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## MEMO

**TO: Nine Mile Creek Watershed District Board of Managers**  
**FROM: Randy Anhorn**  
**DATE: March 15, 2018**  
**RE: Minor Plan Amendment**

### **Background**

At the Board's February 20, 2019 meeting the Manger's authorized staff to distribute a minor plan amendment adding the construction of the projects developed under the accelerated implementation grant to the capital improvement program and shift funding for those projects in the budget in the table to the CIP table.

Attached is the resulting minor plan amendment that was sent out for 30-day comment period on Friday, March 15, 2019. The comment period runs through Monday, April 15, 2019.

Furthermore, the District is required to send the feasibility study on the planning grant projects (also attached) to the County for their review and comment.

In addition to receiving written public comment on the minor plan amendment, the District is required to notice and hold a public hearing to receive additional comments on the proposed amendment.

At the conclusion of the public hearing, the board of managers will then weigh all comments received in writing and offered at the public hearing and considering adopting the minor plan amendment and ordering of the projects.

While the Board discussed holding the public hearing before its Wednesday, April 17, 2019 Board meeting, no time was set. After consulting with Chair Peterson, we have tentatively set the public hearing for 6:30 on April 17, 2019. We will need to officially set that time at our March 20, 2019 Board meeting. Following the meeting, I will prepare a public notice to be uploaded to our website and published in our local papers.

### **Request**

For informational purposes, no action required at this time (other than officially setting the public hearing date and time).

# Nine Mile Creek Watershed District

## *Water Management Plan*

Prepared in accordance with the  
Metropolitan Surface Water Management Act and Watershed Law  
Minnesota Statutes, Chapters 103B and 103D

October 2017, amended ~~April 2018~~March 2019

projects complement the District's regulatory and capital improvement programs. The District's cost share and grant programs are described in the subsequent subsections.

### 6.6.3.1 Competitive Cost Share Program

The District established a competitive cost-share program under the auspices of its education and outreach program in 2008. The cost-share program provides District funding for project elements that exceed minimum regulatory requirements. The program offers financial assistance for implementation of best management practices that:

1. Improve water quality or increase the capacity of the watershed to store water;
2. Preserve, protect and restore native plant and wildlife communities, with emphasis on lakes, rivers and wetlands; and
3. Protect and conserve groundwater quality and quantity.

Competitive cost share grants for implementing improvement projects are available to residents, homeowner and lake associations, nonprofits, schools, businesses, and cities for projects located within the watershed boundaries. The Board of Managers establishes an annual budget for cost-share funding, and periodically reviews and adjusts, as necessary, the eligibility criteria. Presently, grants are awarded for up to 75% of project cost, on a reimbursement basis, for materials, labor, engineering, and consulting fees. The maximum grant award varies by applicable, with up to \$3,000 for residential projects, up to \$10,000 for townhome, condominium, or lake associations, and up to \$25,000 for commercial, government, or nonprofit projects.

Applications are reviewed by staff, and residential applications are also review by the District's Citizens Advisory Committee. All projects must be approved by the NMCWD Board of Managers. In each case, the participating property owner must commit to long term maintenance (either 5 or 10 years, depending on the project type), and making the project available for education signage to capitalize on the education and outreach potential of the work.

The competitive cost share program is funded annually through a portion of the District's levy funds (see Section 6.5.1). The criteria for the consideration of specific projects for cost share funding have been established by the Board of Managers and consideration of revisions may be initiated by the Board of Managers in response to changing conditions in the watershed, to implement new initiatives developed by staff or otherwise as circumstances warrant. The District will conduct a thorough stakeholder engagement process prior to any revision of the cost-share criteria.

Detailed information regarding cost share program eligibility, application guidelines, and deadlines are available from the District website at: [9-Mile Creek Watershed District: Get Involved: Grants](#) [Ref. 41].

### 6.6.3.2 Planning Grants and Projects

Planning grants were established by the District in 2016 as a 3-year pilot program to build capacity within nonprofit organizations to apply for District or other cost share grants and implement best management practices. The grants are available for nonprofit organizations that are held by an organization that is

open and accessible to the public that hold 2.5 acres or more of land located within the District. Through the grant, organizations work with a consultant selected by the District to develop a Conceptual Stormwater and Sustainable Landscape Plan. The District funds 100% of the cost to develop the concept plan, up to a determined maximum amount (\$5,000 for the 3-year pilot program beginning in 2016). As part of the grant, organizations that participate are required to host an educational workshop on a water-related topic and write a newsletter article about the site plan. Planning grants are funded annually through a portion of the District's levy funds. Grant applications are reviewed by staff. All applications must be approved by the NMCWD Board of Managers.

The District applied for and was awarded an Accelerated Implementation Grant for this work from BWSR through the Clean Water, Land and Legacy Amendment in 2017. The grant allowed the District to assess nonprofit parcels for targeted BMP installation on prioritized locations in the watershed. The District conducted outreach at the identified sites to garner support for partnering with the NMCWD on installation of a BMP at each project location. The outcome of the grant led to the development of preliminary design plans and cost estimates for stormwater BMPs on these prioritized sites owned by nonprofit organizations in the watershed. Working in partnership with the property owner in each case but taking a lead role given its expertise in BMP design and construction, the District will install at least one BMP on each property. The outcomes of these projects will reduce stormwater runoff rates, volumes, and pollutant loadings to downstream waterbodies in the District. The organizational, technical, and financial leadership that the District offers on these projects ensures installation of BMPs in strategic locations in the watershed. Without District leadership, the resources to complete these projects may otherwise be unavailable.

### 6.6.3.3 Special Cost Share Projects

As discussed in the introduction to this subsection of the Plan, through implementation of its cost share and capital improvement programs, the District has determined that the water resource protection and improvement needs identified in this Plan can often be addressed most effectively by integrating watershed objectives into other infrastructure, development, and redevelopment activities planned by public and private land owners. To facilitate its productive and efficient engagement with city land-use planners and other potential partners to pursue project opportunities in keeping with elements in the CIP in Table 6-2, the District has developed specific guidelines, development steps and a management structure for special cost-share projects. In this development phase, the District seeks to scale its involvement, with possible District contributions including:

- Assessment of options for or feasibility of options to address a water resources management issue
- Partnering to assess options for or feasibility of options to address a water resources management issue
- Making District staff and/or engineer available to assist with a scope of work
- Contribution of funding to completion of a scope of work
- Providing access to NMCWD data.

Table 6-2. District Capital Improvement Projects during 10-year Plan Cycle

Item Number	Implementation Items	Priority (H= high, M= medium, L= low)	NMCWD Role (Lead, Partner, or Participant)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total Estimated Cost (2018-2027)
1	Stabilize and restore the North Fork of Nine Mile Creek in Edina <sup>1</sup> .	H	Lead	\$1,500,000										\$1,500,000
2	Implement recommendations of Normandale Lake UAA (2005) and/or subsequent studies (see S-6 from Table 6-2), which may include in-lake alum treatment, aquatic plant management, and/or construction of two stormwater treatment ponds within the North Fork and South Fork watersheds.	H	Lead/Partner	\$500,000	\$500,000									\$1,000,000
3	Implement recommendations of Lake Cornelia UAA (2010) and/or subsequent studies (see S-8 from Table 6-2), which may include management of curlyleaf pondweed and carp, alum treatment of phosphorus-rich lake sediment, construction of a stormwater treatment pond and/or an iron-enhanced sand filter just upstream of North Lake Cornelia.	H	Lead/Partner		\$500,000	\$500,000								\$1,000,000
4	Implement structural improvement recommendations from the Pentagon Park/Border Basin Regional Stormwater Management Study.	H	Lead/Partner		\$500,000									\$500,000
5	Implement recommendations of Lake Edina UAA or WRAPS, once completed.	M	Lead/Partner			\$500,000								\$500,000
6	Implement Southeast Anderson Lake improvement recommendations from Anderson Lakes UAA (2005), which includes alum treatment of phosphorus-rich lake sediment and additional curlyleaf pondweed management, as needed.	H	Lead/Partner			\$200,000								\$200,000
7	Implement recommendations of Lake Smetana UAA (2003) and/or subsequent studies (see S-9 from Table 6-2), which may include stormwater pond upgrades in SL-2, SL-6, and SL-11 and construction of new stormwater ponds in SL-7 and SL-19A (see Appendix A for potential locations).	H	Lead/Partner				\$1,000,000							\$1,000,000
8	Implement recommendations of Lake Holiday, Wing Lake and Rose Lake UAA (2010) and/or subsequent studies, which may include alum treatment of phosphorus-rich lake sediment in each lake, aquatic plant management, watershed infiltration BMPs and construction of an iron-enhanced filtration system to treat flows from Lake Holiday.	M	Lead/Partner					\$500,000	\$500,000					\$1,000,000
9	Stabilize the South Fork of Nine Mile Creek.	H	Lead					\$1,000,000	\$500,000					\$1,500,000
10	Implement measures to increase dissolved oxygen concentrations, in collaboration with agencies and stakeholders.	H	Lead/Partner						\$250,000					\$250,000

Table 6-2. District Capital Improvement Projects during 10-year Plan Cycle

Item Number	Implementation Items	Priority (H= high, M= medium, L= low)	NMCWD Role (Lead, Partner, or Participant)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total Estimated Cost (2018-2027)
11	Implement recommendations of draft Arrowhead and Indianhead Lakes UAA (2006) and/or subsequent studies (see S-10 from Table 6-2), which may include management of curlyleaf pondweed and alum treatment of phosphorus-rich lake sediment.	M	Lead/Partner							\$25,000	\$100,000	\$25,000		\$150,000
12	Implement recommendations of draft Mirror Lake UAA (2004) and/or subsequent studies (see S-11 from Table 6-2), which may include management of curlyleaf pondweed, alum treatment of phosphorus-rich lake sediment, upgrade of stormwater pond in ML-3, and construction of a stormwater pond in ML-16 (see Appendix A for potential locations).	M	Lead/Partner							\$250,000				\$250,000
13	Stabilize the Main Stem of Nine Mile Creek between Marsh Lake and 102nd Street in Bloomington.	H	Lead								\$1,000,000	\$1,000,000		\$2,000,000
14	Implement recommendations of Penn Lake UAA (2003) and/or subsequent studies (see S-12 from Table 6-2), which may include management of purple loosestrife, goose management, and construction of a stormwater pond to treat runoff from future I-35W expansion.	M	Lead/Partner									\$150,000		\$150,000
15	Implement recommendations from other UAAs (or UAA updates), TMDLs, WRAPS studies, and/or stream assessments, as needed.	H	Lead/Partner							\$500,000			\$500,000	\$1,000,000
16	Implement recommendations from other regional flood studies, as needed (e.g., Metro Boulevard /Edina Industrial Park regional flood mitigation).	M	Lead/Partner			\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$2,000,000
17	<u>Implement BMPs identified through Accelerated Implementation Grant on prioritized privately owned, nonprofit sites.</u>	H	Lead		\$125,000	\$125,000								\$250,000
			<b>Totals:</b>	\$2,000,000	<del>\$1,500,000</del> \$1,625,000	<del>\$1,450,000</del> \$1,575,000	\$1,250,000	\$1,750,000	\$1,500,000	\$1,025,000	\$1,350,000	\$1,425,000	\$750,000	<del>\$14,000,000</del> \$14,250,000

<sup>1</sup> Estimated project cost does not included anticipated costs during 2017.

# 2019 Feasibility Study

*Nonprofit Stormwater Best Management Practices*

March 2019



# 2019 Feasibility Study

March 2019

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Appendix A Preliminary Design Plans

### Prepared by:

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# 1.0 Introduction and Project Background

## 1.1 Introduction

This document summarizes and assesses the feasibility of potential projects at six prioritized sites, all on land owned by nonprofit organizations, to improve water quality at downstream water bodies. The project locations and projects were selected through multiple layers of prioritization.

## 1.2 Project Background

An Accelerated Implementation Grant was awarded to the District from the Minnesota Board of Water and Soil Resources (BWSR) through the Clean Water, Land and Legacy Amendment in 2017. The outcome of the grant was to have preliminary design plans and cost estimates prepared for stormwater best management practices (BMPs) on prioritized, nonprofit sites in the Nine Mile Creek Watershed District (NMCWD), so the NMCWD could pursue project installation.

### 1.2.1 Targeting and Prioritization

The 2017 Clean Water Fund Grant allowed the NMCWD to complete an extensive process to identify and prioritize locations for BMPs on lands owned by nonprofits in the watershed. From this grant, six sites were selected for BMP installation. This project includes the targeting efforts resulting from the 2017 Clean Water Fund Grant, which included the following decision-making process:

1. **Site Targeting and Prioritization:** Properties with nonprofit ownership (e.g., faith-based and other nonprofit organizations) were identified and prioritized based on potential impact to downstream water resources. A GIS analysis was conducted to identify targeted subwatersheds based on recommendations in past NMCWD lake diagnostic studies, the impaired waters list and high priority protection lakes and/or stream segments. The GIS analysis included identification of targeted areas in which runoff currently receives little or no stormwater treatment prior to discharge to downstream water resources.
2. **Desktop Site Analysis:** A high-level GIS assessment was conducted to evaluate the suitability of BMP installation based on aerial imagery, land availability, soils, topography, and utilities information. 58 sites were selected for a site visit.
3. **Site Visits and Prioritization:** 58 site visits were conducted over four days in July and August of 2017 by a Barr Engineering Landscape Architect and a NMCWD staff member to better understand site conditions such as available green space, potential utility conflicts, locations of catch basins, and the potential for cost-effective BMP retrofits. These sites were then prioritized based on findings of the site visits and the site targeting GIS analysis. During the site visits, 21 properties were identified as having feasibility for BMP installation. 24 total BMPs were identified. The locations and BMPs were screened using a prioritization tool that considered things such as stormwater quality benefit, constructability, concessions from property owners, and educational value and were given a grade to guide outreach efforts.

### 1.2.2 Outreach and Partner Commitment

Seventeen nonprofits were selected for outreach regarding interest in stormwater BMP installation. Eight meetings were held with organizations that expressed interest to garner support for partnering with the NMCWD. For the meetings, high level concept plans and a handout were provided to explain the goals of the project, responsibilities, and the process moving forward.

Based on the outreach meetings, the District received commitments from six nonprofits to move forward with projects. The six nonprofits and projects are:

1. Bethlehem Lutheran Church (5701 Eden Prairie Rd, Minnetonka, MN 55345): Infiltration Basin
2. Chapel Hills United Church of Christ (6512 Vernon Ave S, Edina, MN 55436): Vegetated Swale
3. Good Samaritan United Methodist Church (5730 Grove St, Edina, MN 55436): Raingarden
4. The Church of St. Edward (9401 Nesbitt Ave S, Bloomington, MN 55437): Two Raingardens
5. Oak Grove Presbyterian Church (2200 W Old Shakopee Rd, Bloomington, MN 55431): Raingarden
6. St. Luke's Lutheran Church (1701 W Old Shakopee Rd, Bloomington, MN 55431): Raingarden

### 1.2.3. Preliminary Design

Following verbal commitments from the organizations, Barr Engineering completed site surveys and utility locates and created preliminary BMP design plans. NMCWD and Barr staff met again with the partner organizations to review the preliminary design plans and discuss responsibilities required for the projects.

### 1.2.4. Attempted Grant Funding

The initial concept to fund the implementation of the projects was through external grant funding with NMCWD providing match on the grants. A Projects and Practices Grant was submitted to BWSR in August 2018 for the implementation of the seven projects at the six nonprofits sites listed above. The NMCWD was notified in December 2018 that it did not receive funding for the implementation of the projects. Additionally, a Hennepin County Opportunity Grant was submitted to the county in December 2018, which the District also did not receive.

## 2.0 Project Goals

The Nine Mile Creek Watershed District will install seven stormwater best management practices on six prioritized nonprofit landowner sites in the watershed. Working in partnership with the nonprofit partners, five raingardens, one swale, and one infiltration basin are planned for installation. One of the primary goals of the NMCWD is to maintain or reduce impacts to downstream waterbodies by reducing stormwater runoff rates, volumes and pollutant loadings, which the BMPs at these six project sites will accomplish (2017 NMCWD Water Management Plan (WMP), Table 5-1, Pg 5-2). It should be noted that Nine Mile Creek is the primary target for water quality restoration. However, there are six locations for BMP installation. One site will drain to Glen Lake, one site to Hawkes Lake, and one site to St. Edwards Pond before the water drains to Nine Mile Creek. It is also worth noting that three of the sites are also

upstream of Normandale Lake, a threatened lake, and the BMPs will provide treatment to water draining to Normandale Lake.

NMCWD is an urbanized watershed, much of which developed before stormwater management standards were in place. To continue the work of the District, retrofitting existing properties to target pollutants of concerns, such as nutrients, is one of a few options to maintain or improve water quality. The BMPs in this project are targeted to prioritize infiltration in key areas throughout watershed. In addition, the BMP retrofits are all on highly impervious nonprofit sites that aren't likely to receive stormwater treatment through the redevelopment process anytime soon. However, future land-disturbing work (i.e. redevelopment) would be subject to applicable NMCWD regulatory requirements.

The cumulative pollutant removal volumes, as calculated using MIDS, for these projects is annually projected to be 3.7 pounds total phosphorus, 712 pounds of total suspended solids, and 3.1 acre-feet of volume reduction, with an average of 64% annual runoff volume reduction.

In addition to water quality benefits, each BMP will be designed to include plantings that promote native pollinator habitat by using native flowering plants with blooms sequenced to last throughout the growing season. Turf reduction in favor of deep-rooted perennial plants, shrubs and trees are being proposed to highlight replicable landscape enhancements that showcase appropriate and manageable planting solutions in the suburban environment. By incorporating as many native trees as possible into the designs, the BMPs will help to enhance the urban tree canopy.

Education and outreach are a critical component of this project. The implementation of this project will lead to a high level of outreach due to the visibility of the sites and the active engagement of organizations involved in the BMP design, installation, and maintenance process. This project will demonstrate practical stormwater quality improvement techniques that can be implemented by local property and business owners. The introduction of the mission of the NMCWD to the broad audience attending these faith-based organizations allows for invaluable broadcasting of programs such as cost share grants and native plant community restorations made available by the NMCWD but sometimes underutilized.

### 3.0 Problem Assessment

One of the primary goals of the NMCWD is to maintain or reduce impacts to downstream waterbodies by reducing stormwater runoff rates, volumes and pollutant loadings (2017 NMCWD Water Management Plan (WMP), Table 5-1, Pg 5-2). In 2004, the NMCWD completed a comprehensive study of Nine Mile Creek which included evaluation of the physical stream conditions and ecological health of the creek. The study highlighted the high sensitivity of Nine Mile Creek to impacts from urbanization and identified the need to reduce the rate and volume of stormwater runoff to the creek to restore the physical stability of the stream channel. The study indicated that reducing stormwater rate and volume will improve 1) the ability of the stream to continue to naturally meander without excessive bank erosion, 2) the ecological characteristics of the stream, and 3) the ability of the stream to convey flood

flows without degradation/erosion. The study specifically identifies use of raingardens or other stormwater BMPs to reduce the rate and volume of runoff to the creek.

One of the project BMP sites is tributary to Glen Lake, a high-quality unimpaired lake in Minnetonka. In 2002, the NMCWD completed a detailed water quality study of Glen Lake, in which it was identified that water quality is especially threatened in wet years and as additional development occurs within the watershed. The primary pollutant of concern for Glen Lake is total phosphorus. The recommended protection and improvement strategy was implementation of stormwater BMPs to reduce watershed phosphorus loading to the lake.

Three of the six project BMP sites are located upstream of (and tributary to) Normandale Lake. While not currently impaired, the lake is considered threatened by NMCWD as the water quality of the lake is often near or poorer than the state standard for shallow lakes. A 2005 study by NMCWD identified the need to reduce sediment and phosphorus loading to Normandale Lake, which was confirmed in a 2017 study.

This overall project will allow the NMCWD to take steps to restore and protect Nine Mile Creek and the lakes associated with the project. The primary benefit of the project is reductions in stormwater volume and pollutant loadings to receiving waterbodies. Due to the targeting of the projects, the efforts are focused on areas tributary to waterbodies of greatest priority in the watershed. By targeting sites with some of the largest areas of impervious surface, such as churches, the BMPs proposed would intercept a significant percentage of stormwater runoff and infiltrate or filter it. The pollutant removal estimates are summarized in **Table 3-1** and were produced using MN MIDS (Minimal Impact Design Standards) Calculator and the preliminary construction plans created for each BMP.

**Table 3-1 Summary of pollutant removal estimates for proposed BMP projects at nonprofit sites**

Project Sites	Pollutant Removal per Year			Pollutant Removal over 15 Years		
	lbs TP	lbs TSS	acre-ft	lbs TP	lbs TSS	acre-ft
Bethlehem Lutheran Church	0.5	105	0.7	8.0	1575	9.8
Chapel Hills United Church of Christ	0.5	96	0.7	8.0	1440	9.8
Good Samaritan United Methodist Church	1.0	195	0.4	15.0	2925	6.2
St. Luke's Lutheran Church	0.8	155	0.5	12.0	2325	7.5
The Church of St. Edwards	0.6	118	0.6	9.3	1770	9.2
Oak Grove Presbyterian Church	0.2	43	0.3	3.5	645	4.1
<b>Total</b>	<b>3.7</b>	<b>712</b>	<b>3.1</b>	<b>55.7</b>	<b>10,680</b>	<b>46.4</b>

In addition, for a highly urbanized watershed like NMCWD, it is difficult to find partners that have resources and willingness to maintain green infrastructure. However, through the District's engagement process, willing partners have been found. These proposed projects would potentially reach thousands of additional residents in the community, as well, inspiring them to take a proactive approach to the water quality impacts from their personal and business properties.

Success will be measured by implementation of the BMPs at the six sites, monitoring of the BMPs for performance, and ongoing water quality monitoring that the District undertakes for long-term trend analysis.

## 4.0 Recommended BMPs & Cost Estimate Summary

The stormwater BMPs proposed as part of this project are part of a watershed-wide approach to improve the water quality of Nine Mile Creek and the lakes associated with the project. The BMPs proposed as part of this project are intended to reduce total phosphorus, total suspended solids, and reduce volume loading to Nine Mile Creek and the lakes associated with the projects. The six project sites are shown in **Figure 4-1**.

The BMPs selected to be included for this project are all raingarden type practices. These BMPs are among the most cost effective in terms of pollutant loading reduction as they do not often require significant traditional infrastructure such as stormwater piping, extensive pavement reconstruction and/or engineered components such as permeable pavements or underground infiltration systems. These types of BMPs also allow for strong volunteer engagement with events such as plant installations and on-going maintenance efforts.

Some local permits may be required on an individual project basis. City grading permits would be the responsibility of the contractor and/or the partnering organizations. Other permits, such as erosion control, would be obtained by the partnering organizations and administered by NMCWD.

Planning-level opinions of cost have been developed for the recommended stormwater best management practices. These opinions of cost are intended to help with planning and should not be assumed as absolute values. The project will be funded through the watershed-wide levy. The proposed stormwater best management practices, proposed timing, and estimated cost of each are summarized in **Table 4-2**.

**Table 4-2 Summary of recommended stormwater management practices, estimated schedule and cost**

Nonprofit Sites	Recommended Management Practice	Timing	Estimated Cost
Bethlehem Lutheran Church	Infiltration Basin	2020	\$57,498
Chapel Hills United Church of Christ	Vegetated Swale	2020	\$21,031
Good Samaritan United Methodist Church	Raingarden	2019	\$42,048
St. Luke’s Lutheran Church	Raingarden	2020	\$29,084
The Church of St. Edward	Two Raingardens	2019	\$42,962
Oak Grove Presbyterian Church	Raingarden	2019	\$26,391
		<b>Total</b>	<b>\$219,014</b>

Figure 4-1. Project sites marked on a NMCWD map

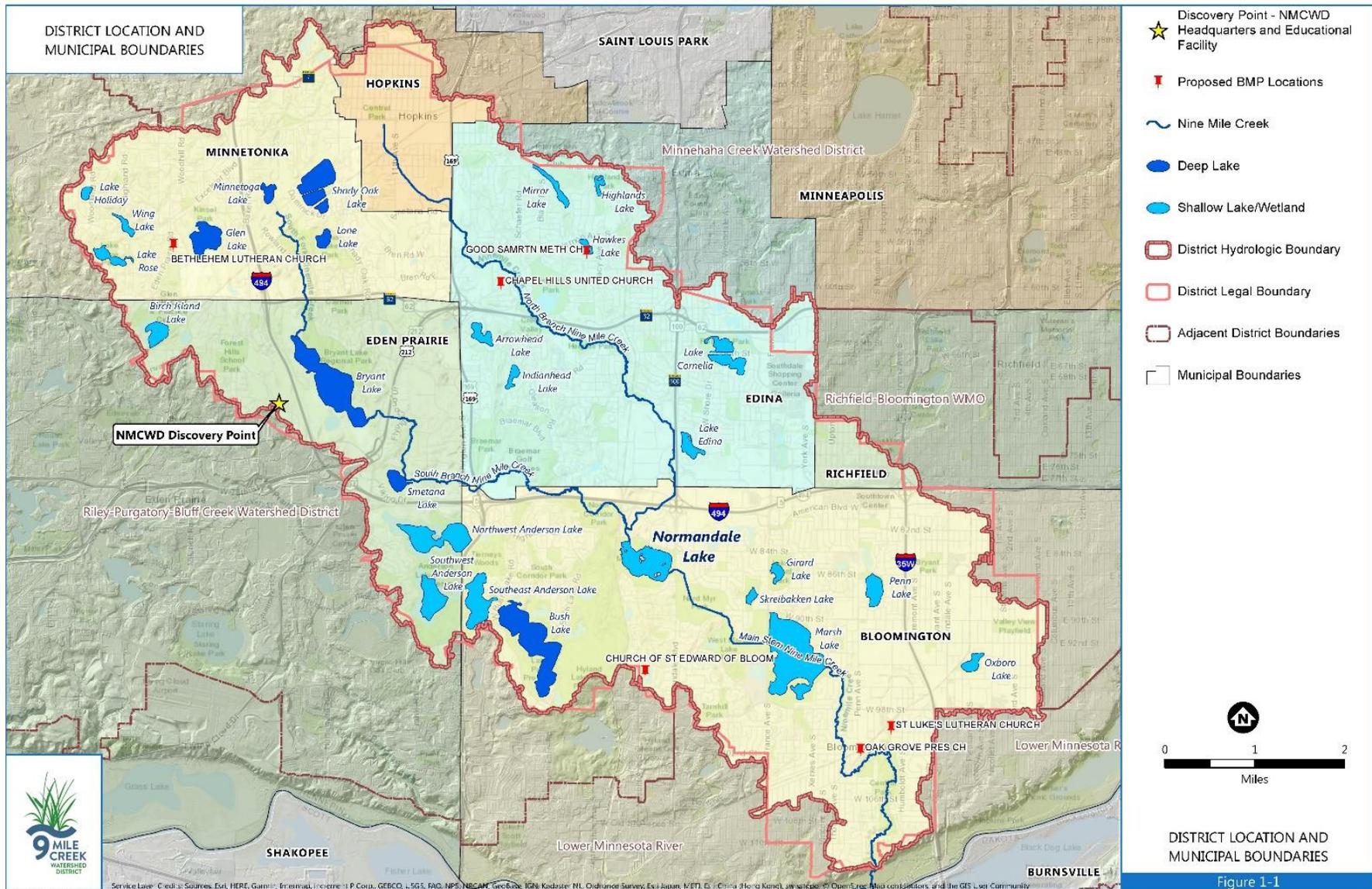


Figure 1-1

## 5.0 Maintenance

The NMCWD will require, at a minimum, that the nonprofit organizations enter into a fifteen-year maintenance agreement with the District for the BMPs. The District will maintain the BMPs for the first two years to ensure successful establishments of the vegetation and performance of the BMP. Following the initial two years, the NMCWD will turn the maintenance over to the landowners. During the initial establishment of the BMPs the NMCWD will provide training to the organizations to ensure long-term functioning and success of the BMPs.

## 6.0 References

Evaluation of Management Measures to Improve the Water Quality and Ecology of Normandale Lake (2017): [www.ninemilecreek.org/wp-content/uploads/Normandale-Lake-Report-Oct-2017.pdf](http://www.ninemilecreek.org/wp-content/uploads/Normandale-Lake-Report-Oct-2017.pdf)

Nine Mile Creek Watershed District Water Management Plan (2017, Amended 2018): [www.ninemilecreek.org/wp-content/uploads/2017\\_Oct\\_Final\\_9-Mile\\_WMP\\_Amended\\_April-10-2018-1.pdf](http://www.ninemilecreek.org/wp-content/uploads/2017_Oct_Final_9-Mile_WMP_Amended_April-10-2018-1.pdf)

Nine Mile Creek Watershed District Glen Lake Use Attainability Analysis (2000): Hard Copy Available Upon Request

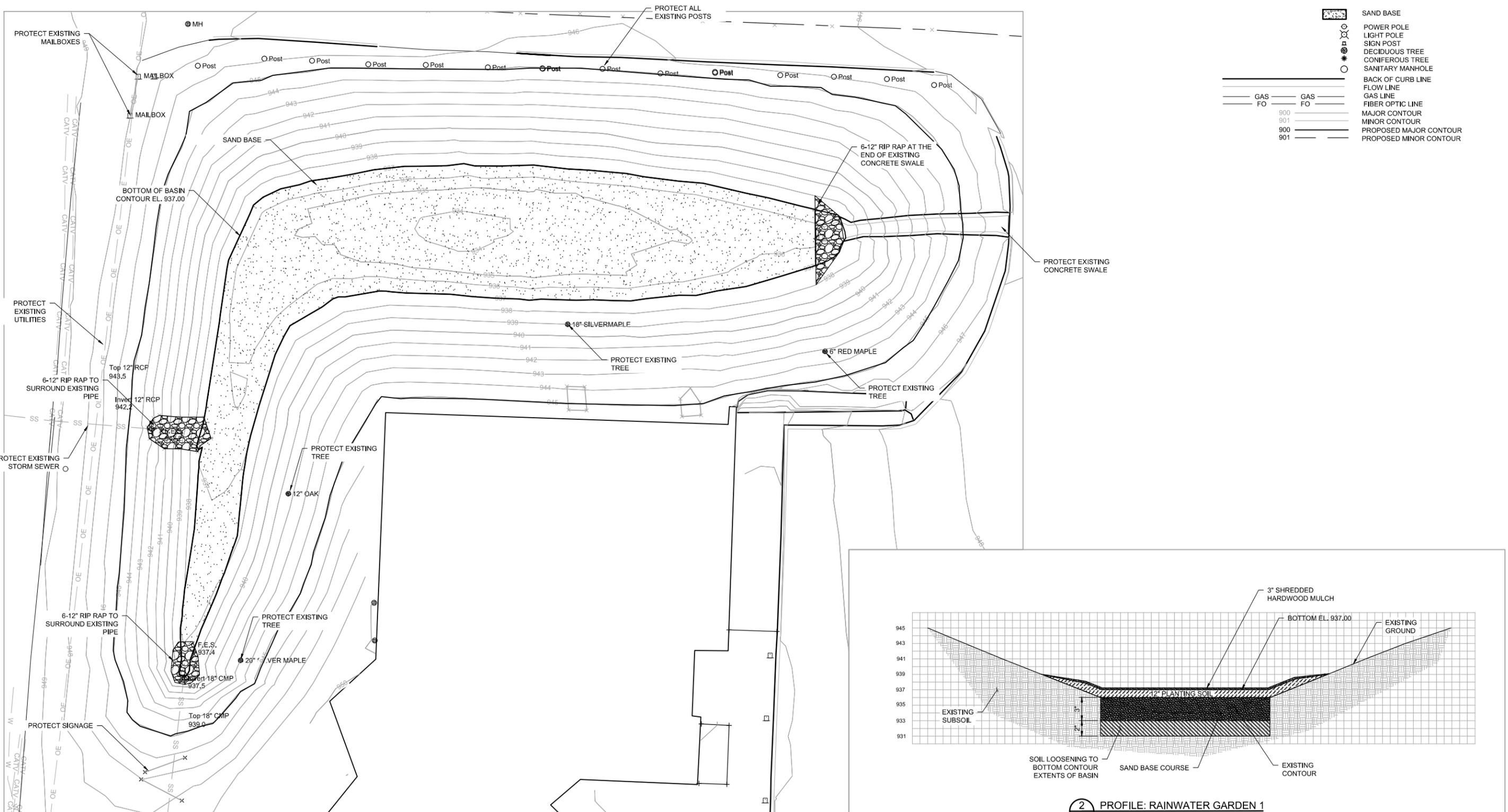
Nine Mile Creek Use Attainability Analysis (2004): [www.ninemilecreek.org/wp-content/uploads/Nine-Mile-Creek-Use-Attainability-Analysis-2004.pdf](http://www.ninemilecreek.org/wp-content/uploads/Nine-Mile-Creek-Use-Attainability-Analysis-2004.pdf)

Nine Mile Creek Watershed District Normandale Lake Use Attainability Analysis (2005): [www.ninemilecreek.org/wp-content/uploads/Normandale-Use-Attainability-Analysis-2005.pdf](http://www.ninemilecreek.org/wp-content/uploads/Normandale-Use-Attainability-Analysis-2005.pdf)

## Appendix A

CADD USER: Bill M. Bromman FILE: M:\DESIGN\23270634\01\2018\BETHLEHEM LUTHERAN\2327063400\_BETHLEHEM\_C-01\_GRADING.DWG PLOT SCALE: 1:2 PLOT DATE: 9/28/2018 11:27 AM

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- SAND BASE
- POWER POLE
- LIGHT POLE
- SIGN POST
- DECIDUOUS TREE
- CONIFEROUS TREE
- SANITARY MANHOLE
- BACK OF CURB LINE
- FLOW LINE
- GAS LINE
- FIBER OPTIC LINE
- MAJOR CONTOUR
- MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR

**1 PLAN: GRADING, EROSION CONTROL, AND REMOVALS**  
SCALE AS SHOWN



**2 PROFILE: RAINWATER GARDEN 1**  
NOT TO SCALE

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

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

PRINTED NAME \_\_\_\_\_  
SIGNATURE \_\_\_\_\_  
DATE \_\_\_\_\_ LICENSE # \_\_\_\_\_

RELEASED TO/FOR	A	B	C	0	1	2	3

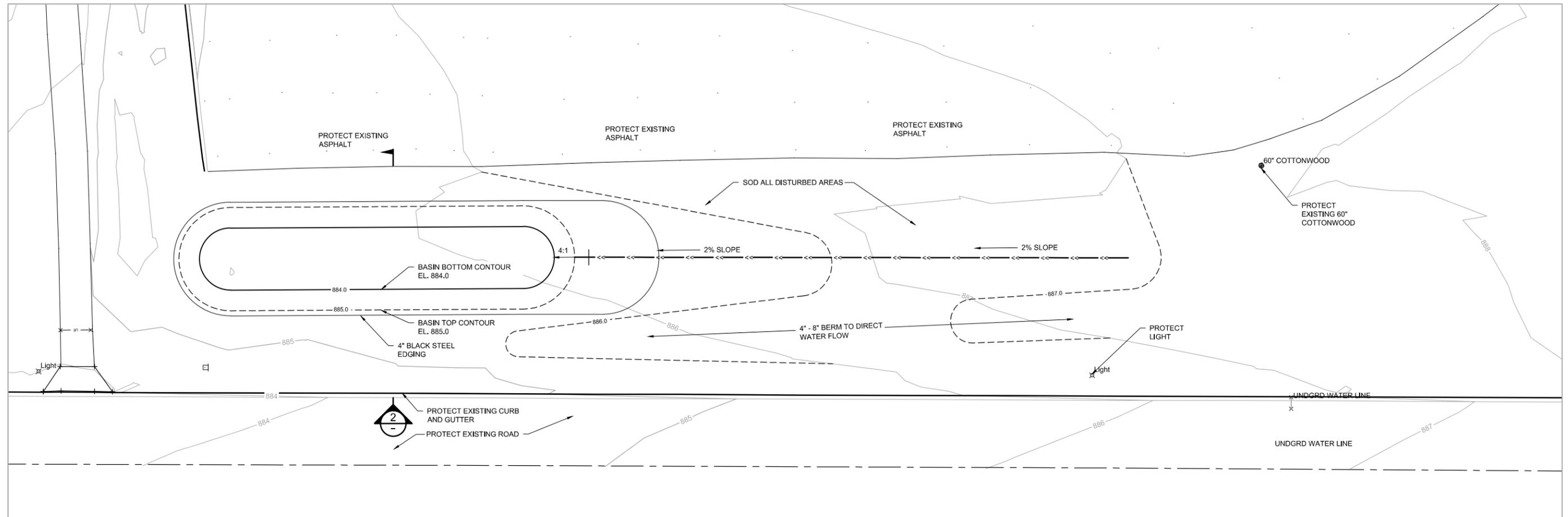
**BARR** Project Office:  
BARR ENGINEERING CO.  
4300 MARKETPOINTE DRIVE  
Suite 200  
MINNEAPOLIS, MN 55435  
Corporate Headquarters:  
Minneapolis, Minnesota  
Ph: 1-800-632-2277  
Ph: 1-800-632-2277

Scale	AS SHOWN
Date	9/28/2018
Drawn	WMB
Checked	
Designed	
Approved	

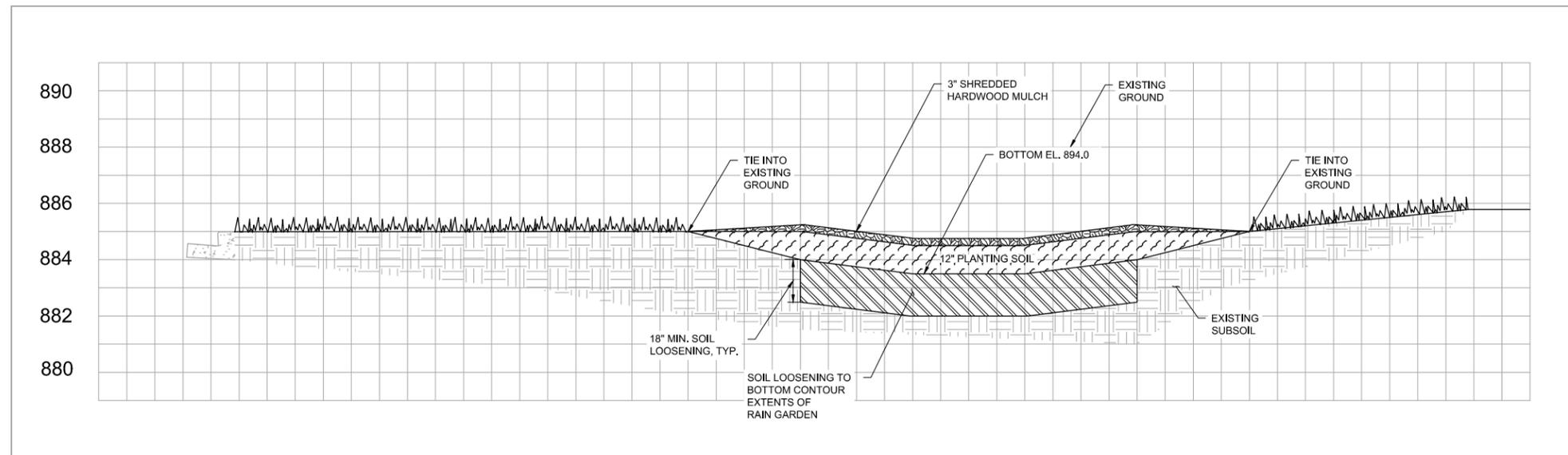
**NINE MILE CREEK WATERSHED**  
EDEN PRAIRIE, MINNESOTA

**BETHLEHEM LUTHERAN**  
MINNETONKA, MINNESOTA  
GRADING, EROSION CONTROL, & REMOVALS

BARR PROJECT No.	23/27-0634.00
CLIENT PROJECT No.	
DWG. No.	C-01
REV. No.	



1 PLAN: GRADING, EROSION CONTROL, AND REMOVALS  
AS SHOWN



2 SECTION: RAIN WATER GARDEN  
NOT TO SCALE

NOTES:

1. POTHOLE ALL EXISTING UTILITIES LOCATED WITHIN THE PROJECT LIMITS BEFORE EARTHWORK BEGINS.
2. MAKE ARRANGEMENTS FOR THE OWNER'S REPRESENTATIVE TO BE ONSITE WHILE SAND TRENCHES ARE EXCAVATED AND SUBGRADE SOILS ARE LOOSENED.
3. NO RUBBER TIRED EQUIPMENT IN BASIN AFTER LOOSENING. LOW GROUND PRESSURE TRACKED EQUIPMENT ONLY.
4. ANY COMPACTION OF PREVIOUSLY LOOSENED SOIL MUST BE RELOASENED.
5. USE EXCAVATED SOIL TO CREATE NEW BERM.
5. SAVE STRIPPED SOD EITHER ROLLED OR FOLDED ON A PALLET IN THE SHADE, WATERING DAILY. REUSE SOD TO SOD NEWLY CONSTRUCTED BERM.
6. THE CONTRACTOR SHALL HAVE ACCESS TO STREET SWEEPING EQUIPMENT AT ALL TIMES. THE CONTRACTOR SHOULD BE AWARE OF WEATHER CONDITIONS AND SWEEP ANY STREETS WITH DEBRIS PRIOR TO ANY RAINFALL EVENT. STOCKPILING ON THE STREET DURING ANY RAINFALL EVENT SHALL NOT BE ALLOWED.
7. COORDINATE WITH OWNER TO ENSURE ACCEPTABLE TRAFFIC CONTROL REQUIREMENTS.

PRELIMINARY  
DRAFT

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.

PRINTED NAME \_\_\_\_\_  
SIGNATURE \_\_\_\_\_  
DATE \_\_\_\_\_ LICENSE # \_\_\_\_\_

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

**BARR**  
Corporate Headquarters:  
Minneapolis, Minnesota  
Ph: 1-800-632-2277  
Ph: (952) 832-2601  
www.barr.com

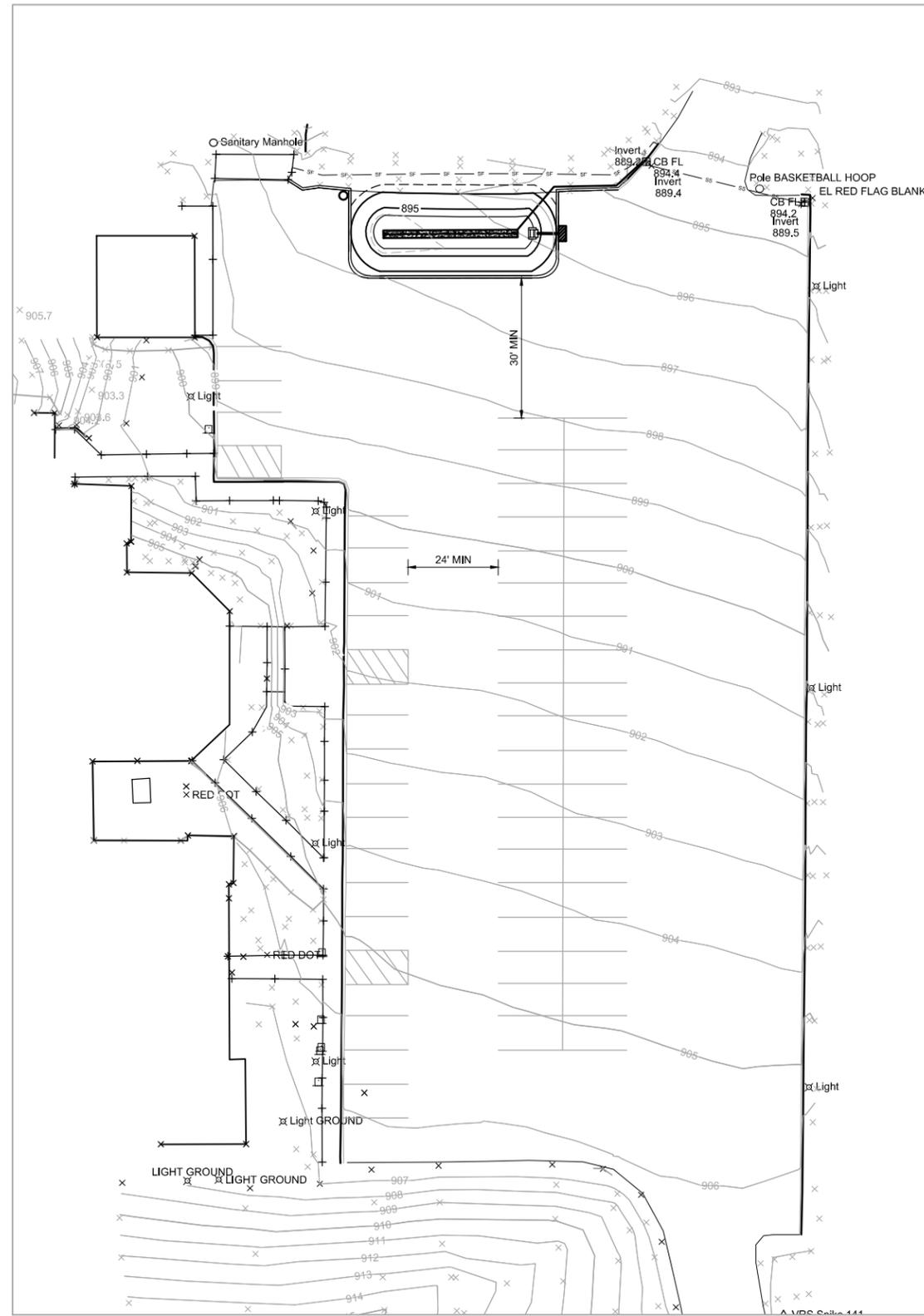
Project Office:  
BARR ENGINEERING CO.  
4300 MARKETPOINTE DRIVE  
Suite 200  
MINNEAPOLIS, MN 55435  
Ph: 1-800-632-2277  
Fax: (952) 832-2601  
www.barr.com

Scale	AS SHOWN
Date	10/10/2018
Drawn	WMB
Checked	
Designed	MEK2
Approved	

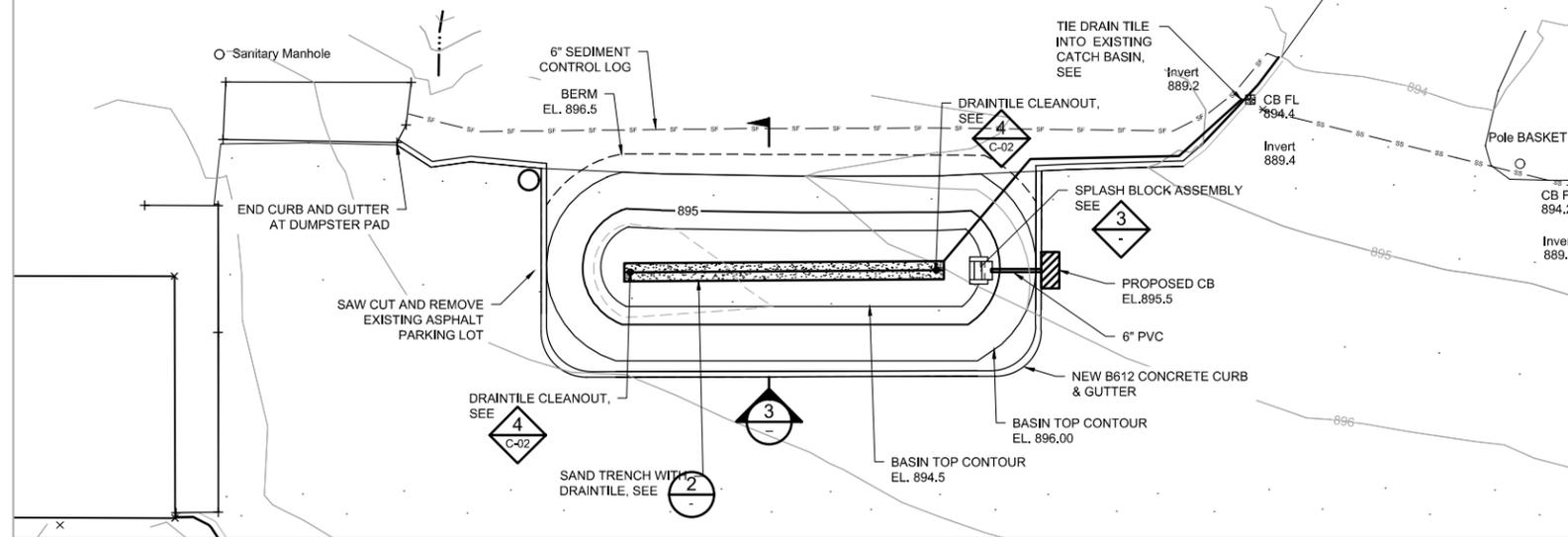
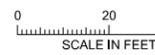
NINE MILE CREEK WATERSHED DISTRICT  
EDEN PRAIRIE, MN

CHAPEL HILLS UNITED CHURCH  
EDINA, MN  
GRADING, EROSION CONTROL, & REMOVALS

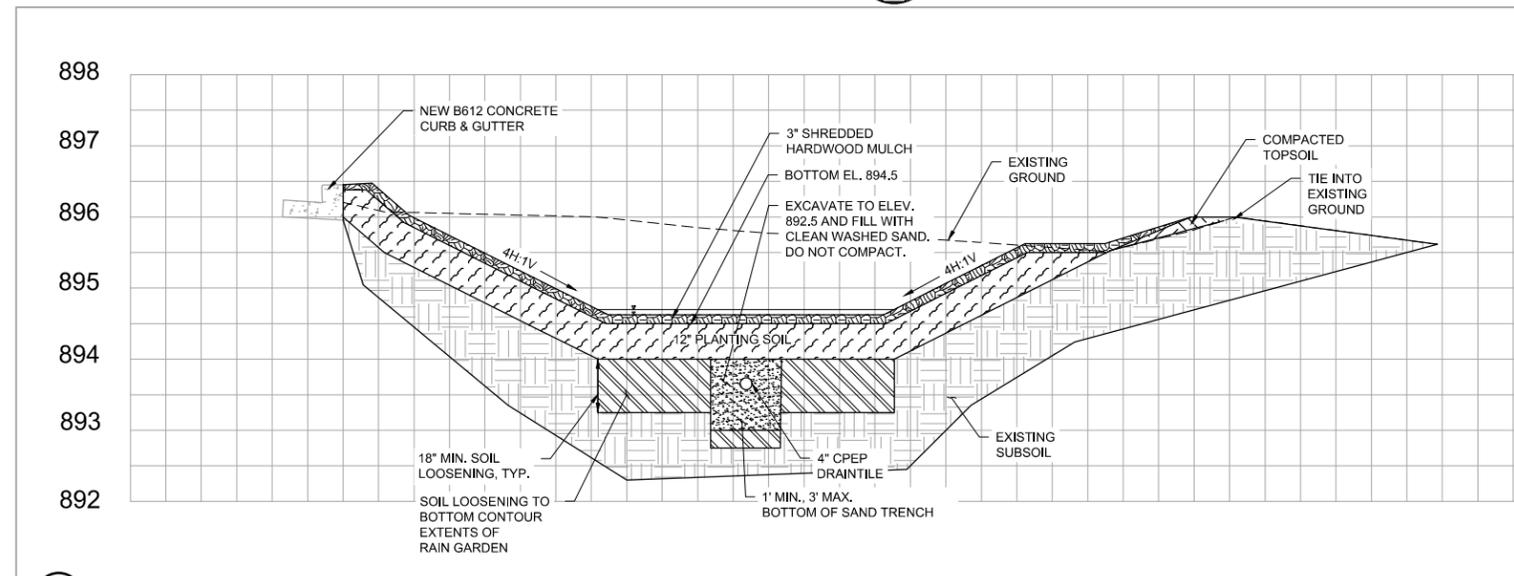
BARR PROJECT No.	23270634.00
CLIENT PROJECT No.	
DWG. No.	C-01
REV. No.	0



1 PLAN: RAIN GARDEN LOCATION AND PARKING STALLS  
AS SHOWN



2 PLAN: GRADING, EROSION CONTROLS, AND REMOVALS  
AS SHOWN



3 SECTION: RAINWATER GARDEN  
NOT TO SCALE

NOTES:

1. POTHOLE ALL EXISTING UTILITIES LOCATED WITHIN THE PROJECT LIMITS BEFORE EARTHWORK BEGINS.
2. SAWCUT FULL DEPTH BITUMINOUS PAVEMENT IN AREA SHOWN ON PLAN. PROTECT EXISTING BITUMINOUS PAVEMENT. IF DAMAGED DURING WORK, PATCH BITUMINOUS PAVEMENT. ASPHALT PATCHING IS INCIDENTAL TO THE BID ITEM PRICE.
3. MAKE ARRANGEMENTS FOR THE OWNER'S REPRESENTATIVE TO BE ONSITE WHILE SAND TRENCHES ARE EXCAVATED AND SUBGRADE SOILS ARE LOOSENED.
4. USE REMOVED EXISTING SOILS TO CREATE BERM. SUPPLEMENT AS NEEDED.
5. NO RUBBER TIRED EQUIPMENT IN BASIN AFTER LOOSENING. LOW GROUND PRESSURE TRACKED EQUIPMENT ONLY.
6. ANY COMPACTION OF PREVIOUSLY LOOSENED SOIL MUST BE RELOOSENED.
7. THE CONTRACTOR SHALL HAVE ACCESS TO STREET SWEEPING EQUIPMENT AT ALL TIMES. THE CONTRACTOR SHOULD BE AWARE OF WEATHER CONDITIONS AND SWEEP ANY STREETS WITH DEBRIS PRIOR TO ANY RAINFALL EVENT. STOCKPILING ON THE STREET DURING ANY RAINFALL EVENT SHALL NOT BE ALLOWED.
8. COORDINATE WITH OWNER TO ENSURE ACCEPTABLE TRAFFIC CONTROL REQUIREMENTS.

PRELIMINARY  
DRAFT

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NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

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.

PRINTED NAME: \_\_\_\_\_  
SIGNATURE: \_\_\_\_\_  
DATE: \_\_\_\_\_ LICENSE #: \_\_\_\_\_

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

**BARR** Project Office:  
BARR ENGINEERING CO.  
4300 MARKETPOINTE DRIVE  
Suite 200  
MINNEAPOLIS, MN 55435

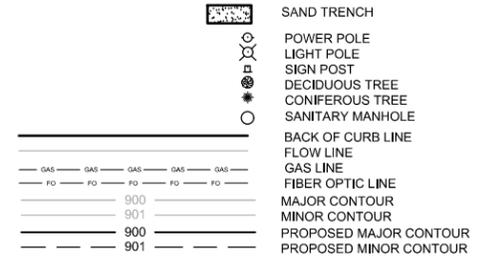
Corporate Headquarters:  
Minneapolis, Minnesota  
Ph: 1-800-632-2277  
Fax: (952) 832-2601  
www.barr.com

Scale	AS SHOWN
Date	10/10/2018
Drawn	WMB
Checked	
Designed	WMB
Approved	

**NINE MILE CREEK WATERSHED DISTRICT**  
EDEN PRAIRIE, MN

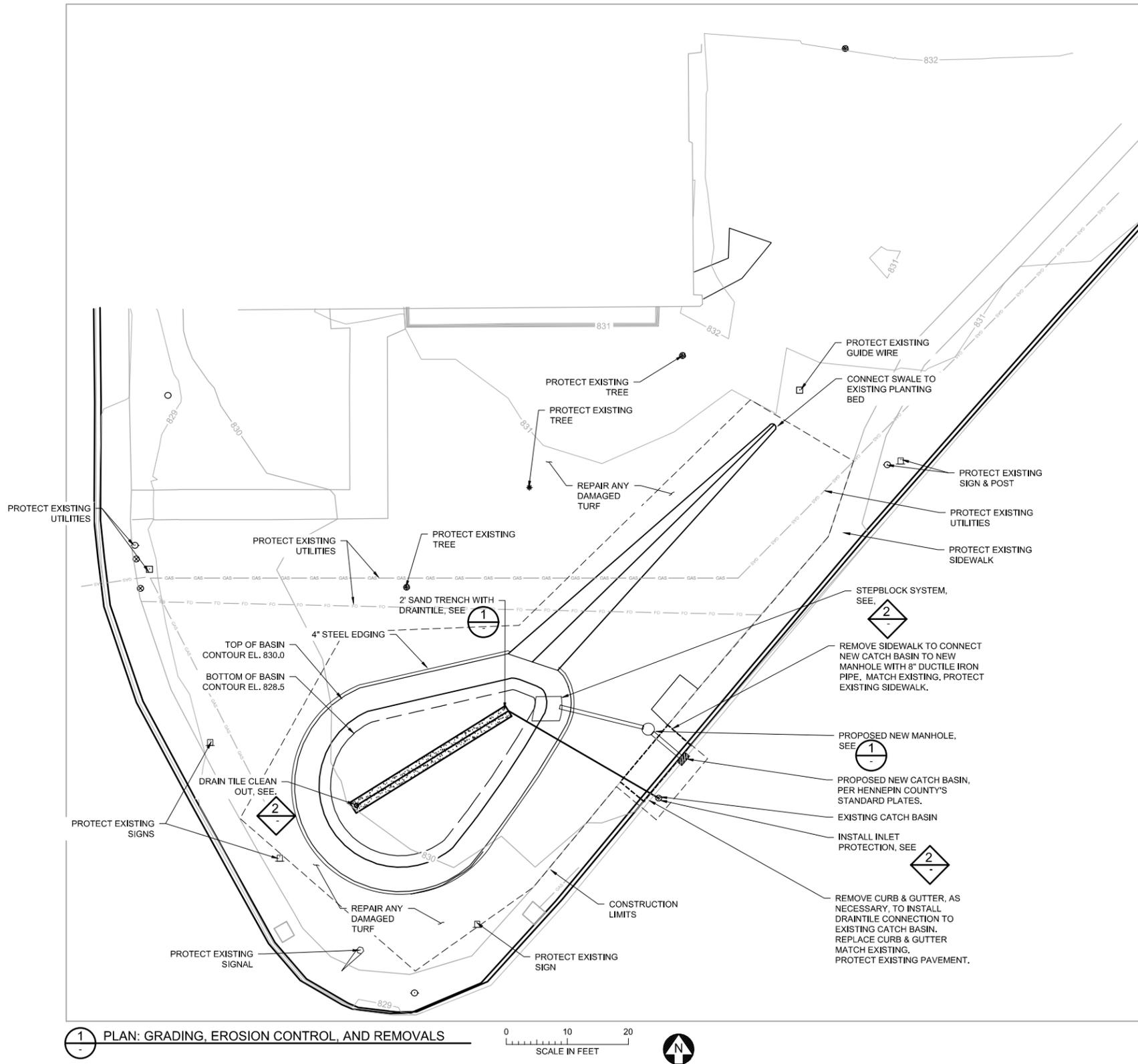
**GOOD SAMARITAN UNITED METHODIST CHURCH**  
EDINA, MN  
GRADING, EROSION CONTROLS, & REMOVALS

BARR PROJECT No.	23270634.00
CLIENT PROJECT No.	
DWG. No.	C-01
REV. No.	0

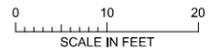


NOTES:

- NO WORK SHALL OCCUR WHILE CHILDREN ARE PRESENT
- POTHOLE ALL EXISTING UTILITIES LOCATED WITHIN THE PROJECT LIMITS BEFORE EARTHWORK BEGINS.
- MAKE ARRANGEMENTS FOR THE OWNER'S REPRESENTATIVE TO BE ONSITE WHILE SAND TRENCHES ARE EXCAVATED AND SUBGRADE SOILS ARE LOOSENING.
- NO RUBBER TIED EQUIPMENT IN BASIN AFTER LOOSENING. LOW GROUND PRESSURE TRACKED EQUIPMENT ONLY.
- ANY COMPACTION OF PREVIOUSLY LOOSENING SOIL MUST BE RELOOSENING.
- THE CONTRACTOR SHALL HAVE ACCESS TO STREET SWEEPING EQUIPMENT AT ALL TIMES. THE CONTRACTOR SHOULD BE AWARE OF WEATHER CONDITIONS AND SWEEP ANY STREETS WITH DEBRIS PRIOR TO ANY RAINFALL EVENT. STOCKPILING ON THE STREET DURING ANY RAINFALL EVENT SHALL NOT BE ALLOWED.
- COORDINATE WITH OWNER TO ENSURE ACCEPTABLE TRAFFIC CONTROL REQUIREMENTS.
- SOD DISTURBANCE SHALL BE CONFINED TO THE CONSTRUCTION LIMITS, AND ANYTHING OUTSIDE THE CONSTRUCTION LIMITS WILL BE REPAIRED BY THE CONTRACTOR.



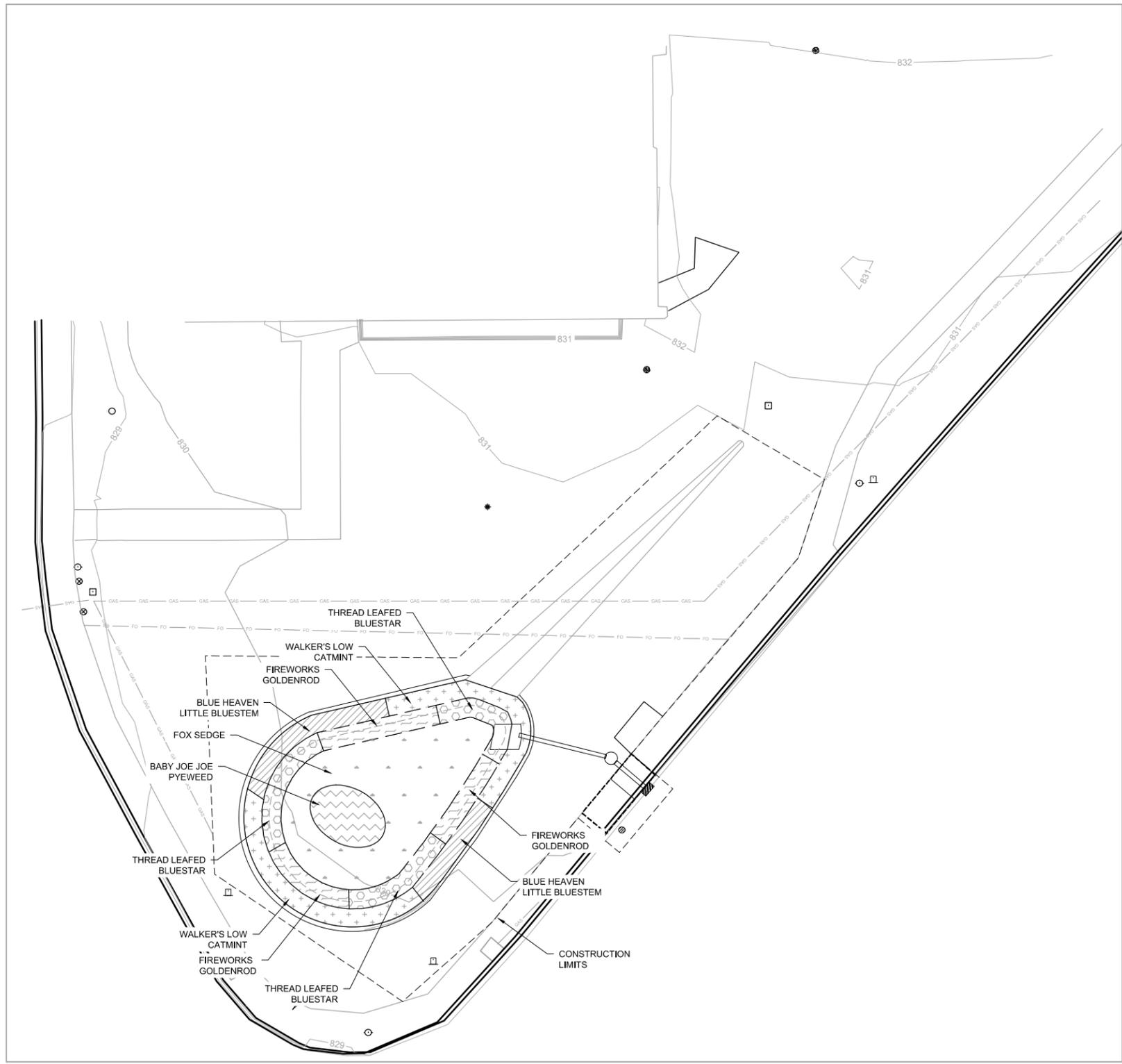
1 PLAN: GRADING, EROSION CONTROL, AND REMOVALS



PRELIMINARY DRAFT

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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE # _____		CLIENT BID CONSTRUCTION RELEASED TO/FOR DATE RELEASED	 Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com	Scale AS SHOWN Date 9/28/2018 Drawn WMB Checked _____ Designed WMB Approved _____	NINE MILE CREEK WATERSHED DISTRICT EDEN PRAIRIE, MN	OAK GROVE PRESBYTERIAN CHURCH BLOOMINGTON, MN	BARR PROJECT No. 2327634.00 CLIENT PROJECT No. DWG. No. C-01 REV. No. 0	
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION			



- SAND TRENCH
- POWER POLE
- LIGHT POLE
- SIGN POST
- DECIDUOUS TREE
- CONIFEROUS TREE
- SANITARY MANHOLE
- BACK OF CURB LINE
- FLOW LINE
- GAS LINE
- FIBER OPTIC LINE
- MAJOR CONTOUR
- MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR

**PLANTING NOTES:**

1. POTHOLE ALL EXISTING UTILITIES WITHIN THE PROJECT LIMITS BEFORE EARTHWORK BEGINS.
2. INFORM THE LANDSCAPE ARCHITECT OF PLANTING TWO DAYS PRIOR TO PLANT DELIVERY.
3. CONTRACTOR SHALL COORDINATE LAYOUT OF ALL PLANTS WITH DIRECTION OF LANDSCAPE ARCHITECT IN THE FIELD.
4. PLACE SHREDDED HARDWOOD MULCH (MN/DOT SPEC 3882.2 TYPE 6 - WEED SEED FREE SHREDDED HARDWOOD.) TO A DEPTH OF 3" WITHIN ALL PLANTING AREAS ONCE PLANT INSTALLATION IS COMPLETE.
5. INSTALL THE STEEL LANDSCAPE EDGING PER MANUFACTURER RECOMMENDATION INCLUDING STAKING SPACING AND QUANTITY.
6. CONTRACTOR WILL BE RESPONSIBLE FOR WATERING PLANTS (REGARDLESS OF NOTIFICATION) DURING ENTIRE WARRANTY PERIOD. WATERING WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
7. ALL EXISTING CONCRETE, ASPHALT, TREES TO BE KEPT AND TREE ROOTS SHALL BE PROTECTED. ANY DAMAGE TO EXISTING SITE FEATURES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE AND TO THE OWNER'S SATISFACTION.
8. DAMAGE TO EXISTING STRUCTURES OR NEWLY CONSTRUCTED ITEMS SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
9. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. IN THE CASE OF ANY DISCREPANCIES BETWEEN THIS DETAIL, PLANS, OR SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

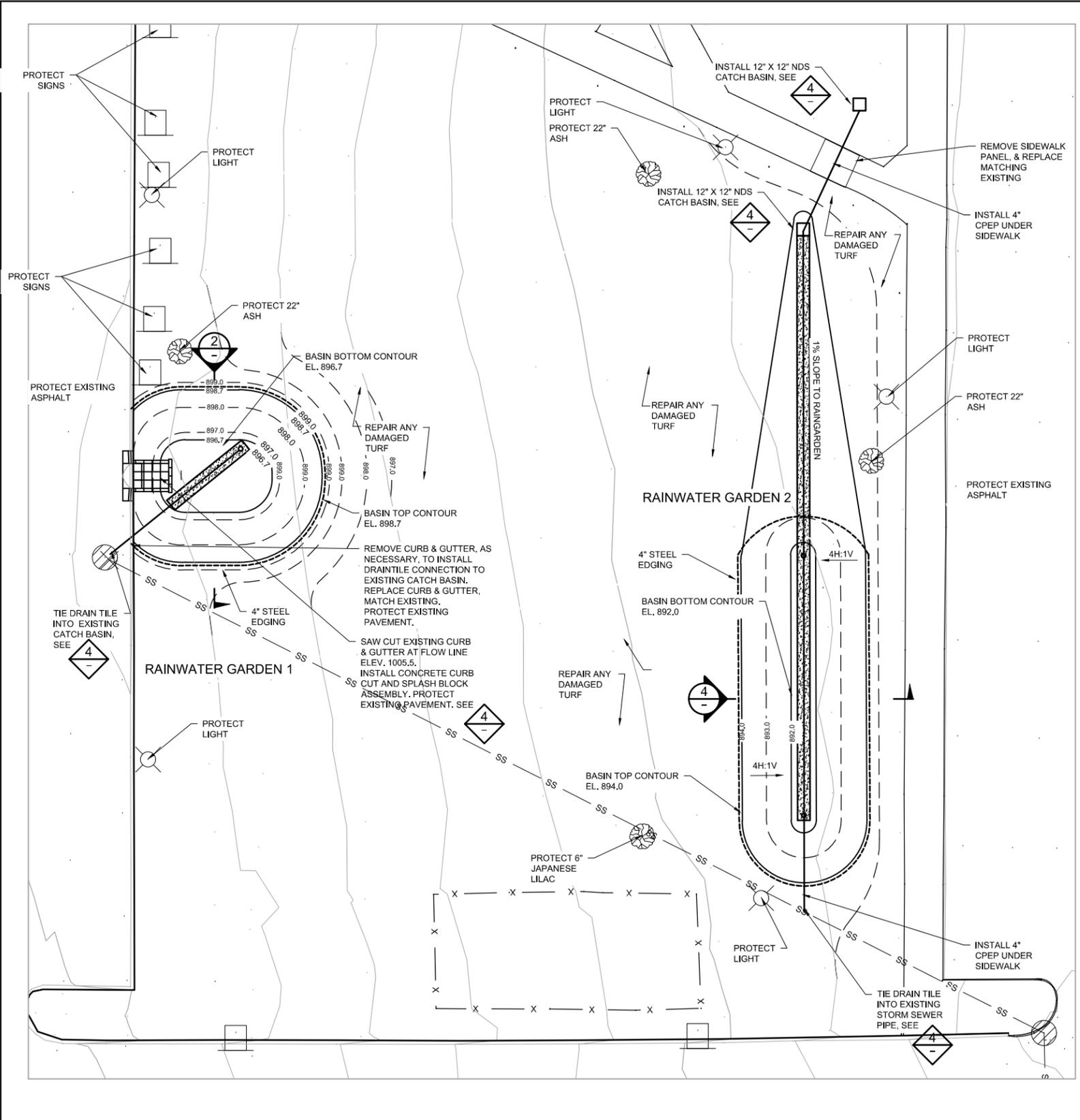
1 PLAN: RAIN GARDEN PLANTING

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SCALE IN FEET

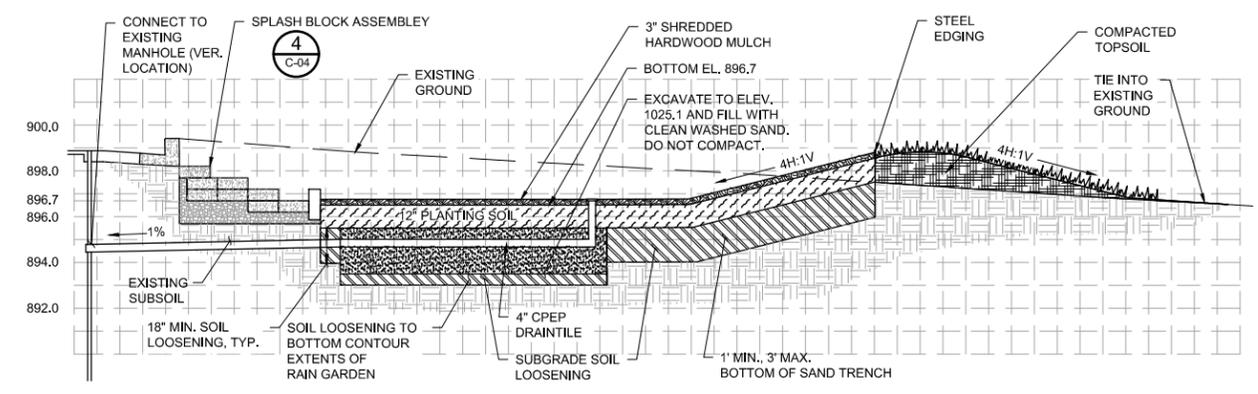
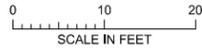
PRELIMINARY  
DRAFT

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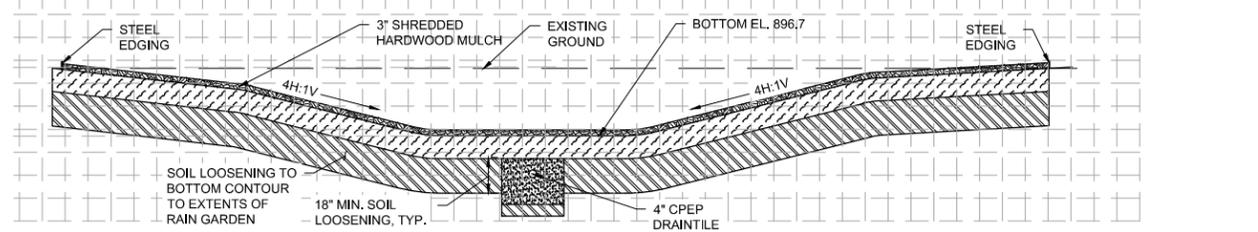
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.  PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE # _____		CLIENT BID CONSTRUCTION		RELEASED TO/FOR A B C 0 1 2 3		DATE RELEASED		 Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Fax: (952) 832-2601 Ph: 1-800-632-2277 www.barr.com	Scale AS SHOWN Date 9/28/2018 Drawn WMB Checked _____ Designed WMB Approved _____		NINE MILE CREEK WATERSHED DISTRICT EDEN PRAIRIE, MN		OAK GROVE PRESBYTERIAN CHURCH BLOOMINGTON, MN		BARR PROJECT No. 2327634.00	
		NO. BY CHK. APP. DATE REVISION DESCRIPTION		NO. BY CHK. APP. DATE REVISION DESCRIPTION		NO. BY CHK. APP. DATE REVISION DESCRIPTION			NO. BY CHK. APP. DATE REVISION DESCRIPTION		LANDSCAPE PLANTING PLAN		CLIENT PROJECT No.		DWG. No. C-01 REV. No. 0	



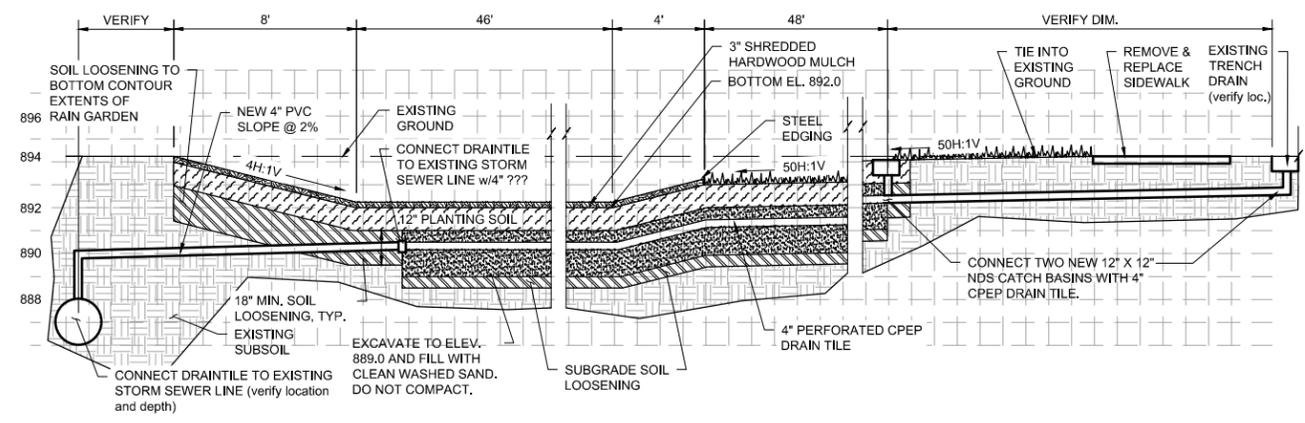
1 PLAN: GRADING, EROSION CONTROL, AND REMOVALS



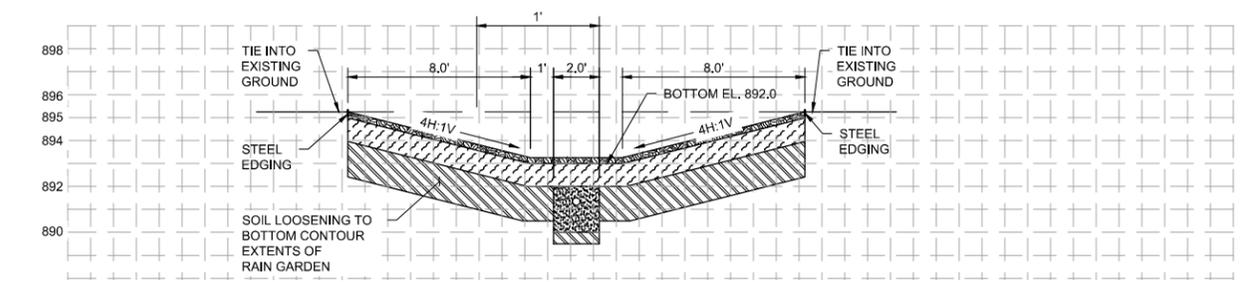
2 PROFILE: RAINWATER GARDEN 1  
C-02 NOT TO SCALE



3 SECTION: RAINWATER GARDEN 1  
C-02 NOT TO SCALE



4 PROFILE: RAINWATER GARDEN 2  
C-02 NOT TO SCALE



5 SECTION: RAINWATER GARDEN 2  
C-02 NOT TO SCALE

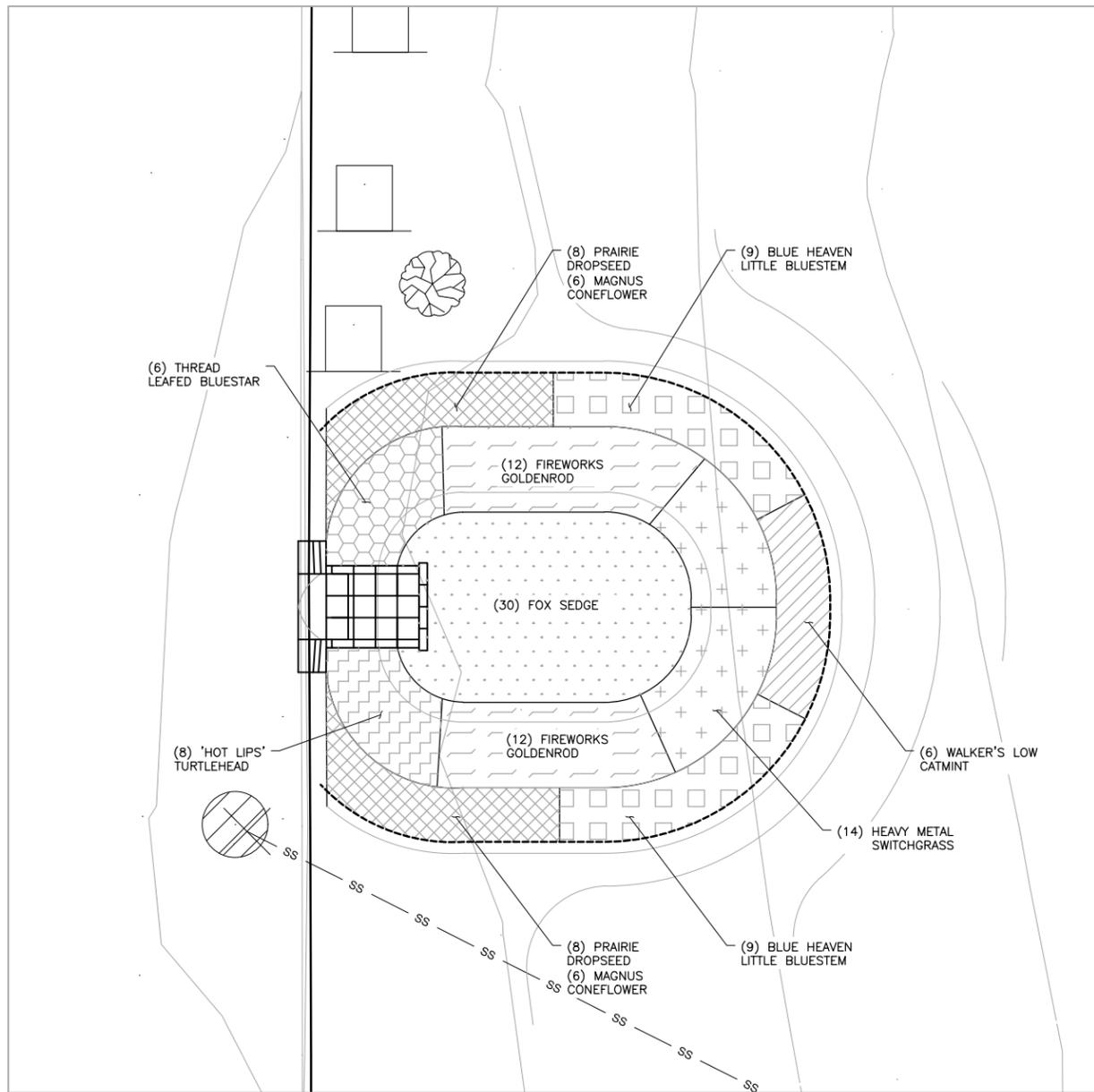
PRELIMINARY DRAFT

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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.		CLIENT BID CONSTRUCTION	<table border="1"> <tr><td>A</td><td>B</td><td>C</td><td>0</td><td>1</td><td>2</td><td>3</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	A	B	C	0	1	2	3								Project Office: <b>BARR ENGINEERING CO.</b> 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com	Scale: AS SHOWN Date: 9/28/2018 Drawn: KGR Checked: Designed: WMB Approved:	<b>NINE MILE CREEK WATERSHED DISTRICT</b> EDEN PRAIRIE, MN	<b>ST EDWARD'S CATHOLIC CHURCH</b> MINNEAPOLIS, MN	BARR PROJECT No. 23270634.00 CLIENT PROJECT No.
A	B	C	0	1	2	3																
NO. BY CHK. APP. DATE REVISION DESCRIPTION	PRINTED NAME SIGNATURE DATE LICENSE #	RELEASED TO/FOR	DATE RELEASED	DWG. No. C-01	REV. No. 0																	

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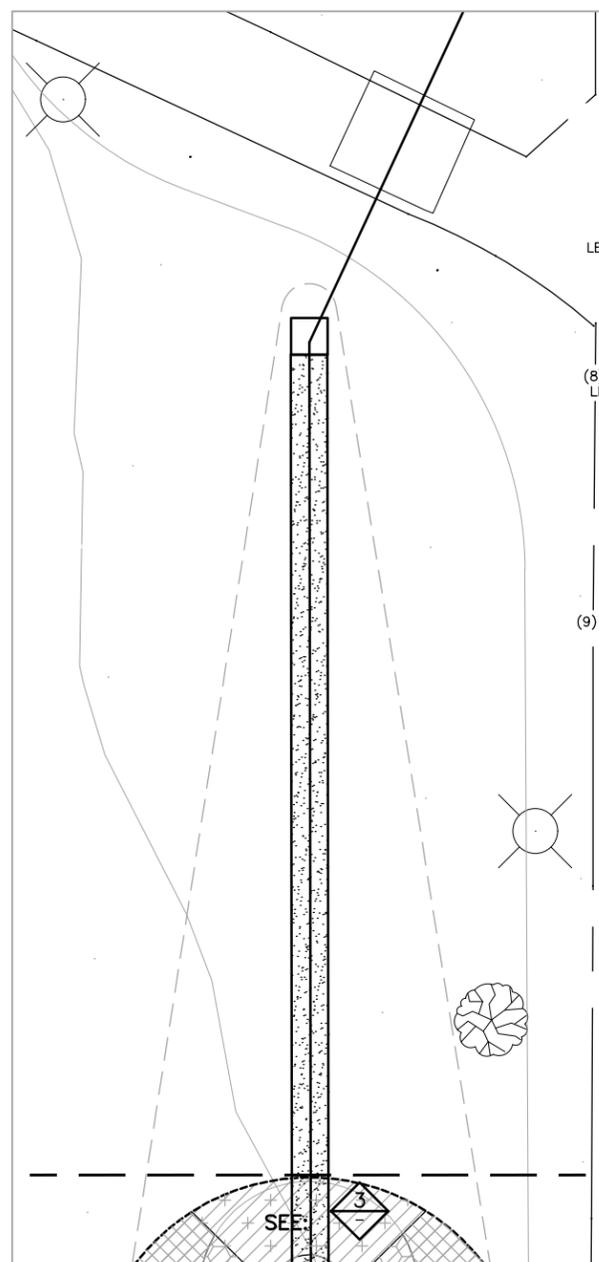
**1 PLAN: PLANTING PLAN RAIN GARDEN 1**  
NOT TO SCALE

**PLANT SCHEDULE: RAIN GARDEN 1**

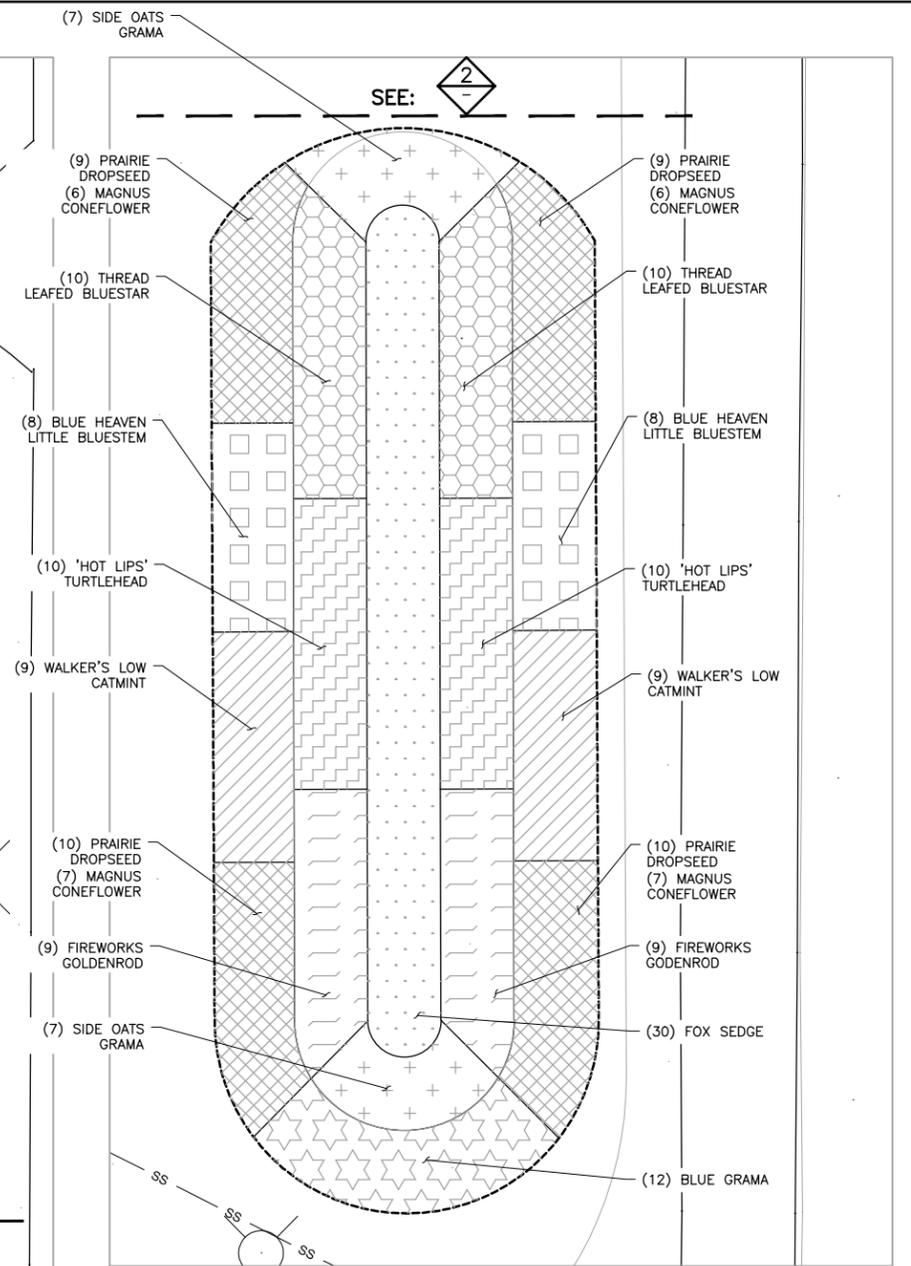
Common Name	Scientific Name	Quant.	Spacing	Size
<b>Perennials</b>				
Thread Leafed Bluestar	<i>Amsonia x hubrichtii</i>	6	2.5' o.c.	# 1 Pot
Butterfly Milkweed	<i>Asclepias tuberosa</i>	23	2.5' o.c.	# 1 Pot
Hot Lips Turtlehead	<i>Chelone lyonii 'Hot Lips'</i>	8	2.5' o.c.	# 1 Pot
Magnus Coneflower	<i>Echinacea purpurea 'Magnus'</i>	11	2.5' o.c.	# 1 Pot
Walker's Low Catmint	<i>Nepeta faassenii 'Walker's Low'</i>	6	2.5' o.c.	# 1 Pot
<b>Grasses</b>				
Fox Sedge	<i>Carex vulpinoidea</i>	29	2.5' o.c.	# 1 Pot
Heavy Metal Switchgrass	<i>Panicum virgatum 'Heavy Metal'</i>	13	2.5' o.c.	# 1 Pot
Blue Heaven Little Bluestem	<i>Schizachyrium scoparium 'MinnblueA'</i>	17	2.5' o.c.	# 1 Pot
Prairie Dropseed	<i>Sporobolus heterolepis</i>	16	2.5' o.c.	# 1 Pot

**PLANTING NOTES:**

- POTHOLE ALL EXISTING UTILITIES WITHIN THE PROJECT LIMITS BEFORE EARTHWORK BEGINS.
- INFORM THE LANDSCAPE ARCHITECT OF PLANTING TWO DAYS PRIOR TO PLANT DELIVERY.
- CONTRACTOR SHALL COORDINATE LAYOUT OF ALL PLANTS WITH DIRECTION OF LANDSCAPE ARCHITECT IN THE FIELD.
- PLACE SHREDDED HARDWOOD MULCH (MN/DOT SPEC 3882.2 TYPE 6 - WEED SEED FREE SHREDDED HARDWOOD.) TO A DEPTH OF 3" WITHIN ALL PLANTING AREAS ONCE PLANT INSTALLATION IS COMPLETE.
- INSTALL THE STEEL LANDSCAPE EDGING PER MANUFACTURER RECOMMENDATION INCLUDING STAKING SPACING AND QUANTITY.
- CONTRACTOR WILL BE RESPONSIBLE FOR WATERING PLANTS (REGARDLESS OF NOTIFICATION) DURING ENTIRE WARRANTY PERIOD. WATERING WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
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- DAMAGE TO EXISTING STRUCTURES OR NEWLY CONSTRUCTED ITEMS SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. IN THE CASE OF ANY DISCREPANCIES BETWEEN THIS DETAIL, PLANS, OR SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.



**2 PLAN: GRASS SWALE**  
NOT TO SCALE



**3 PLAN: PLANTING PLAN RAIN GARDEN 2**  
NOT TO SCALE

**PLANT SCHEDULE: RAIN GARDEN 2**

Common Name	Scientific Name	Quant.	Spacing	Size
<b>Perennials</b>				
Thread Leafed Bluestar	<i>Amsonia x hubrichtii</i>	20	2.5' o.c.	# 1 Pot
Butterfly Milkweed	<i>Asclepias tuberosa</i>	18	2.5' o.c.	# 1 Pot
Hot Lips Turtlehead	<i>Chelone lyonii 'Hot Lips'</i>	20	2.5' o.c.	# 1 Pot
Magnus Coneflower	<i>Echinacea purpurea 'Magnus'</i>	26	2.5' o.c.	# 1 Pot
Walker's Low Catmint	<i>Nepeta faassenii 'Walker's Low'</i>	18	2.5' o.c.	# 1 Pot
<b>Grasses</b>				
Blue Grama	<i>Bouteloua gracilis</i>	11	2.5' o.c.	# 1 Pot
Fox Sedge	<i>Carex vulpinoidea</i>	29	2.5' o.c.	# 1 Pot
Heavy Metal Switchgrass	<i>Panicum virgatum 'Heavy Metal'</i>	13	2.5' o.c.	# 1 Pot
Blue Heaven Little Bluestem	<i>Schizachyrium scoparium 'MinnblueA'</i>	16	2.5' o.c.	# 1 Pot
Prairie Dropseed	<i>Sporobolus heterolepis</i>	38	2.5' o.c.	# 1 Pot

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

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.  
 PRINTED NAME: Matthew E. Kumka  
 SIGNATURE: \_\_\_\_\_  
 DATE: \_\_\_\_\_ LICENSE # 53974

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

**BARR ENGINEERING CO.**  
 4300 MARKETPOINTE DRIVE SUITE 200  
 MINNEAPOLIS, MN 55435  
 Project Office:  
 BARR ENGINEERING CO.  
 4300 MARKETPOINTE DRIVE SUITE 200  
 MINNEAPOLIS, MN 55435  
 Ph: 1-800-632-2277  
 Fax: (952) 832-2601  
 www.barr.com

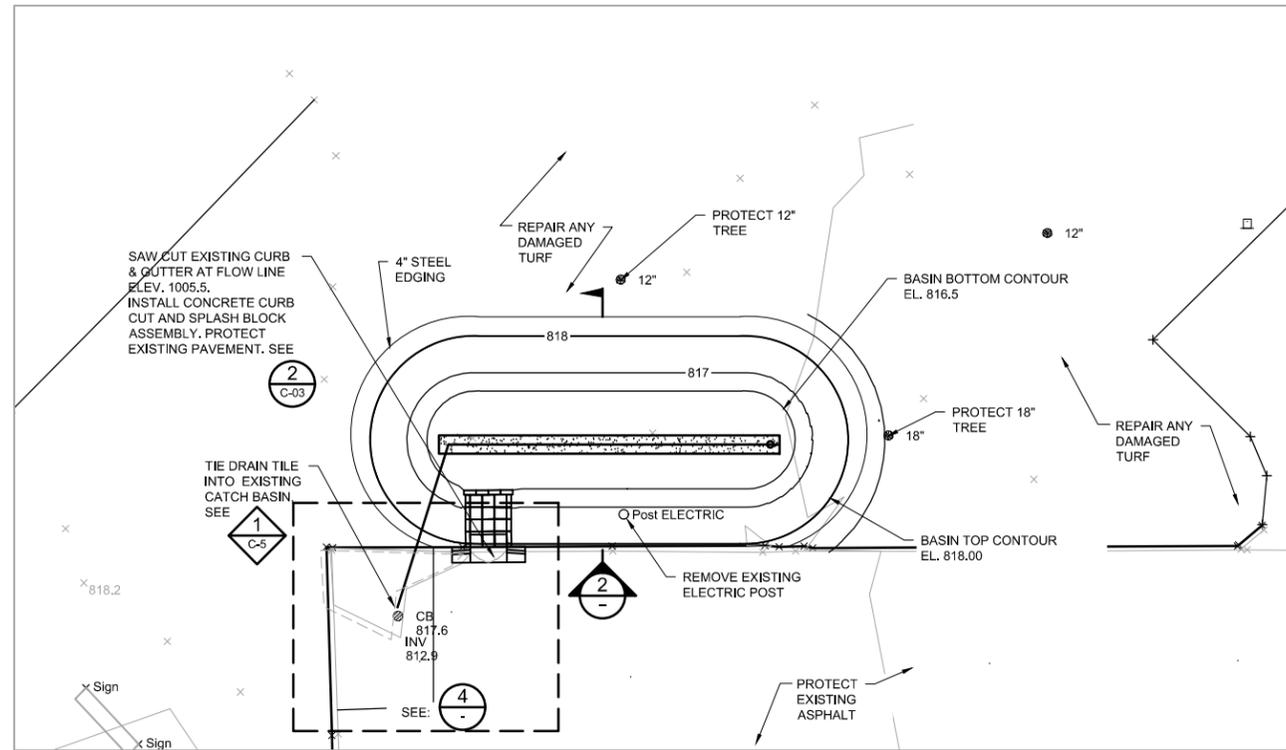
Scale	AS SHOWN
Date	9/28/2018
Drawn	WMB
Checked	MEK2
Designed	WMB
Approved	MEK2

**NINE MILE CREEK WATERSHED DISTRICT**  
 EDEN PRAIRIE, MN

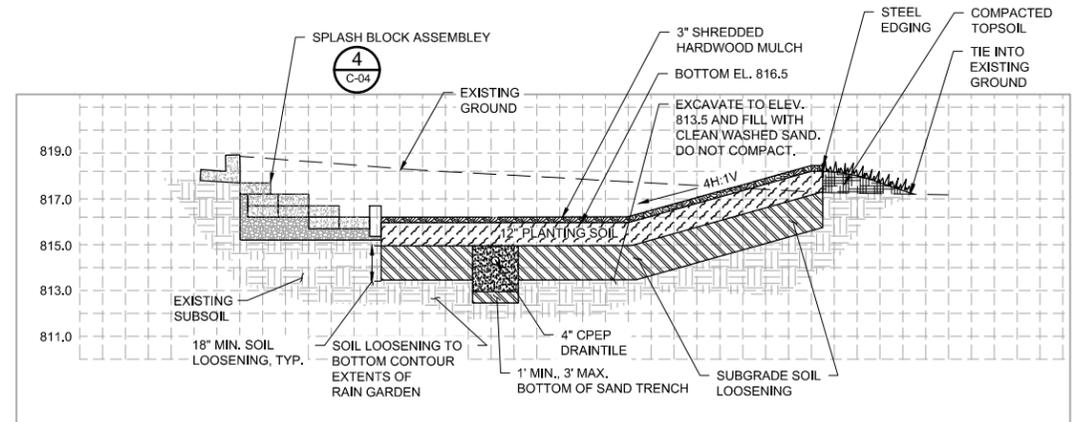
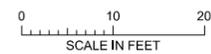
**ST. EDWARDS CATHOLIC CHURCH**  
 MINNEAPOLIS, MN

**LANDSCAPE PLANTING PLAN**

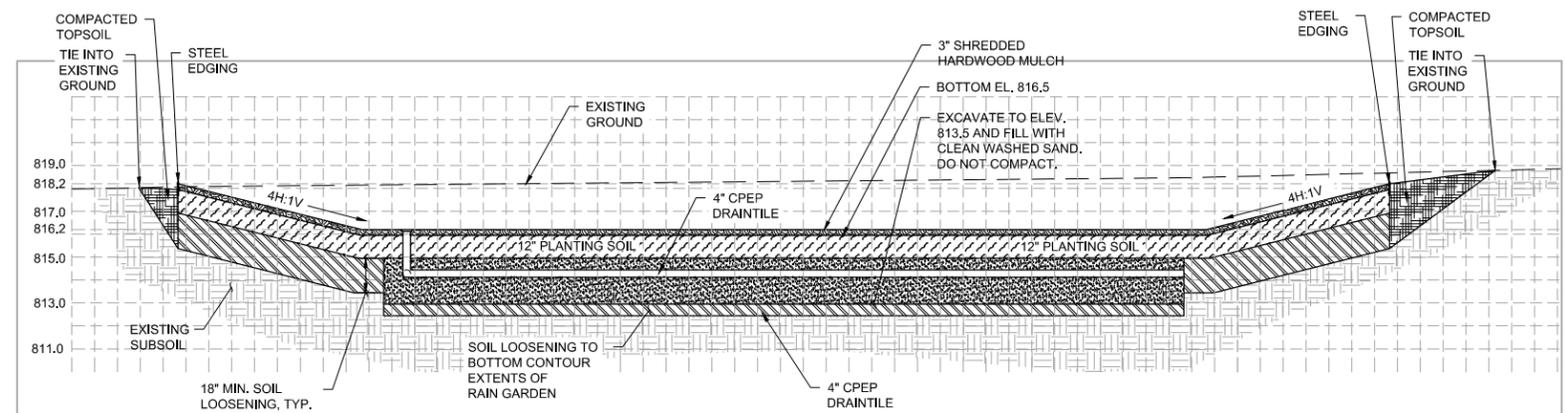
BARR PROJECT No.	23270634.00
CLIENT PROJECT No.	
DWG. No.	L-01
REV. No.	0



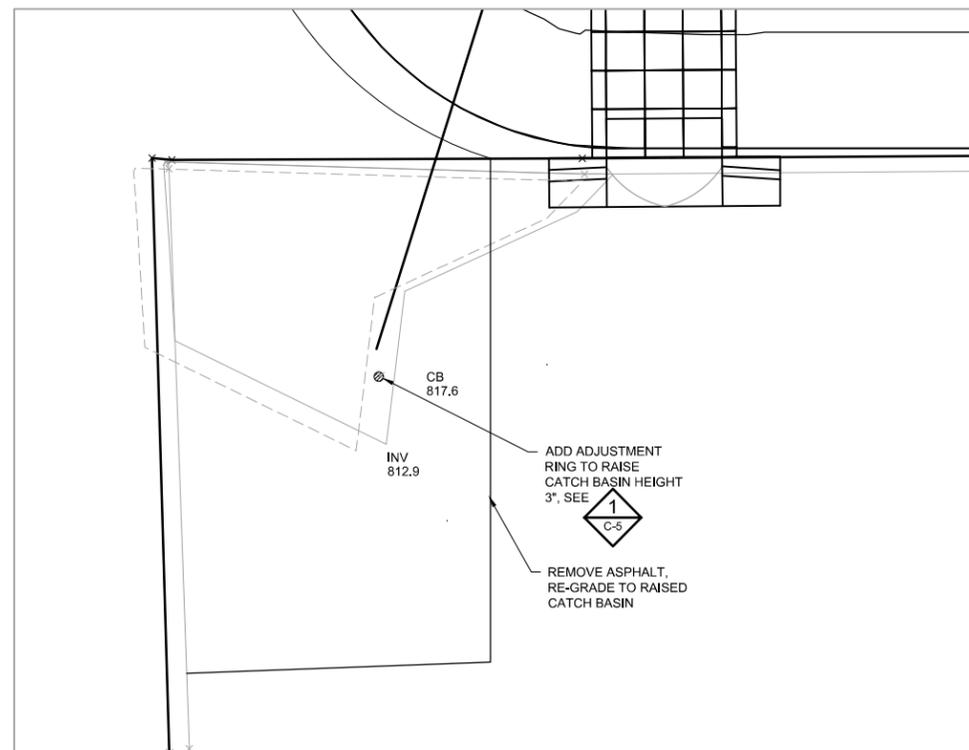
**1 PLAN: GRADING, EROSION CONTROLS, AND REMOVALS**  
AS SHOWN



**2 SECTION: RAINWATER GARDEN**  
NOT TO SCALE



**3 PROFILE: RAINWATER GARDEN**  
NOT TO SCALE



**4 PLAN: ASPHALT REMOVAL**  
NOT TO SCALE

PRELIMINARY  
DRAFT

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.

PRINTED NAME \_\_\_\_\_  
SIGNATURE \_\_\_\_\_  
DATE \_\_\_\_\_ LICENSE # \_\_\_\_\_

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

**BARR** ENGINEERING CO.  
4300 MARKETPOINTE DRIVE  
Suite 200  
MINNEAPOLIS, MN 55435

Project Office:  
BARR ENGINEERING CO.  
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Minneapolis, Minnesota  
Ph: 1-800-632-2277  
Ph: (952) 832-2601  
Ph: 1-800-632-2277  
www.barr.com

Scale	AS SHOWN
Date	9/28/2018
Drawn	WMB
Checked	
Designed	WMB
Approved	

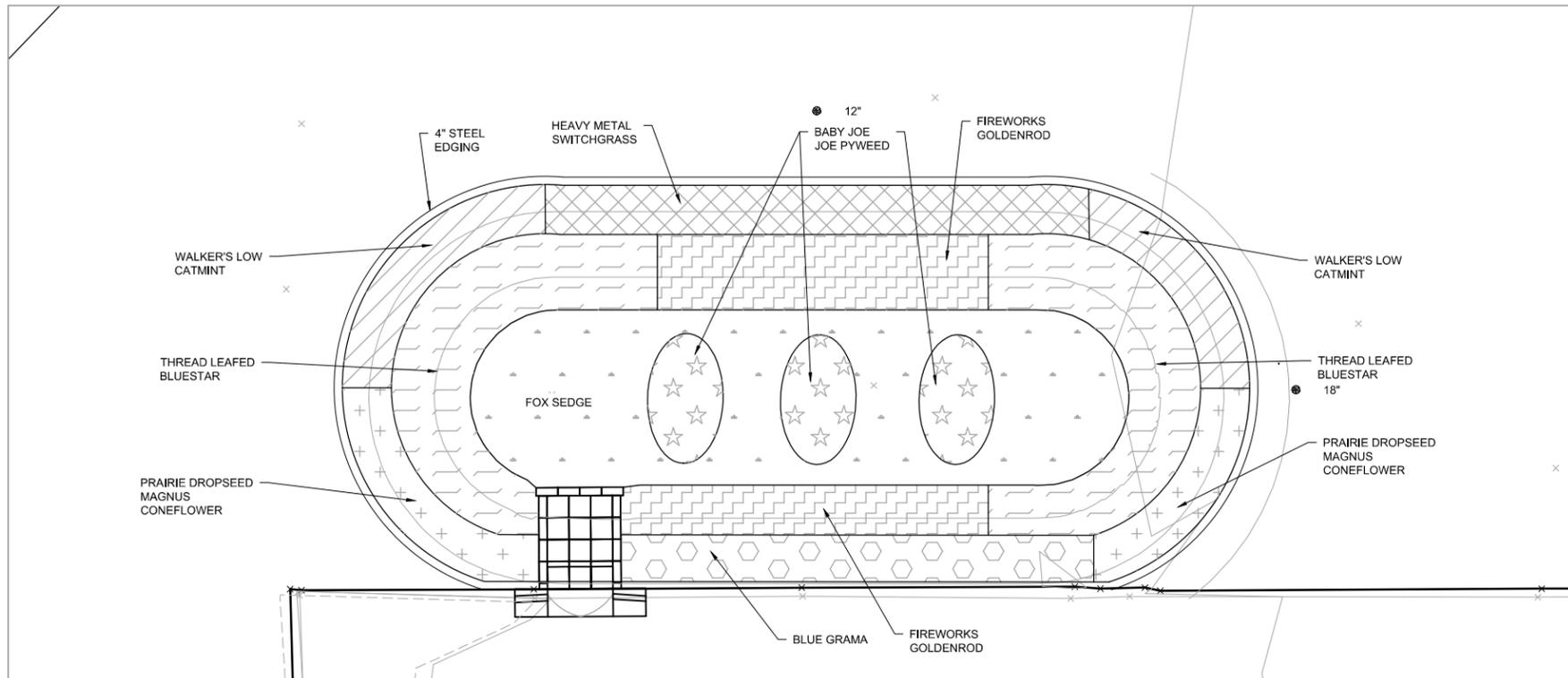
**NINE MILE CREEK WATERSHED DISTRICT**  
EDEN PRAIRIE, MN

**ST LUKE'S LUTHERAN CHURCH**  
MINNEAPOLIS, MN

**GRADING, EROSION CONTROL, & REMOVALS**

BARR PROJECT No.	23270634.00
CLIENT PROJECT No.	
DWG. No.	C-01
REV. No.	0

CADD USER: Bill M. Brohman FILE: M:\DESIGN\23270634\00\2018\ST\_LUKE\23270634.00 - C-01.DWG PLOT SCALE: 1:2 PLOT DATE: 9/28/2018 3:21 PM  
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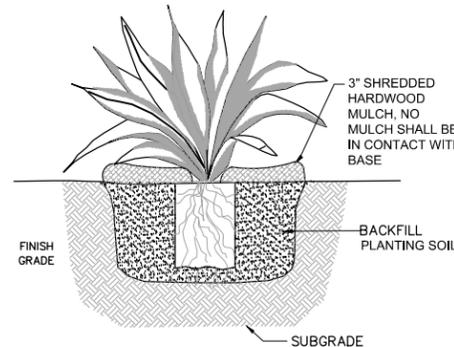
1 PLAN: LANDSCAPE PLANTING  
AS SHOWN

0 5 10  
SCALE IN FEET



**PLANTING NOTES:**

- POTHOLE ALL EXISTING UTILITIES WITHIN THE PROJECT LIMITS BEFORE EARTHWORK BEGINS.
- INFORM THE LANDSCAPE ARCHITECT OF PLANTING TWO DAYS PRIOR TO PLANT DELIVERY.
- CONTRACTOR SHALL COORDINATE LAYOUT OF ALL PLANTS WITH DIRECTION OF LANDSCAPE ARCHITECT IN THE FIELD.
- PLACE SHREDDED HARDWOOD MULCH (MN/DOT SPEC 3882.2 TYPE 6 - WEED SEED FREE SHREDDED HARDWOOD.) TO A DEPTH OF 3" WITHIN ALL PLANTING AREAS ONCE PLANT INSTALLATION IS COMPLETE.
- INSTALL THE STEEL LANDSCAPE EDGING PER MANUFACTURER RECOMMENDATION INCLUDING STAKING SPACING AND QUANTITY.
- CONTRACTOR WILL BE RESPONSIBLE FOR WATERING PLANTS (REGARDLESS OF NOTIFICATION) DURING ENTIRE WARRANTY PERIOD. WATERING WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- ALL EXISTING CONCRETE, ASPHALT, TREES TO BE KEPT AND TREE ROOTS SHALL BE PROTECTED. ANY DAMAGE TO EXISTING SITE FEATURES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE AND TO THE OWNER'S SATISFACTION.
- DAMAGE TO EXISTING STRUCTURES OR NEWLY CONSTRUCTED ITEMS SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. IN THE CASE OF ANY DISCREPANCIES BETWEEN THIS DETAIL, PLANS, OR SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.



1 DETAIL: PERENNIAL PLANTING  
NOT TO SCALE

**HERBACEOUS PLUG AND POT PLANTING NOTES:**

- PROVIDE AND INSTALL PLANTS PER SCHEDULE.
- EXCAVATE HOLE 3 TIMES WIDTH OF ROOTBALL.
- BREAK BOTTOM OF ROOTBALL TO LOOSEN ROOTS.
- PLANT THROUGH MULCH ALIGNING ROOTBALL TOP EVEN WITH SOIL - DO NOT PLANT TOO DEEP OR TOO SHALLOW. FIRM SOIL TO ENSURE GOOD CONTACT WITH ROOTS.
- BACK FILL WITH PLANTING SOIL FIRM SOIL AROUND ROOT MASS TO MAINTAIN PLUMB AND ENSURE NO AIR GAPS AROUND ROOT MASS.
- APPLY 3" DEPTH SHREDDED HARDWOOD MULCH TO ENTIRE PLANTING AREA (SOIL PREPARED AS PER SPECIFICATIONS).
- NO MULCH TO BE IN CONTACT WITH PLANT.
- CONSTRUCT 3" WATERING BASIN. THOROUGHLY WATER WITHIN 3 HOURS OF INSTALLATION.
- WATER THOROUGHLY AFTER PLANTING.
- ALL PERENNIAL PLANTS PROVIDED BY THE CONTRACTOR SHALL BE GUARANTEED FOR ONE YEAR FROM THE DATE OF OWNER ACCEPTANCE. AT THE END OF THE ONE-YEAR GUARANTEE PERIOD ALL PERENNIALS SHALL BE IN SATISFACTORY CONDITION, EXCLUDING INSTANCES OF VANDALISM, AS DETERMINED BY OWNER.
- REPLACEMENTS: AT THE END OF THE ONE YEAR WARRANTY PERIOD ALL PLANTS SHALL FULFILL ALL THE REQUIREMENTS OF THESE SPECIFICATIONS AND REFERENCES WITH REGARD TO QUALITY AND CONDITION; FURTHER, THEY SHALL BE FREE OF DEAD BRANCHES AND TWIGS AND SHALL BEAR A MINIMUM OF 50% OF THE FOLIAGE PRESENT WHEN PLANTED HAVING NORMAL DENSITY, SIZE, SHAPE AND COLOR AS DETERMINED BY THE ENGINEER. ANY PLANTS FAILING TO SATISFY ALL THESE CONDITIONS SHALL BE REPLACED AS PER THE PRELIMINARY AND FINAL ACCEPTANCE PROCESS. PLANTS MAY BE REPLACED PRIOR TO THE END OF THEIR WARRANTY PERIOD IF SUCH AN AGREEMENT EXISTS BETWEEN THE CONTRACTOR AND THE OWNER. REPLACEMENT STOCK SHALL BE SUBJECT TO ALL REQUIREMENTS AS TO SELECTION, INSPECTIONS, PREPARATION, PLANTING AND MAINTENANCE OPERATIONS. REPLACEMENTS SHALL MATCH CALIPER AND/OR HEIGHT ATTAINED BY OTHER STOCK OF THE ORIGINAL PLANTING.
- CONTRACTOR SHALL NOTIFY OWNER FOR A FINAL INSPECTION AFTER THE END OF THE GUARANTEE PERIOD, AND AGAIN AFTER ANY AND ALL REPLACEMENTS ARE PLANTED.

CADD USER: Bill M. Bromman FILE: I:\DESIGN\23270634\0020\8ST\_LUKE\23270634-00-1-01.DWG PLOT SCALE: 1:2 PLOT DATE: 9/28/2018 3:21 PM  
 BARR:\AutoCAD\2011\AutoCAD 2011\Support\enu\Templates\Barr\_2011\_Template.dwt Plot at 1: 10/05/2010 14:03:50

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				PRINTED NAME				RELEASED TO/FOR				A B C 0 1 2 3 DATE RELEASED				NINE MILE CREEK WATERSHED DISTRICT		LANDSCAPE PLAN AND DETAILS		CLIENT PROJECT No.											
NO. BY CHK. APP. DATE REVISION DESCRIPTION				SIGNATURE												EDEN PRAIRIE, MN		DWG. No. L-01		REV. No. 0											