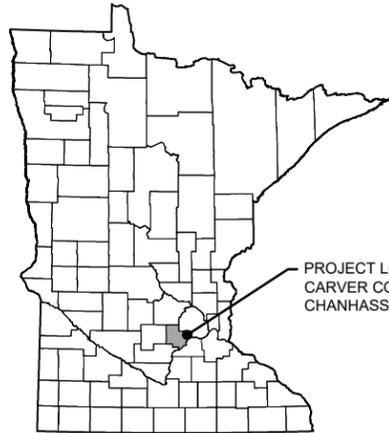


SILVER LAKE WATER QUALITY IMPROVEMENT PROJECT

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT CHANHASSEN, MINNESOTA



PROJECT LOCATION
CARVER COUNTY
CHANHASSEN, MN.

MINNESOTA COUNTY MAP

CONTACTS:

PROJECT OWNER:
Riley Purgatory Bluff Creek Watershed District

WATERSHED DISTRICT PROJECT MANAGER:
Terry Jeffrey
Riley Purgatory Bluff Creek Watershed District
Phone: 952-807-6885
Email: tjeffery@rpbcdw.org

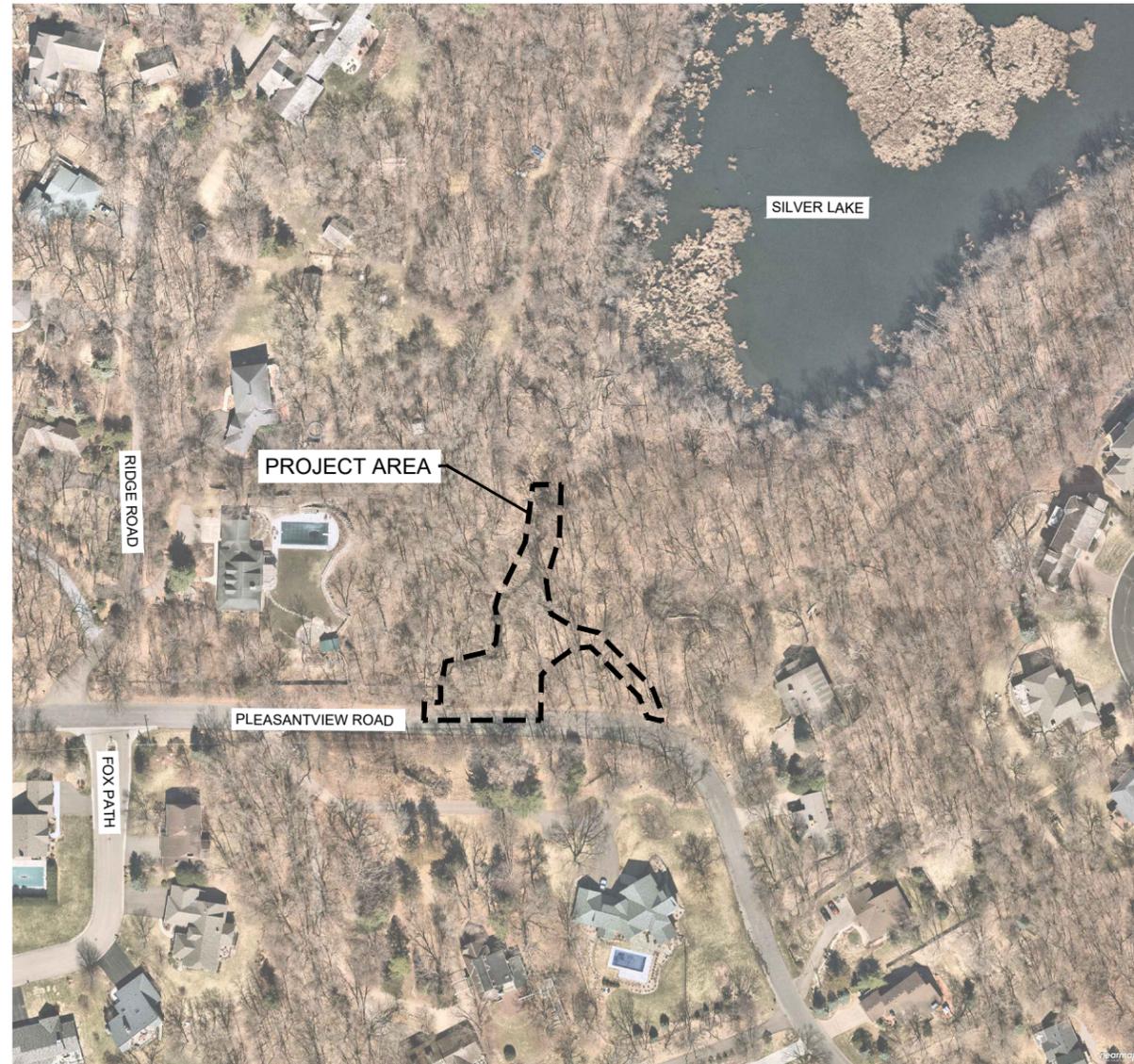
RPBCWD ENGINEER:
Scott Sobiech, PE
Barr Engineering Co.
Phone: 952-832-2755
Email: ssobiech@barr.com

PROJECT ENGINEER:
Jennifer Koehler, PE
Barr Engineering Co.
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Email: jkoehler@barr.com

CITY REPRESENTATIVES:
Matt Ummacht
Phone: 952-227-1166
Email: munmacht@ci.chanhassen.mn.us

Matt Petite
Phone: 952-227-1166
Email: mpetite@ci.chanhassen.mn.us

CONTRACTOR:
Molnau Trucking
Nick Molnau
Phone: 952-467-2292
Email: molnautruckingllc@yahoo.com



SHEET NO.	DESCRIPTION
G-01....	SITE LOCATION & SHEET INDEX
C-01....	TRAFFIC CONTROL PLAN
C-02....	EXISTING CONDITIONS, REMOVALS AND TEMPORARY EROSION CONTROL PLAN
C-03....	EROSION CONTROL DETAILS
C-04....	PROPOSED CONDITIONS PLAN & PROFILE
C-05....	DETAILS
C-06....	DETAILS
C-07....	IRON ENHANCED CHECK DAM SECTION & PROFILE
C-08....	RESTORATION PLAN
C-09....	RESTORATION DETAILS
C-10....	RESTORATION DETAILS
C-11....	RESTORATION DETAILS

GENERAL NOTES:

- TOPOGRAPHIC SURVEY INFORMATION SHOWN IN THIS PLAN SET IS DATA FROM: SURVEY CONDUCTED BY BARR ENGINEERING CO. IN NOVEMBER 2019, SURVEY CONDUCTED BY CITY OF CHANHASSEN AND 2018 LIDAR TOPOGRAPHY.
- IMAGERY: COPYRIGHT NEARMAP LIMITED AND CARVER COUNTY, MINNESOTA, 2019.
- HORIZONTAL DATUM AND COORDINATE SYSTEM: CARVER COUNTY COORDINATES, NAD83 HARN, US SURVEY FEET.
- VERTICAL DATUM: NAVD88.
- UTILITIES SHOWN ARE FOR ILLUSTRATION PURPOSES ONLY BASED ON AVAILABLE DATA AND DO NOT REFLECT A COMPREHENSIVE INVENTORY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT ALL EXISTING UTILITIES.



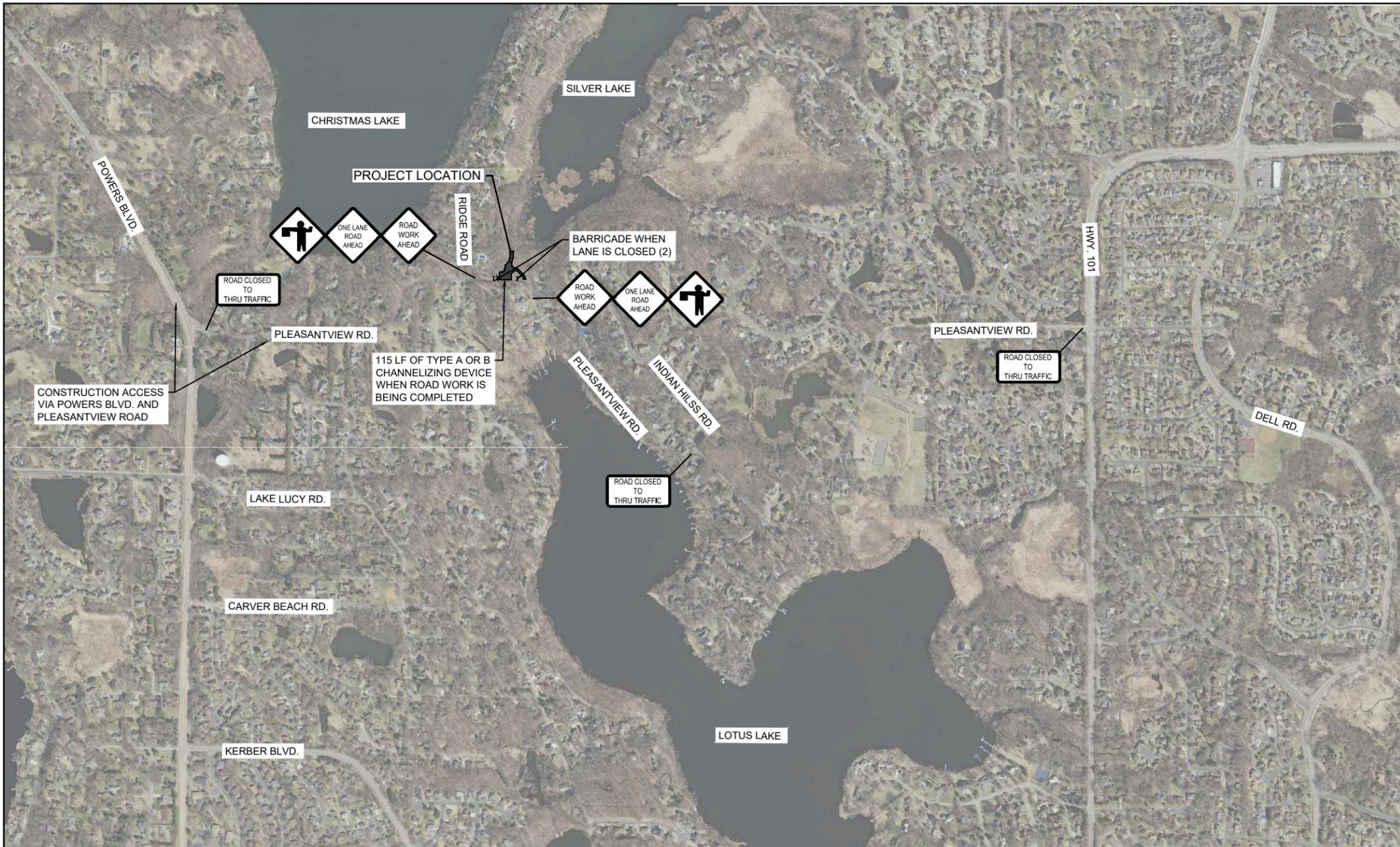
GOPHER STATE ONE CALL:
CALL BEFORE YOU DIG.
1-800-252-1166

PROJECT AREA



ISSUED FOR CONSTRUCTION

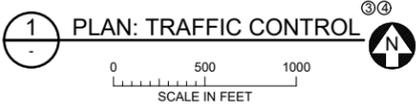
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		CLIENT BID CONSTRUCTION	01/08/21 03/05/21 02/24/21 05/03/21	 Project Office: BARR ENGINEERING CO. 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 Date Drawn Checked Designed Approved	AS SHOWN 05/03/2021 EPF SAS JAK1 JAK1	RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT CHANHASSEN, MN		SILVER LAKE WATER QUALITY IMPROVEMENT PROJECT SITE LOCATION & SHEET INDEX		BARR PROJECT No. 23270053.14 CLIENT PROJECT No.	DWG. No. G-01	REV. No. 0
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION	PRINTED NAME SIGNATURE DATE	RELEASED TO/FOR	A	B	C	0	1	2	3
0	EPF	SAS	JAK1	05/03/2021	ISSUED FOR CONSTRUCTION	JENNIFER KOEHLER 05/03/2021								



TRAFFIC SIGNS ①②			
QTY.	MNDOT SIGN NO.	SIGN SIZE	SIGN MESSAGE
2	W20-1	36" x 36"	ROAD WORK AHEAD
2	W20-4	36" x 36"	ONE LANE ROAD AHEAD
2	W20-7	36" x 36"	ROAD CLOSED TO THRU TRAFFIC
2	BARRICADE	8.2 FT WIDE	BARRICADE
3	R11-4	60" x 30"	ROAD CLOSED TO THRU TRAFFIC

SUMMARY OF QUANTITIES		
ITEM	QUANTITY	UNITS
TRAFFIC CONTROL (SPECIAL)	1	LS

- NOTES:**
- ALL TRAFFIC CONTROL DEVICES AND SIGNAGE SHALL CONFORM TO THE MN MUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
 - SIGNS NOT MOUNTED ON BARRICADES SHALL BE MOUNTED ON A TEMPORARY SUPPORT.
 - THE NUMBER OF BARRICADES REQUIRED AND PLACEMENT WILL BE SUBJECT TO APPROVAL BY THE CITY.
 - ALL TRAFFIC CONTROL SIGNS SHALL BE PLACED AND MAINTAINED BY CONTRACTOR.
 - CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS TO LOCAL RESIDENTS DURING CONSTRUCTION.
 - IF A FULL ROAD CLOSURE IS NECESSARY TO COMPLETE WORK, CONTRACTOR WILL NEED TO PROVIDE A TRAFFIC CONTROL PLAN INCLUDING A SCHEDULE/DATES FOR ROAD CLOSURE ACTIVITIES AND DETOUR ROUTES, AND AND EXTRA SIGNAGE TO BE REVIEWED AND APPROVED BY CITY. SIGNAGE MUST MEET MUTCD REQUIREMENTS. CONTRACTOR SHALL COORDINATED WITH CITY REGARDING COORDINATION WITH RESIDENTS/NOTIFICATIONS. ADDITIONALLY, CONTRACTOR SHALL COORDINATED WITH MNDOT/COUNTY IF THEY ARE PROPOSING SIGNS IN THEIR RIGHT OF WAY.
 - ALL CONSTRUCTION TRAFFIC IS REQUIRED TO COME FROM THE WEST AND LEAVE VIA THE CONSTRUCTION ACCESS ON POWERS BLVD.



CADD USER: Eric P. Fitzgerald FILE: M:\DESIGN\23270053_14\T024-SILVERLAKE\23270053_14_T024_C-01_TRAFFIC CONTROL PLAN.DWG PLOT SCALE: 1:2 PLOT DATE: 4/28/2021 9:40 AM
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NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION
0	EPF	SAS	JAK1	05/03/2021	ISSUED FOR CONSTRUCTION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINTED NAME: JENNIFER KOEHLER
 SIGNATURE:
 DATE: 05/03/2021 LICENSE # 47500

CLIENT	BID	CONSTRUCTION	RELEASED TO/FOR	DATE RELEASED
	32/21/12	22/24/21 03/19/21 05/03/21	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	05/03/2021
Drawn	EPF
Checked	SAS
Designed	MAK
Approved	JAK1

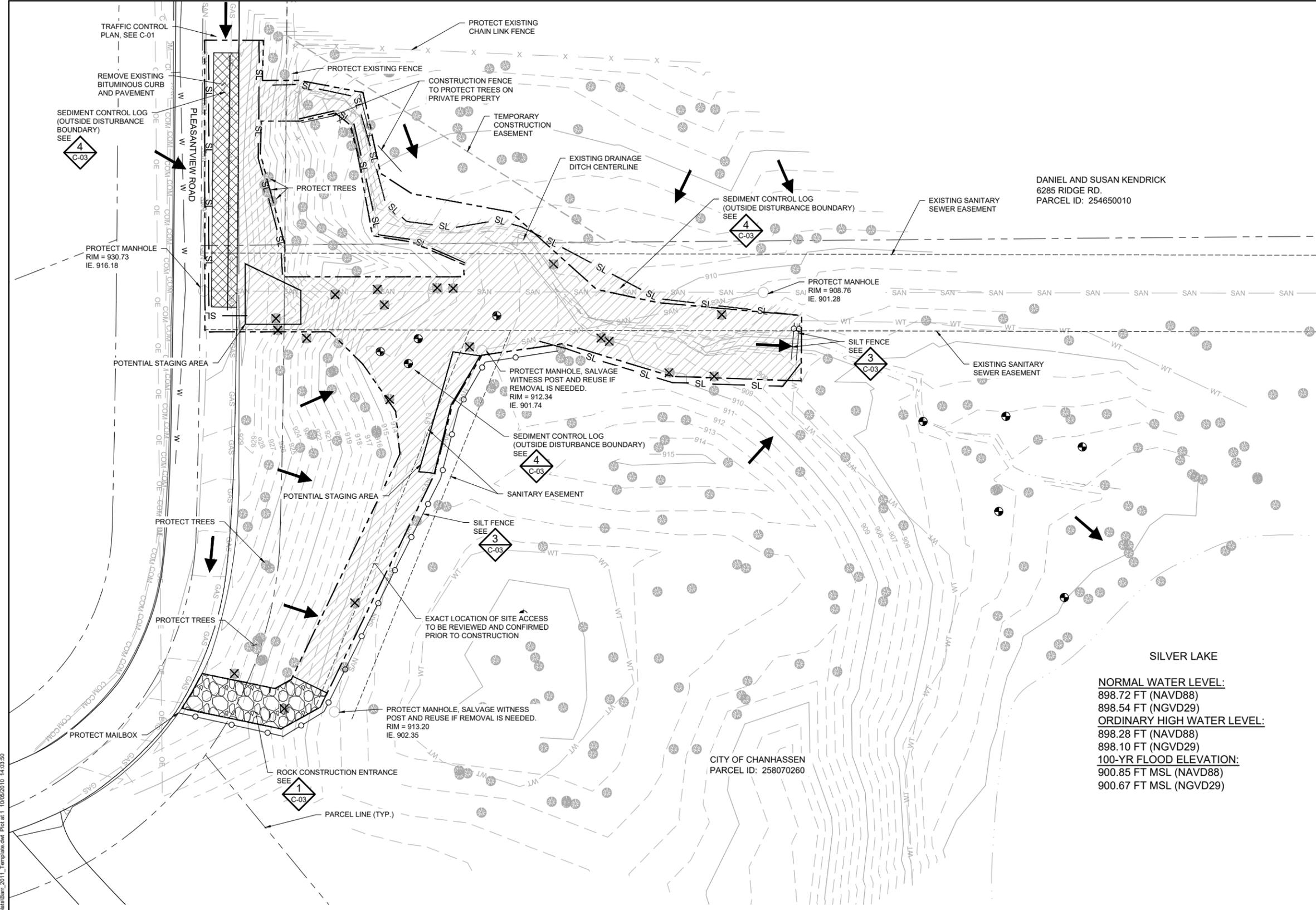
RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
 CHANHASSEN, MN

SILVER LAKE WATER QUALITY
 IMPROVEMENT PROJECT
 TRAFFIC CONTROL PLAN

BARR PROJECT No.	23270053.14
CLIENT PROJECT No.	
DWG. No.	C-01
REV. No.	0

ISSUED FOR CONSTRUCTION

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LEGEND

- 915 — EXISTING FIVE-FOOT CONTOUR
- — — — — EXISTING ONE-FOOT CONTOUR
- — — — — PROPERTY LINE
- - - - - EXISTING SANITARY SEWER EASEMENT
- - - - - EXISTING DRAINAGE DITCH
- WT EXISTING DELINEATED WETLAND
- — — — — EXISTING OPEN WATER
- GAS EXISTING GAS LINE
- SAN EXISTING SANITARY SEWER
- COM EXISTING TELEPHONE LINE
- W EXISTING WATER SERVICE LINE
- OE EXISTING OVERHEAD UTILITY LINE
- X EXISTING STRUCTURAL FENCE
- EXISTING TREE
- EXISTING OVERHEAD POWER POLE
- ⊕ EXISTING MANHOLE
- ⊕ EXISTING WATER SERVICE VALVE
- ⊕ EXISTING GATE VALVE
- — — — — CONSTRUCTION LIMITS
- — — — — SEDIMENT CONTROL LOG
- — — — — — SILT FENCE
- ⊗ EXISTING TREE (REMOVAL)
- ▨ CLEARING AND GRUBBING AREA (APPROX.)
- HAND AUGERED SOIL INVESTIGATION LOCATIONS
- ➔ FLOW DIRECTION

- EROSION & SEDIMENT CONTROL NOTES:**
1. NATURAL TOPOGRAPHY AND SOIL CONDITIONS MUST BE PROTECTED, INCLUDING RETENTION ONSITE OF NATIVE TOPSOIL TO THE GREATEST EXTENT POSSIBLE. ANY NATIVE TOPSOIL THAT IS STRIPPED AND STOCKPILED FOR REUSE ONSITE SHOULD BE TEMPORARILY COVERED WITH MULCH UNTIL REPLACED ONSITE.
 2. 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.
 3. FINAL SITE STABILIZATION MEASURES MUST INCORPORATE AT LEAST SIX INCHES OF TOPSOIL AS SPECIFIED INTO THE UNDERLYING SOIL DURING FINAL SITE TREATMENT WHEREVER TOPSOIL HAS BEEN REMOVED.
 4. CONSTRUCTION SITE WASTE SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER AND SANITARY WASTE MUST BE PROPERLY MANAGED.
 5. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPs MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND VEGETATION IS ESTABLISHED SUFFICIENTLY TO ENSURE STABILITY OF THE SITE, AS DETERMINED BY THE DISTRICT.
 6. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPs MUST BE REMOVED UPON FINAL STABILIZATION.
 7. SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED TO ACHIEVE:
 - A. A SOIL COMPACTION TESTING PRESSURE OF LESS THAN 1,400 KILOPASCALS OR 200 POUNDS PER SQUARE INCH IN THE UPPER 12 INCHES OF THE SOIL.
 - B. A BULK DENSITY OF LESS THAN 1.4 GRAMS PER CUBIC CENTIMETER OR 87 POUNDS PER CUBIC FOOT IN THE UPPER 12 INCHES OF SOIL.
 8. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 7 CALENDAR DAYS AFTER LAND-DISTURBING WORK HAS TEMPORARILY OR PERMANENTLY CEASED ON A PROPERTY THAT DRAINS TO AN IMPAIRED WATER, WITHIN 14 DAYS ELSEWHERE.
 9. 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.
 10. AS SHOWN, THESE ARE THE MINIMUM EROSION AND SEDIMENT CONTROL MEASURES NEEDED FOR THE SITE.
 11. 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.

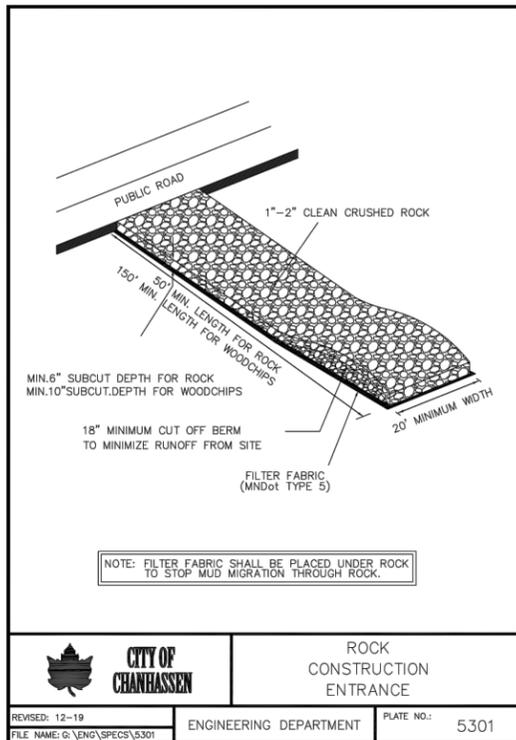
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 898.72 FT (NAVD88)
 898.54 FT (NGVD29)
ORDINARY HIGH WATER LEVEL:
 898.28 FT (NAVD88)
 898.10 FT (NGVD29)
100-YR FLOOD ELEVATION:
 900.85 FT MSL (NAVD88)
 900.67 FT MSL (NGVD29)

1 PLAN: EXISTING CONDITIONS, REMOVALS, AND TEMPORARY EROSION & SEDIMENT CONTROL
 0 20 40
 SCALE IN FEET

- GENERAL NOTES:**
1. ALL PROJECT STAGING WILL OCCUR WITHIN PROJECT DISTURBANCE LIMITS. MATERIAL AND EQUIPMENT SHALL NOT BE STORED ON PLEASANTVIEW ROAD.

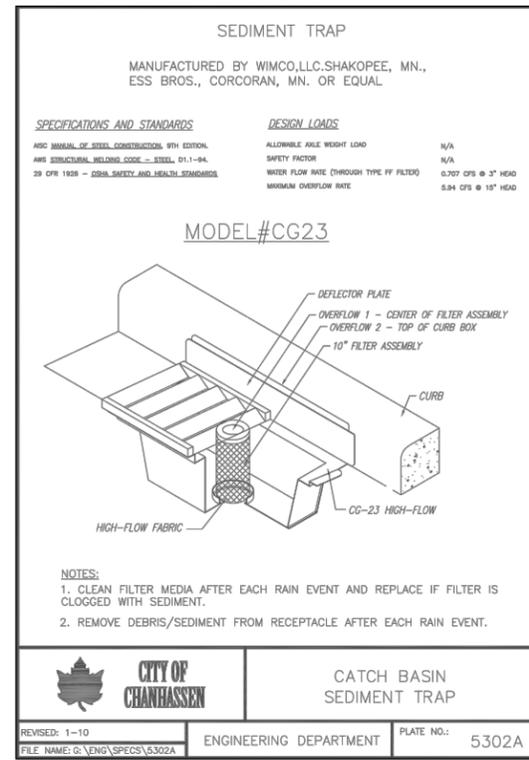
ISSUED FOR CONSTRUCTION

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PRINTED NAME: JENNIFER KOEHLER SIGNATURE: <i>Jennifer Koehler</i> DATE: 05/03/2021 LICENSE #: 47500				RELEASED TO/FOR: A B C 0 1 2 3 DATE RELEASED:				NO. BY CHK APP DATE REVISION DESCRIPTION				0 EPF SAS JAK1 05/03/2021 ISSUED FOR CONSTRUCTION															



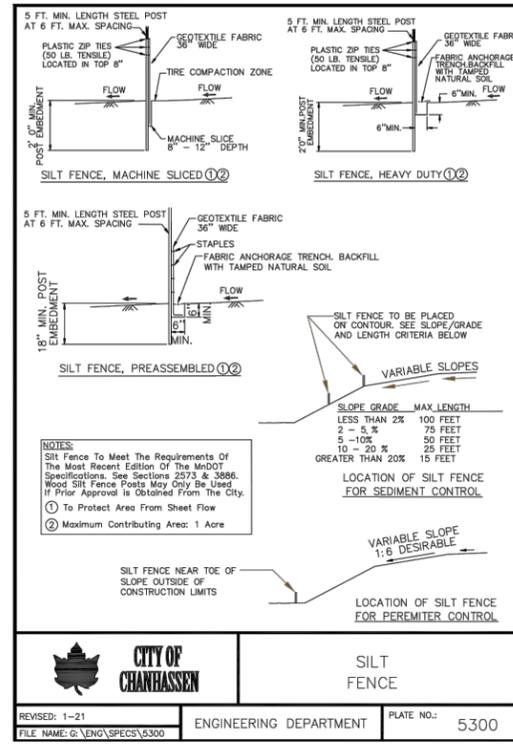
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FILE NAME: G:\ENG\SPCS\5301			

1
C-02
DETAIL: ROCK CONSTRUCTION ENTRANCE



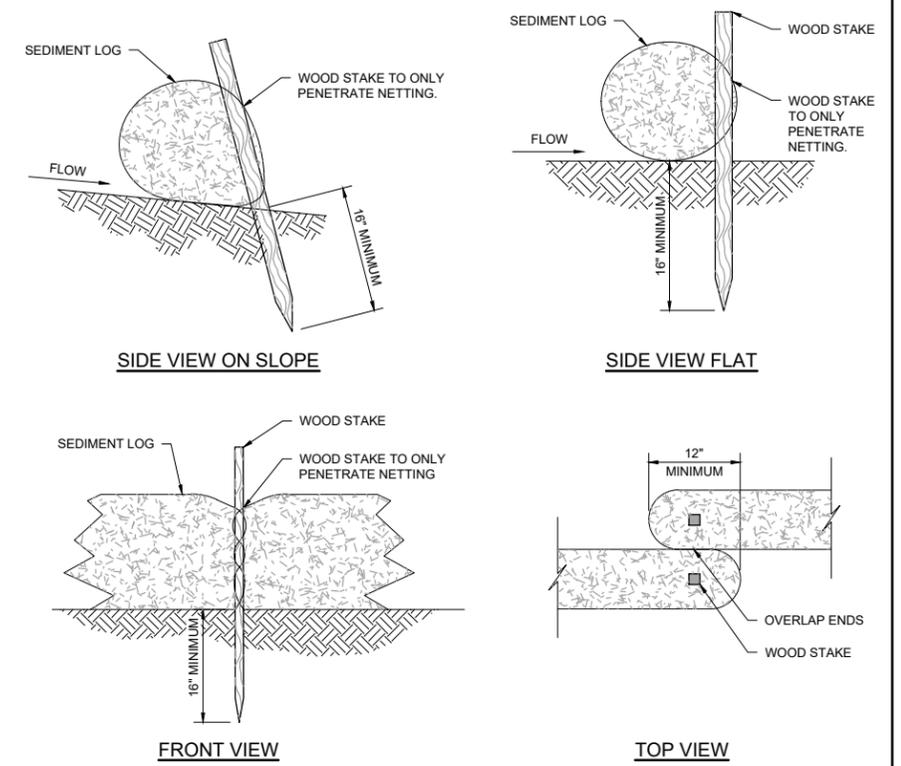
CITY OF CHANHASSEN		CATCH BASIN SEDIMENT TRAP	
REVISED: 1-10	ENGINEERING DEPARTMENT	PLATE NO.:	5302A
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2
C-02
DETAIL: 48" DIA. CATCH BASIN SEDIMENT TRAP



CITY OF CHANHASSEN		SILT FENCE	
REVISED: 1-21	ENGINEERING DEPARTMENT	PLATE NO.:	5300
FILE NAME: G:\ENG\SPCS\5300			

3
C-02
DETAIL: SILT FENCE



- NOTES:**
- INSTALL SEDIMENT LOG ALONG CONTOURS (CONSTANT ELEVATION).
 - NO GAPS SHALL BE PRESENT UNDER SEDIMENT LOG. PREPARE AREA AS NEEDED TO SMOOTH SURFACE OR REMOVE DEBRIS.
 - REMOVE ACCUMULATED SEDIMENT WHEN REACHING 1/3 OF LOG HEIGHT.
 - MAINTAIN SEDIMENT LOG THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIR OR REPLACED AS REQUIRED.

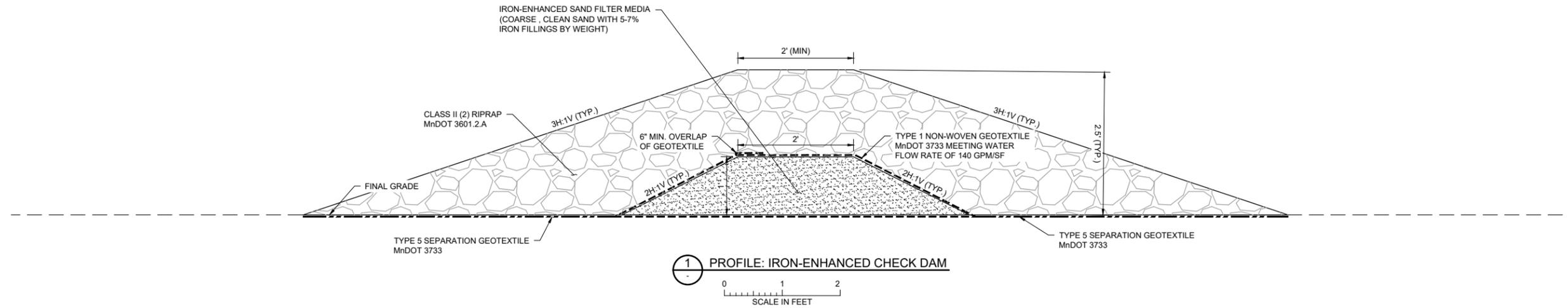
4
C-02
DETAIL: SEDIMENT LOG - STAKING
NOT TO SCALE

ISSUED FOR CONSTRUCTION

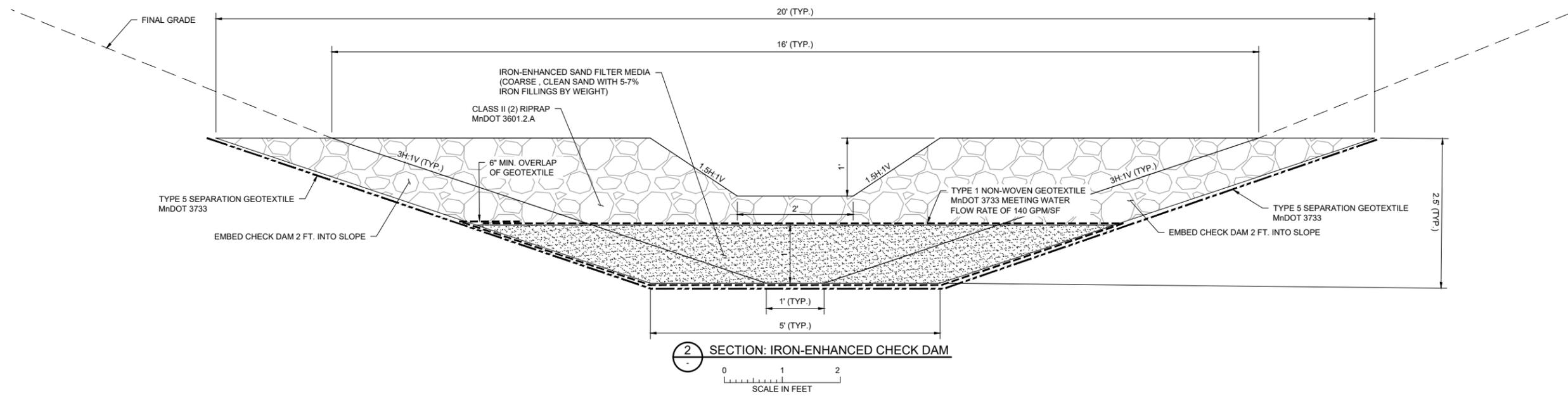
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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		CLIENT BID CONSTRUCTION	01/08/21 03/05/21 02/12/21 02/24/21 05/03/21	Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435		Scale Date Drawn Checked Designed Approved	AS SHOWN 05/03/2021 EPF SAS JAK1 JAK1	RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT CHANHASSEN, MN		SILVER LAKE WATER QUALITY IMPROVEMENT PROJECT EROSION CONTROL DETAILS		BARR PROJECT No. 23270053.14 CLIENT PROJECT No.			
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION	RELEASED TO/FOR	A	B	C	0	1	2	3	DWG. No. C-03	REV. No. 0
0	EPF	SAS	JAK1	05/03/2021	ISSUED FOR CONSTRUCTION										
PRINTED NAME: JENNIFER KOEHLER					Corporate Headquarters: Minneapolis, Minnesota										
SIGNATURE: <i>Jennifer Koehler</i>					Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com										
DATE: 05/03/2021 LICENSE #: 47500					DATE RELEASED										

CADD USER: Eric P. Fitzgerald FILE: M:\DESIGN\23270053_1\1\024-SILVERLAKE\3270053.14_T024_C-07_CHECK DAM_SECTIONS & DETAILS.DWG PLOT SCALE: 1:2 PLOT DATE: 4/28/2021 9:52 AM
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1 PROFILE: IRON-ENHANCED CHECK DAM
SCALE IN FEET



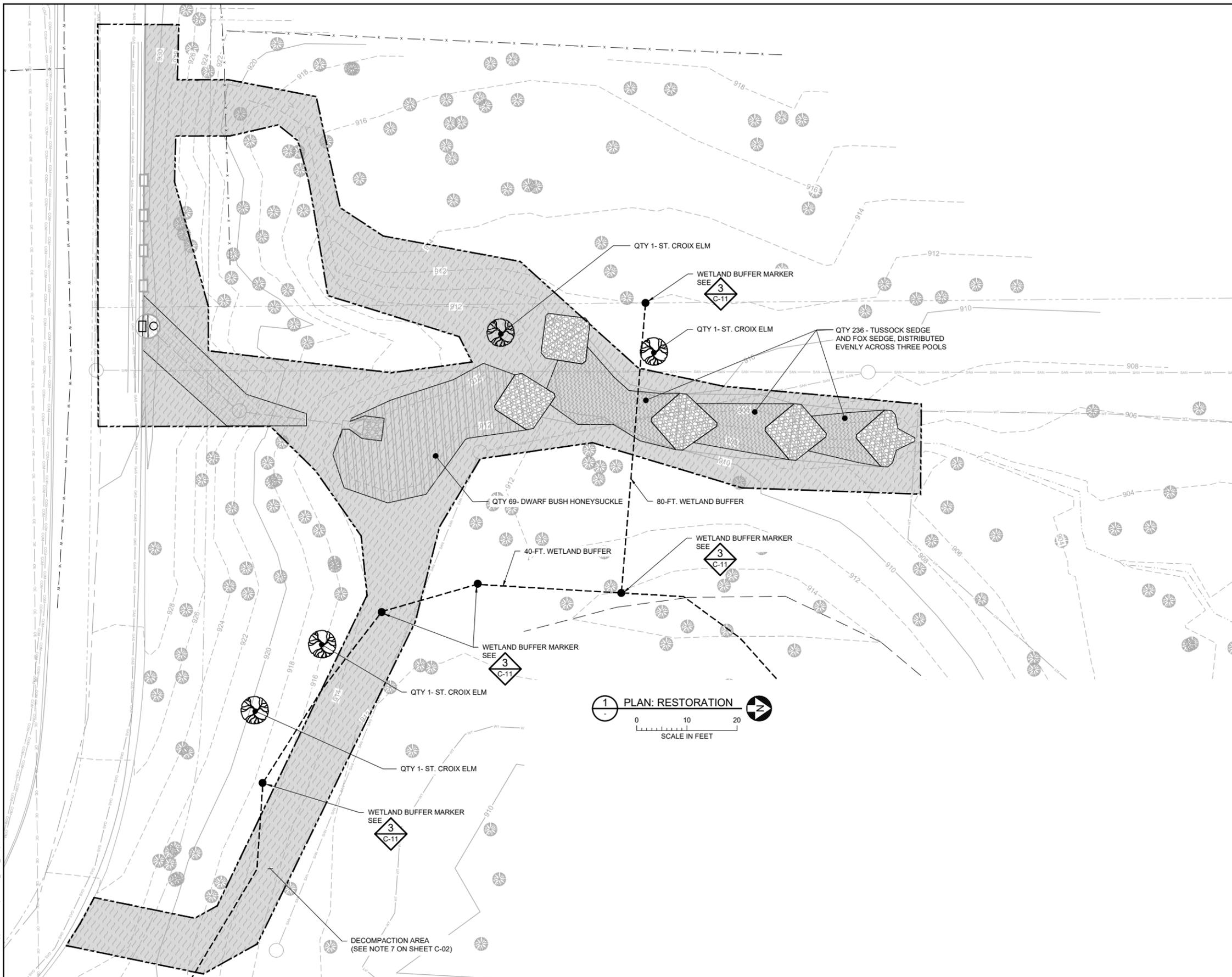
2 SECTION: IRON-ENHANCED CHECK DAM
SCALE IN FEET

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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: JENNIFER KOEHLER SIGNATURE: <i>Jennifer Koehler</i> DATE: 05/03/2021 LICENSE #: 47500				CLIENT: BARR ENGINEERING CO. BID: 01/08/21 03/05/21 02/12/21 CONSTRUCTION: 02/24/21 05/03/21 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 www.barr.com				Scale: AS SHOWN Date: 05/03/2021 Drawn: EPF Checked: SAS Designed: JAK1 Approved: JAK1				RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT CHANHASSEN, MN				SILVER LAKE WATER QUALITY IMPROVEMENT PROJECT IRON-ENHANCED CHECK DAM SECTION & PROFILE				BARR PROJECT No. 23270053.14 CLIENT PROJECT No. DWG. No. C-07 REV. No. 0			
NO.	BY	CHK	APP	DATE	REVISION DESCRIPTION																										
0	EPF	SAS	JAK1	05/03/2021	ISSUED FOR CONSTRUCTION																										

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LEGEND

- 915 FINAL FIVE-FOOT CONTOUR
- FINAL ONE-FOOT CONTOUR
- CONSTRUCTION LIMITS
- DRAINAGE SYSTEM
- IRON-ENHANCED CHECK DAM
- RIPRAP OUTLET
- EXISTING TREE TO BE PRESERVED
- PROPOSED TREE PLANTING
- RIPARIAN SOUTH & WEST SEED MIX (MNDOT 34-261)
- SHRUB PLANTING
- SEDGE PLANTING
- SOIL DECOMPACTION AREA

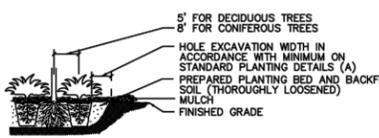
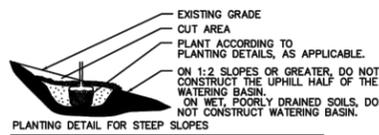
- NOTES:**
- EROSION CONTROL BLANKET CATEGORY 3N2S (WOOD FIBER) SHALL BE PLACED ON ALL SEEDED AREAS.
 - INSTALL WETLAND BUFFER SIGNAGE AT LOCATIONS OUTSIDE THE CONSTRUCTION LIMITS AS NOTED IN THE PLANS PRIOR TO CONSTRUCTION ACTIVITIES TO ENSURE PROTECTION OF BUFFER AREA DURING AND AFTER LAND-DISTURBING ACTIVITIES.

Planting Schedule

Common Name	Scientific Name	Size	Spacing	Quantity
Trees				
St. Croix Elm	<i>Ulmus americana 'St. Croix'</i>	#15 Container		4
Total				4
Shrubs				
Dwarf Bush Honeysuckle	<i>Diervilla lanicera</i>	#1 Container	48" OC	69
Total				69
Perennials				
Fox Sedge	<i>Carex vulpinoidea</i>	Plug	24" OC	118
Tussock Sedge	<i>Carex stricta</i>	Plug	24" OC	118
Total				236

ISSUED FOR CONSTRUCTION

		I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.		CLIENT 01/08/21 02/05/21 02/12/21 CONSTRUCTION 02/24/21 03/19/21 05/03/21		BARR Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277		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 05/03/2021 Drawn EPF Checked SAS Designed MDB3 Approved MDB3		RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT CHANHASSEN, MN		SILVER LAKE WATER QUALITY IMPROVEMENT PROJECT RESTORATION PLAN		BARR PROJECT No. 23270053.14 CLIENT PROJECT No. DWG. No. C-08 REV. No. 0	
NO.		BY	CHK	APP.	DATE	REVISION DESCRIPTION											
0		EPF	SAS	JAK1	05/03/2021	ISSUED FOR CONSTRUCTION											
		PRINTED NAME		MARCY BEAN		RELEASED TO/FOR		A B C 0 1 2 3		DATE RELEASED							
		SIGNATURE				DATE		05/03/2021		LICENSE #		48430					

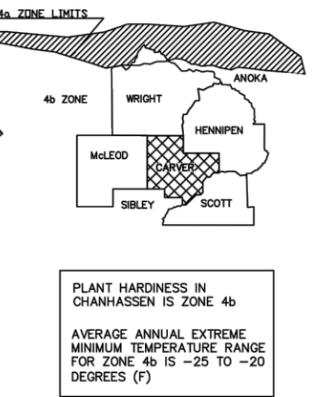
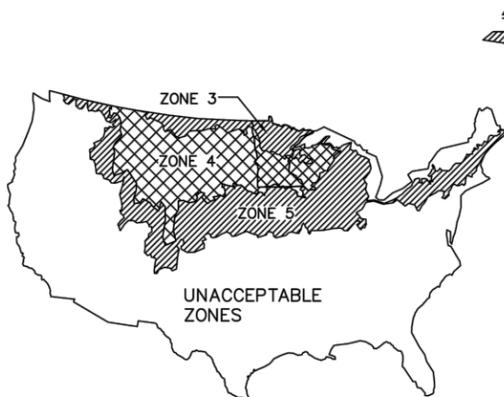


NOTES:
1.**BARE ROOT PERENNIALS MUST BE INSTALLED IN THE SPRING BY JUNE 1ST. IF PLANTING IN FALL, FOLLOW FALL DECIDUOUS PLANTING DATES.
2.**ACTUAL DATES MAY CHANGE DEPENDING UPON SEASONAL CONDITIONS, AS RECOMMENDED BY THE SUPPLIER. THE FOLLOWING BARE ROOT PLANTS ARE NOT RECOMMENDED FOR FALL INSTALLATION: HAWTHORN, RUSSIAN OLIVE, DOGWOOD, POPLAR, HACKBERRY, LINDEN, IRONWOOD, HONEYLOCUST, BIRCH, MOUNTAIN ASH, MAPLE, WILLOW, CRABAPPLE, PLUM/CHERRY, OAKS, AND SUMAC.

→ INDICATES PROJECT LOCATION

KEY	SPRING				FALL			
	PERENNIALS	CONIFEROUS	DECIDUOUS	SEEDLINGS	DECIDUOUS	CONIFEROUS	SEEDLINGS	PERENNIALS
1	MAY 1 TO JUNE 15	APRIL 21 TO JUNE 1	APRIL 21 TO JUNE 1	APRIL 21 TO JUNE 1	OCT. 1 TO NOV. 1	AUG. 25 TO SEPT. 15		
2	MAY 1 TO JUNE 15	APRIL 7 TO MAY 17	APRIL 7 TO JUNE 1	APRIL 7 TO MAY 17	APRIL 7 TO NOV. 15	AUG. 25 TO SEPT. 15		

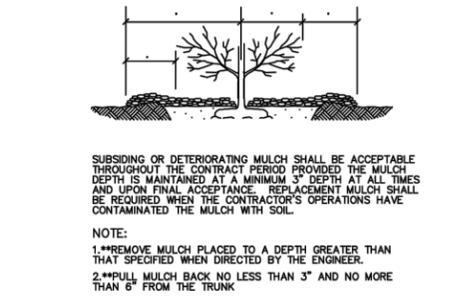
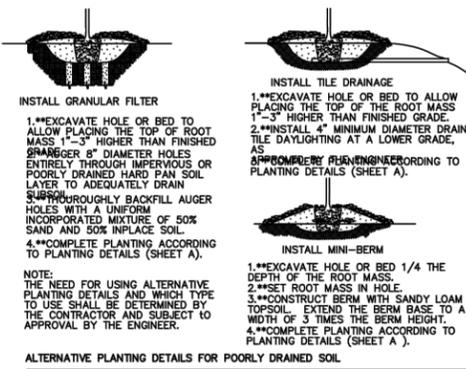
OPTIMUM PLANTING DATE ZONES IN MINNESOTA



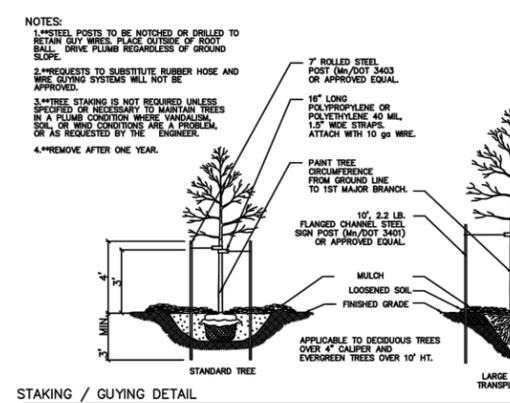
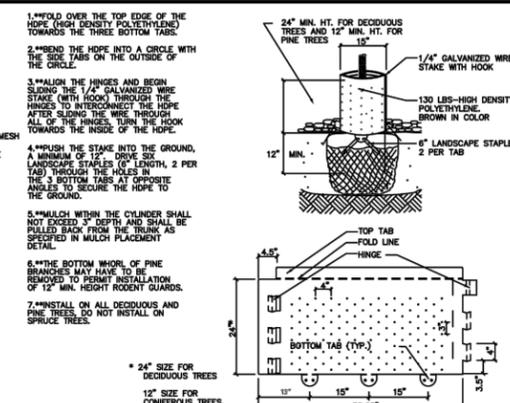
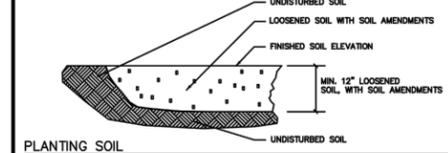
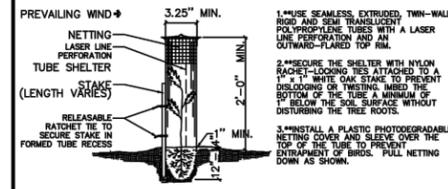
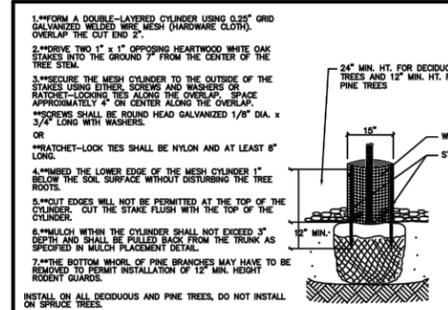
ALL PLANT STOCK SHALL BE DEEMED ACCEPTABLE FOR HARDINESS:

- 1.**IF IT IS HARDY TO THE MINNESOTA ZONE 4b WHERE THE PROJECT SITE IS LOCATED AND:
OR
A.**PLANT STOCK CAN BE DOCUMENTED AS CONTINUOUSLY GROWN FOR AT LEAST THE LAST TWO YEARS WITHIN THE ACCEPTABLE LIMITS ZONES 3, 4 OR 5 SHOWN ON THE ACCEPTABLE PLANT STOCK GROWING RANGE ABOVE.
B.**PLANT STOCK, IF GROWN OUTSIDE THE ACCEPTABLE GROWING RANGE LIMITS, CAN BE DOCUMENTED AS HAVING THE SEED SOURCE AND ROOT AND GRAFT UNITS ORIGINATING FROM WITHIN THE ACCEPTABLE GROWING RANGE LIMITS.

ACCEPTABLE PLANT STOCK GROWING RANGE LIMITS SOURCE: U.S.D.A. PLANT HARDINESS ZONE MAP



TYPE OF PLANT	W CENTER OF PLANT TO MULCH LINE	W EDGE OF BRANCHING TO MULCH LINE	H DEPTH OF MULCH	D DEPTH OF MULCH
CONIFEROUS TREES	VARIES	3" MIN.	4"-6"	4"-6"
DECIDUOUS TREES	3" MIN.	N/A	4"-6"	4"-6"
CONIFEROUS SHRUBS	VARIES	3" MIN.	3"-4"	4"-6"
DECIDUOUS SHRUBS	3" MIN.	N/A	4"-6"	4"-6"
VINES	2" MIN.	N/A	4"-6"	4"-6"
PERENNIALS	VARIES	2" MIN.	2"-4"	2"-4"
MACHINE-TRANSPLANTED TREES	12" BEYOND EDGE OF HOLE		4"-6"	4"-6"



GENERAL NOTES
SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS.

PLANTING HOLE AND BED CULTIVATION
THE CONTRACTOR SHALL EXERCISE DISCRETION IN SETTING PLANTS 1"-3" HIGHER IN POORLY DRAINED SOILS OR USING ALTERNATIVE PLANTING DETAILS ON SHEET B.

BACKFILL SOIL
THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE DRAINAGE IN HEAVY POORLY DRAINED OR IMPERVIOUS SOILS.
LOOSEN ALL ISOLATED TREE PLANTING LOCATIONS AND PLANTING BEDS TO A MINIMUM DEPTH OF 12". SOIL AMENDMENTS SHALL BE APPLIED DURING CULTIVATION.

FERTILIZER
M/DOT 3881

COMPOST
M/DOT 3890

MULCH MATERIAL
M/DOT 3882 TYPE 6 UNLESS OTHERWISE SPECIFIED.

MASS PLANTING
MASS PREPARE PLANT SPACING OF 12" OR LESS. PLANT IN STAGGERED ROWS ON THE PERIMETER FIRST, THEN TEMPORARILY FILL IN WITH REMAINING QUANTITY. USE TRIANGULAR SPACING UNLESS SPECIFIED OTHERWISE. PROVIDE 3" RADIUS CLEAR OF SHRUBS AROUND EACH DECIDUOUS TREE AND 8" RADIUS AROUND EACH EVERGREEN TREE. THIS RADIUS CLEARANCE SHALL BE MEASURED FROM THE CENTER OF THE TREE TO THE CENTER OF THE SHRUB. NOTIFY ENGINEER OF GROSS PLANT QUANTITY SURPLUS OR DEFICIENCY IMMEDIATELY. MASS MULCH PLANT SPACINGS OF 12" OR LESS.

TREE PAINTING
PAINT OAKS, LINDENS, LOCUSTS, MAPLES, CRABAPPLES AND MOUNTAIN ASH. ONLY UNLIMITED EXPOSURE WHITE LATEX PAINT IS ACCEPTABLE. PAINT TREE CIRCUMFERENCE FROM GROUND LINE TO FIRST MAJOR BRANCH.

PLANTING PLAN
RESPECT STATED DIMENSIONS BEFORE SCALING FROM PLAN.

PLANT TYPE	AVERAGE AMOUNT OF WATER PER APPLICATION IN GALLONS
MACHINE TRANSPLANTED TREES 42" AND UP	50 - 100
BARE ROOT TREES	15
BALLED & BURLAPPED SHRUBS	10
BARE ROOT OR CONTAINER SHRUBS	7
WOODY SEEDLINGS	4
PERENNIALS AND VINES	3

IT IS THE CONTRACTOR'S RESPONSIBILITY TO MONITOR AND MAINTAIN SOIL MOISTURE AT APPROPRIATE BUT NOT EXCESSIVE LEVELS. THE ABOVE LISTED APPLICATION AMOUNTS ARE GUIDELINES, NOT REQUIREMENTS.

WATERING GUIDELINES

REVISED: 3-14	FILE NAME: G:\ENG\SPCS\5310	ENGINEERING DEPARTMENT	PLATE: 5310	PLANTING DETAILS FOR STEEP SLOPES/MASS BED PLANTINGS
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REVISED: 1-10	FILE NAME: G:\ENG\SPCS\5311	ENGINEERING DEPARTMENT	PLATE: 5311	PLANTING DETAIL
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1 DETAIL: STEEP SLOPES/MASS BED PLANTINGS

2 DETAIL: PLANTING

ISSUED FOR CONSTRUCTION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.		CLIENT BID CONSTRUCTION	01/08/21 03/05/21 02/12/21	02/24/21 05/03/21	Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435		Scale Date Drawn Checked Designed Approved	AS SHOWN 05/03/2021 EPF SAS MDB3 MDB3	RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT CHANHASSEN, MN	SILVER LAKE WATER QUALITY IMPROVEMENT PROJECT RESTORATION DETAILS	BARR PROJECT No. 23270053.14 CLIENT PROJECT No.	DWG. No. C-10 REV. No. 0	
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION	RELEASED TO/FOR	A	B	C	0	1	2	3
0	EPF	SAS	JAK1	05/03/2021	ISSUED FOR CONSTRUCTION								
PRINTED NAME: MARCY BEAN SIGNATURE: <i>Marcy Bean</i> DATE: 05/03/2021 LICENSE # 48430						DATE RELEASED							

CADD USER: Eric P. Fitzgerald FILE: M:\DESIGN\23270053.14_T024-SILVERLAKE\23270053.14_T024_C-09_RESTORATION\DETAILS.DWG PLOT SCALE: 1:2 PLOT DATE: 4/28/2021 9:47 AM
BARR:\A\AutoCAD\2011\AutoCAD 2011 Support\enu\Template\Bar_2011_Template.dwg Plot at 1:10/05/2010 14:03:50

CADD USER: Eric P. Fitzgerald FILE: M:\DE\SIGN\23270053_14_T024_SILVERLAKE\3270053_14_T024_C-09_RESTORATION\DETAILS.DWG PLOT SCALE: 1:2 PLOT DATE: 4/28/2021 9:48 AM
 BARR:\AutoCAD\2011\AutoCAD 2011 Support\enu\template\Barr_2011_Template.dwt Plot at 1:10/05/2010 14:03:50

PRUNING DETAILS (Shigo Method)

INCORRECT CUT (TOO CLOSE) RESULTING IN DISCONTINUOUS CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

CORRECT CUT (LEAVING BRANCH COLLAR BUT NO STUB) RESULTING IN CONTINUOUS DOUGHRIT SHAPED CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

STEPS TO PRUNING

1. **BEST CUT PART WAY THROUGH THE BRANCH AT POINT A.
2. **THEN CUT COMPLETELY THROUGH BRANCH FROM POINT B TO A.
3. **NOW CUT FROM POINT C TO D.
4. **IF D IS HARD TO FIND, DROP A PLUMB LINE VERTICALLY DOWN TO POINT X. THE ANGLE X-C-D SHOULD BE APPROXIMATELY EQUAL TO X-C-E.

PRUNING NOTES:

1. **LEAVE BRANCH COLLAR (C TO D)
2. **DO NOT FLUSH CUT (C TO X)
3. **DO NOT LEAVE STUBS (B TO A)
4. **BEST TIME TO PRUNE IS LATE DORMANT SEASON OR EARLY SPRING.
5. **AVOID PRUNING OAKS IN APRIL, MAY, JUNE OR JULY.
6. **IMMEDIATELY PAINT OAK WOUNDS MADE IN APRIL, MAY, JUNE OR JULY WITH LATEX PAINT OR SHELLAC.

BRANCHES SMALLER THAN 2" IN DIAMETER SHOULD BE CUT JUST BEYOND A LATERAL BUD OR ANOTHER SMALL LATERAL BRANCH. THE IDEAL CUT SHOULD BE SHARP, CLEAN, AND MADE ON A SLIGHT ANGLE.

ROOT PROTECTION AND TRENCHING DETAILS

UTILITY INSTALLATION TUNNEL

ROOT SYSTEM BRIDGE AND VIBRATORY FLOW

TREE PROTECTION ZONE

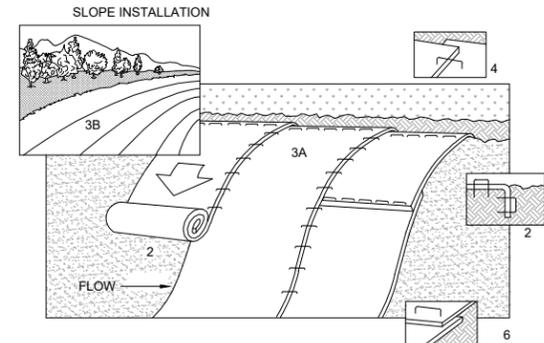
TREE DIAMETER AT 4.5' ABOVE GROUND	MINIMUM DISTANCE FROM FACE OF TREE TRUNK
0" - 2"	2'
3" - 4"	3'
5" - 6"	4'
7" - 8"	5'
9" - 10"	6'
11" - 12"	7'
13" - 14"	8'
15" - 16"	9'
17" - 18"	10'
19" - 20"	11'

NOTE: WHEN UTILITY INSTALLATIONS MUST OCCUR WITHIN THE TREE PROTECTION ZONE, AS DEFINED IN THE ABOVE CHART, THE CONTRACTOR SHALL BORE (TUNNEL) UNDER TREE ROOTS THAT ARE TO BE PRESERVED. THE CONTRACTOR SHALL BORE AT A MINIMUM DEPTH OF 24" BELOW THE GROUND SURFACE WITHIN THIS ZONE.

SANDY LOAM FILL DETAIL

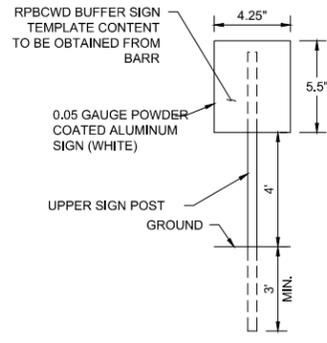
ANY FILL REQUIRED WITHIN THE DRIP LINE OF TREES SHALL BE AN UNCOMPACTED (WITH A COARSE SAND COMPONENT) SANDY LOAM TOPSOIL. EXCESSIVE FILL MAY REQUIRE INSTALLING PERFORATED PIPE WITH AT LEAST ONE DAILY LIGHTED END OPENING AS AN AERATION SYSTEM.

1 DETAIL: VEGETATION PROTECTION



- NOTES:**
1. REFER TO MANUFACTURER RECOMMENDATIONS FOR STAPLE PATTERNS FOR SLOPE INSTALLATIONS.
 2. PREPARE SOIL BY LOOSENING TOP 1-2 INCHES AND APPLY SEED (AND FERTILIZER WHERE REQUIRED) PRIOR TO INSTALLING BLANKETS. GROUND SHOULD BE SMOOTH AND FREE OF DEBRIS.
 3. BEGIN (A) AT THE TOP OF THE SLOPE AND ROLL THE BLANKETS DOWN OR (B) AT ONE END OF THE SLOPE AND ROLL THE BLANKETS HORIZONTALLY ACROSS THE SLOPE.
 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 6" OVERLAP, WITH THE UPHILL BLANKET ON TOP.
 5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 6" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.
 6. BLANKET MATERIALS SHALL BE AS SPECIFIED OR AS APPROVED BY ENGINEER.

2 DETAIL: EROSION CONTROL BLANKET - INSTALLATION NOT TO SCALE



- NOTE:**
1. SIGNS TO BE INSTALLED AT LOCATIONS IN TABLE ON SHEET G-02
 2. CONTRACTOR TO OBTAIN SIGN DESIGN FROM BARR PRIOR TO MAKING SIGNS.
 3. BOLTS SHALL BE TAMPER PROOF.
 4. POSTS SHALL BE PAINTED GREEN, 3 LB/FT

3 DETAIL: BUFFER SIGN INSTALLATION NOT TO SCALE

CLEAN WATER STARTS HERE

Buffers filter pollutants, reduce flooding, and provide habitat.

Help protect water quality:
NO MOWING BEYOND THIS LINE

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
 rpbcmd.org

ISSUED FOR CONSTRUCTION

0		EPF	SAS	JAK1	05/03/2021	ISSUED FOR CONSTRUCTION	CLIENT	01/08/21	03/05/21	02/12/21	BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435		Scale	AS SHOWN	RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT CHANHASSEN, MN	SILVER LAKE WATER QUALITY IMPROVEMENT PROJECT	RESTORATION DETAILS	BARR PROJECT No.	23270053.14											
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION	PRINTED NAME	MARCY BEAN	RELEASED TO/FOR	A	B	C	0	1	2				3	DATE RELEASED	Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Fax: (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	Date	05/03/2021	Drawn	EPF	Checked	SAS	Designed	MDB3	Approved
																			DWG. No.	C-11	REV. No.	0								