

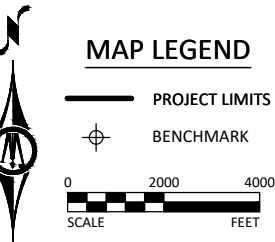
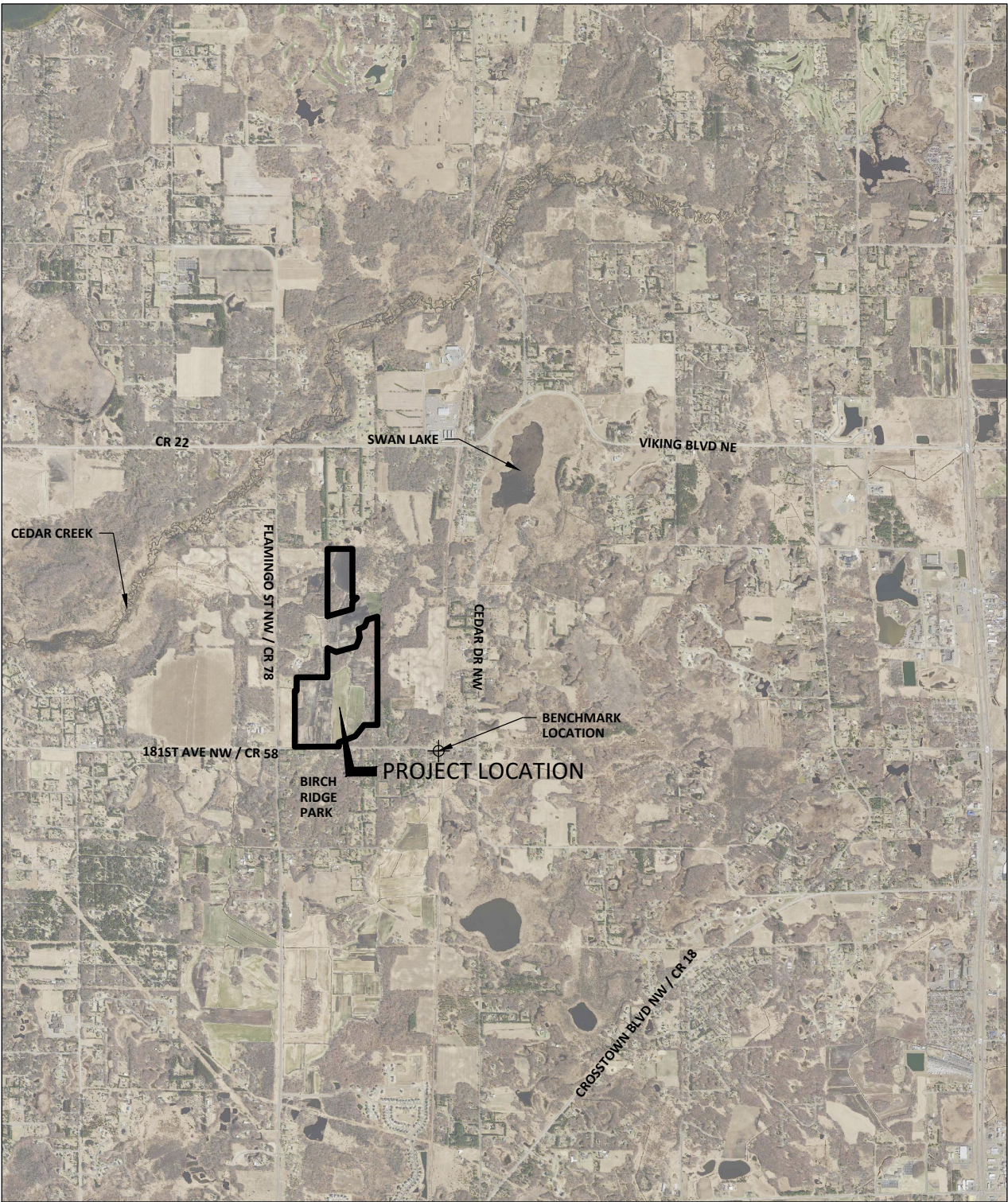
CONSTRUCTION PLANS FOR

OAK GROVE WETLAND BANK PHASE 1

VEGETATION ESTABLISHMENT & WETLAND RESTORATION

ANOKA COUNTY, MINNESOTA

APRIL 2025



NOTE:
EXISTING UTILITY INFORMATION ON THIS PLAN HAS BEEN PROVIDED BY THE OWNER.
THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS OF ALL EXISTING UTILITIES
PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY
GOPHER STATE ONE CALL 1-800-252-1166 OR 651-454-0002

REFERENCE MNDOT 2020 SPECIFICATIONS UNLESS OTHERWISE NOTED WITHIN

SHEET NUMBER	SHEET TITLE
G0.01	TITLE SHEET
C1.01 - C1.03	CONSTRUCTION DETAILS & SPECIFICATIONS
C2.01	EXISTING CONDITIONS & REMOVAL PLAN
C3.01	PROPOSED SITE PLAN
C3.02	PROPOSED STORM SEWER PLAN AND PROFILE
C3.03	PROPOSED SWALE PLAN AND PROFILE
C3.04	SOUTH OUTLET SPILLWAY PLAN AND PROFILE
C5.01 - C5.02	PROPOSED SEEDING PLAN
C6.01	TRAFFIC CONTROL PLAN
C9.01	CROSS SECTIONS
THIS PLAN SET CONTAINS <u>13</u> SHEETS.	

RESOURCE LIST

CITY OF OAK GROVE

CITY HALL:
19900 NIGHTINGALE STREET NW
OAK GROVE, MN 55011

CITY ADMINISTRATOR:
LOREN WICKHAM

MAYOR:
WESTON ROLF

CITY COUNCIL MEMBERS:
PAUL TRADEWELL
MIKE WYLIE
ANGIE BRAY JOHNSON
JOHN WEST

PROJECT ENGINEER:
(CONSULTANT)
BRADY NAHKALA, P.E.
BOLTON & MENK, INC.
2900 43RD ST NW
SUITE 100
ROCHESTER, MN 55901
507.208.4332

PUBLIC WORKS DIRECTOR:
MATT ANDERSON

PROJECT TECHNICIAN/WETLAND SPECIALIST:
(CONSULTANT)
DANIEL DONAYRE
507.625.4171 EXT 2646

ANOKA COUNTY

COUNTY ENGINEER:
JOE MACPHERSON

ASSISTANT COUNTY ENGINEER:
JERRY AUGÉ

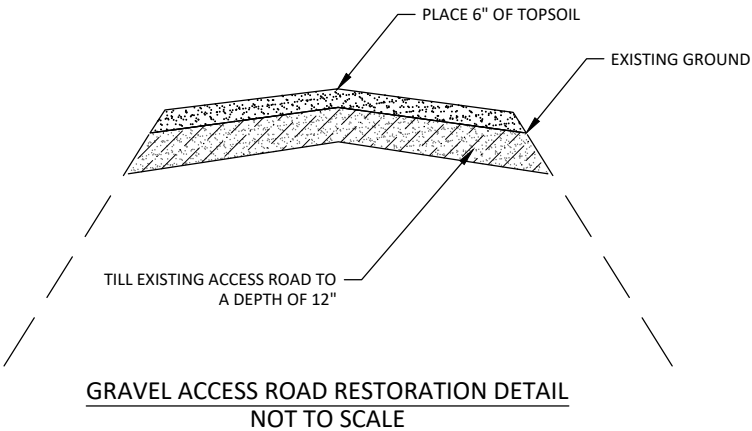
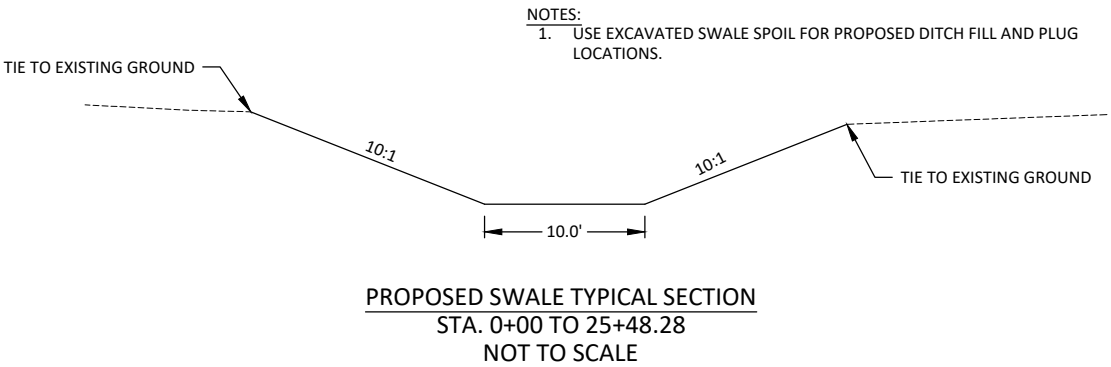
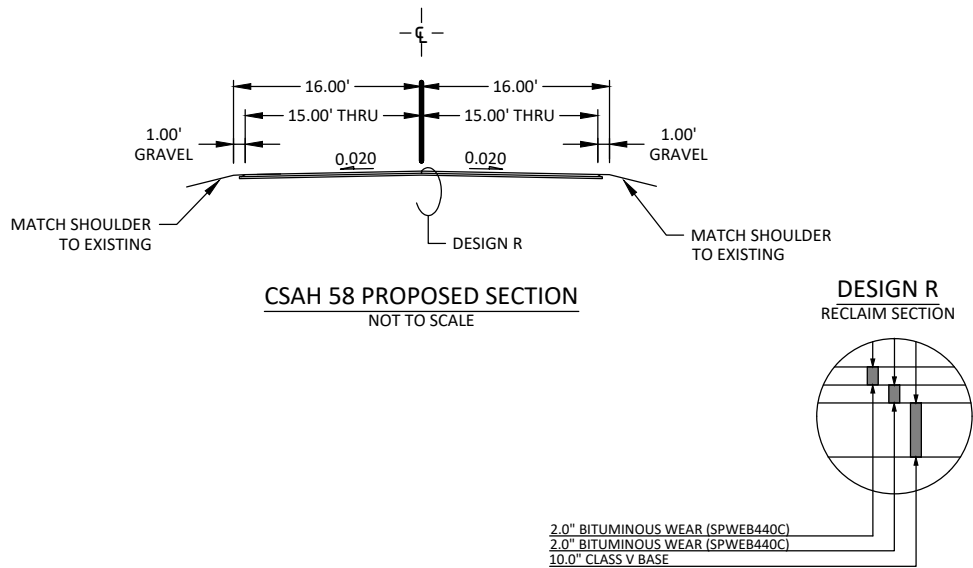
UTILITIES

GAS

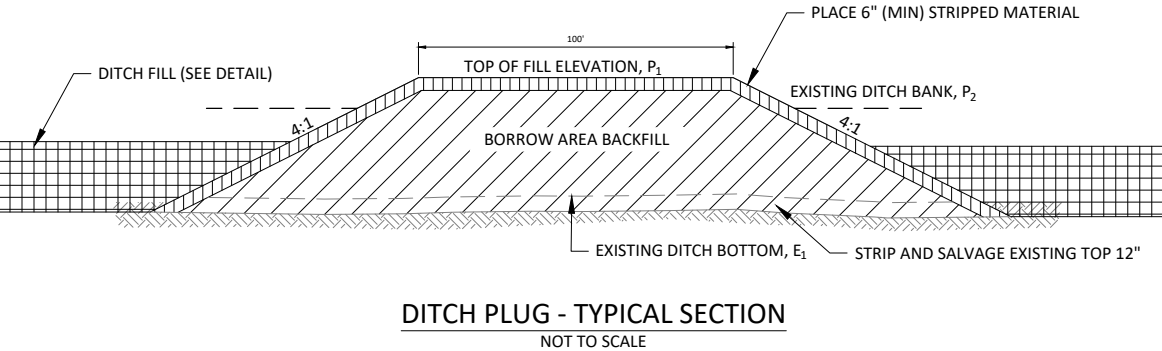
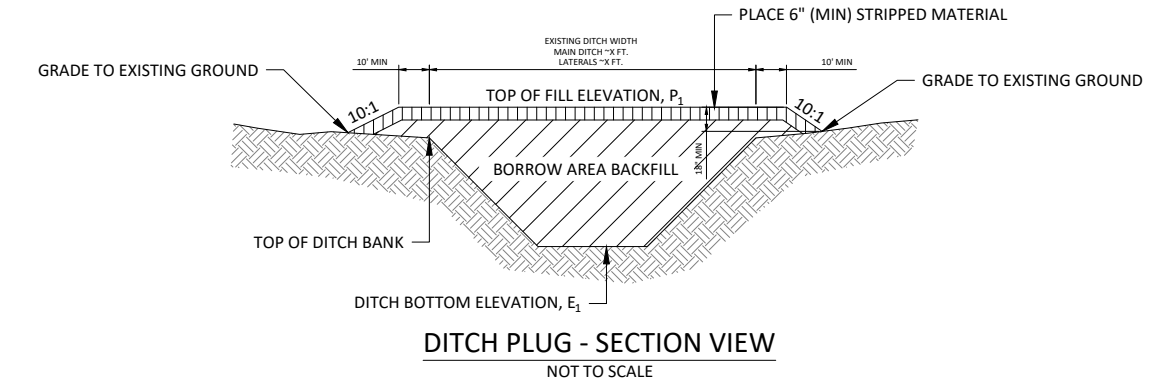
STATEMENT OF ESTIMATED QUANTITIES				
ITEM #	ITEM	NOTES	UNIT	QUANTITY
1	MOBILIZATION		LS	1
2	TRAFFIC CONTROL	(3)	LS	1
3	TOPSOIL REMOVAL, SALVAGE, & SPREADING	(2)	CY	12,500
4	COMMON EXCAVATION	(1)(2)	CY	32,350
5	REMOVE METAL APRON		EA	4
6	REMOVE BITUMINOUS PAVEMENT		SY	150
7	REMOVE MISCELLANEOUS DEBRIS		LS	1
8	SAWING BIT PAVEMENT (FULL DEPTH)		LF	58
9	AGGREGATE BASE (LV) CLASS 5		SY	150
10	SELECT GRANULAR EMBANKMENT		CY	110
11	BITUMINOUS MATERIAL FOR TACK COAT		GAL	21
12	TYPE SP 9.5 WEARING COURSE MIXTURE (4:C)		SY	150
13	TYPE SP 9.5 NON WEAR COURSE MIXTURE (4:B)		SY	150
14	GENERIC FILL	(1)(2)	CY	32,350
15	CULVERT/TILE REMOVAL		LF	279
16	INLET/STRUCTURE REMOVAL		EA	2
17	GEOTEXTILE FILTER		SY	230
18	RIVER GRAVEL / CLASS I RIPRAP		CY	32
19	BOULDER		EA	176
20	RANDOM RIPRAP, CLASS II		CY	50
21	RANDOM RIPRAP, CLASS III		CY	35
22	30" RCP PIPE SEWER CL III		LF	81
23	30" RC PIPE APRON		EA	2
24	TRASH GUARD FOR 30" PIPE APRON		EA	2
25	POST MARKER (CULVERT ENDS)		EA	2
26	SEEDING - BROADCAST		AC	29.5
27	SEEDING - DRILLED		AC	63.1
28	STATE SEED MIX 35-241		LBS	121
29	WET MEADOW SEED MIX		LBS	205
30	EMERGENT WETLAND SEED MIX		LBS	140

- (1) ESTIMATED QUANTITY INCLUDES THE TOPSOIL REMOVAL, SALVAGE, & SPREADING QUANTITY.
(2) VOLUMES ESTIMATED FROM LIMITED SURVEY DATA. BORROW AREAS WITHIN THE EASEMENT BOUNDARY SHOULD BE USED TO CREATE A BALANCED SITE.
(3) CONTRACTOR TO COORDINATE TRAFFIC CONTROL WITH ANOKA COUNTY HIGHWAY DEPARTMENT.

✦ BM=904.604 MnDOT GEODETIC MARKER: ANOKA BM 30 METAL ROD (NAVD 88)	PROJECT DATUM: HORIZONTAL: ANOKA COUNTY COORDINATE SYSTEM, NAD83 (2011) VERTICAL: NAVD 1988	RECORD DRAWING INFORMATION	
		OBSERVER:	
		CONTRACTOR:	
		DATE:	
OAK GROVE CONSERVATION, LLC		SHEET	
OAK GROVE WETLAND BANK PHASE 1		G0.01	
TITLE SHEET			

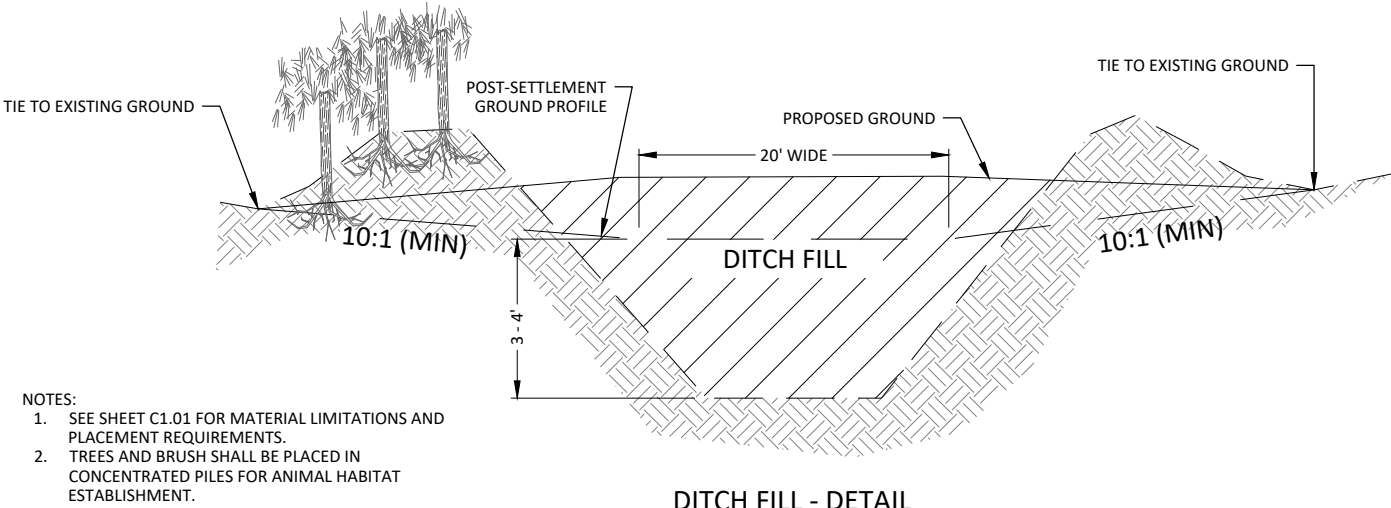


- NOTES:
- METHOD FOR DECOMPACTING SUBSOIL PRIOR TO APPLICATION OF TOPSOIL:
 - 1.1. TRACKED EQUIPMENT RIPPING ATTACHMENT
 - METHOD FOR APPLYING STOCKPILED TOPSOIL PRIOR:
 - 2.1. PLACE WITH A TRUCK AND SPREAD USING TRACKED EQUIPMENT
 - GENERAL DESCRIPTION OF METHOD(S) FOR AMENDING TOPSOIL TO MEET SPECIFICATION:
 - 3.1. TILL TO A DEPTH OF 12" USING A RIP TYPE TILLAGE PIECE OF EQUIPMENT.
 - 3.2. TILLAGE WILL BE DONE WITH TRACKED EQUIPMENT TO REDUCE COMPACTION.

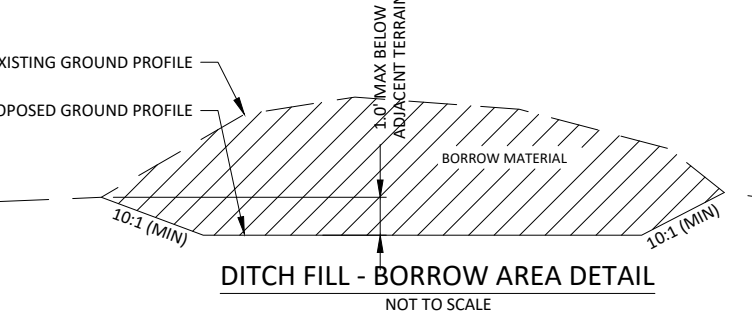
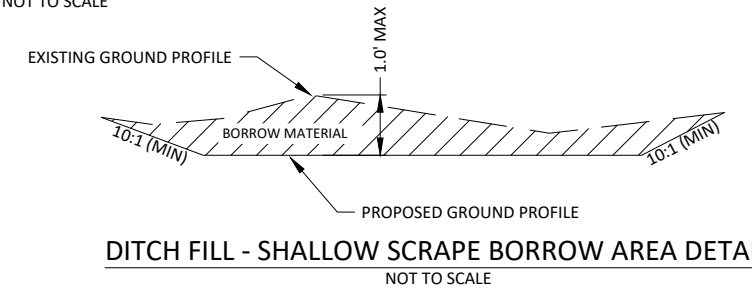
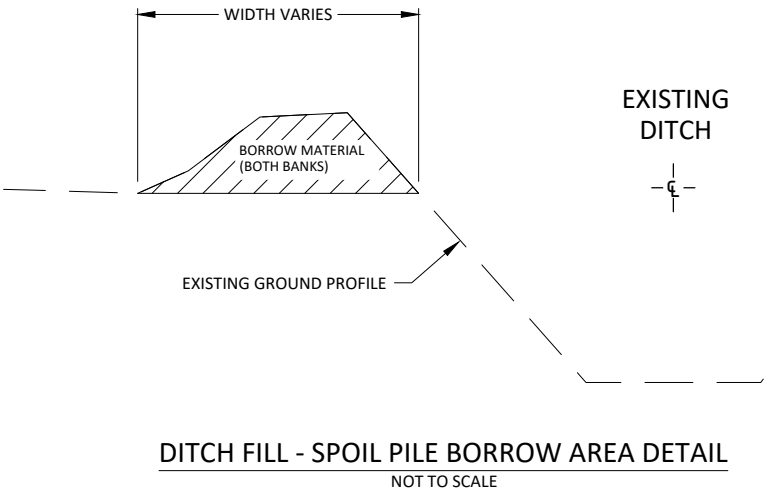


- GENERAL NOTES:
- DITCH BOTTOM ELEVATIONS ARE APPROXIMATE. FIELD VERIFY ELEVATIONS AT ALL DITCH PLUG LOCATIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ALL LOCATIONS WHERE DITCH BOTTOM ELEVATION IS MORE THAN 2 FT LOWER THAN THE ASSUMED ELEVATION.
 - TOP OF PLUG ELEVATION (P1) SHALL BE APPROXIMATELY 18" ABOVE THE EXISTING TOP OF DITCH BANK TO ACCOUNT FOR SETTLEMENT. CONTRACTOR SHALL VERIFY DITCH BANK ELEVATIONS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER IMMEDIATELY OF ALL DISCREPANCIES.

DITCH PLUG SUMMARY TABLE				
DITCH PLUG LOCATION #	DITCH BOTTOM ELEVATION, E ₁ (FT.)	BANK ELEVATION P ₂ (FT.)	DITCH WIDTH (FT.)	TOP OF PLUG P ₁ (FT.)
1	878.2	884.1	20.5	885.6
2	878	884.4	31.7	885.9
3	877.5	883.4	22.2	884.9
4	879	884.1	19.5	885.6
5	878.8	884.5	22.9	886
6	879.1	884.5	30.0	886
7	879.1	885.2	26.7	886.7
8	880.8	883.7	17.7	885.2
9	882.7	887.1	20.1	888.6



- NOTES:
- SEE SHEET C1.01 FOR MATERIAL LIMITATIONS AND PLACEMENT REQUIREMENTS.
 - TREES AND BRUSH SHALL BE PLACED IN CONCENTRATED PILES FOR ANIMAL HABITAT ESTABLISHMENT.



© Bolton & Menk, Inc. 2025. All Rights Reserved. A:\CHARTER\PROJECTS\22600\CAD\CD\2260001.dwg 4/7/2025 3:14:43 PM

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.

Brady A. Nankala

BRADY A. NANKALA
LIC. NO. 62456 DATE 04/07/2025

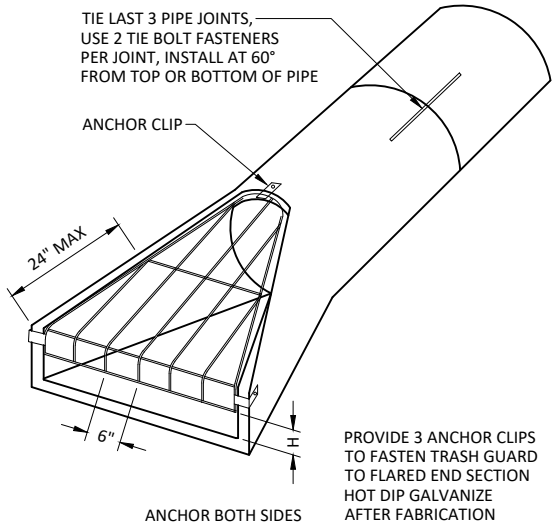


2900 43RD STREET NW, SUITE 100
ROCHESTER, MINNESOTA 55901
Phone: (507) 208-4332
Email: Rochester@bolton-menk.com
www.bolton-menk.com

DESIGNED	NO.	ISSUED FOR	DATE
BAN			
DRAWN			
BAN			
CHECKED			
BAN			
CLIENT PROJ. NO.			
0T6.127260			

OAK GROVE CONSERVATION, LLC
OAK GROVE WETLAND BANK PHASE 1
CONSTRUCTION DETAILS AND SPECIFICATIONS

SHEET
C1.02



TRASH GUARD SIZES			
PIPE SIZE	BAR	"H"	BOLTS
12"-18"	3/4"Ø	4"	5/8"
21"-42"	1"Ø	6"	3/4"
42"-72"	1 1/4"Ø	12"	1"

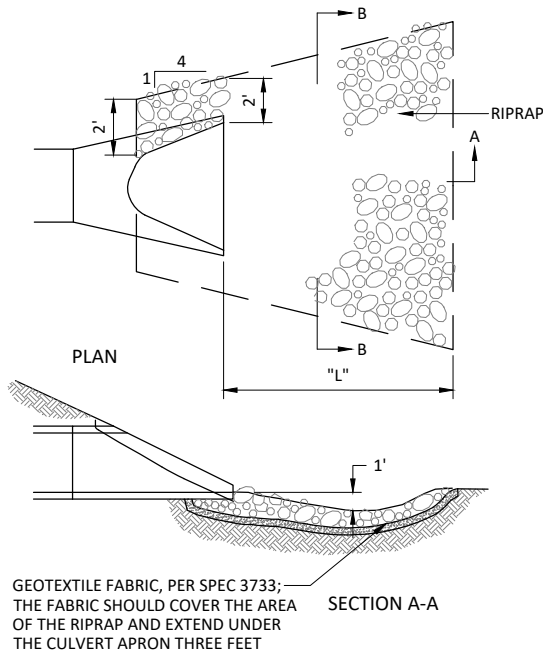


RC APRON TRASH RACK
(STEEL BARS)

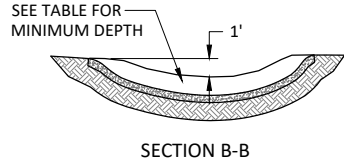
NOT TO SCALE

LAST REVISION:
04-2021

PLATE NO.
4-601



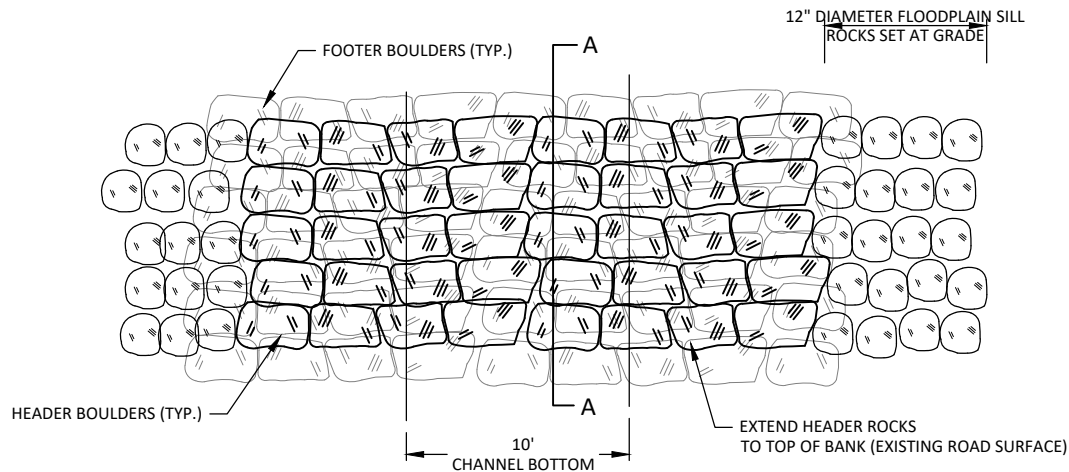
RIPRAP AT CULVERT ENDS
NOT TO SCALE



ROUND PIPE DIA (IN)	L (FT)	CLASS III d50=9"
		18" DEPTH RIPRAP (CU YD)
12	8	8
15	8	8
18	10	10
21	10	15
24	12	15
27	12	15
30	14	20
36	16	25
42	18	30
48	20	40

Table 3601-1 Random Riprap Gradation Requirements						
Weight, lbs	Size, inch*	Approximate Percent of Total Weight Smaller Than Given Weight				
		Class of Riprap				
		I	II	III	IV	V
2,000	30	-	-	-	-	100
1,000	24	-	-	-	100	-
650	21	-	-	-	-	75
400	18	-	-	100	-	-
250	15	-	-	-	75	50
120	12	-	100	75	50	-
50	9	-	75	50	-	10
15	6	100	50	-	-	-
5	4	-	-	-	10	-
2	3	50	-	10	-	-
-	2	-	10	-	-	-
-	1	10	-	-	-	-

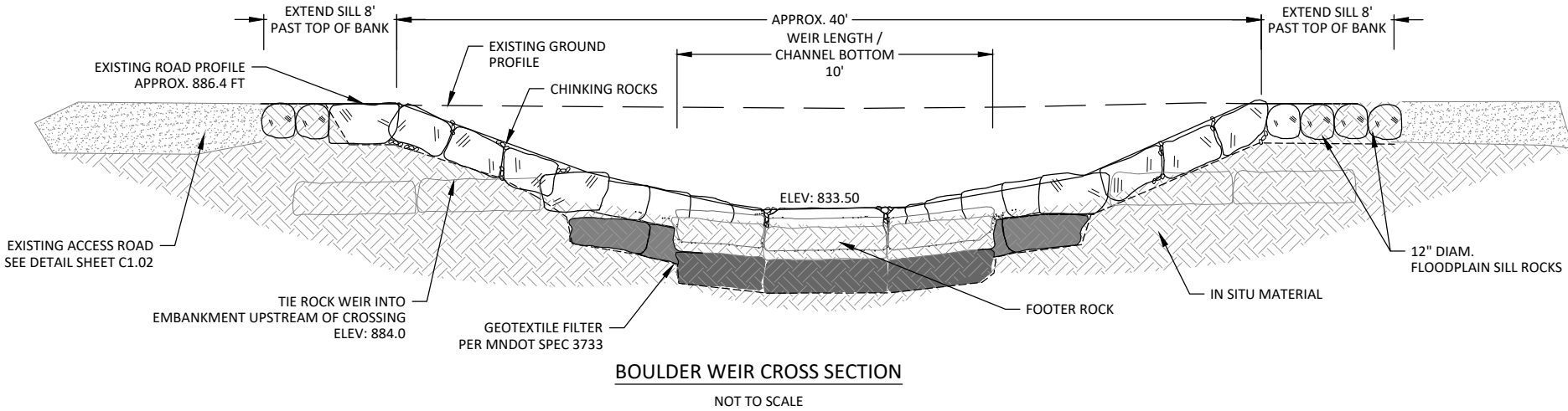
* Weight to size conversion based on a specific gravity of 2.60 and a volume average between a sphere and cube



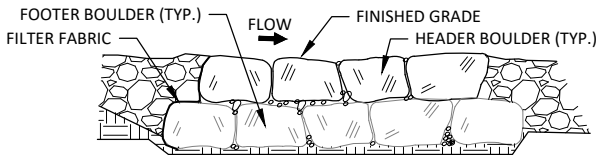
IN-STREAM VEHICLE CROSSING PLAN VIEW
NOT TO SCALE

IN-STREAM VEHICLE CROSSING NOTES:

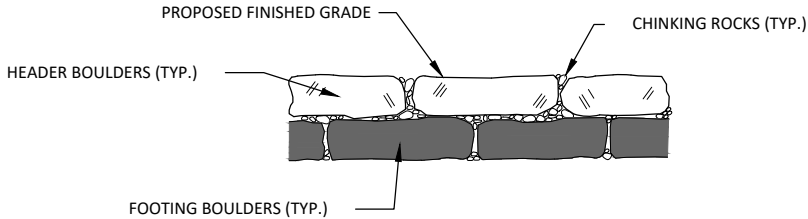
1. HEADER AND FOOTER ROCKS SHALL BE A MINIMUM 2' X 4' X 12" AND WEIGH NO LESS THAN 1200 LBS.
2. VEHICLE CROSSING TO BE INSTALLED WITH TOP OF HEADER ROCKS FLUSH WITH THE PROPOSED GRADE. SEE DETAIL FOR SECTION DIMENSIONS.
3. NUMBER OF ROWS OF ROCKS SHALL BE THE MINIMUM REQUIRED TO ACHIEVE A MINIMUM CROSSING WIDTH OF 12 FEET.
4. DO NOT PLANT VEGETATION WITHIN ACCESS ROAD IN-STREAM VEHICLE CROSSING STRUCTURE.



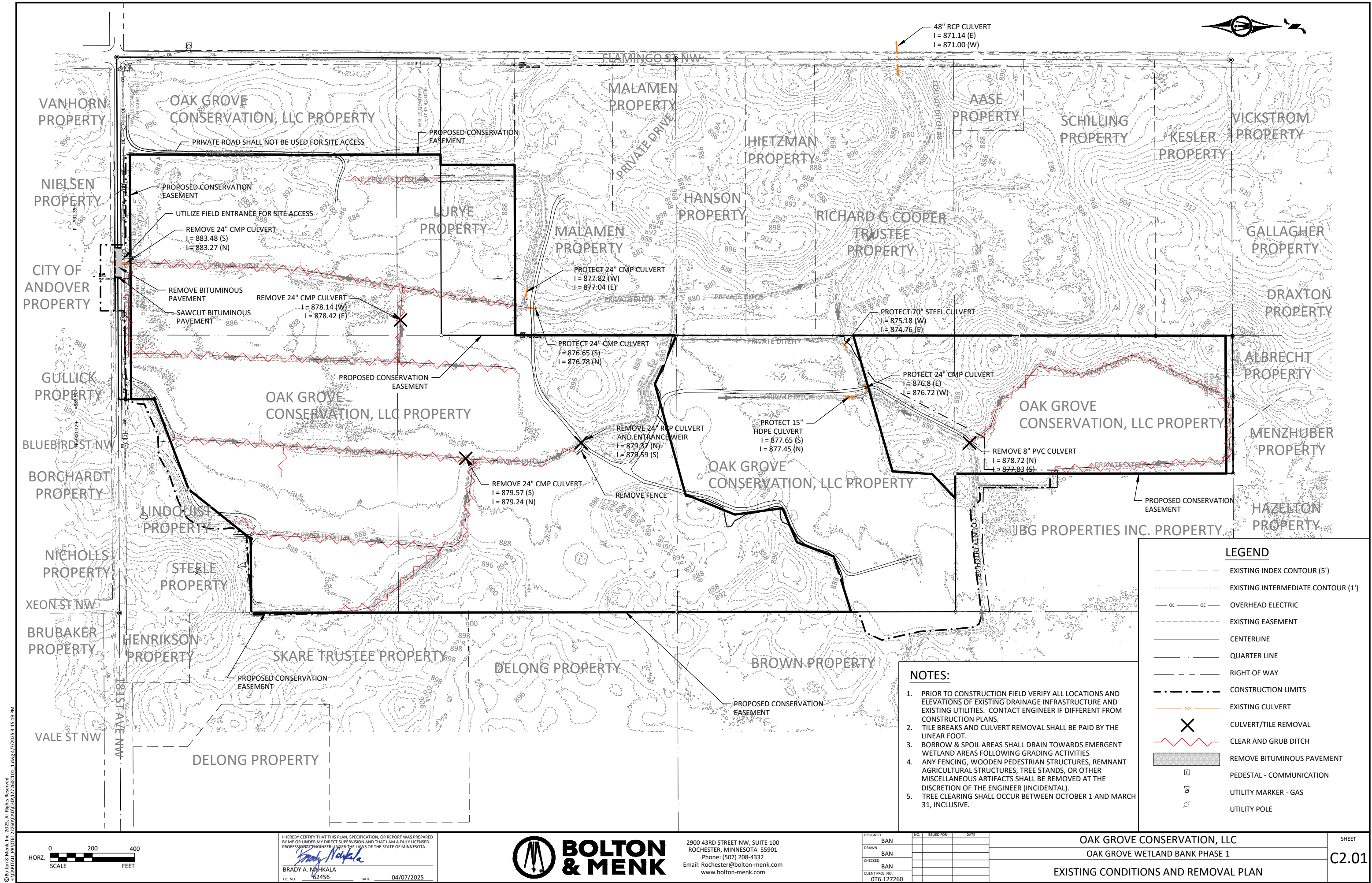
BOULDER WEIR CROSS SECTION
NOT TO SCALE



CROSS SECTION A-A
NOT TO SCALE



IN-STREAM VEHICLE CROSSING CHINKING DETAIL
NOT TO SCALE



© Bolton & Menk, Inc. 2025. All Rights Reserved.
LOCAL FILE: P:\2025\07\26\OAK GROVE\OAG1272601.dwg 4/7/2025 3:15:19 PM



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.

Brady A. Nankala
BRADY A. NANKALA
LIC. NO. 62456 DATE 04/07/2025



2900 43RD STREET NW, SUITE 100
ROCHESTER, MINNESOTA 55901
Phone: (507) 208-4332
Email: Rochester@bolton-menk.com
www.bolton-menk.com

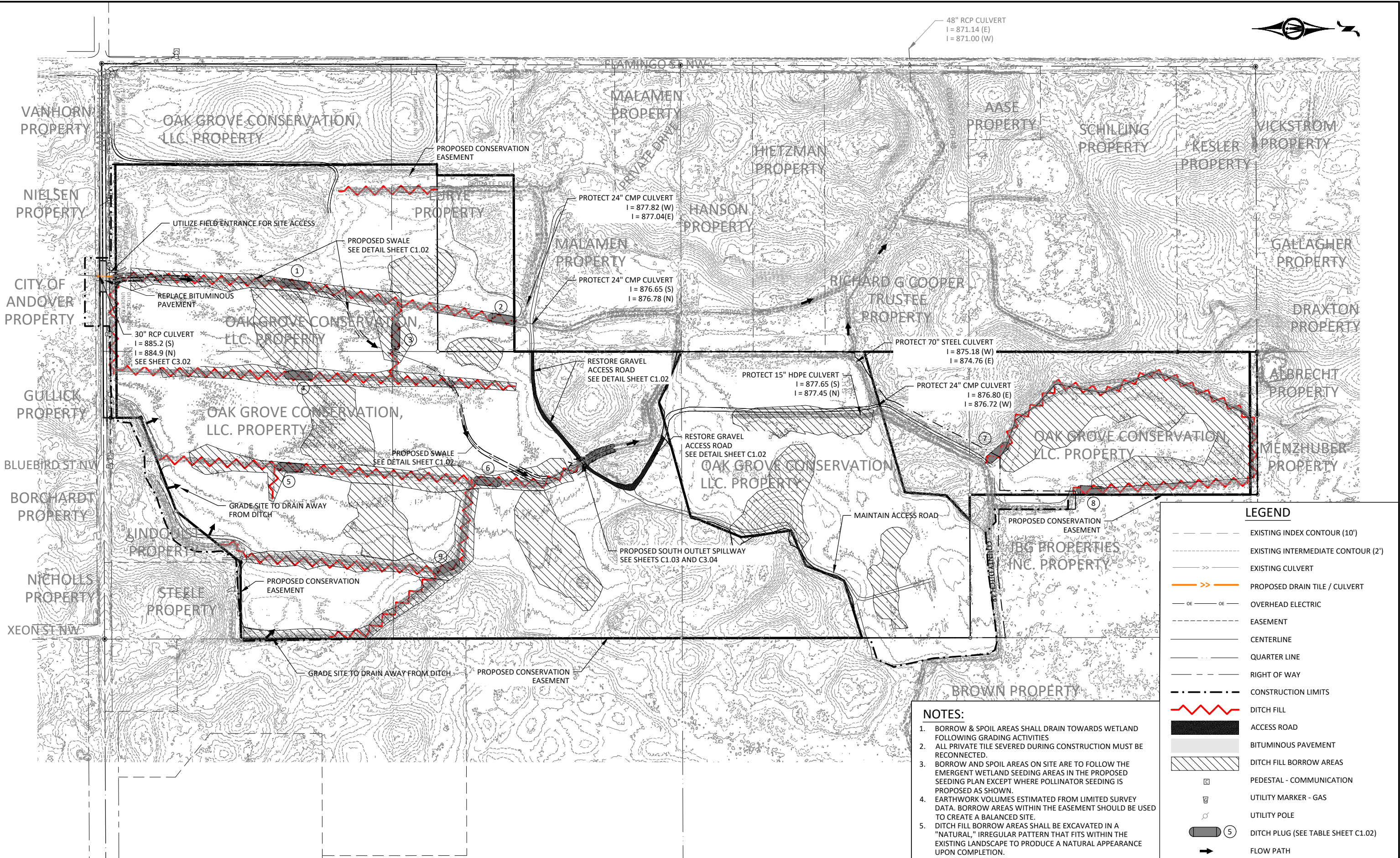
DESIGNED	NO.	ISSUED FOR	DATE
BAN			
DRAWN			
BAN			
CHECKED			
BAN			
CLIENT PROJ. NO.	0T6.127260		

OAK GROVE CONSERVATION, LLC
OAK GROVE WETLAND BANK PHASE 1
EXISTING CONDITIONS AND REMOVAL PLAN

SHEET

C2.01

© Bolton & Menk, Inc. 2025. All Rights Reserved.
L:\CARTAL\PROJECTS\22601\CAD\C3.01\22601_C3.01.dwg 4/7/2025 3:29:29 PM



NOTES:

1. BORROW & SPOIL AREAS SHALL DRAIN TOWARDS WETLAND FOLLOWING GRADING ACTIVITIES
2. ALL PRIVATE TILE SEVERED DURING CONSTRUCTION MUST BE RECONNECTED.
3. BORROW AND SPOIL AREAS ON SITE ARE TO FOLLOW THE EMERGENT WETLAND SEEDING AREAS IN THE PROPOSED SEEDING PLAN EXCEPT WHERE POLLINATOR SEEDING IS PROPOSED AS SHOWN.
4. EARTHWORK VOLUMES ESTIMATED FROM LIMITED SURVEY DATA. BORROW AREAS WITHIN THE EASEMENT SHOULD BE USED TO CREATE A BALANCED SITE.
5. DITCH FILL BORROW AREAS SHALL BE EXCAVATED IN A "NATURAL," IRREGULAR PATTERN THAT FITS WITHIN THE EXISTING LANDSCAPE TO PRODUCE A NATURAL APPEARANCE UPON COMPLETION.

LEGEND

- EXISTING INDEX CONTOUR (10')
- - - EXISTING INTERMEDIATE CONTOUR (2')
- >->- EXISTING CULVERT
- >->- PROPOSED DRAIN TILE / CULVERT
- OE-OE- OVERHEAD ELECTRIC
- - - EASEMENT
- - - CENTERLINE
- - - QUARTER LINE
- - - RIGHT OF WAY
- . - . - CONSTRUCTION LIMITS
- >->- DITCH FILL
- >->- ACCESS ROAD
- >->- BITUMINOUS PAVEMENT
- >->- DITCH FILL BORROW AREAS
- PEDESTAL - COMMUNICATION
- UTILITY MARKER - GAS
- UTILITY POLE
- ⑤ DITCH PLUG (SEE TABLE SHEET C1.02)
- FLOW PATH

0 200 400
SCALE FEET

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.
Brady A. Nahkala
BRADY A. NAHKALA
LIC. NO. 62456 DATE 04/07/2025



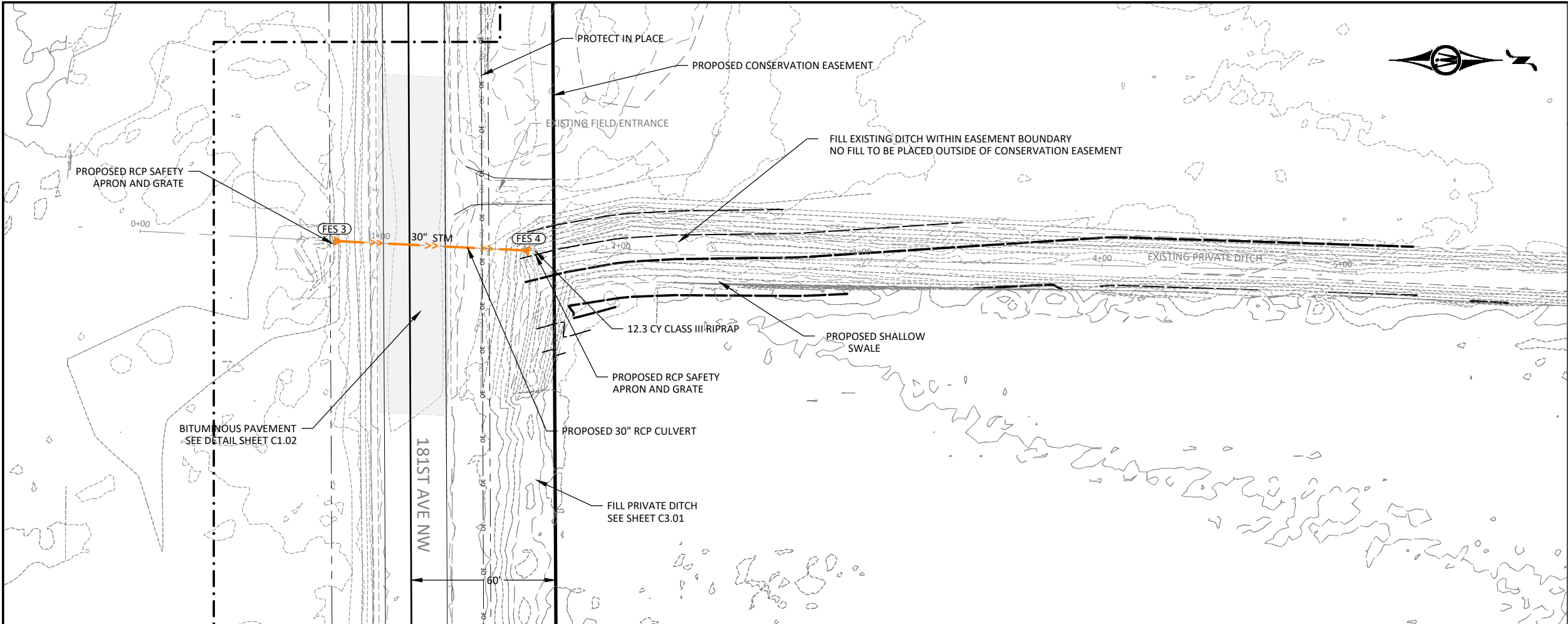
2900 43RD STREET NW, SUITE 100
ROCHESTER, MINNESOTA 55901
Phone: (507) 208-4332
Email: Rochester@bolton-menk.com
www.bolton-menk.com

DESIGNED	NO.	ISSUED FOR	DATE
BAN			
DRAWN			
BAN			
CHECKED			
BAN			
CLIENT PROJ. NO.			
076.127260			

OAK GROVE CONSERVATION, LLC
OAK GROVE WETLAND BANK PHASE 1
PROPOSED SITE PLAN

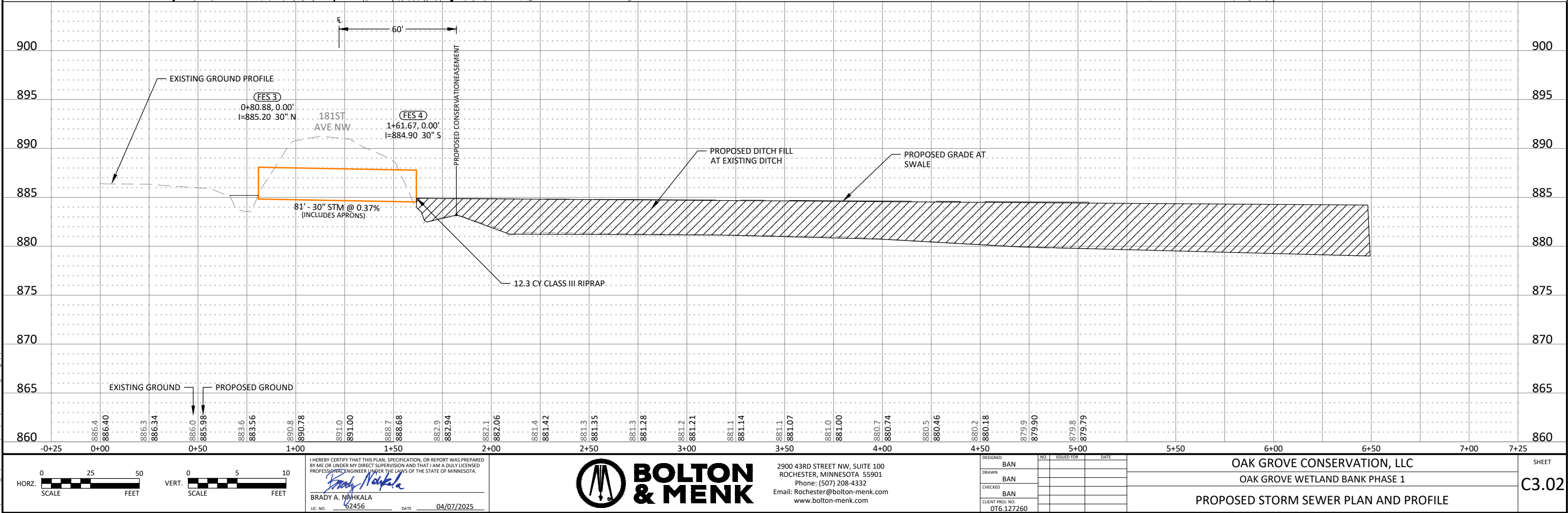
SHEET

C3.01



- NOTES:
1. CONTRACTOR SHALL CONFIRM UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
 2. CONTRACTOR SHALL PROTECT ALL UTILITIES IN PLACE.

- LEGEND
- EXISTING INDEX CONTOUR (10')
 - EXISTING INTERMEDIATE CONTOUR (2')
 - EXISTING CULVERT
 - PROPOSED DRAIN TILE / CULVERT
 - OVERHEAD ELECTRIC
 - CENTERLINE
 - QUARTER LINE
 - EXISTING RIGHT OF WAY
 - CONSTRUCTION LIMITS
 - BITUMINOUS PAVEMENT
 - PEDESTAL - COMMUNICATION
 - UTILITY MARKER - GAS
 - UTILITY POLE



© Bolton & Menk, Inc. 2025. All Rights Reserved.
A:\CHARTAL\PROJECTS\27260\CAD\C3.02\27260_C3.02.dwg 4/7/2025 3:17:04 PM

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.

Brady A. Nahkala
BRADY A. NAHKALA
LIC. NO. 62456 DATE 04/07/2025

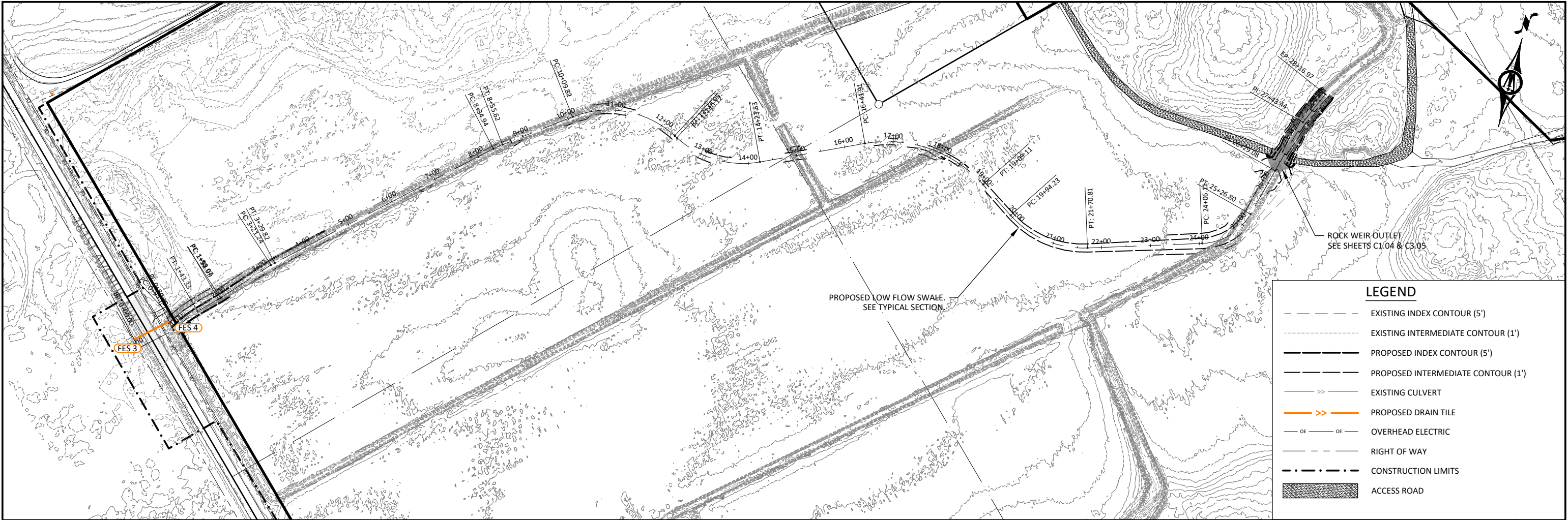


2900 43RD STREET NW, SUITE 100
ROCHESTER, MINNESOTA 55901
Phone: (507) 208-4332
Email: Rochester@bolton-menk.com
www.bolton-menk.com

DESIGNED	BAN	NO.	ISSUED FOR	DATE
DRAWN	BAN			
CHECKED	BAN			
CLIENT PROJ. NO.	0T6.127260			

OAK GROVE CONSERVATION, LLC
OAK GROVE WETLAND BANK PHASE 1
PROPOSED STORM SEWER PLAN AND PROFILE

SHEET
C3.02



LEGEND

EXISTING INDEX CONTOUR (5')

EXISTING INTERMEDIATE CONTOUR (1')

PROPOSED INDEX CONTOUR (5')

PROPOSED INTERMEDIATE CONTOUR (1')

EXISTING CULVERT

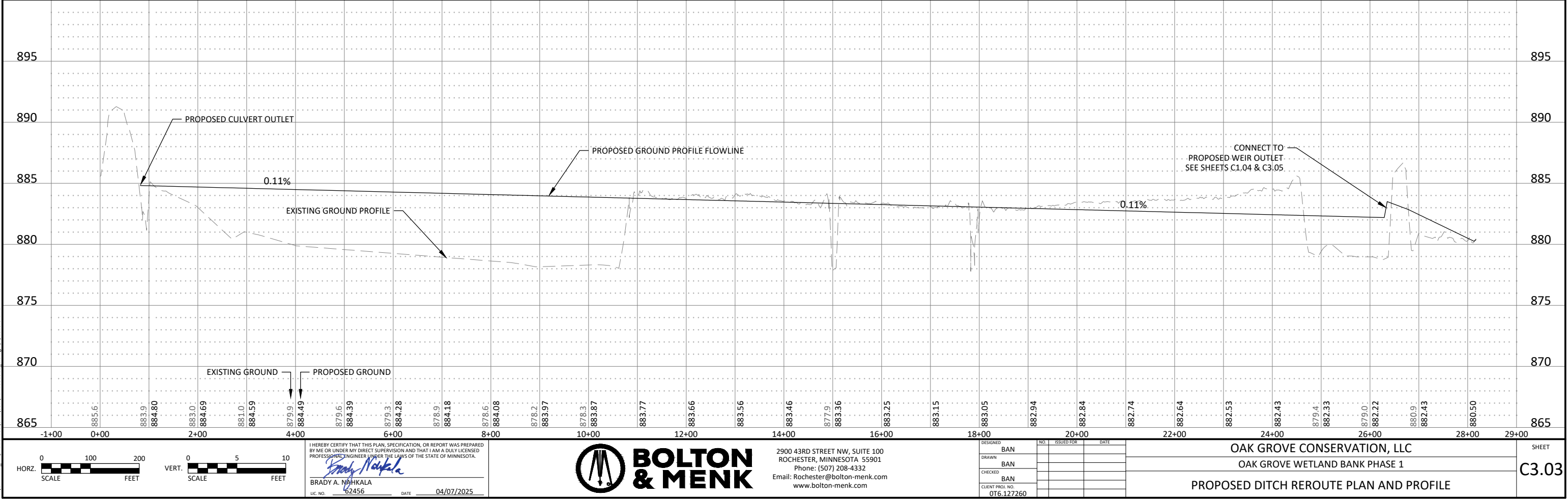
PROPOSED DRAIN TILE

OVERHEAD ELECTRIC

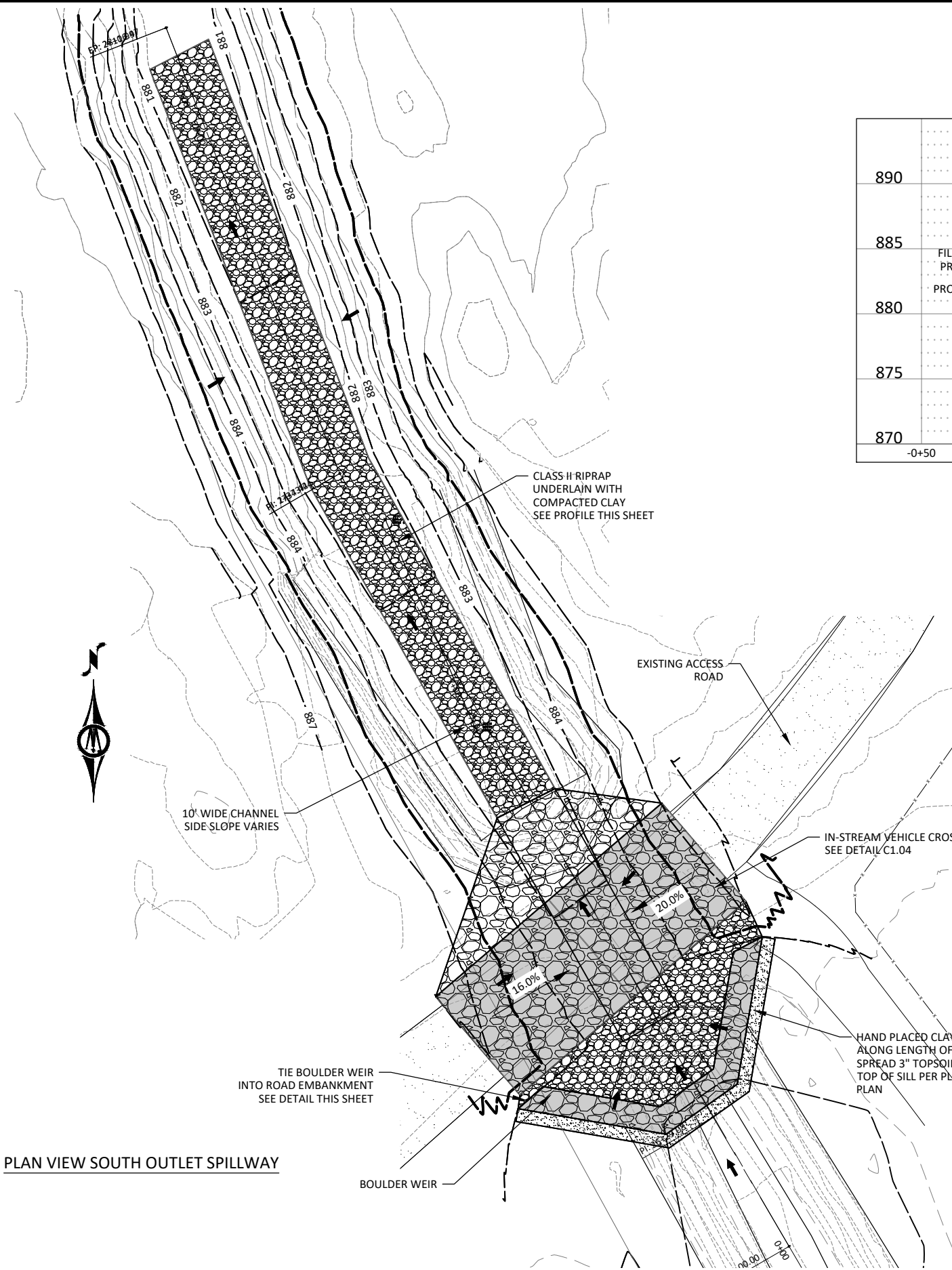
RIGHT OF WAY

CONSTRUCTION LIMITS

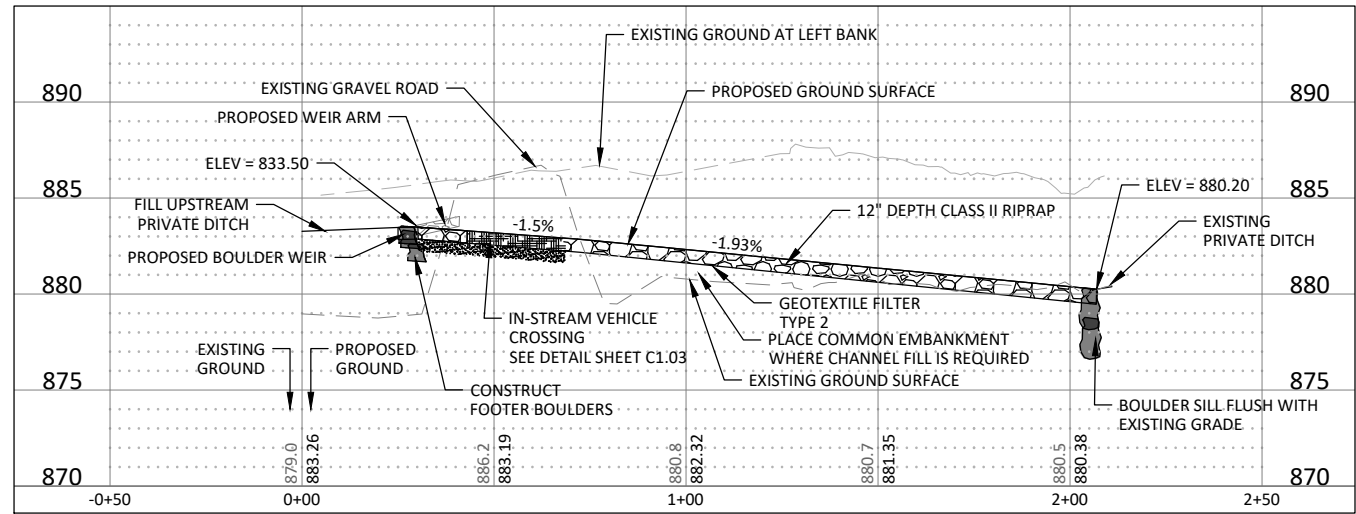
ACCESS ROAD



© Bolton & Menk, Inc. 2024. All Rights Reserved.
A:\CMTAL\43RD\0127260\CAD\C3.03\127260_C3.03_1.dwg 4/7/2025 3:17:57 PM

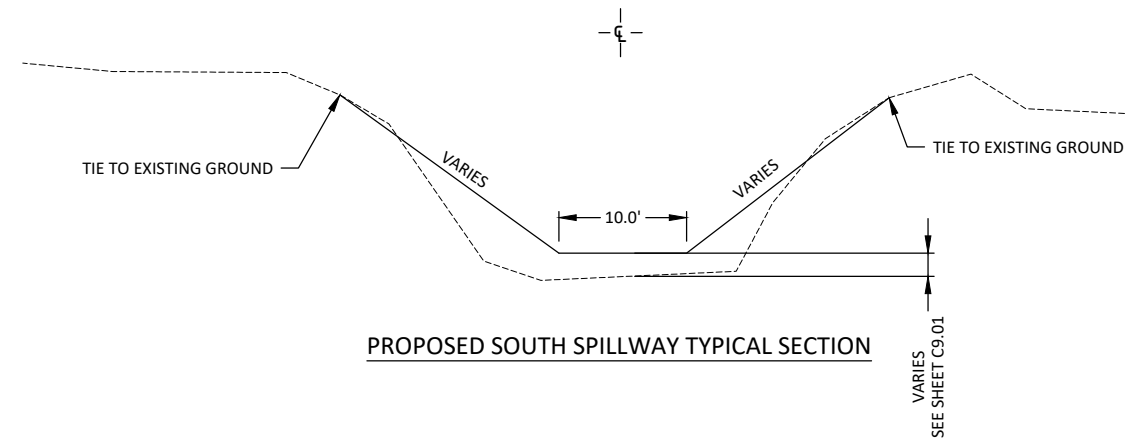


PLAN VIEW SOUTH OUTLET SPILLWAY



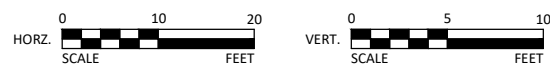
LONGITUDINAL PROFILE (SOUTH OUTLET WEIR)

NOT TO SCALE



PROPOSED SOUTH SPILLWAY TYPICAL SECTION

© Bolton & Menk, Inc. 2024. All Rights Reserved.
A:\CMTAL\477260\CAD\CD\127260C05_1.dwg 4/7/2025 3:18:42 PM



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.

Brady A. Nankala
BRADY A. NANKALA
LIC. NO. 62456 DATE 04/07/2025

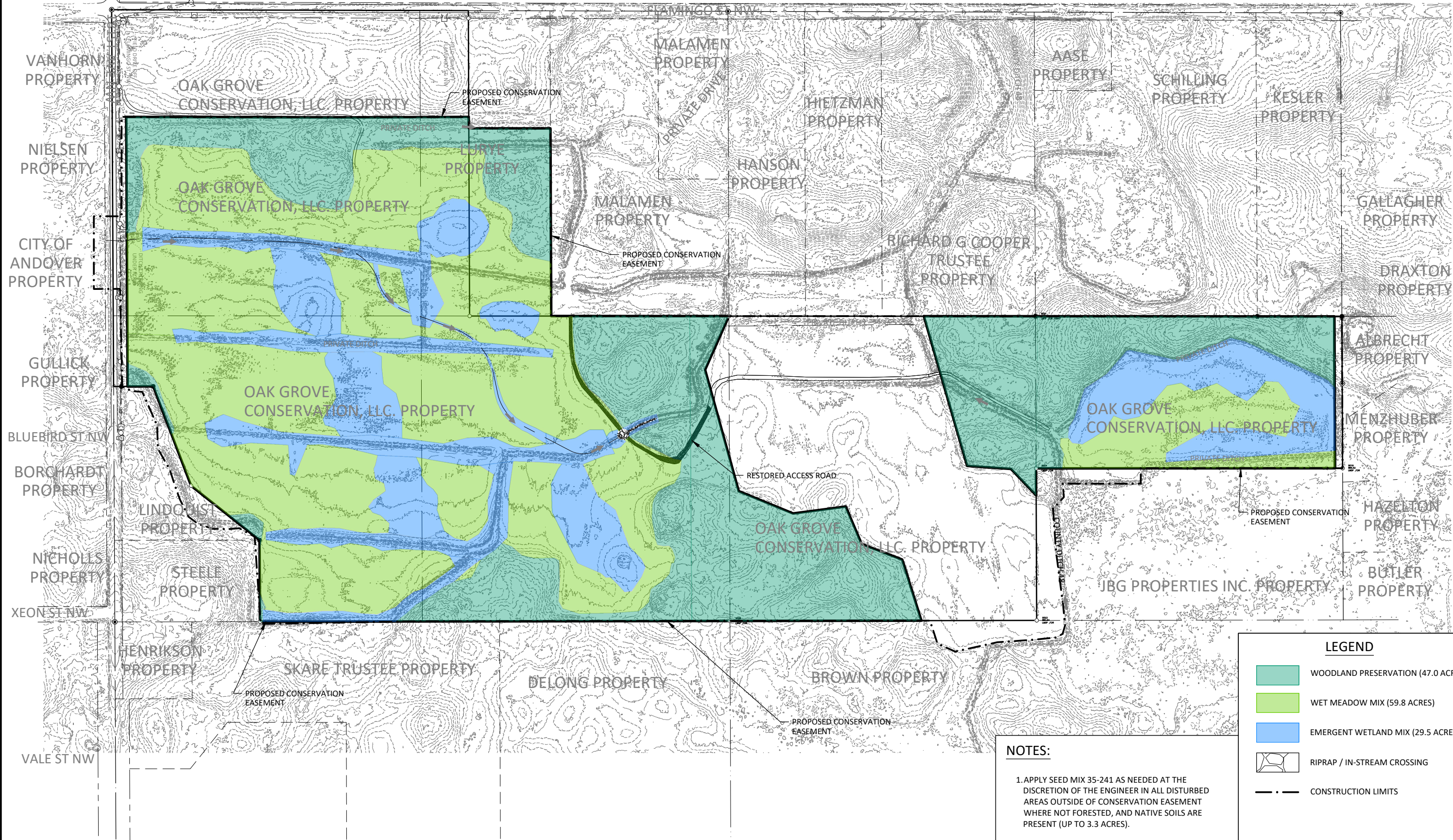


2900 43RD STREET NW, SUITE 100
ROCHESTER, MINNESOTA 55901
Phone: (507) 208-4332
Email: Rochester@bolton-menk.com
www.bolton-menk.com

DESIGNED	NO.	ISSUED FOR	DATE
BAN			
DRAWN			
BAN			
CHECKED			
BAN			
CLIENT PROJ. NO.			
076.127260			

OAK GROVE CONSERVATION, LLC
OAK GROVE WETLAND BANK PHASE 1
SOUTH OUTLET SPILLWAY PLAN AND PROFILE

SHEET
C3.04



LEGEND

- WOODLAND PRESERVATION (47.0 ACRES)
- WET MEADOW MIX (59.8 ACRES)
- EMERGENT WETLAND MIX (29.5 ACRES)
- RIPRAP / IN-STREAM CROSSING
- CONSTRUCTION LIMITS

NOTES:

1. APPLY SEED MIX 35-241 AS NEEDED AT THE DISCRETION OF THE ENGINEER IN ALL DISTURBED AREAS OUTSIDE OF CONSERVATION EASEMENT WHERE NOT FORESTED, AND NATIVE SOILS ARE PRESENT (UP TO 3.3 ACRES).



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.
Brady A. Nankala
BRADY A. NANKALA
LIC. NO. 62456 DATE 04/07/2025



2900 43RD STREET NW, SUITE 100
ROCHESTER, MINNESOTA 55901
Phone: (507) 208-4332
Email: Rochester@bolton-menk.com
www.bolton-menk.com

DESIGNED	NO.	ISSUED FOR	DATE
BAN			
DRAWN			
BAN			
CHECKED			
BAN			
CLIENT PROJ. NO.			
0T6.127260			

OAK GROVE CONSERVATION, LLC
OAK GROVE WETLAND BANK PHASE 1
PROPOSED SEEDING PLAN

SHEET

C5.01

Wetland Meadow Mix

Wet Meadow - Grasses Mix				
Common Name	Scientific Name	Rate (lb/ac)	% of Mix (% by wt)	
Fringed brome	<i>Bromus cialatus</i>	1	55.56%	
Virginia Wild Rye	<i>Elymus virginicus</i>	0.5	27.78%	
Reed Manna Grass	<i>Glyceria grandis</i>	0.1	5.56%	
Rice Cut Grass	<i>Leersia oryzoides</i>	0.2	11.11%	
Total Grasses:		1.8	100.00%	
Totals:		1.8	100.00%	

Wet Meadow - Forbs and Grasses mix				
Common Name	Scientific Name	Rate (lb/ac)	% of Mix by wt	(%)
Scarlet Toothcup	<i>Ammannia cocinea</i>	0.125	3.81%	
Rose milkweed	<i>Asclepia incarnata</i>	0.25	7.62%	
Swamp Aster	<i>Aster puniceus</i>	0.063	1.90%	
False aster	<i>Boltonia asteroides</i>	0.063	1.90%	
Joe Pye Weed	<i>Eupatorium maculatum</i>	0.063	1.90%	
Boneset	<i>Eupatorium perfoliatum</i>	0.031	0.95%	
Bottle Gentian	<i>Gentiana andrewsii</i>	0.063	1.90%	
Northern Blue Flag	<i>Iris versicolor</i>	0.125	3.81%	
Prairie Blazing Star	<i>Liatris pycnostachya</i>	0.188	5.71%	
Great Blue Lobelia	<i>Lobelia siphilitica</i>	0.063	1.90%	
Water Horehound	<i>Lycopus americanus</i>	0.063	1.90%	
Prairie Loosestrife	<i>Lysimachia quadriflora</i>	0.031	0.95%	
Wild Mint	<i>Metha arvensis</i>	0.063	1.90%	
Monkey Flower	<i>Mimulus ringens</i>	0.031	0.95%	
Pinkweed	<i>Polygonum pensylvanicum</i>	0.063	1.90%	
Mountain Mint	<i>Pycnanthemum virginianum</i>	0.031	0.95%	
Black-eyed Susan	<i>Rudbeckia hirta</i>	0.188	5.71%	
Grass-leaved Goldenrod	<i>Solidago graminifolia</i>	0.031	0.95%	
Great Bur Reed	<i>Sparganium eurycarpum</i>	0.5	15.24%	
Blue Vervain	<i>Verbena hastata</i>	0.125	3.81%	
Golden Alexanders	<i>Zizia aurea</i>	0.188	5.71%	
	Total Forbs	2.343	71.43%	
Porcupine sedge	<i>Carex hystericina</i>	0.188	5.71%	
Common Fox Sedge	<i>Carex stipata</i>	0.375	11.43%	
Brown Fox Sedge	<i>Cares vulpinoidea</i>	0.188	5.71%	
Canada Rush	<i>Juncus canadensis</i>	0.063	1.90%	
Common Rush	<i>Juncus effusus</i>	0.063	1.90%	
Dark-green Bulrush	<i>Scirpus atrovirens</i>	0.063	1.90%	
Total Sedges and Rushes		0.938	28.57%	
Totals:		3.281	100.00%	

Oats Cover Crop				
Common Name	Scientific Name	Rate (lb/ac)	% of Mix (% by wt)	
Oats	<i>Avena sativa</i>	100	100.00%	
Total:		100	100.00%	

Custom Wet Meadow Mix 105.08 lbs/ac

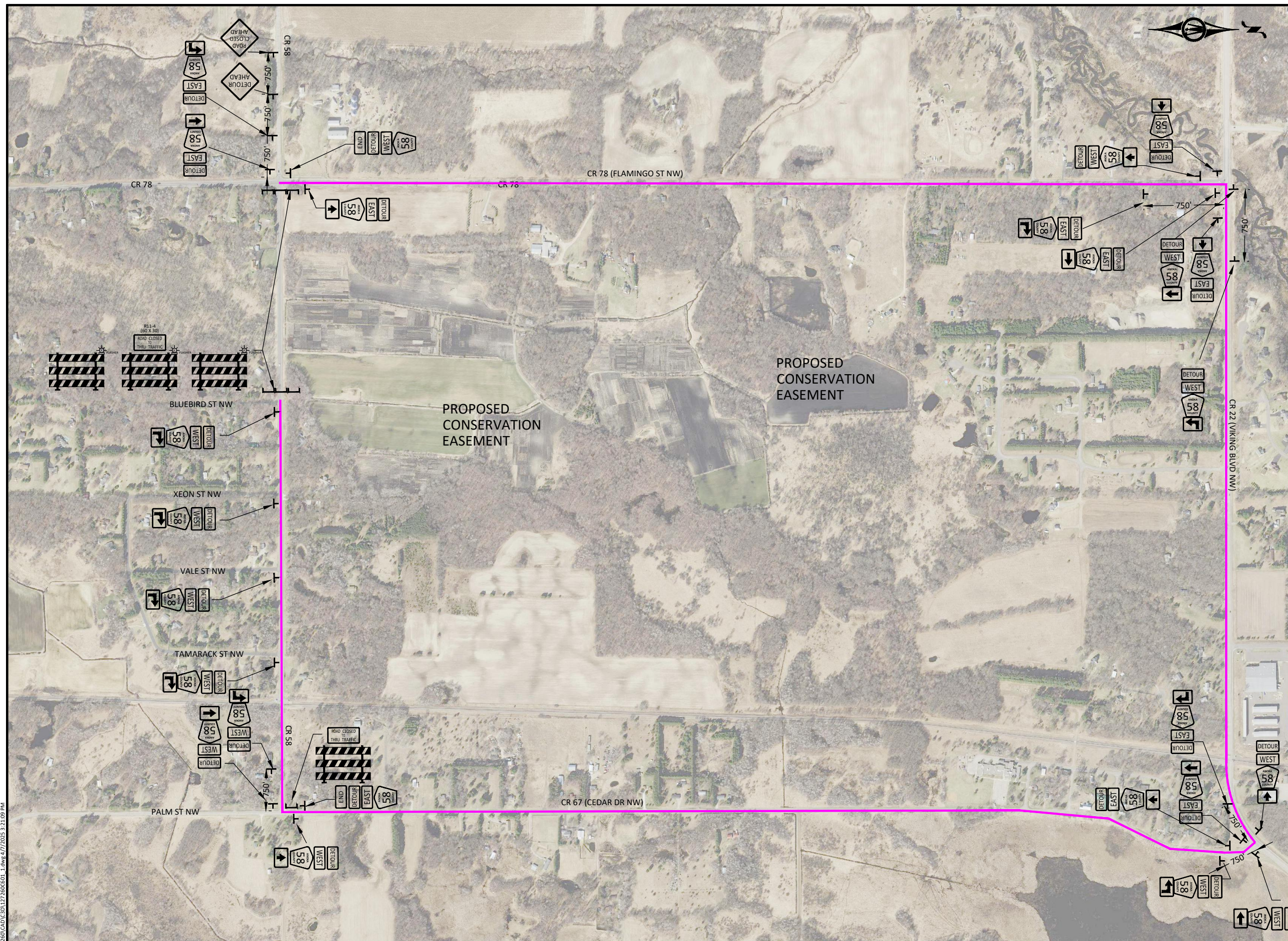
Emergent Wetland Mix

Common Name	Scientific Name	Rate (lb/ac)	% of Mix (% by wt)
American Slough Grass	<i>Beckmannia syzigachne</i>	0.7	40.00%
Reed Manna Grass	<i>Glyceria grandis</i>	0.25	14.29%
Rice Cut Grass	<i>Leersia oryzoides</i>	0.3	17.14%
Cord Grass	<i>Spartina pectinata</i>	28.57	5.00%
Total Grasses			100.00%
Totals:		1.75	100.00%

Common Name	Scientific Name	Rate (kg/ha)	Rate (lb/ac)	% of Mix (% by wt)
Sweet Flag	<i>Acorus americanus</i>	0.31	0.28	9.21%
Large-flowered Water Plantain	<i>Alisma trivale</i>	0.45	0.4	13.16%
Scarlet Toothcup	<i>Ammannia coccinea</i>	0.07	0.06	1.97%
Rose Milkweed	<i>Asclepias incarnata</i>	0.31	0.28	9.21%
Pinkweed	<i>Polygonum pensylvanicum</i>	0.07	0.06	1.97%
Common Arrowhead	<i>Sagittaria latifolia</i>	0.34	0.3	9.87%
Great Bur Reed	<i>Sparganium eurycarpum</i>	0.55	0.49	16.12%
Total Forbs		2.1	1.87	61.51%
Buttonbush	<i>Cephalanthus occidentalis</i>	0.13	0.12	3.95%
Total Trees, Shrubs, and Vines		0.13	0.12	3.95%
Bristly Sedge	<i>Carex comosa</i>	0.2	0.18	5.92%
Common Lake Sedge	<i>Carex lacustris</i>	0.07	0.06	1.97%
Common Fox Sedge	<i>Cares stipata</i>	0.2	0.18	5.92%
Common Tussock Sedge	<i>Carex stricta</i>	0.04	0.04	1.32%
Spike Rush	<i>Eleocharis acicularis</i>	0.1	0.1	3.29%
Great Spike Rush	<i>Eleocharis palustris</i>	0.1	0.1	3.29%
Torrey's Rush	<i>Juncus torreyi</i>	0.04	0.04	1.32%
Wool Grass	<i>Scirpus cyperinus</i>	0.06	0.05	1.64%
Chairmaker's Rush	<i>Scirpus pungens</i>	0.17	0.15	4.93%
Great Bulrush	<i>Scirpus validus</i>	0.17	0.15	4.93%
Total Sedges and Rushes		1.18	1.05	34.54%
Totals:		3.41	3.04	100.00%

35-241 Mesic Prairie General

Common Name	Scientific Name	Rate (lb/ac)	Rate (kg/ha)	% of Mix (by weight)	Seeds/ sq ft
big bluestem	<i>Andropogon gerardii</i>	2.00	2.24	5.48%	7.35
Indian grass	<i>Sorghastrum nutans</i>	2.00	2.24	5.48%	8.82
side-oats grama	<i>Bouteloua curtipendula</i>	1.60	1.79	4.39%	3.53
little bluestem	<i>Schizachyrium scoparium</i>	1.60	1.79	4.39%	8.82
nodding wild rye	<i>Elymus canadensis</i>	1.17	1.31	3.20%	2.23
slender wheatgrass	<i>Elymus trachycaulus</i>	1.00	1.12	2.73%	2.53
kalm's brome	<i>Bromus kalmii</i>	0.50	0.56	1.37%	1.47
prairie dropseed	<i>Sporobolus heterolepis</i>	0.07	0.08	0.18%	0.39
switchgrass	<i>Panicum virgatum</i>	0.06	0.07	0.17%	0.32
Grasses Subtotal		10.00	11.21	27.39%	35.46
black-eyed susan	<i>Rudbeckia hirta</i>	0.31	0.35	0.86%	10.56
purple prairie clover	<i>Dalea purpurea</i>	0.19	0.21	0.51%	1.03
Early Sunflower	<i>Helioopsis helianthoides</i>	0.13	0.15	0.34%	0.29
blue giant hyssop	<i>Agastache foeniculum</i>	0.06	0.07	0.15%	1.82
lead plant	<i>Amorpha canescens</i>	0.06	0.07	0.15%	0.25
Canada milk vetch	<i>Astragalus canadensis</i>	0.06	0.07	0.17%	0.39
white prairie clover	<i>Dalea candida</i>	0.06	0.07	0.17%	0.44
Canada tick trefoil	<i>Desmodium canadense</i>	0.06	0.07	0.18%	0.13
stiff sunflower	<i>Helianthus pauciflorus</i>	0.06	0.07	0.17%	0.09
wild bergamot	<i>Monarda fistulosa</i>	0.06	0.07	0.17%	1.61
stiff goldenrod	<i>Oligoneuron rigidum</i>	0.06	0.07	0.17%	0.94
smooth aster	<i>Symphyotrichum laeve</i>	0.06	0.07	0.17%	1.26
hoary vervain	<i>Verbena stricta</i>	0.06	0.07	0.17%	0.64
golden alexanders	<i>Zizia aurea</i>	0.06	0.07	0.15%	0.23
common milkweed	<i>Asclepias syriaca</i>	0.04	0.04	0.10%	0.06
butterfly milkweed	<i>Asclepias tuberosa</i>	0.04	0.04	0.10%	0.06
blue vervain	<i>Verbena hastata</i>	0.04	0.04	0.12%	1.50
rough blazing star	<i>Liatris aspera</i>	0.03	0.03	0.08%	0.18
great blazing star	<i>Liatris pycnostachya</i>	0.03	0.03	0.09%	0.13
Symphyotrichum ericoides		0.03	0.03	0.09%	2.30
Forbs Subtotal		1.50	1.68	4.11%	23.89
Oats	<i>Avena sativa</i>	25.00	28.02	68.50%	11.14
Cover Crop Subtotal		25.00	28.02	68.50%	11.14
Total		36.50	40.91	100.00%	70.49
Purpose:	General mesic prairie mix for native roadsides, ecological restoration, or conservation program plantings.				
Planting Area:	Tallgrass Aspen Parklands, Prairie Parkland, and Eastern Broadleaf Forest Provinces. Mn/DOT Districts 2(west), 3B, 4, Metro, 6, 7 & 8.				



TRAFFIC CONTROL NOTES:

1. CONTRACTORS TEMPORARY TRAFFIC CONTROL DEVICES SHALL MEET CURRENT MN MUTCD RULES & REGULATIONS. TRAFFIC CONTROL PLANS SHOWN ONLY INDICATE THE MINIMUM REQUIREMENTS FROM THE CITY OR COUNTY INCORPORATED INTO THE CONTRACTOR'S TTC PLAN.
2. TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION WORK BEING UNDERTAKEN.
3. IF DEEMED NECESSARY, ADDITIONAL TRAFFIC CONTROL DEVICES OR FLAGGING MAY BE REQUIRED BY THE ENGINEER (INCIDENTAL).
4. CONTRACTOR SHALL COVER ANY CONFLICTING SIGNAGE (INCIDENTAL).
5. DETOUR SHALL BE REMOVED IMMEDIATELY AFTER COMPLETION OF CSAH 58 WORK.

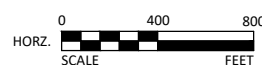
TRAFFIC CONTROL LEGEND

- | | |
|---|-----------------------|
| | OFFICIAL DETOUR ROUTE |
|  | TYPE III BARRICADE(S) |
| | TPOST-1 |

TRAFFIC CONTROL SIGNAGE LEGEND

	R11-2 (60 X 30)	BLACK ON WHITE
	R11-4 (60 X 30)	BLACK ON WHITE
	TYPE 3 BARRICADE	WHITE ON ORANGE
	TYPE A FLASHING WARNING LIGHT	AMBER
	W20-2 (48 X 48)	BLACK ON ORANGE
	W20-3 (48 X 48)	BLACK ON ORANGE
	M4-8 (24 X 12)	BLACK ON WHITE
	M3-4 (24 X 12)	BLACK ON WHITE
	M3-2 (24 X 12)	BLACK ON WHITE
	M1-6 (24 X 24)	WHITE ON BLUE
	M5-1 (21 X 15)	BLACK ON WHITE
	M6-1 (21 X 15)	BLACK ON WHITE
	M5-1A (21 X 15)	BLACK ON WHITE
	M6-1 (21 X 15)	BLACK ON WHITE
	M6-3 (21 X 15)	BLACK ON WHITE

© Bolton & Menk, Inc. 2024, All Rights Reserved
\\CAPITALI PR\OT6127260\CAD\C3D\127260C601 1.dwg 4/7/2025 3:21:09 PM



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.

BRADY A. NAIKALA
LIC NO. 62456 DATE 04/07/2025



2900 43RD STREET NW, SUITE 100
ROCHESTER, MINNESOTA 55901
Phone: (507) 208-4332
Email: Rochester@bolton-menk.com
www.bolton-menk.com

DESIGNED	NO.	ISSUED FOR	DATE
BAN			
DRAWN			
BAN			
CHECKED			
BAN			
CLIENT PROJ. NO.			
OT6 127260			

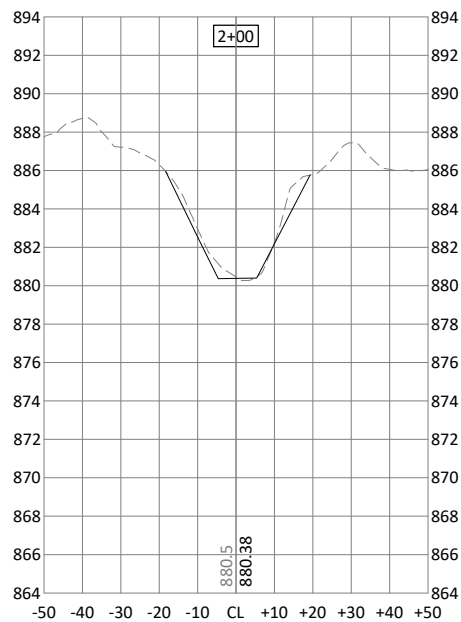
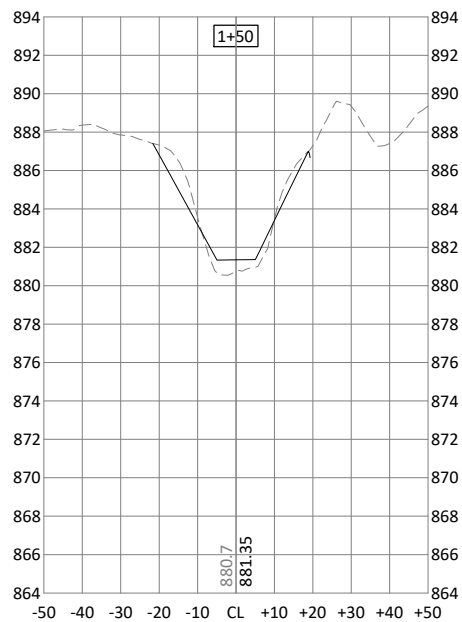
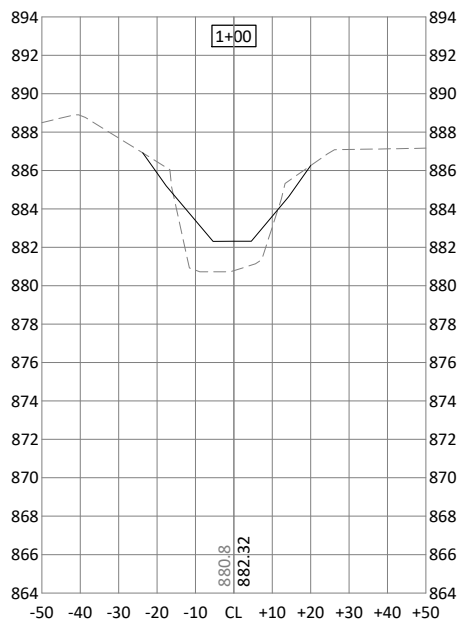
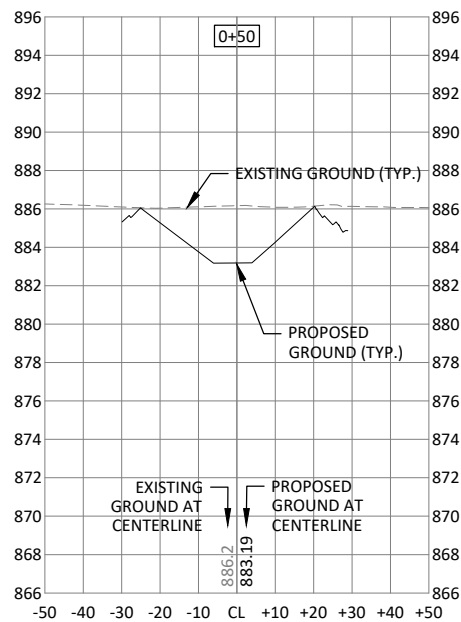
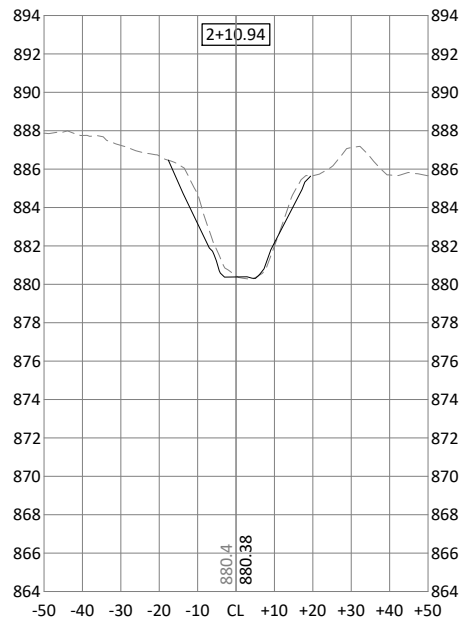
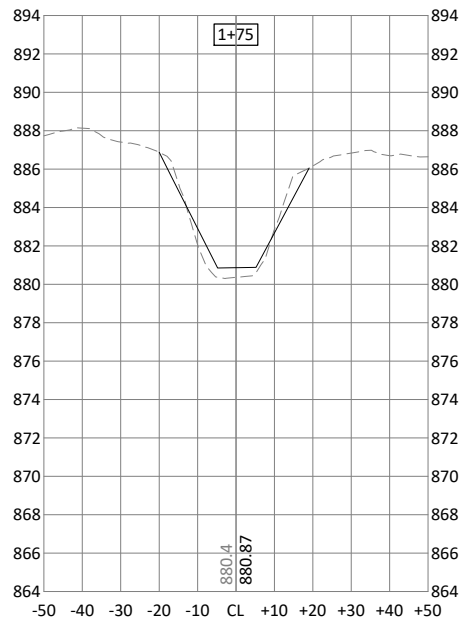
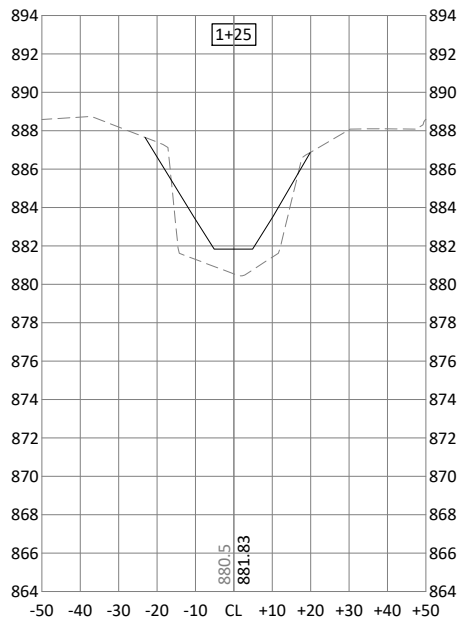
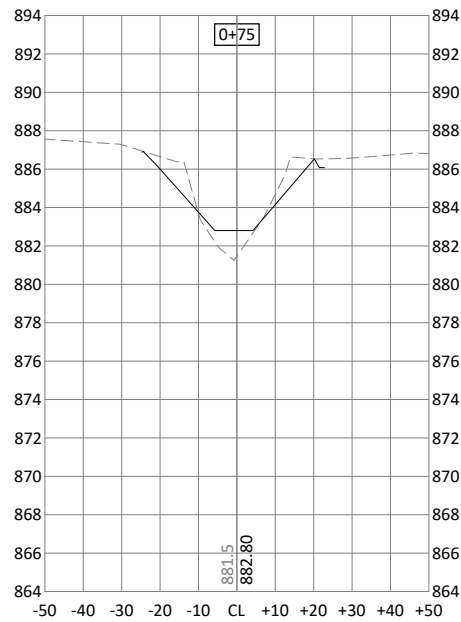
OAK GROVE CONSERVATION, LLC
OAK GROVE WETLAND BANK PHASE 1

TRAFFIC CONTROL PLAN

SHEET

C6.01

© Bolton & Menk, Inc. 2024. All Rights Reserved.
A:\C:\P\A\1\17260\17260.dwg 4/7/2025 3:21:25 PM



HORZ. SCALE 0 25 50 FEET

VERT. SCALE 0 5 10 FEET

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.

BRADY A. NAHKALA
LIC. NO. 62456 DATE 04/07/2025



2900 43RD STREET NW, SUITE 100
ROCHESTER, MINNESOTA 55901
Phone: (507) 208-4332
Email: Rochester@bolton-menk.com
www.bolton-menk.com

DESIGNED	NO.	ISSUED FOR	DATE
BAN			
DRAWN	NO.	ISSUED FOR	DATE
BAN			
CHECKED	NO.	ISSUED FOR	DATE
BAN			
CLIENT PROJ. NO.	NO.	ISSUED FOR	DATE
076.127260			

OAK GROVE CONSERVATION, LLC
OAK GROVE WETLAND BANK PHASE 1

CROSS SECTIONS

SHEET

C9.01