feet of separation from groundwater in conformance with Rule J, Subsection 3.6.

The horizontal distance between the southern building and infiltration basin 3 is about 15 feet; therefore, the required separation to groundwater at the building is 3.3 feet in order to be in compliance with Plot 5 in Appendix J1. The horizontal distance between the southern building and underground infiltration system 1 is about 40 feet; therefore, the required separation to groundwater at the building is 2.3 feet in order to be in compliance with Plot 5 in Appendix J1. As shown in the above table the proposed southern structure provides 20.56 feet of separation from groundwater in conformance with Rule J, Subsection 3.6.

Maintenance

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

J2. Permit applicant must provide a draft maintenance and inspection plan, including the off-site detention pond. Once approved by RPBCWD, the plan must be recorded on the deed in a form acceptable to the District.

Rule L: Permit Fee:

Fees for the project are:

Rule C & J $1,500

The RPBCWD permit fee schedule adopted in December 2015 indicates that costs of site inspections, analysis of the proposed activities, services of consultants and compliance assurance in excess of $2,500 for properties less than 5 acres will be charged to the permit applicant. The review of this permit application has resulted in $3,473.30 of consultant time.

L1. In accordance with the adopted RPBCWD permit-fee schedule, because the engineer and legal time to review this permit exceeded $2,500 the applicant must submit an additional permit fee of $973.30 for excess cost recovery.

Rule M: Financial Assurance:

Rules C: Silt fence: 2,800 L.F. x $2.50/L.F. = ... $7,000

Restoration: 4.7 acres x $2,500/acre = ... $11,800

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

Rules J: Infiltration: 7,937 sq. ft. x $6.00/sq. ft. = ... $47,700

Contingency (10%) $7,200

Administration (30%) $23,700

Total Financial Assurance $102,400

Applicable General Requirements:

1. The RPBCWD Administrator 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 project conforms to Rule B and C requirements.
3. The proposed project will conform to Rule D and J if the Rule Specific Permit Conditions listed above are met.

Recommendation:

Approval, contingent upon:

1. Continued compliance with General Requirements.
2. Financial Assurance in the amount of $102,400.
3. The applicant must submit documentation verifying the soils present, infiltration capacity of the soil and the groundwater elevation at the proposed underground infiltration system 2. This can be accomplished by soil boring, infiltrometer test, potholing or other methods. If the soils,

groundwater elevation or infiltration capacity are less than anticipated, design modifications for underground infiltration system 2 would be required.

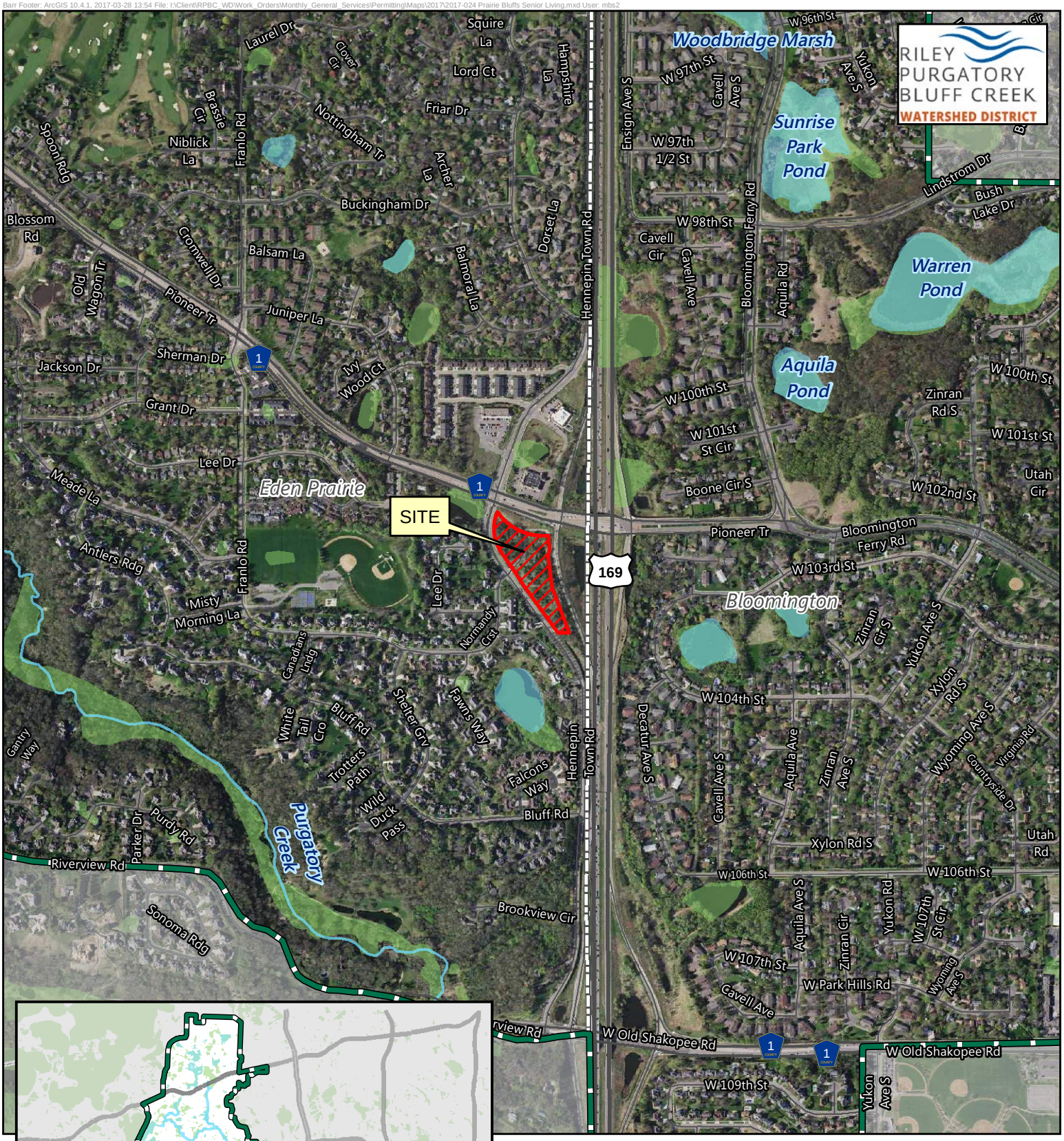
4. Receipt of an additional permit fee of $973.30 for excess cost recovery
5. Receipt in recordation a maintenance declaration for the stormwater management facilities and wetland buffer. A draft must be approved by the District prior to recordation.

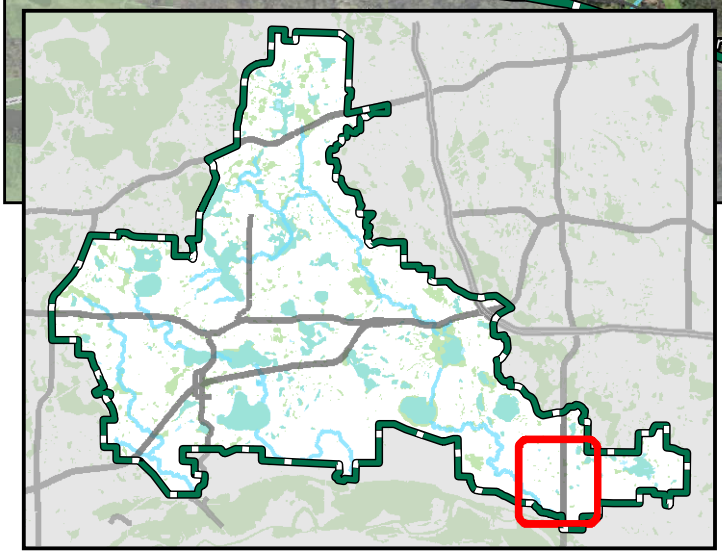
By accepting the permit, when issued, the applicant agrees to the following stipulations:

1. Per Rule J Subsection 4.5, upon completion of the site work, the permittee must submit as-built drawings demonstrating that at the time of final stabilization, stormwater facilities conform to design specifications as approved by the District.

Board Action

It was moved by Manager _____, seconded by Manager _____ to approve permit application No. 2017-024 with the conditions recommended by staff.





N

Feet

0 1,000

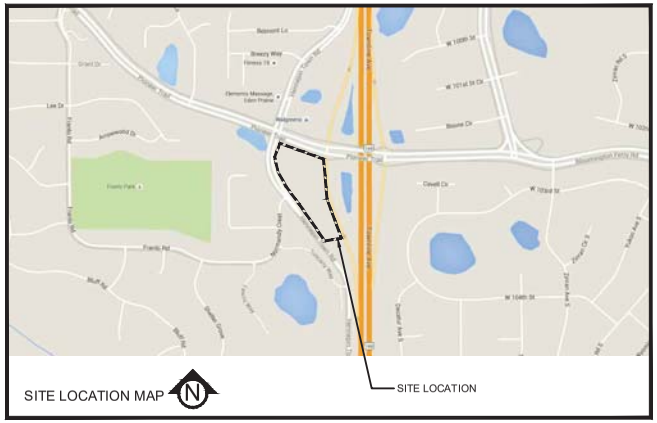
Permit Location Map

PRAIRIE BLUFFS
SENIOR LIVING
Permit 2017-024
Riley Purgatory Bluff Creek
Watershed District

PRAIRIE BLUFFS SENIOR LIVING

EDEN PRAIRIE, MINNESOTA

ISSUED FOR: WATERSHED SUBMITTAL



DEVELOPER / PROPERTY OWNER:

ALBERT MILLER
2631 QUENTIN AVENUE SOUTH
ST. LOUIS PARK, MN 55416

ENGINEER / LANDSCAPE ARCHITECT:

CIVIL SITE GROUP
4931 W 35TH STREET
SUITE 200
ST LOUIS PARK, MN 55416
612-615-0060

SURVEYOR:

ACRE LAND SURVEYING
9140 BALTIMORE ST NE
SUITE 100
BLAINE, MN 55449
763-458-2997

GEOTECHNICAL ENGINEER:

PROFESSIONAL SERVICE INDUSTRIES, INC.
2915 WATERS ROAD
SUITE 112
EAGAN, MN 55121
651-846-8148

MASTER LEGEND:

- EX. 1' CONTOUR ELEVATION INTERVAL
- EXISTING SPOT GRADE ELEVATION
- PROPOSED 1' CONTOUR ELEVATION INTERVAL
- SPOT GRADE ELEVATION (GUTTER/FLOW LINE UNLESS OTHERWISE NOTED)
- SPOT GRADE ELEVATION BACK OF CURB (TOP OF CURB)
- SPOT GRADE ELEVATION TOP OF WALL
- SPOT GRADE ELEVATION BOTTOM OF WALL
- DRAINAGE ARROW
- EMERGENCY OVERFLOW
- SILT FENCE / GRADING LIMIT
- INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- SOIL BORING LOCATION
- CURB AND GUTTER (T.O = TIP OUT)
- PROPOSED MANHOLE STORM
- PROPOSED CATCH BASIN OR CATCH BASIN MANHOLE STORM
- PROPOSED GATE VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE SANITARY
- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED WATER MAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATER MAIN
- EXISTING GAS MAIN
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND CABLE
- EXISTING MANHOLE
- EXISTING CATCH BASIN
- EXISTING HYDRANT
- EXISTING STOPBOX
- EXISTING GATE VALVE
- EXISTING ELECTRIC BOX
- EXISTING LIGHT
- EXISTING GAS METER
- EXISTING GAS VALVE

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WWW.GOPHERSTATEONECALL.ORG
(800) 252-1166 TOLL FREE
(651) 454-0002 LOCAL

SHEET INDEX

SHEET NUMBER	SHEET TITLE
C0.0	TITLE SHEET
C0.1	SITE SURVEY - 1 OF 3
C0.2	SITE SURVEY - 2 OF 3
C0.3	SITE SURVEY - 3 OF 3
C0.4	PRELIMINARY PLAT
C1.0	REMOVALS PLAN NORTH
C1.1	REMOVALS PLAN SOUTH
C2.0	SITE PLAN NORTH
C2.1	SITE PLAN SOUTH
C3.0	GRADING PLAN NORTH
C3.1	GRADING PLAN SOUTH
C4.0	UTILITY PLAN NORTH
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C5.0	DETAILS
C5.1	DETAILS
C5.2	DETAILS
C5.3	DETAILS
C5.4	DETAILS
L1.0	LANDSCAPE PLAN NORTH
L1.1	LANDSCAPE PLAN SOUTH
SW1.00	STORM WATER POLLUTION PREVENTION PLAN - EXISTING CONDITIONS - NORTH
SW1.01	STORM WATER POLLUTION PREVENTION PLAN - EXISTING CONDITIONS - SOUTH
SW1.10	STORM WATER POLLUTION PREVENTION PLAN - PROPOSED CONDITIONS - NORTH
SW1.11	STORM WATER POLLUTION PREVENTION PLAN - PROPOSED CONDITIONS - SOUTH
SW1.2	STORM WATER POLLUTION PREVENTION PLAN - DETAILS
SW1.3	STORM WATER POLLUTION PREVENTION PLAN - NARRATIVE
SW1.4	STORM WATER POLLUTION PREVENTION PLAN - ATTACHMENTS
SW1.5	STORM WATER POLLUTION PREVENTION PLAN - ATTACHMENTS

CivilSite GROUP
4931 W. 35TH ST., SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
Matt Pavek 763-213-3944
Pat Sarver 952-250-2003

koo wilson architects

PROJECT
PRAIRIE BLUFFS SENIOR LIVING
EDEN PRAIRIE, MN
ALBERT MILLER
2631 QUENTIN AVENUE SOUTH, ST. LOUIS PARK, MN 55416

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.

David J. Knaeble
DATE 5/19/17 LICENSE NO. 48776

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
8/17/16	CITY RESUBMITTAL
9/12/16	CITY RESUBMITTAL
9/29/16	CITY RESUBMITTAL
12/19/16	CITY RESUBMITTAL
1/26/17	CITY RESUBMITTAL
3/16/17	WATERSHED SUBMITTAL
4/20/17	WATERSHED RESUBMITTAL
5/19/17	WATERSHED RESUBMITTAL

REVISION SUMMARY

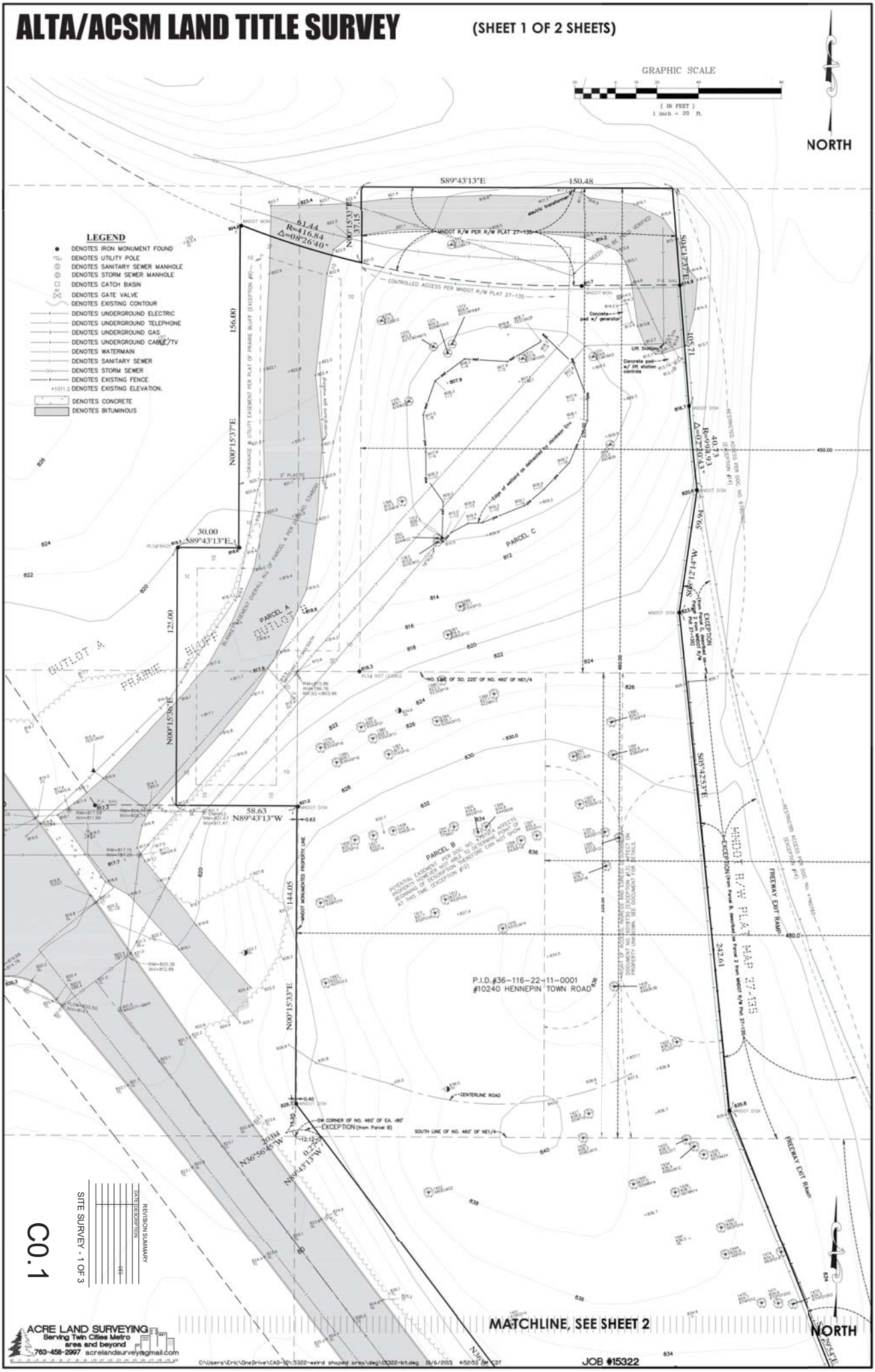
DATE	DESCRIPTION

TITLE SHEET

C0.0

ALTA/ACSM LAND TITLE SURVEY

(SHEET 1 OF 2 SHEETS)



SITE SURVEY - 1 OF 3

C0.1

REVISION SUMMARY

DATE	DESCRIPTION

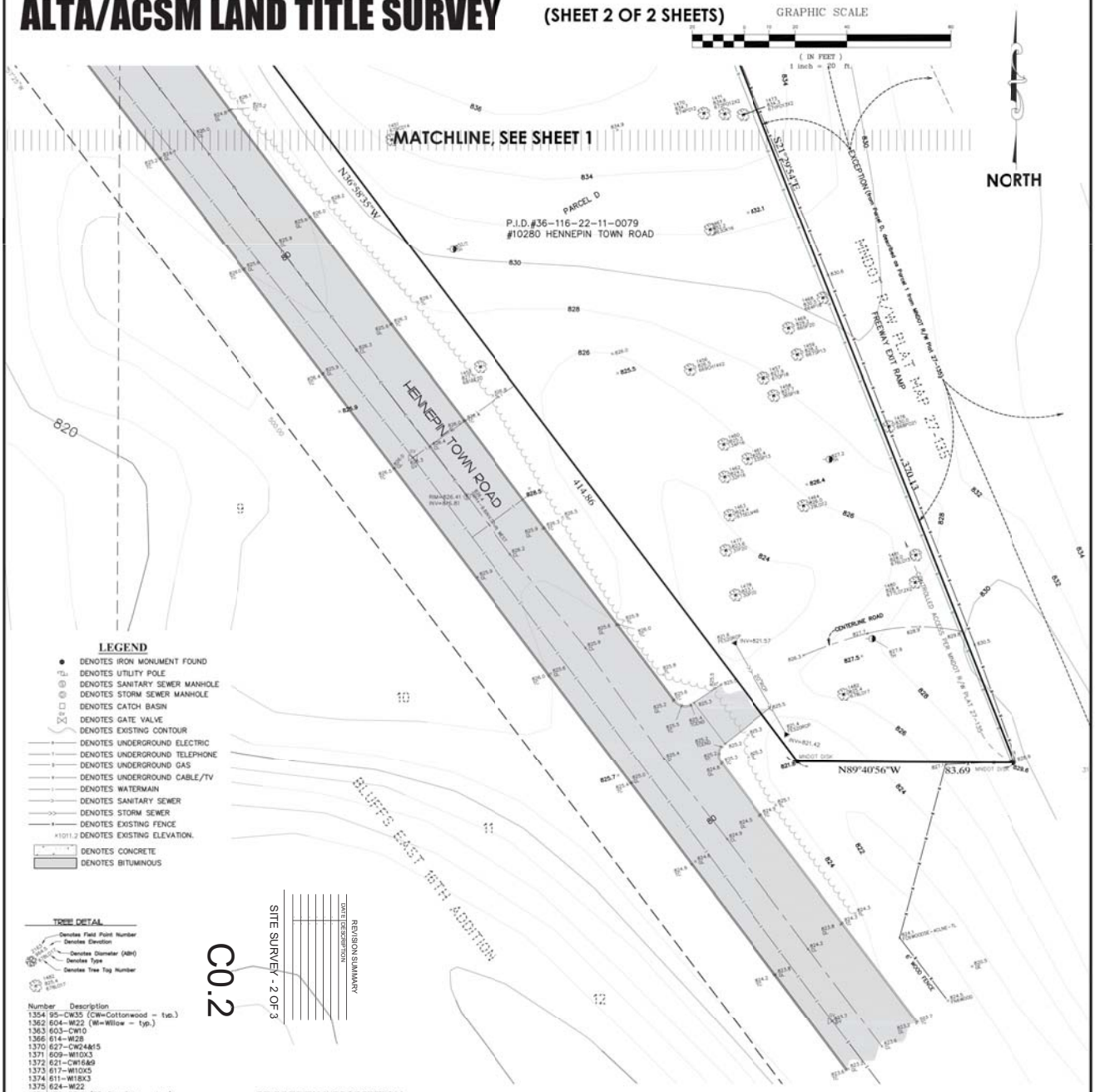
ACRE LAND SURVEYING
Serving Twin Cities Metro area and beyond
763-458-2997 acrelandsurvey@gmail.com

C:\Users\Eric\OneDrive\CAD-N\15322-weird shaped area\dwg\15322-bt.dwg 10/6/2015 4:52:53 PM CDT

JOB #15322

ALTA/ACSM LAND TITLE SURVEY

(SHEET 2 OF 2 SHEETS)



LEGEND

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- DENOTES UTILITY POLE
- DENOTES SANITARY SEWER MANHOLE
- DENOTES STORM SEWER MANHOLE
- DENOTES CATCH BASIN
- DENOTES GATE VALVE
- DENOTES EXISTING CONTOUR
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- DENOTES UNDERGROUND CABLE/TV
- DENOTES WATERMAIN
- DENOTES SANITARY SEWER
- DENOTES STORM SEWER
- DENOTES EXISTING FENCE
- x1011.2 DENOTES EXISTING ELEVATION.
- DENOTES CONCRETE
- DENOTES BITUMINOUS

TREE DETAIL

Denotes Field Point Number
Denotes Elevation
Denotes Diameter (ABH)
Denotes Type
Denotes Tree Tag Number

Number	Description
1354	95-CW35 (CW=Cottonwood - typ.)
1362	604-W22 (W=Willow - typ.)
1363	603-CW10
1366	614-W28
1370	627-CW24&15
1371	609-W10X3
1372	621-CW16&9
1373	617-W10X5
1374	611-W18X3
1375	624-W22
1376	632-BE12 (BE=Box Elder - typ.)
1377	602-BE12
1379	637-ASP18 (White Poplar - typ.)
1380	636-ASP18
1381	83-ASP21
1382	635-ASP15
1383	81-ASP16
1384	629-ASP15
1386	623-ASP19
1387	608-ASP12
1388	615-ASP12
1389	622-WN13 (WN=Walnut - typ.)
1390	71A-SP19 (SP=Spruce - typ.)
1391	638-ASP14
1392	72-CW26
1393	639-OK12
1394	640-SP17 (SP=Spruce - typ.)
1395	641-SP12
1396	69-SP18
1397	642-SP11
1398	643-SP18
1399	644-SM28 (SM=Silver Maple - typ.)
1400	645-SP10
1401	77-SM21
1403	648-P019 (PO=Poplar - typ.)
1406	647-SP12
1407	79-SP14
1408	646-SP16
1412	652-P016
1413	652-P016
1416	651-ELM14
1419	649-OK36 (OK=Oak - typ.)
1422	61-LO21 (LO=Locust - typ.)
1425	658-ELM15
1427	654-P19 (P=Pine - typ.)
1433	655-L017
1434	656-ELM12
1435	657-SM24
1439	661-WN14
1440	659-WN14
1444	45-P012
1445	662-P014
1451	679-CD14 (CD=Cedar, typ.)
1452	680-ELM22
1453	681-BE20 (BE=Box Elder, typ.)
1456	669-CH14X2 (CH=Cherry, typ.)
1457	670-P18
1458	365-P18
1459	667-SP13
1460	34-P16
1461	33-SP13
1462	32-P16
1463	675-ELM46
1464	29-L012
1467	663-OK16
1468	664-P18
1469	665-P20
1470	674-P012
1471	672-P012X2
1473	671-P013X2
1474	660-P014
1476	668-P021
1477	31-P20
1478	30-P20
1480	677-L012X2
1481	676-L015
1482	678-L017
1483	601-P013

C0.2

SITE SURVEY - 2 OF 3

REVISION SUMMARY

DATE DESCRIPTION

PROPERTY DESCRIPTION

Parcel A: P.I.D.#36-116-22-11-0026

Outlot B, Prairie Bluff, Hennepin County, Minnesota.

(Abstract Property)

Parcel B: P.I.D.#36-116-22-11-0001 P.I.D.#36-116-22-11-0003

The South 225 feet of the North 460 feet of the East 480 feet of the Northeast Quarter of Section 36, Township 116, Range 22, Hennepin County, Minnesota except those parts described as follows:

All that part which lies Easterly of a line drawn parallel with and distant 40 feet Westerly of the following described line:

Beginning at a point on the Northerly line of the Northeast Quarter of Section 36, Township 116, Range 22 distant 259.39 feet Westerly of the Northeast corner thereof, said Northerly line has an assumed bearing of South 89 degrees 50 minutes 44 seconds West; thence South 4 degrees 43 minutes 40 seconds East for 102.51 feet; thence deflect left along a tangential curve having a radius of 954.93 feet, delta angle of 20 degrees 32 minutes 52 seconds, for 342.46 feet; thence South 25 degrees 16 minutes 32 seconds East for 100.00 feet and said line there terminating.

And Except

Beginning at the Southwest corner of the North 460.00 feet of the East 480.00 feet of said Northeast Quarter, thence Easterly along the South line of said North 460.00 feet 12.12 feet; thence Northwesterly to a point on the West line of said East 480.00 feet distant 15.96 feet Northerly from said Southwest corner, thence Southerly along said West line to the point of beginning.

And also except that part described as Parcel 2 on Minnesota Department of Transportation Right of Way Plat No. 27-135, filed July 21, 2003, as Document No. 8108442.

(Abstract Property)

Parcel C: P.I.D.#36-116-22-11-0004

The North 235.00 feet of the East 450.00 feet of the Northeast Quarter of the Northeast Quarter of Section 36, Township 116, Range 22, except that part thereof which lies easterly of a line drawn parallel with and distant 40 feet westerly of the following described line:

Beginning at a point on the northerly line of the Northeast Quarter of said Section 36 distant 259.39 feet westerly of the northeast corner thereof, said northerly line has an assumed bearing of South 89 degrees 50 minutes 44 seconds West; thence South 4 degrees 43 minutes 40 seconds East for 102.51 feet; thence deflect left along a tangential curve having a radius of 954.93 feet for 200.00 feet and said line there terminating.

Except that portion of the above described land embraced within Parcel 2 in MN Department of Transportation Right of Way Plat No. 27-135.

(Torrens Property, Certificate of Title No. 1394046)

Parcel D: P.I.D.#36-116-22-11-0079

That part of the Northeast Quarter of the Northeast Quarter of Section 36, Township 116, Range 22, described as follows:

Beginning at a point distant 460 feet South of the Northeast corner of said Section 36; thence West 660 feet; thence South 339 feet; thence East 660 feet; thence North 330 feet to the point of beginning, except that part lying Southwesterly of a line 80 feet Northeasterly from and adjacent to the following described line and its extensions:

Commencing at the Southeast corner of said described property; thence North 89 degrees 43 minutes 22 seconds West, assumed bearing, along the South line of said described property 317.67 feet to the point of beginning of the line to be described; thence North 36 degrees 57 minutes 25 seconds West to the North line of said described property and there terminating, according to the United States Government Survey thereof and situate in Hennepin County, Minnesota.

And also except that part described as Parcel 1 on Minnesota Department of Transportation Right of Way Plat No. 27-135, filed July 21, 2003, as Document No. 8108442.

(Abstract Property)

SCHEDULE B-2 SURVEY RELATED EXCEPTIONS:

9. Drainage and utility easements as dedicated on the recorded plat of Prairie Bluff. ~ SHOWN HEREON.
10. Temporary roadway easement and permanent easement for utilities in favor of the City of Eden Prairie, as contained in Quit Claim Deed dated November 16, 1987, recorded November 17, 1987, as Document No. 5348091 (Abstract). ~ (Parcel A) NOTE: This easement is a blanket easement over all of Outlot B, PRAIRIE BLUFF.
11. Terms and conditions of Agreement Regarding Special Assessments between the City of Eden Prairie, a municipal corporation, and The Pemtom Company, a Minnesota corporation, dated October 23, 1987, recorded March 3, 1988, as Document No. 5382933 (Abstract). ~ (Parcel A). ~ AFFECTS PROPERTY, NOT PLOTTABLE, SEE DOCUMENT FOR DETAILS.
12. Drainage easement in favor of the County of Hennepin as contained in Quit Claim Deed dated April 1, 1983, recorded June 3, 1983, as Document No. 4797914 (Abstract). ~ (Parcel B) ~ MAY AFFECT PROPERTY, NOT ABLE TO DETERMINE THE POINT OF BEGINNING OF EASEMENT.
13. Right of access to County State Aid Highway No. 18 conveyed to the County of Hennepin in Quit Claim Deed dated December 16, 1992, recorded January 7, 1993, as Document No. 6018730 (Abstract). ~ (Parcel B) ~ SHOWN ON SURVEY. AFFECT ON PROPERTY UNKNOWN. SEE DOCUMENT FOR DETAILS.
14. Limitation of access to County State Aid Highway No. 18, acquired by the County of Hennepin as evidenced of record by Final Certificate dated August 8, 1997, recorded September 9, 1997, as Document No. 6780760 (Abstract) and recorded February 16, 2001, as Document No. 3361355 (Torrens). ~ (Parcels B and C) ~ SHOWN ON SURVEY.
15. Conveyance and Extinguishment of Right of Access in favor of the County of Hennepin, dated May 6, 1993, recorded May 24, 1993, as Document No. 6085170 (Abstract), conveying all right of ingress to and egress from County Highway No. 18 except for a right of access to the frontage road to be constructed. ~ (Parcel D) ~ AFFECTS PROPERTY, SEE DOCUMENT FOR DETAILS. DOCUMENT IS AMBIGUOUS AS IT SPECIFIES "EXCEPT THAT THE ABUTTING OWNER SHALL HAVE THE RIGHT OF ACCESS TO THE FRONTAGE ROAD TO BE CONSTRUCTED". ~ NOT PLOTTED BECAUSE EXACT AFFECT OF DOCUMENT IS AMBIGUOUS.
16. Limitation of access to Pioneer Trail and to Trunk Highway No. 169 as shown on Minnesota Department of Transportation Right of Way Plat No. 27-135, recorded July 18, 2003, as Document No. 3783325 (Torrens), and recorded July 21, 2003, as Document No. 8108442 ~ (Abstract). ~ SHOWN ON SURVEY.
17. Terms and conditions of Declaration of Use Restriction and Covenant dated March 28, 2008, recorded March 31, 2008, as Document No. 9115305 (Abstract). ~ (Parcels A and D) ~ AFFECTS PROPERTY, NOT PLOTTABLE, SEE DOCUMENT FOR DETAILS.
18. Right of access to Trunk Highway No. 169 acquired by the State of Minnesota in condemnation, as evidenced of record by Final Certificate dated September 25, 2009, recorded October 15, 2009, as Document No. A9432297 (Abstract). ~ (Parcels B and D) ~ AFFECTS PROPERTY, SHOWN ON SURVEY.

I hereby certify to **First American Title Insurance Company** to their heirs, successors and assigns, that I have surveyed the property legally described hereon; that this survey is a true, correct and accurate drawing and representation of said property and the boundaries thereof; that this map or plat and the survey on which it is based were made in accordance with "Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys," as jointly established and adopted by ALTA and ACSM in 2011, and includes Items 4, 5, 7(a), 8, 9, 11(a), 16 and 18 of Table A thereof, and meets the Accuracy Standards (as adopted by ALTA and ACSM and in effect on the date of this certification), and that in locating or identifying recorded easements or other recorded documents I have relied upon the Commitment for Title Insurance issued by **First American Title Insurance Company**, dated April 26th, 2015, file commitment no. NCS-726981-MPLS.

Dated Sept. 10th, 2015

Eric R. Vickaryous, P.L.S.#44115

ACRE LAND SURVEYING
Serving Twin Cities Metro area and beyond
763-458-2997 acrelandsurvey@gmail.com

JOB #15322

ALTA/NSPS LAND TITLE SURVEY

PROPERTY ADRESS: 10217 Hennepin Town Road
Eden Prairie, MN

PROPERTY DESCRIPTION

Per Title Commitment No. NCS-794826-MPLS

Outlot A, Normandy Crest, Hennepin County, Minnesota, and that part of the Southeast Quarter of the Southeast Quarter (SE1/4 of SE1/4) of Section 25, Township 116, Range 22, Hennepin County, Minnesota, lying South and West of County Road No. 1, and East of Hennepin Town Road, as presently located and established.

(Abstract Property)

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

NORTH

LEGEND

- DENOTES IRON MONUMENT FOUND
- DENOTES UTILITY POLE
- DENOTES SANITARY SEWER MANHOLE
- DENOTES STORM SEWER MANHOLE
- DENOTES CATCH BASIN
- DENOTES GATE VALVE
- DENOTES EXISTING CONTOUR
- DENOTES UNDERGROUND ELECTRIC
- DENOTES UNDERGROUND TELEPHONE
- DENOTES UNDERGROUND GAS
- DENOTES UNDERGROUND CABLE/TV
- DENOTES WATERMAIN
- DENOTES SANITARY SEWER
- DENOTES STORM SEWER
- DENOTES EXISTING FENCE
- 1011.2 DENOTES EXISTING ELEVATION
- DENOTES CONCRETE
- DENOTES BITUMINOUS

PIONEER TRAIL

HENNEPIN TOWN ROAD

NO BUILDINGS

PARCEL A

OUTLOT A

TREE INVENTORY:

ID	SPECIES	DIAMETER
682	WALNUT	18
683	WALNUT	13
736	CW	24
737	ELM	30
738	ELM	18
739	WALNUT	14
740	WALNUT	13
741	PINE	26
742	WALNUT	17
743	WALNUT	12
744	WALNUT	16
745	WALNUT	16
746	WALNUT	1
803	WALNUT	13
804	PINE	12- 50% ALIVE
805	PINE	14
806	MAPLE	24 -75% ALIVE
807	OAK (WHITE)	30
808	OAK (WHITE)	46
809	WALNUT	15
810	CEDAR	13X2
811	CEDAR	13
812	PINE	39 - 50% ALIVE
813	PINE	23 - 70% ALIVE
814	HACKBERRY	12
815	COTTONWOOD	40
816	CATALPA	18
817	WALNUT	15 - 13
818	WALNUT	17
819	WALNUT	20

ALTA "SCHEDULE B2" NOTES:

ITEM 9- DRAINAGE AND UTILITY EASEMENT AS SHOWN. OTHER EASEMENTS DO NOT AFFECT SUBJECT PROPERTY

ITEM 10- EASEMENT DOES NOT AFFECT SUBJECT PROPERTY

ITEM 11- STORM EASEMENT AS SHOWN ON WEST SIDE OF HENNEPIN TOWN ROAD

ITEM 12- DRAINAGE EASEMENT & RESTRICTED ACCESS AS SHOWN

ITEM 13- DOC. NO. 7141308 DOES NOT AFFECT PROPERTY

SITE SURVEY - 3 OF 3

C0.3

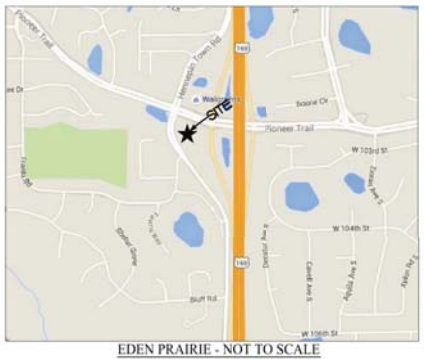
BY	DATE	DESCRIPTION

REVISION SUMMARY

ALTA "TABLE A" NOTES:

2. Address Shown above.
3. The property lies within in Zone X per FEMA, Map Number 27053C0434e Effective 9/02/2004.
4. Total Gross land area = ± 1.21 Acres (± 52,687 sq.ft.)
6(a). No zoning report or letter provided to surveyor.
7(a). NO BUILDINGS
8. Substantial features as shown.
11. Utilities shown hereon are observed only. Excavations were not made during the process of this survey to locate underground utilities and/or structures. The location of underground utilities and/or structures may vary from locations shown hereon. Test underground utilities and/or structures may be encountered. Contact Gopher State One Call Notification Center at (651) 454-0002 for verification of utility type and field location prior to excavation.
16. There was no observed evidence of recent earth moving, building construction, or building additions.

VICINITY MAP:



EDEN PRAIRIE - NOT TO SCALE

To Prairie Bluffs Senior Living, LLC, and First American Title Insurance Company :

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 2, 3, 4, 6a, 7, 8, 11, and 16 of Table A thereof. The fieldwork was completed on 6-07-2016.

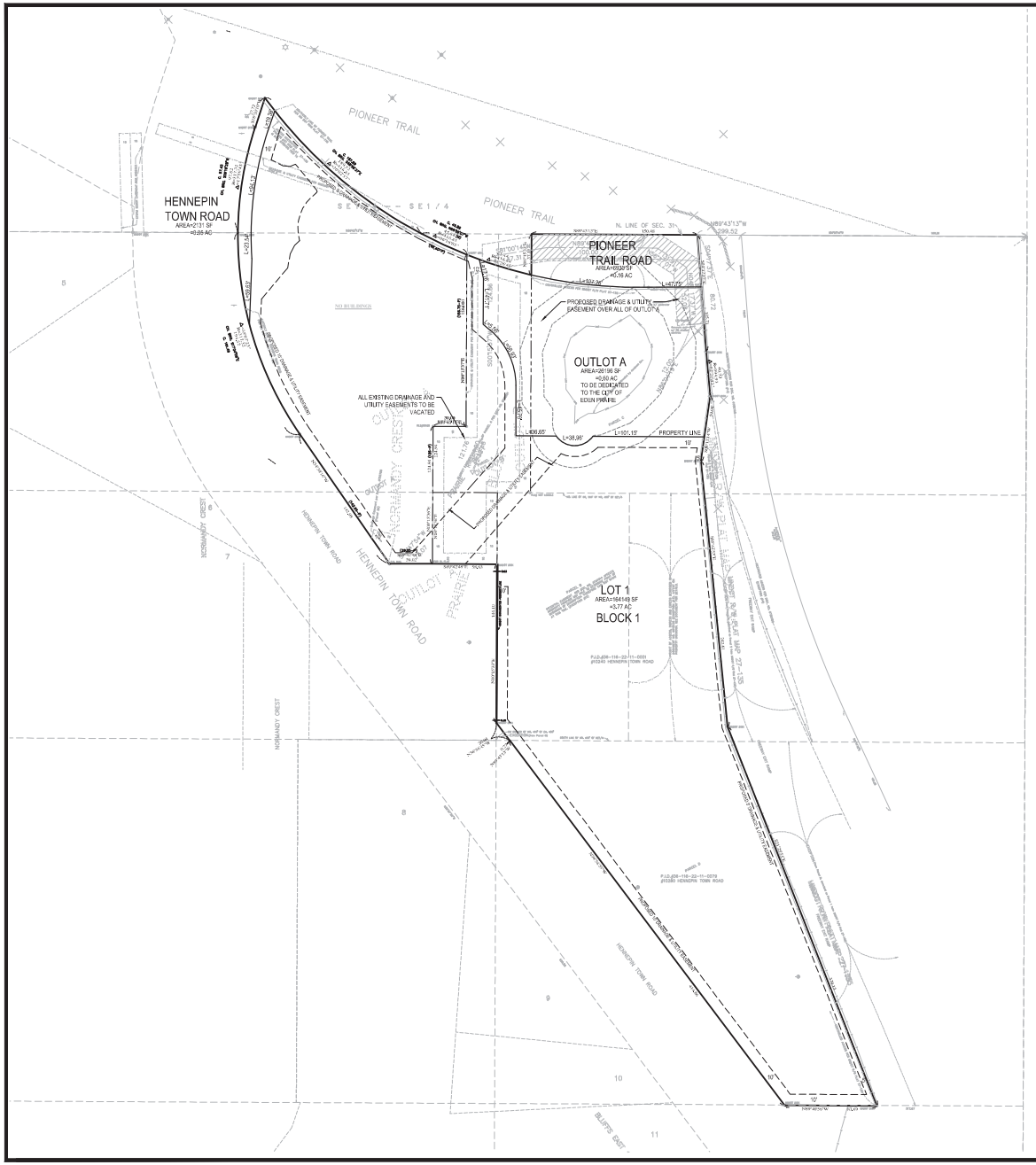
Date of Map: 6/28/2016

Eric R. Vickaryous, P.L.S.#44125

ACRE LAND SURVEYING
Serving Twin Cities Metro area and beyond
763-458-2997 acrelandsurvey@gmail.com

C:\Users\Eric\OneDrive\CAD-1D\15322-weird shaped area\dwg\15322-bt.dwg 6/28/2016 9:10:00 AM CDT

JOB #15322



GOPHER STATE ONE CALL
WWW.GOPHERSTATEONECALL.ORG
(800) 252-1166 TOLL FREE
(651) 454-0002 LOCAL

1" = 50'-0"
25'-0" 0 50'-0"

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4931 W. 35TH ST. SUITE 200
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CivilSiteGroup.com
Matt Pavek 763-213-3944
Pat Sarver 952-250-2003

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PROJECT
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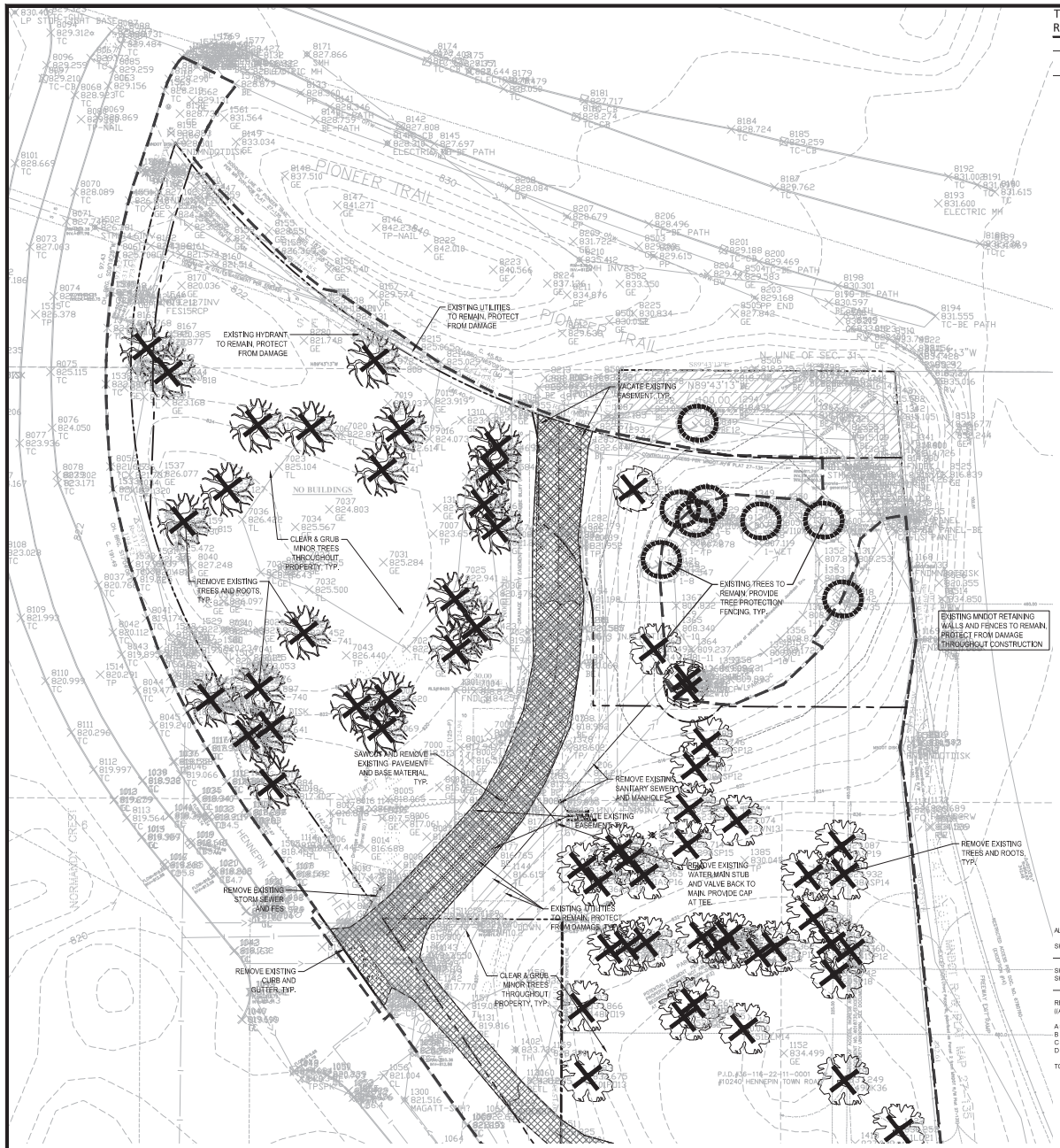
3/16/17	WATERSHED SUBMITTAL
4/20/17	WATERSHED RESUBMITTAL
5/16/17	WATERSHED RESUBMITTAL

REVISION SUMMARY

DATE	DESCRIPTION
10/19/15	ADDED LOT AREAS

PRELIMINARY PLAT

C0.4



TREE INVENTORY AND REPLACEMENT CALCULATIONS:

ALL ON-SITE TREES (INCLUDING ALL SIGNIFICANT* TREES)

TREE TAG NO.	SPECIES	TRUNK SIZES 1	2	3	REMOVED	SIGNIF. *
95	COTTONWOOD	35		N	Y	
604	WILLOW	22		Y	N	
603	COTTONWOOD	10		Y	N	
614	WILLOW	28		Y	N	
627	COTTONWOOD	24	15	N	Y	
609	WILLOW	10	10	10 N	N	
621	COTTONWOOD	16	9	N	Y	
617	WILLOW	10	10	10 N	N	
611	WILLOW	18	18	18 N	N	
624	WILLOW	22		N	N	
632	BOX ELDER	12		Y	N	
602	BOX ELDER	12		N	N	
637	ASPEN	18		Y	N	
636	ASPEN	18		Y	N	
83	ASPEN	21		Y	N	
635	ASPEN	15		Y	N	
81	ASPEN	16		Y	N	
629	ASPEN	15		Y	N	
623	ASPEN	19		Y	N	
608	ASPEN	12		Y	N	
615	ASPEN	12		Y	N	
622	WALNUT	13		Y	Y	
71	ASPEN	19		Y	Y	
638	ASPEN	14		Y	N	
72	COTTONWOOD	26		Y	Y	
639	OAK	12		Y	Y	
640	SPRUCE	17		Y	Y	
641	SPRUCE	12		Y	Y	
69	SPRUCE	18		Y	Y	
642	SPRUCE	11		Y	Y	
643	SPRUCE	18		Y	Y	
644	SILVER MAPLE	28		Y	Y	
645	SPRUCE	10		Y	Y	
77	SILVER MAPLE	21		Y	Y	
648	POPLAR	19		Y	Y	
647	SPRUCE	12		Y	Y	
79	SPRUCE	14		Y	Y	
646	SPRUCE	16		Y	Y	
652	POPLAR	16		Y	Y	
652	POPLAR	16		Y	Y	
651	ELM	14		Y	N	
649	OAK	36		Y	Y	
61	HONEY LOCUST	21		Y	Y	
658	ELM	15		Y	N	
654	PINE	19		Y	Y	
655	HONEY LOCUST	17		Y	Y	
656	ELM	12		Y	N	
657	SILVER MAPLE	24		Y	Y	
661	WALNUT	14		Y	Y	
659	WALNUT	14		Y	Y	
45	POPLAR	12		Y	Y	
662	POPLAR	14		Y	Y	
679	CEDAR	14		Y	Y	
680	ELM	22		Y	N	
681	BOX ELDER	20		Y	N	
669	CHERRY	14	14		Y	
670	PINE	18		Y	Y	
36	SPRUCE	18		Y	Y	
667	SPRUCE	13		Y	Y	
34	PINE	16		Y	Y	
33	SPRUCE	13		Y	Y	
32	PINE	16		Y	Y	
675	ELM	46		Y	N	
29	HONEY LOCUST	12		Y	Y	
663	OAK	16		Y	Y	
664	PINE	18		Y	Y	
665	PINE	20		Y	Y	
674	POPLAR	12		Y	Y	
672	POPLAR	12	12	Y	Y	
671	POPLAR	13	13	Y	Y	
660	POPLAR	14		Y	Y	
668	POPLAR	21		Y	Y	
31	PINE	20		Y	Y	
30	PINE	20		Y	Y	
677	HONEY LOCUST	12	12	Y	Y	
676	HONEY LOCUST	15		Y	Y	
678	HONEY LOCUST	17		Y	Y	
601	POPLAR	13		Y	Y	
682	WALNUT	18		Y	Y	
683	WALNUT	13		Y	Y	
736	CW	24		Y	Y	
737	ELM	30		Y	N	
738	ELM	18		Y	N	
739	WALNUT	14		Y	Y	
740	WALNUT	15		Y	Y	
741	PINE	26		Y	Y	
742	WALNUT	17		Y	Y	
743	WALNUT	12		Y	Y	
744	WALNUT	16		Y	Y	
745	WALNUT	16		Y	Y	
746	WALNUT	12		Y	Y	
803	WALNUT	13		Y	Y	
804	PINE	12		Y	Y	
805	PINE	14		Y	Y	
806	MAPLE	24		Y	Y	
807	OAK (WHITE)	30		Y	Y	
808	OAK (WHITE)	46		Y	Y	
812	PINE	39		Y	Y	
813	PINE	23		Y	Y	
814	HACKBERRY	12		Y	Y	
815	COTTONWOOD	40		Y	Y	
818	WALNUT	17		Y	Y	
819	WALNUT	19		Y	Y	

	NUMBER	CAL INCHES
ALL ON-SITE	103	2005
SIGNIFICANT ONLY	76	1448
SIGNIFICANT REMOVED	73	1349
SIGNIFICANT PRESERVED	3	99

REPLACEMENT FORMULA
((A/B) x C) x A = D

A = 1349 TOTAL SIG. CALIPER INCHES REMOVED
B = 1448 TOTAL SIG. ONLY CALIPER INCHES ON-SITE
C = 1.33 TREE REPLACEMENT CONSTANT
D = 1672 REQUIRED REPLACEMENT CALIPER INCHES

TOTAL REQUIRED REPLACEMENT TREES (3" cal.) 557

SIGNIFICANT TREES ARE DEFINED AS THE FOLLOWING, PER CITY OF EDEN PRAIRIE ZONING ORDINANCE, SECTION 11.55, SUBD. 2. DEFINITIONS, LL :

Significant Tree. Any deciduous hardwood tree (except elm, willow, box elder and aspen) measuring 12 inches in Diameter or greater, or a coniferous tree measuring 8 inches in Diameter or greater.

REMOVAL NOTES (APPLY TO SHEETS C1.0-C1.1):

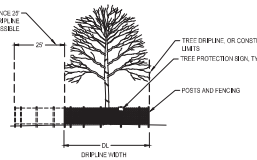
1. SEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PLAN FOR CONSTRUCTION STORM WATER MANAGEMENT PLAN.
2. REMOVAL OF MATERIALS NOTED ON THE DRAWINGS SHALL BE IN ACCORDANCE WITH MNDOT, STATE AND LOCAL REGULATIONS.
3. REMOVAL OF PRIVATE UTILITIES SHALL BE COORDINATED WITH UTILITY OWNER PRIOR TO CONSTRUCTION ACTIVITIES.
4. EXISTING PAVEMENTS SHALL BE SAWCUT IN LOCATIONS AS SHOWN ON THE DRAWINGS OR THE NEAREST JOINT FOR PROPOSED PAVEMENT CONNECTIONS.
5. REMOVED MATERIALS SHALL BE DISPOSED OF TO A LEGAL OFF-SITE LOCATION AND IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
6. ABANDON, REMOVAL, CONNECTION, AND PROTECTION NOTES SHOWN ON THE DRAWINGS ARE APPROXIMATE. COORDINATE WITH PROPOSED PLANS.
7. EXISTING ON-SITE FEATURES NOT NOTED FOR REMOVAL SHALL BE PROTECTED THROUGHOUT THE DURATION OF THE CONTRACT.
8. PROPERTY LINES SHALL BE CONSIDERED GENERAL CONSTRUCTION LIMITS UNLESS OTHERWISE NOTED ON THE DRAWINGS. WORK WITHIN THE GENERAL CONSTRUCTION LIMITS SHALL INCLUDE STAGING, DEMOLITION AND CLEAN-UP OPERATIONS AS WELL AS CONSTRUCTION SHOWN ON THE DRAWINGS.
9. MINOR WORK OUTSIDE OF THE GENERAL CONSTRUCTION LIMITS SHALL BE ALLOWED AS SHOWN ON THE PLAN AND PER CITY REQUIREMENTS.
10. DAMAGE BEYOND THE PROPERTY LIMITS CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED IN A MANNER APPROVED BY THE ENGINEER/LANDSCAPE ARCHITECT OR IN ACCORDANCE WITH THE CITY.
11. PROPOSED WORK (BUILDING AND CIVIL) SHALL NOT DISTURB EXISTING UTILITIES UNLESS OTHERWISE SHOWN ON THE DRAWINGS AND APPROVED BY THE CITY PRIOR TO CONSTRUCTION.
12. SITE SECURITY MAY BE NECESSARY AND PROVIDED IN A MANNER TO PROHIBIT VANDALISM, AND THEFT, DURING AND AFTER NORMAL WORK HOURS, THROUGHOUT THE DURATION OF THE CONTRACT. SECURITY MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY.
13. VEHICULAR ACCESS TO THE SITE SHALL BE MAINTAINED FOR DELIVERY AND INSPECTION ACCESS DURING NORMAL OPERATING HOURS. AT NO POINT THROUGHOUT THE DURATION OF THE CONTRACT SHALL CIRCULATION OF ADJACENT STREETS BE BLOCKED WITHOUT APPROVAL BY THE CITY PRIOR TO CONSTRUCTION ACTIVITIES.
14. ALL TRAFFIC CONTROLS SHALL BE PROVIDED AND ESTABLISHED PER THE REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CITY. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, SIGNAGE, BARRICADES, FLASHERS, AND FLAGGERS AS NEEDED. ALL PUBLIC STREETS SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES. NO ROAD CLOSURES SHALL BE PERMITTED WITHOUT APPROVAL BY THE CITY.
15. SHORING FOR BUILDING EXCAVATION MAY BE USED AT THE DISCRETION OF THE CONTRACTOR AND AS APPROVED BY THE OWNERS REPRESENTATIVE AND THE CITY PRIOR TO CONSTRUCTION ACTIVITIES.
16. STAGING, DEMOLITION, AND CLEAN-UP AREAS SHALL BE WITHIN THE PROPERTY LIMITS AS SHOWN ON THE DRAWINGS AND MAINTAINED IN A MANNER AS REQUIRED BY THE CITY.

CITY OF EDEN PRAIRIE REMOVAL NOTES:

1. RESERVED FOR CITY SPECIFIC REMOVAL NOTES.

EROSION CONTROL NOTES:

SEE SWPPP ON SHEETS SW1.00-SW1.5



FURNISH A AND INSTALL TEMPORARY FENCE AT THE TREE'S DRIPLINE OR CONSTRUCTION LIMITS AS SHOWN ON PLAN, PRIOR TO ANY CONSTRUCTION. WHERE POSSIBLE PLACE FENCE 25' BEYOND DRIP LINE. PLACE TREE PROTECTION SIGN ON POSTS. ONE PER INDIVIDUAL TREE (FACING CONSTRUCTION ACTIVITY), OR ONE EVERY 100' LF ALONG A GROVE OR MULTI-TREE PROTECTION AREA.

1 TREE PROTECTION
N.T.S

REMOVALS LEGEND:

- 932 — EX. 1' CONTOUR ELEVATION INTERVAL
- REMOVAL OF PAVEMENT AND ALL BASE MATERIAL INCLUDING BIT., CONC., AND GRAVEL PVMTS.
- REMOVAL OF STRUCTURE INCLUDING ALL FOOTINGS AND FOUNDATIONS.
- REMOVAL OF UTILITY LINES - COORDINATE WITH UTILITY COMPANY PRIOR TO CONSTRUCTION
- TREE PROTECTION
- TREE REMOVAL - INCLUDING ROOTS AND STUMPS

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CivilSiteGroup.com
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Pat Sarver 952-250-2003

kaas wilson architects

PROJECT
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EDEN PRAIRIE, MN
ALBERT MILLER
2631 QUENTIN AVENUE SOUTH, ST. LOUIS PARK, MN 55416

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David J. Knaeble
DATE 5/19/17 LICENSE NO. 48776

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DATE	DESCRIPTION
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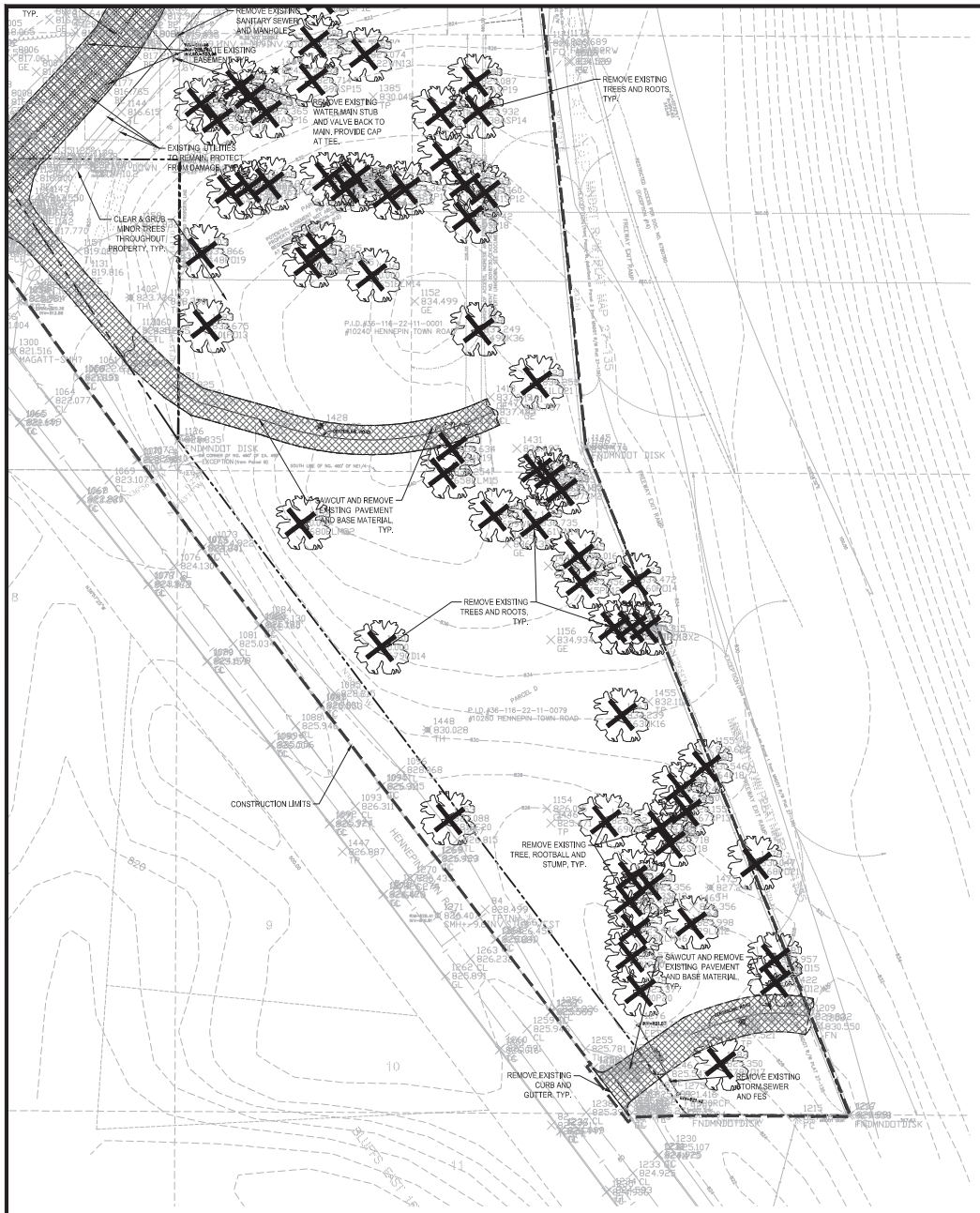
12/19/16	CITY RESUBMITTAL
1/26/17	CITY RESUBMITTAL
3/16/17	WATERSHED SUBMITTAL
4/20/17	WATERSHED RESUBMITTAL
5/19/17	WATERSHED RESUBMITTAL

REVISION SUMMARY

DATE	DESCRIPTION

REMOVALS PLAN NORTH

C1.0



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- TREE PROTECTION
- TREE REMOVAL - INCLUDING ROOTS AND STUMPS

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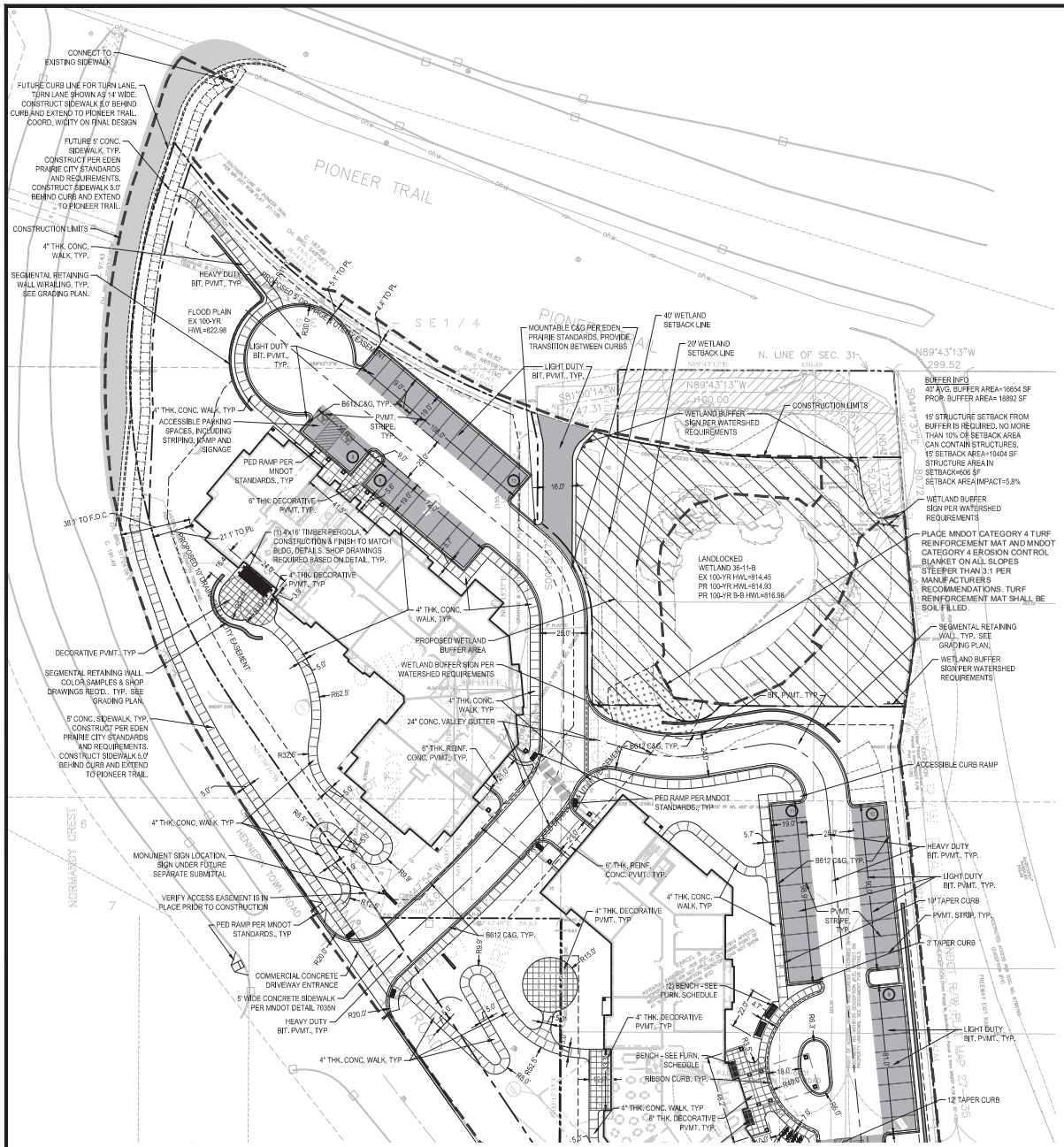
REMOVALS PLAN SOUTH

C1.1



*SITE AREA AND PARKING TABLES, SEE SHEET C2.1

SITE LAYOUT NOTES (APPLY TO SHEETS C2.0-C2.1):

1. CONTRACTOR SHALL VERIFY LOCATIONS AND LAYOUT OF ALL SITE ELEMENTS PRIOR TO BEGINNING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, LOCATIONS OF EXISTING AND PROPOSED PROPERTY LINES, EASEMENTS, SETBACKS, UTILITIES, BUILDINGS AND PAVEMENTS. CONTRACTOR IS RESPONSIBLE FOR FINAL LOCATIONS OF ALL ELEMENTS FOR THE SITE. ANY REVISIONS REQUIRED AFTER COMMENCEMENT OF CONSTRUCTION, DUE TO LOCATIONAL ADJUSTMENTS SHALL BE CORRECTED AT NO ADDITIONAL COST TO OWNER. ADJUSTMENTS TO THE LAYOUT SHALL BE APPROVED BY THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF MATERIALS. STAKE LAYOUT FOR APPROVAL.
2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION, INCLUDING A RIGHT-OF-WAY AND STREET OPENING PERMIT.
3. THE CONTRACTOR SHALL VERIFY RECOMMENDATIONS NOTED IN THE GEO TECHNICAL REPORT PRIOR TO INSTALLATION OF SITE IMPROVEMENT MATERIALS.
4. CONTRACTOR SHALL FIELD VERIFY COORDINATES AND LOCATION DIMENSIONS OF THE BUILDING AND STAKE FOR REVIEW AND APPROVAL BY THE OWNERS REPRESENTATIVE PRIOR TO INSTALLATION OF FOOTING MATERIALS.
5. LOCATIONS OF STRUCTURES, ROADWAY PAVEMENTS, CURBS AND GUTTERS, BOLLARDS, AND WALKS ARE APPROXIMATE AND SHALL BE STAKED IN THE FIELD, PRIOR TO INSTALLATION, FOR REVIEW AND APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT.
6. CURB DIMENSIONS SHOWN ARE TO FACE OF CURB. BUILDING DIMENSIONS ARE TO FACE OF CONCRETE FOUNDATION. LOCATION OF BUILDING IS TO BUILDING FOUNDATION AND SHALL BE AS SHOWN ON THE DRAWINGS.
7. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR SAMPLES AS SPECIFIED FOR REVIEW AND APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO FABRICATION FOR ALL PREFABRICATED SITE IMPROVEMENT MATERIALS SUCH AS, BUT NOT LIMITED TO THE FOLLOWING, FURNISHINGS, PAVEMENTS, WALLS, RAILINGS, BENCHES, FLAGPOLES, LANDING PADS FOR CURB RAMPS, AND LIGHT AND POLES. THE OWNER RESERVES THE RIGHT TO REJECT INSTALLED MATERIALS NOT PREVIOUSLY APPROVED.
8. PEDESTRIAN CURB RAMPS SHALL BE CONSTRUCTED WITH TRUNCATED DOME LANDING AREAS IN ACCORDANCE WITH A.D.A. REQUIREMENTS-SEE DETAIL.
9. CROSSWALK STRIPING SHALL BE 24" WIDE WHITE PAINTED LINE, SPACED 48" ON CENTER PERPENDICULAR TO THE FLOW OF TRAFFIC. WIDTH OF CROSSWALK SHALL BE 5' WIDE. ALL OTHER PAVEMENT MARKINGS SHALL BE WHITE IN COLOR UNLESS OTHERWISE NOTED OR REQUIRED BY ADA OR LOCAL GOVERNING BODIES.
10. CURB AND GUTTER TYPE SHALL BE B612 UNLESS OTHERWISE NOTED ON THE DRAWINGS-TAPER BETWEEN CURB TYPES-SEE DETAIL.
11. ALL CURB RADII ARE MINIMUM 3' UNLESS OTHERWISE NOTED.
12. CONTRACTOR SHALL REFER TO FINAL PLAT FOR LOT BOUNDARIES, NUMBERS, AREAS AND DIMENSIONS PRIOR TO SITE IMPROVEMENTS.
13. FIELD VERIFY ALL EXISTING SITE CONDITIONS, DIMENSIONS.
14. PARKING IS TO BE SET PARALLEL OR PERPENDICULAR TO EXISTING BUILDING UNLESS NOTED OTHERWISE.
15. ALL PARKING LOT PAINT STRIPPING TO BE WHITE, 4" WIDE TYP.
16. BITUMINOUS PAVING TO BE "LIGHT DUTY" IN PARKING SPACES AND "HEAVY DUTY" IN ALL DRIVE AISLES UNLESS OTHERWISE NOTED. SEE DETAIL SHEETS FOR PAVEMENT SECTIONS.
17. ALL TREES THAT ARE TO REMAIN ARE TO BE PROTECTED FROM DAMAGE WITH A CONSTRUCTION FENCE AT THE DRIP LINE. SEE LANDSCAPE DOCUMENTS.

CITY OF EDEN PRAIRIE SITE SPECIFIC NOTES:

1. RESERVED FOR CITY SPECIFIC NOTES.

RPBCWD SITE SPECIFIC NOTES:

1. THE POTENTIAL TRANSFER OF AQUATIC INVASIVE SPECIES MUST BE MINIMIZED TO THE MAXIMUM EXTENT POSSIBLE.

SITE PLAN LEGEND:

- CONCRETE PAVEMENT AS SPECIFIED (PAD OR WALK)
- PROPERTY LINE
- CURB AND GUTTER-SEE NOTES (T.O.) TIP OUT GUTTER WHERE APPLICABLE-SEE PLAN
- TRAFFIC DIRECTIONAL ARROWS
- SIGN AND POST ASSEMBLY. SHOP DRAWINGS REQUIRED. HC = ACCESSIBLE SIGN NP = NO PARKING FIRE LANE ST = STOP CP = COMPACT CAR PARKING ONLY
- LIGHT DUTY BITUMINOUS PAVEMENT
- WETLAND BUFFER AREA
- TURF REINFORCEMENT MAT

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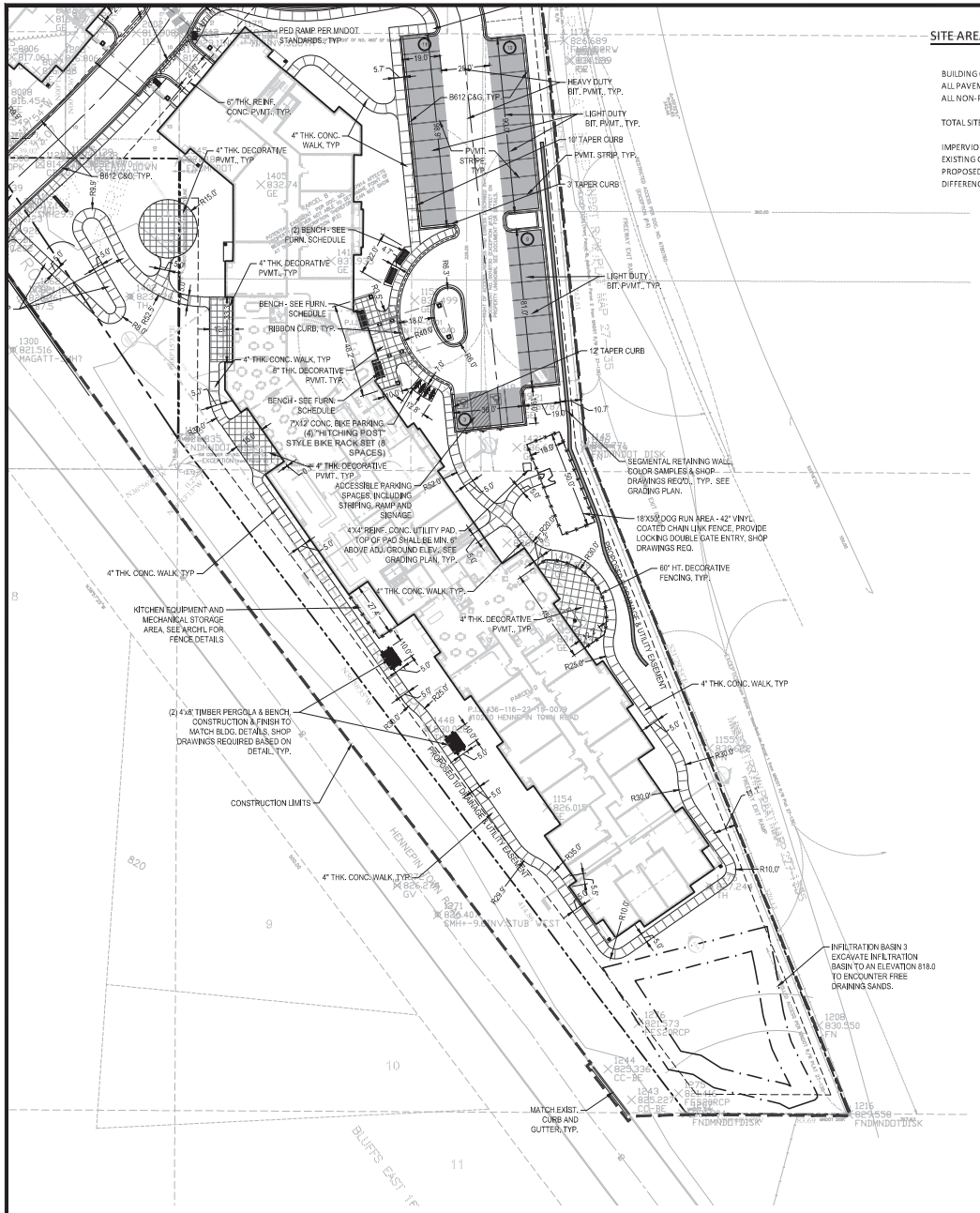
SITE PLAN NORTH

C2.0



SITE AREA TABLE:

	EXISTING		PROPOSED	
BUILDING COVERAGE	0 SF	0.0%	53,466 SF	25.90%
ALL PAVEMENTS	13,390 SF	6.5%	48,141 SF	23.32%
ALL NON-PAVEMENTS	193,058 SF	93.5%	104,841 SF	50.78%
TOTAL SITE AREA	206,448 SF	100.0%	206,448 SF	100.0%
IMPERVIOUS SURFACE				
EXISTING CONDITION	13,390 SF	6.5%		
PROPOSED CONDITION	101,607 SF	49.2%		
DIFFERENCE	88,217 SF	42.7%		

PARKING ISLAND CALCULATIONS:

PARKING ISLAND CALCULATIONS	
Proposed Parking Lot	22,466 SF
Required Parking Island (5%)	1,123 SF
Proposed Parking Island	1,608 SF
Parking Island Delta	485 SF

SITE PLAN LEGEND:

- CONCRETE PAVEMENT AS SPECIFIED (PAD OR WALK)
- PROPERTY LINE
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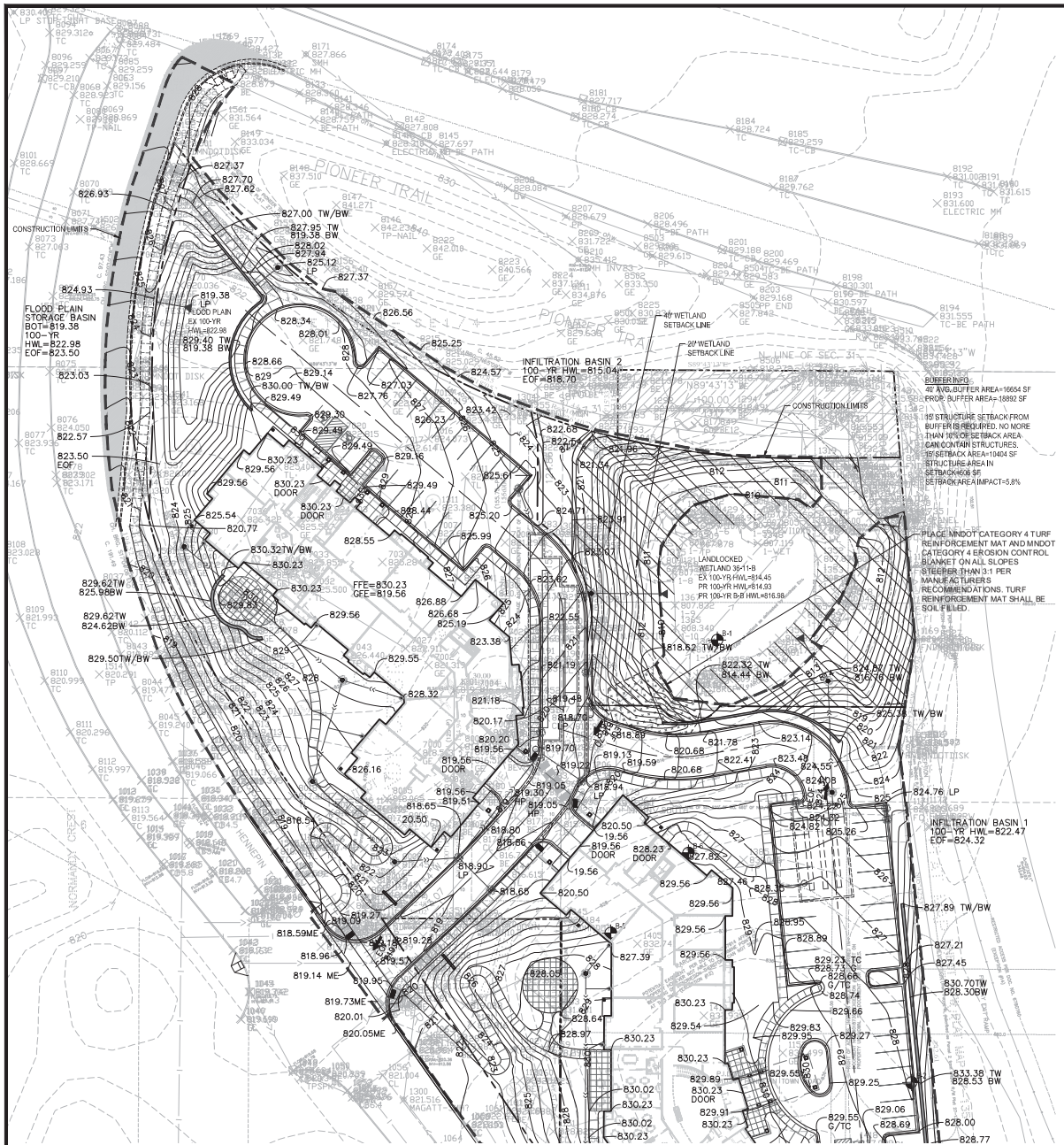
SITE PLAN SOUTH

C2.1



GENERAL GRADING NOTES:

1. SEE SITE PLAN FOR HORIZONTAL LAYOUT & GENERAL GRADING NOTES.
2. THE CONTRACTOR SHALL COMPLETE THE SITE GRADING CONSTRUCTION (INCLUDING BUT NOT LIMITED TO SITE PREPARATION, SOIL CORRECTION, EXCAVATION, EMBANKMENT, ETC.) IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER'S SOILS ENGINEER. ALL SOIL TESTING SHALL BE COMPLETED BY THE OWNER'S SOILS ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED SOIL TESTS AND INSPECTIONS WITH THE SOILS ENGINEER.
3. GRADING AND EXCAVATION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS & PERMIT REQUIREMENTS OF THE CITY.
4. PROPOSED SPOT GRADES ARE FLOW-LINE FINISHED GRADE ELEVATIONS, UNLESS OTHERWISE NOTED.
5. GRADES OF WALKS SHALL BE INSTALLED WITH 5% MAX. LONGITUDINAL SLOPE AND 1% MIN. AND 2% MAX. CROSS SLOPE, UNLESS OTHERWISE NOTED.
6. PROPOSED SLOPES SHALL NOT EXCEED 3:1 UNLESS INDICATED OTHERWISE ON THE DRAWINGS. MAXIMUM SLOPES IN MAINTAINED AREAS IS 4:1
7. PROPOSED RETAINING WALLS, FREESTANDING WALLS, OR COMBINATION OF WALL TYPES GREATER THAN 4' IN HEIGHT SHALL BE DESIGNED AND ENGINEERED BY A REGISTERED RETAINING WALL ENGINEER. DESIGN DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF GRADE STAKES THROUGHOUT THE DURATION OF CONSTRUCTION TO ESTABLISH PROPER GRADES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR A FINAL FIELD CHECK OF FINISHED GRADES ACCEPTABLE TO THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO TOPSOIL AND SODDING ACTIVITIES.
9. IF EXCESS OR SHORTAGE OF SOIL MATERIAL EXISTS, THE CONTRACTOR SHALL TRANSPORT ALL EXCESS SOIL MATERIAL OFF THE SITE TO AN AREA SELECTED BY THE CONTRACTOR, OR IMPORT SUITABLE MATERIAL TO THE SITE.
10. EXCAVATE TOPSOIL FROM AREAS TO BE FURTHER EXCAVATED OR REGRADED AND STOCKPILE IN AREAS DESIGNATED ON THE SITE. THE CONTRACTOR SHALL SALVAGE ENOUGH TOPSOIL FOR RESPREADING ON THE SITE AS SPECIFIED. EXCESS TOPSOIL SHALL BE PLACED IN EMBANKMENT AREAS, OUTSIDE OF BUILDING PADS, ROADWAYS AND PARKING AREAS. THE CONTRACTOR SHALL SUBCUT CUT AREAS, WHERE TURF IS TO BE ESTABLISHED, TO A DEPTH OF 6 INCHES. RESPREAD TOPSOIL IN AREAS WHERE TURF IS TO BE ESTABLISHED TO A MINIMUM DEPTH OF 6 INCHES.
11. FINISHED GRADING SHALL BE COMPLETED, THE CONTRACTOR SHALL UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING, INCLUDING ADJACENT TRANSITION AREAS, PROVIDE A SMOOTH FINISHED SURFACE WITHIN SPECIFIED TOLERANCES, WITH UNIFORM LEVELS OR SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE SHOWN, OR BETWEEN SUCH POINTS AND EXISTING GRADES, AREAS THAT HAVE BEEN FINISH GRADED SHALL BE PROTECTED FROM SUBSEQUENT CONSTRUCTION OPERATIONS, TRAFFIC AND EROSION. REPAIR ALL AREAS THAT HAVE BECOME RUTTED BY TRAFFIC OR ERODED BY WATER OR HAS SETTLED BELOW THE CORRECT GRADE. ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO EQUAL OR BETTER THAN ORIGINAL CONDITION OR TO THE REQUIREMENTS OF THE NEW WORK.
12. PRIOR TO PLACEMENT OF THE AGGREGATE BASE, A TEST ROLL WILL BE REQUIRED ON THE STREET AND/OR PARKING AREA SUBGRADE. THE CONTRACTOR SHALL PROVIDE A LOADED TANDEM AXLE TRUCK WITH A GROSS WEIGHT OF 25 TONS. THE TEST ROLLING SHALL BE AT THE DIRECTION OF THE SOILS ENGINEER AND SHALL BE COMPLETED IN AREAS AS DIRECTED BY THE SOILS ENGINEER. THE SOILS ENGINEER SHALL DETERMINE WHICH SECTIONS OF THE STREET OR PARKING AREA ARE UNSTABLE. CORRECTION OF THE SUBGRADE SOILS SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SOILS ENGINEER.
13. TOLERANCES
    - 13.1. THE BUILDING SUBGRADE FINISHED SURFACE ELEVATION SHALL NOT VARY BY MORE THAN 0.30 FOOT ABOVE, OR 0.30 FOOT BELOW, THE PRESCRIBED ELEVATION AT ANY POINT WHERE MEASUREMENT IS MADE.
    - 13.2. THE STREET OR PARKING AREA SUBGRADE FINISHED SURFACE ELEVATION SHALL NOT VARY BY MORE THAN 0.05 FOOT ABOVE, OR 0.10 FOOT BELOW, THE PRESCRIBED ELEVATION OF ANY POINT WHERE MEASUREMENT IS MADE.
    - 13.3. AREAS WHICH ARE TO RECEIVE TOPSOIL SHALL BE GRADED TO WITHIN 0.30 FOOT ABOVE OR BELOW THE REQUIRED ELEVATION, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
    - 13.4. TOPSOIL SHALL BE GRADED TO PLUS OR MINUS 1/2 INCH OF THE SPECIFIED THICKNESS.
14. MAINTENANCE
    - 14.1. THE CONTRACTOR SHALL PROTECT NEWLY GRADED AREAS FROM TRAFFIC AND EROSION, AND KEEP AREA FREE OF TRASH AND DEBRIS.
    - 14.2. CONTRACTOR SHALL REPAIR AND REESTABLISH GRADES IN SETTLED, ERODED AND RUTTED AREAS TO SPECIFIED TOLERANCES. DURING THE CONSTRUCTION, IF REQUIRED, AND DURING THE WARRANTY PERIOD, ERODED AREAS WHERE TURF IS TO BE ESTABLISHED SHALL BE RESEEDED AND MULCHED.
    - 14.3. WHERE COMPLETED COMPACTED AREAS ARE DISTURBED BY SUBSEQUENT CONSTRUCTION OPERATIONS OR ADVERSE WEATHER, CONTRACTOR SHALL SCARIFY, SURFACE, RESHAPE, AND COMPACT TO REQUIRED DENSITY PRIOR TO FURTHER CONSTRUCTION.

CITY OF EDEN PRAIRIE GRADING NOTES:

1. RESERVED FOR CITY SPECIFIC GRADING NOTES.

EROSION CONTROL NOTES:

SEE SWPPP ON SHEETS SW1.00-SW1.5

GROUNDWATER INFORMATION:

PER GEOTECHNICAL REPORT BY PROFESSIONAL SERVICE INDUSTRIES, INC., DATED 09-25-15 GROUNDWATER WAS NOT OBSERVED IN THE BORINGS AT DEPTHS BELOW EXISTING GRADE OF 26 FEET. SEE REPORT FOR FULL DETAILS AND BORING LOGS.

GRADING PLAN LEGEND:

- ------ 891 ------ EX. 1' CONTOUR ELEVATION INTERVAL
- ——— 819 ——— 0.5' CONTOUR ELEVATION INTERVAL
- 891.0 — SPOT GRADE ELEVATION (FLOW LINE UNLESS OTHERWISE NOTED)
- 891.0 G — SPOT GRADE ELEVATION GUTTER
- 891.0 BC — SPOT GRADE ELEVATION BACK OF CURB (TOP OF CURB)
- 891.0 BS/TS — SPOT GRADE ELEVATION BOTTOM OF STAIRS/TOP OF STAIRS
- T.O. — TIP OUT (T.O.) CURB AND GUTTER WHERE APPLICABLE - TAPER GUTTERS TO DRAIN AS SHOWN
- EXISTING AND PROPOSED DRAINAGE ARROWS
- WETLAND BUFFER AREA
- TURF REINFORCEMENT MAT

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(800) 252-1166 TOLL FREE
(651) 454-0002 LOCAL

N

1" = 30'-0"
15'-0" 0 30'-0"

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ST. LOUIS PARK, MN 55416
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Matt Pavek 763-213-3944
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kaas wilson architects

PROJECT
PRAIRIE BLUFFS SENIOR LIVING
EDEN PRAIRIE, MN
ALBERT MILLER
2631 QUENTIN AVENUE SOUTH, ST. LOUIS PARK, MN 55416

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David J. Knaeble
DATE 5/19/17 LICENSE NO. 48776

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5/19/17	WATERSHED RESUBMITTAL

REVISION SUMMARY

DATE	DESCRIPTION

GRADING PLAN NORTH

C3.0

GROUNDWATER INFORMATION:

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819	0.5' CONTOUR ELEVATION INTERVAL
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REVISION SUMMARY

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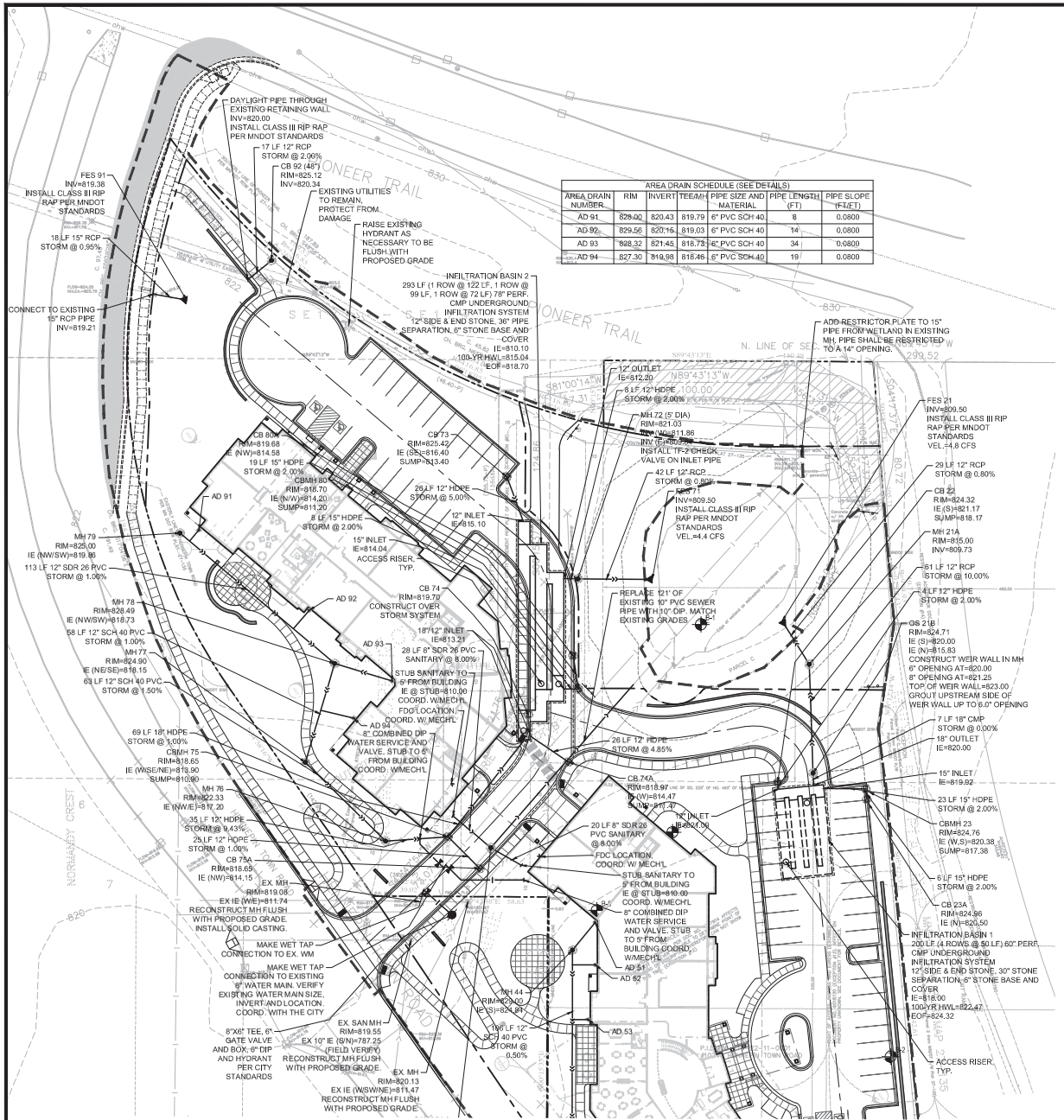
GRADING PLAN
SOUTH

C3.1



AREA DRAIN SCHEDULE (SEE DETAILS)						
AREA DRAIN NUMBER	RIM	INVERT	TEE/MH	PIPE SIZE AND MATERIAL	PIPE LENGTH (FT)	PIPE SLOPE (FT/FT)
AD 91	828.00	820.43	819.79	6" PVC SCH 40	8	0.0800
AD 92	829.56	820.16	819.03	6" PVC SCH 40	14	0.0800
AD 93	828.32	821.45	818.73	6" PVC SCH 40	34	0.0800
AD 94	827.30	819.98	818.46	6" PVC SCH 40	19	0.0800

GENERAL UTILITY NOTES (APPLY TO SHEETS C4.0-C4.1):

1. SEE SITE PLAN FOR HORIZONTAL DIMENSIONS AND LAYOUT.
2. CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF DISCREPANCIES OR VARIATIONS FROM THE PLANS.
3. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
4. UTILITY INSTALLATION SHALL CONFORM TO THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE LINE INSTALLATION" AND "SANITARY SEWER AND STORM SEWER INSTALLATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM), AND SHALL CONFORM WITH THE REQUIREMENTS OF THE CITY AND THE PROJECT SPECIFICATIONS.
5. CASTINGS SHALL BE SALVAGED FROM STRUCTURE REMOVALS AND RE-USED OR PLACED AT THE DIRECTION OF THE OWNER.
6. ALL WATER PIPE SHALL BE CLASS 52 DUCTILE IRON PIPE (DIP) UNLESS OTHERWISE NOTED.
7. ALL SANITARY SEWER SHALL BE SDR 26 POLYVINYL CHLORIDE (PVC) UNLESS OTHERWISE NOTED.
8. ALL STORM SEWER PIPE SHALL BE HDPE UNLESS OTHERWISE NOTED.
9. PIPE LENGTHS SHOWN ARE FROM CENTER TO CENTER OF STRUCTURE OR TO END OF FLARED END SECTION.
10. UTILITIES ON THE PLAN ARE SHOWN TO WITHIN 5' OF THE BUILDING FOOTPRINT. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE FINAL CONNECTION TO BUILDING LINES. COORDINATE WITH ARCHITECTURAL AND MECHANICAL PLANS.
11. CATCH BASINS AND MANHOLES IN PAVED AREAS SHALL BE SUMPED 0.04 FEET. ALL CATCH BASINS IN GUTTERS SHALL BE SUMPED 0.15 FEET PER DETAILS. RIM ELEVATIONS SHOWN ON THIS PLAN DO NOT REFLECT SUMPED ELEVATIONS.
12. ALL FIRE HYDRANTS SHALL BE LOCATED 5 FEET BEHIND BACK OF CURB UNLESS OTHERWISE NOTED.
13. HYDRANT TYPE, VALVE, AND CONNECTION SHALL BE IN ACCORDANCE WITH CITY REQUIREMENTS. HYDRANT EXTENSIONS ARE INCIDENTAL.
14. A MINIMUM OF 8 FEET OF COVER IS REQUIRED OVER ALL WATERMAIN, UNLESS OTHERWISE NOTED. EXTRA DEPTH MAY BE REQUIRED TO MAINTAIN A MINIMUM OF 18" VERTICAL SEPARATION TO SANITARY OR STORM SEWER LINES. EXTRA DEPTH WATERMAIN IS INCIDENTAL.
15. A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FOR ALL UTILITIES, UNLESS OTHERWISE NOTED.
16. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND COORDINATED WITH THE CITY PRIOR TO CONSTRUCTION.
17. CONNECTIONS TO EXISTING STRUCUTRES SHALL BE CORE-DRILLED.
18. COORDINATE LOCATIONS AND SIZES OF SERVICE CONNECTIONS WITH THE MECHANICAL DRAWINGS.
19. COORDINATE INSTALLATION AND SCHEDULING OF THE INSTALLATION OF UTILITIES WITH ADJACENT CONTRACTORS AND CITY STAFF.
20. ALL STREET REPAIRS AND PATCHING SHALL BE PERFORMED PER THE REQUIREMENTS OF THE CITY. ALL PAVEMENT CONNECTIONS SHALL BE SAWCUT. ALL TRAFFIC CONTROLS SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE ESTABLISHED PER THE REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CITY. THIS SHALL INCLUDE BUT NOT BE LIMITED TO SIGNAGE, BARRICADES, FLASHERS, AND FLAGGERS AS NEEDED. ALL PUBLIC STREETS SHALL BE OPEN TO TRAFFIC AT ALL TIMES. NO ROAD CLOSURES SHALL BE PERMITTED WITHOUT APPROVAL BY THE CITY.
21. ALL STRUCTURES, PUBLIC AND PRIVATE, SHALL BE ADJUSTED TO PROPOSED GRADES WHERE REQUIRED. THE REQUIREMENTS OF ALL OWNERS MUST BE COMPLIED WITH. STRUCTURES BEING RESET TO PAVED AREAS MUST MEET OWNERS REQUIREMENTS FOR TRAFFIC LOADING.
22. CONTRACTOR SHALL CORDINATE ALL WORK WITH PRIVATE UTILITY COMPANIES.
23. CONTRACTOR SHALL COORDINATE CONNECTION OF IRRIGATION SERVICE TO UTILITIES. COORDINATE THE INSTALLATION OF IRRIGATION SLEEVES NECESSARY AS TO NOT IMPACT INSTALLATION OF UTILITIES.
24. CONTRACTOR SHALL MAINTAIN AS-BUILT PLANS THROUGHOUT CONSTRUCTION AND SUBMIT THESE PLANS TO ENGINEER UPON COMPLETION OF WORK.
25. ALL JOINTS AND CONNECTIONS IN STORM SEWER SYSTEM SHALL BE GASTIGHT OR WATERTIGHT. APPROVED RESILIENT RUBBER JOINTS MUST BE USED TO MAKE WATERTIGHT CONNECTIONS TO MANHOLES, CATCHBASINS, OR OTHER STRUCTURES.

CITY OF EDEN PRAIRIE UTILITY NOTES:

1. THE CONTRACTOR MUST PERFORM DOUBLE RING INFILTRATION TESTS IN THE LOCATION OF THE INFILTRATION BASINS PRIOR TO CONSTRUCTION TO VERIFY THAT THE ASSUMED INFILTRATION RATE OF 0.50"/HOUR WILL OCCUR ONSITE. CONTACT ENGINEER IF INFILTRATION RATES ARE LESS THAN DESIGNED RATES.

UTILITY LEGEND:

- MANHOLE OR CATCH BASIN
- MANHOLE OR CATCH BASIN
- WATER MAIN
- SANITARY SEWER
- STORM SEWER

GOPHER STATE ONE CALL
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(651) 454-0002 LOCAL

N

1" = 30'-0"
15'-0" 0 30'-0"

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CivilSiteGroup.com
Matt Pavek 763-213-3944
Pat Sarver 952-250-2003

kaas wilson architects

PROJECT
PRAIRIE BLUFFS SENIOR LIVING
EDEN PRAIRIE, MN
ALBERT MILLER
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David J. Knaeble
DATE 5/19/17 LICENSE NO. 48776

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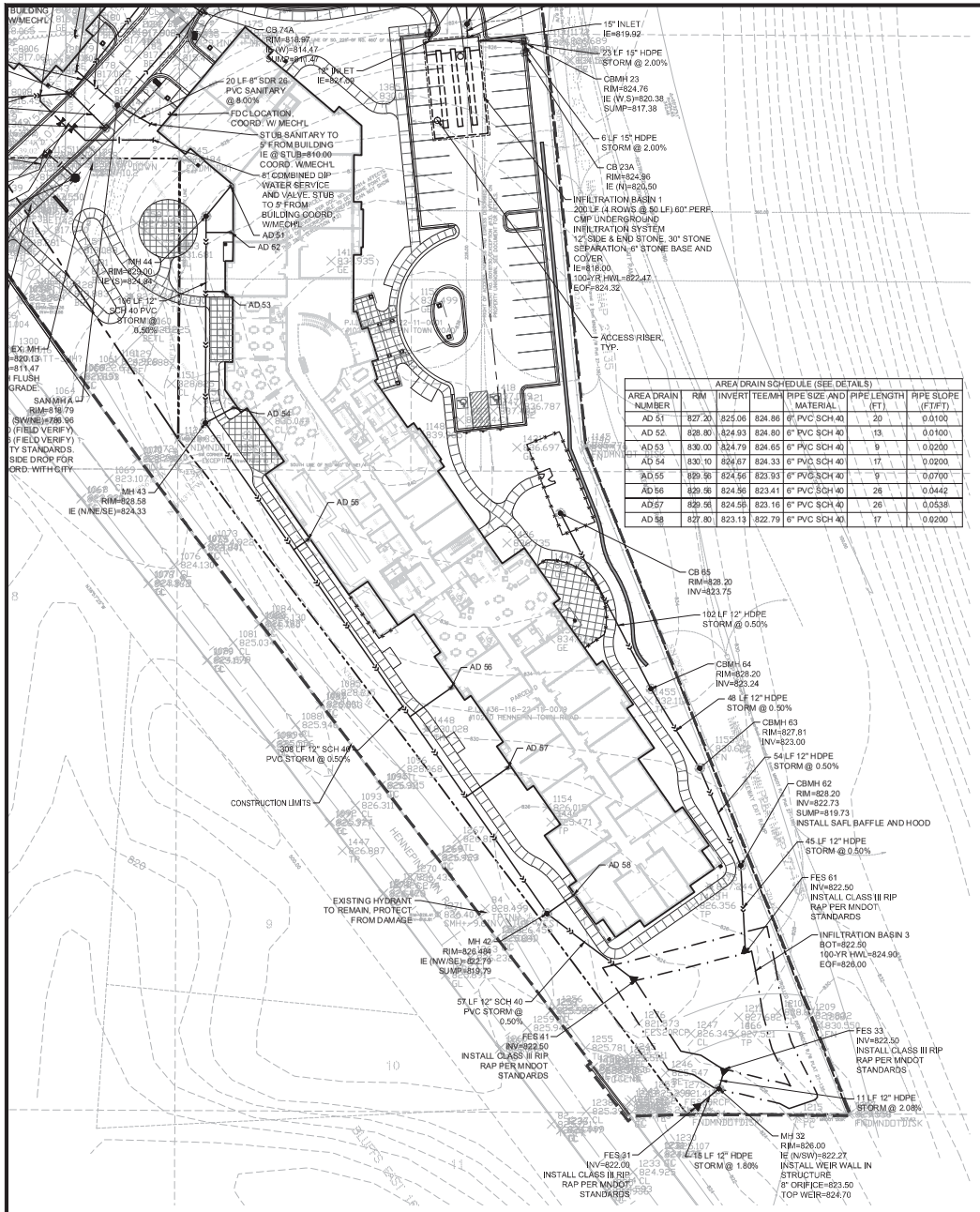
REVISION SUMMARY

DATE	DESCRIPTION

UTILITY PLAN NORTH

C4.0



AREA DRAIN SCHEDULE (SEE DETAILS)

AREA DRAIN NUMBER	RIM	INVERT	TEE/MH	PIPE SIZE AND MATERIAL	PIPE LENGTH (FT)	PIPE SLOPE (FT/FT)
AD 51	827.20	825.06	824.86	6" PVC SCH 40	20	0.0100
AD 52	828.80	824.93	824.80	6" PVC SCH 40	13	0.0100
AD 53	830.00	824.79	824.65	6" PVC SCH 40	9	0.0200
AD 54	830.10	824.67	824.33	6" PVC SCH 40	17	0.0200
AD 55	829.56	824.56	823.93	6" PVC SCH 40	9	0.0700
AD 56	829.56	824.56	823.41	6" PVC SCH 40	26	0.0442
AD 57	829.56	824.56	823.16	6" PVC SCH 40	26	0.0538
AD 58	827.80	823.13	822.79	6" PVC SCH 40	17	0.0200

UTILITY LEGEND:

- MANHOLE OR CATCH BASIN
- MANHOLE OR CATCH BASIN
- WATER MAIN
- SANITARY SEWER
- STORM SEWER

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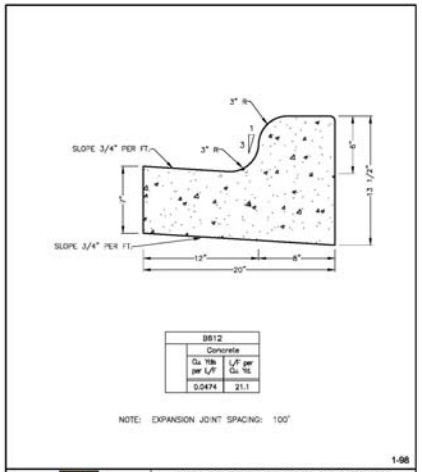
REVISION SUMMARY

DATE	DESCRIPTION

UTILITY PLAN SOUTH

C4.1



B612 Concrete	
Cu. Yds per L/F	L/F per Cu. Yd.
0.0474	21.1

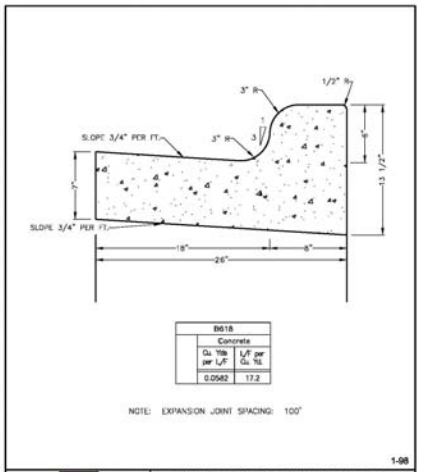
NOTE: EXPANSION JOINT SPACING: 100'

1-98

CITY OF EDEN PRAIRIE, MINNESOTA

B612 CURB AND GUTTER DETAILS

DEPARTMENT OF ENGINEERING R-9



B618 Concrete	
Cu. Yds per L/F	L/F per Cu. Yd.
0.0582	17.2

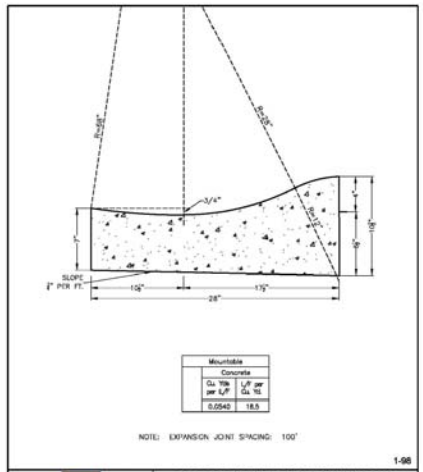
NOTE: EXPANSION JOINT SPACING: 100'

1-98

CITY OF EDEN PRAIRIE, MINNESOTA

B618 CURB AND GUTTER DETAILS

DEPARTMENT OF ENGINEERING R-10



Mountable Concrete	
Cu. Yds per L/F	L/F per Cu. Yd.
0.0540	18.5

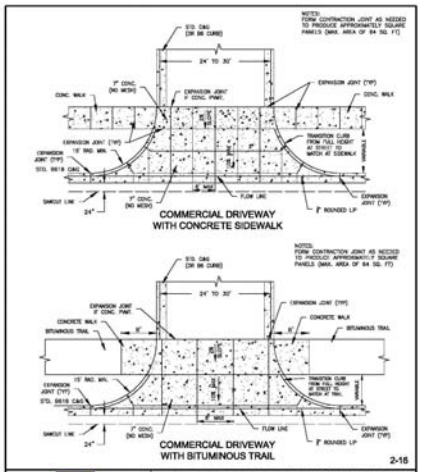
NOTE: EXPANSION JOINT SPACING: 100'

1-98

CITY OF EDEN PRAIRIE, MINNESOTA

MOUNTABLE CURB AND GUTTER

DEPARTMENT OF ENGINEERING R-11

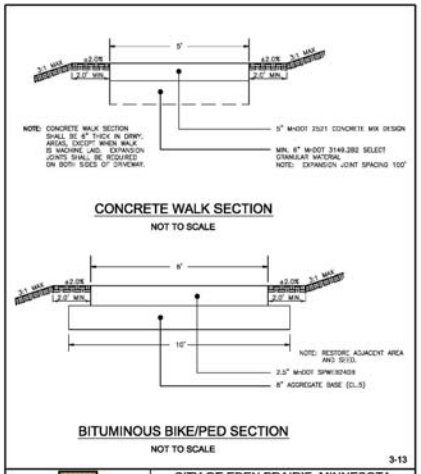


2-15

CITY OF EDEN PRAIRIE, MINNESOTA

COMMERCIAL DRIVEWAY ENTRANCES (1 OF 2)

DEPARTMENT OF ENGINEERING R-14

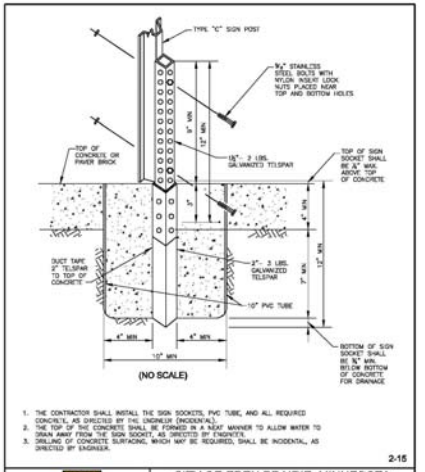


3-13

CITY OF EDEN PRAIRIE, MINNESOTA

TYPICAL WALKWAY SECTION

DEPARTMENT OF ENGINEERING R-15



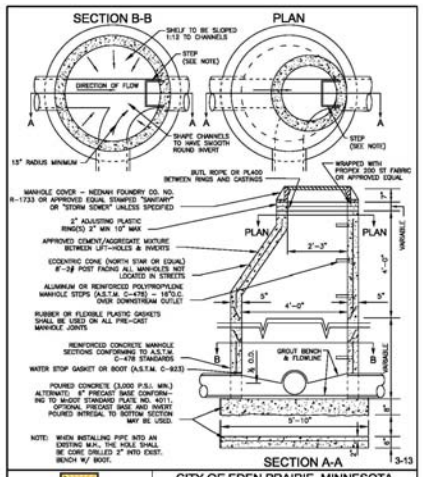
1. THE CONTRACTOR SHALL INSTALL THE SIGN SOCKETS, PVC TUBE, AND ALL REQUIRED CONCRETE, AS DIRECTED BY THE ENGINEER (INCIDENTAL).
2. THE TOP OF THE CONCRETE SHALL BE FORMED IN A NEAT MANNER TO ALLOW WATER TO DRAIN AWAY FROM THE SIGN SOCKET, AS DIRECTED BY ENGINEER.
3. DRILLING OF CONCRETE SURFACING, WHICH MAY BE REQUIRED, SHALL BE INCIDENTAL, AS DIRECTED BY ENGINEER.

2-15

CITY OF EDEN PRAIRIE, MINNESOTA

TYPICAL SIGN SOCKET DETAIL

DEPARTMENT OF ENGINEERING R-18

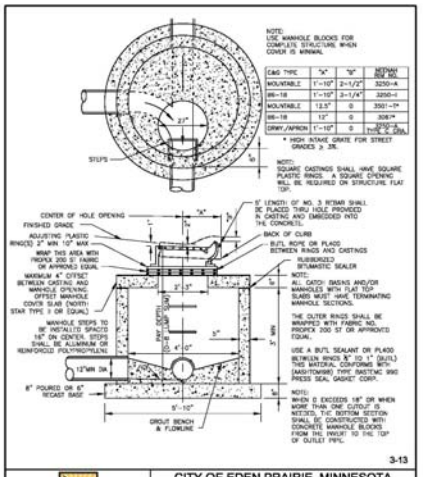


3-13

CITY OF EDEN PRAIRIE, MINNESOTA

STANDARD MANHOLE DETAIL

DEPARTMENT OF ENGINEERING S-1



3-13

CITY OF EDEN PRAIRIE, MINNESOTA

STANDARD CATCH BASIN

DEPARTMENT OF ENGINEERING S-5

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CivilSiteGroup.com
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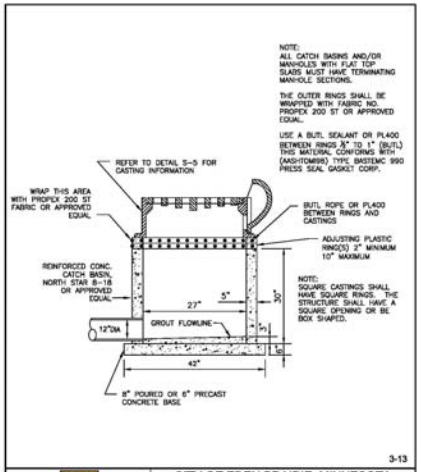
1/26/17	CITY RESUBMITTAL
3/16/17	WATERSHED SUBMITTAL
4/26/17	WATERSHED RESUBMITTAL
5/19/17	WATERSHED RESUBMITTAL

REVISION SUMMARY

DATE	DESCRIPTION

CIVIL DETAILS

C5.0

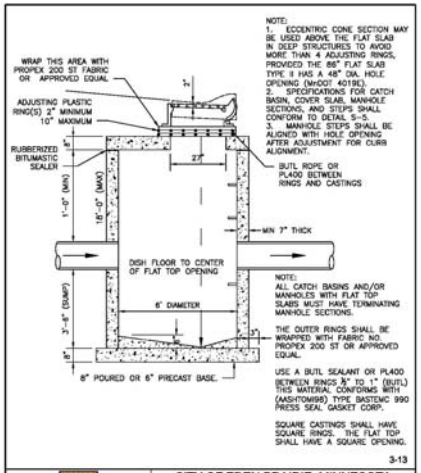


3-13

CITY OF EDEN PRAIRIE, MINNESOTA

27" DEAD END CATCH BASIN

DEPARTMENT OF ENGINEERING **S-6**

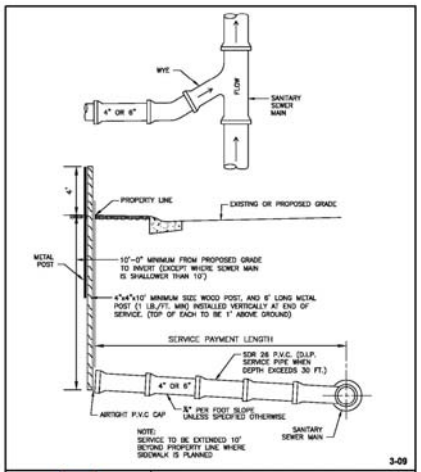


3-13

CITY OF EDEN PRAIRIE, MINNESOTA

SUMP MANHOLE OR CATCH BASIN

DEPARTMENT OF ENGINEERING **S-7**

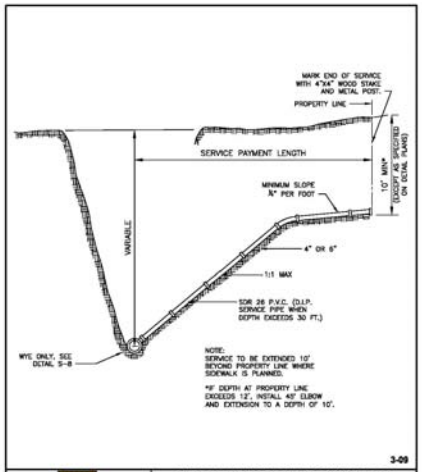


3-09

CITY OF EDEN PRAIRIE, MINNESOTA

TYPICAL BUILDING SERVICE

DEPARTMENT OF ENGINEERING **S-8**

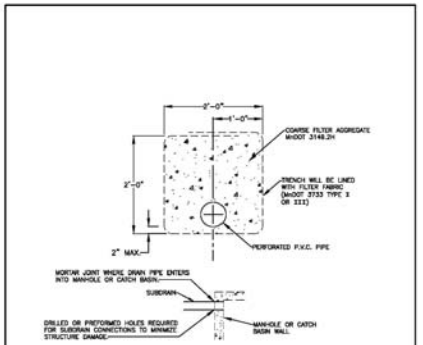


3-09

CITY OF EDEN PRAIRIE, MINNESOTA

SANITARY SEWER SERVICE RISER

DEPARTMENT OF ENGINEERING **S-9**



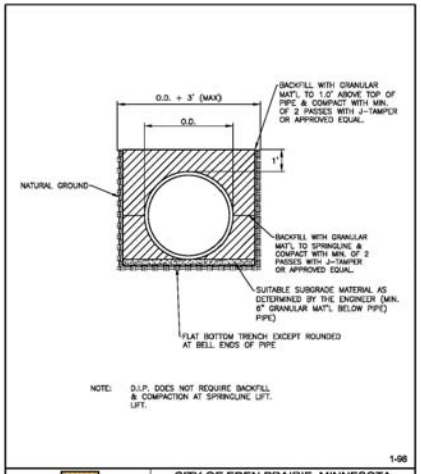
CONNECTION

4-14

CITY OF EDEN PRAIRIE, MINNESOTA

STANDARD SUBDRAIN DETAIL

DEPARTMENT OF ENGINEERING **S-10**

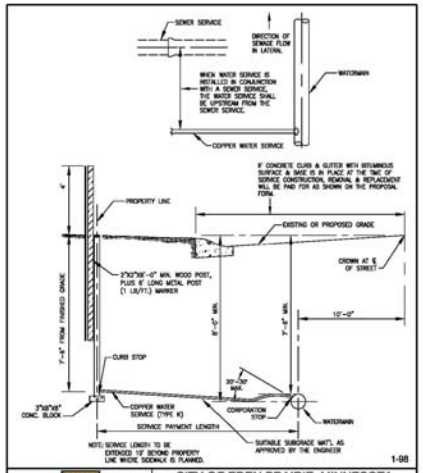


1-98

CITY OF EDEN PRAIRIE, MINNESOTA

BEDDING FOR ALL PVC, HDPE, SIZES AND 15" AND LARGER RCP AND DIP

DEPARTMENT OF ENGINEERING **S-12**

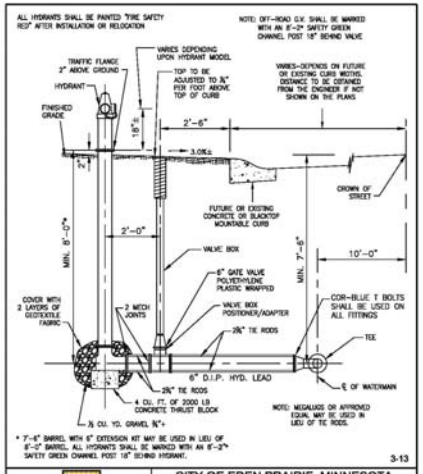


1-98

CITY OF EDEN PRAIRIE, MINNESOTA

COPPER WATER SERVICE

DEPARTMENT OF ENGINEERING **W-2**



3-13

CITY OF EDEN PRAIRIE, MINNESOTA

TYPICAL HYDRANT DETAIL

DEPARTMENT OF ENGINEERING **W-3**

CivilSite GROUP
4931 W. 35TH ST. SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
Matt Pavek 763-213-3944
Pat Sarver 952-250-2003

kaas wilson architects

PROJECT
PRAIRIE BLUFFS SENIOR LIVING
EDEN PRAIRIE, MN
ALBERT MILLER
2631 QUENTIN AVENUE SOUTH, ST. LOUIS PARK, MN 55416

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David J. Knaeble
DATE 5/19/17 LICENSE NO. 48776

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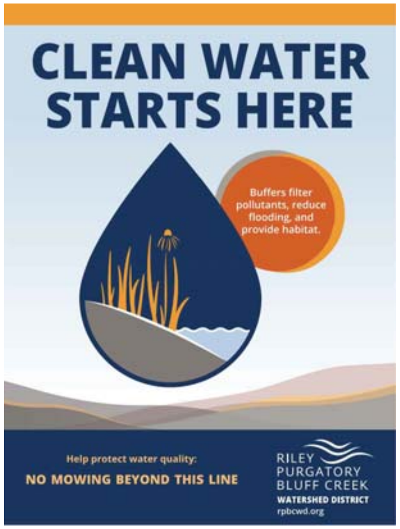
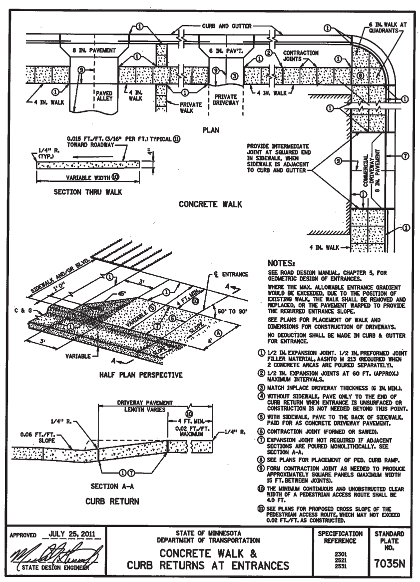
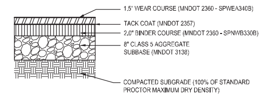
C5.1

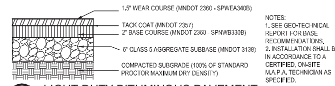


WETLAND BUFFER SIGN DETAIL

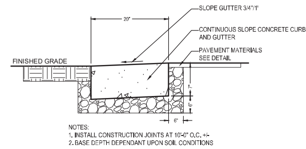




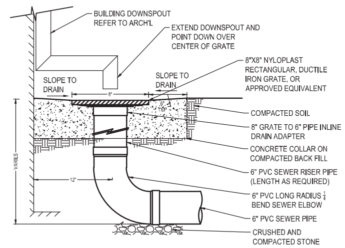
1 HEAVY DUTY BITUMINOUS PAVEMENT
NTS



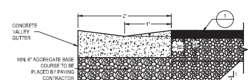
2 LIGHT DUTY BITUMINOUS PAVEMENT
NTS



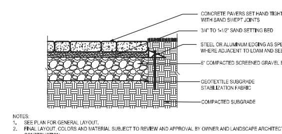
3 RIBBON CURB
NTS



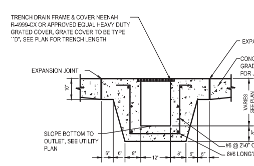
4 DOWNSPOUT TO PIPE CONNECTION
NTS



5 VALLEY GUTTER
NTS



6 CONCRETE PAVERS
NTS



7 TRENCH DRAIN
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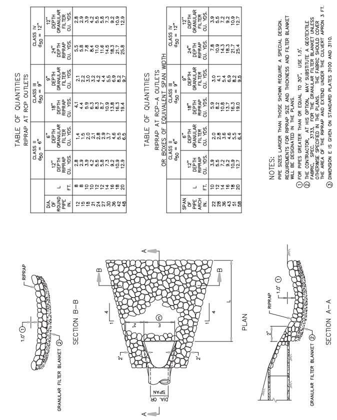


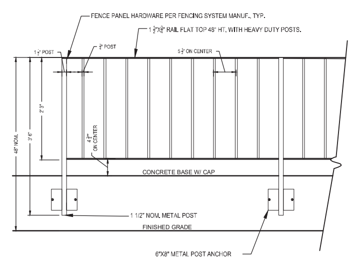
8 RIPRAP @ FLARED END SECTION
NTS

CASTING SCHEDULE

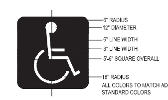
CATCH BASIN/MANHOLE/RISER	GRATE TYPE	REMARKS
22-23, 23A, 73-75A, 80-80A	R-3250-I	STORM CURB INLET
21A-B, 32, 42-44, 72, 76-79, ACCESS RISERS	R-1733	STORM MANHOLE
62-65, 92	R-4342	CATCH BASIN DITCH GRATE

NOTE:
1. CASTINGS SHALL BE NEENAH FOUNDRY CASTINGS OR APPROVED EQUIVALENT.
2. CASTINGS SHALL BE STAMPED WITH APPROPRIATE UTILITY NAME ("STORM SEWER", "SANITARY SEWER")

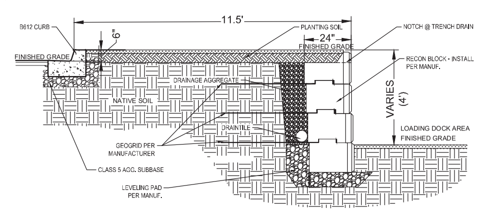
9 CASTING SCHEDULE
NTS



10 EXISTING RAILING
NTS



11 ACCESSIBLE PARKING PAVEMENT MARKING
NTS



12 RETAINING WALL, RECON BLOCK - SECTION AT DOCK
NTS

CivilSite GROUP
4931 W. 35TH ST. SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
Matt Pavek 763-213-3944
Pat Sarver 952-250-2003
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EDEN PRAIRIE, MN
ALBERT MILLER
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REVISION SUMMARY

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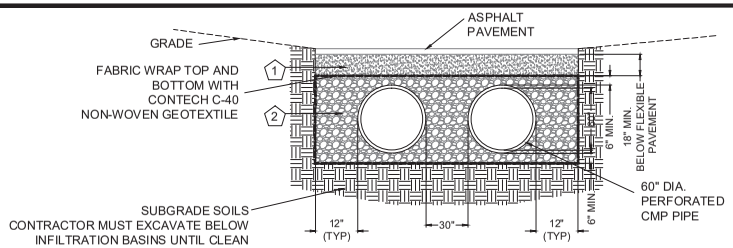
CIVIL DETAILS

C5.2



TYP. SECTION DETAIL

NTS

KEY
1. TOPSOIL
2. FREE DRAINING ANGULAR WASHED STONE 3/4" - 2" PARTICLE SIZE. INSTALL TO MIN. 95% STANDARD DENSITY PER AASHTO T99.

CONSTRUCTION SEQUENCING

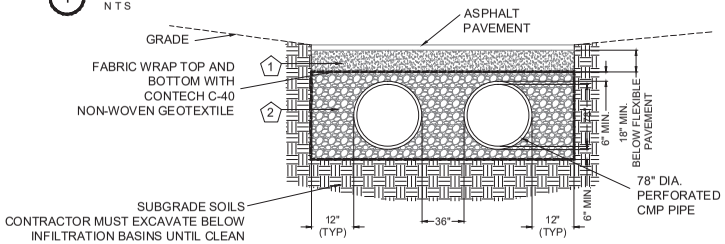
1. INSTALL SILT FENCE AND/OR OTHER APPROPRIATE TEMPORARY EROSION CONTROL DEVICES TO PREVENT SEDIMENT FROM LEAVING OR ENTERING THE PRACTICE DURING CONSTRUCTION.
2. ALL DOWN-GRADIENT PERIMETER SEDIMENT CONTROL BMP'S MUST BE IN PLACE BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITY BEGINS.
3. PERFORM CONTINUOUS INSPECTIONS OF EROSION CONTROL PRACTICES.
4. INSTALL UTILITIES (WATER, SANITARY SEWER, ELECTRIC, PHONE, FIBER OPTIC, ETC) PRIOR TO SETTING FINAL GRADE OF BIORETENTION DEVICE.
5. PERFORM ALL OTHER SITE IMPROVEMENTS.
6. SEED AND MULCH ALL AREAS AFTER DISTURBANCE.
7. CONSTRUCT RETENTION DEVICE UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA.
8. IMPLEMENT TEMPORARY AND PERMENATE EROSION CONTROL PRACTICES.
9. PLANT AND MULCH SITE.
10. REMOVE TEMPORARY EROSION CONTROL DEVICES AFTER THE CONTRIBUTING DRAINAGE AREA IS ADEQUATELY VEGETATED.

GENERAL NOTES

1. IN THE EVENT THAT SEDIMENT IS INTRODUCED INTO THE BMP DURING OR IMMEDIATELY FOLLOWING EXCAVATION, THIS MATERIAL SHALL BE REMOVED FROM THE PRACTICE PRIOR TO CONTINUING CONSTRUCTION.
2. GRADING OF RETENTION DEVICES SHALL BE ACCOMPLISHED USING LOW-COMPACTION EARTH-MOVING EQUIPMENT TO PREVENT COMPACTION OF UNDERLYING SOILS.
3. ALL SUB MATERIALS BELOW THE SPECIFIED RETENTION DEPTH (ELEVATION) SHALL BE UNDISTURBED, UNLESS OTHERWISE NOTED.

1 UNDERGROUND INFILTRATION SYSTEM - 1

NTS



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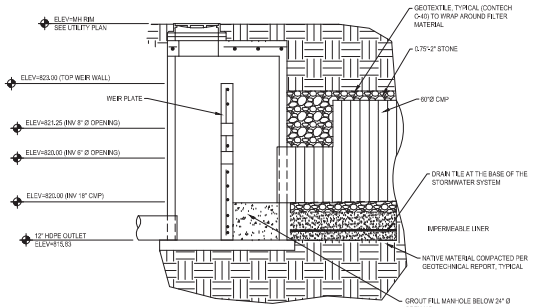
2 UNDERGROUND INFILTRATION SYSTEM - 2

NTS

*UNDERGROUND SYSTEM DETAILS ARE PRELIMINARY. FINAL SHOP DRAWING DETAILS WILL BE PROVIDED AT A LATER DATE.



3 OUTLET STRUCTURE - OS 21B

NTS

CivilSite GROUP
4931 W. 35TH ST., SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
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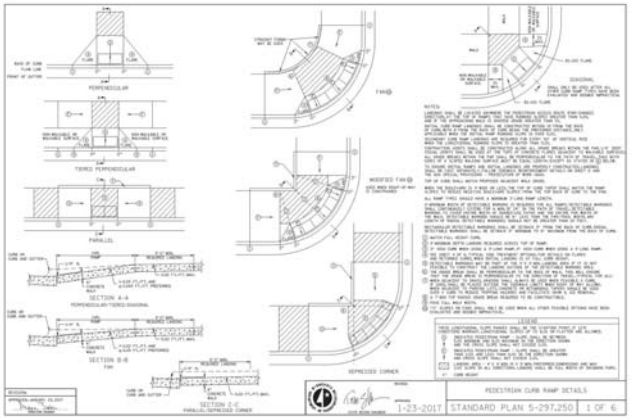

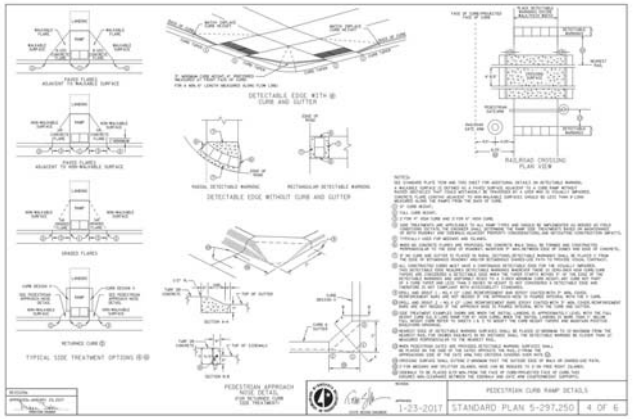

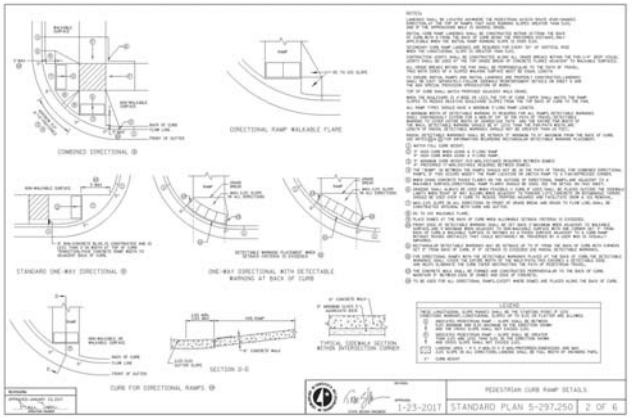

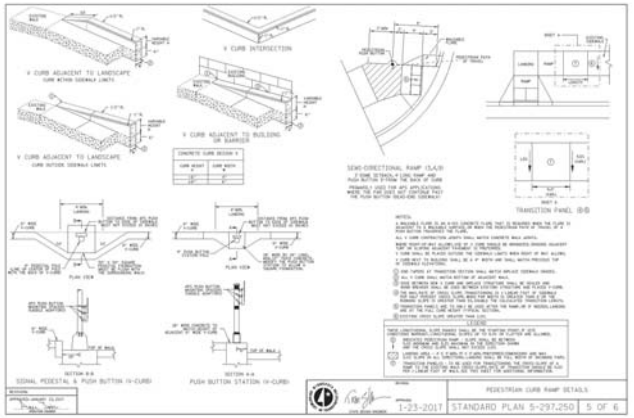

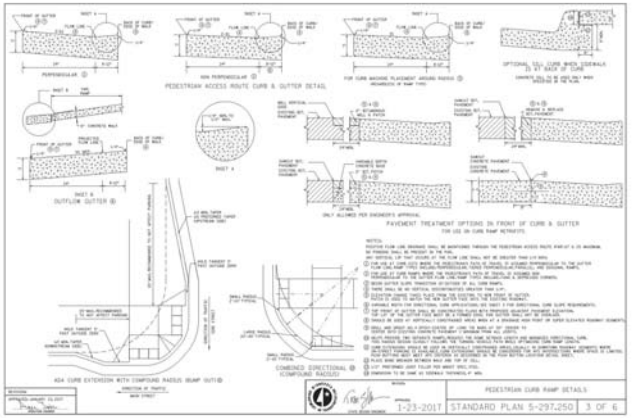

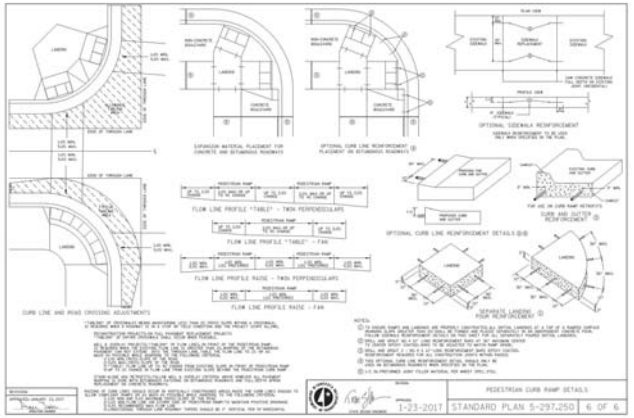

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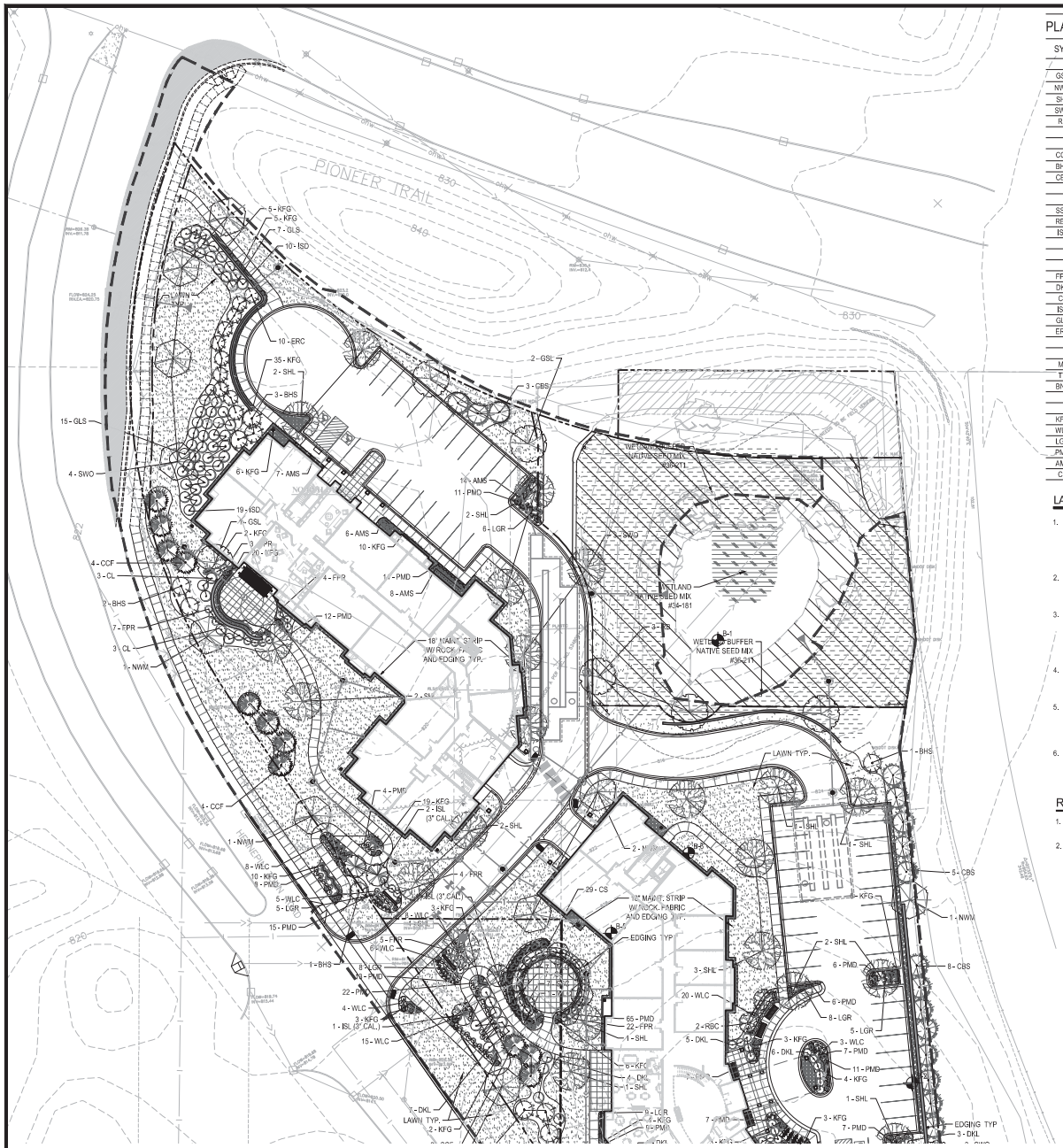
C5.4



PLANT SCHEDULE - ENTIRE SITE

SYM	QUANT.	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	COMMENTS
		DECIDUOUS TREES				
GSL	11	Greenspire Linden	Tilia cordata 'Greenspire'	5" CAL.	B&B	STRAIGHT LEADER, FULL FORM
NWM	14	Northwood Red Maple	Acer rubrum 'Northwood'	5" CAL.	B&B	STRAIGHT LEADER, FULL FORM
SHL	21	Sunburst Honeylocust	Gleditsia triacanthos 'Suncole'	5" CAL.	B&B	STRAIGHT LEADER, FULL FORM
SWO	14	Swamp White Oak	Quercus bicolor	5" CAL.	B&B	STRAIGHT LEADER, FULL FORM
RB	3	River Birch	Betula nigra	5" CAL.	B&B	STRAIGHT LEADER, FULL FORM
		EVERGREEN TREES				
CCF	23	CONCOLOR FIR	Abies concolor	10' HT.	B&B	STRAIGHT LEADER, FULL FORM
BHS	18	Black Hills Spruce	Picea glauca 'Densata'	10' HT.	B&B	STRAIGHT LEADER, FULL FORM
CBS	16	Colorado Blue Spruce	Picea pungens	10' HT.	B&B	STRAIGHT LEADER, FULL FORM
		ORNAMENTAL TREES				
SSC	7	Spring Snow Flowering Crab	Malus 'Spring Snow'	2" CAL	B&B	STRAIGHT LEADER, FULL FORM
RBC	4	Red Baron Flowering Crab	Malus 'Red Baron'	2" CAL	B&B	STRAIGHT LEADER, FULL FORM
ISL	4	Ivory Silk Tree Lilac (tree form)	Syringa reticulata 'Ivory Silk (tree form)'	2" CAL	B&B	STRAIGHT LEADER, FULL FORM
		DECIDUOUS SHRUBS				
FPR	45	Pavement Foxi Rose	Rosa 'Foxi Pavement'	18" HT.	CONT.	DENSE BRANCHING
DKL	37	Dwarf Korean Lilac	Syringa meyeri 'Palibin'	18" HT.	CONT.	DENSE BRANCHING
CL	6	Common Purple Lilac	Syringa vulgaris	36" HT.	CONT.	DENSE BRANCHING
ISD	29	Isanti Dogwood	Cornus sericea 'Isanti'	24"HT.	CONT.	DENSE BRANCHING
GLS	22	Gro-Low Fragrant Sumac	Rhus aromatica 'Gro-Low'	18" HT.	CONT.	DENSE BRANCHING
ERC	10	Eastern Redcedar	Juniperus virginiana	48" HT.	CONT.	DENSE BRANCHING
		EVERGREEN SHRUB				
MJ	16	Medora Juniper	Juniperus scopulorum 'Medora'	24" SPD.	CONT.	FULL FORM
TY	15	Taunton's Yew	Taxus x media 'Tauntoni'	24" HT.	CONT.	FULL FORM
BNS	4	Birds Nest Spruce	Picea abies 'Nidiformis'	24" SPD.	CONT.	FULL FORM
		PERENNIALS & ORNAMENTAL GRASSES				
KFG	184	Karl Foerster Grass	Calamagrostis x acutiflora 'Karl Foerster'	#1	CONT.	FULL FORM
WLC	97	Walker's Low Catmint	Nepeta x faassenii 'Walker's Low'	#1	CONT.	FULL FORM
LGR	41	Little Goldstar Rudbeckia	Rudbeckia fulgida 'Little Goldstar'	#1	CONT.	FULL FORM
PMD	237	Pardon Me Daylily	Hemerocallis 'Pardon Me'	#1	CONT.	
AMS	35	Amazon Mist Sedge	Carex comans 'Amazon Mist'	#1	CONT.	FULL FORM
CS	36	Caradonna Salvia	Salvia x sylvestris 'Caradonna'	#1	CONT.	

LANDSCAPE NOTES:

1. WHERE SHOWN, SHRUB BEDS SHALL BE MULCHED WITH 4" DEPTH (MIN. AFTER INSTALLATION AND/OR TOPDRESSING OPERATIONS) OF SHREDDED HARDWOOD MULCH OVER WEED BARRIER. OWNER TO APPROVE ROCK SAMPLE PRIOR TO INSTALLATION. POLY-EDGER TO BE VALLEY VIEW BLACK DIAMOND OR APPROVED EQUAL. WHERE APPLICABLE.
2. IF SHOWN ON PLAN, RANDOM SIZED LIMESTONE BOULDERS COLOR AND SIZE TO COMPLIMENT NEW LANDSCAPING. OWNER TO APPROVE BOULDER SAMPLE PRIOR TO INSTALLATION.
3. PLANT MATERIALS SHALL CONFORM WITH THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS AND SHALL BE OF HARDY STOCK, FREE FROM DISEASE, DAMAGE AND DISFIGURATION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING PLUMBNESS OF PLANT MATERIAL FOR DURING OF ACCEPTANCE PERIOD.
4. UPON DISCOVERY OF A DISCREPANCY BETWEEN THE QUANTITY OF PLANTS SHOWN ON THE SCHEDULE AND THE QUANTITY SHOWN ON THE PLAN, THE PLAN SHALL GOVERN.
5. CONDITION OF VEGETATION SHALL BE MONITORED BY THE LANDSCAPE ARCHITECT THROUGHOUT THE DURATION OF THE CONTRACT. LANDSCAPE MATERIALS PART OF THE CONTRACT SHALL BE WARRANTED FOR TWO (2) FULL GROWING SEASONS FROM SUBSTANTIAL COMPLETION DATE.
6. AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL RECEIVE 6" LAYER LOAM AND SOD AS SPECIFIED UNLESS OTHERWISE NOTED ON THE DRAWINGS.
7. COORDINATE LOCATION OF VEGETATION WITH UNDERGROUND AND OVERHEAD UTILITIES, LIGHTING FIXTURES, DOORS AND WINDOWS. CONTRACTOR SHALL STAKE IN THE FIELD FINAL LOCATION OF TREES AND SHRUBS FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
8. ALL PLANT MATERIALS SHALL BE WATERED AND MAINTAINED UNTIL ACCEPTANCE.
9. REPAIR AT NO COST TO OWNER ALL DAMAGE RESULTING FROM LANDSCAPE CONTRACTOR'S ACTIVITIES.
10. SWEEP AND MAINTAIN ALL PAVED SURFACES FREE OF DEBRIS GENERATED FROM LANDSCAPE CONTRACTOR'S ACTIVITIES.
11. REPAIR AT NO COST TO THE OWNER IRRIGATION SYSTEM DAMAGED FROM LANDSCAPE CONSTRUCTION ACTIVITIES.
12. PROVIDE SITE WIDE IRRIGATION SYSTEM DESIGN AND INSTALLATION. SYSTEM SHALL BE A FULLY PROGRAMMABLE SYSTEM CAPABLE OF ALTERNATE DATE WATERING. THE SYSTEM SHALL PROVIDE HEAD TO HEAD OR DRIP COVERAGE AND BE CAPABLE OF DELIVERING ONE INCH OF PRECIPITATION PER WEEK. SYSTEM SHALL EXTEND INTO THE PUBLIC RIGHT-OF-WAY TO THE EDGE OF PATHWAY/BACK OF CURB.
13. CONTRACTOR SHALL SECURE APPROVAL OF PROPOSED IRRIGATION SYSTEM INCLUDING PRICING FROM OWNER, PRIOR TO INSTALLATION.

RPBCWD SITE SPECIFIC NOTES:

1. THE POTENTIAL TRANSFER OF AQUATIC INVASIVE SPECIES MUST BE MINIMIZED TO THE MAXIMUM EXTENT POSSIBLE.
2. SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED THROUGH SOIL AMENDMENT AND/OR RIPPING TO A DEPTH OF 18 INCHES TAKING CARE TO AVOID UTILITIES, TREE ROOTS, AND OTHER EXISTING VEGETATION PRIOR TO FINAL REVEGETATION OR OTHER STABILIZATION.

LEGEND

- SEED TYPE 1- NATIVE, MNDOT 36-211 - INSTALL PER MNDOT SEEDING MANUAL (2014)
- SEED TYPE 1- NATIVE, MNDOT 34-181 - INSTALL PER MNDOT SEEDING MANUAL (2014)
- SEED TYPE 1- NATIVE, MNDOT 33-261 - INSTALL PER MNDOT SEEDING MANUAL (2014)
- SOD - SEE SOD INSTALLATION NOTES ABOVE
- DECORATIVE ROCK OVER PERMEABLE GEO-FABRIC. INCLUDE EDGING AS SHOWN, PROVIDE SAMPLES
- PROPOSED CANOPY & EVERGREEN TREE SYMBOLS - SEE SCHEDULE AND PLAN FOR SPECIES AND PLANTING SIZES
- PROPOSED DECIDUOUS AND EVERGREEN SHRUB SYMBOLS - SEE SCHEDULE AND PLAN FOR SPECIES AND PLANTING SIZES
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- DECORATIVE BOULDERS, 18"-30" DIA.

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Patrick J. Sarver
DATE 5/19/17 LICENSE NO. 24904

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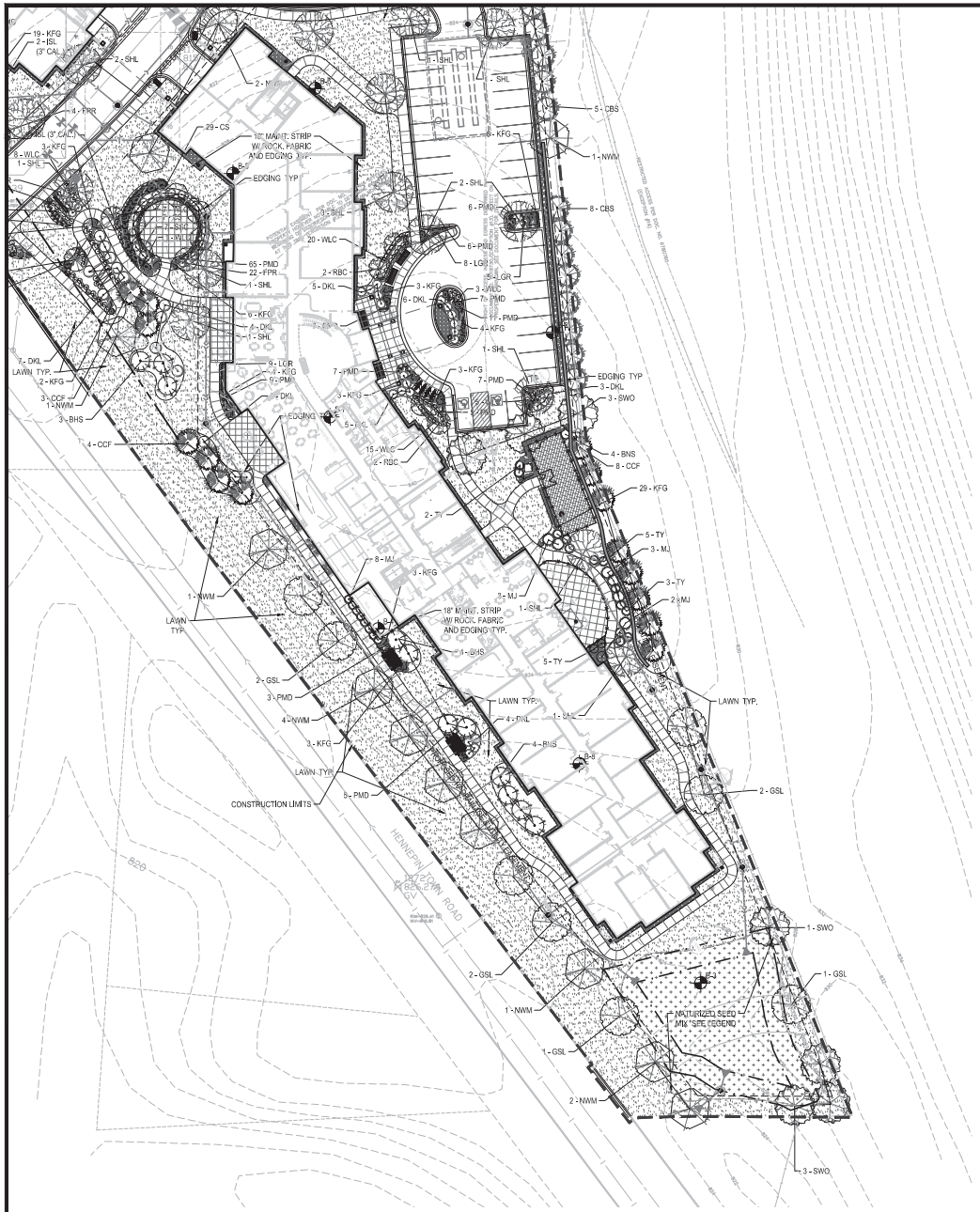
REVISION SUMMARY

DATE	DESCRIPTION

LANDSCAPE PLAN
NORTH

L1.0



IRRIGATION NOTES:

1. ENTIRE SITE SHALL BE FULLY IRRIGATED. THE CONTRACTOR SHALL SUBMIT IRRIGATION SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
2. SEE MECHANICAL AND ELECTRICAL PLANS AND SPECIFICATIONS FOR IRRIGATION WATER, METER, AND POWER CONNECTIONS.
3. CONTRACTOR TO VERIFY LOCATION OF ALL UNDERGROUND/ABOVE GROUND FACILITIES PRIOR TO ANY EXCAVATION/INSTALLATION. ANY DAMAGE TO UNDERGROUND/ABOVE GROUND FACILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND COSTS ASSOCIATED WITH CORRECTING DAMAGES SHALL BE BORNE ENTIRELY BY THE CONTRACTOR.
4. SERVICE EQUIPMENT AND INSTALLATION SHALL BE PER LOCAL UTILITY COMPANY STANDARDS AND SHALL BE PER NATIONAL AND LOCAL CODES. EXACT LOCATION OF SERVICE EQUIPMENT SHALL BE COORDINATED WITH THE LANDSCAPE ARCHITECT OR EQUIVALENT AT THE JOB SITE.
5. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY FOR THE PROPOSED ELECTRICAL SERVICE AND METERING FACILITIES.
6. IRRIGATION WATER LINE CONNECTION SIZE IS 1-½" AT BUILDING. VERIFY WITH MECHANICAL PLANS.COVAGE.
7. ALL MAIN LINES SHALL BE 18" BELOW FINISHED GRADE.
8. ALL LATERAL LINES SHALL BE 12" BELLOW FINISHED GRADE.
9. ALL EXPOSED PVC RISERS, IF ANY, SHALL BE GRAY IN COLOR.
10. CONTRACTOR SHALL LAY ALL SLEEVES AND CONDUIT AT 2'-0" BELOW THE FINISHED GRADE OF THE TOP OF PAVEMENT. EXTEND SLEEVES TO 2'-0" BEYOND PAVEMENT.
11. CONTRACTOR SHALL MARK THE LOCATION OF ALL SLEEVES AND CONDUIT WITH THE SLEEVING MATERIAL "ELLED" TO 2'-0" ABOVE FINISHED GRADE AND CAPPED.
12. FABRICATE ALL PIPE TO MANUFACTURE'S SPECIFICATIONS WITH CLEAN AND SQUARE CUT JOINTS. USE QUALITY GRADE PRIMER AND SOLVENT CEMENT FORMULATED FOR INTENDED TYPE OF CONNECTION.
13. BACKFILL ALL TRENCHES WITH SOIL FREE OF SHARP OBJECTS AND DEBRIS.
14. ALL VALVE BOXES AND COVERS SHALL BE BLACK IN COLOR.
15. GROUP VALVE BOXES TOGETHER FOR EASE WHEN SERVICE IS REQUIRED. LOCATE IN PLANT BED AREAS WHENEVER POSSIBLE.
16. IRRIGATION CONTROLLER LOCATION SHALL BE VERIFIED ON-SITE WITH OWNER'S REPRESENTIVE.
17. CONTROL WIRES: 14 GAUGE DIRECT BURIAL, SOLID COPPER IRRIGATION WIRE. RUN UNDER MAIN LINE. USE MOISTURE-PROOF SPLICES AND SPLICE ONLY AT VALVES OR PULL BOXES. RUN SEPARATE HOT AND COMMON WIRE TO EACH VALVE AND ONE (1) SPARE WIRE AND GROUND TO FURTHEST VALVE FROM CONTROLLER. LABEL OR COLOR CODE ALL WIRES.
18. AVOID OVERSPRAY ON BUILDINGS, PAVEMENT, WALLS AND ROADWAYS BY INDIVIDUALLY ADJUSTING RADIUS OR ARC ON SPRINKLER HEADS AND FLOW CONTROL ON AUTOMATIC VALVE.
19. ADJUST PRESSURE REGULATING VALVES FOR OPTIMUM PRESSURE ON SITE.
20. USE SCREENS ON ALL HEADS.
21. PRESENTIVE, A SET OF AS-BUILT DRAWINGS SHALL BE MAINTAINED ON-SITE AT ALL TIMES IN AN UPDATED CONDITION.
22. ALL PIPE 3" AND OVER SHALL HAVE THRUST BLOCKING AT EACH TURN.
23. ALL AUTOMATIC REMOTE CONTROL VALVES WILL HAVE 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL UNDERNEATH VALVE AND VALVE BOX. GRAVEL SHALL EXTENT 3" BEYOND PERIMETER OF VALVE BOX.
24. THERE SHALL BE 3" MINIMUM SPACE BETWEEN BOTTOM OF VALVE BOX COVER AND TOP OF VALVE STRUCTURE.

REQUIRED LANDSCAPE CALCULATIONS:

TWO SEPARATE COMPONENTS CONSTITUTE THE REQUIRED LANDSCAPE MATERIAL. THEY ARE:

1. THE MATERIAL REQUIRED DUE TO REMOVAL OF EXIST. TREES (TREE REPLACEMENT)
2. THE MATERIAL REQUIRED BASED ON THE SQUARE FOOTAGE OF THE BUILDING. PER CITY OF EDEN PRAIRIE ZONING ORDNANCE.

DUE TO THE REQUIRED NUMBERS OF PLANT MATERIAL AND LIMITED SITE AREA , SEE TABLE AND CALCULATIONS SHEET L1.1. THE OWNER IS PROPOSING TO PROVIDE ONLY THE PLANT MATERIAL REQUIRED TO SATISFY THE SQUARE FOOTING REQUIREMENT AND NOT PROVIDE THE AMOUNT OF MATERIAL REQUIRED AS A FUNCTION OF THE TREE REPLACEMENT FORMULA.

TREE PLANTING SIZE CHART:

PLANTS FOR 3 STORY BUILDING

CALIPER SIZES	MIN % REQUIRED FOR 1ST STORY OF BLDG	MIN NO. OF TREES REQUIRED BASED ONT SIZE AND PERCENT	MIN CAL. INCHES REQUIRED BASED ON SIZE AND PERCENT)
2.5	10%	20 (	49.0)
3	50%	82 (	245.0)
3.5	10%	14 (	49.0)
4	10%	12 (	49.0)
4.5	10%	11 (	49.0)
5	10%	10 (	49.0)
TOTAL NUMBER OF TREES		149 (	490.0) TOTAL CAL INCHES

LANDSCAPE MATERIALS CALCULATIONS:

REQUIRED TREES PER CITY ORDINANCE

NUMBER OF FLOORS	3 * PARTIAL FLRS DUE TO BLDG HT.
SF FLOOR 1	50,408 SF
TOTAL GSF	188,481

TOTAL GSF / 320 = TOTAL CAL. INCHES OF REQUIRED TREES

188,481 SF / 320 = 589 CAL. INCHES

CREDIT EXISTING SIG. TREES TO BE SAVED. 99 CAL. INCHES **

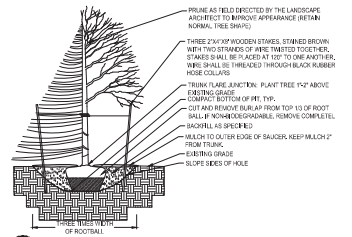
** SEE TREE REMOVAL AND PRESERVATION CHART SHEET C1.0

TOTAL REQUIRED CALIPER INCHES AFTER CREDIT FOR PRESERVED SIGNIFICANT TREES 490.0 CAL. INCHES

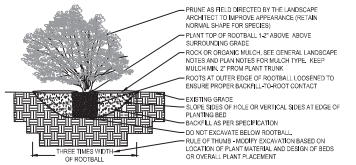
SEE PLANTING SIZE REQUIREMENTS CHARTS

SUMMARY	TREES	CAL. INCHES.
TREE REPLACEMENT CALC (3" CAL.)	557	1672
REQUIRED PER SF CALC. (CAL. VARIES, SEE CHARTS)	149	490
TOTAL REQUIRED LANDSCAPE	**706**	**2162**

SEE PLANT SCHEDULE, SHEET L1.0 FOR PROVIDED TREES



1 DECIDUOUS & CONIFEROUS TREE PLANTING
N T S



2 DECIDUOUS & CONIFEROUS SHRUB PLANTING
N T S

LEGEND

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REVISION SUMMARY

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LANDSCAPE PLAN SOUTH

L1.1

SWPPP NOTES:

1. SEE SHEETS SW1.0 - SW1.5 FOR ALL EROSION CONTROL NOTES, DESCRIPTIONS, AND PRACTICES.

2. SEE GRADING PLAN FOR ADDITIONAL GRADING AND EROSION CONTROL NOTES.

3. CONTRACTOR IS RESPONSIBLE FOR SWPPP IMPLEMENTATION, INSPECTIONS, AND COMPLIANCE WITH NPDES PERMIT.

CITY OF EDEN PRAIRIE EROSION CONTROL NOTES:

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- SILT FENCE / BIOROLL - GRADING LIMIT
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED MANHOLE OR CATCH BASIN
- PROPOSED GATE VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- EXISTING WATER MAIN
- EXISTING GAS MAIN
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND CABLE
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David J. Knaeble
DATE 5/19/17 LICENSE NO. 48776

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REVISION SUMMARY

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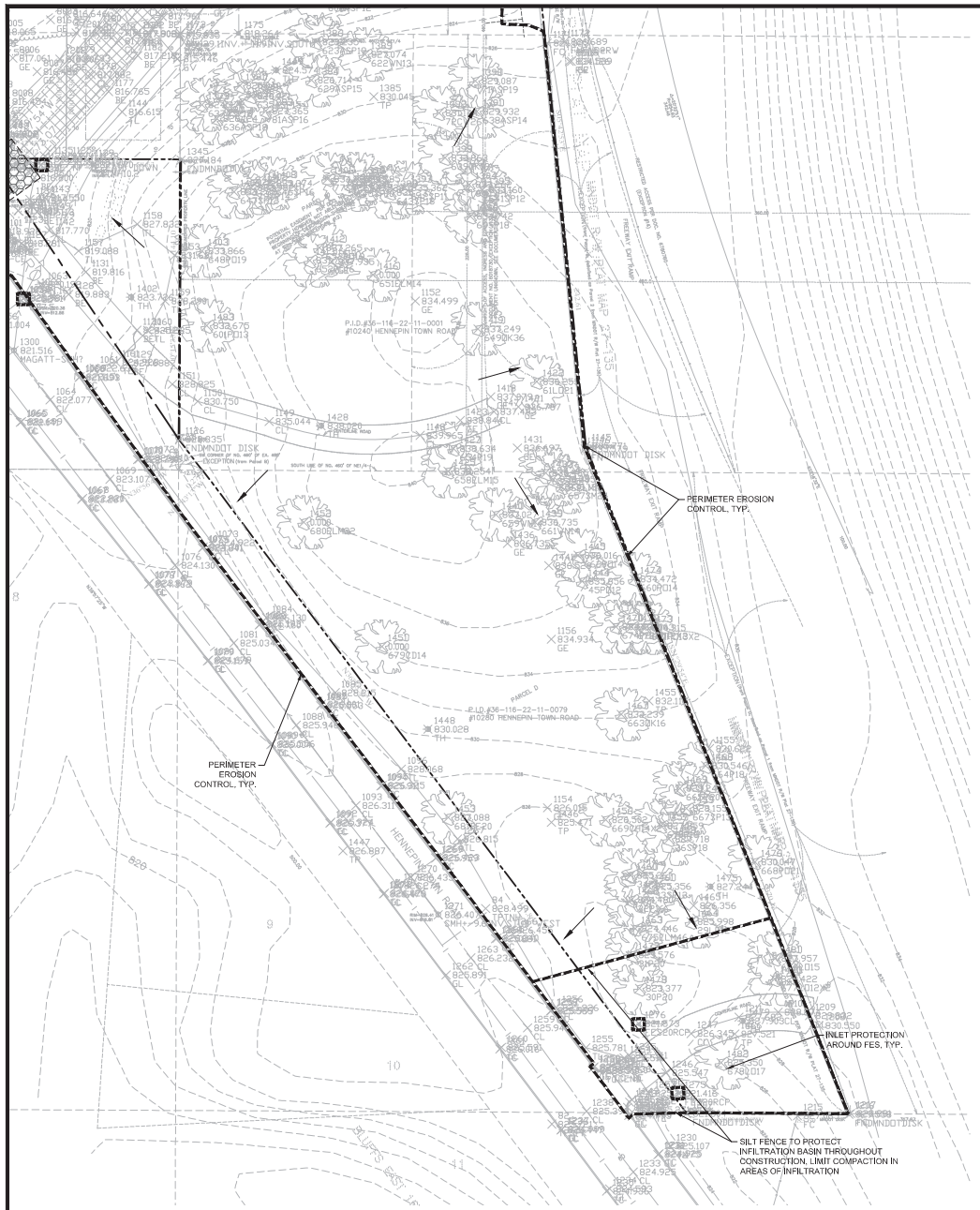
SWPPP - EXISTING CONDITIONS - NORTH

SW1.00



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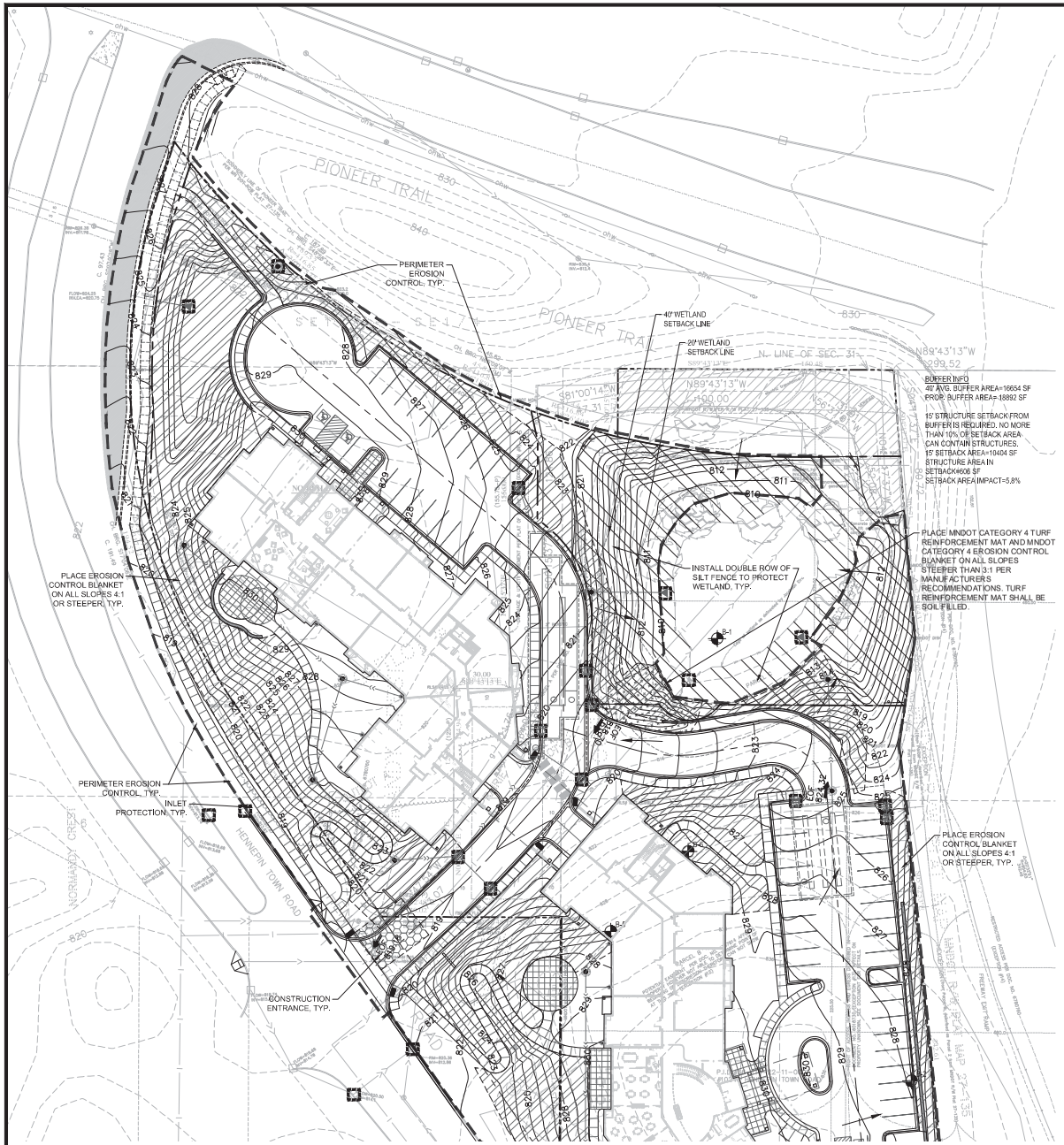
SWPPP - EXISTING CONDITIONS - SOUTH

SW1.01



SWPPP NOTES:

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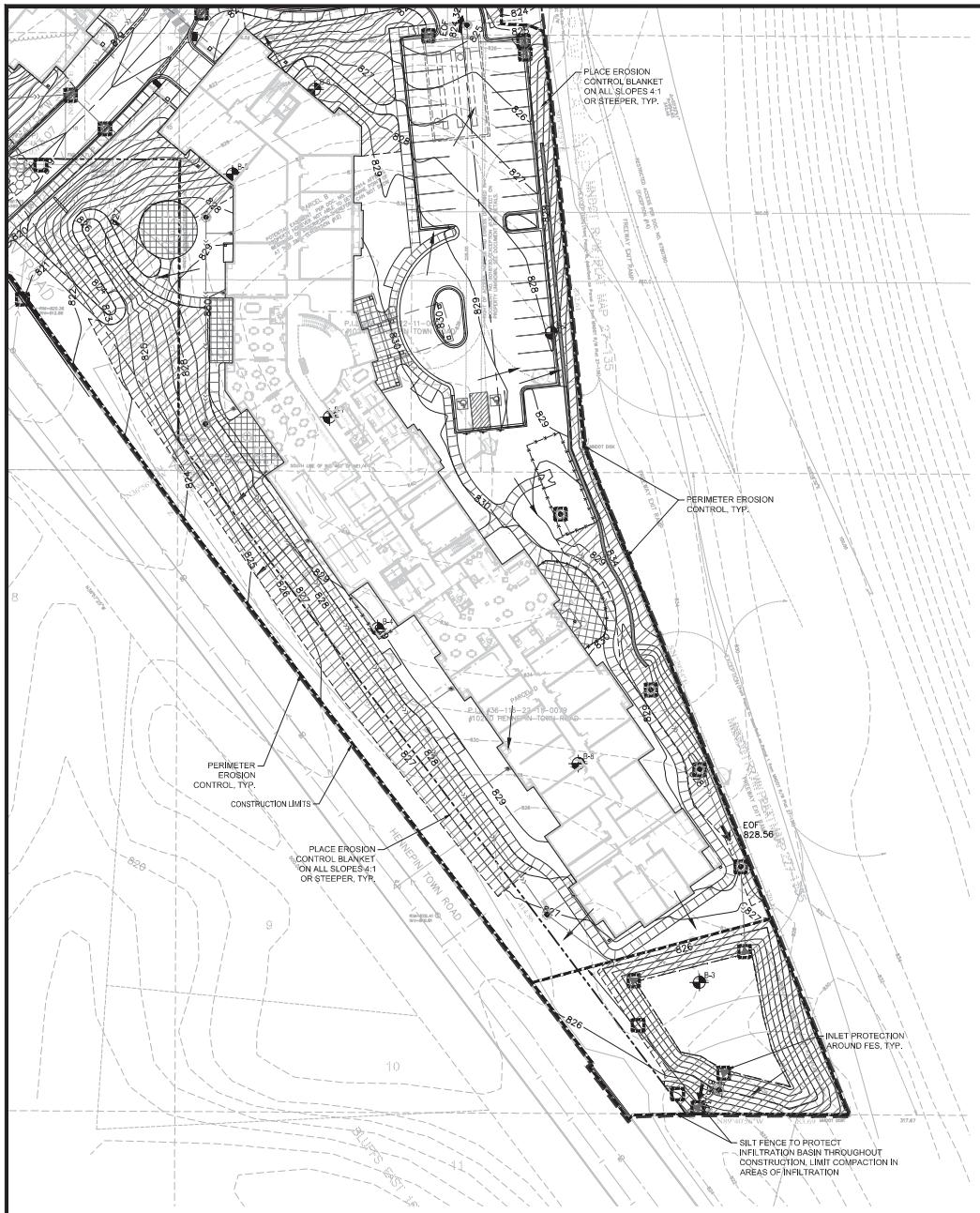
SWPPP - PROPOSED CONDITIONS - NORTH

SW1.10



LEGEND:

- EX. 1' CONTOUR ELEVATION INTERVAL
- 1' CONTOUR ELEVATION INTERVAL
- EXISTING SPOT GRADE ELEVATION
- PROPOSED SPOT GRADE ELEVATION
- DRAINAGE ARROW
- SILT FENCE / BIOROLL - GRADING LIMIT
- STABILIZED CONSTRUCTION ENTRANCE
- TURF REINFORCEMENT MAT
- EROSION CONTROL BLANKET
- PROPOSED MANHOLE OR CATCH BASIN
- PROPOSED GATE VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- EXISTING WATER MAIN
- EXISTING GAS MAIN
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND CABLE
- EXISTING MANHOLE
- EXISTING CATCH BASIN
- EXISTING HYDRANT
- EXISTING STOPBOX
- EXISTING GATE VALVE
- EXISTING ELECTRIC BOX
- EXISTING LIGHT
- EXISTING GAS METER
- EXISTING GAS VALVE

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(651) 454-0002 LOCAL

1" = 30'-0"
15'-0" 0 30'-0"

CivilSite GROUP
4931 W. 35TH ST. SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
Matt Pavek 763-213-3944
Pat Sarver 952-250-2003

koo wilson architects

PROJECT
PRAIRIE BLUFFS SENIOR LIVING
EDEN PRAIRIE, MN
ALBERT MILLER
2631 QUENTIN AVENUE SOUTH, ST. LOUIS PARK, MN 55416

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.

David J. Knaeble
DATE 5/19/17 LICENSE NO. 48776

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5/19/17	WATERSHED RESUBMITTAL

REVISION SUMMARY

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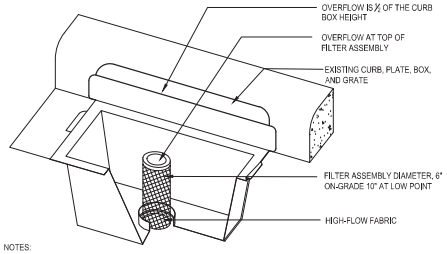
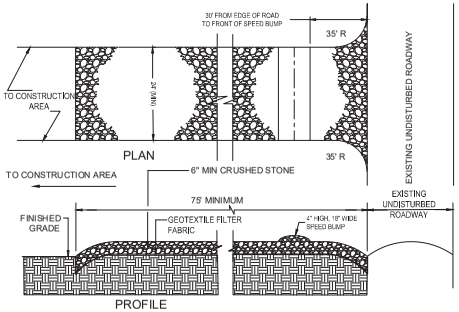
SWPPP - PROPOSED CONDITIONS - SOUTH

SW1.11



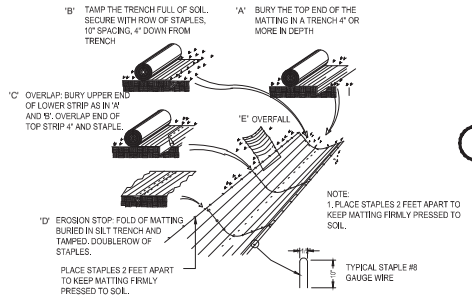
NOTES:
1. REPLACE INLET GRATE UPON COMPLETE INSTALLATION OF INLET PROTECTION FABRIC.
2. CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM THE SURFACE OF THE SYSTEM AFTER EACH STORM EVENT AND AT THE COMPLETION OF THE CONTRACT.
3. REFERENCE APPLE VALLEY STANDARD PLATE ERO-4C.

1 CURB INLET FILTER
NTS

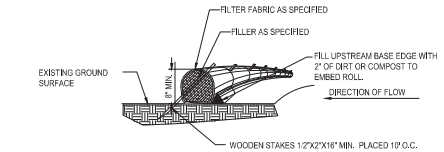


NOTES:
1. PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND UNDISTURBED ROADWAY.
2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO UNDISTURBED ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDING STONE TO THE LENGTH OF THE ENTRANCE.
3. REPAIR AND CLEANOUT MEASURES USED TO TRAP SEDIMENT.
4. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO UNDISTURBED ROADWAY SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.
5. FINAL LOCATION AND INSTALLATION SHALL BE COORDINATED WITH THE CITY PRIOR TO CONSTRUCTION ACTIVITIES.
6. CRUSHED STONE SHALL BE 1-1/2" DIA. CLOSE GRADED, AND IN ACCORDANCE TO MNDOT SECTION 2118.

2 STABILIZED CONSTRUCTION ACCESS
NTS

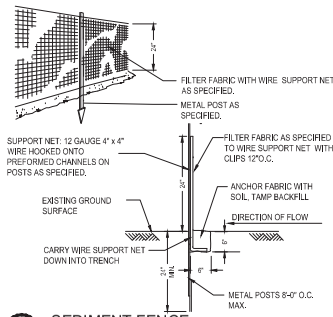


3 EROSION BLANKET
NTS

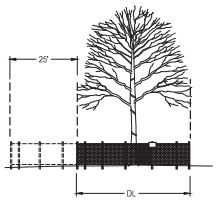


NOTE:
1. COMPOST FILTER LOGS (BIO ROLLS) SHALL BE FILTREXX EROSION CONTROL SOXX OR APPROVED EQUAL.
2. COMPOST FILLER TO BE MADE FROM A COMPOST BLEND 30%-40% GRADE 2 (SPEC 3890) AND 60%-70% PARTIALLY DECOMPOSED WOOD CHIPS, PER MNDOT SPEC 3897.
3. FILTER FABRIC SHALL BE GEOTEXTILE KNITTED MATERIAL WITH MAX. OPENINGS OF 3/8".
4. IF MULTIPLE ROLLS NEEDED, OVERLAP BY MIN. 12" AT ENDS AND STAKE.
5. SILT SHALL BE REMOVED ONCE IT REACHES 80% OF THE HEIGHT OF THE ROLL OR AS DEEMED NECESSARY BY SITE CONTRACTOR TO MAINTAIN PROPER FUNCTION.

4 SEDIMENT BIO-ROLL / COMPOST FILTER LOG
NTS

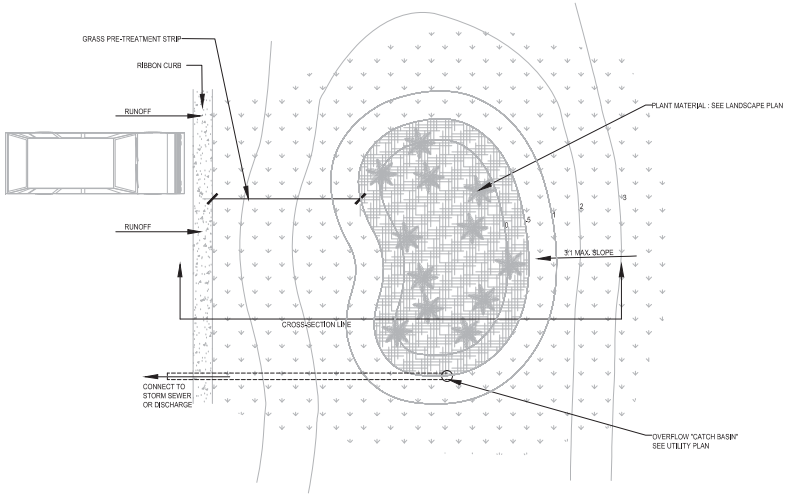


5 SEDIMENT FENCE
NTS

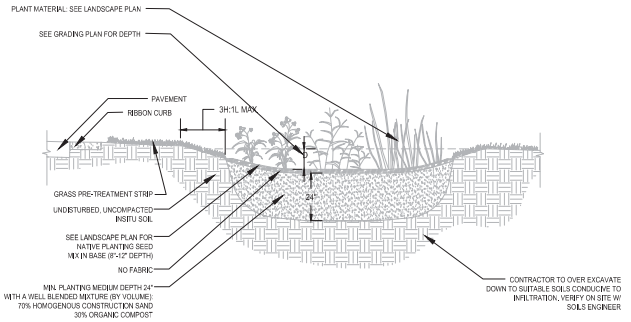


FURNISH A AND INSTALL TEMPORARY FENCE AT THE TREE'S DRIP LINE OR CONSTRUCTION LIMITS AS SHOWN ON PLAN, PRIOR TO ANY CONSTRUCTION. WHERE POSSIBLE PLACE FENCE 25' BEYOND DRIP LINE. PLACE TREE PROTECTION SIGN ON POSTS, ONE PER INDIVIDUAL TREE (FACING CONSTRUCTION ACTIVITY), OR ONE EVERY 100' LF ALONG A GROVE OR MULTI-TREE PROTECTION AREA.

TREE PROTECTION
NTS



TYPICAL PLAN VIEW



TYPICAL SECTION VIEW

CONSTRUCTION SEQUENCING

1. INSTALL SILT FENCE AND/OR OTHER APPROPRIATE TEMPORARY EROSION CONTROL DEVICES TO PREVENT SEDIMENT FROM LEAVING OR ENTERING THE PRACTICE DURING CONSTRUCTION.
2. ALL DOWN-GRADIENT PERIMETER SEDIMENT CONTROL BMPS MUST BE IN PLACE BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITY BEGINS.
3. PERFORM CONTINUOUS INSPECTIONS OF EROSION CONTROL PRACTICES.
4. INSTALL UTILITIES (WATER, SANITARY SEWER, ELECTRIC, PHONE, FIBER OPTIC, ETC) PRIOR TO SIETTING FINAL GRADE OF BIORETENTION DEVICE.
5. ROUGH GRADE THE SITE. IF BIORETENTION AREAS ARE BEING USED AS TEMPORARY SEDIMENT BASINS LEAVE A MINIMUM OF 3 FEET OF COVER OVER THE PRACTICE TO PROTECT THE UNDERLYING SOILS FROM CLOGGING.
6. PERFORM ALL OTHER SITE IMPROVEMENTS.
7. SEED AND MULCH ALL AREAS AFTER DISTURBANCE.
8. CONSTRUCT BIORETENTION DEVICE UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA.
9. IMPLEMENT TEMPORARY AND PERMANENT EROSION CONTROL PRACTICES.
10. PLANT AND/OR ROCK MULCH BIORETENTION DEVICE.
11. REMOVE TEMPORARY EROSION CONTROL DEVICES AFTER THE CONTRIBUTING DRAINAGE AREA IS ADEQUATELY VEGETATED.

GENERAL NOTES

1. IN THE EVENT THAT SEDIMENT IS INTRODUCED INTO THE BMP DURING OR IMMEDIATELY FOLLOWING EXCAVATION, THIS MATERIAL SHALL BE REMOVED FROM THE PRACTICE PRIOR TO CONTINUING CONSTRUCTION.
2. GRADING OF BIORETENTION DEVICES SHALL BE ACCOMPLISHED USING LOW-COMPACTION EARTH-MOVING EQUIPMENT TO PREVENT COMPACTION OF UNDERLYING SOILS.
3. ALL SUB MATERIALS BELOW THE SPECIFIED BIORETENTION DEPTH (ELEVATION) SHALL BE UNDISTURBED, UNLESS OTHERWISE NOTED.
4. ANY FILL SOILS BELOW PROPOSED INFILTRATION BASINS MUST BE FREE DRAINING SOILS THAT PROVIDE AN INFILTRATION RATE EQUAL TO OR GREATER THAN THE EXISTING IN PLACE SOILS.

6 BIO-INFILTRATION BASIN (RAIN GARDEN - TYP.)
NTS

CivilSite GROUP
4931 W. 35TH ST., SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
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SWPPP - DETAILS

SW1.2

GENERAL SWPPP REQUIREMENTS AND NOTES:

THE CONTRACTOR AND ALL SUBCONTRACTORS INVOLVED WITH A CONSTRUCTION ACTIVITY THAT DISTURBS SITE SOIL OR WHO IMPLEMENT A POLLUTANT CONTROL MEASURE IDENTIFIED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MUST COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT (DATED AUGUST 1, 2013 # MNR100001 PAGES 1-35) AND ANY LOCAL GOVERNING AGENCY HAVING JURISDICTION CONCERNING EROSION AND SEDIMENTATION CONTROL.

PART III STORMWATER DISCHARGE DESIGN REQUIREMENTS

SWPPP (PART III.A)

THE NATURE OF THIS PROJECT WILL BE CONSISTENT WITH WHAT IS REPRESENTED IN THIS SET OF CONSTRUCTION PLANS AND SPECIFICATIONS. SEE THE SWPPP PLAN SHEETS AND SWPPP NARRATIVE (ATTACHMENT A: CONSTRUCTION SWPPP TEMPLATE) FOR ADDITIONAL SITE SPECIFIC SWPPP INFORMATION. THE PLANS SHOW LOCATIONS AND TYPES OF ALL TEMPORARY AND PERMANENT EROSION PREVENTION AND SEDIMENT CONTROL BMP'S. STANDARD DETAILS ARE ATTACHED TO THIS SWPPP DOCUMENT.

THE INTENDED SEQUENCING OF MAJOR CONSTRUCTION ACTIVITIES IS AS FOLLOWS:
1. INSTALL STABILIZED ROCK CONSTRUCTION ENTRANCE
2. INSTALLATION OF SILT FENCE AROUND SITE
3. INSTALL ORANGE CONSTRUCTION FENCING AROUND INFILTRATION AREAS.
4. CLEAR AND GRUB FOR TEMPORARY SEDIMENT BASIN / POND INSTALL
5. CONSTRUCT TEMPORARY SEDIMENT BASIN / POND (PART III.B)
6. CLEAR AND GRUB REMAINDER OF SITE
7. STRIP AND STOCKPILE TOPSOIL
8. ROUGH GRADING OF SITE
9. STABILIZE DENUDED AREAS AND STOCKPILES
10. INSTALL SANITARY SEWER, WATER MAIN STORM SEWER AND SERVICES
11. INSTALL SILT FENCE / INLET PROTECTION AROUND CB'S
12. INSTALL STREET SECTION
13. INSTALL CURB AND GUTTER
14. BITUMINOUS ON STREETS
15. FINAL GRADE BOULEVARD, INSTALL SEED AND MULCH
16. REMOVE ACCUMULATED SEDIMENT FROM BASIN / POND
17. FINAL GRADE POND / INFILTRATION BASINS (DO NOT COMPACT SOILS IN INFILTRATION AREAS.) (PART III.C)
18. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED BY EITHER SEED OR SOD/LANDSCAPING, REMOVE SILT FENCE AND RESEED ANY AREAS DISTURBED BY THE REMOVAL.

RECORDS RETENTION (PART III.E):

THE SWPPP (ORIGINAL OR COPIES) INCLUDING, ALL CHANGES TO IT, AND INSPECTIONS AND MAINTENANCE RECORDS MUST BE KEPT AT THE SITE DURING CONSTRUCTION BY THE PERMITTEE WHO HAS OPERATIONAL CONTROL OF THAT PORTION OF THE SITE. THE SWPPP CAN BE KEPT IN EITHER THE FIELD OFFICE OR IN AN ON SITE VEHICLE DURING NORMAL WORKING HOURS.

ALL OWNER(S) MUST KEEP THE SWPPP, ALONG WITH THE FOLLOWING ADDITIONAL RECORDS, ON FILE FOR THREE (3) YEARS AFTER SUBMITTAL OF THE NOT AS OUTLINED IN PART II.C. THIS DOES NOT INCLUDE ANY RECORDS AFTER SUBMITTAL OF THE NOT.

1. THE FINAL SWPPP;
2. ANY OTHER STORMWATER RELATED PERMITS REQUIRED FOR THE PROJECT;
3. RECORDS OF ALL INSPECTION AND MAINTENANCE CONDUCTED DURING CONSTRUCTION (SEE PART IV.E. INSPECTIONS AND MAINTENANCE);
4. ALL PERMANENT OPERATION AND MAINTENANCE AGREEMENTS THAT HAVE BEEN IMPLEMENTED, INCLUDING ALL RIGHT OF WAY, CONTRACTS, COVENANTS AND OTHER BINDING REQUIREMENTS REGARDING PERPETUAL MAINTENANCE; AND
5. ALL REQUIRED CALCULATIONS FOR DESIGN OF THE TEMPORARY AND PERMANENT STORMWATER MANAGEMENT SYSTEMS.

PART IV. CONSTRUCTION ACTIVITY REQUIREMENTS

EROSION PREVENTION (PART IV.B):

THE CONTRACTOR IS RESPONSIBLE FOR PLANING FOR AND IMPLEMENTING APPROPRIATE CONSTRUCTION PHASING, VEGETATIVE BUFFER STRIPS, HORIZONTAL SLOPE GRADING, AND OTHER CONSTRUCTION PRACTICES THAT MINIMIZE EROSION, SO THAT THE INSPECTION AND MAINTENANCE REQUIREMENTS OF PART IV.E. ARE COMPLIED WITH. THE LOCATION OF AREAS NOT TO BE DISTURBED MUST BE DELINEATED (E.G. WITH FLAGS, STAKES, SIGNS, SILT FENCE ETC.) ON THE DEVELOPMENT SITE BEFORE WORK BEGINS.

ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT NO LATER THAN THE END OF THE NEXT WORK DAY WHEN EARTH-DISTURBING ACTIVITIES WILL CEASE FOR AT LEAST 14 DAYS. TEMPORARY STOCKPILES WITHOUT SIGNIFICANT SILT, CLAY OR ORGANIC COMPONENTS (E.G., CLEAN AGGREGATE STOCKPILES, DEMOLITION CONCRETE STOCKPILES, SAND STOCKPILES) AND THE CONSTRUCTED BASE COMPONENTS OF ROADS, PARKING LOTS AND SIMILAR SURFACES ARE EXEMPT FROM THIS REQUIREMENT BUT MUST COMPLY WITH PART IV.C.5.

SOILS WITHIN 200 FEET OF A PUBLIC WATER (AS DESIGNATED BY THE MINNESOTA DNR) MUST BE STABILIZED WITHIN 24 HOURS DURING FISH SPAWNING TIMES.

THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE THAT DRAINS WATER FROM ANY PORTION OF THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE SITE, MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE INTO ANY SURFACE WATER. STABILIZATION OF THE LAST 200 LINEAL FEET MUST BE COMPLETED WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER.

STABILIZATION OF THE REMAINING PORTIONS OF ANY TEMPORARY OR PERMANENT DITCHES OR SWALES MUST BE COMPLETE WITHIN 14 DAYS AFTER CONNECTING TO A SURFACE WATER AND CONSTRUCTION IN THAT PORTION OF THE DITCH HAS TEMPORARILY OR PERMANENTLY CEASED.

TEMPORARY OR PERMANENT DITCHES OR SWALES THAT ARE BEING USED AS A SEDIMENT CONTAINMENT SYSTEM (WITH PROPERLY DESIGNED ROCK DITCH CHECKS, BIO ROLLS, SILT DIKES ETC.) DO NOT NEED TO BE STABILIZED. THESE AREAS MUST BE STABILIZED WITHIN 24 HOURS AFTER NO LONGER BEING USED AS A SEDIMENT CONTAINMENT SYSTEM.

PIPE OUTLETS MUST BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER.

SEED NOTES (PART III.A.4.A):

ALL SEED MIXES AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MNDOT SEEDING MANUAL.

GENERAL RECOMMENDATIONS:
IMMEDIATELY BEFORE SEEDING THE SOIL SHALL BE TILLED TO A MINIMUM DEPTH OF 3 INCHES.

TEMPORARY EROSION CONTROL SEEDING, MULCHING & BLANKET.

SEED
- TEMPORARY SEED SHALL BE MNDOT SEED MIX 21-112 (WINTER WHEAT COVER CROP) FOR WINTER AND 21-111 (OATS COVER CROP) FOR SPRING/SUMMER APPLICATIONS. BOTH SEED MIXES SHALL BE APPLIED AT A SEEDING RATE OF 100 LBS/ACRE.

MULCH
- IMMEDIATELY AFTER SEEDING, WITHIN 24 HOURS, MNDOT TYPE 1 MULCH SHOULD BE APPLIED TO PROTECT AND ENHANCE SEED GERMINATION. MULCH SHALL BE APPLIED AT 90% COVERAGE (2 TONS PER ACRE OF STRAW MULCH)

SLOPES
- 3:1 (HORIZ/VERT.) OR FLATTER MUCH SHALL BE COVERED WITH MULCH
- SLOPES STEEPER THAN 3:1 OR DITCH BOTTOMS SHALL BE COVERED WITH EROSION CONTROL BLANKET.
- SEE PLAN FOR MORE DETAILED DITCH AND STEEP SLOPE EROSION CONTROL TREATMENTS.

SEDIMENT CONTROL (PART IV.C):

SEDIMENT CONTROL PRACTICES MUST MINIMIZE SEDIMENT FROM ENTERING SURFACE WATERS, INCLUDING CURB AND GUTTER SYSTEMS AND STORM SEWER INLETS.

a. TEMPORARY OR PERMANENT DRAINAGE DITCHES AND SEDIMENT BASINS THAT ARE DESIGNED AS PART OF A SEDIMENT CONTAINMENT SYSTEM (E.G., DITCHES WITH ROCK CHECK DAMS) REQUIRE SEDIMENT CONTROL PRACTICES ONLY AS APPROPRIATE FOR SITE CONDITIONS.

b. IF THE DOWN GRADIENT TREATMENT SYSTEM IS OVERLOADED, ADDITIONAL UPGRADIENT SEDIMENT CONTROL PRACTICES OR REDUNDANT BMPS MUST BE INSTALLED TO ELIMINATE THE OVERLOADING, AND THE SWPPP MUST BE AMENDED TO IDENTIFY THESE ADDITIONAL PRACTICES AS REQUIRED IN PART II.A.4, A. THROUGH C.

c. IN ORDER TO MAINTAIN SHEET FLOW AND MINIMIZE RILLS AND/OR GULLIES, THERE SHALL BE NO UNBROKEN SLOPE LENGTH OF GREATER THAN 75 FEET FOR SLOPES WITH A GRADE OF 3:1 OR STEEPER.

SEDIMENT CONTROL PRACTICES MUST BE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UPGRADIENT LAND DISTURBING ACTIVITIES BEGIN. THESE PRACTICES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED IN ACCORDANCE WITH PART IV.G.

THE TIMING OF THE INSTALLATION OF SEDIMENT CONTROL PRACTICES MAY BE ADJUSTED TO ACCOMMODATE SHORT-TERM ACTIVITIES SUCH AS CLEARING OR GRUBBING, OR PASSAGE OF VEHICLES. ANY SHORT-TERM ACTIVITY MUST BE COMPLETED AS QUICKLY AS POSSIBLE AND THE SEDIMENT CONTROL PRACTICES MUST BE INSTALLED IMMEDIATELY AFTER THE ACTIVITY IS COMPLETED. HOWEVER, SEDIMENT CONTROL PRACTICES MUST BE INSTALLED BEFORE THE NEXT PRECIPITATION EVENT EVEN IF THE ACTIVITY IS NOT COMPLETE.

ALL STORM DRAIN INLETS MUST BE PROTECTED BY APPROPRIATE BMPS DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED. INLET PROTECTION MAY BE REMOVED FOR A PARTICULAR INLET IF A SPECIFIC SAFETY CONCERN (STREET FLOODING/FREEZING) HAS BEEN IDENTIFIED AND THE PERMITTEE(S) HAVE RECEIVED WRITTEN CORRESPONDENCE FROM THE JURISDICTIONAL AUTHORITY (E.G. CITY/COUNTY/TOWNSHIP/MNDOT ENGINEER) VERIFYING THE NEED FOR REMOVAL. THE WRITTEN CORRESPONDENCE MUST BE DOCUMENTED IN THE SWPPP OR AVAILABLE WITHIN 72 HOURS UPON REQUEST. WHEN WRITTEN CORRESPONDENCE CAN NOT BE OBTAINED IN A TIMELY MANNER, THE SPECIFIC INLET PROTECTION CAN BE REMOVED TO ALLEVIATE THE IMMEDIATE SAFETY CONCERN. HOWEVER, EFFORTS TO OBTAIN WRITTEN CORRESPONDENCE MUST BE DOCUMENTED IN THE SWPPP AND AVAILABLE WITHIN 72 HOURS UPON REQUEST. PERMISSION TO REMOVE INLET PROTECTION BASED ON A SPECIFIC SAFETY CONCERN MUST STILL BE OBTAINED FROM THE JURISDICTIONAL AUTHORITY WITHIN 30 DAYS OF REMOVAL.

TEMPORARY SOIL STOCKPILES MUST HAVE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS, AND CANNOT BE PLACED IN SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS, OR CONDUITS AND DITCHES UNLESS THERE IS A BYPASS IN PLACE FOR THE STORMWATER.

VEHICLE TRACKING OF SEDIMENT FROM THE CONSTRUCTION SITE (OR ONTO STREETS WITHIN THE SITE) MUST BE MINIMIZED BY BMPS SUCH AS STONE PADS, CONCRETE OR STEEL WASH RACKS, OR EQUIVALENT SYSTEMS. STREET SWEEPING MUST BE USED IF SUCH BMPS ARE NOT ADEQUATE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO THE STREET (SEE PART IV.E.4.D.).

THE PERMITTEE MUST MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL. MINIMIZING SOIL COMPACTION IS NOT REQUIRED WHERE THE FUNCTION OF THE SPECIFIC AREA OF THE SITE DICTATES THAT IT BE COMPACTED. METHODS FOR MINIMIZING COMPACTION INCLUDE THE USE OF TRACKED EQUIPMENT, AND STAYING OFF OF AREAS TO BE LEFT UN-COMPACTED. METHODS TO PRESERVE TOPSOIL INCLUDE STRIPPING AND STOCKPILING TOPSOIL PRIOR TO GRADING OR EXCAVATION OPERATIONS.

THE PERMITTEE MUST INSTALL TEMPORARY SEDIMENTATION BASINS AS REQUIRED IN PART II.B. OF THIS PERMIT.

DEWATERING AND BASIN DRAINING (PART IV.D):

DEWATERING OR BASIN DRAINING (E.G., PUMPED DISCHARGES, TRENCH/DITCH CUTS FOR DRAINAGE) RELATED TO THE CONSTRUCTION ACTIVITY THAT MAY HAVE TURBID OR SEDIMENT LADEN DISCHARGE WATER MUST BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN ON THE PROJECT SITE WHENEVER POSSIBLE. IF THE WATER CANNOT BE DISCHARGED TO A SEDIMENTATION BASIN PRIOR TO ENTERING THE SURFACE WATER, IT MUST BE TREATED WITH THE APPROPRIATE BMP'S SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE RECEIVING WATER. DOWNSTREAM LANDOWNERS OR WETLANDS, THE CONTRACTOR MUST ENSURE THAT DISCHARGE POINTS ARE ADEQUATELY PROTECTED FROM EROSION AND SCOUR. THE DISCHARGE MUST BE DISPERSED OVER NATURAL ROCK RIPRAP, SAND BAGS, PLASTIC SHEATHING OR OTHER ACCEPTED ENERGY DISSIPATION MEASURES. ADEQUATE SEDIMENTATION CONTROL MEASURES ARE REQUIRED FOR DISCHARGE WATER THAT CONTAINS SUSPENDED SOLIDS.

FILTER BACKWASH WATERS MUST BE HAULED AWAY FOR DISPOSAL, RETURNED TO THE BEGINNING OF THE TREATMENT PROCESS, OR INCORPORATE INTO THE SITE IN A MANNER THAT DOES NOT CAUSE EROSION. DISCHARGE OF THE BACKWASH WATER TO SANITARY SEWER IS ALLOWED WITH PERMISSION OF THE SANITARY SEWER AUTHORITY.

INSPECTIONS AND MAINTENANCE (PART IV.E):

THE CONTRACTOR IS RESPONSIBLE AT ALL TIMES FOR THE MAINTENANCE AND PROPER OPERATION OF EROSION AND SEDIMENT CONTROL FACILITIES. THE CONTRACTOR SHALL AT A MINIMUM, INSPECT, MAINTAIN AND REPAIR ALL DISTURBED SURFACES AND ALL EROSION AND SEDIMENT CONTROL FACILITIES AND SOIL STABILIZATION MEASURES ONCE EVERY DAY DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS FOLLOWING A RAINFALL OF 0.5 INCHES OR GREATER AND WITHIN 7 DAYS AFTER THAT, CONTINUE INSPECTION ACTIVITIES EVERY 7 DAYS UNTIL LAND-DISTURBING ACTIVITY HAS CEASED, THEREAFTER THE CONTRACTOR SHALL PERFORM THESE RESPONSIBILITIES AT LEAST WEEKLY UNTIL VEGETATIVE COVER IS ESTABLISHED. INSPECTIONS MUST INCLUDE STABILIZED AREAS, EROSION PREVENTION AND SEDIMENT CONTROL BMP'S AND INFILTRATION AREAS.

BASED ON INSPECTION RESULTS THE CONTRACTOR MAY MODIFY THE SWPPP IN ORDER TO PREVENT POLLUTANTS FROM LEAVING THE SITE VIA STORM WATER RUNOFF. THIS MODIFICATION MUST BE MADE WITHIN 7 CALENDAR DAYS OF THE INSPECTION UNLESS OTHERWISE REQUIRED BY THE TERMS OF THE PERMIT, LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS.

INSPECTION REPORTS MUST BE RECORDED WITHIN 24 HOURS IN WRITING AND KEPT ON FILE BY THE CONTRACTOR AS AN INTEGRAL PART OF THE SWPPP ON SITE AND THEN FOR AT LEAST 3 YEARS FROM THE DATE OF COMPLETION OF THIS PROJECT.

ALL PERMETER CONTROL DEVICES MUST BE REPAIRED, REPLACED OR SUPPLEMENTED WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE HEIGHT OF THE DEVICE. THESE REPAIRS MUST BE MADE BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY, OR THEREAFTER AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS, INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS, AND RESTABILIZE THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED TOPSOIL. THIS REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN 7 DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS.

SEE (ATTACHMENT A: CONSTRUCTION SWPPP TEMPLATE) FOR SITE SPECIFIC INSPECTIONS AND MAINTENANCE REQUIREMENTS.

POLLUTION PREVENTION MANAGEMENT (PART IV.F):

THE CONTRACTOR SHALL IMPLEMENT THE FOLLOWING POLLUTION PREVENTION MANAGEMENT MEASURES ON THE SITE:

SOLID WASTE: COLLECTED SEDIMENT, ASPHALT AND CONCRETE MILLINGS, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION AND DEMOLITION DEBRIS AND OTHER WASTES MUST BE DISPOSED OF PROPERLY AND MUST COMPLY WITH MINNESOTA POLLUTION CONTROL AGENCY (MPCA) DISPOSAL REQUIREMENTS.

HAZARDOUS MATERIALS: OIL, GASOLINE, PAINT AND ANY HAZARDOUS SUBSTANCES MUST BE PROPERLY STORED, INCLUDING SECONDARY CONTAINMENT, TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA REGULATIONS.

EXTERNAL WASHING OF TRUCKS AND OTHER CONSTRUCTION VEHICLES MUST BE LIMITED TO A DEFINED AREA OF THE SITE, RUNOFF MUST BE CONTAINED AND WASTEWATER PROPERLY DISPOSED OF. NO ENGINE DEGREASING IS ALLOWED ON SITE.

CONCRETE WASHOUT: ALL LIQUID AND SOLID WASTES GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. A COMPACTED CLAY LINER THAT DOES NOT ALLOW WASHOUT LIQUIDS TO ENTER THE GROUND IS CONSIDERED AN IMPERMEABLE LINER. THE LIQUID AND SOLID WASTES MUST NOT CONTACT THE GROUND, AND THERE MUST NOT BE RUNOFF FROM THE CONCRETE WASHOUT OPERATIONS OR AREAS. LIQUID AND SOLID WASTES MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA REGULATIONS. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES. CONCRETE WASHOUT MAY ALSO OCCUR OFF SITE ACCORDING TO THE APPROPRIATE REGULATIONS.

FUELING OPERATION PLAN: ALL FUELING SHALL TAKE PLACE AT THE DESIGNATED FUELING LOCATION AND ACCORDING TO BEST PRACTICES FOR SITE FUELING OPERATIONS AS TO MINIMIZE THE POTENTIAL FOR SPILLS.

SPILL PREVENTION PLAN: ALL SPILLS SHALL BE IMMEDIATELY CLEANED UP AFTER DISCOVERY. THE SITE SUPERINTENDENT, WHO IS RESPONSIBLE FOR DAY-TO-DAY ONSITE CONSTRUCTION OPERATIONS WILL BE THE SPILL PREVENTION COORDINATOR AND WILL BE RESPONSIBLE FOR IMPLEMENTING CLEAN UP PROCEDURES, POSTING CLEAN UP RECOMMENDATIONS, AND ENSURING PROPER CLEAN UP TRAINING OF APPROPRIATE PERSONNEL.

SANITARY AND SEPTIC WASTE: SANITARY/SEPTIC FACILITIES SHALL BE PROVIDED AND MAINTAINED IN A NEAT AND SANITARY CONDITION. FOR THE USE OF THE CONTRACTOR'S EMPLOYEES. A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS REQUIRED BY STATE REGULATIONS WILL COLLECT SANITARY WASTE FROM PORTABLE UNITS.

FINAL STABILIZATION (PART IV.G):

THE CONTRACTOR MUST ENSURE FINAL STABILIZATION OF THE SITE ACCORDING THE DEFINITIONS IN THE NPDES GENERAL PERMIT PART IV SECTION G. THE CONTRACTOR MUST SUBMIT A NOTICE OF TERMINATION (N.O.T.) WITHIN 30 DAYS AFTER FINAL STABILIZATION IS COMPLETE OR WITHIN 7 DAYS AFTER SELLING THE SITE OR PORTION OF THE SITE (THAT HAS NOT UNDERGONE FINAL STABILIZATION) TO ANOTHER PARTY. A COPY OF THIS NOTICE OF TERMINATION / PERMIT MODIFICATION FORM MUST GO TO THE NEW OWNER. THE ORIGINAL CURRENT OWNER MUST PROVIDE A SWPPP TO THE NEW OWNER THAT SPECIFICALLY ADDRESSES THE REMAINING CONSTRUCTION ACTIVITY. SEE THE SWPPP PLAN SHEETS AND SWPPP NARRATIVE (ATTACHMENT A: CONSTRUCTION SWPPP TEMPLATE) AND SWPPP PLAN SHEETS FOR FINAL STABILIZATION MEASURES

TRAINING (PART III.A.2)

DESIGN ENGINEER: MATTHEW R. PAVEK P.E.
TRAINING COURSE: DESIGN OF SWPPP
TRAINING ENTITY: UNIVERSITY OF MINNESOTA
INSTRUCTOR: JOHN CHAPMAN
DATES OF TRAINING COURSE: 5/15/2011 - 5/16/2011
TOTAL TRAINING HOURS: 12
RE-CERTIFICATION: 1/13/14-1/13/14 (8 HOURS), EXP. 5/31/2017

OWNER INFORMATION

OWNER:
ALBERT MILLER
2631 QUENTIN AVENUE SOUTH
ST. LOUIS PARK, MN 55416

AREAS AND QUANTITIES (PART III.A.4.B&C):

	EXISTING		PROPOSED	
BUILDING COVERAGE	0 SF	0.0%	53,466 SF	25.90%
ALL PAVEMENTS	13,390 SF	6.5%	48,141 SF	23.32%
ALL NON-PAVEMENTS	193,058 SF	93.5%	104,841 SF	50.78%
TOTAL SITE AREA	206,448 SF	100.0%	206,448 SF	100.0%
IMPERVIOUS SURFACE				
EXISTING CONDITION	13,390 SF	6.5%		
PROPOSED CONDITION	101,607 SF	49.2%		
DIFFERENCE	88,217 SF	42.7%		
DISTURBED AREA	220,000 SF			
CONSTRUCTION ENTRANCE	80 CY			
SILT FENCE/BIO-ROLL	2,800 LF			
EROSION CONTROL BLANKET	68,000 SF			
INLET PROTECTION DEVICES	28± EA			

NOTE: QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL DETERMINE FOR THEMSELVES THE EXACT QUANTITIES FOR BIDDING AND CONSTRUCTION.

SWPPP CONTACT PERSON

CONTRACTOR:
NOTTINGHAM CONSTRUCTION
6750 STILLWATER BLVD., SUITE #200
STILLWATER, MN 55082
CONTACT: GREG JOHSON
PHONE: 651-775-3690
EMAIL: GREG@NOTTINGHAMCONSTRUCTION.NET

SWPPP INSPECTOR TRAINING:
ALL SWPPP INSPECTIONS MUST BE PERFORMED BY A PERSON THAT MEETS THE TRAINING REQUIREMENTS OF THE NPDES CONSTRUCTION SITE PERMIT.
TRAINING CREDENTIALS SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON SITE WITH THE SWPPP

PARTY RESPONSIBLE FOR LONG TERM OPERATION AND MAINTENANCE OF PERMANENT STORM WATER MANAGEMENT SYSTEM

PERMANENT STORMWATER MANAGEMENT IS REQUIRED AS PART OF THIS PROJECT TO MEET NPDES PERMIT REQUIREMENTS. THE PROPERTY OWNER IS RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PROPOSED STORMWATER SYSTEM.

SWPPP ATTACHMENTS:

CONTRACTOR SHALL OBTAIN A COPY OF THE FOLLOWING SWPPP ATTACHMENTS WHICH ARE A PART OF THE OVERALL SWPPP PACKAGE:
ATTACHMENT A. CONSTRUCTION SWPPP TEMPLATE - SITE SPECIFIC SWPPP DOCUMENT
ATTACHMENT B. CONSTRUCTION STORMWATER INSPECTION CHECKLIST
ATTACHMENT C. MAINTENANCE PLAN FOR PERMANENT STORM WATER TREATMENT SYSTEMS
ATTACHMENT D. STORMWATER MANAGEMENT REPORT - ON FILE AT THE OFFICE OF PROJECT ENGINEER. AVAILABLE UPON REQUEST.
ATTACHMENT E. GEOTECHNICAL EVALUATION REPORT - ON FILE AT THE OFFICE OF PROJECT ENGINEER. AVAILABLE UPON REQUEST.

SUPPLEMENTARY SITE SPECIFIC EROSION CONTROL NOTES:

THESE NOTES SUPERCEDE ANY GENERAL SWPPP NOTES.

PROJECT NARRATIVE:

THE PROPOSED PROJECT IS THE CONSTRUCTION OF A NEW SENIOR LIVING FACILITY ON AN EXISTING VACANT SITE. SITE, GRADING AND LANDSCAPE IMPROVEMENTS WILL OCCUR.

SPECIAL TMDL BMP REQUIREMENTS SITE SPECIFIC (IF REQUIRED):

THIS PROJECT IS WITHIN ONE MILE AND DISCHARGES TO THE MINNESOTA RIVER - THE MINNESOTA RIVER IS IDENTIFIED AS AN IMPAIRED WATER BODY PER THE MPCA'S 303(D) IMPAIRED WATERS LIST. THE MINNESOTA RIVER IS IMPAIRED FOR MERCURY, DISSOLVED OXYGEN, PCB IN FISH TISSUES AND TURBIDITY. BECAUSE THESE WATERS ARE LOCATED WITHIN ONE MILE OF THE SITE, BMPS AS DEFINED IN THE NPDES PERMIT C.1 AND C.2 IN APPENDIX A APPLY. THESE ARE AS FOLLOWS.

1. DURING CONSTRUCTION.
   A. STABILIZATION OF ALL EXPOSED SOIL AREAS MUST BE INITIATED IMMEDIATELY TO LIMIT SOIL EROSION BUT IN NO CASE COMPLETED LATER THAN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
   B. TEMPORARY SEDIMENT BASIN REQUIREMENTS DESCRIBED IN PART II.C. MUST BE USED FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH FIVE (5) OR MORE ACRES DISTURBED AT ONE TIME.
2. POST CONSTRUCTION THE WATER QUALITY VOLUME THAT MUST BE RETAINED ON SITE BY THE PROJECTS PERMANENT STORMWATER MANAGEMENT SYSTEM DESCRIBED IN PART II.D. SHALL BE ONE (1) INCH OF RUNOFF FROM THE NEW IMPERVIOUS SURFACES CREATED BY THE PROJECT. SEE PART II.D.1. FOR MORE INFORMATION ON INFILTRATION DESIGN, PROHIBITIONS AND APPROPRIATE SITE CONDITIONS.

PERMANENT STABILIZATION NOTES SITE SPECIFIC:

PERMANENT SEED MIX:
- FOR THIS PROJECT ALL AREAS THAT ARE NOT TO BE SODDED OR LANDSCAPED SHALL RECEIVE A NATIVE PERMANENT SEED MIX.
  - ** AREAS IN BUFFERS AND ADJACENT TO OR IN WET AREAS MNDOT SEED MIX 33-261 (STORMWATER SOUTH AND WEST) AT 35 LBS PER ACRE.
  - ** DRY AREAS MNDOT SEED MIX 35-221 (DRY PRAIRIE GENERAL) AT 40 LBS PER ACRE.
- MAINTENANCE SHALL BE IN ACCORDANCE TO THE MNDOT SEEDING MANUAL.

CITY OF EDEN PRAIRIE SITE SPECIFIC REQUIREMENTS

THE CONTRACTORS SWPPP INSPECTOR SHALL BE RESPONSIBLE FOR ALL MONITORING, DATA ENTRY AND REPORTING TO THE PERMITRACK ESC WEB-BASED EROSION AND SEDIMENT PERMIT TRACKING PROGRAM UTILIZED BY THE CITY.

CivilSite GROUP
4931 W. 35TH ST. SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
Matt Pavek 763-213-3944
Pat Sarver 952-250-2003

koch wilson architects

PROJECT
PRAIRIE BLUFFS SENIOR LIVING
EDEN PRAIRIE, MN
ALBERT MILLER
2631 QUENTIN AVENUE SOUTH, ST. LOUIS PARK, MN 55416

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.

David J. Knaeble
DATE 5/19/17 LICENSE NO. 48776

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
8/17/16	CITY RESUBMITTAL
9/12/16	CITY RESUBMITTAL
9/23/16	CITY RESUBMITTAL
12/19/16	CITY RESUBMITTAL
1/26/17	CITY RESUBMITTAL
3/16/17	WATERSHED SUBMITTAL
4/26/17	WATERSHED RESUBMITTAL
5/19/17	WATERSHED RESUBMITTAL

REVISION SUMMARY

DATE	DESCRIPTION

SWPPP - NARRATIVE

SW1.3

ATTACHMENT A: SITE SPECIFIC SWPPP DOCUMENT

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Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

Attachment A: SWPPP Site Specific Document

Stormwater Pollution Prevention Plan (SWPPP)
To comply with the General Stormwater Permit for Construction Activity

Doc Type: Stormwater Pollution Prevention Plan

Construction Activity Information

Project name: EDEN PRAIRIE SENIOR LIVING

Project location (Briefly describe where construction activity occurs. Include address if available.)
Address or describe area: 10280 HENNEPIN TOWN ROAD
City or Township: EDEN PRAIRIE State: MN Zip code: 55347
Latitude/longitude of approximate centroid of project: 44.817634/-93.400054
Method of collection of latitude/longitude:
☐ GPS ☒ Online tool ☐ USGS Topographic map
All cities where construction will occur: EDEN PRAIRIE
All counties where construction will occur: HENNEPIN
All townships where construction will occur:

Project size (number of acres to be disturbed): 4.7

Project type:
☐ Residential ☐ Commercial/Industrial ☐ Road construction
☐ Residential and road construction ☒ Other (describe): SENIOR LIVING

Cumulative impervious surface:
Existing area of impervious surface: 0.3 (to the nearest tenth acre)
Post construction area of impervious surface: 2.5 (to the nearest tenth acre)
Total new area of impervious surface: 2.2 (to the nearest tenth acre)

Receiving waters

Water body ID*	Name of water body	Type (ditch, pond, wetland, lake, stream, river)	Special water? (See Stormwater Permit Appendix A)	Impaired Water?** (See Stormwater Permit Appendix A)
07020012-505	MN RIVER	RIVER	☐ Yes ☒ No	☒ Yes ☐ No
			☐ Yes ☐ No	☐ Yes ☐ No
			☐ Yes ☐ No	☐ Yes ☐ No
			☐ Yes ☐ No	☐ Yes ☐ No

* Water Body identification (ID) might not be available for all water bodies. Use the Special and Impaired Waters Search Tool at www.pca.state.mn.us/water/stormwater/stormwater-c.html
** Impaired water for the following pollutant(s) or stressor(s): phosphorus, turbidity, dissolved oxygen, or biotic impairment

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Dates of construction (Briefly describe where construction activity occurs. Include address if available.)
Construction start date: 9/1/16 Estimated completion date: 9/1/17

General Construction Project Information

Describe the construction activity (what will be built, general timeline, etc): THE PROJECT WILL BE THE CONSTRUCTION OF A SENIOR LIVING BUIDING, PARKING LOT AND LANDSCAPE IMPROVEMENTS ON A VACANT SITE.
Describe soil types found at the project: THE EXISTING SOILS AT THE SITE ARE PRIMARILY SANDS/SILTY SANDS.

Site Location map - **Attach maps (U.S. Geologic Survey 7.5 minute quadrangle, National Wetland Inventory maps or equivalent) showing the location and type of all receiving waters, including wetlands, drainage ditches, stormwater ponds or basins, etc. that will receive runoff from the project. Use arrows showing the direction of flow and distance to the water body**

EP-SENIOR
TOPO MAP

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General Site Information (III.A)

1. Describe the location and type of all temporary and permanent erosion prevention and sediment control Best Management Practices (BMPs). Include the timing for installation and procedures used to establish additional temporary BMPs as necessary. (III.A.4.a)
   THE PROJECT WILL BE PROTECTED BY TWO (2) MAIN BMP'S, SILT FENCE AND INLET PROTECTION DEVICES. THE SILT FENCE WILL BE INSTALLED AT THE DOWNHILL LOCATIONS OF THE SITE AND MONITORED AS NECESSARY. INLET PROTECTION DEVICES WILL BE INSTALLED IN ALL CATCH BASINS ON THE SITE AND ANY OFF SITE THAT WILL RECEIVE STORMWATER RUNOFF FROM THIS SITE. AS THE PROJECT PROGRESSES ADDITIONAL BMP'S SUCH AS EROSION CONTROL BLANKET MAY BE UTILIZED.
2. Attach to this SWPPP a table with the anticipated quantities for the life of the project for all erosion prevention and sediment control BMPs (III. A. 4.b)
   SEE PAGE SW1.3
3. Attach to this SWPPP a site map that includes the following features (III.A.3.b – f):
   - Existing and final grades, including dividing lines and direction of flow for all pre and post-construction stormwater runoff drainage areas located within the project limits.
   - Locations of impervious surfaces and soil types.
   - Locations of areas not to be disturbed.
   - Location of areas of phased construction.
   - All surface waters and existing wetlands within one mile from the project boundaries that will receive stormwater runoff from the site (identifiable on maps such as USGS 7.5 minute quadrangle maps or equivalent). Where surface waters receiving runoff associated with construction activity will not fit on the plan sheet, they must be identified with an arrow, indicating both direction and distance to the surface water.

   Methods to be used for final stabilization of all exposed soil areas.
4. Were stormwater mitigation measures required as the result of an environmental, archaeological, or other required local, state, or federal review of the project? ☐ Yes ☒ No
   If yes, describe how these measures were addressed in the SWPPP. (III.A.6.)
   N/A
5. Is the project located in a karst area such that additional measures would be necessary to protect drinking water supply management areas as described in Minn. R. chapters 7050 and 7060? ☐ Yes ☒ No
   If yes, describe the additional measures to be used. (III.A.7.)
   N/A
6. Does the site discharge to a calcareous fen listed in Minn. R. 7050.0180, subp. 6.b.? ☐ Yes ☒ No
   If yes, a letter of approval from the Minnesota Department of Natural Resources must be obtained prior to application for this permit. (Part I.B.6 and Part III.A.8)
7. Does the site discharge to a water that is listed as impaired for the following pollutant(s) or stressor(s): phosphorus, turbidity, dissolved oxygen or biotic impairment? Use the Special and Impaired Waters Search Tool at: www.pca.state.mn.us/water/stormwater/stormwater-c.html. ☒ Yes ☐ No
   If no, skip to Training.
   Does the impaired water have an approved Total Maximum Daily Loads (TMDL) with an Approved Waste Load Allocation for construction activity? ☐ Yes ☒ No
   If yes:
   a. List the receiving water, the areas of the site discharging to it, and the pollutant(s) identified in the TMDL.
   b. List the BMPs and any other specific construction stormwater related implementation activities identified in the TMDL.

   If the site has a discharge point within one mile of the impaired water and the water flows to the impaired water but no specific BMPs for construction are identified in the TMDL, the additional BMPs in Appendix A (C.1, C.2, C.3 & (C.4-trout stream)) must be added to the SWPPP and implemented. (III.A.7). The additional BMPs only apply to those portions of the project that drain to one of the identified discharge points.

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N/A

8. Identify adjacent public waters where the Minnesota Department of Natural Resources (DNR) has declared "work in water restrictions" during fish spawning timeframes
   N/A

Selection of a Permanent Stormwater Management System (III.D.)

1. Will the project create a new cumulative impervious surface greater than or equal to one acre? ☒ Yes ☐ No
   If yes, a water quality volume of one inch of runoff from the cumulative new impervious surfaces must be retained on site (see Part III.D of the permit) through infiltration unless prohibited due to one of the reasons in Part III.D.1.j. If infiltration is prohibited identify other method of other volume reduction (e.g., filtration system, wet sedimentation basin, regional ponding or equivalent method
2. Describe which method will be used to treat runoff from the new impervious surfaces created by the project (III.D):
   - Wet sedimentation basin
   - Infiltration/Filtration
   - Regional ponds
   - Combination of practices

   Include all calculations and design information for the method selected. See Part III.D of the permit for specific requirements associated with each method.
   INFILTRATION/FILTRATION
   Calculations are within the Site Storm Water management Report and part of this SWPPP as Attachment D.
3. If it is not feasible to meet the treatment requirement for the water quality volume, describe why. This can include proximity to bedrock or road projects where the lack of right of way precludes the installation of any permanent stormwater management practices. Describe what other treatment, such as grasses swales, smaller ponds, or grit chambers, will be implemented to treat runoff prior to discharge to surface waters. (III.C)
   IT IS FEASIBLE TO MEET REQUIREMENT FOR WATER QUALITY VOLUME.
4. For projects that discharge to trout streams, including tributaries to trout streams, identify method of incorporating temperature controls into the permanent stormwater management system.
   N/A

Erosion Prevention Practices (IV.B)

Describe the types of temporary erosion prevention BMPs expected to be implemented on this site during construction:

1. Describe construction phasing, vegetative buffer strips, horizontal slope grading, and other construction practices to minimize erosion. Delineate areas not to be disturbed (e.g., with flags, stakes, signs, silt fence, etc.) before work begins.
   SILT FENCE WILL BE INSTALLED AT THE DOWNHILL LOCATIONS OF THE SITE.
2. Describe Methods of temporarily stabilizing soils and soil stockpiles (e.g., mulches, hydraulic tackifiers, erosion blankets, etc.):
   TEMPORARY EROSION PROTECTION WILL BE SEED AND MULCH AND EROSION BLANKETS WHERE REQUIRED. WITH PERMANENT COVER BEING EITHER SOD OR LANDSCAPE FEATURES.
3. Describe Methods of dissipating velocity along stormwater conveyance channels and at channel outlets (e.g., check dams, sediment traps, rip rap, etc.):
   SOD WILL BE UTILIZED ALONG CHANNELS AND RIP RAP AT CHANNEL OUTLETS.
4. Describe Methods to be used for stabilization of ditch and swale wetted perimeters (Note that mulch, hydraulic soil tackifiers, hydromulches, etc. are not acceptable soil stabilization methods for any part of a drainage ditch or swale)
   FINAL STABILIZATION OF SWALES WILL BE SOD.
5. Describe Methods to be used for energy dissipation at pipe outlets (e.g., rip rap, splash pads, gabions, etc.

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RIP RAP WILL BE UTILIZED AT PIPE OUTLETS.

6. Describe Methods to be used to promote infiltration and sediment removal on the site prior to offsite discharge, unless infeasible (e.g., direct stormwater flow to vegetated areas):
   DISCONNECTED IMPERVIOUS AREA AND INFILTRATION AREAS WILL BE UTILZED.
7. For drainage or diversion ditches, describe practices to stabilize the normal wetted perimeter within 200 lineal feet of the property edge or point of discharge to surface water. The last 200 lineal feet must be stabilized within **24 hours** after connecting to surface waters and construction in that portion of the ditch has temporarily or permanently ceased for all discharges to Special, Impaired or "work in water restrictions". All other remaining portions of the temporary or permanent ditches or swales within 14 calender days after connecting to a surface water, property edge and construction in that area has temporarily or permanently ceased.
   N/A – NO DITCHES ON SITE.
8. Describe additional erosion prevention measures that will be implemented at the site during construction (e.g., construction phasing, minimizing soil disturbance, vegetative buffers, horizontal slope grading, slope draining/terracing, etc.):
   OTHER EROSION CONTROL PRACTICES INCLUDE BUT NOT LIMITED TO: MINIMIZE SITE EXPOSURE WHEN POSSIBLE.
9. If applicable, include additional requirements in Appendix A Part C.3 regarding maintaining a 100-foot buffer zone or installing redundant BMPs for portions of the site that drain to special waters).
   N/A
10. If applicable, describe additional erosion prevention BMPs to be implemented at the site to protect planned infiltration areas.
    MINIMIZE SITE EXPOSURE IN AREAS ADJACENT TO INFILTRATION AREA.

Sediment Control Practices (IV.C)

Describe the methods of sediment control BMPs to be implemented at this site during construction to minimize sediment impacts to surface waters, including curb and gutter systems

1. Describe Methods to be used for down gradient perimeter control:
   SILT FENCE WILL BE INSTALLED AROUND THE ENTIRE PERIMETER OF THE SITE.
2. Describe Methods to be used to contain soil stockpiles:
   SEED AND MULCH AS WELL AS EROSION CONTROL BLANKETS WILL BE UTILIZED AS NECESSARY.
3. Describe Methods to be used for storm drain inlet protection:
   SEE INLET PROTECTION DETAILS.
4. Describe Methods to minimize vehicle tracking at construction exits and street sweeping activities:
   THE PROJECT WILL UTILIZE A ROCK CONSTRUCTION ENTRANCE.
5. Describe Methods, if applicable, additional sediment controls (e.g., diversion berms) to be installed to keep runoff away from planned infiltration areas when excavated prior to final stabilization of the contributing drainage area:
   SILT FENCE TO BE INSTALLED IMMEDIATELY AFTER GRADING TO PROTECT INFILTRATION AREAS.
6. Describe methods to be used to minimize soil compaction and preserve top soil (unless infeasible) at this site:
   LIGHT TRACKED EQUIPMENT WILL BE USED. TOPSOIL WILL BE STRIPPED AND STOCKPILED.
7. Describe plans to preserve a 50-foot natural buffer between the project's soil disturbance and a surface water or plans for redundant sediment controls if a buffer is infeasible:
   DOUBLE ROW OF SILT FENCE WILL BE INSTALLED ALONG WETLAND. PROJECT WILL NOT DISTURB WITHIN 20 FEET OF WETLAND.
8. Describe plans for use of sedimentation treatment chemicals (e.g., polymers, flocculants, etc.) see Part IV.C.10 of the permit:
   N/A
9. Is the project required to install a temporary sediment basin due to 10 or more acres draining to a common location or 5 acres or more if the site is within 1 mile of a special or impaired water? ☐ Yes ☒ No

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If yes, describe (or attach plans) showing how the basin will be designed and constructed in accordance with Part III.C of the permit.
N/A

Dewatering and Basin Draining (IV.D)

1. Will the project include dewatering or basin draining? ☐ Yes ☒ No
   If yes, describe measures to be used to treat/dispose of turbid or sediment-laden water and method to prevent erosion or scour of discharge points (see Part IV. D of the permit):
2. Will the project include use of filters for backwash water? ☐ Yes ☒ No
   If yes, describe how filter backwash water will be managed on the site or properly disposed (see Part III.D.3. of the permit):

Additional BMPs for Special Waters and Discharges to Wetlands (Appendix A, Parts C and D)

1. **Special Waters.** Does your project discharge to special waters? ☐ Yes ☒ No
2. If proximity to bedrock or road projects where the lack of right of way precludes the installation of any of the permanent stormwater management practices, then other treatment such as grassed swales, smaller ponds, or grit chambers is required prior to discharge to surface waters. Describe what other treatment will be provided.
   N/A
3. Describe erosion and sediment controls for exposed soil areas with a continuous positive slope to a special waters, and temporary sediment basins for areas that drain five or more acres disturbed at one time.
   N/A
4. Describe the undisturbed buffer zone to be used (not less than 100 linear feet from the special water).
   N/A
5. Describe how the permanent stormwater management system will ensure that the pre and post project runoff rate and volume from the 1, and 2-year 24-hour precipitation events remains the same.
   N/A
6. Describe how the permanent stormwater management system will minimize any increase in the temperature of trout stream receiving waters resulting in the 1, and 2-year 24-hour precipitation events.
   N/A
7. **Wetlands.** Does your project discharge stormwater with the potential for significant adverse impacts to a wetland (e.g. conversion of a natural wetland to a stormwater pond)? ☐ Yes ☒ No
   If Yes, describe the wetland mitigation sequence that will be followed in accordance with Part D of Appendix A.
   N/A

Inspections and Maintenance (IV.E)

Describe procedures to routinely inspect the construction site:

- Once every seven (7) days during active construction and,
- Within 24 hours after a rainfall event greater than 0.5 inches in 24 hours, and within seven (7) days after that.

Inspections must include stabilized areas, erosion prevention and sediment control BMPs, and infiltration areas.

INSPECTOR WILL FOLLOW REQUIREMENTS SPECIFIED ABOVE AND FILL OUT "ATTACHMENT B – CONSTRUCTION STORMWATER INSPECTION CHECKLIST."

CivilSite GROUP

Pollution Prevention Management Measures (IV.F)

1. Describe practices for storage of building products with a potential to leach pollutants to minimize exposure to stormwater:
   ALL BUILDING PRODUCTS WILL BE SEALED AND STORED IN A MANNER TO MINIMIZE EXPOSURE.
2. Describe practices for storage of pesticides, herbicides, insecticides, fertilizers, treatment chemical, and landscape materials:
   ALL LANDSCAPE TREATMENT CHEMICALS WILL BE SEALED AND STORED IN A MANNER TO MINIMIZE EXPOSURE.
3. Describe practices for storage and disposal of hazardous materials or toxic waste (e.g., oil, fuel, hydraulic fluids, paint solvents, petroleum-based products, wood preservative, additives, curing compounds, and acids) according to Minn. R. ch. 7045, including restricted access and secondary containment:
   ALL HAZARDOUS WASTE WILL BE APPROPRIATELY DISPOSED OF OFF SITE ACCORDING TO LOCAL AND STATE LAWS.
4. Describe collection, storage and disposal of solid waste in compliance with Minn. R. ch. 7035:
   ALL CONSTRUCTION DEBRIS AND SOLID WASTE WILL BE APPROPRIATELY DISPOSED OF OFF SITE ACCORDING TO LOCAL AND STATE LAWS.
5. Describe management of portable toilets to prevent tipping and disposal of sanitary wastes in accordance with Minn. R. ch. 7040:
   SANITARY AND SEPTIC SERVICES WILL BE PROVIDED TO WORKERS WITH PORTABLE FACILITIES MAINTAINED AS NEEDED BY THE PROVIDER.
6. Describe spill prevention and response for fueling and equipment or vehicle maintenance:
   EMPLOYEES WILL BE TRAINED IN TECHNIQUES DESIGNED TO MINIMIZE SPILLS. VEHICLES AND EQUIPMENT SHALL BE CHECKED FOR LEAKS.
7. Describe containment and disposal of vehicle and equipment wash water and prohibiting engine degreasing on the site:
   ALL CONSTRUCTION VEHICLES SHALL BE WASHED OFF SITE.
8. Describe storage and disposal of concrete and other washout wastes so that wastes do not contact the ground:
   ALL CONCRETE WASHOUT SHALL OCCUR OFF SITE.

Final Stabilization (IV.G)

1. **Describe method of final stabilization (permanent cover) of all disturbed areas:**
   FINAL STABILIZATION WILL BE ACCOMPLISHED WITH PAVEMENT, SOD AND LANDSCAPE MATERIALS.
2. **Describe procedures for completing final stabilization and terminating permit coverage (see Part IV.G.1-5):**
   UPON FINAL STABILIZATION DESCRIBED ABOVE, THE CONTRACTOR AND OWNER SHALL MUTUALLY TRANSFER THE NPDES PERMIT TO THE NEXT OWNER WITH DOCUMENTS DESCRIBING THE NATURE OF TERMINATION PROCEDURE.

Documentation of infeasibility: (If Applicable)

CivilSite GROUP
4931 W. 35TH ST. SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
Matt Pavek 763-213-3944
Pat Sarver 952-250-2003

KW kaas wilson architects

PROJECT
PRAIRIE BLUFFS SENIOR LIVING
EDEN PRAIRIE, MN

ALBERT MILLER
2631 QUENTIN AVENUE SOUTH, ST. LOUIS PARK, MN 55416

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.

David J. Knaeble
DATE 5/19/17 LICENSE NO. 48776

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
8/17/16	CITY RESUBMITTAL
9/12/16	CITY RESUBMITTAL
9/23/16	CITY RESUBMITTAL
12/15/16	CITY RESUBMITTAL
1/26/17	CITY RESUBMITTAL
3/16/17	WATERSHED SUBMITTAL
4/20/17	WATERSHED RESUBMITTAL
5/19/17	WATERSHED RESUBMITTAL

REVISION SUMMARY

DATE	DESCRIPTION

SWPPP - ATTACHMENTS

SW1.4

ATTACHMENT B: SWPPP INSPECTION FORM

CivilSite GROUP

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

ATTACHMENT B:
Construction Stormwater Inspection Checklist

Construction Stormwater Program

Star Type Permitting Checklist

Note: This inspection report does not address all aspects of the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Construction Stormwater permit (Permit) issued on August 1, 2013. The completion of this checklist does not guarantee that all permit requirements are in compliance; it is the responsibility of the Permittee(s) to read and understand the permit requirements.

Facility Information

Site name: EDEN PRAIRIE SENIOR

Facility address: 10280 HENNEPIN TOWN ROAD Permit number:

City: EDEN PRAIRIE State: MN Zip code: 55347

Inspection Information

Inspector name: Phone number:

Date (mm/dd/yyyy): Time: ☐ am ☐ pm

Is the inspector certified in sediment and erosion control and it is documented in the Stormwater Pollution Prevention Plan (SWPPP)? ☐ Yes ☐ No

Is this inspection routine or in response to a storm event:

Rainfall amount (if applicable):

Is site within one aerial mile of special or impaired water? ☐ Yes ☐ No

If yes, follow Appendix A and other applicable permit requirements.

Note: If NA is selected at any time, specify **why** in the comment area for that section.

Erosion Control Requirement (Part IV.B)

	Yes	No	NA
1. Soil stabilization where no construction activity for 14 days? (7 days were applicable)	☐	☐	☐
2. Has the need to disturb steep slopes been minimized?	☐	☐	☐
3. All ditches stabilized 200' back from point of discharge within 24 hours? (Not mulch)	☐	☐	☐
4. Are there erosion BMPs for onsite stockpiles?	☐	☐	☐
5. Are appropriate BMPs installed protecting inlets/outlets?	☐	☐	☐

3. Does on-site fueling only occur in a contained area?	☐	☐	☐
4. Are all solid wastes being properly disposed of?	☐	☐	☐
5. Is the concrete washout area completely contained?	☐	☐	☐
6. Is the concrete washout area marked with a sign?	☐	☐	☐

Comments:

7. Were any discharges seen during this inspection, sediment, water, or otherwise? ☐ Yes ☐ No

If yes, state the exact location of all points of discharge. Photograph the discharge and describe the discharge (color, odor, foam, oil sheen, etc). How will it be removed? How did the discharge happen? How much was discharged? How will it be stopped, and how long will it take to stop? Is the discharge going into an adjacent site? Was the discharge a sediment delta? If yes, will the delta be recovered within 7 days?

8. Will a permanent stormwater management system be utilized in this project as required and in accordance with Part III.D of the permit? Describe:

9. Is any dewatering occurring on site? ☐ Yes ☐ No

If yes, where? What BMP is being used? How much water is being dewatered? Is the water clear? Where is the water being discharged to?

10. Is a copy of the SWPPP located on the construction site? ☐ Yes ☐ No

11. Has the SWPPP been followed and implemented on site? ☐ Yes ☐ No

12. Is a sedimentation basin required for this project as specified in the permit? ☐ Yes ☐ No

If yes, are they maintained as specified in the permit? ☐ Yes ☐ No

13. Is the topsoil on this project being preserved? ☐ Yes ☐ No

If yes, explain how the topsoil is being preserved. If not, explain why it was infeasible.

14. Are all infiltration systems marked to avoid compaction? ☐ Yes ☐ No

Do all infiltration areas have pretreatment devices? ☐ Yes ☐ No

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

6. Do pipe outlets have energy dissipation?	☐	☐	☐

Comments:

Sediment Control Requirement (Part IV.C.)

	Yes	No	NA
1. Perimeter control installed on all down gradient perimeters?	☐	☐	☐
2. Perimeter control trenched in where appropriate?	☐	☐	☐
3. 50 Foot natural buffer maintained around all surface waters?	☐	☐	☐
If No, have redundant sediment controls been installed?	☐	☐	☐
4. Inlet protection or all catch basins and culvert inlets?	☐	☐	☐
5. Vehicle tracking Best Management Practices (BMPs) at all site exits?	☐	☐	☐
6. All tracked sediment removed within 24 hours?	☐	☐	☐
7. Are all infiltration systems staked and marked to avoid compaction?	☐	☐	☐
8. Are all infiltration areas protected with a pretreatment device?	☐	☐	☐
9. Do all stockpiles have perimeter control?	☐	☐	☐

Comments:

Maintenance-Erosion and Sediment Control BMPs (Part IV.E.)

	Yes	No	NA
1. Are all previously stabilized areas maintaining 90% ground cover?	☐	☐	☐
2. Any ditch erosion observed?	☐	☐	☐
3. Perimeter Control – Has sediment reached one half the height of the device?	☐	☐	☐
4. Are inlet protection devices maintained and functioning properly?	☐	☐	☐

Comments:

Other

	Yes	No	NA
1. Are all materials that can leach pollutants under cover?	☐	☐	☐
2. Has access been restricted to onsite hazardous materials?	☐	☐	☐

16. Proposed amendments to the SWPPP?

17. Potential areas of future concern

18. Additional comments:

Disclosures:

- After discovery, the permit requires many of the deficiencies that may be found in this checklist be corrected within a specified period of time. See permit for more details.
- This inspection checklist is an option for small construction sites. Large construction sites and linear projects require more extensive/more location specific inspection requirements.
- The Permittee(s) is/are responsible for the inspection and maintenance of temporary and permanent water quality management BMPs as well as erosion prevention and sediment control BMPs until another Permittee has obtained coverage under this Permit according to Part II.B.5., or the project has undergone Final Stabilization and a Notice of Termination has been submitted by the MPCA.

ATTACHMENT C: MAINTENANCE PLAN FOR PERMANENT STORM WATER TREATMENT SYSTEM

ATTACHMENT C

STORMWATER MANAGEMENT FACILITY
MAINTENANCE SCHEDULE

1. All stormwater retention, detention and treatment basins must be inspected at least once a year to determine that basin retention and treatment characteristics are adequate. A storage treatment basin will be considered inadequate if sediment has decreased the wet storage volume by 50 percent or dry storage volume by 25 percent of its original design volume. Based on this inspection, if a stormwater basin requires sediment cleanout, the basin will be restored to its original design contours and vegetated state within one year of the inspection date.

2. All outlet structures, culverts, outfall structures and other stormwater facilities for which maintenance requirements are not otherwise specified herein must be inspected in the spring, summer and fall of each year. Within 30 days of the inspection date, all accumulated sediment and debris must be removed such that each stormwater facility operates as designed and permitted. Contributing drainage areas must be kept clear of litter and vegetative debris, inflow pipes and overflow spillways kept clear, inlet areas kept clean, and undesirable vegetation removed. Erosion impairing the function or integrity of the facilities, if any, will be corrected, and any structural damage impairing or threatening to impair the function of the facilities must be repaired.

3. Volume control facilities and contributing drainage areas must be inspected every three months during the operational period (between spring snowmelt and first substantial snowfall) and monitored after rainfall events of 1 inch or more to ensure that the contributing drainage area is clear of litter and debris, inflow pipes and overflow spillways are clear, inlet areas are clean, undesirable vegetation is removed and there is no erosion impairing or threatening to impair the function of a facility. If sediment has accumulated in an infiltration feature, within 30 days of inspection deposited sediments must be removed, the infiltration capacity of the underlying soils must be restored, and any surface disturbance must be stabilized. Inspection must ensure that sediment traps and forebays are trapping sediment and that more than 50 percent of the storage volume remains, the contributing drainage area is stable

1

(i.e., no erosion is observed), and inlets and outlet/overflow spillways are in good conditions with no erosion. Maintenance techniques used must protect the infiltration capacity of the practice by limiting soil compaction to the greatest extent possible (e.g., by using low-impact earth-moving equipment).

2

CivilSite GROUP
4931 W. 35TH ST. SUITE 200
ST. LOUIS PARK, MN 55416
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Matt Pavek 763-213-3944
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REVISION SUMMARY

DATE	DESCRIPTION

SWPPP - ATTACHMENTS

SW1.5

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

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

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2017-038

Received complete: May 19, 2017

Applicant: Pulte Homes, Attn: Paul Heuer

Consultant: Mark Rausch, Alliant Engineering

Project: West Park – Construction of 82-multifamily units in a residential subdivision. A stormwater detention pond which will be used for irrigation reuse and a bioretention basin are to be constructed to provide storm water rate, volume, and quality control.

Location: 760 & 781 Lake Susan Drive and 8601 Great Plains Boulevard, Chanhassen, MN

Reviewer: Terry Jeffery, Permit Coordinator

Rules: Applicable rules checked

	Rule B: Floodplain Management		Rule H: Appropriation of Public Waters
X	Rule C: Erosion and Sediment Control		Rule I: Appropriation of Groundwater
	Rule D: Wetland and Creek Buffers	X	Rule J: Stormwater Management
	Rule E: Dredging and Sediment Removal		Rule K: Variances and Exceptions
	Rule F: Shoreline/Streambank Stabilization	X	Rule L: Permit Fees
	Rule G: Waterbody Crossings	X	Rule M: Financial Assurances

Rule Conformance Summary

Rule	Issue		Conforms to RBPCWD Rules?	Comments
C	**Erosion Control Plan**		See Comment	See Rule Specific Permit Condition C1.
J	**Stormwater Management**	Rate	Yes	
		Volume	Yes	
		Water Quality	Yes	
		Low Floor Elev.	Yes	
		Maintenance	See Comment	See Rule Specific Permit Condition J1.
L	**Permit Fee**		Yes	$3,000 was received on May 19, 2017.
M	**Financial Assurance**		See Comment	The financial assurance has been calculated at $106,592.

Project Description

The project proposes the subdivision of four parcels into a high density residential development comprised of 16 multi-family buildings and the construction of approximately 1,100 feet of private road and other appurtenant structures and utilities. The subject property is currently a farmstead with a residence and several outbuildings. These will be demolished as part of the development.

An area of the site was reviewed that had wetland characteristics but was determined to be non-jurisdictional as it was incidental to the realignment of State Highway 101 and there are no other wetlands or other protected resources on or adjacent to the site, therefore Rule D (buffers) is not triggered. The project includes a stormwater detention basin that will be used for reuse to irrigate open space and a bioretention feature. The project site information is summarized below:

1. Total Site Area: 10.57 acres
2. Existing Site Impervious Area: 0.65 acres
3. New (Increase) in Site Impervious Area: 4.80 acres (738% increase in site impervious area)
4. Total Disturbed Area: 10.5 acres

Exhibits:

1. Permit Application dated May 19, 2017.
2. Preliminary Plat Plan (Sheets 1-29) dated May 19, 2017 (revised June 5, 2017).
3. Final Plat Plan (Sheets 1-23) dated May 19, 2017 (revised June 5, 2017).
4. Stormwater Management Hydrologic and Hydraulic (H&H) Study dated May 19, 2017 (revised June 5, 2017).
5. HydroCAD Model in May 19, 2017 Stormwater Management H&H Study (dated May 17, 2017).
6. Geotechnical Evaluation Report by Brau Intertec dated May 31, 2017.
7. Soil boring logs performed by Haugo Geotechnical Services, LLC on June 27, 2013.
8. RWMWD Reuse Calculator Irrigation Excel spreadsheet dated May 22, 2017.
9. Technical Memorandum from Alliant Engineering, Watershed Submittal Comment Response Memo dated June 5, 2017.
10. Wetland Delineation Report by Kjolhaug Environmental Services Company, Inc. dated June 1, 2016 (includes MnRAM results dated May 4, 2016).
11. P8 Model Output run June 5, 2017 included in June 5, 2017 Stormwater Management H&H Study.
12. P8 Model dated June 5, 2017
13. Minnesota Wetland Conservation Act Notice of Decision for Wetland Boundary and Type Determination dated July 8, 2016.

Rule Specific Permit Conditions

Rule C: Erosion and Sediment Control

Because the project will alter 10.5 acres (±457,380 square feet) 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 Alliant Engineering includes phased erosion prevention and sediment control plans, installation of silt fence, inlet protection for storm sewer catch basins, a rock construction entrance, placement of a minimum of 6 inches of topsoil, decompaction of areas compacted during construction, retention of native topsoil onsite, and final stabilization measures. 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 and sediment control at the site. RPBCWD must be notified if the responsible party changes during the permit term.

Rule J: Stormwater Management

Because the project will alter 10.5 acres (±457,380 square feet) of land-surface area the project must meet the criteria of RPBCWD's Stormwater Management rule (Rule J, Subsection 2.1). Because the proposed project will increase the imperviousness area of the properties by 738% (i.e., well more than 50 percent), under the paragraph 2.3 redevelopment framework, the RPBCWD stormwater management criteria apply to the entire site.

The developer is proposing construction of a stormwater detention basins which will be used as a reservoir to provide irrigation for the open space on the northern half of the site and a bioretention basin on the southern half of the site to provide the rate control, volume abstraction and water quality management for the overall project. Forebays with rock weepers, which act similar to ditch checks, will provide pretreatment for the bioretention basin. (Rule J, Subsection 3.1.b.i)

Rate Control

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

Modeled Discharge Location	2-Year Discharge (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)		10-Day Snowmelt (cfs)	
	Ex	Prop	Ex	Prop	Ex	Prop	Ex	Prop
North to Waters Edge	1.92	1.90	4.20	3.50	9.96	7.23	0.23	0.15
East to State Highway 101	8.59	6.68	18.31	18.31	38.08	25.56	1.45	1.39
South to Trunk Highway 212	1.39	1.37	3.92	3.92	8.82	8.81	0.90	0.87

Volume Abstraction

Subsection 3.1.b of Rule J requires the abstraction onsite of 1.1 inches of runoff from all impervious surface of the parcel. An abstraction volume of 19,163 cubic feet is required from the 4.80 acres (±209,044 square feet) of impervious area on the project for volume retention. The Applicant is proposing a bioretention basin with pretreatment of runoff provided by forebays with rock weirs equal to 10% of the surface area of the bioretention basin to provide abstraction for that portion south of Lake Susan Drive. The Applicant is proposing a stormwater detention pond designed to NURP recommendations on the that portion north of Lake Susan Drive. This basin will be used to provide irrigation at a rate of one inch (1") of water per week from the pond to the 3.41 acres indicated by the blue hatching shown in Figure 1 from the beginning of May through the end of September. The table below summarizes the volume abstraction on the site.

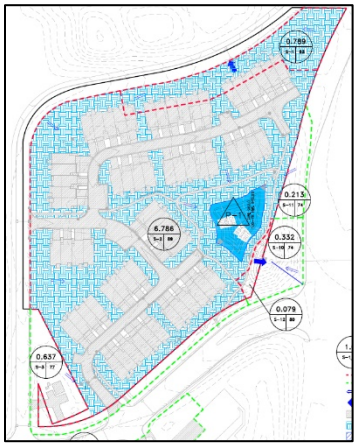


Figure 1. Area of proposed irrigation (148,740 SF)

Soil borings performed by Braun Intertec show that soils near the proposed bioretention feature range from clayey sand to poorly graded sand. A test pit excavated at the proposed location of the bioretention feature indicates groundwater at an elevation of 892 feet and a profile consisting of three (3) feet of clay over poorly graded silty sand that extended another six (6) feet to the bottom of the boring. The proposed bottom of the bioretention basin will be at 899 feet msl which is seven (7) feet above the encountered groundwater. The design calls for excavation of in situ soils material to a depth of 892 feet and replacement of these soils with a soil with equivalent infiltration rates of a "B" soil. The first source will be on-site but import may be necessary. The MN Stormwater Manual indicates an infiltration rate for B soils of between 0.3 and 0.45 inches per hour for such soils. The design was made using the more conservative infiltration rate of "C" soils or 0.2 inches per hour. Groundwater is at least 3

feet below the bottom of the proposed bioretention basin (Rule J, Subsection 3.1.b.ii). Based on information reviewed, the proposed project conforms to Rule J, Subsection 3.1.b.

Required Abstraction Depth (inches)	Provided Abstraction Depth (inches)	Provided Abstraction Volume (cubic feet)
1.1	1.2	21,375

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. The Applicant is proposing to construct a bioretention feature and a stormwater detention pond to achieve the required TP and TSS removals and submitted a P8 model to estimate the TP and TSS removals.

Pollutant of Interest	Required Removal (%)	Estimated Removal (%)	Estimated Removal (lbs)
Total Suspended Solids (TSS)	90	90.1	3,836.6
Total Phosphorus (TP)	60	68	9.4

Based on information reviewed, the proposed project conforms to Rule J, Subsection 3.1.c.

Low floor Elevation

No structure may be constructed or reconstructed such that its lowest floor elevation is less than 2 feet above the 100-year event flood elevation and no stormwater management system may be constructed or reconstructed in a manner that brings the low floor elevation of an adjacent structure into noncompliance according to Rule J, Subsection 3.6.

The low floor elevations of the structures and the adjacent stormwater management features are summarized below.

Location Riparian to Stormwater Facility	Low Floor Elevation of Building (feet)	100-year Event Flood Elevation of Adjacent Stormwater Facility (feet)	Freeboard (feet)
Lots 1-6, Block 2	914.8	905.99 (NURP Pond)	8.81
Lots 1-5, Block 3	914.3	905.99 (NURP Pond)	8.76
Lots 1-4, Block 4	917.2	905.99 (NURP Pond)	11.21
Lots 1-5, Block 5	915.3	905.99 (NURP Pond)	9.31
Lots 1-4, Block 6	914.3	905.99 (NURP Pond)	8.31
Lots 1-6, Block 6	911.0	904.97 (Bioretention Basin)	6.03

The low floor elevation of the proposed homes all provide at least 2 feet of freeboard from the 100-year event flood elevation of the pertinent stormwater management feature. The proposed project is in conformance with Rule J, Subsection 3.6.

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.

J2. Because the proposed water reuse irrigation system requires consistent use at a specified rate to meet District requirements, performance monitoring for the site will be required to ensure that the project is able to meet the RPBCWD volume abstraction requirement as has been proposed. In accordance with Rule J, Subsection 2.6 performance monitoring, and as a stipulation of issuing a permit for this project, the Applicant must submit an operations plan and monitor the proposed irrigation system to determine the ability of the system to achieve the estimated volume abstraction as presented in the design. The operations and monitoring program must be included in the maintenance declaration that is recorded with the County. The recorded reuse volume must be submitted to the RPBCWD on a yearly basis. If it is determined that the system is not performing as

designed, the Applicant will need to submit a revised design and construction plan to demonstrate that the volume abstraction standard will be achieved

Rule L: Permit Fee:

Fees for the project are:

Rule C & J $3,000

Rule M: Financial Assurance:

Rules C: Silt fence: 4,105 L.F. x $2.50/L.F. =.....$10,262

Restoration: 9.0 acres x $2,500/acre =.....$22,500

Rules J: Infiltration 6,963 S.F. x $6/S.F. = ...$41,778

Reuse System ????? x 125% = ...$50,000

Contingency (10%) $12,454

Administration (30%) $41,098

Total Financial Assurance.....$178,092

Applicable General Requirements:

1. The RPBCWD Administrator 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, contingent upon:

1. Continued compliance with General Requirements.

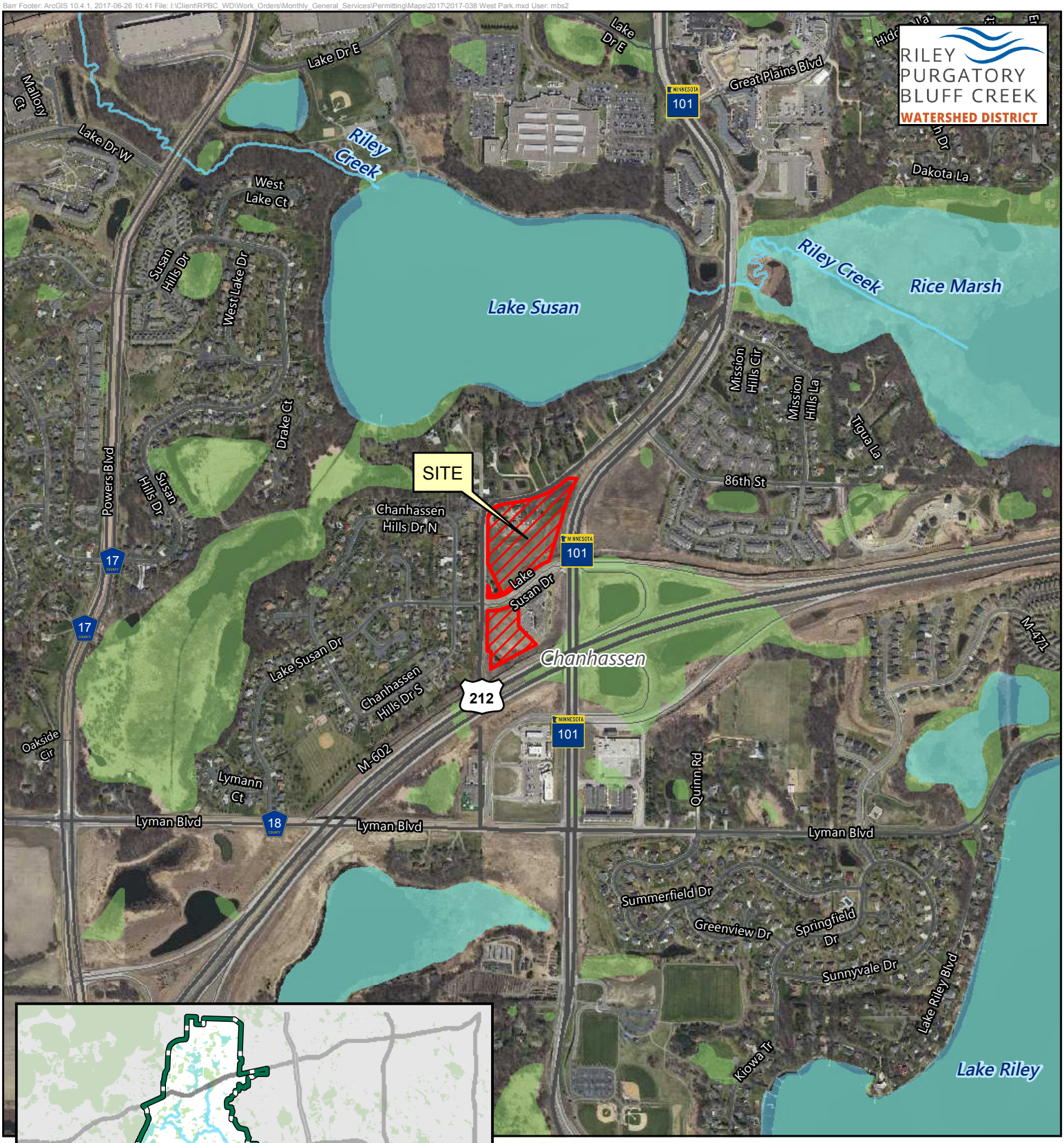
2. Financial Assurance in the amount of $178,092.
3. Submission of the name and contact information of the individual responsible for erosion and sediment control for the site.
4. Receipt in recordation a maintenance declaration for the stormwater management including the re-use system and annual monitoring thereof. A draft must be approved by the District prior to recordation.

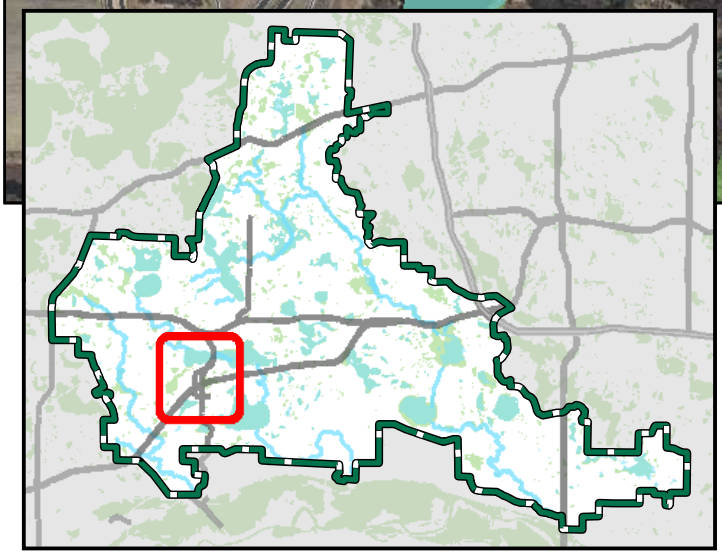
By accepting the permit, when issued, the applicant agrees to the following stipulations:

1. Per Rule J Subsection 4.5, upon completion of the site work, the permittee must submit as-built drawings demonstrating that at the time of final stabilization, stormwater facilities conform to design specifications as approved by the District.
2. Residential buildings to be constructed on lots in the subdivision created under the terms of permit 2017-038, if issued, must have an impervious surface area and configuration materially consistent with the approved plans. Home design proposed that differs materially from the approved plans will be subject to re-review for compliance with all applicable regulatory requirements.

Board Action

It was moved by Manager _____, seconded by Manager _____ to approve permit application No. 2017-038 with the conditions recommended by staff.





Feet

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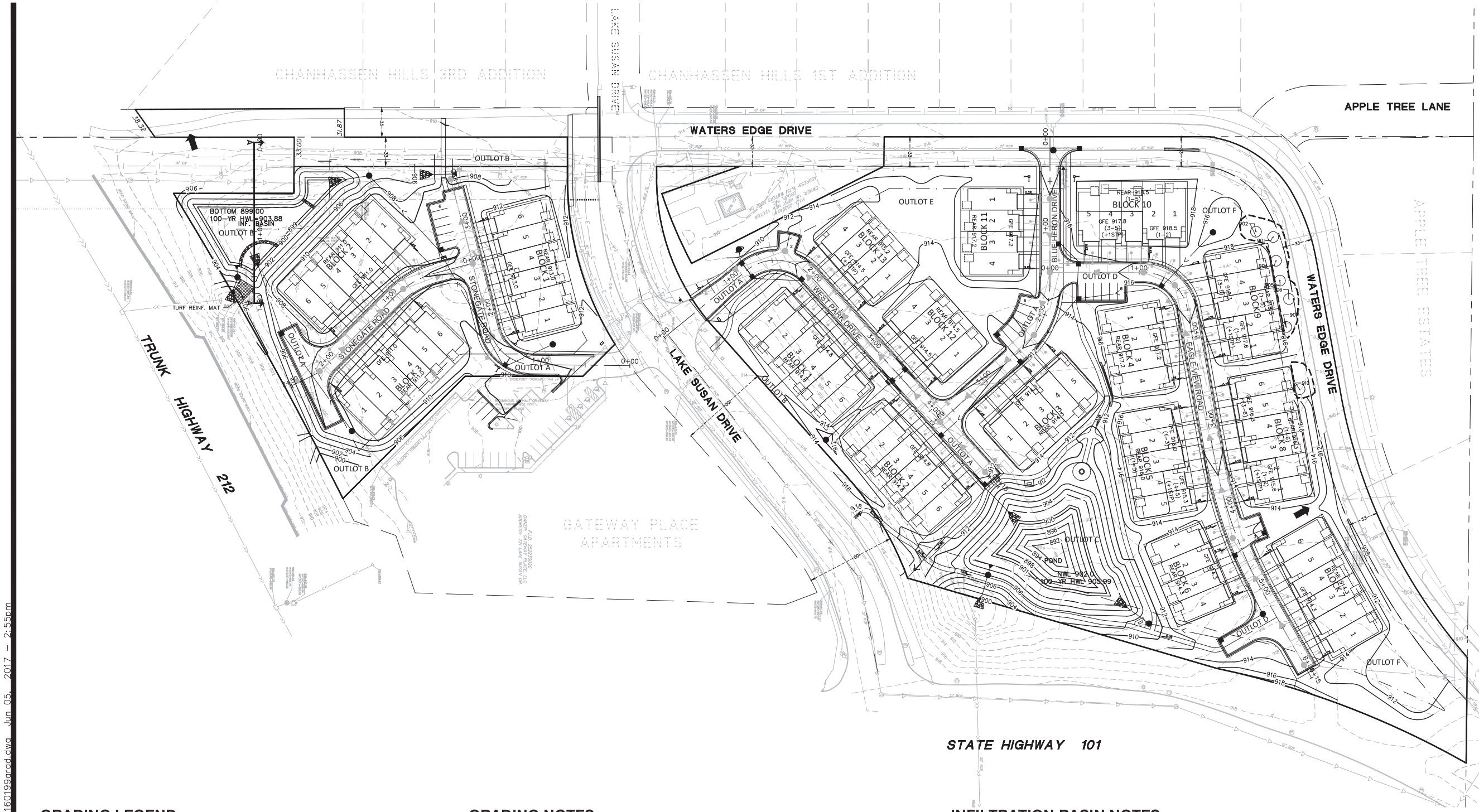
Permit Location Map

WEST PARK
Permit 2017-038
Riley Purgatory Bluff Creek
Watershed District



GRADING LEGEND:

- PROPOSED LOT LINE
- GRADING PAD, SEE DETAIL (NOT DEPICTED IN PLAN VIEW
- PROPOSED BUILDING FOOTPRINT
- REAR PAD ELEVATION
- GARAGE FLOOR ELEVATION (AT DOOR)
- SPECIFIED UNITS PER GFE (SPLIT UNITS)
- ADDITIONAL GARAGE STEPS
- DRIVEWAY SLOPE
- 912 — EXISTING CONTOUR
- 912 — PROPOSED CONTOUR
- ×12.44 ×912.44 PROPOSED SPOT ELEVATION
- TW 15.0 / BW 11.0 TOP OF WALL ELEVATION / BOTTOM OF WALL ELEVATION
- 2.00% DIRECTION OF DRAINAGE
- EMERGENCY OVERFLOW ROUTING
- RETAINING WALL
- PROPOSED CATCH BASINS
- PROPOSED STORM SEWER
- PROPOSED EASEMENT
- PROPERTY LINE
- SETBACK LINE
- LOT LINE
- RIGHT-OF-WAY
- TREE PROTECTION LIMITS
- EXISTING VEGETATION LIMITS
- 1524 TREE TO REMAIN (PROTECT)

FOR REVIEW ONLY
PRELIMINARY
NOT FOR CONSTRUCTION

N

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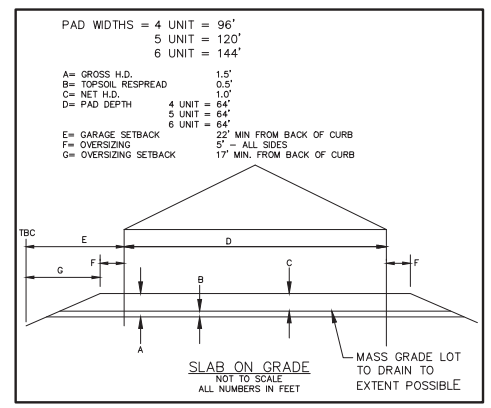
SCALE IN FEET

GRADING NOTES:

1. ALL FINISHED GRADES SHALL SLOPE AWAY FROM PROPOSED BUILDINGS AT MINIMUM GRADE OF 2.0%. ALL SWALES SHALL HAVE A MINIMUM SLOPE OF 2.00%.
2. THE CONTRACTOR SHALL KEEP THE ADJACENT ROADWAYS FREE OF DEBRIS AND PREVENT THE OFF-SITE TRACKING OF SOIL IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY AND WATERSHED.
3. NOTIFY GOPHER STATE ONE CALL, AT (800)252-1166, 48 HOURS PRIOR TO START OF CONSTRUCTION.
4. ALL IMPROVEMENTS TO CONFORM WITH CITY OF CHANHASSEN CONSTRUCTION STANDARDS SPECIFICATION, LATEST EDITION.
5. ROCK CONSTRUCTION ENTRANCES SHALL BE PROVIDED AT ALL CONSTRUCTION ACCESS POINTS.
6. REFER TO GEOTECHNICAL REPORT AND PROJECT MANUAL, FOR SOIL CORRECTION REQUIREMENTS AND TESTING REQUIREMENTS.
7. STRIP TOPSOIL PRIOR TO ANY CONSTRUCTION. REUSE STOCKPILE ON SITE. STOCKPILE PERIMETERS MUST BE PROTECTED WITH SILT FENCE.
8. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
9. IMMEDIATELY FOLLOWING GRADING OF (3:1 OR GREATER) SIDE SLOPES AND DRAINAGE SWALES, WOOD FIBER BLANKET OR OTHER APPROVED SOIL STABILIZING METHOD (APPROVED BY ENGINEER) SHALL BE APPLIED OVER APPROVED SEED MIXTURE AND A MINIMUM OF 4" TOPSOIL.
10. THE GENERAL CONTRACTOR MUST DISCUSS DEWATERING PLANS WITH ALL SUBCONTRACTORS TO VERIFY NPDES REQUIREMENTS. IF DEWATERING IS REQUIRED DURING CONSTRUCTION, CONTRACTOR SHOULD CONSULT WITH EROSION CONTROL INSPECTOR AND ENGINEER TO DETERMINE APPROPRIATE METHOD.
11. REFER TO STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR ALL EROSION AND SEDIMENT CONTROL DEVICE LOCATION, DESCRIPTIONS, NOTES AND DETAILS INCLUDING CONCRETE WASHOUT STATION INSTRUCTIONS.
12. BUILDING PERMITS ARE REQUIRED FOR ALL RETAINING WALLS 4 FEET IN HEIGHT OR GREATER AND THE WALLS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER WITH DESIGN REVIEWED AND APPROVED BY THE CITY PRIOR TO INSTALLATION.
13. A 3 FOOT SAFETY RAILING IS REQUIRED ATOP ALL WALLS 30" TALL OR GREATER.

INFILTRATION BASIN NOTES:

1. INFILTRATION BASIN AREA NEEDS TO BE OVER EXCAVATED TO LEVEL OF EXISTING GRANULAR SOILS AND FINISHED GRADED WITH DESIGN SOIL MIX, SEE DETAIL ON SHEET 11.
2. ALL TEMPORARY EROSION CONTROL DEVICES MUST BE INSTALLED PRIOR TO INSTALLATION/CONSTRUCTION OF INFILTRATION BASIN.
3. ALL STORMWATER RUNOFF SHALL BE DIVERTED AWAY FROM INFILTRATION AREA TO TEMPORARY SEDIMENT POND UNTIL BASIN IS COMPLETELY GRADED AND PLANTED.
4. CONSTRUCTION OF BASIN SHALL BE SUSPENDED DURING PERIODS OF RAINFALL OR SNOWMELT. CONSTRUCTION SHALL REMAIN SUSPENDED IF PONDED WATER IS PRESENT OR IF RESIDUAL SOIL MOISTURE CONTRIBUTES SIGNIFICANTLY TO THE POTENTIAL FOR COMPACTION.
5. COMPACTION AND SMEARING OF THE SOILS BENEATH THE FLOOR AND SIDE SLOPES OF THE INFILTRATION BASIN AREA, SHALL BE MINIMIZED. DURING SITE DEVELOPMENT, THE AREA DEDICATED TO THE INFILTRATION BASIN SHALL BE CORDONED OFF TO PREVENT ACCESS BY HEAVY EQUIPMENT. ACCEPTABLE EQUIPMENT FOR CONSTRUCTING THE BASIN INCLUDES EXCAVATION HOES, LIGHT EQUIPMENT WITH TURF TYPE TIRES, MARSH EQUIPMENT OR WIDE TRACK LOADERS.
6. IF COMPACTION OCCURS AT THE BASE OF THE BASIN, THE SOIL SHALL BE REFRACTURED TO A DEPTH AT LEAST 36". IF SMEARING OCCURS, THE SMEARED AREAS OF THE INTERFACE SHALL BE CORRECTED BY RAKING OR ROTO-TILLING.
7. CONTRACTOR TO DIG TEST PITS DURING TIME OF CONSTRUCTION TO EVALUATE ANY POSSIBLE NEEDS FOR SOIL CORRECTIONS. ENGINEER TO REVIEW TEST PITS TO DETERMINE THE NEED FOR AN UNDERDRAIN FOR EITHER TEMPORARY TURF ESTABLISHMENT, OR TO RELIEVE SEASONALLY HIGH WATER CONDITIONS.
8. CONTRACTOR MAY CHOOSE TO LEAVE BASIN BOTTOM ELEVATION HIGH 1'-2' DURING MASS GRADING AND COMPLETE GRADING AFTER UPSTREAM AREA IS STABILIZED.



HOLD DOWN DETAILS

Pulte Homes

ALLIANT ENGINEERING
233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

WEST PARK
CHANHASSEN, MINNESOTA
PRELIMINARY PLAT SUBMITTAL
GRADING AND DRAINAGE PLAN (OVERALL)

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

MARK RAUSCH, PE

Date License No.

QUALITY ASSURANCE/CONTROL

BY DATE

DATE	ISSUE
5-19-17	CITY SUBMITTAL
6-5-17	WATERSHED COMMENTS

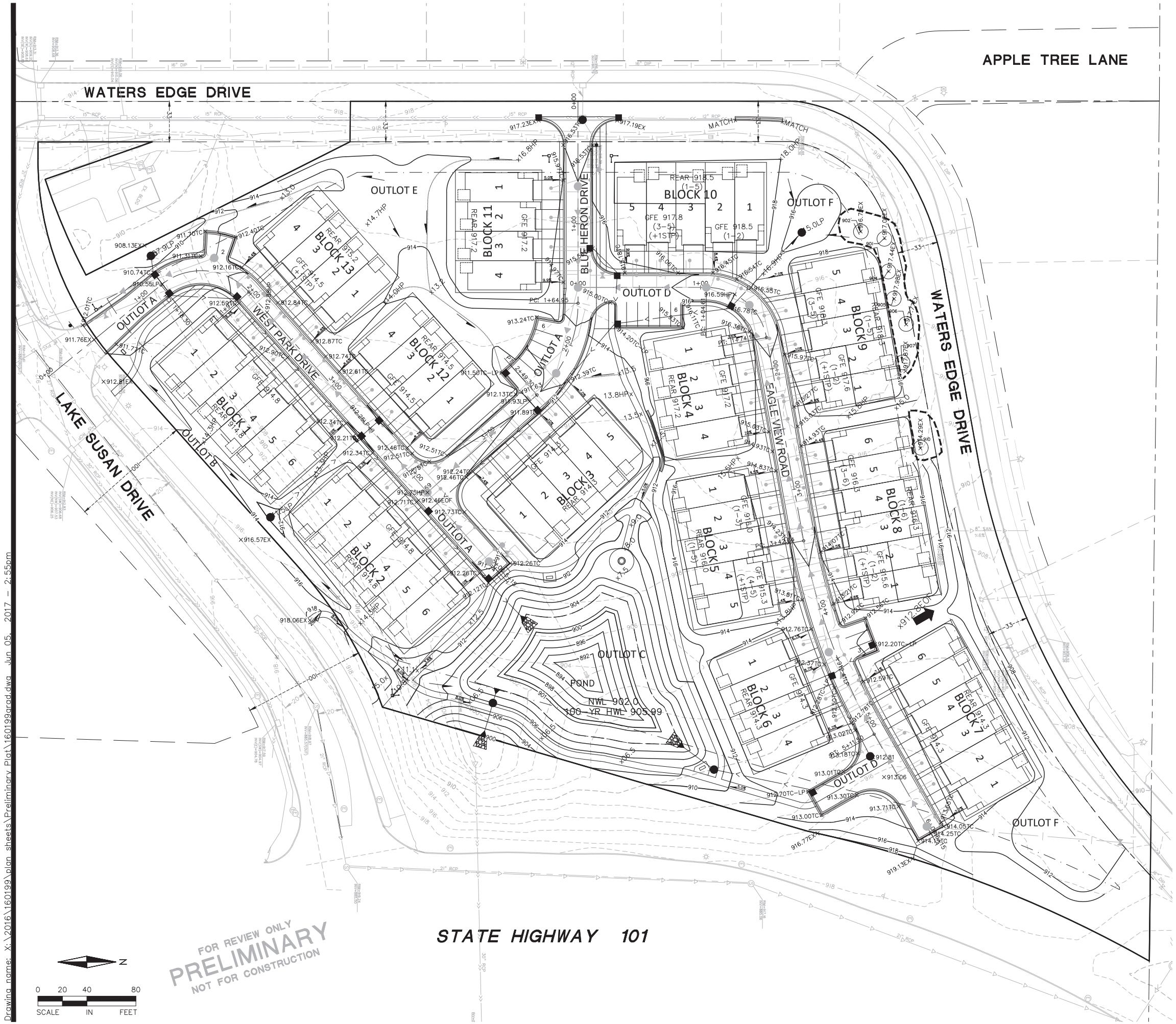
PROJECT TEAM DATA

DESIGNED: MPR
DRAWN: ELL
PROJECT NO: 216-0199

10

SHEET 10 of 29

Drawing name: X:\2016\160199\plan sheets\Preliminary Plat\160199grad.dwg Jun 05, 2017 - 2:55pm



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WEST PARK

CHANHASSEN, MINNESOTA

PRELIMINARY PLAT SUBMITTAL

GRADING AND DRAINAGE PLAN (NORTH PARCEL)

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

MARK RAUSCH, PE

Date License No.

QUALITY ASSURANCE/CONTROL

BY	DATE

DATE	ISSUE
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6-5-17	WATERSHED COMMENTS

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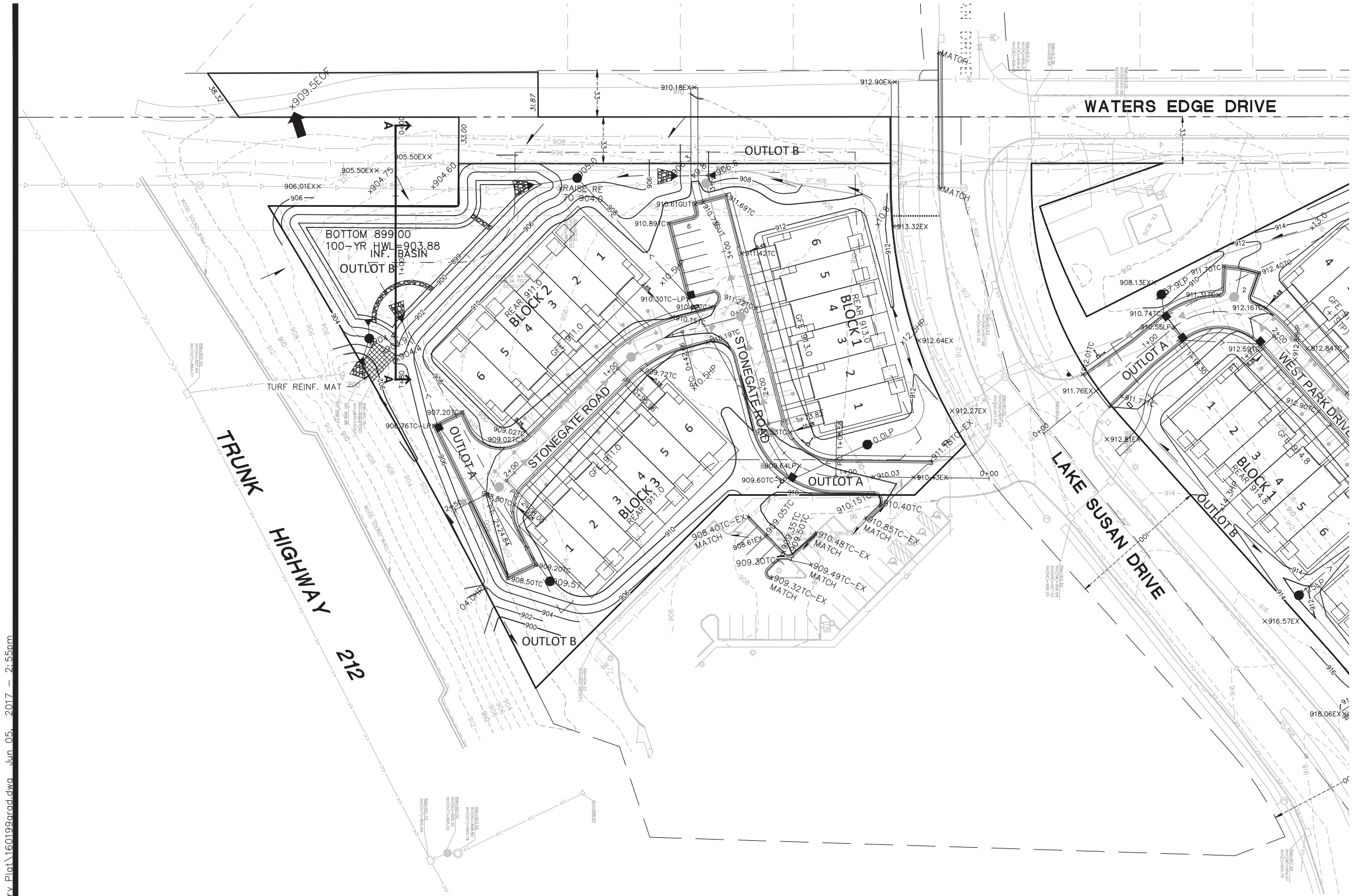
DESIGNED:	MPR
DRAWN:	ELL
PROJECT NO:	216-0199

11

SHEET 11 of 29

Drawing name: X:\2016\160199\plan sheets\Preliminary Plat\160199grad.dwg Jun 05, 2017 - 2:55pm



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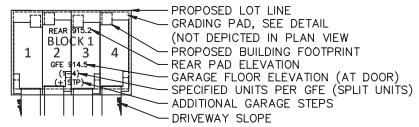

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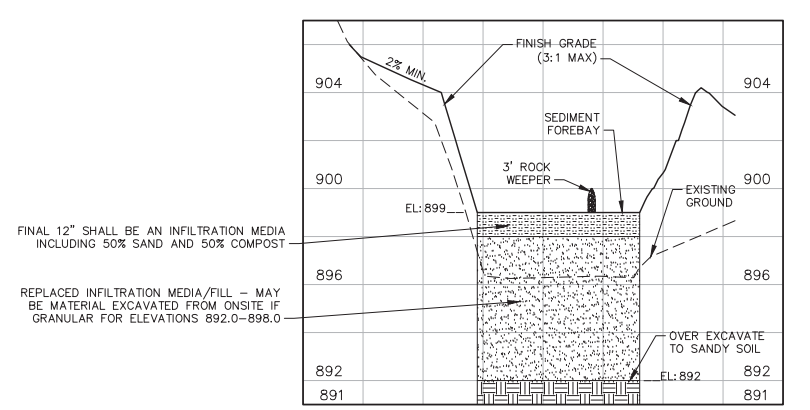
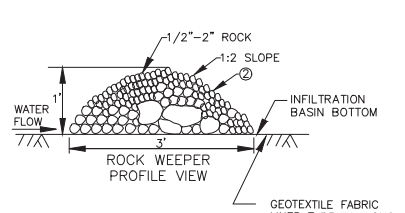
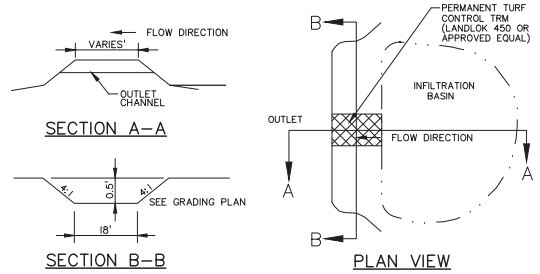


SECTON A-A



NOTES:
1. SEE MNDOT SPECS 2573, 3601, 3733 & 3889
2. CLASS I-IV RIPRAP (SPEC. 3601) WITH GEOTEXTILE FABRIC LINER, TYPE IV (SPEC 3733)

ROCK WEEPER (NTS):



INFILTRATION BASIN EMERGENCY OUTLET SECTION (NTS)

N

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WEST PARK
CHANHASSEN, MINNESOTA

PRELIMINARY PLAT SUBMITTAL

GRADING AND DRAINAGE PLAN (SOUTH PARCEL)

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

MARK RAUSCH, PE

Date License No.

QUALITY ASSURANCE/CONTROL

BY	DATE
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5-19-17	CITY SUBMITTAL
6-5-17	WATERSHED COMMENTS

PROJECT TEAM DATA

DESIGNED:	MPR
DRAWN:	ELL
PROJECT NO:	216-0199

12

resourceful. naturally.
engineering and environmental consultants

BARR

June 15, 2017

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

Re: Purgatory Creek at Highway 101 Stabilization Project – Pay Application #3
Barr Project # 23/27-0053.14-007

Dear President Forster and Board of Managers:

Enclosed is the Application for Payment #3 from Minnesota Native Landscapes for work completed through 5/31/2016, on the above-referenced project. Upon your review and approval, please sign three copies and return one copy to me, one copy to the contractor and retain the remaining copy for your files.

Major items of work covered by this pay application include installing trees and shrubs and final mobilization and demobilization. The project is now substantially complete. There is a one-year vegetation management period that is included with the project, and final payment will be completed when the vegetation management period is complete.

Barr Engineering has reviewed the application, and is recommending payment in the amount of **$31,925**. Payments shall be made directly to Minnesota Native Landscapes.

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

Sincerely,

Scott Sobiech, P.E.
Barr Engineering Co.

c: Claire Bleser, RPBCWD
Jeff Renier, Minnesota Native Landscapes

Enclosure #1 – Application for Payment – Progress Payment 3

Purgatory Creek at Highway 101 Stabilization Project
Progress Payment Number 3

1.0	Total Completed Through This Period	$239,688.75		
2.0	Total Completed Previous Period		$207,763.75	
3.0	Total Completed This Period			$31,925.00
4.0	Amount Retained, Pervious Period		$13,469.38	
5.0	Amount Retained, This Period (See Note 1)		$0.00	
6.0	Total Amount Retained		$13,469.38	
7.0	Retainage Released Through This Period:			$0.00
8.0	Amount Due This Period			$31,925.00

Note 1: At rate of 10% until Completed to Date equals 50% of current Contract Price and a rate of 0% thereafter.
Note 2: Current Contract Price $269,387.50

SUBMITTED BY:
Name: Jeff Renier Date: 6/15/2017
Title: Project Manager
Contractor: Minnesota Native Landscapes
Signature:

RECOMMENDED BY:
Name: Scott Sobiech Date: 6/15/17
Title: District Engineer
Engineer: Barr Engineering Company
Signature:

APPROVED BY:
Name: Perry Forster Date:
Title: President
Owner: Riley Purgatory Bluff Creek Watershed District

Signature:

Purgatory Creek at Highway 101 Stabilization Project
Riley Purgatory Bluff Creek Watershed District
Summary of Work Completed through June 9, 2016 for Progress Payment Number 3

BARR

Item	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY	BID - MN NATIVE LANDSCAPES UNIT COST	BID - MN NATIVE LANDSCAPES EXTENSION	(1) Total Completed Through This Period Quantity	(1) Total Completed Through This Period Amount	(1) Total Completed for Pay Application #1 Quantity	(1) Total Completed for Pay Application #1 Amount	(1) Total Completed for Pay Application #2 Quantity	(1) Total Completed for Pay Application #2 Amount	(1) Total Completed for Pay Application #3 Quantity	(1) Total Completed for Pay Application #3 Amount
1.06.A	Mobilization/Demobilization	L.S.	1	$8,500.00	$8,500.00	1	$8,500.00	0.75	$6,375.00	0	$0.00	0.25	$2,125.00
1.06 B	Clearing and Grubbing	Acre	1.1	$2,500.00	$2,750.00	1.1	$2,750.00	1.1	$2,750.00	0	$0.00	0	$0.00
1.06.C	Remove Select Tree and Salvage Tree Trunk with Root Ball	Each	24	$350.00	$8,400.00	25	$8,750.00	25	$8,750.00	0	$0.00	0	$0.00
1.06 D	Remove Tree for Disposal	Each	63	$200.00	$12,600.00	63	$12,600.00	63	$12,600.00	0	$0.00	0	$0.00
1.06 E	Tree Protection Fencing	L.F.	1500	$5.00	$7,500.00	750	$3,750.00	750	$3,750.00	0	$0.00	0	$0.00
1.06 F	Buckthorn Removal and Chemical Treatment of Stumps	Acre	1.1	$990.00	$1,089.00	1.1	$1,089.00	1.1	$1,089.00	0	$0.00	0	$0.00
1.06 G	Erosion Control Construction Entrance	Each	1	$2,500.00	$2,500.00	1	$2,500.00	1	$2,500.00	0	$0.00	0	$0.00
1.06 H	Inlet Protection	Each	2	$400.00	$800.00	1	$400.00	1	$400.00	0	$0.00	0	$0.00
1.06 I	Erosion Control Silt Fence	L.F.	1500	$5.00	$7,500.00	60	$300.00	60	$300.00	0	$0.00	0	$0.00
1.06 J	Sediment Log - (Type Compost)	L.F.	1108	$5.00	$5,540.00	1108	$5,540.00	1108	$5,540.00	0	$0.00	0	$0.00
1.06 K	Floatation Silt Curtain	L.F.	25	$20.00	$500.00	0	$0.00		$0.00	0	$0.00	0	$0.00
1.06 L	Erosion Control Blanket	S.Y.	2400	$2.00	$4,800.00	2400	$4,800.00	2400	$4,800.00	0	$0.00	0	$0.00
1.06 M	Street Sweeping	Each	12	$400.00	$4,800.00	12	$4,800.00	12	$4,800.00	0	$0.00	0	$0.00
1.06 N	Control of Water	L.S.	1	$2,500.00	$2,500.00	1	$2,500.00	1	$2,500.00	0	$0.00	0	$0.00
1.06 O	Remove and Salvage Topsoil (P)	C.Y.	144	$12.00	$1,728.00	144	$1,728.00	144	$1,728.00	0	$0.00	0	$0.00
1.06 P	Remove 72" CMP Culvert	L.S.	1	$700.00	$700.00	1	$700.00	1	$700.00	0	$0.00	0	$0.00
1.06 Q	Common Excavation (P)	C.Y.	903	$5.00	$4,515.00	903	$4,515.00	903	$4,515.00	0	$0.00	0	$0.00
1.06 R	Grading	S.Y.	1500	$3.00	$4,500.00	1500	$4,500.00	1500	$4,500.00	0	$0.00	0	$0.00
1.06 S	Removal and Disposal of Material	C.Y.	1436	$5.00	$7,180.00	1436	$7,180.00	1436	$7,180.00	0	$0.00	0	$0.00
1.06 T	Vegetated Reinforced Soil Slope (VRSS)	S.F.F.	860	$31.00	$26,660.00	573	$17,763.00	573	$17,763.00	0	$0.00	0	$0.00
1.06 U	Riprap, Mn/DOT Class III	Ton	485	$60.00	$29,100.00	379	$22,740.00	379	$22,740.00	0	$0.00	0	$0.00
1.06 U	Riprap, Mn/DOT Class I	Ton	40	$60.00	$2,400.00	90	$5,400.00	90	$5,400.00	0	$0.00	0	$0.00
1.06 V	Granular Filter Rock	Ton	180	$60.00	$10,800.00	133	$7,980.00	133	$7,980.00	0	$0.00	0	$0.00
1.06 W	Cross Vane	L.F.	270	$45.00	$12,150.00	270	$12,150.00	270	$12,150.00	0	$0.00	0	$0.00
1.06 X	Rock Vane	L.F.	45	$45.00	$2,025.00	30	$1,350.00	30	$1,350.00	0	$0.00	0	$0.00
1.06 Y	Install Root Wad	Each	24	$150.00	$3,600.00	25	$3,750.00	25	$3,750.00	0	$0.00	0	$0.00
1.06 Z	Turf Reinforcement Mat (TRM)	S.Y.	334	$7.50	$2,505.00	334	$2,505.00	334	$2,505.00	0	$0.00	0	$0.00
1.06 AA	Biolog (Coir Log)	L.F.	361	$31.00	$11,191.00	300	$9,300.00	300	$9,300.00	0	$0.00	0	$0.00
1.06 BB	Traffic Control	L.S.	1	$3,500.00	$3,500.00	1	$3,500.00	1	$3,500.00	0	$0.00	0	$0.00
1.06 CC	Furnish and install Buffer markers	Each	39	$150.00	$5,850.00	39	$5,850.00		$0.00	39	$5,850.00	0	$0.00
1.06 DD	Pre-construction survey	L.S.	1	$2,500.00	$2,500.00	1	$2,500.00	1	$2,500.00	0	$0.00	0	$0.00
1.06 EE	post-construction survey	L.S.	1	$2,500.00	$2,500.00	1	$2,500.00	1	$2,500.00	0	$0.00	0	$0.00
1.06 FF	Temporary fencing	L.F.	390	$6.00	$2,340.00	850	$5,100.00	850	$5,100.00	0	$0.00	0	$0.00
1.06 GG	Seed Area	S.Y.	4800	$0.50	$2,400.00	4800	$2,400.00	4800	$2,400.00	0	$0.00	0	$0.00
1.06 HH	Cover Crop Seed Mix	Lbs.	27.5	$4.00	$110.00	27.5	$110.00	27.5	$110.00	0	$0.00	0	$0.00
1.06 HH	Riparian Restoration Seed Mix	Lbs.	11.7	$175.00	$2,047.50	29.25	$5,118.75	29.25	$5,118.75	0	$0.00	0	$0.00
1.06 II	Live Stake	Each	393	$9.00	$3,537.00	500	$4,500.00		$0.00	500	$4,500.00	0	$0.00
1.06 JJ	Plant Tree	Each	92	$150.00	$13,800.00	92	$13,800.00		$0.00	0	$0.00	92	$13,800.00
1.06 KK	Plant Shrub	Each	640	$25.00	$16,000.00	640	$16,000.00		$0.00	0	$0.00	640	$16,000.00
1.06 LL	Straw Mulch	S.Y.	2400	$0.50	$1,200.00	2400	$1,200.00	2400	$1,200.00	0	$0.00	0	$0.00
1.06 MM	Site Restoration	Acre	1.1	$1,500.00	$1,650.00	1.1	$1,650.00	1.1	$1,650.00	0	$0.00	0	$0.00
1.06 NN	Vegetation Management (1-yr)	L.S.	1	$7,500.00	$7,500.00	0	$0.00		$0.00	0	$0.00	0	$0.00
	CONSTRUCTION SUBTOTAL				**$253,767.50**		**$224,068.75**		**$181,793.75**		**$10,350.00**		**$31,925.00**
	Bid Alternates												
1.06 OO	Composite Rock-Wood Bank Protection	L.F.	85	$100.00	$8,500.00	85	$8,500.00	85	$8,500.00	0	$0.00	0	$0.00
	Change Order #1												
	Cedar Revetment	L.F.	178	$40.00	$7,120.00	178	$7,120.00	178	$7,120.00	0	$0.00	0	$0.00
				Subtotal	**$269,387.50**		**$239,688.75**		**$197,413.75**		**$10,350.00**		**$31,925.00**

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

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

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2017-040

Received complete: May 23, 2017

Applicant: City of Eden Prairie; Attn: Robert Ellis

Consultant: Kirby Templin, Wenck Associates, Inc.

Project: Basin 05-12-C Cleanout – The project is to remove approximately 1,600 cubic yards of accumulated soft sediment from a constructed storm water detention pond identified in Eden Prairie's Local Water Management Plan as 05-12-C. This project will restore the pond to its original water quality volume. The pond will be dredged via hydraulic vacuuming through a dewatering filter bag. After dewatering, the material will be removed from the site and disposed of at a facility approved to handle the contaminated soils. This proposed methodology will eliminate the need for backhoes and other equipment which typically results in upland disturbance. This, in essence, makes the practice a sediment control best management practice.

Location: 14180 W 78th Street, Eden Prairie, MN

Reviewer: Terry Jeffery, RPBCWD Permit Coordinator

Rules: Applicable rules checked

	Rule B: Floodplain Management		Rule H: Appropriation of Public Waters
X	Rule C: Erosion and Sediment Control		Rule I: Appropriation of Groundwater
	Rule D: Wetland and Creek Buffers	X	Rule J: Stormwater Management
	Rule E: Dredging and Sediment Removal		Rule K: Variances and Exceptions
	Rule F: Shoreline/Streambank Stabilization	X	Rule L: Permit Fees
	Rule G: Waterbody Crossings	X	Rule M: Financial Assurances

Rule Conformance Summary

Rule	Issue		Conforms to RBPCWD Rules?	Comments
C	**Erosion Control Plan**		See Comment	See Rule Specific Permit Condition C1.
D	**Wetland and Creek Buffers**		See Comment	See Rule Specific Permit Condition D1.
J	**Stormwater Management**	Rate	See comment	No impervious surface will be added
		Volume	See comment	No impervious surface will be added
		Water Quality	See comment	No impervious surface will be added
		Low Floor Elev.	Yes	
		Maintenance	See Comment	See Rule Specific Permit Condition J1.
L	**Permit Fee**		NA	Government Entity
M	**Financial Assurance**		NA	Government Entity

Project Description

The project proposes to remove accumulated sediment from a construct stormwater detention pond. Rather than using a backhoe to cast material into dump trucks to be hauled immediately off site, the sediment will be removed by employing a hydraulic vacuum. The materials will be transferred directly into a dewatering, filtration bag which will allow the water to drain out while retaining soils material within the bag to be hauled off site later. This process eliminates the need for much of the equipment typically responsible for the upland disturbance associated with pond cleanouts. This project will restore the water quality volume within the pond back to the designed volume thus improving the treatment efficiency of the pond which is tributary to Purgatory Creek. Though the work will remove more than a cubic yard of sediment, the RPBCWD Dredging and Sediment Removal Rule does not apply because the pond from which it will be removed is not a public water. The project site information is summarized below:

1. Total Site Area: 10.05 acres
2. Existing Site Impervious Area: 0.0 acres
3. New (Increase) in Site Impervious Area: 0.0 acres (0 square feet) (0% increase in site impervious area)
4. Total Disturbed Area: 4500 square feet

Exhibits:

1. Permit Application dated May 23, 2017.
2. Design Plan Sheets G-101 and C-101 through C-105 dated May 2017 (received May 23, 2017).
3. RPBCWD Permit Submittal Narrative for Basin C-05-12-C Cleanout Project dated May 23, 2017.

Rule Specific Permit Conditions

Rule C: Erosion and Sediment Control

Because the project will excavate approximately 1,600 cubic yards of material the project must conform to the requirements in the RPBCWD Erosion and Sediment Control rule (Rule C, Subsection 2.1).

The erosion control plan prepared by Wenck Associates, Inc. includes installation of floating silt curtain and outlet control during dredging operations, inlet protection for storm sewer catch basins, a stabilized drainageway, placement of a minimum of 6 inches of topsoil, decompaction of areas compacted during construction, retention of native topsoil onsite, and appropriate final stabilization measures. 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 and sediment control at the site. RPBCWD must be notified if the responsible party changes during the permit term.

Rule J: Stormwater Management

Because the project will remove approximately 1,600 cubic yards of soil material, the project triggers the RPBCWD's Stormwater Management rule (Rule J, Subsection 2.1). But because there is no impervious surface either disturbed or added, no stormwater management requirements are imposed by the rule.

Rule L: Permit Fee:

Not applicable for a government entity

Rule M: Financial Assurance:

Not applicable for a government entity

Applicable General Requirements:

1. The RPBCWD Administrator 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.

Findings

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. The project conforms to Rule B requirements, and no requirements are imposed by operation of Rule J.
3. The proposed project will conform to Rule C if the Rule Specific Permit Conditions listed above are met.

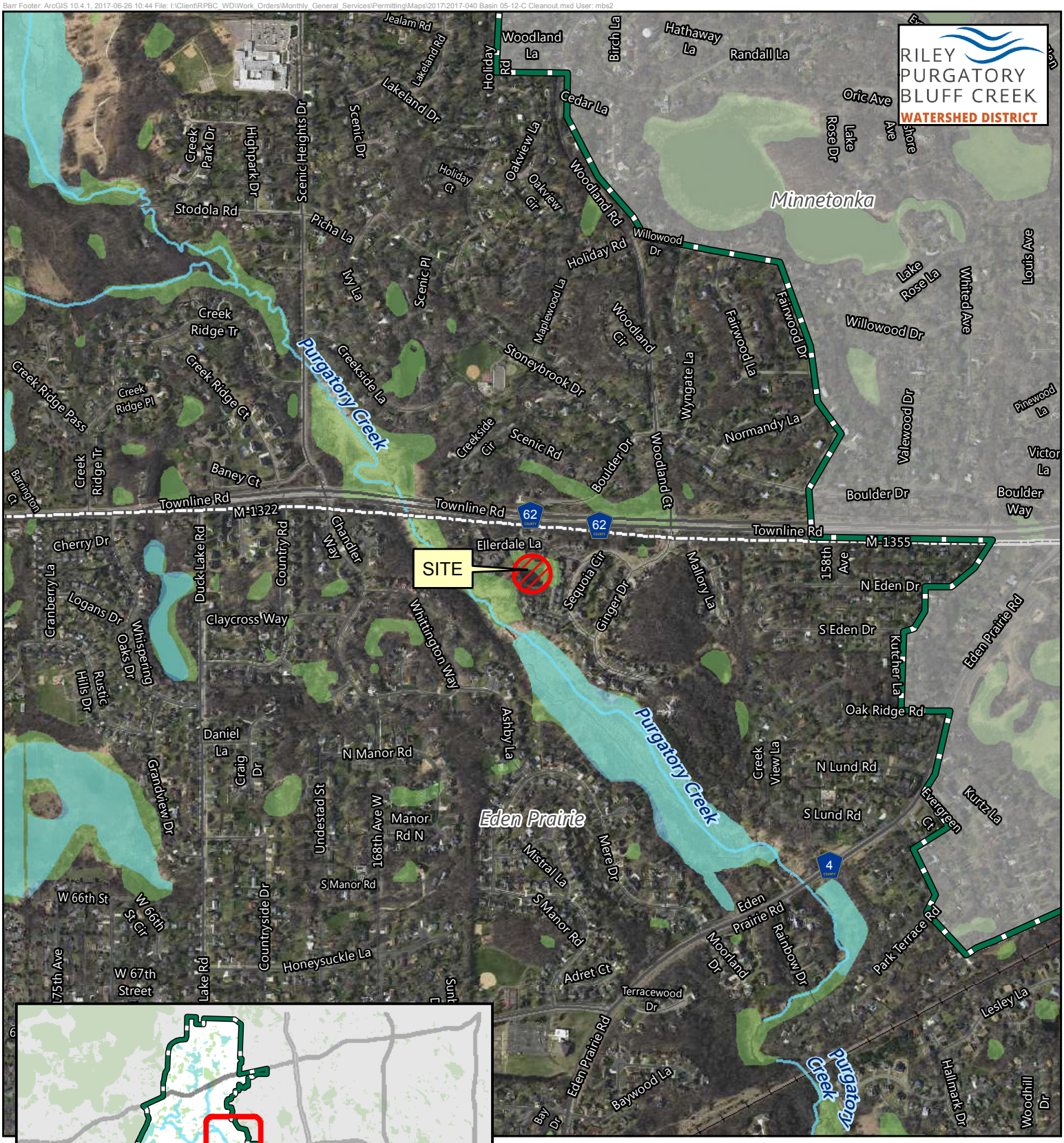
Recommendation:

Approval, contingent upon:

1. Continued compliance with General Requirements.
2. Submission of the name and contact information of the individual responsible for erosion and sediment control for the site.

Board Action

It was moved by Manager _____, seconded by Manager _____ to approve permit application No. 2017-040 with the conditions recommended by staff.



Feet

0 1,000

Permit Location Map

BASIN 05-12-C CLEANOUT

Permit 2017-040

Riley Purgatory Bluff Creek Watershed District

RILEY PURGATORY BLUFF CREEK
WATERSHED DISTRICT

14500 Martin Drive | Suite 1500
Eden Prairie, MN 55344
952-607-6512
www.rpbcwd.org

Friday, July 7, 2017
To: Board of Managers

From: Claire Bleser, Administrator

Re: **Lotus Lake Alum Feasibility Task Order**

Dear Managers,

While investigating possible projects for feasibility for Lotus Lake, staff has identified one option as being Lotus Lake Alum Feasibility. This feasibility is beyond what we had budgeted for 2017. Staff is proposing to utilize funds from Reserve ($12,000) and transfer it to the Lotus Lake Phase 1 budget item. The reserve would drop from $135,000 to $123,000. Lotus Lake Phase 1 would increase from $20,000 to $32,000.

Sincerely,

Claire Bleser

Manager _____, seconded by Manager _____ move to have $12,000 allocated from Reserve to Lotus Lake Phase 1 and approve Task Order from Wenck Associates titled Lotus Lake Alum Dose and Cost Estimates.

WENCK ASSOCIATES

Responsive partner.
Exceptional outcomes.

June 23, 2017

Dr. Claire Bleser
District Administrator
Riley Purgatory Bluff Creek Watershed District
18681 Lake Drive East
Chanhassen, MN 55317

RE: Lotus Lake alum dose and cost estimates

Dear Claire:

Thank you for the opportunity to continue to provide our services to Riley Purgatory Bluff Creek Watershed District (District). As requested, Wenck Associates, Inc. (Wenck) has prepared this proposal to assist the District in developing an aluminum sulfate (alum) dose and treatment cost estimate for Lotus Lake. We appreciate the opportunity to provide you with this proposed scope of services and look forward to assisting you with this project.

The scope of services described below will be completed by Wenck.

Task 1. Collect sediment cores from Lotus Lake:

Wenck will collect intact sediment cores from Lotus Lake to estimate sediment chemistry vertical profiles for alum dosage cost estimates. Sediment cores will be collected from five locations on Lotus Lake (Figure 1). Cores will be transported to the University of Wisconsin-Stout for sediment chemistry analysis. Wenck is assuming that core collection will occur with at least one District staff person's assistance.

Task 2. Laboratory sediment analysis

The intact sediment cores will be analyzed at UW-Stout. For Lotus Lake, all sediment cores will be sectioned every one cm from 0 to 6 cm, every two cm from 6 to 10 cm, and every 2.5 cm from 10 to 25 cm to determine vertical profiles of phosphorous fractionation, organic matter content, bulk density, and total metal concentration. Additionally, sediment cores from two locations will be incubated to measure anoxic release rates (Anoxic RR) in deeper portions of the lake (Figure 1). Sediment cores for a shallower area of the lake will be incubated for release rates under oxic conditions (Oxic RR) (Figure 1).

Task 3. Reporting and Cost estimate analysis

The final step includes developing the laboratory report and summary memo of the analytical results. This memo will include sediment chemistry results and detailed cost estimates for alum applications on Lotus Lake.

Dr. Claire Bleser
District Administrator
Riley Purgatory Bluff Creek
Watershed District
06/23/2017

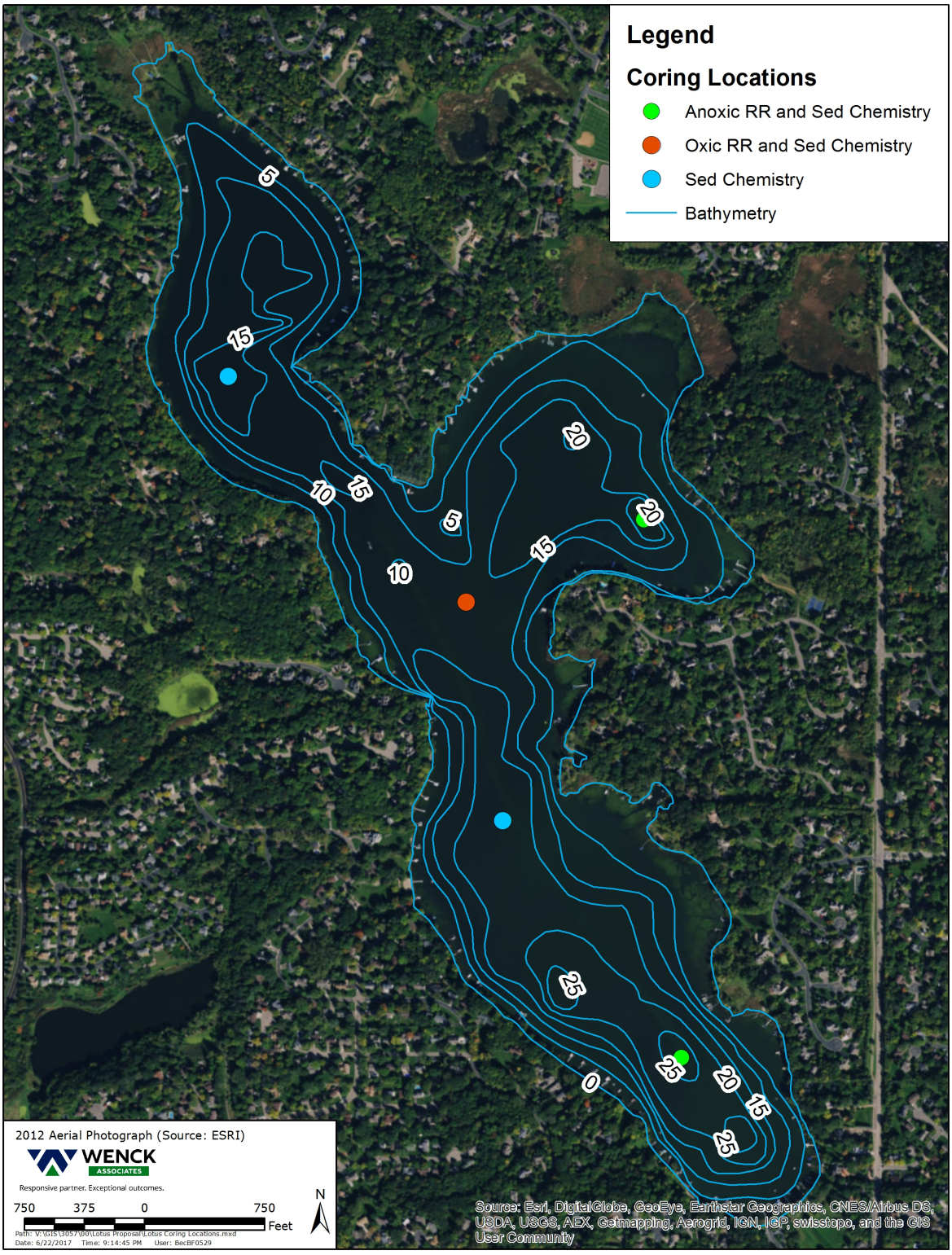


Figure 1. Sediment coring locations on Lotus Lake

Dr. Claire Bleser
District Administrator
Riley Purgatory Bluff Creek
Watershed District
06/23/2017

Timeline and Budget

Tasks 1-3 will be completed by the end of October 2017 contingent upon timely response from the District and ability to schedule core collection. Wenck will not exceed the authorized budget for the scope of services described above. Costs for this project are outlined in Table 1. If additional work outside this scope is requested by the District, Wenck will provide an additional quote at that time.

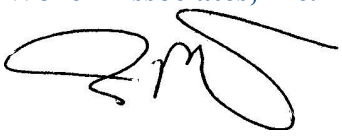
Table 1. Cost estimate for alum dosing on Lotus Lake.

	Task	Wenck Associates	Laboratory Costs	Total Cost
1	**Sediment Coring**	$1,069	$0	$1,069
2	**Laboratory Sediment Analysis**	$0	$24,334	$24,334
3	**Reporting**	$6,015	$0	$6,015
	Cost Total	$7,084	$24,334	**$31,418**

On behalf of the 300+ employee-owners of Wenck, thank you for this opportunity to work with the Riley Purgatory Bluff Creek Watershed District. Should you have any questions, or need clarification of anything presented in the attached proposal, please do not hesitate to call me at 763-252-6829.

Sincerely,

Wenck Associates, Inc.



Joe Bischoff
Principal, Aquatic Ecologist
763-252-6829
jbischoff@wenck.com

Wenck Associates, Inc.

Brian Beck
Water Resource Scientist
763-252-6943
bbeck@wenck.com

Item J. Approve staff recommendations for Single Family Homeowner Cost-Share Applications

APPLICANT	ADDRESS	SUB-WATERSHED	PROJECT TYPE	POLLUTION REMOVAL	AREA RESTORED	PROJECT COST	FUNDING REQUEST	STAFF REC	CAC REC
DAVID	8583 Red Oak Drive, EP	Red Rock	Lake buffer	x	4700 ft^2	$10,297	$3000	Fund at $3000	Fund at $3000
HANSEN	7935 S Bay Curve, EP	Mitchell	Lake buffer	x	2500 ft^2	$4707	$3000	Fund at $3000	Fund at $3000
O'HARA	8513 Red Oak Drive EP	Red Rock	Lake buffer	x	2000 ft^2	$6,259	$3000	Fund at $3000	Fund at $3000
TAFFE	17689 Sheffield Lane, EP	Purgatory Creek (Edenbrook Cons. Area)	Wetland buffer	x	1800 ft^2	$6658	$3000	Fund at $3000	Fund at $3000
ROSS	4557 Timber Woods Lane MTK	Purgatory Creek	Pond buffer/ erosion control	x	450 ft^2	$4085	$2985	Fund at $3000	Fund at $3000

Staff recommend the five residential cost-share applications in the table above be approved for funding at the amounts listed.

Board action

It was moved by Manager_____, seconded by Manager _____ to approve funding to the five residential cost-share applications listed in the table above, in the amounts recommended by staff/CAC.

Cost share grant application
2017

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Do not fill in gray boxes. District use only.

Applicant type (check one) ☒Homeowner ☐Non-profit - 501(c)(3)
☐Business or corporation ☐Public agency or local government unit ☐School

Project type (check all that apply) ☐Raingarden ☐Vegetated swale ☐Lake/creek/wetland buffer
☒Shoreline/bank stabilization ☐Wetland restoration ☐Pervious hard surface ☐Infiltration basin
☐Conservation practice ☐Other_____

Applicant information

Works or resides in district? y

Name MARK DAVID Address 8583 RED OAK DRIVE
City/State/Zip EDEN PRAIRIE MN 55347
Phone 612 209 7592 Alt phone 952 943 1175 Email MARKNDAVID@COMCAST.NET

Primary contact ☒Same as applicant (leave blank)

Name_____ Address_____
City/State/Zip_____
Phone_____ Alt phone_____ Email_____

Project location

Address 8583 RED OAK DR City/State/Zip EDEN PRAIRIE MN 55347
Property Identification Number (PID) 16-116-22 33 0015
Property owner(s) MARK AND KAREN DAVID

Project located in district? y

Tributary to a waterbody? X
No Yes, indirectly Yes, adjacent

Project summary

Title SHORELAND - WOODLAND - PRAIRIE PROJECT
Total project cost $10,296.75 Grant amount requested $3,000
Estimated start date SUMMER 2017 Estimated completion date SUMMER 2017
Sub-watershed RPBCWD

Project located in priority drainage area?

Is project tributary to a water body? ☐No, water remains on site ☐Yes, indirectly ☐Yes, directly adjacent

2-3 sentence project description

REPLACE 1,200 SF OF GRASS WITH NATIVE PRAIRIE PLANTS. REMOVE INVASIVE PLANTS FROM SHORELINE/WOODLAND AREA AND PLANT APPROPRIATE SPECIES. ADDITIONAL NATIVE PLANTS TO STABILIZE SHORELINE.

Is this work required as a part of a permit? ☒No ☐Yes

(If yes: describe how the project provides water quality treatment beyond permit requirements on the next page.)

Site visit

One of the requirements for a complete application is a site visit from district staff.

Have you had a site visit? ☐No ☒Yes

(If you answered no, please contact staff to schedule one: 952-607-6512)

Project details

Do not fill in gray boxes. District use only.

Checklist To be considered complete the following must be included with the application.

- [x] location map
- [x] site plan & design schematics
- [x] itemized budget or contractor bid
- [x] project time-line
- [x] proof of property ownership
- [x] plant list & planting plan (if project includes plants)

Is time-line reasonable? y
Is budget reasonable? y
Is plan comprehensive? y
Does plant list conform to district's approved plant list? y

Description

Describe the current site conditions, as well as site history, and past management.

CURRENT SITE (WOODLAND AREA) HASN'T BEEN WELL MAINTAINED. PERIODIC INVASIVE PLANT REMOVAL HAS OCCURRED ALONG WITH SOME SHORELINE CLEANUP.
OWNER HAS SPENT OVER 30 HOURS REMOVING BUCKTHORN AND OTHER INVASIVE PLANTS FROM WOODLAND AND SHORELINE AREA THIS SPRING. DUE TO FLUCTUATING WATER LEVELS SITE HAS EXPERIENCED SOME EROSION.

What are the project objectives and expected outcomes? Give any additional project details.

1. INCREASE/CREATE BUFFER AREA BETWEEN GRASSY AREA OF YARD AND LAKE.
2. REMOVE ANY REMAINING INASIVE PLANT SPECIES REMAINING IN RESTORATION AREA.
3. INSTALL/PLANT OVER 1000 NATIVE PLANTS.

– INCREASE AWARENESS AND NEED FOR ADDITIONAL SHORELINE RESTORATION PROJECTS ON RED ROCK.

Are there multiple objectives? y
Does the project have well-defined, measurable results? y

List other key participants and their roles

NATURAL SHORE TECHNOLOGIES
– COMPANY WILL DO THE RESTORATION AND PROVIDE (2) YEARS OF MAINTENANCE

Does the project demonstrate strong partnerships & support? n

Which cost share goals does the project support? (check all that apply)

- [ ] Improve watershed resources
- [x] Increase awareness of the vulnerability of watershed resources
- [x] Increase familiarity with and acceptance of solutions to improve waters
- [x] Foster water resource stewardship

How does the project support the goals you checked?

AS LAKESHORE OWNERS WE NEED TO BE BETTER STEWARDS OF THE LAKE AND IT'S SURROUNDING AREA. WE NEED TO PROMOTE WAYS AND ENCOURAGE PEOPLE TO MAKE OUR LAKES HEALTHIER. THIS PROJECT WILL BE SEEN BY MANY MEMBERS OF OUR LAKE ASSOCIATION AND WILL GET OWNERS TO START THINKING ABOUT A RESTORATION PROJECT OF THEIR OWN. THE PROCESS WILL BE DETAILED ON OUR WEBSITE AND PROMOTED TO MEMBERS.

Project details (continued)

Do not fill in gray boxes. District use only.

Benefits Estimate the project benefits in terms of restoration and/or **annual** pollution reduction. If you are working with a designer or contractor, they can provide these numbers. If you need help, contact the district cost share program coordinator.

Benefit	Amount	
Water captured		gal / year
Water infiltrated		gal / year
Phosphorus removed		lbs / year
Sediment removed		lbs / year
Land restored	OVER 4000	ft²

Does the project provide water quality treatment? y acts as a buffer

Does the project provide restoration? y

How will you share the project results with your community?

PROCESS WILL BE DETAILED WITH CONTACTS, STEPS, PICTURES, ETC ON RED ROCK LAKE WEBSITE.

SITE IS ALSO USED FOR ANNUAL LAKE PARTY. OWNER IS MEMBER OF FORRL BOARD.

Is there educational value to the project? y

Will the project be visible to the public? y

Are there other projects that could be initiated as a result of this one?

SEE ABOVE.

NEIGHBORS DIRECTLY TO THE NORTH AND THE SOUTH ARE BOTH INTERESTED IN SHORELINE PROJECTS.

Evaluation

How will the project be monitored and evaluated?

RPBCWD STAFF WELCOME ON SITE AT ANY TIME.
CITY OF EDEN PRAIRIE STAFF WILL BE ENGAGED TOO.
CONTRACTOR WILL PROVIDE 2 YEARS OF MAINTENANCE.

Maintenance agreement

I acknowledge that receipt of a grant is contingent upon agreeing to maintain the project for the number of years outlined in the cost share guidelines document ☒ Yes

Authorization

Name of landowner or responsible party MARK DAVID

Signature _____ Date 6.7.2017

Natural Shore Technologies, Inc.

Restoration Proposal for:

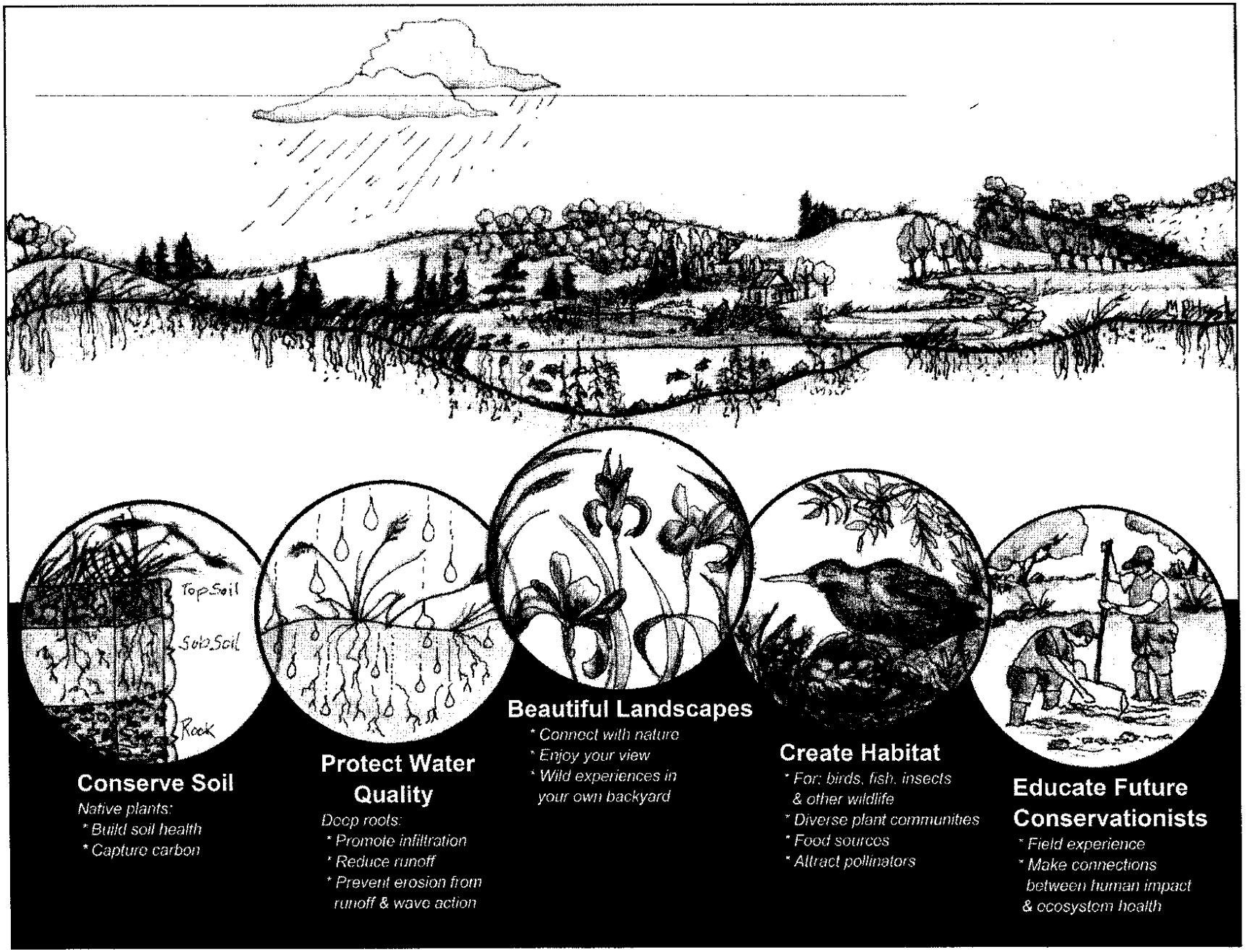
Mr. Mark David
8583 Red Oak Drive
Eden Prairie, MN

Proposal Date: June 5th 2017

Prepared by:

Bill Bartodziej M.S., Senior Restoration Ecologist
Natural Shore Technologies, Inc.
612.730.1542 bill.b@naturalshore.com

Benefits of our quality restoration work.



Conserve Soil

Native plants:

* *Build soil health*
* *Capture carbon*

Protect Water Quality

Deep roots:

* *Promote infiltration*
* *Reduce runoff*
* *Prevent erosion from runoff & wave action*

Beautiful Landscapes

* *Connect with nature*
* *Enjoy your view*
* *Wild experiences in your own backyard*

Create Habitat

* *For: birds, fish, insects & other wildlife*
* *Diverse plant communities*
* *Food sources*
* *Attract pollinators*

Educate Future Conservationists

* *Field experience*
* *Make connections between human impact & ecosystem health*

Project Summary

1. Dimensions: Shoreland (500 SF), Woodland-Savanna (3,000 SF), Prairie (1,200 SF)
2. Site assessment and plan development include: detailed site preparation methods, plant selection, and a project timeline and work schedule for our staff. Because most of projects involve the establishment of natural buffers, site drawings and planting plans are not necessary. We have found that over time, native plants will seek out the optimal micro-habitats and flourish. However, project plan drawings can certainly be provide at an additional cost upon client request.
3. Delineate and verify total restoration project area.
4. Design planting so that flowering will occur at different periods throughout the growing season. Short prairie grass species will be used around the buffer edges closest to the turf and serpentine pathway down to the dock.
5. Kill all weedy species and turf with an herbicide appropriate for upland or aquatic use. A licensed herbicide applicator from Natural Shore Technologies will apply the treatment.
6. Cut and remove remaining weedy material.
7. Apply a 3" layer of shredded hardwood mulch over the prairie area.
8. Seed (custom native plant mix) and cover woodland area with straw.
9. Lay out plants into plant zones per plan specifications. We will use 1,325 plants for your restoration.
10. Install plants @ approximately 1.5' centers in the prairie and shoreland, and 3' centers in the woodland. Move mulch or straw aside and a light mulch or straw layer will be returned around the base of the plants to hold moisture. Mulch will not be placed below the normal water level.
11. Site monitoring will be conducted and appropriate maintenance will be provided throughout the 2018 growing season.

Guarantee

We stand by our native plant material and our ecological restoration services.

Native plants that we install are guaranteed to establish during the first growing season. Any plant material that does not make it through the first growing season will be replaced at no charge to the client.

On projects that we install and manage, we will guarantee successful establishment of your ecological restoration within three full growing seasons. This proposal provides a plan for accomplishing the restoration of the project site. If successful establishment does not occur within three growing seasons, all necessary steps will be taken to ensure the eventual success of the project, at no additional charge. For purposes of this guarantee, successful establishment is defined as follows: That the presence of at least 80% of the original seeded or planted species can be found on the site, and that the overall density of vegetation is comprised of no less than 80% native species.

The only exceptions to this guarantee have to do with plant death due to acts of God (floods or drought) the actions of others (vandalism), or animal herbivory (e.g., geese, muskrats). If these extreme circumstances do happen to occur, we will work with the client at a reduced rate to make all necessary repairs.

Our goal will always be to create successful, long-term partnerships with our clients. Our guarantee is the best in the business, and provides you with a clear understanding that we are here to fully support your ecological restoration endeavor.

Natural Shore Technologies, Inc.	***David Restoration Project***

Project Cost

This bid includes project design and management, all materials, labor, and a two year maintenance plan. This is a comprehensive bid estimate and valid for thirty days. We require a 50% down payment to schedule your project.

Cost Breakdown

Site Design, Project Management, Mobilization, labor	$1,422.00
Site preparation, herb. trts, mulch	$2,380.00
Plants - 1,325 - 3" and 4" containers	$4,654.75
Erosion control materials	$720.00
Maintenance - 2 yr plan - discount w shore plan	$1,120.00
TOTAL =	**$10,296.75**

Site maintenance

Site maintenance includes three visits per year during the growing season to monitor and conduct activities that will ensure proper restoration establishment. We use the most appropriate, up-to-date maintenance techniques such as targeted herbicide application, hand pulling, mowing, and spot weed whipping to effectively control invasive weeds. Our lead maintenance supervisor has a B.S. in Biology and 10 years of field experience.

Note we do offer long-term maintenance contracts. Over 90% of our clients use that service.

Staff Qualifications

Our company has over 50 years of combined ecological restoration experience. We are a local company that focuses on quality ecological restoration in the Metro area. Our clients vary from private estates on Lake Minnetonka, to large corporate headquarters in Eden Prairie. We also work with many city and county governments and watershed management organizations. We are fully insured.

Our specialty is lakeshore and wetland restoration. We have restored many miles of lakeshore in Minnesota, more than any other company. Please see our portfolio for examples of our restoration projects that include; shorelines, wetlands, prairies, savannas, and rain gardens.

Please see our ***project photo book*** at: http://www.blurb.com/books/6034090-natural-shore-technologies-inc-photobook

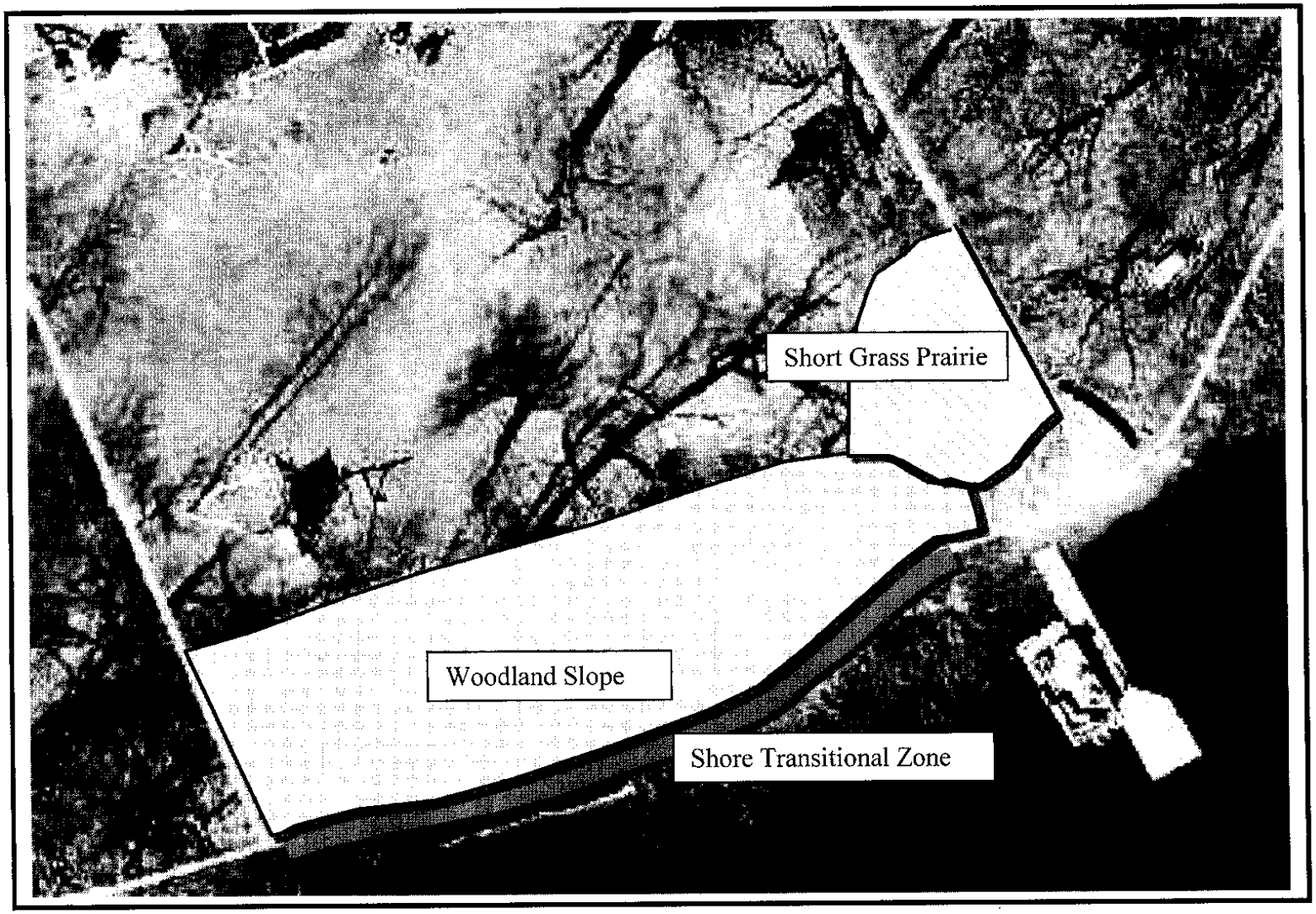
Natural Shore Technologies Plant Material

We have commercial and retail greenhouses in Maple Plain. Our plants are Minnesota native perennials that will flourish year after year. Utilizing our own plant material in our projects assure quality control. Our wetland and prairie plants are guaranteed to establish during the first growing season. Perennial plants put most of their energy into establishing root systems so please keep in mind that the first year of growth will be mainly underground. You will see some flowering the first year, but significantly more flowering during the second year of establishment.

Information about our ***retail native plant greenhouses*** located in Maple Plain is also available at: www.naturalshore.com

Natural Shore Technologies, Inc.	***David Restoration Project***

Base Map – Shoreland Buffer



Natural Shore Technologies, Inc.
www.NaturalShore.com
6275 Pagenkopf Road, Maple Plain, MN 55359 612-706-7251

Mark David
8583 Red Oak Drive
Eden Prairie, MN

June 7, 2017

Project Timeline for David Shoreline Restoration Project

April 2017 - meet with watershed employees and develop restoration plan

May 2017 - home owner removes over 30 lawn bags of buckthorn and other invasive plant species

May 2017 - Natural Shore Technologies develops restoration plan for woodland, shoreline and new buffer (Prairie) area

June 2017 - owner commits to project and provides contractor deposit for restoration project

June 2017 - Cost share grant application submitted to RPBCWD and Water Quality Rebate application submitted to City of Eden Prairie

July 2017 - continued invasive plant removal by owner and restoration project started by Natural Shore Technologies

future - maintain all areas and promote shoreline restoration projects to others

David - Preliminary Plant List

Common Name	Scientific Name	Shoreland 500 SF	Woodland 3,000 SF	Prairie 1,200 SF
Aquatic Emergents				
Arrowhead	Sagittaria latifolia	30		
Bur-reed	Sparganium eurycarpum	30		
Wet grasses, sedges, rushes				
Bottle brush sedge	Carex comosa	10		
Canada bluejoint	Calamagrostis canadensis	20		
Common rush	Juncus effusus	10		
Fox sedge	Carex vulpinoidea	20		
Lake sedge	Carex lacustris	30		
Sweet flag	Acorus amercana			
Wet wildflowers				
Blue bottle gentian	Gentiana andrewsii			
Blue flag	Iris versicolor	30		
Blue lobelia	Lobelia siphilitica			
Canada anemone	Anemone canadensis			
Cardinal flower	Lobelia cardinalis	10		
Marsh marigold	Caltha palustris			
Monkey flower	Mimulus ringens	10		
Mountain mint	Pycnanthemum virginianum	10		
Prairie blazing star	Liatris pycnostachya			
Swamp milkweed	Asclepias incarnata	10		
Woodland Wildflowers				
Wild columbine	Aquilegia canadensis		50	
Jack-in-the-pulpit	Arisaema triphyllum		50	
Bloodroot	Sanguinaria canadensis		50	
Thimbleweed	Anemone cylindrica		50	
Jacobs ladder	Polemonium reptans		50	
Zig Zag Goldenrod	Solidago flexicaulis		50	
Grasses/sedges				
Little bluestem	Schizachyrium scoparium		80	60
Prairie dropseed	Sporobolus heterolepsis			60
Side oats grama	Bouteloua curtipendula			60
Sprengels sedge	Carex sprengelii		150	
Upland wildflowers				
Aromatic aster	Aster			30
Blue-eyed grass	Sisyrinchium montanum			30
Butterflyweed	Asclepias tuberosa			30
Columbine	Aquilegia canadensis			30
Coreopsis	Coreopsis sp.			30
Harebell	Campanula rotundifolia			30
Prairie onion	Allium stellatum			30
Purple coneflower	Echinacea purpurea			35
Purple prairie clover	Petalostemum purpureum			30
Rough blazing star	Liatris aspera			30
Spiderwort	Tradescantia occidentalis		30	30
White prairie clover	Petalostemum candidum			30
		220	**560**	**545**

Cost share grant application
2017

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Do not fill in gray boxes. District use only

Applicant type (check one) ☒ Homeowner ☐ Non-profit - 501(c)(3)
☐ Business or corporation ☐ Public agency or local government unit ☐ School

Project type (check all that apply) ☐ Raingarden ☐ Vegetated swale ☒ Lake/creek/wetland buffer
☒ Shoreline/bank stabilization ☐ Wetland restoration ☐ Pervious hard surface ☐ Infiltration basin
☐ Conservation practice ☐ Other_____

Applicant information

Works or resides in district? y

Name Erik Hansen Address 7935 S Bay Curve
City/State/Zip Eden Prairie MN 55347
Phone 952-937-2401 Alt phone 952-210-9030 Email hansenef@tcummed

Primary contact

☒ Same as applicant (leave blank)

Name_____ Address_____
City/State/Zip_____
Phone_____ Alt phone_____ Email_____

Project location

Address 7935 S Bay Curve City/State/Zip Eden Prairie MN 55347
Property Identification Number (PID) 1711622240004
Property owner(s) Erik & Nichole Hansen

Project located in district? y

Tributary to a waterbody? ☐ No ☐ Yes, indirectly ☐ Yes, adjacent y

Project summary

Title Hansen Restoration Project
Total project cost $4707 Grant amount requested 3000
Estimated start date Summer 2017 Estimated completion date Summer 2017 (August 2017)
Sub-watershed Mitchell Lake

Project located in priority drainage area? y

Is project tributary to a water body? ☐ No, water remains on site ☐ Yes, indirectly ☒ Yes, directly adjacent

2-3 sentence project description

Project is to establish a buffer zone/stabilize portion of shore on Mitchell Lake. Currently the area is scrub brush and weeds with some invasive species.

Is this work required as a part of a permit? ☒ No ☐ Yes

(If yes: describe how the project provides water quality treatment beyond permit requirements on the next page.)

Site visit

One of the requirements for a complete application is a site visit from district staff.

Have you had a site visit? ☒ No ☒ Yes 5/18/17

(If you answered no, please contact staff to schedule one: 952-607-6512)

Project details

Do not fill in gray boxes. District use only.

Checklist To be considered complete the following must be included with the application.

- ☑ location map
- ☑ site plan & design schematics
- ☑ itemized budget or contractor bid
- ☑ project time-line
- ☑ proof of property ownership
- ☑ plant list & planting plan (if project includes plants)

Is time-line reasonable? y

Is budget reasonable? y

Is plan comprehensive? y

Does plant list conform to districts approved plant list? y

Description

Describe the current site conditions, as well as site history, and past management.

Property was overgrown and had invasive species at purchase. Appears to have not been maintained by previous owners

What are the project objectives and expected outcomes? Give any additional project details.

Long term stabilization of bank and buffer to prevent run off into lake.

Are there multiple objectives? y

Does the project have well-defined, measurable results? y

List other key participants and their roles

Nicole Hansen will assist in maintenance and is also an educator who can incorporate information on water stewardship into existing ecological lesson plans.

Does the project demonstrate strong partnerships & support? y

Which cost share goals does the project support? (check all that apply)

- ☒ Improve watershed resources
- ☐ Increase awareness of the vulnerability of watershed resources
- ☑ Increase familiarity with and acceptance of solutions to improve waters
- ☐ Foster water resource stewardship

How does the project support the goals you checked?

The project will prevent runoff and erosion into Lake Mitchell. The proposed project is in an area of Mitchell Lake that gets substantial boat traffic.

Project details (continued)

Do not fill in gray boxes. District use only.

Benefits Estimate the project benefits in terms of restoration and/or **annual** pollution reduction. If you are working with a designer or contractor, they can provide these numbers. If you need help, contact the district cost share program coordinator.

Benefit	Amount	
Water captured		gal / year
Water infiltrated		gal / year
Phosphorus removed		lbs / year
Sediment removed		lbs / year
Land restored	2500	ft²

will act as a buffer

Does the project provide water quality treatment? y

Does the project provide restoration? y

How will you share the project results with your community?

Through meetings and outreach through the Mitchell Lake Association. I am also willing to place signage to show that the project is to help improve water quality.

Is there educational value to the project? y

Will the project be visible to the public? y

Are there other projects that could be initiated as a result of this one?

Yes. There is additional shoreline on the property that could be improved.

Evaluation

How will the project be monitored and evaluated?

The project includes monitoring for a year. Additionally, homeowner is planning to attend a Lake Association program on maintenance.

Maintenance agreement

I acknowledge that receipt of a grant is contingent upon agreeing to maintain the project for the number of years outlined in the cost share guidelines document ☒ Yes

Authorization

Name of landowner or responsible party Erik Hansen

Signature Erik Hansen Date 5/22/17

Natural Shore Technologies, Inc.

Restoration Proposal for:

Mr. Erik Hansen
7935 S Bay Curve
Eden Prairie MN 55347

Proposal Date: May 14th, 2017

Prepared by:

Bill Bartodziej M.S., Senior Restoration Ecologist
Natural Shore Technologies, Inc.
612.730.1542 bill.b@naturalshore.com

Natural Shore Technologies, Inc.
www.NaturalShore.com
6275 Pagenkopf Road, Maple Plain, MN 55359 612-703-7581

May 14th 2017

Dear Erik:

Thank you again for giving Natural Shore Technologies the opportunity to bid on your project. Below is a *Project Summary* which outlines our *restoration methods* and *cost breakdown*. We would like to emphasize that we tailor our restoration approach to fit your site characteristics and specific objectives. We look forward to developing a partnership with you to produce an exceptional restoration that exceeds your expectations.

We would enjoy the chance to answer any questions that you have regarding this restoration proposal. We take great pride in our reputation and attention to customer satisfaction. After you have read through and are comfortable with the proposed plan and specified cost, please sign the contract that is provided. A down payment and a signed contract are required to book your project.

Best regards,

Bill Bartodziej, M.S.
Senior Restoration Ecologist
Natural Shore Technologies, Inc.

Project Summary

1. Dimensions: 2,500 SF
2. Site assessment and plan development include: detailed site preparation methods, plant selection, and a project timeline and work schedule for our staff. Because most of projects involve the establishment of natural buffers, site drawings and planting plans are not necessary. We have found that over time, native plants will seek out the optimal micro-habitats and flourish. However, project plan drawings can certainly be provide at an additional cost upon client request.
3. Delineate and verify total restoration project area. Mark areas with sedges and other native plant species. These areas will be preserved.
4. Design planting so that flowering will occur at different periods throughout the growing season. Short prairie grass species will be used around the buffer edges closest to the turf. Shorter species will be selected throughout the restoration.
5. Kill all weedy species and turf with an herbicide appropriate for upland or aquatic use. A licensed herbicide applicator from Natural Shore Technologies will apply the treatment.
6. Cut and remove remaining weedy material.
7. Apply a 3” layer of shredded hardwood mulch over selected areas.
8. Lay out plants per plan specifications. We will use 600 – 3” and 4” container plants for your restoration.
9. Interplant areas with native vegetation. In areas with mulch: move mulch aside and plant, a light mulch layer will be returned around the base of the plants to hold moisture. Mulch will not be placed below the normal water level.
10. Site monitoring will be conducted and maintenance will be provided throughout the 2017 growing season.

Natural Shore Technologies, Inc.	***Hansen Restoration Project***

Project Cost

This bid includes project design and management, all materials, labor, and a one year maintenance plan. This is a comprehensive bid estimate and valid for thirty days. We require a 50% down payment to schedule your project.

Cost Breakdown

Site Design, Project Management, Mobilization, Labor	$1,007.00
Site preparation, herbicide trts, mulch	$1,385.00
Plants - 600 - 3" and 4" containers	$1,995.00
Maintenance - 1 yr plan - discount w shore plan	$320.00
TOTAL =	**$4,707.00**

Site maintenance

Site maintenance includes three visits per year during the growing season to monitor and conduct activities that will ensure proper restoration establishment. We use the most appropriate, up-to-date maintenance techniques such as targeted herbicide application, hand pulling, mowing, and spot weed whipping to effectively control invasive weeds. Our lead maintenance supervisor has a B.S. in Biology and 10 years of field experience.

Note we do offer long-term maintenance contracts. Over 90% of our clients use that service.

Natural Shore Technologies, Inc.	***Hansen Restoration Project***

Staff Qualifications

Our company has over 50 years of combined ecological restoration experience. We are a local company that focuses on quality ecological restoration in the Metro area. Our clients vary from private estates on Lake Minnetonka, to large corporate headquarters in Eden Prairie. We also work with many city and county governments and watershed management organizations. We are fully insured.

Our specialty is lakeshore and wetland restoration. We have restored many miles of lakeshore in Minnesota, more than any other company. Please see our portfolio for examples of our restoration projects that include; shorelines, wetlands, prairies, savannas, and rain gardens.

Please see our ***project photo book*** at: http://www.blurb.com/books/6034090-natural-shore-technologies-inc-photobook

Natural Shore Technologies Plant Material

We have commercial and retail greenhouses in Maple Plain. Our plants are Minnesota native perennials that will flourish year after year. Utilizing our own plant material in our projects assure quality control. Our wetland and prairie plants are guaranteed to establish during the first growing season. Perennial plants put most of their energy into establishing root systems so please keep in mind that the first year of growth will be mainly underground. You will see some flowering the first year, but significantly more flowering during the second year of establishment.

Information about our ***retail native plant greenhouses*** located in Maple Plain is also available at: www.naturalshore.com

Natural Shore Technologies, Inc.	***Hansen Restoration Project***

Guarantee

We stand by our native plant material and our ecological restoration services.

Native plants that we install are guaranteed to establish during the first growing season. Any plant material that does not make it through the first growing season will be replaced at no charge to the client.

On projects that we install and manage, we will guarantee successful establishment of your ecological restoration within three full growing seasons. This proposal provides a plan for accomplishing the restoration of the project site. If successful establishment does not occur within three growing seasons, all necessary steps will be taken to ensure the eventual success of the project, at no additional charge. For purposes of this guarantee, successful establishment is defined as follows: That the presence of at least 80% of the original seeded or planted species can be found on the site, and that the overall density of vegetation is comprised of no less than 80% native species.

The only exceptions to this guarantee have to do with plant death due to acts of God (floods or drought) the actions of others (vandalism), or animal herbivory (e.g., geese, muskrats). If these extreme circumstances do happen to occur, we will work with the client at a reduced rate to make all necessary repairs.

Our goal will always be to create successful, long-term partnerships with our clients. Our guarantee is the best in the business, and provides you with a clear understanding that we are here to fully support your ecological restoration endeavor.

Contract

A down payment of *$2,353.50* is required to schedule your project.

The remainder of the project cost is due at project completion.

Please note that this proposal is valid for 30 days from the date on this Contract.

If you would like to proceed with the above outlined project, please sign the contract below.

Project Name: Hansen Shore Restoration **Contract Value: $** 4,707.00

Client name: Erik Hansen

Signed: _____ **Date** _____

Contractor: ***Natural Shore Technologies, Inc*.**

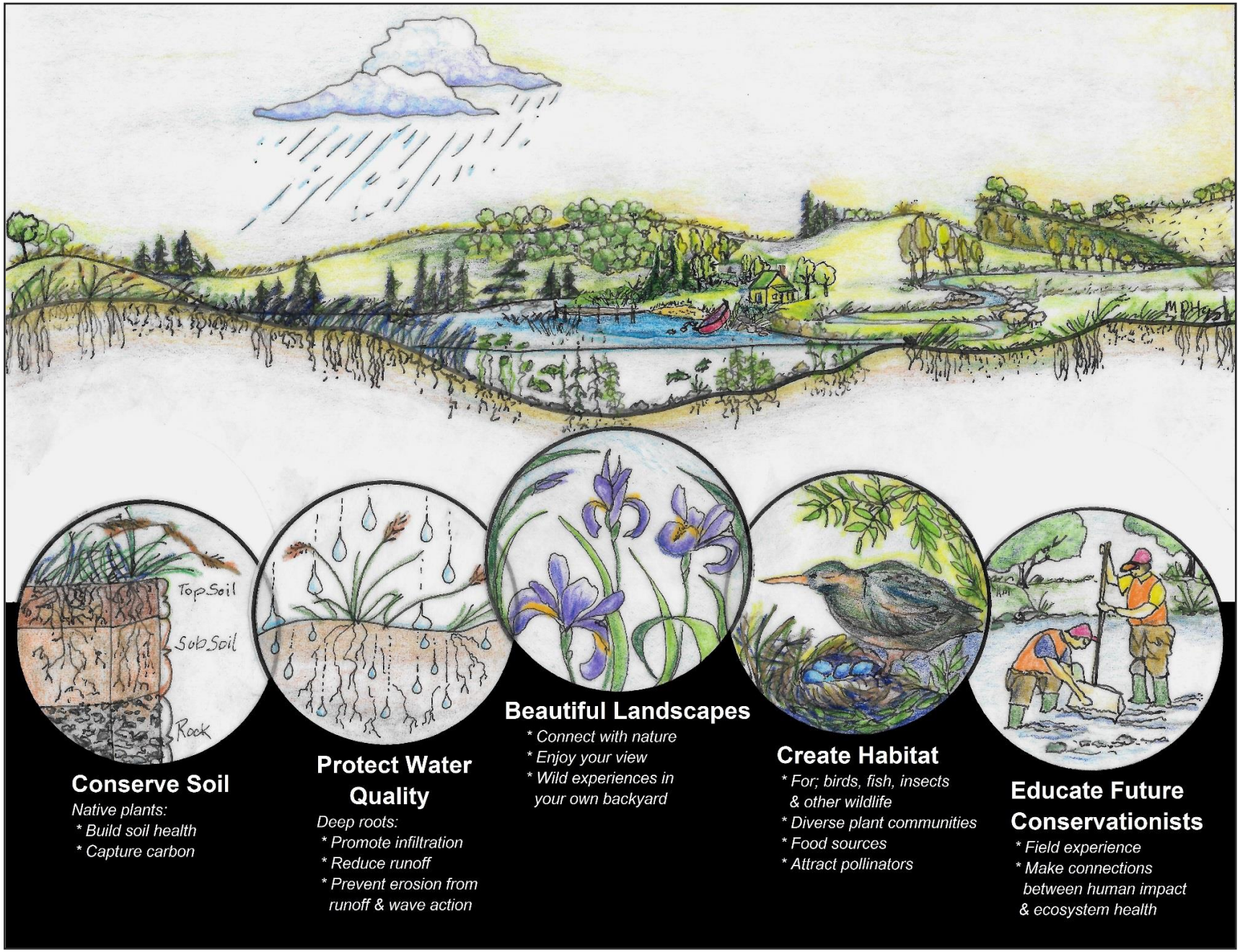
Signed: **Contract Date:** *Contract Date for 30 Day term*

William M. Bartodziej, M.S.
Senior Restoration Ecologist, Natural Shore Technologies

Please return a signed copy of this contract and a check to: Natural Shore Technologies, Inc.
6275 Pagenkopf Rd.
Maple Plain, MN 55359

Natural Shore Technologies, Inc.	***Hansen Restoration Project***

Benefits of our quality restoration work.



Conserve Soil

Native plants:
* *Build soil health*
* *Capture carbon*

Protect Water Quality

Deep roots:
* *Promote infiltration*
* *Reduce runoff*
* *Prevent erosion from runoff & wave action*

Beautiful Landscapes

* *Connect with nature*
* *Enjoy your view*
* *Wild experiences in your own backyard*

Create Habitat

* *For; birds, fish, insects & other wildlife*
* *Diverse plant communities*
* *Food sources*
* *Attract pollinators*

Educate Future Conservationists

* *Field experience*
* *Make connections between human impact & ecosystem health*

Base Map – Plant Zones

Natural Shore Technologies, Inc.
www.NaturalShore.com
6275 Pagenkopf Road, Maple Plain, MN 55359 612-703-7581

Mr. Erik Hansen
7935 S Bay Curve
Eden Prairie MN 55347

nsen Preliminary Plant List

Common Name	Scientific Name	Zone A - 800 SF	Zone B - 1,700 SF
Aquatic Emergents			
Arrowhead	Sagittaria latifolia	50	
Bur-reed	Sparganium eurycarpum	50	
Wet grasses, sedges, rushes			
Bottle brush sedge	Carex comosa	10	
Canada bluejoint	Calamagrostis canadensis	10	
Common rush	Juncus effusus	10	
Fox sedge	Carex vulpinoidea	10	
Lake sedge	Carex lacustris	10	
Wet wildflowers			
Blue bottle gentian	Gentiana andrewsii	5	
Blue flag	Iris versicolor	20	
Blue lobelia	Lobelia siphilitica	5	
Canada anemone	Anemone canadensis	5	
Cardinal flower	Lobelia cardinalis	5	
Marsh marigold	Caltha palustris	5	
Monkey flower	Mimulus ringens	5	
Mountain mint	Pycnanthemum virginianum	5	
Prairie blazing star	Liatris pycnostachya	5	
Swamp milkweed	Asclepias incarnata	5	
Sweet flag	Acorus amercana	5	
Upland grasses			
Little bluestem	Schizachyrium scoparium		60
Prairie dropseed	Sporobolus heterolepsis		60
Side oats grama	Bouteloua curtipendula		60
Upland wildflowers			15
Aromatic aster	Aster		15
Blue-eyed grass	Sisyrinchium montanum		15
Butterflyweed	Asclepias tuberosa		15
Columbine	Aquilegia canadensis		15
Coreopsis	Coreopsis sp.		15
Harebell	Campanula rotundifolia		15
Prairie onion	Allium stellatum		15
Purple coneflower	Echinacea purpurea		20
Purple prairie clover	Petalostemum purpureum		15
Rough blazing star	Liatris aspera		15
Spiderwort	Tradescantia occidentalis		15
White prairie clover	Petalostemum candidum		15

Cost share grant application
2017

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Do not fill in gray boxes. District use only.

Applicant type (check one) ☒ Homeowner ☐ Non-profit - 501(c)(3) ☐ Business or corporation ☐ Public agency or local government unit ☐ School

Project type (check all that apply) ☐ Raingarden ☐ Vegetated swale ☒ Lake/creek/wetland buffer ☒ Shoreline/bank stabilization ☐ Wetland restoration ☐ Pervious hard surface ☐ Infiltration basin ☐ Conservation practice ☐ Other _____

Applicant information

Works or resides in district? y

Name David & Candi O'Hara Address 8513 Red Oak Drive

City/State/Zip Eden Prairie, Minnesota 55347

Phone 612-743-9044 Alt phone 612-730-8773 Email cdowebber@gmail.com

Primary contact

☒ Same as applicant (leave blank)

Name _____ Address _____

City/State/Zip _____

Phone _____ Alt phone _____ Email _____

Project location

Address 8513 Red Oake Drive City/State/Zip Eden Prairie, Minnesota 55347

Property Identification Number (PID) 1711622440018

Property owner(s) David & Candi O'Hara

Project located in district? y

Project summary

Tributary to a waterbody? No Yes, indirectly Yes, adjacent y

Title Red Rock Lake Shoreline Restoration

Total project cost $6,259.50 Grant amount requested $3,000.00

Estimated start date Approx. July - August 2017 Estimated completion date Approx. July - August 2017

Sub-watershed Red Rock Lake

Project located in priority drainage area?

Is project tributary to a water body? ☐ No, water remains on site ☐ Yes, indirectly ☒ Yes, directly adjacent

2-3 sentence project description

We plan to have Natural Shore Technologies assess our current lakeshore buffer to preserve beneficial native plants and treat or remove weedy plant species. Once complete, they will apply shredded hardwood mulch over the site and plant several hundred native plants to establish a healthy lake buffer. Site monitoring and maintenance will be provided through the end of 2018 growing season.

Is this work required as a part of a permit? ☒ No ☐ Yes

(If yes: describe how the project provides water quality treatment beyond permit requirements on the next page.)

Site visit

One of the requirements for a complete application is a site visit from district staff.

Have you had a site visit? ☐ No ☒ Yes

(If you answered no, please contact staff to schedule one: 952-607-6512)

Project details

Do not fill in gray boxes.
District use only.

Checklist To be considered complete the following must be included with the application.

- [x] location map
- [x] site plan & design schematics
- [x] itemized budget or contractor bid
- [x] project time-line
- [x] proof of property ownership
- [x] plant list & planting plan (if project includes plants)

Is time-line reasonable?	y
Is budget reasonable?	y
Is plan comprehensive?	y
Does plant list conform to district's approved plant list?	y

Description

Describe the current site conditions, as well as site history, and past management.

Before we bought the home in April 2015, the home had been rented for about 7 years and very little care seems to have been given to the yard and shoreline. Over the past 2 summers, we removed many buckthorn plants that had taken over the majority of the lakeshore. Along with some remaining buckthorn, there is currently a mix of beneficial native plants and undesirable weedy species along the shore. Lastly, some of the shore area has black plastic landscape sheeting just beneath the turf surface.

What are the project objectives and expected outcomes? Give any additional project details.

The objective of the project is to establish a healthy native lake buffer. The expected outcome is a natural and native buffer that resists the growth of weeds and buckthorn formerly located on the site. Shoreline stabilization should improve the elimination of the buckthorn and the establishment of native shoreline plants. In addition, the plants to be planted will flower at different times during the growing season, providing aesthetic benefits and natural beauty to the lakeshore.

Are there multiple objectives?	y
Does the project have well-defined, measurable results?	y

List other key participants and their roles

Our plan is to utilize this project as an educational experience to learn how to identify and maintain desirable native plants in order to establish a healthy buffer between our lawn and Red Rock Lake.

Does the project demonstrate strong partnerships & support?	n

Which cost share goals does the project support? (check all that apply)

- [x] Improve watershed resources
- [x] Increase awareness of the vulnerability of watershed resources
- [x] Increase familiarity with and acceptance of solutions to improve waters
- [x] Foster water resource stewardship

How does the project support the goals you checked?

The restoration of our buffer should improve filteration and quality of water that flows from our yard into Red Rock Lake. By learning how to identify and maintain native plants, we will be more informed and aware of vulnerable watershed resources. Further, this familiarity will equip us to carry this project's water improvement benefits into the future.

Project details (continued)

Do not fill in gray boxes.
District use only.

Benefits Estimate the project benefits in terms of restoration and/or **annual** pollution reduction. If you are working with a designer or contractor, they can provide these numbers. If you need help, contact the district cost share program coordinator.

Benefit	Amount	
Water captured		gal / year
Water infiltrated		gal / year
Phosphorus removed		lbs / year
Sediment removed		lbs / year
Land restored	~2,000	ft²

Seth Ristow to provide amounts per phone conversation Wednesday, May 17, 2017

acts as a buffer

Does the project provide water quality treatment? y

Does the project provide restoration? y

How will you share the project results with your community?

As members of the Friends of Red Rock Lake association, we would gladly share details and results of our project with other members at future meetings; sharing before and after photos. We would also welcome shoreline signage promoting RPBCWD Cost Share Grant Program.

Is there educational value to the project? y

Will the project be visible to the public? y

Red Rock residents and recreator

Are there other projects that could be initiated as a result of this one?

The northeast portion of our yard still has a large area of buckthorn, which is adjacent to the lake buffer area. Once we restore the lake buffer, it may be logical and beneficial to remove remaining buckthorn and establish native growth to improve the overall health of our surrounding shoreline. Additionally, to improve overall water filteration from the home, we plan to evaluate removing the black plastic landscape sheeting beneath the turf that spans the length of our shoreline and up into the yard.

Evaluation

How will the project be monitored and evaluated?

We plan to live in this home for many years to come, thus have a vested interest in learning how to monitor and maintain our shoreline buffer. Further, Natural Shore Technologies will assist us in that process through the end of 2018 growing season and then on request beyond that timeframe. We plan to learn from their expertise in order to maintain a stable and weed resistent native lakeshore buffer.

Maintenance agreement

I acknowledge that receipt of a grant is contingent upon agreeing to maintain the project for the number of years outlined in the cost share guidelines document ☒ Yes

Authorization

Name of landowner or responsible party David D'Hara and Candi D'Hara

Signature David T. D'Hara Candi D'Hara Date 5/30/2017

PROPOSED BMP'S

BMP ID	BMP TYPE	SIZE (SQ-FT)	COST ESTIMATE	WQ RANK	ESTIMATED GRANT
A	Native Buffer	2,000	$4,000	1	tbd

Notes:

Area of planting should be site verified for precise estimate.

LEGEND

Native Plant Buffer

Cost Share Concept Plan

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Candi and David O'Hara
8513 Red Oak Dr.
Eden Prairie, MN 55347

Cost Share Concept Plan provided by:
Riley Purgatory Bluff Creek Watershed District [RPBCWD]
Carver Soil and Water Conservation District [CSWCD]

Date: 4/5/17

Natural Shore Technologies, Inc.

Restoration Proposal for:

Candi & David O'Hara
8513 Red Oak Drive
Eden Prairie, MN

Proposal Date: May 11th, 2017

Prepared by:
Bill Bartodziej M.S., Senior Restoration Ecologist
Natural Shore Technologies, Inc.
612.730.1542 bill.b@naturalshore.com

Natural Shore Technologies, Inc.
www.NaturalShore.com
6275 Pagenkopf Road, Maple Plain, MN 55359 612-703-7581

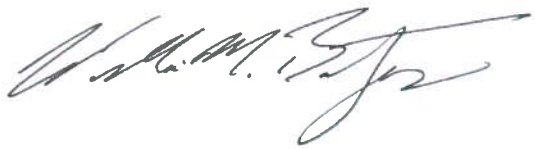
May 11th 2017

Dear Candi and David:

Thank you again for giving Natural Shore Technologies the opportunity to bid on your project. Below is a *Project Summary* which outlines our *restoration methods* and *cost breakdown*. We would like to emphasize that we tailor our restoration approach to fit your site characteristics and specific objectives. We look forward to developing a partnership with you to produce an exceptional restoration that exceeds your expectations.

We would enjoy the chance to answer any questions that you have regarding this restoration proposal. We take great pride in our reputation and attention to customer satisfaction. After you have read through and are comfortable with the proposed plan and specified cost, please sign the contract that is provided. A down payment and a signed contract are required to book your project.

Best regards,



Bill Bartodziej, M.S.
Senior Restoration Ecologist
Natural Shore Technologies, Inc.

Project Summary

1. Dimensions: 2,000 SF as specified in the plan drawing provided.
2. Site assessment and plan development include: detailed site preparation methods, plant selection, and a project timeline and work schedule for our staff. Because most of projects involve the establishment of natural buffers, site drawings and planting plans are not necessary. We have found that over time, native plants will seek out the optimal micro-habitats and flourish. However, project plan drawings can certainly be provide at an additional cost upon client request.
3. Delineate and verify total restoration project area.
4. Design planting so that flowering will occur at different periods throughout the growing season.
5. Survey site and mark areas for preservation containing patches of native species.
6. Kill all weedy species with an herbicide appropriate for upland or aquatic use. A licensed herbicide applicator from Natural Shore Technologies will apply the treatment.
7. Cut and remove remaining weedy material.
8. Apply a 3" layer of shredded hardwood mulch over the entire project site.
9. Lay out plants into plant zones per plan specifications. We will use 800 – 3-4" container plants for your restoration.
10. Install all plants @ approximately 1.5' centers. Move mulch aside and a light mulch layer will be returned around the base of the plants to hold moisture. Mulch will not be placed below the normal water level.
11. Site monitoring will be conducted and appropriate maintenance will be provided throughout the 2018 growing season.

Natural Shore Technologies, Inc.	***O'Hara Restoration Project***

Project Cost

This bid includes project design and management, all materials, labor, and a two year maintenance plan. This is a comprehensive bid estimate and valid for thirty days. We require a 50% down payment to schedule your project.

Cost Breakdown

Site Design, Project Management, Mobilization, Labor	$1,112.00
Site preparation, herbicide trts, clearing, mulch	$1,775.00
Plants - 800 - 3"-4" containers	$2,572.50
Maintenance - 2 yr plan - discount w shore plan	$800.00
TOTAL =	**$6,259.50**

Site maintenance

Site maintenance includes three visits per year during the growing season to monitor and conduct activities that will ensure proper restoration establishment. We use the most appropriate, up-to-date maintenance techniques such as targeted herbicide application, hand pulling, mowing, and spot weed whipping to effectively control invasive weeds. Our lead maintenance supervisor has a B.S. in Biology and 10 years of field experience.

Note we do offer long-term maintenance contracts. Over 90% of our clients use that service.

Staff Qualifications

Our company has over 50 years of combined ecological restoration experience. We are a local company that focuses on quality ecological restoration in the Metro area. Our clients vary from private estates on Lake Minnetonka, to large corporate headquarters in Eden Prairie. We also work with many city and county governments and watershed management organizations. We are fully insured.

Our specialty is lakeshore and wetland restoration. We have restored many miles of lakeshore in Minnesota, more than any other company. Please see our portfolio for examples of our restoration projects that include; shorelines, wetlands, prairies, savannas, and rain gardens.

Please see our ***project photo book*** at: http://www.blurb.com/books/6034090-natural-shore-technologies-inc-photobook

Natural Shore Technologies Plant Material

We have commercial and retail greenhouses in Maple Plain. Our plants are Minnesota native perennials that will flourish year after year. Utilizing our own plant material in our projects assure quality control. Our wetland and prairie plants are guaranteed to establish during the first growing season. Perennial plants put most of their energy into establishing root systems so please keep in mind that the first year of growth will be mainly underground. You will see some flowering the first year, but significantly more flowering during the second year of establishment.

Information about our ***retail native plant greenhouses*** located in Maple Plain is also available at: www.naturalshore.com

Natural Shore Technologies, Inc.	*O'Hara Restoration Project*

Guarantee

We stand by our native plant material and our ecological restoration services.

Native plants that we install are guaranteed to establish during the first growing season. Any plant material that does not make it through the first growing season will be replaced at no charge to the client.

On projects that we install and manage, we will guarantee successful establishment of your ecological restoration within three full growing seasons. This proposal provides a plan for accomplishing the restoration of the project site. If successful establishment does not occur within three growing seasons, all necessary steps will be taken to ensure the eventual success of the project, at no additional charge. For purposes of this guarantee, successful establishment is defined as follows: That the presence of at least 80% of the original seeded or planted species can be found on the site, and that the overall density of vegetation is comprised of no less than 80% native species.

The only exceptions to this guarantee have to do with plant death due to acts of God (floods or drought) the actions of others (vandalism), or animal herbivory (e.g., geese, muskrats). If these extreme circumstances do happen to occur, we will work with the client at a reduced rate to make all necessary repairs.

Our goal will always be to create successful, long-term partnerships with our clients. Our guarantee is the best in the business, and provides you with a clear understanding that we are here to fully support your ecological restoration endeavor.

Contract

A down payment of $*3,129.75* is required to schedule your project.

The remainder of the project cost is due at project completion.

Please note that this proposal is valid for 30 days from the date on this Contract.

If you would like to proceed with the above outlined project, please sign the contract below.

Project Name: O'Hara Shore Restoration **Contract Value: $6,259.50**

Client name: Candi & David O'Hara

Signed: David T. O'Hara Candi O'Hara **Date** 5/30/2017

Contractor: *Natural Shore Technologies, Inc.*

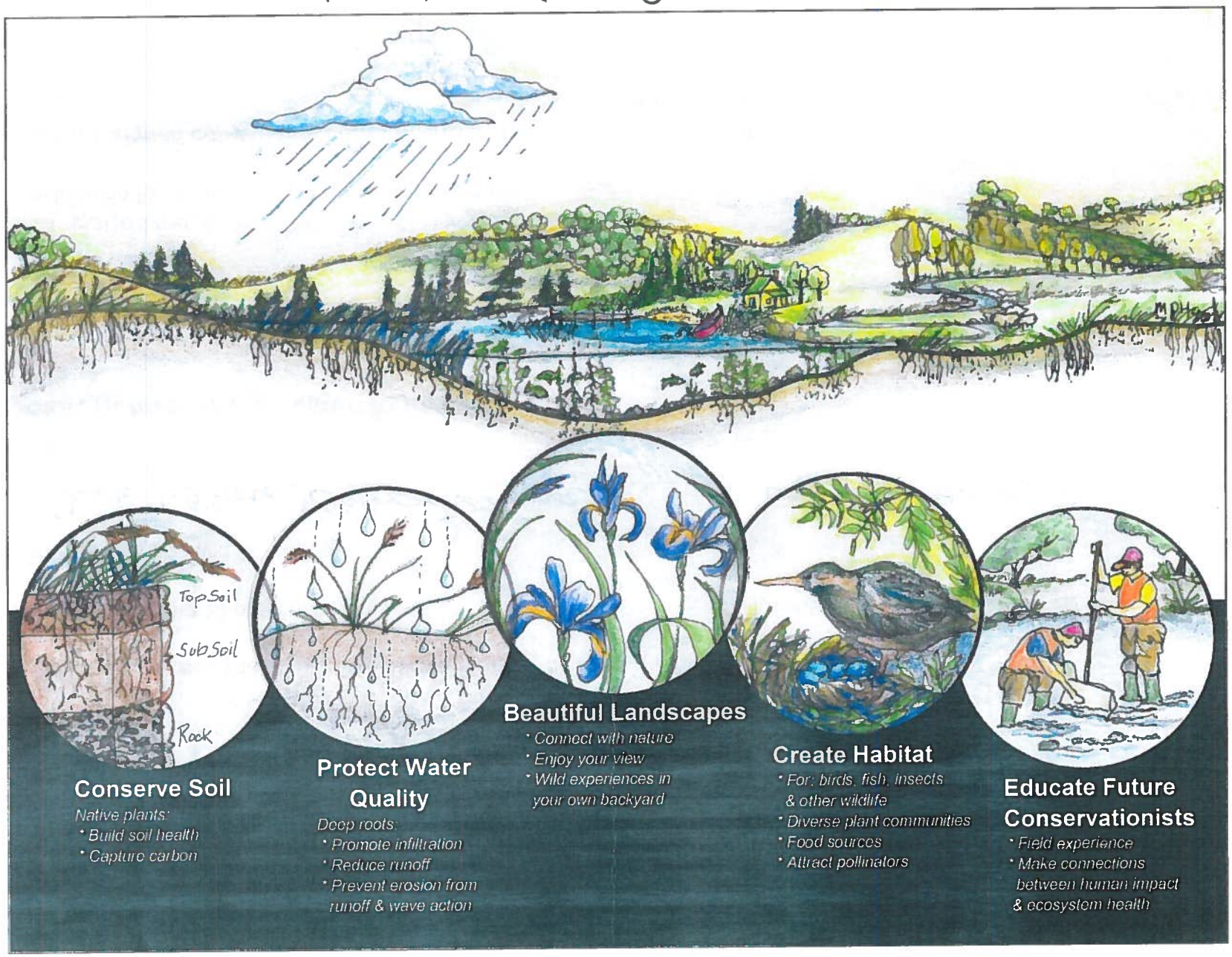
Signed: **Contract Date:** *Contract Date for 30 Day term*

William M. Bartodziej, M.S.
Senior Restoration Ecologist, Natural Shore Technologies

Please return a signed copy of this contract and a check to: Natural Shore Technologies, Inc.
6275 Pagenkopf Rd.
Maple Plain, MN 55359

Natural Shore Technologies, Inc.	***O'Hara Restoration Project***

Benefits of our quality restoration work.



Conserve Soil

Native plants:

- *Build soil health*
- *Capture carbon*

Protect Water Quality

Deep roots:

- *Promote infiltration*
- *Reduce runoff*
- *Prevent erosion from runoff & wave action*

Beautiful Landscapes

- *Connect with nature*
- *Enjoy your view*
- *Wild experiences in your own backyard*

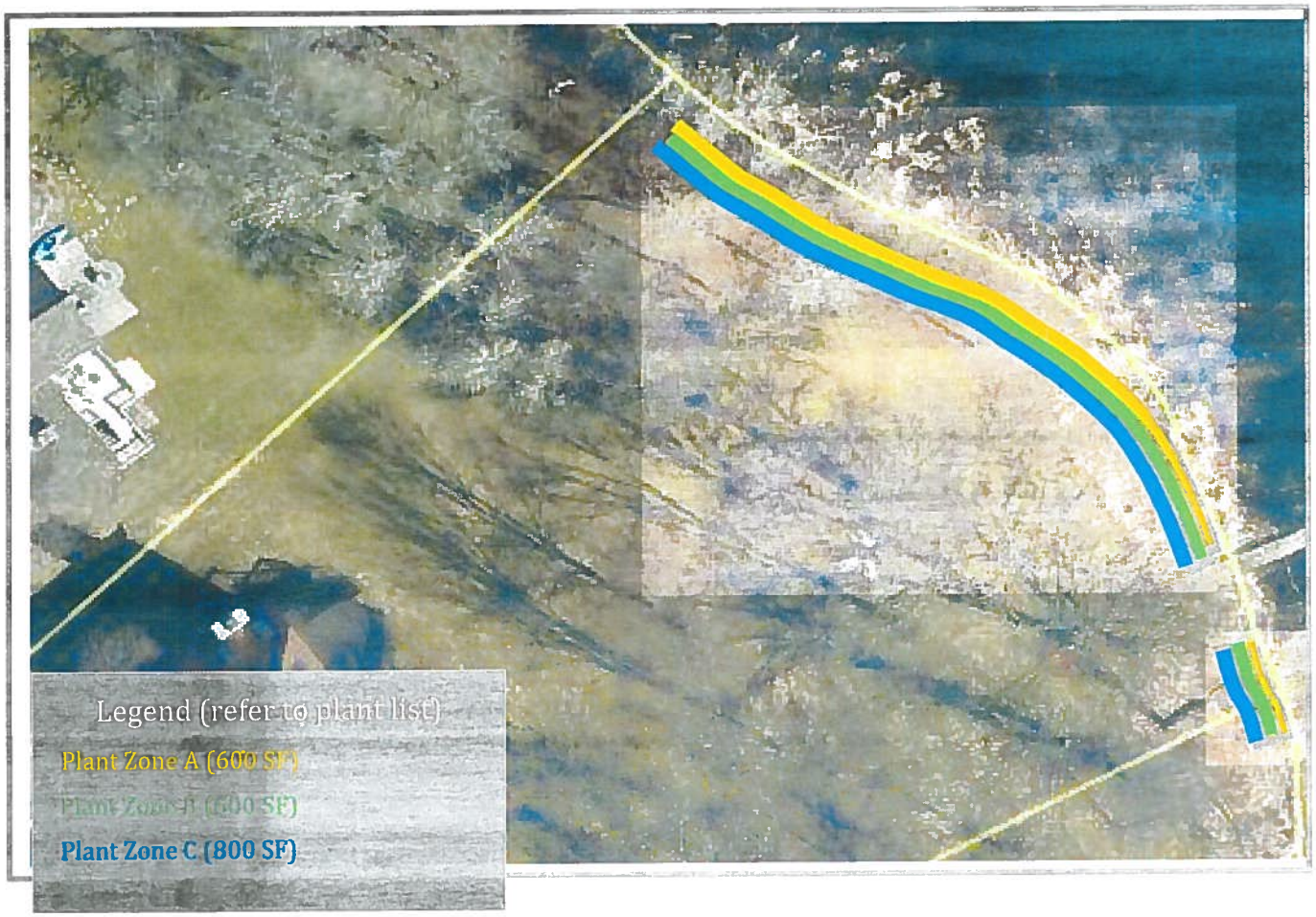
Create Habitat

- *For: birds, fish, insects & other wildlife*
- *Diverse plant communities*
- *Food sources*
- *Attract pollinators*

Educate Future Conservationists

- *Field experience*
- *Make connections between human impact & ecosystem health*

Base Map – Plant Zones



Candi & David O'Hara
8513 Red Oak Drive
Eden Prairie, MN

Natural Shore Technologies, Inc.
www.NaturalShore.com
6275 Pagenkopf Road, Maple Plain, MN 55359
612-703-7581

Common Name	Scientific Name	Zone A	Zone B	Zone C
Aquatic Emergents				
Arrowhead	*Sagittaria latifolia*	40		
Bur-reed	*Sparganium eurycarpum*	40		
Wet grasses, sedges, rushes				
Bottle brush sedge	*Carex comosa*	30	20	20
Common rush	*Juncus effusus*	30	20	20
Fox sedge	*Carex vulpinoidea*	30	20	50
Tussock sedge	*Carex stricta*	30	20	20
Wet wildflowers				
Blue bottle gentian	*Gentiana andrewsii*		10	10
Blue flag	*Iris versicolor*	50	10	10
Blue lobelia	*Lobelia siphilitica*		10	10
Canada anemone	*Anemone canadensis*		10	10
Cardinal flower	*Lobelia cardinalis*		10	10
Joe-pye weed	*Eupatorium maculatum*		10	10
Marsh marigold	*Caltha palustris*		10	10
Monkey flower	*Mimulus ringens*		10	10
Mountain mint	*Pycnanthemum virginianum*		10	10
New England aster	*Aster novae-angliae*		10	10
Obedient plant	*Physostegia virginiana*		10	10
Prairie blazing star	*Liatris pycnostachya*		10	30
Swamp milkweed	*Asclepias incarnata*		20	30
Sweet flag	*Acorus amercana*		20	10
Turtlehead	*Chelone glabra*		10	10
		250	**250**	**300**

Cost share grant application
2017

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Do not fill in gray boxes. District use only.

Applicant type (check one) ☒ Homeowner ☐ Non-profit - 501(c)(3) ☐ Business or corporation ☐ Public agency or local government unit ☐ School

Project type (check all that apply) ☐ Raingarden ☐ Vegetated swale ☒ Lake/creek/wetland buffer ☐ Shoreline/bank stabilization ☐ Wetland restoration ☐ Pervious hard surface ☐ Infiltration basin ☐ Conservation practice ☐ Other _____

Works or resides in district? Y y

Applicant information

Name Joseph Taffe Address 17689 Sheffield Lane

City/State/Zip Eden Prairie MN 55346

Phone 612-703-3419 Alt phone _____ Email Joe.Taffe@RBC.com

Primary contact

☒ Same as applicant (leave blank)

Name _____ Address _____

City/State/Zip _____

Phone _____ Alt phone _____ Email _____

Project location

Address 17689 Sheffield Lane City/State/Zip Eden Prairie MN 55346

Property Identification Number (PID) _____

Property owner(s) Joseph and Stephanie Taffe

Project located in district? y

Tributary to a waterbody? No: _____ Yes, indirectly: X Yes, adjacent: y

Project summary

Title Taffe Wetland Buffer

Total project cost $6658 Grant amount requested $3,000

Estimated start date 7-15-2017 Estimated completion date 9-1-2017

Sub-watershed _____

Project located in priority drainage area? y

Is project tributary to a water body? ☐ No, water remains on site ☒ Yes, indirectly ☐ Yes, directly adjacent

2-3 sentence project description

Wetland buffer project at rear of home. Native plant installation and erosion control.

Is this work required as a part of a permit? ☒ No ☐ Yes

(If yes: describe how the project provides water quality treatment beyond permit requirements on the next page.)

Site visit

One of the requirements for a complete application is a site visit from district staff.

Have you had a site visit? ☐ No ☒ Yes

(If you answered no, please contact staff to schedule one: 952-607-6512)

Project details

Do not fill in gray boxes. District use only.

Checklist To be considered complete the following must be included with the application.

- [x] location map
- [x] site plan & design schematics
- [x] itemized budget or contractor bid
- [x] project time-line
- [ ] proof of property ownership
- [x] plant list & planting plan (if project includes plants)

Is time-line reasonable?	y
Is budget reasonable?	y
Is plan comprehensive?	y
Does plant list conform to district's approved plant list?	y

NOTE: staff recollection from site visit was greater shade conditions: need to confirm correct plant selections

Description

Describe the current site conditions, as well as site history, and past management.

Hill at rear of home is a buffer to the Edenbrook conservatory / purgatory creek. The hill is eroding and over grown by invasive weeds and buckthorn.

What are the project objectives and expected outcomes? Give any additional project details.

Stabilize the slope with erosion control techniques and establish a natural habitat for wildlife. Remove invasive species, create natural way for rain water to soak into the ground.

Are there multiple objectives?	y
Does the project have well-defined, measurable results?	y

List other key participants and their roles

Natural Shore Technologies

Does the project demonstrate strong partnerships & support?	n

Which cost share goals does the project support? (check all that apply)

- [ ] Improve watershed resources
- [ ] Increase awareness of the vulnerability of watershed resources
- [x] Increase familiarity with and acceptance of solutions to improve waters
- [x] Foster water resource stewardship

How does the project support the goals you checked?

The project is increasing our knowledge of protecting our waters and natural resources, and is helping us become better stewards of the natural habitat near our home.

Project details (continued)

Do not fill in gray boxes. District use only.

Benefits Estimate the project benefits in terms of restoration and/or **annual** pollution reduction. If you are working with a designer or contractor, they can provide these numbers. If you need help, contact the district cost share program coordinator.

Benefit	Amount	
Water captured		gal / year
Water infiltrated		gal / year
Phosphorus removed		lbs / year
Sediment removed		lbs / year
Land restored	1800	ft²

acts as a buffer

Does the project provide water quality treatment?	y
Does the project provide restoration?	y

How will you share the project results with your community?

We will and have already begun to socialize our future project with friends and neighbors and will post our progress, goals and pictures on social media

Is there educational value to the project?	y
Will the project be visible to the public?	y/n

the project itself is not readily visible (along a wetland in the backyard), however if promotion is done via social media/conversations as described it would gain visibility.

Are there other projects that could be initiated as a result of this one?

I suspect that our neighbors will wish to improve their wetland buffers as well. Several neighbors have similar issues with invasive growth and erosion.

Evaluation

How will the project be monitored and evaluated?

Natural Shore Technologies will maintain and monitor the project and/or we will closely monitor and maintain the project on our own.

Maintenance agreement

I acknowledge that receipt of a grant is contingent upon agreeing to maintain the project for the number of years outlined in the cost share guidelines document ☒ Yes

Authorization

Name of landowner or responsible party Joseph Taffe

Signature _____ Date 6/10/17

Natural Shore Technologies, Inc.

Restoration Proposal for:

Mr. Joe Taffe
17689 Sheffield Ln
Eden Prairie, MN

Proposal Date: June 8th 2017

Prepared by:

Bill Bartodziej M.S., Senior Restoration Ecologist
Natural Shore Technologies, Inc.
612.730.1542 bill.b@naturalshore.com

Natural Shore Technologies, Inc.
www.NaturalShore.com
6275 Pagenkopf Road, Maple Plain, MN 55359 612-703-7581

June 8th 2017

Dear Joe:

Thank you again for giving Natural Shore Technologies the opportunity to bid on your project. Below is a *Project Summary* which outlines our *restoration methods* and *cost breakdown*. We would like to emphasize that we tailor our restoration approach to fit your site characteristics and specific objectives. We look forward to developing a partnership with you to produce an exceptional restoration that exceeds your expectations.

We would enjoy the chance to answer any questions that you have regarding this restoration proposal. We take great pride in our reputation and attention to customer satisfaction. After you have read through and are comfortable with the proposed plan and specified cost, please sign the contract that is provided. A down payment and a signed contract are required to book your project.

Best regards,

Bill Bartodziej, M.S.
Senior Restoration Ecologist
Natural Shore Technologies, Inc.

Project Summary

1. Dimensions: 1,800 SF (as specified in the map provided)
2. Site assessment and plan development include: detailed site preparation methods, plant selection, and a project timeline and work schedule for our staff. Because most of projects involve the establishment of natural buffers, site drawings and planting plans are not necessary. We have found that over time, native plants will seek out the optimal micro-habitats and flourish. However, project plan drawings can certainly be provide at an additional cost upon client request.
3. Delineate and verify total restoration project area.
4. Design planting so that flowering will occur at different periods throughout the growing season. Short prairie grass species will be used around the buffer edges closest to the turf.
5. Kill all weedy species and turf with an herbicide appropriate for upland or aquatic use. A licensed herbicide applicator from Natural Shore Technologies will apply the treatment.
6. Cut and remove remaining weedy material.
7. Apply a 3” layer of shredded hardwood mulch over the entire project site. Install wood fiber logs on slope.
8. Lay out plants into plant zones per plan specifications. We will use 818 -3” container plants for your restoration.
9. Install all plants @ approximately 1.5’ centers. Move mulch aside and a light mulch layer will be returned around the base of the plants to hold moisture. Mulch will not be placed below the normal water level.
10. Site monitoring will be conducted and appropriate maintenance will be provided throughout the 2018 growing season.

Natural Shore Technologies, Inc.	***Taffe Restoration Project***

Project Cost

This bid includes project design and management, all materials, labor, and a two year maintenance plan. This is a comprehensive bid estimate and valid for thirty days. We require a 50% down payment to schedule your project.

Cost Breakdown

Site Design, Project Management, Mobilization, labor		$1,112.00
Site preparation, herb. trts, mulch		$1,710.00
Plants - 818 - 3" containers		$2,576.70
Erosion control materials - wood fiber log		$300.00
Maintenance - 2 yr plan - discount w shore plan		$960.00
	TOTAL =	**$6,658.70**

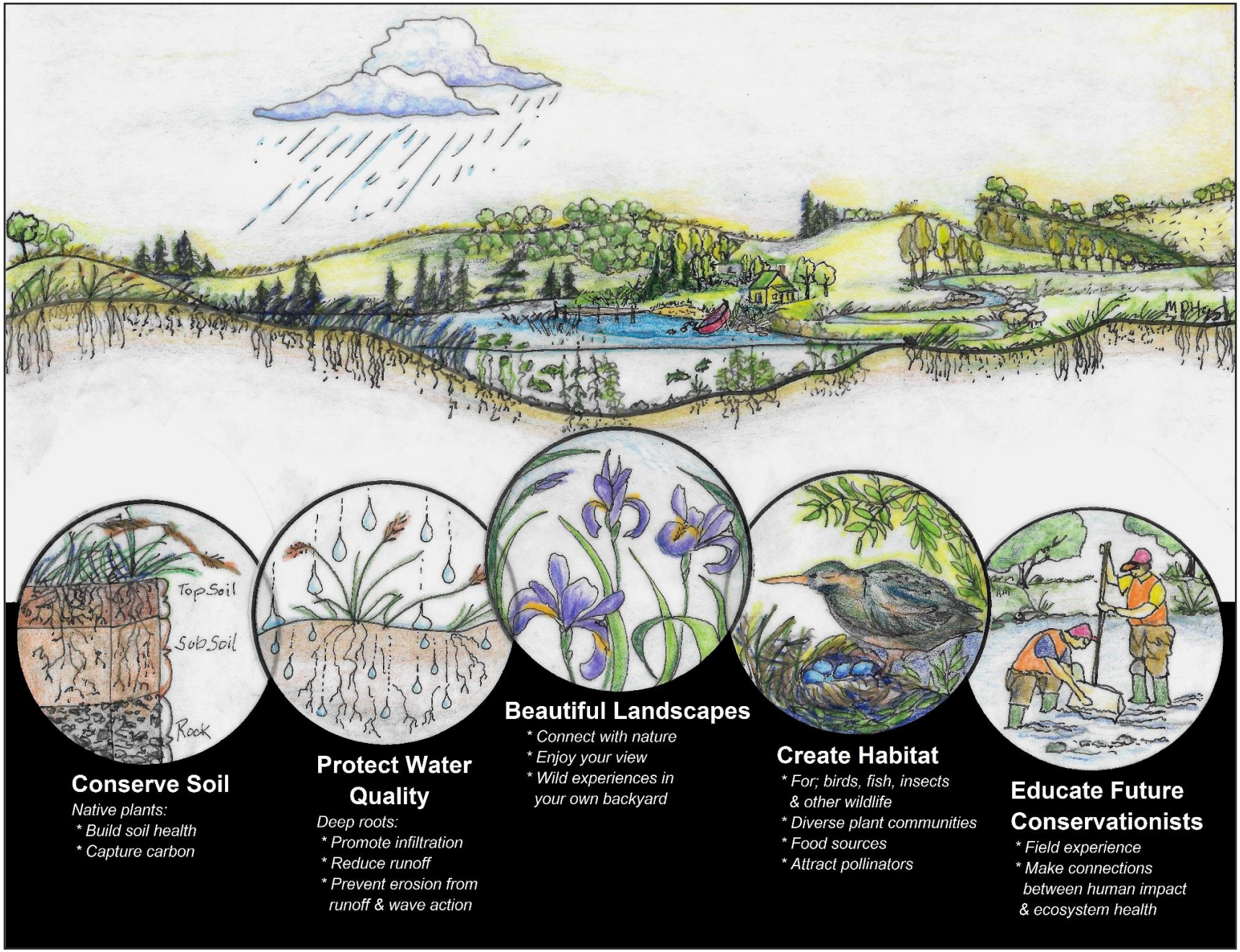
Site maintenance

Site maintenance includes three visits per year during the growing season to monitor and conduct activities that will ensure proper restoration establishment. We use the most appropriate, up-to-date maintenance techniques such as targeted herbicide application, hand pulling, mowing, and spot weed whipping to effectively control invasive weeds. Our lead maintenance supervisor has a B.S. in Biology and 10 years of field experience.

Note we do offer long-term maintenance contracts. Over 90% of our clients use that service.

Natural Shore Technologies, Inc.	***Taffe Restoration Project***

Benefits of our quality restoration work.



Conserve Soil

Native plants:
* *Build soil health*
* *Capture carbon*

Protect Water Quality

Deep roots:
* *Promote infiltration*
* *Reduce runoff*
* *Prevent erosion from runoff & wave action*

Beautiful Landscapes

* *Connect with nature*
* *Enjoy your view*
* *Wild experiences in your own backyard*

Create Habitat

* *For; birds, fish, insects & other wildlife*
* *Diverse plant communities*
* *Food sources*
* *Attract pollinators*

Educate Future Conservationists

* *Field experience*
* *Make connections between human impact & ecosystem health*

Recommended Shrubs:
High-bush or Dwarf-bush cranberry, Nannyberry, Pagoda dogwood, Downy arrowwood, Redtwig and Grey dogwood, American elderberry, Chokecherry, American hazelnut, Black chokeberry, Spikenard, Witchhazel, New Jersey Tea, Common ninebark, Smooth sumac, Serviceberry and Blackhaw viburnum

Recommended Perennials:
Wild ginger, Mayapple, Solomon's seal, Lady fern, Ostrich fern, Sensitive fern, Long beaked sedge, Bottlebrush grass, White doll's eye, Red baneberry, Columbine, and Bellwort

PROPOSED BMP'S

BMP ID	BMP TYPE	SIZE (SQ-FT)	COST ESTIMATE	WQ RANK	ESTIMATED GRANT
A	Shade Planting	1750	$7,5000	1	tbd

LEGEND

Native Shade Planting

10' Bio-log

Notes:

Planting location depends on plant requirements (Soil moisture, soil type, and sun exposure.)

Cost Share Concept Plan

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Joe Taffe
17689 Sheffield Ln.
Eden Prairie, MN 55346

Cost Share Concept Plan provided by:
Riley Purgatory Bluff Creek Watershed District [RPBCWD]
Carver Soil and Water Conservation District [CSWCD]

CARVER SWCD
Date: 5/3/17

Cost share grant application
2017

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Do not fill in gray boxes. District use only.

Applicant type (check one) ☒ Homeowner ☐ Non-profit - 501(c)(3) ☐ Business or corporation ☐ Public agency or local government unit ☐ School

Project type (check all that apply) ☐ Raingarden ☒ Vegetated swale ☐ Lake/creek/wetland buffer ☒ Shoreline/bank stabilization ☐ Wetland restoration ☐ Pervious hard surface ☒ Infiltration basin ☒ Conservation practice ☐ Other _____

Applicant information

Works or resides in district? y

Name Beth Ross Address 4557 Timber Woods Lane

City/State/Zip Minnetonka, MN

Phone 612-227-6725 Alt phone 612-926-3506 Email beth.ross.2011@gmail.com

Primary contact

☒ Same as applicant (leave blank)

Name _____ Address _____

City/State/Zip _____

Phone _____ Alt phone _____ Email _____

Project location

Address 4557 Timber Woods Lane City/State/Zip Mtka, MN 55345

Property Identification Number (PID) _____

Property owner(s) Beth - Tim Ross

Project located in district? y

Project summary

Tributary to a waterbody? ☐ No ☒ y Yes, indirectly ☐ Yes, adjacent

Title ROSS Hillside Project

Total project cost 4,025 Grant amount requested _____

Estimated start date July 2017 Estimated completion date July 2018

Sub-watershed Riley Purgatory Watershed District

Project located in priority drainage area? y

Is project tributary to a water body? ☐ No, water remains on site ☐ Yes, indirectly ☒ Yes, directly adjacent

2-3 sentence project description

Stabilize top side of hillside buffer to prevent erosion and handle immediate storm water and gutter drainage.

Is this work required as a part of a permit? ☒ No ☐ Yes

(If yes: describe how the project provides water quality treatment beyond permit requirements on the next page.)

Site visit

One of the requirements for a complete application is a site visit from district staff.

Have you had a site visit? ☐ No ☒ Yes

(If you answered no, please contact staff to schedule one: 952-607-6512)

Project details (continued)

Do not fill in gray boxes. District use only.

Benefits Estimate the project benefits in terms of restoration and/or **annual** pollution reduction. If you are working with a designer or contractor, they can provide these numbers. If you need help, contact the district cost share program coordinator.

Benefit	Amount	
Water captured		gal / year
Water infiltrated		gal / year
Phosphorus removed		lbs / year
Sediment removed		lbs / year
Land restored		ft^2

acts as a buffer

Does the project provide water quality treatment? y

Does the project provide restoration? y

How will you share the project results with your community?

- Share best practices with neighbors
- document progress and make information available to community via Nextdoor.com

Is there educational value to the project? y

Will the project be visible to the public? y/n

the project itself is not readily visible (along a wetland in the backyard), however if promotion is done via social media/conversations as described it would gain visibility.

Are there other projects that could be initiated as a result of this one?

There are a number of similar infiltration basins in the area that could use an example to follow including neighboring back yards.

Evaluation

How will the project be monitored and evaluated?

I will be overseeing project and will be happy to share results

Maintenance agreement

I acknowledge that receipt of a grant is contingent upon agreeing to maintain the project for the number of years outlined in the cost share guidelines document ☑ Yes

Authorization

Name of landowner or responsible party Elizabeth Ross

Signature Elizabeth Ross Date 6/10/2017

Project details

Do not fill in gray boxes. District use only.

Checklist To be considered complete the following must be included with the application.

- ☑ location map
- ☑ site plan & design schematics
- ☑ itemized budget or contractor bid
- ☑ project time-line
- ☐ proof of property ownership
- ☑ plant list & planting plan (if project includes plants)

Is time-line reasonable?	y
Is budget reasonable?	y
Is plan comprehensive?	n
Does plant list conform to district's approved plant list?	y

plan requires additional details (placement of erosion control, placement of trees relative to existing trees). suggested hawthorn should be removed, not an appropriate location

Description

Describe the current site conditions, as well as site history, and past management.

History - Overgrown slope, young woods with lots of invasive species including buckthorn and wild garlic mustard
- Previous owners cleared center section of property to the pond of all underbrush.
- This summer worked on eliminating garlic mustard & buckthorn sprouts

What are the project objectives and expected outcomes? Give any additional project details.

-) Overall project goal - make woodland - pond area healthy and absorb immediate storm : gutter drainage

-) Breaking area down into parts.

-) Project goal is to replace invasives with more substantial options to improve water quality of drainage and prevent erosion

Are there multiple objectives?	y
Does the project have well-defined, measurable results?	y

List other key participants and their roles

- Ecoscapes - consulting, plants, some work
- Local native plant nurseries for plants
- Family & friends for project planting

Does the project demonstrate strong partnerships & support?	n

Which cost share goals does the project support? (check all that apply)

- ☐ Improve watershed resources
- ☑ Increase awareness of the vulnerability of watershed resources
- ☑ Increase familiarity with and acceptance of solutions to improve waters
- ☑ Foster water resource stewardship

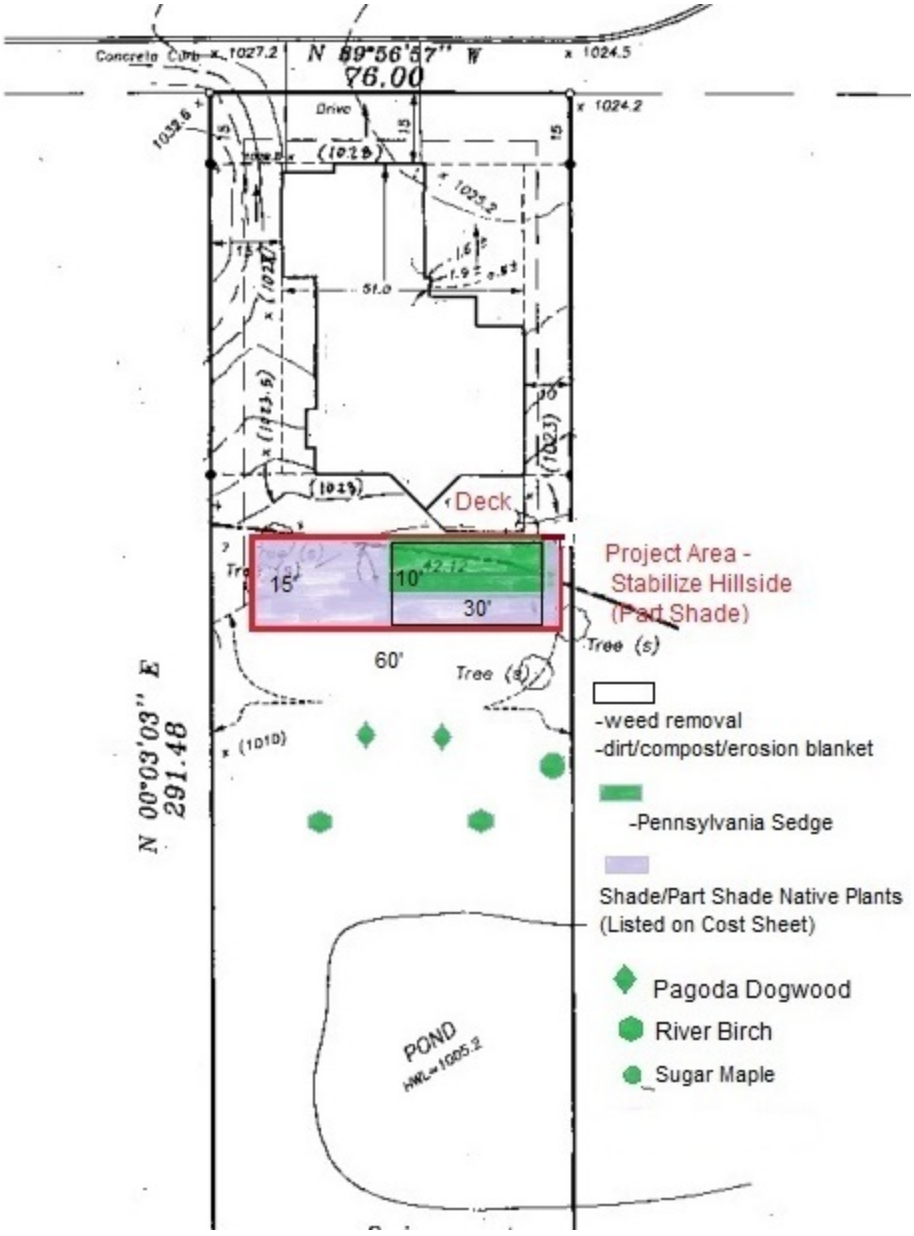
How does the project support the goals you checked?

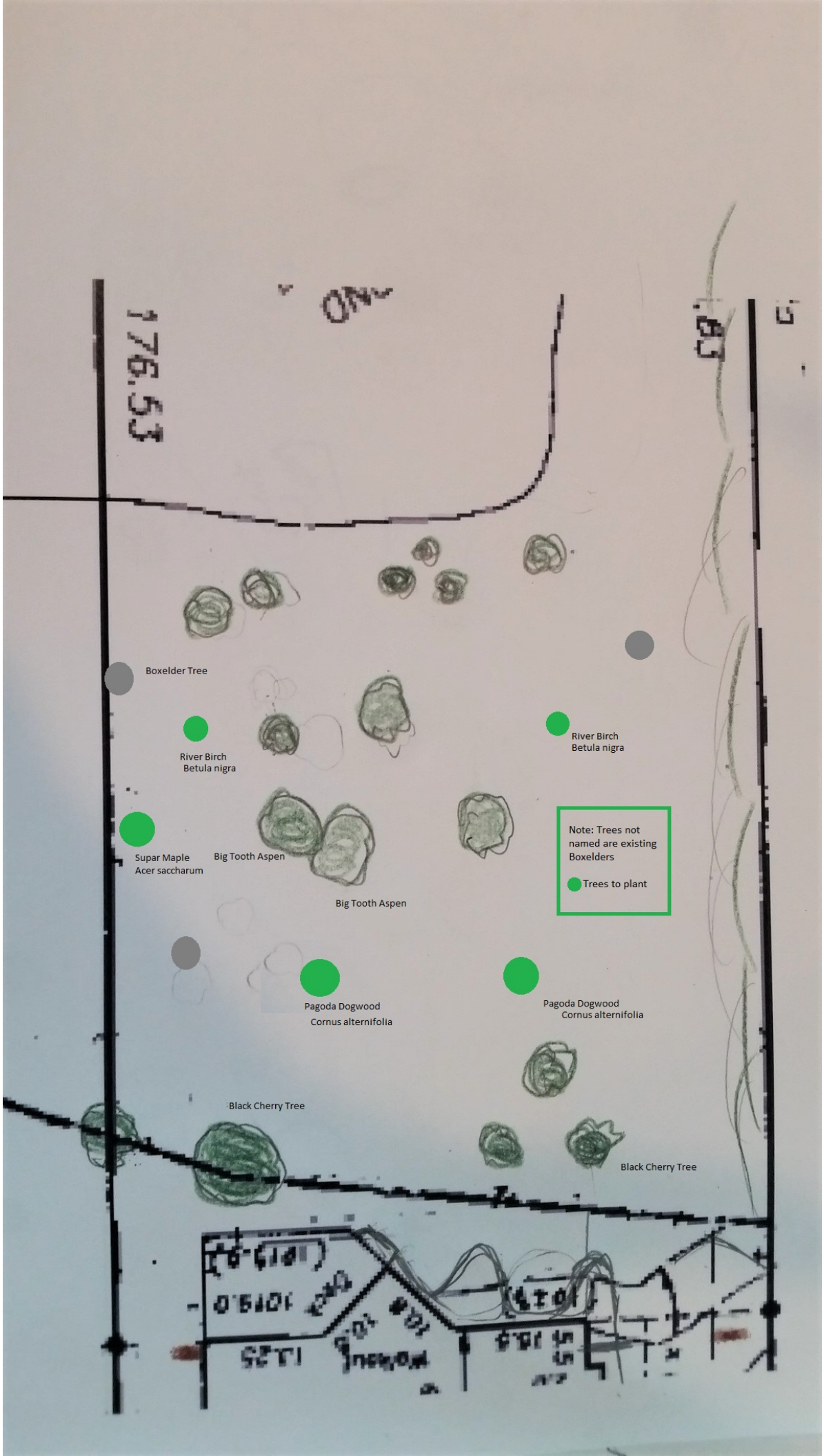
A lot of water drains into my project area located off of highway 7 and surrounded by a number of houses. By increasing the quality and quantity of native plants I will be fostering water resource stewardship, increasing familarity of solutions to improve waters, and increasing vulnerability of watershed.

Cost Estimating Worksheet - Ross Hillside Project

Beth Ross 4557 Timber Woods Lane Minnetonka, MN 55345 Buffer/Stabilization Planting	Quantity	Unit Cost	Total	Potential Source	SF- Date June 8, 2017
GeoJute (4' x 70') Wood Stakes (2" x 2" x 48" - hardwood) Coir Rope (1/4" x 425') Mulch (3" depth) Black dirt/compost/delivery Erosion block	1 25 1 9 cu/yd 5 cu/yd 2	$50 $.75 $10 $30 $300 $30	$50.00 $25 $10 $270 $300 $70		
Native Plant: Plugs Native Plant: 3" Pot Native Tree: 10-20 Gallon	528 215 5	.69+ship 4.00 100	$300 $860 $500		
Consultation Design/Plant Purchase Site Prep Deliveries/Installation Trees Delivery of Plants Installation of Plants/mulch	1hr.(s) 5hr.(s) 45hr.(s) 4hr.(s) 60hr.(s)	$100.00 $10.00 $10 $100 $100 $10	100.00 $50 $450 $400 $100 $600		
			$4085.00		

A)Total Requested Funds from RPDCWD: $3000.00 (Materials, Tree installation)
B) Total Matching/In-Kind Funds: $1085 (Labor)
C) Project Total: $4085.00


Concrete Curb
N 89°56'57" W
76.00
Drive
Deck
Project Area -
Stabilize Hillside
(Part Shade)
15'
10'
30'
60'
Tree (s)
N 00°03'03" E
291.48
POND
-weed removal
-dirt/compost/erosion blanket
-Pennsylvania Sedge
Shade/Part Shade Native Plants
(Listed on Cost Sheet)
Pagoda Dogwood
River Birch
Sugar Maple


176.53
Boxelder Tree
River Birch
Betula nigra
River Birch
Betula nigra
Supar Maple
Acer saccharum
Big Tooth Aspen
Big Tooth Aspen
Note: Trees not named are existing Boxelders
Trees to plant
Pagoda Dogwood
Cornus alternifolia
Pagoda Dogwood
Cornus alternifolia
Black Cherry Tree
Black Cherry Tree

Part Shade/Shade Plant List

Pennsylvania sedge - Carex pensylvanica
Wild Geranium - Geranium maculatum
Wild Ginger - Asarum canadense
Bloodroot - Sanguinaria canadensis
Jacobs Ladder - Polemonium caeruleum
Tall Meadow Rue - Thalictrum dasycarpum
Rue Anemone- Thalictrum thalictroides
Columbine - Aquilegia canadensis
(Save current native plants)

Timeline

July- Aug.: - Prepare top hillside by deck for Pennsylvania Sedge
(remove natives and replant, remove buckthorn sprouts, smother creeping charlie)
September:
- Add compost and erosion blanket and plant Pennsylvania plugs
- plant trees
Oct. : Prepare remaining areas by removing weeds around existing natives, add leaves for spring compost, mulch to prevent erosion
Dec. : Order plants for May
May - Sept : Plant new plants and remove reoccuring weeds.

Erosion Control

To prevent erosion during planting a jute mesh erosion blanket, hardwood mulch, and erosion blocks (Hanes Geo Components 87459 Erosion Block), and large branches will be used until plants take root.

TASK ORDER No. 24: Preliminary Engineering Study for
Silver Lake - Subwatershed SiL_2 Water Quality Treatment Project
Pursuant to Agreement for Engineering Services
Riley Purgatory Bluff Creek Watershed District and BARR Engineering Company.
July 6, 2017

This Task Order is issued pursuant to Section 1 of the above-cited engineering services agreement between the Riley Purgatory Bluff Creek Watershed District (District) and BARR Engineering Company (Engineer) and incorporated as a part thereof.

1. Description of Services:

   The 2017 *Lotus, Silver, Duck, Round, Mitchell, Red Rock Use Attainability Analysis; and Lower Purgatory Creek Stabilization Study* (UAA) identified the Silver Lake subwatershed SiL_2 as a targeted location within the Silver Lake watershed to reduce the phosphorus loading and improve the water quality of Silver Lake. Runoff from approximately 13 acres drains through the location of the proposed stormwater treatment system. The UAA suggested an iron enhanced sand filtration system to treat discharge from Pleasantview Road and Ridge Road. Iron mixed with the filtration media removes dissolved constituents, including phosphorus, from stormwater. The preliminary engineering study will evaluate the feasibility of other stormwater BMPs including infiltration, woodchip bioreactor, and spent lime treatment near the location identified in the UAA. In addition other BMPs recommended by District staff or City stakeholders will be considered in the preliminary engineering study. This assessment will include developing an estimated construction cost and conceptual schematics for up to three of the most feasible BMPs.

2. Scope of Services:
   Engineer's services under this task order shall include:

   Phase 1. Preliminary Engineering Study and Stakeholder Involvement

   The preliminary engineering study will include stormwater BMPs that are innovative methods to remove phosphorus. Therefore, it is essential that the Board of Managers, RPBCWD staff, and interested stakeholders understand the potential system effectiveness and the unknowns related to each BMP. Because the proposed project is located on city of Chanhassen property it is critical to obtain City support of the design concept before proceeding. Therefore the following subtasks have been included as part of the preliminary engineering and stakeholder involvement phase.

   Task 1-1. Kickoff Meeting

   An initial meeting will be held with RPBCWD and city of Chanhassen staff to discuss each stakeholder's respective goals for the project and to learn about any key items that must or must not be considered during design.

   Task 1-2. Site Characterization

   Site characterization includes gathering information near the location of the proposed BMP. Barr staff will request available public and private utility information, field verify diameters of stormwater pipes, collect photographs of the site and identify the extents of ravine erosion. Information collected during the site characterization will be considered in the preliminary design of stormwater BMPs for the site. Barr will rely on District staff to assist in collection of site specific data such as photographs and measurements. We assume that site survey, soil

borings and wetland delineation tasks would be completed during a subsequent phase of design, should the Managers order the project.

Task 1-3. Hydraulics Review

The hydraulics of the proposed stormwater BMP will require careful consideration and design. The design goal will be diversion of low-flows for treatment to meet the phosphorus removal goal, while maintaining sufficient capacity for high flows to prevent impacts to existing structures while preventing further erosion within the drainage swale upstream of Silver Lake. Therefore, the applicable portion of the RPBCWD's SWMM hydrologic and hydraulic model will be updated to evaluate each stormwater BMP. This task includes developing conceptual designs for the inlet structure that diverts stormwater into the BMP, the BMP, and the outlet to the Silver Lake including an evaluation of ravine stabilization recommendations.

Task 1-4. Phosphorus Removal Review and Preliminary Design

Estimate phosphorus removal from conceptual designs based. Recommendations for future monitoring of the recommended treatment system will also be made in the Preliminary Engineering Memorandum to evaluate actual pollutant removal effectiveness post-construction. This task includes developing conceptual designs and layouts for each BMP. It is assumed that up to three schematics (i.e., one for each BMP) may be prepared.

Task 1-5. Design Meeting

Participate in one preliminary design meeting with city of Chanhassen, RPBCWD staff, and other key stakeholders identified during the preliminary engineering study. During the design meeting, Barr staff will present initial design concepts based on stakeholder feedback on project constraints (e.g., maintenance, wetland impacts, water level fluctuations, resident concerns, etc…) provided during the kickoff meeting. Barr staff will use stakeholder comments to refine the preliminary design of stormwater BMPs.

Task 1-6. Preliminary Engineering Memorandum

A brief summary memorandum will be prepared to document the recommended conceptual design, alternative design concepts considered, design constraints, design assumptions, and anticipated phosphorus removals. The memorandum will also present a comparison of estimated construction costs for the recommended stormwater BMP to the costs associated with an iron enhanced sand filtration system presented in the UAA Update. Barr staff assume one round of comments from RPBCWD and city of Chanhassen staff.

Task 1-7. Public Hearing and Presentation to RPBCWD Board

Barr staff will present the recommended preliminary design to the Board of Managers, RPBCWD staff, and interested stakeholders, at their regularly scheduled meeting which is assumed to double as the public hearing for the project.

Assumptions

We have made several assumptions in preparing the scope of work for each task in this agreement. Assumptions relating to individual work tasks are listed along with the detailed description. However, additional assumptions that do not correspond with a single work task are listed below:

- The design meeting will last approximately 2 hours and will be held at RPBCWD's office.
- The project site is free from contamination.

- The soils are adequate for construction of a small concrete structure.
- The groundwater table will be estimated based on water levels in Silver Lake.
- Soil borings to better characterize the underlying soil and groundwater elevation will not be collected during this phase of the design.
- Wetland delineation to better quantify wetland impacts will not be completed during this phase of the design.
- The proposed budget includes costs for mileage reimbursement for site visits.

Deliverables:
The following deliverables will be prepared and provided to the RPBCWD for the preliminary engineering study and stakeholder involvement:

- Conceptual schematic(s) of proposed treatment system
- Agenda and meeting notes for one kickoff meeting
- Agenda and meeting notes for one design and stakeholder meeting
- Preliminary engineering memorandum summarizing concepts considered, design constraints, design assumptions, anticipated phosphorus removal estimates, and potential impacted property owners
- Presentation to RPBCWD
- Monthly progress updates

3. Budget:
Services under this Task Order will be compensated for in accordance with the engineering services agreement and will not exceed $19,900 without written authorization by the Administrator.

Barr understands the importance of working as efficiently as possible while providing the services described above. Therefore we will look for cost saving during the entire preliminary design process, such as looking to the city of Chanhassen to supply any existing topographic and soil boring information of the area in an effort to avoid unneeded duplication of past efforts. The following table provides a breakdown of the anticipated cost for major tasks associated with scope of services.

Task	Task Description	Anticipated Budget
Preliminary Engineering Study and Stakeholder Involvement		
1-1	Kickoff Meeting	$1,100
1-2	Site Characterization	$3,300
1-3	Hydraulics Review	$3,800
1-4	Phosphorus Removal Review & Preliminary Design	$4,100
1-5	Stakeholder Design Meeting	$1,600
1-6	Preliminary Design Memorandum	$5,100
1-7	Presentation to RPBCWD Board	$900
Task Order 24 Total		$19,900

4. Schedule and Assumptions Upon Which Schedule is Based
   The following proposed schedule has been developed assuming authorization in July 2017, and that the District would like construction to occur in 2019/2020:

   - Project Kickoff Meeting – week of July 24th
   - Design and Stakeholder Meeting – week of September 18th
   - Preliminary Design Memorandum – week of November 13th
   - Presentation to RPBCWD Board and public hearing – January 3rd

IN WITNESS WHEREOF, intending to be legally bound, the parties hereto execute and deliver this Agreement.

CONSULTANT	**RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT**
By_____	By_____
Its__Vice President_____	Its_____
Date:	Date:
	APPROVED AS TO FORM & EXECUTION
	_____

Minutes: Monday June 19, 2017

RPBCWD Citizen's Advisory Committee Monthly Meeting

Location: RPBCWD new offices: 18681 Lake Street, Chanhassen

CAC MEMBERS		Peter Iverson	E	Joan Palmquist	P
Jim Boettcher	E	Matt Lindon	P	Dorothy Pedersen	P
Paul Bulger	P	Judy McClellan—Resigned	X	Dennis Yockers—Resigned	X
	P	Sharon McCotter	E	David Ziegler	P

Others

Michelle Jordan	District Liaison	P

Summary of key actions/motions for the Board of Managers: None this month.

Meeting

1. **Call to Order:** President Pedersen called the June 19 meeting of the CAC to order at 6:37 p.m. Attendance noted above. Also note, two members, Yockers and McClellan have resigned, effective immediately. We thank them for their participation and wish them the best. Note: They will not be replaced until the regular annual appointments.

2. **Approval of the Agenda:** Agenda approved with no changes. Motion was made (Ziegler/Bulger) and passed.

3. **Approval of meeting minutes from May 2017:** Motion to approve minutes, as drafted without amendments, made by Ziegler/Lindon and passed unanimously.

4. **Matters of general public interest:** None, no petitioners present.

5. **June Board of Managers meeting**, if any questions (Bulger):
   - Paul reported on the June Board Meeting and updated the timeline for the ten-year plan, reflecting a delay. See more on this below.
   - Joan requested that the CAC members who attend the Board Meetings bring details back to us on things we should be aware of that are not covered in sufficient detail in the Board Minutes (e.g. the minutes might say "questions were asked and answered" which doesn't provide much information).
   - One such topic in June was discussion on alum treatments. There are many factors in terms of the type of sentiments, type of lake, internal and external loading of phosphorous, etc. that impact whether alum treatments are effective and how effective. The headline is that this is a relatively new approach, and there are still a lot of uncertainties and experimentation going on as we learn more about how to do this effectively.

6. Old Business:

a. Update on 10-year plan process: **Michelle**

- Michelle handed out the revised plan timeline, which calls for agency and public review in Nov./Dec. and review and response period in 2018.
- The CAC will receive the 10-year plan (draft version approved by the board) on September 7. It should consist of all sections. As noted in earlier minutes, Education and Outreach plan is a separate document, an appendix to the plan, but will also be provided at this time.
- It is the Board's preference to provide the CAC with the entire draft document they have approved, rather than in pieces, over time.
- This schedule will give us a little more than two weeks to review it individually and provide our thoughts and questions. Most likely we will use Google Docs for this purpose so we can make identified individual comments and track changes. Dorothy will set us up so it's a private account; we should all be able to make individual comments, and see each others' comments. Please keep the document and comments within our group until we've come up a consensus.
- On Sept. 25th the plan will be presented to the CAC at a workshop starting at 5:30 p.m. (see below). By then we should have all read it, made our comments, and be prepared with questions. CAC feedback to the board will be given on the 25th and additional feedback can be provided up to a week later.

b. Adopt a Storm Drain Update (ASD Subcommittee—Sharon and Matt): Matt Lindon

- Matt updated the CAC on activities. Sharon has contacted a few cities, and gave them their proposal addressing Storm Drains. Matt continues to try to connect with Lori at the City of Eden Prairie. He hopes to get Eden Prairie to agree to work with the CAC, treating their program as a two-year pilot phase. Plans include an event day, and other activities to get cities to coordinate with us and move forward. Dorothy offered to help connect them with Shorewood city staff. CAC provided positive feedback to Matt and Sharon (in abstention) for the work they are doing in this area and agreed that this is an area and a problem area shared by all, where we can have some impact.
- Michelle shared that RPBCWD new staff member, Terry, told her that from the city's perspective, he would have been very excited about this program if he had been asked about it when he worked for the city of Chanhassen. Delete sentence here.
- Note: Per May meeting minutes, Matt and Sharon will share a more fleshed out plan and timeline when it is available and at that point the CAC will determine what and when should be brought before the managers. This might include an overview of the 3-year plan, status update and specifics around the proposed fall clean-up.

7. New Business:

a. Cost Share Reviews:

- Michelle had provided CAC members an advanced copy of 8 applications, along with a summary sheet of staff recommendations.
- Discussion:
  - Pedersen provide some general comments and feedback on the applications, and will provide her written notes to staff for them to review and incorporate.
  - As we have not reached the cap amount for grants this year, we agreed it is logical to keep the application process open, with one more cut-off date, allowing applicants to resubmit plans by around August 15. Michelle will determine the exact day in August and will publicize on the site. Note, this is for residential only.
  - Michelle commented that we have many applicants for buffers; that people seem to understand the importance of buffers; we should be on the lookout for more opportunities for rain gardens or curb-cut raingardens. She asked how we can expand best management practices to incorporate this. Joan suggested a handout/flyer or FAQ on the topic of "Is a Rain Garden Right for You?" or something similar. How can we expand best management practices? Nine Mile has some good information on their site that perhaps we could benchmark (e.g. cost per square foot for various actions).
  - CAC members reiterated the importance of buffer and rain garden maintenance and plant identification, and need for educational events, like the upcoming Shoreline Maintenance program.
- Motion was made by Ziegler/Palmquist, and was passed, to accept staff recommendations for approval of applications by David, Hansen, O'Hara and Taffe with modifications of Taffe plan as noted (staff recommendations).
- Motion was made by Ziegler/Palmquist and passed, to:
  1) Accept staff recommendations for approval of applications by Ross and Griffin & Farley incorporating staff comments/requests, and input from Pedersen, and
  2) Ask Regan and O'Meara to resubmit with additional information, as staff requested, and incorporating Pedersen's comments.

b. Date of September Meeting: Due to shift in timeline for availability of 10-year plan documents from the Management Board, the decision was made to move our regular September meeting from the 18th to the 25th, starting at 5:30 p.m. The meeting will begin with a presentation of the plan, followed by discussion. Ziegler made the motion, Palmquist seconded and it carried.

Topics for Next Month: Ten-year plan and idea sharing session to discuss possible activities CAC could spearhead (e.g. a "Water week"), etc.

Adjournment: The motion to adjourn was made by Palmquist, seconded by Ziegler, and passed unanimously. Meeting was adjourned at 8:18.

Upcoming Events

- Regular Board Meeting, Wednesday, July 12, 5:30 pm, District Office

- Next CAC meeting: July 17, 2017, District Office, 6:30 pm
- Watershed tour, 10-year plan highlights, July 31, 4:00 pm

Respectfully submitted by Joan Palmquist, recorder

RILEY PURGATORY BLUFF CREEK
WATERSHED DISTRICT

14500 Martin Drive | Suite 1500
Eden Prairie, MN 55344
952-607-6512
www.rpbcwd.org

Friday, July 7, 2017

Re: Item 8a and b – May Treasurer's report

Dear Managers,

As per District's Internal Controls and Procedures for Financial Management, the Administrator has reviewed the bills and recommends payment as outlined on page 2 of the Treasurer's report.

Sincerely,

Claire Bleser

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Treasurers Report

May 31, 2017

REPORT INDEX

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
Cash Disbursements
May 31, 2017

Accounts Payable		Amount
Amy Herbert LLC	$	1,025.88
Barr Engineering Company		75,069.74
CenterPoint Energy		107.25
Chanhassen Elementary		123.84
Claire Bleser		87.25
CSM Financial LLC.		7,347.31
Dragonfly Promotions		163.95
ECM Publishers, Inc.		1,589.85
Fe Security, LLC		305.00
HDR Engineering, Inc.		1,002.24
HealthPartners		7,096.78
JMSC Futurity, PLLC		1,395.00
Josh Maxwell		148.40
JR Copier of Minnesota, LLC		185.00
Klein Bank Visa		3,884.19
M.W. Wireworks, Inc.		10,235.00
Mary Bisek		395.26
Metropolitan Council Environmental Services		1,111.00
Minnesota Native Landscapes		31,925.00
MN Water		2,000.00
Patricia Duryee		2,155.91
Purchase Power		380.76
Recyling Association of Minnesota		1,904.00
Regents of the University of Minnesota		10,485.17
RMB Environmental Laboratories, Inc.		1,832.00
Smith Partners PLLP		14,333.81
SouthWest Metro - Chamber of Commerce		200.00
Southwest Newspapers		557.97
Spee-Dee Delivery Service Inc.		195.27
SRF Consulting Group		2,911.12
Wenck Associates Inc		3,274.00
Xcel Energy		15.88
Xcel Energy		472.59
Xcel Energy		24.60
Zachary Dickhausen		63.92
Total Accounts Payable	**$**	**184,004.94**

Payroll Disbursements		Amount
Payroll Processing Fee	$	145.00
Manager Payroll Taxes		28.69
Employee Salaries		23,628.55
Employee Payroll Taxes		1,765.43
PERA Match		1,772.14
Total Payroll Disbursements	**$**	**27,339.81**
Total Disbursements	**$**	**211,344.75**

Memos

The 2016 mileage rate is 0.54¢ per mile. The 2017 mileage rate is 53.5¢. Klein Bank Visa will be paid online.

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
Fund Performance Analysis - Table 1
May 31, 2017

	2017 Budget	Month Ended May. 31, 2017	Year to Date May. 31, 2017
REVENUES			
Other Income - Refunds	0.00	0.00	1,875.00
Other Income - District Floodplain	0.00	0.00	22,080.00
Plan Implementation Levy	2,859,000.00	0.00	9,476.83
Permit Income	15,000.00	0.00	12,800.00
TOTAL REVENUES	**$ 2,874,000.00**	**$ 0.00**	**$ 46,231.83**
EXPENDITURES			
Administration			
Accounting/Audit	$ 39,500.00	$ 1,540.00	$ 8,000.00
Advisory Committee	4,000.00	0.00	3,408.83
Engineering Services	103,000.00	7,421.70	36,625.70
Insurance and Bonds	12,000.00	783.58	3,917.91
Legal Services	75,000.00	10,749.61	44,795.52
Manager Expenses	18,500.00	565.11	3,766.45
Dues and Memberships	8,000.00	0.00	4,000.00
Office Costs	95,000.00	22,877.59	83,011.69
Permit Review and Inspection	90,000.00	22,461.79	75,954.12
Recording Services	15,000.00	1,025.88	5,643.49
Employee Cost	450,000.00	34,784.91	137,495.20
Total Administration Costs	**$ 910,000.00**	**$ 102,210.17**	**$ 406,618.91**
Programs and Projects			
District Wide			
‡ Education & Outreach	$ 114,000.00	8,787.12	28,038.62
AIS Inspection and Early Response	75,000.00	0.00	0.00
Cost Share Program	200,000.00	2,155.91	5,370.79
District Wide Floodplain Eval- Atlas 14	30,000.00	0.00	0.00
Data Collection	180,000.00	8,384.59	40,136.37
U of M Plant Restoration	75,000.00	10,485.17	10,485.17
TMDL	10,000.00	0.00	1,028.00
District Floodplain Vulnerability	0.00	253.38	1,559.32
Watershed - 10 Year Plan	75,000.00	16,071.00	38,665.44
○ Repair and Maintanance	100,000.00	0.00	0.00
○ ♦ Community Resilience MPCA	0.00	1,106.00	25,492.55
Creek Restoration Action Straegies Phase 2	20,000.00	1,167.50	11,262.00
District Groundwater Assessment	30,000.00	4,548.00	16,232.00
Total District Wide Costs	**$ 909,000.00**	**$ 52,958.67**	**$ 178,270.26**
Bluff Creek One Water			
○ ♦ Fish Passage Bluff Creek	$ 0.00	2,947.42	8,392.43
○ Bluff Creek Tributary	0.00	0.00	16,866.27
○ ♦ Chanhassen HS reuse	50,000.00	8,727.64	96,006.04
Total District Wide Costs	**$ 50,000.00**	**$ 11,675.06**	**$ 121,264.74**
Riley Creek One Water			

○ Denotes Multi-Year Project - See Table 2 for details
♦ Grants are supplementing the projects - See table 3 for further details
* Denotes the project will be overlapping by one year as it was not fully complete by year end.
‡ Includes the Master Design items - See Table 2 to details

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
Fund Performance Analysis - Table 1
May 31, 2017

	2017 Budget	Month Ended May. 31, 2017	Year to Date May. 31, 2017
Lake Riley EWM Treatment	$ 25,000.00	0.00	0.00
○ Lake Riley Alum Treatment	0.00	189.90	681.85
○ ♦ Lake Susan Improvement Phase 2	0.00	0.00	13,391.08
○ ♦ Chanhassen Town Center	0.00	0.00	12,605.56
Rice Marsh Lake Aeration	0.00	(298.90)	0.00
Lake Riley - CLP Treatment	10,000.00	0.00	0.00
Lake Susan - CLP Treatment	10,000.00	0.00	0.00
Rice Marsh Lake WQ Improvement - Phase 1	20,000.00	0.00	0.00
Rice Marsh Lake Winter Fish Kill Prevention	10,000.00	298.90	382.69
Riley Creek Restoration	600,000.00	5,989.50	18,703.60
Total Riley Creek One Water Costs	**$ 675,000.00**	**$ 6,179.40**	**$ 45,764.78**
Purgatory Creek One Water			
○ Purgatory Creek Restoration	$ 0.00	32,385.00	34,129.00
Mitchell Lake Plant Management	15,000.00	0.00	0.00
Red Rock Lake Plant Management	15,000.00	0.00	950.00
Starring Lake Plant Management	20,000.00	0.00	7,949.98
♦ Fire Station 2 Water Reuse	20,000.00	2,911.12	8,561.98
Purgatory Creek Rec Area	50,000.00	0.00	0.00
Hyland Lake UAA	20,000.00	150.00	164.00
Lotus Lake - Phase 1	20,000.00	0.00	0.00
Silver Lake Restoration - Phase 1	20,000.00	0.00	0.00
○ ♦ Scenic Heights	0.00	3,535.00	7,045.60
Total Purgatory Creek One Water Costs	**$ 180,000.00**	**$ 38,981.12**	**$ 58,800.56**
Contingency Reserve			
Contingency Reserve	$ 135,000.00	$ 0.00	$ 0.00
Total Contingency Reserve Costs	**$ 135,000.00**	**$ 0.00**	**$ 0.00**
TOTAL EXPENDITURES	**$ 2,859,000.00**	**$ 212,004.42**	**$ 810,719.25**
Excess (Deficiency)	**$ 15,000.00**	**$ (212,004.42)**	**$ (764,487.42)**

○ Denotes Multi-Year Project - See Table 2 for details
♦ Grants are supplementing the projects - See table 3 for further details
* Denotes the project will be overlapping by one year as it was not fully complete by year end.
‡ Includes the Master Design items - See Table 2 to details

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
Multi-Year Project Performance Analysis - Table 2
May 31, 2017

	Total Available for Project	2017 Budget	Month Ended May. 31, 2017	Year to Date May. 31, 2017	Lifetime Costs	Remaining Budget Funds
Projects						
○ ♦ Chanhassen Town Center	63,000.00	0.00	0.00	12,605.56	35,196.56	27,803.44
○ ♦ Fish Passage Bluff Creek	415,000.00	0.00	2,947.42	8,392.43	33,185.82	381,814.18
○ Lake Lucy Iron Enhanced	85,000.00	0.00	0.00	0.00	62.32	84,937.68
○ Lake Riley Alum Treatment	260,000.00	0.00	189.90	681.85	235,659.41	24,340.59
○ Lake Susan Improvements	275,000.00	0.00	0.00	0.00	272,134.10	2,865.90
○ ♦ Lake Susan Improvement Ph 2	383,400.00	0.00	0.00	13,391.08	30,132.86	353,267.14
○ Purgatory Creek Restoration	661,094.00	0.00	32,385.00	34,129.00	365,354.56	295,739.44
○ ♦ Chanhassen HS Reuse	250,000.00	50,000.00	8,727.64	96,006.04	107,143.14	142,856.86
○ ♦ Community Resilience MPCA	47,000.00	0.00	1,106.00	25,492.55	43,667.68	3,332.32
○ ♦ Scenic Heights	260,000.00	0.00	3,535.00	7,045.60	7,045.60	252,954.40
○ Bluff Creek Tributary	200,000.00	0.00	0.00	16,866.27	16,866.27	183,133.73
Total Multi-Year Project Costs	**$ 2,899,494.00**	**$ 50,000.00**	**$ 48,890.96**	**$ 214,610.38**	**$ 1,146,448.32**	**$ 1,753,045.68**
Programs						
○ Repair and Maintenance	$102,005.00	100,000.00	0.00	0.00	0.00	102,005.00
○ Survey and Analysis	37,257.00	0.00	0.00	0.00	24,165.26	13,091.74
Total Program Costs	**$ 139,262.00**	**$ 100,000.00**	**$ 0.00**	**$ 0.00**	**$ 24,165.26**	**$ 115,096.74**
Other						
Total Other	**$ 0.00**	**$ 0.00**	**$ 0.00**	**$ 0.00**	**$ 0.00**	**$ 0.00**
Total Multi-Year Project Costs	**$ 3,038,756.00**	**$ 150,000.00**	**$ 48,890.96**	**$ 214,610.38**	**$ 1,170,613.58**	**$ 1,868,142.42**

Grant and Other Income Performance Analysis - Table 3
May 31, 2017

	Total Available for Project	Total Grant Amount	Required District Match	Additional District Funds	Partner Funds
○ ♦ Chanhassen Town Center	$ 63,000.00	$ 48,000.00	$ 12,000.00	$ 3,000.00	$ 0.00
○ ♦ Fish Passage Bluff Creek	415,000.00	150,000.00	37,500.00	77,500.00	150,000.00
○ ♦ Lake Susan Improvement Ph 2	383,400.00	233,400.00	58,350.00	91,650.00	0.00
♦ Metropolitan Council - WOMP	5,000.00	5,000.00	0.00	0.00	0.00
○ ♦ Chanhassen HS Reuse	250,000.00	200,000.00	50,000.00	0.00	0.00
♦ Fire Station 2 Water Reuse	98,287.00	73,715.00	24,572.00	0.00	0.00
○ ♦ Community Resilience MPCA	47,000.00	27,000.00	10,000.00	0.00	10,000.00
○ ♦ Scenic Heights	260,000.00	50,000.00	0.00	165,000.00	45,000.00
Total Grants and Other Income	**$ 1,521,687.00**	**$ 787,115.00**	**$ 192,422.00**	**$ 337,150.00**	**$ 205,000.00**

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

♦ Grants are supplementing the projects - See table 3 for further details

* Denotes the project will be overlapping by one year as it was not fully complete by year end.

‡ Includes the Master Design items - See Table 2 to details

See Accountants Compilation Report

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Balance Sheet

As of May 31, 2017

ASSETS		
Current Assets		
Checking	$	3,181,306.68
Money Market Savings		75,520.41
Investments		0.00
Total Current Assets	$	3,256,827.09
Other Assets		
Security Deposit		9,744.00
Prepaid Expenses		20,593.63
Delinquent Property Taxes		17,622.16
Total Other Assets	$	47,959.79
Total Assets	**$**	**3,304,786.88**
LIABILITIES AND NET ASSETS		
Liabilities		
Current Liabilities		
Accounts Payable	$	175,071.20
Payroll Withholding		332.80
Accrued Payroll		10,816.15
PERA Withholding		2,000.22
Total Current Liabilities	$	188,220.37
Other Current Liabilities		
Retainages Payable		23,786.93
Total Other Current Liabilities	$	23,786.93
Long-Term Liabilities		
Deferred Revenues	$	17,622.16
Unearned Revenue		132,396.16
Permit Escrows		638,250.00
Total Long-Term Liabilities	$	788,268.32
Total Liabilities	$	1,000,275.62
Net Assets		
Cumulative Fund Balance	$	3,068,998.68
Excess (Deficiency) Current		(764,487.42)
Total Net Assets	$	2,304,511.26
Total Liabilities and Net Assets	**$**	**3,304,786.88**

Klein Bank Visa Activity
May 19, 2017

DATE	PURCHASE FROM	AMT	DESCRIPTION	ACCT #	Total
2-May	Kowalski's	$ 112.47	Manager General Expenses	70402	$ 112.47
5-May	AWRA	$ 25.00	Conferences and Training - S	71002	
8-May	AWRA	$ 25.00	Conferences and Training - S	71002	
9-May	Hotels.com	$ 654.45	Conferences and Training - S	71002	
16-May	Yoyo Donuts	$ 40.58	Conferences and Training - S	71002	$ 745.03
22-Apr	Caribou Coffee	$ 15.01	Education and Outreach	93002	
30-Apr	Facebook	$ 41.82	Education and Outreach	93002	
22-Apr	Lunds&Byerly's	$ 12.28	Education and Outreach	93002	
26-Apr	Lunds&Byerly's	$ 11.98	Education and Outreach	93002	$ 81.09
19-Apr	Hach Co	$ 174.25	Data Collection	100802	
11-May	Amazon	$ 112.69	Data Collection	100802	
1-May	Gander Mountain	$ 14.99	Data Collection	100802	
1-May	Gander Mountain	$ 14.99	Data Collection	100802	
10-May	Hach Co	$ 120.99	Data Collection	100802	
1-May	Target	$ 80.42	Data Collection	100802	$ 518.33
10-May	Amazon	$ 74.52	Office Cost	170402	
21-Apr	Apple Online Store	$ 74.99	Office cost	170402	
12-May	CenturyLink	$ 343.15	Office Cost	170402	
21-Apr	General Delivery Svc	$ 103.30	Office Cost	170402	
5-May	General Delivery Svc	$ 42.22	Office Cost	170402	
1-May	Ikea	$ 110.48	Office Cost	170402	
19-Apr	Kowalski's	$ 20.88	Office Cost	170402	
9-May	Kowalski's	$ 13.98	Office Cost	170402	
21-Apr	Micro Center	$ 179.25	Office Cost	170402	
9-May	Microsoft	$ 70.08	Office Cost	170402	
14-May	MW Wireworks	$ 285.00	Office Cost	170402	
26-Apr	Office Depot	$ 155.45	Office Cost	170402	
28-Apr	Office Depot	$ 8.03	Office Cost	170402	
8-May	Verizon Wireless	$ 137.68	Office Cost	170402	
9-May	Verizon Wireless	$ 604.36	Office Cost	170402	
26-Apr	Wayfair	$ 203.90	Office Cost	170402	$ 2,427.27
TOTAL PURCHASES		**$ 3,884.19**			**$ 3,884.19**
Total Credits					-
TOTAL DUE		**$ 3,884.19**			**$ 3,884.19**

Moving People
and
Business Forward

Riley Purgatory Bluff Creek
Watershed District
Eden Prairie, MN

To the Board of Managers:

Accountant's Opinion

The Riley Purgatory Bluff Creek Watershed District is responsible for the accompanying May 31, 2017 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 the 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 outside 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.

JMSC

JMSC, PLLC
St. Louis Park, MN
July 07, 2017

RILEY PURGATORY BLUFF CREEK
WATERSHED DISTRICT

14500 Martin Drive | Suite 1500
Eden Prairie, MN 55344
952-607-6512
www.rpbcwd.org

Friday, July 7, 2017

To: Board of Managers

From: Claire Bleser, Administrator

Re: **Order Lake Susan Park Pond**

Dear Managers,

On April 5th, 2017 a public hearing was held showing the results conducted for Lake Susan Improvement Phase 2: lake Susan Park Pond. A series of options were presented with preference to option 4a: a pump and treat with iron enhanced sand and stormwater reuse on the ballfield. Their was discussion for item 4b which would include reuse on the Emmerson campus. Staff has not been successful in getting Emmerson interested in partnering on this project. The City of Chanhassen has indicated that they would contribute $50,000 for this project. The District received a grant for a total of $233,400 and has levied $150,000 previously. Currently, the District has approximately $400,000 to implement the project, which includes the City of Chanhassen financial support. In order to implement alternative 4a, we would need an additional $80,000. To implement option 4b, an additional $256,000 would be needed.

Staff recommends that we order the project under scenario 4a with an additional $80,000 to be leveraged in 2018 to finish implementing the project. Staff recommends approval of Task Order 13 b.

Sincerely,

Claire Bleser

Claire Bleser

Manager _____, seconded by Manager _____ move to order Lake Susan Park Pond with the recommendation of leveraging additional funds ($80,000) in 2018 and approve Task Order 13 b.

TASK ORDER No. 13b: Lake Susan Watershed Treatment and Stormwater Reuse Enhancements Design and Construction Administration
Pursuant to Agreement for Engineering Services
Riley Purgatory Bluff Creek Watershed District and BARR Engineering Company.
July 6, 2017

This Task Order is issued pursuant to Section 1 of the above-cited engineering services agreement between the Riley Purgatory Bluff Creek Watershed District (District) and BARR Engineering Company (Engineer) and incorporated as a part thereof.

1. Description of Services:
   Barr will work with District staff to complete the final engineering, design and permitting services to implement a water quality improvement project at the park pond location, immediately northwest of Lake Susan, consistent with the recommendations of the 2013 Lake Susan Use Attainability Analysis report and the 2017 Engineer's Report-Lake Susan Park Pond Watershed Treatment and Stormwater Reuse Enhancements Project.

   Based on the results of the engineering assessment, potential site impacts, water conservation potential and cost per pound of phosphorous removed, Conceptual Design 4a — pump and treat using an iron enhanced sand bench, stormwater reuse for the Lake Susan Park ballfield and pond outlet retrofit, was recommended as the most feasible and cost-effective BMP that aligns with the goals presented in the awarded Clean Water Legacy grant and provides multiple environmental benefits. While Concept Design 4a is not the lowest cost per pound of phosphorus removed, it provides the added benefit of eliminating the use of more than 610,000 gallons of drinking water annually to irrigate the ballfields. The phosphorus reduction estimated for the reuse concepts, including 4a, could potentially be further enhanced by using the pond water instead of the city drinking water supply because the city water is treated with polyphosphate for pipe corrosion protection and possibly results in higher phosphorus concentrations in the applied water than occurs in the pond, thus increasing the phosphorus load applied to the ballfield. The engineering assessment was based on information collected during a review of available data and preliminary site characterization. Collection of more data and additional site-specific information (e.g., soil borings) that become available if the Board orders the project may result in modifications to the proposed configuration, cost, and function of the iron enhanced sand filtration system to maximize the volume of water treated while minimizing site impacts. A significant portion of the funding ($233,400) for this project will be provided through a Projects and Practices grant from the Board of Water and Soil Resources (BWSR) Clean Water Funds (CWF).

   There are several proposed Project tasks to meet the Project goals including project development and coordination, design of the stormwater reuse system, bidding, and construction administration and observation. The work involved with each Project Task is outlined below. Barr's activity is divided into three phases:

   Phase 1: Preliminary Feasibility Design (Past Task Order 13a-complete)
   Phase 2: Final Design and Permitting (This Task Order 13b);
   Phase 3: Construction Administration Services (This Task Order 13b).

2. Scope of Services:
   Engineer's services under this task order shall include:

Phase 1 - Project Stakeholder Agreement

Task 1.1: Develop Stakeholder Agreement

RPBCWD staff will coordinate with the city of Chanhassen to assist RPBCWD legal counsel in developing a draft term sheet between all stakeholders regarding the Lake Susan Park Pond Project design, construction and maintenance. This task will be led by RPBCWD staff and counsel. Barr will provide up to 12 hours of technical support during the development of the agreement. After meeting with the City to discuss comments on the draft cooperative agreement term sheet, a draft agreement will be developed for City and Board consideration. If feedback is received the agreement will be finalized. The agreement should specify the responsibilities of each organization throughout Tasks 2, 3, and 4 of the project as described below, as well as the long term-term inspection and maintenance of the reuse system and IESF. The agreement should also specify the financial responsibilities of each organization as it relates to the project

Meetings:

- One (1) meeting attended by RPBCWD and city of Chanhassen

Deliverables:

- Draft stakeholder agreement (by RPBCWD counsel)
- Final stakeholder agreement to be completed (by RPBCWD counsel)

Phase 2 - Final Design and Permitting

Task 2.1: Data collection and review

A design kickoff meeting will be held at the District office with RPBCWD and Chanhassen staff. The intent of this meeting is to work with stakeholders to review the design standards as it relates to the proposed IESF, pond outlet modifications, and stormwater reuse and irrigation system. This may also include a site visit to see the existing irrigation, storm water retention pond, and outlet infrastructure.

We are also proposing to meet with several water reuse vendors to inform the design and value engineer the system to improve overall performance while looking for ways to reduce project costs.

Barr will perform a topographic and utility survey of the current irrigation system (irrigation box/connections/valves), stormwater management system as it relates to the existing stormwater pond proposed for reuse, the stormwater pond area and outlet structure, the location of the potable water supply system to the site, and the location of other utilities on the site will need to be performed. A soil boring will also need to be collected to support the design.

It is assumed that RPBCWD staff will collect a water quality grab sample from Lake Susan Park Pond to have tested for a variety of water quality parameters of interest to help inform the system design. These parameters include: TSS, Turbidity, Chlorides, Ammonia, Nitrate, Phosphorus (TP), E. coli, BOD, pH, TDS, Sodium, Boron, Calcium, Magnesium, specific conductivity, iron, and total alkalinity.

Meetings:

- One (1) design kick-off meeting attended by Barr, RPBCWD, and city of Chanhassen. This meeting will include a facility walk-through and review of design standards/schedule.
- One (1) meeting with potential reuse vendors, RPBCWD, and City to discuss project design and implementation efficiencies.

Deliverables:

- Topographic and utility basemap of the project area/area impacted by the proposed reuse system. MnDNR 2011 LiDAR will be considered in areas outside of the project area.
- Up to one soil boring at the site.

Task 2.2: Permitting Assistance
Because the work potentially involves work on the bank of Riley Creek we are assuming that a MnDNR public waters work permit is will required.

Depending on the amount of disturbance, a city of Chanhassen permits for excavation/grading will likely be needed along with a permit for the installation of utilities/underground construction permit for any work on City property. Additionally, RPBCWD erosion and sediment control, buffer, shoreline and streambank stabilization, waterbody crossings and structures, and stormwater management permits may also be needed, depending on the amount of disturbance.

Deliverables:
- MnDNR Public Water Work permit submitted to MnDNR (by Barr).
- City of Chanhassen & RPBCWD permits

Task 2.3: Preparation of Construction Plans and Specifications
After the site visit, review of the existing system information, and collection of survey data, Barr will prepare design drawings and specifications for construction and bidding. We anticipate there being one design review meeting with Barr, RPBCWD, and city of Chanhassen staff at approximately 30, 60, and 90% design. We have estimated that the plan set will be 12 sheets and these drawings will be provided electronically (PDF format) approximately one (1) week prior to the scheduled design review meeting. We have assumed that the design review meeting will occur at the RPBCWD offices and will last up to one (1) hour.

Nearly complete plans and specs (90%) could be compiled for Board review discussion at the December 2017 regular meeting. Complete (100%) design plans and specifications could be available at the January 2018 meeting, where the Board could authorize the solicitation of bids. The timing will be coordinated with the Administrator.

Barr will provide technical specifications and a project bidding form for the project. Barr will develop technical specification sections using Construction Specifications Institute (CSI) format including all "upfront" sections such as general conditions, supplementary conditions, summary of work and those related to bidding and contracting. Barr assumes specifications will be in CSI format with Engineers Joint Contract Documents Committee (EJCDC) general conditions. Barr reserves the right to modify budget if technical specification format is other than stated in this paragraph. It is assumed that District Counsel will provide one round of edits and review comments.

Task 2.4: Project Management
Project Management will continue to be a key component to help meet project milestones will help to ensure the work meets the expectations of District staff and other stakeholders, and that it is completed in a satisfactory manner, within the project timeline and within the agreed-upon budget.

Barr will continue to provide updates to the project team that document project progress and coordinate tasks. We will provide monthly progress reports and budget status updates as part of the monthly invoicing process. We will solicit feedback from you on an ongoing basis to ensure clear and timely communication.

Meetings:

- Three (3) meetings between Barr, RPBCWD, and city of Chanhassen to review draft design drawings (30, 60 & 90% design).
- One (1) meeting Barr and RPBCWD to present the (90%) design to the RPBCWD board for approval and authorization to bid.

Deliverables:

- Draft drawing set (30 and 60%) and specifications submitted to RPBCWD, and city of Chanhassen (by Barr)
- 90% submittal set for authorization to issue for bid at RPBCWD board meeting (by Barr) and submittal to RPBCWD, and city of Chanhassen for review and comment (by Barr)
- Final drawing set (100%) and specifications
- Engineer's Estimate of Cost developed (by Barr)

Phase 3 – Bidding /Bid Opening/Recommendation to Board

Barr will lead the bidding and procurement process by preparing the bid list and bidding documents for distribution, by attending the pre-bid meeting, responding to comments during the bid period and issuing addendums as necessary, holding the bid opening, and reviewing and compiling the bid results. Barr will also assist with procurement of the stormwater reuse system equipment, as specified. The required bidding period is 21 days and the project would be advertised in the District's legal papers.

The bid process is anticipated from early January 2018 through February 2018, with the approval of the recommended bidder possibly at the February RPBCWD board meeting. Notice of Award would follow the RPBCWD meeting with a Notice to Proceed potentially by early March 2018.

Meetings:

- One (1) pre-bid meeting attended by Barr Engineering and RPBCWD.
- One (1) bid opening

Deliverables:

- Compiled bid package (by Barr)
- Advertisement for bid (by Barr)
- Bid addendums and response to questions (by Barr)
- Bid tab following bid submittals (by Barr)
- Recommended bidder to RPBCWD Board (by Barr)
- Review contractor submittals and draft Notice of Award/Notice to Proceed

Phase 4 - Construction administration and observation

Barr will lead construction administration and observation of the project with the following services:

- Review shop drawings, fabrication drawings, and product data submittals and coordinate with RPBCWD and city of Chanhassen, as needed
- Review requests for information (RFIs) and issue design bulletins and addendums, as needed
- Complete a punch list walk-through with RPBCWD and the contractor
- Submit record drawings to RPBCWD upon project completion
- Assistance to RPBCWD with final paperwork and reporting to BWSR

The notice to proceed is expected in late February with construction beginning in early June. The timeframe prior to construction is to allow for materials procurement. Specifics related to construction schedule will need to be coordinated with the city of Chanhassen. The timeline allows for a 7 month construction window to provide adequate time to procure the required equipment, contractor scheduling flexibility, and site restoration in the fall during cooler weather conditions. These should help increase the competitiveness of contractor bids. While the timeline allows for a 7 month construction, the actual work should be coordinated with the successful contractor to minimize the actual duration and timing of site disruption. We have assumed a six (6) week active construction period that would require site observation.

RPBCWD, Barr, and the city of Chanhassen will need to work closely during the entire process to achieve a successful project. Following completion of construction, a construction documentation memorandum will be developed to document construction activities, RFIs, any change orders, as-built drawings and operations & maintenance procedure.

Meetings:

- One (1) preconstruction meeting in late May 2018.

Deliverables:

- Reviewed and redlined construction documents such as shop drawings, RFIs, etc. completed by the end of construction (by Barr)
- Record drawings, including survey of key components to be maintained throughout construction (by Barr)
- O&M manual including product manuals etc. (by Barr)
- Pay applications from contractor(s)
- Change orders (if necessary), up to two
- Monthly update memo will be provided via email describing project progress and remaining budget (by Barr)
- Final construction memo summarizing the construction activities, changes during construction and final project.

3. Assumptions:
   We have made several assumptions in preparing the scope of work for each work item in this agreement. Assumptions relating to individual work tasks are listed along with the detailed description. However, additional assumptions that do not correspond with a single work task are listed below:
   - A single soil boring is needed for the site
   - Post-construction survey will not be completed because the construction documents will require the contractor to supply information
   - One presentation for the District Board prior to final approval before bidding the project.
   - Meetings with stakeholders will last approximately 1 hour and will be held at RPBCWD's office.
   - RPBCWD staff will collect any needed water quality samples
   - The project site is free from contamination.
   - An EAW/EIS will not be needed for this project.
   - Total time required to complete construction administration and documentation will not exceed 100 hours, based on an assumed total construction timeframe.
   - USACE permit is not required.

- No property acquisition or easements will be needed for the project. If property acquisition/easements are needed, those services will be coordinated with the District Administrator on a time and expense basis.
- The proposed budget includes costs for mileage reimbursement for site visits and site observation.
- The District and City will provide all available and applicable GIS and CAD files to Barr in an electronic format.
- Comments on the 30, 60, 90% design will be provided within one week of suppling the information.
- Permit fees will be paid for directly by the District. If needed to expedite the application process, Barr could pay the permit fees and charge that expense to the District as needed. This effort will be coordinated with the Administrator on a time and expense basis.

4. Budget:

Services under this Task Order will be compensated for in accordance with the engineering services agreement and will not exceed $122,200 without written authorization by the Administrator. The estimated fee for each task is:

Phase	Subtask	Anticipated Budget	Tentative Completion
Phase 1 - Project Stakeholder Agreement			Oct-17
	Meeting	$600	
	Technical Assistance	$1,600	
Phase 2 - Final Design, Permitting and Project Management			Mar-18
	Meetings (up to 4)	$6,100	
	Data collection and review	$8,800	
	Permitting Assistance	$4,300	
	Preparation of Construction Plans (30, 60, 90, 100%) and Specifications	$57,800	
	Project Management	$4,700	
Phase 3 – Bidding /Bid Opening/Recommendation to Board			Apr-18
	Meetings (up to 3)	$3,100	
	Bidding Advertisement & Contractor Questions	$3,700	
	Review Bids/Recommendation to Board	$1,000	
	Review Successful Contractor Submittals and Notice of Award & Notice to Proceed	$1,500	
Phase 4 - Construction administration and observation			Dec-18
	Meetings (up to 2)	$1,100	
	Site observation during construction (assume 12 hrs per week for 6 weeks)	$10,200	
	Submittals Review	$3,200	
	Record Drawings - Key survey shots only	$3,100	
	Operation & maintenance manual	$6,100	
	Final construction memo	$5,300	
Task Order 13b Total Budget		**$122,200**	

5. Schedule:
   The proposed schedule (above) is based on the substantial construction occurring during the summer of 2018, with final site restoration being completed in fall 2018. The schedule outlined above assumes project initiation will occur in July 2017. The schedule may be modified depending on actual initiation of project work, permit approvals, and stakeholder coordination efforts.

IN WITNESS WHEREOF, intending to be legally bound, the parties hereto execute and deliver of this Agreement.

CONSULTANT	**RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT**
By_____	By_____
Its__Vice President_____	Its_____
Date:	Date:

APPROVED AS TO FORM & EXECUTION

_____

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

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

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2017-030

Received complete: May 19, 2017

Applicant: RT Minneapolis Franchisee, LLC, Dave Baltar and Anchor Bank, Dennis Nisler

Consultant: Civil Site Group, David Knaeble

Project: Elevate Apartments –Construction of 222 apartments combined with approximately 12,000 square feet for commercial retail and associated site infrastructure located near the intersection of Prairie Center Drive and Highway 212. Stormwater reuse, green roof, permeable pavement and a tree trench system will provide storm water quantity, volume and quality control.

Location: 12900 Technology Drive, Eden Prairie, MN

Reviewer: Scott Sobiech, PE- Barr Engineering

Rules: Applicable rules checked

	Rule B: Floodplain Management		Rule H: Appropriation of Public Waters
X	Rule C: Erosion and Sediment Control		Rule I: Appropriation of Groundwater
	Rule D: Wetland and Creek Buffers	X	Rule J: Stormwater Management
	Rule E: Dredging and Sediment Removal	X	Rule K: Variances and Exceptions
	Rule F: Shoreline/Streambank Stabilization	X	Rule L: Permit Fees
	Rule G: Waterbody Crossings	X	Rule M: Financial Assurances

Rule Conformance Summary

Rule	Issue		Conforms to RBPCWD Rules?	Comments
C	**Erosion Control Plan**		See Comment	See Rule Specific Permit Condition C1.
J	**Stormwater Management**	Rate	Yes	
		Volume	Yes	
		Water Quality	Yes	
		Low Floor Elev.	Yes	
		Maintenance	See Comment	See Rule Specific Permit Condition J1.
K	**Variances and Exceptions**		See Comment	Variance request from 2 feet of freeboard. See Rule Specific Permit Condition K1.
L	**Permit Fee**		See Comment	$1,500 was received on April 25, 2017. Additional $2,663 for excess cost recovery
M	**Financial Assurance**		See Comment	The financial assurance has been calculated at $497,700.

Project Description

The project proposes the construction of a 222 unit apartment building combined with approximately 12,000 square feet of commercial retail and associated site infrastructure located near the intersection of Prairie Center Drive and Highway 212 in Eden Prairie, MN. The subject property is currently a vacant restaurant building, bank building and parking lots with approximately 2.4 acres of existing impervious surfaces. The site also contains several large at grade electrical transformers and associated underground electrical line as well as existing municipal utilities (e.g., sanitary sewer, watermains, etc.). The site in bordered on the north and east sides by the conditionally approved Southwest Light Rail Transit line and associated stormwater management facilities. Stormwater reuse, green roof, permeable pavement, sump manhole with SAFL baffle, and a tree trench system will provide storm water quantity, volume and quality control. The project site information is summarized below:

1. Total Site Area: 3.16 acres
2. Existing Site Impervious Area: 2.4 acres (104,544 square feet)
3. Post Construction Site Impervious: 2.25 acres (98,010 square feet)
4. New (Increase) in Site Impervious Area: -0.15 acres (-6,534 square feet) (6.25% decrease in site impervious area)
5. Disturbed impervious surface: 2.4 acres (104,544 square feet) (100% of existing site impervious area)
6. Total Disturbed Area: 3.12 acres

Exhibits:

1. Permit Application dated February 7, 2017.
2. Design Plan Sheets (Sheets 1-20) dated April 7, 2017 (revised June 5, 2017).
3. Stormwater Management Report dated April 19, 2017 (revised June 15, 2017).
4. MIDS Model received May 19, 2017 (revised June 15, 2017).
5. P8 Model received May 19, 2017 (revised June 1, 2017)
6. Updated Model Information Memo for updated P8 Model dated June 2, 2017
7. Basin 15-11-D Survey and Modeling Update memo by Wenck dated June 15, 2017
8. Bathymetric data for offsite pond received May 19, 2017 (revised June 15, 2017)
9. Existing and Proposed Conditions HydroCAD Models received May 19, 2017 (revised May 23, 2017).
10. Updated HydroCAD models for proposed tree trench and permeable pavement section received June 15, 2017
11. Geotechnical Evaluation Report by Haugo GeoTechnical Services dated January 24, 2017.
12. Addendum to Geotechnical Exploration Report by Haugo GeoTechnical Services dated May 18, 2017

13. Declaration of Reciprocal Easements, Covenants, Conditions and Restrictions dated January 7, 2003
14. Declaration – Storm Water Provisions dated June 2, 2017
15. Email Correspondence from Eden Prairie for work within public right of way dated June 2, 2016
16. Response to Comments Letter dated May 17, 2017.
17. Response to Comments Letter dated June 5, 2017.
18. Response to Comments Letter dated June 15, 2017.
19. Variance Request Narrative dated May 22, 2017.

Rule Specific Permit Conditions

Rule C: Erosion and Sediment Control

Because the project will alter 3.12 acres (135,907 square feet) 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 Civil Site Group includes installation of silt fence, inlet protection for storm sewer catch basins, a rock construction entrance, 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 J: Stormwater Management

Because the project will alter 3.12 acres (135,907 square feet) of surface area, approval under the RPBCWD Stormwater Management Rule is required. The proposed land-disturbing activities will disturb 100% of the existing impervious area (i.e., more than 50 percent of the existing impervious area), therefore under the paragraph 2.3 redevelopment framework, the RPBCWD stormwater management criteria apply to the entire project site.

The developer is proposing a combination of stormwater reuse, green roof, permeable pavement, sump manhole with SAFL baffle, and a tree trench system to provide the required rate control, volume abstraction and water quality management on the site.

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.

Modeled Discharge Location	2-Year Discharge (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)		10-Day Snowmelt (cfs)	
	Ex	Prop	Ex	Prop	Ex	Prop	Ex	Prop
DA1	10.2	9.7	16.0	15.6	23.4	26.3	0.5	0.5
DA2	0.7	0.3	0.5	0.5	0.9	0.9	0.02	0.02
DA3	0.7	0.3	1.2	0.5	2.2	0.9	0.04	0.02
DA4	0.6	0.6	1.0	1.0	1.8	1.7	0.04	0.03
DA5	0.3	0.3	0.6	0.5	1.1	1.1	0.02	0.02

The proposed project conforms to 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 all impervious surface of the parcel. An abstraction volume of 8,984 cubic feet is required from the 2.25 acres (98,010 square feet) of impervious area on the project for volume retention. The Applicant proposes stormwater reuse, green roof, permeable pavement and a tree trench system to abstract runoff from the site.

The following information was considered during the abstraction analysis:

- Soil borings performed by Haugo Geotechnical Services show that soils in the project area consist primarily of about 10 to 15 feet of existing Fill soils over soft organic swamp deposits and/or alluvial and glacially deposited soils that extended to the termination depths of the borings. The MN Stormwater Manual indicates an infiltration rate of 0.06 inches per hour for such soils. Soil borings performed by Haugo Geotechnical Services groundwater was encountered in the soil borings at depths ranging from about 14 to 30 feet below the ground surface corresponding to elevations ranging from about 821 to 803.5 feet. Two piezometers installed at the site indicate groundwater is at elevations ranging from about 825.5 to 826.5 feet. This indicates that groundwater is at least 3 feet below the bottom of the proposed permeable pavement area (Rule J, Subsection 3.1.b.ii).
- The applicant's geotechnical engineering report indicates that the concentration of infiltrated runoff in the underlying organic soils could result in future pavement settlement. The

introduction of additional water to these soils could cause them to lose strength due to the increase in moisture content unless underdrains are included in the design. The inclusion of underdrains would result in runoff being discharged from the site rather than abstracted on-site. A large underground infiltration system is not feasible to construct due to the high cost of structural supports that would be necessary because of the low strength soils present at this site.

- The site and adjacent property are fully developed with minimal green space.
- The use of permeable pavement was reviewed to determine if it would be a feasible option for stormwater infiltration. The applicant's geotechnical engineer identified only one small area at the southern end of the site where pervious pavement could be installed because the soil boring data indicate the absence of organic swamp deposits at this location. The pervious pavement would cover 4,390 square feet and provide 539 cubic feet of abstraction.
- Water reuse was found to be a feasible option to irrigate the majority of the site pervious area (19,652 square feet). The proposed reuse system will provide an abstraction volume of 639 cubic feet.
- To provide additional abstraction volume from the site the applicant is proposing 3,500 square feet of green roof. The green roof areas provide 321 cubic feet of abstraction.
- The final abstraction method proposed for the design is a 2,160 square foot tree trench to provide 230 cubic feet of abstraction. The applicant is proposing to line the tree trench with an impermeable plastic liner to prevent water from reaching the groundwater and limit the potential for groundwater mounding concerns. The primary abstraction method would be evapotranspiration from the vegetation.
- The applicant investigated gray water cistern and reuse to provide additional abstraction but determined the system to be infeasible due to cost.

The Engineer concurs that soil information showing the majority of this site is underlain with fill over organic swamp deposits and the presence of the existing large electrical transformers and associated underground utilities indicate 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 must 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 3.1a 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. Because of low structural strength of the underlain organic deposits the abstraction standard in Subsection 3.3a of Rule J cannot practicably be achieved. The stormwater management facilities described above have been maximized based on the available green space, suitable roof area, and

suitable soil areas for pervious pavement. The proposed project does not provide 0.55 inches of abstraction from the disturbed and new impervious on the site (98,010 square feet) in accordance with Rule J, subsection 3.3a because of the various site restrictions discussed above.

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Volume (cubic feet)
0.55	4,492	1,783

Because the proposed water reuse irrigation system requires consistent use at a specified rate to meet District requirements, performance monitoring for the site will be required to ensure that the project is able to meet the RPBCWD volume abstraction requirement as has been proposed. In accordance with Rule J, Subsection 2.6 performance monitoring, and as a stipulation of issuing a permit for this project, the Applicant must submit an operations plan and monitor the proposed irrigation system to determine the ability of the system to achieve the estimated volume abstraction as presented in the design. The operations and monitoring program must be included in the maintenance declaration that is recorded with the County. The recorded reuse volume must be submitted to the RPBCWD on a yearly basis. If it is determined that the system is not performing as designed, the Applicant will need to submit a revised design and construction plan to demonstrate that the volume abstraction standard will be achieved.

The District Engineer agrees with provided sequencing demonstrating volume abstraction is proposed to the maximum extent practicable, thus conforming to the volume control requirements in Rule J, Subsection 3.3b.

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. The Applicant is proposing stormwater reuse, green roof, permeable pavement, sump manhole with SAFL baffle, a tree trench system, and an existing off-site wet detention basin constructed when the site was initially developed in the 2000's to achieve the required TP and TSS removals. The existing pond was surveyed by Wenck and Associates in 2017 and modeled in P8 to estimate the existing treatment capacity water quality treatment of runoff from 11.26 acres of existing impervious surface, including the existing 2.4 acres of imperious surface of the applicant's site. The modeling demonstrates the existing detention pond provides 88.4% TSS removal and 56.3% TP removal from the applicant's site, thus indicating that additional water quality treatment is needed to meet RPBCWD criteria. The Applicant is proposing stormwater reuse, green roof, permeable pavement, sump manhole with SAFL baffle, a tree trench system to provided the additional water quality treatment

needed. The table below summarized the water quality treatment provided for the site. Based on information reviewed, the proposed project conforms to Rule J, Subsection 3.1.c.

Pollutant of Interest	Regulated Site Loading (lbs/yr)	Required Load Removal (lbs/yr)[1]	Provided Load Reduction (lbs/yr)
Total Suspended Solids (TSS)	805	724.5 (90%)	728.9 (90.6%)
Total Phosphorus (TP)	4.43	2.68 (60%)	2.83 (63.9%)

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

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 and no stormwater management system may be constructed or reconstructed in a manner that brings the low floor elevation of an adjacent structure into noncompliance according to Rule J, Subsection 3.6.

The low floor elevations of the structure and the adjacent stormwater management feature are summarized below.

Location Riparian to Stormwater Facility	Low Floor Elevation of Building (feet)	100-year Event Flood Elevation of Adjacent Stormwater Facility (feet)	Freeboard (feet)	Provided Distance Between Building and Adjacent Stormwater Feature (feet)	Minimum Permissible Separation to Groundwater based on Appendix J, Plot 1 (feet)	Provided Separation to Groundwater (feet)
Proposed Building	828.0	831.01 (Permeable Pavement)	-3.01	75	1.8	2
Proposed Building	828.0	831.53 (Tree Trench)	-3.53	6	7	2
Proposed Building	828.0	834.6 (SWLRT basin 104)	-6.6	20	5	2

An analysis in accordance with Appendix J1 was completed for the proposed structure and adjacent stormwater feature because the low floor elevation of the proposed building (828.0 msl), is less than the required 2 feet above the 100-year event flood elevation of three adjacent stormwater features. (Rule J, Subsection 3.6.)

The low floor elevation of the proposed building is less than the required 2 feet above 100-year event flood elevation of the permeable pavement section, tree trench area and BMP 104, a stormwater management facility proposed among the compliance measures for the Southwest Light Rail Transit project, the permit for which was conditional approved by RPBCWD Because the required minimum separation to the 100-year flood eelvation is not provided, the applicant completed an analysis in accordance with Appendix J1 for the structure as summarized in the above table. The analysis with Appendix J1 indicates the permeable pavement section is sufficiently separated from the building to meet Appendix J1. The minimum permissible depth to groundwater per Appendix J1 would not be provided for the BMP 104 and proposed tree trench, thus not conforming to the flood-protection/freeboard criteria based on the proposed structure location. The applicant has requested a variance from the flood-protection/freeboard requirements (see Rule K variance discussion below).

Maintenance

Subsection 3.7 of Rule J requires the submission of maintenance plan. All stormwater management structures and facilities must be designed for maintenance access and properly maintained in perpetuity to assure that they continue to function as designed. In addition, because the applicant is relying on stormwater reuse to meet the RPBCWD abstraction requirement, the declaration must also include a reuse monitoring and reporting plan.

J1. Permit applicant must provide for maintenance and inspection of the stormwater facilities in perpetuity. The declaration must also include a stormwater reuse monitoring and reporting plan. A draft of the declaration for maintenance on onsite stormwater facilities must be approved by the District prior to recordation. In addition, the applicant must provide the RPBCWD with documentation for approval of the administrator of a legal right to flow stormwater to the offsite stormwater management facility, utilize demonstrated treatment capacity in the facility and require maintenance of the facility.

Rule K: Variances and Exceptions

The Applicant requested a variance from the RPBCWD flood-protection/freeboard requirement (Rule J, subsection 3.6). The attached variance request letter submitted on behalf of the applicant cites several facts related to the development in support of the request. Rule K requires the Board of Managers to find that because of unique conditions inherent to the subject property the application of rule provisions will impose a practical difficulty on the Applicant. Assessment of practical difficulty is conducted against the following criteria:

1. how substantial the variation is from the rule provision;
2. the effect of the variance on government services;
3. whether the variance will substantially change the character of or cause material adverse effect to water resources, flood levels, drainage or the general welfare in the District, or be a substantial detriment to neighboring properties;
4. whether the practical difficulty can be alleviated by a technically and economically feasible

method other than a variance. Economic hardship alone may not serve as grounds for issuing a variance if any reasonable use of the property exists under the terms of the District rules;
5. how the practical difficulty occurred, including whether the landowner, the landowner's agent or representative, or a contractor, created the need for the variance; and
6. in light of all of the above factors, whether allowing the variance will serve the interests of justice.

While the applicant must address these criteria to support a variance request, the following is the RPBCWD engineer's assessment of information from the request relevant to the applicant's request for a variance from the flood-protection/freeboard requirements:

- Related to variance criterion 1 – The proposed low floor elevation is *6.6 below* the 100-year flood elevation of the approved offsite SWLRT BMP 104 rather than 2 feet above the flood elevation. The analysis with Appendix J1 indicates five feet of separation between the proposed low floor and groundwater is required because the building is about 20 feet from the BMP. The proposed separation between the low floor and groundwater elevation is 1.5-2.5 feet.
- Importantly and relevant to variance criterion 3, the shortfalls from compliance only affect the proposed buildings on the applicant's property; the proposed project conforms to rate control, volume abstraction and water quality treatment requirements.
- The applicant considered measures relevant to variance criterion 4 to the freeboard requirement:
    - To prevent surface flooding from entering the structure the applicant is proposing the low opening of the building at elevation of 836.50, which is almost four feet above the flood elevation of the adjacent BMP (HWL=832.70). The emergency overflow around the building through the parking lot is at an elevation of 835.35.
    - To prevent soil saturation issues, the building will be waterproofed and an additional impermeable plastic liner will be installed adjacent to the building in the area within 70 feet of the SWLRT BMP. This impermeable liner will minimize any potential groundwater mounding issues that could result from infiltration via the stormwater BMP.
    - The applicant is proposing to install two tile lines in the tree trench to limit the flood elevation within the tree trench section. They are also proposing to line the tree trench with an impermeable plastic liner to prevent water from reaching the groundwater and limit the potential for groundwater mounding concerns.
- With regard to variance criterion 5, the existing shared pavement access/parking and approved SWLRT BMP 104– site conditions that the applicant did not create or exacerbate – cause to a substantial degree the need for the variance because the proposed site grading must match into adjacent parking/access and the adjacent approved SWLRT BMP will have a flood elevation that the site design must account for.

- In summary, the lack of freeboard and separation to groundwater for the proposed building on the site does not present an increased material risk to downstream properties or Purgatory Creek.

If the Managers grant the requested variance the RPBCWD engineer recommends including the following relevant condition:

K1. The applicant must provide written draft indemnification of the RPBCWD against all claims and causes of action for flood damages to the property for RPBCWD approval, and record the noncompliant elevations/locations on the title to the property.

Rule L: Permit Fee:

Fees for the project are:

Rule C & J $1,500

The RPBCWD permit fee schedule adopted in December 2015 indicates that costs of site inspections, analysis of the proposed activities, services of consultants and compliance assurance in excess of $2,500 for properties less than 5 acres will be charged to the permit applicant.

L1. In accordance with the adopted RPBCWD permit-fee schedule, because the engineer and legal time to review this permit exceeded $2,500 the applicant must submit an additional permit fee of $2,663 for excess cost recovery.

Rule M: Financial Assurance:

Rules C: Silt fence: 1,683 L.F. x $2.50/L.F. =.....$4,300

Restoration: 3.1 acres x $2,500/acre =.....$7,900

Rules J: Green Roof: 125% Construction Cost (1.25*98,000) = ...$122,500

Pervious Pavement: 125% Construction Cost (1.25*35,000) = ...$43,800

Tree Trench: 125% Construction Cost (1.25*80,500) = ...$100,700

Stormwater Reuse: 125% Construction Cost (1.25*55,000) = ...$68,800

Contingency (10%).....$34,800

Administration (30%).....$114,900

Total Financial Assurance.....$497,700

Applicable General Requirements:

1. The RPBCWD Administrator 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 Applicant has requested a variance from compliance with the Rule J criteria related to providing 2 feet of freeboard between the low floor and 100-year flood elevation of stormwater facilities.
3. The proposed project will conform to Rule C if the Rule Specific Permit Conditions listed above are met; the applicant is requesting a variance from the freeboard requirements of Rule J but otherwise conforms to Rule J.

Recommendation:

Approval of the permit contingent upon:

1. Continued compliance with General Requirements.
2. Financial Assurance in the amount of $497,700.
3. Applicant providing the name and contact information of the individual responsible for erosion and sediment control at the site.
4. Receipt of an additional permit fee of $2,663 for the excess cost recovery.
5. Permit applicant must provide for maintenance and inspection of the stormwater facilities in perpetuity. The declaration must also include a stormwater reuse monitoring and reporting plan. A draft of the declaration for maintenance on onsite stormwater facilities must be approved by the District prior to recordation. In addition, the applicant must provide the RPBCWD with documentation for approval of the administrator of a legal right to flow stormwater to the offsite stormwater management facility, utilize demonstrated treatment capacity in the facility and require maintenance of the facility.
6. Indemnification of RPBCWD against all claims and causes of action for flood damages to the property for RPBCWD approval, and record the noncompliant elevations/locations on the title to the property.

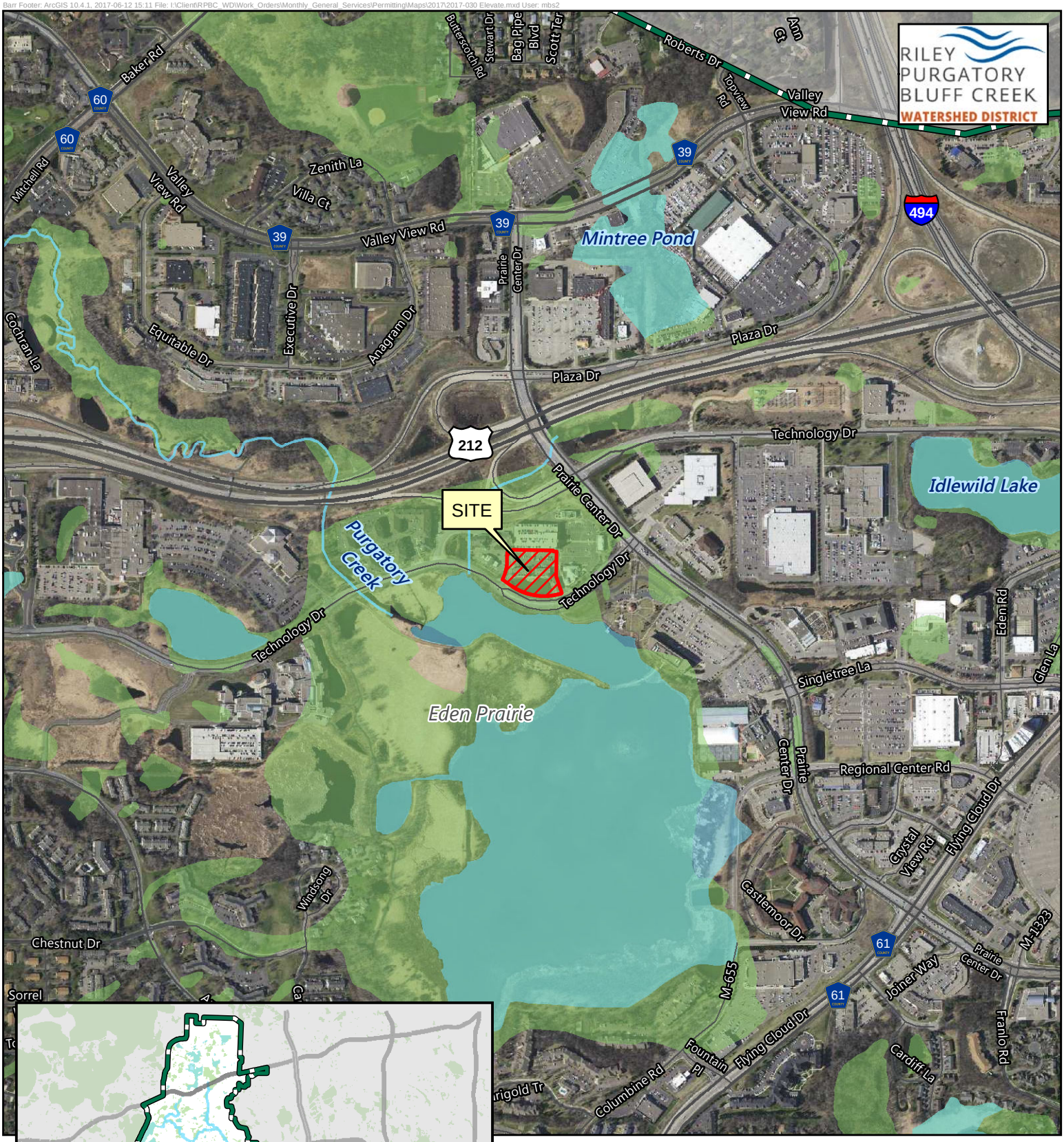
By accepting the permit, when issued, the applicant agrees to the following stipulations:

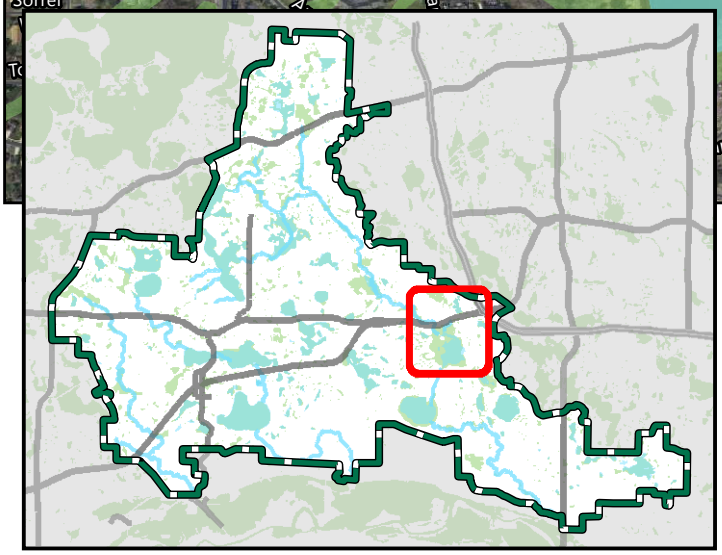
1. Per Rule J Subsection 4.5, upon completion of the site work, the permittee must submit as-built drawings demonstrating that at the time of final stabilization, stormwater facilities conform to design specifications as approved by the District.

2. Per Rule J Subsection 2.6, performance monitoring, the applicant must an operations plan and monitor the proposed irrigation system to provide the volume abstraction as presented in the design. The recorded reuse volume must be submitted to the RPBCWD annually. If it is determined that the irrigation system is not performing as designed, a revised design must be submitted to the District for approval to demonstrate that the volume abstraction and water quality standard is achieved.

Board Action

It was moved by Manager _____, seconded by Manager _____ to approve permit application No. 2017-030 with the conditions recommended by staff.





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Feet

0 1,000

Permit Location Map

ELEVATE

Permit 2017-030

Riley Purgatory Bluff Creek Watershed District

Memorandum

TO: Mr. Scott Sobiech
RPBCWD Consultant

FROM: David Knaeble, PE
Civil Site Group

DATE: 5/22/17

RE: RPBCWD Permit 2017-030: Elevate Variance Request due to SWLRT BMP 104A

Dear Scott,

This memo is intended to be included as part of the stormwater report dated May 17, 2017 that was submitted to the RPBCWD for the Elevate Mixed-Use development project in the City of Eden Prairie.

The Elevate development team has been coordinating with the Southwest Light Rail Transit Project Office (SWPO) regarding a proposed stormwater infiltration BMP (SWLRT BMP 104A) that is being proposed by the SWPO directly northwest of the proposed project site.

Based on RPBCWD Rule J.3.6: *Low-Floor Elevation*
No structure may be constructed or reconstructed such that its lowest floor elevation is less than 2 feet above the 100-YR event flood elevation and no stormwater management system may be constructed or reconstructed in a manner that brings the low floor elevation of an adjacent structure into noncompliance with this standard.

a. *All structures riparian to inundation areas or constructed or natural stormwater management facilities must be located and elevations must be set according to Appendix J1 – "Low Floor Elevation Guidance."*

Based on the required elevation of the proposed Elevate building (828.00) and the existing groundwater elevation (826.00), Appendix J1 – Plot 2 indicates that separation of 70 feet is required between the proposed SWPO BMP and the proposed Elevate building.

The Elevate development team had requested that the SWPO relocate this BMP so that it is more than 70 feet away from our proposed building. On May 22, 2017, the SWPO informed the Elevate development team that they cannot relocate this BMP.

This proposed SWPO BMP is providing approximately 309 CF of abstraction volume out of 38,300 CF that is required within the RPBCWD area. If this BMP were eliminated, the SWLRT would still be providing 99.2% of the volume that they are currently providing and would not require the Elevate project to need a variance.

This rule and approval of the SWPO BMP has created a situation where the proposed BMP is limiting the ability for our site to develop in a location that is approved by the City of Eden Prairie. This will require a variance from Rule J.3.6.

VARIANCE REQUEST FROM RULE J – 3.6 (RULE K)

To grant a variance, the Board of Managers must find, based on demonstration by the applicant, that because of unique conditions inherent to the subject property, which do not apply generally to other land or structures in the Riley Purgatory Bluff Creek watershed, strict application of a rule provision will impose a practical difficulty on the applicant, not a mere inconvenience. For purposes of the Board of Managers' determination of whether a practical difficulty exists, the following factors will be considered for each variance request:

K-1.1 How substantial the variation is from the rule provision.
K-1.2 The effect of the variance on government services.
K-1.3 Whether the variance will substantially change the character of or cause material adverse effect to water resources, flood levels, drainage or the general welfare in the District, or be a substantial detriment to neighboring properties.
K-1.4 Whether the practical difficulty can be alleviated by a technically and economically feasible method other than a variance. Economic hardship alone may not serve as grounds for issuing a variance if any reasonable use of the property exists under the terms of the District rules.
K-1.5 How the practical difficulty occurred, including whether the landowner, the landowner's agent or representative, or a contractor, created the need for the variance.
K-1.6 In light of all the above factors, whether allowing the variance will serve the interests of justice.

This project will be requesting a variance from the RPBCWD to allow the proposed Elevate building to be set less than 2 feet above the 100-YR event flood elevation of an adjacent stormwater management facility and at a distance less than what would be required per Rule J, Appendix J1.

This situation is unique to this property because the stormwater system BMP that is creating the issue is not on the project property and has not been constructed yet. This BMP will be constructed as part of the SWLRT project construction and may not be completed until after the proposed Elevate building is constructed. These conditions will not apply generally to other land or structures within the district, because this appears to be a very unique situation.

K-1.1 – The Low-floor Elevation Rule J.3.6 requires two feet of separation from the 100-YR flood elevation and the low floor of any proposed or reconstructed buildings and should be set a distance away from any infiltration stormwater facility per Appendix J1. The intent of this rule is to **prevent buildings from being directly flooded** during large rain events and to **prevent soil saturation from impacting low floors**.

PREVENT FLOODING
The proposed low floor of our building is below the 100-YR flood elevation, but the low opening of the building is at an elevation of 836.50, which is almost four feet above the flood elevation of the adjacent BMP (HWL=832.70). The emergency overflow around the building through the parking lot is at an elevation of 835.35. During larger rain events than the 100-YR event, emergency overflow protection has been provided for the building.

PREVENT SOIL SATURATION
Appendix J1 has been provided to assist in determining how to minimize the impacts to structures based on the amount of groundwater rise that could be expected due to an increase in an adjacent stormwater BMP elevation. Based on the existing clay onsite soils and a two feet separation from the groundwater elevation to the low floor of the building, the stormwater BMP should be set 70 feet away

from the building. The proposed building location will only be 20 feet away from the SWPO stormwater BMP.

To prevent soil saturation issues, the building will be waterproofed as required by building codes and an additional impermeable plastic liner will be installed adjacent to the building in the area within 70 of the SWPO BMP. This liner will be installed two feet away from the building and will extend from the groundwater elevation of 826.00 to an elevation of one foot below the FFE at an elevation of 835.50. This impermeable liner will minimize any potential groundwater mounding issues that could occur from the stormwater BMP.

The developer is also willing to sign an indemnification letter stating that the RPBCWD will not be held liable if any groundwater issues do occur.

K-1.2 – Allowing this variance will not impact any government services.

K-1.3 – Allowing this variance will not change the character of or cause material adverse effect to water resources, flood levels, drainage or the general welfare in the District. This variance only affects the proposed building on this property.

K-1.4 – Multiple options have been reviewed to determine if the practical difficulty could be eliminated by either a technically and economically feasible method other than a variance.

One way to eliminate this practical difficulty would be to raise the low floor elevation of the building to provide greater than six feet of separation between the groundwater table and the low floor. This increased separation would meet the rules of Appendix J1. This option has been reviewed and determined to be infeasible for multiple reasons. The first reason is because it is not possible to raise the building four feet and still meet accessibility requirements. This project will be the redevelopment of an existing site that is bounded by the Park and Ride parking structure to the west, the Shoppes at Southwest Station retail development to the south, and the future SWLRT rail lines to the north and east. The project will need to match into existing pavement grades to the south and west of our site, which strictly limits our ability to change the elevation of our proposed building. The building would not be accessible if the grades were raised up four feet.

The second reason is that if the FFE were maintained to provide accessibility, raising the low floor by four feet would eliminate the required below grade parking garage. The City of Eden Prairie has recently adopted new zoning ordinances and modifications to their Comprehensive Plan to designate this site as a Transit Oriented Development (TOD) zoning classification. This zoning classification requires a higher unit density than a normal mixed-use site. This increased density restricts the ability to reduce the size of the building and the number of parking spaces. The parking count requirements were reduced in the TOD zoning district, but the project is still providing the minimum number of stalls (For example, 1 parking stall per unit shall be provided as a minimum and 1 per bedroom as a maximum. Typical city ordinance requires 2 stalls per dwelling unit). If the lower level parking stalls were removed, this project would not meet City of Eden Prairie requirements.

Another way to eliminate this practical difficulty would be move the building so that it is more than 70 feet away from the proposed SWPO BMP. This increased separation would meet the rules of Appendix J1. This option has been reviewed and determined to be infeasible. The site configuration as currently shown has been designed to fit in with the surrounding buildings and parking lots and is situated to match the location of the existing buildings. The site configuration has also been designed to provide a direct pedestrian connection between the SWLRT station and the Prairie Center Drive and Technology

Drive intersection. Moving the building to provide the 70 feet of separation would either require eliminating the number of units provided and impacting the current optimal building configuration. This would not be allowed based on the City of Eden Prairie TOD zoning requirements.

K-1.5 – This practical difficulty did not occur by the current landowner, or any of their agents. This proposed BMP was created by the SWLRT project and not the property owner.

K-1.6 – This variance request will serve the interests of justice because no other properties or landowners will be impacted by approving this request and this is not a substantial variation from the rule provision. The developer is also willing to provide an indemnification letter to the RPBCWD.

The variance from Rule J.3.6 should be granted based on the reasoning stated above.

David Knaeble P.E.
Civil Site Group
763-234-7523

MEMORANDUM:

DATE: June 2, 2017
FROM: Tom Wentzell – Barna, Guzy & Steffen, Ltd.
TO: Ryan Sailer – Timberland Partners
RE: Declaration – Storm Water Provisions
BGS File No. 44222-314

Ryan,

This is regarding the Declaration of Reciprocal Easements, Covenants Conditions and Restrictions dated December 31, 2002 (the "Declaration"), relating in part to Southwest Station Second Addition (the "Second Addition"). You have asked for clarification regarding the rights and obligations of the owners of Lots 1 and 2 of the Second Addition, with respect to a detention pond located on the south side of Lot 3 of the Second Addition.

Drainage Right:
The inquiry from your contact at the watershed district makes reference to the definition of the Common Areas, and whether the pond is part of the Common Areas. I think that inquiry is just slightly off. Based on the easement grant, the pond does not need to be part of the Common Areas in order for storm water on Lots 1 and 2 to drain into it. The easement right granted in Section 1(b) of the Declaration is "over, across, upon and under the portion of the Common Area…located above the subsurface storm sewer and drainage lines and surface drainage ways…for the sole and exclusive purpose of running and transferring water accumulating and originating on each Development Tract to the Storm Sewer System." That easement right allows Lots 1 and 2 to run water over the Common Areas and into the Storm Sewer System. The easement rights granted to Lots 1 and 2 allow drainage into the Storm Sewer System, which includes "drainage lines and surface drainage ways." Thereafter, it is only reasonable that those drainage lines and surface drainage ways would drain into the detention pond on Lot 3.

I do acknowledge that the definitions of Common Areas and Storm Sewer System are not perfectly clear in the Declaration, but the best reading of the Declaration is that the Storm Sewer System either (a) drains into the pond, or (b) includes the pond as one of its elements. The definition of Common Areas in Section 3 includes "other facilities," so despite the pond not being specifically identified, it may be incorporated into the definition of Common Areas, and if so, it could be incorporated into the definition of Storm Sewer System. Alternatively, the allowance for the Storm Sewer System to drain into the pond is supported by Section 5(c), in which the definition of "CAM Expenses" includes "maintenance and repair of off-site detention areas." That sentence does not specifically identify the pond on Lot 3, but if the owners have to pay to Declarant "CAM Expenses" (see romanette (iii) of the first paragraph of Section 5(b)), the reasonable interpretation is that the off-site detention areas that make up CAM Expenses are within an area over which Declarant exercises some control (e.g., the pond on Lot 3). If the pond is "off-site", but it is maintained by the Declarant and is connected to the Storm Sewer System, it is only reasonable that the Declaration permits the draining of the Storm Sewer System into the pond.

It would be helpful if Exhibit A and Exhibit C of the Declaration were clearer, but we have been unable to track down a clearer version of either. That being said, my view of a grainy Exhibit C is that the detention pond is in fact included as part of the Storm Sewer System. If it is not part of the Storm Sewer System, Lots 1 and 2 have drainage rights into the Storm Sewer System, and it is reasonable (based on the above paragraph) that the Storm Sewer System is permitted to drain into the pond on Lot 3.

Maintenance Obligation for the Pond:

The second inquiry from your contact at the watershed district is regarding who has obligation to maintain the stormwater facilities. For reasons set forth above, I think it is sufficiently clear that the obligation is on the Declarant. Under romanette (i) of Section 5(c), the Declarant has obligations to maintain and repair the Common Areas (which could include the pond, as set forth above). Alternatively, if the pond is not part of the Common Areas, the Declarant has obligations to maintain and repair "off-site detention areas." If the Declarant has obligation to maintain and repair those areas, they must be within the area covered by the Declaration. "Off-site" could simply refer to off of the Common Areas. If the language were referring to detention areas outside of the entire Development Tract, it may be that the Declarant has to contribute towards upkeep costs, but it would not be sensible that the Declarant has maintenance and repair obligations with respect to those areas.

ELEVATE

EDEN PRAIRIE, MINNESOTA

ISSUED FOR: CITY SUBMITTAL

DEVELOPER / PROPERTY OWNER:

TIMBERLAND PARTNERS
8000 NORMAN CENTER DR, SUITE 830
BLOOMINGTON, MN 55437
952-893-1216

ENGINEER / LANDSCAPE ARCHITECT:

CIVIL SITE GROUP
4931 W 35TH STREET
SUITE 200
ST LOUIS PARK, MN 55416
612-615-0060

SURVEYOR:

ACRE LAND SURVEYING, INC.
9140 BALTIMORE STREET NE, SUITE 100
BLAINE, MN 55449
763-458-2997

GEOTECHNICAL ENGINEER:

HAUGO GEOTECHNICAL SERVICES, LLC
2825 CEDAR AVE S
MINNEAPOLIS, MN 55407
612-269-4027

MASTER LEGEND:

1125	EX. 1' CONTOUR ELEVATION INTERVAL
×1137.12	EXISTING SPOT GRADE ELEVATION
1137	1.0' CONTOUR ELEVATION INTERVAL
41.26	SPOT GRADE ELEVATION (GUTTER/FLOW LINE UNLESS OTHERWISE NOTED)
891.00 G	SPOT GRADE ELEVATION TOP OF CURB (GUTTER TOP)
891.00 TC	SPOT GRADE ELEVATION TOP OF WALL
891.00 BS/TS	SPOT GRADE ELEVATION BOTTOM OF WALL
	DRAINAGE ARROW
EOF=1135.52	EMERGENCY OVERFLOW
	SILT FENCE / BIOROLL - GRADING LIMIT
	INLET PROTECTION
	STABILIZED CONSTRUCTION ENTRANCE
SB-1	SOIL BORING LOCATION
	CURB AND GUTTER (T.O = TIP OUT)

	PROPOSED MANHOLE STORM
	PROPOSED CATCH BASIN OR CATCH BASIN MANHOLE STORM
	PROPOSED GATE VALVE
	PROPOSED FIRE HYDRANT
	PROPOSED MANHOLE SANITARY
	PROPOSED SIGN
	PROPOSED LIGHT
	PROPOSED SANITARY SEWER
	PROPOSED STORM SEWER
	PROPOSED WATER MAIN
	EXISTING SANITARY SEWER
	EXISTING STORM SEWER
	EXISTING WATER MAIN
G G	EXISTING GAS MAIN
E E	EXISTING UNDERGROUND ELECTRIC
C C	EXISTING UNDERGROUND CABLE

EXISTING MANHOLE	EXISTING STOPBOX	EXISTING LIGHT
EXISTING CATCH BASIN	EXISTING GATE VALVE	EXISTING GAS METER
EXISTING HYDRANT	EXISTING ELECTRIC BOX	EXISTING GAS VALVE

GOPHER STATE ONE CALL
WWW.GOPHERSTATEONECALL.ORG
(800) 252-1166 TOLL FREE
(651) 454-0002 LOCAL

SHEET INDEX

CivilSite GROUP
4931 W. 35TH ST., SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
Matt Pavek 763-213-3944
Pat Sarver 952-250-2003

PROJECT
ELEVATE
12900 TECHNOLOGY DRIVE, EDEN PRAIRIE MN 55344
TIMBERLAND PARTNERS
8000 NORMAN CENTER DR., STE. 830, BLOOMINGTON, MN 55437

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.

Matthew R. Pavek
DATE: 06/05/17 LICENSE NO.: 44263

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
04/07/17	CITY SUBMITTAL
05/09/17	CITY RESUBMITTAL
05/17/17	WATERSHED RESUBMITTAL
06/05/17	WATERSHED RESUBMITTAL

REVISION SUMMARY

DATE	DESCRIPTION

PROJECT NO.: 16131

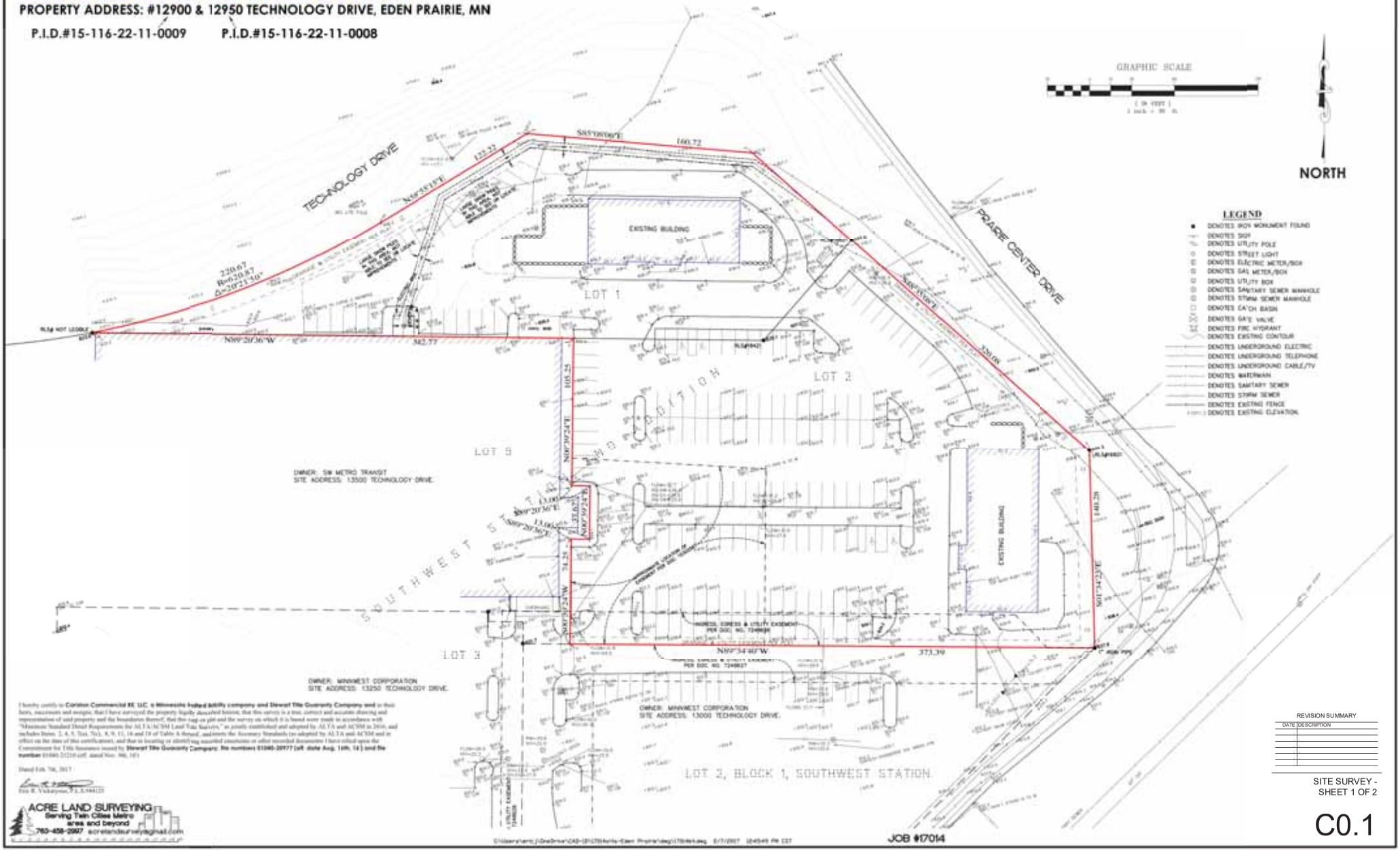
TITLE SHEET

C0.0

ALTA/ACSM LAND TITLE SURVEY (SHEET 1 OF 2 SHEETS)

PROPERTY ADDRESS: #12900 & 12950 TECHNOLOGY DRIVE, EDEN PRAIRIE, MN

P.I.D.#15-116-22-11-0009 **P.I.D.#15-116-22-11-0008**



I hereby certify to **Corvian Commercial RE, LLC, a Minnesota limited liability company and Stewart Title Guaranty Company and** as their heirs, successors and assigns, that I have surveyed the property legally described hereon, that this survey is a true, correct and accurate drawing and representation of said property and the boundaries thereof, that this map or plat and the survey on which it is based were made in accordance with "Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys," as jointly established and adopted by ALTA and ACSM in 2016, and includes Items 2, 4, 5, Text, 7(c), 8, 9, 11, 16 and 19 of Table A thereof, and meets the Accuracy Standards (as adopted by ALTA and ACSM and in effect on the date of this certification), and that in locating or identifying recorded easements or other recorded documents I have relied upon the Commitment for Title Insurance issued by **Stewart Title Guaranty Company, file numbers 01045-20977 (eff. date Aug. 16th, 16) and file number** 01045-21210 (eff. dated Nov. 9th, 16).

Dated Feb. 7th, 2017

Eric R. Volkmann, P.L.S.#44125

ACRE LAND SURVEYING
Serving Twin Cities Metro area and beyond
763-458-2997 acrelandsurveying@gmail.com

REVISION SUMMARY

DATE	DESCRIPTION

SITE SURVEY - SHEET 1 OF 2

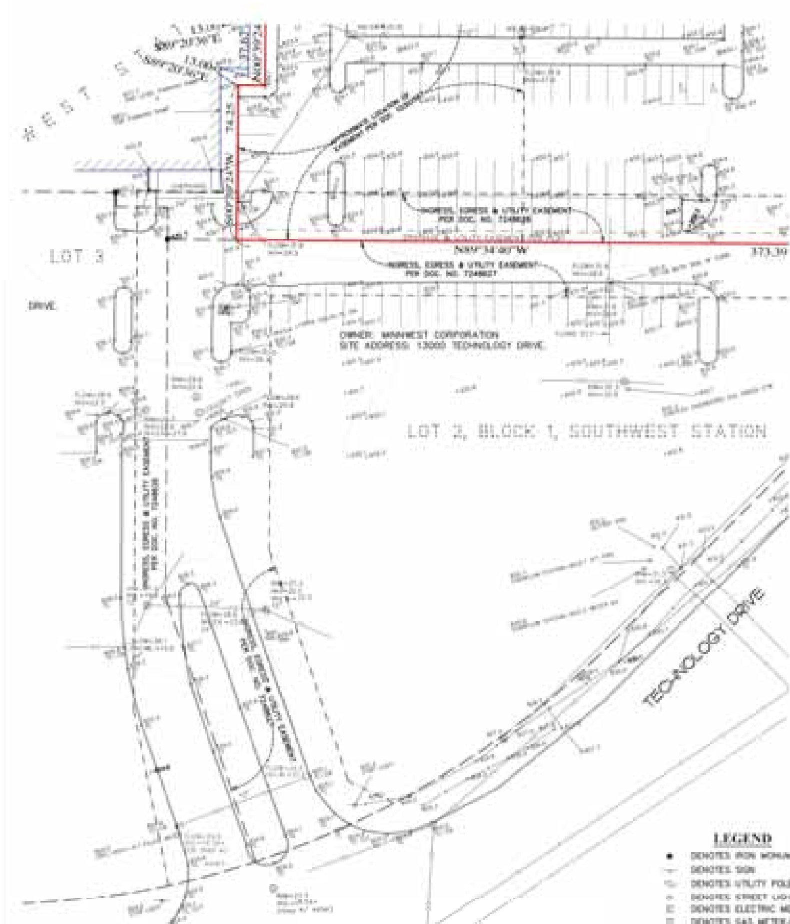
C0.1

JOB #17014

ALTA/ACSM LAND TITLE SURVEY (SHEET 2 OF 2 SHEETS)

PROPERTY ADDRESS: #12900 & 12950 TECHNOLOGY DRIVE, EDEN PRAIRIE, MN

P.I.D.#15-116-22-11-0009 **P.I.D.#15-116-22-11-0009**



BENCHMARK

BASIS FOR ELEVATION: NAVD88 (VIA REAL TIME GPS MEASUREMENTS UTILIZING MINNESOTA DEPARTMENT OF TRANSPORTATION VRS NETWORK)

LEGAL DESCRIPTION (PER TITLE COMMITMENT 01040-21210)

Parcel 1:

Lot 1, Block 1, Southwest Station 2nd Addition.

Parcel 2:

Non-exclusive easements as created in Declaration of Covenants, Conditions, Restrictions and Easements for Southwest Station dated January 3, 2000, filed January 19, 2000, as Document No. 7246400; As amended by First Amendment to Declaration of Covenants, Conditions, Restrictions and Easements for Southwest Station dated January 3, 2000, filed January 24, 2000, as Document No. 7248625; As amended by Second Amendment to Declaration of Covenants, Conditions, Restrictions and Easements dated December 30, 2002, filed January 7, 2003, as Document No. 7907923; As amended by Third Amendment to Declaration of Covenants, Conditions, Restrictions and Easements for Southwest Station dated April 22, 2004, filed July 8, 2004, as Document No. 8391982; As amended by Assignment of Declaration of Covenants, Conditions, Restrictions and Easements and Assumption Agreement dated November 22, 2004, filed May 20, 2005, as Document No. 8586154; As amended by Assignment of Declaration of Reciprocal Easements, Covenants, Conditions, Restrictions and Easements and Assumption Agreement dated February 11, 2010, filed March 18, 2010, as Document No. A9480780; As amended by Fourth Amendment to Declaration of Covenants, Conditions, Restrictions and Easements for Southwest Station dated August 27, 2013, filed September 6, 2013, as Document No. A10003647; As amended by Assignment of Declaration of Reciprocal Easements, Covenants, Conditions and Restrictions and Assumption Agreement dated January 2, 2015, filed January 12, 2015, as Document No. A10153398; and As further amended by Fifth Amendment to Declaration of Covenants, Conditions, Restrictions and Easements for Southwest Station dated April 13, 2016, filed April 13, 2016, as Document No. A10302587.

Parcel 3:

Non-exclusive easements as created in Declaration of Reciprocal Easements, Covenants, Conditions and Restrictions dated December 31, 2002, filed January 7, 2003, as Document No. 7907925.

Parcel 4:

Non-exclusive easement for ingress, egress and utility purposes over a portion of Lot 2, Block 1, Southwest Station as created in Quit Claim Deed dated January 20, 2000, filed January 24, 2000, as Document No. 7248627.

All in Hennepin County, Minnesota.

Property type: Abstract

SCHEDULE B-2 SURVEY RELATED EXCEPTIONS:

NOTE: BELOW EXCEPTION #'S CORRESPOND TO EXCEPTION #'S LISTED IN TITLE COMMITMENT

[illegible]

LEGEND

- DENOTES IRON MONUMENT FOUND
- DENOTES SIGN
- DENOTES UTILITY POLE
- DENOTES STREET LIGHT
- DENOTES ELECTRIC METER/BOX
- DENOTES GAS METER/BOX
- DENOTES UTILITY BOX
- DENOTES SANITARY SEWER MANHOLE
- DENOTES STORM SEWER MANHOLE
- DENOTES CATCH BASIN
- DENOTES GATE VALVE
- DENOTES FIRE HYDRANT
- DENOTES EXISTING CONTOUR
- DENOTES UNDERGROUND ELECTRIC
- DENOTES UNDERGROUND TELEPHONE
- DENOTES UNDERGROUND CABLE/TV
- DENOTES WATERMAIN
- DENOTES SANITARY SEWER
- DENOTES STORM SEWER
- DENOTES EXISTING FENCE
- DENOTES EXISTING ELEVATION

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

NORTH

LEGAL DESCRIPTION (PER TITLE COMMITMENT 01040-20977)

Parcel 1:
Lot 2, Block 1, Southwest Station 2nd Addition, according to the recorded plat thereof, Hennepin County, Minnesota.
Parcel 2:
Non-exclusive easements as created in Declaration of Covenants, Conditions, Restrictions and Easements for Southwest Station dated January 3, 2000, filed January 19, 2000, as Document No. 7246400; As amended by First Amendment to Declaration of Covenants, Conditions, Restrictions and Easements for Southwest Station dated January 3, 2000, filed January 24, 2000, as Document No. 7248625; As amended by Second Amendment to Declaration of Covenants, Conditions, Restrictions and Easements dated December 30, 2002, filed January 7, 2003, as Document No. 7907923; as amended by Third Amendment to Declaration of Covenants, Conditions, Restrictions and Easements for Southwest Station dated April 22, 2004, filed July 8, 2004, as Document No. 8391982;
As amended by Assignment of Declaration of Covenants, Conditions, Restrictions and Easements and Assumption Agreement dated November 22, 2004, filed May 20, 2005, as Document No. 8586154; As amended by Fourth Amendment to Declaration of Covenants, Conditions, Restrictions and Easements for Southwest Station dated August 27, 2013, filed September 6, 2013, as Document No. A10003647; As amended by Assignment of Declaration of Reciprocal Easements, Covenants, Conditions and Restrictions and Assumption Agreement dated January 2, 2015, filed January 12, 2015, as Document No. A10153398; and, As further amended by Fifth Amendment to Declaration of Covenants, Conditions, Restrictions and Easements for Southwest Station dated April 13, 2016, filed April 13, 2016, as Document No. A10302587.

Parcel 3:

Non-exclusive easements as created in Declaration of Reciprocal Easements, Covenants, Conditions and Restrictions dated December 31, 2002, filed January 7, 2003, as Document No. 7907925.

Parcel 4:
Non-exclusive easement for ingress, egress and utility purposes over a portion of Lot 3, Block 1, Southwest Station as created in Quit Claim Deed dated January 20, 2000, filed January 24, 2000, as Document No. 7248627.

Property Type: Abstract

SCHEDULE B-2 SURVEY RELATED EXCEPTIONS:

NOTE: BELOW EXCEPTION #'S CORRESPOND TO EXCEPTION #'S LISTED IN TITLE COMMITMENT

10. Terms and conditions of Declarations of Covenants and Restrictions dated August 28, 1991, filed September 6, 1991, as Document No. 5821248. "Document may affect property, legal consultation is advised, see document for details."

11. Terms and conditions of and easements created pursuant to Declaration of Covenants, Conditions, Restrictions and Easements for Southwest Station dated January 3, 2000, filed January 19, 2000, as Document No. 7246400. "affects property, see document for details."

As amended by First Amendment to Declaration of Covenants, Conditions, Restrictions and Easements for Southwest Station dated January 3, 2000, filed January 24, 2000, as Document No. 7248625. "affects property, see document for details."

As amended by Second Amendment to Declaration of Covenants, Conditions, Restrictions and Easements dated December 30, 2002, filed January 7, 2003, as Document No. 7907923. "affects property, see document for details."

As amended by Third Amendment to Declaration of Covenants, Conditions, Restrictions and Easements for Southwest Station dated April 22, 2004, filed July 8, 2004, as Document No. 8391982. "affects property, see document for details."

As amended by Assignment of Declaration of Covenants, Conditions, Restrictions and Easements and Assumption Agreement dated November 22, 2004, filed May 20, 2005, as Document No. 8586154. "affects property, see document for details."

As amended by Fourth Amendment to Declaration of Covenants, Conditions, Restrictions and Easements for Southwest Station dated August 27, 2013, filed September 6, 2013, as Document No. A10003647. "affects property, see document for details."

As amended by Assignment of Declaration of Reciprocal Easements, Covenants, Conditions and Restrictions and Assumption Agreement dated January 2, 2015, filed January 12, 2015, as Document No. A10153398. "affects property, see document for details."

As amended by Fifth Amendment to Declaration of Covenants, Conditions, Restrictions and Easements for Southwest Station dated April 13, 2016, filed April 13, 2016, as Document No. A10302587. "affects property, see document for details."

12. Easement for ingress, egress and utility purposes as created in Quit Claim Deed dated January 20, 2000, filed January 24, 2000, as Document No. 7248626. "affects, shown hereon"

13. Easement for ingress, egress and utility purposes as created in Quit Claim Deed dated January 20, 2000, filed January 24, 2000, as Document No. 7248627. "affects, shown hereon"

14. Terms and conditions of and easements created pursuant to Declaration of Reciprocal Easements, Covenants, Conditions and Restrictions dated December 31, 2002, filed January 7, 2003, as Document No. 7907925. "affects, see document for details"

15. Terms and conditions of Restrictive Covenant Agreement dated February 16, 2003, filed February 25, 2003, as Document No. 7937943. "affects, see document for details"

16. Terms and conditions of Restrictive Covenant Agreement dated April 11, 2003, filed April 23, 2003, as Document No. 8022890. "affects, see document for details"

17. Drainage and utility easements shown and dedicated in the plat of Southwest Station, filed January 19, 2000, as Document No. 7246399. "affects, easements shown hereon"

18. Drainage and utility easements shown and dedicated in the plat of Southwest Station 2nd Addition, filed January 7, 2003, as Document No. 7907922. "affects, easements shown hereon."

I hereby certify to **Carlston Commercial RE, LLC, a Minnesota limited liability company and Stewart Title Guaranty Company and** to their heirs, successors and assigns, that I have surveyed the property legally described hereon; that this survey is a true, correct and accurate drawing and representation of said property and the boundaries thereof; that this map or plat and the survey on which it is based were made in accordance with "Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys," as jointly established and adopted by ALTA and ACSM in 2016, and includes Items 2, 4, 5, 7(a), 7(c), 8, 9, 11, 14 and 19 of Table A thereof, and meets the Accuracy Standards (as adopted by ALTA and ACSM and in effect on the date of this certification), and that in locating or identifying recorded easements or other recorded documents I have relied upon the Commitment for Title Insurance issued by **Stewart Title Guaranty Company, file numbers 01040-20977 (eff. date Aug. 14th, 14) and file number** 01040-21210 (eff. dated Nov. 9th, 16).

Dated Feb. 7th, 2017

Eric R. Vickaryous, P.L.S. #44125

VICINITY MAP

City of Eden Prairie, Minnesota (No Scale)

REVISION SUMMARY

DATE	DESCRIPTION

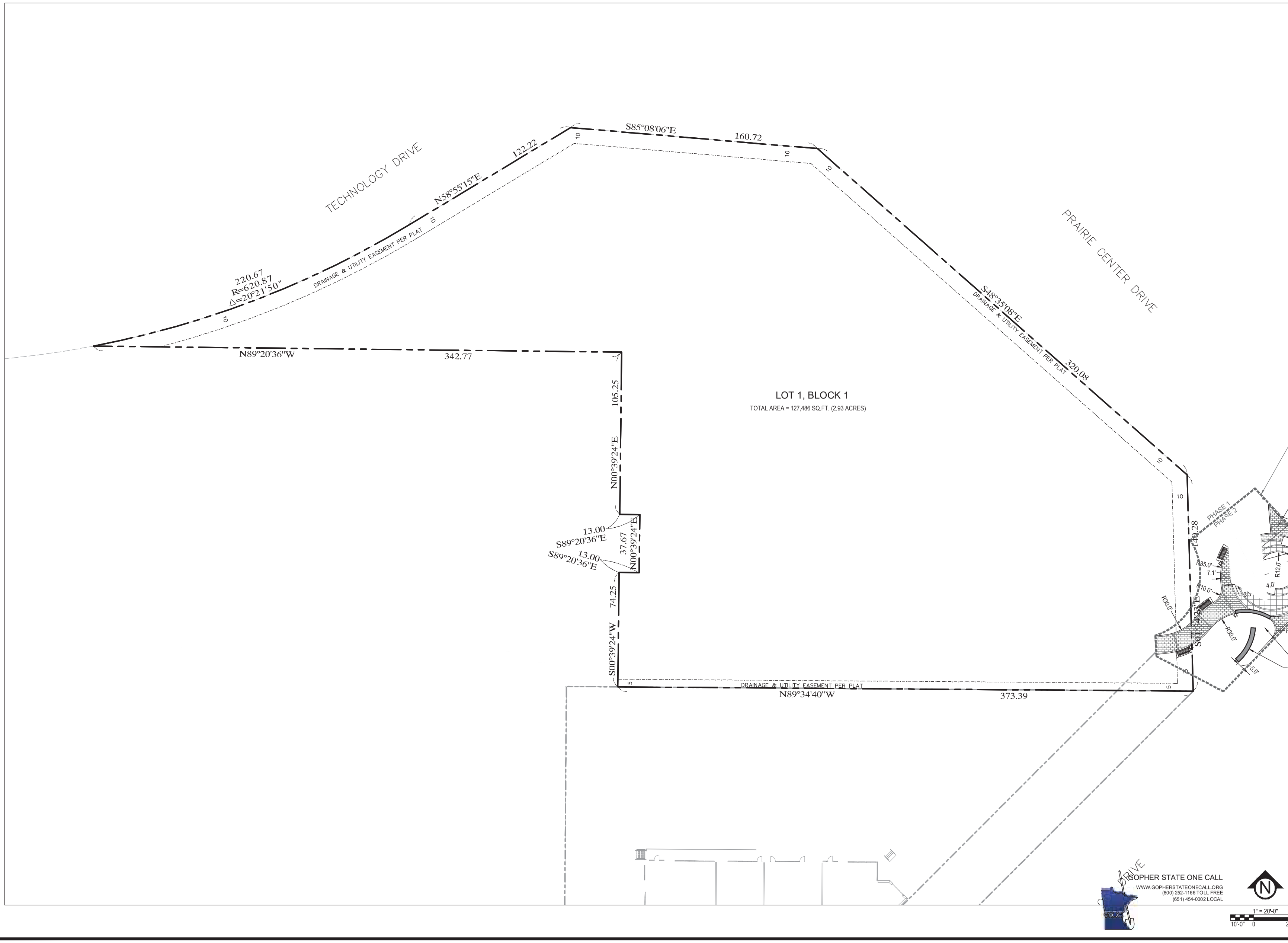
SITE SURVEY - SHEET 2 OF 2

C0.2

ACRE LAND SURVEYING
Serving Twin Cities Metro area and beyond
763-458-2997 acrelandsurvey@gmail.com

JOB #17014

C:\Users\eric\OneDrive\CAD-12\17014\eden Prairie\dwg\17014.dwg 2/7/2017 12:45:49 PM CST



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Matthew R. Pavek
DATE 06/05/17 LICENSE NO. 44263

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
04/07/17	CITY SUBMITTAL
05/08/17	CITY RESUBMITTAL
05/17/17	WATERSHED RESUBMITTAL
06/05/17	WATERSHED RESUBMITTAL

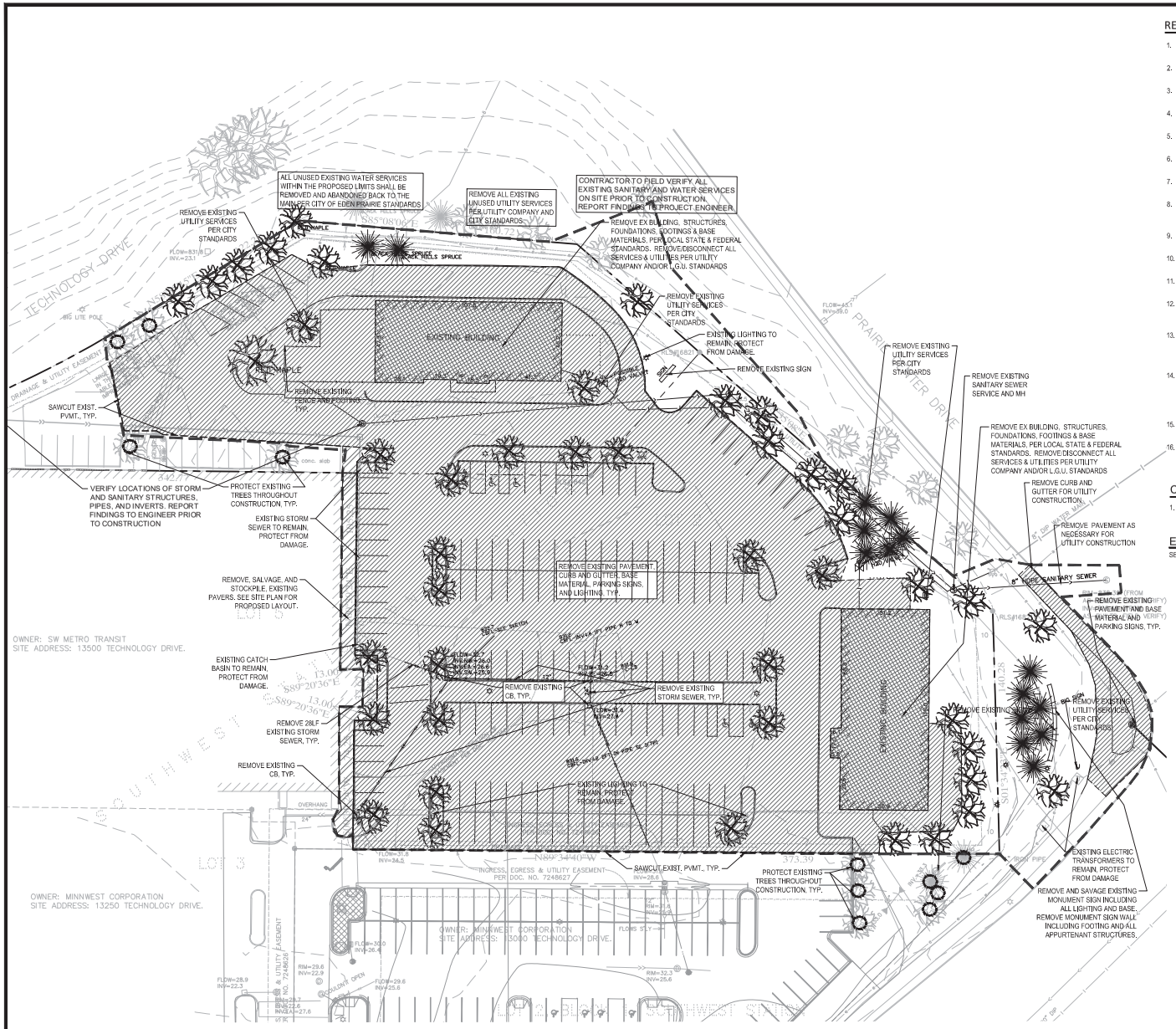
REVISION SUMMARY

DATE	DESCRIPTION

PROJECT NO.: 16131

PRELIMINARY PLAT

C0.3



REMOVAL NOTES:

1. SEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PLAN FOR CONSTRUCTION STORM WATER MANAGEMENT PLAN.
2. REMOVAL OF MATERIALS NOTED ON THE DRAWINGS SHALL BE IN ACCORDANCE WITH MNDOT, STATE AND LOCAL REGULATIONS.
3. REMOVAL OF PRIVATE UTILITIES SHALL BE COORDINATED WITH UTILITY OWNER PRIOR TO CONSTRUCTION ACTIVITIES.
4. EXISTING PAVEMENTS SHALL BE SAWCUT IN LOCATIONS AS SHOWN ON THE DRAWINGS OR THE NEAREST JOINT FOR PROPOSED PAVEMENT CONNECTIONS.
5. REMOVED MATERIALS SHALL BE DISPOSED OF TO A LEGAL OFF-SITE LOCATION AND IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
6. ABANDON, REMOVAL, CONNECTION, AND PROTECTION NOTES SHOWN ON THE DRAWINGS ARE APPROXIMATE. COORDINATE WITH PROPOSED PLANS.
7. EXISTING ON-SITE FEATURES NOT NOTED FOR REMOVAL SHALL BE PROTECTED THROUGHOUT THE DURATION OF THE CONTRACT.
8. PROPERTY LINES SHALL BE CONSIDERED GENERAL CONSTRUCTION LIMITS UNLESS OTHERWISE NOTED ON THE DRAWINGS. WORK WITHIN THE GENERAL CONSTRUCTION LIMITS SHALL INCLUDE STAGING, DEMOLITION AND CLEAN-UP OPERATIONS AS WELL AS CONSTRUCTION SHOWN ON THE DRAWINGS.
9. MINOR WORK OUTSIDE OF THE GENERAL CONSTRUCTION LIMITS SHALL BE ALLOWED AS SHOWN ON THE PLAN AND PER CITY REQUIREMENTS.
10. DAMAGE BEYOND THE PROPERTY LIMITS CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED IN A MANNER APPROVED BY THE ENGINEER/LANDSCAPE ARCHITECT OR IN ACCORDANCE WITH THE CITY.
11. PROPOSED WORK (BUILDING AND CIVIL) SHALL NOT DISTURB EXISTING UTILITIES UNLESS OTHERWISE SHOWN ON THE DRAWINGS AND APPROVED BY THE CITY PRIOR TO CONSTRUCTION.
12. SITE SECURITY MAY BE NECESSARY AND PROVIDED IN A MANNER TO PROHIBIT VANDALISM, AND THEFT, DURING AND AFTER NORMAL WORK HOURS, THROUGHOUT THE DURATION OF THE CONTRACT. SECURITY MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY.
13. VEHICULAR ACCESS TO THE SITE SHALL BE MAINTAINED FOR DELIVERY AND INSPECTION ACCESS DURING NORMAL OPERATING HOURS. AT NO POINT THROUGHOUT THE DURATION OF THE CONTRACT SHALL CIRCULATION OF ADJACENT STREETS BE BLOCKED WITHOUT APPROVAL BY THE CITY PRIOR TO CONSTRUCTION ACTIVITIES.
14. ALL TRAFFIC CONTROLS SHALL BE PROVIDED AND ESTABLISHED PER THE REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CITY. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, SIGNAGE, BARRICADES, FLASHERS, AND FLAGGERS AS NEEDED. ALL PUBLIC STREETS SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES. NO ROAD CLOSURES SHALL BE PERMITTED WITHOUT APPROVAL BY THE CITY.
15. SHORING FOR BUILDING EXCAVATION MAY BE USED AT THE DISCRETION OF THE CONTRACTOR AND AS APPROVED BY THE OWNERS REPRESENTATIVE AND THE CITY PRIOR TO CONSTRUCTION ACTIVITIES.
16. STAGING, DEMOLITION, AND CLEAN-UP AREAS SHALL BE WITHIN THE PROPERTY LIMITS AS SHOWN ON THE DRAWINGS AND MAINTAINED IN A MANNER AS REQUIRED BY THE CITY.

CITY OF EDEN PRAIRIE REMOVAL NOTES:

1. RESERVED FOR CITY SPECIFIC REMOVAL NOTES.

EROSION CONTROL NOTES:

SEE SWPPP ON SHEETS SW1.0-SW1.5

REMOVALS LEGEND:

- 1125 — EX. 1' CONTOUR ELEVATION INTERVAL
- REMOVAL OF PAVEMENT AND ALL BASE MATERIAL, INCLUDING BIT., CONC., AND GRAVEL PVMTS.
- REMOVAL OF STRUCTURE INCLUDING ALL FOOTINGS AND FOUNDATIONS.
- TREE PROTECTION
- TREE REMOVAL - INCLUDING ROOTS AND STUMPS

GOPHER STATE ONE CALL
WWW.GOPHERSTATEONECALL.ORG
(800) 252-1166 TOLL FREE
(651) 454-0002 LOCAL

1" = 30'-0"

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06/09/17	WATERSHED RESUBMITTAL

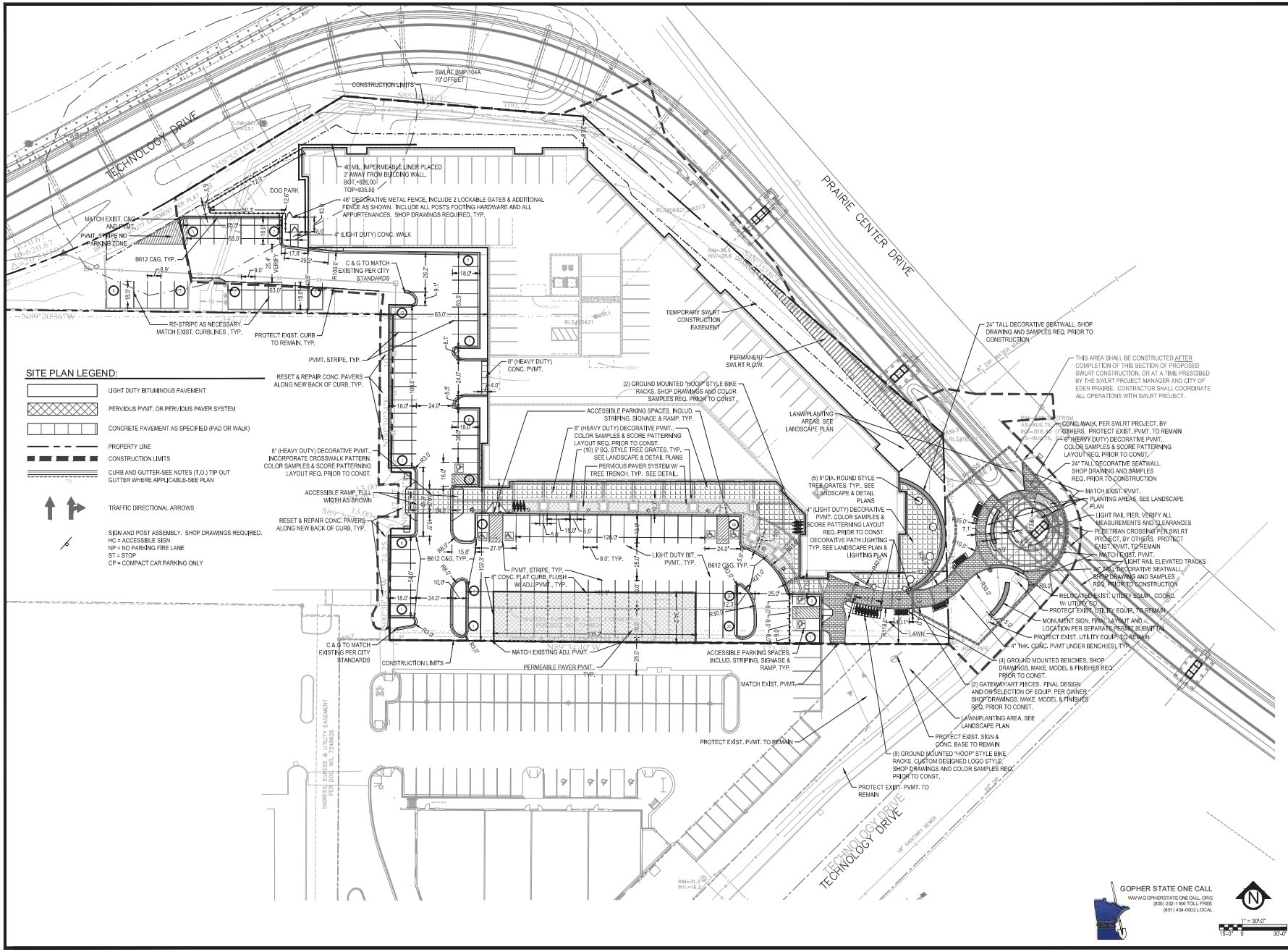
REVISION SUMMARY

DATE	DESCRIPTION

PROJECT NO.: 16131

REMOVALS PLAN

C1.0



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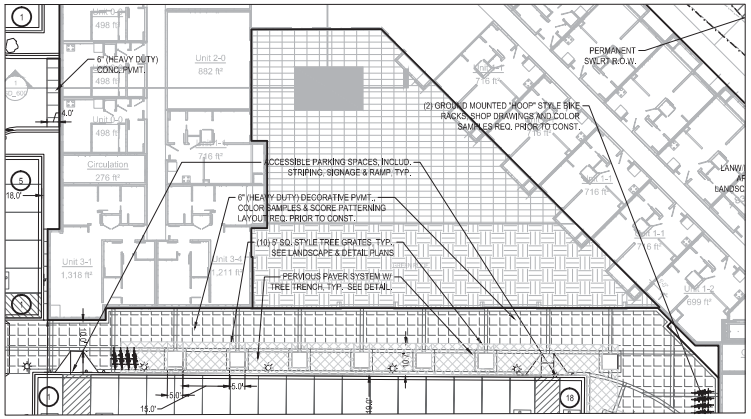
REVISION SUMMARY

DATE	DESCRIPTION

PROJECT NO.: 16131

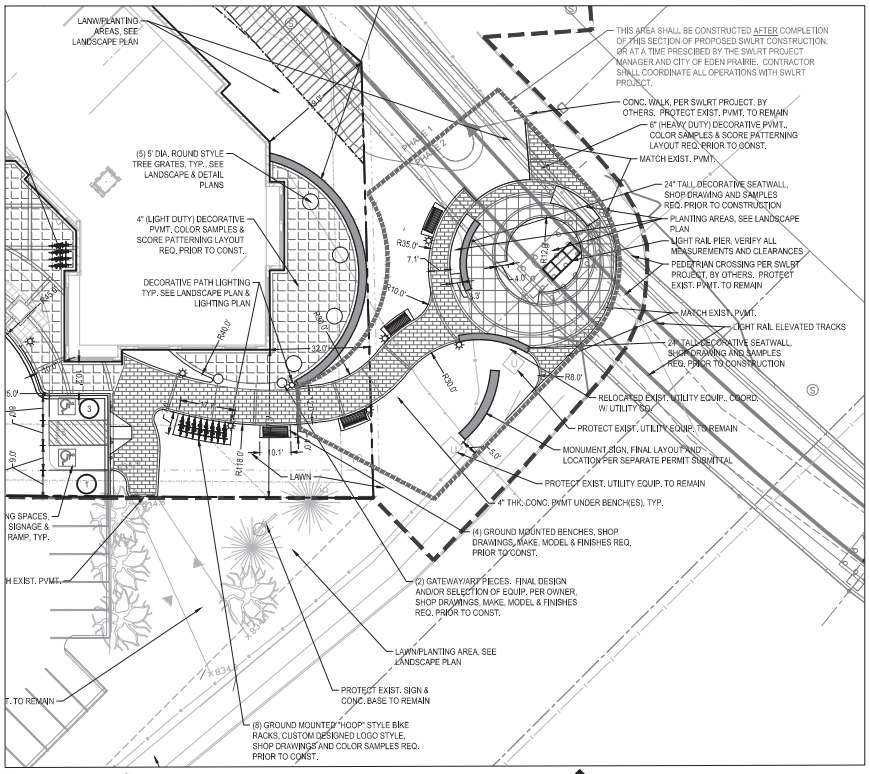
SITE PLAN SHEET 1
OVERVIEW

C2.0



1 ROOF TOP GARDEN ENLARGMENT

1" = 20'-0"



2 CORNER AREA ENLARGMENT

1" = 20'-0"

SITE AREA TABLE:

SITE AREA CALCULATIONS	EXISTING		PROPOSED LOT		
BUILDING COVERAGE	11,699 SF	9.2%	50,886 SF	39.9%	
GREEN ROOF	0 SF		3,500 SF		
ALL PAVEMENTS	89,687 SF	70.4%	50,452 SF	39.6%	
PERVIOUS PAVERS	0 SF		4,372 SF		
ALL NON-PAVEMENTS	26,100 SF	20.5%	26,148 SF	20.5%	
TOTAL SITE AREA	127,486 SF	100.0%	127,486 SF	100.0%	
IMPERVIOUS SURFACE					
EXISTING CONDITION	101,386 SF	79.5%			
PROPOSED CONDITION	93,466 SF	73.3%	DOES NOT INCLUDE GREEN ROOF OR PERVIOUS PAVERS		
DIFFERENCE (EX. VS PROP.)	-7,920 SF	-6.2%			
IMPERVIOUS TOTAL	93,466 SF	73.3%			

EROSION CONTROL QUANTITIES		UNITS	222
DISTURBED AREA	136,000 SF	ACREAGE	2.925
SILT FENCE/BIO-ROLL	1,683 LF	UNIT DENS TY (UNITS/ACRE)	71
EROSION CONTROL BLANKET	0 SF		
INLET PROTECTION DEVICES	11 EA		

OFF-SITE AREA CALCULATIONS	EXISTING		PROPOSED	
BUILDING COVERAGE	0 SF	0.0%	0 SF	0.0%
ALL PAVEMENTS	3,019 SF	2.4%	4,512 SF	3.5%
ALL NON-PAVEMENTS	6,996 SF	5.5%	5,503 SF	4.3%
TOTAL SITE AREA	10,015 SF	7.9%	10,015 SF	7.9%
IMPERVIOUS SURFACE				
EXISTING CONDITION	3,019 SF	30.1%		
PROPOSED CONDITION	4,512 SF	45.1%		
DIFFERENCE (EX. VS PROP.)	1,493 SF	14.9%		
IMPERVIOUS TOTAL	4,512 SF	45.1%		

LANDSCAPE ISLAND CALCULATIONS:

PARKING ISLAND CALCULATIONS	
Proposed Parking Lot	38,599 SF
Required Parking Island (5%)	1,930 SF
Proposed Parking Island	2,107 SF
Parking Island Delta	177 SF

USEABLE OPEN SPACE CALCULATIONS:

USEABLE OPEN SPACE CALCULATIONS	
SITE AREA	127,486 SF
REQ. OPEN SPACE (10%)	12,749 SF
PROV. OPEN SPACE	13,741 SF
OPEN SPACE DELTA	992 SF

SITE LAYOUT NOTES:

1. CONTRACTOR SHALL VERIFY LOCATIONS AND LAYOUT OF ALL SITE ELEMENTS PRIOR TO BEGINNING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, LOCATIONS OF EXISTING AND PROPOSED PROPERTY LINES, EASEMENTS, SETBACKS, UTILITIES, BUILDINGS AND PAVEMENTS. CONTRACTOR IS RESPONSIBLE FOR FINAL LOCATIONS OF ALL ELEMENTS FOR THE SITE. ANY REVISIONS REQUIRED AFTER COMMENCEMENT OF CONSTRUCTION, DUE TO LOCATIONAL ADJUSTMENTS SHALL BE CORRECTED AT NO ADDITIONAL COST TO OWNER. ADJUSTMENTS TO THE LAYOUT SHALL BE APPROVED BY THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF MATERIALS. STAKE LAYOUT FOR APPROVAL.
2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION, INCLUDING A RIGHT-OF-WAY AND STREET OPENING PERMIT.
3. THE CONTRACTOR SHALL VERIFY RECOMMENDATIONS NOTED IN THE GEO TECHNICAL REPORT PRIOR TO INSTALLATION OF SITE IMPROVEMENT MATERIALS.
4. CONTRACTOR SHALL FIELD VERIFY COORDINATES AND LOCATION DIMENSIONS OF THE BUILDING AND STAKE FOR REVIEW AND APPROVAL BY THE OWNERS REPRESENTATIVE PRIOR TO INSTALLATION OF FOOTING MATERIALS.
5. LOCATIONS OF STRUCTURES, ROADWAY PAVEMENTS, CURBS AND GUTTERS, BOLLARDS, AND WALKS ARE APPROXIMATE AND SHALL BE STAKED IN THE FIELD, PRIOR TO INSTALLATION, FOR REVIEW AND APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT.
6. CURB DIMENSIONS SHOWN ARE TO FACE OF CURB. BUILDING DIMENSIONS ARE TO FACE OF CONCRETE FOUNDATION. LOCATION OF BUILDING IS TO BUILDING FOUNDATION AND SHALL BE AS SHOWN ON THE DRAWINGS.
7. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR SAMPLES AS SPECIFIED FOR REVIEW AND APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO FABRICATION FOR ALL PREFABRICATED SITE IMPROVEMENT MATERIALS SUCH AS, BUT NOT LIMITED TO THE FOLLOWING, FURNISHINGS, PAVEMENTS, WALLS, RAILINGS, BENCHES, FLAGPOLES, LANDING PADS FOR CURB RAMPS, AND LIGHT AND POLES. THE OWNER RESERVES THE RIGHT TO REJECT INSTALLED MATERIALS NOT PREVIOUSLY APPROVED.
8. PEDESTRIAN CURB RAMPS SHALL BE CONSTRUCTED WITH TRUNCATED DOME LANDING AREAS IN ACCORDANCE WITH A.D.A. REQUIREMENTS-SEE DETAIL.
9. CROSSWALK STRIPING SHALL BE 24" WIDE WHITE PAINTED LINE. SPACED 48" ON CENTER PERPENDICULAR TO THE FLOW OF TRAFFIC. WIDTH OF CROSSWALK SHALL BE 9' WIDE. ALL OTHER PAVEMENT MARKINGS SHALL BE WHITE IN COLOR UNLESS OTHERWISE NOTED OR REQUIRED BY ADA OR LOCAL GOVERNING BODIES.
10. CURB AND GUTTER TYPE SHALL BE B612 UNLESS OTHERWISE NOTED ON THE DRAWINGS-TAPER BETWEEN CURB TYPES-SEE DETAIL.
11. ALL CURB RADII ARE MINIMUM 3' UNLESS OTHERWISE NOTED.
12. CONTRACTOR SHALL REFER TO FINAL PLAT FOR LOT BOUNDARIES, NUMBERS, AREAS AND DIMENSIONS PRIOR TO SITE IMPROVEMENTS.
13. FIELD VERIFY ALL EXISTING SITE CONDITIONS, DIMENSIONS.
14. PARKING IS TO BE SET PARALLEL OR PERPENDICULAR TO EXISTING BUILDING UNLESS NOTED OTHERWISE.
15. ALL PARKING LOT PAINT STRIPPING TO BE WHITE, 4" WIDE TYP.
16. BITUMINOUS PAVING TO BE "LIGHT DUTY" UNLESS OTHERWISE NOTED. SEE DETAIL SHEETS FOR PAVEMENT SECTIONS.
17. ALL TREES THAT ARE TO REMAIN ARE TO BE PROTECTED FROM DAMAGE WITH A CONSTRUCTION FENCE AT THE DRIP LINE. SEE LANDSCAPE DOCUMENTS.

CITY OF EDEN PRAIRIE SITE SPECIFIC NOTES:

1. RESERVED FOR CITY SPECIFIC NOTES.

PARKING TABLE:

1. SEE ARCHITECTURAL SITE PLAN

TRASH AND RECYCLING NOTE:

1. ALL TRASH AND RECYCLING WILL TAKE PLACE WITHIN THE BUILDING.

SITE PLAN LEGEND:

- LIGHT DUTY BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT AS SPECIFIED (PAD OR WALK)
- PROPERTY LINE
- CONSTRUCTION LIMITS
- CURB AND GUTTER-SEE NOTES (T.O.) TIP OUT GUTTER WHERE APPLICABLE-SEE PLAN
- TRAFFIC DIRECTIONAL ARROWS
- SIGN AND POST ASSEMBLY. SHOP DRAWINGS REQUIRED. HC = ACCESSIBLE SIGN; NP = NO PARKING FIRE LANE; ST = STOP; CP = COMPACT CAR PARKING ONLY

GOPHER STATE ONE CALL
WWW.GOPHERSTATEONECALL.ORG
(800) 252-1166 TOLL FREE
(651) 454-0002 LOCAL

1" = 30'-0"

CivilSite GROUP
4931 W. 35TH ST., SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
Matt Pavek 763-213-3944
Pat Sarver 952-250-2003

PROJECT
ELEVATE
12900 TECHNOLOGY DRIVE, EDEN PRAIRIE MN 55344
TIMBERLAND PARTNERS
8000 NORMAN CENTER DR., STE. 830, BLOOMINGTON, MN 55437

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Matthew R. Pavek
DATE 09/05/17 LICENSE NO. 44263

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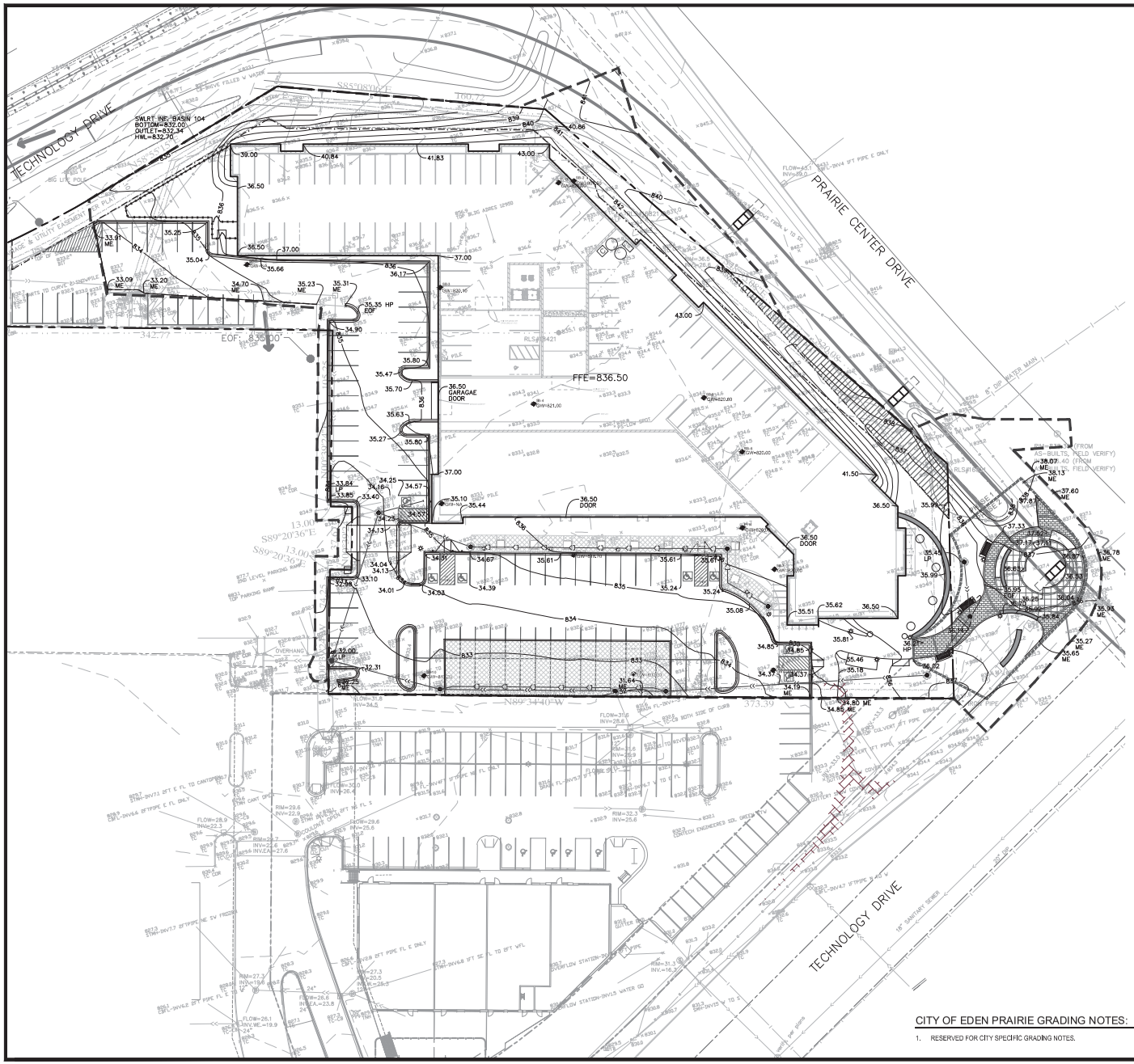
SITE PLAN SHEET 2
EXHIBITS AND NOTES

C2.1



GENERAL GRADING NOTES:

1. SEE SITE PLAN FOR HORIZONTAL LAYOUT & GENERAL GRADING NOTES.
2. THE CONTRACTOR SHALL COMPLETE THE SITE GRADING CONSTRUCTION (INCLUDING BUT NOT LIMITED TO SITE PREPARATION, SOIL CORRECTION, EXCAVATION, EMBANKMENT, ETC.) IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER'S SOILS ENGINEER. ALL SOIL TESTING SHALL BE COMPLETED BY THE OWNER'S SOILS ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED SOIL TESTS AND INSPECTIONS WITH THE SOILS ENGINEER.
3. GRADING AND EXCAVATION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS & PERMIT REQUIREMENTS OF THE CITY.
4. PROPOSED SPOT GRADES ARE FLOW-LINE FINISHED GRADE ELEVATIONS, UNLESS OTHERWISE NOTED.
5. GRADES OF WALKS SHALL BE INSTALLED WITH 5% MAX. LONGITUDINAL SLOPE AND 1% MIN. AND 2% MAX. CROSS SLOPE, UNLESS OTHERWISE NOTED.
6. PROPOSED SLOPES SHALL NOT EXCEED 3:1 UNLESS INDICATED OTHERWISE ON THE DRAWINGS. MAXIMUM SLOPES IN MAINTAINED AREAS IS 4:1
7. PROPOSED RETAINING WALLS, FREESTANDING WALLS, OR COMBINATION OF WALL TYPES GREATER THAN 4' IN HEIGHT SHALL BE DESIGNED AND ENGINEERED BY A REGISTERED RETAINING WALL ENGINEER. DESIGN DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF GRADE STAKES THROUGHOUT THE DURATION OF CONSTRUCTION TO ESTABLISH PROPER GRADES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR A FINAL FIELD CHECK OF FINISHED GRADES ACCEPTABLE TO THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO TOPSOIL AND SODDING ACTIVITIES.
9. IF EXCESS OR SHORTAGE OF SOIL MATERIAL EXISTS, THE CONTRACTOR SHALL TRANSPORT ALL EXCESS SOIL MATERIAL OFF THE SITE TO AN AREA SELECTED BY THE CONTRACTOR, OR IMPORT SUITABLE MATERIAL TO THE SITE.
10. EXCAVATE TOPSOIL FROM AREAS TO BE FURTHER EXCAVATED OR REGRADED AND STOCKPILE IN AREAS DESIGNATED ON THE SITE. THE CONTRACTOR SHALL SALVAGE ENOUGH TOPSOIL FOR RESPREADING ON THE SITE AS SPECIFIED. EXCESS TOPSOIL SHALL BE PLACED IN EMBANKMENT AREAS, OUTSIDE OF BUILDING PADS, ROADWAYS AND PARKING AREAS. THE CONTRACTOR SHALL SUBCUT CUT AREAS, WHERE TURF IS TO BE ESTABLISHED, TO A DEPTH OF 6 INCHES. RESPREAD TOPSOIL IN AREAS WHERE TURF IS TO BE ESTABLISHED TO A MINIMUM DEPTH OF 6 INCHES.
11. FINISHED GRADING SHALL BE COMPLETED. THE CONTRACTOR SHALL UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING, INCLUDING ADJACENT TRANSITION AREAS. PROVIDE A SMOOTH FINISHED SURFACE WITHIN SPECIFIED TOLERANCES, WITH UNIFORM LEVELS OR SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE SHOWN, OR BETWEEN SUCH POINTS AND EXISTING GRADES. AREAS THAT HAVE BEEN FINISH GRADED SHALL BE PROTECTED FROM SUBSEQUENT CONSTRUCTION OPERATIONS, TRAFFIC AND EROSION. REPAIR ALL AREAS THAT HAVE BECOME RUTTED BY TRAFFIC OR ERODED BY WATER OR HAS SETTLED BELOW THE CORRECT GRADE. ALL AREAS DISTURBED BY THE CONTRACTORS OPERATIONS SHALL BE RESTORED TO EQUAL OR BETTER THAN ORIGINAL CONDITION OR TO THE REQUIREMENTS OF THE NEW WORK.
12. PRIOR TO PLACEMENT OF THE AGGREGATE BASE, A TEST ROLL WILL BE REQUIRED ON THE STREET AND/OR PARKING AREA SUBGRADE. THE CONTRACTOR SHALL PROVIDE A LOADED TANDEM AXLE TRUCK WITH A GROSS WEIGHT OF 25 TONS. THE TEST ROLLING SHALL BE AT THE DIRECTION OF THE SOILS ENGINEER AND SHALL BE COMPLETED IN AREAS AS DIRECTED BY THE SOILS ENGINEER. THE SOILS ENGINEER SHALL DETERMINE WHICH SECTIONS OF THE STREET OR PARKING AREA ARE UNSTABLE. CORRECTION OF THE SUBGRADE SOILS SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SOILS ENGINEER.
13. TOLERANCES
    - 13.1. THE BUILDING SUBGRADE FINISHED SURFACE ELEVATION SHALL NOT VARY BY MORE THAN 0.30 FOOT ABOVE, OR 0.30 FOOT BELOW, THE PRESCRIBED ELEVATION AT ANY POINT WHERE MEASUREMENT IS MADE.
    - 13.2. THE STREET OR PARKING AREA SUBGRADE FINISHED SURFACE ELEVATION SHALL NOT VARY BY MORE THAN 0.05 FOOT ABOVE, OR 0.10 FOOT BELOW, THE PRESCRIBED ELEVATION OF ANY POINT WHERE MEASUREMENT IS MADE.
    - 13.3. AREAS WHICH ARE TO RECEIVE TOPSOIL SHALL BE GRADED TO WITHIN 0.30 FOOT ABOVE OR BELOW THE REQUIRED ELEVATION, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
    - 13.4. TOPSOIL SHALL BE GRADED TO PLUS OR MINUS 1/2 INCH OF THE SPECIFIED THICKNESS.
14. MAINTENANCE
    - 14.1. THE CONTRACTOR SHALL PROTECT NEWLY GRADED AREAS FROM TRAFFIC AND EROSION, AND KEEP AREA FREE OF TRASH AND DEBRIS.
    - 14.2. CONTRACTOR SHALL REPAIR AND REESTABLISH GRADES IN SETTLED, ERODED AND RUTTED AREAS TO SPECIFIED TOLERANCES. DURING THE CONSTRUCTION, IF REQUIRED, AND DURING THE WARRANTY PERIOD, ERODED AREAS WHERE TURF IS TO BE ESTABLISHED SHALL BE RESEEDED AND MULCHED.
    - 14.3. WHERE COMPLETED COMPACTED AREAS ARE DISTURBED BY SUBSEQUENT CONSTRUCTION OPERATIONS OR ADVERSE WEATHER, CONTRACTOR SHALL SCARIFY, SURFACE, RESHAPE, AND COMPACT TO REQUIRED DENSITY PRIOR TO FURTHER CONSTRUCTION.

EROSION CONTROL NOTES:

SEE SWPPP ON SHEETS SW1.0-SW1.5

GROUNDWATER INFORMATION:

PER GEOTECHNICAL REPORT BY HAUGO GEOTECHNICAL SERVICES, INC., DATED 01-24-2017 GROUNDWATER WAS OBSERVED AT ELEVATIONS RANGING FROM 803.5 FT TO 826 FT. PIEZOMETER DATA FROM THE GEOTECH REPORT INDICATES THAT GROUNDWATER IS AT AN ELEVATION OF 826.0.

GRADING PLAN LEGEND:

1125	EX. 1' CONTOUR ELEVATION INTERVAL
1137	1.0' CONTOUR ELEVATION INTERVAL
41.26	SPOT GRADE ELEVATION (GUTTER/FLOW LINE UNLESS OTHERWISE NOTED)
891.00 G	SPOT GRADE ELEVATION GUTTER
891.00 TC	SPOT GRADE ELEVATION TOP OF CURB
891.00 BS/TS	SPOT GRADE ELEVATION BOTTOM OF STAIRS/TOP OF STAIRS
	CURB AND GUTTER (T.O = TIP OUT)
EOF=1135.52	EMERGENCY OVERFLOW

GOPHER STATE ONE CALL
WWW.GOPHERSTATEONECALL.ORG
(800) 252-1166 TOLL FREE
(651) 454-0002 LOCAL

1" = 30'-0"

CITY OF EDEN PRAIRIE GRADING NOTES:

1. RESERVED FOR CITY SPECIFIC GRADING NOTES.

CivilSite GROUP
4931 W. 35TH ST., SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
Matt Pavek 763-213-3944
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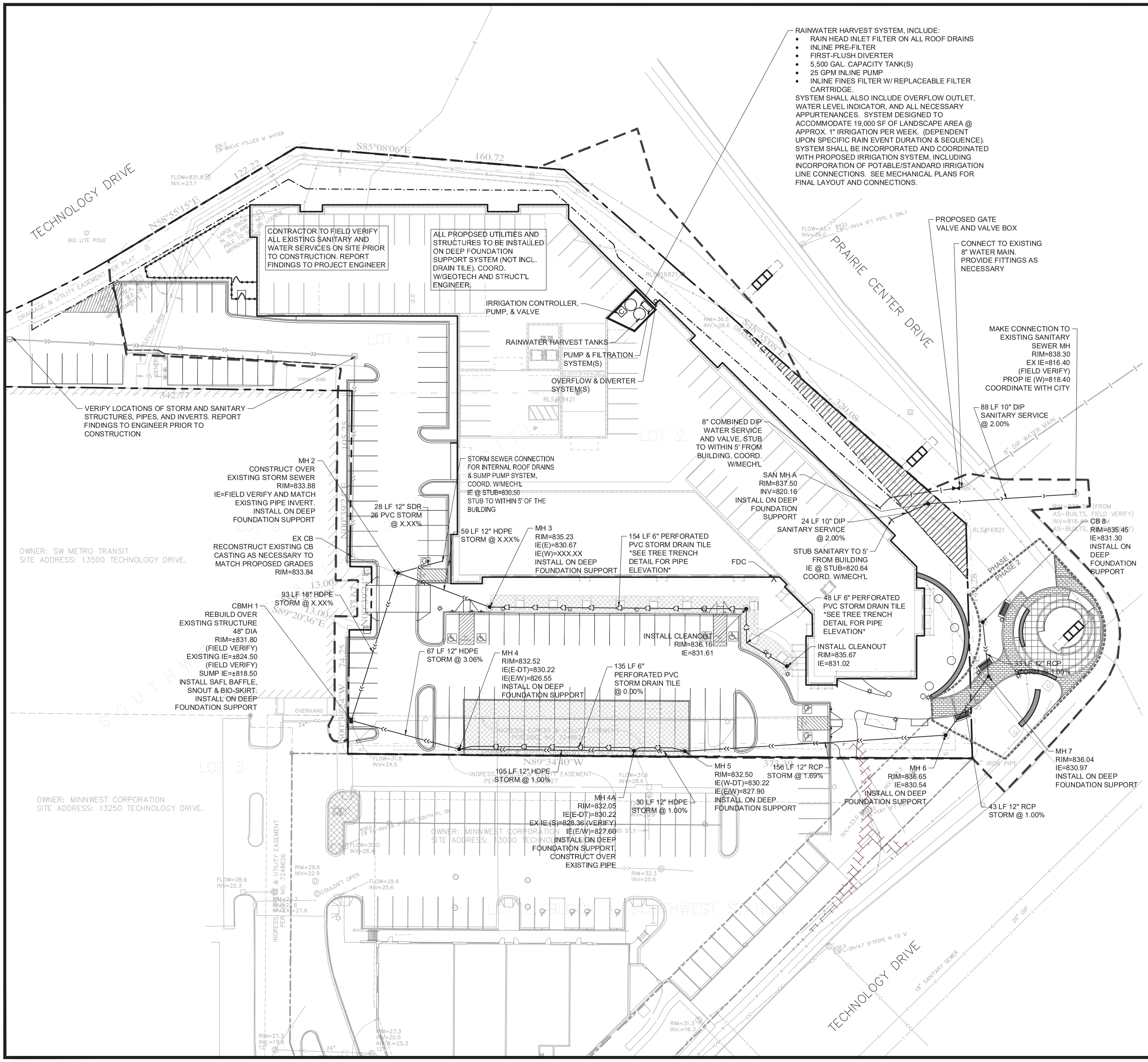
GRADING PLAN

C3.0



GENERAL UTILITY NOTES:

1. SEE SITE PLAN FOR HORIZONTAL DIMENSIONS AND LAYOUT.
2. CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF DISCREPANCIES OR VARIATIONS FROM THE PLANS.
3. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
4. UTILITY INSTALLATION SHALL CONFORM TO THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE LINE INSTALLATION" AND "SANITARY SEWER AND STORM SEWER INSTALLATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM), AND SHALL CONFORM WITH THE REQUIREMENTS OF THE CITY AND THE PROJECT SPECIFICATIONS.
5. CASTINGS SHALL BE SALVAGED FROM STRUCTURE REMOVALS AND RE-USED OR PLACED AT THE DIRECTION OF THE OWNER.
6. ALL WATER PIPE SHALL BE CLASS 52 DUCTILE IRON PIPE (DIP) UNLESS OTHERWISE NOTED.
7. ALL SANITARY SEWER SHALL BE SDR 26 POLYVINYL CHLORIDE (PVC) UNLESS OTHERWISE NOTED.
8. ALL STORM SEWER PIPE SHALL BE HDPE UNLESS OTHERWISE NOTED.
9. PIPE LENGTHS SHOWN ARE FROM CENTER TO CENTER OF STRUCTURE OR TO END OF FLARED END SECTION.
10. UTILTIES ON THE PLAN ARE SHOWN TO WITHIN 5' OF THE BUILDING FOOTPRINT. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE FINAL CONNECTION TO BUILDING LINES. COORDINATE WITH ARCHITECTURAL AND MECHANICAL PLANS.
11. CATCH BASINS AND MANHOLES IN PAVED AREAS SHALL BE SUMPED 0.04 FEET. ALL CATCH BASINS IN GUTTERS SHALL BE SUMPED 0.15 FEET PER DETAILS. RIM ELEVATIONS SHOWN ON THIS PLAN DO NOT REFLECT SUMPED ELEVATIONS.
12. ALL FIRE HYDRANTS SHALL BE LOCATED 5 FEET BEHIND BACK OF CURB UNLESS OTHERWISE NOTED.
13. HYDRANT TYPE, VALVE, AND CONNECTION SHALL BE IN ACCORDANCE WITH CITY REQUIREMENTS. HYDRANT EXTENSIONS ARE INCIDENTAL.
14. A MINIMUM OF 8 FEET OF COVER IS REQUIRED OVER ALL WATERMAIN, UNLESS OTHERWISE NOTED. EXTRA DEPTH MAY BE REQUIRED TO MAINTAIN A MINIMUM OF 18" VERTICAL SEPARATION TO SANITARY OR STORM SEWER LINES. EXTRA DEPTH WATERMAIN IS INCIDENTAL.
15. A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FOR ALL UTILITIES, UNLESS OTHERWISE NOTED.
16. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND COORDINATED WITH THE CITY PRIOR TO CONSTRUCTION.
17. CONNECTIONS TO EXISTING STRUCUTRES SHALL BE CORE-DRILLED.
18. COORDINATE LOCATIONS AND SIZES OF SERVICE CONNECTIONS WITH THE MECHANICAL DRAWINGS.
19. COORDINATE INSTALLATION AND SCHEDULING OF THE INSTALLATION OF UTILITIES WITH ADJACENT CONTRACTORS AND CITY STAFF.
20. ALL STREET REPAIRS AND PATCHING SHALL BE PERFORMED PER THE REQUIREMENTS OF THE CITY. ALL PAVEMENT CONNECTIONS SHALL BE SAWCUT. ALL TRAFFIC CONTROLS SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE ESTABLISHED PER THE REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CITY. THIS SHALL INCLUDE BUT NOT BE LIMITED TO SIGNAGE, BARRICADES, FLASHERS, AND FLAGGERS AS NEEDED. ALL PUBLIC STREETS SHALL BE OPEN TO TRAFFIC AT ALL TIMES. NO ROAD CLOSURES SHALL BE PERMITTED WITHOUT APPROVAL BY THE CITY.
21. ALL STRUCTURES, PUBLIC AND PRIVATE, SHALL BE ADJUSTED TO PROPOSED GRADES WHERE REQUIRED. THE REQUIREMENTS OF ALL OWNERS MUST BE COMPLIED WITH. STRUCTURES BEING RESET TO PAVED AREAS MUST MEET OWNERS REQUIREMENTS FOR TRAFFIC LOADING.
22. CONTRACTOR SHALL CORDINATE ALL WORK WITH PRIVATE UTILITY COMPANIES.
23. CONTRACTOR SHALL COORDINATE CONNECTION OF IRRIGATION SERVICE TO UTILITIES. COORDINATE THE INSTALLATION OF IRRIGATION SLEEVES NECESSARY AS TO NOT IMPACT INSTALLATION OF UTILITIES.
24. CONTRACTOR SHALL MAINTAIN AS-BUILT PLANS THROUGHOUT CONSTRUCTION AND SUBMIT THESE PLANS TO ENGINEER UPON COMPLETION OF WORK.
25. ALL JOINTS AND CONNECTIONS IN STORM SEWER SYSTEM SHALL BE GASTIGHT OR WATERTIGHT. APPROVED RESILIENT RUBBER JOINTS MUST BE USED TO MAKE WATERTIGHT CONNECTIONS TO MANHOLES, CATCHBASINS, OR OTHER STRUCTURES.
26. ALL PORTIONS OF THE STORM SEWER SYSTEM LOCATED WITHIN 10 FEET OF THE BUILDING OR WATER SERVICE LINE MUST BE TESTED IN ACCORDANCE WITH MN RULES, CHAPTER 4714, SECTION 1109.0.
27. DEEP FOUNDATION SUPPORT DESIGN AND INSTALLATION TO BE COORDINATED WITH GEOTECHNICAL AND STRUCTURAL ENGINEERS.

CITY OF EDEN PRAIRIE UTILITY NOTES:

1. RESERVED FOR CITY SPECIFIC UTILITY NOTES.

UTILITY LEGEND:

- CATCH BASIN
- MANHOLE
- GATE VALVE AND VALVE BOX
- PROPOSED FIRE HYDRANT
- WATER MAIN
- SANITARY SEWER
- STORM SEWER
- FES AND RIP RAP

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1" = 30'-0"
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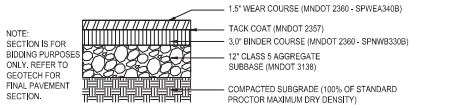
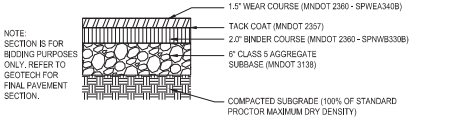
UTILITY PLAN

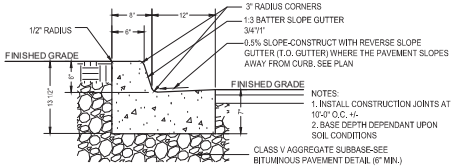
C4.0



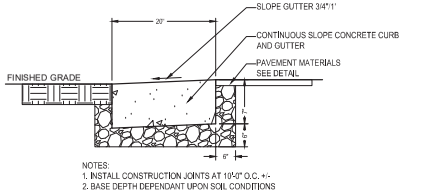
1 HEAVY DUTY BITUMINOUS PAVEMENT
NTS



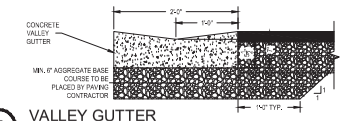
2 LIGHT DUTY BITUMINOUS PAVEMENT
NTS



3 B-612 CONCRETE CURB AND GUTTER
N T S



4 RIBBON CURB
NTS



5 VALLEY GUTTER
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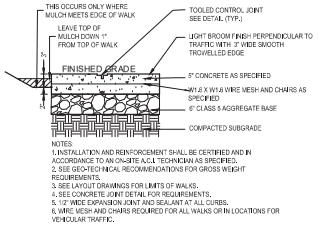
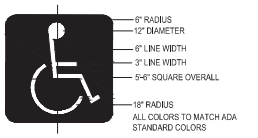
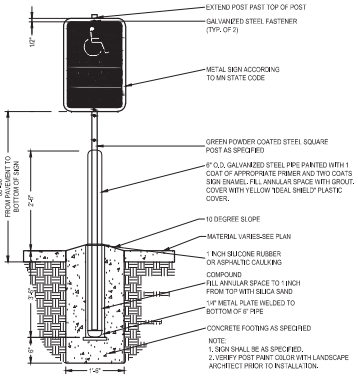


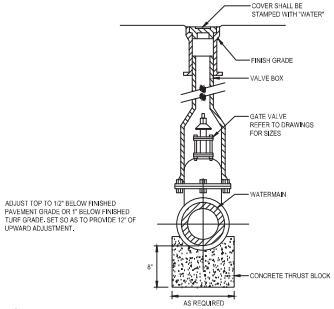
6 LIGHT DUTY CONCRETE WALK/PAD
NTS



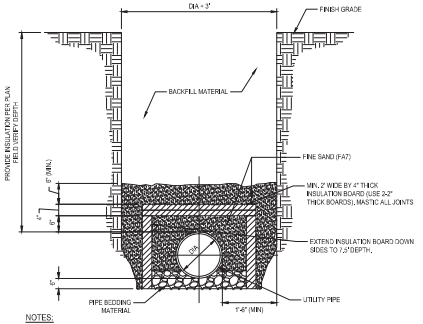
7 ACCESSIBLE PARKING PAVEMENT MARKING
NTS



8 ACCESSIBLE SIGN AND POST
NTS



9 GATE VALVE BOX
NTS



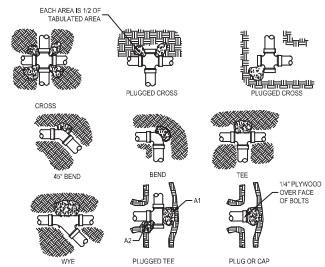
NOTES:

1. INSULATION BOARD TO BE CLOSED CELL. EXTRUDED POLYSTYRENE FOAM MEETING ASTM 578, TYPE VI, 40PSI COMPRESSING STRENGTH (ASTM D1621) 0.1%MAX. WATER ABSORPTION (ASTM C272).

2. BACKFILL MATERIAL AROUND INSULATION MUST BE FINE SAND FREE FROM ROOT, ORGANIC MATERIAL, OR OTHER INJURIOUS MATERIALS.

3. OVERLAP ALL INSULATION BOARD JOINTS.

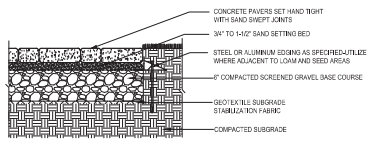
10 UTILITY PIPE INSULATION DETAIL
NTS



NOMINAL FITTING SIZE (INCHES)	TYE, WYE, PLUG, OR CAP	90° BEND, PLUGGED CROSS	TEE PLUGGED ON RUN		45° BEND	22.5° BEND	11.25° BEND
			A1	A2			
4	1.0	1.4	1.9	1.4	1.0	-	-
6	2.1	3.0	4.3	3.0	1.6	1.0	-
8	3.8	5.3	7.6	5.4	2.9	1.5	1.0
10	5.9	8.4	11.8	8.4	4.6	2.6	1.2
12	8.5	12.0	17.0	12.0	6.6	3.4	1.7
14	11.5	16.3	23.0	16.3	8.9	4.6	2.3
16	15.0	21.3	30.0	21.3	11.6	6.0	3.0
18	19.0	27.0	38.0	27.0	14.6	7.6	3.6
20	23.5	33.3	47.0	33.3	18.1	9.4	4.7
24	34.0	48.0	68.0	48.0	26.2	13.6	6.8

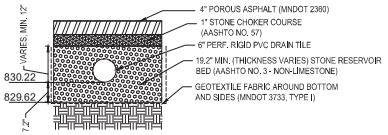
NOTES:
1. CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2. KEEP CONCRETE CLEAR OF JOINT AND ACCESSORIES.
3. IF NOT SHOWN ON PLANS, REQUIRED BEARING AT FITTING SHALL BE AS INDICATED ABOVE, ADJUSTED IF NECESSARY, TO CONFORM TO THE TEST PRESSURE(S) AND ALLOWABLE SOIL BEARING STRESS(ES).
4. BEARING AREAS AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER BEARING AREAS AND BLOCKING DETAILS SHOWN THIS STANDARD DETAIL.
5. ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 150 P.S.I. AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION: BEARING AREA = (TEST PRESSURE/150) X (200/SOIL BEARING STRESS) X (TABLE VALUE).

11 THRUST BLOCK
NTS



NOTES:
1. SEE PLAN FOR GENERAL LAYOUT.
2. FINAL LAYOUT, COLORS AND MATERIAL SUBJECT TO REVIEW AND APPROVAL BY OWNER AND LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.

12 CONCRETE PAVERS
NTS



NOTES:
- PROFILE GRADES AT BOTTOM OF POROUS PAVEMENT SECTION SHALL BE LEVEL.
- CHOKER COURSE AND RESERVOIR BED MUST BE WASHED, CRUSHED, ANGULAR AND NON-LIMESTONE.

13 POROUS ASPHALT PAVEMENT
NTS

CivilSite GROUP
4931 W. 35TH ST. SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
Matt Pavek 763-213-3944
Pat Sarver 952-250-2003

PROJECT
ELEVATE
12900 TECHNOLOGY DRIVE, EDEN PRAIRIE MN 55344
TIMBERLAND PARTNERS
8000 NORMAN CENTER DR., STE. 830, BLOOMINGTON, MN 55437

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Matthew R. Pavek
DATE: 06/05/17 LICENSE NO. 44263

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06/05/17	WATERSHED RESUBMITTAL

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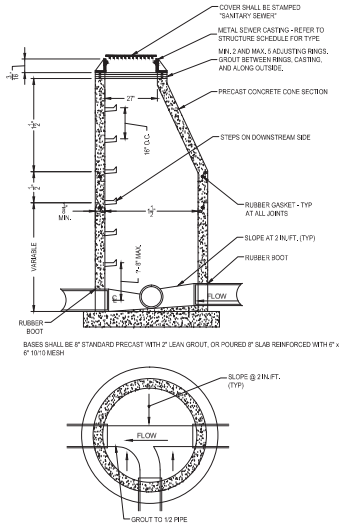
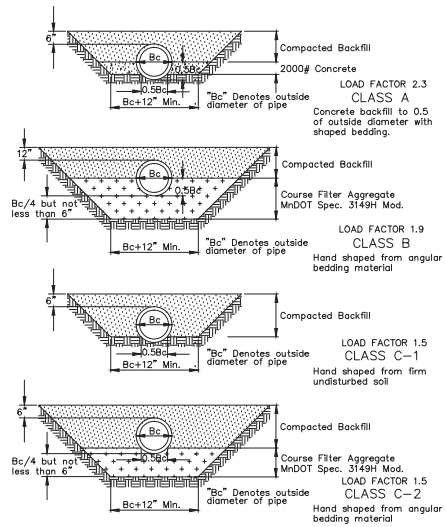
CIVIL DETAILS

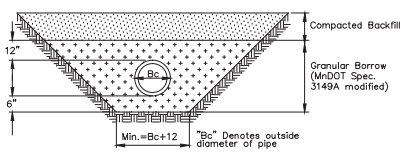
C5.0



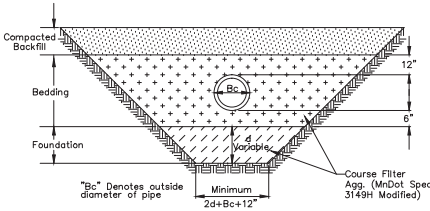
1 SANITARY SEWER MANHOLE
NTS



4 PIPE BEDDING - RCP & DIP
NTS

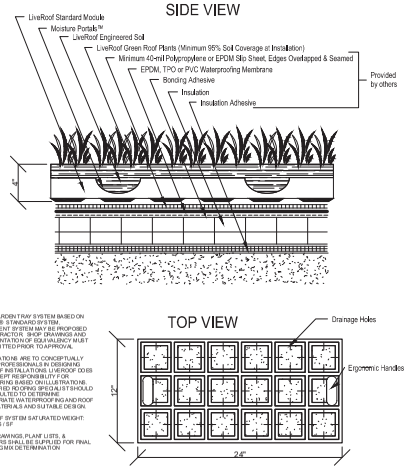


PIPE FOUNDATION & BEDDING IN GOOD SOILS



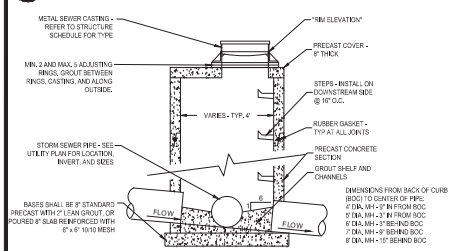
PIPE FOUNDATION & BEDDING IN POOR SOILS

5 PIPE BEDDING - PVC
NTS

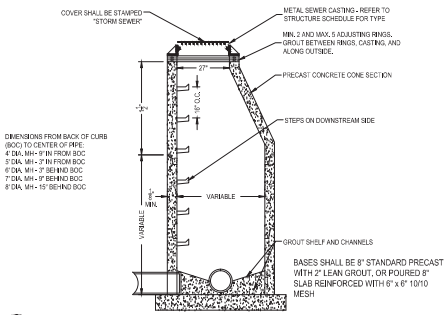


NOTE:
1. ROOF GARDEN TRAY SYSTEM BASED ON LiveRoof ® STANDARD SYSTEM. EQUIVALENT SYSTEM MAY BE PROPOSED BY CONTRACTOR. SHOP DRAWINGS AND DOCUMENTATION OF EQUIVALENCY MUST BE SUBMITTED PRIOR TO APPROVAL.
2. ILLUSTRATIONS ARE TO CONCEPTUALLY ASSIST PROFESSIONALS IN DESIGNING LIVEROOF® INSTALLATIONS. LIVEROOF® DOES NOT ACCEPT RESPONSIBILITY FOR ENGINEERING BASED ON ILLUSTRATIONS. A LICENSED ROOFING CONSULTANT SHOULD BE CONSULTED TO DETERMINE APPROPRIATE WATERPROOFING AND ROOF DECK MATERIALS AND SUITABLE DESIGN.
3. LIVEROOF® SYSTEM SATURATED WEIGHT: 27-29 LBS / SF
4. SHOP DRAWINGS, PLANT LISTS, & SUPPLIERS SHALL BE SUPPLIED FOR FINAL PLANTING MIX DETERMINATION

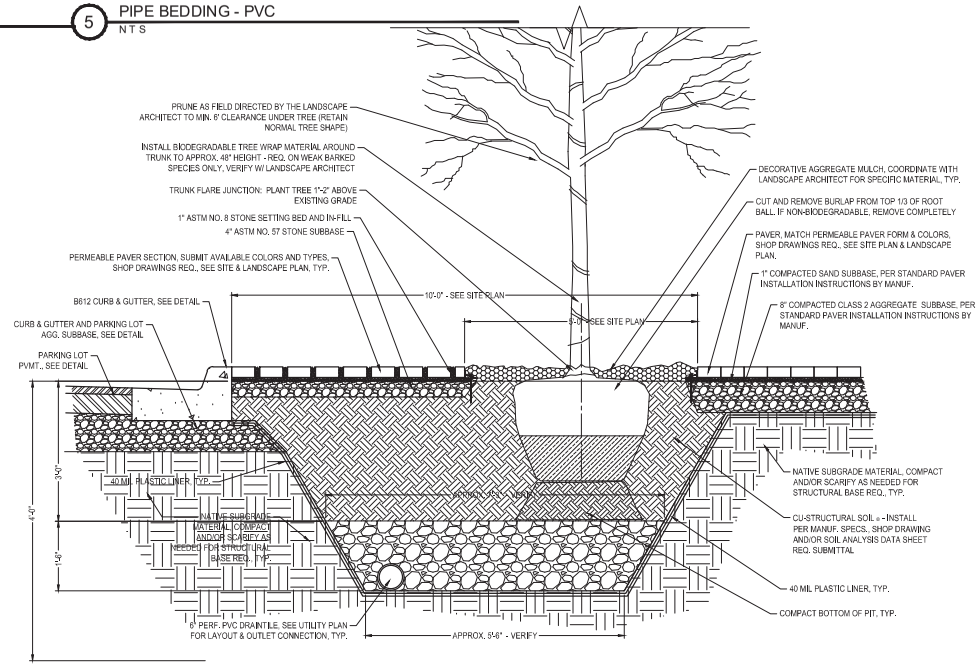
6 4" DEPTH ROOF GARDEN TRAY SYSTEM



2 CATCH BASIN
NTS



3 STORM MANHOLE
NTS



7 TREE TRENCH W/ PERMEABLE PAVER SECTION
NTS

CivilSite GROUP
4931 W. 35TH ST., SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
Matt Pavek 763-213-3944
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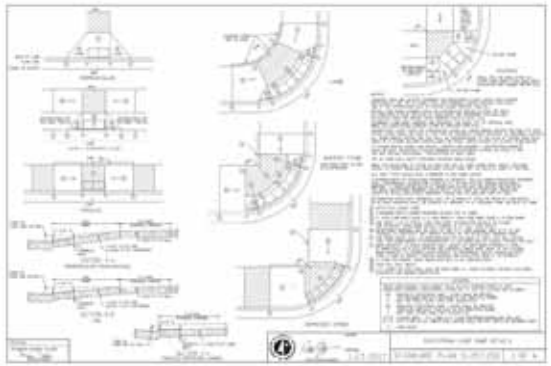
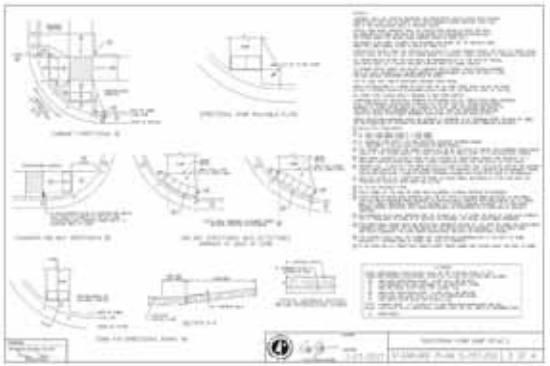
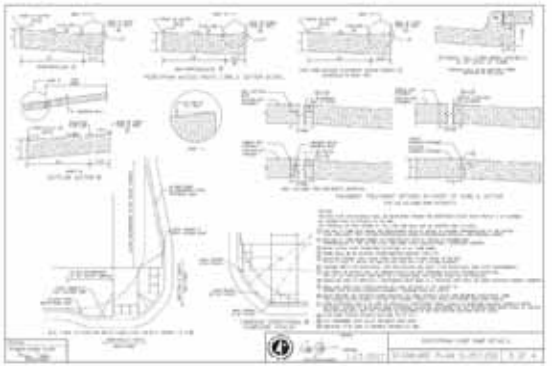
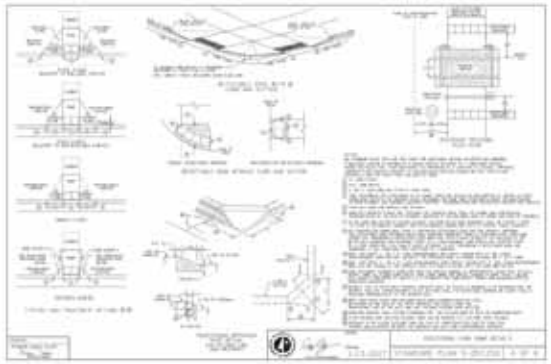
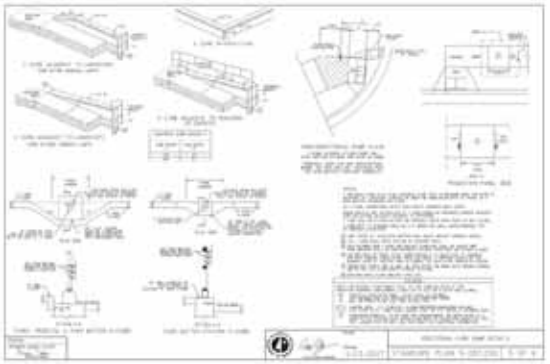
C5.1

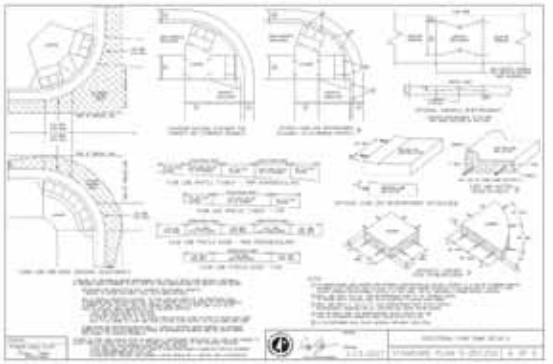












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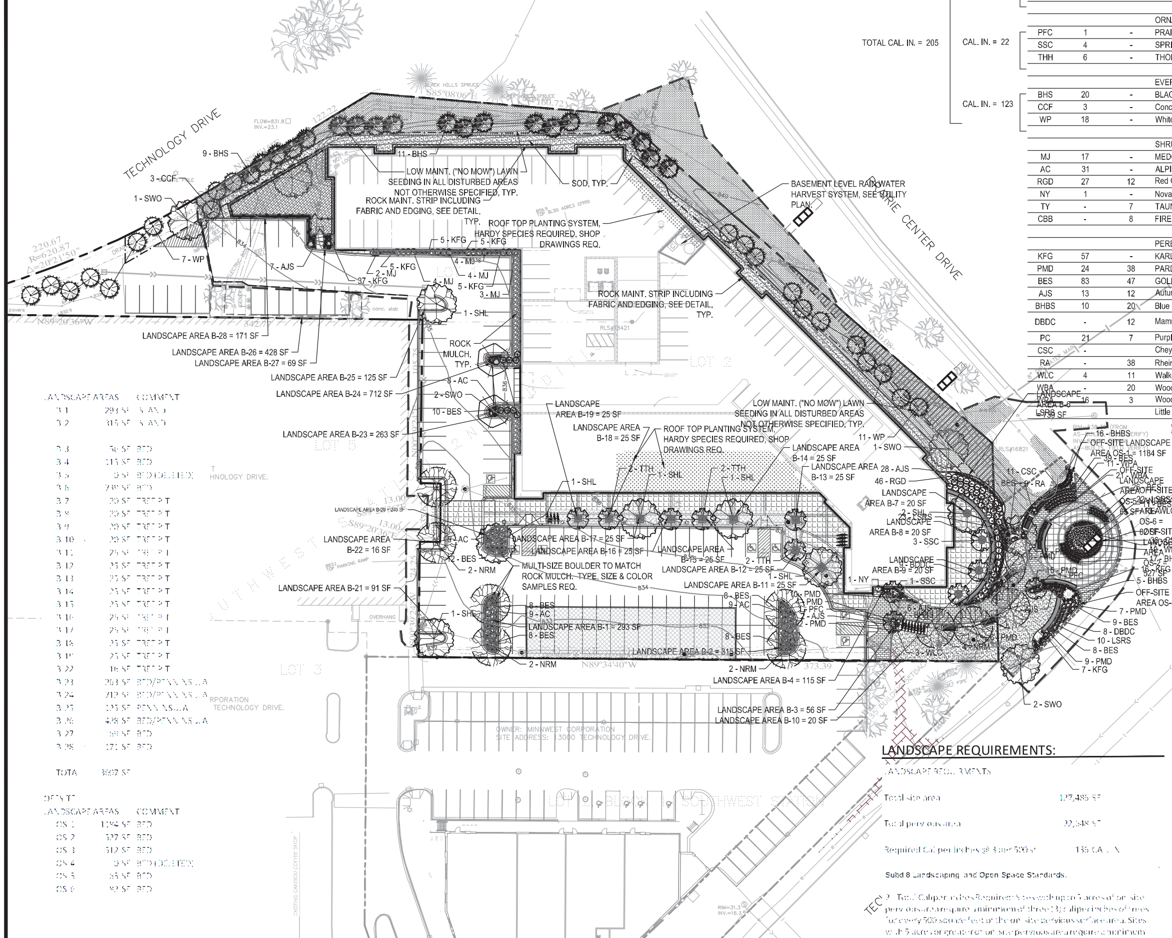
CIVIL DETAILS

C5.2



PLANT SCHEDULE - ENTIRE SITE

SYM	QUANT. ON-SITE	QUANT. OFF-SITE[1]	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	COMMENTS	NATIVE[2]	POLLINATOR FRIENDLY
			DECIDUOUS TREES						
NRM	9	1	NORTHWOOD RED MAPLE	Acer rubrum 'Northwood'	3" CAL.	B&B	STRAIGHT LEADER. FULL FORM	X	
SHL	7	1	SKYLINE HONEYLOCUST	Gleditsia triacanthos 'Skycole'	3" CAL.	B&B	STRAIGHT LEADER. FULL FORM		
SWO	4	2	Swamp White Oak	Quercus bicolor	3" CAL.	B&B	STRAIGHT LEADER. FULL FORM	X	
			ORNAMENTAL TREES						
PFC	1	-	PRAIRIEFIRE FLOWERING CRAB	Malus 'Prairiefire'	2" CAL.	B&B	STRAIGHT LEADER. FULL FORM		X
SSC	4	-	SPRING SNOW FLOWERING CRAB	Malus 'Spring Snow'	2" CAL.	B&B	STRAIGHT LEADER. FULL FORM		X
THH	6	-	THORNLESS HAWTHORN	Crataegus crus-galli 'Inermis'	2" CAL.	B&B	STRAIGHT LEADER. FULL FORM		X
			EVERGREEN TREES						
BHS	20	-	BLACK HILLS SPRUCE	Picea glauca 'Densata'	8' ht.	B&B	STRAIGHT LEADER. FULL FORM	X	
CCF	3	-	Concolor Fir	Abies concolor	8' ht.	B&B	STRAIGHT LEADER. FULL FORM		
WP	18	-	White Pine	Pinus strobus	8' ht.	B&B	STRAIGHT LEADER. FULL FORM	X	
			SHRUBS - CONIFEROUS & EVERGREEN						
MJ	17	-	MEDORA JUNIPER	Juniperus scopulorum 'Medora'	36" HT.	CONT.			
AC	31	-	ALPINE CURRANT	Ribes alpinum	24" HT.	CONT.			
RGD	27	12	Red Gnome Dogwood	Cornus alba 'Regnzam'	24" HT.	CONT.			
NY	1	-	Nova Yew	Taxus cuspidata 'Nova'	24" HT.	CONT.			
TY	-	7	TAUNTON'S YEW	Taxus x media 'Tauntonii'	24" HT.	CONT.			
CBB	-	8	FIRE BALL EOUNYMUS	Euonymus alatus 'Fire Ball'	24" HT.	CONT.			
			PERENNIALS & GRASSES						
KFG	57	-	KARL FOERSTER GRASS	Calamagrostis x acutiflora "Karl Foerster"	#1	CONT.		X	
PMD	24	38	PARDON ME DAYLILLY	Hemerocallis 'Pardon Me'	#1	CONT.		X	X
BES	83	47	GOLDSTURM RUDBECKIA	Rudbeckia fulgida 'Goldsturm'	#1	CONT.		X	X
AJS	13	12	Autumn Joy Sedum	Sedum 'Autumn Joy'	#1	CONT.			X
BHBS	10	20	Blue Heaven Little Blue Stem	Schizachyrium scoparium 'Blue Heaven'	#1	CONT.		X	
DBDC	-	12	Mammoth Dark Bronze Daisy Chrysanthemum	Chrysanthemum 'Dark Bronze Daisy'	#1	CONT.			
PC	21	7	Purple Coneflower	Echinacea purpurea	#1	CONT.		X	X
CSC	-	[illegible]	Cheyenne Spirit Coneflower	Echinacea 'Cheyenne Spirit'	#1	CONT.		X	X
RA	-	38	Rheinland Astilbe	Astilbe japonica 'Rheinland'	#1	CONT.			X
WLC	4	11	Walker's Low Catmint	Nepeta x faassenii 'Walker's Low'	#1	CONT.			X
WBA	-	20	Woods Blue Aster	Aster 'Woods Blue'	#1	CONT.		X	X
WPA	16	3	Woods Purple Aster	Aster 'Woods Purple'	#1	CONT.		X	X
LSRS	[illegible]	[illegible]	Little Spire Russian Sage	Perovskia 'Little Spire'	#1	CONT.			X

CAL. IN. = 60 (deciduous trees); CAL. IN. = 22 (ornamental trees); CAL. IN. = 123 (evergreen trees); TOTAL CAL. IN. = 205

[1] OFF-SITE = PLANT MATERIAL PROPOSED IN THE PUBLIC R.O.W. OR PLAZA AREAS
[2] NATIVE = SPECIES DEEMED NATIVE PER U OF MN EXTENSION, NRCS, AND APPLICABLE PUBLICATIONS IN BOTH GENUS AND SPECIES DESIGNATION, SPECIFIC VARIETIES ARE DEEMED TO BE REGIONALLY NATIVE

IRRIGATION NOTES:

1. ENTIRE SITE SHALL BE FULLY IRRIGATED. IRRIGATION SYSTEM SHALL UTILIZE RAIN WATER HARVEST SYSTEM. SEE UTILITY PLAN AND ALL APPLICABLE SHOP DRAWINGS. COORDINATE ALL PERMITS, COMPONENTS AND CONNECTIONS. HE CONTRACTOR SHALL SUBMIT IRRIGATION SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
2. SEE MECHANICAL AND ELECTRICAL PLANS AND SPECIFICATIONS FOR IRRIGATION WATER, METER, AND POWER CONNECTIONS.
3. CONTRACTOR TO VERIFY LOCATION OF ALL UNDERGROUND/ABOVE GROUND FACILITIES PRIOR TO ANY EXCAVATION/INSTALLATION. ANY DAMAGE TO UNDERGROUND/ABOVE GROUND FACILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND COSTS ASSOCIATED WITH CORRECTING DAMAGES SHALL BE BORNE ENTIRELY BY THE CONTRACTOR.
4. SERVICE EQUIPMENT AND INSTALLATION SHALL BE PER LOCAL UTILITY COMPANY STANDARDS AND SHALL BE PER NATIONAL AND LOCAL CODES. EXACT LOCATION OF SERVICE EQUIPMENT SHALL BE COORDINATED WITH THE LANDSCAPE ARCHITECT OR EQUIVALENT AT THE JOB SITE.
5. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY FOR THE PROPOSED ELECTRICAL SERVICE AND METERING FACILITIES.
6. IRRIGATION WATER LINE CONNECTION SIZE IS 1-½" AT BUILDING. VERIFY WITH MECHANICAL PLANS.
7. ALL MAIN LINES SHALL BE 18" BELOW FINISHED GRADE.
8. ALL LATERAL LINES SHALL BE 12" BELLOW FINISHED GRADE.
9. ALL EXPOSED PVC RISERS, IF ANY, SHALL BE GRAY IN COLOR.
10. CONTRACTOR SHALL LAY ALL SLEEVES AND CONDUIT AT 2'-0" BELOW THE FINISHED GRADE OF THE TOP OF PAVEMENT. EXTEND SLEEVES TO 2'-0" BEYOND PAVEMENT.
11. CONTRACTOR SHALL MARK THE LOCATION OF ALL SLEEVES AND CONDUIT WITH THE SLEEVING MATERIAL "ELLED" TO 2'-0" ABOVE FINISHED GRADE AND CAPPED.
12. FABRICATE ALL PIPE TO MANUFACTURE'S SPECIFICATIONS WITH CLEAN AND SQUARE CUT JOINTS. USE QUALITY GRADE PRIMER AND SOLVENT CEMENT FORMULATED FOR INTENDED TYPE OF CONNECTION.
13. BACKFILL ALL TRENCHES WITH SOIL FREE OF SHARP OBJECTS AND DEBRIS.
14. ALL VALVE BOXES AND COVERS SHALL BE BLACK IN COLOR.
15. GROUP VALVE BOXES TOGETHER FOR EASE WHEN SERVICE IS REQUIRED. LOCATE IN PLANT BED AREAS WHENEVER POSSIBLE.
16. IRRIGATION CONTROLLER LOCATION SHALL BE VERIFIED ON-SITE WITH OWNER'S REPRESENTATIVE.
17. CONTROL WIRES: 14 GAUGE DIRECT BURIAL, SOLID COPPER IRRIGATION WIRE. RUN UNDER MAIN LINE. USE MOISTURE-PROOF SPLICES AND SPLICE ONLY AT VALVES OR PULL BOXES. RUN SEPARATE HOT AND COMMON WIRE TO EACH VALVE AND ONE (1) SPARE WIRE AND GROUND TO FURTHEST VALVE FROM CONTROLLER. LABEL OR COLOR CODE ALL WIRES.
18. AVOID OVER SPRAY ON BUILDINGS, PAVEMENT, WALLS AND ROADWAYS BY INDIVIDUALLY ADJUSTING RADIUS OR ARC ON SPRINKLER HEADS AND FLOW CONTROL ON AUTOMATIC VALVE.
19. ADJUST PRESSURE REGULATING VALVES FOR OPTIMUM PRESSURE ON SITE.
20. USE SCREENS ON ALL HEADS.
21. A SET OF AS-BUILT DRAWINGS SHALL BE MAINTAINED ON-SITE AT ALL TIMES IN AN UPDATED CONDITION.
22. ALL PIPE 3" AND OVER SHALL HAVE THRUST BLOCKING AT EACH TURN.
23. ALL AUTOMATIC REMOTE CONTROL VALVES WILL HAVE 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL UNDERNEATH VALVE AND VALVE BOX. GRAVEL SHALL EXTENT 3" BEYOND PERIMETER OF VALVE BOX.
24. THERE SHALL BE 3" MINIMUM SPACE BETWEEN BOTTOM OF VALVE BOX COVER AND TOP OF VALVE STRUCTURE.

LANDSCAPE REQUIREMENTS:

LANDSCAPE REQUIREMENTS

Total site area	127,486 SF
Total pervious area	22,548 SF
Required Caliper inches @ 3 per 500 sf	135 CAL. IN.

Subd 8 Landscaping and Open Space Standards.

2. Total Caliper inches Required: Sites with up to 5 acres of on-site pervious area are required a minimum of three (3) caliper inches of trees for every 500 square feet of the on-site pervious surface area. Sites with 5 acres or greater of on-site pervious are required a minimum of three (3) caliper inches of trees for every 750 square feet of the on-site pervious area. Pervious pavement areas, green roofs, and undevelopable areas including but not limited to wetlands, floodways, archeological resource areas, and water bodies are excluded from the on-site pervious surface area calculation.

CREDIT FOR PLANTING BEDS

Caliper inch credit allowed	[illegible] CAL. IN.
Required Caliper credit	[illegible] CAL. IN.

Subd.8 Landscaping and Open Space Standards.

3. Planting beds and/or decorative planting containers may replace up to 50% of the required caliper inches for trees at a rate of three (3) caliper inches of trees per 500 square feet of cumulative planting beds and/or decorative planting containers.

LANDSCAPE NOTES:

1. ALL SHRUB BEDS SHALL BE MULCHED WITH 4" DEPTH OF DOUBLE SHREDDED HARDWOOD MULCH OVER WEED BARRIER, UNLESS SHOWN OTHERWISE, SEE PLAN LEGEND. OWNER'S REP SHALL APPROVE MULCH SAMPLE PRIOR TO INSTALLATION. EDGING SHALL BE METAL EDGING OR APPROVED EQUAL.
2. STAND ALONE TREES SHALL BE MULCHED WITH SHREDDED HARDWOOD MULCH TO OUTER EDGE OF SAUCER OR TO EDGE OF PLANTING BED, IF APPLICABLE. ALL MULCH SHALL BE KEPT WITHIN A MINIMUM OF 2" FROM TREE TRUNK.
3. PLANT MATERIALS SHALL CONFORM WITH THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS AND SHALL BE OF HARDY STOCK, FREE FROM DISEASE, DAMAGE AND DISFIGURATION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING PLUMPNESS OF PLANT MATERIAL FOR DURING OF ACCEPTANCE PERIOD.
4. UPON DISCOVERY OF A DISCREPANCY BETWEEN THE QUANTITY OF PLANTS SHOWN ON THE SCHEDULE AND THE QUANTITY SHOWN ON THE PLAN, THE PLAN SHALL GOVERN.
5. CONDITION OF VEGETATION SHALL BE MONITORED BY THE LANDSCAPE ARCHITECT THROUGHOUT THE DURATION OF THE CONTRACT. LANDSCAPE MATERIALS PART OF THE CONTRACT SHALL BE WARRANTED FOR ONE (1) FULL GROWING SEASONS FROM SUBSTANTIAL COMPLETION DATE.
6. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL RECEIVE 4" LAYER ORGANIC TOPSOIL AND SOD AS SPECIFIED UNLESS OTHERWISE NOTED ON THE DRAWINGS.
7. COORDINATE LOCATION OF VEGETATION WITH UNDERGROUND AND OVERHEAD UTILITIES, LIGHTING FIXTURES, DOORS AND WINDOWS. CONTRACTOR SHALL STAKE IN THE FIELD FINAL LOCATION OF TREES AND SHRUBS FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
8. ALL PLANT MATERIALS SHALL BE WATERED AND MAINTAINED UNTIL ACCEPTANCE.
9. REPAIR AT NO COST TO OWNER ALL DAMAGE RESULTING FROM LANDSCAPE CONTRACTOR'S ACTIVITIES.
10. SWEEP AND MAINTAIN ALL PAVED SURFACES FREE OF DEBRIS GENERATED FROM LANDSCAPE CONTRACTOR'S ACTIVITIES.

LANDSCAPE REQUIREMENTS NOTES:

1. TREE REMOVALS HAVE NOT BEEN DEBITED AGAINST THE CALCULATED LANDSCAPE REQUIREMENTS.
2. TREE PRESERVATION HAS NOT BEEN CREDITED TO THE CALCULATED LANDSCAPE REQUIREMENTS.
3. GREENROOF AREAS HAVE NOT BEEN CREDITED TO THE CALCULATED LANDSCAPE REQUIREMENTS BUT HAVE BEEN REMOVED FROM THE PERVIOUS AREAS CALCULATION FOR REQUIRED CALIPER INCHES.

LEGEND

- 1" DIA. DECORATIVE ROCK MULCH "A" OVER FILTER FABRIC. SAMPLES REQUIRED
- 1" DIA. DECORATIVE ROCK MULCH "B" OVER FILTER FABRIC. SAMPLES REQUIRED
- SHREDDED HARDWOOD MULCH OVER FILTER FABRIC. SAMPLES REQUIRED (ALL BEDS AND STAND ALONE TREES, UNLESS OTHERWISE SHOWN)
- SOD
- MNDOT NATIVE GRASSLAND MIX 35-241 MESIC PRAIRIE GENERAL. INSTALL PER MNDOT SEEDING MANUAL, TYP.
- PROPOSED CANOPY & EVERGREEN TREE SYMBOLS - SEE SCHEDULE AND PLAN FOR SPECIES AND PLANTING SIZES
- PROPOSED DECIDUOUS AND EVERGREEN SHRUB SYMBOLS - SEE SCHEDULE AND PLAN FOR SPECIES AND PLANTING SIZES
- PROPOSED PERENNIAL PLANT SYMBOLS - SEE SCHEDULE AND PLAN FOR SPECIES AND PLANTING SIZES
- DECORATIVE BOULDERS, 18"-30" DIA.

GOPHER STATE ONE CALL
WWW.GOPHERSTATEONECALL.ORG
(800) 252-1166 TOLL FREE
(651) 454-0002 LOCAL

N
1" = 40'-0"
20'-0" 0 40'-0"

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05/17/17	WATERSHED RESUBMITTAL
06/05/17	WATERSHED RESUBMITTAL

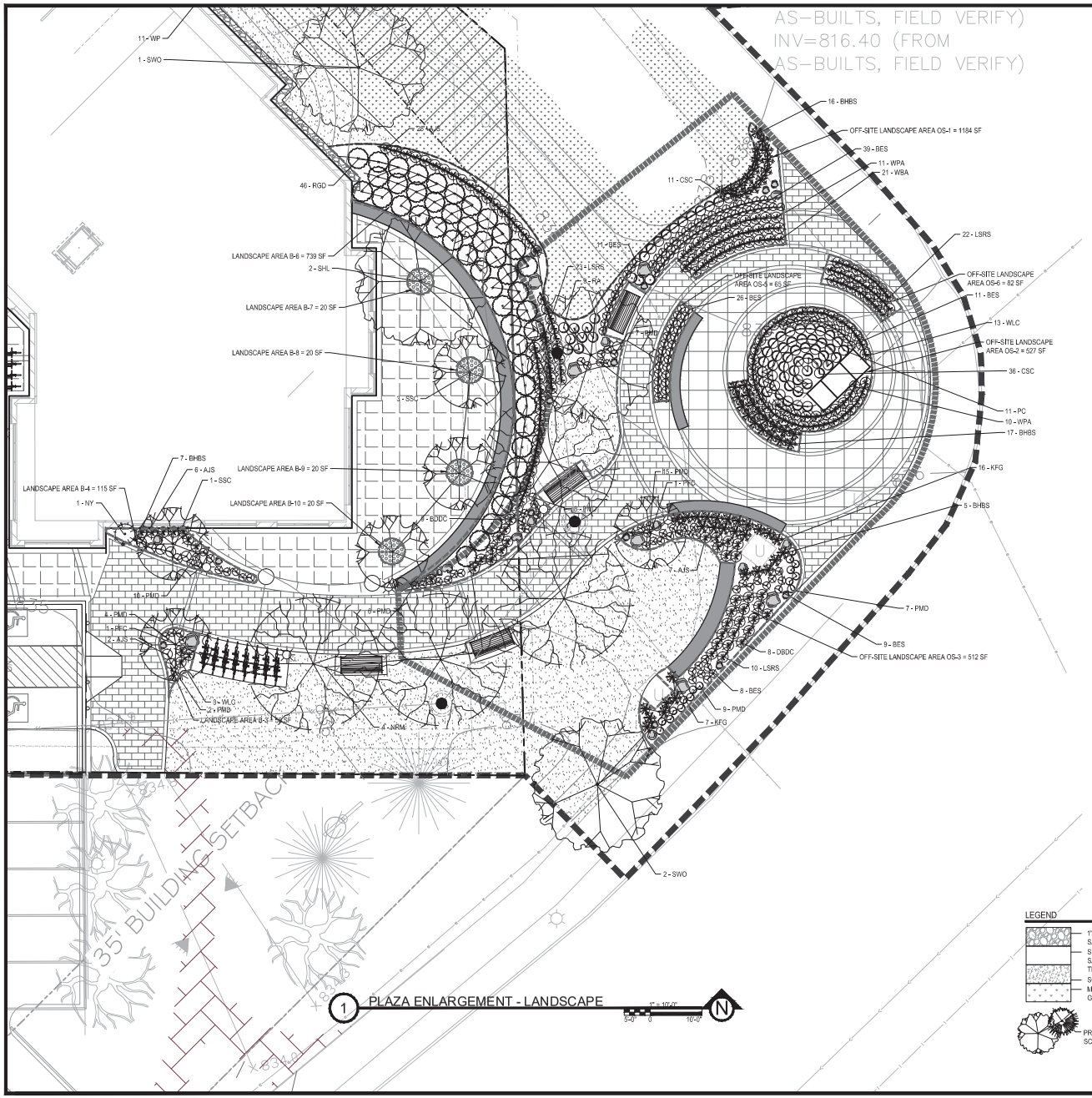
REVISION SUMMARY

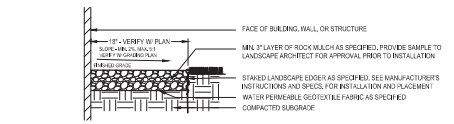
DATE	DESCRIPTION

PROJECT NO.: 16131

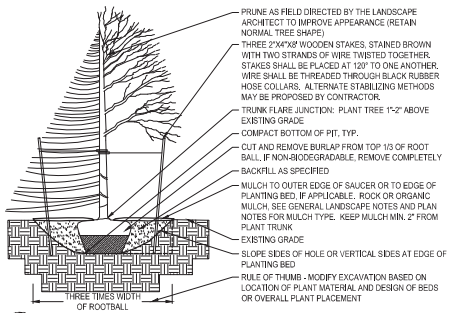
LANDSCAPE PLAN

L1.0

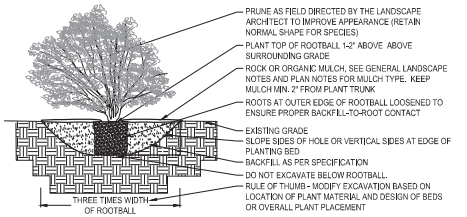




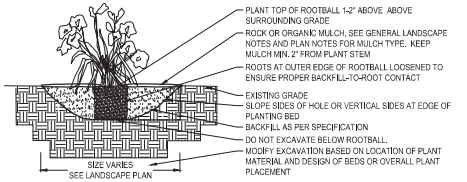
2 AGGREGATE MAINTANENCE STRIP
NTS



3 DECIDUOUS & CONIFEROUS TREE PLANTING
NTS



4 DECIDUOUS & CONIFEROUS SHRUB PLANTING
NTS



5 PERENNIAL BED PLANTING
NTS

LEGEND

PROPOSED CANOPY & EVERGREEN TREE SYMBOLS - SEE SCHEDULE AND PLAN FOR SPECIES AND PLANTING SIZES

PROPOSED DECIDUOUS AND EVERGREEN SHRUB SYMBOLS - SEE SCHEDULE AND PLAN FOR SPECIES AND PLANTING SIZES

PROPOSED PERENNIAL PLANT SYMBOLS - SEE SCHEDULE AND PLAN FOR SPECIES AND PLANTING SIZES

DECORATIVE BOULDERS, 18"-30" DIA.

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(651) 454-0002 LOCAL

N
1" = 10'-0"
5'-0" 0 10'-0"

CivilSite GROUP
4931 W. 35TH ST., SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
Matt Pavek 763-213-3944
Pat Sarver 952-250-2003

PROJECT
ELEVATE
12900 TECHNOLOGY DRIVE, EDEN PRAIRIE MN 55344
TIMBERLAND PARTNERS
8000 NORMAN CENTER DR., STE. 830, BLOOMINGTON, MN 55437

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

Patrick J. Sarver
DATE 06/05/17 LICENSE NO. 24904

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
04/07/17	CITY SUBMITTAL
05/08/17	CITY RESUBMITTAL
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06/05/17	WATERSHED RESUBMITTAL

REVISION SUMMARY

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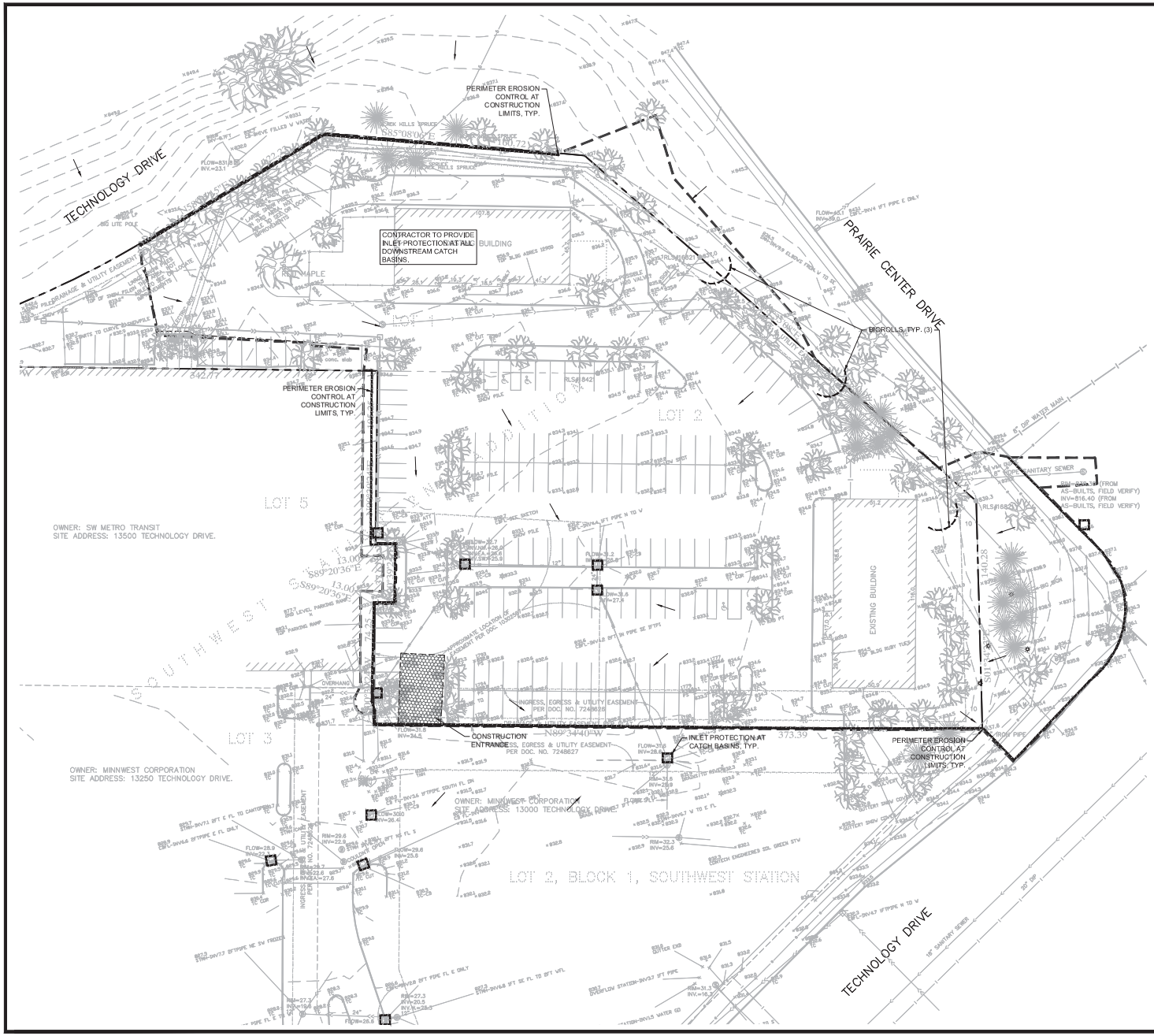
PROJECT NO.: 16131

LANDSCAPE PLAN

L1.1



ALL SPECIFIED EROSION AND SEDIMENT CONTROL PRACTICES, AND MEASURES CONTAINED IN THIS SWPPP ARE THE MINIMUM REQUIREMENTS. ADDITIONAL PRACTICES MAY BE REQUIRED DURING THE COURSE OF CONSTRUCTION.

SWPPP NOTES:

1. THIS PROJECT IS GREATER THAN ONE ACRE AND WILL REQUIRE AN MPCA NPDES PERMIT. AN EROSION CONTROL PERMIT IS ALSO REQUIRED FROM THE CITY OF EDEN PRAIRIE.

2. SEE SHEETS SW1.0 - SW1.5 FOR ALL EROSION CONTROL NOTES, DESCRIPTIONS, AND PRACTICES.

3. SEE GRADING PLAN FOR ADDITIONAL GRADING AND EROSION CONTROL NOTES.

4. CONTRACTOR IS RESPONSIBLE FOR SWPPP IMPLEMENTATION, INSPECTIONS, AND COMPLIANCE WITH NPDES PERMIT.

RPBCWD EROSION CONTROL NOTES:

1. SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED THROUGH SOIL AMENDMENT AND/OR RIPPING TO A DEPTH OF 18 INCHES TAKING CARE TO AVOID UTILITIES, TREE ROOTS AND OTHER EXISTING VEGETATION PRIOR TO FINAL REVEGETATION OR OTHER STABILIZATION.

2. THE CONTRACTOR MUST INSPECT, MAINTAIN AND REPAIR ALL DISTURBED SURFACES AND ALL EROSION AND SEDIMENT CONTROL FACILITIES AND SOIL STABILIZATION MEASURES EVERYDAY WORK IS PERFORMED ON THE SITE AND AT LEAST WEEKLY UNTIL LAND-DISTURBING ACTIVITY IS CEASED. THEREAFTER, THE CONTRACTOR MUST PERFORM THESE RESPONSIBILITIES AT LEAST WEEKLY UNTIL VEGETATIVE COVER IS ESTABLISHED. THE CONTRACTOR SHALL MAINTAIN A LOG OF ACTIVITIES UNDER THIS SECTION FOR INSPECTION BY THE DISTRICT ON REQUEST.

CITY OF EDEN PRAIRIE EROSION CONTROL NOTES:

1. RESERVED FOR CITY SPECIFIC EROSION CONTROL NOTES.

LEGEND:

- 1125 — EX. 1' CONTOUR ELEVATION INTERVAL
- 1137 — 1.0' CONTOUR ELEVATION INTERVAL
- DRAINAGE ARROW
- SILT FENCE / BIOROLL - GRADING LIMIT
- INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET

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Matthew R. Pavek
DATE: 06/05/17 LICENSE NO. 44263

ISSUE/SUBMITTAL SUMMARY

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06/05/17	WATERSHED RESUBMITTAL

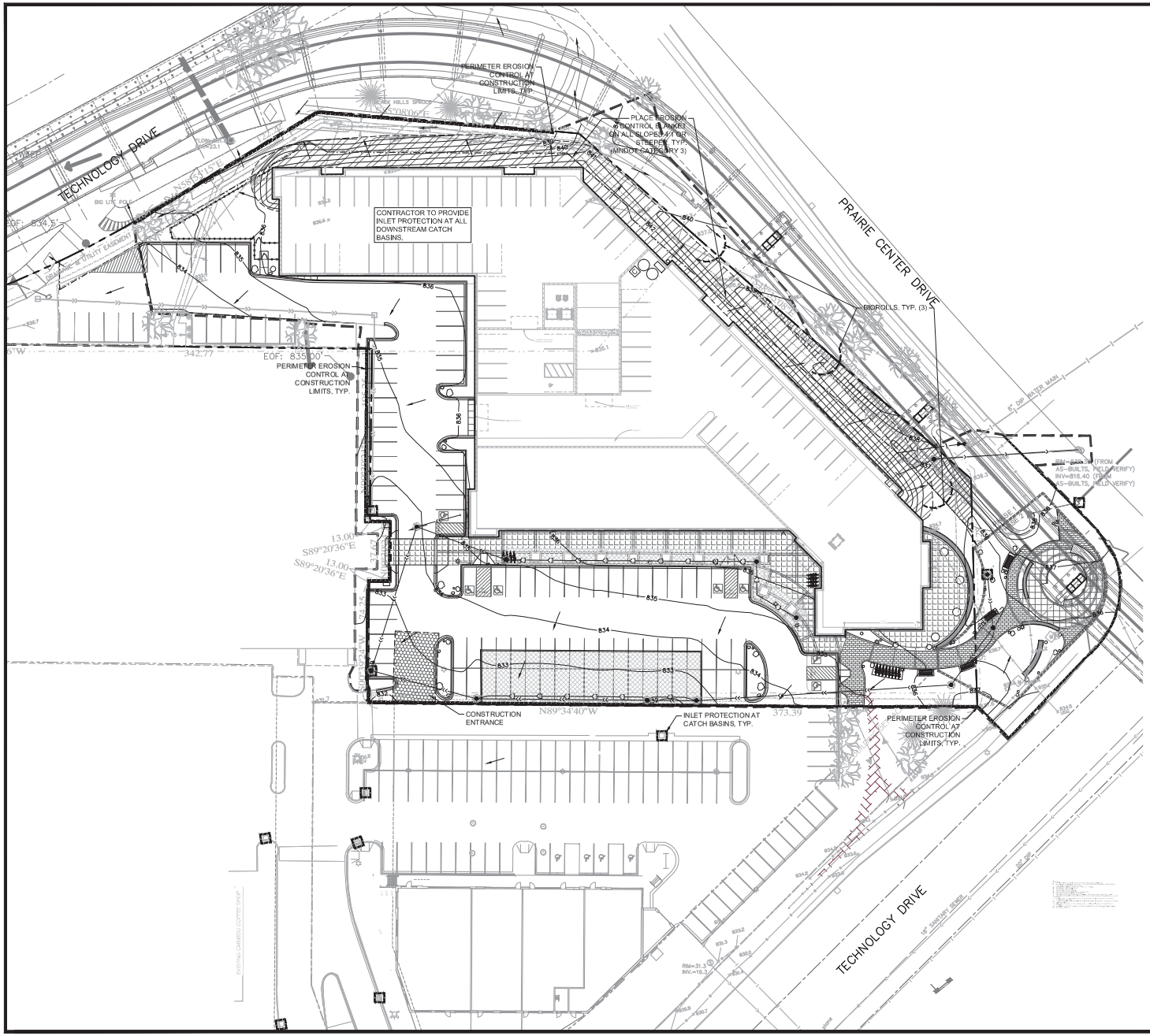
REVISION SUMMARY

DATE	DESCRIPTION

PROJECT NO.: 16131

SWPPP - EXISTING CONDITIONS

SW1.0



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- 1137 — 1.0' CONTOUR ELEVATION INTERVAL
- DRAINAGE ARROW
- SILT FENCE / BIOROLL - GRADING LIMIT
- INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET

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PROJECT

ELEVATE

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TIMBERLAND PARTNERS

8000 NORMAN CENTER DR., STE. 830, BLOOMINGTON, MN 55437

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DATE 06/05/17 LICENSE NO. 44263

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REVISION SUMMARY

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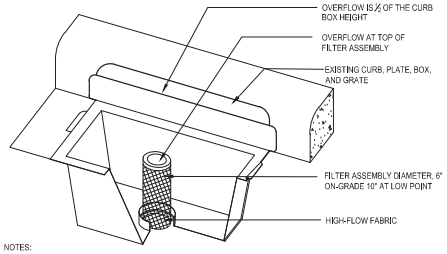
PROJECT NO.: 16131

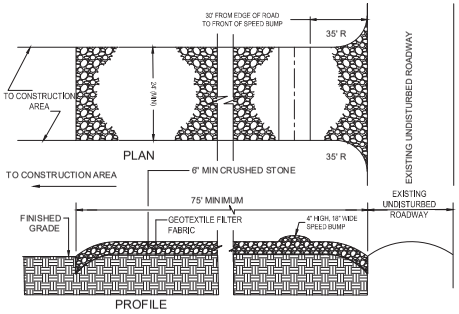
SWPPP - PROPOSED CONDITIONS

SW1.1



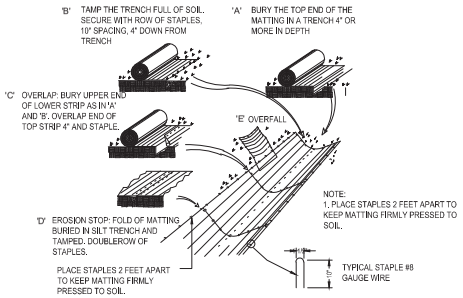
NOTES:
1. REPLACE INLET GRATE UPON COMPLETE INSTALLATION OF INLET PROTECTION FABRIC.
2. CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM THE SURFACE OF THE SYSTEM AFTER EACH STORM EVENT AND AT THE COMPLETION OF THE CONTRACT.
3. REFERENCE APPLE VALLEY STANDARD PLATE ERO-4C.

1 CURB INLET FILTER
NTS

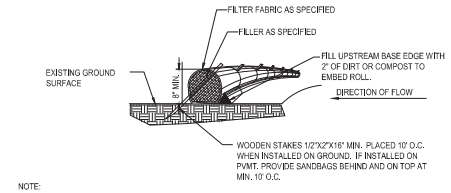


NOTES:
1. PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND UNDISTURBED ROADWAY.
2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO UNDISTURBED ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDING STONE TO THE LENGTH OF THE ENTRANCE.
3. REPAIR AND CLEANOUT MEASURES USED TO TRAP SEDIMENT.
4. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO UNDISTURBED ROADWAY SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.
5. FINAL LOCATION AND INSTALLATION SHALL BE COORDINATED WITH THE CITY PRIOR TO CONSTRUCTION ACTIVITIES.
6. CRUSHED STONE SHALL BE 1-1/2" DIA. CLOSE GRADED, AND IN ACCORDANCE TO MNDOT SECTION 2118.

2 STABILIZED CONSTRUCTION ACCESS
NTS

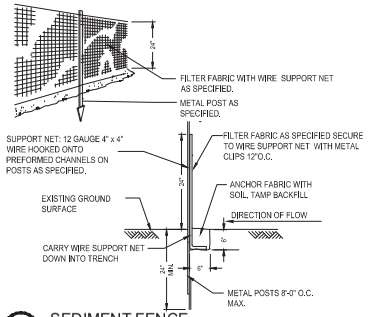


3 EROSION BLANKET
NTS



NOTE:
1. COMPOST FILTER LOGS (BIO ROLLS) SHALL BE FILTREXX EROSION CONTROL SOXX OR APPROVED EQUAL.
2. COMPOST FILLER TO BE MADE FROM A COMPOST BLEND 30%-40% GRADE 2 (SPEC 3890) AND 60%-70% PARTIALLY DECOMPOSED WOOD CHIPS. PER MNDOT SPEC 3897.
3. FILTER FABRIC SHALL BE GEOTEXTILE KNITTED MATERIAL WITH MAX. OPENINGS OF 3/8".
4. IF MULTIPLE ROLLS NEEDED, OVERLAP BY MIN. 12" AT ENDS AND STAKE.
5. SILT SHALL BE REMOVED ONCE IT REACHES 80% OF THE HEIGHT OF THE ROLL OR AS DEEMED NECESSARY BY SITE CONTRACTOR TO MAINTAIN PROPER FUNCTION.

4 SEDIMENT BIO-ROLL / COMPOST FILTER LOG
NTS



5 SEDIMENT FENCE
NTS

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4931 W. 35TH ST., SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
Matt Pavek 763-213-3944
Pat Sarver 952-250-2003

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Matthew R. Pavek
DATE: 06/05/17 LICENSE NO.: 44263

ISSUE/SUBMITTAL SUMMARY

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REVISION SUMMARY

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PROJECT NO.: 16131

SWPPP - DETAILS

SW1.2

GENERAL SWPPP REQUIREMENTS AND NOTES:

THE CONTRACTOR AND ALL SUBCONTRACTORS INVOLVED WITH A CONSTRUCTION ACTIVITY THAT DISTURBS SITE SOIL OR WHO IMPLEMENT A POLLUTANT CONTROL MEASURE IDENTIFIED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MUST COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT (DATED AUGUST 1, 2013 # MNR100001 PAGES 1-35) AND ANY LOCAL GOVERNING AGENCY HAVING JURISDICTION CONCERNING EROSION AND SEDIMENTATION CONTROL.

PART III STORMWATER DISCHARGE DESIGN REQUIREMENTS

SWPPP (PART III.A)

THE NATURE OF THIS PROJECT WILL BE CONSISTENT WITH WHAT IS REPRESENTED IN THIS SET OF CONSTRUCTION PLANS AND SPECIFICATIONS. SEE THE SWPPP PLAN SHEETS AND SWPPP NARRATIVE (ATTACHMENT A: CONSTRUCTION SWPPP TEMPLATE) FOR ADDITIONAL SITE SPECIFIC SWPPP INFORMATION. THE PLANS SHOW LOCATIONS AND TYPES OF ALL TEMPORARY AND PERMANENT EROSION PREVENTION AND SEDIMENT CONTROL BMP'S. STANDARD DETAILS ARE ATTACHED TO THIS SWPPP DOCUMENT.

THE INTENDED SEQUENCING OF MAJOR CONSTRUCTION ACTIVITIES IS AS FOLLOWS:
1. INSTALL STABILIZED ROCK CONSTRUCTION ENTRANCE
2. INSTALLATION OF SILT FENCE AROUND SITE
3. INSTALL ORANGE CONSTRUCTION FENCING AROUND INFILTRATION AREAS.
4. CLEAR AND GRUB FOR TEMPORARY SEDIMENT BASIN / POND INSTALL
5. CONSTRUCT TEMPORARY SEDIMENT BASIN / POND (PART III.B)
6. CLEAR AND GRUB REMAINDER OF SITE
7. STRIP AND STOCKPILE TOPSOIL
8. ROUGH GRADING OF SITE
9. STABILIZE DENUDED AREAS AND STOCKPILES
10. INSTALL SANITARY SEWER, WATER MAIN STORM SEWER AND SERVICES
11. INSTALL SILT FENCE / INLET PROTECTION AROUND CB'S
12. INSTALL STREET SECTION
13. INSTALL CURB AND GUTTER
14. BITUMINOUS ON STREETS
15. FINAL GRADE BOULEVARD, INSTALL SEED AND MULCH
16. REMOVE ACCUMULATED SEDIMENT FROM BASIN / POND
17. FINAL GRADE POND / INFILTRATION BASINS (DO NOT COMPACT SOILS IN INFILTRATION AREAS.) (PART III.C)
18. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED BY EITHER SEED OR SOD/LANDSCAPING, REMOVE SILT FENCE AND RESEED ANY AREAS DISTURBED BY THE REMOVAL.

RECORDS RETENTION (PART III.E):

THE SWPPP (ORIGINAL OR COPIES) INCLUDING, ALL CHANGES TO IT, AND INSPECTIONS AND MAINTENANCE RECORDS MUST BE KEPT AT THE SITE DURING CONSTRUCTION BY THE PERMITTEE WHO HAS OPERATIONAL CONTROL OF THAT PORTION OF THE SITE. THE SWPPP CAN BE KEPT IN EITHER THE FIELD OFFICE OR IN AN ON SITE VEHICLE DURING NORMAL WORKING HOURS.

ALL OWNER(S) MUST KEEP THE SWPPP, ALONG WITH THE FOLLOWING ADDITIONAL RECORDS, ON FILE FOR THREE (3) YEARS AFTER SUBMITTAL OF THE NOT AS OUTLINED IN PART II.C. THIS DOES NOT INCLUDE ANY RECORDS AFTER SUBMITTAL OF THE NOT.

1. THE FINAL SWPPP;
2. ANY OTHER STORMWATER RELATED PERMITS REQUIRED FOR THE PROJECT;
3. RECORDS OF ALL INSPECTION AND MAINTENANCE CONDUCTED DURING CONSTRUCTION (SEE PART IV.E. INSPECTIONS AND MAINTENANCE);
4. ALL PERMANENT OPERATION AND MAINTENANCE AGREEMENTS THAT HAVE BEEN IMPLEMENTED, INCLUDING ALL RIGHT OF WAY, CONTRACTS, COVENANTS AND OTHER BINDING REQUIREMENTS REGARDING PERPETUAL MAINTENANCE; AND
5. ALL REQUIRED CALCULATIONS FOR DESIGN OF THE TEMPORARY AND PERMANENT STORMWATER MANAGEMENT SYSTEMS.

SWPPP IMPLEMENTATION RESPONSIBILITIES:

1. THE OWNER AND CONTRACTOR ARE PERMITTEE(S) AS IDENTIFIED BY THE NPDES PERMIT.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE IMPLEMENTATION OF THE SWPPP, INCLUDING THE ACTIVITIES OF ALL OF THE CONTRACTOR'S SUBCONTRACTORS.
3. CONTRACTOR SHALL PROVIDE A PERSON(S) KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPS TO OVERSEE ALL INSTALLATION AND MAINTENANCE OF BMPS AND IMPLEMENTATION OF THE SWPPP.
4. CONTRACTOR SHALL PROVIDE PERSON(S) MEETING THE TRAINING REQUIREMENTS OF THE NPDES PERMIT TO CONDUCT INSPECTION AND MAINTENANCE OF ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT. ONE OF THESE INDIVIDUAL(S) MUST BE AVAILABLE FOR AN ONSITE INSPECTION WITHIN 72 HOURS UPON REQUEST BY MPCA. CONTRACTOR SHALL PROVIDE TRAINING DOCUMENTATION FOR THESE INDIVIDUAL(S) AS REQUIRED BY THE NPDES PERMIT. THIS TRAINING DOCUMENTATION SHALL BE RECORDED IN OR WITH THE SWPPP BEFORE THE START OF CONSTRUCTION OR AS SOON AS THE PERSONNEL FOR THE PROJECT HAVE BEEN DETERMINED. DOCUMENTATION SHALL INCLUDE:
   - 4.1. NAMES OF THE PERSONNEL ASSOCIATED WITH THE PROJECT THAT ARE REQUIRED TO BE TRAINED PER PART III.F.1 OF THE PERMIT.
   - 4.2. DATES OF TRAINING AND NAME OF INSTRUCTOR AND ENTITY PROVIDING TRAINING.
   - 4.3. CONTENT OF TRAINING COURSE OR WORKSHOP INCLUDING THE NUMBER OF HOURS OF TRAINING.
5. FOLLOWING FINAL STABILIZATION AND THE TERMINATION OF COVERAGE FOR THE NPDES PERMIT, THE OWNER IS EXPECTED TO FURNISH LONG TERM OPERATION AND MAINTENANCE (O & M) OF THE PERMANENT STORM WATER MANAGEMENT SYSTEM.

PART IV. CONSTRUCTION ACTIVITY REQUIREMENTS

CONSTRUCTION ACTIVITY FIELD REQUIREMENTS:

1. ALL FIELD REQUIREMENTS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NPDES PERMIT AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
2. THE CONTRACTOR MUST IMPLEMENT THE SWPPP AND PROVIDE BMPS IDENTIFIED IN THE SWPPP IN AN APPROPRIATE AND FUNCTION MANNER.
3. THE CONTRACTOR SHALL RESPOND TO CHANGING SITE CONDITIONS AND IMPLEMENT/SUPPLEMENT EROSION PREVENTION AND SEDIMENT CONTROL MEASURES UTILIZED TO PROVIDE ADEQUATE PROTECTION OF DISTURBED SOILS AND ADEQUATE PREVENTION OF SEDIMENT TRANSPORT OFF-SITE. AT A MINIMUM, THE FOLLOWING STORMWATER POLLUTION PREVENTION CONSTRUCTION ACTIVITY FIELD REQUIREMENTS SHALL BE FURNISHED BY THE CONTRACTOR.

EROSION PREVENTION (PART IV.B):

THE CONTRACTOR IS RESPONSIBLE FOR PLANING FOR AND IMPLEMENTING APPROPRIATE CONSTRUCTION PHASING, VEGETATIVE BUFFER STRIPS, HORIZONTAL SLOPE GRADING, AND OTHER CONSTRUCTION PRACTICES THAT MINIMIZE EROSION, SO THAT THE INSPECTION AND MAINTENANCE REQUIREMENTS OF PART IV.E. ARE COMPLIED WITH. THE LOCATION OF AREAS NOT TO BE DISTURBED MUST BE DELINEATED (E.G. WITH FLAGS, STAKES, SIGNS, SILT FENCE ETC.) ON THE DEVELOPMENT SITE BEFORE WORK BEGINS.

ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT NO LATER THAN THE END OF THE NEXT WORK DAY WHEN EARTH-DISTURBING ACTIVITIES WILL CEASE FOR AT LEAST 14 DAYS. TEMPORARY STOCKPILES WITHOUT SIGNIFICANT SILT, CLAY OR ORGANIC COMPONENTS (E.G., CLEAN AGGREGATE STOCKPILES, DEMOLITION CONCRETE STOCKPILES, SAND STOCKPILES) AND THE CONSTRUCTED BASE COMPONENTS OF ROADS, PARKING LOTS AND SIMILAR SURFACES ARE EXEMPT FROM THIS REQUIREMENT BUT MUST COMPLY WITH PART IV.C.5.

SOILS WITHIN 200 FEET OF A PUBLIC WATER (AS DESIGNATED BY THE MINNESOTA DNR) MUST BE STABILIZED WITHIN 24 HOURS DURING FISH SPAWNING TIMES.

THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE THAT DRAINS WATER FROM ANY PORTION OF THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE SITE, MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE INTO ANY SURFACE WATER. STABILIZATION OF THE LAST 200 LINEAL FEET MUST BE COMPLETED WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER.

STABILIZATION OF THE REMAINING PORTIONS OF ANY TEMPORARY OR PERMANENT DITCHES OR SWALES MUST BE COMPLETE WITHIN 14 DAYS AFTER CONNECTING TO A SURFACE WATER AND CONSTRUCTION IN THAT PORTION OF THE DITCH HAS TEMPORARILY OR PERMANENTLY CEASED.

TEMPORARY OR PERMANENT DITCHES OR SWALES THAT ARE BEING USED AS A SEDIMENT CONTAINMENT SYSTEM (WITH PROPERLY DESIGNED ROCK DITCH CHECKS, BIO ROLLS, SILT DIKES ETC.) DO NOT NEED TO BE STABILIZED. THESE AREAS MUST BE STABILIZED WITHIN 24 HOURS AFTER NO LONGER BEING USED AS A SEDIMENT CONTAINMENT SYSTEM.

PIPE OUTLETS MUST BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER.

SEED NOTES (PART III.A.4.A):

ALL SEED MIXES AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MNDOT SEEDING MANUAL.

GENERAL RECOMMENDATIONS:
IMMEDIATELY BEFORE SEEDING THE SOIL SHALL BE TILLED TO A MINIMUM DEPTH OF 3 INCHES.

TEMPORARY EROSION CONTROL SEEDING, MULCHING & BLANKET.

SEED
- TEMPORARY SEED SHALL BE MNDOT SEED MIX 21-112 (WINTER WHEAT COVER CROP) FOR WINTER AND 21-111 (OATS COVER CROP) FOR SPRING/SUMMER APPLICATIONS. BOTH SEED MIXES SHALL BE APPLIED AT A SEEDING RATE OF 100 LBS/ACRE.

MULCH
- IMMEDIATELY AFTER SEEDING, WITHIN 24 HOURS, MNDOT TYPE 1 MULCH SHOULD BE APPLIED TO PROTECT AND ENHANCE SEED GERMINATION. MULCH SHALL BE APPLIED AT 90% COVERAGE (2 TONS PER ACRE OF STRAW MULCH)

SLOPES
- 3:1 (HORIZ/VERT.) OR FLATTER MUCH SHALL BE COVERED WITH MULCH
- SLOPES STEEPER THAN 3:1 OR DITCH BOTTOMS SHALL BE COVERED WITH EROSION CONTROL BLANKET.
- SEE PLAN FOR MORE DETAILED DITCH AND STEEP SLOPE EROSION CONTROL TREATMENTS.

SEDIMENT CONTROL (PART IV.C):

SEDIMENT CONTROL PRACTICES MUST MINIMIZE SEDIMENT FROM ENTERING SURFACE WATERS, INCLUDING CURB AND GUTTER SYSTEMS AND STORM SEWER INLETS.
a. TEMPORARY OR PERMANENT DRAINAGE DITCHES AND SEDIMENT BASINS THAT ARE DESIGNED AS PART OF A SEDIMENT CONTAINMENT SYSTEM (E.G., DITCHES WITH ROCK CHECK DAMS) REQUIRE SEDIMENT CONTROL PRACTICES ONLY AS APPROPRIATE FOR SITE CONDITIONS.
b. IF THE DOWN GRADIENT TREATMENT SYSTEM IS OVERLOADED, ADDITIONAL UPGRADIENT SEDIMENT CONTROL PRACTICES OR REDUNDANT BMPS MUST BE INSTALLED TO ELIMINATE THE OVERLOADING, AND THE SWPPP MUST BE AMENDED TO IDENTIFY THESE ADDITIONAL PRACTICES AS REQUIRED IN PART III.A.4, A. THROUGH C.
c. IN ORDER TO MAINTAIN SHEET FLOW AND MINIMIZE RILLS AND/OR GULLIES, THERE SHALL BE NO UNBROKEN SLOPE LENGTH OF GREATER THAN 75 FEET FOR SLOPES WITH A GRADE OF 3:1 OR STEEPER.

SEDIMENT CONTROL PRACTICES MUST BE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UPGRADIENT LAND DISTURBING ACTIVITIES BEGIN. THESE PRACTICES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED IN ACCORDANCE WITH PART IV.G.

THE TIMING OF THE INSTALLATION OF SEDIMENT CONTROL PRACTICES MAY BE ADJUSTED TO ACCOMMODATE SHORT-TERM ACTIVITIES SUCH AS CLEARING OR GRUBBING, OR PASSAGE OF VEHICLES. ANY SHORT-TERM ACTIVITY MUST BE COMPLETED AS QUICKLY AS POSSIBLE AND THE SEDIMENT CONTROL PRACTICES MUST BE INSTALLED IMMEDIATELY AFTER THE ACTIVITY IS COMPLETED. HOWEVER, SEDIMENT CONTROL PRACTICES MUST BE INSTALLED BEFORE THE NEXT PRECIPITATION EVENT EVEN IF THE ACTIVITY IS NOT COMPLETE.

ALL STORM DRAIN INLETS MUST BE PROTECTED BY APPROPRIATE BMPS DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED. INLET PROTECTION MAY BE REMOVED FOR A PARTICULAR INLET IF A SPECIFIC SAFETY CONCERN (STREET FLOODING/FREEZING) HAS BEEN IDENTIFIED AND THE PERMITTEE(S) HAVE RECEIVED WRITTEN CORRESPONDENCE FROM THE JURISDICTIONAL AUTHORITY (E.G. CITY/COUNTY/TOWNSHIP/MNDOT ENGINEER) VERIFYING THE NEED FOR REMOVAL. THE WRITTEN CORRESPONDENCE MUST BE DOCUMENTED IN THE SWPPP OR AVAILABLE WITHIN 72 HOURS UPON REQUEST. WHEN WRITTEN CORRESPONDENCE CAN NOT BE OBTAINED IN A TIMELY MANNER, THE SPECIFIC INLET PROTECTION CAN BE REMOVED TO ALLEVIATE THE IMMEDIATE SAFETY CONCERN. HOWEVER, EFFORTS TO OBTAIN WRITTEN CORRESPONDENCE MUST BE DOCUMENTED IN THE SWPPP AND AVAILABLE WITHIN 72 HOURS UPON REQUEST. PERMISSION TO REMOVE INLET PROTECTION BASED ON A SPECIFIC SAFETY CONCERN MUST STILL BE OBTAINED FROM THE JURISDICTIONAL AUTHORITY WITHIN 30 DAYS OF REMOVAL.

TEMPORARY SOIL STOCKPILES MUST HAVE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS, AND CANNOT BE PLACED IN SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS, OR CONDUITS AND DITCHES UNLESS THERE IS A BYPASS IN PLACE FOR THE STORMWATER.

VEHICLE TRACKING OF SEDIMENT FROM THE CONSTRUCTION SITE (OR ONTO STREETS WITHIN THE SITE) MUST BE MINIMIZED BY BMPS SUCH AS STONE PADS, CONCRETE OR STEEL WASH RACKS, OR EQUIVALENT SYSTEMS. STREET SWEEPING MUST BE USED IF SUCH BMPS ARE NOT ADEQUATE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO THE STREET (SEE PART IV.E.4.D.).

THE PERMITEE MUST MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL. MINIMIZING SOIL COMPACTION IS NOT REQUIRED WHERE THE FUNCTION OF THE SPECIFIC AREA OF THE SITE DICTATES THAT IT BE COMPACTED. METHODS FOR MINIMIZING COMPACTION INCLUDE THE USE OF TRACKED EQUIPMENT, AND STAYING OFF OF AREAS TO BE LEFT UN-COMPACTED. METHODS TO PRESERVE TOPSOIL INCLUDE STRIPPING AND STOCKPILING TOPSOIL PRIOR TO GRADING OR EXCAVATION OPERATIONS.

THE PERMITTEE MUST INSTALL TEMPORARY SEDIMENTATION BASINS AS REQUIRED IN PART III.B. OF THIS PERMIT.

DEWATERING AND BASIN DRAINING (PART IV.D):

DEWATERING OR BASIN DRAINING (E.G., PUMPED DISCHARGES, TRENCH/DITCH CUTS FOR DRAINAGE) RELATED TO THE CONSTRUCTION ACTIVITY THAT MAY HAVE TURBID OR SEDIMENT LADEN DISCHARGE WATER MUST BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN ON THE PROJECT SITE WHENEVER POSSIBLE. IF THE WATER CANNOT BE DISCHARGED TO A SEDIMENTATION BASIN PRIOR TO ENTERING THE SURFACE WATER, IT MUST BE TREATED WITH THE APPROPRIATE BMP'S SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE RECEIVING WATER, DOWNSTREAM LANDOWNERS OR WETLANDS. THE CONTRACTOR MUST ENSURE THAT DISCHARGE POINTS ARE ADEQUATELY PROTECTED FROM EROSION AND SCOUR. THE DISCHARGE MUST BE DISPERSED OVER NATURAL ROCK RIPRAP, SAND BAGS, PLASTIC SHEATHING OR OTHER ACCEPTED ENERGY DISSIPATION MEASURES. ADEQUATE SEDIMENTATION CONTROL MEASURES ARE REQUIRED FOR DISCHARGE WATER THAT CONTAINS SUSPENDED SOLIDS.

FILTER BACKWASH WATERS MUST BE HAULED AWAY FOR DISPOSAL, RETURNED TO THE BEGINNING OF THE TREATMENT PROCESS, OR INCORPORATE INTO THE SITE IN A MANNER THAT DOES NOT CAUSE EROSION. DISCHARGE OF THE BACKWASH WATER TO SANITARY SEWER IS ALLOWED WITH PERMISSION OF THE SANITARY SEWER AUTHORITY.

INSPECTIONS AND MAINTENANCE (PART IV.E):

THE CONTRACTOR IS RESPONSIBLE AT ALL TIMES FOR THE MAINTENANCE AND PROPER OPERATION OF EROSION AND SEDIMENT CONTROL FACILITIES. THE CONTRACTOR SHALL AT A MINIMUM, INSPECT, MAINTAIN AND REPAIR ALL DISTURBED SURFACES AND ALL EROSION AND SEDIMENT CONTROL FACILITIES AND SOIL STABILIZATION MEASURES EVERYDAY WORK IS PERFORMED DURING ACTIVE CONSTRUCTION AND AT LEAST WEEKLY UNTIL LAND-DISTURBING ACTIVITY HAS CEASED. THEREAFTER THE CONTRACTOR SHALL PERFORM THESE RESPONSIBILITIES AT LEAST WEEKLY UNTIL VEGETATIVE COVER IS ESTABLISHED. INSPECTIONS MUST INCLUDE STABILIZED AREAS, EROSION PREVENTION AND SEDIMENT CONTROL BMP'S AND INFILTRATION AREAS.

BASED ON INSPECTION RESULTS THE CONTRACTOR MAY MODIFY THE SWPPP IN ORDER TO PREVENT POLLUTANTS FROM LEAVING THE SITE VIA STORM WATER RUNOFF. THIS MODIFICATION MUST BE MADE WITHIN 7 CALENDAR DAYS OF THE INSPECTION UNLESS OTHERWISE REQUIRED BY THE TERMS OF THE PERMIT, LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS.

INSPECTION REPORTS MUST BE RECORDED WITHIN 24 HOURS IN WRITING AND KEPT ON FILE BY THE CONTRACTOR AS AN INTEGRAL PART OF THE SWPPP ON SITE AND THEN FOR AT LEAST 3 YEARS FROM THE DATE OF COMPLETION OF THIS PROJECT. THIS LOG SHALL BE MADE AVAILABLE TO THE WATERSHED DISTRICT ON REQUEST.

ALL PERIMETER CONTROL DEVICES MUST BE REPAIRED, REPLACED OR SUPPLEMENTED WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE HEIGHT OF THE DEVICE. THESE REPAIRS MUST BE MADE BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY, OR THEREAFTER AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS, INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS, AND RESTABILIZE THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED TOPSOIL. THIS REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN 7 DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS.

SEE (ATTACHMENT A: CONSTRUCTION SWPPP TEMPLATE) FOR SITE SPECIFIC INSPECTIONS AND MAINTENANCE REQUIREMENTS.

POLLUTION PREVENTION MANAGEMENT (PART IV.F):

THE CONTRACTOR SHALL IMPLEMENT THE FOLLOWING POLLUTION PREVENTION MANAGEMENT MEASURES ON THE SITE;

SOLID WASTE: COLLECTED SEDIMENT, ASPHALT AND CONCRETE MILLINGS, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION AND DEMOLITION DEBRIS AND OTHER WASTES MUST BE DISPOSED OF PROPERLY AND MUST COMPLY WITH MINNESOTA POLLUTION CONTROL AGENCY (MPCA) DISPOSAL REQUIREMENTS.

HAZARDOUS MATERIALS: OIL, GASOLINE, PAINT AND ANY HAZARDOUS SUBSTANCES MUST BE PROPERLY STORED, INCLUDING SECONDARY CONTAINMENT, TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA REGULATIONS.

EXTERNAL WASHING OF TRUCKS AND OTHER CONSTRUCTION VEHICLES MUST BE LIMITED TO A DEFINED AREA OF THE SITE. RUNOFF MUST BE CONTAINED AND WASTEWATER PROPERLY DISPOSED OF. NO ENGINE DEGREASING IS ALLOWED ON SITE.

CONCRETE WASHOUT: ALL LIQUID AND SOLID WASTES GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. A COMPACTED CLAY LINER THAT DOES NOT ALLOW WASHOUT LIQUIDS TO ENTER THE GROUND IS CONSIDERED AN IMPERMEABLE LINER. THE LIQUID AND SOLID WASTES MUST NOT CONTACT THE GROUND, AND THERE MUST NOT BE RUNOFF FROM THE CONCRETE WASHOUT OPERATIONS OR AREAS. LIQUID AND SOLID WASTES MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA REGULATIONS. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES. CONCRETE WASHOUT MAY ALSO OCCUR OFF SITE ACCORDING TO THE APPROPRIATE REGULATIONS.

FUELING OPERATION PLAN: ALL FUELING SHALL TAKE PLACE AT THE DESIGNATED FUELING LOCATION AND ACCORDING TO BEST PRACTICES FOR SITE FUELING OPERATIONS AS TO MINIMIZE THE POTENTIAL FOR SPILLS.

SPILL PREVENTION PLAN: ALL SPILLS SHALL BE IMMEDIATELY CLEANED UP AFTER DISCOVERY. THE SITE SUPERINTENDENT, WHO IS RESPONSIBLE FOR DAY-TO-DAY ONSITE CONSTRUCTION OPERATIONS WILL BE THE SPILL PREVENTION COORDINATOR AND WILL BE RESPONSIBLE FOR IMPLEMENTING CLEAN UP PROCEDURES, POSTING CLEAN UP RECOMMENDATIONS, AND ENSURING PROPER CLEAN UP TRAINING OF APPROPRIATE PERSONNEL.

SANITARY AND SEPTIC WASTE: SANITARY/SEPTIC FACILITIES SHALL BE PROVIDED AND MAINTAINED IN A NEAT AND SANITARY CONDITION, FOR THE USE OF THE CONTRACTOR'S EMPLOYEES. A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS REQUIRED BY STATE REGULATIONS WILL COLLECT SANITARY WASTE FROM PORTABLE UNITS.

FINAL STABILIZATION (PART IV.G):

THE CONTRACTOR MUST ENSURE FINAL STABILIZATION OF THE SITE ACCORDING THE DEFINITIONS IN THE NPDES GENERAL PERMIT PART IV SECTION G. THE CONTRACTOR MUST SUBMIT A NOTICE OF TERMINATION (N.O.T.) WITHIN 30 DAYS AFTER FINAL STABILIZATION IS COMPLETE OR WITHIN 7 DAYS AFTER SELLING THE SITE OR PORTION OF THE SITE (THAT HAS NOT UNDERGONE FINAL STABILIZATION) TO ANOTHER PARTY. A COPY OF THIS NOTICE OF TERMINATION / PERMIT MODIFICATION FORM MUST GO TO THE NEW OWNER. THE ORIGINAL CURRENT OWNER MUST PROVIDE A SWPPP TO THE NEW OWNER THAT SPECIFICALLY ADDRESSES THE REMAINING CONSTRUCTION ACTIVITY. SEE THE SWPPP PLAN SHEETS AND SWPPP NARRATIVE (ATTACHMENT A: CONSTRUCTION SWPPP TEMPLATE) AND SWPPP PLAN SHEETS FOR FINAL STABILIZATION MEASURES

TRAINING (PART III.A.2)

DESIGN ENGINEER: MATTHEW R. PAVEK P.E.
TRAINING COURSE: DESIGN OF SWPPP
TRAINING ENTITY: UNIVERSITY OF MINNESOTA
INSTRUCTOR: JOHN CHAPMAN
DATES OF TRAINING COURSE: 5/15/2011 - 5/16/2011
TOTAL TRAINING HOURS: 12
RE-CERTIFICATION: 1/13/14-1/13/14 (8 HOURS), EXP. 5/31/2017

OWNER INFORMATION

OWNER:
TIMBERLAND PARTNERS
8000 NORMAN CENTER DRIVE, SUITE #830
BLOOMINGTON, MN 55437

CONTACT:

AREAS AND QUANTITIES (PART III.A.4.B&C):

	EXISTING		PROPOSED LOT	
BUILDING COVERAGE	11,699 SF	9.2%	50,886 SF	39.9%
GREEN ROOF	0 SF		3,500 SF	
ALL PAVEMENTS	89,687 SF	70.4%	50,452 SF	39.6%
PERVIOUS PAVERS	0 SF		4,372 SF	
ALL NON-PAVEMENTS	26,100 SF	20.5%	26,148 SF	20.5%
TOTAL SITE AREA	127,486 SF	100.0%	127,486 SF	100.0%

IMPERVIOUS SURFACE			
EXISTING CONDITION	101,386 SF	79.5%	
PROPOSED CONDITION	93,466 SF	73.3%	DOES NOT INCLUDE GREEN ROOF OR PERVIOUS PAVERS
DIFFERENCE (EX. VS PROP.)	-7,920 SF	-6.2%	
IMPERVIOUS TOTAL	93,466 SF	73.3%	

EROSION CONTROL QUANTITIES			
DISTURBED AREA	136,000 SF	ACREAGE	2.926
SILT FENCE/BIO-ROLL	1,683 LF	UNIT DENSITY (UNITS/ACRE)	71
EROSION CONTROL BLANKET	0 SF		
INLET PROTECTION DEVICES	11 EA		
		UNITS	222

NOTE: QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL DETERMINE FOR THEMSELVES THE EXACT QUANTITIES FOR BIDDING AND CONSTRUCTION.

SWPPP CONTACT PERSON

CONTRACTOR:

SWPPP INSPECTOR TRAINING:
ALL SWPPP INSPECTIONS MUST BE PERFORMED BY A PERSON THAT MEETS THE TRAINING REQUIREMENTS OF THE NPDES CONSTRUCTION SITE PERMIT.
TRAINING CREDENTIALS SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON SITE WITH THE SWPPP

PARTY RESPONSIBLE FOR LONG TERM OPERATION AND MAINTENANCE OF PERMANENT STORM WATER MANAGEMENT SYSTEM

PERMANENT STORMWATER MANAGEMENT IS NOT REQUIRED AS PART OF THIS PROJECT TO MEET NPDES PERMIT REQUIREMENTS. THE PROPERTY OWNER IS RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PROPOSED STORMWATER SYSTEM.

SWPPP ATTACHMENTS (ONLY APPLICABLE IF SITE IS 1 ACRE OR GREATER):

CONTRACTOR SHALL OBTAIN A COPY OF THE FOLLOWING SWPPP ATTACHMENTS WHICH ARE A PART OF THE OVERALL SWPPP PACKAGE:
ATTACHMENT A. CONSTRUCTION SWPPP TEMPLATE - SITE SPECIFIC SWPPP DOCUMENT
ATTACHMENT B. CONSTRUCTION STORMWATER INSPECTION CHECKLIST
ATTACHMENT C. MAINTENANCE PLAN FOR PERMANENT STORM WATER TREATMENT SYSTEMS
ATTACHMENT D: STORMWATER MANAGEMENT REPORT - ON FILE AT THE OFFICE OF PROJECT ENGINEER. AVAILABLE UPON REQUEST.
ATTACHMENT E: GEOTECHNICAL EVALUATION REPORT - ON FILE AT THE OFFICE OF PROJECT ENGINEER. AVAILABLE UPON REQUEST.

SUPPLEMENTARY SITE SPECIFIC EROSION CONTROL NOTES:

THESE NOTES SUPERCEDE ANY GENERAL SWPPP NOTES.

THIS PROJECT IS GREATER THAN 1.0 ACRES SO AN NPDES PERMIT IS REQUIRED AND NEEDS TO BE SUBMITTED TO THE MPCA. THE CONTRACTOR IS REQUIRED TO FOLLOW THE GUIDELINES IN THE NPDES PERMIT THROUGHOUT CONSTRUCTION.

PROJECT NARRATIVE:

PROJECT IS A REDEVELOPMENT OF AN EXISTING PLANNED UNIT DEVELOPMENT SITE INTO A NEW TRANSIT ORIENTED DEVELOPMENT SITE. SITE AND LANDSCAPE IMPROVEMENTS WILL OCCUR.

SPECIAL TMDL BMP REQUIREMENTS SITE SPECIFIC (IF REQUIRED): xxxxxxxxx

THIS PROJECT IS WITHIN ONE MILE AND DISCHARGES TO BOTH MEDICINE LAKE AND NORTHWOOD LAKE - MEDICINE LAKE AND NORTHWOOD LAKE ARE IDENTIFIED AS IMPAIRED WATER BODIES PER THE MPCA'S 303(D) IMPAIRED WATERS LIST. MEDICINE LAKE AND NORTHWOOD LAKE ARE IMPAIRED FOR NUTRIENT EUTROPHICATION BIOLOGICAL INDICATORS. BECAUSE THESE WATERS ARE LOCATED WITHIN ONE MILE OF THE SITE, BMPS AS DEFINED IN THE NPDES PERMIT C.1 AND C.2 IN APPENDIX A APPLY. THESE ARE AS FOLLOWS:

1. DURING CONSTRUCTION:
   A. STABILIZATION OF ALL EXPOSED SOIL AREAS MUST BE INITIATED IMMEDIATELY TO LIMIT SOIL EROSION BUT IN NO CASE COMPLETED LATER THAN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
   B. TEMPORARY SEDIMENT BASIN REQUIREMENTS DESCRIBED IN PART III.C. MUST BE USED FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH FIVE (5) OR MORE ACRES DISTURBED AT ONE TIME.

2. POST CONSTRUCTION:THE WATER QUALITY VOLUME THAT MUST BE RETAINED ON SITE BY THE PROJECT'S PERMANENT STORMWATER MANAGEMENT SYSTEM DESCRIBED IN PART III.D. SHALL BE ONE (1) INCH OF RUNOFF FROM THE NEW IMPERVIOUS SURFACES CREATED BY THE PROJECT. SEE PART III.D.1. FOR MORE INFORMATION ON INFILTRATION DESIGN, PROHIBITIONS AND APPROPRIATE SITE CONDITIONS.

PERMANENT STABILIZATION NOTES SITE SPECIFIC:

PERMANENT SEED MIX
- FOR THIS PROJECT ALL AREAS THAT ARE NOT TO BE SODDED OR LANDSCAPED SHALL RECEIVE A NATIVE PERMANENT SEED MIX.
  - AREAS IN BUFFERS AND ADJACENT TO OR IN WET AREAS MNDOT SEED MIX 33-261 (STORMWATER SOUTH AND WEST) AT 35 LBS PER ACRE.
  - DRY AREAS MNDOT SEED MIX 35-221 (DRY PRAIRIE GENERAL) AT 40 LBS PER ACRE.
- MAINTENANCE SHALL BE IN ACCORDANCE TO THE MNDOT SEEDING MANUAL.

CivilSite GROUP
4931 W. 35TH ST. SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
Matt Pavek 763-213-3944
Pat Sarver 952-250-2003

PROJECT
ELEVATE
12900 TECHNOLOGY DRIVE, EDEN PRAIRIE MN 55344
TIMBERLAND PARTNERS
8000 NORMAN CENTER DR., STE. 830, BLOOMINGTON, MN 55437

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.

Matthew R. Pavek
DATE 06/05/17 LICENSE NO. 44263

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
04/07/17	CITY SUBMITTAL
05/08/17	CITY RESUBMITTAL
05/17/17	WATERSHED RESUBMITTAL
06/05/17	WATERSHED RESUBMITTAL

REVISION SUMMARY

DATE	DESCRIPTION

PROJECT NO.: 16131

SWPPP - NARRATIVE

SW1.3

ATTACHMENT A: SITE SPECIFIC SWPPP DOCUMENT

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Minnesota Pollution Control Agency

Attachment A: SWPPP Site Specific Document

Stormwater Pollution Prevention Plan (SWPPP)

To comply with the General Stormwater Permit for Construction Activity

Construction Activity Information

Project name: EDEN PRAIRIE TRANSIT

Project location (Briefly describe where construction activity occurs. Include address if available.)

Address or nearest town: 12900 & 12990 TECHNOLOGY DRIVE

City or Township: EDEN PRAIRIE State: MN Zip code: 55344

Latitude/longitude of approximate center of project: 44.909016, -93.447884

Method of collection of latitude/longitude:

☐ GPS ☒ Online tool ☐ USGS Topographic map

All cities where construction will occur: EDEN PRAIRIE

All counties where construction will occur: HENNEPIN

All townships where construction will occur:

Project size (number of acres to be disturbed): 2.72

Project type:

☐ Residential ☒ Commercial/Industrial ☐ Road construction

☐ Residential and road construction ☐ Other (describe):

Cumulative impervious surface:

Existing area of impervious surface: 0.0 (to the nearest tenth acre)

Post construction area of impervious surface: 2.0 (to the nearest tenth acre)

Total new area of impervious surface: 2.0 (to the nearest tenth acre)

Receiving waters

Water body ID*	Name of water body	Type (MNDNR, county, watershed, other, or private/public)	Special waters? (See Construction Permit Appendix D)	Impaired Waters?* (See Stormwater Permit Appendix D)
27000601WAK	PURGATORY CREEK	Private	☐ Yes ☐ No	☐ Yes ☐ No
			☐ Yes ☐ No	☐ Yes ☐ No
			☐ Yes ☐ No	☐ Yes ☐ No
			☐ Yes ☐ No	☐ Yes ☐ No

* Water body identification (ID) might not be available for all water bodies. Use the General and Individual Permit Search Tool at www.pca.state.mn.us/water/stormwatergp.html.

* Impaired waters for the following pollutants or stressors: phosphorus, turbidity, dissolved oxygen, or biotic impairment.

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Dates of construction (Briefly describe where construction activity occurs. Include address if available.)

Construction start date: 7/2017 Estimated completion date: 6/2018

General Construction Project Information

Describe the construction activity (what will be built, general timeline, etc.): THE PROJECT WILL BE THE RENOVATION OF AN EXISTING COMMERCIAL SITE.

Describe soil types found on the project: THE EXISTING SOILS OF THE SITE ARE PRIMARILY POORLY DRAINED SAND.

Site Location map – Attach maps (U.S. Geological Survey 7.5 minute quadrangle, National Wetland Inventory maps or equivalent) showing the location and type of all receiving waters, including wetlands, drainage ditches, stormwater ponds or basins, etc. that will receive runoff from the project. Use arrows showing the direction of flow and distance to the water body.

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General Site Information (II.A)

1. Describe the location and type of all temporary and permanent erosion prevention and sediment control Best Management Practices (BMPs). Include the timing for installation and, if applicable, state or estimate additional temporary BMPs on Reasonably. (II.A.1.a)

THE PROJECT WILL BE PROTECTED BY TWO (2) MAIN BMP'S: SILT FENCE AND INLET PROTECTION DEVICES.

THE SILT FENCE WILL BE INSTALLED AT THE DOWNHILL LOCATIONS OF THE SITE AND MONITORED AS

NECESSARY. INLET PROTECTION DEVICES WILL BE INSTALLED IN ALL CATCH BASINS ON THE SITE AND ANY

OFF SITE THAT WILL RECEIVE STORMWATER RUNOFF FROM THIS SITE. AS THE PROJECT PROGRESSES

ADDITIONAL BMP'S SUCH AS EROSION CONTROL BLANKET MAY BE UTILIZED.

2. Attach an this SWPPP a table with the total project quantities for the life of the project for all erosion prevention and sediment control BMPs (IV.A.4.b)

SEE DWG SP2.0

3. Attach to this SWPPP a site map that includes the following features (II.A.2.a - f):

- Existing and final grades, including dividing lines and direction of flow for all pre and post-construction stormwater runoff drainage areas located within the project limits
- Locations of impervious surfaces and soil types
- Locations of areas not to be disturbed
- Location of areas of phased construction
- All surface waters and existing wetlands within one mile from the project boundaries that will receive stormwater runoff from this site (identified on maps such as USGS 7.5 minute quadrangle maps or equivalent). Where surface waters receiving runoff associated with construction activity are not fit on the plan sheet, they must be identified with an arrow, indicating both direction and distance to the surface water.

Wetlands to be used for final stabilization of all exposed soil areas.

4. Were stormwater mitigation measures required by the touch of an environmental, archaeological, or other resource local, state, or federal review of this project? ☐ Yes ☒ No

If yes, describe how these measures were addressed in the SWPPP. (II.A.3.)

N/A

5. Is this project located in a karst area (such that additional measures would be necessary to protect drinking water supply management areas as described in Minn. R. chapters 7050 and 7060)? ☐ Yes ☒ No

If yes, describe the additional measures to be used. (II.A.7.)

N/A

6. Does the site discharge to a calcareous fen listed in Minn. R. 7050.0180, subp. 6 b-1 ☐ Yes ☒ No

If yes, a letter of approval from the Minnesota Department of Natural Resources must be obtained prior to application for this permit. (Part I.B.8 and Part III.B.6)

7. Does the site discharge to a water that is listed as impaired for the following pollutant(s) or stressor(s): phosphorus, turbidity, dissolved oxygen or biotic impairment? Use the Impaired Waters Search Tool at www.pca.state.mn.us/water/tmdl/impairedwaters.html. ☐ Yes ☒ No

If no, skip to Training.

Does the impaired water have an approved Total Maximum Daily Loads (TMDL) with an Approved Waste Load Allocation for construction activity? ☐ Yes ☒ No

If yes:

a. List the receiving water, the areas of the site discharging to it, and the pollutant(s) identified in the TMDL.

b. List the BMPs and any other specific construction stormwater related implementation activities identified in the TMDL.

If this site has a discharge point within one mile of the impaired water and the water flows to the impaired water but no specific BMPs for the impaired waters are identified in the TMDL, then additional BMPs in Appendix A (III.1.i) (1) & (2) & (3) & (4) and dewatering must be added to the SWPPP and implemented. (III.A.7). The additional BMPs only apply to those portions of the

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project that drain to one of the identified discharge points.

N/A

8. Identify adjacent public waters where the Minnesota Department of Natural Resources (DNR) has declared "work in water restrictions" during fish spawning timeframes.

N/A

Selection of a Permanent Stormwater Management System (III.D.)

1. Will the project create a new cumulative impervious surface greater than or equal to one acre? ☒ Yes ☐ No

If yes, a water quality volume of one inch of runoff from the cumulative new impervious surfaces must be retained on site (see Part III.D.1 of the permit) through infiltration unless prohibited due to one of the reasons in Part III.D.1.j. If infiltration is prohibited, identify other method of pollutant volume reduction (e.g., filtration system, wet sedimentation basin, regional ponding or equivalent method)

2. Describe which method will be used to treat runoff from the new impervious surfaces created by the project (III.D):

- Wet sedimentation basin
- Infiltration/Filtration
- Regional ponding
- Combination of practices

Include all calculations and design information for the method selected. See Part III.D of the permit for specific requirements associated with each method.

RE-USING PONDING

3. If it is not feasible to meet the minimum requirement for the water quality volume, describe why. This can include proximity to bedrock or karst features where the lack of right of way precludes the installation of any permanent stormwater management practices. Describe what other treatment, such as grassed swales, smaller ponds, or grit chambers, will be implemented to treat runoff prior to discharge to surface waters. (III.C)

IT IS FEASIBLE TO MEET REQUIREMENT FOR WATER QUALITY VOLUME.

4. For projects that discharge to trout streams, including tributaries to trout streams, identify method of incorporating temperature controls into the permanent stormwater management system.

N/A

Erosion Prevention Practices (IV.B)

Describe the types of temporary erosion prevention BMPs expected to be implemented on this site during construction:

1. Describe construction phasing, vegetative buffer strips, bottomless slope grading, and other construction practices to minimize erosion. Describe areas not to be disturbed (e.g., drift lines, stakes, signs, silt fence, etc.) before work begins.

SILT FENCE WILL BE INSTALLED AT THE DOWNHILL LOCATIONS OF THE SITE.

4. Describe Methods of temporarily stabilizing soils and soil stockpiles (e.g., mulches, hydraulic backfills, erosion blankets, etc.)

TEMPORARY EROSION PROTECTION WILL BE SEED AND MULCH AND EROSION BLANKETS WHERE REQUIRED

WITH PERMANENT COVER BEING OTHER SOD OR LANDSCAPE FEATURES.

5. Describe Methods of dissipating velocity along stormwater conveyance channels and at channel outlets (e.g., check dams, sediment traps, rip rap, etc.)

SOD WILL BE UTILIZED ALONG CHANNELS AND RIP RAP AT CHANNEL OUTLETS.

6. Describe Methods to be used for stabilization of ditch and swale vertex perimeters. Note that mulch, hydraulic and biofiltration, etc. are not acceptable soil stabilization methods for any part of a drainage ditch or swale.

FINAL STABILIZATION OF SWALES WILL BE SOD.

CivilSite GROUP

Sediment Control Practices (IV.C)

Describe the methods of sediment control BMPs to be implemented at this site during construction to minimize sediment impacts to surface waters, including curb and gutter systems:

7. Describe Methods to be used for down gradient perimeter control:

SILT FENCE WILL BE INSTALLED AROUND THE ENTIRE PERIMETER OF THE SITE.

8. Describe Methods to be used to protect soil stockpiles:

SEED AND MULCH AS WELL AS EROSION CONTROL BLANKETS WILL BE UTILIZED AS NECESSARY.

9. Describe Methods to be used for storm drain inlet protection:

SEE INLET PROTECTION DETAILS.

10. Describe Methods to minimize vehicle tracking at construction exits and street sweeping activities:

THE PROJECT WILL UTILIZE A WIDE CONSTRUCTION ENTRANCE

11. Describe Methods, if applicable, additional sediment controls (e.g., diversion berms) to be installed to keep runoff away from pervious infiltration areas when excavated prior to final stabilization of the contributing drainage area:

SILT FENCE TO BE INSTALLED IMMEDIATELY AFTER GRADING TO PROTECT INFILTRATION AREAS.

12. Describe methods to be used to minimize soil compaction and preserve top soil (unless infeasible) at this site:

LIGHT TRACKED EQUIPMENT WILL BE USED. TOPSOIL WILL BE STRIPPED AND STOCKPILED.

13. Describe plans to preserve a 50-foot natural buffer between the project's soil disturbance and a surface water or plans for redundant perimeter control if a buffer is infeasible:

DOUBLE ROW OF SILT FENCE WILL BE INSTALLED ALONG WETLAND. PROJECT WILL NOT DISTURB WITHIN 50 FEET OF WETLAND.

14. Describe areas for use of leaf/vegetation treatment chemicals (e.g., polymers, flocculants, etc.) see Part IV.C.13 (1) in the permit:

N/A

15. Is the project required to install a temporary sediment basin due to 75 or more acres draining to a common location or 5 acres or more if the site is within 1 mile of a special or impaired water? ☐ Yes ☒ No

CivilSite GROUP

If yes, describe on attach plans / drawing how the basin will be designed and constructed in accordance with Part IV.C of the permit.

N/A

Dewatering and Basin Draining (IV.D)

1. Will the project include dewatering or basin draining? ☐ Yes ☒ No

If yes, describe measures to be used to treat/dispose of turbid or sediment-laden water and method to prevent erosion or scour of discharge points (see Part IV. D of the permit)

2. Will the project include use of filters for stormwater water? ☐ Yes ☒ No

If yes, describe how filter backwash water will be managed on the site or properly disposed (see Part IV.D.3 of the permit).

N/A

Additional BMPs for Special Waters and Discharges to Wetlands (Appendix A, Parts C and D)

1. **Special Waters.** Does your project discharge to special waters? ☐ Yes ☒ No

2. If proximity to bedrock or road projects where the lack of right of way precludes the installation of any of the permanent stormwater management practices, then other treatment such as grassed swales, smaller ponds, or grit chambers is required prior to discharge to surface waters. Describe what other treatment will be provided.

N/A

3. Describe erosion and sediment controls for exposed soil areas with a continuous positive slope to a special waters, and temporary sediment basins for areas that drain five or more acres disturbed at one time.

N/A

4. Describe the undisturbed buffer zone to be used (not less than 100 linear feet from the special water)

N/A

5. Describe how the permanent stormwater management system will ensure that the pre and post project runoff rate and volume from the 1, and 2-year 24-hour precipitation events remains the same.

N/A

6. Describe how the permanent stormwater management system will minimize any increase in the temperature of trout stream receiving waters resulting in the 1, and 2-year 24-hour precipitation events.

N/A

7. **Wetlands.** Does your project discharge stormwater with the potential for significant adverse impacts to a wetland (e.g., conversion of a natural wetland to a stormwater pond)? ☐ Yes ☒ No

If Yes, describe the wetland mitigation sequence that will be followed in accordance with Part D or Appendix A.

N/A

Inspections and Maintenance (IV.E)

Describe procedures to routinely inspect the construction site:

- Once every seven (7) days during active construction and
- Within 24 hours after a rainfall event greater than 0.5 inches in 24 hours, and within seven (7) days after that

Inspections must include stabilized areas, erosion prevention and sediment control BMPs, and infiltration areas.

INSPECTOR WILL FOLLOW REQUIREMENTS SPECIFIED ABOVE AND FILL OUT ATTACHMENT B - CONSTRUCTION STORMWATER INSPECTION CHECKLIST

CivilSite GROUP

Pollution Prevention Management Measures (IV.F)

1. Describe practices for storage of building products with a potential to have substances to stormwater exposure to stormwater:

ALL BUILDING PRODUCTS WILL BE SEALED AND STORED IN A MANNER TO MINIMIZE EXPOSURE.

2. Describe practices for storage of pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials:

ALL LANDSCAPE TREATMENT CHEMICALS WILL BE SEALED AND STORED IN A MANNER TO MINIMIZE EXPOSURE.

3. Describe practices for storage and disposal of hazardous materials or toxic waste (e.g., oil, fuel, hydraulic fluids, paint solvents, petroleum based products, wood preservatives, additives, curing compounds, and acids) according to Minn. R. ch. 7045, including wastewater excess and washwater containment:

ALL HAZARDOUS WASTE WILL BE APPROPRIATELY DISPOSED OF OFF SITE ACCORDING TO LOCAL AND STATE LAWS.

4. Describe collection, storage and disposal of solid waste in compliance with Minn. R. ch. 7035:

ALL CONSTRUCTION DEBRIS AND BULK WASTE WILL BE APPROPRIATELY DISPOSED OF OFF SITE ACCORDING TO LOCAL AND STATE LAWS.

5. Describe management of portable toilets to prevent tipping and disposal of sanitary wastes in accordance with Minn. R. ch. 7041:

SANITARY AND DEPTS SERVICES WILL BE PROVIDED TO WORKERS BY PORTABLE FACILITIES MAINTAINED AS NEEDED BY THE PROVIDER.

6. Describe spill prevention and response for fueling and equipment or vehicle maintenance:

EMPLOYEES WILL BE TRAINED IN TECHNIQUES DESIGNED TO MINIMIZE SPILLS. DEVICES AND EQUIPMENT SHALL BE CHECKED FOR LEAKS.

7. Describe containment and disposal of vehicle and equipment wash water and prohibiting engine degreasing on the site:

ALL CONSTRUCTION VEHICLES SHALL BE WASHED OFF SITE.

8. Describe storage and disposal of concrete and other washout wastes so that wastes do not contact the ground:

ALL CONCRETE WASHOUT SHALL OCCUR OFF SITE.

Final Stabilization (V.G)

1. **Describe method of final stabilization (permanent cover) of all disturbed areas**

FINAL STABILIZATION WILL BE ACHIEVED WITH PAVEMENT, SOD AND LANDSCAPE MATERIALS.

2. **Describe procedures for completing final stabilization and terminating permit coverage (see Part VI.D.1-3)**

UPON FINAL STABILIZATION DESCRIBED ABOVE, THE CONSTRUCTION AND OWNER SHALL MUTUALLY TRANSFER THE SITES PERMIT TO THE NEXT OWNER WITH DOCUMENTS DESCRIBING THE NATURE OF TERMINATION PROCEDURE.

Documentation of infeasibility: (If Applicable)

CivilSite GROUP
4931 W. 35TH ST. SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
Matt Pavek 763-213-3944
Pat Sarver 952-250-2003

PROJECT

ELEVATE

12900 TECHNOLOGY DRIVE, EDEN PRAIRIE MN 55344

TIMBERLAND PARTNERS

8000 NORMAN CENTER DR., STE. 830, BLOOMINGTON, MN 55437

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

Matthew R. Pavek

DATE: 06/05/17 LICENSE NO.: 44263

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
04/07/17	CITY SUBMITTAL
05/08/17	CITY RESUBMITTAL
05/17/17	WATERSHED RESUBMITTAL
06/05/17	WATERSHED RESUBMITTAL

REVISION SUMMARY

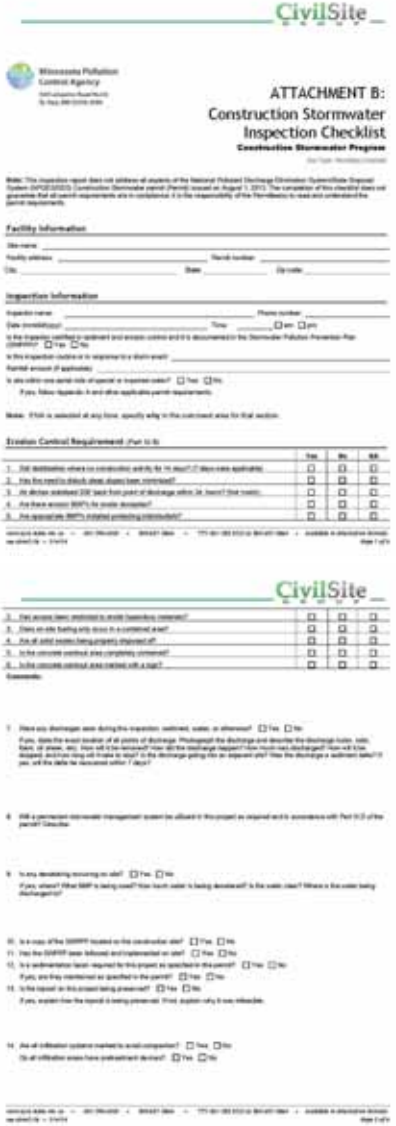
DATE	DESCRIPTION

PROJECT NO.: 16131

SWPPP - ATTACHMENTS

SW1.4

ATTACHMENT B: SWPPP INSPECTION FORM



ATTACHMENT B:
Construction Stormwater Inspection Checklist
Construction Stormwater Program

Facility Information

Inspection Information

Erosion Control Requirement (Part IV.B)

Sediment Control Requirement (Part IV.C.)

Maintenance Erosion and Sediment Control BMPs (Part IV.E.)

Other

Disclosures:

ATTACHMENT C: MAINTENANCE PLAN FOR PERMANENT STORM WATER TREATMENT SYSTEM

ATTACHMENT C

STORMWATER MANAGEMENT FACILITY
MAINTENANCE SCHEDULE

1. All stormwater retention, detention and treatment basins must be inspected at least once a year to determine that basin retention and treatment characteristics are adequate. A storage treatment basin will be considered inadequate if sediment has decreased the wet storage volume by 10 percent or dry storage volume by 25 percent of its original design volume. Based on this inspection, if a stormwater basin requires sediment cleanout, the basin will be restored to its original design contours and vegetated once within one year of the inspection date.

2. All outlet structures, culverts, outfall structures and other stormwater facilities for which maintenance requirements are not otherwise specified herein must be inspected in the spring, summer and fall of each year. Within 30 days of the inspection date, all accumulated sediment and debris must be removed such that each stormwater facility operates as designed and permitted. Contributing drainage areas must be kept clear of litter and vegetative debris, inflow pipes and overflow spillways kept clear, inlet areas kept clean, and undesirable vegetation removed. Erosion impairing the function or integrity of the facilities, if any, will be corrected, and any structural damage impairing or threatening to impair the function of the facilities must be repaired.

3. Inflows control facilities and contributing drainage areas must be inspected every three months during the operational period (between spring snowmelt and first substantial snowfall) and monitored after rainfall events of 1 inch or more to ensure that the contributing drainage area is clear of litter and debris, inflow pipes and overflow spillways are clear, inlet areas are clean, undesirable vegetation is removed and there is no erosion impairing or threatening to impair the function of a facility. If sediment has accumulated in a infiltration feature, within 30 days of inspection deposited sediments must be removed, the infiltration capacity of the underlying soils must be restored, and any surface disturbance must be stabilized. Inspection must ensure that sediment traps and forebays are trapping sediment and that more than 50 percent of the storage volume remains, the contributing drainage area is stable

(i.e., no erosion is observed), and inlets and outlet/overflow spillways are in good conditions with no erosion. Maintenance techniques used must protect the infiltration capacity of the practice by limiting soil compaction to the greatest extent possible (e.g., by using low-impact earth moving equipment).

CivilSite GROUP
4931 W. 35TH ST. SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
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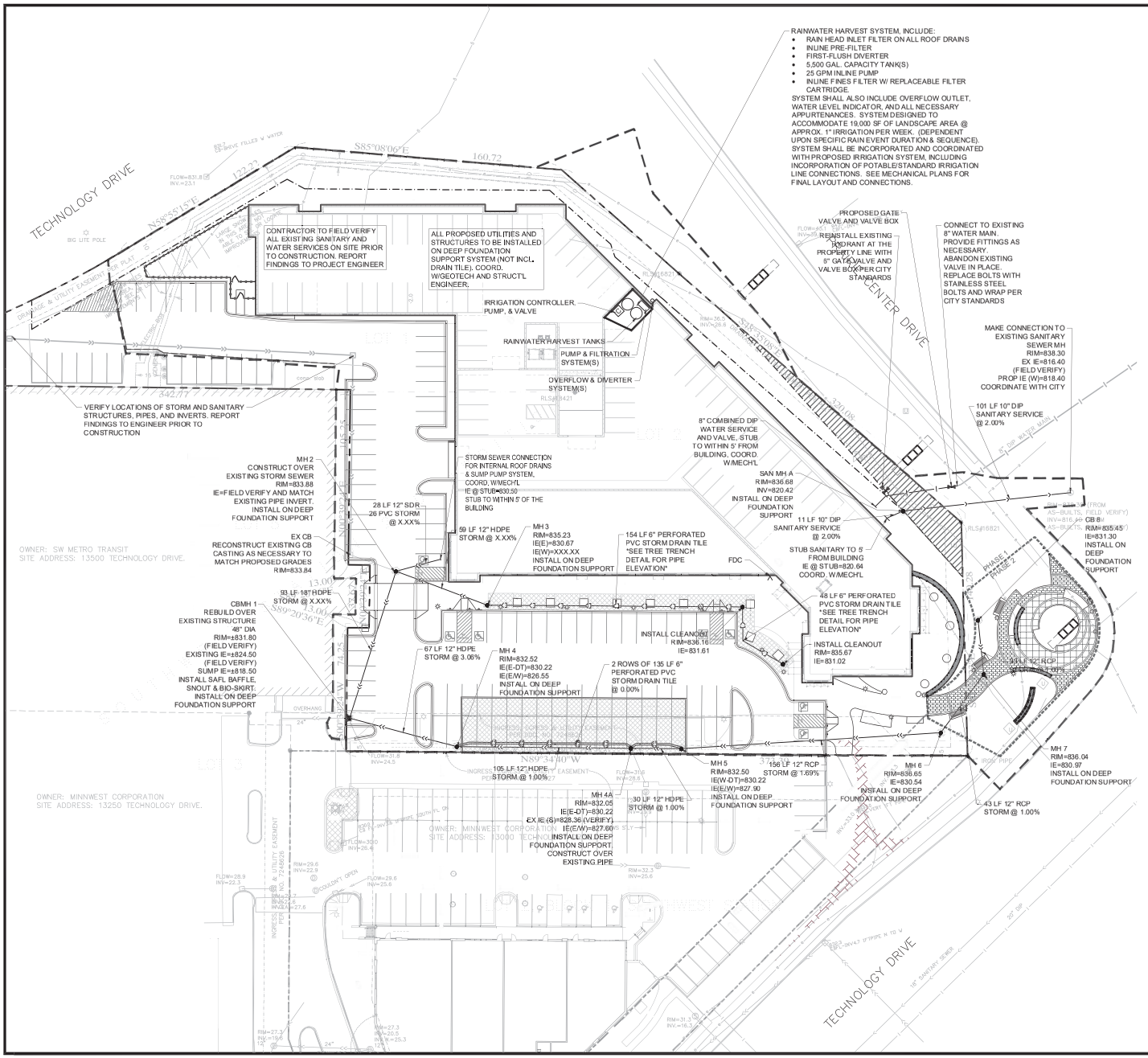
REVISION SUMMARY

DATE	DESCRIPTION

PROJECT NO.: 16131

SWPPP - ATTACHMENTS

SW1.5



GENERAL UTILITY NOTES:

1. SEE SITE PLAN FOR HORIZONTAL DIMENSIONS AND LAYOUT.
2. CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF DISCREPANCIES OR VARIATIONS FROM THE PLANS.
3. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
4. UTILITY INSTALLATION SHALL CONFORM TO THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE LINE INSTALLATION" AND "SANITARY SEWER AND STORM SEWER INSTALLATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM), AND SHALL CONFORM WITH THE REQUIREMENTS OF THE CITY AND THE PROJECT SPECIFICATIONS.
5. CASTINGS SHALL BE SALVAGED FROM STRUCTURE REMOVALS AND RE-USED OR PLACED AT THE DIRECTION OF THE OWNER.
6. ALL WATER PIPE SHALL BE CLASS 52 DUCTILE IRON PIPE (DIP) UNLESS OTHERWISE NOTED.
7. ALL SANITARY SEWER SHALL BE SDR 26 POLYVINYL CHLORIDE (PVC) UNLESS OTHERWISE NOTED.
8. ALL STORM SEWER PIPE SHALL BE HDPE UNLESS OTHERWISE NOTED.
9. PIPE LENGTHS SHOWN ARE FROM CENTER TO CENTER OF STRUCTURE OR TO END OF FLARED END SECTION.
10. UTILITIES ON THE PLAN ARE SHOWN TO WITHIN 5' OF THE BUILDING FOOTPRINT. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE FINAL CONNECTION TO BUILDING LINES. COORDINATE WITH ARCHITECTURAL AND MECHANICAL PLANS.
11. CATCH BASINS AND MANHOLES IN PAVED AREAS SHALL BE SUMPED 0.04 FEET. ALL CATCH BASINS IN GUTTERS SHALL BE SUMPED 0.15 FEET PER DETAILS. RIM ELEVATIONS SHOWN ON THIS PLAN DO NOT REFLECT SUMPED ELEVATIONS.
12. ALL FIRE HYDRANTS SHALL BE LOCATED 5 FEET BEHIND BACK OF CURB UNLESS OTHERWISE NOTED.
13. HYDRANT TYPE, VALVE, AND CONNECTION SHALL BE IN ACCORDANCE WITH CITY REQUIREMENTS. HYDRANT EXTENSIONS ARE INCIDENTAL.
14. A MINIMUM OF 6 FEET OF COVER IS REQUIRED OVER ALL WATERMAIN, UNLESS OTHERWISE NOTED. EXTRA DEPTH MAY BE REQUIRED TO MAINTAIN A MINIMUM OF 18" VERTICAL SEPARATION TO SANITARY OR STORM SEWER LINES. EXTRA DEPTH WATERMAIN IS INCIDENTAL.
15. A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FOR ALL UTILITIES, UNLESS OTHERWISE NOTED.
16. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND COORDINATED WITH THE CITY PRIOR TO CONSTRUCTION.
17. CONNECTIONS TO EXISTING STRUCUTRES SHALL BE CORE-DRILLED.
18. COORDINATE LOCATIONS AND SIZES OF SERVICE CONNECTIONS WITH THE MECHANICAL DRAWINGS.
19. COORDINATE INSTALLATION AND SCHEDULING OF THE INSTALLATION OF UTILITIES WITH ADJACENT CONTRACTORS AND CITY STAFF.
20. ALL STREET REPAIRS AND PATCHING SHALL BE PERFORMED PER THE REQUIREMENTS OF THE CITY. ALL PAVEMENT CONNECTIONS SHALL BE SAWCUT. ALL TRAFFIC CONTROLS SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE ESTABLISHED PER THE REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CITY. THIS SHALL INCLUDE BUT NOT BE LIMITED TO SIGNAGE, BARRICADES, FLASHERS, AND FLAGGERS AS NEEDED. ALL PUBLIC STREETS SHALL BE OPEN TO TRAFFIC AT ALL TIMES. NO ROAD CLOSURES SHALL BE PERMITTED WITHOUT APPROVAL BY THE CITY.
21. ALL STRUCTURES, PUBLIC AND PRIVATE, SHALL BE ADJUSTED TO PROPOSED GRADES WHERE REQUIRED. THE REQUIREMENTS OF ALL OWNERS MUST BE COMPLIED WITH. STRUCTURES BEING RESET TO PAVED AREAS MUST MEET OWNERS REQUIREMENTS FOR TRAFFIC LOADING.
22. CONTRACTOR SHALL CORDINATE ALL WORK WITH PRIVATE UTILITY COMPANIES.
23. CONTRACTOR SHALL COORDINATE CONNECTION OF IRRIGATION SERVICE TO UTILITIES. COORDINATE THE INSTALLATION OF IRRIGATION SLEEVES NECESSARY AS TO NOT IMPACT INSTALLATION OF UTILITIES.
24. CONTRACTOR SHALL MAINTAIN AS-BUILT PLANS THROUGHOUT CONSTRUCTION AND SUBMIT THESE PLANS TO ENGINEER UPON COMPLETION OF WORK.
25. ALL JOINTS AND CONNECTIONS IN STORM SEWER SYSTEM SHALL BE GASTIGHT OR WATERTIGHT. APPROVED RESILIENT RUBBER JOINTS MUST BE USED TO MAKE WATERTIGHT CONNECTIONS TO MANHOLES, CATCHBASINS, OR OTHER STRUCTURES.
26. ALL PORTIONS OF THE STORM SEWER SYSTEM LOCATED WITHIN 10 FEET OF THE BUILDING OR WATER SERVICE LINE MUST BE TESTED IN ACCORDANCE WITH MN RULES, CHAPTER 4714, SECTION 1109.0.
27. DEEP FOUNDATION SUPPORT DESIGN AND INSTALLATION TO BE COORDINATED WITH GEOTECHNICAL AND STRUCTURAL ENGINEERS.

CITY OF EDEN PRAIRIE UTILITY NOTES:

1. RESERVED FOR CITY SPECIFIC UTILITY NOTES.

UTILITY LEGEND:

- CATCH BASIN
- MANHOLE
- GATE VALVE AND VALVE BOX
- PROPOSED FIRE HYDRANT
- WATER MAIN
- SANITARY SEWER
- STORM SEWER
- FES AND RIP RAP

GOPHER STATE ONE CALL
WWW.GOPHERSTATEONECALL.ORG
(800) 252-1166 TOLL FREE
(651) 454-0002 LOCAL

N
1" = 30'-0"
15'-0" 0 30'-0"

CivilSite GROUP
4931 W. 35TH ST. SUITE 200
ST. LOUIS PARK, MN 55416
CivilSiteGroup.com
Matt Pavek 763-213-3944
Pat Sarver 952-250-2003
kaas wilson architects

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Matthew R. Pavek
DATE 06/12/17 LICENSE NO. 44263

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06/09/17	WATERSHED RESUBMITTAL
06/12/17	CITY RESUBMITTAL

REVISION SUMMARY

DATE	DESCRIPTION
6/14/17	ADDED ROW OF DRAIN TILE IN PERMEABLE PAVEMENT BMP

PROJECT NO.: 16131

UTILITY PLAN

C4.0

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

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

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2017-044

Received complete: June 20, 2017

Applicant: Eric and Katie Toft

Consultant: Natural Environments Corp. – Attn: Terry Sanders

Project: Toft Shoreline Naturalization – The applicant is removing an existing seawall, concrete boat ramp, and turf grass along Mitchell Lake and replacing with a combination of revetment techniques including riprap, coir logs, and native plantings.

Location: 17064 Weston Bay Road, Eden Prairie, MN

Reviewer: Terry Jeffery, Permit Coordinator

Rules: Applicable rules checked

X	Rule B: Floodplain Management		Rule H: Appropriation of Public Waters
	Rule C: Erosion and Sediment Control		Rule I: Appropriation of Groundwater
	Rule D: Wetland and Creek Buffers		Rule J: Stormwater Management
	Rule E: Dredging and Sediment Removal	X	Rule K: Variances and Exceptions
X	Rule F: Shoreline/Streambank Stabilization	X	Rule L: Permit Fees
X	Rule G: Waterbody Crossings	X	Rule M: Financial Assurances

Rule Conformance Summary

Rule	Issue	Conforms to RBPCWD Rules?	Comments
B	**Floodplain Management**	Yes	
F	**Shoreline/Streambank Stabilization**	Yes	
L	**Permit Fee**	Yes	
M	**Financial Assurance**	See Comment	The financial assurance has been calculated at $12,110.

Project Description

The applicants propose to remove an existing sea wall, approximately 85 feet in length, a gravel walk path along the shoreline, and a concrete boat launch along the shoreline of Mitchell Lake (a public water body) as part of a larger effort to reestablish a natural shoreline. The applicants own 210 feet of shoreline, of which 110 feet is hard-armored under existing conditions. The remaining 100 feet is maintained as bluegrass lawn to the water's edge. The shoreline will be stabilized with a combination of revetment (restoration and stabilization) techniques including riprap, coir logs, and native buffer plantings from the top of bluff to the shoreline. The applicants are also placing a sandblanket on the shoreline. The project disturbs less than 5,000 square feet and 50 cubic yards of material so it does not trigger Rule C. The absence of riparian wetlands or creek on or adjacent to the property precludes the application of Rule D. The project site information is summarized below:

Exhibits:

1. Permit Application dated June 20, 2017.
2. Design Plan Sheets dated May 18, 2017 (latest revision dated June 22, 2017).
    a. G000 – Cover Sheet
    b. L000 – Existing Conditions, Removals & Erosion Control Plan
    c. L100 – Site Plan
    d. L200 – Planting Plan
    e. L300 – Site Sections

Rule Specific Permit Conditions

Rule B: Floodplain Management

Because the project proposes to place fill, in the form of riprap, below the OHW of Mitchell Lake, the project must conform to the requirements in the RPBCWD Floodplain Management rule (Rule B, Subsection 2.1).

The applicant is proposing to provide compensatory storage through the removal of an existing concrete boat launch, the removal of a gravel walkway, and regrading from the OHW to the 100-year elevation in preparation for the buffer planting. The riprap constitutes 206 cubic feet of fill. The removal of the boat ramp below the 100-year flood elevation provides 153 cubic feet of compensatory storage and the grading of the shoreline will provide an additional 86 cubic feet of compensatory storage with the removal of that portion of the gravel walkway below the 100-year flood elevation, complying with paragraph 3.2 of the rule.

No structures will be constructed or reconstructed under the proposed scope of work, surface flows will not be altered, and there is no watercourse present on or adjacent to the project property, so the criteria in paragraphs 3.1, 3.3 and 3.4 do impose not requirements on the project. Plans for the project

include steps that will be taken to minimization of potential transfer of aquatic invasive species to the greatest extent possible.

The proposed activities will meet the criteria in Rule B, subsection 3.Rule F: Shoreline and Streambank Stabilization

Because the project proposes to modify and stabilize 210 feet of shoreline of Mitchell Lake (110 feet of riprap and 100 feet of naturalization/biological stabilization), the project must conform to the requirements in the RPBCWD Shoreline and Streambank Stabilization rule (Rule F, Subsection 2).

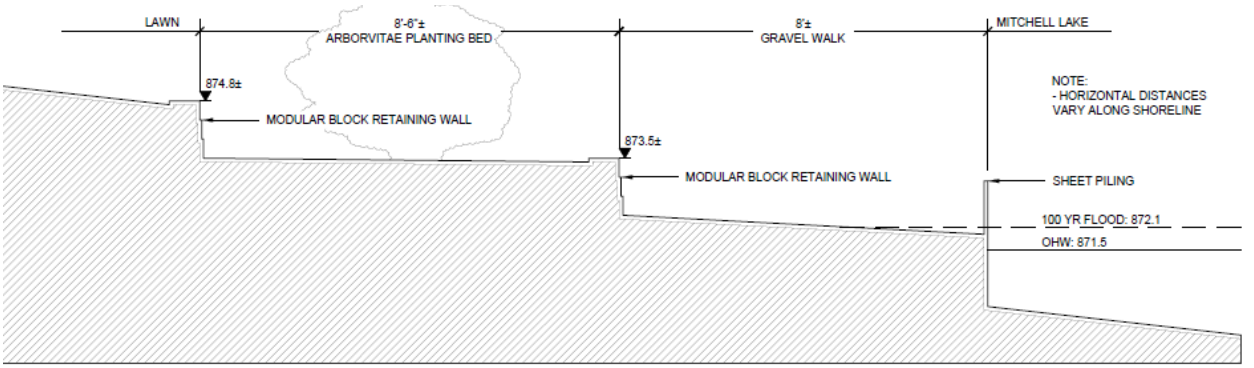
The plans prepared by Natural Environments Corporation show removal of existing hardcover including an existing seawall and concrete boat launch, location of sediment control best management practices both prior to removals and after removals, location of riprap, location of coir logs, location of buffer plantings, and location of sand blanket. As to the 'need' criterion in 3.1 of the rule, no erosion or threat of erosion is present, nor is the existing shoreline degraded, so there is no need to address existing or threatened risks. Further analysis of the project under this criterion is provided under the Rule K exception analysis below. Paragraph 3.2 sequencing is addressed under the exception framework below as well.

The design is consistent with Rule F, §3.3. Only native plants are being used for the stabilization and the riprap is sized appropriately for the conditions. The riprap will be hand-placed and extend only to the OHW and extend no more than six (6) feet waterward. The design calls for a transitional crushed rock layer with geotextile and will be free of foreign materials such as clay or debris.

The design calls for the removal of an existing retaining wall below the OHW of Mitchell Lake. Rule F, §3.4 specifically prohibits retaining walls below the OHW in most circumstances.

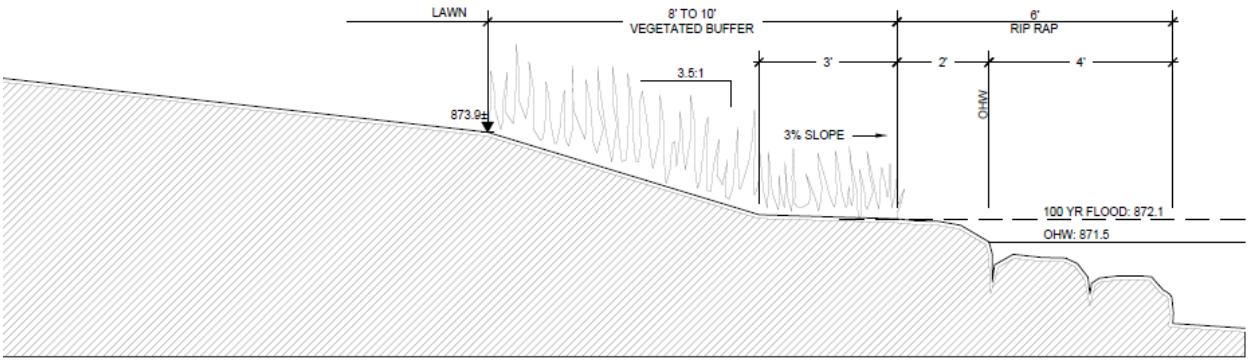
The sand blanket will be placed in the location of the former boat launch and the proposed design is consistent with Rule F, §3.5. No emergent vegetation will be disturbed or buried due to the placement of the sand blanket or the riprap. The sand blanket will be 50 feet in width and will extend waterward 10 feet from the OHW for Mitchell Lake. These dimensions are consistent with the Rule F, §3.5. In addition, the sand will be washed and free of contaminants as required by Rule F, §3.5.a.

Plans for the project include steps that will be taken to minimization of potential transfer of aquatic invasive species to the greatest extent possible, consistent with subsection 3.6 of Rule F.



SECTION: EXISTING SHORELINE

Figure 1. Cross-Section of existing shoreline conditions showing stepped retaining wall, vertical face below OHW, and gravel along the shoreline.



SECTION: PROPOSED SHORELINE

Figure 2. Proposed cross-sectional view of stabilized shoreline and associated buffer.

Rule G: Waterbody Crossings and Structures

Because the project proposes to remove an existing concrete boat launch (structure) which lies within the bed and banks of Mitchell Lake, it must comply with the criteria in Rule G.

The removal of the seawall and boat launch, as well as the naturalization of the remainder of the shoreline will benefit water quality in Mitchell Lake (by reducing erosive forces) and improve habitat, serving both public benefit and RPBCWD policy. The project complies with criterion 3.1a in Rule G.

Subsections 3.6 and 3.7 provide criteria relevant to removal of structures from water bodies. The removal of the boat launch will restore the lake bed to a best approximation of the conditions which existed prior to the placement of the launch. Given the launch was not placed by the applicant, nor does the district have access to any topographic data prior to the launch placement, the applicant is proposing to match the lake bed on either side of the launch. (Rule G, §3.6.a) The proposed plan is to remove the launch in its entirety (Rule G, §3.6.b) and does not involve the removal of a water-level control structure(Rule G paragraph 3.6c).

As to subsection 3.7, all work will begin and finish in July of 2017. The submitted plans include a phased erosion prevention and sediment control plan consistent with Rule G and standard engineering practices. The plans also indicate steps to be taken to avoid the transfer of aquatic invasive species.

No crossing or structure will remain in place at the Tofts' shoreline such as would require maintenance under section 5 of the rule. The specific determination of the managers to refrain from requiring maintenance for shoreline or streambank stabilizations under Rule F preempts any finding that the maintenance requirements in Rule G compel required approval and recording of a maintenance plan for the shoreline stabilization techniques proposed here.

Rule K: Variances and Exceptions

The project is being undertaken by the property owner to naturalize the shoreline, most notably through removal of the existing seawall (which generally would be expected to increase erosive force of wind and wave action on other shorelines on the lake) and removal of a gravel walkway that is below the 100-year flood elevation (i.e., susceptible to contributing pollutants to the lake). The 'need' criterion in Rule F paragraph 3.1 ensures that hard armoring of shoreline does not take place unless there is a demonstrated erosion or threat of erosion that must be addressed. Similarly, the sequencing required under subsection 3.2 ensures that riprap and other hard-armoring techniques are used only when necessary to prevent erosion.

The removal will result in an unstable sheer vertical face fully exposed to wave action and ice movement. Although the fetch at this location is not particularly long, the somewhat flat face of the shoreline left by removing the seawall and thereby exposed soils will be susceptible to erosion and sloughing. The placement of coir logs or planting of live stakes will be insufficient to address erosive forces and gravity acting on the exposed soil face which will be in a nearly perpetual state of saturation. It is therefore necessary to stabilize the 85 feet of shoreline where the seawall was with riprap.

As to the subsection 3.2 sequencing analysis for the remaining 110 feet of the shoreline, the applicants are proposing biological stabilization techniques. Staff's assessment of conditions at this location support a determination that biological stabilization techniques are necessary and sufficient to establish a stabile shoreline that will not be subject to erosion such as would later require hard-armoring.

Even though buffer is not required on lakes under RPBCWD rules, in addition to the shoreline stabilization discussed above, the applicants are proposing 8 to 10 feet of buffer plantings above the shoreline stabilization work proposed. In addition, the applicant will be planting no-mow fescue grasses from the edge of the buffer to the shoulder of the bluff and aside from a mowed path to the dock, will be left unmanicured to act as an additional 60± feet of buffer.

Staff determines and the engineer concurs that the project as a whole provides better natural resources protection and enhancement than would be achieved by the applicants' leaving the existing hard armored shoreline in place, supporting a determination by the board of managers to approve the permit, notwithstanding the technical noncompliance with subsections 3.1 and 3.2 of Rule F discussed above.

In addition, because the project being undertaken solely for purposes of naturalization of the shoreline, consistent with RPBCWD policy, staff recommends waiver of permit fees.

Rule L: Permit Fee:

Fees for the project are:

Rule B, F & G $0*

Rule M: Financial Assurance:

Rules F: Shoreline Restoration 85 L.F. x $100/L.F.= $8,500

Contingency (10%) $850

Administration (30%) $2,805

Total Financial Assurance.....$12,110

***** Please see analysis and recommendation under Rule K: Variances and Exceptions

The area where land disturbance and earthwork will take place is the most easterly 110 feet. In this location, the applicant will be removing the seawall and the concrete boat launch. Of these 110 feet only the first 85 feet will result in the placement of riprap below the OHW of Lake Mitchell. Staff is recommending that financial assurance be required only for these 85 feet of shoreline being riprapped. Beyond the previously discussed easterly 110 feet, the remaining 100 feet of shoreline will not be graded but rather will have coir logs placed at shoreline and staked in with native plants above. Staff feels that the risk that sediment will be introduced to the lake in this area, even during the establishment of native vegetation, is reduced from the current condition.

Applicable General Requirements:

1. The RPBCWD Administrator 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 site inspection by District staff verifying 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 project conforms to Rule B and Rule G requirements; an exception analysis has been provided regarding Rule F compliance.
3. Under Minnesota Department of Natural Resources general permit no. 2015-1192, approval of work under RPBCWD rules F and G constitutes approval under applicable DNR work in waters rules. Compliance with conditions on approval and payment of applicable fees, if any, are necessary to benefit from general permit approval and the responsibility of the applicants.

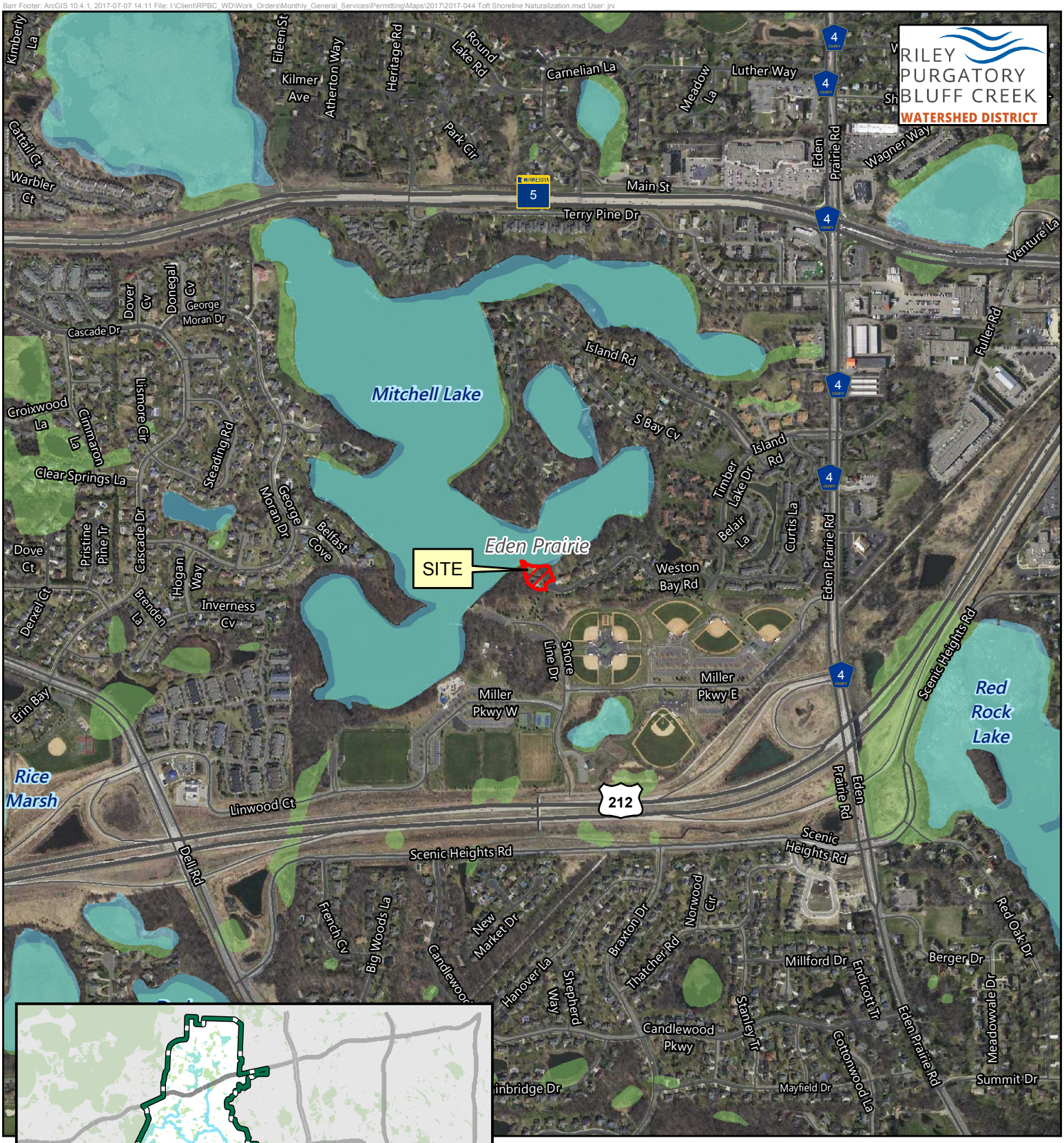
Recommendation:

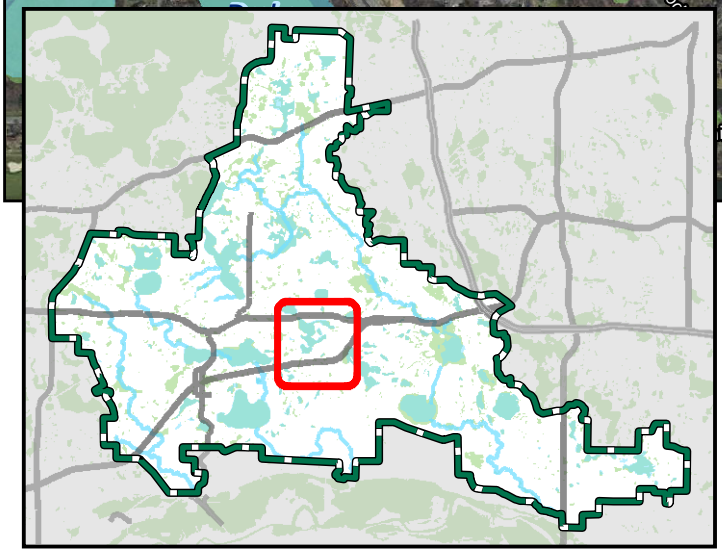
Approval, contingent upon:

1. Continued compliance with General Requirements.
2. Financial Assurance in the amount of $12,110.
3. That the permit fee be waived.

Board Action

It was moved by Manager _____, seconded by Manager _____ to approve permit application No. 2017-044 with the conditions recommended by staff.





Feet

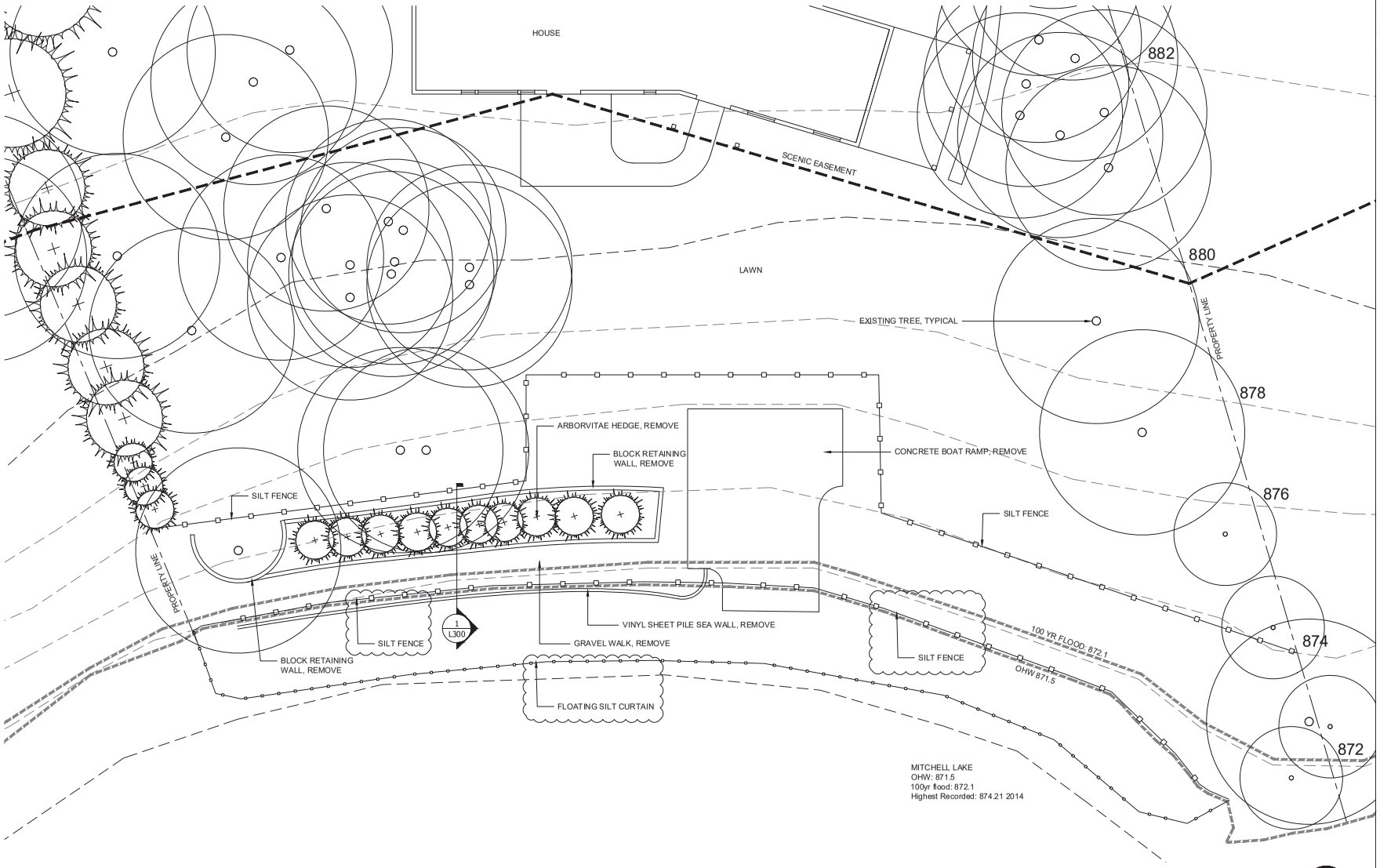
0 1,000

Permit Location Map

TOFT SHORELINE NATURALIZATION

Permit 2017-044

Riley Purgatory Bluff Creek Watershed District



1 REMOVALS, SWP PLAN

Scale: 1/8"=1'-0"

NOTES

-FLOATING SILT CURTAIN AND SILT FENCE TO BE INSTALLED PRIOR TO CONSTRUCTION AND MAINTAINED THROUGH PROJECT COMPLETION
-ALL TREES, SHRUBS IN SCENIC EASEMENT TO BE SAVED AND PROTECTED UNLESS OTHERWISE NOTED
-CONSTRUCTION ACTIVITIES MUST BE CONDUCTED SO AS TO MINIMIZE THE POTENTIAL TRANSFER OF AQUATIC INVASIVE SPECIES (E.G., ZEBRA MUSSELS, EURASION WATERMILFOIL, ETC.) TO THE MAXIMUM EXTENT POSSIBLE

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tel: 763-544-8002 fax: 763-445-2207
www.naturalenvironmentscorp.com

ISSUANCE

PERMIT

PROJECT NAME

Toft Residence
17064 Weston Bay Rd
Eden Prairie, MN 55437

REVISION DATE

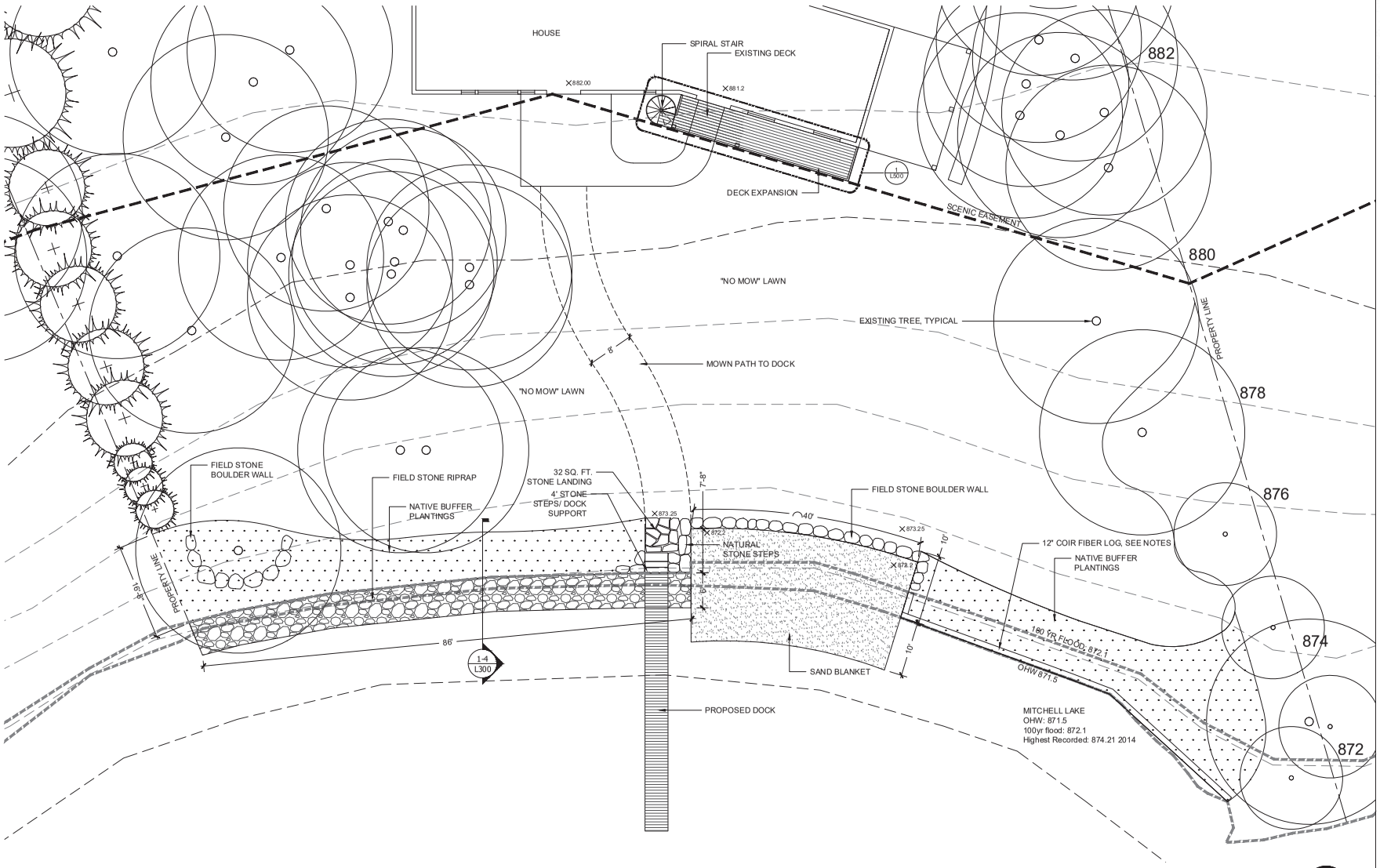
05/18/2017
06/07/2017
06/22/2017
Date
Date

SHEET NAME

Removals, SWP PLAN

SHEET NUMBER

L000



1 SITE PLAN

Scale: 1/8" = 1'-0"

NOTES

- FLOATING SILT CURTAIN AND SILT FENCE TO BE INSTALLED PRIOR TO CONSTRUCTION AND MAINTAINED THROUGH PROJECT COMPLETION
- ALL TREES, SHRUBS IN SCENIC EASEMENT TO BE SAVED AND PROTECTED UNLESS OTHERWISE NOTED
- TRENCH AND BURY 50% OF COIR FIBER LOG. STAKE IN PLACE WITH NON TREATED WOOD STEAKS AT 2' OC.
- SAND FOR SAND BLANKET TO BE WASHED AND FREE OF SEED SOURCES.
-CONSTRUCTION ACTIVITIES MUST BE CONDUCTED SO AS TO MINIMIZE THE POTENTIAL TRANSFER OF AQUATIC INVASIVE SPECIES (E.G., ZEBRA MUSSELS, EURASION WATERMILFOIL, ETC.) TO THE MAXIMUM EXTENT POSSIBLE

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ISSUANCE

PERMIT

PROJECT NAME

Toft Residence
17064 Weston Bay Rd
Eden Prairie, MN 55437

REVISION DATE

05/18/2017
06/07/2017
06/22/2017
Date
Date

SHEET NAME

Site Plan

SHEET NUMBER

L100

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

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

Riley Purgatory Bluff Creek Watershed District Financial Assurance Request Review

Permit No: 2015-016 (expired)

Received complete: July 12, 2017

Applicant: Pemtom Land Company, Dan Blake
Consultant: John Bender, Westwood Professional Services
Project: Blossom Hills
Reason: Letter of Credit Reduction
Reviewer: Terry Jeffery, RPBCWD Permit Coordinator

Requested LOC Reduction

Dan Blake of Pemtom Land Company has requested a reduction of the financial assurance required by RPBCWD for permit 2015-016. The table below lists the original financial assurance for this project under Rule M.

Rule	ITEM	CALCULATION	AMOUNT
C	**Silt Fence/Curtain**	2425 L.F. x $2.50/L.F.	$6,100
C	**Inlet Protection**	5 x $100/each	$500
C	**Restoration**	2.8 acres x $2,500/acre	$7,000
J	**Infiltration**	2,815 sq. ft. x $6/sq. ft.	$16,900
	Contingency (10%)		$3,100
	Administration (30%)		$10,100
	Total Financial Assurance		$43,700

Project Status

The stormwater facility provided to meet the RPBCWD volume-control requirement for the 12-lot subdivision was constructed and an as-built survey was provided confirming construction according to plan. The permittee also provided infiltrometer testing that shows the infiltration bench to be functioning per design. Vegetation has yet to be established on the infiltration bench, prompting the recommendation that RPBCWD retain $3,500 in financial assurance.

For information: The lots comprising the subdivision have all been sold. Because the permittee allowed the permit to expire prior to complete construction of the subdivision, construction of single-family homes on the lots will be subject to RPBCWD permitting requirements as may be applicable.

Recommendation:

Staff recommends reducing the letter of credit to $5,005 which is 50% of the restoration assurance plus 10% contingency and 30% administration. The following table indicates the recommended reduction and assurance to be retained.

Rule	ITEM	CALCULATION	AMOUNT
C	~~Silt Fence/Curtain~~	~~2425 L.F. x $2.50/L.F.~~	~~$6,100~~
C	~~Inlet Protection~~	~~5 x $100/each~~	~~$500~~
C	**Restoration**	2.8 acres x $2,500/acre	~~$7,000~~ **$3,500**
J	~~Infiltration~~	~~2,815 sq. ft. x $6/sq. ft.~~	~~$16,900~~
	Contingency (10%)		~~$3,100~~ **$350**
	Administration (30%)		~~$10,100~~ **$1,155**
	Total Financial Assurance		~~$43,700~~ **$5,005**

The reduced financial assurance will be retained until staff confirms that vegetation on the infiltration bench has been established.

Board Action

It was moved by Manager _____, seconded by Manager _____ to approve reduction of the financial assurance for permit No. 2015-016 from $43,700 to $5,005