

CITY OF RAMSEY

CONSTRUCTION PLANS FOR

THE COR GRADING IMPROVEMENTS

CITY PROJECT NUMBER 23-20

SANITARY SEWER, WATERMAIN, STORM SEWER, SITE GRADING, POND EXCAVATION WITH CLAY LINER,
AND TURF ESTABLISHMENT

JULY, 2023

MAP OF THE
CITY OF RAMSEY
ANOKA COUNTY, MN



0 1000 2000
SCALE FEET

MAP LEGEND
PROJECT LIMITS

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

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D UNLESS OTHERWISE NOTED. THIS UTILITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-22, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

PROJECT LOCATION



SHEET NUMBER	SHEET TITLE
GENERAL	
1	TITLE SHEET
2	LEGEND
3	LOCATION PLAN
CIVIL	
4	EXISTING CONDITIONS & REMOVAL PLAN
5 - 14	TABLES, DETAILS, TYPICAL SECTIONS
15 - 18	EROSION CONTROL PLAN, SWPPP
19 - 25	GRADING PLAN
26 - 28	SANITARY & WATER PLAN & PROFILE
29 - 36	STORM SEWER PLAN & PROFILE
THIS PLAN SET CONTAINS 36 SHEETS.	



Approved: Anoka County Engineer

Date _____

Approved: City Engineer / Director of Public Works

Date _____

BM=870.29

TNH
STATION 702+96 - 872' LT
FERRET STREET & BUNKER
LAKE BLVD, SE DITCH

PROJECT DATUM:
HORIZONTAL: ANOKA COUNTY COORDINATES
(1996 ADJUSTMENT)
VERTICAL: NAVD 88

RECORD DRAWING
INFORMATION

OBSERVER: _____

CONTRACTOR: _____

DATE: _____

CITY OF RAMSEY, MINNESOTA

THE COR GRADING IMPROVEMENTS

TITLE SHEET

1

OF

36

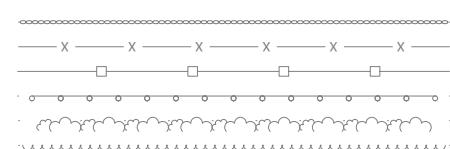
EXISTING TOPOGRAPHIC SYMBOLS

■ ACCESS GRATE	◎ REGULATION STATION GAS
AC AIR CONDITION UNIT	✗ SATELLITE DISH
Ⓐ ANTENNA	□ SIGN NON TRAFFIC
Ⓐ AUTO SPRINKLER CONNECTION	○ SIGN TRAFFIC
— BARRICADE PERMANENT	■ SIGNAL CONTROL CABINET
● BASKETBALL POST	● SOIL BORING
● BENCH	● SIREN
● BIRD FEEDER	● TELEPHONE BOOTH
● BOLLARD	● TILE INLET
● BUSH	● TILE OUTLET
■ CATCH BASIN RECTANGULAR CASTING	● TILE RISER
● CATCH BASIN CIRCULAR CASTING	■ TRANSFORMER-ELECTRIC
● CURB STOP	● TREE-CONIFEROUS
● CLEAN OUT	● TREE-DEAD
● CULVERT END	● TREE-DECIDUOUS
● DRINKING FOUNTAIN	● TREE STUMP
● DOWN SPOUT	● TRAFFIC ARM BARRIER
● FILL PIPE	● TRAFFIC SIGNAL
● FIRE HYDRANT	● TRASH CAN
● FLAG POLE	● UTILITY MARKER
● FLARED END / APRON	● VALVE
● FUEL PUMP	● VALVE POST INDICATOR
● GRILL	● VALVE VAULT
← GUY WIRE ANCHOR	● VAULT
● HANDBOLES	● VENT PIPE
● HANDICAP SPACE	● WATER SPIGOT
● IRRIGATION SPRINKLER HEAD	● WELL
● IRRIGATION VALVE BOX	△ WETLAND DELINEATED MARKER
● LIFT STATION CONTROL PANEL	● WETLAND
● LIFT STATION	● WET WELL
● LIGHT ON POLE	● YARD HYDRANT
● LIGHT-GROUND	
● MAILBOX	
● MANHOLE-COMMUNICATION	
● MANHOLE-ELECTRIC	
● MANHOLE-GAS	
● MANHOLE-HEAT	
● MANHOLE-SANITARY SEWER	
● MANHOLE-STORM SEWER	
● MANHOLE-UTILITY	
● MANHOLE-WATER	
● METER	
● ORDER MICROPHONE	
● PARKING METER	
● PAVEMENT MARKING	
● PEDESTAL-COMMUNICATION	
● PEDESTAL-ELECTRIC	
● PEDESTRIAN PUSH BUTTON	
● PICNIC TABLE	
● POLE-UTILITY	
● POLE-BRACE	
● POST	
● RAILROAD SIGNAL POLE	

SURVEY SYMBOLS

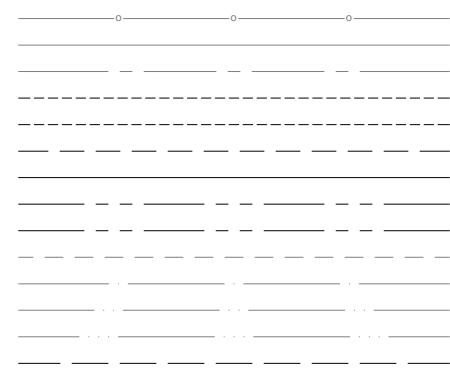
⊕ BENCHMARK LOCATION	● CAST IRON MONUMENT
◊ CONTROL POINT	■ STONE MONUMENT
● MONUMENT FOUND	

EXISTING TOPOGRAPHIC LINES



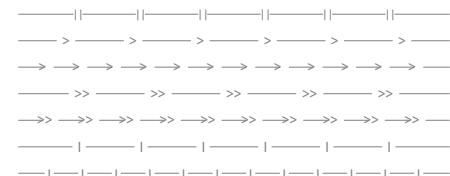
RETAINING WALL
FENCE
FENCE-DECORATIVE
GUARD RAIL
TREE LINE
BUSH LINE

SURVEY LINES



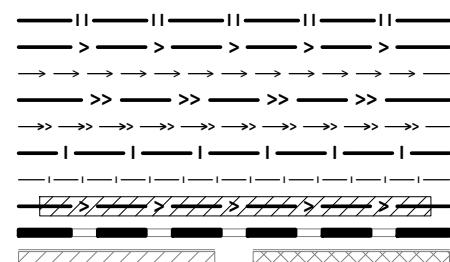
CONTROLLED ACCESS
BOUNDARY
CENTERLINE
EXISTING EASEMENT LINE
PROPOSED EASEMENT LINE
EXISTING LOT LINE
PROPOSED LOT LINE
EXISTING RIGHT-OF-WAY
PROPOSED RIGHT-OF-WAY
SETBACK LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
TEMPORARY EASEMENT

EXISTING UTILITY LINES



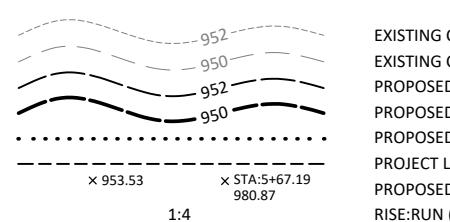
FORCEMAIN
SANITARY SEWER
SANITARY SERVICE
STORM SEWER
STORM SEWER DRAIN TILE
WATERMAIN
WATER SERVICE

PROPOSED UTILITY LINES



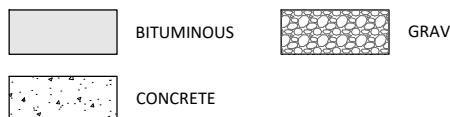
FORCEMAIN
SANITARY SEWER
SANITARY SERVICE
STORM SEWER
STORM SEWER DRAIN TILE
WATERMAIN
WATER SERVICE
PIPE CASING
TRENCHLESS PIPE (PLAN VIEW)
TRENCHLESS PIPE (PROFILE VIEW)

GRADING INFORMATION



EXISTING CONTOUR MINOR
EXISTING CONTOUR MAJOR
PROPOSED CONTOUR MINOR
PROPOSED CONTOUR MAJOR
PROPOSED GRADING LIMITS / SLOPE LIMITS
PROJECT LIMITS
PROPOSED SPOT ELEVATION
RISE:RUN (SLOPE)

HATCH PATTERNS



GRAN

RET

RETAI

EXISTING PRIVATE UTILITY LINES

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— F F F F	UNDERGROUND FIBER OPTIC
— E E E E	UNDERGROUND ELECTRIC
— G G G G	UNDERGROUND GAS
— C C C C	UNDERGROUND COMMUNICATION
— OE OE OE OE	OVERHEAD ELECTRIC
— OC OC OC OC	OVERHEAD COMMUNICATION
— OU OU OU OU	OVERHEAD UTILITY

UTILITIES IDENTIFIED WITH A QUALITY LEVEL :

LINE TYPES FOLLOW THE FORMAT: UTILITY TYPE - QUALITY LEVEL
EXAMPLE: — G-A — G-A — UNDERGROUND GAS, QUALITY LEVEL A
UTILITY QUALITY LEVEL (A,B,C,D) DEFINITIONS CAN BE FOUND IN CI/ASCE 38-02.

UTILITY QUALITY LEVELS:

QUALITY LEVEL D: PROVIDES THE MOST BASIC LEVEL OF INFORMATION. IT INVOLVES COLLECTING DATA FROM EXISTING UTILITY RECORDS. RECORDS MAY INCLUDE AS-BUILT DRAWINGS, DISTRIBUTION AND SERVICES MAPS, EXISTING GEOGRAPHIC INFORMATION SYSTEM DATABASES, CONSTRUCTION PLANS, ETC.

QUALITY LEVEL C: INVOLVES SURVEYING VISIBLE SUBSURFACE UTILITY STRUCTURES SUCH AS MANHOLES, HAND-HOLES, UTILITY VALVES AND METERS, FIRE HYDRANTS, PEDESTALS AND UTILITY MARKERS, AND THEN CORRELATING THE INFORMATION WITH EXISTING UTILITY RECORDS TO CREATE COMPOSITE DRAWINGS. INCLUDES QUALITY LEVEL D ACTIVITIES.

QUALITY LEVEL B: INVOLVES DESIGNATING THE HORIZONTAL POSITION OF SUBSURFACE UTILITIES THROUGH SURFACE DETECTION METHODS AND COLLECTING THE INFORMATION THROUGH A SURVEY METHOD. INCLUDES QUALITY LEVEL C AND D TASKS.

QUALITY LEVEL A: PROVIDES THE HIGHEST LEVEL OF ACCURACY. IT INVOLVES LOCATING OR POTHoling UTILITIES AS WELL AS ACTIVITIES IN QUALITY LEVELS B, C, AND D. THE LOCATED FACILITY INFORMATION IS SURVEYED AND MAPPED AND THE DATA PROVIDES PRECISE PLAN AND PROFILE INFORMATION.

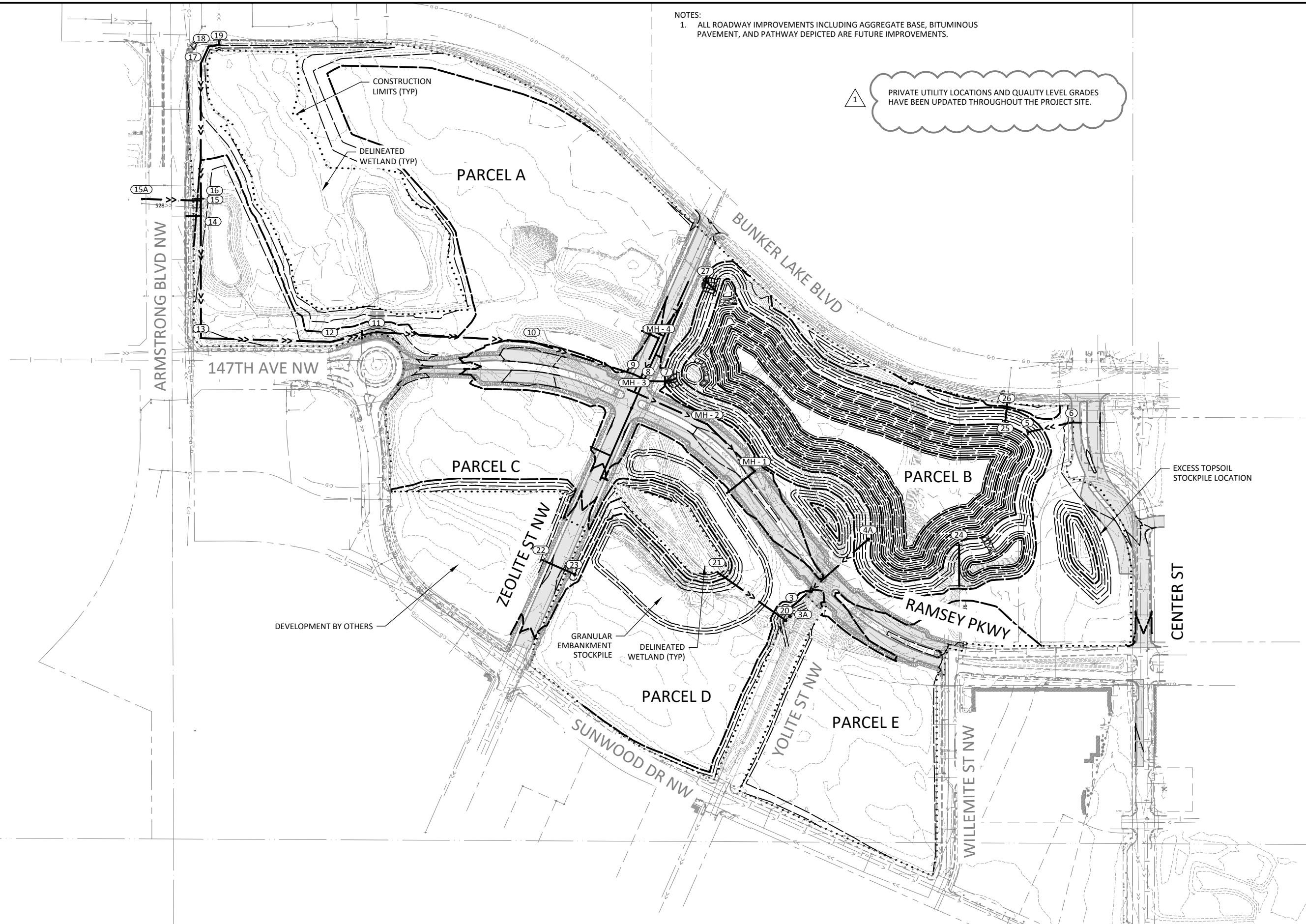
ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE	GRAV	GRAVEL	RSC	RIGID STEEL CONDUIT
ADJ	ADJUST	GU	GUTTER	RT	RIGHT
ALT	ALTERNATE	GV	GATE VALVE	SAN	SANITARY SEWER
B-B	BACK TO BACK	HDPE	HIGH DENSITY POLYETHYLENE	SCH	SCHEDULE
BIT	BITUMINOUS	HH	HANDHOLE	SERV	SERVICE
BLDG	BUILDING	HP	HIGH POINT	SHLD	SHOULDER
BMP	BEST MANAGEMENT PRACTICE	HWL	HIGH WATER LEVEL	STA	STATION
BR	BEGIN RADIUS	HYD	HYDRANT	STD	STANDARD
BV	BUTTERFLY VALVE	I	INVERT	STM	STORM SEWER
CB	CATCH BASIN	K	CURVE COEFFICIENT	TC	TOP OF CURB
C&G	CURB AND GUTTER	L	LENGTH	TE	TEMPORARY EASEMENT
CIP	CAST IRON PIPE	LO	LOWEST OPENING	TEMP	TEMPORARY
CIPP	CURED-IN-PLACE PIPE	LP	LOW POINT	TNH	TOP NUT HYDRANT
CL	CENTER LINE	LT	LEFT	TP	TOP OF PIPE
CLVT	CULVERT	MAX	MAXIMUM	TYP	TYPICAL
CMP	CORRUGATED METAL PIPE	MH	MANHOLE	VCP	VITRIFIED CLAY PIPE
C.O.	CHANGE ORDER	MIN	MINIMUM	VERT	VERTICAL
COMM	COMMUNICATION	MR	MID RADIUS	VPC	VERTICAL POINT OF CURVE
CON	CONCRETE	NIC	NOT IN CONTRACT	VPI	VERTICAL POINT OF INTERSECTION
CSP	CORRUGATED STEEL PIPE	NMC	NON-METALLIC CONDUIT	VPT	VERTICAL POINT OF TANGENT
DIA	DIAMETER	NTS	NOT TO SCALE	WM	WATERMAIN
DIP	DUCTILE IRON PIPE	NWL	NORMAL WATER LEVEL		
DWY	DRIVEWAY	OHW	ORDINARY HIGH WATER LEVEL		
E	EXTERNAL CURVE DISTANCE	PC	POINT OF CURVE	AC	ACRES
ELEC	ELECTRIC	PCC	POINT OF COMPOUND CURVE	CF	CUBIC FEET
ELEV	ELEVATION	PE	PERMANENT EASEMENT	CV	COMPACTED VOLUME
EOF	EMERGENCY OVERFLOW	PED	PEDESTRIAN, PEDESTAL	CY	CUBIC YARD
ER	END RADIUS	PERF	PERFORATED PIPE	EACH	
ESMT	EASEMENT	PERM	PERMANENT	EV	EXCAVATED VOLUME
EX	EXISTING	PI	POINT OF INTERSECTION	LB	POUND
FES	FLARED END SECTION	PL	PROPERTY LINE	LF	LINEAR FEET
F-F	FACE TO FACE	PRC	POINT OF REVERSE CURVE	LS	LUMP SUM
FF	FINISHED FLOOR	PT	POINT OF TANGENT	LV	LOOSE VOLUME
F&I	FURNISH AND INSTALL	PVC	POLYVINYL CHLORIDE PIPE	SF	SQUARE FEET
FM	FORCEMAIN	PVMT	PAVEMENT	SV	STOCKPILE VOLUME
FO	FIBER OPTIC	R	RADIUS	SY	SQUARE YARD
F.O.	FIELD ORDER	R/W	RIGHT-OF-WAY		
GRAN	GRANULAR	RCP	REINFORCED CONCRETE PIPE		
		RET	RETAINING		

CITY OF RAMSEY, MINNESOTA

THE COR GRADING IMPROVEMENTS

LEGEND

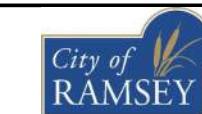


0 130 260
SCALE FEET

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.
Kevin P. Kielb, P.E.
KEVIN P. KIELB, P.E.
LIC. NO. 23211 DATE 07/21/2023



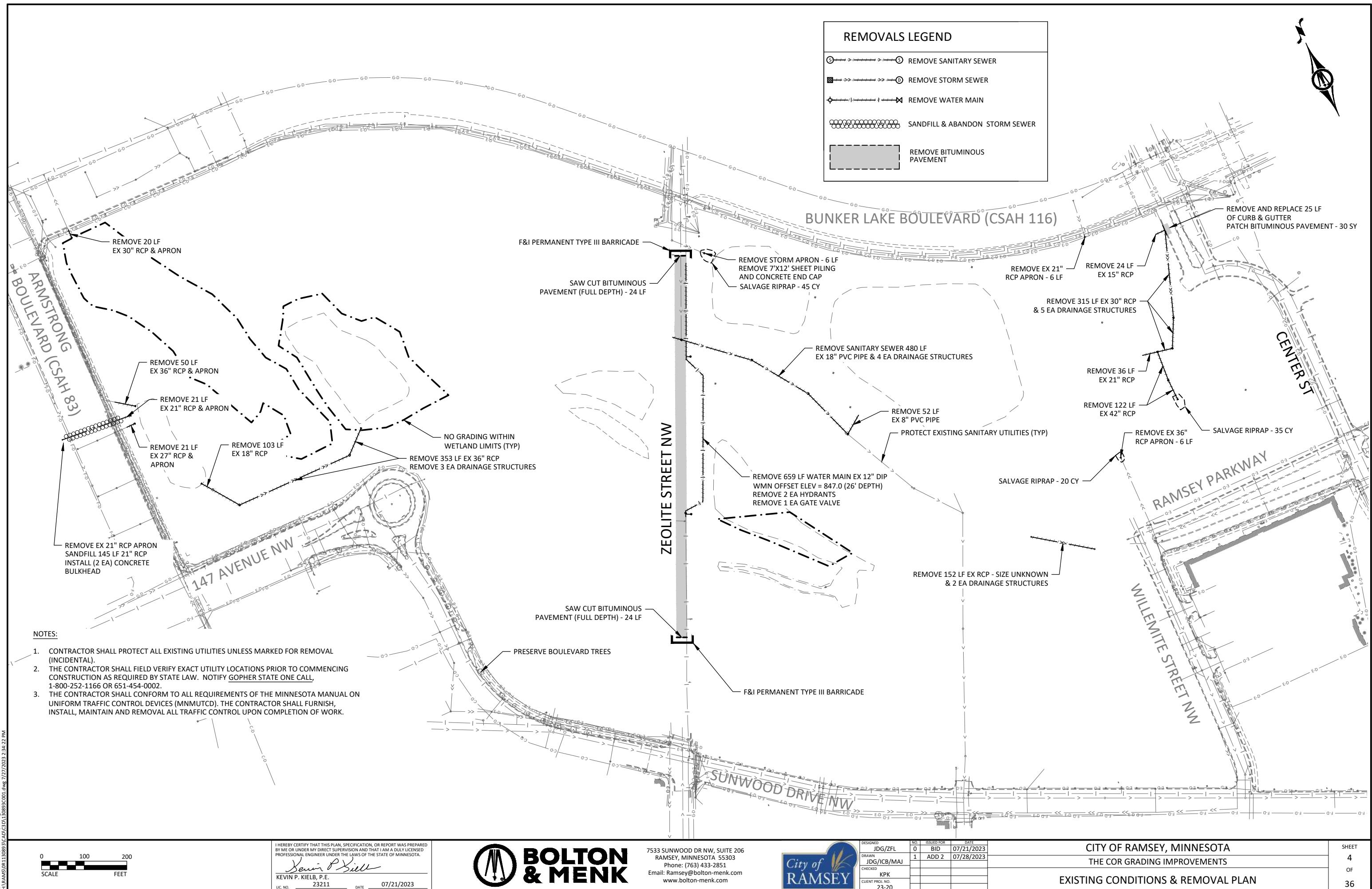
7533 SUNWOOD DR NW, SUITE 206
RAMSEY, MINNESOTA 55303
Phone: (763) 433-2851
Email: Ramsey@bolton-menk.com
www.bolton-menk.com



DESIGNED NO. ISSUED FOR DATE
JDG/ZFL 0 BID 07/21/2023
DRAWN 1 ADD 2 07/28/2023
JDG/ICB/MAJ
CHECKED KPK
CLIENT PROJ. NO. 23-20

CITY OF RAMSEY, MINNESOTA
THE COR GRADING IMPROVEMENTS
GENERAL
LOCATION PLAN

SHEET
3
OF
36



STATEMENT OF ESTIMATED QUANTITIES			
ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
1	MOBILIZATION	LUMP SUM	1
2	REMOVE MANHOLE OR CATCH BASIN (STORM)	EACH	10
3	REMOVE SHEET PILING AND CONCRETE END CAP	EACH	1
4	REMOVE MANHOLE (SANITARY)	EACH	4
5	REMOVE GATE VALVE & BOX	EACH	1
6	REMOVE HYDRANT	EACH	2
7	REMOVE STORM PIPE	LIN FT	1,235
8	REMOVE SANITARY PIPE	LIN FT	532
9	REMOVE WATERMAIN	LIN FT	659
10	REMOVE AND REPLACE CURB & GUTTER	LIN FT	25
11	SAW CUT BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	48
12	REMOVE BITUMINOUS PAVEMENT	SQ YD	2,440
13	BITUMINOUS PATCH SPECIAL	SQ YD	30
14	SALVAGE & REINSTALL RIPRAP	CU YD	100
15	EXCAVATION - COMMON (EV)	CU YD	366,900
16	EXCAVATION - SUBGRADE (EV)	CU YD	5,550
17	COMMON EMBANKMENT (CV)	CU YD	284,250
18	DEWATERING	LUMP SUM	1
19	EXCAVATION SPECIAL (EV)	CU YD	160,920
20	EMBANKMENT SPECIAL (CV)	CU YD	146,310
21	CLAY LINER (CV) (P)	CU YD	26,100
22	STOCKPILE EXCESS TOPSOIL (SV)	CU YD	10,470
23	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	28
24	SKID LOADER	HOUR	50
25	15" CMP APRON	EACH	2
26	15" RC PIPE APRON	EACH	2
27	21" RC PIPE APRON	EACH	1
28	24" RC PIPE APRON	EACH	1
29	30" RC PIPE APRON	EACH	1
30	36" RC PIPE APRON	EACH	1
31	TRENCHLESS STORM SEWER	LIN FT	136
32	8" CONCRETE HEADWALL	EACH	3
33	15" CMP	LIN FT	100
34	15" RC PIPE SEWER CLASS V	LIN FT	217
35	21" RC PIPE SEWER CLASS IV	LIN FT	47
36	24" RC PIPE SEWER CLASS III	LIN FT	448
37	30" RC PIPE SEWER CLASS IV	LIN FT	417
38	36" RC PIPE SEWER CLASS III	LIN FT	122
39	48" RC PIPE SEWER CLASS III	LIN FT	1,715
40	CONNECT TO EXISTING STORM SEWER	EACH	1
41	6" DIP WATERMAIN CL 53	LIN FT	32
42	8" DIP WATERMAIN CL 52	LIN FT	120
43	12" DIP WATERMAIN CL 52	LIN FT	620
44	6" GATE VALVE AND BOX	EACH	2
45	8" GATE VALVE AND BOX	EACH	2
46	12" GATE VALVE AND BOX	EACH	3
47	HYDRANT	EACH	2
48	WATERMAIN FITTINGS	LBS	1,700
49	CONNECT TO EXISTING WATER MAIN	EACH	3
50	CONNECT TO EXISTING SANITARY SEWER	EACH	2
51	CLEAN & VIDEO TAPE PIPE SEWER	LIN FT	740
52	8" PVC PIPE SEWER	LIN FT	170
53	18" PVC PIPE SEWER	LIN FT	570
54	4" INSULATION	SQ YD	20
55	CONSTRUCT SANITARY SEWER MANHOLE	LIN FT	47
56	CONSTRUCT DRAINAGE STRUCTURE DES 48-4020	LIN FT	20
57	CONSTRUCT DRAINAGE STRUCTURE DES 60-4020	LIN FT	11
58	CONSTRUCT DRAINAGE STRUCTURE DES 72-4020	LIN FT	31
59	CONSTRUCT DRAINAGE STRUCTURE DES 84-4020	LIN FT	18
60	CONSTRUCT DRAINAGE STRUCTURE DES 108-4020	LIN FT	22
61	CONSTRUCT DRAINAGE STRUCTURE DES 60-4022	LIN FT	12
62	CONSTRUCT DRAINAGE STRUCTURE DESIGN 84-4022	LIN FT	15
63	CONSTRUCT DRAINAGE STRUCTURE - OUTLET CONTROL STRUCTURE (S'DIA)	EACH	1
64	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL (SPLITTER STRUCTURE 7)	EACH	1
65	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL (SPLITTER STRUCTURE 27)	EACH	1

66	CASTING ASSEMBLY, STORM	EACH	15
67	CASTING ASSEMBLY, SANITARY	EACH	4
68	ADJUST FRAME & RING CASTING	EACH	10
69	RANDOM RIPRAP CLASS III	CU YD	85
70	TRAFFIC CONTROL	LUMP SUM	1
71	F&I PERMANENT TYPE III BARRICADES	EACH	2
72	EROSION CONTROL SUPERVISOR	LUMP SUM	1
73	STABILIZED CONSTRUCTION EXIT	LUMP SUM	1
74	STORM DRAIN INLET PROTECTION	EACH	48
75	SILT FENCE, TYPE MS	LIN FT	9,190
76	TEMPORARY STABILIZATION	ACRE	50
77	TOPSOIL PLACEMENT (CV)	CU YD	39,400
78	ROLLED EROSION PREVENTION CATEGORY 20	SQ YD	15,500
79	SEED MIXTURE 25-141	POUND	3,700
80	SEED MIXTURE 34-263	POUND	70
81	SEED MIXTURE 38-631	POUND	70
82	HYDRAULIC MULCH MATRIX	POUND	117,300
83	SEED MIXTURE NATIVE GRASS - CUSTOM	POUND	60
84	WATER FOR DUST CONTROL	MGAL	2,000

STRUC NO.	SIZE	TYPE	DETAIL	CASTING ASSEMBLY TYPE
3	5'	MH	STO-1	R-1733
3A	30"	APRON		
4A	5'	OCS	C	
6	5'	CBMH	STO-1	R-3067-VB
7		SPLITTER		
8	6'	CBMH	STO-1	R-3067-VB
9	6'	CBMH	STO-1	R-3067-VB
10	6'	MH	STO-1	R-2560-E
11	6'	MH	STO-3	R-1733
12	6'	MH	STO-3	R-1733
13	9'	MH	STO-3	R-1733
14	7'	MH	STO-1	R-1733
15	7'	MH	STO-1	R-1733
15A	24"	APRON		
16	9'	MH	STO-1	R-1733
17	4'	MH	STO-1	R-1733
18	4'	MH	STO-1	R-1733
19	5'	MH	STO-1	R-1733
20	15"	APRON		
21	15"	APRON		
22	15"	APRON		
23	15"	APRON		
24	36"	APRON		
25	21"	APRON		
26	4'	MH	STO-3	R-1733
27		SPLITTER		

EARTHWORK SUMMARY TABLE NOTES:

- PAID FOR AS EXCAVATION - COMMON. TOPSOIL EXCAVATION DEPTHS ARE BASED ON SOIL BORINGS (SEE PROJECT MANUAL).
- EXCAVATION BELOW TOPSOIL STRIPPING TO PROPOSED SUBGRADE (BOTTOM OF PROPOSED TOPSOIL, BOTTOM OF CLAY LINER, AND BOTTOM OF FUTURE ROAD SECTIONS).
- 4" OF TOPSOIL ACROSS FUTURE STREET DEVELOPMENT AND 6" OF TOPSOIL IN POND PROPERTY (EXCLUDING BELOW NWL).
- ASSUMES 1.10 SHRINKAGE FACTOR.
- PLACEMENT OF EMBANKMENT ANTICIPATING HOLD-DOWN FOR TOPSOIL PLACEMENT.
- PAID FOR AS COMMON EMBANKMENT.
- STOCKPILE EXCESS ON SITE AS SHOWN ON PLANS AND AS DIRECTED BY THE ENGINEER.
- CONTRACTOR SHALL EXCAVATE IN PLACE SOILS TO DEPTHS SHOWN ON PLANS AND RECOMPACT TO 98% DENSITY AS DIRECTED BY THE ENGINEER IN THE FIELD. CONTRACTOR SHALL NOTIFY ENGINEER IF ORGANIC SOILS ARE ENCOUNTERED.
- INCLUDES TOPSOIL EXCAVATION AND REGULAR EXCAVATION.
- INCLUDES EXCESS EMBANKMENT MATERIAL GENERATED AND EXCESS TOPSOIL.
- ASSUMES 1.15 SWELL FACTOR.

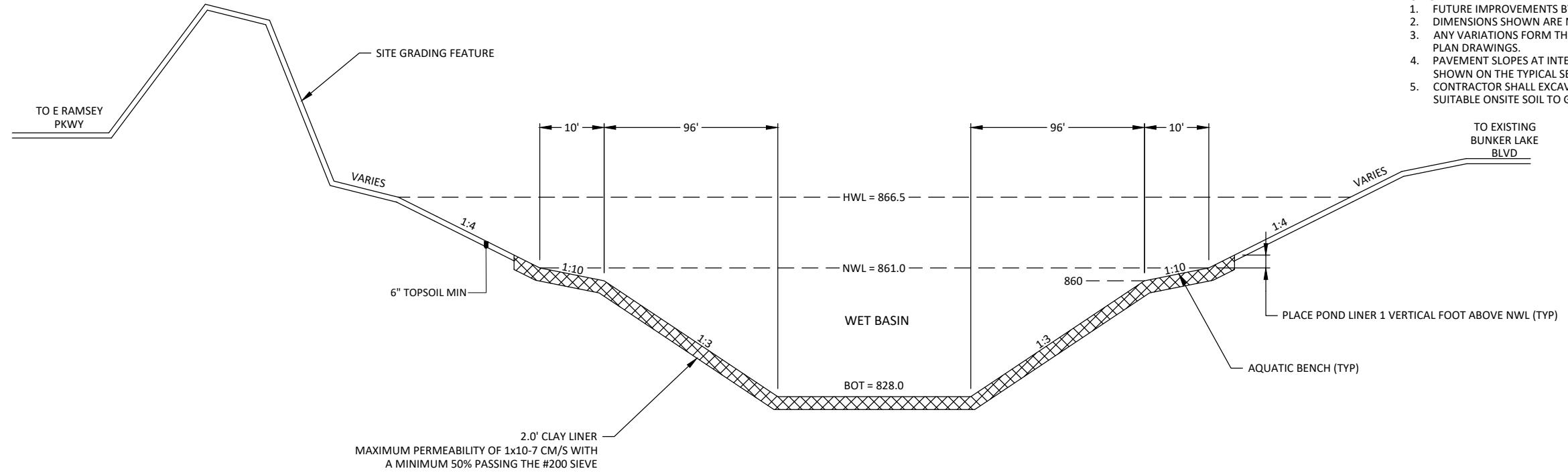
GENERAL GRADING/EARTHWORK NOTES:

- SPOT ELEVATIONS AND CONTOUR LABELS REPRESENT FINISHED GROUND SURFACE AND FUTURE ROADWAY FINISHED GROUND SURFACE.
- CONTRACTOR SHALL IMPORT AND INSTALL CLAY LINER.
- NO GRADING MATERIAL IS ANTICIPATED TO BE HAULED OFF SITE. ALL EXCESS MATERIAL WILL BE STOCKPILED OR USED AS EMBANKMENT ON SITE AS DIRECTED BY THE ENGINEER.
- SUBGRADE EXCAVATION SHALL BE COMPLETED IN THE AREAS DISPLAYED ON SHEET 24, AS DIRECTED BY THE ENGINEER.
- ALL REMOVALS SHALL BE DISPOSED OF OFF SITE.

SEQ NOTES:

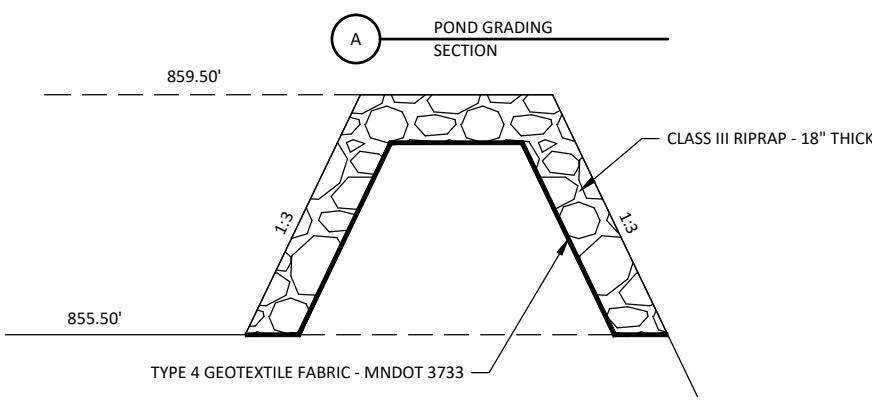
- PAYMENT FOR CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL (SPLITTER STRUCTURE) SHALL BE AT THE UNIT PRICE BID PER EACH STRUCTURE COMPLETE IN PLACE, AS SPECIFIED AND DETAILED ON THE PLANS. THE AMOUNT BID INCLUDES ALL WORK AND MATERIALS REQUIRED TO COMPLETE THE STRUCTURE, AND DETAILS ON THE PLANS. THE AMOUNT BID INCLUDES ALL WORK AND MATERIALS REQUIRED TO COMPLETE THE STRUCTURE, MATERIALS INCLUDE BUT NOT LIMITED TO MANHOLE, BAFFLE, HEADWALL, HDPE PIPE, GRANULAR BEDDING, AND CONCRETE RECEIVING BASE.

NOTES	DESCRIPTION	THE COR EARTHWORK SUMMARY								
		PARCEL A	PARCEL B	PARCEL C	PARCEL D	PARCEL E	RAMSEY PARKWAY	ZEOLITE STREET	YOLITE STREET	TOTAL
SITE EXCAVATION										
1	TOPSOIL STRIPPING (EV)	21,100	9,400	5,900	6,900	4,400	3,800	600	900	53,000
1, 2	EXCAVATION - COMMON (EV)	3,700	304,500	100	300	200	2,600	2,500	0	313,900
	TOTAL	24,800	313,900	6,000	7,200	4,600	6,400	3,100	900	366,900
EXCAVATE & RE-COMPACT										
8	EXCAVATION SPECIAL (EV)	17,650	43,890	13,580	45,250	29,500	11,050	0	0	160,920
8	EMBANKMENT SPECIAL (CV)	16,050	39,900	12,350	41,140	26,820	10,050	0	0	146,310
	SUBGRADE EXCAVATION (EV)	0	0	0	3,050	2,500	0	0	0	5,550
TOPSOIL BALANCE										
3	TOPSOIL REQUIRED (CV)	13,900	7,500	3,200	7,400	4,700	2,000	700	0	39,400
4	SUITABLE TOPSOIL FROM STRIPPING (CV)	19,200	8,600	5,400	6,300	4,000	3,500	600	900</	



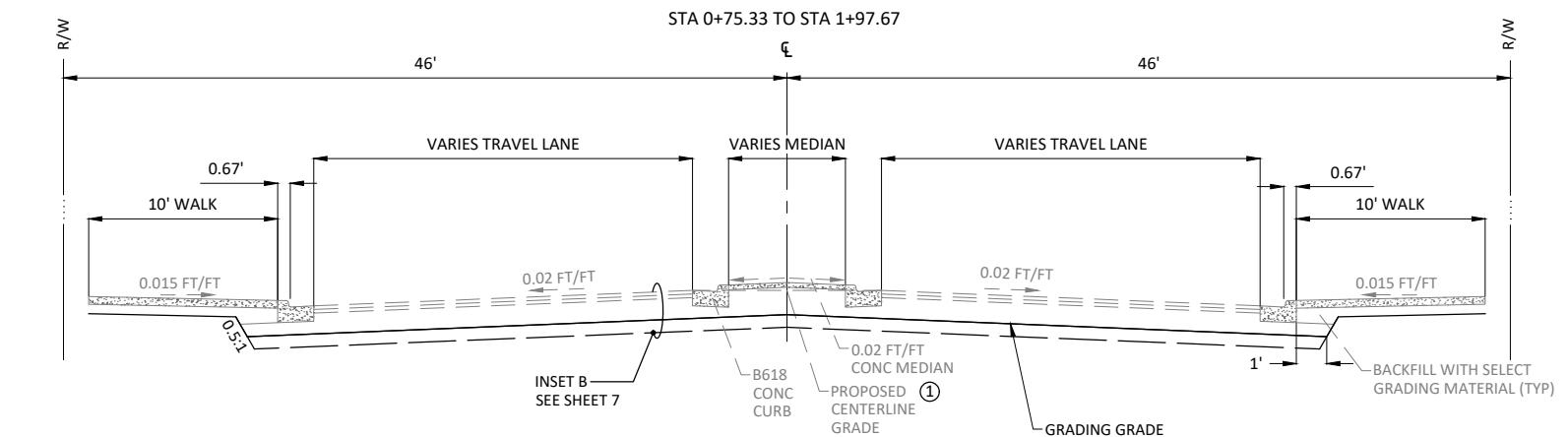
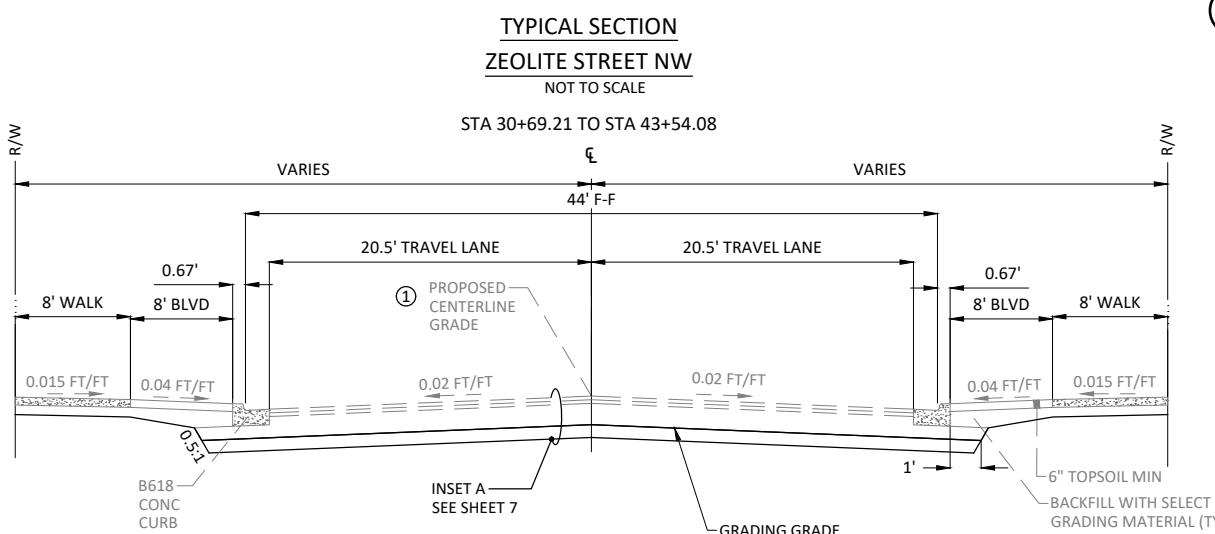
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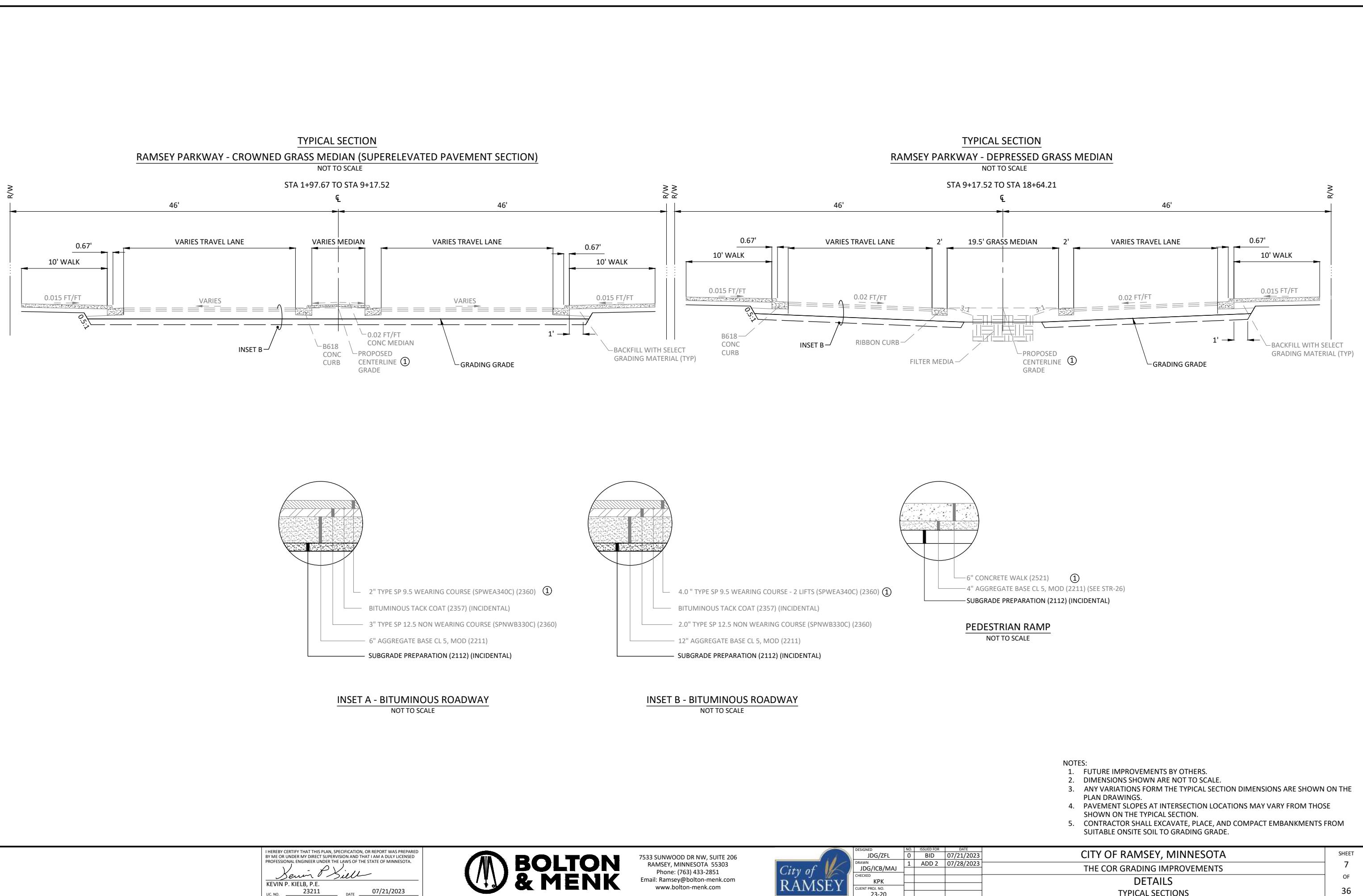
1. FUTURE IMPROVEMENTS BY OTHERS.
2. DIMENSIONS SHOWN ARE NOT TO SCALE.
3. ANY VARIATIONS FROM THE TYPICAL SECTION DIMENSIONS ARE SHOWN ON THE PLAN DRAWINGS.
4. PAVEMENT SLOPES AT INTERSECTION LOCATIONS MAY VARY FROM THOSE SHOWN ON THE TYPICAL SECTION.
5. CONTRACTOR SHALL EXCAVATE, PLACE, AND COMPACT EMBANKMENTS FROM SUITABLE ONSITE SOIL TO GRADING GRADE.

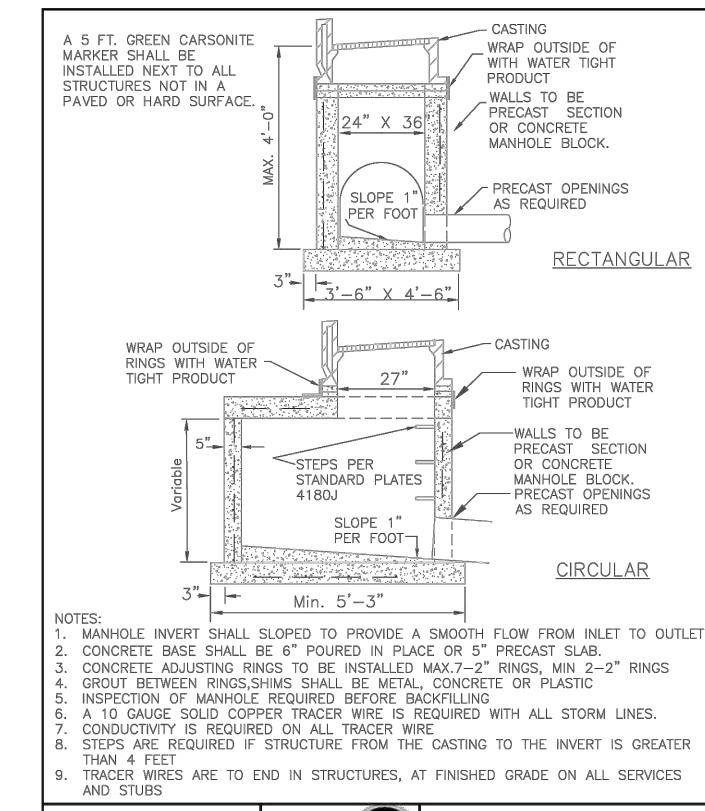
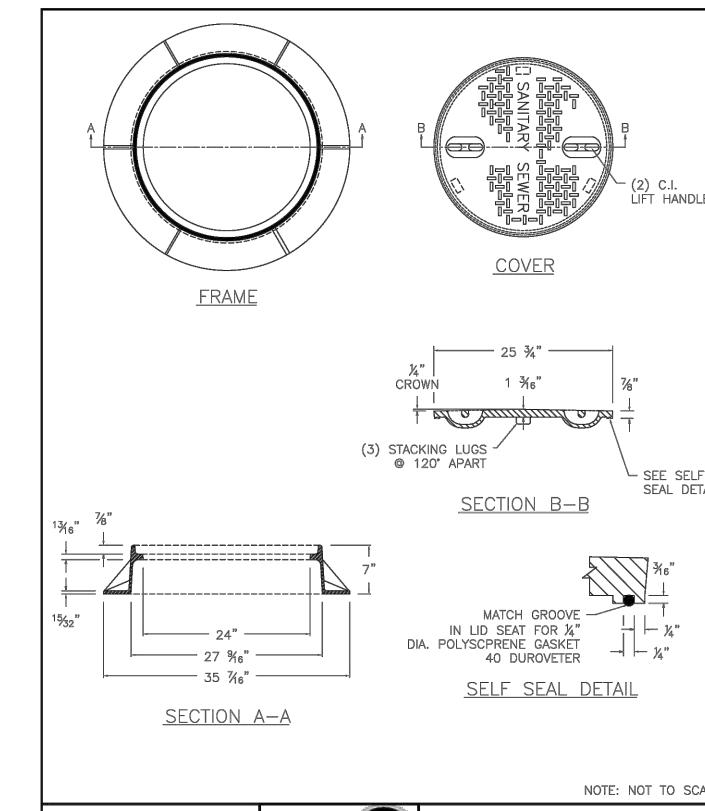
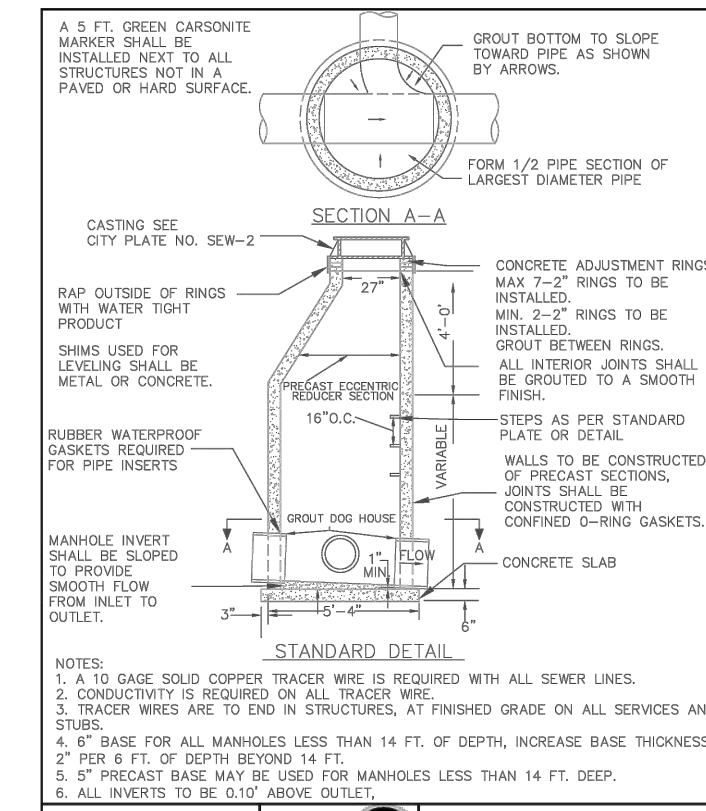
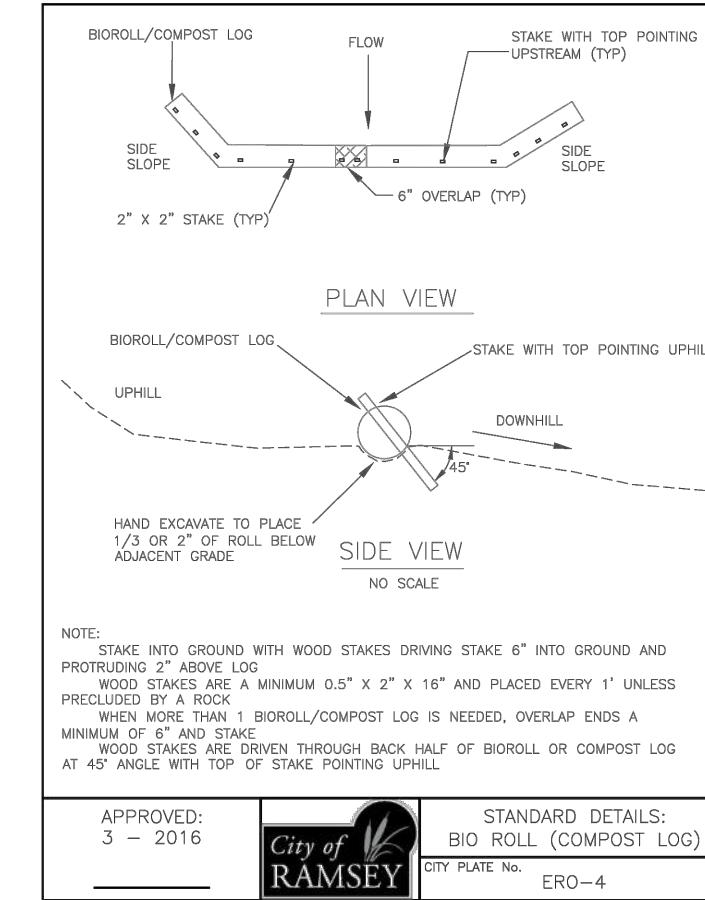
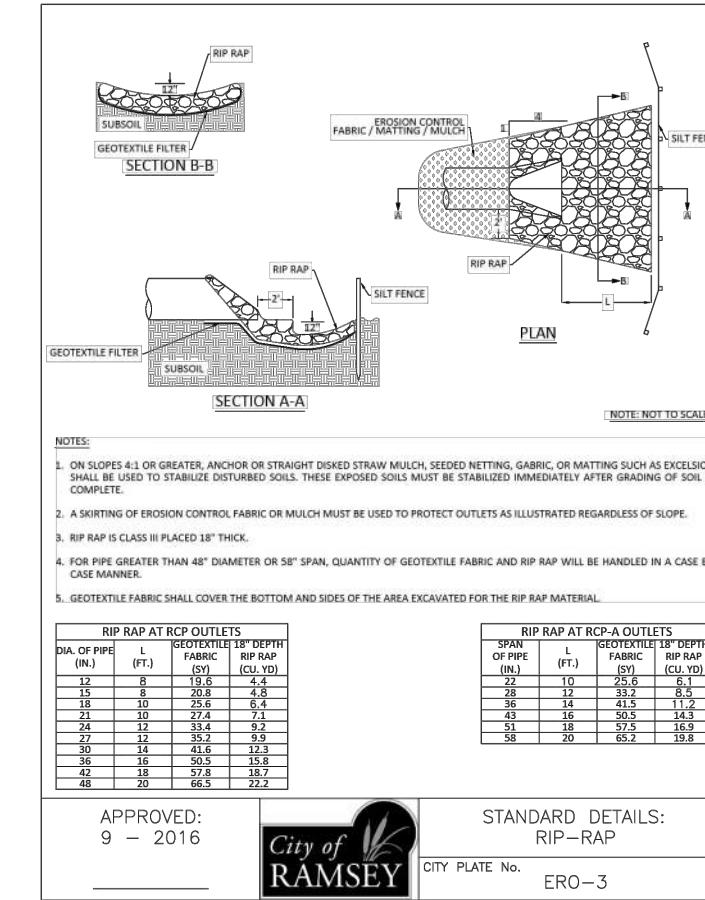
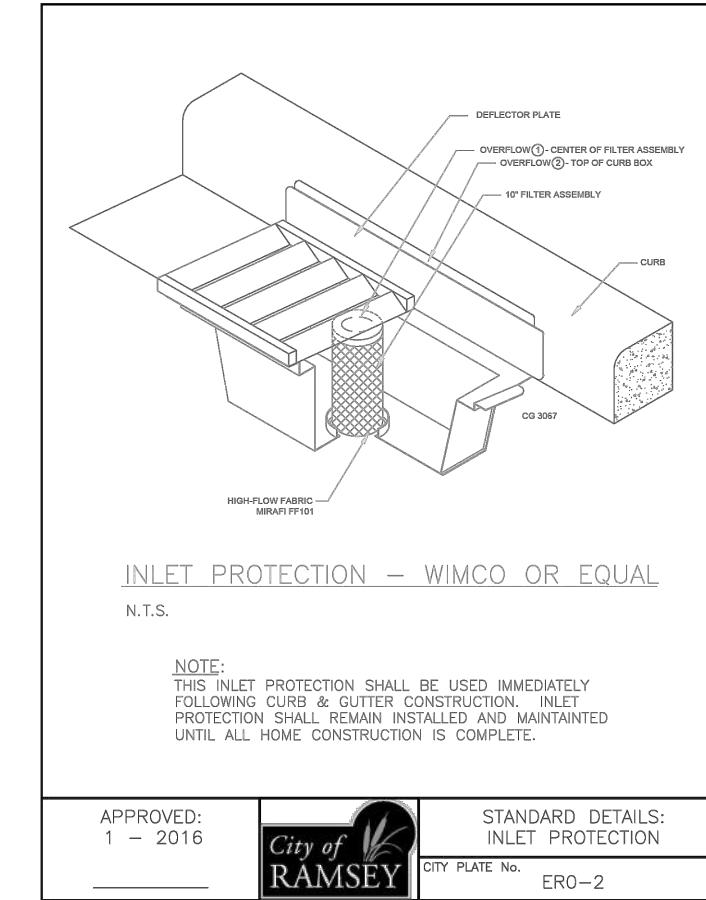
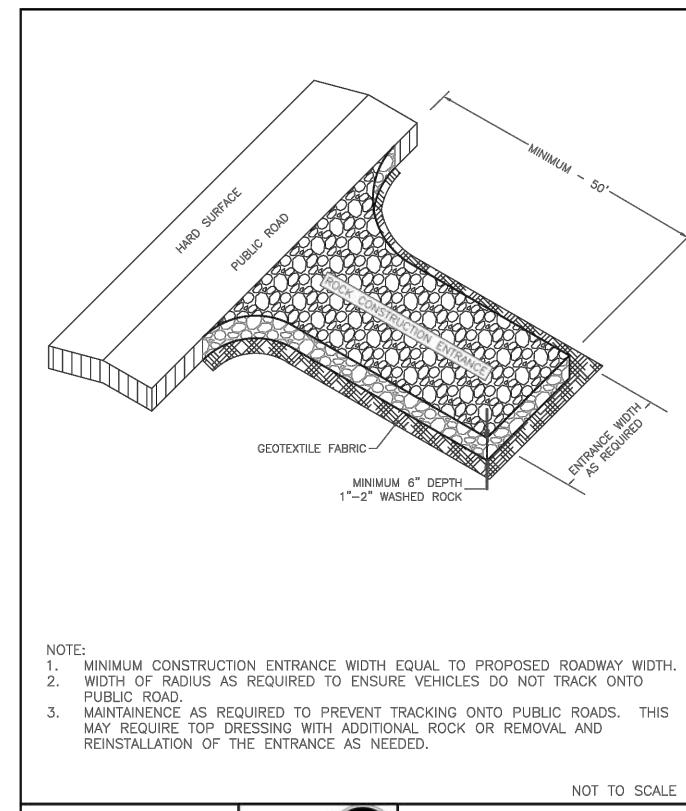
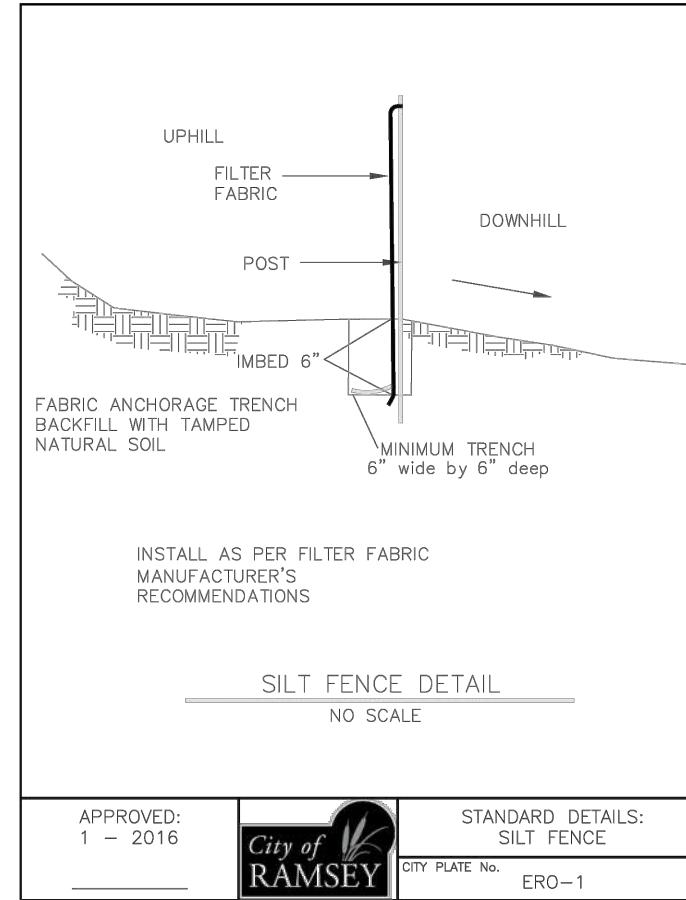


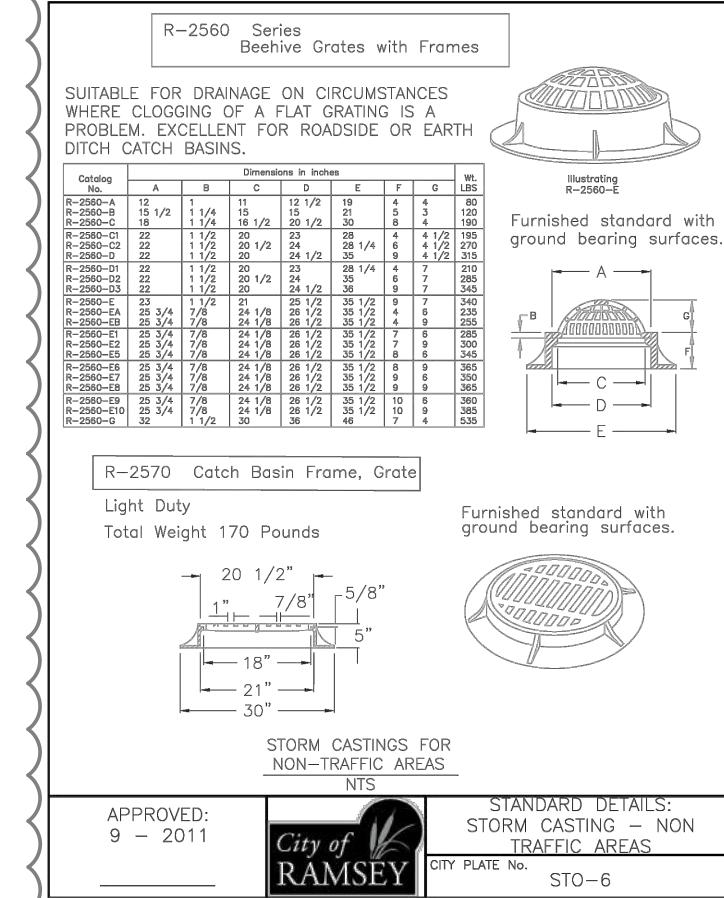
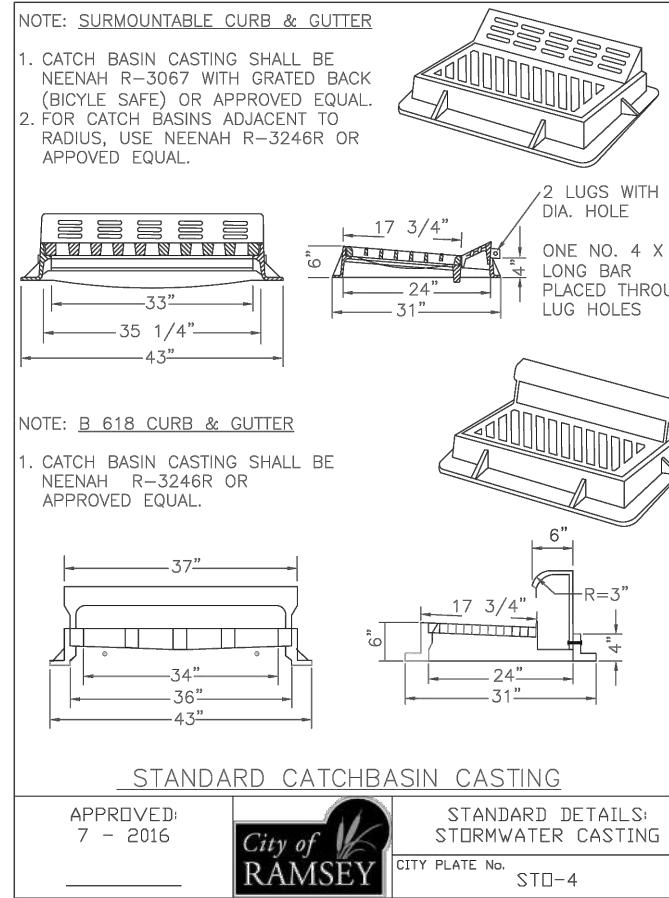
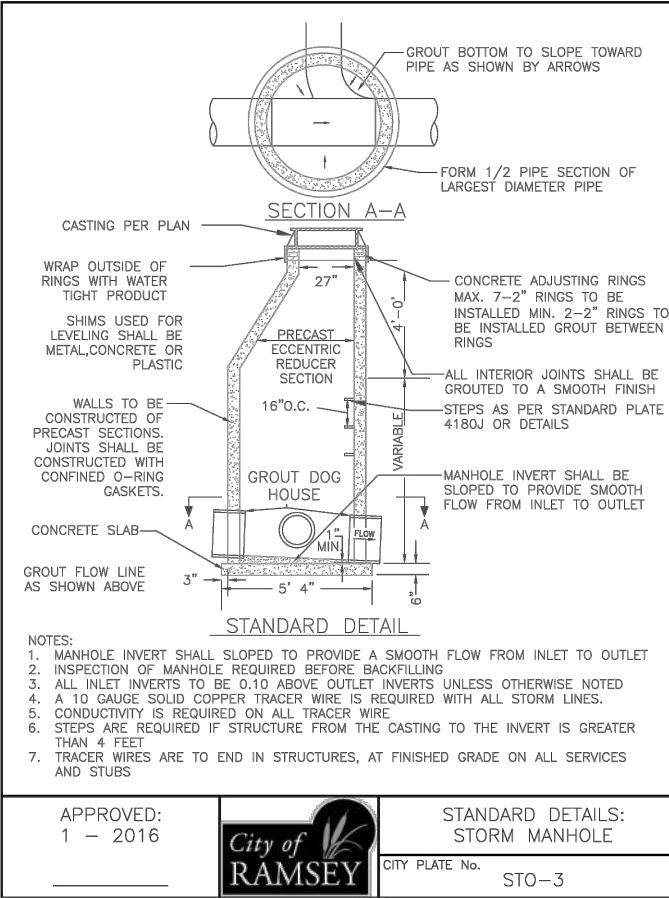
(B) ARMORED BERM SECTION

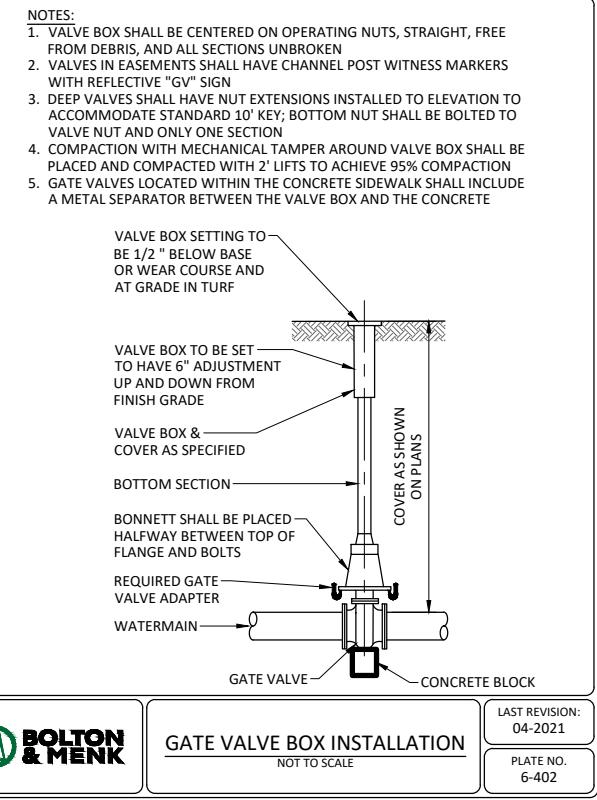
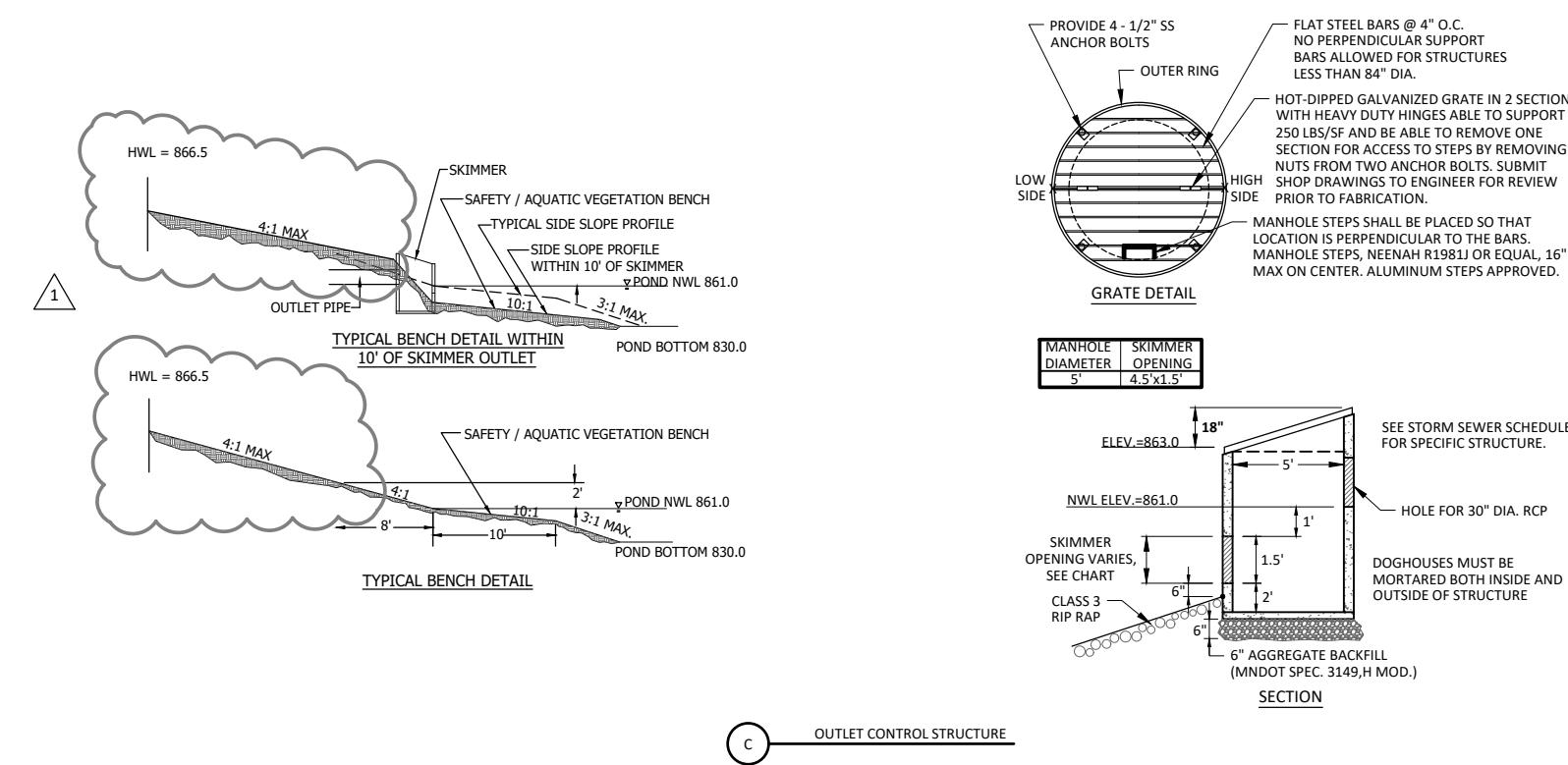
(C) TYPICAL SECTION
RAMSEY PARKWAY - CONCRETE MEDIAN
NOT TO SCALE

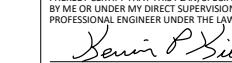






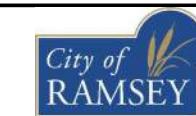




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 LIC. NO. 23211 DATE 07/21/2023

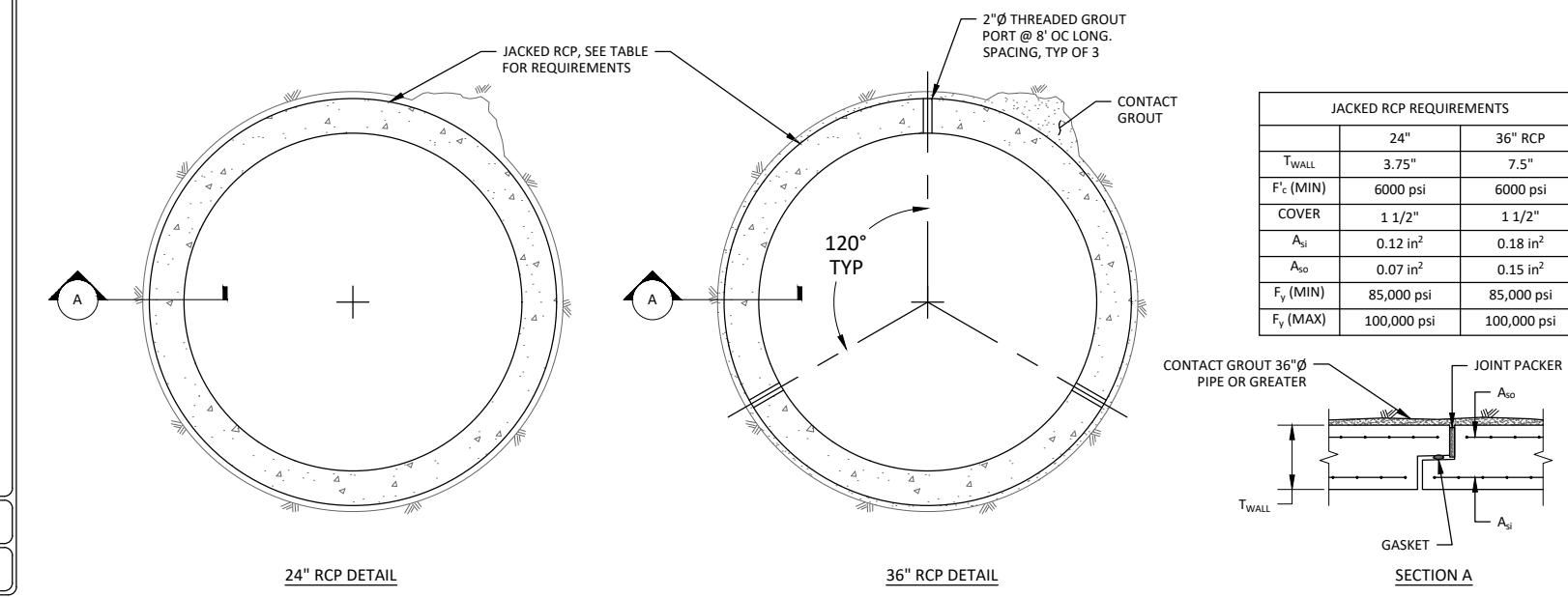
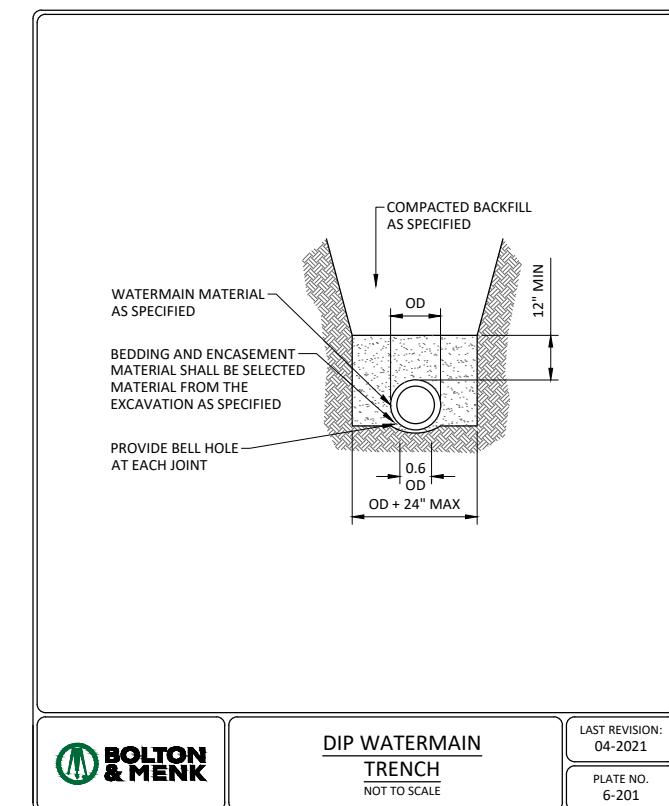
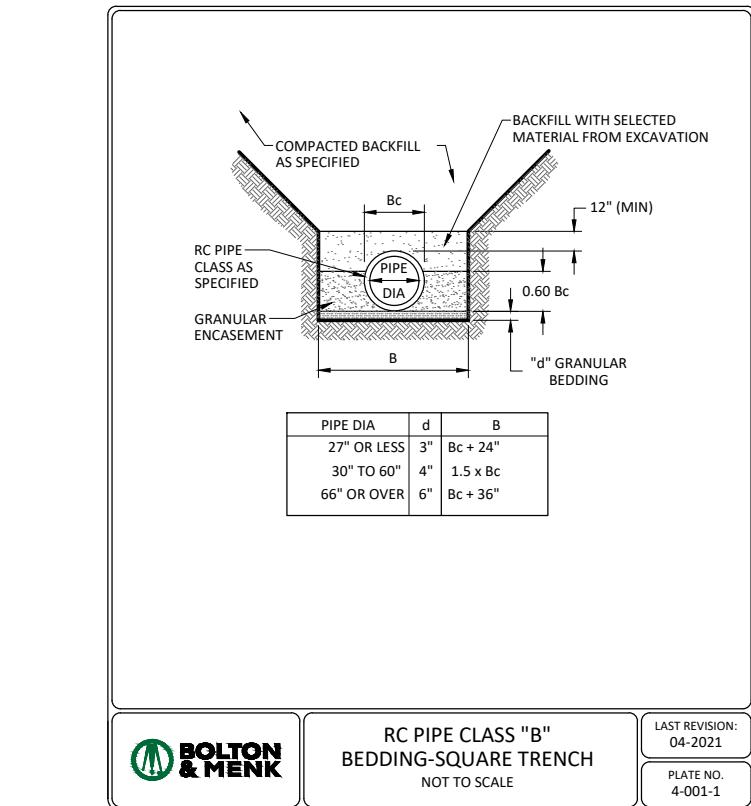
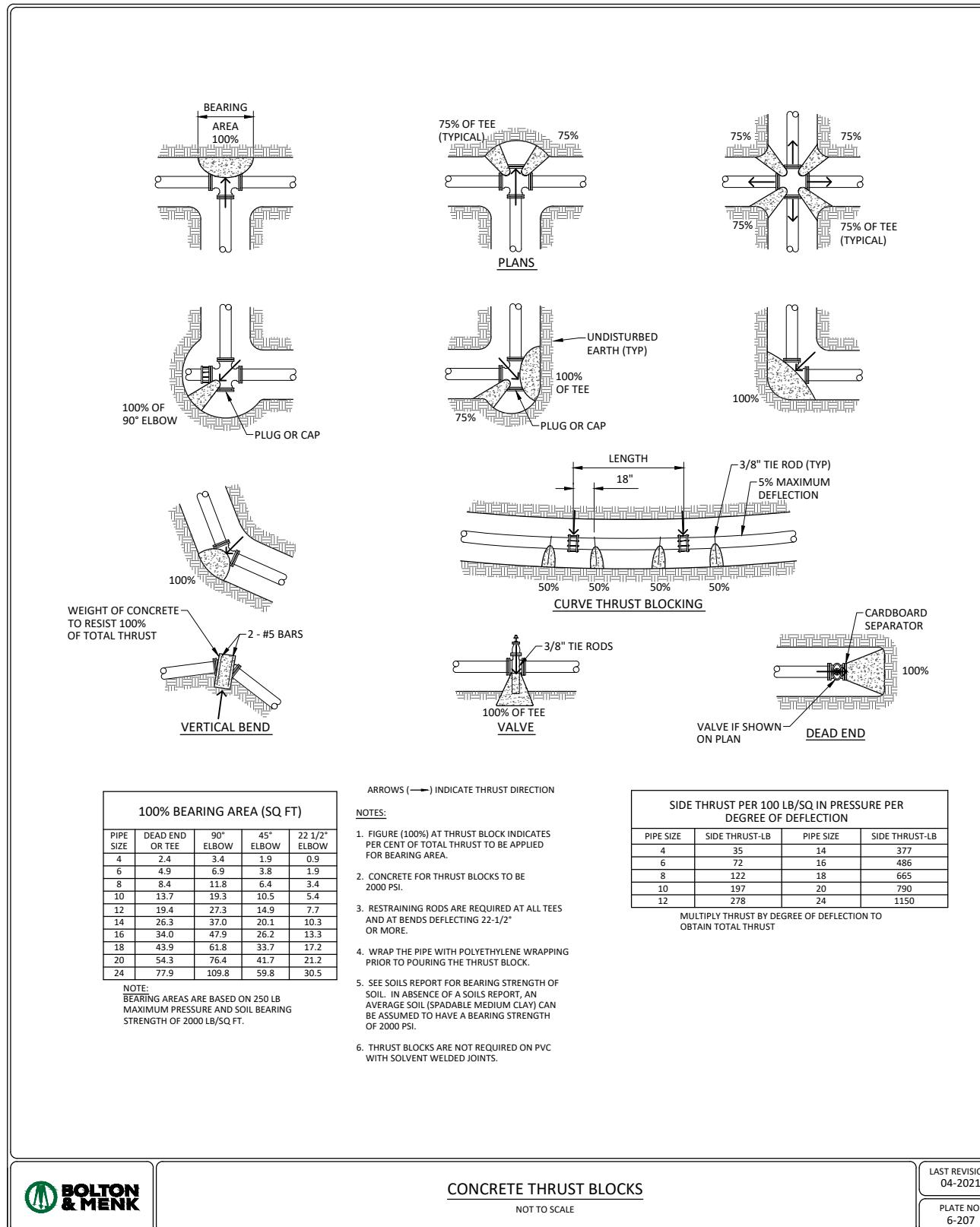


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 www.bolton-menk.com

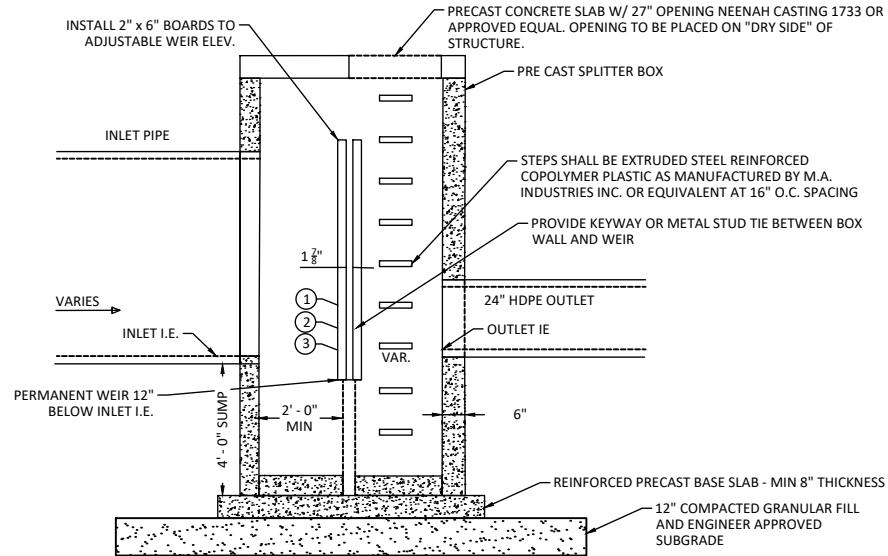


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DRAWN	1	ADD 2	07/28/2023
CHECKED	KPK	CLIENT PROJ. NO.	23-20

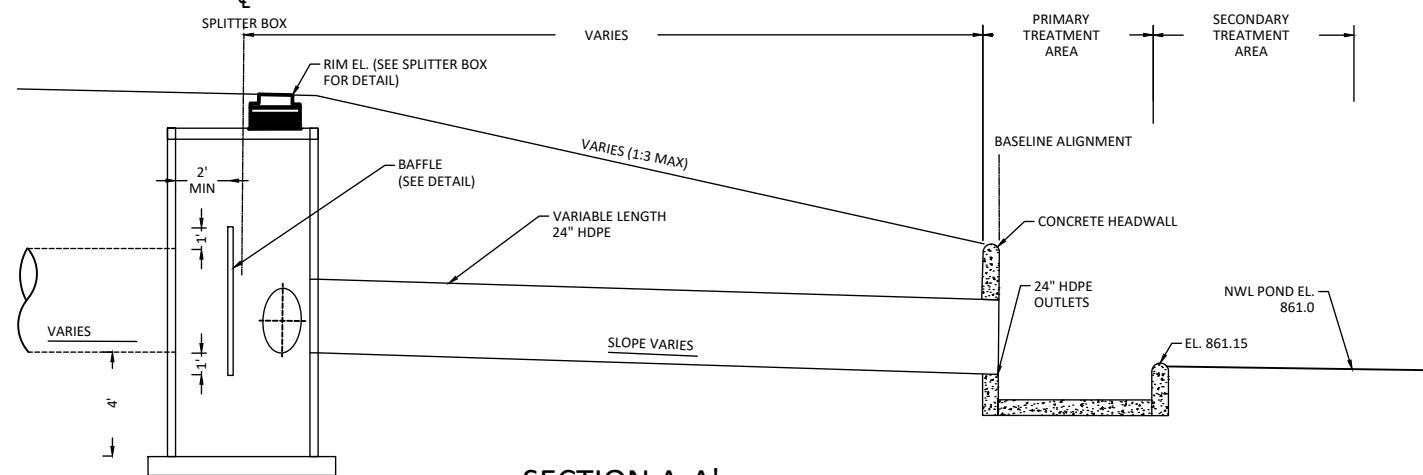
CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 DETAILS
 BMI DETAILS



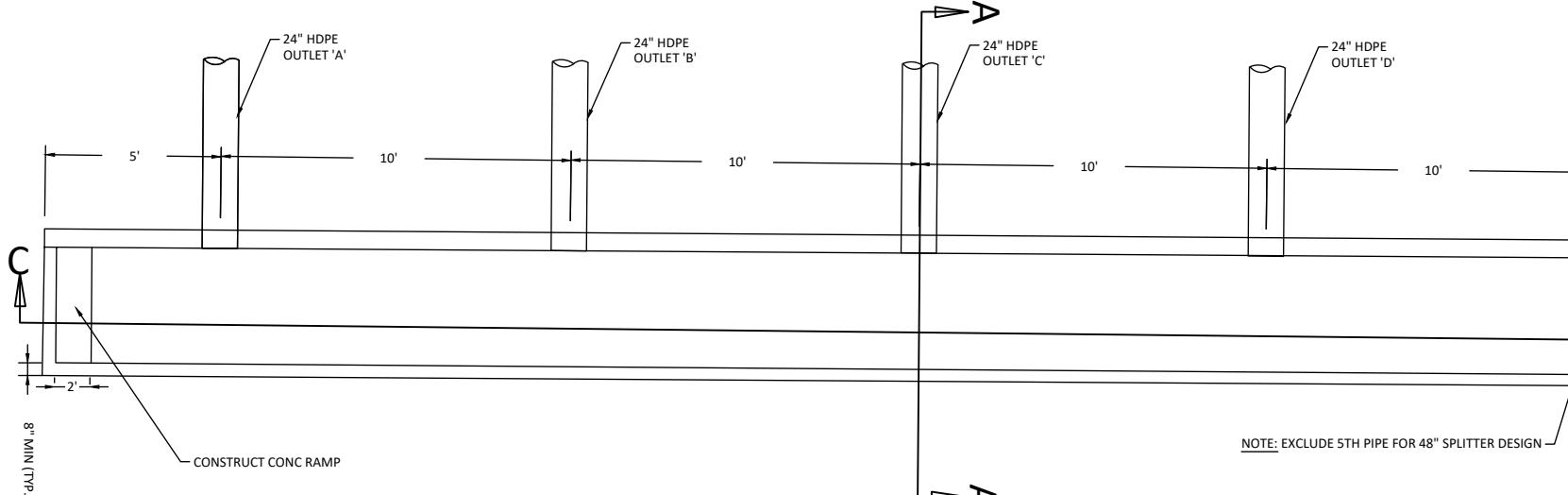
1. A307 5/8" STAINLESS STEEL BOLTS AT 6" SPACING MINIMUM 4" EMBEDMENT
2. L3" x 3" x 1" A36 STEEL GUIDES MOUNTED TO BOX WALL
3. PROVIDE 2" x 6" x 8" - 14' LONG TREATED PLANKS FOR WEIR ADJUSTMENT. INSTALL ELASTIC 77 MATERIAL BETWEEN PLANKS FOR WATER TIGHT SEAL.



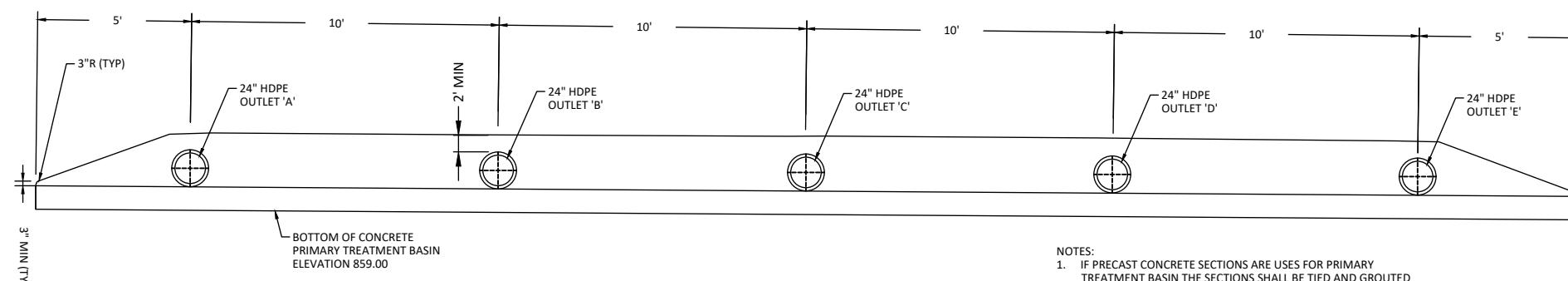
BAFFLE DETAIL



SECTION A-A'



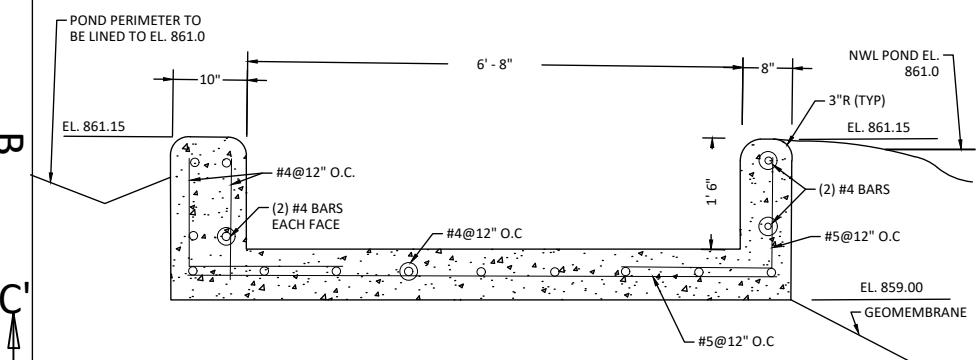
TOP VIEW - SPLIT



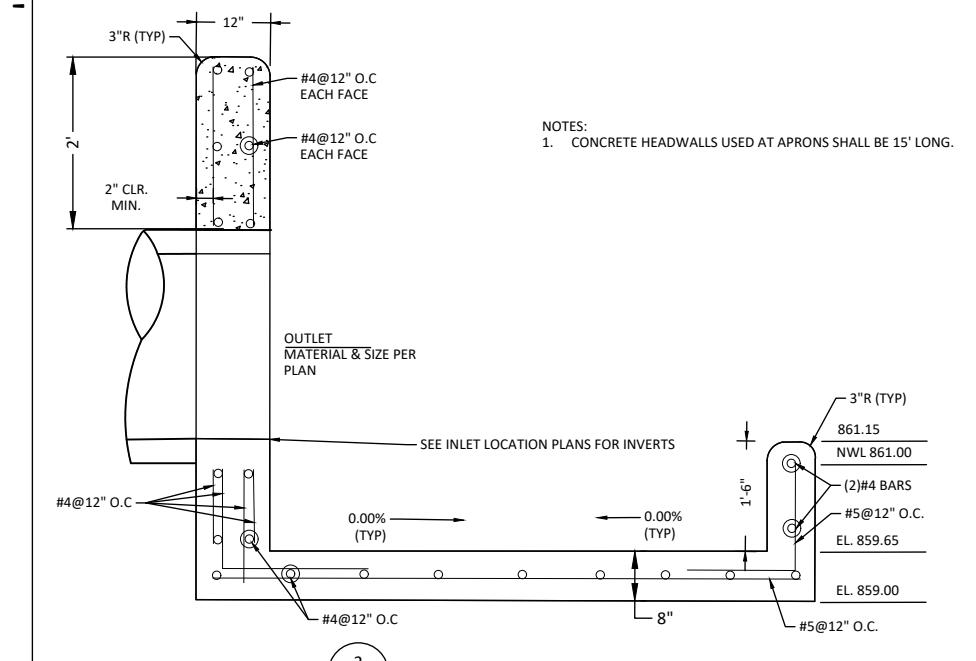
ELEVATION C-C' SPLITTER

NOTES:

1. IF PRECAST CONCRETE SECTIONS ARE USED FOR PRIMARY TREATMENT BASIN THE SECTIONS SHALL BE TIED AND GROUTED (INCIDENTAL)
2. IF CAST IN PLACE METHOD IS USED FOR PRIMARY TREATMENT BASIN, THE CONCRETE SHALL BE TIED AND GROUTED (INCIDENTAL)



SECTION B-B'



CONCRETE HEADWALL DETAIL

NOTES: CONCRETE HEADWALLS USED AT APRONS SHALL BE 15' LONG.

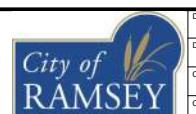
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Kevin P. Kielb
KEVIN P. KIELB, P.E.
23211 07/21/2023



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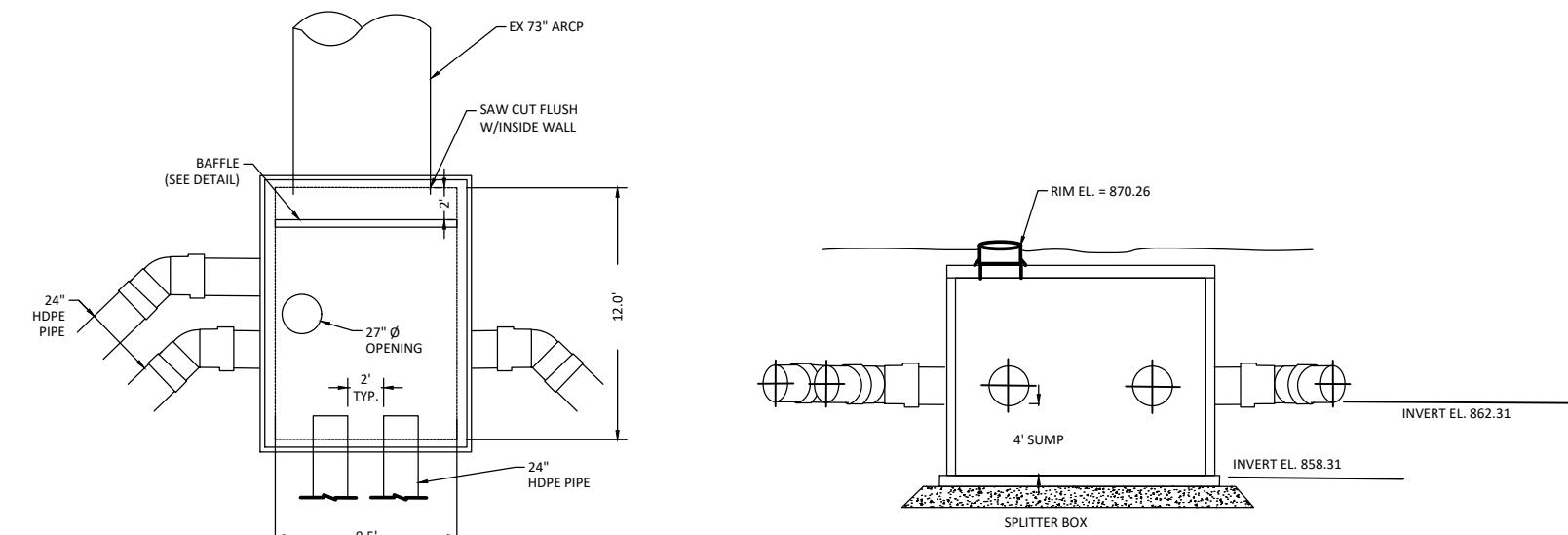
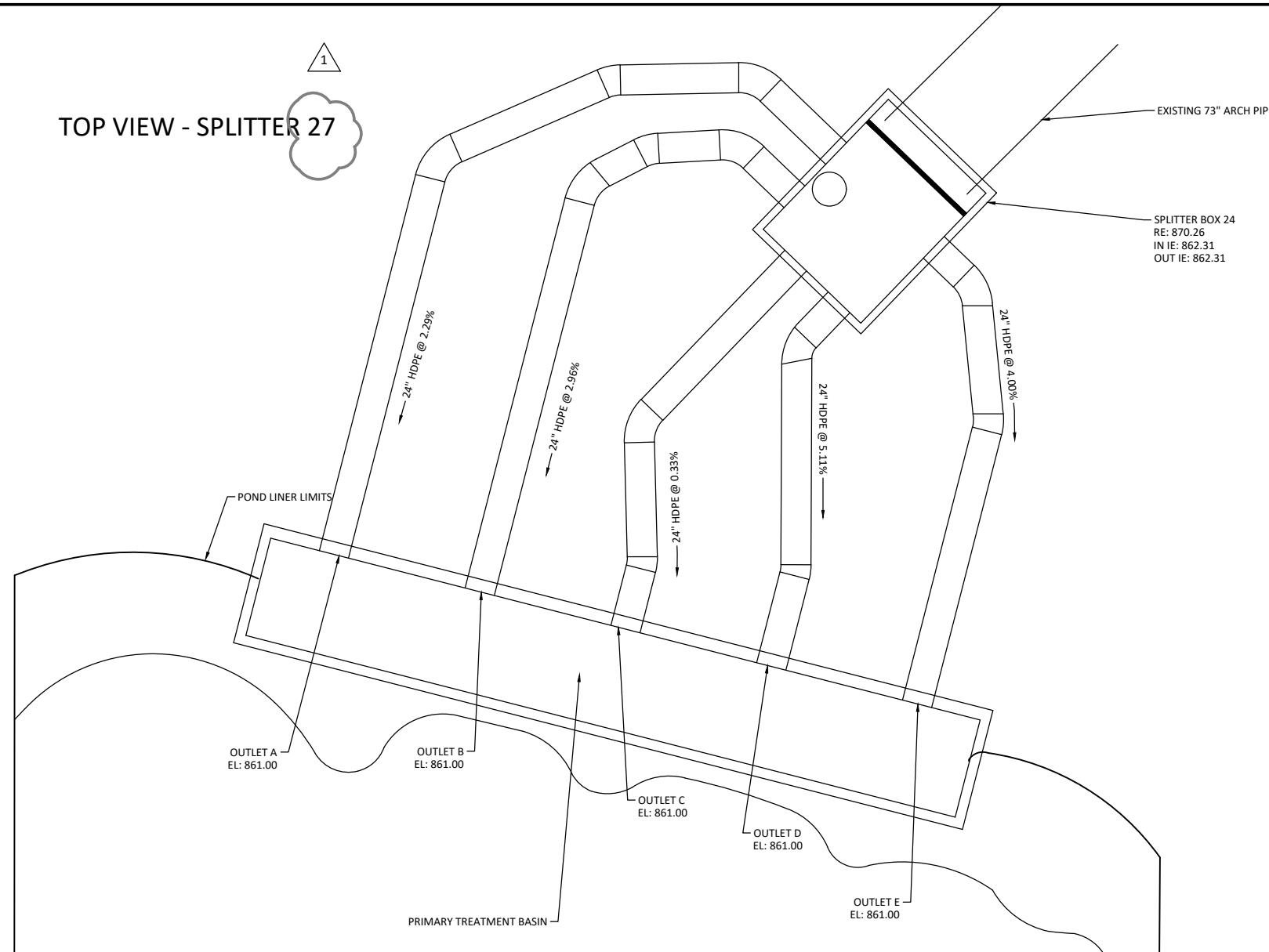


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JDG/ICB/MAJ	2	ADD 3	08/01/2023
CHECKED			
KPK			
CLIENT PROJ. NO.			
02-20			

CITY OF RAMSEY, MINNESOTA
THE COR GRADING IMPROVEMENTS
DETAILS
SPLITTER DETAIL

SHEET
12
OF
36

TOP VIEW - SPLITTER 27

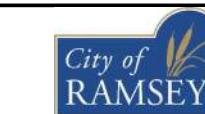


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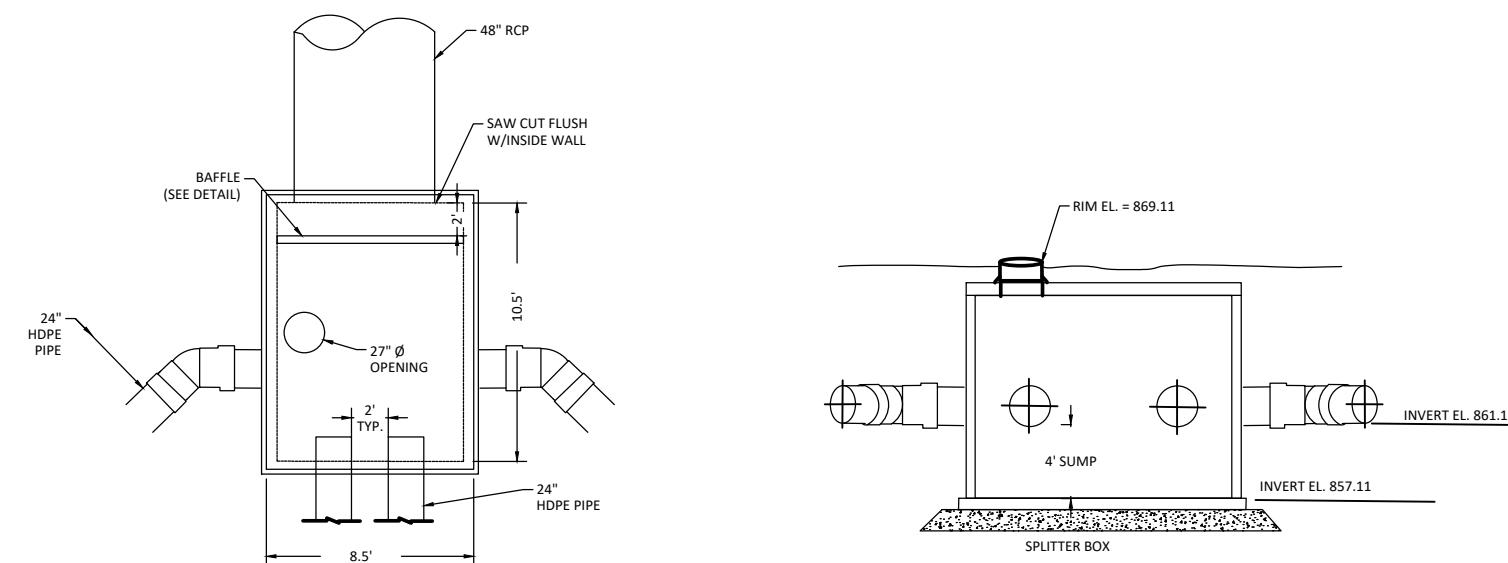
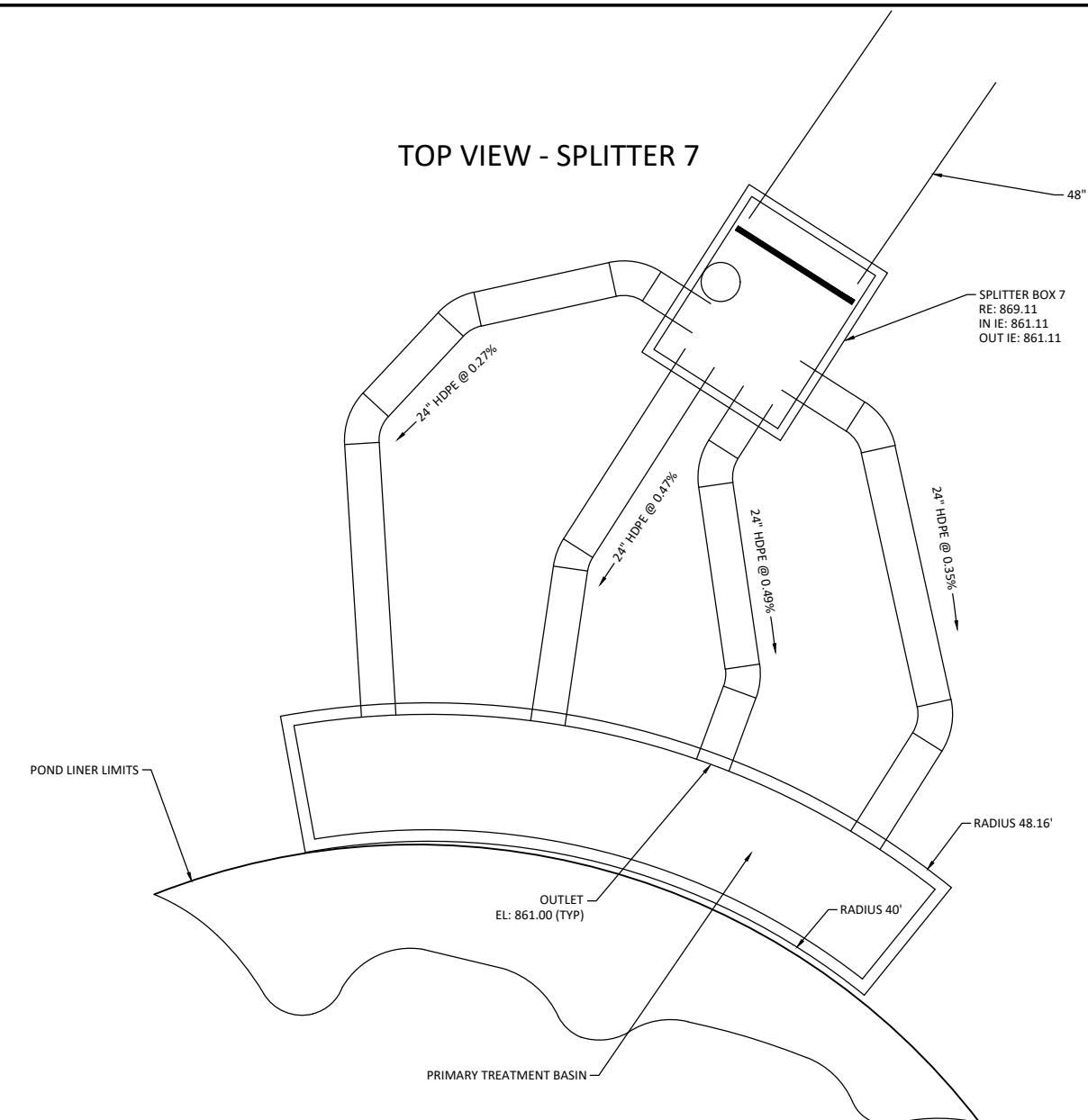
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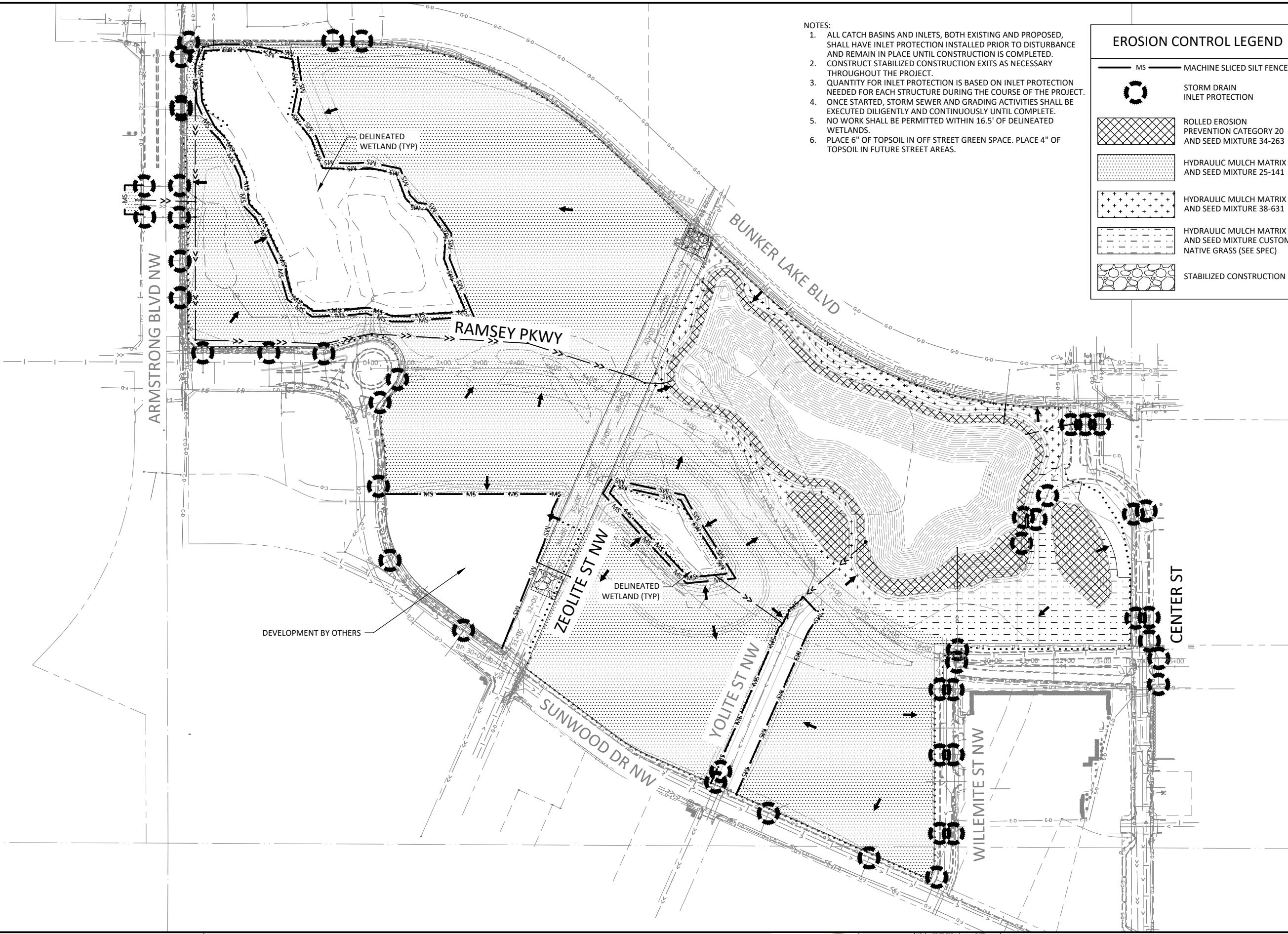


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KPK		
CLIENT PROJ. NO.		
23-20		

CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 DETAILS
 NORTH SPLITTER DETAIL

TOP VIEW - SPLITTER 7





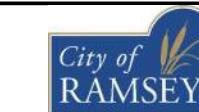
0 130 260
SCALE FEET

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DRAWN JDG/ICB/MAJ	1 ADD 2 07/28/2023
CHECKED KPK	
CLIENT PROJ. NO. 23-20	

CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 EROSION CONTROL PLAN

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

COR INFRASTRUCTURE IMPROVEMENTS -2023

CITY OF RAMSEY
ANOKA COUNTY, MINNESOTA



LEGEND

	1-MILE BOUNDARY
	PROJECT BOUNDARY
	IMPAIRED WATERS
	SPECIAL OR PROTECTED WATERS
	NATIONAL WETLANDS INVENTORY

RESPONSIBLE PARTIES:

The Contractor and Owner will be joint applicants under the MPCA's General Stormwater Permit for Construction Activity as required by the National Pollutant Discharge Elimination System (NPDES) Phase II program.

The Contractor shall provide one or more trained Construction SWPPP Manager(s) knowledgeable and experienced in the application of erosion prevention and sediment control BMPs that will oversee the implementation of the SWPPP, and the installation, inspection and maintenance of the erosion prevention and sediment control BMPs.

A Construction SWPPP Manager must be available for an on-site inspection within 72 hours upon request by the MPCA.

	COMPANY	CONTACT PERSON	PHONE
OWNER:	City of Ramsey	Bruce Westby, PE	763-433-9825
SWPPP DESIGNER:	Bolton & Menk, Inc.	Derek Benoy	651-704-9970
CONTRACTOR:	City of Ramsey	Bryce Westby, PE	763-433-9825
CONSTRUCTION SWPPP MANAGER:	City of Ramsey	Bryce Westby, PE	763-433-9825
PARTY RESPONSIBLE FOR LONG TERM O&M:	City of Ramsey	Bruce Westby, PE	763-433-9825

The SWPPP Designer, Construction SWPPP Manager, and BMP Installer must have appropriate training. Documentation showing training commensurate with the job duties and responsibilities is required to be included in the SWPPP prior to any work beginning on the site. Training documentation for the SWPPP Designer is included on the Narrative sheet. The Contractor shall attach training documentation to this SWPPP for the Construction SWPPP Manager and BMP Installer prior to the start of construction. This information shall be kept up to date until the project NOT is filed.

ADDITIONAL COMPENSATION

Payment for all work associated with Erosion and Sediment Control shall be as described in the Project Manual. Unless otherwise authorized by the Owner no additional payment shall be made for any work required to administer and maintain the site erosion and sediment control in compliance with the Minnesota Pollution Control Agency (MPCA) - General Stormwater Permit for Construction Activity (MN R100001) including but not limited to inspection, maintenance, and removal of BMPs or addition of BMPs to accommodate Contractor phasing.

DOCUMENT RETENTION

Permittees must make the SWPPP, including all inspection reports, maintenance records, training records and other information required by this permit, available to federal, state, and local officials within three (3) days upon request for the duration of the permit and for three (3) years following the NOT.

GENERAL STORMWATER DISCHARGE REQUIREMENTS

All requirements listed in Section 5.1 of the Permit for the design of the permanent stormwater management system and discharge have been included in the preparation of this SWPPP. These include but are not limited to:

1. The expected amount, frequency, intensity, and duration of precipitation.
2. The nature of stormwater runoff and run-on at the site
3. Peak flow rates and stormwater volumes to minimize erosion at outlets and downstream channel and stream bank erosion.
4. The range of soil particle sizes expected to be present on the site.

Permanent stormwater treatment systems for this project have been designed in accordance with the guidance in the MN Stormwater Manual in place at the time of bidding. Copies of the design information and calculations are part of this SWPPP and will be provided in digital format upon written request to the Engineer.

PROJECT AREAS:

Total Project Size (disturbed area) = 58.1 ACRES
Existing area of impervious surface = 2.5 ACRES
Post construction area of impervious surface = 1.0 ACRES
Total new impervious surface area created = -1.5 ACRES

Planned Construction Start Date: AUGUST 2023
Estimated Construction Completion Date: NOVEMBER 2023

PERMANENT STORMWATER MANAGEMENT SYSTEM:

Type of storm water management used if more than 1 acre of new impervious surface is created:

<input type="checkbox"/> Wet Sedimentation Basin
<input type="checkbox"/> Infiltration/Filtration
<input type="checkbox"/> Regional Pond
<input checked="" type="checkbox"/> Permanent Stormwater Management Not Required (<1 acre disturbed)

PROJECT LOCATION:

COUNTY	TOWNSHIP	RANGE	SECTION	LATITUDE	LONGITUDE
Anoka	32	25	28	45.237371°	-93.468316°

BMP SUMMARY

	QUANTITY	UNIT
Silt Fence	9190	LIN FT
Stabilized Construction Exit	1	LUMP SUM
Temporary Stabilization	50	ACRE
Storm Drain Inlet Protection	48	EACH
Hydraulic Mulch Matrix	117300	POUND
Seed Mixture 25-141	3700	POUND
Seed Mixture 34-263	70	POUND
Seed Mixture 38-631	70	POUND
Seed Mixture Native Grass - Custom	60	POUND
Rolled Erosion Prevention Category 20	15500	SQ YD
Salvage and Reinstall Riprap	100	CU YD
Random Riprap Class III	85	CU YD

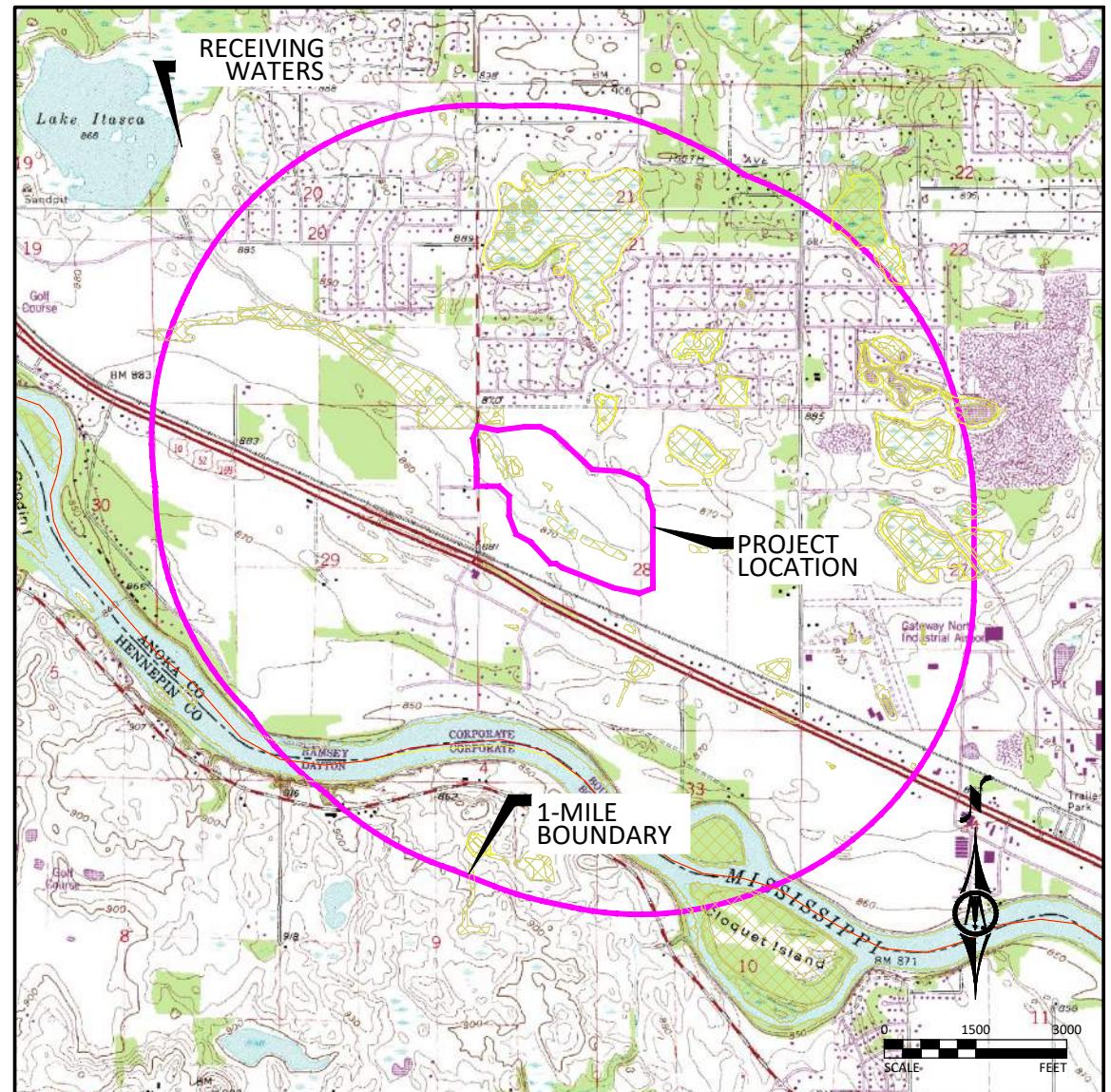
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DESCRIPTION OF CONSTRUCTION ACTIVITIES AND STORMWATER MANAGEMENT:

Construction activities include: Turf restoration and erosion control construction, Clearing and Grubbing, Traffic Control, and Tree Removal. Sanitary sewer, watermain, and storm sewer improvements. Site grading and pond excavation with clay liner.

The existing drainage system consists of clay lined wet ponds and storm sewer. After construction is complete stormwater drainage will be the same as existing.

Stormwater BMPs include silt fence, stabilized construction entrance/exit, inlet protection where required, and street sweeping.



RECEIVING WATERS:

Receiving waters, including surface water, wetlands, Public Waters, and stormwater ponds, within 1-mile of the project boundary are identified on the USGS 7.5 min quad map above. Receiving waters that are impaired, the impairment, and WLA are listed as follows. All specific BMPs relative to construction activities listed in the permit for special, prohibited, restricted, or impaired have been incorporated into this plan. All specific BMPs listed in approved TMDLs and those BMPs listed for construction related waste load allocations have also been incorporated.

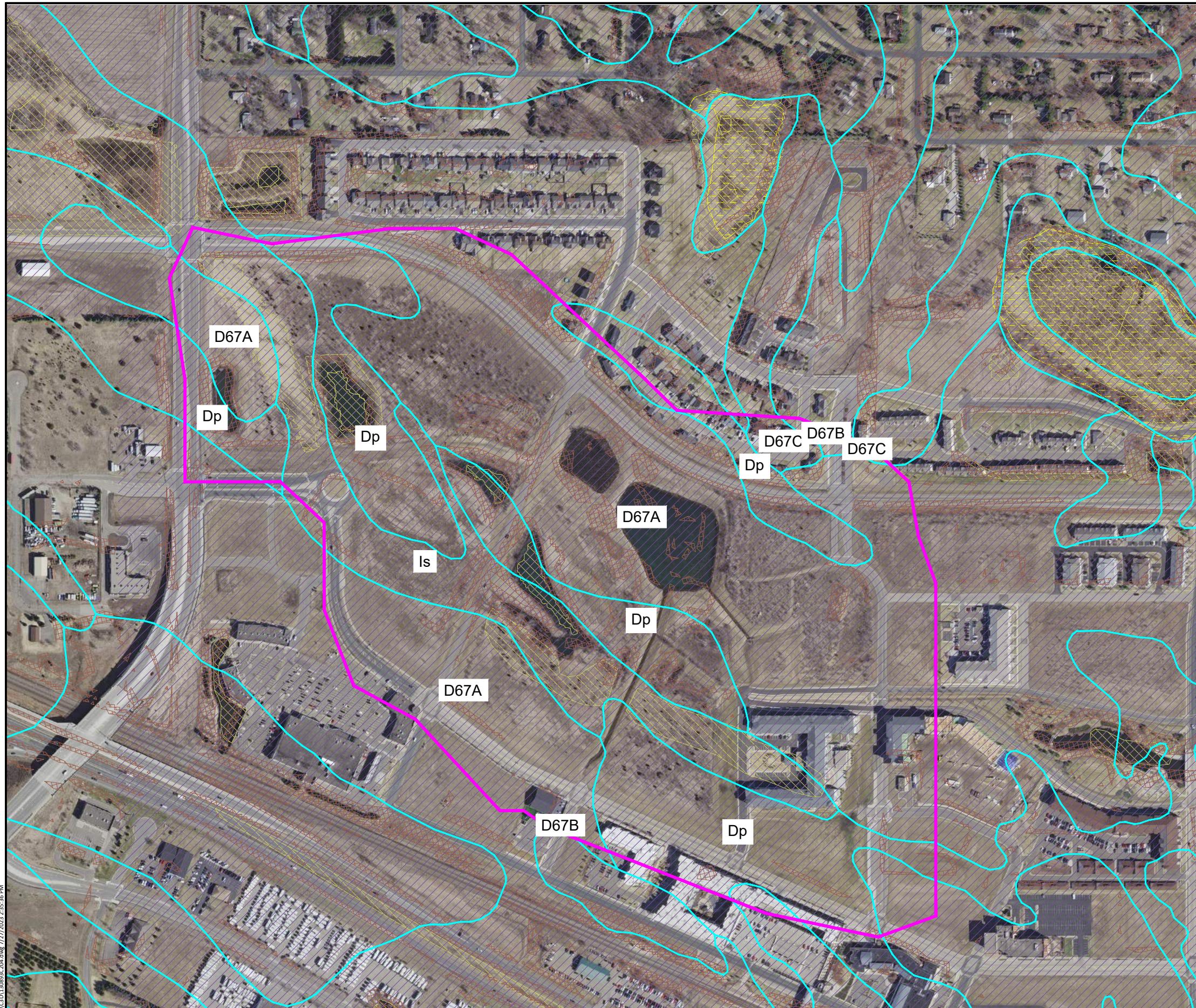
NAME OF WATER BODY	TYPE (ditch, pond, wetland, lake, etc.)	Special, Prohibited, Restricted Water ¹	Flows to Impaired Water Within 1-Mile ²	USEPA Approved Construction Related TMDL ³
Mississippi River	River	Yes	Yes	Hg-F; Nutrients
Itasca	Lake	No	Yes	N/A

¹ Special, prohibited, and restricted waters are listed in Section 23 of the MN Construction Stormwater General Permit (MNR100001).
² Identified as impaired under section 303 (d) of the federal Clean Water Act for phosphorus, turbidity, TSS, dissolved oxygen, and/or aquatic biota.

³ Construction Related TMDLs include those related to: phosphorus, turbidity, TSS, dissolved oxygen, and/or aquatic biota.

IMPLEMENTATION SCHEDULE AND PHASING: The Contractor is required to provide an updated schedule and site management plan meeting the minimum requirements of Section 1717 of the Minnesota Standard Specifications for Construction.

- 1) Submit SWPPP Updates to Engineer. Submittal shall include any requested changes to the SWPPP, including but not limited to: Trained Personnel, Locations for Stockpiles, Concrete Washout, Sanitation Facilities, Types and Locations of Erosion & Sediment Control. Failure to submit updates shall be considered acceptance of the SWPPP as designed with no changes.
- 2) Install perimeter sediment control, inlet protection, and construction exit.
- 3) Demo pavement
- 4) Install utility improvements
- 5) Grade site
- 6) Add additional temporary BMPs as necessary during construction based on inspection reports.
- 7) Ensure final stabilization measures are complete.
- 8) Provide digital copy of all Field SWPPP Documentation including Inspection Reports and SWPPP Revisions to the Owner.
- 9) Submit Notice of Termination (NOT) to MPCA. NOTE: The NOT must be submitted to MPCA before Final Stabilization is considered complete.



LEGEND

	PROJECT BOUNDARY
	SOIL TYPE
	IMPAIRED, SPECIAL OR PROTECTED WATERS
	NATIONAL WETLANDS INVENTORY
	DWSMA, MODERATE VULNERABILITY
	STEEP SLOPES (>33.3%)

A scale bar with three segments. The first segment is 0 to 200 feet. The second segment is 200 to 400 feet. The third segment is 400 to 500 feet. The text "SCALE" is at the bottom left and "FEET" is at the bottom right.

SOIL TYPE SUMMARY

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN

DESCRIPTION	SHEET NO.
SITE MAP	16
DIRECTION OF FLOW	15
FINAL STABILIZATION	15
SOILS	18
DRAINAGE STRUCTURES	29
STORM SEWER PLAN & PROFILE SHEETS	29
EROSION & SEDIMENT CONTROL DETAILS	15
NARRATIVE & NOTES	16 - 17

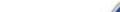
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LIC. NO. 23211 DATE 07/21/2023



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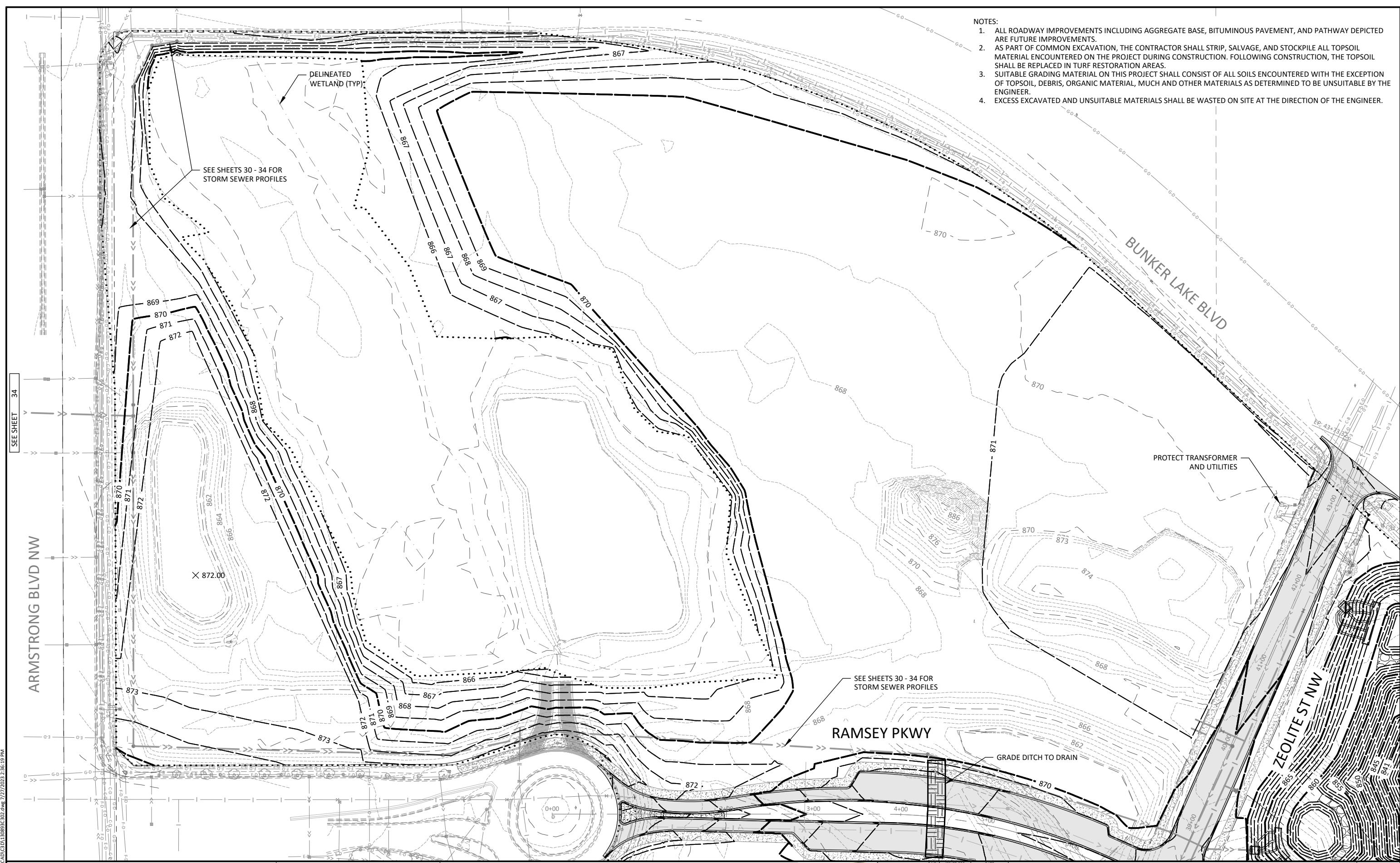
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	DRAWN	1	ADD 2	07/28/20
	JDG/ICB/MAJ			
CHECKED				
KPK				
CLIENT PROJ. NO. 23-20				

CITY OF RAMSEY, MINNESOTA
THE COR GRADING IMPROVEMENTS

STORMWATER POLLUTION PREVENTION PLAN - SWPPP SOILS

SHEET
18
OF
36





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A horizontal scale bar with a black and white checkered pattern. It has numerical markings at 0, 50, and 100. Below the scale bar, the word "SCALE" is on the left and "FEET" is on the right.

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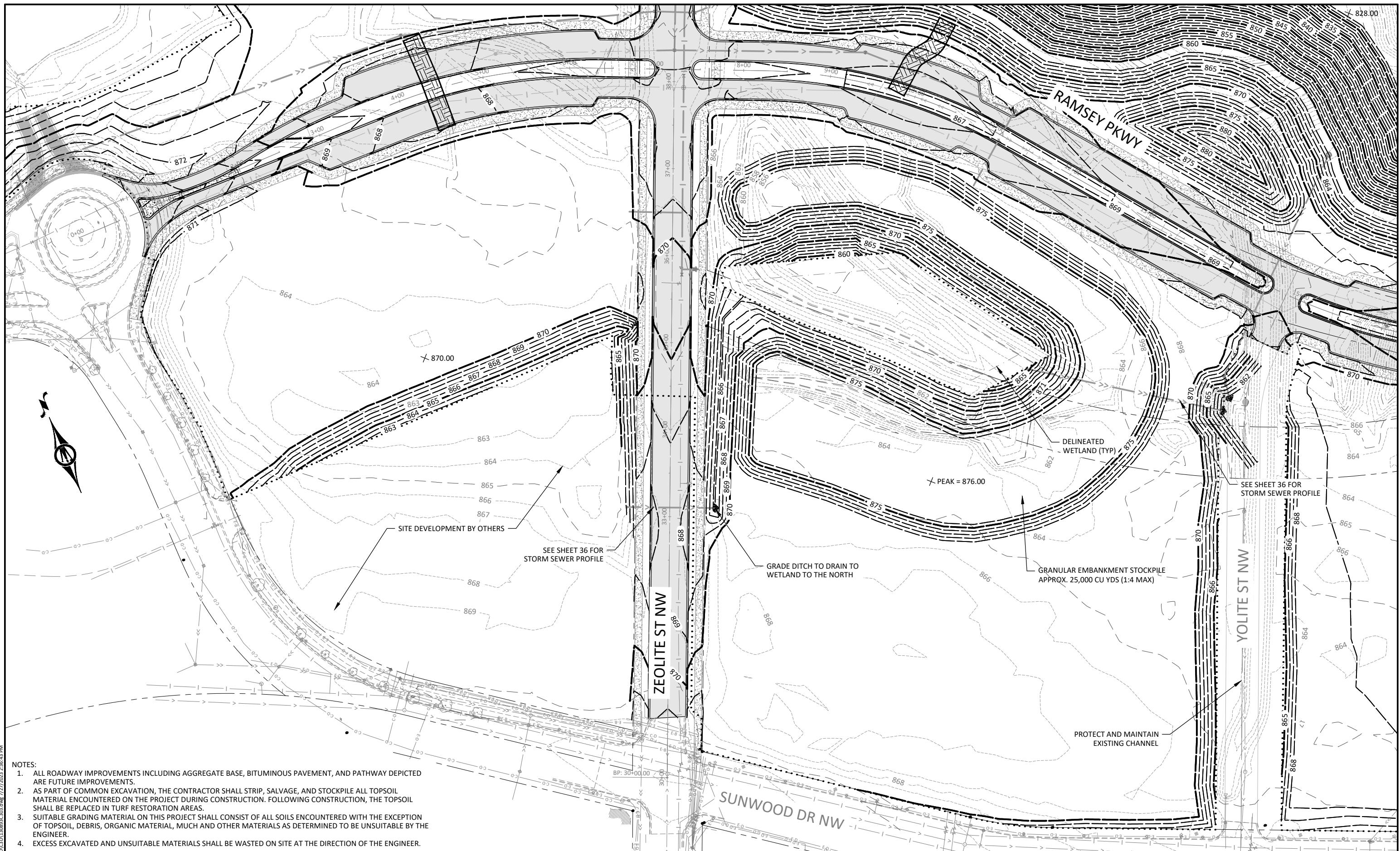


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DESIGNED JDG/ZFL	NO. 0	ISSUED FOR BID	DATE 07/21/20
DRAWN JDG/ICB/MAJ	1	ADD 2	07/28/20
CHECKED KPK			
CLIENT PROJ. NO. 23-20			

CITY OF RAMSEY, MINNESOTA
THE COR GRADING IMPROVEMENTS
GRADING PLAN
PARCEL A

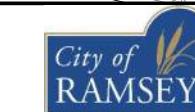


0 50 100
SCALE FEET

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.
 KEVIN P. KIELB, P.E.
 23211
 DATE 07/21/2023
 LIC. NO. 7553 SUNWOOD DR NW, SUITE 206
 RAMSEY, MINNESOTA 55303
 Phone: (763) 433-2851
 Email: Ramsey@bolton-menk.com
 www.bolton-menk.com



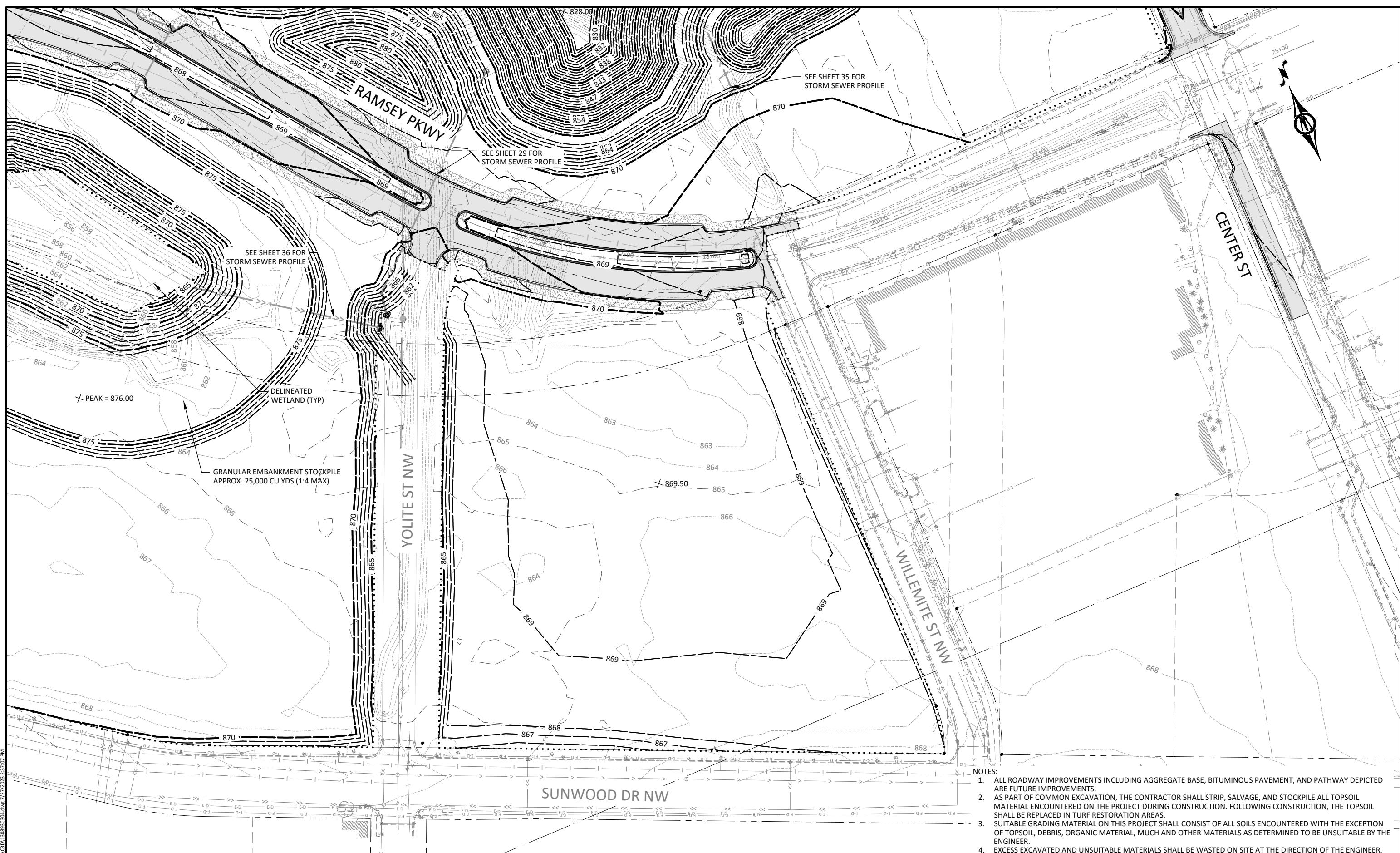
7553 SUNWOOD DR NW, SUITE 206
 RAMSEY, MINNESOTA 55303
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CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 GRADING PLAN
 PARCEL C AND D

SHEET
 21
 OF
 36



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H:\RAMSYOR1130893\CAD\C3D\130893C304.dwg 7/27/2023 2:37:07 PM

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A scale bar representing 100 feet. It features a black horizontal line with a total length of 100 units. The first 50 units are marked with a pattern of black and white squares, while the remaining 50 units are solid black. The word "SCALE" is written below the left end, and "FEET" is written below the right end.

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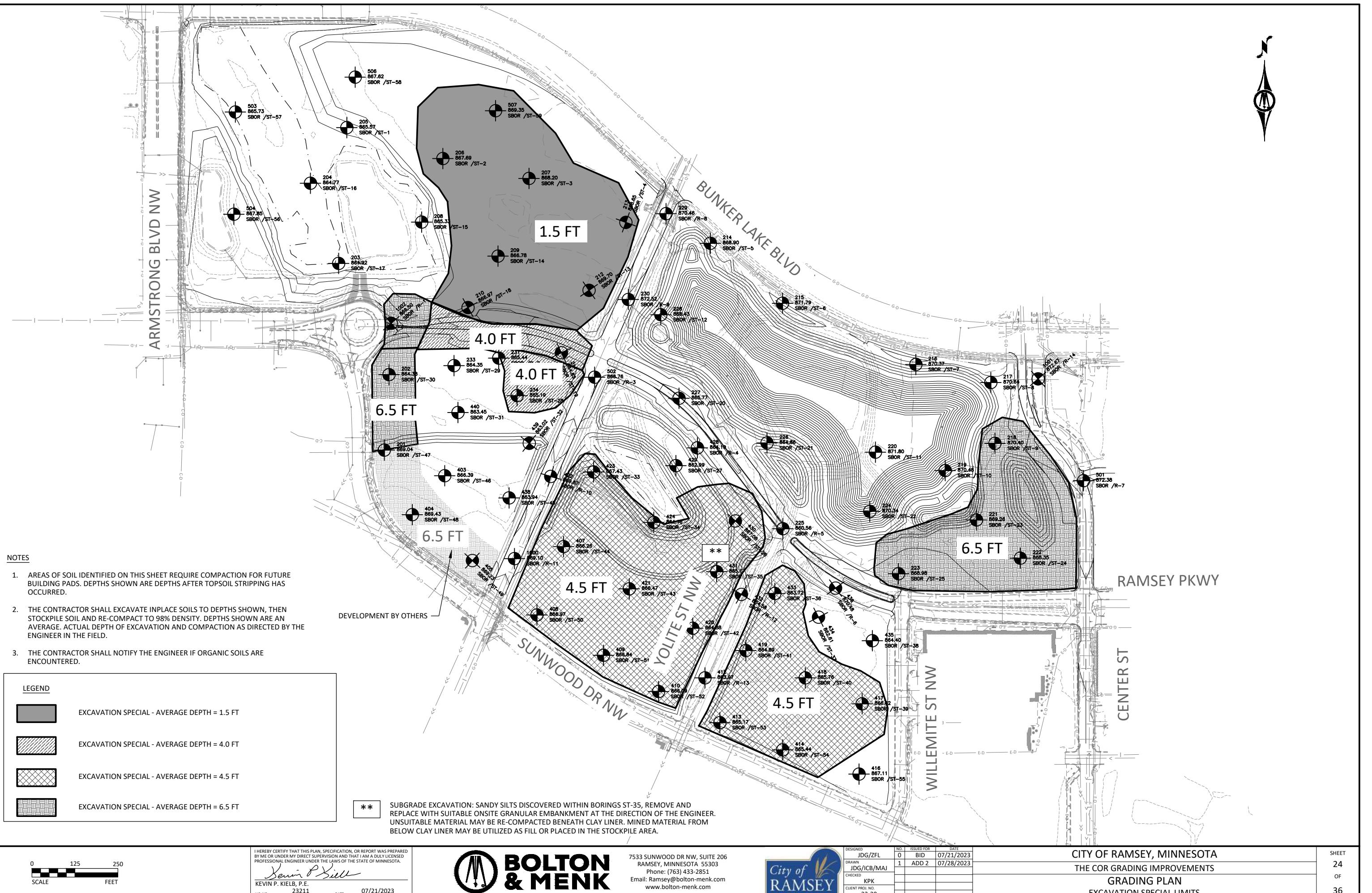
Kevin P. Kielb
KEVIN P. KIELB, P.E.
LIC. NO. 23211
DATE 07/21/2023

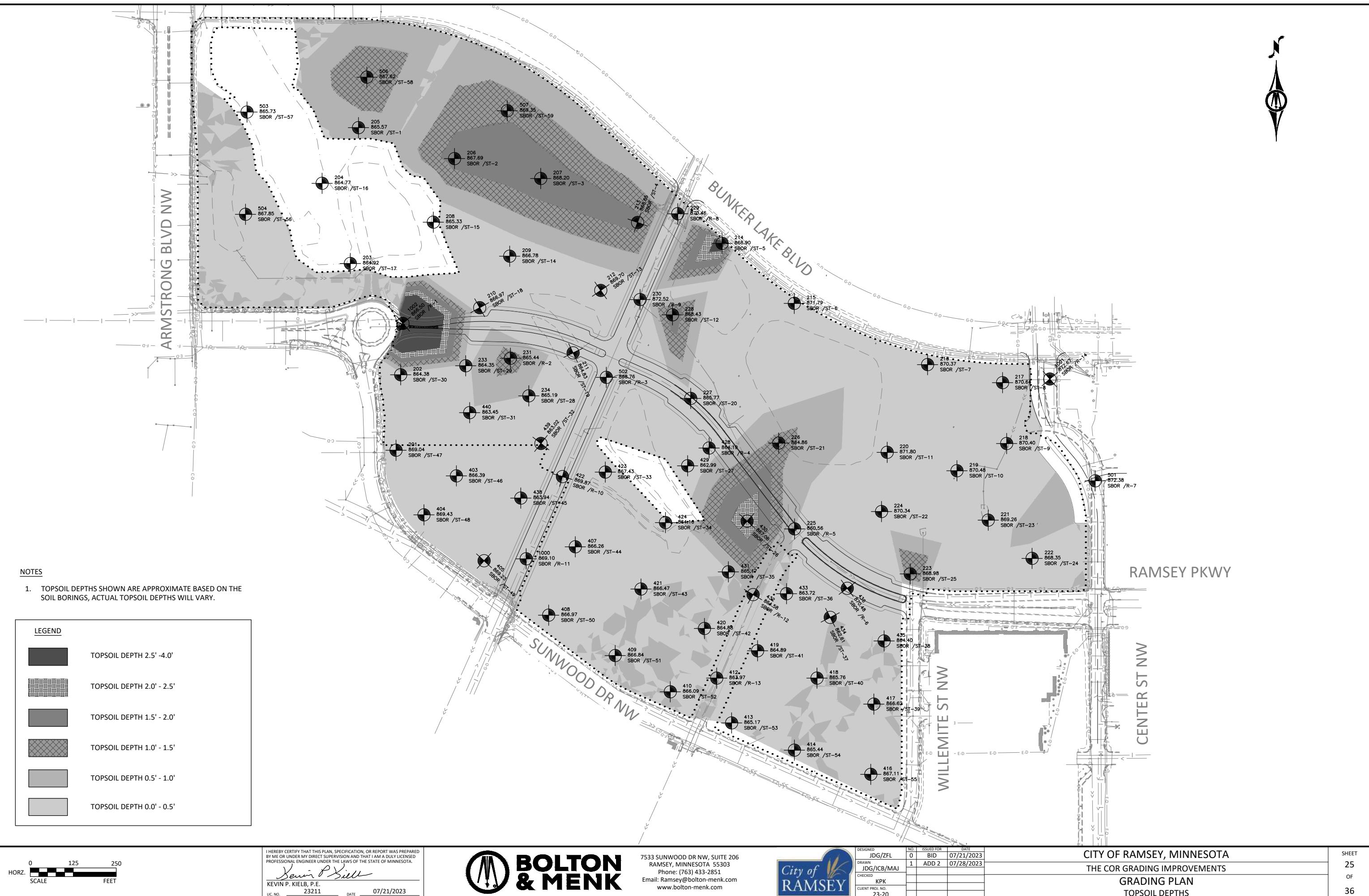


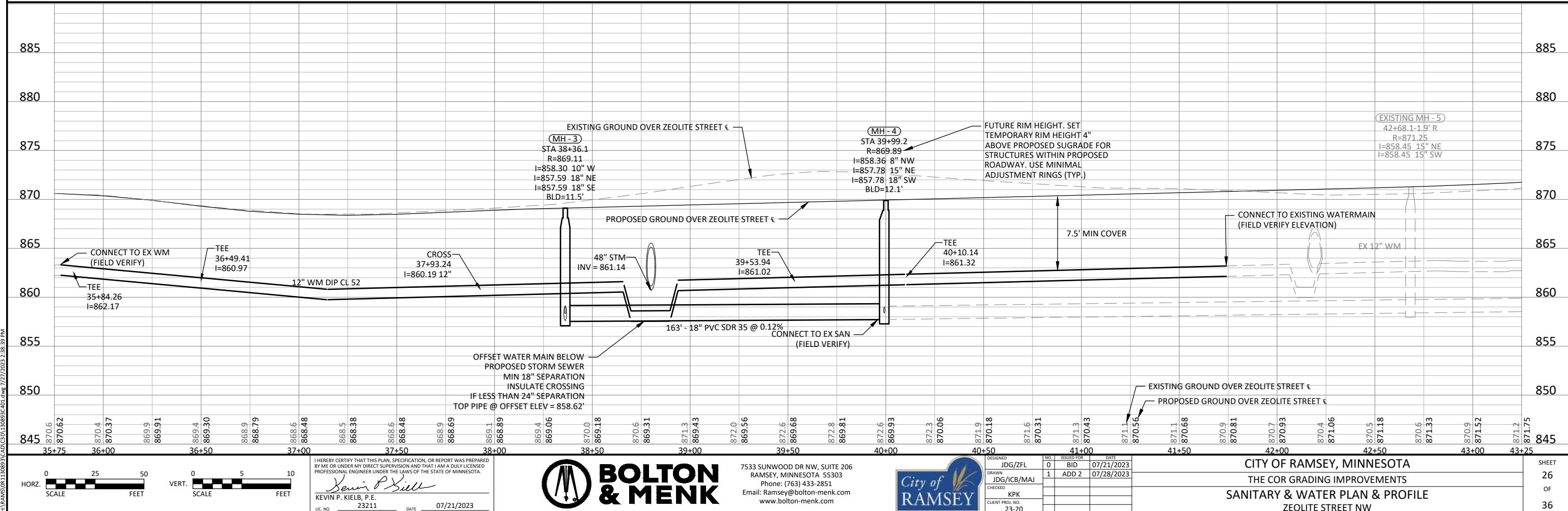
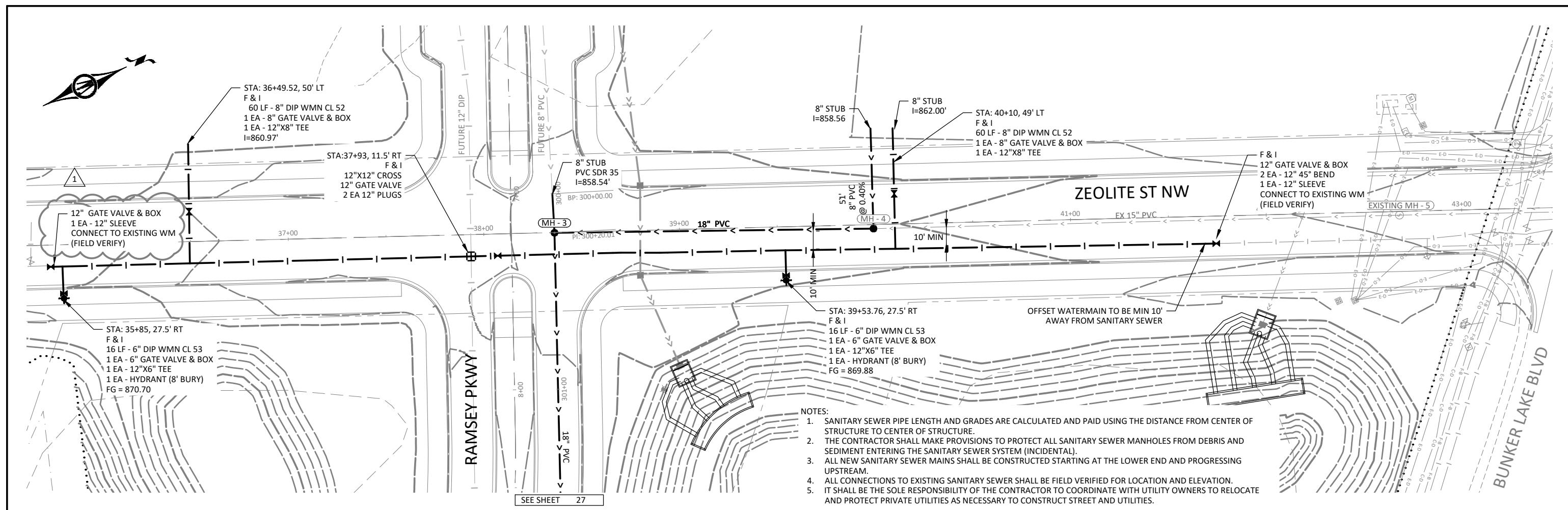
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RAMSEY, MINNESOTA 55303
Phone: (763) 433-2851
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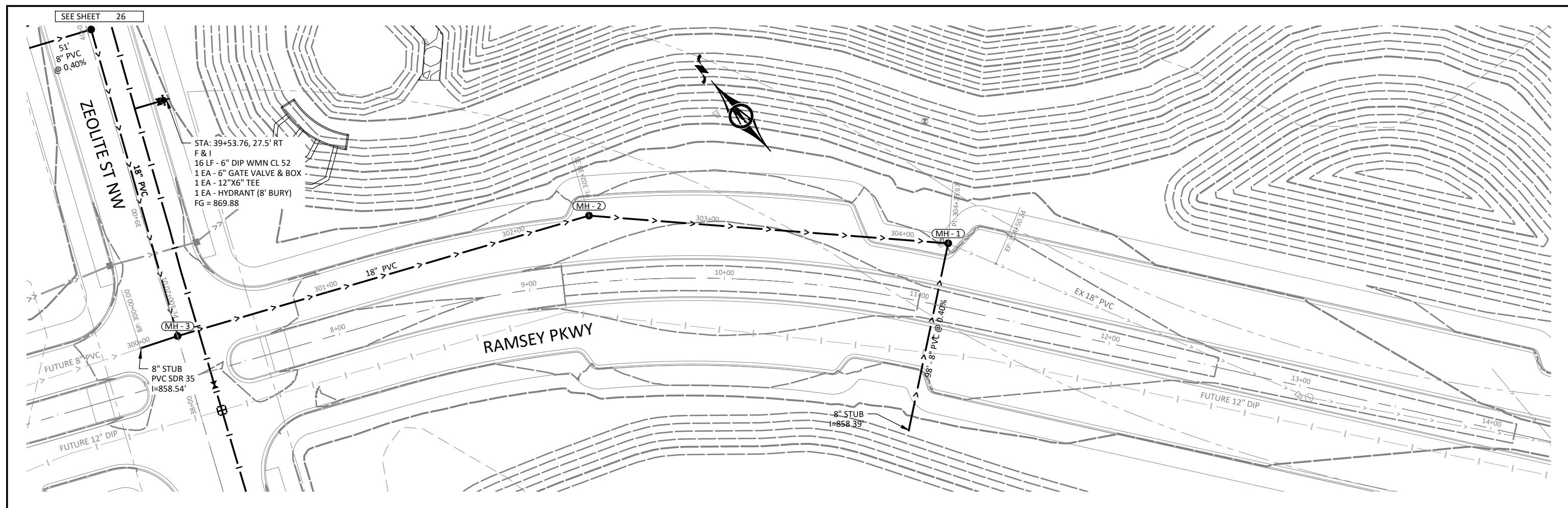
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	JDG/ZFL	0	BID	07/21/2023
	DRAWN	1	ADD 2	07/28/2023
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CHECKED	KPK			
CLIENT PROJ. NO.	23-20			

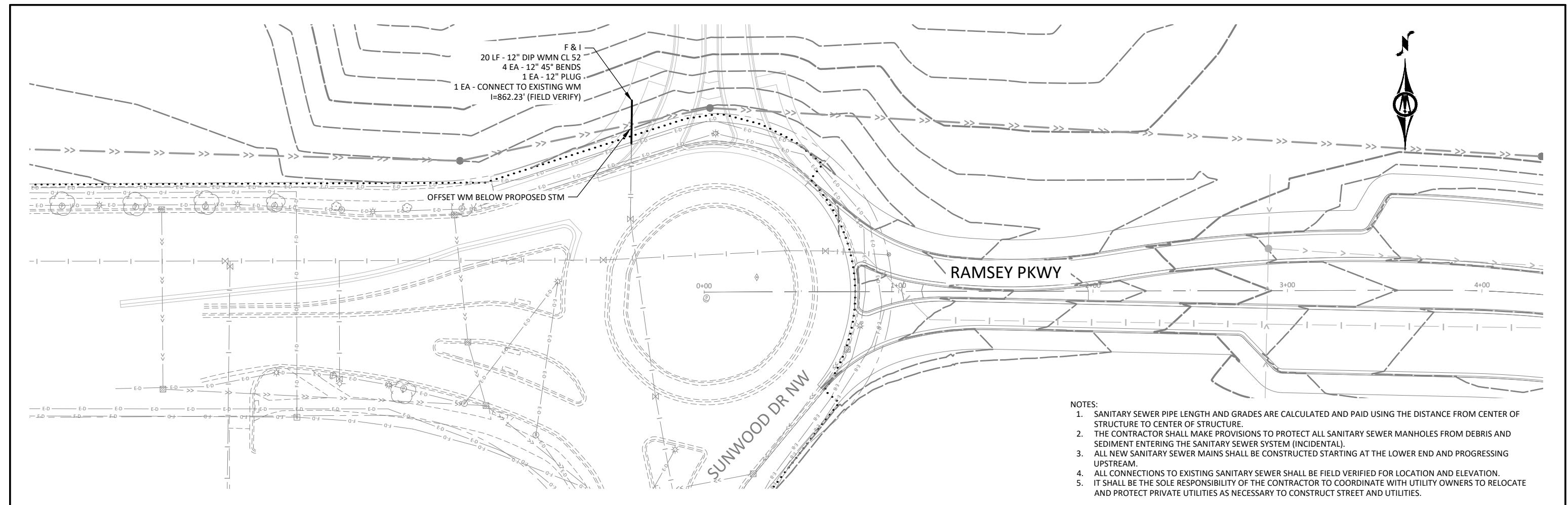
CITY OF RAMSEY, MINNESOTA
THE COR GRADING IMPROVEMENTS
GRADING PLAN
PARCEL E







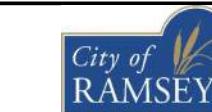




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 KEVIN P. KIELB, P.E.
 LIC. NO. 23211 DATE 07/21/2023

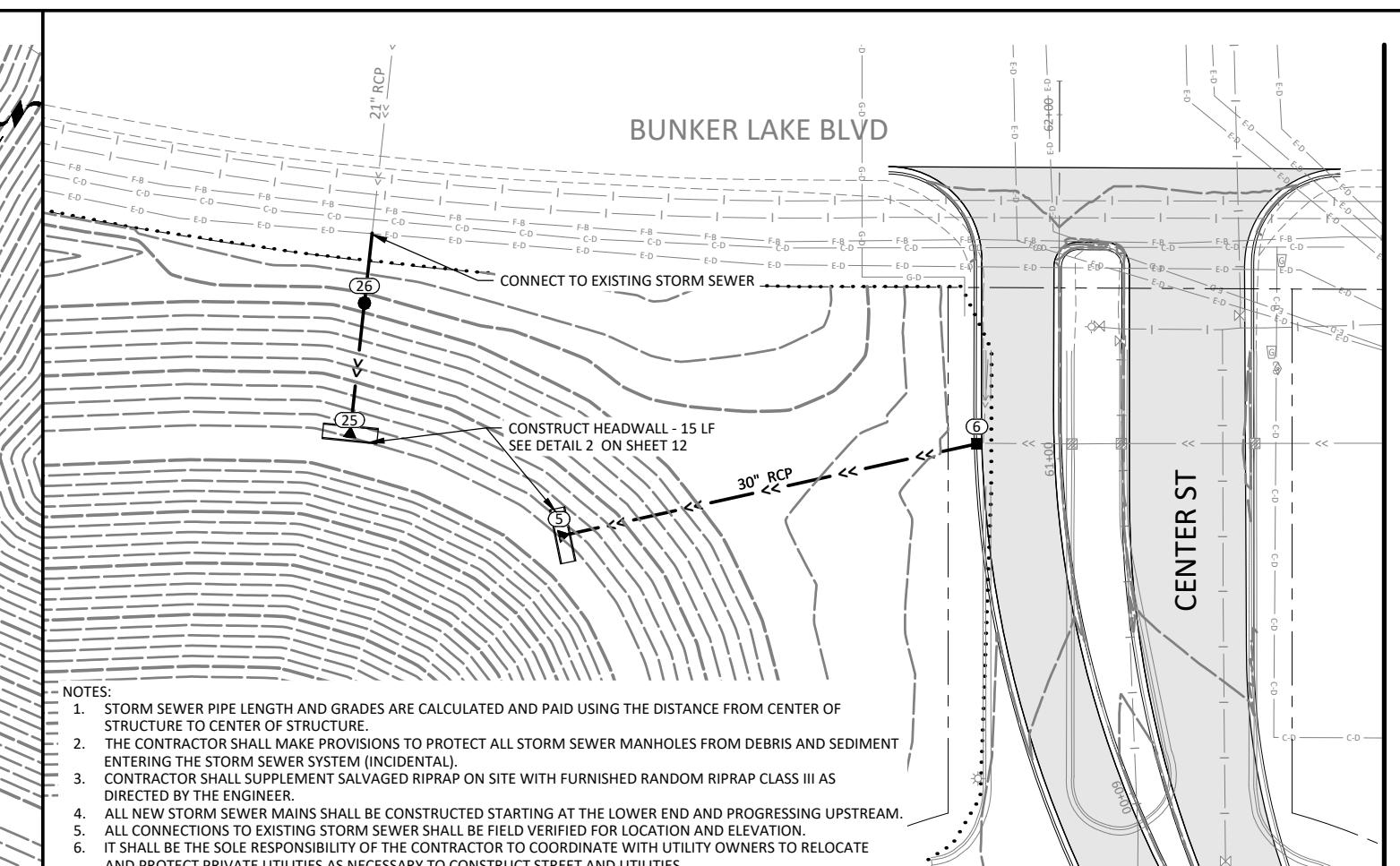
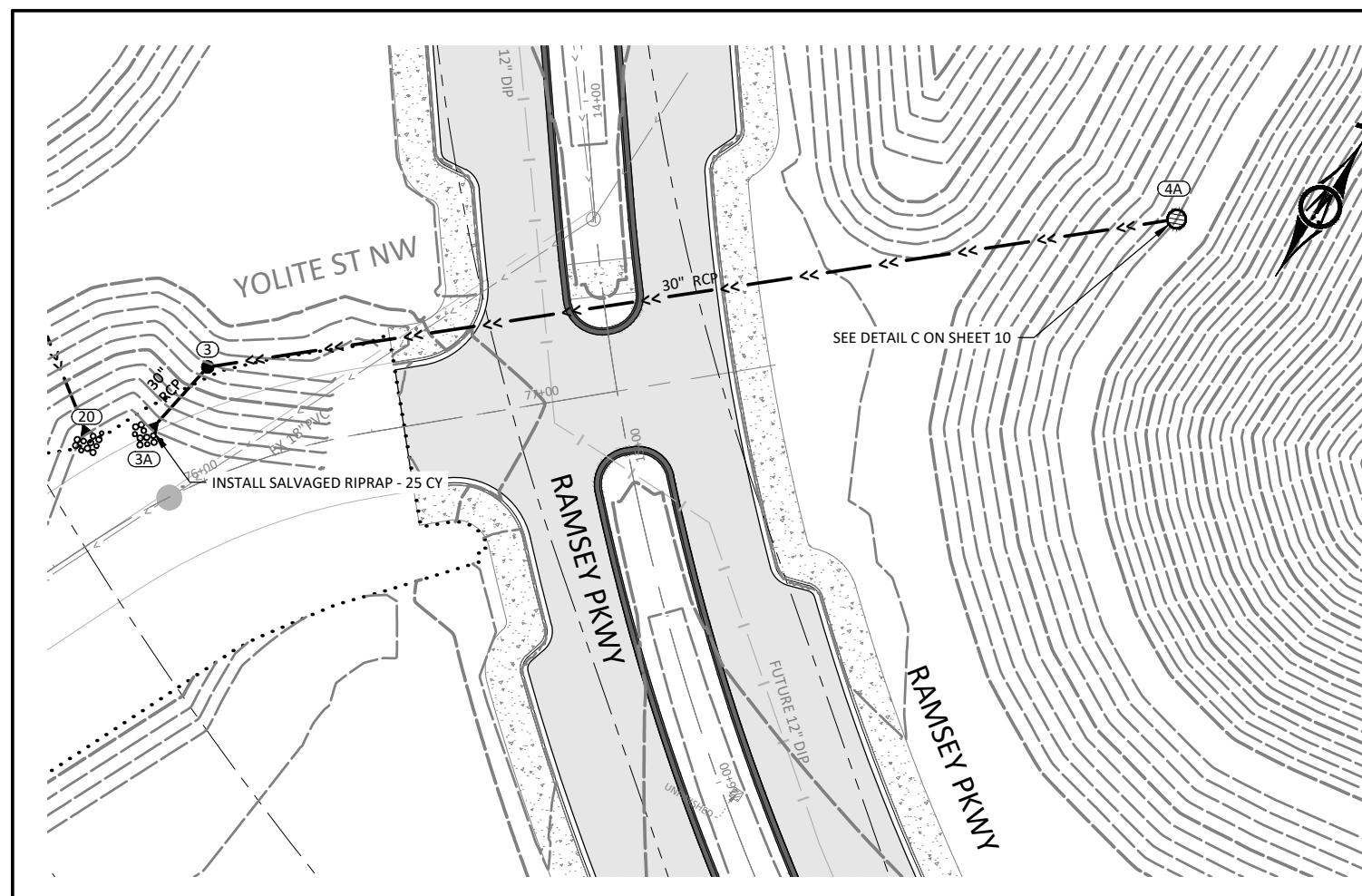


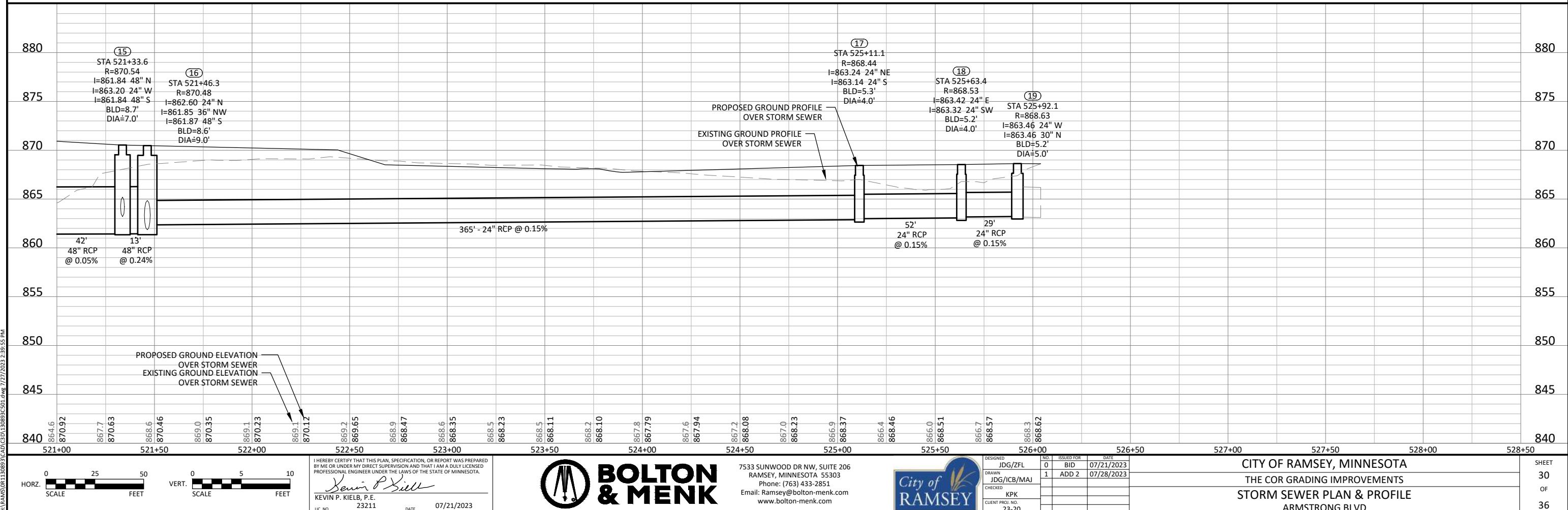
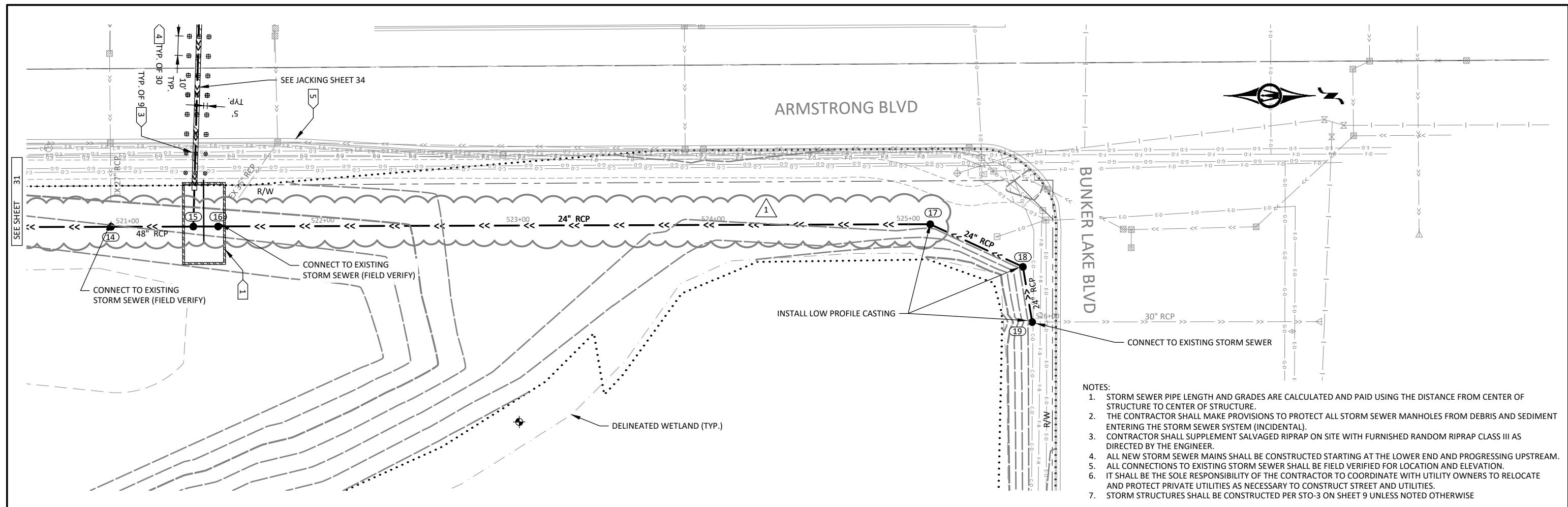
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JDG/ZFL	0	ADD 2	07/28/2023
DRAWN	1		
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KPK			
CLIENT PROJ. NO.			
23-20			

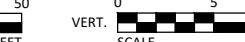
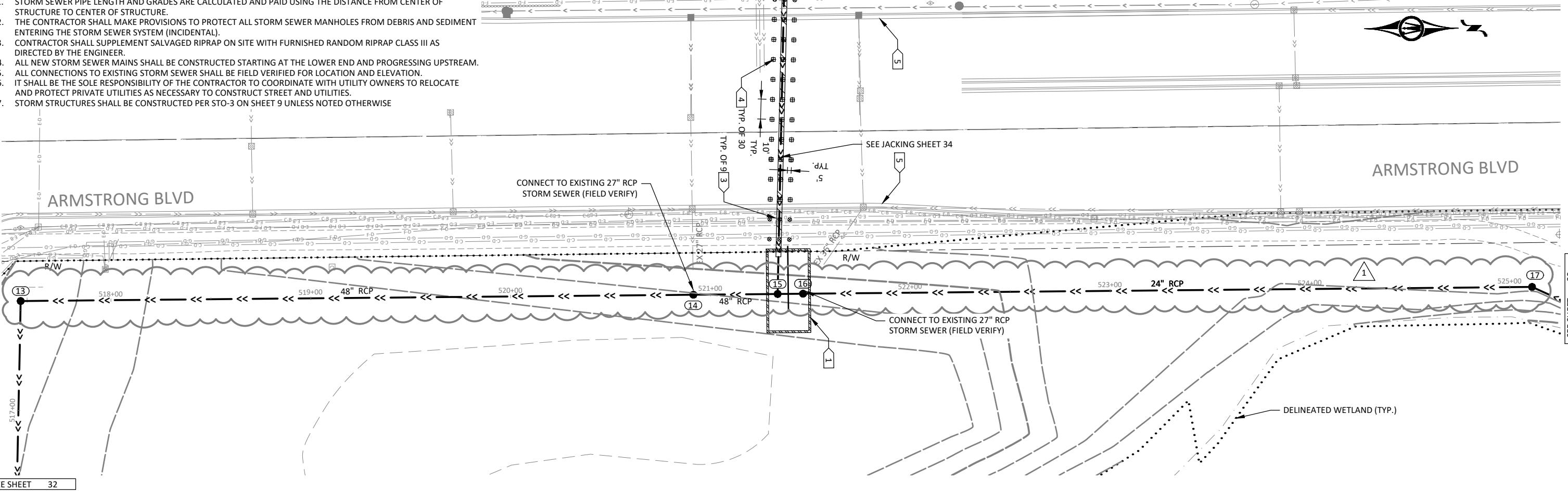
CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 SANITARY & WATER PLAN & PROFILE
 RAMSEY PARKWAY





NOTES:

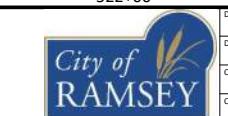
1. STORM SEWER PIPE LENGTH AND GRADES ARE CALCULATED AND PAID USING THE DISTANCE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
2. THE CONTRACTOR SHALL MAKE PROVISIONS TO PROTECT ALL STORM SEWER MANHOLES FROM DEBRIS AND SEDIMENT ENTERING THE STORM SEWER SYSTEM (INCIDENTAL).
3. CONTRACTOR SHALL SUPPLEMENT SALVAGED RIPRAP ON SITE WITH FURNISHED RANDOM RIPRAP CLASS III AS DIRECTED BY THE ENGINEER.
4. ALL NEW STORM SEWER MAINS SHALL BE CONSTRUCTED STARTING AT THE LOWER END AND PROGRESSING UPSTREAM.
5. ALL CONNECTIONS TO EXISTING STORM SEWER SHALL BE FIELD VERIFIED FOR LOCATION AND ELEVATION.
6. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH UTILITY OWNERS TO RELOCATE AND PROTECT PRIVATE UTILITIES AS NECESSARY TO CONSTRUCT STREET AND UTILITIES.
7. STORM STRUCTURES SHALL BE CONSTRUCTED PER STO-3 ON SHEET 9 UNLESS NOTED OTHERWISE



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 KEVIN P. KIELB, P.E.
 23211
 DATE 07/21/2023

BOLTON & MENK
 Kevin P. Kielb
 23211
 DATE 07/21/2023

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CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 STORM SEWER PLAN & PROFILE
 ARMSTRONG BLVD

SHEET 31 OF 36

SEE SHEET 31

NOTES:

1. STORM SEWER PIPE LENGTH AND GRADES ARE CALCULATED AND PAID USING THE DISTANCE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
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7. STORM STRUCTURES SHALL BE CONSTRUCTED PER STO-3 ON SHEET 9 UNLESS NOTED OTHERWISE

1

= 201C B1 V11

147TH AV

RAMSEY PKWY

SINWOOD DR NW

SEE SHEET 33

STA 517+54.9
R=874.69
I=861.69 48" N
I=861.69 48" E
BLD=13.0'
DIA=9.0'

PROPOSED GROUND PROFILE
OVER STORM SEWER

EXISTING GROUND PROFILE
OVER STORM SEWER

STA 513+99.7
R=872.00
I=861.53 48" W
I=861.53 48" E
BLD=10.5'
DIA=6.0'

STA 512+68.2
R=873.10
I=861.47 48" W
I=861.47 48" E
BLD=11.6'
DIA=6.0'

355' - 48" RCP @ 0.05%

131' - 48" RCP @ 0.04%

428' - 48" RCP @ 0.04%

12" WM
TOP = 859.06

PROPOSED GROUND ELEVATION
OVER STORM SEWER

EXISTING GROUND ELEVATION
OVER STORM SEWER

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1000

840 87 87
518+00
0 25
HORZ. 
SCALE

The logo for Bolton & Men, featuring a stylized 'B' and 'M' inside a circle, with the brand name in a bold, sans-serif font to the right.

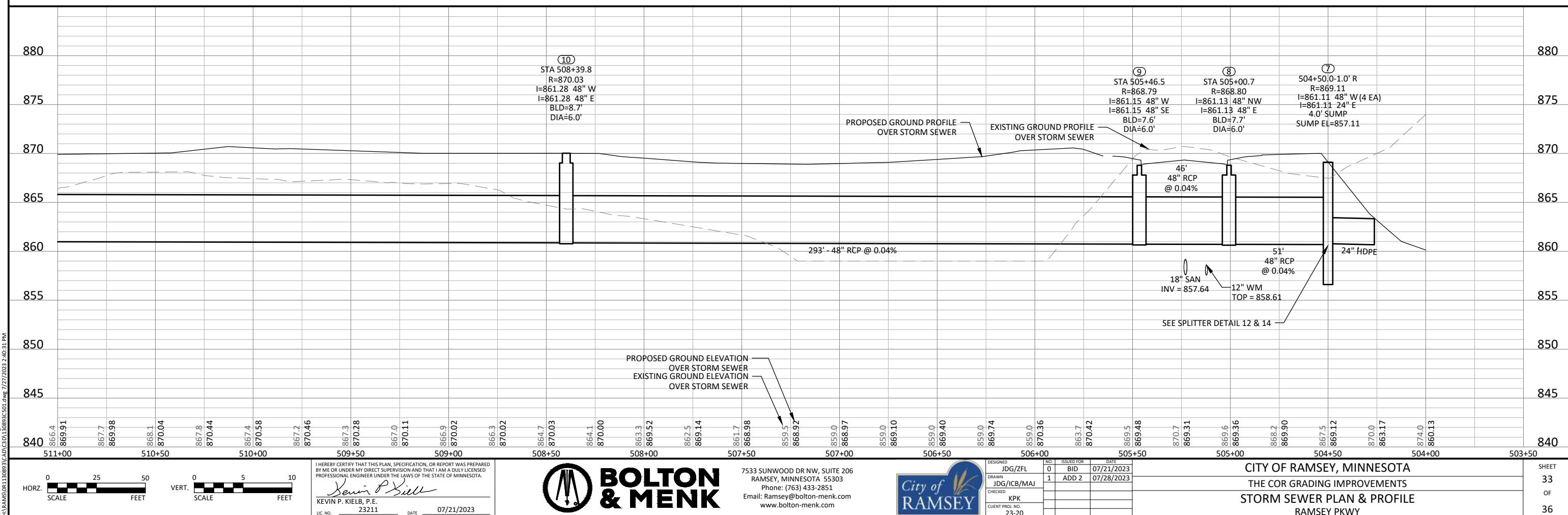
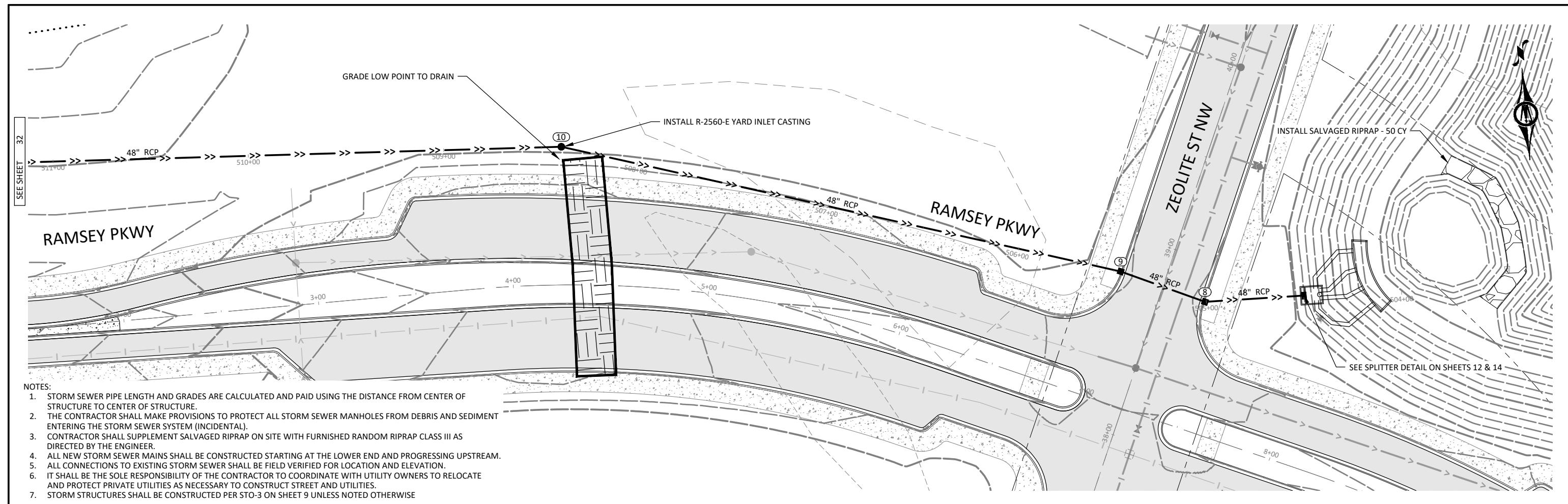
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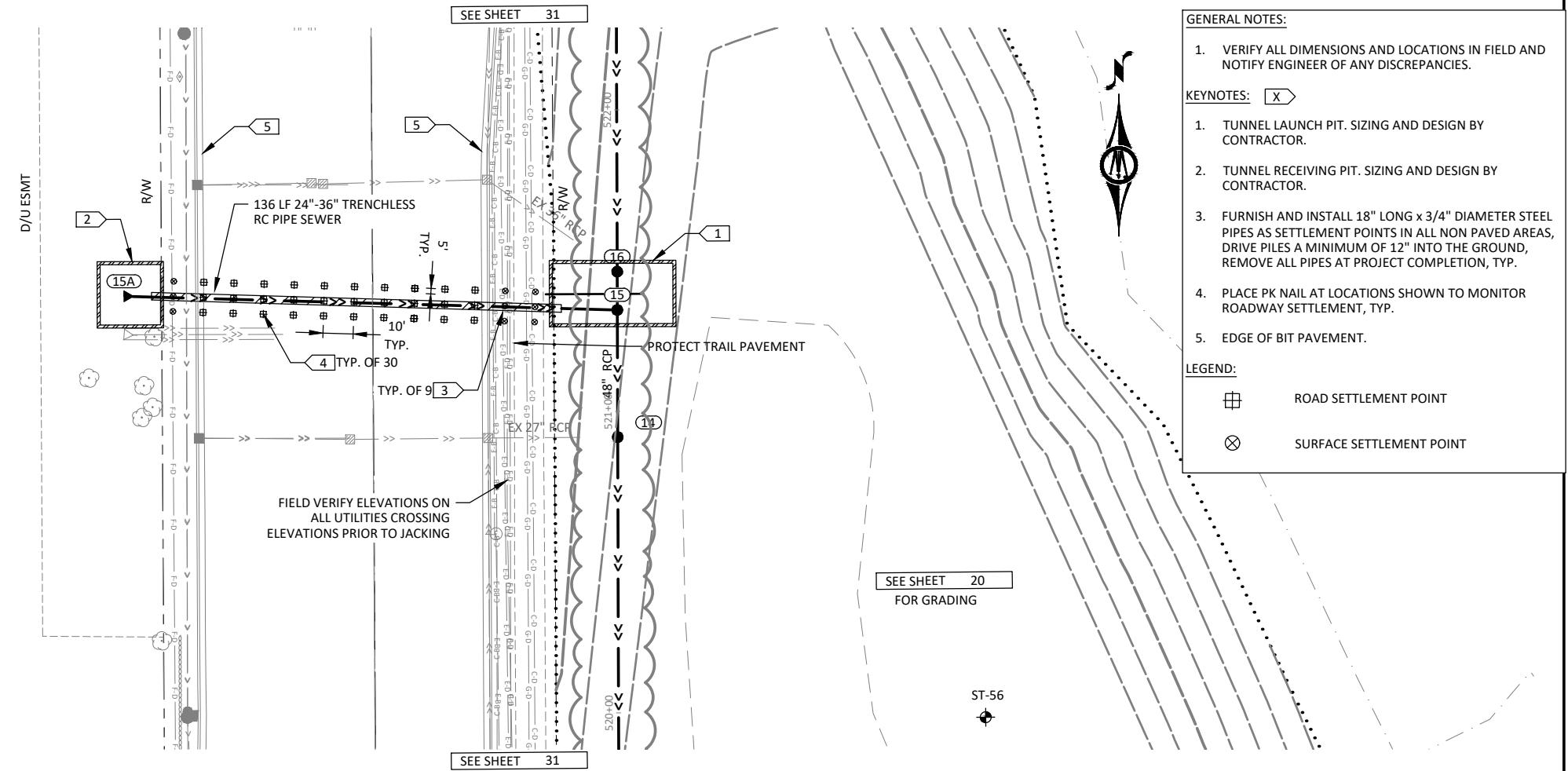
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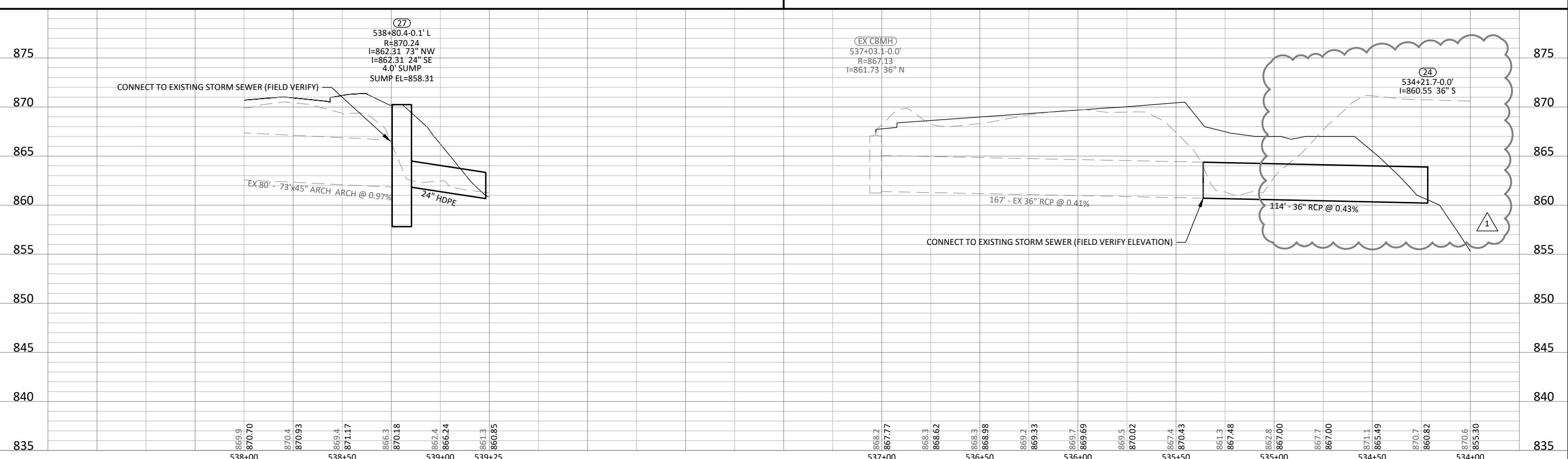
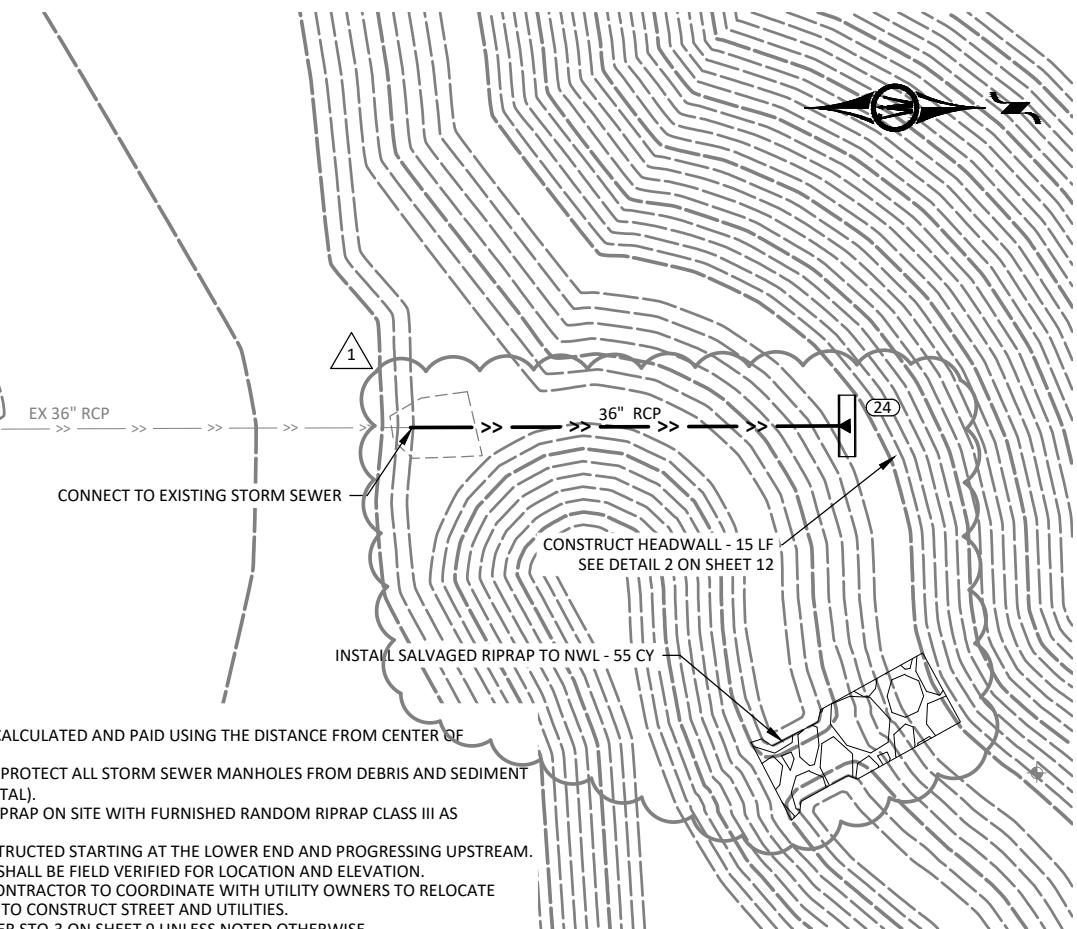
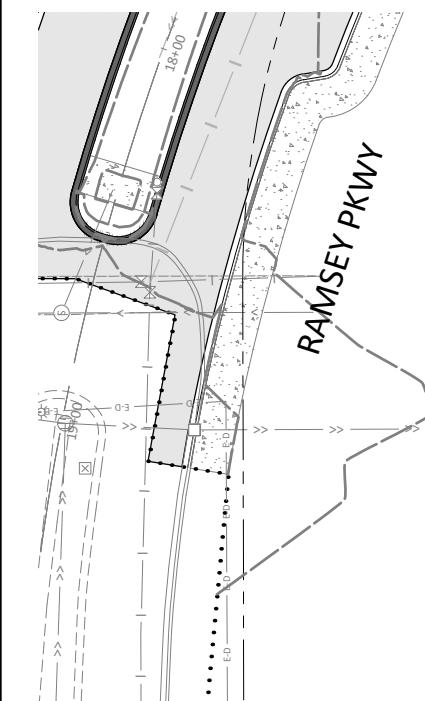
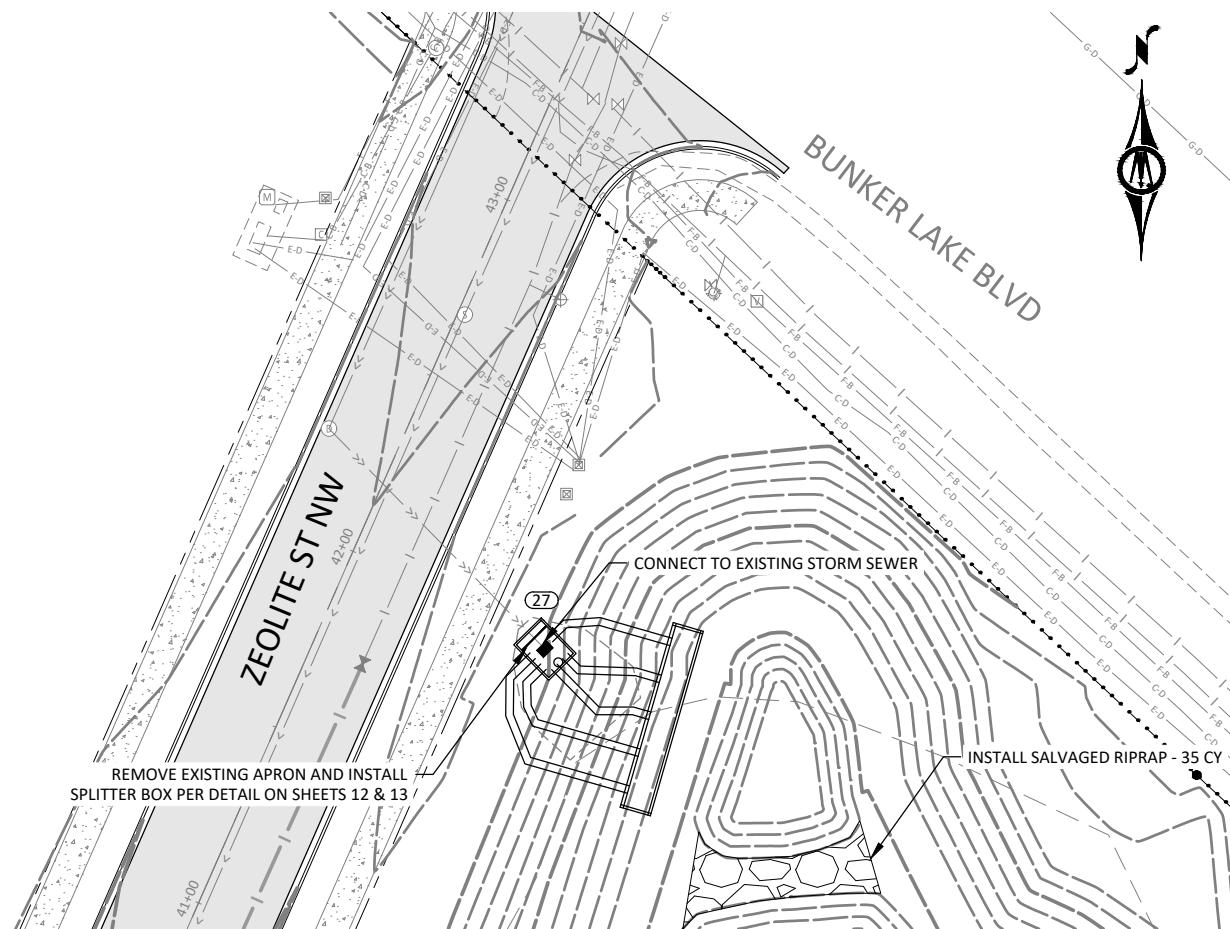
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CLIENT PROJ. NO.			

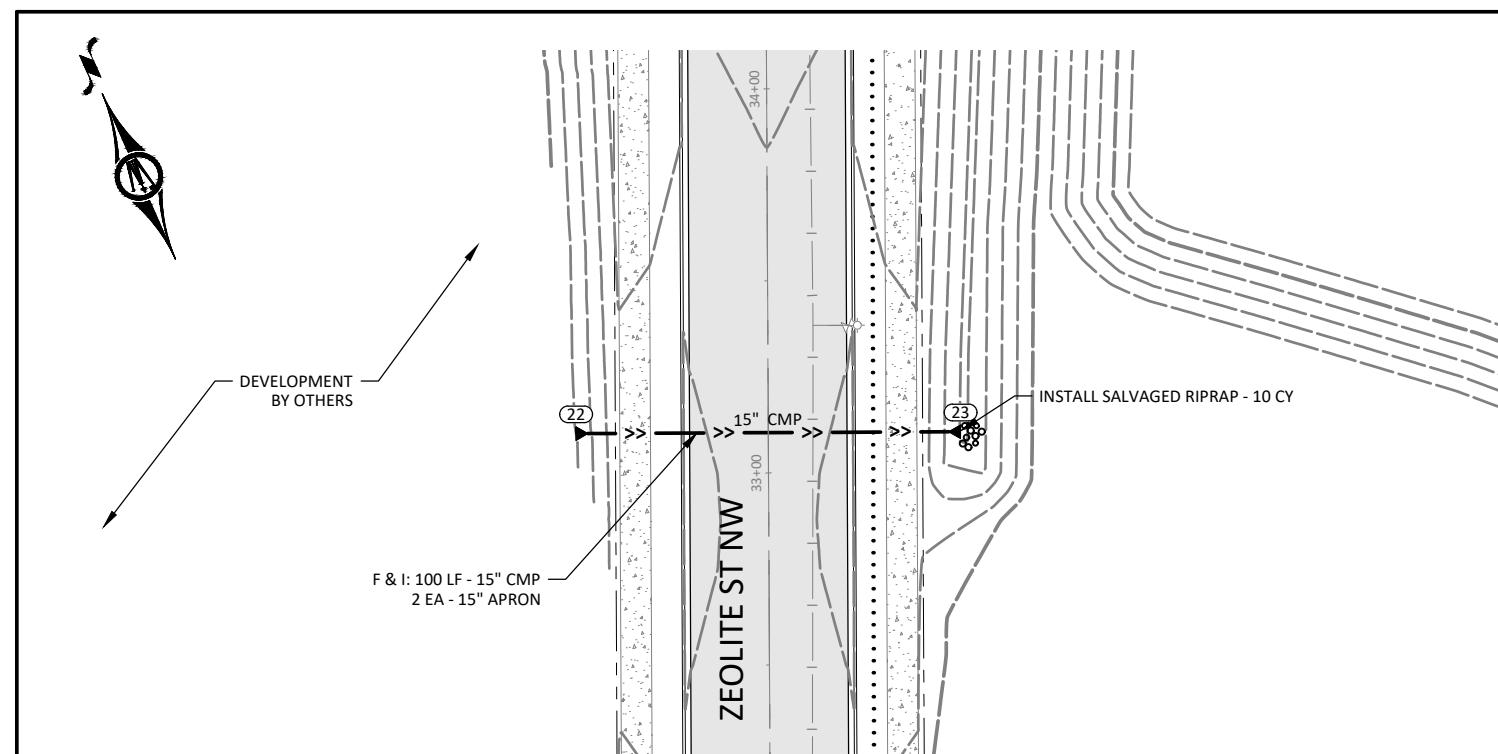
CITY OF RAMSEY, MINNESOTA
THE COR GRADING IMPROVEMENTS
STORM SEWER PLAN & PROFILE
RAMSEY PKWY

SHEET
32
OF
36



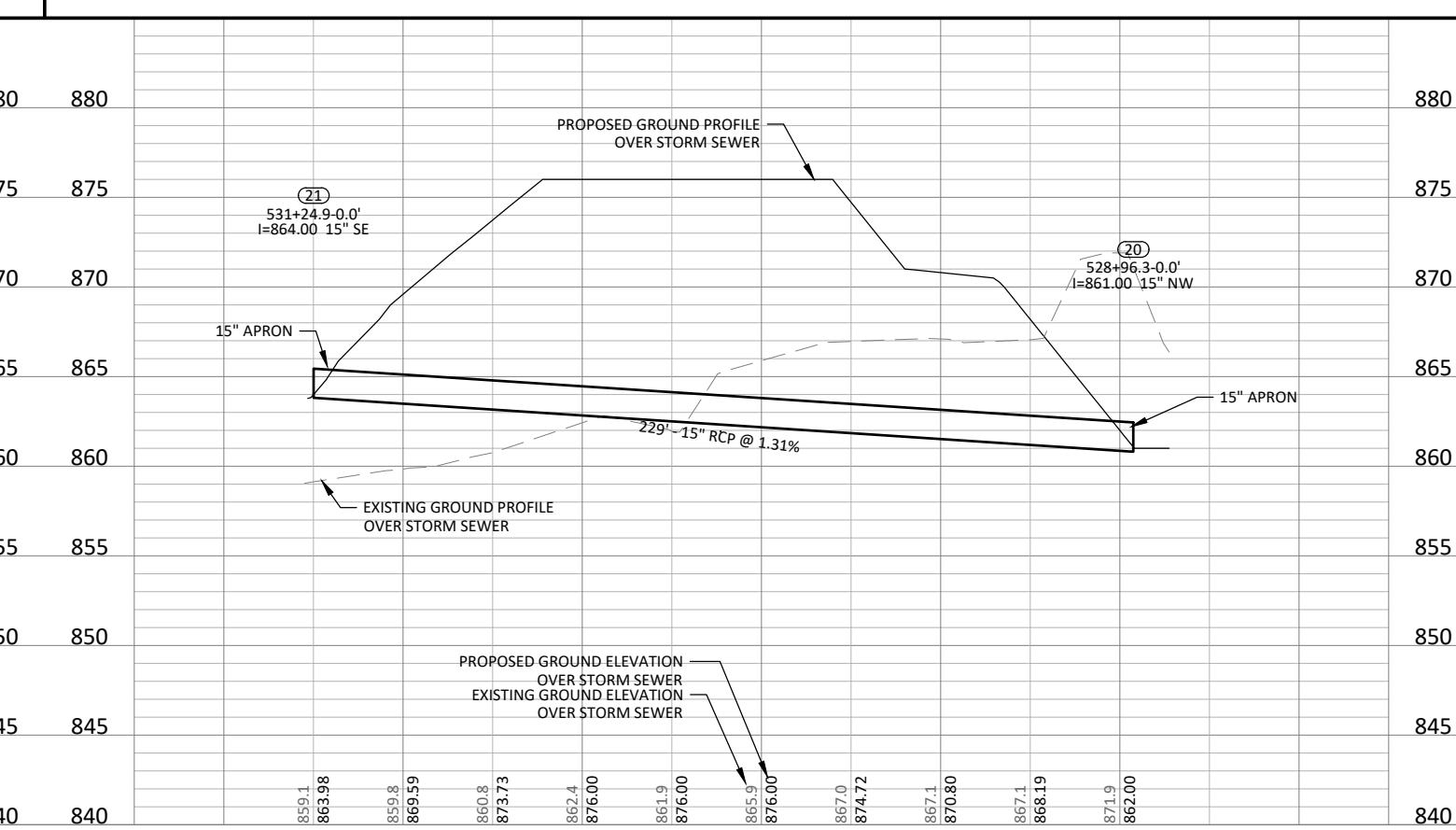
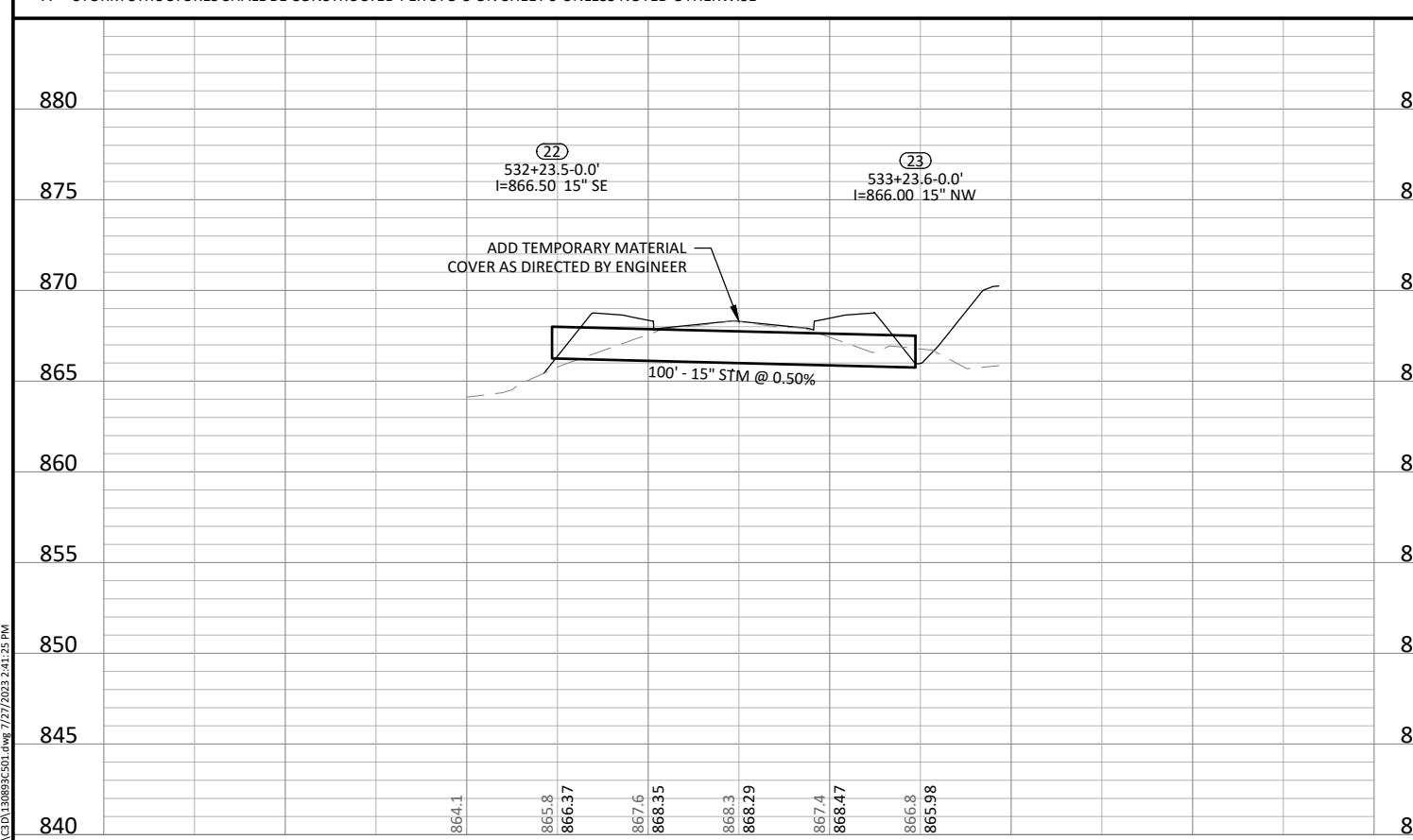
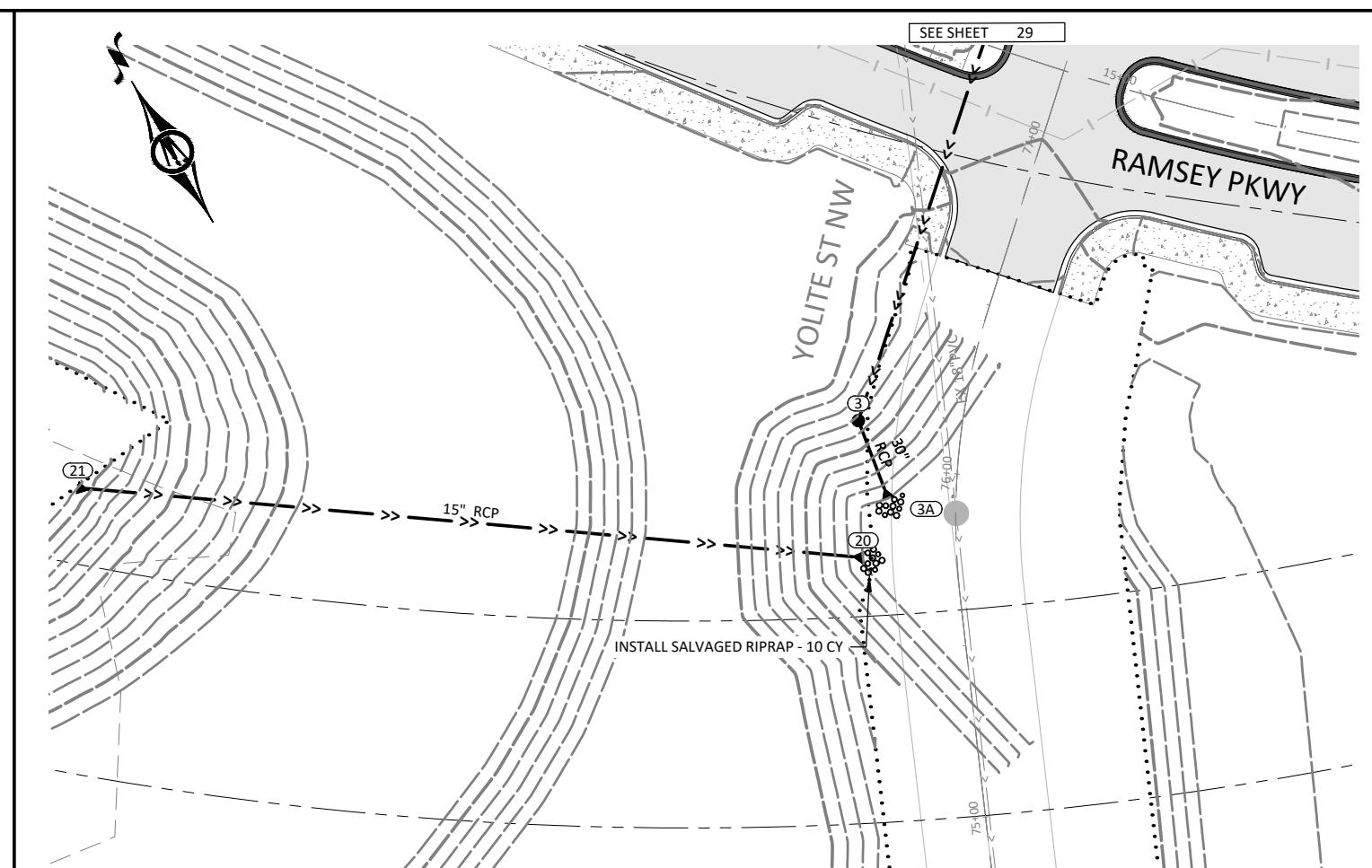






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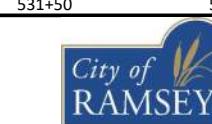
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A horizontal grayscale scale bar with numerical labels '0' and '25' at the ends. The scale bar consists of a series of black and white horizontal bars of decreasing width from left to right. Below the scale bar, the text 'HORZ. SCALE' is printed in a sans-serif font.

532-50	533+00
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529+50 529+00
CITY OF RAMSEY, MINNESOTA
THE COR GRADING IMPROVEMENTS
STORM SEWER PLAN & PROFILE
ZEOLITE ST & PARCEL D TEMPORARY CULVERTS

8+25
SHEET
36
OF
36