DESIGN DESIGNATION

A.A.D.T. - 2020 = 144A.A.D.T. - 2040 = 202T = 8.7%

FUNCTIONAL CLASSIFICATION - RURAL MAJOR COLLECTOR

V = 35 M.P.H.

NORMAL RIGHT OF WAY REQUIRED FOR THIS PROJECT

CONVENTIONAL SYMBOLS

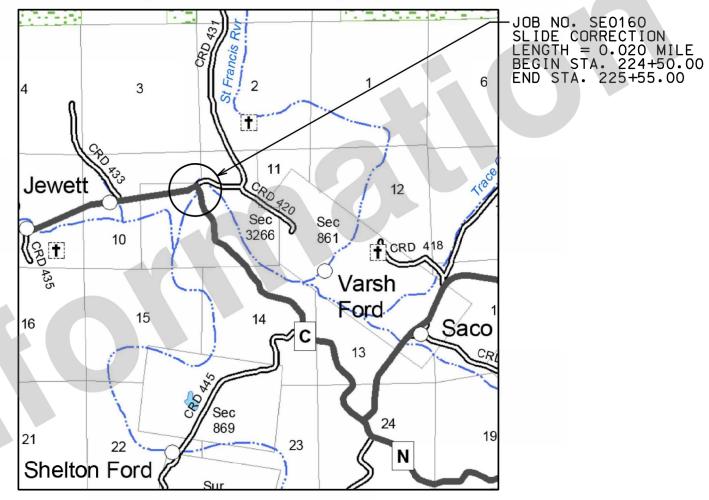
(USED IN PLANS		LS
	EXISTING	NEW
BUILDINGS AND STRUCTURES GUARD RAIL CONCRETE RIGHT-OF-WAY MARKER STEEL RIGHT-OF-WAY MARKER LOCATION SURVEY MARKER UTILITIES	00000 17 7	
FIBER OPTICS OVERHEAD TELEPHONE UNDERGROUND TELEPHONE OVERHEAD POWER UNDERGROUND POWER GAS WATER	- F 0 - - O - - T - - D - - P - - G - - W - SAN	-FO
MANHOLE	HYD)
FIRE HYDRANT	w C	
WATER VALVE	WM C	
WATER METER		,
DROP INLET		
DITCH BLOCK	4	
GROUND MOUNTED SIGN	SIGN	-
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL FENCE CHAIN LINK WOVEN WIRE GATE POST	PED V	
BENCHMARK	ВМ)
TEMPORARY CONSTRUCTION EASEMENT (T.C.E)		
EXISTING R/W		
PROPOSED ROW		
PERMANENT DRAINAGE EASEMENT (P.D.E)		

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION PLANS FOR PROPOSED STATE HIGHWAY

MADISON COUNTY ROUTE C AT THE ST. FRANCIS RIVER

SEC 11 TWP 31 N RGE 5 E



NOT TO SCALE

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THE PROJECT TO WHICH THIS PAGE REFERS.

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (TS) (1 SHEET)	2
QUANTITIES (QU) (3 SHEETS)	3
PLAN (PP)	4
COORDINATE POINTS (CP)	5
SPECIAL SHEETS (6 SHEETS)	6-11
TRAFFIC CONTROL SHEETS (TC)	12-13

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ו ו	IST		Т	SHEET NO.								
4	5	E	L			1						
ı	COUNTY											
MADISON												
JOB NO.												
JSE0160												
	CONTRACT ID.											
	PROJECT NO.											
		BR	IDG	ΕN	۱0،							
z												
DESCRIPTION												
PT												
ES(
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DATE												
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1 7							_					

02/08/2023

LENGTH OF PROJECT

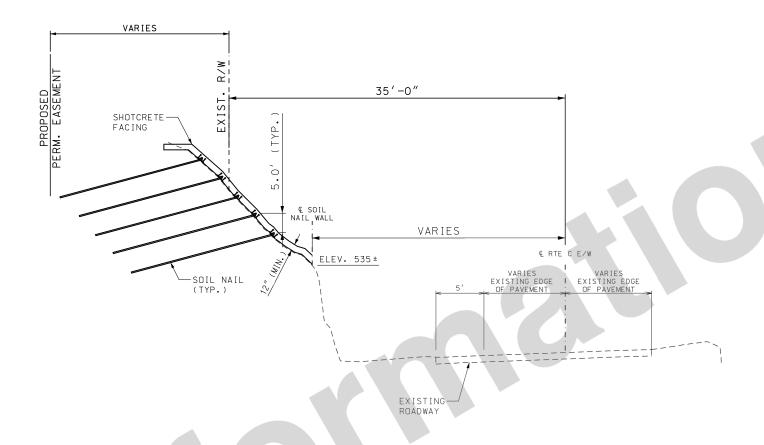
BEGINNING OF PROJECT	224+50.00	
END OF PROJECT	225+55.00	
APPARENT LENGTH	105.0	FEET
EQUATIONS AND EXCEPTIONS:	NONE	

TOTAL CORRECTIONS 0.00 FEET NET LENGTH OF PROJECT 105.0 FEET STATE LENGTH 0.020 MILES FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES

001_TITLE_SE0160_ITITLESHEET.dgn 2:01:07 PM 02/08/2023

0.5 ACRES

NOTES: LENGTH AND QUANTITY OF SOIL NAILS VARY THROUGHOUT THE LENGTH OF THE SOIL NAIL WALL.



SOIL NAIL TYPICAL SECTION

STA. 100+00.00 TO STA. 101+06.25 ₱ SOIL NAIL WALL STA. 224+55.00 TO STA. 225+50.13 € ROUTE C E/W

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONA SEAL APPEAR HEREON ASSUMES RESONSIBILITY DNLY FOR WHAT APPEARS ON THIS PAGE, AND SPECIFICATION. ESTIMATES, REPORTS, OR OTHER DOMERTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO BROWN INTENDED TO BE USED FOR ANY PART OF PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

RTE C TYPICAL SECTION SHEET 1 OF 1

02/08/2023 ROUTE C DISTRICT SE STATE MADISON JOB NO.

JSE0160

CONTRACT ID. PROJECT NO. WAYS AND TRANSF COMMISSION

FANTE
715 KIRK DRIVE
KANSAS CITY. MO 64105-1310
TELEPHONE (816) 472-1201
CERTIFICATE OF AUTHORITY
NO. 001270

NOT TO SCALE

SLOPE STABILIZATION SYSTEM									
STA.	STA.	LOCATION	SIDE	DESCRIPTION	QUANTITY *				
224+55.00	255+50.00	RTE. C E/W	LT.	SOIL NAIL WALL	1 LUMP SUM				

* SEE SPECIAL SHEET 1 FOR SOIL NAIL WALL ITEMS AND ESTIMATED QUANTITIES

			EROS I	ON CONTR	OL			
STA.	STA.	LOCATION	SIDE	SILT FENCE	SEEDING	MULCHING	ALTERNATE DITCH CHECK	FIBER REINFORCED MATRIX
				LF	ACRE	ACRE	LF	ACRE
224+55.00	255+50.00	RTE. C E/W	LT.	105	0.25	0.25	8	
	COUNTY RD 431 **				0.23	0.23		0.23
			SUBTOTAL	105	0.48	0.48	8	0.23
			TOTAL	105	1	1	8	0.2

** LOCATION TO BE DETERMINED BY THE ENGINEER.

MOBILIZATION

1 LUMP SUM

CONTRACTOR FURNISHED SURVEYING AND STAKING

1 LUMP SUM

CLEARING AND GRUBBING

SUBTOTAL	0.25 ACRE
TOTAL	1 ACRE

DATE PREPARED
02/08/2023
ROUTE STATE
C MO
DISTRICT SHEET NO.
SE COUNTY ROUTE C DISTRICT SE COUNTY MAD I SON JOB NO.
JSE0160
CONTRACT ID. PROJECT NO. SHWAYS AND TRANSPORTATION COMMISSION

HEADER DRIVE
ANSAS CITY. MG 64105-1310
FELEPRONE (816) 472-1201
EERTIFICATE OF AUTHORITY

SUMMARY OF QUANTITIES SHEET 1 OF 3

				MGS GUA	RDRAIL		
SPECIAL	ROADWAY	STA	STA	LOC	6' POSTS	8' POSTS	REMARKS
SHEET					L.F.	L.F.	
6	RTE C	223+50	224+15	RT	65		
6	RTE C	224+15	225+70	RT	4	155	
6	RTE C	225+70	226+40	RT	70		
6	RTE C	226+40	227+05	RT		65	
6	RTE C	227+05	227+79	RT	74		
				SUB TOTAL	209	220	
				PAY TOTAL	209	220	

	GUAF	RDRAI	L PO	STS IN A	SPHALT	
					GUARDRAIL	
					POSTS IN	
SPECIAL	ROADWAY	STA	STA	LOC	ASPHALT	REMARKS
SHEET					EA.	
6	RTE C	223+85	227+70	RT	63	
				SUB TOTAL	63	
				PAY TOTAL	63	

RELOCATE	CRASHWORTHY	END TERMINAL	1 LUMP SUM

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H			COU	NITA			
H		/IA	D JOB E (NO		<u> </u>	
		CON	TRA	CT	10	<u>)</u>	
		PRO	DJE:	СТ	NO.		
		BR	IDO	E N	١0٠		
NOIL							
ESCRIP							
DE							
DATE							
MISSOURI HIGHWAYS AND TRANSPORTATION	COMMISSION		_ MoDo⊤		105 WEST CAPITOL	JEFFERSON CITY, MO 65102	1-888-ASK-MODOT (1-888-275-6636)

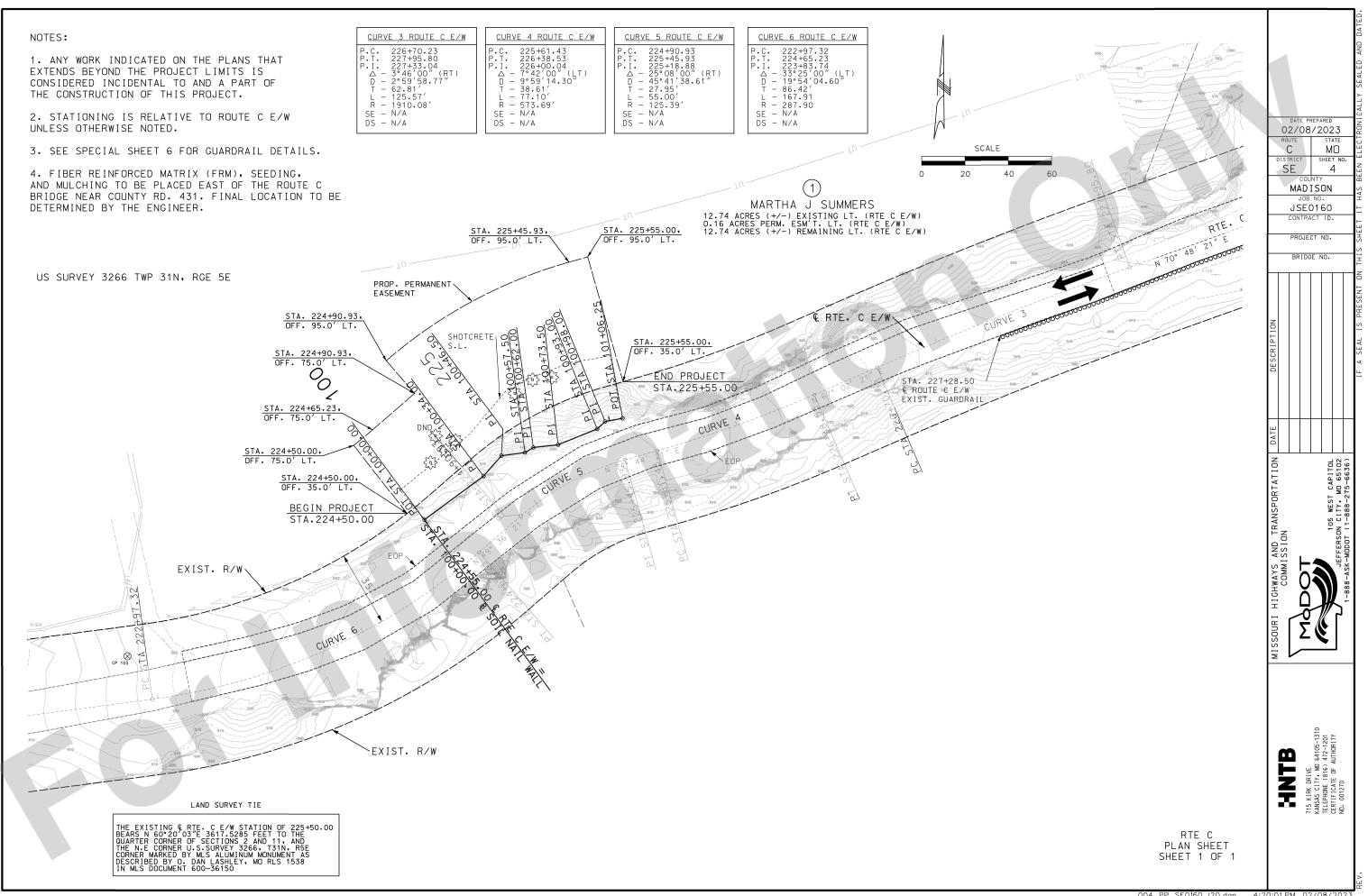
EFK+MOen

Civil Engineering Design

13523 Barrett Parkway Dr.
Suite 250 St. Louis, MO 63021 Fax 314.394.3199
St. Louis, MO e3021 Fax 314.394.3199
Missouri Certificate of Authority: 001578

SUMMARY OF QUANTITIES SHEET 2 OF 3

			,, , , , , , , , , , , , , , , , , , ,					EFFECTIVE: 04-01-2021	
	TOTAL QTY TOTAL S			TY TOTAL SIG					
l l	A QTY AREA RELOC RELOC	IUM.	SIZE AREA QTY TOTAL RE		·				
SIGN IN SQ.F	T. EACH SQ.FT. EACH SQ.FT.		SIGN IN SQ.FT EACH SQ.FT E		_	ITEM			
	WARNING SIGNS	DESCRIPTION	GUIDE SIGNS		DESCRIPTION	NUMBER		RIPTION	
D1-1L 48X48 16.0 D1-1R 48X48 16.0		TURN (SYMBOL LEFT ARROW)	E05-1 36X48 12.00 E05-2 48X36 12.00		GORE EXIT	6122008 6122009		40 MPH (SAND BARRELS)	
D1-1R 48X48 16.0		TURN (SYMBOL RIGHT ARROW) CURVE (SYMBOL LEFT ARROW)	E05-2 48X36 12.00 E05-2a 48X36 12.00		EXIT OPEN EXIT CLOSED	6122009		45 MPH (SAND BARRELS) 50 MPH (SAND BARRELS)	
D1-2R 48X48 16.0		CURVE (SYMBOL RIGHT ARROW)	G020-1 60X24 10.00		ROAD WORK NEXT XX MILES	6122012		55 MPH (SAND BARRELS)	
D1-3L 48X48 16.0	00	REVERSE TURN (SYMBOL LEFT ARROW)	G020-2 48X24 8.00		END ROAD WORK	6122014	IMPACT ATTENUATOR	60 MPH (SAND BARRELS)	DATE PREPARED
D1-3R 48X48 16.0		REVERSE TURN (SYMBOL RIGHT ARROW)	G020-4 36X18 4.50		PILOT CAR FOLLOW ME	6122017		65 MPH (SAND BARRELS)	02/08/202 ROUTE STA
D1-4L 48X48 16.0		REVERSE CURVE (SYMBOL LEFT ARROW)	G020-4a 42X30 8.75		PILOT CAR IN USE WAIT & FOLLOW	6122019		70 MPH (SAND BARRELS)	C M
D1-4R 48X48 16.0 D1-4bL 48X48 16.0		REVERSE CURVE (SYMBOL RIGHT ARROW) DOUBLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)	G020-4a 18X12 1.50 G020-5aP 36X24 6.00		PILOT CAR IN USE WAIT & FOLLOW WORK ZONE (PLAQUE)	6122020	REPLACEMENT SAND B		DISTRICT SHEET
01-4bR 48X48 16.0		DOUBLE ARROW REVERSE CURVE (SYMBOL ET ARROWS)	MO4-8a 24X18 3.00		END DETOUR	6123000A		OUNTED ATTENUATOR (TMA)	SE 3
01-4cL 48X48 16.0		TRIPLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)	M04-9L 48X36 12.00		DETOUR (LEFT ARROW)	6161008	ADVANCED WARNING R		MADISON
11-4cR 48X48 16.0	00	TRIPLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)	MO4-9R 48X36 12.00		DETOUR (RIGHT ARROW)	6161012	BUOYS (BOATS KEEP	OUT)	JOB NO.
01-6 60X30 12.5		HORIZONTAL ARROW (SYMBOL)	MO4-9P 48X12 4.00		STREET NAME (PLAQUE)	6161013	BUOYS (NO WAKE)		JSE0160
01-6a 72X36 18.0		HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)	MO4-10L 48X18 6.00		DETOUR (ARROW LEFT)	6161014		BLY (BOATS KEEP OUT)	CONTRACT ID.
01-7 60X30 12.5 01-7a 72X36 18.0		DOUBLE HEAD HORIZONTAL ARROW (SYMBOL) DOUBLE HEAD HORIZ, ARROW (SYMBOL ON PERM, BARR,	MO4-10R 48X18 6.00	ORY SIGNS	DETOUR (ARROW RIGHT)	6161025 6161030	10 CHANNELIZER (TRIM		PROJECT NO.
11-8 18X24 3.00		CHEVRON (SYMBOL)	R1-1 48X48 13.25	UN 1 316N3	STOP	6161033	DIRECTION INDICATO		
11-8a 30X36 7.50		CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)	R1-2 48TRI. 6.93		YIELD	6161040	FLASHING ARROW PAN		BRIDGE NO.
13-1 48X48 16.0		STOP AHEAD (SYMBOL)	R1-2a 36X36 9.00		TO ONCOMING TRAFFIC (PLAQUE)	6161047	TYPE III OBJECT MA		
3-2 48X48 16.0		YIELD AHEAD (SYMBOL)	R1-3P 30X12 2.50		ALL WAY (PLAQUE)	6161051	WARNING LIGHT, TYP		$\parallel \parallel \parallel \parallel \parallel \parallel \parallel \parallel \parallel$
3-3 48X48 16.0		SIGNAL AHEAD (SYMBOL)	R2-1 36X48 12.00		SPEED LIMIT 25	6161052	WARNING LIGHT, TYP		$\parallel \parallel \parallel \parallel \parallel \parallel \parallel \parallel \parallel$
3-4 48X48 16.0 3-5 48X48 16.0		BE PREPARED TO STOP SPEED LIMIT AHEAD	R2-1 36X48 12.00 R3-1 48X48 16.00		SPEED LIMIT 35 NO RIGHT TURN (SYMBOL)	6161053 6161055	WARNING LIGHT, TYP		$\parallel \parallel \parallel \parallel \parallel \parallel \parallel \parallel \parallel$
13-5 48X48 16.0		MERGE (SYMBOL FROM LEFT)	R3-2 48X48 16.00		NO LEFT TURN (SYMBOL)	6161033	TUBULAR MARKER	O WANNING FIGHT	[8]
4-1R 48X48 16.0		MERGE (SYMBOL FROM RIGHT)	R3-4 48X48 16.00		NO U-TURN (SYMBOL)	6161095	RADAR SPEED ADVISOR	RY SYSTEM	<u> </u>
4-1aL 48X48 16.0		MERGE (ARROW SYMBOL)	R3-7L 30X30 6.25		LEFT LANE MUST TURN LEFT		CHANGEABLE MESSAGE		
4-1aR 48X48 16.0		MERGE (ARROW SYMBOL)	R3-7R 30X30 6.25		RIGHT LANE MUST TURN RIGHT	6161096	COMMISSION FURNISH		ESC
5-1 48X48 16.0		ROAD/BRIDGE/RAMP NARROWS	R4-1 36X48 12.00		DO NOT PASS		CHANGEABLE MESSAGE		
5-3 48X48 16.0 5-5 48X48 16.0		ONE LANE BRIDGE NARROW LANES	R4-2 36X48 12.00 R4-8a 36X48 12.00		PASS WITH CARE KEEP LEFT (HORIZONTAL ARROW)	6161098A	CHANGEABLE MESSAGE	TOR FURNISHED/RETAINED	
6-1 48X48 16.0		DIVIDED HIGHWAY (SYMBOL)	R4-7a 36X48 12.00		KEEP RIGHT (HORIZONTAL ARROW)	6161099	l I	TOR FURNISHED/RETAINED	
6-2 48X48 16.0		DIVIDED HIGHWAY END (SYMBOL)	R5-1 30X30 6.25		DO NOT ENTER	6162000A			
6-3 48X48 16.0	00	TWO WAY TRAFFIC (SYMBOL)	R5-1a 36X24 6.00		WRONG WAY	6162002	TEMPORARY LONG-TER	M RUMBLE STRIPS	ш
7-3a 30X24 5.00		NEXT XX MILES (PLAQUE)	R6-1L 54X18 6.75		ONE WAY ARROW (LEFT)	6162004	TEMPORARY SHORT-TE		DAT
18-1 48X48 16.0		BUMP DIP	R6-1R 54X18 6.75		ONE WAY ARROW (RIGHT)	C4 77 COOD	TEMPORARY TRAFFIC		
08-2 48X48 16.0 08-3 48X48 16.0		PAVEMENT ENDS	R6-2L 24X30 5.00 R6-2R 24X30 5.00		ONE WAY (LEFT) ONE WAY (RIGHT)	6173600D	CONTRACTOR FURNISH		VSPORTATION WEST CAPITOL
8-4 48X48 16.0		SOFT SHOULDER	R9-9 24X12 2.00		SIDEWALK CLOSED	6173602B		ED/COMMISSION RETAINED	TI II
08-5 48X48 16.0		SLIPPERY WHEN WET (SYMBOL)			SIDEWALK CLOSED AHEAD.	6174000A		IER HEIGHT TRANSITION] ` 5
8-6 48X48 16.0	00	TRUCK CROSSING (WITH FLAGS)	R9-11L 24X18 3.00		(ARROW LEFT) CROSS HERE	6175010A	RELOCATING TEMPORAL	RY TRAFFIC BARRIER	PO!
8-6c 48X48 16.0		TRUCK ENTRANCE			SIDEWALK CLOSED AHEAD,		TEMPORARY TRAFFIC		S S
18-7 36X36 9.00 18-7a 36X36 9.00		LOOSE GRAVEL	R9-11R 24X18 3.00		(ARROW RIGHT) CROSS HERE	6176000B	COMMISSION FURNISH		SION
8-7a 36X36 9.00 8-9 48X48 16.0		FRESH OIL/LOOSE GRAVEL LOW SHOULDER	R10-6 24X36 6.00 R11-2 48X30 10.00 2 20.0	29	STOP HERE ON RED (45° ARROW) ROAD CLOSED	6177000B		IER HEIGHT TRANSITION	
8-11 48X48 16.0		UNEVEN LANES	10.00 2 20.0	23	ROAD CLOSED XX MILES AHEAD	6208064A			SS
08-12 48X48 16.0		NO CENTER LINE	R11-3a 60X30 12.50		LOCAL TRAFFIC ONLY	9029400	TEMPORARY TRAFFIC :	STONALS	1,, \(\)
08-15 48X48 16.0		GROOVED PAVEMENT	R11-4 60X30 12.50 3 37.5	96	ROAD CLOSED TO THRU TRAFFIC	9029401	TEMPORARY TRAFFIC:	SIGNALS AND LIGHTING	
08-15P 30X24 5.00		MOTORCYCLE (PLAQUE)	CONST-3A 60X48 20.00		FINE SIGN				[程、
08-17 48X48 16.0		SHOULDER DROP-OFF (SYMBOL)	CONST-3X 56X12 4.67	ANEOUS STONS	SPEEDING/PASSING (PLATE)	<u> </u>			HIGHWAYS COMM
8-17P 30X24 5.00 0-1 42RND. 9.62		SHOULDER DROP-OFF (PLAQUE) RAILROAD CROSSING	MISCELL CONST-5 48X36 12.00	ANEOUS SIGNS	POINT OF PRESENCE				
12-1 24X24 4.00		DOUBLE DOWN ARROW (SYMBOL)	CONST-5 96X48 32.00		POINT OF PRESENCE				MISSOURI
12-2 48X48 16.0		LOW CLEARANCE (SYMBOL)	CONST-7 48X24 8.00		RATE OUR WORK ZONE				
12-2X 24X18 3.00		LOW CLEARANCE (PLAQUE)	CONST-7 72X36 18.00		RATE OUR WORK ZONE				
12-2a 84X24 14.0		OVERHEAD LOW CLEARANCE (FEET AND INCHES)	CONST-8 48X36 12.00		WORK ZONE NO PHONE ZONE				
12-4 120X60 50.0		LOW CLEARANCE XX FT XX IN XX MILES AHEAD							
12-5 120X60 50.0 13-1 30X30 6.25		WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD ADVISORY SPEED (PLAQUE)	1						
16-2 30X24 5.00		XXX FEET (PLAQUE)	1 + + + + + + + + + + + + + + + + + + +						
16-3 30X24 5.00		X MILE (PLAQUE)	1						
20-1 48X48 16.0	00	ROAD/BRIDGE/RAMP WORK AHEAD							10
20-2 48X48 16.0		DETOUR AHEAD							FINE DRIVE KANSAS CITY, MO 64105-131 TELEPHONE (816) 472-1201
20-3 48X48 16.0		20 ROAD CLOSED AHEAD	616 10 05						172 - 172 - 172 - 172 - 173 - 173 - 174 - 175 -
10-3 48X48 16.0 10-5 48X48 16.0		20A ROAD CLOSED 500 FT RIGHT/CENTER/LEFT LANE CLOSED AHEAD	616-10.05 CONSTRUCTION SIGNS 186						K DRIVE CITY. MO 6410
20-5 48X48 16.0		2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD	616-10.10	TOTAL					DRIV
20-6a 48X48 16.0		RIGHT/CENTER/LEFT LANE CLOSED	RELOCATED SIGNS	0					IRK S CI
20-7a 48X48 16.0		FLAGGER (SYMBOL, WITH FLAGS)							15 KIRK ANSAS C
21-2 36X36 9.00		FRESH OIL							F 2 H
21-5 48X48 16.0		SHOULDER WORK AHEAD	4						
22-1 48X48 16.0		BLASTING ZONE AHEAD	-				CI	JMMARY OF QUANTITIES	<u>.</u>
22-2 42X36 10.5 22-3 42X36 10.5		TURN OFF 2-WAY RADIO AND PHONE END BLASTING ZONE	-				30	SHEET 3 OF 3	1
		WET PAINT (ARROW PIVOTS)	1					522 . 5 51 5	
22-1 21X15 2.19									1



COORDINATE POINT LISTING MISSOURI COORDINATE SYSTEM OF 1983 EAST ZONE

					COORDINATE	POINT SHEET			
0.1557	07.17.011		055057	MODIFIED STATE	PLANE (GROUND)	55. 5.	5, 5,4,7,6,4	DECORIDETION	DOINT ID
SHEET	STATION	AL I GNMENT	OFFSET	NORTHING	EASTING	DELTA	ELEVATION	DESCRIPTION	POINT ID
ROUTE C E/W	1		•		•				
4	222+50.00	ROUTE C E/W	Ę	564,762.3656	827,078.7631			POB	
4	222+97.32	ROUTE C E/W	Ę.	564,768.1136	827,125.7293			PC	
4	223+83.74	ROUTE C E/W	Ę	564,778.6117	827,211.5091	33° 25′ 00″ (LT)		PI	
4	224+65.23	ROUTE C E/W	Ę.	564,834.6153	827,277.3268			PT	
4	224+90.93	ROUTE C E/W	Ę.	564,851.2700	827,296.9001			PC	
4	225+18.88	ROUTE C E/W	Ę.	564,869.3836	827,318.1880	25° 08′ 00″ (RT)		PI	
4	225+45.93	ROUTE C E/W	Ę.	564,876.7408	827,345.1538			PT	
4	225+61.43	ROUTE C E/W	Q.	564,880.8206	827,360.1072			PC	
4	226+00.04	ROUTE C E/W	Q.	564,890.9824	827,397.3529	7° 42′ 00″ (LT)	1	PI	
4	226+38.53	ROUTE C E/W	Ę.	564,906.0431	827,432.9012			PT	
4	226+70.23	ROUTE C E/W	Ę.	564,918,4093	827,462.0897			PC	
4	227+33.04	ROUTE C E/W	Ç	564,942,9106	827,519,9212	3° 46′ 00″ (RT)		PI	
4	227+95.80	ROUTE C E/W	Ç	564,963.5598	827,579.2372			PT	
4	229+58.92	ROUTE C E/W	Ç	565,017,1901	827,733.2936			POE	
OIL NAIL W									
3	100+00.00	SOIL NAIL WALL	B.	564849.88	827252.21			POB	
3	100+34.00	SOIL NAIL WALL	BE.	564869.81	827279.75		1	PI	
3	100+46.50	SOIL NAIL WALL	₿	564879.13	827288.08			PI	
3	100+57.50	SOIL NAIL WALL	B.	564880.54	827298.99	1		PI	
3	100+62.00	SOIL NAIL WALL	BE.	564882.79	827302.88			PI	
3	100+73.50	SOIL NAIL WALL	₿	564883.99	827314.32	1		PI	
3	100+93.00	SOIL NAIL WALL	₿	564891.13	827332.46			PI	
3	100+98.00	SOIL NAIL WALL	В	564894.53	827336.13			PI	
3	101+06.25	SOIL NAIL WALL	В	564895.93	827344.27			POE	
			_						
	1								
	1								
ONTROL POI			•						•
4	222+88.73	ROUTE C E/W	21.10'LT.	564,788,013	827,114.640		517.928	5/8" REBAR WITH PINK CAP	CP 103

ALL PROJECT COORDINATES HAVE BEEN PROJECTED FROM THE MISSOURI STATE PLANE COORDINATE (SPC) SYSTEM OF 1983 USING AN AVERAGE PROJECT PROJECTION (GRID TO GROUND) FACTOR. TO GET BACK TO STATE PLANE COORDINATES, MULTIPY THE PROJECT COORDINATES BY THE AVERAGE GRID FACTOR AS SHOWN IN THE "REFERENCE CONTROL INFORMATION" PORTION OF THIS TABLE.

PROJECT CONTROL INFO	RMATION
COORDINATE SYSTEM	SPC 1983
HORIZONTAL DATUM	NAD83 2011
VERTICAL DATUM	MODOT GNSS NETWORK
GEOID MODEL	12A
ELEVATIONS	DIFFERENTIAL LEVELING
DETERMINED BY	
PROJECT PROJECTION FAC	TOR 1.0000000

REFERENCE CONTROL IN	FORMATION
COORDINATE SYSTEM	SPC MO E
CONTROL STATION	MOSL
DESIGNATION	MO SILVA CORS ARP
CORS_ID	MOSL
PID	DN5838
LATITUDE	902752.4443
LONGITUDE	371038.1451
NORTHING (M)	149124.3320
EASTING (M)	253146.3270
ZONE	MO EAST
PROJECT AVERAGE GRID F	ACTOR 1.0000000
LINEAR UNIT CONVERSI	ON
1 METER = 3.280833333	US SURVEY FEET (USFT)

DISCLAIMER
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL
SEAL APPEAR HEREON ASSUMES RESPONSIBILITY
ONLY FOR WHAT APPEARS ON THIS PAGE, AND
DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO)
SPECIFICATION, ESTIMATES, REPORTS, OR OTHER
DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE
UNDERSIGNED PROFESSIONAL RELATING TO OR
INTENDED TO BE USED FOR ANY PART OR PARTS OF
THE PROJECT TO WHICH THIS PAGE REFERS.

RTE C COORDINATE POINT SHEET 1 OF 1 02/08/2023 SHEET NO. MADISON JOB NO. JSE0160 PROJECT NO. BRIDGE NO.

GENERAL NOTES

DESIGN SPECIFICATIONS:

2020 AASHTO LRFD (9TH ED.) AND 2015 FHWA GEOTECHNICAL ENGINEERING CIRCULAR (GEC) NO. 7 SOIL NAIL WALLS

DESIGN UNIT STRESSES: SHOTCRETE

HEADED STUDS

REINFORCING STEEL (GRADE 60) NAIL TENDON BARS (GRADE 75) WELDED WIRE FABRIC (ASTM A884) BEARING PLATE

fy = 60,000 psify = 75,000 psify = 60,000 psify = 50,000 psify = 65.000 psi

f'c = 4,000 psi

ALL PERMANENT REINFORCING STEEL SHALL BE EPOXY COATED. PERMANENT WELDED WIRE FABRIC SHALL BE EITHER EPOXY COATED OR GALVANIZED.

ALL NAIL HEAD ELEMENTS SHALL BE EITHER EPOXY COATED OR GALVANIZED.

MINIMUM SHOTCRETE COVER OVER STEEL ELEMENTS SHALL BE 2 INCHES FOR THE OUTSIDE FACE AND 3 INCHES ON THE SOIL SIDE, UNLESS OTHERWISE SHOWN.

ROCK EXCAVATION FOR SHOTCRETE WALL CONSTRUCTION IS INCLUDED IN SCALING. SCALING OF THE EXISTING ROCK FACE/SOIL SLOPE FOR SHOTCRETE WALL CONSTRUCTION BEYOND THE WALL EXTENTS WILL BE CONSIDERED COMPLETELY COVERED BY THE CONTRACT LUMP SUM FOR THE SOIL NAIL WALL SYSTEM.

COMPLETE ROCK EXCAVATION AND SCALING ACTIVITIES PRIOR TO INSTALLING THE REINFORCEMENT AND GEOCOMPOSITE DRAINAGE STRIPS.

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO COORDINATE CONSTRUCTION OF THE WALL WITH ROADWAY CONSTRUCTION AND ENSURE THAT THE ROADWAY CONSTRUCTION, RESULTING OR EXISTING OBSTRUCTIONS, SHALL NOT IMPACT THE CONSTRUCTION OR PERFORMANCE OF THE WALL, SOIL/ROCK SHALL BE PLACED TO AVOID DAMAGE BY GUARDRAIL POST INSTALLATION. (SEE ROADWAY PLANS.)

SEE JOB SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

THE COMMISSION DOES NOT REPRESENT OR WARRANT THAT ANY SUCH BORING DATA ACCURATELY DEPICTS THE CONDITIONS TO BE ENCOUNTERED IN CONSTRUCTING THIS PROJECT. A CONTRACTOR ASSUMES ALL RISKS IT MAY ENCOUNTER IN BASING ITS BID PRICES, TIME, OR SCHEDULE OF PERFORMANCE ON THE BORING DATA DEPICTED HERE OR THOSE AVAILABLE FROM THE DISTRICT, OR ANY OTHER DOCUMENTATION NOT EXPRESSLY WARRANTED, WHICH THE CONTRACTOR MAY OBTAIN FROM THE

PROOF AND VERIFICATION NAIL LOCATIONS AND TESTING REQUIREMENTS SHALL BE DEVELOPED BY THE CONTRACTOR IN ACCORDANCE WITH 2015 FHWA GEOTECHNICAL ENIGNEERING CIRCULAR (GEC) NO. 7 SOIL NAIL WALLS AND SUBMITTED TO MODOT FOR APPROVAL PRIOR TO WORK.

ESTIMATED QUANTITIES FOR	R WALL *	
ITEM	UNIT	TOTAL
SCALING (MACHINE) **	LUMP SUM	1
SHOTCRETE	SQ. FOOT	3,907
SOIL NAIL TENDON BARS	EACH	111
REINFORCING STEEL (EPOXY COATED)	POUND	9,250
WALL DRAINAGE NETWORK	SQ. FOOT	363
PROOF TEST	EACH	6
VERIFICATION TEST	EACH	2

* FOR INFORMATION ONLY

** INCLUDES THE REMOVAL OF EXISTING BOULDERS AND TREES AS NOTED ON SPECIAL SHEET 2

TABLE OF ESTIMATED QUANTITI FOR SOIL NAILS	ES	
SOIL NAILS (15' EMBEDMENT)	EA.	13
SOIL NAILS (20' EMBEDMENT)	EA.	13
SOIL NAILS (22.5' EMBEDMENT)	EA.	13
SOIL NAILS (25' EMBEDMENT)	EA.	13
SOIL NAILS (27.5' EMBEDMENT)	EA.	13
SOIL NAILS (30' EMBEDMENT)	EA.	2
SOIL NAILS (32.5' EMBEDMENT)	EA.	2
SOIL NAILS (35' EMBEDMENT)	EA.	13
SOIL NAILS (37.5' EMBEDMENT)	EA.	2
SOIL NAILS (42.5' EMBEDMENT)	EA.	27

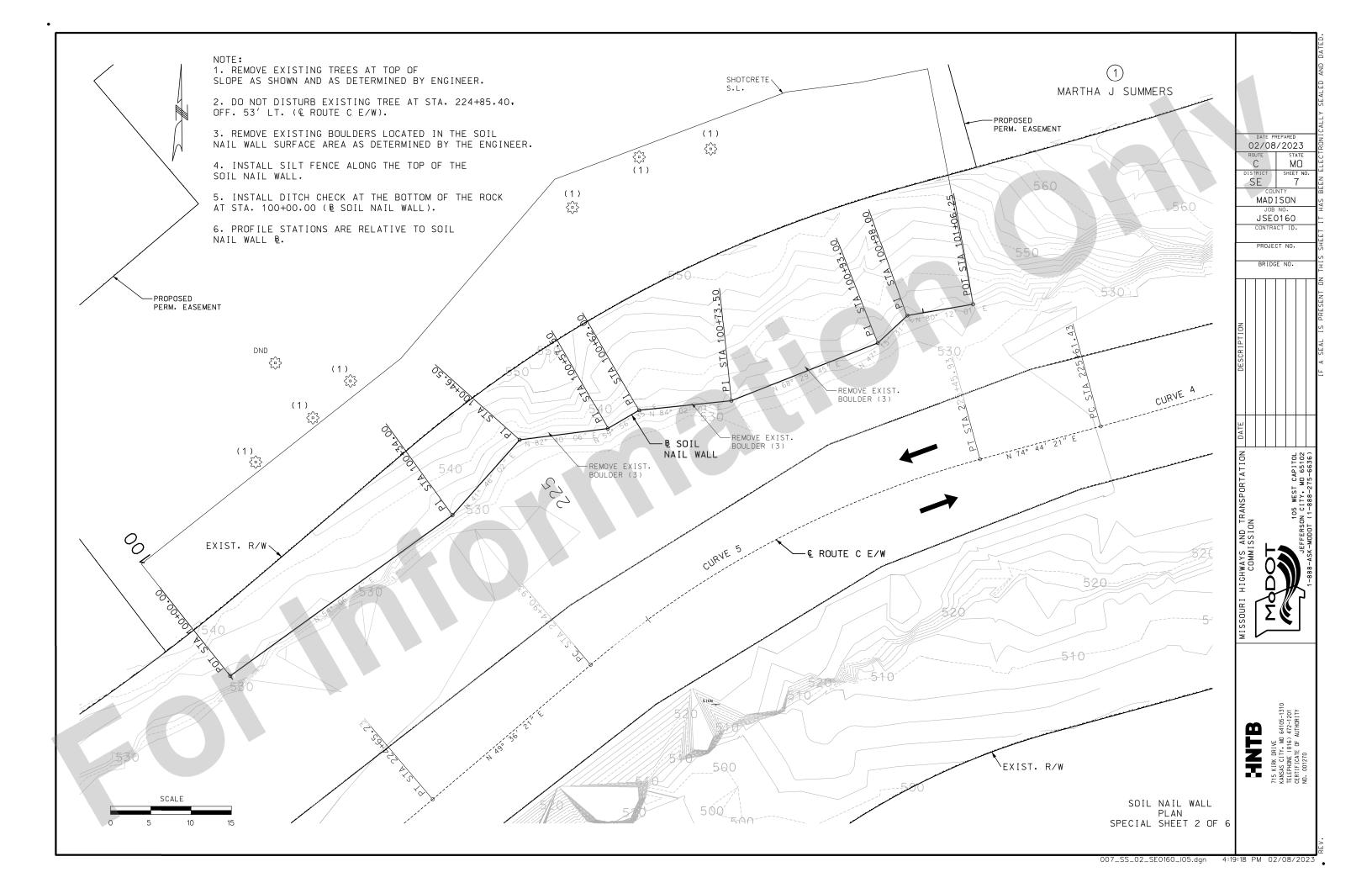
NOTE: MINIMUM SOIL NAIL EMBEDMENT LENGTH, LENGTH DOES NOT INCLUDE EXTENSION REQUIRED INTO TEMPORARY AND PERMANENT FACING AND FOR BEARING PLATE AND HARDWARE ATTACHMENT.

CONSTRUCTION JOINT LOCATIONS	
100+30	
100+60	
100+90	

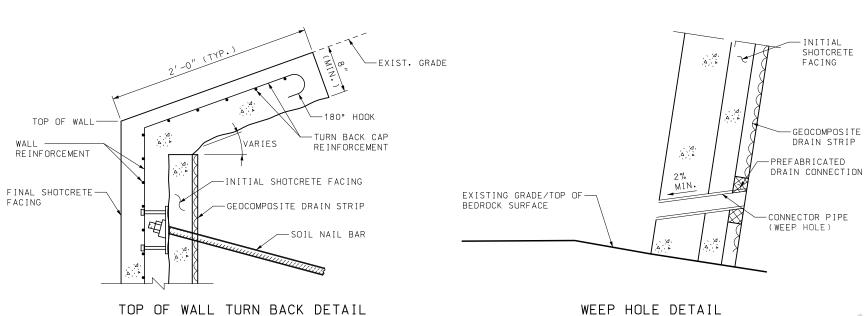
EXPANSION JOINT LOCATIONS	
100+20	
100+40	
100+80	
101+00	

02/08/2023 MΩ SHEET NO 6 MADISON JSE0160 CONTRACT ID PROJECT NO. BRIDGE NO.

SOIL NAIL WALL GENERAL NOTES SPECIAL SHEET 1 OF 6



NOTES: CONTRAÇTOR M JTILITIES PR	UST VERIFY THE	LOCATION NG NAILS	OF EX	ISTING																			1		
PROFILES STA	TIONS ARE RELAT	IVE TO S	OIL NA	IL WALL	_ B.																		5'-	>	DATE PREPA 02/08/2 ROUTE
																									C DISTRICT SE
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570										20		10	1 1 56						VPI	0 1 0 4 9		1101		570	
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560	5 2 0			2			VP I)		VPI 1			42.5	42.5	12.5 42.	5 42.5	42.5	42.5	12.5 42.	5 25.0	25.0	6071		560	4
		-TOP OF SHOTCRETE					> 4]			36.27	9. 1	42.5		12.5 42.			42.5	D D	5 37.5		SUIL	NAIL (TYP.)		DATE
550	,	+0.62			+8.3						25								-	4′ TYP.)	-			550	AT I ON
	22.5	22.5 22.5	22.5	22.5	22.5	22.5 2	2.5 22.5	22.5	22.5	22.5	22.5 35	0 35.0	42.5	42.5	42.5 42.	5 42.5	42.5	42.5	12.5 42.	5 35,0	35.0				PORT
	27.5 2	27.5 27.5	27.5	27.5	27.5		7.5 27.	27.5	27.5	27.5	27.5 32	5 32.5	35.0	35.0	35.0 35.	35.0	35.0	35.0	35.0 35.	0 30.0	30.0				HIGHWAYS AND TRANS COMMISSION
540	15.0	D D	15.0	15.0	15.0	15.0 1	5.0 15.0	15.0	15.0	15.0 1	D D	D 20.0	20.0	20.0	20.0 20.	20.0	20.0	20.0	20.0 20.	0 20.0	20.0			540	WAYS A COMMIS
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530	000								-BOTTOM SHOTCRE	OF ETE									'			.00		530	MISSOURI T
	0+00	MINIMI NOT I AND P	UM SOIL I NCLUDE E ERMANENT	NAIL EMB XTENSION FACING	EDMENT REQUIR AND FOR	LENGTH. ED INTO BEARIN	LENGTH DC TEMPORARY PLATE AN	ES D														1+06 535			<u> </u>
	100	HARDW	ARE ATTA	SHMENT							*	ONLY TH	E VERT	ICAL S	PACING B	ETWEEN	THE BO	TTOM O	F WALL						1
520	d >										1A	ID THE F	IRST R	ÓW OF	SOIL NAI	LS. NO	THE T	YPICAL	VERTIC	AL SPAC	ING.	<u> </u>		520	1105-1310
																									TAR DRIVE KANSAS CITY. MO 64105-1310
510																								510	715 KIR
	100																			1	01		L	NAIL WALL AYOUT SHEET 3 OF 6	



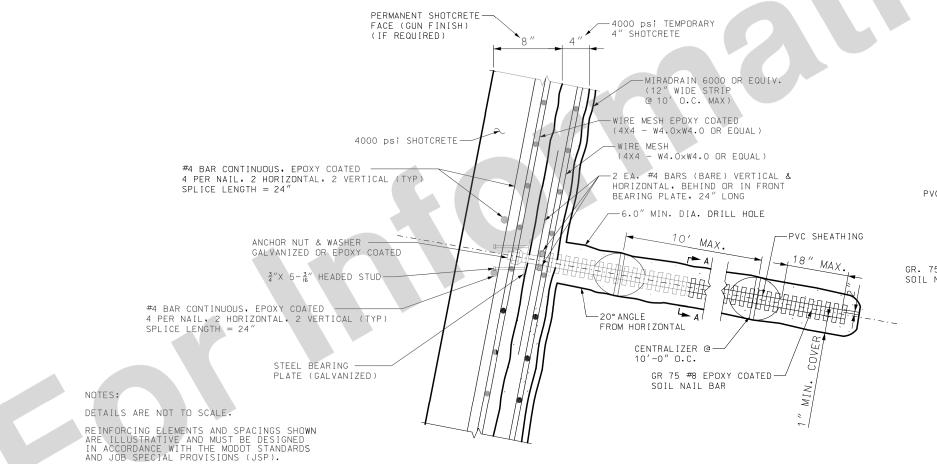
(LOCATIONS AS REQUIRED) INITIAL FACING REINFORCEMENT NO SHOWN FOR CLARITY.

INSTALL SHOTCRETE FILL AND SOIL NAIL EXTENSION AT LOCATIONS AS DIRECTED BY THE ENGINEER WHERE MACHINE SCALING OR

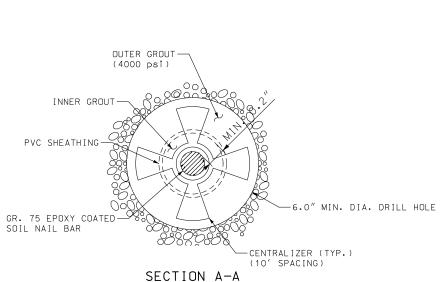
ROCK EXCAVATION RESULTS IN OVERBREAK.

WEEP HOLE DETAIL

WALL REINFORCEMENT NOT SHOWN FOR CLARITY.



NAIL WALL DETAIL



BEARING PLATE PL $\frac{3}{4}$ "X 8"X 8

STEEL STUD

 $\frac{3}{4}$ Ø X 5 $\frac{3}{16}$ " (TYP. 4 PLCS.)

 $-1\frac{3}{16}$ "X $1\frac{1}{8}$ "
SLOTTED HOLE

0

0

BEARING PLATE

WITH STUDS DETAIL

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MADISON

JSE0160

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

MΩ

SHEET NO

9

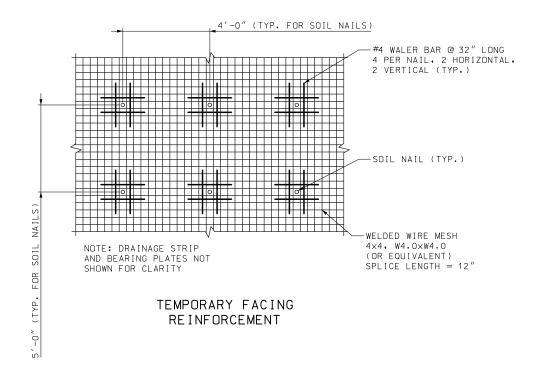
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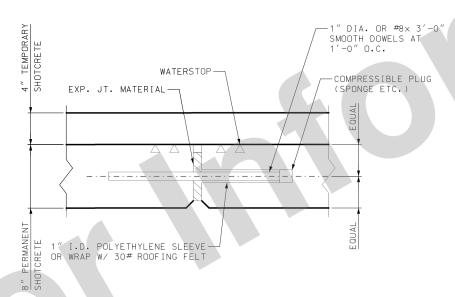
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SOIL NAIL WALL DETAILS SPECIAL SHEET 4 OF 6

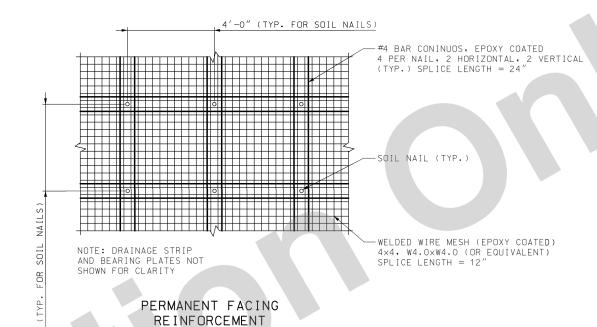
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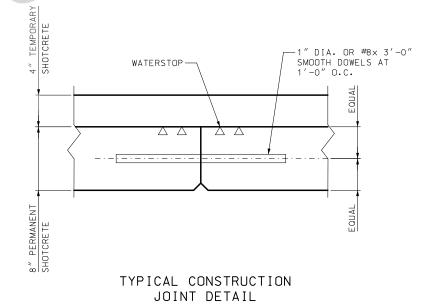
715 KIRK DRIVE KANSAS CITY, MO 6. TELEPHONE (816) 4' CERTIFICATE OF AU'





EXPANSION JOINT DETAIL
(EXPANSION JOINT AT 20'-0" MAX.)





(CONSTRUCTION JOINT AT 30'-0" MAX.)

SOIL NAIL WALL SHEET DETAILS SPECIAL SHEET 5 OF 6

JSE0160 CONTRACT ID. PROJECT NO. BRIDGE NO. 715 KIRK DRIVE KANSAS CITY, MO 6 TELEPHONE (816) 4 CERTIFICATE OF AU NO. 001270

02/08/2023

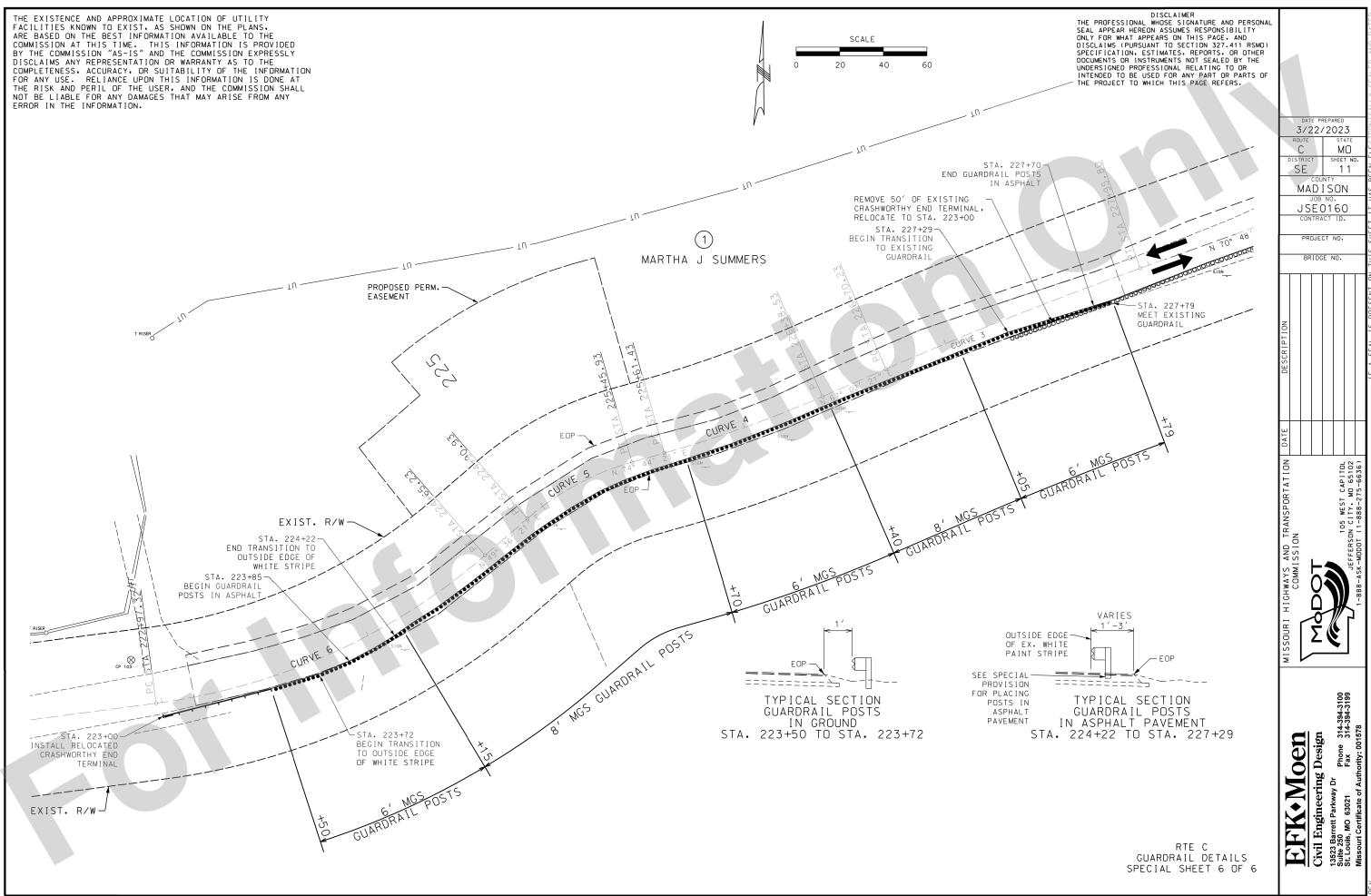
MADISON

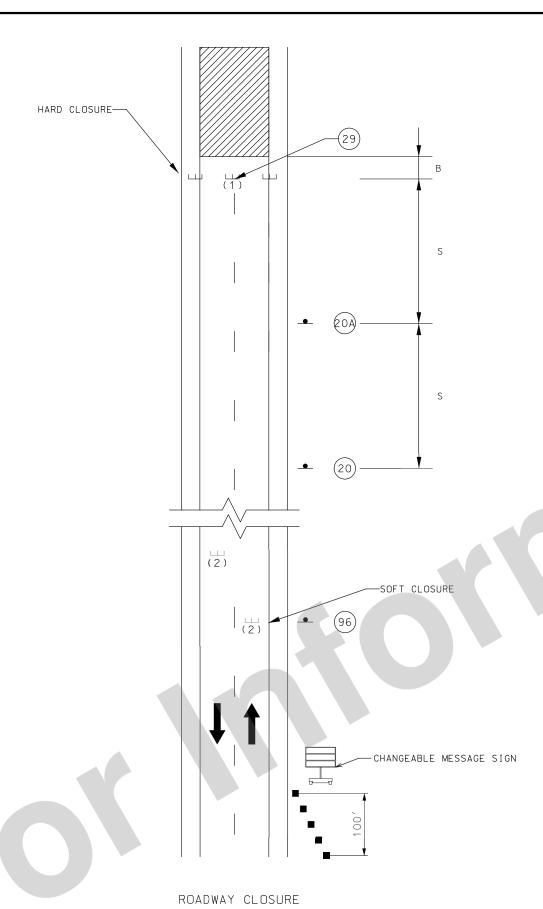
MO SHEET NO.

10

C

SE





NO SCALE







ROAD CLOSED TO THRU TRAFFIC

R11-4



FOR FLAGS AND ADVANCE WARNING RAIL SYSTEMS, REFER TO EPG 616.6.2.2 FLAGS AND ADVANCED WARNING RAIL SYSTEM

SPEED	SIGN SPA	ACING (FT.)	TAPER LENGT	H (FT.)	OPTIONAL	CHANNELIZER SPACING (FT.)			
NORMAL POSTED (MPH)	UNDIVIDED (S)	DIVIDED (S)	SHOULDER (1) (T1)	LANE (2) (T2)	BUFFER LENGTH (FT.) (B)	TAPERS	BUFFER/ WORK AREAS		
0 - 35	200	200	70	245	280	35	40		
40 - 45	350	500	150	540	500	40	80		
					•	•			

(1) SHOULDER TAPER LENGTH BASED ON 10 FT. STANDARD SHOULDER WIDTH OFFSET.
(2) LANE TAPER LENGTH BASED ON 12 FT. STANDARD LANE WIDTH OFFSET.

NOTES:

(1) "ROAD CLOSED" SIGN MAY BE PLACED 7-10 FEET BEHIND THE BARRICADES AND AT A SIGN HEIGHT APPROPRIATE TO THE TYPE OF ROADWAY. ONE BARRICADE SHOULD BE REQUIRED TO COMPLETELY CLOSE EACH 8-FEET OF PAVEMENT. PAVED SHOULDER SHALL BE INCLUDED IN THE AREA TO BE CLOSED.

(2) IF USED, THE "ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY" OR "ROAD CLOSED TO THRU TRAFFIC" SIGN SHOULD BE LOCATED AT THE FIRST STATE ROUTE OR, AT THE DISCRETION OF THE ENGINEER, ANY OTHER INTERSECTION IN ADVANCE OF THE CLOSURE, ADDITIONAL BARRICADES MAY BE USED AND OFFSET TO FACILITATE ACCESS FOR WORK VEHICLES, LOCAL TRAFFIC, FTC.

TRAFFIC CONTROL SHOULD BE REMOVED AS SOON AS PRACTICAL AFTER CONDITION FOR THE CLOSURE NO LONGER EXISTS.

FOR LONG-TERM OPERATIONS, REFER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM (AWRS).

ADDITIONAL WARNING SIGNS SHOULD BE ERECTED AT EACH INTERSECTION WITHIN THE WORKZONE.

SUPPLEMENTAL WARNING METHODS MAY BE USED TO CALL ATTENTION TO THE WORKZONE.

SEE STANDARD PLAN 616.10 FOR USE OF BARRICADES AND SIGNS.

FOR LONG TERM CLOSURE, DETOUR SIGNING SHOULD BE CONSIDERED.

FOR DETOUR SIGNING, REVIEW EPG 616.8.9 ROAD CLOSED BEYOND JUNCTION DETOUR.

PLACEMENT OF CHANGEABLE MESSAGE SIGN TO BE DETERMINED BY ENGINEER.

715 KIRK DRIVE
KANSAS CITY. MD 64105–1310
CERTIFICATE OF AUTHORITY

02/08/2023

MADISON

JSE0160

PROJECT NO.

BRIDGE NO.

SE

MΩ

SHEET NO

12

TRAFFIC CONTROL TYPICAL APPLICATIONS SHEET 1 OF 2

