

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

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2023-031

Considered at Board of Managers Meeting: April 3, 2024

Application Received complete: May 16, 2023

Applicant: Riley Purgatory Bluff Creek Watershed District, Terry Jeffery

Consultant: Barr Engineering, Nathan Thomas

Project: Lake Susan Park Pond Reuse System Intake Modification – Modification of the existing pond water-reuse system and construction of a new intake structure and related piping and appurtenances.

Location: Lake Susan Park, Chanhassen, MN, Parcel ID: 251910040

Reviewer: Mathieu Nicklay, RPBCWD

Proposed Board Action

Manager _____ moved and Manager _____ seconded adoption of the following resolution based on the permit report that follows and the presentation of the matter at the April 7, 2024 meeting of the managers. Resolved that the application for Permit 2023-031 is approved, subject to the conditions and stipulations set forth in the Recommendations section of the attached report.

Resolved that on determination by the RPBCWD administrator that the conditions of approval have been affirmatively resolved, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2023-031 to the applicant on behalf of RPBCWD.

Upon vote, the resolution was adopted, _____ [VOTE TALLY].

Applicable Rule Conformance Summary

| Rule | Issue | Conforms to RPBCWD Rules? | Comments |
|------|--|---------------------------|---------------------|
| B | Floodplain Management and Drainage Alterations | Yes | |
| C | Erosion Control Plan | Yes | |
| L | Permit Fee | NA | Governmental Entity |
| M | Financial Assurance | NA | Governmental Entity |

Project Description

The proposed project includes the modification of the existing Lake Susan Park Pond water reuse system and construction of a new intake structure and related piping and appurtenances. The 25.8-acre project site is located on the northwest corner of Lake Susan and within Lake Susan Park in Chanhassen.

The project construction activities will disturb Lake Susan Park Pond, a constructed stormwater BMP. As part of the permitting activities for the construction of the original RPBCWD reuse project in 2018, the City of Chanhassen, as the local government unit responsible for the administration of the Wetland Conservation Act determined that the pond is not a wetland under the WCA. As such, Rule D does not apply to the project. Because the pond is constructed, not natural, it is not a water basin under the RPBCWD rules to which Rule G would apply.

The applicant proposes 0.29 acres of land-disturbing activity, but no new impervious surface, reconstruction of existing impervious surface or grading that materially alters stormwater flows at the site boundary, thus the proposed project is exempt from Rule J under paragraph 2.2.e. The project site information is summarized below:

| Description | Area (acres) |
|-----------------------------------|--------------|
| Total Site Area | 25.8 |
| Existing Site Impervious | 2.3 |
| Post-Construction Site Impervious | 2.3 |
| Change in Site Impervious Area | 0.0 |
| Disturbed Impervious Surface | 0.0 |
| Total Disturbed Area | 0.29 |

Exhibits:

1. Permit Application received May 16, 2023
2. Project Summary dated May 16, 2023
3. Construction drawings dated May 12, 2023 (as revised September 18, 2023)

Rule Specific Permit Conditions

Rule B - Floodplain Management and Drainage Alterations

Because land disturbing activities occur below the existing 100-year flood profile of Lake Susan Park Pond (elevation 888.13 NGVD29), a stormwater management facility, the project must conform to the

requirements in the RPBCWD Floodplain Management and Drainage Alteration rule (Rule B, Subsection 2.1).

Rule B, Subsections 3.1 and 3.4 are not relevant because no buildings will be constructed or reconstructed as part of the project, and no impervious surface will be created or re-created within 50 feet of a watercourse. Placement of fill below the 100-year flood elevation is prohibited unless fully compensatory storage is provided at or below the same elevation as the proposed fill and within the floodplain (Rule B, Subsection 3.2). The grading plan and cross sections details show that the only fill below the 100-year flood elevation of Lake Susan Park Pond is associated with the concrete intake structure which amounts to about 66.7 cubic feet (three sides and the top of the structure see below computations).

Fill/Cut Computations

| Description | Dimensions | Fill Volume (cubic ft) | Cut Volume (cubic ft) |
|-------------------------------|---------------|------------------------|-----------------------|
| Structure Top Slab | 5'x5'x.67' | 16.7 | |
| Structure West face | 5'x5'x.67' | 16.7 | |
| Structure North & South Sides | 5'x5'x.67' x2 | 33.3 | |
| Cut Area @ Elevation 881 | 577 sf | | |
| Cut Area @ Elevation 882 | 138 sf | | 357.5 |
| Total | | 66.7 | 357.5 |

Because the grading plan illustrates that the 881 and 882 contours will be cut back into the existing grade (577 sf at elevation 881 and 138 sf at elevation 882) to produce an excavation or cut of about 357.5 cubic feet, the project results in a net increase in floodplain storage of 290.8 cubic feet. The supporting materials demonstrate, and RPBCWD staff concurs, that the project provides compensatory storage and conforms to Rule B, Subsection 3.2.

Because the applicant has demonstrated that the project will preserve the existing 100-year flood level, the project will not alter surface flows, complying with subsection 3.3. The information on the plan sheet includes a note indicating that the proposed activities must be conducted to minimize the potential transfer of aquatic invasive species conforming to Rule B, Subsection 3.6.

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

Rule C: Erosion and Sediment Control

Because the project will involve 0.29 acres of land-disturbing activities, the project must conform to the requirements in the RPBCWD Erosion and Sediment Control rule (Rule C, Subsection 2.1).

The erosion control/turf restoration plan includes installation of perimeter control measures such as biorolls, a construction access, floating silt curtain, turf establishment, daily inspection, placement of a minimum of 6 inches of topsoil, decompaction of areas compacted during construction, and retention of native topsoil onsite.

Applicable General Requirements:

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. Construction must be consistent with the plans, specifications, and models that were submitted by the applicant that were the basis of permit approval. The date(s) of the approved plans, specifications, and modeling are listed on the permit. The grant of the permit does not in any way relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.
3. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
4. The issuance of this permit does not convey any rights to either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
5. In all cases where the doing by the permittee of anything authorized by this permit involves the taking, using or damaging of any property, rights or interests of any other person or persons, or of any publicly owned lands or improvements or interests, the permittee, before proceeding therewith, must acquire all necessary property rights and interest.
6. RPBCWD's determination to issue this permit was made in reliance on the information provided by the applicant. Any substantive change in the work affecting the nature and extent of applicability of RPBCWD regulatory requirements or substantive changes in the methods or means of compliance with RPBCWD regulatory requirements must be the subject of an application for a permit modification to the RPBCWD.
7. If the conditions herein are met and the permit is issued by RPBCWD, the applicant, by accepting the permit, grants access to the site of the work at all reasonable times during and after construction to authorized representatives of the RPBCWD for inspection of the work.

Findings

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.

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

Recommendation:

Approval, contingent upon:

1. Permit applicant must provide documentation of authorization to apply for the permit from the property owner (City of Chanhassen).
2. Continued compliance with General Requirements

LAKE SUSAN PARK POND REUSE INLET MODIFICATIONS

RILEY-PURGATORY-BLUFF CREEK WATERSHED DISTRICT

CARVER COUNTY, MINNESOTA

ABBREVIATIONS AND SYMBOLS

| | |
|---------|--|
| APPROX. | APPROXIMATE |
| ASCE | AMERICAN SOCIETY OF CIVIL ENGINEERS |
| ASTM | AMERICAN SOCIETY FOR TESTING MATERIALS |
| BMPS | BEST MANAGEMENT PRACTICES |
| EL. | ELEVATION |
| ELEV. | ELEVATION |
| FT | FEET |
| GALV. | GALVANIZED |
| GND | GROUND |
| H | HORIZONTAL |
| HDPE | HIGH DENSITY POLYETHYLENE |
| I.E. | INVERT ELEVATION |
| INV. | INVERT |
| MAX. | MAXIMUM |
| MIN. | MINIMUM |
| MNDOT | MINNESOTA DEPARTMENT OF TRANSPORTATION |
| O.C. | ON CENTER |
| SPECS | SPECIFICATIONS |
| TBD | TO BE DETERMINED |
| T.O.C. | TOP OF CONCRETE |
| TRM | TURF REINFORCING MAT |
| TYP. | TYPICAL |
| VERT. | VERTICAL |
| YR | YEAR |
| Ø | DIAMETER |

NOTES:

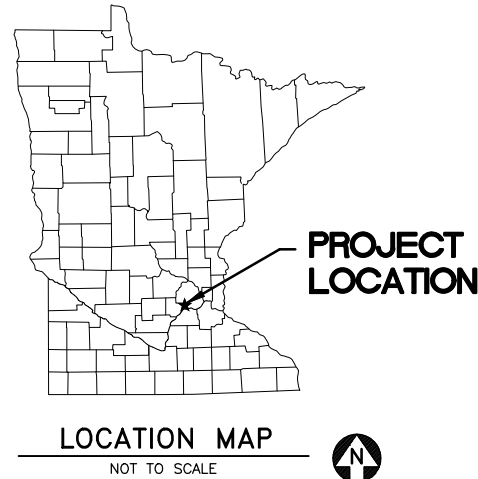
1. TOPOGRAPHIC SURVEY PERFORMED BY BARR ENGINEERING CO. ON SEPTEMBER 21, 2017.
2. ALL UTILITIES SHOWN ARE CONSIDERED LEVEL D, UNLESS OTHERWISE NOTED, IN ACCORDANCE WITH ASCE STANDARD CI/ASCE38-02.
3. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

COORDINATE SYSTEM:

HORIZONTAL DATUM - CARVER COUNTY, NAD83 (2011) REF, VRS
 VERTICAL DATUM - NAVD88 REF, VRS.

DISTRICT ENGINEER CONTACT:

SCOTT SOBIECH
 BARR ENGINEERING CO.
 4300 MARKETPOINTE DRIVE
 SUITE 200
 MINNEAPOLIS, MN 55435
 952-832-2755
 SSOBIECH@BARR.COM



| SHEET NO. | TITLE |
|-----------|--|
| G-01 | INDEX, LOCATION MAP, AND VICINITY MAP |
| C-01 | EXISTING CONDITIONS, REMOVAL, AND EROSION CONTROL PLAN |
| C-02 | PROPOSED SITE PLAN |
| C-03 | INTAKE DETAILS |
| L-01 | LANDSCAPE RESTORATION PLAN |



GOPHER STATE ONE CALL:
 CALL BEFORE YOU DIG.
 1-800-252-1166

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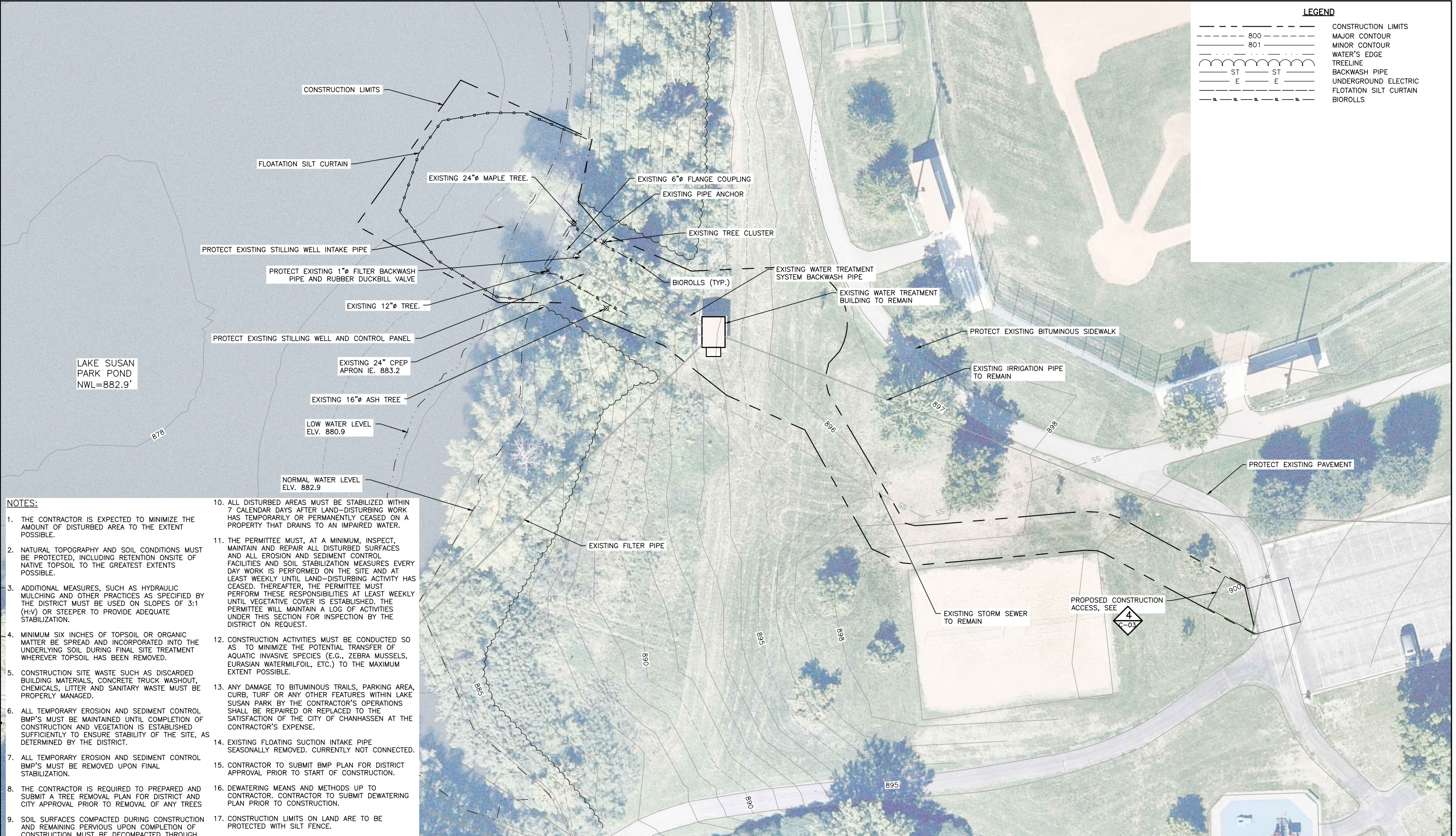
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|---|--|--|--|--|--|---|--|---|--|--|--|--|-------------------------|
| I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINTED NAME MIKE J. BURDORF SIGNATURE DATE <u>9/18/2023</u> LICENSE # <u>53720</u> | | CLIENT <u>BARR ENGINEERING CO.</u> ISSUED FOR QUOTATION <u>5/4/23</u> CONSTRUCTION <u>5/12/23</u> <u>9/15/23</u> 90% DRAFT <u>9/27/2023</u> RECORD | | Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Ph: (952) 832-2601 www.barr.com | | Scale AS SHOWN Date <u>03/31/2023</u> Drawn <u>PLF</u> Checked <u>NST</u> Designed <u>BARR</u> Approved <u>MJB</u> | | RPBCWD CHANHASSEN, MN | | LAKE SUSAN PARK POND REUSE AND INLET MODIFICATIONS | | BARR PROJECT No. 23270053.14 | |
| | | RELEASED TO/FOR <u>A B C 0 1 2</u> | | DATE RELEASED | | INDEX, LOCATION MAP AND VICINITY MAP | | | | | | CLIENT PROJECT No. | DWG. No. G-01 |

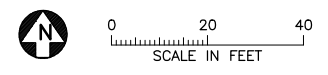
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LEGEND

- CONSTRUCTION LIMITS
- - - - - MAJOR CONTOUR
- - - - - MINOR CONTOUR
- WATER'S EDGE
- ~~~~~ TREELINE
- ST --- ST --- BACKWASH PIPE
- E --- E --- UNDERGROUND ELECTRIC
- S --- S --- S --- S --- FLOTATION SILT CURTAIN
- BIOROLLS



- NOTES:**
1. THE CONTRACTOR IS EXPECTED TO MINIMIZE THE AMOUNT OF DISTURBED AREA TO THE EXTENT POSSIBLE.
 2. NATURAL TOPOGRAPHY AND SOIL CONDITIONS MUST BE PROTECTED, INCLUDING RETENTION ONSITE OF NATIVE TOPSOIL TO THE GREATEST EXTENTS POSSIBLE.
 3. ADDITIONAL MEASURES, SUCH AS HYDRAULIC MULCHING AND OTHER PRACTICES AS SPECIFIED BY THE DISTRICT MUST BE USED ON SLOPES OF 3:1 (H:V) OR STEEPER TO PROVIDE ADEQUATE STABILIZATION.
 4. MINIMUM SIX INCHES OF TOPSOIL OR ORGANIC MATTER BE SPREAD AND INCORPORATED INTO THE UNDERLYING SOIL DURING FINAL SITE TREATMENT WHEREVER TOPSOIL HAS BEEN REMOVED.
 5. CONSTRUCTION SITE WASTE SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER AND SANITARY WASTE MUST BE PROPERLY MANAGED.
 6. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND VEGETATION IS ESTABLISHED SUFFICIENTLY TO ENSURE STABILITY OF THE SITE, AS DETERMINED BY THE DISTRICT.
 7. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S MUST BE REMOVED UPON FINAL STABILIZATION.
 8. THE CONTRACTOR IS REQUIRED TO PREPARED AND SUBMIT A TREE REMOVAL PLAN FOR DISTRICT AND CITY APPROVAL PRIOR TO REMOVAL OF ANY TREES
 9. SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED THROUGH SOIL AMENDMENT AND/OR RIPPING TO A DEPTH OF 18 INCHES WHILE TAKING CARE TO AVOID UTILITIES, TREE ROOTS AND OTHER EXISTING VEGETATION PRIOR TO FINAL REVEGETATION OR OTHER STABILIZATION.
 10. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 7 CALENDAR DAYS AFTER LAND-DISTURBING WORK HAS TEMPORARILY OR PERMANENTLY CEASED ON A PROPERTY THAT DRAINS TO AN IMPAIRED WATER.
 11. THE PERMITTEE MUST, AT A MINIMUM, INSPECT, MAINTAIN AND REPAIR ALL DISTURBED SURFACES AND ALL EROSION AND SEDIMENT CONTROL FACILITIES AND SOIL STABILIZATION MEASURES EVERY DAY WORK IS PERFORMED ON THE SITE AND AT LEAST WEEKLY UNTIL LAND-DISTURBING ACTIVITY HAS CEASED. THEREAFTER, THE PERMITTEE MUST PERFORM THESE RESPONSIBILITIES AT LEAST WEEKLY UNTIL VEGETATIVE COVER IS ESTABLISHED. THE PERMITTEE WILL MAINTAIN A LOG OF ACTIVITIES UNDER THIS SECTION FOR INSPECTION BY THE DISTRICT ON REQUEST.
 12. CONSTRUCTION ACTIVITIES MUST BE CONDUCTED SO AS TO MINIMIZE THE POTENTIAL TRANSFER OF AQUATIC INVASIVE SPECIES (E.G., ZEBRA MUSSELS, EURASIAN WATERMILFOIL, ETC.) TO THE MAXIMUM EXTENT POSSIBLE.
 13. ANY DAMAGE TO BITUMINOUS TRAILS, PARKING AREA, CURB, TURF OR ANY OTHER FEATURES WITHIN LAKE SUSAN PARK BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE CITY OF CHANHASSEN AT THE CONTRACTOR'S EXPENSE.
 14. EXISTING FLOATING SUCTION INTAKE PIPE SEASONALLY REMOVED. CURRENTLY NOT CONNECTED.
 15. CONTRACTOR TO SUBMIT BMP PLAN FOR DISTRICT APPROVAL PRIOR TO START OF CONSTRUCTION.
 16. DEWATERING MEANS AND METHODS UP TO CONTRACTOR. CONTRACTOR TO SUBMIT DEWATERING PLAN PRIOR TO CONSTRUCTION.
 17. CONSTRUCTION LIMITS ON LAND ARE TO BE PROTECTED WITH SILT FENCE.
 18. ALL EXISTING UTILITIES TO REMAIN UNLESS OTHERWISE NOTES.



**REBID
REVIEW**

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| CLIENT | 4/28/23 | | | | | | | | |
| ISSUED FOR QUOTATION | 5/12/23 | 9/15/23 | | | | | | | |
| CONSTRUCTION | | | | | | | | | |
| 90% DRAFT | 9/31/2023 | | | | | | | | |
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BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
Suite 200
MINNEAPOLIS, MN 55435

Project Office:
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MINNEAPOLIS, MN 55435

Corporate Headquarters:
Minneapolis, Minnesota
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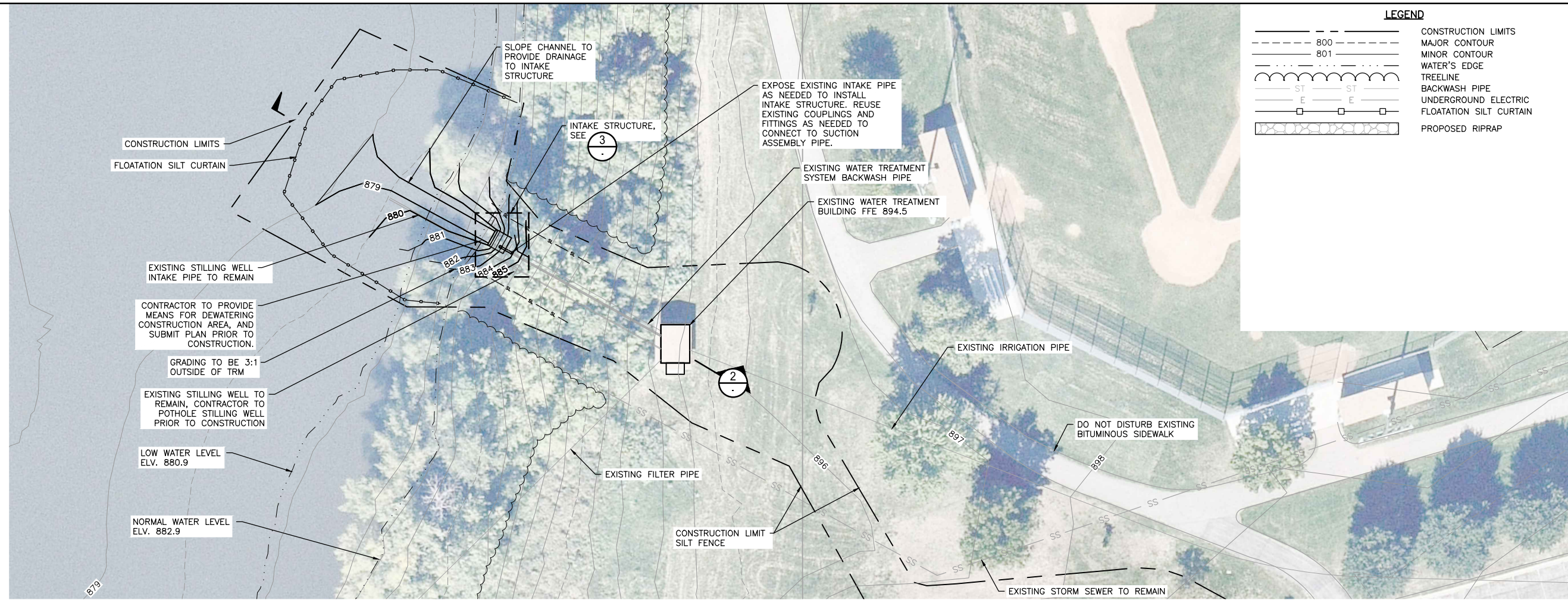
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| Date | 03/31/2023 |
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| Designed | BARR |
| Approved | MJB |

**LAKE SUSAN PARK POND
WATERSHED TREATMENT & STORMWATER REUSE**

**EXISTING CONDITIONS, REMOVALS, &
EROSION CONTROL PLAN**

| | |
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| BARR PROJECT No. | 23270053.14 |
| CLIENT PROJECT No. | |
| DWG. No. | C-01 |
| REV. No. | C |

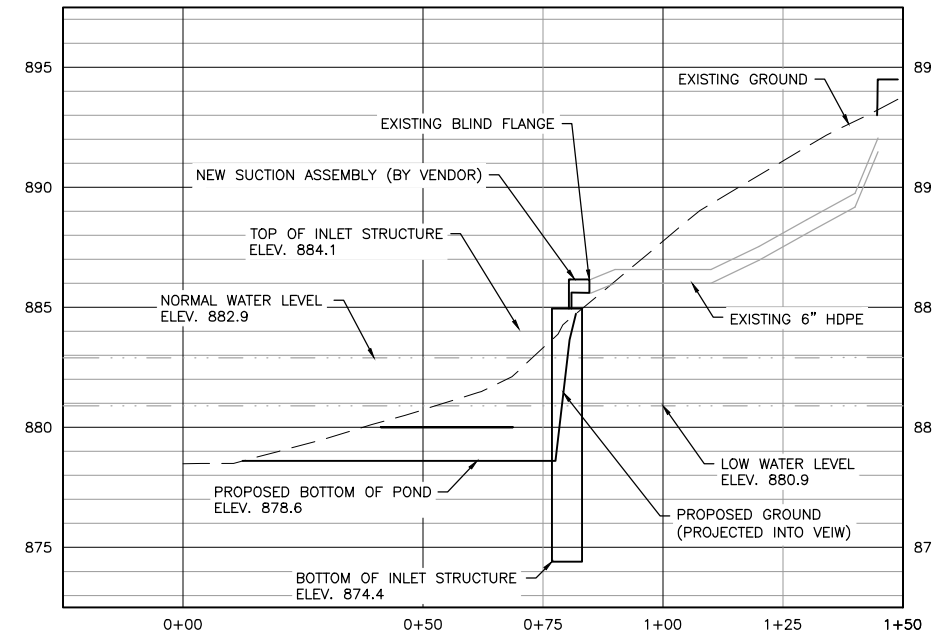
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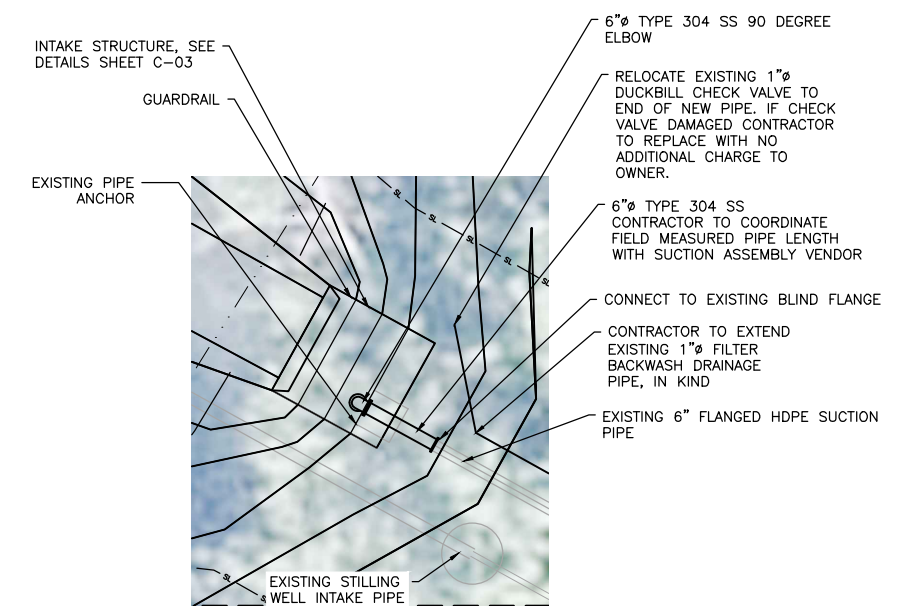
LEGEND

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| --- | CONSTRUCTION LIMITS |
| --- | MAJOR CONTOUR |
| --- | MINOR CONTOUR |
| --- | WATER'S EDGE |
| --- | TREELINE |
| --- | BACKWASH PIPE |
| --- | UNDERGROUND ELECTRIC |
| --- | FLOATATION SILT CURTAIN |
| --- | PROPOSED RIPRAP |

1 PLAN: PIPE LAYOUT
SCALE IN FEET



2 PROFILE: INTAKE PIPE
HORIZONTAL SCALE IN FEET VERTICAL SCALE IN FEET



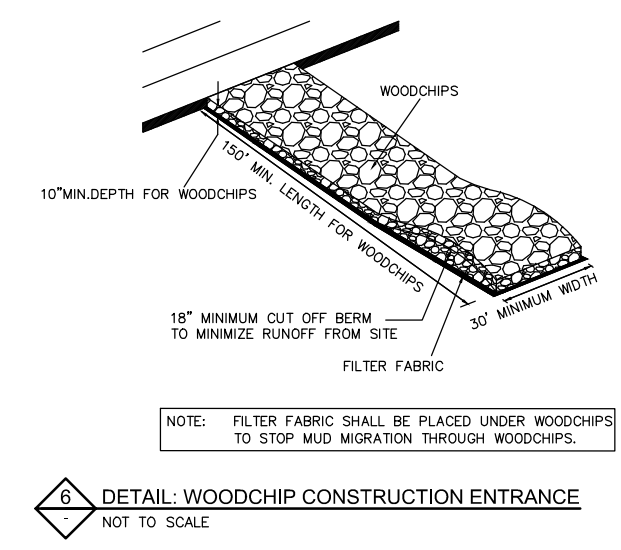
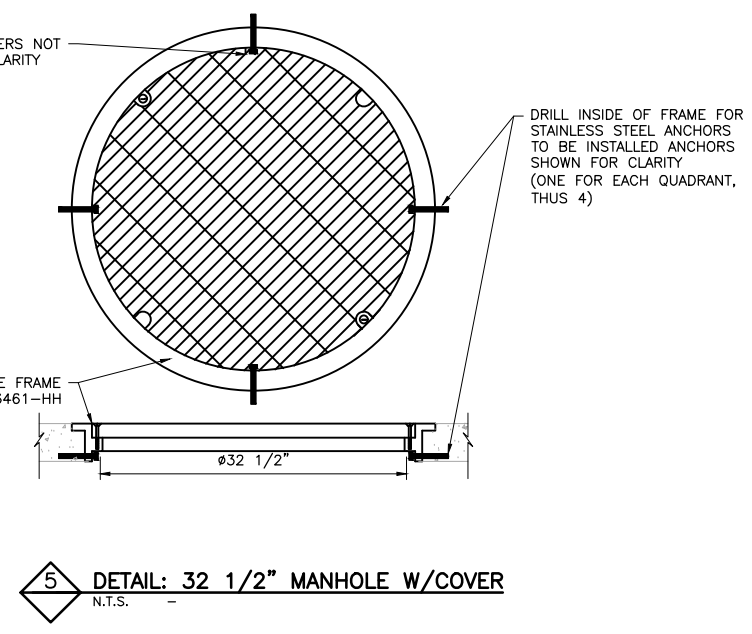
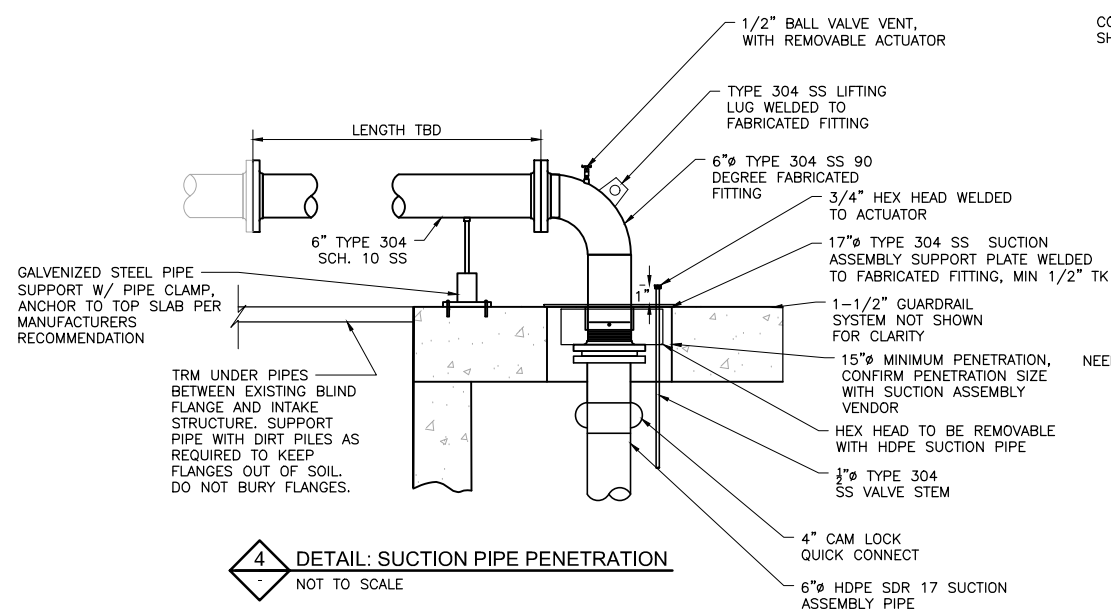
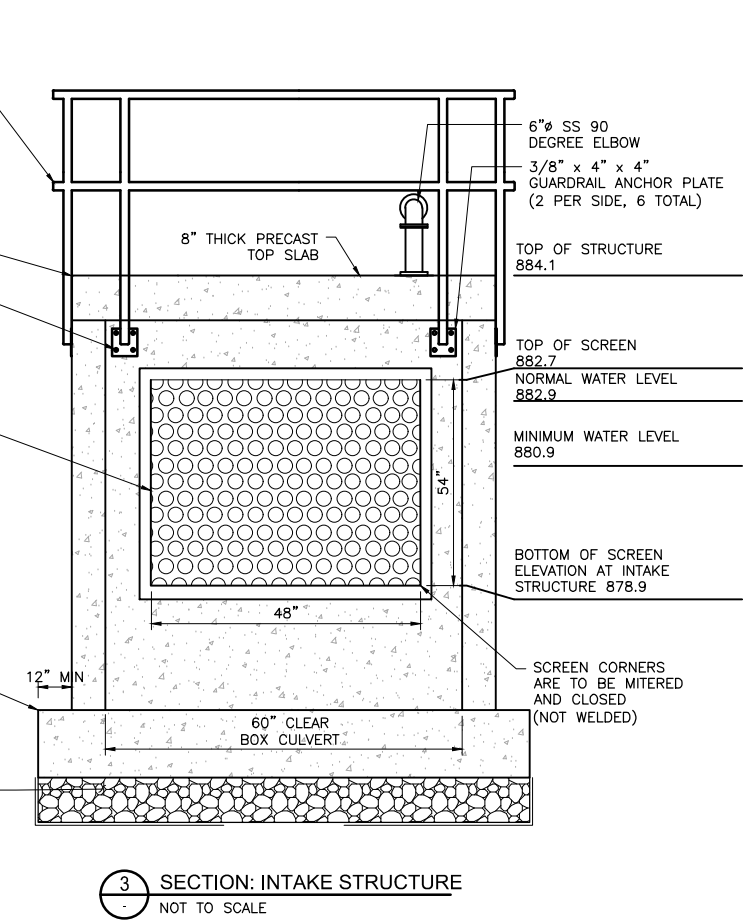
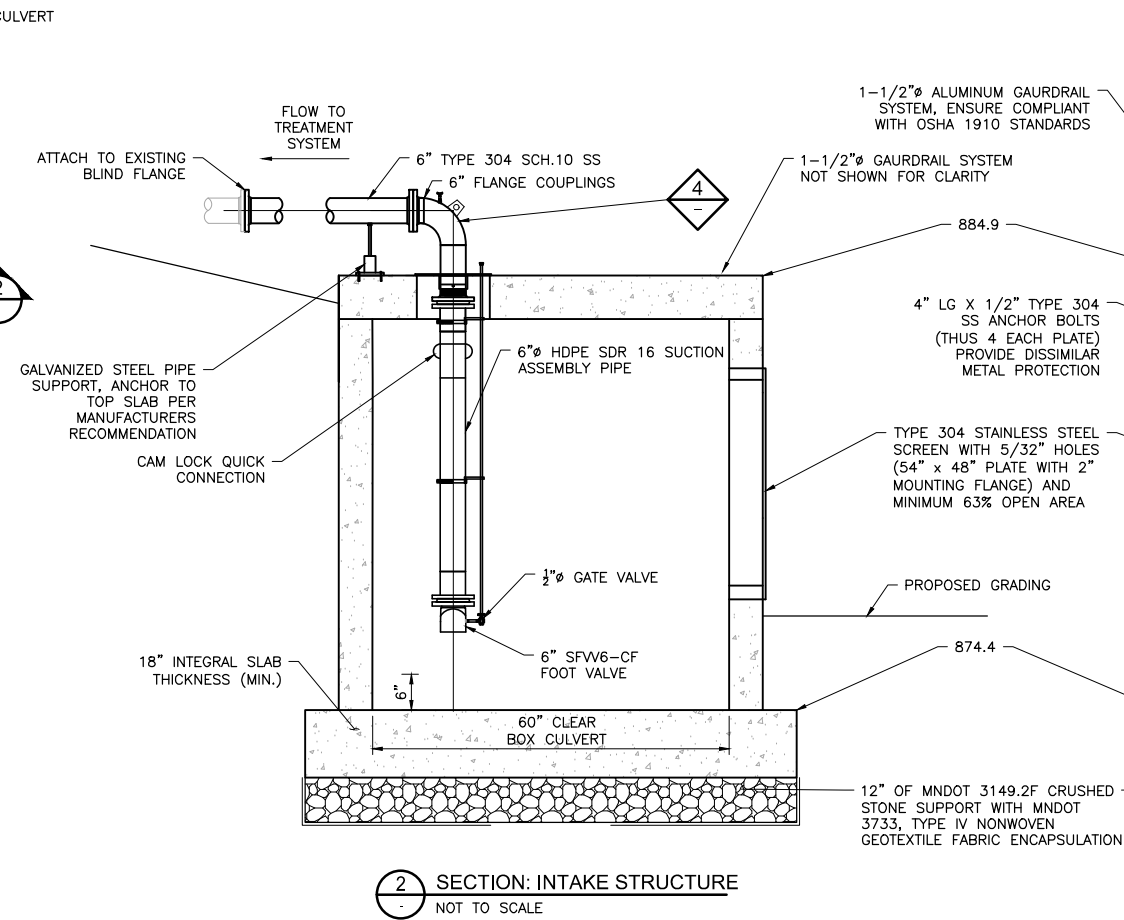
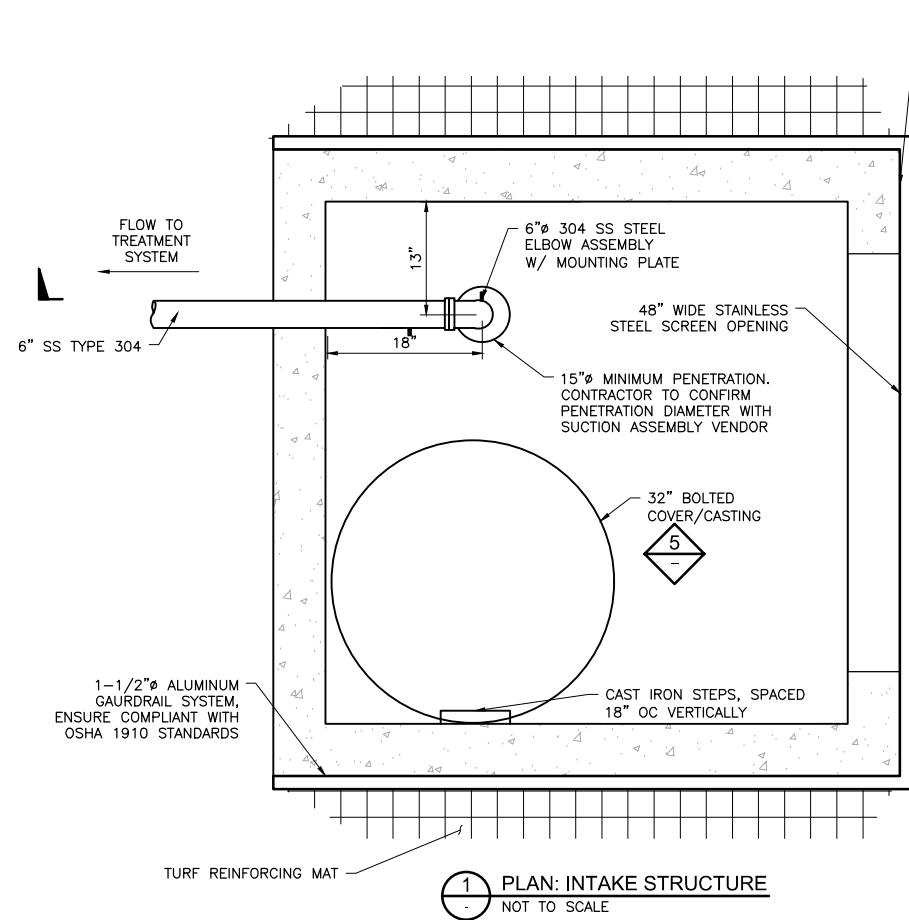
3 PLAN: INTAKE STRUCTURE
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- NOTES:**
1. ANY DAMAGE TO BITUMINOUS TRAILS, PARKING AREA, CURB, TURF, OR ANY OTHER FEATURES WITHIN LAKE SUSAN PARK BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE CITY OF CHANHASSEN AT THE CONTRACTOR'S EXPENSE.
 2. EXISTING FLOATING SUCTION INTAKE PIPE SEASONALLY REMOVED. CURRENTLY NOT CONNECTED.
 3. CONTRACTOR TO SUBMIT BMP PLAN FOR DISTRICT APPROVAL PRIOR TO START OF CONSTRUCTION.
 4. CONTRACTOR RESPONSIBLE FOR DEWATERING MEANS AND METHODS, IN REFERENCE TO POTENTIAL COFFER DAMMING FOR CONSTRUCTION PROCEDURES. CONTRACTOR TO SUBMIT DEWATERING PLAN PRIOR TO CONSTRUCTION.
 5. CONSTRUCTION LIMITS ON LAND ARE TO BE PROTECTED WITH SILT FENCE.
 6. ALL EXISTING UTILITIES TO REMAIN UNLESS OTHERWISE NOTED.

REBID REVIEW

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|--|--|---|--|---|--|--|--|--|--|---|--|---|--|
| I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINTED NAME MIKE J. BURDORF SIGNATURE <i>[Signature]</i> DATE <u>9/18/2023</u> LICENSE # <u>53720</u> | | CLIENT <u>BARR ENGINEERING CO.</u> ISSUED FOR QUOTATION <u>5/4/23</u> CONSTRUCTION <u>5/12/23</u> 90% DRAFT <u>9/15/23</u> RECORD <u>9/15/23</u> RELEASED TO/FOR <u>A B C O 1 2</u> 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 <u>AS SHOWN</u> Date <u>03/31/2023</u> Drawn <u>PLF</u> Checked <u>NTS</u> Designed <u>BARR</u> Approved <u>MJB</u> | | RPBCWD CHANHASSEN, MN | | LAKE SUSAN PARK POND REUSE INTAKE MODIFICATIONS PROPOSED SITE PLAN OVERALL | | BARR PROJECT No. 23270053.14 CLIENT PROJECT No. DWG. No. C-02 REV. No. C | |
|--|--|---|--|---|--|--|--|--|--|---|--|---|--|

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- NOTES:**
- ENTIRE PIPING CONFIGURATION AND SUCTION ASSEMBLY REQUIRED TO BE PROVIDED BY UV VENDOR.
 - WATERTRONICS IS PREFERRED UV VENDOR, AND IS ORIGINAL FLOATING SUCTION INTAKE VENDOR.
 - UV VENDOR WILL BE RESPONSIBLE FOR VERIFICATION OF OVERALL UV SYSTEM FOR OPERATION AND CAPACITY.
 - CONTRACTOR TO REMOVE FOOT VALVE SCREEN PRIOR TO OPERATION.

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| CLIENT | 5/4/23 | | | | | | | | |
| ISSUED FOR QUOTATION | | | | | | | | | |
| CONSTRUCTION | | | | | | | | | |
| 90% DRAFT | 9/1/2023 | | | | | | | | |
| RECORD | | | | | | | | | |
| RELEASED TO/FOR | A | B | C | O | 1 | 2 | | | |
| DATE RELEASED | | | | | | | | | |

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

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| Scale | AS SHOWN |
| Date | 03/31/2023 |
| Drawn | PLF |
| Checked | NST |
| Designed | AMP |
| Approved | MJB |

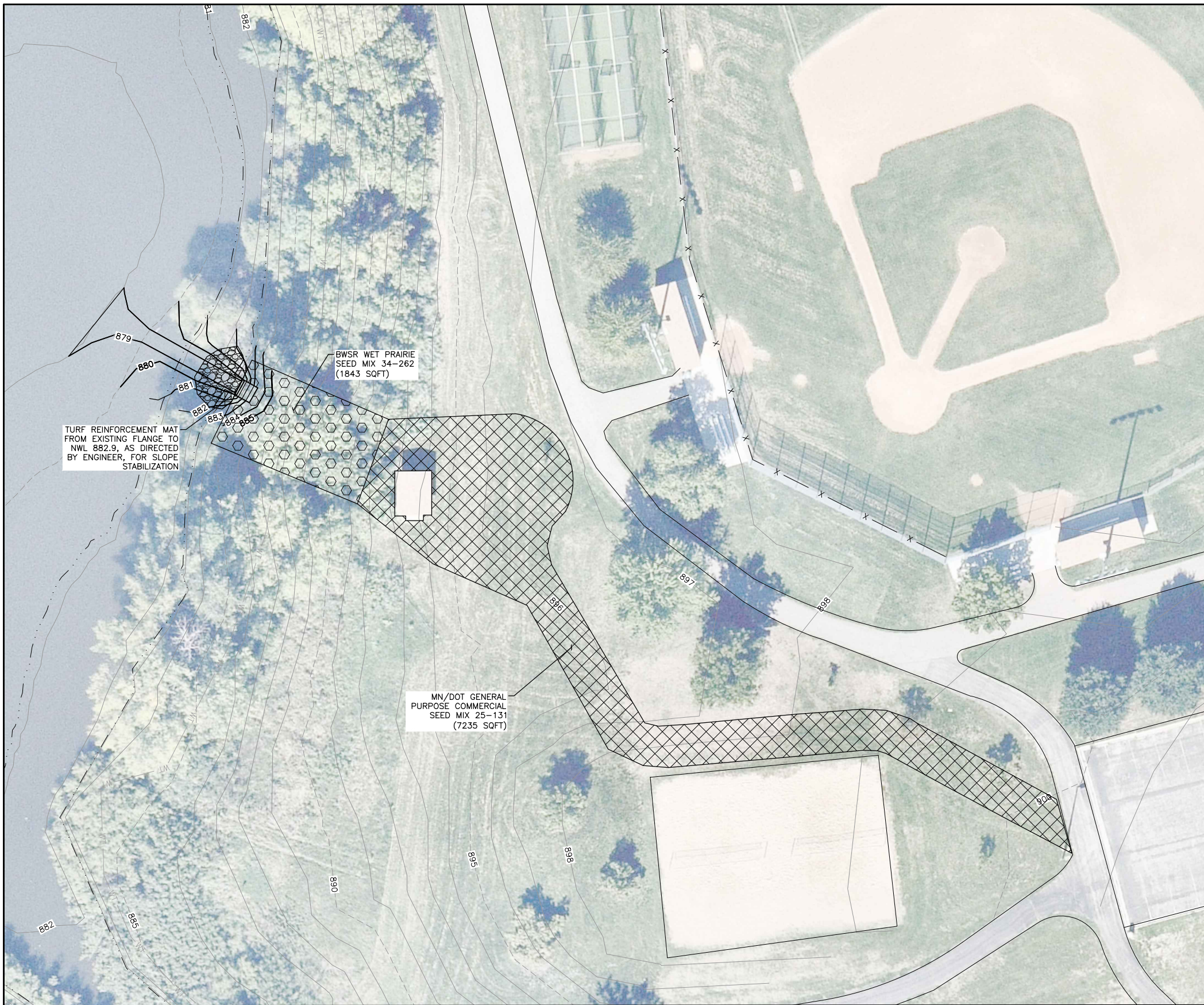
RPBCWD
 CHANHASSEN, MN





| | |
|--|--|
| LAKE SUSAN PARK POND REUSE INTAKE MODIFICATIONS | |
| INTAKE DETAILS | |

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| BARR PROJECT No. | 23270053.14 |
| CLIENT PROJECT No. | |
| DWG. No. | C-03 |
| REV. No. | C |

**REBID
 REVIEW**

CADD USER: Brianna N. Metzger FILE: M:\DESIGN\23270053.14\LAKE SUSAN PARK INTAKE MODIFICATIONS\2327005314_LSP_INTAKE_MODIFICATIONS_LL-01.DWG PLOT SCALE: 1:2 PLOT DATE: 9/18/2023 4:05 PM



-  MN/DOT GENERAL PURPOSE COMMERCIAL TURF SEED MIX 25-131. SEED AT A RATE OF 220 LBS/ACRE. SEED IN ACCORDANCE WITH MN/DOT STANDARD SPECIFICATION 3876
-  BWSR WET PRAIRIE SEED MIX 34-262. SEED GRASSES AT A RATE OF 6.50 LBS/AC, SEED SEDGES AND RUSHES AT A RATE OF .30 LBS/AC, SEED FORBS AT A RATE OF 1.50 LBS/AC, AND COVER CROP AT 10 LBS/AC. SEED IN ACCORDANCE TO MN/DOT STANDARD SPECIFICATION 3876
-  TURF REINFORCEMENT MAT
-  RIP-RAP

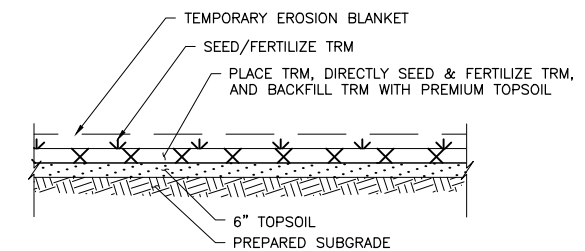
PLANTING SCHEDULE

| Common Name | Scientific Name | Quant. | Spacing | Size |
|-------------------|---------------------------|--------|---------|-------|
| Grasses | | | | |
| Prairie Cordgrass | <i>Spartina pectinata</i> | 354 | 3' o.c. | Plugs |

| Native Grasses Seed Mix - Seeding Rate = 10lbs/ac | | |
|---|--------------------------------|----------------|
| Common Name | Scientific Name | Percent of Mix |
| Little Bluestem | <i>Schizachyrium scoparium</i> | 25 |
| Side Oats Grama | <i>Boutelous curtipendula</i> | 50 |
| Nodding Wild Rye | <i>Elymus trachycaulus</i> | 25 |

PLANTING NOTES:

- CONTRACTOR SHALL COORDINATE LAYOUT OF ALL PLANTS WITH DIRECTION OF LANDSCAPE ARCHITECT IN THE FIELD.
- CONTRACTOR WILL BE RESPONSIBLE FOR TURF WATERING (REGARDLESS OF NOTIFICATION) DURING ENTIRE WARRANTY PERIOD. WATERING WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. IN THE CASE OF ANY DISCREPANCIES BETWEEN THIS DETAILS, PLANS, OR SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.



1 **DETAIL: TURF REINFORCING MAT**
N.T.S.

1 **PLAN: LANDSCAPE RESTORATION**
SCALE IN FEET



**REBID
REVIEW**

| NO. | BY | CHK | APP. | DATE | REVISION DESCRIPTION |
|-----|----|-----|------|------|----------------------|
| | | | | | |

| | |
|----------------------|--------------------|
| CLIENT | 5/4/23 |
| ISSUED FOR QUOTATION | 5/12/23 to 5/15/23 |
| CONSTRUCTION | |
| 90% DRAFT | 9/31/2023 |
| RECORD | |
| RELEASED TO/FOR | A B C 0 1 2 |
| DATE RELEASED | |

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 | 1"=40' |
| Date | 03/31/2023 |
| Drawn | PLF |
| Checked | NST |
| Designed | BARR |
| Approved | MJB |

RPBCWD
CHANHASSEN, MN

| |
|---|
| LAKE SUSAN PARK POND WATERSHED TREATMENT & STORMWATER REUSE LANDSCAPE RESTORATION PLAN |
|---|

| |
|--|
| BARR PROJECT No. 23270053.14 |
| CLIENT PROJECT No. |
| DWG. No. L-01 |
| REV. No. C |

Technical Memorandum

To: Riley Purgatory Bluff Creek Watershed District
From: Barr Engineering Co.
Subject: RPBCWD Permit Submittal – Lake Susan Park Pond Reuse System Intake modification
Date: May 16, 2023
Project: 23270053.14 044

1.0 Project Background

The Riley Purgatory Bluff Watershed District (RPBCWD) authorized construction of the Lake Susan Park Pond (LSPP) Watershed Treatment and Stormwater Reuse Project in Spring of 2018 as part of implementing the capital improvement program (CIP) of the current 10-year plan. The CIP project involved water pumping and conveyance from the Lake Susan Park Pond to the park irrigation system and an iron enhance sand filtration system. The system hydraulic conveyance included a floating suction intake located in the park pond that is installed and removed seasonally, underground conveyance piping and inline suction pumps located inside an at-grade utility building approximately 50-feet inland from the Lake Susan Park Pond normal water level. The city worked closely with the contractor during the first couple years of operations to resolve operational concerns. However, each subsequent season the hydraulic system was observed to lose prime and not operate as designed. In 2022, RPBCWD established a contract with the original installation contractor to undertake some troubleshooting. Because of the timing of the contracting, the troubleshooting did not occur and a corrective solution has not been implemented. As a result, the RPBCWD requested that Barr Engineering develop plans and specifications to modify the reuse intake system and streamline future maintenance activities.

Barr Engineering has reached 100% design drawings, which are included as Attachment 1. The proposed project is anticipated to begin construction in the June 2023 and be substantially completed by July 2023.

2.0 Proposed Project Design Summary

The proposed project includes the modification of the existing pond water reuse system and construction of a new intake structure and related piping and appurtenances. The Work includes, but is not limited to:

- Mobilization and Demobilization
- Furnishing, installing, maintaining, and removing erosion control BMPs
- Clearing and grubbing as needed
- Control of water as needed
- Soil excavation, disposal, and grading
- Installing new precast intake structure and turf reinforcing mat as shown on drawings
- Installing new suction pipe assembly, pipe anchor, and connecting to existing pond water reuse system
- Contour and grade pond bottom as shown on plans to intake structure

- Protection of site access and full restoration of all areas disturbed

The project site information is summarized below:

| Description | Area (acres) |
|-----------------------------------|--------------|
| Total Site Area | 25.8 |
| Existing Site Impervious | 2.3 |
| Post-Construction Site Impervious | 2.3 |
| Change in Site Impervious Area | 0.0 |
| Disturbed Impervious Surface | 0.0 |
| Total Disturbed Area | 0.29 |

Exhibits:

1. Permit Application received May 16, 2023
2. Project Summary dated May 16, 2023
3. Construction drawings dated May 12, 2023

3.0 RPBCWD Permitting

The project requires a permit under compliance with the following RPBCWD Rules:

- Rule B – Floodplain Management and Drainage Alterations
- Rule C – Erosion and Sediment Control

The project construction activities will disturb Lake Susan Park Pond. As part of the permitting activities for the construction of the original project in 2018, the City of Chanhassen, as the local government unit (LGU) responsible for the administration of the Wetland Conservation Act (WCA) determined that the pond is not wetland under the WCA. As such, Rule D does not impose requirements on this project.

Despite the project involving 0.29 acres of land-disturbing activity, the project does not involve the creation of new impervious surface, reconstruction of existing impervious surface or grading that materially alters stormwater flows at the site boundary, thus the proposed project satisfies exemption 2.2.e of Rule J and Rule J does not impose requirements on the project.

Requested Board Action

Manager _____ moved and Manager _____ seconded adoption of the following resolutions based on the permit report that follows and the presentation of the matter at the June 7, 2023 meeting of the managers. Resolved that the application for Permit 2023-XXX is approved, subject to the conditions and stipulations set forth in the Recommendations section of the attached report;

Resolved that on determination by the RPBCWD administrator that the conditions of approval have been affirmatively resolved, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2023-XXX to the applicant on behalf of RPBCWD.

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

Rule Conformance Summary

| Rule | Issue | Conforms to RBPCWD Rules? | Comments |
|----------|---|---------------------------|--|
| B | Floodplain Management and Drainage Alterations | Yes | |
| C | Erosion Control Plan | See Comment | See Rule Specific Permit Condition C1. |
| L | Permit Fee | NA | Governmental Entity |
| M | Financial Assurance | NA | Governmental Entity |

3.1 Rule B - Floodplain Management and Drainage Alterations

Because land disturbing activities occur below the existing 100-year flood profile of Lake Susan Park Pond (elevation 888.13 NGVD29), a stormwater management facility, the project must conform to the requirements in the RPBCWD Floodplain Management and Drainage Alteration rule (Rule B, Subsection 2.1).

Rule B, Subsections 3.1 and 3.4 are not relevant because no buildings will be constructed or reconstructed as part of the project, and no impervious surface will be created or re-created within 50 feet of a watercourse. Placement of fill below the 100-year flood elevation is prohibited unless fully compensatory storage at or below the same elevation for fill in the floodplain of a water basin and within the floodplain of the same waterbody is provided (Rule B, Subsection 3.2). The grading plan and cross sections details show that the only fill below the 100-year flood elevation of Lake Susan Park Pond is associated with the concrete intake structure which amounts to about 66.7 cubic feet (three sides and the top of the structure see below computations).

Fill/Cut Computations

| Description | Dimensions | Fill Volume (cubic ft) | Cut Volume (cubic ft) |
|-------------------------------|---------------|------------------------|-----------------------|
| Structure Top Slab | 5'x5'x.67' | 16.7 | |
| Structure West face | 5'x5'x.67' | 16.7 | |
| Structure North & South Sides | 5'x5'x.67' x2 | 33.3 | |
| Cut Area @ Elevation 881 | 577 sf | | |
| Cut Area @ Elevation 882 | 138 sf | | 357.5 |
| Total | | 66.7 | 357.5 |

Because the grading plan illustrates that the 881 and 882 contours will be cut back into the existing grade (577 sf @ el 881 and 138 sf @ el 882) to produce an excavation or cut of about 357.5 cubic feet ($(577\text{sf} + 138\text{sf})/2 * 1\text{ft}$), the project results in a net increase in floodplain storage of 290.8 cubic feet. The supporting materials demonstrate, and the RPBCWD Engineer concurs, that the project provides compensatory storage and conforms to Rule B, Subsection 3.2.

Because the applicant has demonstrated that the project will preserve the existing 100-year flood level, the project will not alter surface flows, complying with subsection 3.3. The information on the plan sheet includes a note indicating that activities must be conducted to minimize the potential transfer of aquatic invasive species conforming to Rule B, Subsection 3.6.

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

3.2 Rule C: Erosion and Sediment Control

Because the project will involve 0.29 acres of land-disturbing activities, the project must conform to the requirements in the RPBCWD Erosion and Sediment Control rule (Rule C, Subsection 2.1).

The erosion control/turf restoration plan includes installation of perimeter control measures such as biologs, a construction access, floating silt curtain, turf establishment, daily inspection, placement of a minimum of 6 inches of topsoil, decompaction of areas compacted during construction, and retention of native topsoil onsite. To conform to the RPBCWD Rule C requirements the following revisions are needed:

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

3.3 Suggested General Requirements:

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

owned lands or improvements or interests, the permittee, before proceeding therewith, must acquire all necessary property rights and interest.

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

3.4 Suggested Findings

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

3.5 Approval Request:

The applicant requests approval of the permit contingent upon:

1. Permit applicant must provide the name and contact information of the general contractor responsible for the site. RPBCWD must be notified if the responsible party changes during the permit term.
2. Continued compliance with General Requirements.