MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

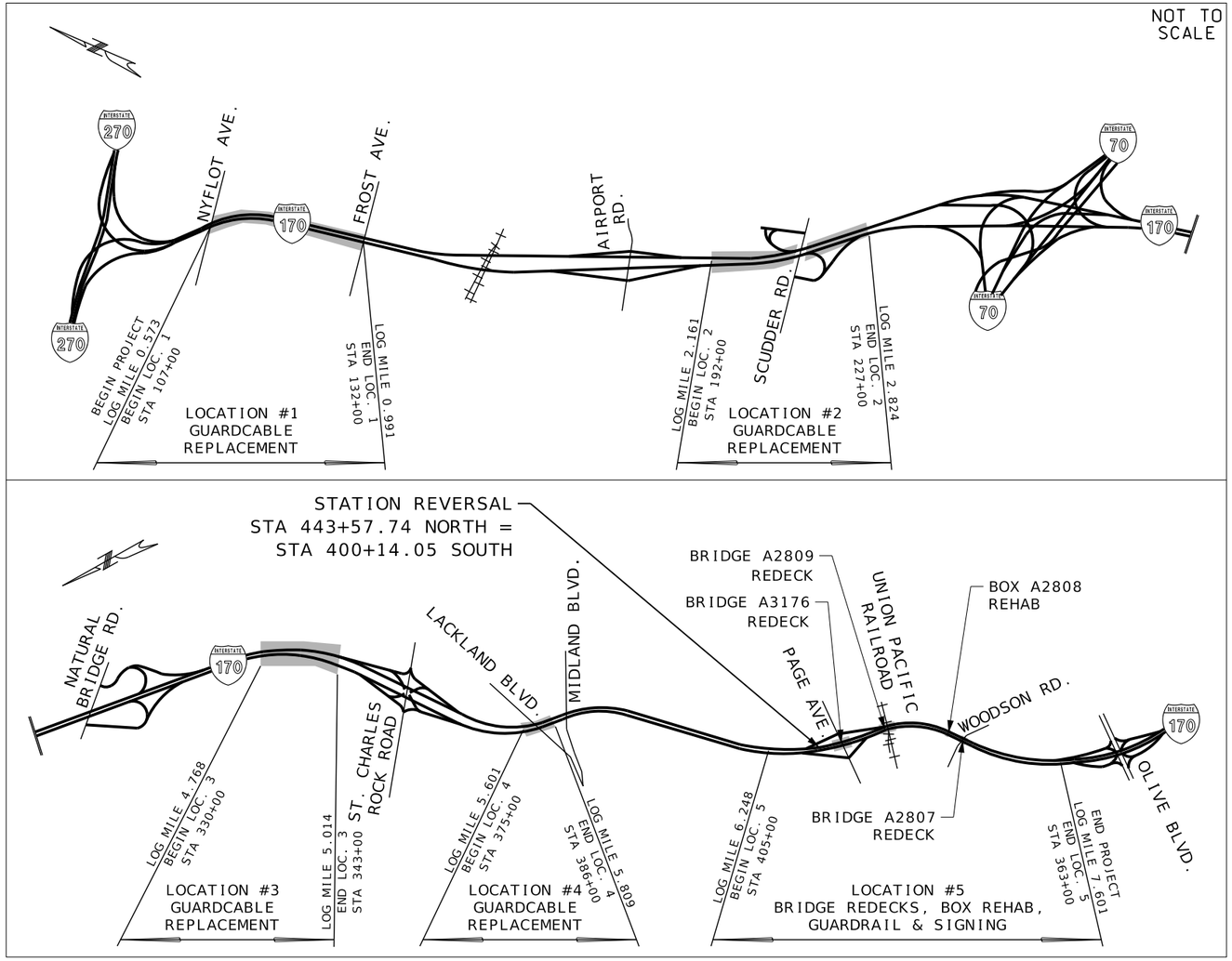
PLANS FOR PROPOSED STATE HIGHWAY

ST. LOUIS COUNTY



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NOT TO SCALE



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DESIGN DESIGNATION

A.A.D.T. - 2025 = 105220
A.A.D.T. - 2045 = 116260
D.H.V. = 9%
T = 3.2%
V = 60 M.P.H.
D = 51%

FUNCTIONAL CLASSIFICATION- INTERSTATE

NO RIGHT OF WAY OR EASEMENTS WILL BE ACQUIRED FOR THIS PROJECT.

CONVENTIONAL SYMBOLS
(USED IN PLANS)

	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
GUARD CABLE		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
UTILITIES		
FIBER OPTICS	-FO-	~~FO~~
OVERHEAD CABLE TV	-OTV-	~~OTV~~
UNDERGROUND CABLE TV	-UTV-	~~UTV~~
OVERHEAD TELEPHONE	-OT-	~~OT~~
UNDERGROUND TELEPHONE	-UT-	~~UT~~
OVERHEAD POWER	-OE-	~~OE~~
UNDERGROUND POWER	-UE-	~~UE~~
SANITARY SEWER	-S-	~~S~~
STORM SEWER	-SS-	~~SS~~
GAS	-G-	~~G~~
WATER	-W-	
MANHOLE	SAN	
FIRE HYDRANT	HYD	
WATER VALVE		
WATER METER		
DROP INLET	DI	
DITCH BLOCK		
GROUND MOUNTED SIGN	SIGN	
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL	PED	
FENCE		
CHAIN LINK	-V-	
WOVEN WIRE	-X-	
GATE POST		
BENCHMARK	BM	
ADJUST TO GRADE	ATG	
USE IN PLACE	UIP	
DO NOT DISTURB	DND	
NO DIRECT PAY	NDP	
REMOVE	R	
BY OTHERS	BO	
REMOVE AND REPLACE	R&R	

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
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A2807	1-25
A2808	1
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LENGTH OF PROJECT

LOCATION #1	
BEGINNING OF PROJECT	STA. 107+00.00
END OF LOC.	STA. 132+00.00
APPARENT LENGTH	2500.00 FEET
LOCATION #2	
BEGINNING OF LOC.	STA. 192+00.00
END OF LOC.	STA. 227+00.00
APPARENT LENGTH	3500.00 FEET
LOCATION #3	
BEGINNING OF LOC.	STA. 330+00.00
END OF LOC.	STA. 343+00.00
APPARENT LENGTH	1300.00 FEET
LOCATION #4	
BEGINNING OF LOC.	STA. 375+00.00
END OF LOC.	STA. 386+00.00
APPARENT LENGTH	1100.00 FEET
LOCATION #5	
STATION REVERSAL NORTH	STA. 405+00.00
BEGINNING OF LOC.	STA. 443+57.74
APPARENT LENGTH	3857.74 FEET
END OF PROJECT	STA. 360+00.00
STATION REVERSAL SOUTH	STA. 400+14.05
APPARENT LENGTH	4014.05 FEET
EQUATIONS AND EXCEPTIONS:	
TOTAL CORRECTIONS	0.00 FEET
NET LENGTH OF PROJECT	16271.79 FEET
STATE LENGTH	3.082 MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES	5.0 ACRES

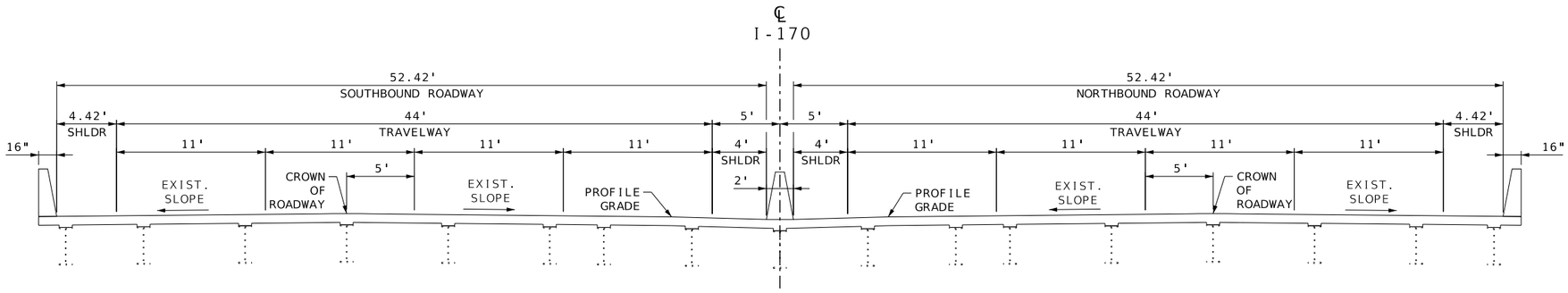
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI
09/26/2026 10:15:35 AM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED 9/25/2026
ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 1
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

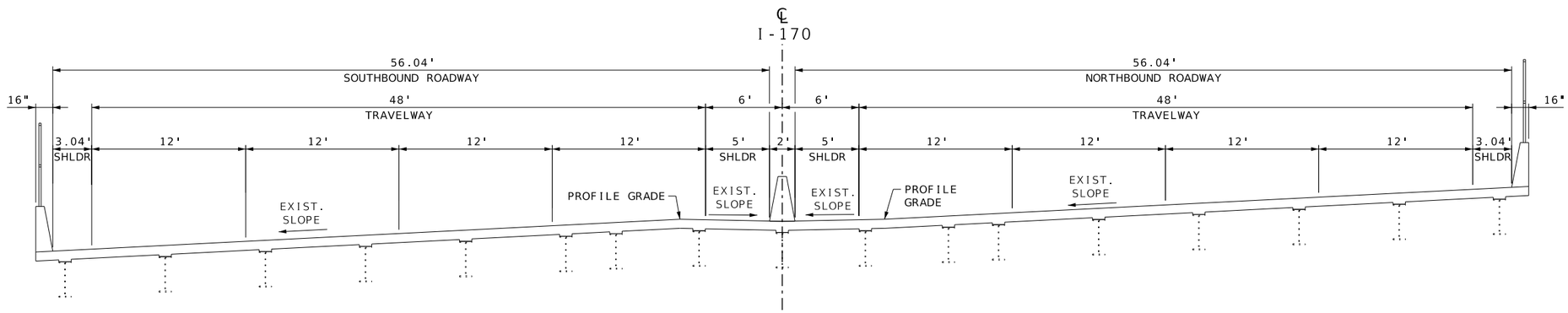
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



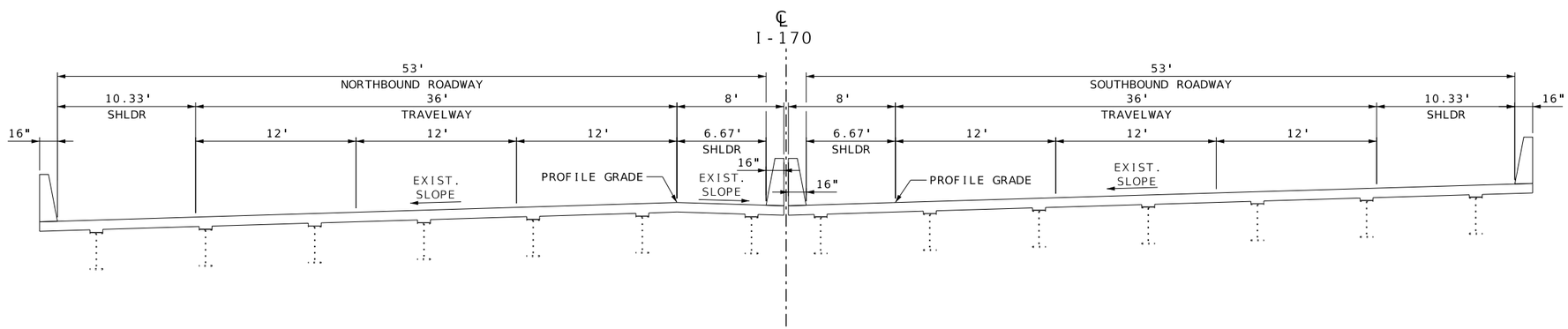
TYPICAL SECTION ON BRIDGE ON TANGENT
I-170 OVER WOODSON ROAD & RIVER DES PERES
BRIDGE A2807

STA. 381+78.25 TO STA. 383+09.75



TYPICAL SECTION ON SUPERELEVATION
I-170 OVER UPRR
BRIDGE A2809

STA. 395+81.67 TO STA. 397+46.71



TYPICAL SECTION ON SUPERELEVATION
I-170 OVER PAGE AVE.
BRIDGE A3176

STA. 437+30.34 TO STA. 439+12.37

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TYPICAL SECTIONS
SHEET 1 OF 2

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 1:40:36 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	2

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

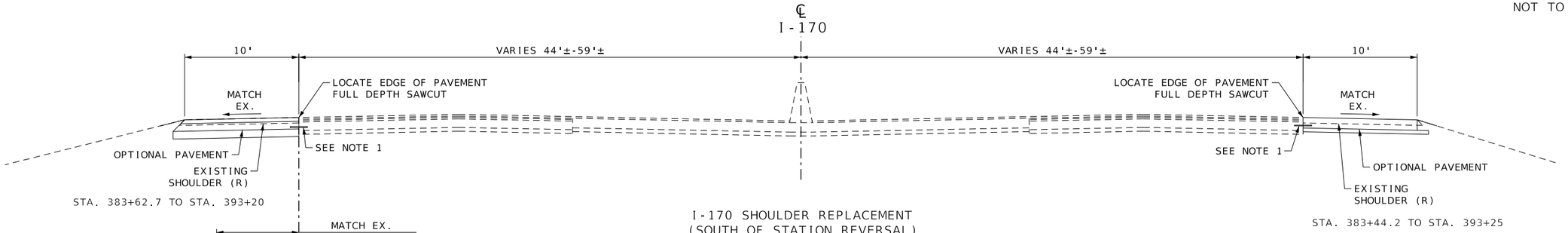
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

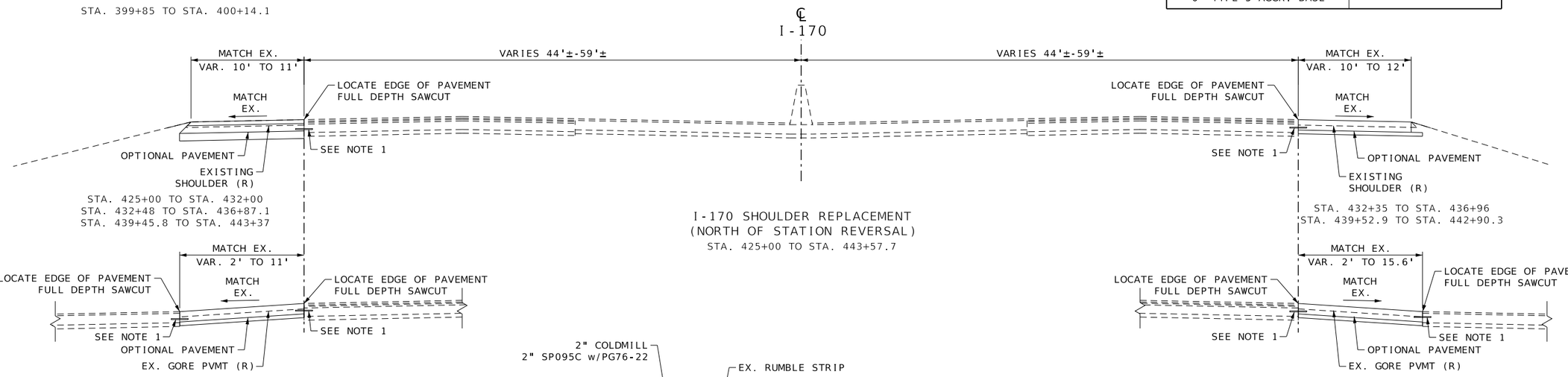
EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

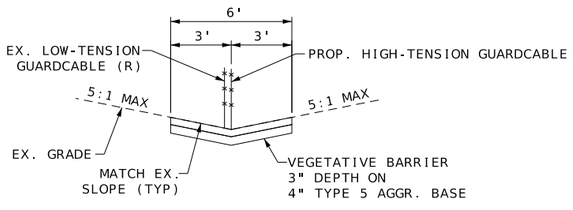
NOT TO SCALE



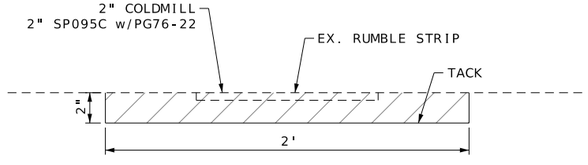
NOTE 1:
SEE STANDARD PLANS FOR OPTIONAL PAVEMENT DOWEL AND TIE BAR PLACEMENT.

OPTIONAL PAVEMENT	
ASPHALT OPTION	CONCRETE OPTION
11.5" HMA 2" SP125B w/ PG76-22 2" SP125B w/PG76-22 7.5" SP190C w/ PG64-22 6" TYPE 5 AGGR. BASE	9.5" PCCP 15 FT. JOINTS AND 1.25" DOWELS 6" TYPE 5 AGGR. BASE

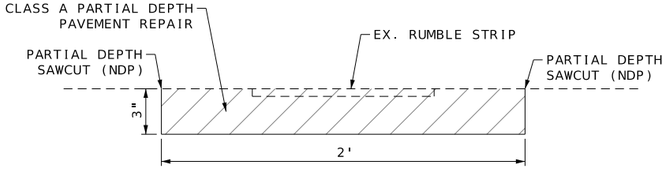




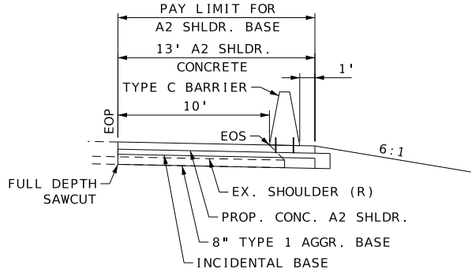
I-170
HIGH-TENSION GUARDCABLE
STA. 108+18 TO STA. 123+54
STA. 124+65 TO STA. 133+50
STA. 193+32 TO STA. 197+16
STA. 197+68 TO STA. 203+88
STA. 205+50 TO STA. 210+93
STA. 215+47 TO STA. 225+90
STA. 331+60 TO STA. 341+55
STA. 375+00 TO STA. 380+12



RUMBLE STRIP REPAIR
IN ASPHALT
VAR. LOCATIONS, SEE PLANS



RUMBLE STRIP REPAIR
IN CONCRETE
VAR. LOCATIONS, SEE PLANS



I-170 SHOULDER REPLACEMENT
(LOCATION #4)
STA. 379+86 TO STA. 384+49.4

APPLICATION RATES:

SP095C PG76-22:	1.913 TON/C.Y.
SP125B PG76-22:	1.927 TON/C.Y.
SP190C PG64-22:	1.940 TON/C.Y.
TACK:	0.10 GAL/S.Y.

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TYPICAL SECTIONS
SHEET 2 OF 2

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER
09/25/2026 1:41:28 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	2

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

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REMOVAL OF IMPROVEMENTS

SHEET NO.	ROADWAY	STA	STA	LOC	L.F.	S.F.	EACH	DESCRIPTIONS
4	I-170	108+16	123+66	LT	1551			LOW TENSION GUARDCABLE & ANCHORS
4	I-170	125+75	130+53	RT	481			LOW TENSION GUARDCABLE & ANCHORS
5	I-170	193+34	196+74	RT	342			LOW TENSION GUARDCABLE & ANCHORS
5	I-170	198+12	203+68	RT	559			LOW TENSION GUARDCABLE & ANCHORS
5	I-170	205+68	210+87	RT	521			LOW TENSION GUARDCABLE & ANCHORS
5	I-170	215+83	225+55	RT	974			LOW TENSION GUARDCABLE & ANCHORS
6	I-170	331+23	341+60	RT	1037			LOW TENSION GUARDCABLE & ANCHORS
6	I-170	376+55	379+83	LT	327			LOW TENSION GUARDCABLE & ANCHORS
6	I-170	379+39	384+49	RT	511			EX GUARDRAIL
6	I-170	379+86	384+49	LT	463			EX GUARDRAIL
6	I-170	379+86	384+49	LT/RT		10526		EX SHOULDER/PAVEMENT
6	I-170	379+86	384+49	LT/RT	904			SAWCUT
7	I-170	367+18		LT			1	LIGHT POLE & FOUNDATION
7	I-170	370+37	373+51	LT/RT			4	PULLBOX
7	I-170	373+48		RT			1	LIGHT POLE & FOUNDATION
7	I-170	370+37	373+51	LT/RT	1200			CABLE CONDUIT
8	I-170		381+43	LT	54			SAWCUT
8	I-170		381+24	RT	54			SAWCUT
8	I-170	373+75	377+25	CL	350			EX BARRIER
8	I-170	378+14	378+54	CL	40			EX BARRIER
8	I-170	381+81	383+07	LT/RT			8	WALL PACK
8	I-170	381+81	383+07	LT/RT	400			CONDUIT ON STRUCTURE/WIRE
8	I-170		383+64	LT	54			SAWCUT
8	I-170	381+25	381+80	RT		2425		PAVEMENT REMOVAL
8	I-170	381+43	382+00	LT		2425		PAVEMENT REMOVAL
8	I-170	382+88	383+45	RT		2425		PAVEMENT REMOVAL
8	I-170	382+05	383+63	LT		2425		PAVEMENT REMOVAL
8-9	I-170	383+36	395+71	LT	1235			EX GUARDRAIL
8-9	I-170	382+99	392+24	RT	925			EX GUARDRAIL
8-9	I-170	383+64	393+20	LT		9659		EX SHOULDER
8-9	I-170	383+45	392+24	RT		9003		EX SHOULDER
8-9	I-170	383+64	393+20	LT	936			SAWCUT
8-9	I-170	383+45	392+24	RT	899			SAWCUT
9	I-170	394+93	395+77	RT	87			EX GUARDRAIL
9	I-170	394+52		LT			1	LIGHT POLE & FOUNDATION
9	I-170	395+70	397+58	LT	185			CONDUIT ON STRUCTURE/WIRE
9	I-170		395+43	LT	57			SAWCUT
9	I-170		395+47	RT	57			SAWCUT
9	I-170	395+11	395+62	CL	51			EX BARRIER
9	I-170	397+67	398+06	CL	40			EX BARRIER
9	I-170		397+82	RT	57			SAWCUT
9	I-170		397+77	LT	58			SAWCUT
9	I-170	395+43	395+81	LT		1925		PAVEMENT REMOVAL
9	I-170	395+47	395+84	RT		1925		PAVEMENT REMOVAL
9	I-170	397+42	397+82	LT		2029		PAVEMENT REMOVAL
9	I-170	397+39	397+77	RT		2029		PAVEMENT REMOVAL
9	I-170	397+58	398+49	LT	89			EX GUARDRAIL
9	I-170	397+52	398+35	RT	87			EX GUARDRAIL
9-10	I-170	399+85	439+55	LT	577			SAWCUT
9-10	I-170	399+85	439+55	LT		4335		EX SHOULDER AND MEDIAN STRIP
9-10	I-170	397+82	400+14	LT/RT		3683		CONCRETE PAVEMENT
9-10	I-170	397+82	400+14	CL	232			EX BARRIER
9-10	I-170	397+82	400+14	LT/RT	476			SAWCUT
10	I-170	399+09		RT			1	CATWALK & LIGHT
10	I-170	439+09	437+33	LT/RT			4	WALL PACK
10	I-170	439+09	437+33	LT/RT	385			CONDUIT ON STRUCTURE/WIRE
10	I-170		439+55	LT	54			SAWCUT
10	I-170 *	443+37	439+47	RT	422			SAWCUT
10	I-170 *	443+37	439+47	RT		3982		EX SHOULDER
10	I-170 *		439+47	RT	54			SAWCUT
10	I-170 *	439+55	439+12	RT		2025		PAVEMENT REMOVAL
10	I-170 *	439+47	439+04	LT		2025		PAVEMENT REMOVAL
10	I-170 *	437+30	436+86	LT		2100		PAVEMENT REMOVAL
10	I-170 *	437+38	436+95	RT		2100		PAVEMENT REMOVAL
10	I-170 *	440+63	439+11	RT	150			EX GUARDRAIL
10	I-170 *	439+80	439+32	CL	48			EX BARRIER
10	I-170 *	437+10	436+66	CL	56			EX BARRIER
10	I-170 *	437+30	435+89	LT	146			EX GUARDRAIL
10	I-170 *	436+95	431+37	LT	991			SAWCUT
10	I-170 *	436+95	431+37	LT		5594		EX SHOULDER
10	I-170 *		436+95	RT	54			SAWCUT
10	I-170 *	436+86	431+40	RT	540			SAWCUT
10	I-170 *	436+86	431+40	RT		4947		EX SHOULDER
10	I-170 *		436+86	LT	54			SAWCUT
10	I-170 *	431+30	430+95	CL	36			EX BARRIER
10	I-170 *	430+89	430+52	CL	38			EX BARRIER
10-11	I-170 *	432+00	425+00	LT	684			SAWCUT
10-11	I-170 *	432+00	425+00	LT		6813		EX SHOULDER
12	I-170 *	413+86	413+46	CL	40			EX BARRIER
12	I-170 *	413+38	412+98	CL	40			EX BARRIER
12	I-170 *	412+98	408+40	CL	458			EX BARRIER
60	I-170	362+58	368+85	RT			3	SIGNS, POSTS, FOOTINGS
63	I-170*	399+09	443+00	LT/RT			3	SIGNS FROM TRUSS/BRIDGE
			PAY TOTAL		1 LUMP SUM			

* REVERSE STATIONING - STATION EQUATION 400+14.50 BK/443+57.74 AH

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MOBILIZATION	1 LUMP SUM
CONTRACTOR FURNISHED SURVEYING AND STAKING	1 LUMP SUM
CULVERT CLEANOUT	18 EACH
TEMPORARY SEEDING (FOR HIGH TENSION GUARD CABLE INSTALLATION)	3 ACRES
SEEDING - COOL SEASON GRASSES (FOR HIGH TENSION GUARD CABLE INSTALLATION)	5 ACRES
MULCHING (FOR HIGH TENSION GUARD CABLE INSTALLATION)	8 ACRES
ADDITIONAL MOBILIZATION FOR SEEDNG	6 EACH
MISC. TRAFFIC SIGNAL MAINTENANCE AND PROGRAMMING	1 LUMP SUM
TEMPORARY PAVEMENT MARKING PAINT	1 LUMP SUM
WINTERIZATION	1 LUMP SUM
SOUND WALL REPAIRS	1 LUMP SUM
MoDOT ITS ASSETS RELOCATION	500 L.F.
FLOWABLE BACKFILL (UNDER RTE D BRIDGE)	5 C.Y.

CONCRETE APPROACH PAVEMENT

SHEET NO	ROADWAY	STA	STA	LOC	CONCRETE APPROACH PAVEMENT S.Y.	REMARKS
8	I-170	381+24.5	381+58.3	RT	146.37	SOUTH OF STATION REVERSAL
8	I-170	381+43.4	381+76.6	LT	148.37	SOUTH OF STATION REVERSAL
8	I-170	383+11.2	383+44.9	RT	146.48	SOUTH OF STATION REVERSAL
8	I-170	383+29.8	383+63.4	LT	146.48	SOUTH OF STATION REVERSAL
9	I-170	395+42.6	395+61.6	LT	107.84	SOUTH OF STATION REVERSAL
9	I-170	395+46.6	395+64.9	RT	106.74	SOUTH OF STATION REVERSAL
9	I-170	397+63.4	397+81.8	RT	107.18	SOUTH OF STATION REVERSAL
9	I-170	397+66.8	397+85.9	LT	109.54	SOUTH OF STATION REVERSAL
10	I-170	436+86.3	437+10.2	LT	117.58	NORTH OF STATION REVERSAL
10	I-170	436+95.2	437+18.6	RT	116.79	NORTH OF STATION REVERSAL
10	I-170	439+24.4	439+47.3	LT	112.73	NORTH OF STATION REVERSAL
10	I-170	439+32.3	439+54.6	RT	112.44	NORTH OF STATION REVERSAL
				SUBTOTAL	1478.54	
				TOTAL	1478.5	

SUMMARY OF QUANTITIES
SHEET 1 OF 9

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

11/05/2026 1:55:57 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
11/5/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	3

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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Civil Engineering Design
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Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

PERMANENT CONCRETE TRAFFIC BARRIER

SHEET NO	ROADWAY	STA	STA	LOC	CONCRETE TRAFFIC BARRIER TYPE A	CONCRETE TRAFFIC BARRIER TYPE C	CONCRETE TRAFFIC BARRIER TYPE D (MOMENT SLAB)	REMARKS
					L.F.	L.F.	L.F.	
6	I-170	379+86	382+35	LT		248.8		NORTH OF STATION REVERSE
6	I-170	380+50	382+35	RT		185.6		NORTH OF STATION REVERSE
6	I-170	382+35	384+49	RT		213.9		NORTH OF STATION REVERSE
7-8	I-170	373+75	377+25	CL		350.0		STEPPED BARRIER SOUTH OF STATION REVERSE
8	I-170	378+14	378+54	CL		40.0		SOUTH OF STATION REVERSE
8	I-170	380+95	381+58	CL		63.2		SOUTH OF STATION REVERSE
8	I-170	381+24	381+40	RT			15.0	SOUTH OF STATION REVERSE
8	I-170	381+44	381+77	LT			33.3	SOUTH OF STATION REVERSE
8	I-170	383+30	383+75	CL		45.3		SOUTH OF STATION REVERSE
9	I-170	395+11	395+62	CL		50.6		SOUTH OF STATION REVERSE
9	I-170	397+67	400+14	CL		247.3		SOUTH OF STATION REVERSE
12	I-170	408+40	412+98	CL		458.0		NORTH OF STATION REVERSE
12	I-170	412+98	413+38	CL		40.0		NORTH OF STATION REVERSE
12	I-170	413+46	413+86	CL	40.0			NORTH OF STATION REVERSE
10	I-170	430+52	430+89	CL	40.0			NORTH OF STATION REVERSE
10	I-170	430+95	431+30	CL	40.0			NORTH OF STATION REVERSE
10	I-170	434+70	437+10	CL		240.2		NORTH OF STATION REVERSE
10	I-170	439+32	439+84	CL		44.0		NORTH OF STATION REVERSE
				SUBTOTAL	120.0	2226.9	48.3	
				PAY TOTAL	120	2227	48	

PAVEMENT REPAIR/SHOULDER WEDGING

SHEET NO	ROADWAY	STA	STA	LOC	REPAIR AREA L x W	FURNISHING AND PLACING CONCRETE MATERIAL FOR CLASS A PARTIAL DEPTH PAVEMENT REPAIR	REMOVAL FOR CLASS A PARTIAL DEPTH PAVEMENT REPAIR	COLDMMILLING BITUMINOUS PAVEMENT FOR REMOVAL OF SURFACING (3" THICK OR LESS)	MODIFIED COLDMILLING (DEPTH TRANSITIONS)	ASPHALTIC CONCRETE MIXTURE PG 76-22 (SP095C MIX)	TACK COAT	REMARKS
						C.Y.	S.Y.	S.Y.	S.Y.	TONS	GAL.	
7-8	I-170	373+60	381+11	RT	751 x 2	13.88	166.56					SOUTH OF STATION REVERSAL
7-8	I-170	375+40	381+11	RT	571 x 2	10.45	125.45					SOUTH OF STATION REVERSAL
7-8	I-170	375+45	381+43	LT	598 x 2	11.10	133.18					SOUTH OF STATION REVERSAL
8	I-170	379+59	381+43	LT	184 x 2	3.46	41.52					SOUTH OF STATION REVERSAL
8-9	I-170	383+45	395+47	RT	1202 x 2			268.2		28.50	26.8	SOUTH OF STATION REVERSAL
8-9	I-170	383+45	392+22	RT	877 x 2			198.9		21.14	19.9	SOUTH OF STATION REVERSAL
8-9	I-170	383+64	395+43	LT	1179 x 2			260.9		27.73	26.1	SOUTH OF STATION REVERSAL
8-9	I-170	383+64	390+78	LT	714 x 2			158.7		16.86	15.9	SOUTH OF STATION REVERSAL
TCP 0	I-170	372+55	379+00	LT/RT	645 x VAR (22.4' MAX)				20.2	316.50	151.0	SOUTH OF STATION REVERSAL
TCP 3	I-170	372+55	372+60	LT	5 x VAR (19' MAX)	0.87	10.43					SOUTH OF STATION REVERSAL
TCP 3	I-170	378+96	379+01	LT	5 x VAR (17.6' MAX)	0.81	9.73					SOUTH OF STATION REVERSAL
TCP 3	I-170	372+60	378+96	LT/RT	636 x VAR (22.4' MAX)			1490.1				SOUTH OF STATION REVERSAL
					SUBTOTAL	40.57	486.87	2376.8	20.2	410.73	239.7	
					TOTAL	40.6	486.9	2377	20	410.7	240	

PAVEMENT

SHEET NO	ROADWAY	STA	STA	LOC	OPTIONAL PAVEMENT	A2 SHOULDER CONCRETE	TYPE 5 AGGREGATE FOR BASE (6 IN. THICK)	TYPE 1 AGGREGATE FOR BASE (8 IN. THICK)	LINEAR GRADING CLASS 2	COMPACTING IN CUT	REMARKS
					S.Y.	S.Y.	S.Y.	S.Y.	STA.	STA.	
8-9	I-170	383+45	392+24	RT	1000.3		1000.3		9.05	9.05	SOUTH OF STATION REVERSAL
8-9	I-170	383+63.3	393+20	LT	1073.1		1073.1		9.28	9.28	SOUTH OF STATION REVERSAL
9-10	I-170	399+85	400+14.05	LT	20.9		20.9		0.29	0.29	SOUTH OF STATION REVERSAL
9-10	I-170	397+82	400+14.05	LT/RT	409.2		409.2		2.33	2.33	CONCRETE PAVEMENT SOUTH OF STATION REVERSAL
6	I-170	379+86	384+49	LT		629.4		629.4	4.61	4.61	CONCRETE PAVEMENT NORTH OF STATION REVERSAL
6	I-170	380+50	384+49	RT		540.1		540.1	4.01	4.01	CONCRETE PAVEMENT NORTH OF STATION REVERSAL
10-11	I-170	425+00	432+00	LT	757.0		757.0		6.81	6.81	NORTH OF STATION REVERSAL
10	I-170	431+40	436+95.2	RT	621.5		621.5		5.68	5.68	NORTH OF STATION REVERSAL
10	I-170	431+40	436+86.3	LT	549.6		549.6		5.37	5.37	NORTH OF STATION REVERSAL
10	I-170	439+47.3	443+37	LT	442.4		442.4		3.86	3.86	NORTH OF STATION REVERSAL
10	I-170	439+54.6	443+57.74	RT	460.7		460.7		4.07	4.07	NORTH OF STATION REVERSAL
				SUBTOTAL	5334.7	1169.50	5334.7	1169.5	55.36	55.36	
				TOTAL	5335	1169.5	5335	1170	55.4	55.4	

DISCLAIMER

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SUMMARY OF QUANTITIES
SHEET 2 OF 9

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 1:42:44 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED 9/25/2026
ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 3
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

HIGH TENSION GUARD CABLE

SHEET NO.	STA	STA	LOC	ROADWAY	HIGH TENSION GUARD CABLE L.F.	HTGC ANCHOR ASSEMBLY EA.	VEGETATIVE BARRIER 3" DEPTH S.Y.	TYPE 5 AGGREGATE FOR BASE (4 IN. THICK) S.Y.	LINEAR GRADING CLASS 1 STA.	SHAPING SLOPES CLASS II 100 FT.	REMARKS
4	108+18	123+54	RT/LT	I-170	1536.4	2	1019.4	1019.4	15.29	30.6	NORTH OF STATION REVERSE
4	124+65	133+50	RT	I-170	885.4	2	585.6	585.6	8.78	17.6	NORTH OF STATION REVERSE
5	193+32	197+16	RT	I-170	384.0	2	251.4	251.4	3.77	7.5	NORTH OF STATION REVERSE
5	197+68	203+88	RT	I-170	621.6	2	409.7	409.7	6.15	12.3	NORTH OF STATION REVERSE
5	205+50	210+93	RT	I-170	544.5	2	357.5	357.5	5.37	10.7	NORTH OF STATION REVERSE
5	215+42	225+90	RT	I-170	1048.2	2	686.9	686.9	10.41	20.8	NORTH OF STATION REVERSE
6	331+21	341+58	RT	I-170	1034.6	2	685.0	685.0	10.28	20.6	NORTH OF STATION REVERSE
6	375+00	380+12	LT	I-170	509.0	2	334.6	334.6	5.02	10.0	NORTH OF STATION REVERSE
				SUBTOTAL	6563.7	16	4330.1	4330.1	65.07	130.1	
				TOTAL	6564	16	4330	4330	65.1	130	

GUARDRAIL

SHEET NO.	STA	STA	LOC	ROADWAY	MGS GUARDRAIL L.F.	MGS HEIGHT AND BLOCK TRANSITION EA.	MGS END ANCHOR EA.	TYPE A CRASHWORTHY END TERMINAL (MASH) EA.	MGS BRIDGE APPROACH TRANSITION SECTION (EXTENDED CURB) EA.	MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR / NO CURB) EA.	REMARKS
6	378+13	380+50	RT	I-170	150.0			1		1	NORTH OF STATION REVERSE
7	363+59	366+22	RT	I-170	200.0		1	1			SOUTH OF STATION REVERSE
8	382+98	383+85	RT	I-170	25.0	1				1	SOUTH OF STATION REVERSE
8	383+35	384+22	LT	I-170	25.0	1				1	SOUTH OF STATION REVERSE
9	394+81	395+71	LT	I-170	25.0	1				1	SOUTH OF STATION REVERSE
9	394+93	395+77	RT	I-170	25.0	1				1	SOUTH OF STATION REVERSE
9	397+51	398+35	RT	I-170	25.0	1			1		SOUTH OF STATION REVERSE
9	397+57	398+47	LT	I-170	25.0	1			1		SOUTH OF STATION REVERSE
10	434+84	437+30	RT	I-170	162.5			1		1	NORTH OF STATION REVERSE
10	439+13	441+66	LT	I-170	162.5			1		1	NORTH OF STATION REVERSE
				SUBTOTAL	825.0	6	1	4	2	7	
				TOTAL	825	6	1	4	2	7	

PERMANENT PAVEMENT MARKING

PM & SIGNING SHEET NO.	ROADWAY	STA	OFFSET	STA	OFFSET	PAVEMENT MARKING REMOVAL L.F.	CLASS 2 PAVEMENT MARKING (25-MIL, TYPE L BEADS) 6 IN. YELLOW L.F.	6 IN. WHITE L.F.	12 IN. WHITE L.F.	REMARKS
	I-170	352+63.00	LT/RT	364+00.00	LT/RT	13050				
	I-170	352+63.00	LT/RT	371+50.00	LT/RT		1883.2	1000.1	586.2	
	I-170	371+50.00	LT/RT	384+00.00	LT/RT		2298.2	3676.3	625.2	
	I-170	384+00.00	LT/RT	396+00.00	LT/RT		2399.8	3600.6	600.0	
	I-170*	396+00.00	LT/RT	434+50.00	LT/RT		4316.0	7670.4	1436.7	
	I-170	422+00.00	LT/RT	434+50.00	LT/RT		2770	4025	1445	
	I-170	400+50.00	LT/RT	422+00.00	LT/RT		4866	7938	912	
	I-170	364+00.00	LT/RT	400+50.00	LT/RT		6381.9	1456.8		
					SUBTOTAL	13050	24915.1	29367.2	5605.1	
				TEMP PAVEMENT MARKING SUBTOTAL		138516	0	0	0	
					PAY TOTAL	151566	24915	29367	5605	

* STATION EQUATION 400+14.50 BK/443+57.74 AH

FENCE

SHEET NO	ROADWAY	STA	STA	LOC	60" CHAIN LINK FENCE L.F.	REMARKS
8	I-170	381+77	382+25	LT/RT	125.0	ALONG WOODSON
8	I-170	382+64	383+08	LT/RT	125.0	ALONG WOODSON
				SUBTOTAL	250.0	
				TOTAL	250	

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STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 1:43:11 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 3
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

SUMMARY OF QUANTITIES
SHEET 3 OF 9

INLET MODIFICATIONS

SHEET NO	ROADWAY	STA	LOC	WELDING OF GRATES ON DROP INLETS EA.	REMARKS
8	I-170	376+39	LT/RT	2	SOUTH OF STATION REVERSAL
8	I-170	379+57	LT/RT	2	SOUTH OF STATION REVERSAL
8	I-170	380+57	LT/RT	2	SOUTH OF STATION REVERSAL
8	I-170	381+49	LT	1	SOUTH OF STATION REVERSAL
8	I-170	384+79	LT	1	SOUTH OF STATION REVERSAL
8	I-170	384+89	LT	1	SOUTH OF STATION REVERSAL
8	I-170	384+90	RT	1	SOUTH OF STATION REVERSAL
8	I-170	388+49	RT	1	SOUTH OF STATION REVERSAL
8	I-170	388+98	RT	1	SOUTH OF STATION REVERSAL
8	I-170	388+98	LT	1	SOUTH OF STATION REVERSAL
9	I-170	393+48	RT	1	SOUTH OF STATION REVERSAL
9	I-170	397+74	LT	1	SOUTH OF STATION REVERSAL
9	I-170	397+74	RT	1	SOUTH OF STATION REVERSAL
12	I-170	412+93	LT	1	NORTH OF STATION REVERSAL
12	I-170	413+93	RT	1	NORTH OF STATION REVERSAL
11	I-170	420+72	LT	1	NORTH OF STATION REVERSAL
11	I-170	420+73	RT	1	NORTH OF STATION REVERSAL
11	I-170	422+76	RT	1	NORTH OF STATION REVERSAL
11	I-170	424+27	LT	1	NORTH OF STATION REVERSAL
11	I-170	424+27	RT	1	NORTH OF STATION REVERSAL
11	I-170	425+78	LT	1	NORTH OF STATION REVERSAL
11	I-170	425+78	RT	1	NORTH OF STATION REVERSAL
10	I-170	430+33	RT	1	NORTH OF STATION REVERSAL
10	I-170	441+73	RT	1	NORTH OF STATION REVERSAL
			SUBTOTAL	27	
			TOTAL	27	

EROSION CONTROL

SHEET NO.	ROADWAY	STA	LOC	ALTERNATE DITCH CHECK L.F.	SEDIMENT REMOVAL C.Y.	REMARKS
5	I -170	209+85	CL	35	2	NORTH OF STATION REVERSAL
5	I -170	217+10	CL	35	2	NORTH OF STATION REVERSAL
5	I -170	223+85	CL	35	2	NORTH OF STATION REVERSAL
6	I -170	331+90	CL	35	2	NORTH OF STATION REVERSAL
6	I -170	341+65	CL	35	2	NORTH OF STATION REVERSAL
			SUB TOTAL	175	10	
			PAY TOTAL	175	10	

TEMPORARY CONCRETE TRAFFIC BARRIER

TCP SHEET	ROADWAY	STA	STA	LOCATION	TEMPORARY TRAFFIC BARRIER, CONTRACTOR FURN. / RET. L.F.	TEMPORARY TRAFFIC BARRIER ANCHORD CONTRACTOR FURN. / RET. L.F.	TEMPORARY TRAFFIC BARRIER STIFFNESS TRAN. SECTION, CONTRACTOR FURN. / RET. L.F.	REMARKS
22	I-170	372+88.00	378+18.00	LT/RT	888			MEDIAN PREP WORK
22	I-170	407+70.00	413+86.00	LT/RT	1088			MEDIAN PREP WORK
21	I-170*	396+21.00	443+33.00	RT	425			INSIDE SHOULDER N OF RR BRIDGE
21	I-170*	397+56.00	442+08.00	LT	408			INSIDE SHOULDER N OF RR BRIDGE
20	I-170	378+54.00	384+74.00	RT	625			LACKLAND
20	I-170	379+62.00	386+52.00	LT	688			LACKLAND
25	I-170	374+25.00	377+25.00	RT		300		STAGE 1
25	I-170	377+31.00		RT	38			STAGE 1
25-28	I-170 *	373+75.00	434+76.00	LT/RT		3513		STAGE 1
25-26	I-170	380+95.00	383+82.00	RT		288		STAGE 1
27	I-170	395+11.00	398+10.00	LT		300		STAGE 1
27-28	I-170	434+70.00	439+84.00	RT	525			STAGE 1
28-29	I-170	432+65.00	434+76.00	RT			213	STAGE 1
29	I-170	410+52.00	432+65.00	RT	2225			STAGE 1
29	I-170	408+40.00	410+52.00	RT			213	STAGE 1
31	I-170	373+75.00	375+87.00	RT			213	STAGE 2
31-35	I-170 *	375+87.00	410+51.00	LT/RT	5850			STAGE 2
33	I-170	436+83.00	439+96.00	LT	313			STAGE 2
33-34	I-170	434+70.00	436+83.00	CL/LT			213	STAGE 2
34	I-170	433+66.00		RT	50			STAGE 2
35	I-170	411+99.00	412+98.00	RT		100		STAGE 2
35	I-170	408+40.00	410+51.00	LT			213	STAGE 2
22	I-170	372+88.00	378+18.00	LT/RT	888			MEDIAN RESTORATION WORK
22	I-170	407+70.00	413+86.00	LT/RT	1088			MEDIAN RESTORATION WORK
			SUBTOTAL		15099	4501	1065	
			PAY TOTAL		15099	4501	1065	

* STATION EQUATION 400+14.50 BK/443+57.74 AH

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STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

Paul J. Kronlage
10/30/2026 3:21:55 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
10/19/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	3

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

SUMMARY OF QUANTITIES
SHEET 4 OF 9

RUMBLE STRIP

SHEET NO	ROADWAY	STA	STA	LOC	BITUMINOUS SHOULDER RUMBLE STRIP	PORTLAND CEMENT CONCRETE SHOULDER RUMBLE STRIP	REMARKS
					STA.	STA.	
6	I-170	379+88	384+49	LT		4.61	NORTH OF STATION REVERSAL
6	I-170	380+50	384+49	RT		3.99	NORTH OF STATION REVERSAL
7-8	I-170	373+60	381+25	RT		7.65	SOUTH OF STATION REVERSAL
7-8	I-170	375+40	381+24	RT		5.84	SOUTH OF STATION REVERSAL
7-8	I-170	375+45	381+43	LT		5.98	SOUTH OF STATION REVERSAL
8	I-170	379+59	381+43	LT		1.84	SOUTH OF STATION REVERSAL
8-9	I-170	383+45	395+47	RT	12.02		SOUTH OF STATION REVERSAL
8-9	I-170	383+45	392+24	RT		8.79*	SOUTH OF STATION REVERSAL
8-9	I-170	383+64	395+43	LT	11.79		SOUTH OF STATION REVERSAL
8-9	I-170	383+63	393+20	LT		9.57*	SOUTH OF STATION REVERSAL
9	I-170	392+24	395+47	RT	3.23		SOUTH OF STATION REVERSAL
9	I-170	393+20	395+43	LT	2.23		SOUTH OF STATION REVERSAL
9-10	I-170	397+82	400+14	RT		2.32*	SOUTH OF STATION REVERSAL
9-10	I-170	397+86	400+14	LT		2.28*	SOUTH OF STATION REVERSAL
11	I-170	425+00	429+34	LT		4.34*	NORTH OF STATION REVERSAL
10	I-170	432+96	436+95	RT		3.99*	NORTH OF STATION REVERSAL
10	I-170	433+29	436+86	LT		3.57*	NORTH OF STATION REVERSAL
10	I-170	439+47	443+22	LT		3.75*	NORTH OF STATION REVERSAL
10	I-170	439+55	442+58	RT		3.03*	NORTH OF STATION REVERSAL
				SUBTOTAL	29.27	71.55	
				TOTAL	29.3	71.6	

*LOCATED IN OPTIONAL PAVEMENT

CONCRETE SLOPE PROTECTION

SHEET NO	ROADWAY	STA	STA	LOC	CONCRETE SLOPE PROTECTION *	PCCP JOINT/CRACK SEALING **	REMARKS
					S.Y.	L.F.	
8	I-170	381+79	383+11	LT/RT	200.0	2000.0	WOODSON RD
10	I-170	439+13	437+30	LT/RT	200.0	4500.0	PAGE AVE
				SUBTOTAL	400.0	6500.0	
				TOTAL	400	6500	

* AS DIRECTED BY ENGINEER
** FOR SLOPE PROTECTION TO REMAIN IN PLACE

ROCK DITCH LINER

SHEET NO	ROADWAY	STA	STA	LOC	FURNISHING TYPE 1 ROCK DITCH LINER	PLACING TYPE 1 ROCK DITCH LINER	PERMANENT EROSION CONTROL GEOTEXTILE	REMARKS
					C.Y.	C.Y.	S.Y.	
6	I-170	379+86	382+20	LT/RT	46.6	46.6	250.16	NORTH OF STATION REVERSAL
8	I-170	383+08	383+14	RT	5.9	5.9	33.31	SOUTH OF STATION REVERSAL
8	I-170	383+45	383+51	LT	7.4	7.4	41.67	SOUTH OF STATION REVERSAL
9	I-170	395+52	395+58	LT	4.4	4.4	25.33	SOUTH OF STATION REVERSAL
9	I-170	397+70	397+76	LT	4.4	4.4	25.34	SOUTH OF STATION REVERSAL
10	I-170	436+98	437+05	LT	4.4	4.4	25.19	NORTH OF STATION REVERSAL
10	I-170	439+21	439+27	LT	4.4	4.4	25.17	NORTH OF STATION REVERSAL
				SUBTOTAL	77.5	77.5	426.17	
				TOTAL	78	78	426.2	

ITS

SHEET NO	ROADWAY	STA	STA	LOC	TEMPORARY MoDOT ITS ASSETS RELOCATION - BRIDGE	REMARKS
					L.F.	
74	I-170	437+24	439+34	LT	420.0	PAGE BRIDGE
74	I-170	395+69	397+59	LT	380.0	UPRR BRIDGE
				SUBTOTAL	800.0	
				TOTAL	800	

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STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

10/30/2026 3:22:13 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
10/19/2026

ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 3
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

SUMMARY OF QUANTITIES
SHEET 5 OF 9

TEMPORARY PAVEMENT MARKING

TCP SHEET NO.	ROADWAY	STA	OFFSET	STA	OFFSET	PVMT MARKING REMOVAL (SYMBOLS) EA.	PVMT MARKING REMOVAL L.F.	4 IN. TEMP. PVMT MARKING PAINT L.F.	REMARKS
	NORTHBOUND I-170	351+60	8' RT	377+00	8' RT		2535		YELLOW EDGE LINE
	NORTHBOUND I-170	360+00	20' RT	377+00	20' RT		430		INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NORTHBOUND I-170	371+70	34' RT	377+00	34' RT		140		INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NORTHBOUND I-170	368+15	56' RT	371+70	56' RT		2535		WHITE EDGE LINE
	SOUTHBOUND I-170 *	373+75	8' LT	372+10	8' LT		9785		YELLOW EDGE LINE
	SOUTHBOUND I-170 *	374+60	20' LT	380+55	20' LT		2210		INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	SOUTHBOUND I-170 *	379+21	34' LT	403+79	34' LT		1520		INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	SOUTHBOUND I-170 *	379+21	53' LT	442+71	78' LT		2141		WHITE EDGE LINE
	SOUTHBOUND I-170 *	393+29	46' LT	398+10	46' LT		120		DOTTED WHITE LINE (3' dash - 9' skip)
	SOUTHBOUND I-170 *	398+10	46' LT	442+59	46' LT		600		GORE LINES, SB ENTRANCE RAMP @ PAGE AVE
	SOUTHBOUND I-170	442+59	46' LT	433+05	46' LT		966		WHITE EDGE LINE
	SOUTHBOUND I-170	433+05	46' LT	429+82	46' LT		512		GORE LINES, SB EXIT RAMP @ PAGE AVE
	SOUTHBOUND I-170	429+82	46' LT	403+79	46' LT		660		WIDE DOTTED WHITE LINE (3' dash - 9' skip)
	NORTHBOUND I-170	413+05	8' RT	406+22	8' RT		683		YELLOW EDGE LINE
	NORTHBOUND I-170	413+05	20' RT	406+22	20' RT		180		INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NORTHBOUND I-170	413+05	34' RT	406+22	34' RT		180		INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NORTHBOUND I-170	365+81	48' RT			1			EX MERGE ARROW
	NORTHBOUND I-170	369+18	48' RT			1			EX MERGE ARROW
	SOUTHBOUND I-170	393+98	52' LT			1			EX MERGE ARROW
	SOUTHBOUND I-170	396+84	52' LT			1			EX MERGE ARROW
	I-170 *	351+60	LT/RT	372+10	LT/RT	4	25197		REMOVAL OF EXISTING MARKINGS SUBTOTAL
	NORTHBOUND I-170	351+60	8' RT	371+70	21' RT			2842	YELLOW EDGE LINE
	NORTHBOUND I-170	368+15	56' RT	371+70	43' RT			350	WHITE EDGE LINE
	NORTHBOUND I-170 *	371+70	21' RT	406+22	12' RT			6853	YELLOW EDGE LINE
	NORTHBOUND I-170 *	371+70	32' RT	406+22	24' RT			6840	SOLID WHITE LANE LINE
	NORTHBOUND I-170 *	371+70	43' RT	406+22	36' RT			6839	WHITE EDGE LINE
	SOUTHBOUND I-170 *	379+21	31' LT	405+75	35' LT			6087	YELLOW EDGE LINE
	SOUTHBOUND I-170 *	379+21	42' LT	405+75	47' LT			6086	SOLID WHITE LANE LINE
	SOUTHBOUND I-170 *	379+21	53' LT	432+20	56' LT			3204	WHITE EDGE LINE
	SOUTHBOUND I-170	432+20	56' LT	430+26	56' LT			50	DOTTED WHITE LINE (3' dash - 9' skip)
	SOUTHBOUND I-170	405+75	35' LT	372+10	8' LT			3365	YELLOW EDGE LINE
	I-170 *	371+70	LT/RT	405+75	LT/RT			42516	STAGE 1 TEMP MARKING SUBTOTAL
	NORTHBOUND I-170	351+60	8' RT	371+70	21' RT		2002		YELLOW EDGE LINE
	NORTHBOUND I-170	368+15	56' RT	371+70	43' RT		350		WHITE EDGE LINE
	NORTHBOUND I-170 *	371+70	21' RT	406+22	12' RT		6853		YELLOW EDGE LINE
	NORTHBOUND I-170 *	371+70	32' RT	406+22	24' RT		6840		SOLID WHITE LANE LINE
	NORTHBOUND I-170 *	371+70	43' RT	406+22	36' RT		6839		WHITE EDGE LINE
	SOUTHBOUND I-170 *	379+21	31' LT	405+75	35' LT		6087		YELLOW EDGE LINE
	SOUTHBOUND I-170 *	379+21	42' LT	405+75	47' LT		6086		SOLID WHITE LANE LINE
	SOUTHBOUND I-170 *	379+21	53' LT	432+20	56' LT		3204		WHITE EDGE LINE
	SOUTHBOUND I-170	432+20	56' LT	430+26	56' LT		50		DOTTED WHITE LINE (3' dash - 9' skip)
	SOUTHBOUND I-170	405+75	35' LT	372+10	8' LT		3365		YELLOW EDGE LINE
	I-170 *	371+70	LT/RT	405+75	LT/RT		41676		STAGE 1 TEMP PAINT REMOVAL SUBTOTAL
	NORTHBOUND I-170	351+60	8' RT	377+00	8' RT			2535	YELLOW EDGE LINE
	NORTHBOUND I-170	360+00	20' RT	377+00	20' RT			430	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NORTHBOUND I-170	371+70	34' RT	377+00	34' RT			140	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NORTHBOUND I-170	368+15	56' RT	371+70	56' RT			2535	WHITE EDGE LINE
	SOUTHBOUND I-170 *	373+75	8' LT	372+10	8' LT			9785	YELLOW EDGE LINE
	SOUTHBOUND I-170 *	374+60	20' LT	380+55	20' LT			2210	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	SOUTHBOUND I-170 *	379+21	34' LT	403+79	34' LT			1520	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	SOUTHBOUND I-170 *	379+21	53' LT	442+71	78' LT			2141	WHITE EDGE LINE
	SOUTHBOUND I-170 *	393+29	46' LT	398+10	46' LT			120	DOTTED WHITE LINE (3' dash - 9' skip)
	SOUTHBOUND I-170 *	398+10	46' LT	442+59	46' LT			600	GORE LINES, SB ENTRANCE RAMP @ PAGE AVE
	SOUTHBOUND I-170	442+59	46' LT	433+05	46' LT			966	WHITE EDGE LINE
	SOUTHBOUND I-170	433+05	46' LT	429+82	46' LT			512	GORE LINES, SB EXIT RAMP @ PAGE AVE
	SOUTHBOUND I-170	429+82	46' LT	403+79	46' LT			660	WIDE DOTTED WHITE LINE (3' dash - 9' skip)
	NORTHBOUND I-170	413+05	8' RT	406+22	8' RT			683	YELLOW EDGE LINE
	NORTHBOUND I-170	413+05	20' RT	406+22	20' RT			180	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NORTHBOUND I-170	413+05	34' RT	406+22	34' RT			180	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NB I-170 OVER WOODSON RD	381+41	8' RT	383+22	8' RT			181	YELLOW EDGE LINE
	NB I-170 OVER WOODSON RD	381+41	20' RT	383+22	20' RT			50	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NB I-170 OVER WOODSON RD	381+41	32' RT	383+22	32' RT			50	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NB I-170 OVER WOODSON RD	381+41	44' RT	383+22	44' RT			181	WHITE EDGE LINE
	NB I-170 OVER UNION PACIFIC RR	395+61	8' RT	397+64	8' RT			209	YELLOW EDGE LINE
	NB I-170 OVER UNION PACIFIC RR	395+61	20' RT	397+64	20' RT			60	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NB I-170 OVER UNION PACIFIC RR	395+61	32' RT	397+64	32' RT			60	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NB I-170 OVER UNION PACIFIC RR	395+61	44' RT	397+64	44' RT			60	DOTTED WHITE LINE (3' dash - 9' skip)
	NB I-170 OVER UNION PACIFIC RR	395+61	56' RT	397+64	56' RT			209	WHITE EDGE LINE
	NB I-170 OVER PAGE AVE	439+41	8' RT	436+99	8' RT			239	YELLOW EDGE LINE
	NB I-170 OVER PAGE AVE	439+41	20' RT	436+99	20' RT			60	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NB I-170 OVER PAGE AVE	439+41	32' RT	436+99	32' RT			60	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NB I-170 OVER PAGE AVE	439+41	44' RT	436+99	44' RT			239	WHITE EDGE LINE
	I-170 *	351+60	LT/RT	372+10	LT/RT			26855	WINTER SEASON, RESTORE TO EXISTING SUBTOTAL
		TEMP MARKING 1 SUBTOTAL				4	66873	69371	

* STATION EQUATION 400+14.50 BK/443+57.74 AH

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SUMMARY OF QUANTITIES
SHEET 6 OF 9

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

10/30/2026 3:22:26 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
10/19/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
SL	3

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

TEMPORARY PAVEMENT MARKING (CONTINUED)

TCP SHEET NO.	ROADWAY	STA	OFFSET	STA	OFFSET	PVMT MARKING REMOVAL (SYMBOLS) EA.	PVMT MARKING REMOVAL L.F.	4 IN. TEMP. PVMT MARKING PAINT L.F.	REMARKS
	NORTHBOUND I-170 *	352+63	8' RT	408+00	12' RT		8298		YELLOW EDGE LINE
	NORTHBOUND I-170 *	359+83	20' RT	408+00	24' RT		1900		INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NORTHBOUND I-170 *	372+33	32' RT	408+00	36' RT		1590		INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NORTHBOUND I-170	368+64	56' RT	398+08	56' RT		2962		WHITE EDGE LINE
	SOUTHBOUND I-170	368+51	10' LT	376+00	8' LT		752		YELLOW EDGE LINE
	SOUTHBOUND I-170	368+51	22' LT	376+00	20' LT		190		INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	SOUTHBOUND I-170	368+51	34' LT	376+00	32' LT		190		INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	SOUTHBOUND I-170	368+51	46' LT	376+00	44' LT		200		INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NORTHBOUND I-170	393+44	42' RT	398+80	44' RT		544		DOTTED WHITE LINE (3' dash - 9' skip)
	NORTHBOUND I-170 *	398+80	44' RT	443+19	44' RT		291		GORE LINES, NB EXIT RAMP @ PAGE AVE
	NORTHBOUND I-170	443+19	44' RT	433+37	46' RT		972		WHITE EDGE LINE
	NORTHBOUND I-170	433+37	46' RT	430+52	47' RT		551		GORE LINES, SB ENTRANCE RAMP @ PAGE AVE
	NORTHBOUND I-170	430+52	47' RT	408+00	48' RT		560		INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NORTHBOUND I-170	431+76	65' RT	425+19	60' RT		642		WHITE EDGE LINE
	SOUTHBOUND I-170	410+76	11' LT	391+54	11' LT		1919		YELLOW EDGE LINE
	SOUTHBOUND I-170	410+76	23' LT	398+25	23' LT		320		INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	SOUTHBOUND I-170	410+76	35' LT	405+00	35' LT		150		INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	I-170 *	352+63	LT/RT	391+54	LT/RT		22031		REMOVE WINTER STRIPPING SUBTOTAL
	NORTHBOUND I-170 *	352+63	8' RT	410+76	35' RT			9696	YELLOW EDGE LINE
	NORTHBOUND I-170 *	372+33	32' RT	410+76	47' RT			6055	SOLID WHITE LANE LINE
	NORTHBOUND I-170	368+15	56' RT	398+08	55' RT			3015	WHITE EDGE LINE
	SOUTHBOUND I-170 *	368+51	33' LT	391+54	11' LT			8365	YELLOW EDGE LINE
	SOUTHBOUND I-170 *	368+51	45' LT	404+98	35' LT			7031	SOLID WHITE LANE LINE
	SOUTHBOUND I-170 *	368+51	57' LT	404+98	47' LT			7033	WHITE EDGE LINE
	NORTHBOUND I-170 *	400+04	55' RT	426+15	52' RT			1725	WHITE EDGE LINE
	NORTHBOUND I-170	431+76	65' RT	410+76	59' RT			2072	WHITE EDGE LINE
	I-170 *	352+63	LT/RT	391+54	LT/RT			44992	STAGE 2 TEMP PAINT SUBTOTAL
	NORTHBOUND I-170 *	352+63	8' RT	410+76	35' RT		8016		YELLOW EDGE LINE
	NORTHBOUND I-170 *	372+33	32' RT	410+76	47' RT		6055		SOLID WHITE LANE LINE
	NORTHBOUND I-170	368+15	56' RT	398+08	55' RT		3015		WHITE EDGE LINE
	SOUTHBOUND I-170 *	368+51	33' LT	391+54	11' LT		8365		YELLOW EDGE LINE
	SOUTHBOUND I-170 *	368+51	45' LT	404+98	35' LT		7031		SOLID WHITE LANE LINE
	SOUTHBOUND I-170 *	368+51	57' LT	404+98	47' LT		7033		WHITE EDGE LINE
	NORTHBOUND I-170 *	400+04	55' RT	426+15	52' RT		1725		WHITE EDGE LINE
	NORTHBOUND I-170	431+76	65' RT	410+76	59' RT		2072		WHITE EDGE LINE
	I-170 *	352+63	LT/RT	391+54	LT/RT		43312		STAGE 2 TEMP PAINT REMOVAL SUBTOTAL
	NORTHBOUND I-170 *	352+63	8' RT	408+00	12' RT			8298	YELLOW EDGE LINE
	NORTHBOUND I-170 *	359+83	20' RT	408+00	24' RT			1900	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NORTHBOUND I-170 *	372+33	32' RT	408+00	36' RT			1590	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NORTHBOUND I-170	368+64	56' RT	398+08	56' RT			2962	WHITE EDGE LINE
	SOUTHBOUND I-170	368+51	10' LT	376+00	8' LT			752	YELLOW EDGE LINE
	SOUTHBOUND I-170	368+51	22' LT	376+00	20' LT			190	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	SOUTHBOUND I-170	368+51	34' LT	376+00	32' LT			190	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	SOUTHBOUND I-170	368+51	46' LT	376+00	44' LT			200	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NORTHBOUND I-170	393+44	42' RT	398+80	44' RT			544	DOTTED WHITE LINE (3' dash - 9' skip)
	NORTHBOUND I-170 *	398+80	44' RT	443+19	44' RT			291	GORE LINES, NB EXIT RAMP @ PAGE AVE
	NORTHBOUND I-170	443+19	44' RT	433+37	46' RT			972	WHITE EDGE LINE
	NORTHBOUND I-170	433+37	46' RT	430+52	47' RT			551	GORE LINES, SB ENTRANCE RAMP @ PAGE AVE
	NORTHBOUND I-170	430+52	47' RT	408+00	48' RT			560	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	NORTHBOUND I-170	431+76	65' RT	425+19	60' RT			642	WHITE EDGE LINE
	SOUTHBOUND I-170	410+76	11' LT	391+54	11' LT			1919	YELLOW EDGE LINE
	SOUTHBOUND I-170	410+76	23' LT	398+25	23' LT			320	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	SOUTHBOUND I-170	410+76	35' LT	405+00	35' LT			150	INTERMITTENT WHITE LANE LINE (10' dash - 30' skip)
	I-170 *	352+63	LT/RT	391+54	LT/RT			22031	WINTER SEASON, RESTORE TO EXISTING SUBTOTAL
	I-170 *							3140	NORTH OF RR BRIDGE YELLOW
	I-170 *						3140		NORTH OF RR BRIDGE REMOVAL
	I-170	364+00	LT/RT	401+18	LT/RT			3160	LACKLAND YELLOW
	I-170	364+00	LT/RT	401+18	LT/RT		3160		LACKLAND REMOVAL
		TEMP MARKING 2 SUBTOTAL				0	71643	73323	
		TEMP MARKING 1 SUBTOTAL				4	66873	69371	
		PAY TOTAL				4	(1)	142694	

* STATION EQUATION 400+14.50 BK/443+57.74 AH

(1) SEE PERMANENT PAVEMENT MARKING FOR TOTAL

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SUMMARY OF QUANTITIES
SHEET 7 OF 9

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 1:44:28 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 3
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

LUMINAIRES

LIGHTING SHEET NO	ALIGNMENT	STATION	OFFSET	CIRCUIT	POLE NO.	UNDERPASS LED LUMINAIRE EA	REMARKS
WOODSON ROAD							
1	I-170	382+65	46' RT	A-1	UL-A1	1	
1	I-170	382+74	19' RT	A-1	UL-A2	1	
1	I-170	382+87	19' LT	A-1	UL-A3	1	
1	I-170	382+96	45' LT	A-1	UL-A4	1	
1	I-170	381+95	46' RT	A-2	UL-A5	1	
1	I-170	382+04	19' RT	A-2	UL-A6	1	
1	I-170	382+16	19' LT	A-2	UL-A7	1	
1	I-170	382+25	45' LT	A-2	UL-A8	1	
PAGE AVENUE							
2	I-170	438+75	36' RT	B-1	UL-B1	1	
2	I-170	438+70	0'	B-1	UL-B2	1	
2	I-170	438+65	36' LT	B-1	UL-B3	1	
2	I-170	437+78	36' RT	B-2	UL-B4	1	
2	I-170	437+72	0'	B-2	UL-B5	1	
2	I-170	437+66	36' LT	B-2	UL-B6	1	
					PAY TOTAL	14	

LIGHTING - PULL BOXES

LIGHTING SHEET NO.	ALIGNMENT	STATION	OFFSET	CIRCUIT	PULL BOX NO.	PREFORMED CLASS 1 EA.	DRAIN TYPE	REMARKS
WOODSON ROAD								
1	I-170	382+61	58' RT	A	PB-1A	1	1	ON EAST SIDE OF WOODSON RD
1	I-170	381+91	58' RT	A-2	PB-2A	1	1	ON WEST SIDE OF WOODSON RD
PAGE AVENUE								
2	I-170	439+32	257' RT	B	PB-1B	1	1	SW CORNER OF PAGE & SB I-170 RAMPS
2	I-170	439+07	218' RT	B	PB-2B	1	1	SE CORNER OF PAGE & SB I-170 RAMPS
2	I-170	438+80	61' RT	B	PB-3B	1	1	ON SOUTH SIDE OF PAGE AVE
2	I-170	437+82	61' RT	B-2	PB-4B	1	1	ON NORTH SIDE OF PAGE AVE
					PAY TOTALS	6		

LIGHTING - RIGID CONDUIT

LIGHTING SHEET NO.	CIRCUIT	FROM	TO	CENTER TO CENTER DISTANCE L.F.	CONDUIT 3 IN. TRENCHED L.F.	CONDUIT 3 IN. PUSHED L.F.	CONDUIT 2 IN., EXTERNAL ON STRUCTURE L.F.	REMARKS
WOODSON ROAD								
1	A	EX-A	PB-1A	44	47			
1	A-1	PB-1A	UL-A1	28	4		23	
1	A-1	UL-A1	UL-A2	28			28	
1	A-1	UL-A2	UL-A3	40			40	
1	A-1	UL-A3	UL-A4	28			28	
1	A-2	PB-1A	PB-2A	71		69		
1	A-2	PB-2A	UL-A5	29	4		24	
1	A-2	UL-A5	UL-A6	28			28	
1	A-2	UL-A6	UL-A7	40			40	
1	A-2	UL-A7	UL-A8	28			28	
PAGE AVENUE								
2	B	EX-B	PB-1B	27	30			
2	B	PB-1B	PB-2B	47		45		
2	B	PB-2B	PB-3B	160	158			
2	B-1	PB-3B	UL-B1	47	13		33	
2	B-1	UL-B1	UL-B2	36			36	
2	B-1	UL-B2	UL-B3	36			36	
2	B-2	PB-3B	PB-4B	100		98		
2	B-2	PB-4B	UL-B4	47	13		33	
2	B-2	UL-B4	UL-B5	36			36	
2	B-2	UL-B5	UL-B6	36			36	
				SUBTOTALS	269	212	449	
				PAY TOTALS	269	212	449	

LIGHTING - CABLE

LIGHTING SHEET NO.	CIRCUIT	FROM	TO	CENTER TO CENTER DISTANCE LF	CABLE 8 AWG 1 CONDUCTOR LF	WIRE 8 AWG BARE NEUTRAL LF	REMARKS
WOODSON ROAD							
1	A-1	EX-A	UL-A1	72	176	88	X2 CONDUCTOR CABLE
1	A-1	UL-A1	UL-A2	28	64	32	X2 CONDUCTOR CABLE
1	A-1	UL-A2	UL-A3	40	88	44	X2 CONDUCTOR CABLE
1	A-1	UL-A3	UL-A4	28	64	32	X2 CONDUCTOR CABLE
1	A-2	EX-A	UL-A5	146	336	168	X2 CONDUCTOR CABLE
1	A-2	UL-A5	UL-A6	28	64	32	X2 CONDUCTOR CABLE
1	A-2	UL-A6	UL-A7	40	88	44	X2 CONDUCTOR CABLE
1	A-2	UL-A7	UL-A8	28	64	32	X2 CONDUCTOR CABLE
PAGE AVENUE							
2	B-1	EX-B	UL-B1	281	618	309	X2 CONDUCTOR CABLE
2	B-1	UL-B1	UL-B2	36	80	40	X2 CONDUCTOR CABLE
2	B-1	UL-B2	UL-B3	36	80	40	X2 CONDUCTOR CABLE
2	B-2	EX-B	UL-B4	381	830	415	X2 CONDUCTOR CABLE
2	B-2	UL-B4	UL-B5	36	80	40	X2 CONDUCTOR CABLE
2	B-2	UL-B5	UL-B6	36	80	40	X2 CONDUCTOR CABLE
			SUBTOTALS		2712	1356	
			5% SNAKING		136	68	
			TOTALS		2848	1424	
			PAY TOTALS		2850	1420	

DISCLAIMER

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STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 1:44:45 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	3

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION | DATE | REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

SUMMARY OF QUANTITIES
SHEET 8 OF 9

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NO.	DESCRIPTION
WARNING SIGNS								
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT)
WO1-3L	48X48	16.00	1	16.00			14	REVERSE TURN (SYMBOL LEFT)
WO1-3R	48X48	16.00	1	16.00			14	REVERSE TURN (SYMBOL RIGHT)
WO1-4L	48X48	16.00	8	128.00			15	REVERSE CURVE (SYMBOL LEFT)
WO1-4R	48X48	16.00	8	128.00			15	REVERSE CURVE (SYMBOL RIGHT)
WO1-4bL	48X48	16.00	4	64.00			32L	DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4bR	48X48	16.00	4	64.00			32R	DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-6	60X30	12.50	2	25.00			16	HORIZONTAL ARROW (SYMBOL)
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
WO1-8	18X24	3.00						CHEVRON (SYMBOL)
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)
WO3-2	48X48	16.00	2	32.00			40	YIELD AHEAD (SYMBOL)
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
WO3-4	48X48	16.00						BE PREPARED TO STOP
WO4-3R	48X48	16.00	1	16.00			60	ADDED LANE (SYMBOL FROM RIGHT)
WO4-1L	48X48	16.00	2	32.00			19	MERGE (SYMBOL FROM LEFT)
WO4-1R	48X48	16.00	2	32.00			19	MERGE (SYMBOL FROM RIGHT)
WO4-2L	48X48	16.00	12	192.00			6A	MERGE (SYMBOL FROM LEFT)
WO4-2R	48X48	16.00	12	192.00			6A	MERGE (SYMBOL FROM RIGHT)
WO5-1	48X48	16.00	16	256.00			43	ROAD/BRIDGE/RAMP NARROWS
WO5-3	48X48	16.00						ONE LANE BRIDGE
WO5-5	48X48	16.00	2	32.00			34	NARROW LANES
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)
WO6-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)
WO7-3a	30X24	5.00						NEXT XX MILES (PLAQUE)
WO8-1	48X48	16.00						BUMP
WO8-2	48X48	16.00						DIP
WO8-3	48X48	16.00						PAVEMENT ENDS
WO8-4	48X48	16.00						SOFT SHOULDER
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)
WO8-6	48X48	16.00						TRUCK CROSSING
WO8-6c	48X48	16.00						TRUCK ENTRANCE
WO8-7	36X36	9.00						LOOSE GRAVEL
WO8-7a	36X36	9.00						FRESH OIL / LOOSE GRAVEL
WO8-9	48X48	16.00						LOW SHOULDER
WO8-11	48X48	16.00						UNEVEN LANES
WO8-12	48X48	16.00						NO CENTER LINE
WO8-15	48X48	16.00						GROOVED PAVEMENT
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)
WO8-17L	48X48	16.00						SHOULDER DROP-OFF (SYMBOL LEFT)
WO8-17R	48X48	16.00	4	64.00				SHOULDER DROP-OFF (SYMBOL RIGHT)
WO8-17P	30X24	5.00	4	20.00				SHOULDER DROP-OFF (PLAQUE)
WO9-5a	48X48	16.00	2	32.00			96	BIKE MERGE
WO12-1	24X24	4.00	2	8.00			61	DOUBLE DOWN ARROW (SYMBOL)
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)
WO12-2x	24X18	3.00						LOW CLEARANCE (PLAQUE)
WO12-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)
WO12-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD
WO12-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD
WO13-1	30X30	6.25						ADVISORY SPEED (PLAQUE)
WO16-2	30X24	5.00						XXX FEET (PLAQUE)
WO16-3	30X24	5.00						X MILE (PLAQUE)
WO20-1	48X48	16.00	50	800.00			2	ROAD/BRIDGE/RAMP WORK AHEAD
WO20-2	48X48	16.00	2	32.00			18	DETOUR AHEAD
WO20-3	48X48	16.00						ROAD CLOSED AHEAD
WO20-4	48X48	16.00						ONE LANE ROAD AHEAD
WO20-5	48X48	16.00	20	320.00			5	RIGHT/CENTER/LEFT LANE CLOSED AHEAD
WO20-5a	48X48	16.00	2	32.00			5A	2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
WO20-6a	48X48	16.00	20	320.00			6	RIGHT/CENTER/LEFT LANE CLOSED
WO20-5b	48X48	16.00	2	32.00			94	BIKE LANE CLOSED AHEAD
WO21-5bL	48X48	16.00						LEFT SHOULDER CLOSED
WO21-5	48X48	16.00	6	96.00			21	SHOULDER WORK / SHOULDER WORK AHEAD
WO21-5bR	48X48	16.00	12	192.00			21B	RIGHT SHOULDER CLOSED
WO21-5aR	48X48	16.00	12	192.00			21A	RIGHT SHOULDER CLOSED AHEAD
WO21-5aL	48X48	16.00						LEFT SHOULDER CLOSED AHEAD
GO22-1	21X15	2.19	4	8.76				WET PAINT (ARROW PIVOTS)

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NO.	DESCRIPTION
GUIDE SIGNS								
E05-1	36X48	12.00	2	24.00			49	GORE EXIT
E05-2	48X36	12.00	2	24.00			61	EXIT OPEN
E05-2a	48X36	12.00	1	12.00				EXIT CLOSED
GO20-1	60X24	10.00	4	40.00			1	ROAD WORK NEXT XX MILES
GO20-2	48X24	8.00	6	48.00			26	END ROAD WORK
GO20-4	36X18	4.50						PILOT CAR FOLLOW ME
GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW
GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW
GO20-5aP	36X24	6.00	40	240.00			54	WORK ZONE (PLAQUE)
MO4-8a	24X18	3.00	1	3.00			63	END DETOUR
MO4-9L	48X36	12.00						DETOUR (LEFT)
MO4-9R	48X36	12.00						DETOUR (RIGHT)
MO4-9P	48X12	4.00						STREET NAME (PLAQUE)
MO4-10L	48X18	6.00						DETOUR ARROW (LEFT)
MO4-10R	48X18	6.00						DETOUR ARROW (RIGHT)
REGULATORY SIGNS								
R1-1	48X48	13.25						STOP
R1-2	48TRI.	6.93	2	13.86			13	YIELD
R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)
R1-3P	30X12	2.50						ALL WAY (PLAQUE)
R2-1	36X48	12.00	20	240.00			4/25	SPEED LIMIT XX
R3-1	48X48	16.00	1	16.00				NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00	1	16.00				NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00						NO TURNS
R3-4	48X48	16.00						NO U-TURN (SYMBOL)
R3-7L	30X30	6.25	2	12.50			45A	LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25	2	12.50			45	RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00	21	252.00			46	DO NOT PASS
R4-2	36X48	12.00	20	240.00			46A	PASS WITH CARE
R4-7a	36X48	12.00	1	12.00			42	KEEP RIGHT (HORIZONTAL ARROW)
R9-12	18X18	2.25	2	4.50			93	ONE WAY (RIGHT)
R9-9	24X12	2.00	6	12.00			98	SIDEWALK CLOSED
R9-11L	24X18	3.00	4	12.00			97	SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE
R9-11R	24X18	3.00	4	12.00			97	SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE
R9-20	30X30	6.25	2	12.50			95	BIKE ALLOWED USE OF FULL LANE
R11-2	48X30	10.00	6	60.00			29	ROAD CLOSED
CONST-3A	60X48	20.00	20	400.00			53	FINE SIGN
CONST-3X	56X12	4.67	20	93.40			53A	SPEEDING/PASSING (PLATE)
MISCELLANEOUS SIGNS								
CONST-5	96X48	32.00	2	64.00			57	POINT OF PRESENCE
CONST-8	48X36	12.00	2	24.00			59	WORK ZONE NO PHONE ZONE
SPECIAL	48X48	16.00	6	96.00			99	RUMBLE STRIPS AHEAD
SPECIAL	84X24	14.00	2	28.00			65	CLOSED
SPECIAL	48X18	6.00	2	12.00			66	CLOSED
SPECIAL	36X78	19.50	5	97.50			80A	DETOUR S170 AHEAD
SPECIAL	36X78	19.50	1	19.50			80B	DETOUR S170 ADV. RIGHT
SPECIAL	36X78	19.50	3	58.50			80C	DETOUR S170 ADV. LEFT
SPECIAL	36X78	19.50	1	19.50			80D	DETOUR S170 RIGHT
SPECIAL	36X78	19.50	3	58.50			80E	DETOUR S170 LEFT
SPECIAL	36X78	19.50	1	19.50			80F	DETOUR S170 DIAG. RIGHT
SPECIAL	36X78	19.50	1	19.50			80G	DETOUR S170 ADV. DIAG. RIGHT
SPECIAL	36X60	15.00	6	90.00			80A	DETOUR RTE D AHEAD
SPECIAL	36X60	15.00	1	15.00			80B	DETOUR RTE D ADV. RIGHT
SPECIAL	36X60	15.00	2	30.00			80C	DETOUR RTE D ADV. LEFT
SPECIAL	36X60	15.00	1	15.00			80D	DETOUR RTE D RIGHT
SPECIAL	36X60	15.00	2	30.00			80E	DETOUR RTE D LEFT
SPECIAL	36X60	15.00	1	15.00			80F	DETOUR RTE D DIAG. RIGHT
SPECIAL	36X60	15.00	1	15.00			80G	DETOUR RTE D ADV. DIAG. RIGHT

616-10.05 CONSTRUCTION SIGNS	TOTAL	5913*
616-10.10 RELOCATED SIGNS	TOTAL	

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EFFECTIVE: 07-01-2025

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)
6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)
6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
6122014	8	IMPACT ATTENUATOR 60 MPH (SAND BARRELS)
6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
6122020	40	REPLACEMENT SAND BARREL
6122030	4	IMPACT ATTENUATOR (RELOCATION)
6122040		WORK ZONE CRASH CUSHION (NARROW)
6122041		WORK ZONE CRASH CUSHION (RELOCATION)
6123001	1	TRUCK MOUNTED ATTENUATOR (TMA)
6161012		BUOYS (BOATS KEEP OUT)
6161013		BUOYS (NO WAKE)
6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
6161020		CHANNELIZER (DRUM-LIKE)
6161022		CHANNELIZER (CONE)
6161025	2000*	CHANNELIZER (TRIM-LINE)
6161026		CHANNELIZER (VERTICAL PANEL)
	6*	ADA COMPLIANT MOVEABLE BARRICADE
6161030	33*	TYPE 3 MOVEABLE BARRICADE
6161033	84*	DIRECTION INDICATOR BARRICADE
6161040	6*	FLASHING ARROW PANEL
6161047		TYPE 3 OBJECT MARKER
6161055		SEQUENTIAL FLASHING WARNING LIGHT
6161070	50*	TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A		CHANGEABLE MESSAGE SIGN WITHOUT COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
6161099	10	CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
6162002	42	TEMPORARY LONG-TERM RUMBLE STRIPS
6173600D		TEMPORARY TRAFFIC BARRIER, CONTRACTOR FURNISHED/RETAINED
6173700B		TEMP. TRAFFIC BARRIER ANCHORED, CONTRACTOR FURNISHED/RETAINED
6173706		TEMP. TRAFFIC BARRIER STIFFNESS TRANSITION CONTRACTOR FURNISHED/RETAINED
6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION, CONTRACTOR FURNISHED/RETAINED
6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER
6175011B		RELOCATING TEMP. TRAFFIC BARRIER ANCHORED
6175013		RELOCATING TEMP. TRAFFIC BARRIER STIFFNESS
6175020A		RELOCATING TEMP. TRAFFIC BARRIER HEIGHT
6208064A		TEMPORARY RAISED PAVEMENT MARKER
9029400		TEMPORARY TRAFFIC SIGNALS
9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING
6169901	1	LUMP SUM TEMPORARY TRAFFIC CONTROL (*ITEM INCLUDED)

NOTES:
ALL TRAFFIC CONTROL ITEMS INCLUDED IN PAY ITEM 616-99.01 TEMPORARY TRAFFIC CONTROL LUMP SUM, UNLESS NOTED OTHERWISE IN THE PLANS. THESE QUANTITIES ARE ONLY AN ESTIMATE AND ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS.

SIGN QUANTITIES HAVE BEEN ESTIMATED BASED ON THE STAGING SHOWN ON THE PLANS. IF THE CONTRACTOR CHOOSES TO SETUP TRAFFIC CONTROL DIFFERENT FROM WHAT IS PROVIDED, ANY ADDITIONAL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. TEMPORARY TRAFFIC CONTROL SHALL FOLLOW, AT A MINIMUM, MUTCD STANDARDS, LATEST EDITION.

ALL WARNING SIGNS SHALL HAVE FLUORESCENT SHEETING.

SUMMARY OF QUANTITIES
SHEET 9 OF 9

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

10/30/2026 3:22:48 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED: 10/30/2026
ROUTE: I-170 | STATE: MO
DISTRICT: SL | SHEET NO.: 3
COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

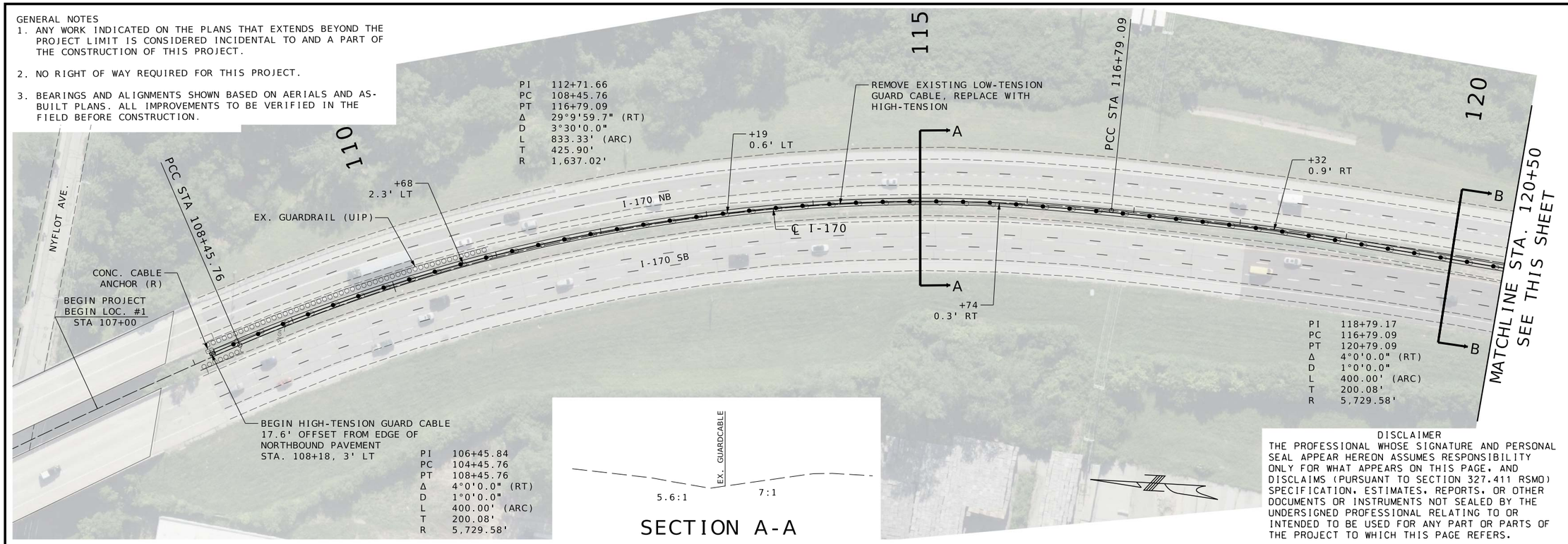
DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

GENERAL NOTES

1. ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMIT IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.
2. NO RIGHT OF WAY REQUIRED FOR THIS PROJECT.
3. BEARINGS AND ALIGNMENTS SHOWN BASED ON AERIALS AND AS-BUILT PLANS. ALL IMPROVEMENTS TO BE VERIFIED IN THE FIELD BEFORE CONSTRUCTION.



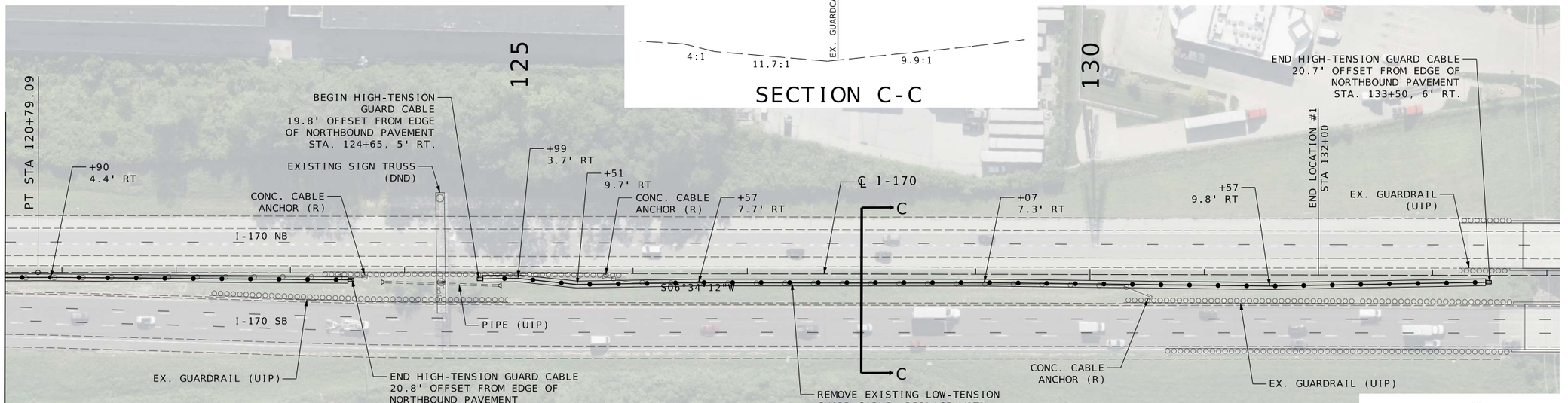
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PC 108+45.76
PT 116+79.09
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D 3°30'0.0"
L 833.33' (ARC)
T 425.90'
R 1,637.02'

PI 106+45.84
PC 104+45.76
PT 108+45.76
Δ 4°0'0.0" (RT)
D 1°0'0.0"
L 400.00' (ARC)
T 200.08'
R 5,729.58'

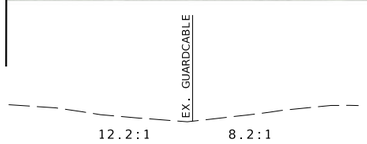
PI 118+79.17
PC 116+79.09
PT 120+79.09
Δ 4°0'0.0" (RT)
D 1°0'0.0"
L 400.00' (ARC)
T 200.08'
R 5,729.58'

SECTION A-A

DISCLAIMER
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SECTION C-C



SECTION B-B

SCALE
0 50 100 150

I-170 PLAN SHEET
LOCATION #1
BETWEEN NYFLOT AVE
AND FROST AVE
SHEET 1 OF 10

PAUL JOSEPH KRONLAGE NUMBER EN 023328 REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI
09/25/2026 1:47:48 PM
Paul J. Kronlage - Civil
MO PE - 023328

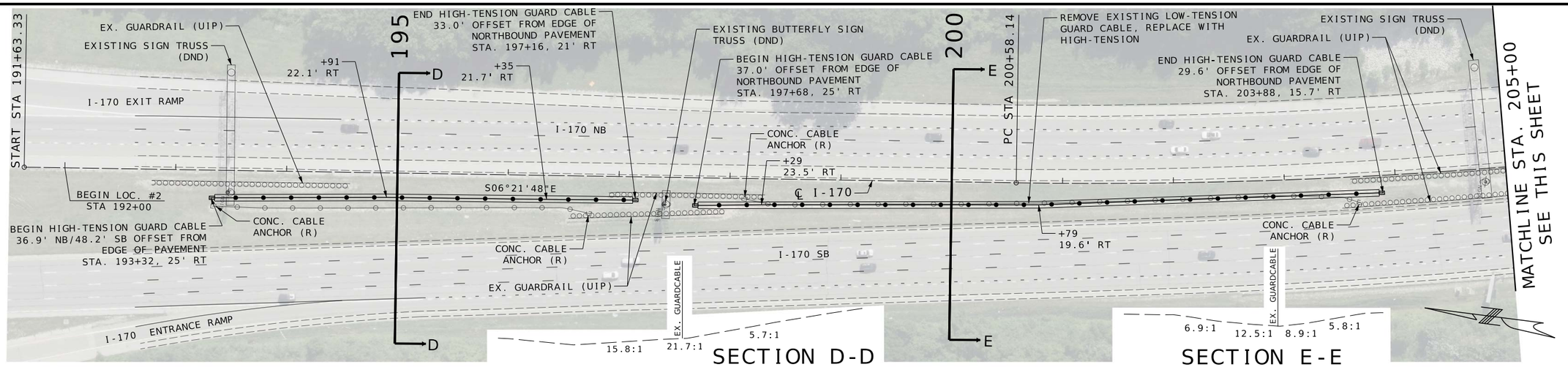
DATE PREPARED 9/25/2026
ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 4
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

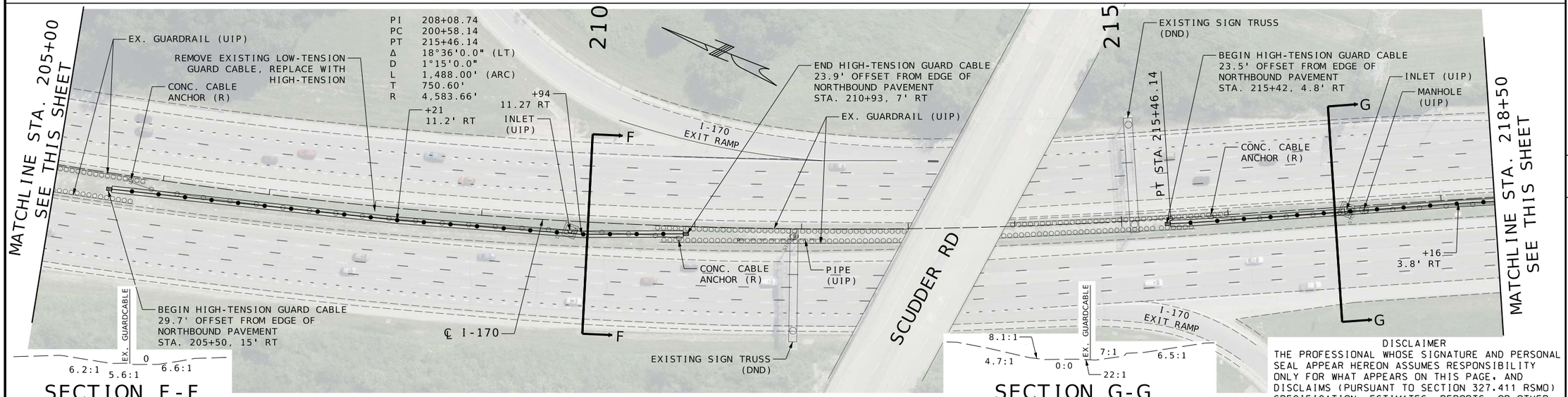
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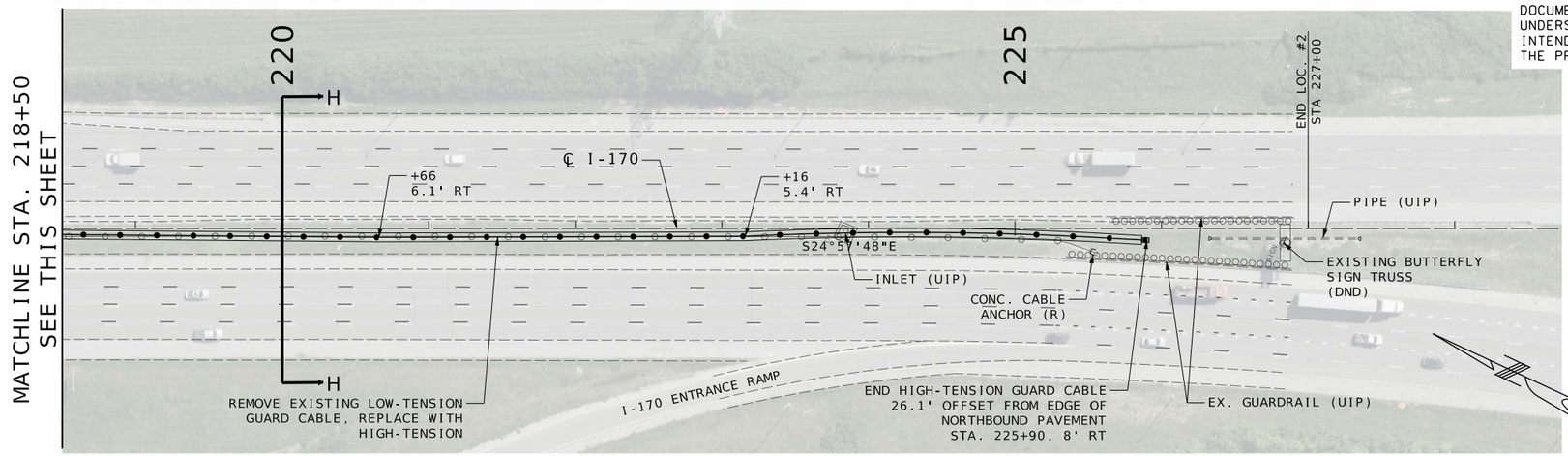
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

c:\bms\efkmoen01\jennifer archibald\dms04448\004-006_PL_01-03_J6I3572_i50.dgn 1:18:54 PM 9/25/2026







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SCALE
0 50 100 150

I-170 PLAN SHEET
LOCATION #2
UNDER SCUDDER ROAD
SHEET 2 OF 10

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 1:48:28 PM
Paul J. Kronlage - Civil
MO PE - 023328

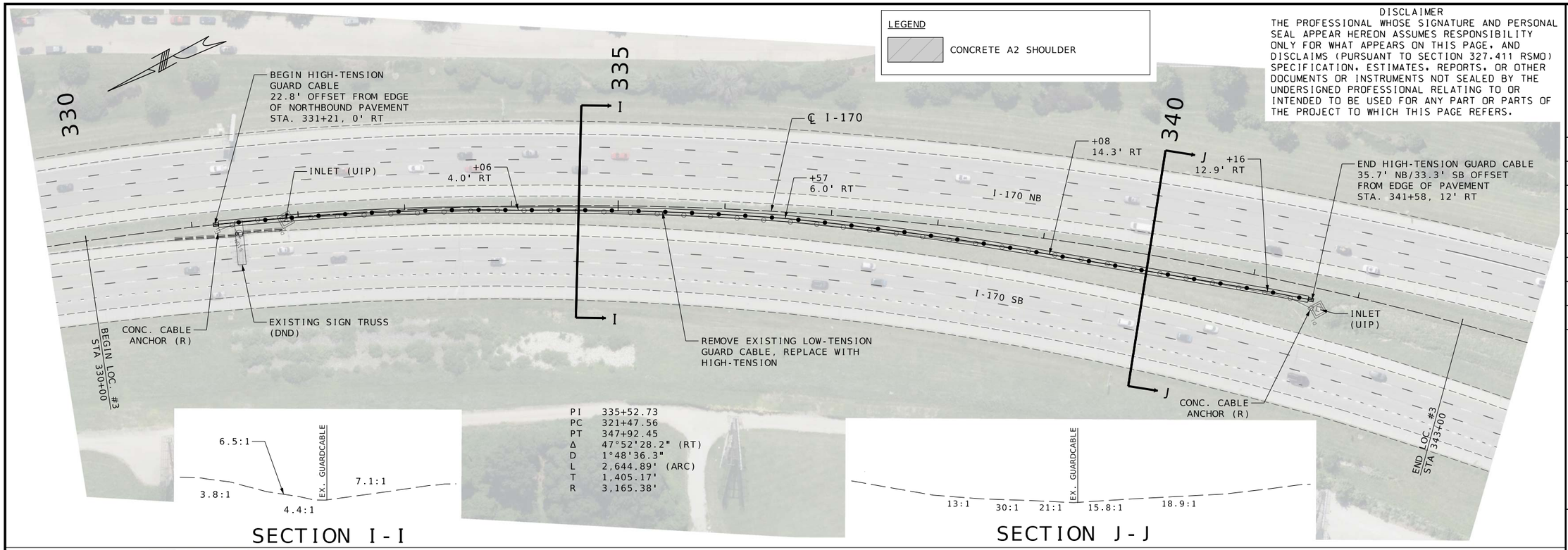
DATE PREPARED 9/25/2026
ROUTE I-170
STATE MO
DISTRICT SL
SHEET NO. 5
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

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SECTION I-I

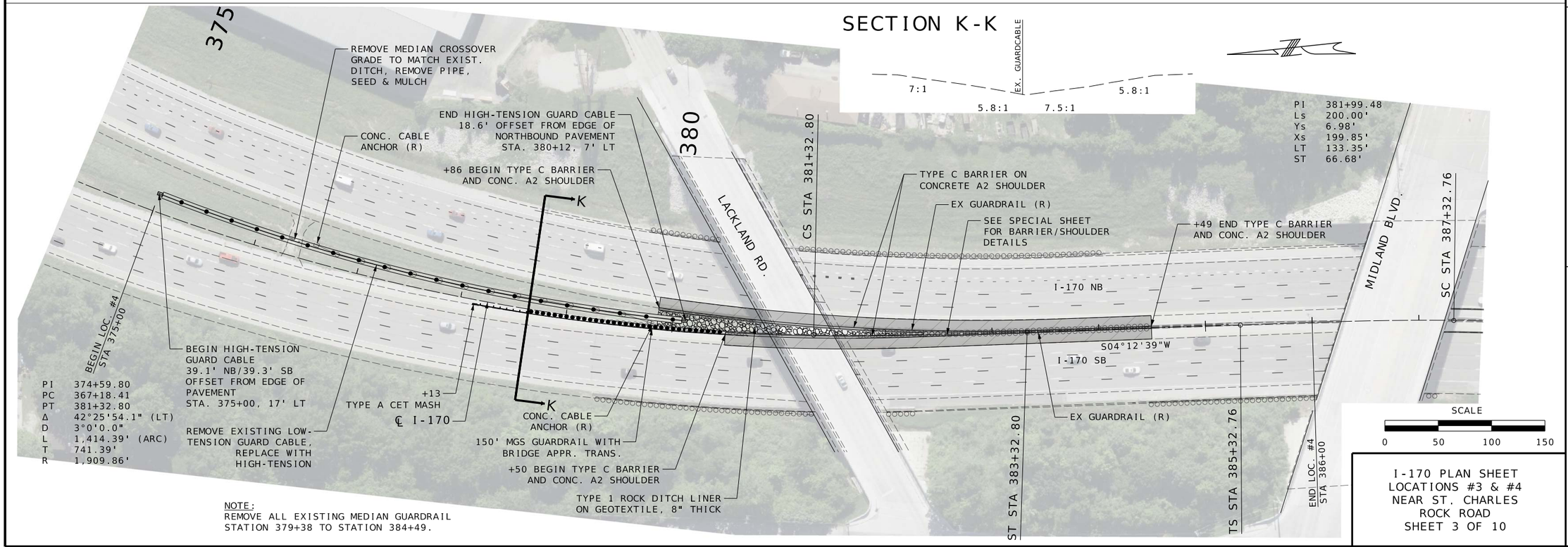
SECTION J-J

LEGEND

CONCRETE A2 SHOULDER

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SECTION K-K

NOTE:
REMOVE ALL EXISTING MEDIAN GUARDRAIL STATION 379+38 TO STATION 384+49.

SCALE

0 50 100 150

I-170 PLAN SHEET
LOCATIONS #3 & #4
NEAR ST. CHARLES ROCK ROAD
SHEET 3 OF 10

PAUL JOSEPH KRONLAGE NUMBER EN 023328 REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI

10/30/2026 3:23:02 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED 10/19/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	6

COUNTY: ST. LOUIS

JOB NO.: J6I3572

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

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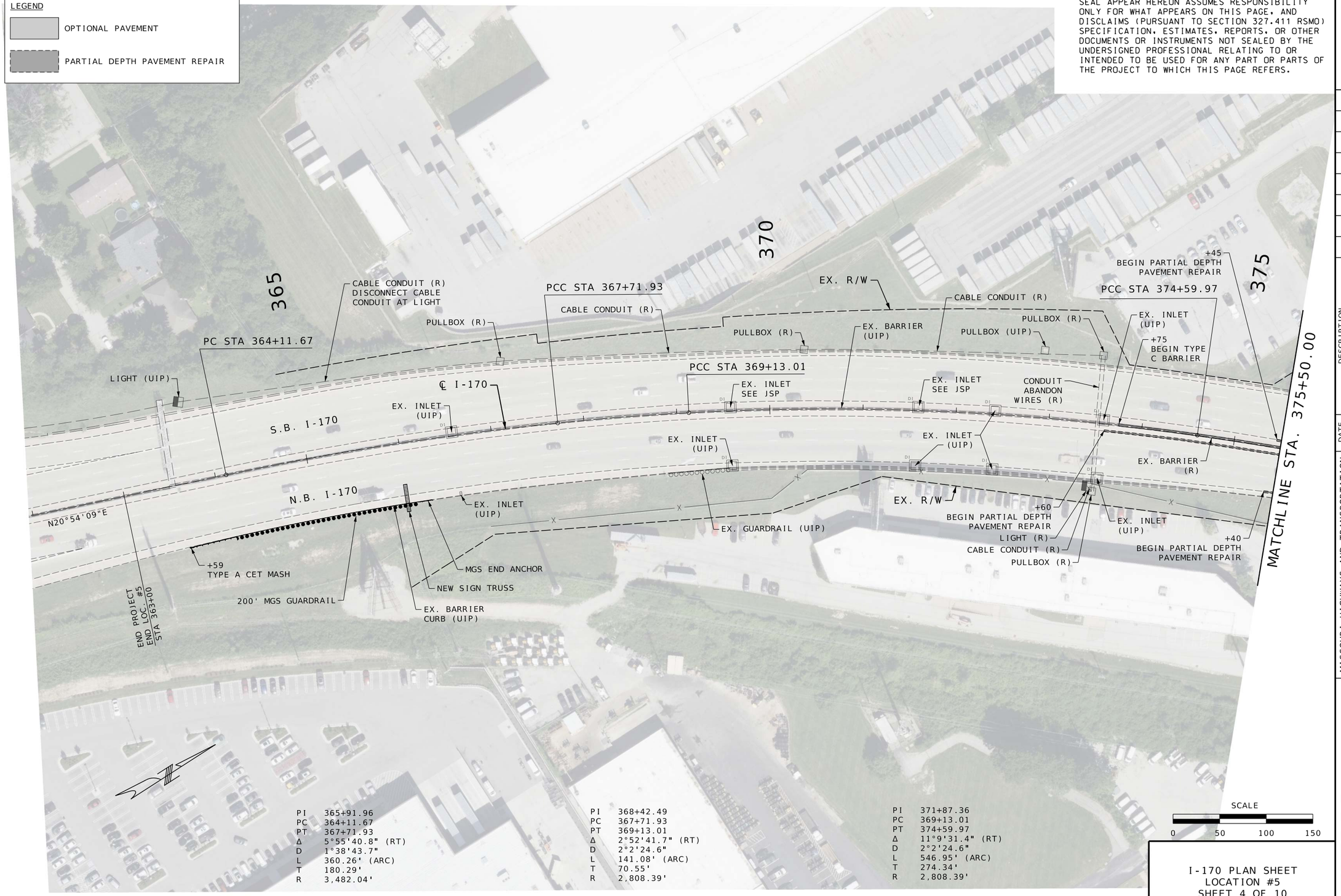
LEGEND

OPTIONAL PAVEMENT

PARTIAL DEPTH PAVEMENT REPAIR

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PI 365+91.96
PC 364+11.67
PT 367+71.93
Δ 5°55'40.8" (RT)
D 1°38'43.7"
L 360.26' (ARC)
T 180.29'
R 3,482.04'

PI 368+42.49
PC 367+71.93
PT 369+13.01
Δ 2°52'41.7" (RT)
D 2°2'24.6"
L 141.08' (ARC)
T 70.55'
R 2,808.39'

PI 371+87.36
PC 369+13.01
PT 374+59.97
Δ 11°9'31.4" (RT)
D 2°2'24.6"
L 546.95' (ARC)
T 274.34'
R 2,808.39'

SCALE
0 50 100 150

I-170 PLAN SHEET
LOCATION #5
SHEET 4 OF 10

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/26/2026 12:47:40 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/26/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	7

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

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LEGEND

OPTIONAL PAVEMENT

PARTIAL DEPTH PAVEMENT REPAIR

NOTES:

1. SAWCUTS FOR PAVEMENT REMOVAL ARE TO BE FULL DEPTH.
2. ADJUST TO GRADE AND SECURE. SEE JSP.

DISCLAIMER

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MATCHLINE STA. 375+50.00

MATCHLINE STA. 389+00.00

EX. R/W

EX. BARRIER (UIP)

+25 END TYPE C BARRIER

EX. BARRIER (R)

EX. SIGN TRUSS (UIP)

+59, BEGIN PARTIAL DEPTH PVMT. REPAIR

EX. INLET SEE NOTE 2

℄ I-170

S.B. I-170

N.B. I-170

PARTIAL DEPTH PVMT. REPAIR

EX. INLET SEE NOTE 2

EX. GUARDRAIL (UIP)

EX. R/W

EX. BARRIER (R)

NEW 40' TYPE C BARRIER TRANS. TO BE CONSTRUCTED PRE-STAGE 1 TRAFFIC CONTROL SEE DETAIL

EX. BARRIER & WALL (UIP)

NEW ADDITIONAL SLOPE PROTECTION

PT STA 381+62.81

TYPE D BARRIER (MOMENT SLAB) TIED TO APPR. PVMT.

10' SEWER ESM'T

APPROXIMATE PERM. DRAINAGE ESM'T

APPROX. 15' SEWER ESM'T

APPROX. WATER PIPE ESM'T

380

+43.4 SAWCUT END PARTIAL DEPTH PVMT. REPAIR

EX. INLET SEE NOTE 2

EX. BARRIER (R)

+95, BEGIN TYPE C BARRIER

EX. INLET SEE NOTE 2

+11, END PARTIAL DEPTH PVMT. REPAIR

+24.5 SAWCUT

NEW BRIDGE APPR. PVMT.

TYPE D BARRIER (MOMENT SLAB) TIED TO APPR. PVMT.

+58.3, END TYPE C BARRIER

NEW BRIDGE APPR. SLAB

WOODSON RD

BRIDGE A2807 SEE BRIDGE PLANS FOR DETAILS

TYPE 1 ROCK DITCH LINER w/ GEOTEXTILE 6'x40'x8"

N50°47'30"E

NEW BRIDGE APPR. SLAB

+29.8, BEGIN TYPE C BARRIER

TYPE 1 ROCK DITCH LINER w/ GEOTEXTILE 6'x50'x8"

EX. BRIDGE APPR. TRANS (R&R)

+63.4 SAWCUT BEGIN PARTIAL DEPTH PVMT. REPAIR BEGIN OPTIONAL PAVEMENT

+75, END TYPE C BARRIER

TS STA 383+84.66

25' MGS GUARDRAIL

MGS BLOCK & HEIGHT TRANS.

385

EX. R/W

BOX CULVERT BRIDGE A2808 SEE BRIDGE PLANS FOR DETAILS

SC STA 385+84.66

EX. SHLDR. (R) NEW OPTIONAL PVMT.

EX. GUARDRAIL (UIP)

EX. INLET SEE NOTE 2

EX. INLET SEE NOTE 2

PARTIAL DEPTH PVMT. REPAIR

10'

44'

SAWCUT

EX. BARRIER (UIP)

SAWCUT

PARTIAL DEPTH PVMT. REPAIR

EX. INLET SEE NOTE 2

EX. SHLDR. (R) NEW OPTIONAL PVMT.

EX. GUARDRAIL (UIP)

NEW SIGN TRUSS

MGS BLOCK & HEIGHT TRANS.

EX. BARRIER (R)

25' MGS GUARDRAIL

+44.9 SAWCUT BEGIN PARTIAL DEPTH PVMT. REPAIR BEGIN OPTIONAL PAVEMENT

NEW BRIDGE APPR. PVMT.

EX. BRIDGE APPR. TRANS (R&R)

RIVER DES PERES

EX. R/W

PI 378+12.27
PC 374+59.97
PT 381+62.81
Δ 9°55'26.7" (RT)
D 1°24'43.1"
L 702.85' (ARC)
T 352.30'
R 4,057.82'

PI 385+18.02
Ls 200.00'
Ys 3.92'
Xs 199.93'
LT 133.36'
ST 66.69'

40' BARRIER TRANSITION

40' TYPE C BARRIER TAPER (PAID AS TYPE C BARRIER)

EX. TAPERED MEDIAN BARRIER (UIP)

EX. TYPE C MEDIAN BARRIER

EXIST BARRIER (R)

SIGN TRUSS FOUNDATION (UIP)

SCALE

0 50 100 150

I-170 PLAN SHEET
LOCATION #5
OVER WOODSON RD
& RIVER DES PERES
SHEET 5 OF 10

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/26/2026 12:48:35 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED 9/26/2026

ROUTE I-170 | STATE MO

DISTRICT SL | SHEET NO. 8

COUNTY ST. LOUIS

JOB NO. J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

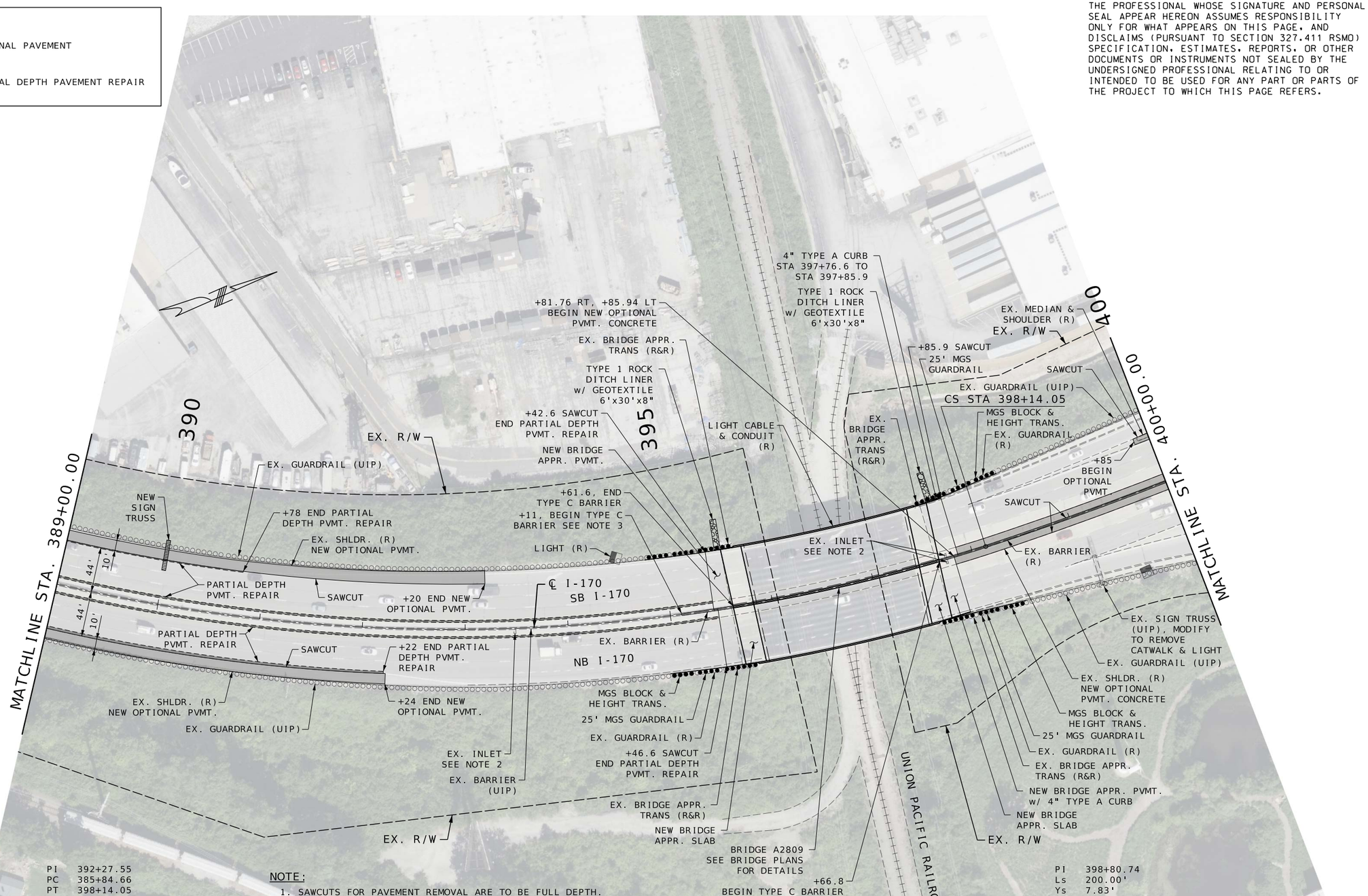
LEGEND

OPTIONAL PAVEMENT

PARTIAL DEPTH PAVEMENT REPAIR

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PI 392+27.55
PC 385+84.66
PT 398+14.05
Δ 41°23'0.6" (LT)
D 3°21'58.3"
L 1,229.39' (ARC)
T 642.89'
R 1,702.10'

PI 398+80.74
Ls 200.00'
Ys 7.83'
Xs 199.82'
LT 133.36'
ST 66.69'

NOTE:

1. SAWCUTS FOR PAVEMENT REMOVAL ARE TO BE FULL DEPTH.
2. ADJUST TO GRADE AND SECURE. SEE JSP.
3. TRANSITION BARRIER FROM TYPE C SHAPE & HEIGHT TO EXISTING TYPE A BARRIER IN 20'. PAID AS TYPE C BARRIER.

SCALE

0 50 100 150

I-170 PLAN SHEET
LOCATION #5
OVER UNION
PACIFIC RAILROAD
SHEET 6 OF 10

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

10/30/2026 3:23:13 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
10/19/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	9

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK·Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

c:\bms\efkmoen01\jennifer archibald\dms04448\007-012_PL_04-09_J6I3572_i50.dgn 2:03:26 PM 10/19/2026

LEGEND

OPTIONAL PAVEMENT

PARTIAL DEPTH PAVEMENT REPAIR

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PI	438+64.92
PC	436+12.70
PT	441+15.84
Δ	10°3'46.6" (LT)
D	2°0'0.0"
L	503.15' (ARC)
T	252.22'
R	2,864.79'

PI	432+71.38
PC	429+28.32
PT	436+12.70
Δ	10°0'11.7" (LT)
D	1°27'42.0"
L	684.37' (ARC)
T	343.06'
R	3,919.89'

EQUATION
STA 400+14.05 BK =
STA 443+57.74 AHD

PAGE AVE

EX. R/W

SOUTHBOUND ON RAMP

SOUTHBOUND OFF RAMP

NORTHBOUND ON RAMP

NORTHBOUND OFF RAMP

℄ I-170

MATCHLINE STA. 400+00.00

MATCHLINE STA. 430+00.00

440

435

+57.74, END OPTIONAL PVMT.
+14.05, END OPTIONAL PVMT.

EX. PULLBOX (UIP)

STATION DIRECTION REVERSE

EX. MEDIAN & SHLDR. (R)

NEW BRIDGE APPR. SLAB

NEW BRIDGE APPR. PVMT.

+54.6 SAWCUT BEGIN OPTIONAL PVMT.

EX. BARRIER (R)

+84, END TYPE C BARRIER SEE NOTE 3

EX. SHLDR. (R) NEW OPTIONAL PVMT.

SAWCUT

EX. CURB (R)

EX. BARRIER (UIP)

+32.3, BEGIN TYPE C BARRIER

SB I-170

S02°40'33"W

NB I-170

PT STA 441+15.84

EX. INLET SEE NOTE 2

SAWCUT

EX. GUARDRAIL (R) 163' MGS GUARDRAIL

+66 TYPE A CET MASH

EX. SHLDR. (R) NEW OPTIONAL PVMT.

EX. GUARDRAIL (UIP)

+37 END OPTIONAL PVMT.

+14.05, END TYPE C BARRIER, END OPTIONAL PVMT. SEE NOTE 3

EX. SHLDR. (R) NEW OPTIONAL PVMT. CONCRETE

EX. R/W

+47.3 SAWCUT BEGIN OPTIONAL PVMT.

EX. BRIDGE APPR. TRANS (R&R)

TYPE 1 ROCK DITCH LINER w/ GEOTEXTILE 6'x30'x8"

EX. BRIDGE APPR. TRANS (R&R)

+95.2 SAWCUT END OPTIONAL PVMT.

+70, BEGIN TYPE C BARRIER SEE NOTE 3

EX. GUARDRAIL (R) 163' MGS GUARDRAIL

+84 TYPE A CET MASH

EX. SHLDR. (R) NEW OPTIONAL PVMT.

EX. PVMT. (UIP)

SAWCUT

EX. BARRIER (UIP)

EX. INLET SEE NOTE 2

EX. SIGN TRUSS (UIP)

EX. GUARDRAIL (UIP)

+37, BEGIN OPTIONAL PVMT.

+10.2, END TYPE C BARRIER

EX. BARRIER (R)

SAWCUT

PCC STA 436+12.70

+86.3 SAWCUT END OPTIONAL PVMT.

NEW BRIDGE APPR. PVMT.

TYPE 1 ROCK DITCH LINER w/ GEOTEXTILE 6'x30'x8"

NEW BRIDGE APPR. SLAB

BRIDGE A3176 SEE BRIDGE PLANS FOR DETAILS

EX. SHLDR. (R) NEW OPTIONAL PVMT.

+00 END OPTIONAL PVMT.

+40 BEGIN OPTIONAL PVMT.

EX. BARRIER (R) NEW 40' TYPE A BARRIER TRANS. TO BE CONSTRUCTED PRE-STAGE 1 TRAFFIC CONTROL SEE DETAIL

SAWCUT

EX. SHLDR. (R) NEW OPTIONAL PVMT.

44'

10'

4'

59'

40' TYPE A BARRIER TAPER (PAID AS TYPE A BARRIER)

40' TYPE A BARRIER TAPER (PAID AS TYPE A BARRIER)

EXIST BARRIER (R)

EX. TYPE A MEDIAN BARRIER

EX. TYPE A MEDIAN BARRIER

EXIST BARRIER (R)

SIGN TRUSS FOUNDATION (UIP)

40' BARRIER TRANSITION

NOTE:

1. SAWCUTS FOR PAVEMENT REMOVAL ARE TO BE FULL DEPTH.
2. ADJUST TO GRADE AND SECURE. SEE JSP.
3. TRANSITION BARRIER FROM TYPE C SHAPE & HEIGHT TO EXISTING TYPE A BARRIER IN 20'. PAID AS TYPE C BARRIER.

SCALE

0 50 100 150

I-170 PLAN SHEET
LOCATION #5
PAGE AVE
SHEET 7 OF 10

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

10/30/2026 3:23:25 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
10/19/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
SL	10

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

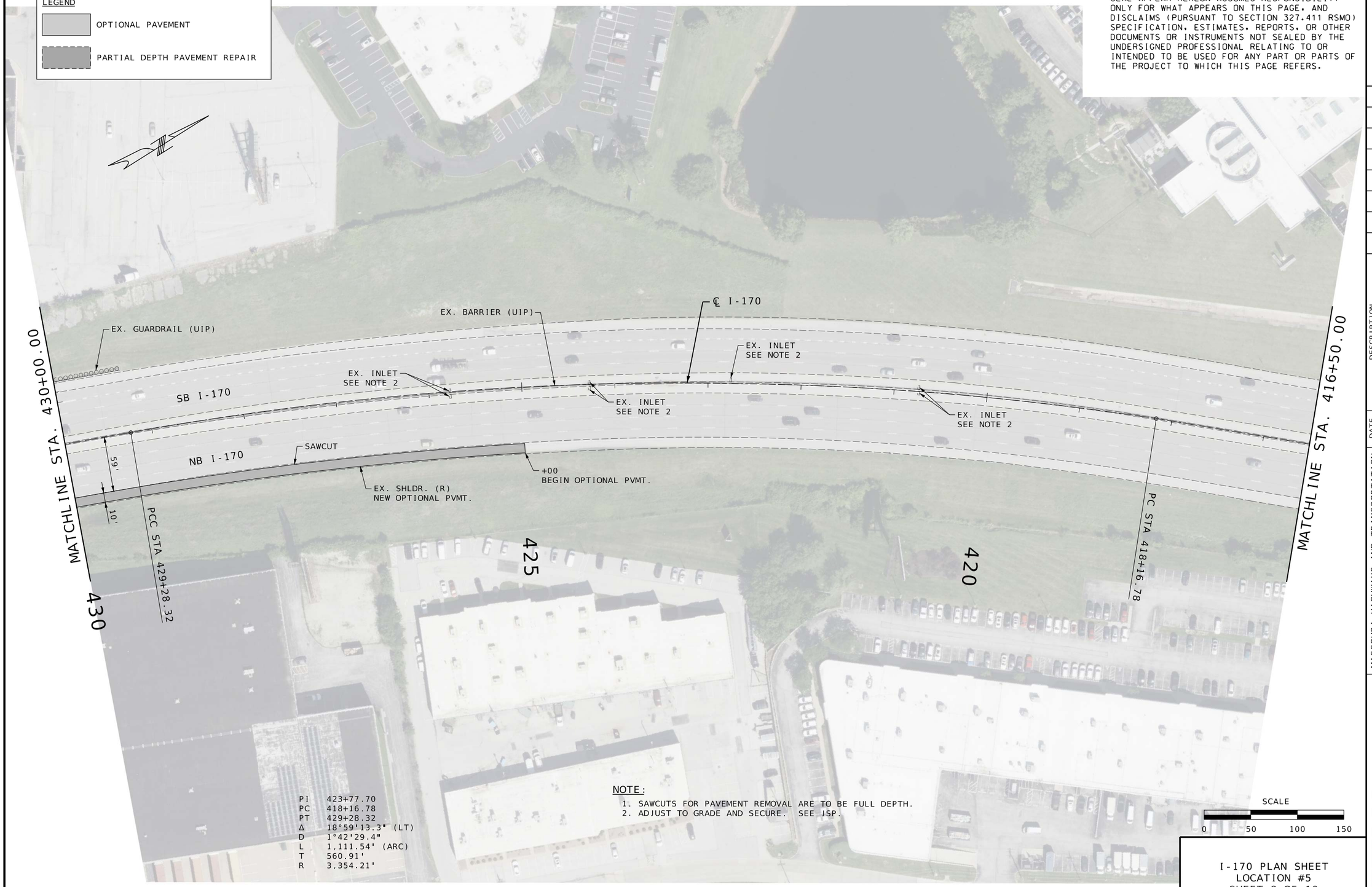
LEGEND

OPTIONAL PAVEMENT

PARTIAL DEPTH PAVEMENT REPAIR

DISCLAIMER

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PI 423+77.70
PC 418+16.78
PT 429+28.32
Δ 18°59'13.3" (LT)
D 1°42'29.4"
L 1,111.54' (ARC)
T 560.91'
R 3,354.21'

NOTE:

1. SAWCUTS FOR PAVEMENT REMOVAL ARE TO BE FULL DEPTH.
2. ADJUST TO GRADE AND SECURE. SEE JSP.

SCALE

0 50 100 150

I-170 PLAN SHEET
LOCATION #5
SHEET 8 OF 10

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/26/2026 12:50:19 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/26/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
SL	11

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

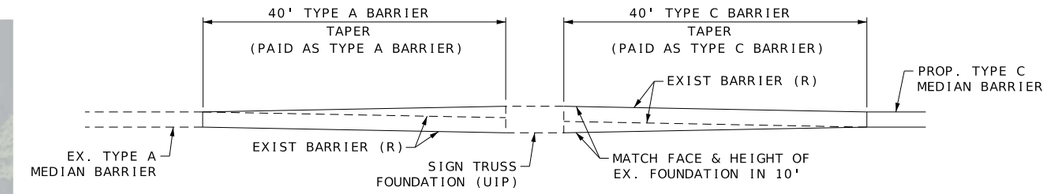
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LEGEND

OPTIONAL PAVEMENT

PARTIAL DEPTH PAVEMENT REPAIR



40' BARRIER TRANSITION

DISCLAIMER

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NOTE:

1. SAWCUTS FOR PAVEMENT REMOVAL ARE TO BE FULL DEPTH.
2. ADJUST TO GRADE AND SECURE. SEE JSP.
3. TRANSITION BARRIER FROM TYPE C SHAPE & HEIGHT TO EXISTING TYPE A BARRIER IN 20'. PAID AS TYPE C BARRIER.

SCALE

0 50 100 150

I-170 PLAN SHEET
LOCATION #5
SHEET 9 OF 10

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/26/2026 12:50:40 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/26/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	12

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

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℄ I-170

BOX CULVERT BRIDGE A2808
SEE BRIDGE PLANS FOR DETAILS

385

EX. ROW

POSSIBLE CONTRACTOR BOX A2808 ACCESS
NORTHEAST SIDE OF WOODSON ROAD R/W

FENCE (DND)

MANHOLE (DND)

GUY (DND)

POWER POLE (DND)

90" RCP

42" VCP

WOODSON RD

EX SIGNAL
POST (DND)

12" RCP

POSSIBLE CONTRACTOR BOX A2808 ACCESS
NORTHWEST SIDE OF WOODSON ROAD R/W

8" VCP

CAR MUSEUM ENTRANCE

RIVER DES PERES

APPROXIMATE PERM. DRAINAGE ESM'T

APPROX. 15' SEWER ESM'T

APPROX. WATER PIPE ESM'T

PENNELL DRIVE

380

SCALE
0 40 80 120

I-170 PLAN SHEETS
LOCATION #5
WOODSON ROAD
SHEET 10 OF 10

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 7:57:49 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	13

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

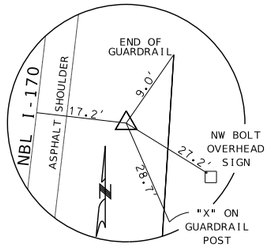
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

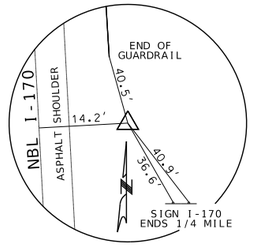
EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

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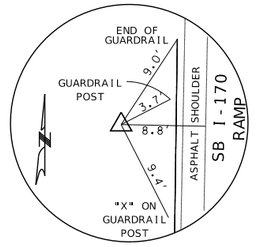
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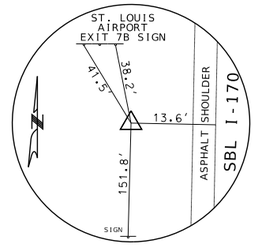
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IRON ROD W/CAP
N: 1067771.103
E: 866473.442
EL: 554.78



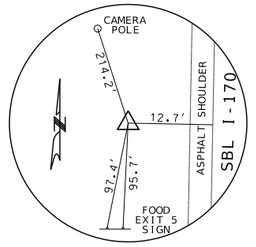
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IRON ROD W/CAP
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E: 866494.683
EL: 568.65



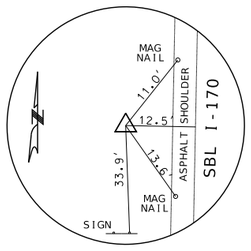
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EL: 572.05



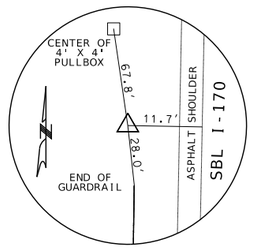
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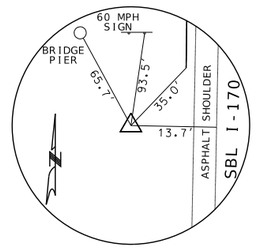
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EL: 584.85



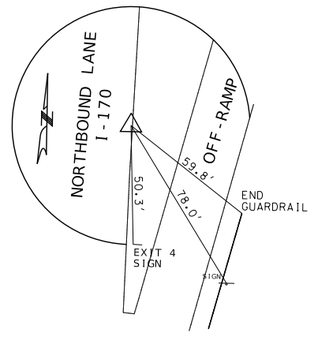
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IRON ROD W/CAP
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E: 867527.324
EL: 576.56



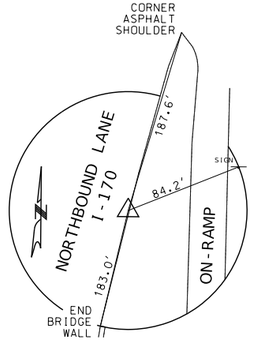
CONTROL POINT NO. 56
IRON ROD W/CAP
N: 1044041.450
E: 864500.153
EL: 622.65



CONTROL POINT NO. 57
IRON ROD W/CAP
N: 1043681.885
E: 864445.024
EL: 628.17



CONTROL POINT NO. 65
MAG SPIKE
N: 1038509.179
E: 861933.330
EL: 613.52



CONTROL POINT NO. 66
MAG SPIKE
N: 1039213.750
E: 862028.057
EL: 610.28

REFERENCE POINTS
SHEET 1 OF 1

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 1:52:39 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	14

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

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 COORDINATE INFORMATION

COORDINATE SYSTEM	MODIFIED MISSOURI STATE PLANE
HORIZONTAL DATUM	NAD 83 (2011) (EPOCH 2010)
VERTICAL DATUM	NAVD 88: GNSS DERIVED
GEOID MODEL	18
ELEVATIONS DETERMINED BY	GNS DERIVED
PROJECT PROJECTION FACTOR	1.00008780

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MISSOURI COORDINATE SYSTEM OF 1983
CONTROL STATION	MISSOURI CORS
DESIGNATION	MODOT BELLFONT CORS ARP
CORS_ID	MOBL
PID	DM3511
LATITUDE	38°45'53.88149" (N)
LONGITUDE	90°14'43.15784" (W)
NORTHING (M)	325,371.567
EASTING (M)	272,133.214
ZONE	EAST
PROJECT AVERAGE GRID FACTOR	0.99991221

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

PROJECT NORTHING X AVERAGE GRID FACTOR
= STATE PLANE NORTHING
PROJECT EASTING X AVERAGE GRID FACTOR
= STATE PLANE EASTING

EXAMPLE: CONTROL POINT #1
N 1117337.107 X 0.99991221 = N 1117315.531
E 548122.702 X 0.99991221 = E 548112.118

LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

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COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND) NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)	DESCRIPTION	GPK POINT ID
PROJECT CONTROL POINTS								
	124+07.38	170	56	1,067,771.10	866,473.44	554.78	IRON ROD W/CAP	50
	112+06.79	170	56	1,068,984.14	866,494.68	568.65	IRON ROD W/CAP	51
	202+77.90	170	102	1,059,920.10	866,661.86	572.05	IRON ROD W/CAP	52
	218+96.25	170	90	1,058,372.15	867,199.06	556.13	IRON ROD W/CAP	53
	338+83.87	170	104	1,046,899.94	867,268.23	584.85	IRON ROD W/CAP	54
	334+03.69	170	88	1,047,286.67	867,527.32	576.56	IRON ROD W/CAP	55
	379+10.25	170	74	1,044,041.45	864,500.15	622.65	IRON ROD W/CAP	56
	382+62.44	170	74	1,043,681.88	864,445.02	628.17	IRON ROD W/CAP	57
	442+43.00	170	53	1,038,509.18	861,933.33	613.52	MAG SPIKE	65
	435+19.00	170	55	1,039,213.75	862,028.06	610.28	MAG SPIKE	66
ALIGNMENTS								
							LOCATION 1	
	108+45.76	170	BL	1,069,038.62	866,315.53		PCC	
	112+71.66	170	BL	1,068,927.78	866,506.21		HPI	
	116+79.09	170	BL	1,068,502.31	866,487.11		PCC	
	118+79.17	170	BL	1,068,302.43	866,478.14		HPI	
	120+79.09	170	BL	1,068,103.66	866,455.25		PT	
							LOCATION 2	
	200+58.14	170	BL	1,060,153.97	866,732.85		PC	
	208+08.74	170	BL	1,059,407.99	866,816.04		HPI	
	215+46.14	170	BL	1,058,727.51	867,132.82		PT	
							LOCATION 3	
	335+52.73	170	BL	1,047,044.62	867,835.10		HPI	
							LOCATION 4	
	381+32.80	170	BL	1,043,804.99	864,531.45		CS	
	383+32.80	170	BL	1,043,605.84	864,513.29		ST	
	385+32.77	170	BL	1,043,406.41	864,498.60		TS	
							LOCATION 5	
	418+16.79	170	BL	1,040,727.10	862,735.46		PC	
	423+77.70	170	BL	1,040,302.90	862,368.49		HPI	
	429+28.32	170	BL	1,039,782.37	862,159.50		PCC	
	432+71.38	170	BL	1,039,471.02	862,028.98		HPI	
	436+12.68	170	BL	1,039,136.41	861,953.34		PCC	
	438+64.92	170	BL	1,038,890.39	861,897.72		HPI	
	441+15.84	170	BL	1,038,638.45	861,885.95		PT	
	443+57.74	170	BL	1,038,396.81	861,874.65		BACK STATION	
	400+14.05	170	BL	1,038,396.81	861,874.65		AHEAD STATION	
	398+80.74	170	BL	1,038,263.60	861,868.43		SPI	
	398+14.05	170	BL	1,038,197.28	861,861.41		CS	
	392+27.55	170	BL	1,037,557.96	861,793.74		HPI	
	385+84.66	170	BL	1,037,123.01	861,320.32		SC	
	385+18.02	170	BL	1,037,077.90	861,271.21		SPI	
	383+84.66	170	BL	1,036,993.56	861,167.87		TS	
	381+62.81	170	BL	1,036,853.35	860,995.97		PT	
	378+12.27	170	BL	1,036,630.64	860,722.99		HPI	
	374+59.97	170	BL	1,036,364.23	860,492.47		PCC	
	371+87.36	170	BL	1,036,156.76	860,312.96		HPI	
	369+13.01	170	BL	1,035,918.47	860,177.00		PCC	
	368+42.49	170	BL	1,035,857.20	860,142.03		HPI	
	367+71.93	170	BL	1,035,794.24	860,110.19		PCC	
	365+91.96	170	BL	1,035,633.36	860,028.81		HPI	
	364+11.67	170	BL	1,035,464.93	859,964.45		PC	

COORDINATE POINTS
SHEET 1 OF 1

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN-023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 1:52:54 PM
Paul J. Kronlage - Civil
MO PE - 023328

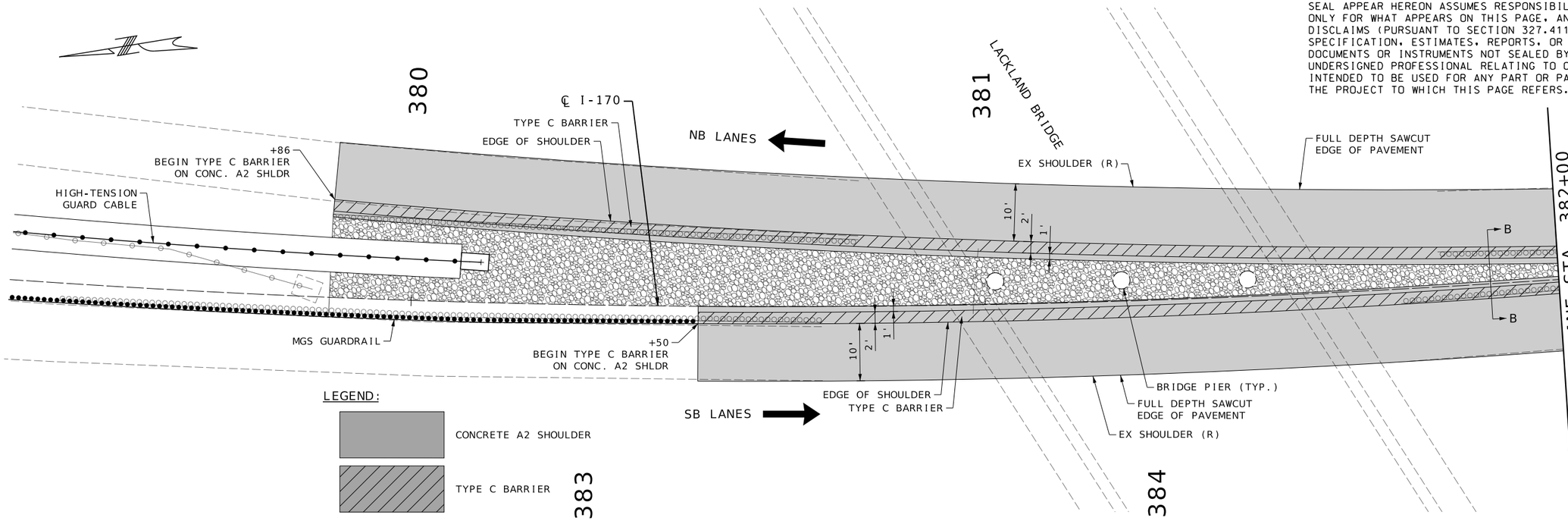
DATE PREPARED: 9/25/2026
ROUTE: I-170 | STATE: MO
DISTRICT: SL | SHEET NO.: 15
COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
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Phone 314-394-3100
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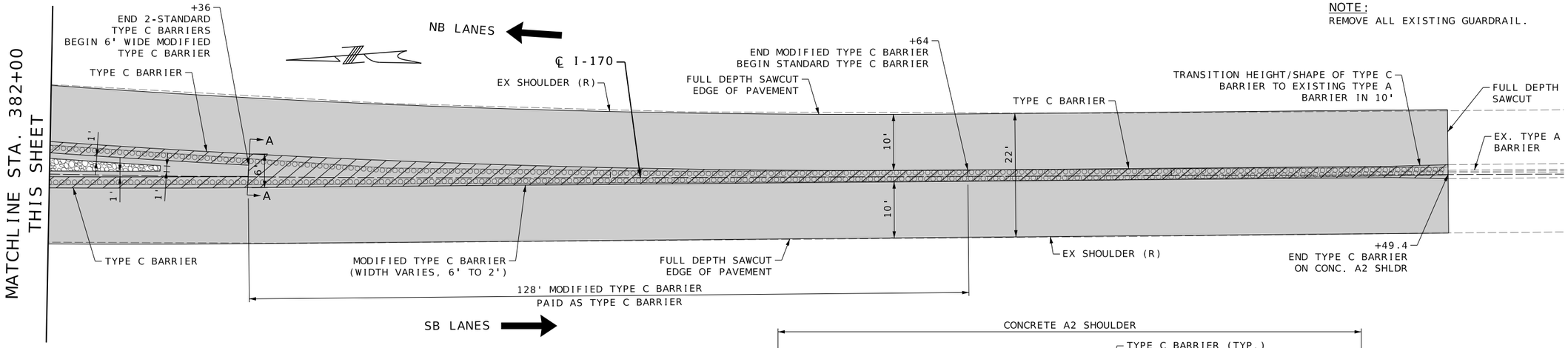


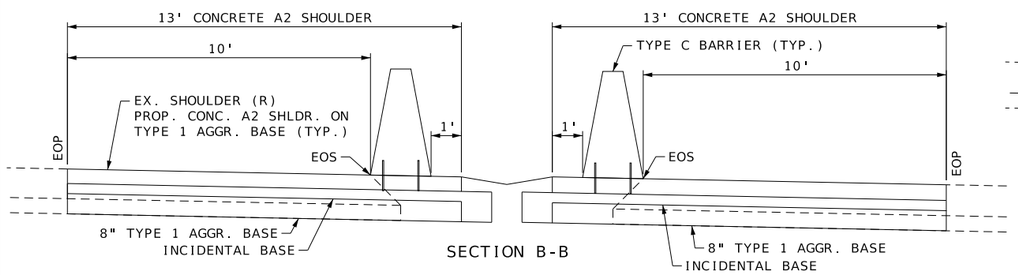
LEGEND:

CONCRETE A2 SHOULDER

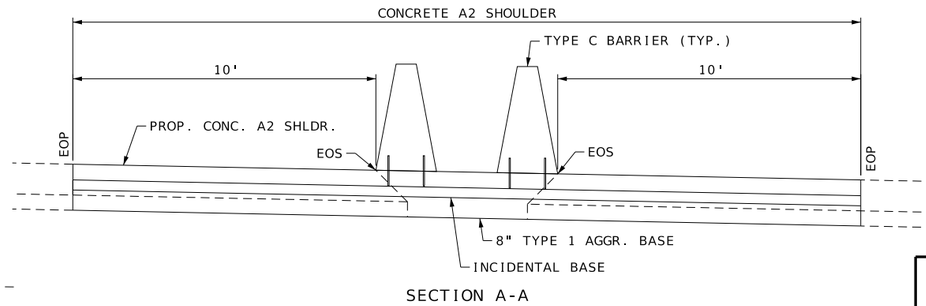
TYPE C BARRIER

NOTE:
REMOVE ALL EXISTING GUARDRAIL.





SECTION B-B



SECTION A-A

SCALE
0 10 20 30

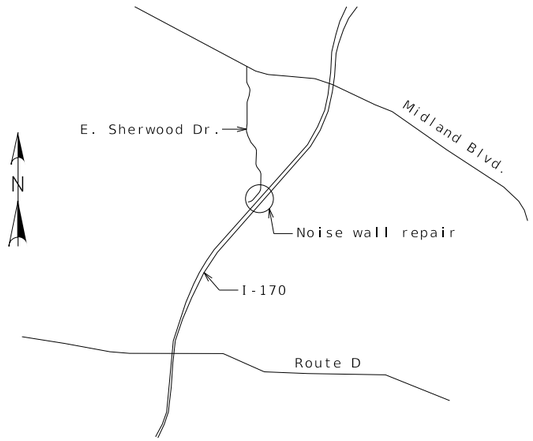
SPECIAL SHEET
I-170 AT LACKLAND RD
SHEET 1 OF 2

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER
09/25/2026 5:31:43 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED 9/25/2026
ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 16
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

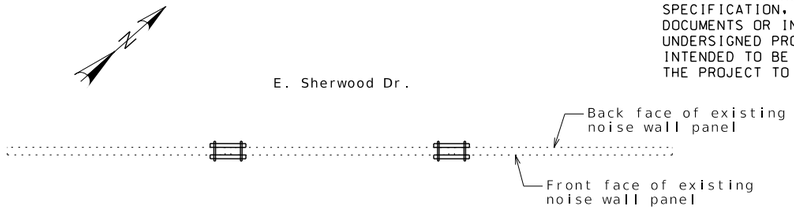
DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
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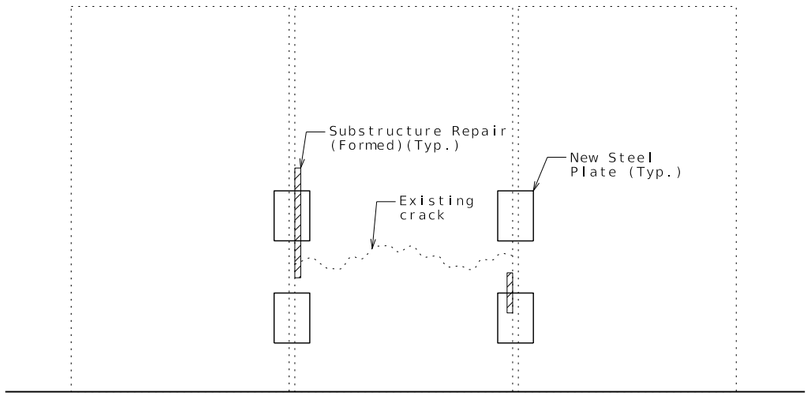
LOCATION SKETCH

(Damaged panel location approximately 420'± North of mile marker 5.0)

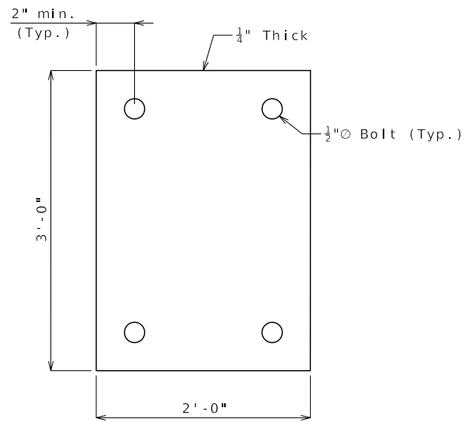


S.B. I-170

PLAN



ELEVATION



DETAIL OF STEEL PLATE

NOTES:

Design Unit Stresses:
Structural Carbon Steel (ASTM A709 Grade 36) fy = 36,000 psi

Field connections shall be made with 1/2-inch diameter ASTM A307 bolts and 9/16-inch diameter holes.

Structural steel shall be galvanized in accordance with ASTM A123 and Sec 1081.

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

Contractor shall verify all dimensions in field before finalizing the shop drawings.

All concrete repairs shall be in accordance with Sec 704, unless otherwise noted.

All steel connecting bolts, fasteners, nuts, washers and plates shall be galvanized after fabrication.

Place the heads of 1/2"∅ bolts on the back face of panels.

The locations of four galvanized steel plates are to be set in the field to surround the existing horizontal crack to restrict further panel separation from the adjacent panels.

The bolt locations shall be field measured to properly fit within corrugations of the concrete panels.

Estimated concrete repairs include:
- 20 lin. ft. Epoxy Pressure Injecting
- 10 sq. ft. Substructure Repair (Formed)

Payment for furnishing and placing all materials, epoxy pressure injecting, substructure repair, removals, disposal of all falsework, labor, tools, equipment and all incidentals necessary to complete this item will be considered completely covered by the contract unit price for Noise Wall Repair.

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STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
PROFESSIONAL ENGINEER

10/02/2026 3:33:48 PM
Chris Linneman - Civil
MO PE-2002016690

DATE PREPARED: 10/2/2026
ROUTE: I-170 | STATE: MO
DISTRICT: SL | SHEET NO.: 17
COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

SPECIAL SHEET
SOUND WALL REPAIRS
SHEET 2 OF 2

017_SS_02_J6I3572_i10.dgn 3:30:27 PM 10/2/2026

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Sign Spacing, Device Spacing and Channelizing Taper Lengths

SIGN SPACING (S) FOR ADVANCE SIGN SERIES (1) (2)		
SPEED MPH	UNDIVIDED HIGHWAYS	DIVIDED HIGHWAYS
0-35	200	200
40-45	350	500
50-55	500	1000
60-70	1000	SA-1000 SB-1500 SC-2640

LONGITUDINAL BUFFER SPACE (B)	
SPEED MPH	BUFFER SPACE
0-35	250
40-45	360
50-55	495
60-70	730

TAPER LENGTHS AND SPACING OF CHANNELIZING DEVICES					
SPEED MPH	MINIMUM TAPER LENGTHS (L) FOR LANE WIDTHS (W)			MAXIMUM CHANNELIZER SPACING	
	10 FT	11 FT	12 FT	THROUGH TAPER	THROUGH WORK AREA
0-35	205	225	245	35	40
40-45	450	495	540	40	80
50-55	550	605	660	50	80
60-70	700	770	840	60	80

TAPER LENGTH (L):

L = WS FOR 40 MPH OR MORE

$L = \frac{WS^2}{60}$ FOR 35 MPH OR LESS

FOR SHOULDER TAPER USE L/3

WHERE:

L = TAPER LENGTH IN FEET

W = LATERAL SHIFT IN FEET

S = POSTED SPEED IN MPH

NOTES:

DIMENSIONS IN FEET UNLESS OTHERWISE NOTED.

(1) SPACING BETWEEN SIGNS AND SPACING BETWEEN LAST SIGN AND FLAGGER, BEGINNING OF TAPER, OR SIGNED CONDITION

(2) SPACINGS MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS

POSTED SPEED LIMITS

I-170 - 60 MPH

TRAFFIC CONTROL DEVICES

GENERAL NOTES:

1. SEE STANDARD PLAN 616.10 FOR DETAILS AND ITEMS NOT SHOWN
2. EXISTING SIGNS SHALL BE COVERED DURING WORKING HOURS ONLY IF IN CONFLICT WITH TRAFFIC CONTROL PLANS.
3. NO DIRECT PAYMENT WILL BE MADE FOR RELOCATING, COVERING, UNCOVERING OR REMOVING SIGNS.
4. CONES ALLOWABLE FOR DAYTIME OPERATIONS ONLY.
6. LOCATE FLASHING ARROW PANEL AT BEGINNING OF TAPER WHEN FEASIBLE, ARROW PANELS ARE ALWAYS LOCATED BEHIND CHANNELIZERS OR CONES.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- SIGN (DOUBLE SIDED)
- FLAGGER
- DIRECTION INDICATOR BARRICADE
- CHANNELIZER
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- FLASHING ARROW PANEL
- TMA (TRUCK MOUNTED ATTENUATOR) WITH FLASHING ARROW PANEL

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

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Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED: 9/25/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	18

COUNTY: ST. LOUIS

JOB NO.: J6I3572

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

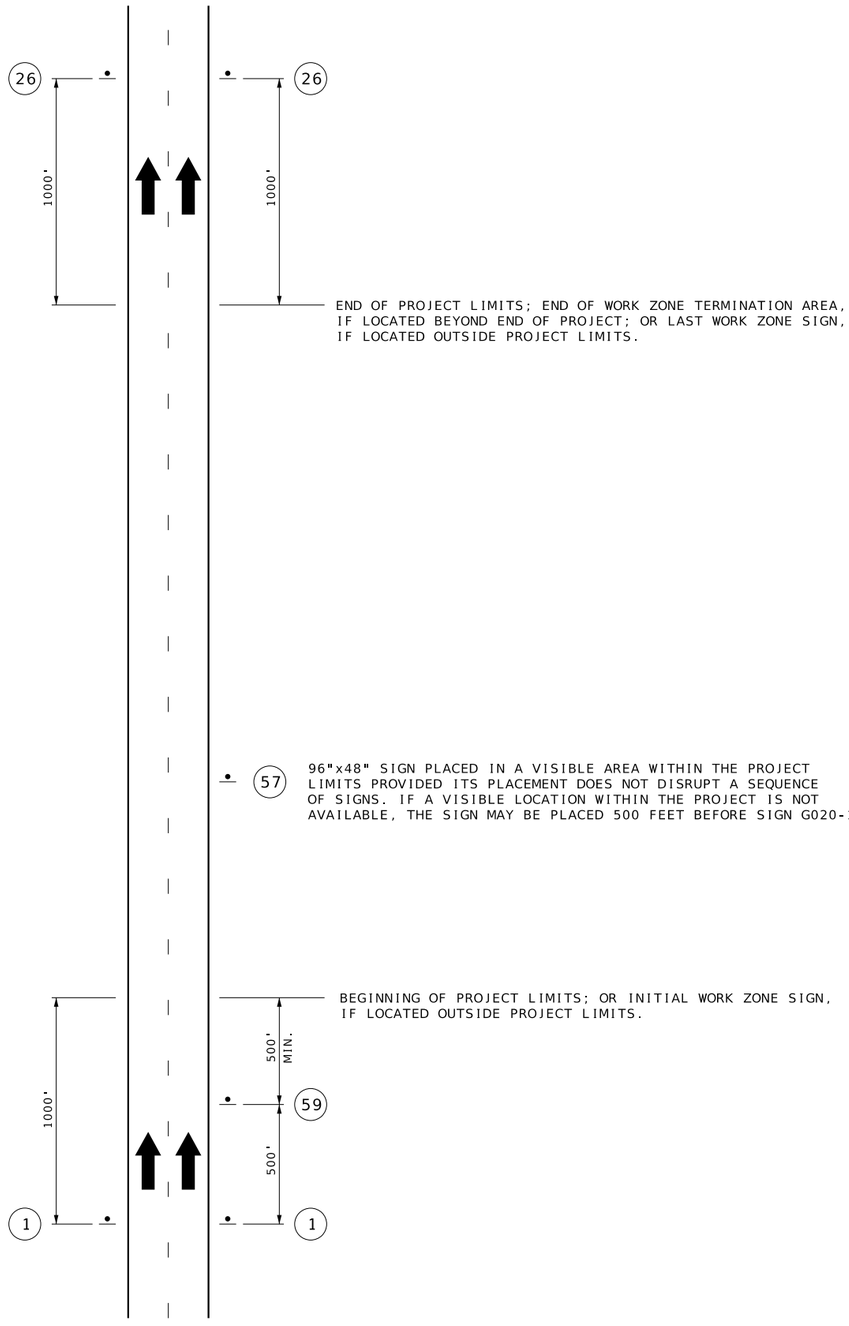
DESCRIPTION | DATE

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

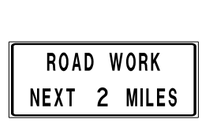
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TRAFFIC CONTROL
SHEET 1 OF 40



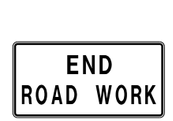
BEGIN/END OF PROJECT SIGNING

DIVIDED HIGHWAY



GO20-1

(1)



GO20-2

(26)



CONST-8

(59)



CONST-5

(57)

NOT TO SCALE

TRAFFIC CONTROL
SHEET 2 OF 40

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I-170	MO
DISTRICT	SHEET NO.
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ST. LOUIS

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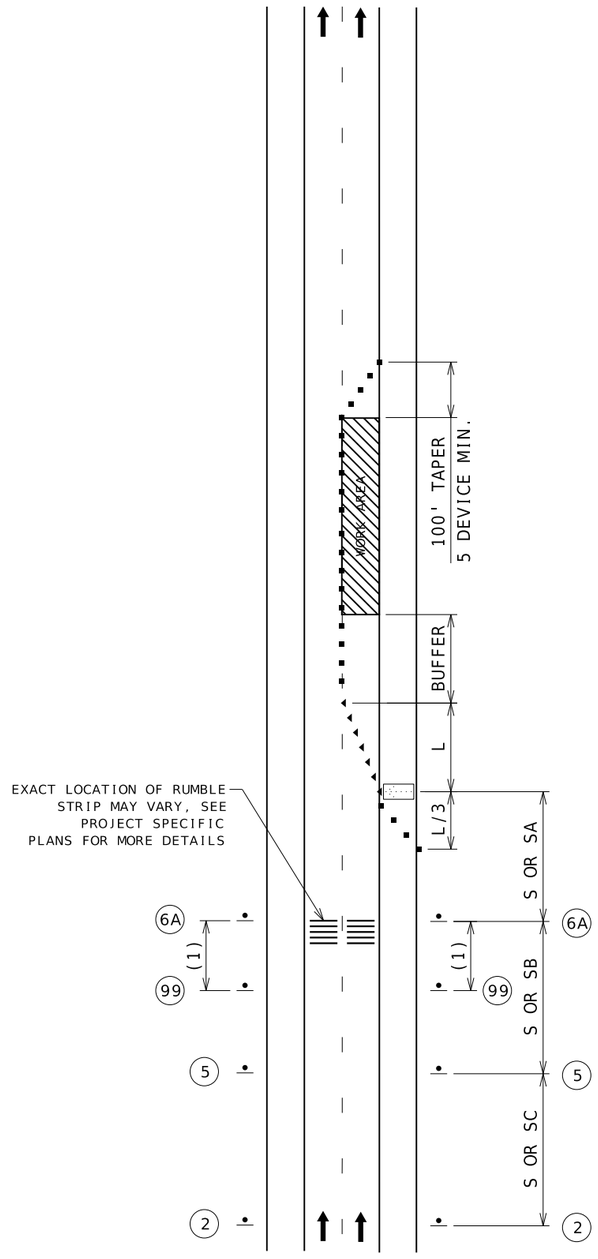
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RUMBLE STRIP PLACEMENT
ON A DIVIDED HIGHWAY

NOTE:
SEE TRAFFIC CONTROL SHEET 1 FOR SIGN AND DEVICE SPACING, TAPER AND BUFFER LENGTHS, AND POSTED SPEEDS ON ROADS KNOWN TO POSSIBLY BE EFFECTED BY THIS PROJECT.

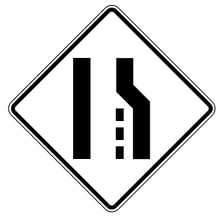


WO20-1
(2)



WO20-5
(5)

LEFT



W4-2R
(6A)



SPECIAL
(99)

(2) TEMPORARY LONG-TERM RUMBLE STRIPS (PER EACH SET) - SHALL CONSIST OF FIVE INDIVIDUAL STRIPS SPACED TEN TO TWELVE FEET ON CENTER.

TEMPORARY RUMBLE STRIP PLACEMENT:
1. EXACT LOCATION OF RUMBLE STRIP MAY VARY, SEE PROJECT SPECIFIC PLANS FOR MORE DETAILS.
2. TEMPORARY RUMBLE STRIPS SHALL BE ORANGE IN COLOR.

Temporary Long-term Rumble Strips		
Permanent Posted Speed (MPH)	Distance (ft.) (1)	Spacing (ft.) (2)
0-45	120	10 - 12
50-55	160	10 - 12
60-70	200	10 - 12

NOT TO SCALE

TRAFFIC CONTROL
SHEET 3 OF 40

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DISTRICT	SHEET NO.
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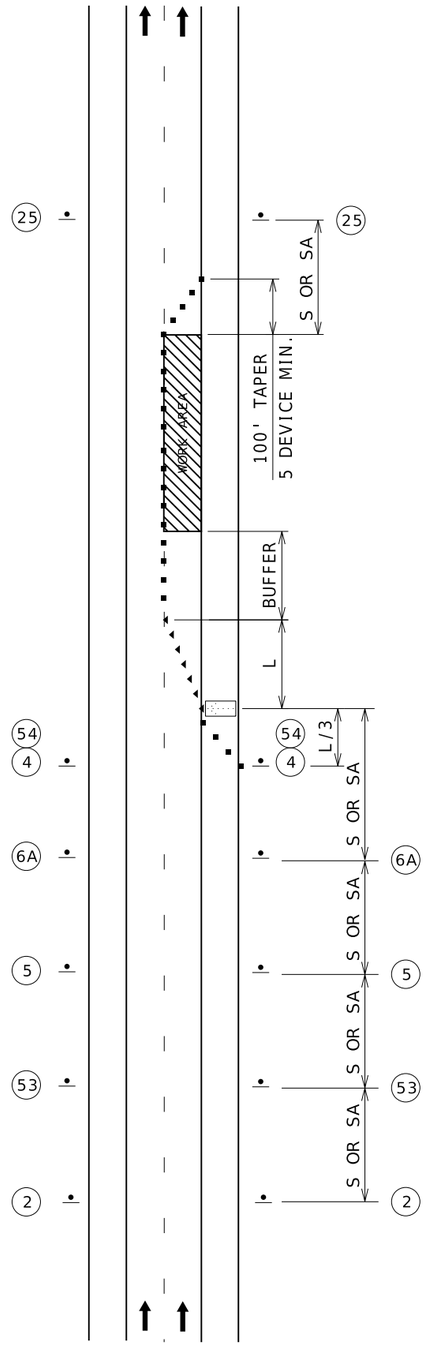
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WORK ZONE SPEED LIMIT



WO20-1

(2)



CONST-3A

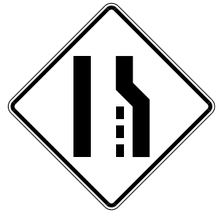
(53)



WO20-5

(5)

LEFT



W4-2R

(6A)



GO20-5aP

(54)



R2-1

(4)



R2-1

(25)

NOTE:
1. SEE TRAFFIC CONTROL SHEET 1 FOR SIGN AND DEVICE SPACING, TAPER AND BUFFER LENGTHS, AND POSTED SPEEDS ON ROADS KNOWN TO POSSIBLY BE EFFECTED BY THIS PROJECT.
2. THE SPEED LIMIT SIGN MAY BE MOVED UPSTREAM, IF THE DISTRICT DEEMS THE WORK ZONE REQUIRES ADVANCE SPEED LIMIT NOTIFICATION.

NOT TO SCALE

TRAFFIC CONTROL
SHEET 4 OF 40

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MO PE - 023328

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DISTRICT	SHEET NO.
SL	21

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ST. LOUIS

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PROJECT NO.

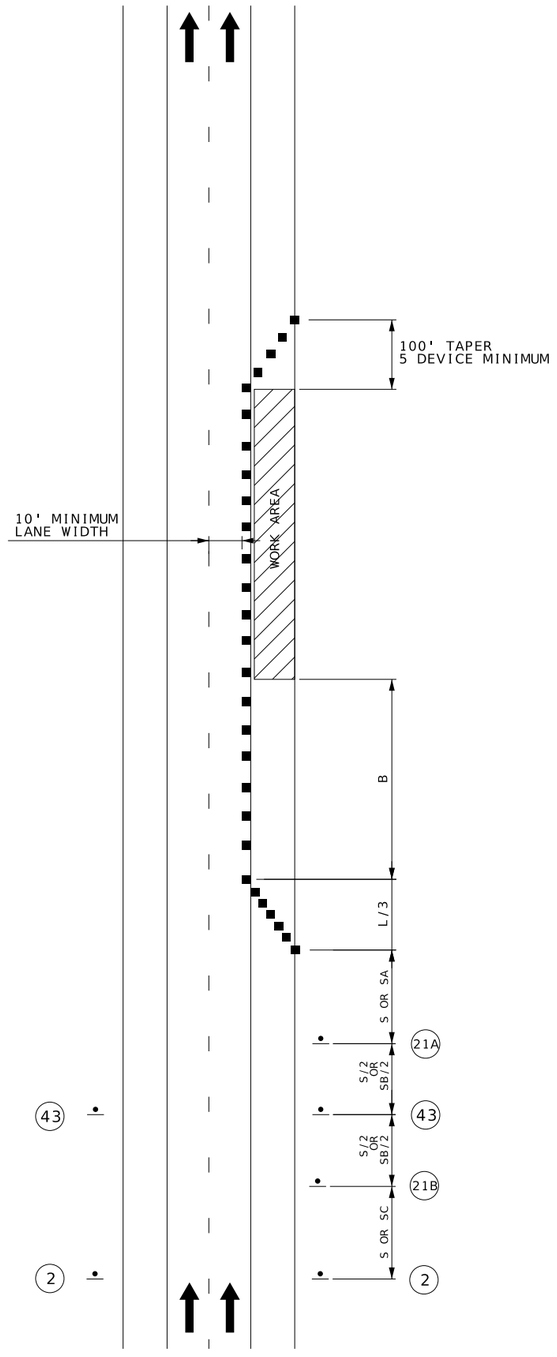
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SHOULDER WORK

DIVIDED HIGHWAY

NOTE:
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WO20-1

2



WO21-5bR

21B



WO21-5aR

21A



WO5-1

43

NOT TO SCALE

TRAFFIC CONTROL
SHEET 5 OF 40

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DISTRICT	SHEET NO.
SL	22

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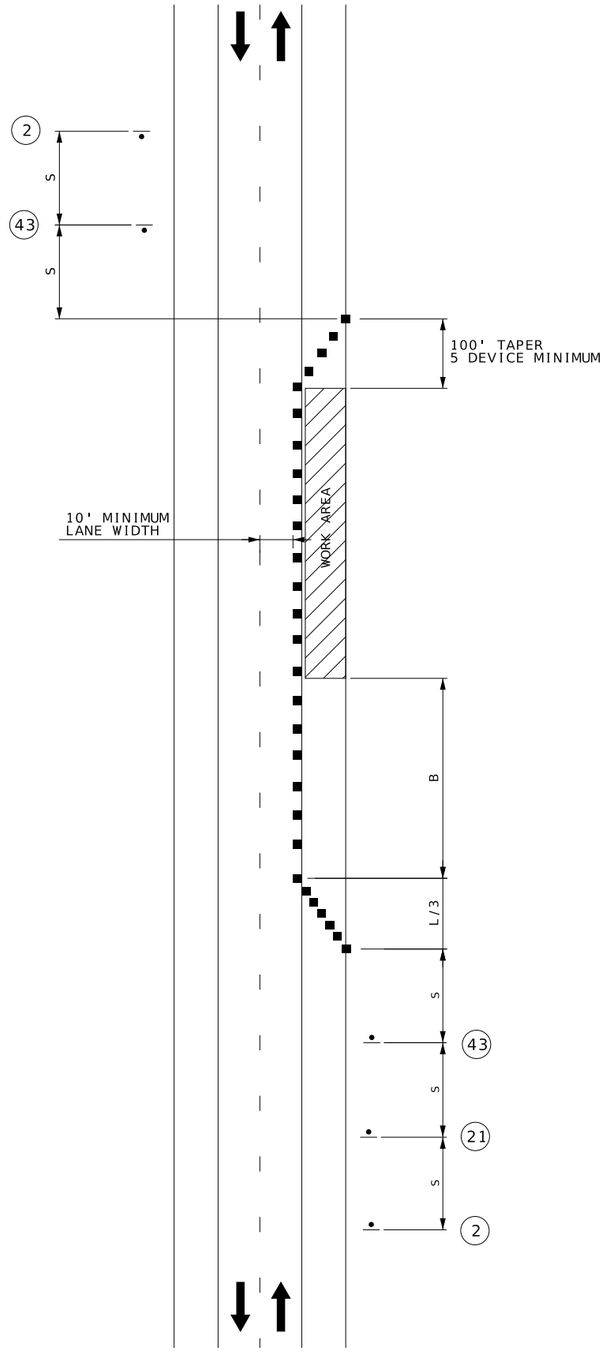
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BRIDGE NO.

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105 WEST CAPITOL
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SHOULDER WORK

UNDIVIDED HIGHWAY

NOTE:
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BRIDGE
OR
RAMP

WO20-1

2



WO21-5

21



BRIDGE
OR
RAMP

WO5-1

43

NOT TO SCALE

TRAFFIC CONTROL
SHEET 6 OF 40

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I-170	MO

DISTRICT	SHEET NO.
SL	23

COUNTY
ST. LOUIS

JOB NO.
J6I3572

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PROJECT NO.

BRIDGE NO.

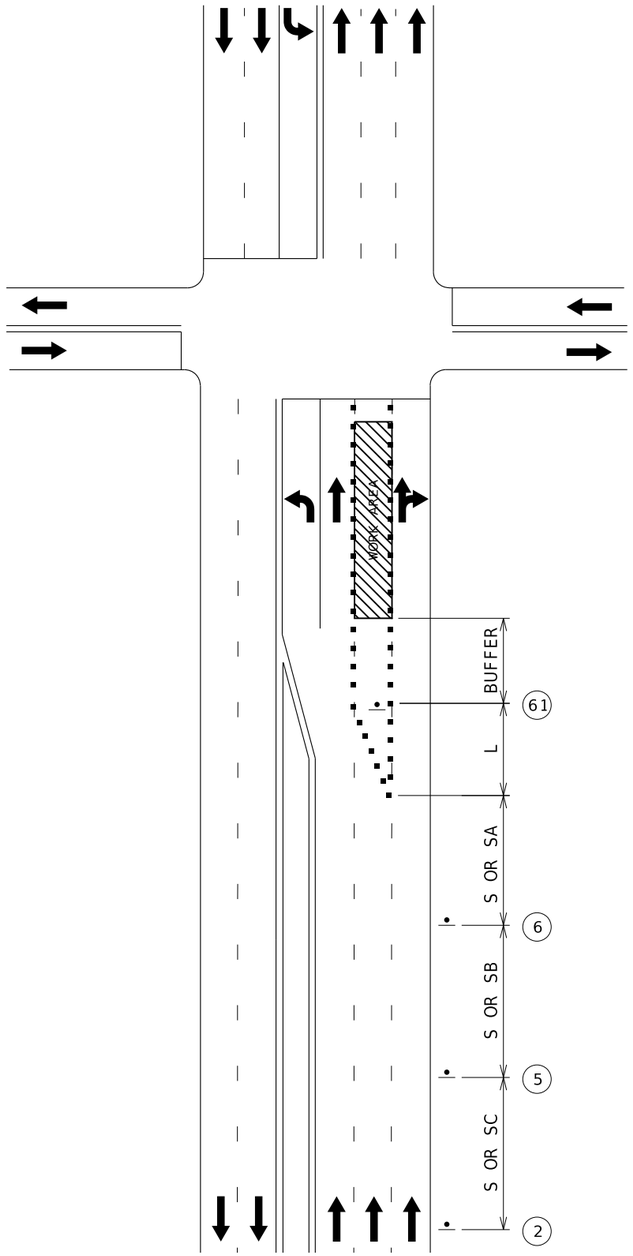
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
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LANE CLOSURE ON
NEAR SIDE OF INTERSECTION

NOTE:
SEE TRAFFIC CONTROL SHEET 1 FOR SIGN AND DEVICE SPACING, TAPER AND BUFFER LENGTHS, AND POSTED SPEEDS ON ROADS KNOWN TO POSSIBLY BE EFFECTED BY THIS PROJECT.



WO20-1
(2)



WO20-5
(5)





WO20-6a
(6)





WO12-1
(61)

NOT TO SCALE

TRAFFIC CONTROL
SHEET 7 OF 40

PAUL JOSEPH KRONLAGE NUMBER EN 023328 REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI
09/25/2026 5:18:20 PM
Paul J. Kronlage - Civil
MO PE - 023328

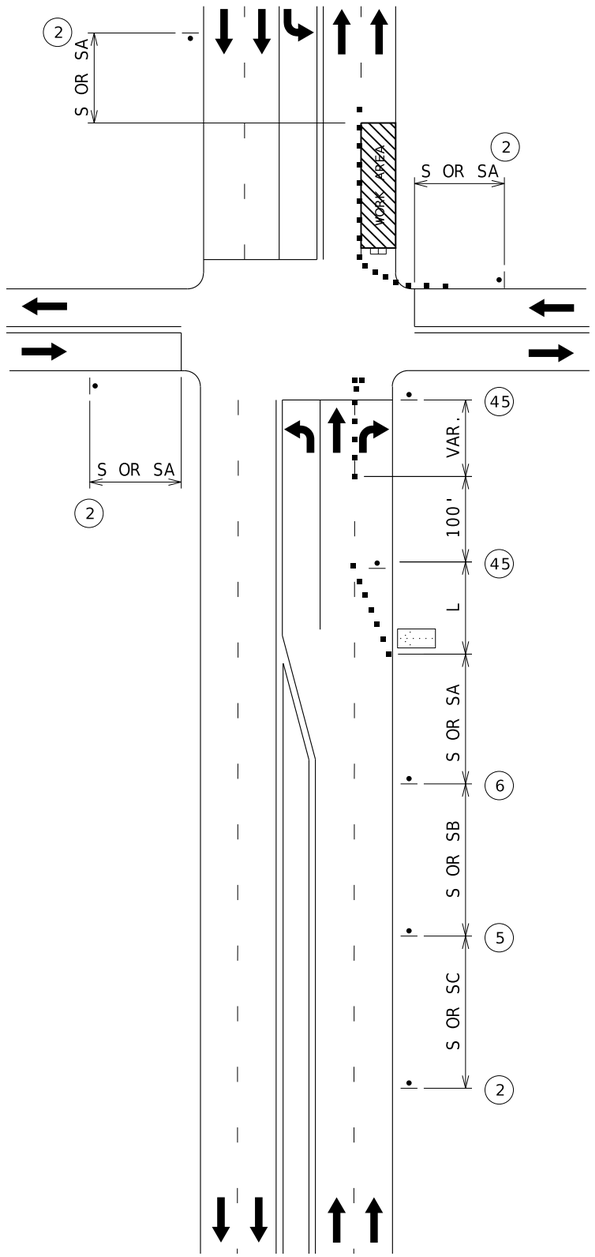
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ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 24
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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RIGHT LANE CLOSURE ON
FAR SIDE OF INTERSECTION

NOTE:
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WO20-1
2



WO20-5
5





WO20-6a
6





R3-7R
45

NOT TO SCALE

TRAFFIC CONTROL
SHEET 8 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
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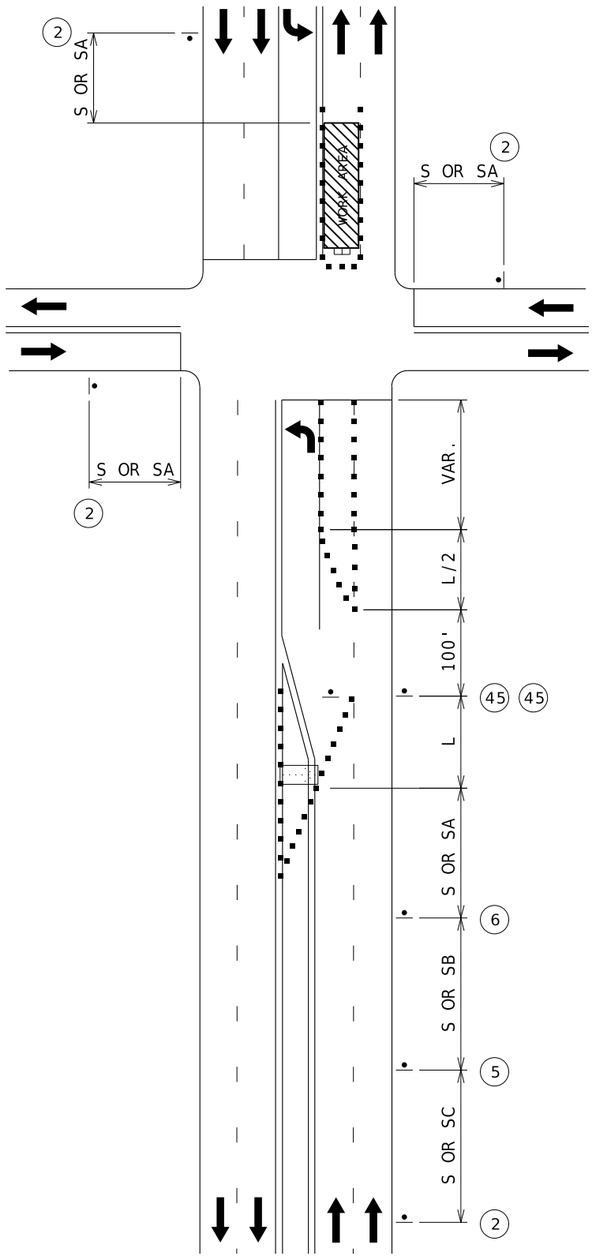
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ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 25
COUNTY ST. LOUIS
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LEFT LANE CLOSURE ON
FAR SIDE OF INTERSECTION

NOTE:
SEE TRAFFIC CONTROL SHEET 1 FOR SIGN AND DEVICE SPACING, TAPER AND BUFFER LENGTHS, AND POSTED SPEEDS ON ROADS KNOWN TO POSSIBLY BE EFFECTED BY THIS PROJECT.



WO20-1

(2)



WO20-5

(5)





WO20-6a

(6)





R3-7L

(45A)

NOT TO SCALE

TRAFFIC CONTROL
SHEET 9 OF 40

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Paul J. Kronlage - Civil
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9/25/2026

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I-170	MO
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SL	26

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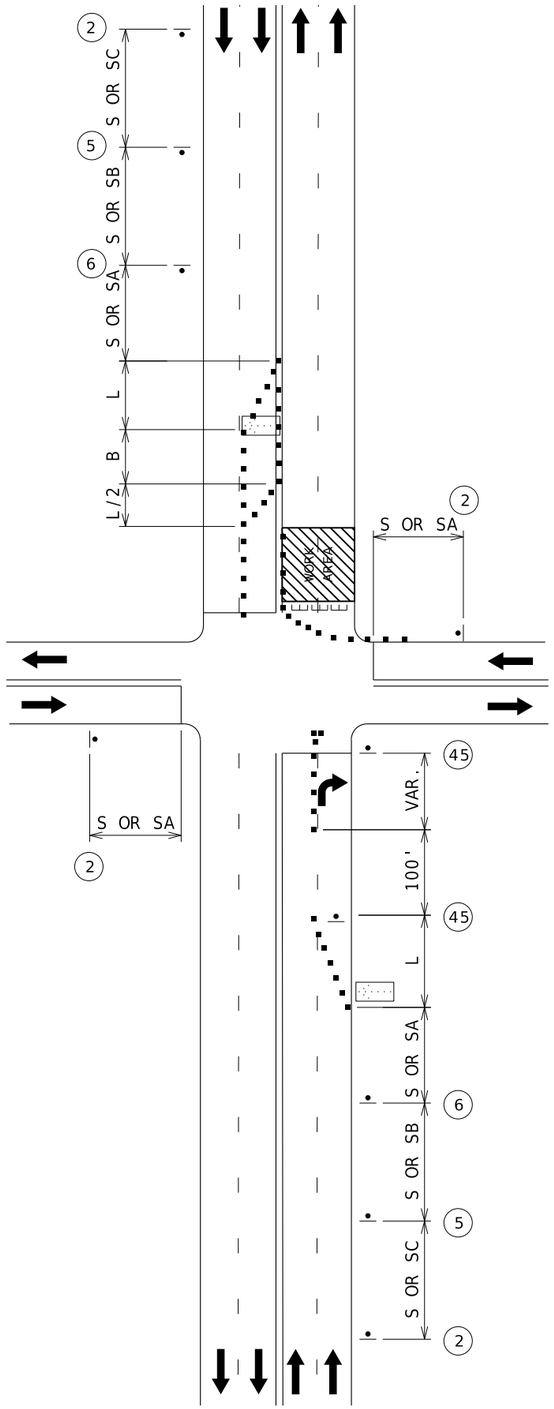
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HALF ROAD CLOSURE ON
FAR SIDE OF INTERSECTION

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WO20-1

(2)



WO20-5

(5)





WO20-6a

(6)





R3-7R

(45)

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TRAFFIC CONTROL
SHEET 10 OF 40

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PROJECT NO.

BRIDGE NO.

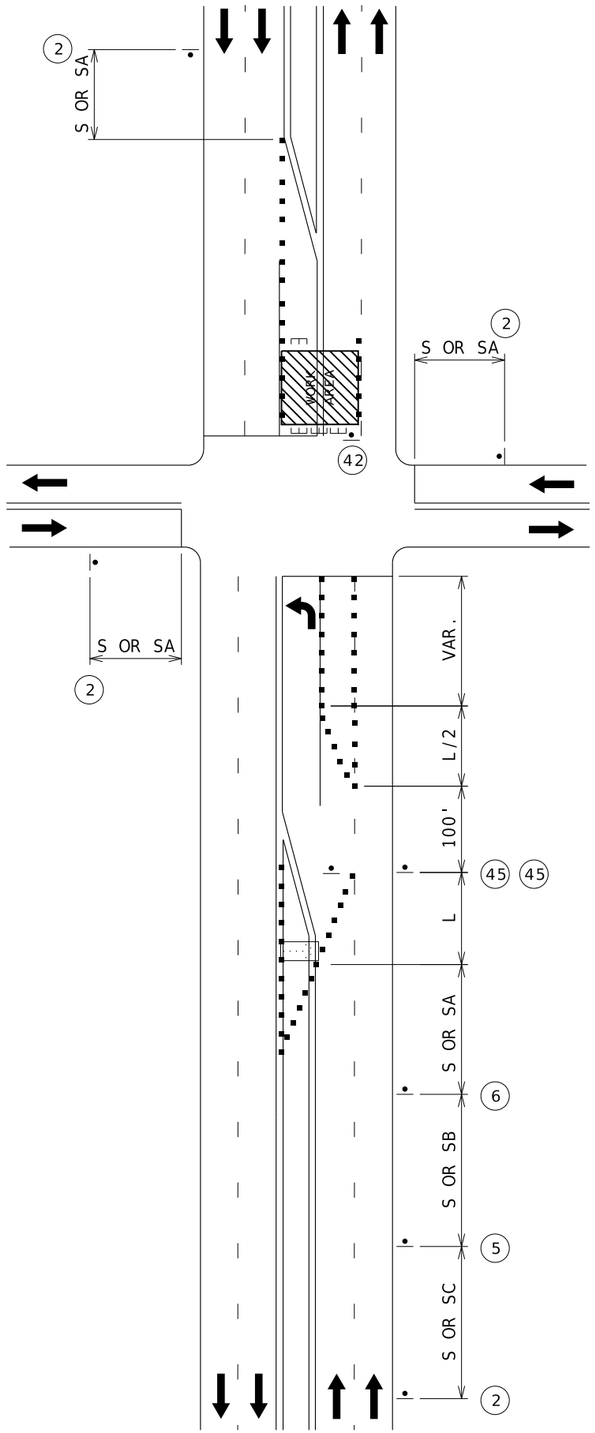
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

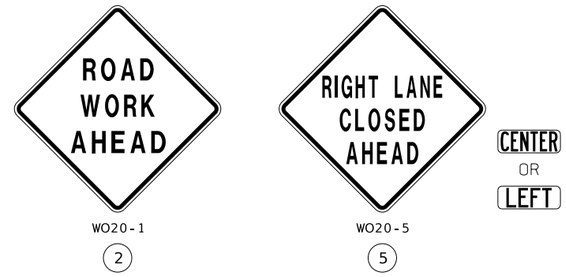
EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

c:\bms\efkmoen01\jennifer archibald\dms04448\027_TC_10_J6I3572_i1_TA-24.dgn 4:54:29 PM 9/25/2026



MULTIPLE LANE CLOSURES
AT AN INTERSECTION

NOTE:
SEE TRAFFIC CONTROL SHEET 1 FOR SIGN AND DEVICE SPACING, TAPER AND BUFFER LENGTHS, AND POSTED SPEEDS ON ROADS KNOWN TO POSSIBLY BE EFFECTED BY THIS PROJECT.



NOT TO SCALE

TRAFFIC CONTROL
SHEET 11 OF 40

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STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 5:19:51 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
SL	28

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

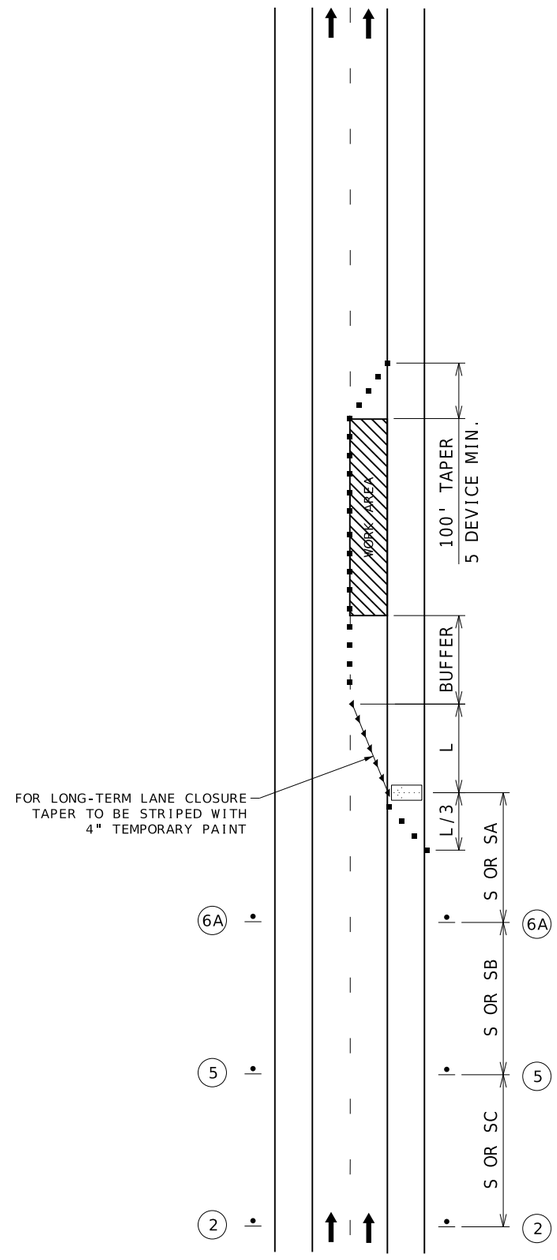
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



SINGLE LANE CLOSURE

NOTE:
SEE TRAFFIC CONTROL SHEET 1 FOR SIGN AND DEVICE SPACING, TAPER AND BUFFER LENGTHS, AND POSTED SPEEDS ON ROADS KNOWN TO POSSIBLY BE EFFECTED BY THIS PROJECT.



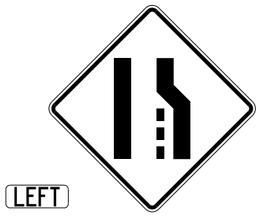
WO20-1

(2)



WO20-5

(5)



W4-2R

(6A)

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NOT TO SCALE

TRAFFIC CONTROL
SHEET 12 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 5:20:11 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	29

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

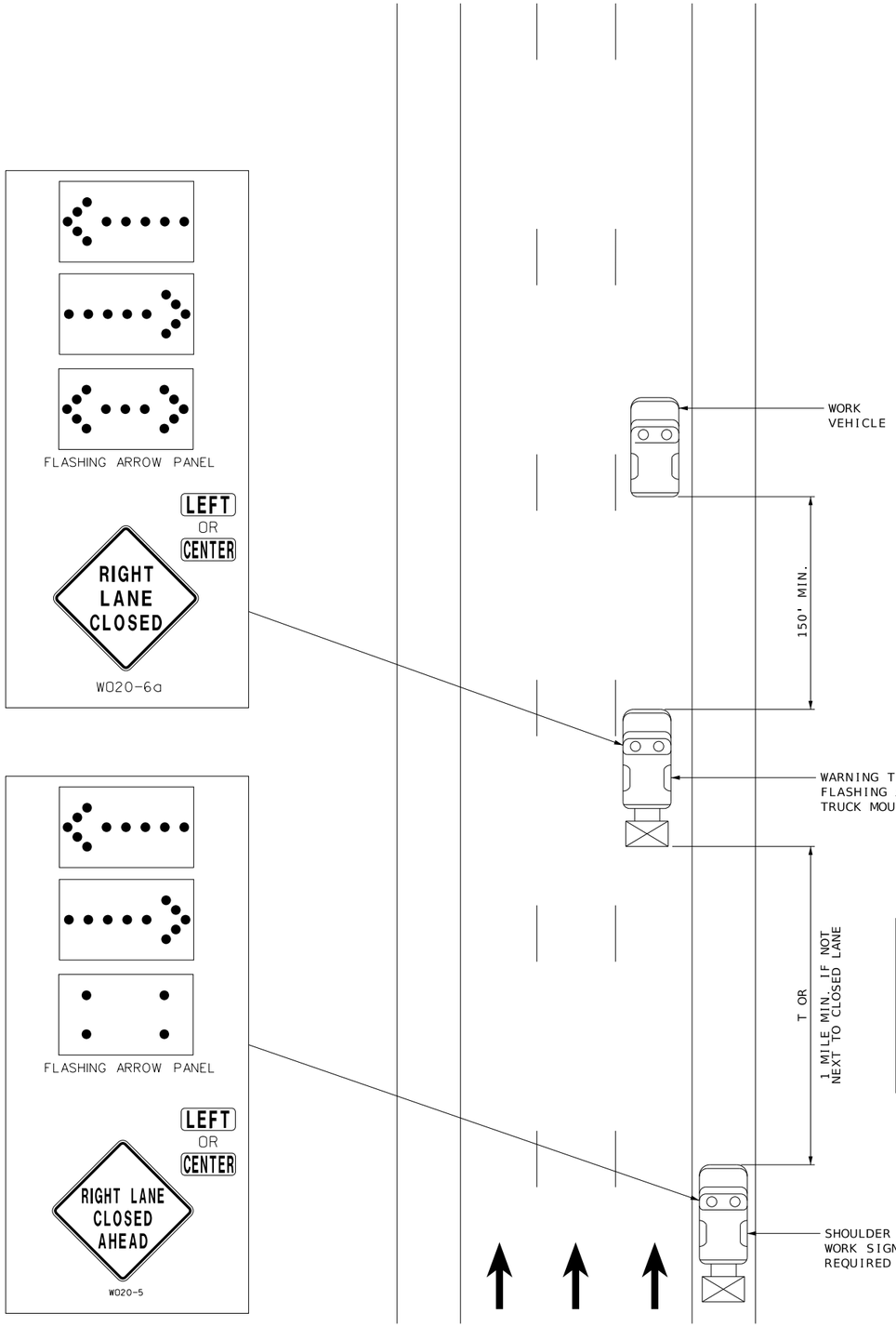
PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
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St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



SPEED	SPACING
PERMANENT POSTED (MPH)	LENGTH T (FT)
≤ 35	245
40-45	540
50-55	660
60-70	840

NOTE:
SEE TRAFFIC CONTROL SHEET 1 FOR POSTED SPEED LIMITS.

NOTES:

UPON APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY PROVIDE ADDITIONAL PROTECTIVE TRUCKS EQUIPPED WITH PROPER WARNING DEVICES.

PROTECTIVE TRUCKS AND WORK VEHICLES SHALL DISPLAY HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

VEHICLE HAZARD WARNING SIGNALS SHALL NOT BE USED INSTEAD OF THE VEHICLE'S HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.

FLASHING ARROW PANELS SHALL BE INCIDENTAL TO TRUCK MOUNTED ATTENUATORS, WHEREVER USED. NO ADDITIONAL PAYMENT WILL BE MADE.

FLASHING ARROW PANELS SHALL, AS A MINIMUM, BE TYPE B, WITH A SIZE OF 60 X 30 INCHES.

A FLASHING ARROW BOARD SHALL BE USED WHEN A FREEWAY LANE IS CLOSED. WHEN MORE THAN ONE LANE CLOSED, A SEPARATE FLASHING ARROW BOARD SHALL BE USED FOR EACH CLOSED LANE.

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STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER
09/25/2026 5:20:42 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED 9/25/2026
ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 30
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

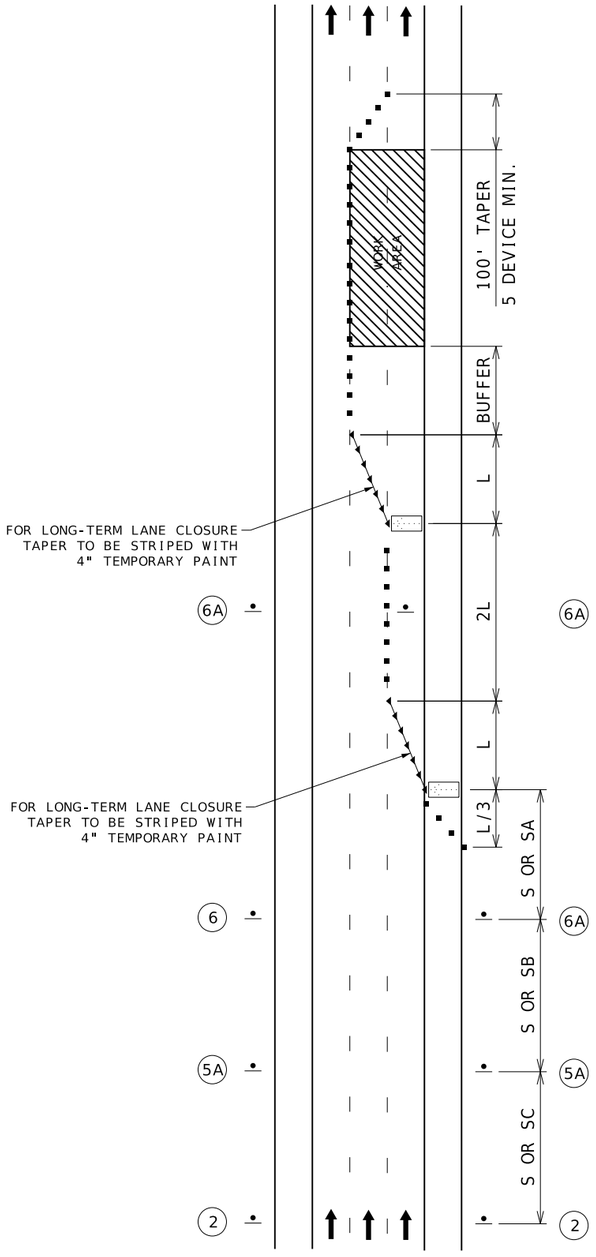
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

MOBILE ON MULTI-LANE HIGHWAY

NOT TO SCALE

TRAFFIC CONTROL
SHEET 13 OF 40



DOUBLE LANE CLOSURE
ON A FREEWAY

NOTE:
SEE TRAFFIC CONTROL SHEET 1 FOR SIGN AND DEVICE SPACING, TAPER AND BUFFER LENGTHS, AND POSTED SPEEDS ON ROADS KNOWN TO POSSIBLY BE EFFECTED BY THIS PROJECT.



WO20-1

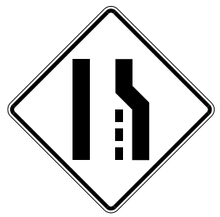
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WO20-5a

(5A)

LEFT



W4-2R

(6A)

NOT TO SCALE

TRAFFIC CONTROL
SHEET 14 OF 40

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STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 5:20:59 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	31

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

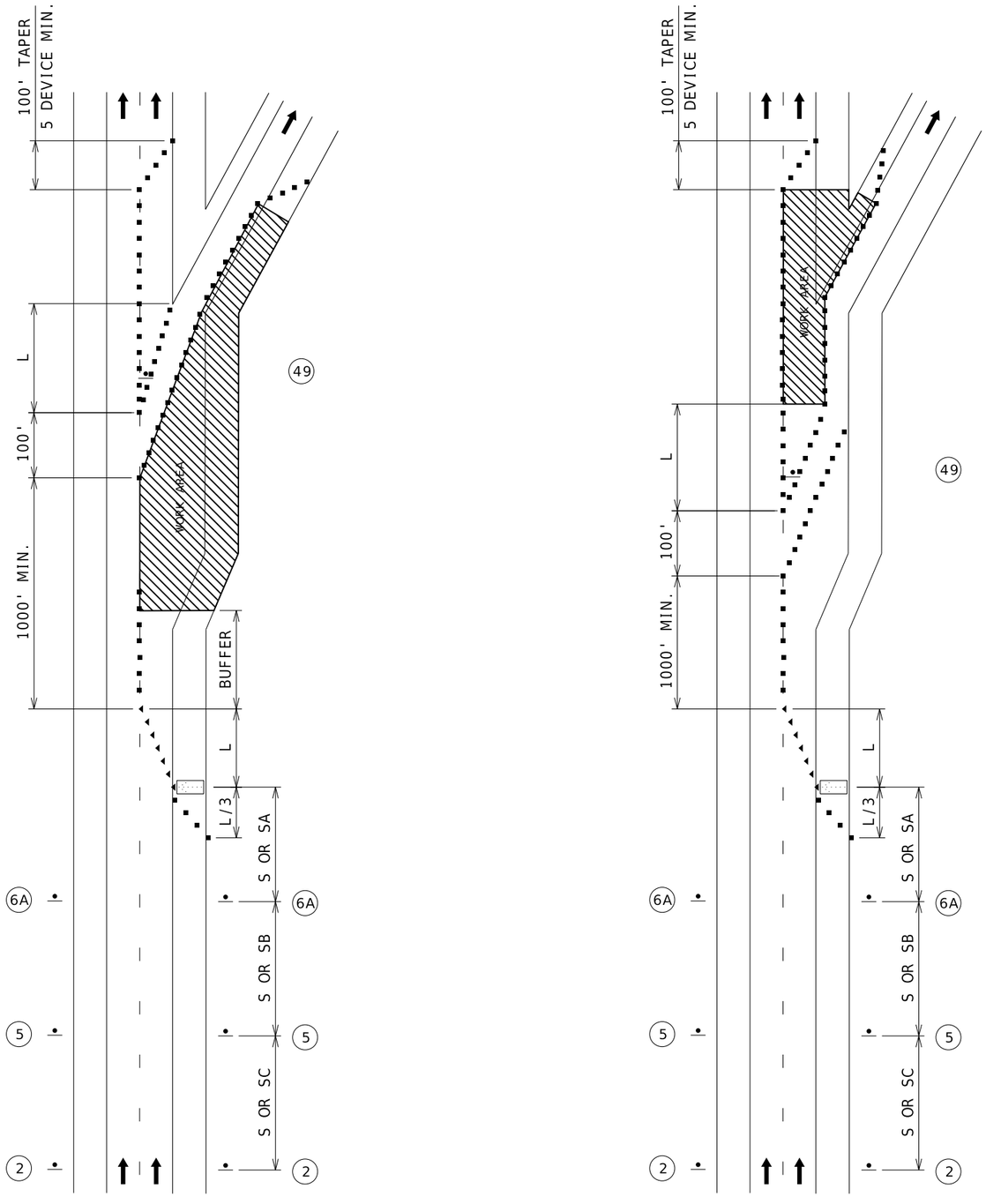
PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



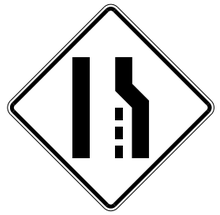
WORK IN THE VICINITY
OF AN EXIT RAMP



WO20-1
(2)



WO20-5
(5)



W4-2R
(6A)



E05-1
(49)

NOT TO SCALE

TRAFFIC CONTROL
SHEET 15 OF 40

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STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 5:21:22 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	32

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

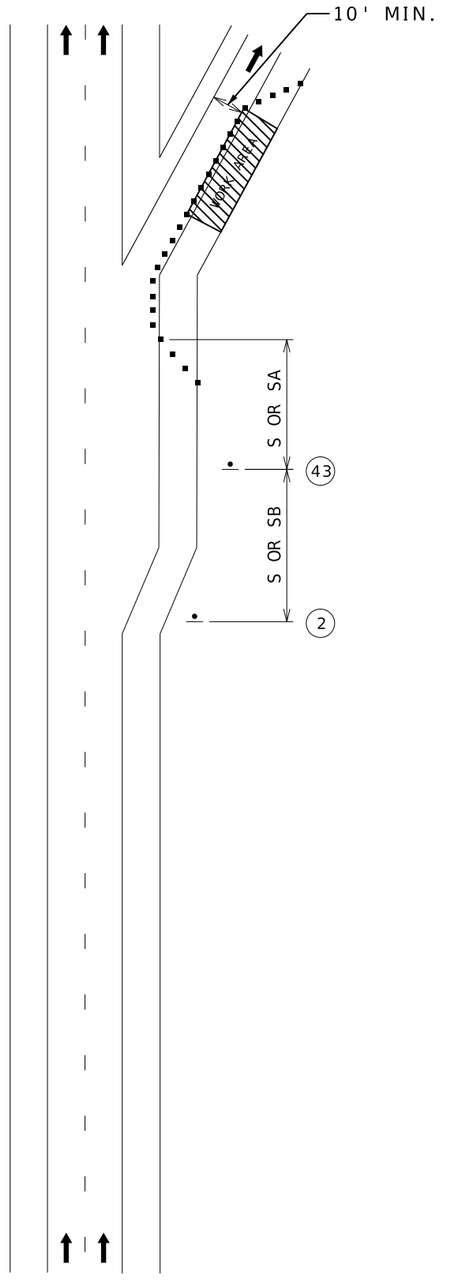
BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



PARTIAL RAMP CLOSURE

NOTE:
SEE TRAFFIC CONTROL SHEET 1 FOR SIGN AND DEVICE SPACING, TAPER AND BUFFER LENGTHS, AND POSTED SPEEDS ON ROADS KNOWN TO POSSIBLY BE EFFECTED BY THIS PROJECT.



WO20-1
2



WO5-1
43

NOT TO SCALE

TRAFFIC CONTROL
SHEET 16 OF 40

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STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED TO PRACTICE AS A PROFESSIONAL ENGINEER

09/25/2026 5:21:43 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
SL	33

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

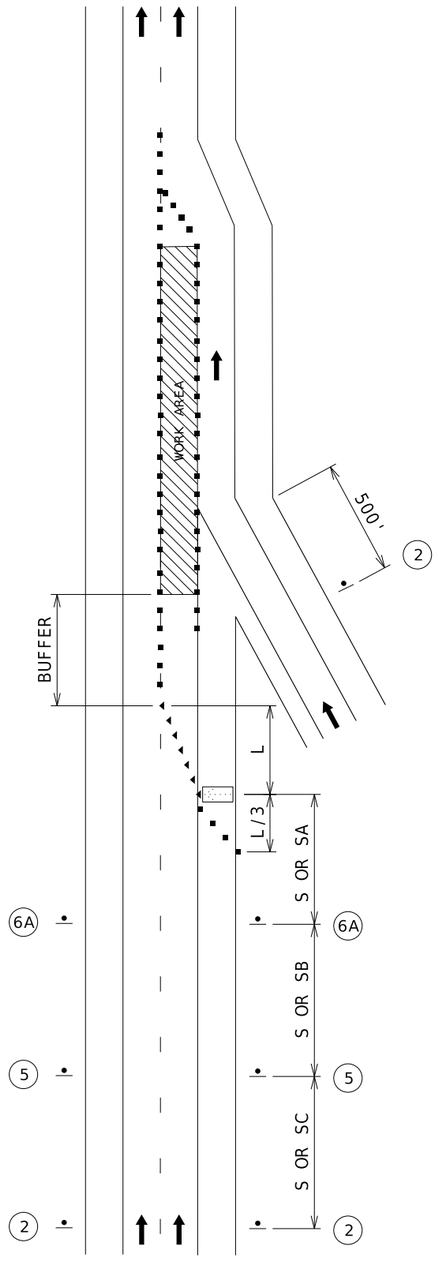
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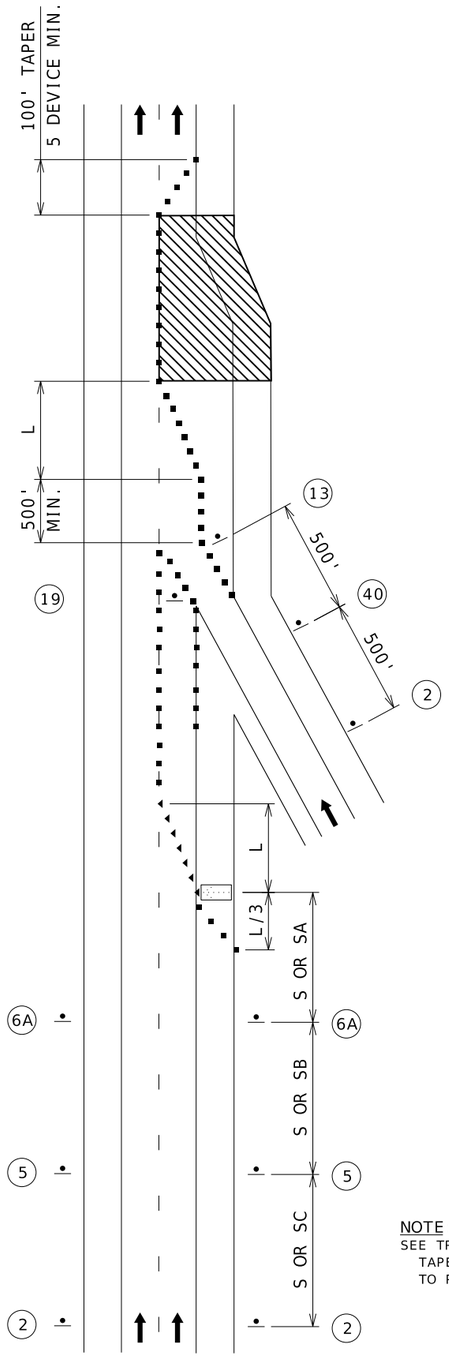
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578





WORK IN THE VICINITY
OF AN ENTRANCE RAMP



WO20-1

(2)



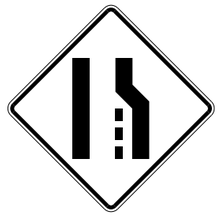
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(5)



R1-2

(13)



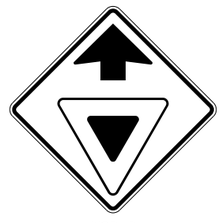
W4-2R

(6A)



WO4-1R

(19)



WO3-2

(40)

NOTE:
SEE TRAFFIC CONTROL SHEET 1 FOR SIGN AND DEVICE SPACING, TAPER AND BUFFER LENGTHS, AND POSTED SPEEDS ON ROADS KNOWN TO POSSIBLY BE EFFECTED BY THIS PROJECT.

NOT TO SCALE

TRAFFIC CONTROL
SHEET 17 OF 40

DISCLAIMER
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STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 5:21:59 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	34

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

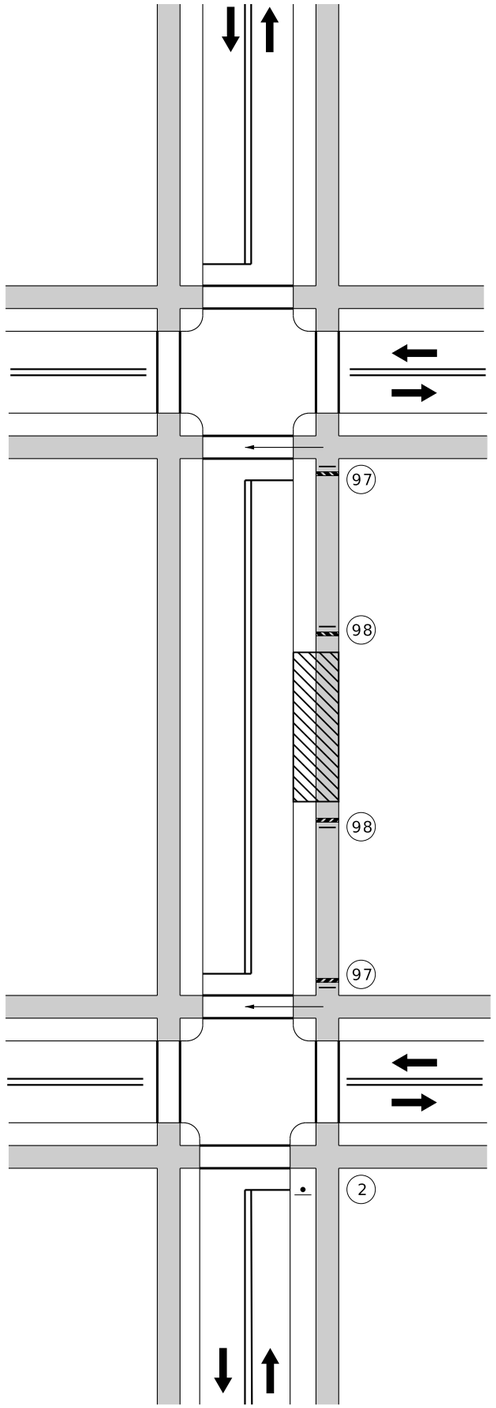
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

c:\bms\efkmoen01\jennifer archibald\dms04448\034_TC_17_J6I3572_i1_TA-44.dgn 5:00:03 PM 9/25/2026

DISCLAIMER

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SIDEWALK DETOUR



WO20-1

2



R9-11L

97



R9-9

98

NOT TO SCALE

TRAFFIC CONTROL
SHEET 18 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 5:22:16 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
SL	35

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

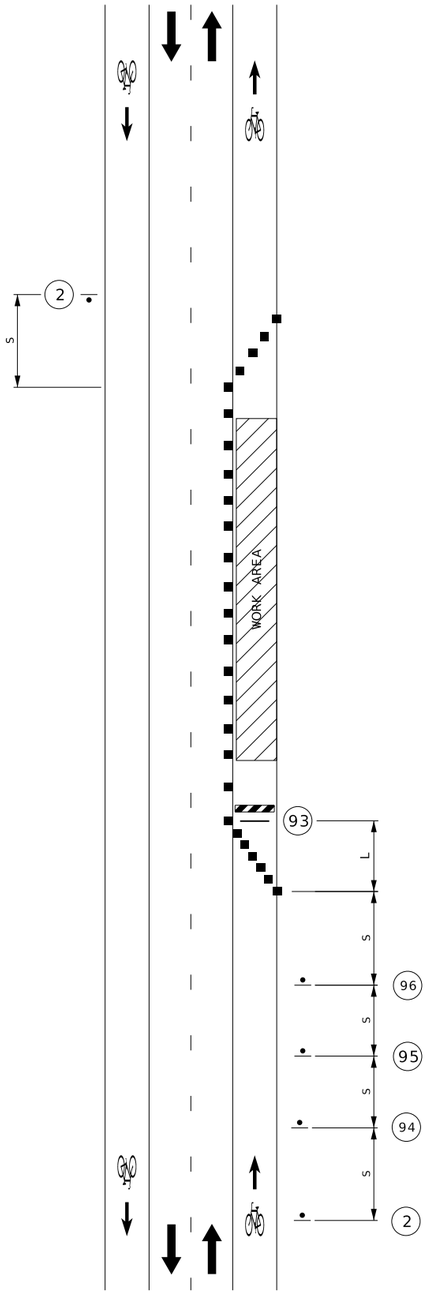
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

c:\bms\efkmoen01\jennifer archibald\dms04448\035_TC_18_J6I3572_i1_TA-28.dgn 5:06:04 PM 9/25/2026



BICYCLE LANE CLOSURE WITHOUT DETOUR

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NOTE:
SEE TRAFFIC CONTROL SHEET 1 FOR SIGN AND DEVICE SPACING, TAPER AND BUFFER LENGTHS, AND POSTED SPEEDS ON ROADS KNOWN TO POSSIBLY BE EFFECTED BY THIS PROJECT.



WO20-1

(2)



WO20-5b

(94)



R9-20

(95)



WO9-5a

(96)



R9-12

(93)

NOT TO SCALE

TRAFFIC CONTROL
SHEET 19 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 5:22:35 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
SL	36

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

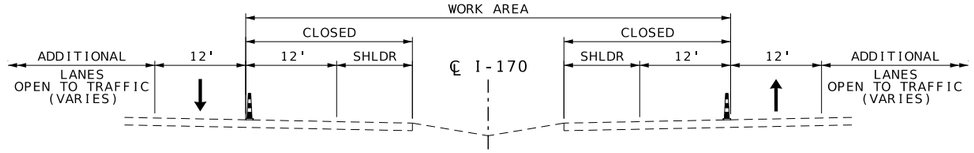
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

c:\bms\efkmoen01\jennifer archibald\dms04448\036_TC_19_J6I3572_i1_TA-47.dgn 5:01:36 PM 9/25/2026



TCP TYPICAL
ADDITIONAL GUARDCABLE WORK
LOCATION # 1, 2, & 3

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STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER
09/26/2026 7:04:20 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/26/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	37

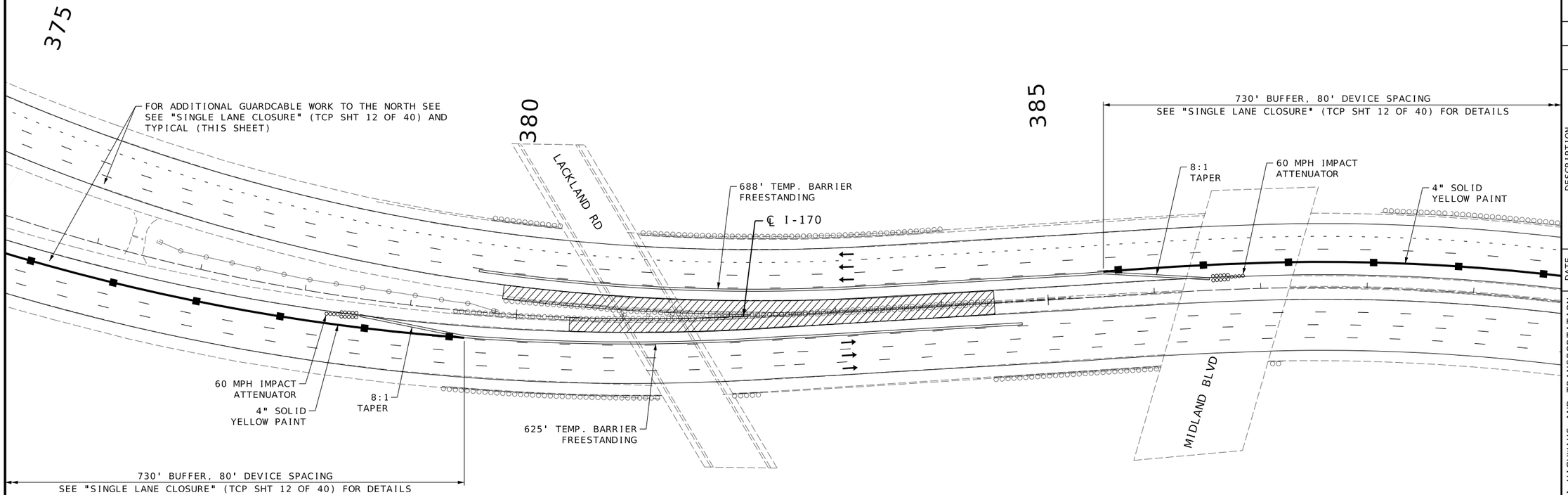
COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.



TRAFFIC CONTROL KEY
- DIBS ▼
- CHANNELIZER ■
- TUBULAR MARKERS ♦
- SIGN ⊥
- TRAVEL DIRECTION →
- TYPE III MOVEABLE BARRICADE
- FLASHING ARROW PANEL
- WORK AREA

SCALE
0 50 100 150

TRAFFIC CONTROL
I-170 AT LACKLAND
SHEET 20 OF 40

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

c:\bms\efkmoen01\jennifer archibald\dms04448\037_TC_20_J6I3572_i50.dgn 5:35:21 PM 9/26/2026

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EQUATION
STA 400+14.05 BK =
STA 443+57.74 AHD

395

400

℄ I-170

730' BUFFER, 80' DEVICE SPACING
SEE "SINGLE LANE CLOSURE" (TCP SHT 12 OF 40) FOR DETAILS

SOUTHBOUND ON RAMP

8:1
TAPER

STATION
DIRECTION
REVERSE

400' TEMP. BARRIER
FREESTANDING

60 MPH IMPACT
ATTENUATOR

4" SOLID
YELLOW PAINT

4" SOLID
YELLOW PAINT

60 MPH IMPACT
ATTENUATOR

8:1
TAPER

BRIDGE
A2809

425' TEMP.
BARRIER
FREESTANDING

730' BUFFER, 80' DEVICE SPACING
SEE "SINGLE LANE CLOSURE" (TCP SHT 12 OF 40) FOR DETAILS

NORTHBOUND OFF RAMP

440

PAGE AVE

UNION PACIFIC RAILROAD

TRAFFIC CONTROL KEY
DIBS
CHANNELIZER
TUBULAR MARKERS
SIGN
TRAVEL DIRECTION
TYPE III MOVEABLE BARRICADE
FLASHING ARROW PANEL
WORK AREA

SCALE
0 50 100 150

TRAFFIC CONTROL
PRE STAGE 1
INSIDE SHOULDER NORTH
OF RAILROAD BRIDGE
SHEET 21 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/26/2026 7:04:44 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/26/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	38

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

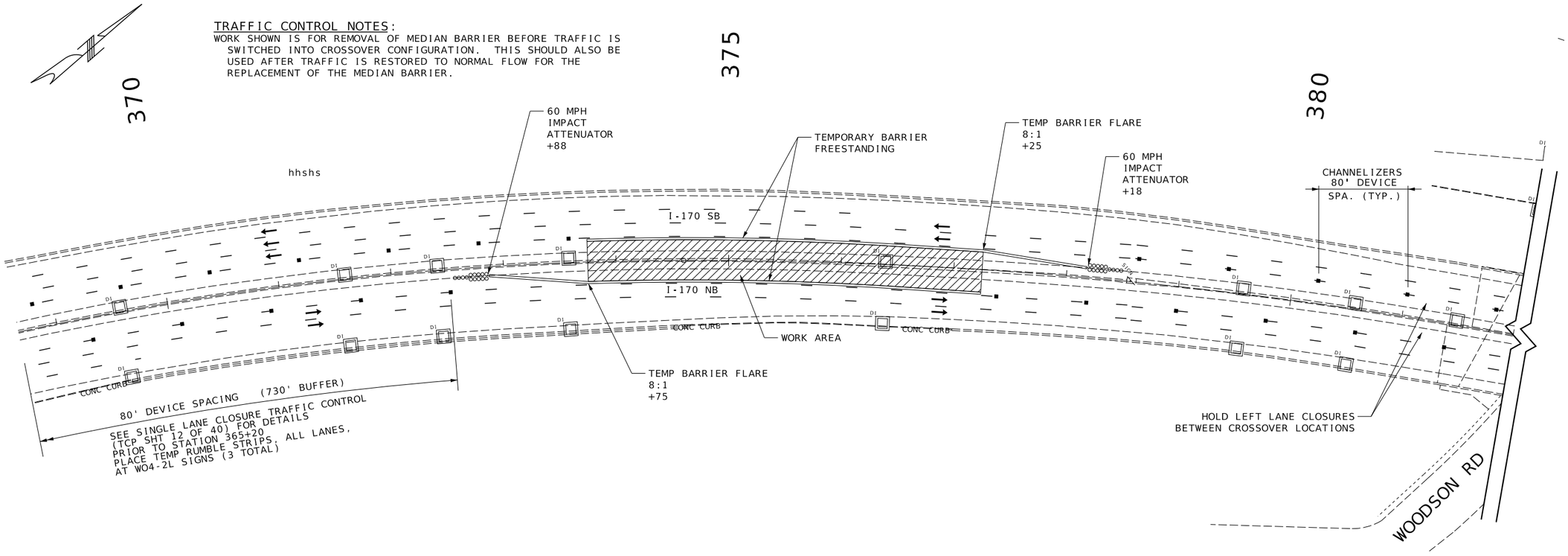
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

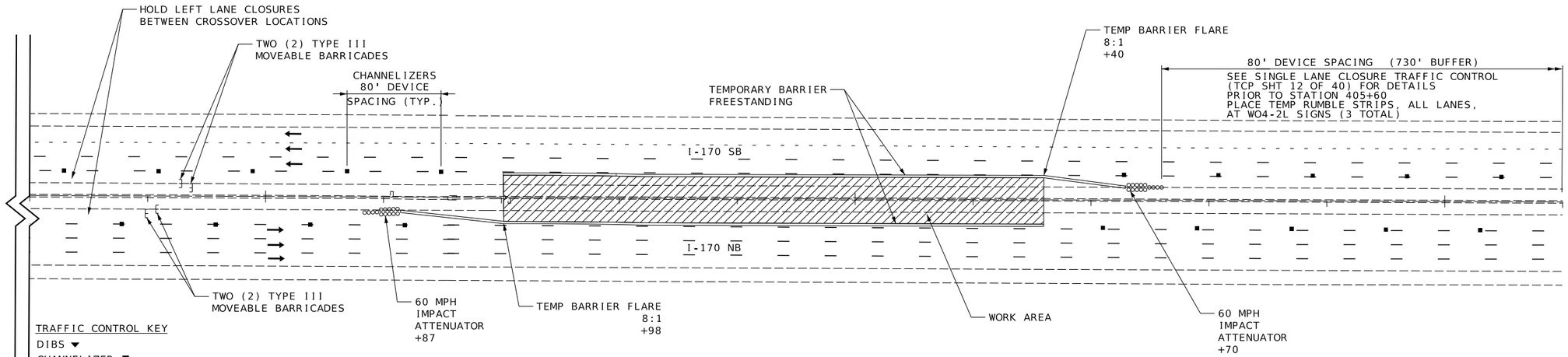
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TRAFFIC CONTROL NOTES:

WORK SHOWN IS FOR REMOVAL OF MEDIAN BARRIER BEFORE TRAFFIC IS SWITCHED INTO CROSSOVER CONFIGURATION. THIS SHOULD ALSO BE USED AFTER TRAFFIC IS RESTORED TO NORMAL FLOW FOR THE REPLACEMENT OF THE MEDIAN BARRIER.





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TRAFFIC CONTROL SHEET
SOUTH CROSSOVER
MEDIAN BARRIER
REMOVAL / REPLACEMENT
SHEET 22 OF 40

PAUL JOSEPH KRONLAGE NUMBER EN 023328 REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI

10/30/2026 3:23:41 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
10/19/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	39

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

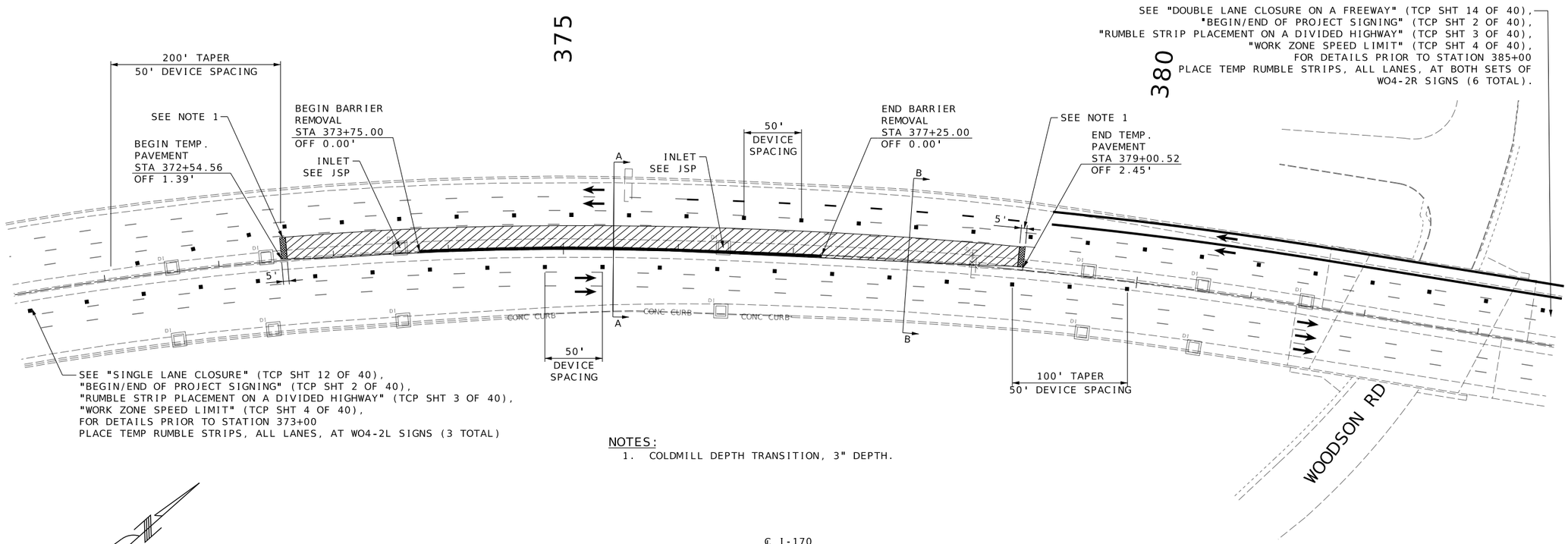
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

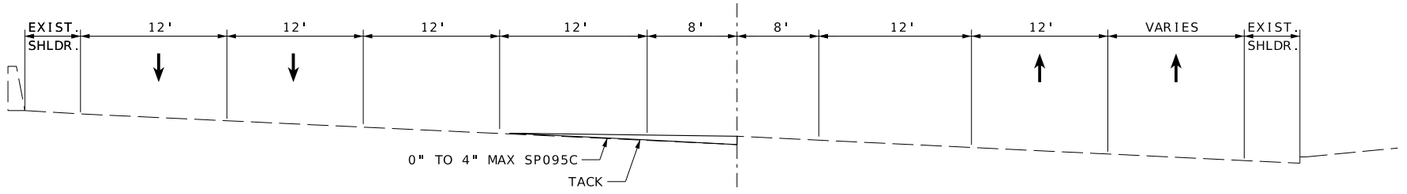
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St. Louis, MO 63026
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Missouri Certificate of Authority: 001578

c:\bms\efkmoen01\jennifer archibald\dms04448\039_TC_22_J6I3572_i50.dgn 2:04:56 PM 10/19/2026

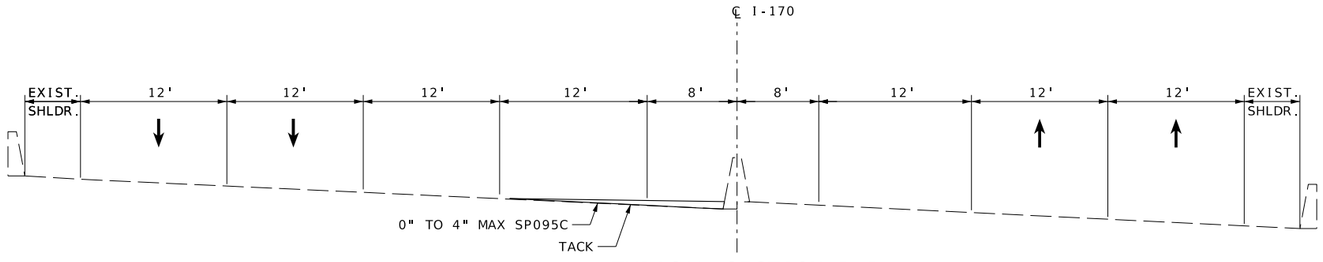


NOTES:

1. COLDMILL DEPTH TRANSITION, 3" DEPTH.



TYPICAL SECTION A-A
STA. 372+54.56 TO STA. 377+25.00



TYPICAL SECTION B-B
STA. 377+25.00 TO STA. 379+00.52

TRAFFIC CONTROL KEY

- DIBS ▼
- CHANNELIZER ■
- TUBULAR MARKERS ♦
- SIGN ▪
- TRAVEL DIRECTION →
- TYPE III MOVEABLE BARRICADE
- FLASHING ARROW PANEL
- WORK AREA - ASPHALT WEDGE FOR CROSSOVER

SCALE
0 50 100 150

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TRAFFIC CONTROL
CROSSOVER WEDGE
CONSTRUCTION
SHEET 23 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER
10/30/2026 3:23:55 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
10/19/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	40

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

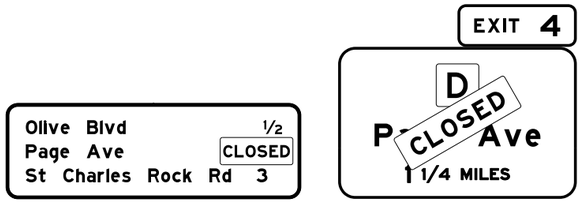
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Civil Engineering Design
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Missouri Certificate of Authority: 001578

c:\bms\efkmoen01\jennifer archibald\dms04448\040_TC_23_J6I3572_i50.dgn 2:05:53 PM 10/19/2026

GENERAL TRAFFIC CONTROL NOTES:

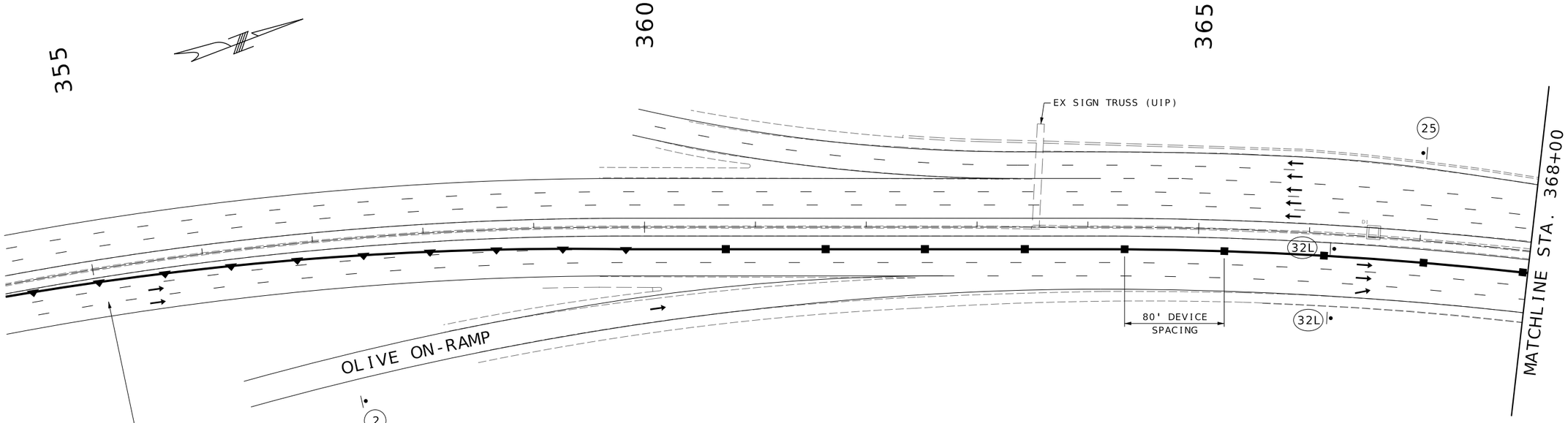
1. ANY EXISTING SIGN THAT CONFLICTS WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED AT NO DIRECT PAY.
2. PLACEMENT OF TRAFFIC CONTROL SIGNS ARE APPROXIMATE AND MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
3. SIGN AND DEVICE LOCATIONS SHALL BE FIELD VERIFIED AND APPROVED BY THE ENGINEER.



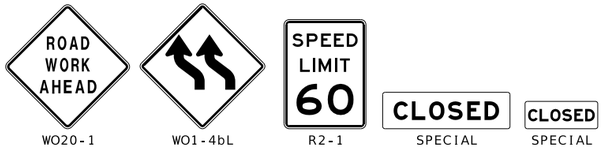
APPROX. MM 2.89
MEDIAN TRUSS
(66) AFFIX TO EXISTING SIGN PANEL

APPROX. MM 3.11
SPAN TRUSS
(65) AFFIX TO EXISTING SIGN PANEL

EXISTING OVERHEAD INTERCHANGE GUIDE SIGN TREATMENT



SEE "SINGLE LANE CLOSURE" (TCP SHT 12 OF 40),
"BEGIN/END OF PROJECT SIGNING" (TCP SHT 2 OF 40),
"RUMBLE STRIP PLACEMENT ON A DIVIDED HIGHWAY" (TCP SHT 3 OF 40),
"WORK ZONE SPEED LIMIT" (TCP SHT 4 OF 40),
FOR DETAILS PRIOR TO STATION 359+98
PLACE TEMP RUMBLE STRIPS, ALL LANES, AT WO4-2L SIGNS (3 TOTAL)



WO20-1 48"x48"	WO1-4bL 48"x48"	R2-1 36"x48"	SPECIAL 84"x24"	SPECIAL 48"x18"
(2)	(32L)	(25)	(65)	(66)

TRAFFIC CONTROL KEY

- DIBS ▼
- CHANNELIZER ■
- TUBULAR MARKERS ♦
- SIGN ▪
- TRAVEL DIRECTION →
- TYPE III MOVEABLE BARRICADE
- FLASHING ARROW PANEL
- WORK AREA

SCALE
0 50 100 150

TRAFFIC CONTROL SHEET
STAGE 1
SHEET 24 OF 40

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STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER
09/26/2026 12:52:55 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED 9/26/2026
ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 41
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK·Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
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Missouri Certificate of Authority: 001578

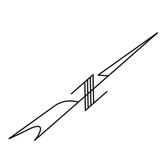
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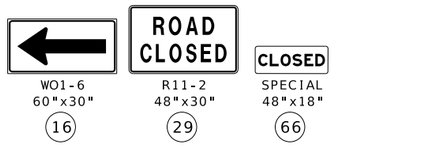
STATE OF MISSOURI
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NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER
09/26/2026 12:53:57 PM
Paul J. Kronlage - Civil
MO PE - 023328

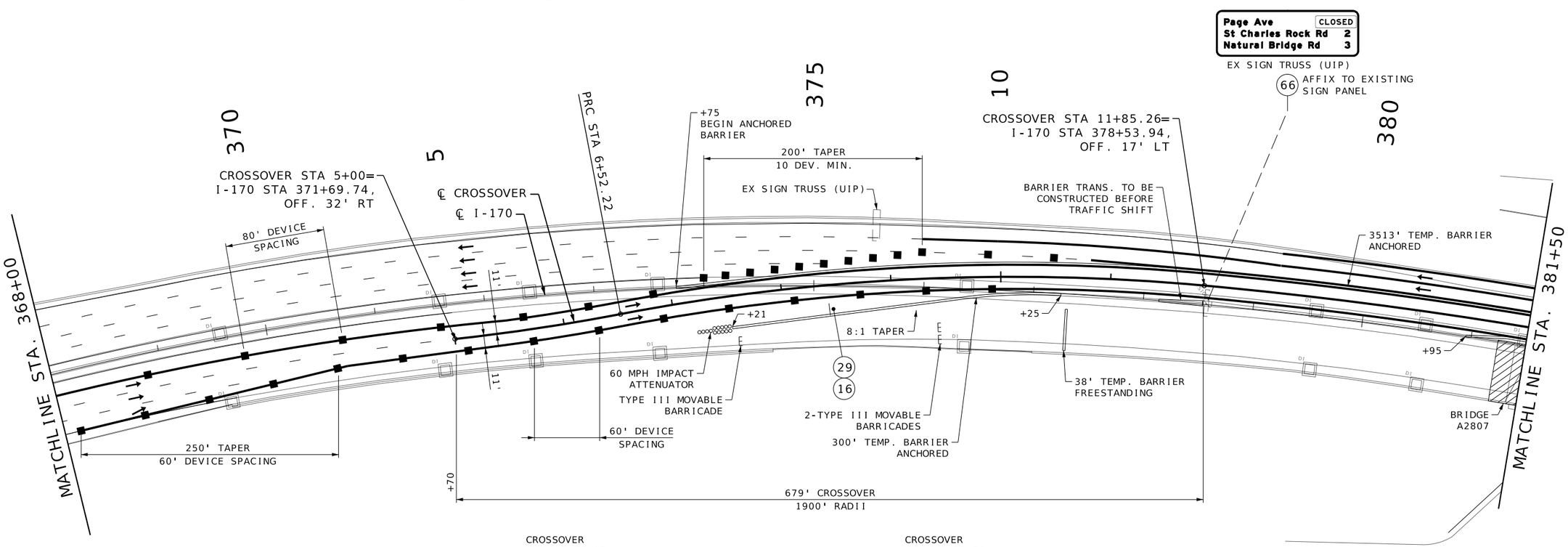
DATE PREPARED 9/26/2026
ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 42
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

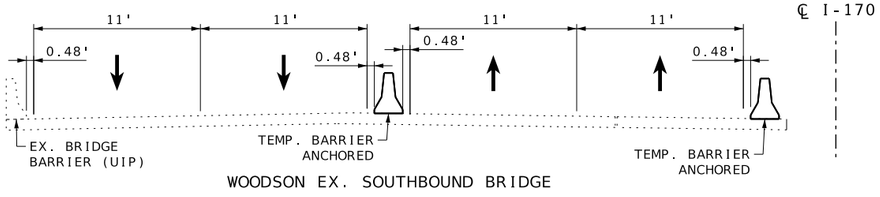






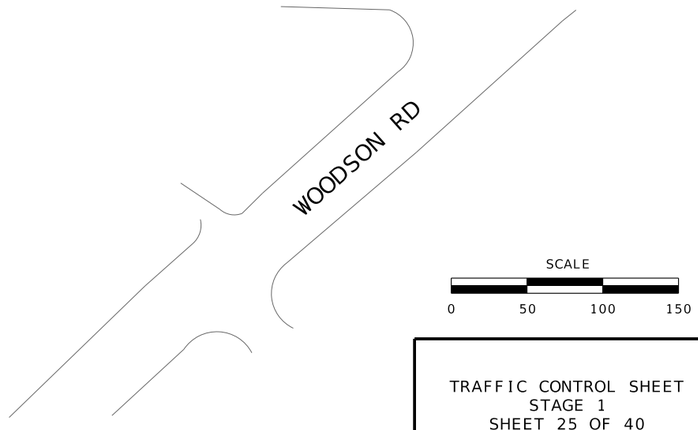
CROSSOVER
PI 5+76.15
PC 5+00.00
PT 6+52.22
Δ 4°35'25.1" (LT)
D 3°0'56.0"
L 152.22' (ARC)
T 76.15'
R 1,900.00'

CROSSOVER
PI 9+20.50
PC 6+52.22
PT 11+85.26
Δ 16°4'27.0" (RT)
D 3°0'56.0"
L 533.04' (ARC)
T 268.28'
R 1,900.00'



WOODSON EX. SOUTHBOUND BRIDGE

TRAFFIC CONTROL KEY
DIBS
CHANNELIZER
TUBULAR MARKERS
SIGN
TRAVEL DIRECTION
TYPE III MOVEABLE BARRICADE
FLASHING ARROW PANEL
WORK AREA



SCALE
0 50 100 150

TRAFFIC CONTROL SHEET
STAGE 1
SHEET 25 OF 40

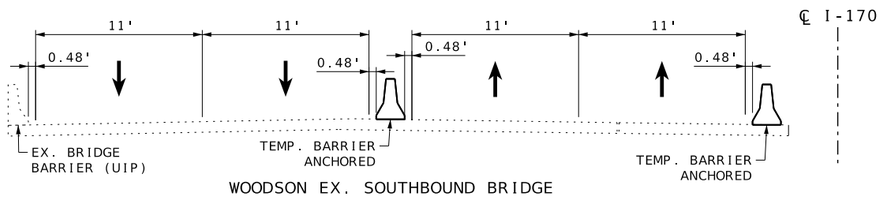
EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
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REV.

c:\bms\efkmoen01\jennifer archibald\dms04448\041-046_TC_24-29_J6I3572.dgn 11:02:25 AM 9/26/2026

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WOODSON EX. SOUTHBOUND BRIDGE

TRAFFIC CONTROL KEY

- DIBS ▼
- CHANNELIZER ■
- TUBULAR MARKERS ♦
- SIGN ⊥
- TRAVEL DIRECTION →
- TYPE III MOVEABLE BARRICADE
- FLASHING ARROW PANEL
- WORK AREA

SCALE

0 50 100 150

TRAFFIC CONTROL SHEET
STAGE 1
SHEET 26 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/26/2026 12:54:35 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED	9/26/2026
ROUTE	I-170
STATE	MO
DISTRICT	SL
SHEET NO.	43
COUNTY	ST. LOUIS
JOB NO.	J6I3572
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

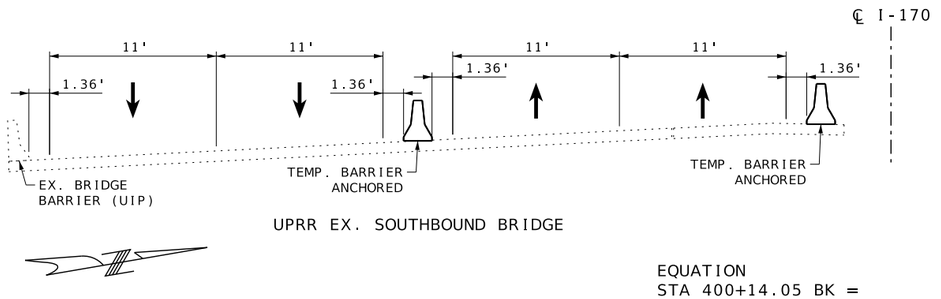
DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
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UPRR EX. SOUTHBOUND BRIDGE

TRAFFIC CONTROL KEY
- DIBS ▼
- CHANNELIZER ■
- TUBULAR MARKERS ♦
- SIGN ⊥
- TRAVEL DIRECTION →
- TYPE III MOVEABLE BARRICADE
- FLASHING ARROW PANEL
- WORK AREA

PAGE EX. SOUTHBOUND BRIDGE LOOKING NORTH

SCALE
0 50 100 150

TRAFFIC CONTROL SHEET
STAGE 1
SHEET 27 OF 40

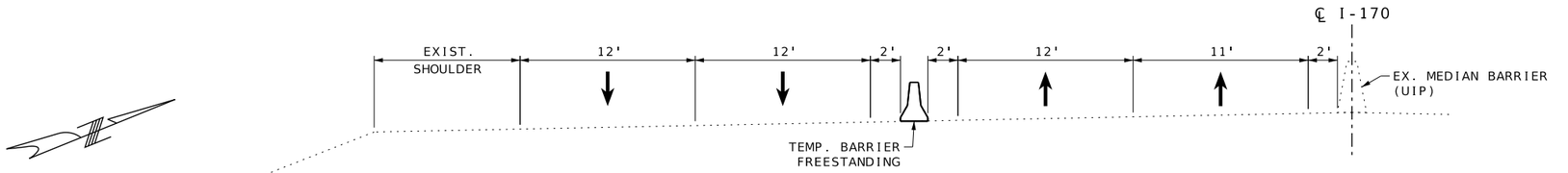
STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER
09/26/2026 12:55:10 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED: 9/26/2026
ROUTE: I-170 | STATE: MO
DISTRICT: SL | SHEET NO.: 44
COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

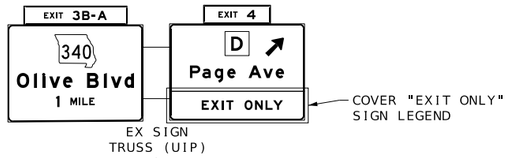
DESCRIPTION | DATE

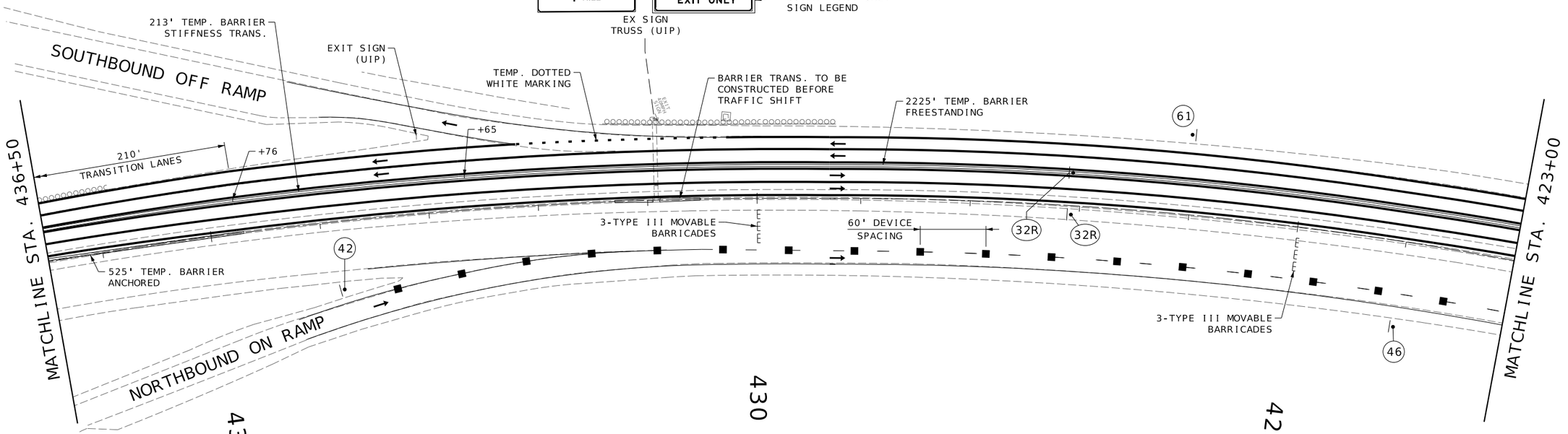
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



I-170 SOUTHBOUND LANES
LOOKING NORTH






WO1-4bR
48"x48"
32R



R4-7a
36"x48"
42



R4-1
36"x48"
46



E05-2
48"x36"
61

TRAFFIC CONTROL KEY

- DIBS ▼
- CHANNELIZER ■
- TUBULAR MARKERS ♦
- SIGN ▪
- TRAVEL DIRECTION →
- TYPE III MOVEABLE BARRICADE
- FLASHING ARROW PANEL
- WORK AREA

SCALE
0 50 100 150

TRAFFIC CONTROL SHEET
STAGE 1
SHEET 28 OF 40

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STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED TO PRACTICE AS A PROFESSIONAL ENGINEER

09/26/2026 12:55:27 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED: 9/26/2026
ROUTE: I-170 | STATE: MO
DISTRICT: SL | SHEET NO.: 45
COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

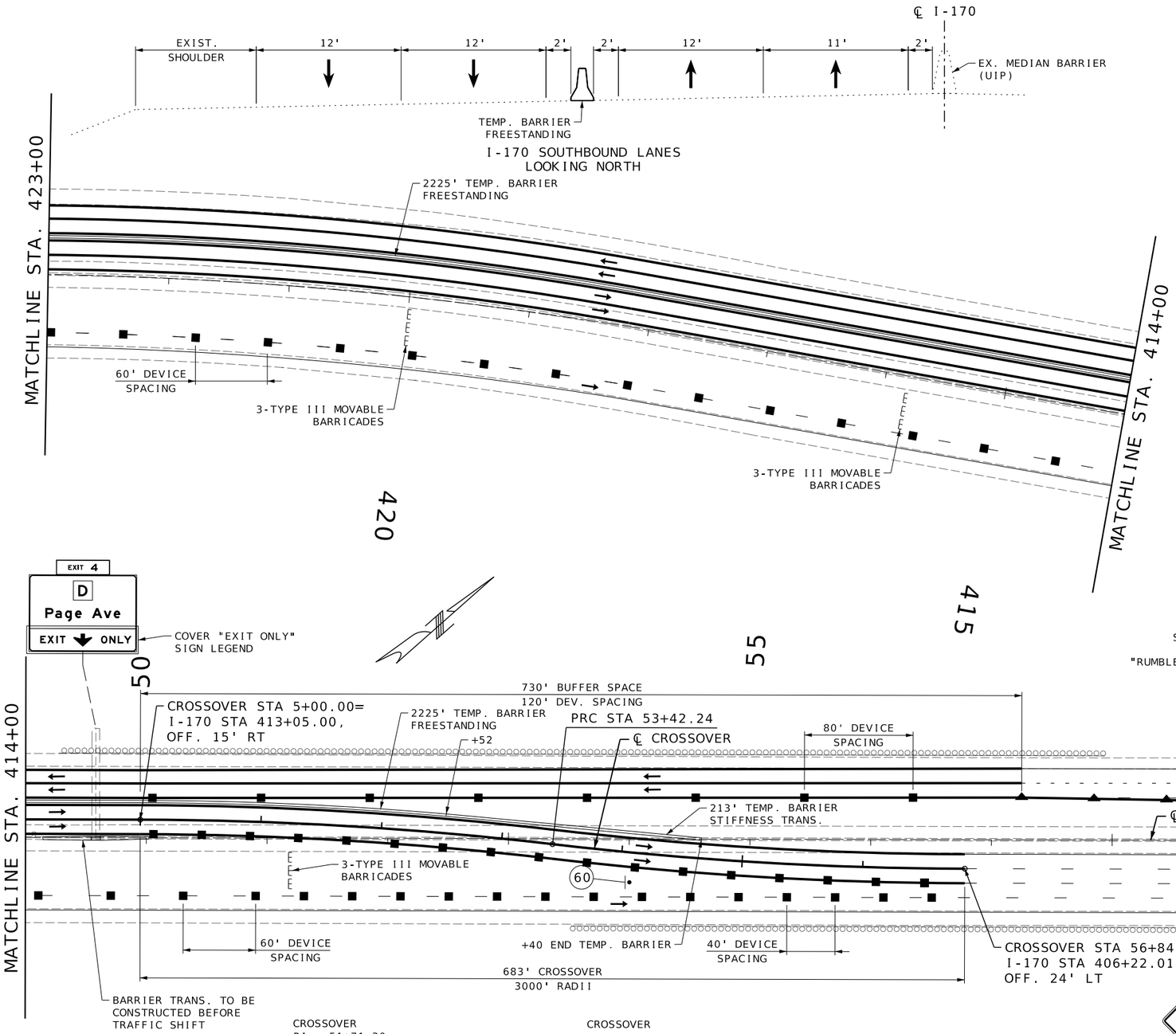
DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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CROSSOVER	
PI	51+71.30
PC	50+00.00
PT	53+42.24
Δ	6°32'10.6" (RT)
D	1°54'35.5"
L	342.24' (ARC)
T	171.30'
R	3,000.00'

CROSSOVER	
PI	55+13.54
PC	53+42.24
PT	56+84.48
Δ	6°32'10.6" (LT)
D	1°54'35.5"
L	342.24' (ARC)
T	171.30'
R	3,000.00'

WO4-3R
48"x48"
60

TRAFFIC CONTROL KEY

- DIBS
- CHANNELIZER
- TUBULAR MARKERS
- SIGN
- TRAVEL DIRECTION
- TYPE III MOVEABLE BARRICADE
- FLASHING ARROW PANEL
- WORK AREA

SCALE

0 50 100 150

TRAFFIC CONTROL SHEET
STAGE 1
SHEET 29 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/26/2026 12:55:43 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/26/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	46

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

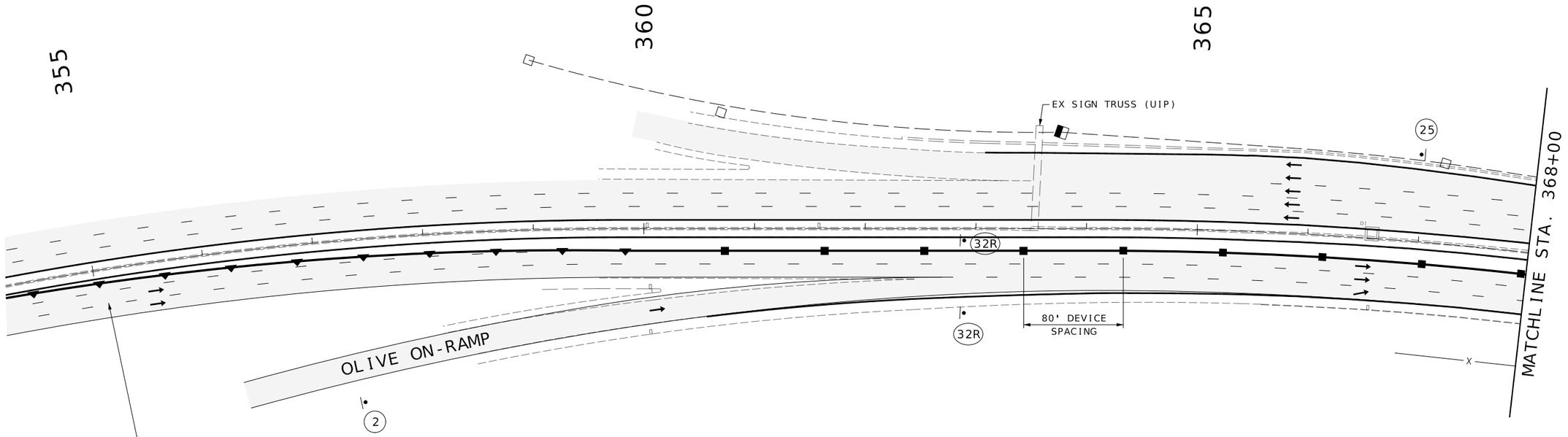
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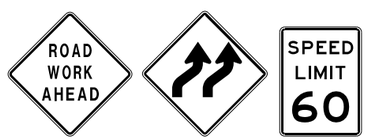
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

GENERAL TRAFFIC CONTROL NOTES:

1. ANY EXISTING SIGN THAT CONFLICTS WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED AT NO DIRECT PAY.
2. PLACEMENT OF TRAFFIC CONTROL SIGNS ARE APPROXIMATE AND MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
3. SIGN AND DEVICE LOCATIONS SHALL BE FIELD VERIFIED AND APPROVED BY THE ENGINEER.





WO20-1 48"x48" (2) | WO1-4bR 48"x48" (32R) | R2-1 36"x48" (25)

TRAFFIC CONTROL KEY

- DIBS ▼
- CHANNELIZER ■
- TUBULAR MARKERS ♦
- SIGN ▪
- TRAVEL DIRECTION →
- TYPE III MOVEABLE BARRICADE
- FLASHING ARROW PANEL
- WORK AREA

SCALE

0 50 100 150

TRAFFIC CONTROL SHEET
STAGE 2
SHEET 30 OF 40

PAUL JOSEPH KRONLAGE NUMBER EN 023328 — STATE OF MISSOURI — REGISTERED PROFESSIONAL ENGINEER

09/26/2026 12:56:00 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED: 9/26/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	47

COUNTY: ST. LOUIS

JOB NO.: J6I3572

CONTRACT ID.:

PROJECT NO.:

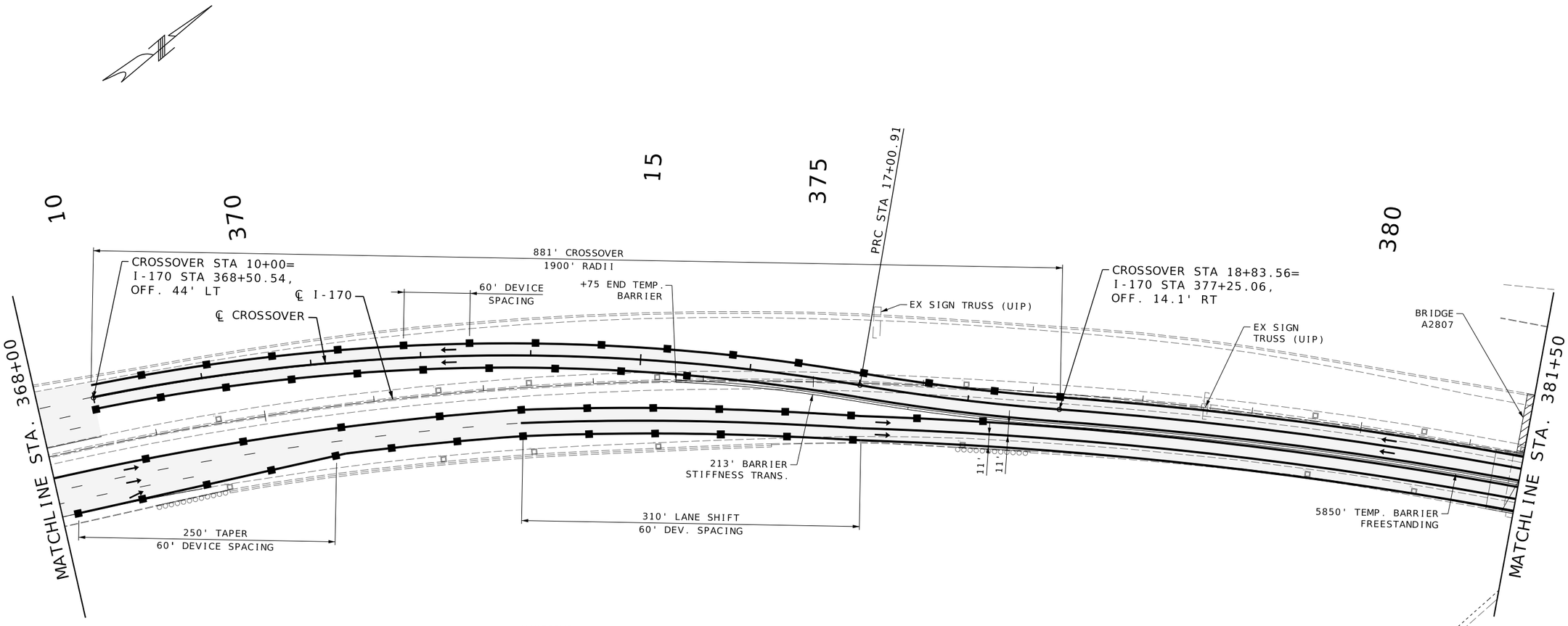
BRIDGE NO.:

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

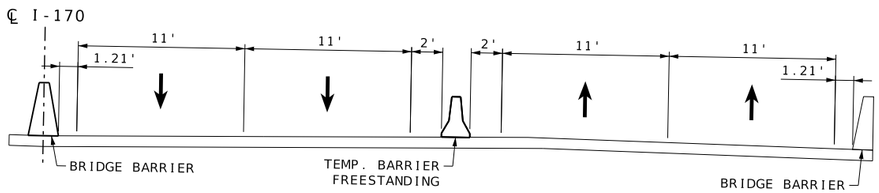
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Phone 314-394-3100
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CROSSOVER
PI 13+54.53
PC 10+00.00
PT 17+00.91
Δ 21°14'49.5" (RT)
D 3°1'52.8"
L 700.91' (ARC)
T 354.53'
R 1,890.11'

CROSSOVER
PI 17+92.30
PC 17+00.91
PT 18+83.56
Δ 5°30'27.6" (LT)
D 3°0'56.0"
L 182.64' (ARC)
T 91.39'
R 1,900.00'



WOODSON PROP. NORTHBOUND BRIDGE

TRAFFIC CONTROL KEY
- DIBS ▼
- CHANNELIZER ■
- TUBULAR MARKERS ♦
- SIGN ▪
- TRAVEL DIRECTION →
- TYPE III MOVEABLE BARRICADE
- FLASHING ARROW PANEL
- WORK AREA

SCALE
0 50 100 150

TRAFFIC CONTROL SHEET
STAGE 2
SHEET 31 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/26/2026 12:56:18 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/26/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	48

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

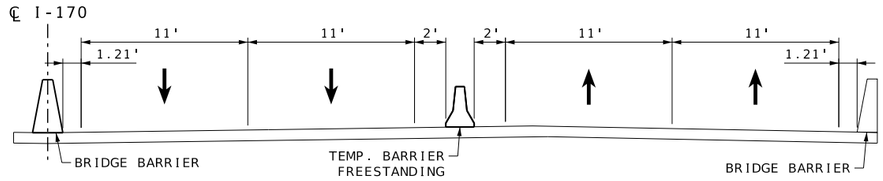
BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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WOODSON PROP. NORTHBOUND BRIDGE



WO1-4bR
48"x48"
32R

E05-2
48"x36"
61

TRAFFIC CONTROL KEY

- DIBS ▼
- CHANNELIZER ■
- TUBULAR MARKERS ♦
- SIGN ▪
- TRAVEL DIRECTION →
- TYPE III MOVEABLE BARRICADE
- FLASHING ARROW PANEL
- WORK AREA

SCALE

0 50 100 150

TRAFFIC CONTROL SHEET
STAGE 2
SHEET 32 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/26/2026 12:56:38 PM
Paul J. Kronlage - Civil
MO PE - 023328

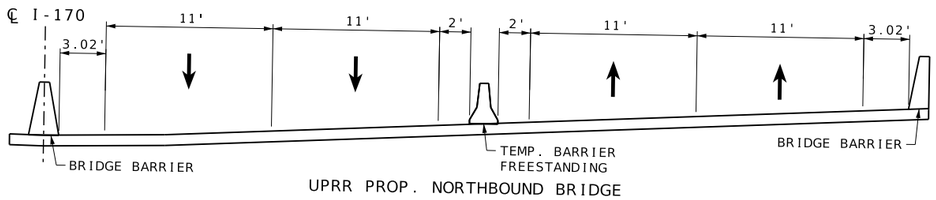
DATE PREPARED	
9/26/2026	
ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	49

COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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Missouri Certificate of Authority: 001578



UPRR PROP. NORTHBOUND BRIDGE

RIGHT TURN LANE CLOSED

PAGE AVE

SEE PAGE RAMP CLOSURE SHEET (TCP SHEET 36 OF 40) FOR ADDITIONAL RAMP CLOSURE DETAILS

SOUTHBOUND OFF RAMP

EQUATION
STA 400+14.05 BK =
STA 443+57.74 AHD

400

RAMP CLOSED

SOUTHBOUND ON RAMP (CLOSED)

LEFT TURN LANE CLOSED

STATION DIRECTION REVERSE

BRIDGE A2809

BRIDGE A3176

313' TEMP. BARRIER FREESTANDING

213' BARRIER STIFFNESS TRANS.

+83

115' TRANS. LANES

115' TRANSITION LANES

+00

200' TRANSITION LANES

+00

MATCHLINE STA. 395+00

MATCHLINE STA. 436+50

5850' TEMP. BARRIER FREESTANDING

+85

200' TRANS. LANES

NORTHBOUND OFF RAMP

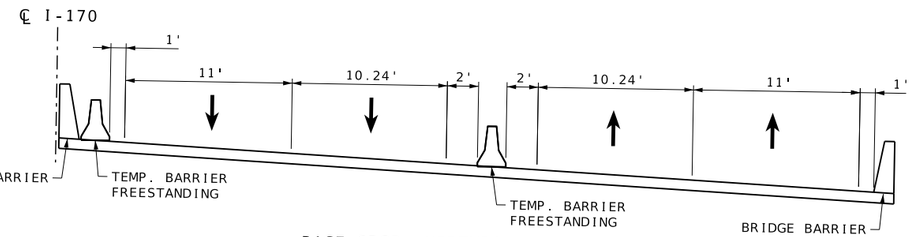
EX SIGN TRUSS (UIP)

440

NORTHBOUND ON RAMP

UNION PACIFIC RAILROAD

PAGE AVE



PAGE PROP. NORTHBOUND BRIDGE
LOOKING NORTH

TRAFFIC CONTROL KEY

- DIBS
- CHANNELIZER ■
- TUBULAR MARKERS ♦
- SIGN ▪
- TRAVEL DIRECTION →
- TYPE III MOVEABLE BARRICADE
- FLASHING ARROW PANEL
- WORK AREA

SCALE
0 50 100 150

TRAFFIC CONTROL SHEET
STAGE 2
SHEET 33 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/26/2026 12:57:21 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/26/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	50

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

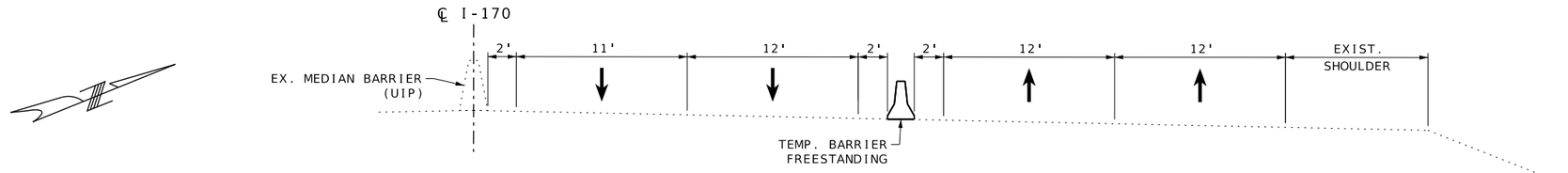
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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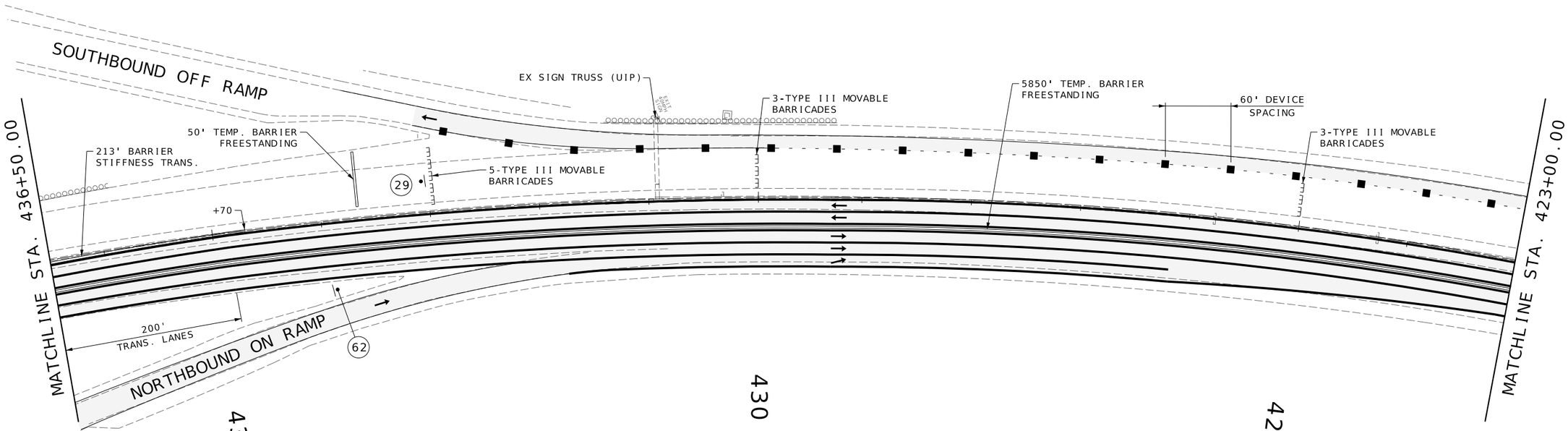
MoDOT

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Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

c:\bms\efkmoen01\jennifer archibald\dms04448\047-052_TC_30-35_J6I3572.dgn 11:04:08 AM 9/26/2026



I-170 NORTHBOUND LANES
LOOKING NORTH





R11-2
48"x30"
29

WO4-1R
48"x48"
62

TRAFFIC CONTROL KEY

- DIBS ▼
- CHANNELIZER ■
- TUBULAR MARKERS ♦
- SIGN ⊥
- TRAVEL DIRECTION →
- TYPE III MOVEABLE BARRICADE
- FLASHING ARROW PANEL
- WORK AREA

SCALE
0 50 100 150

TRAFFIC CONTROL SHEET
STAGE 2
SHEET 34 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 3:07:43 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	51

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

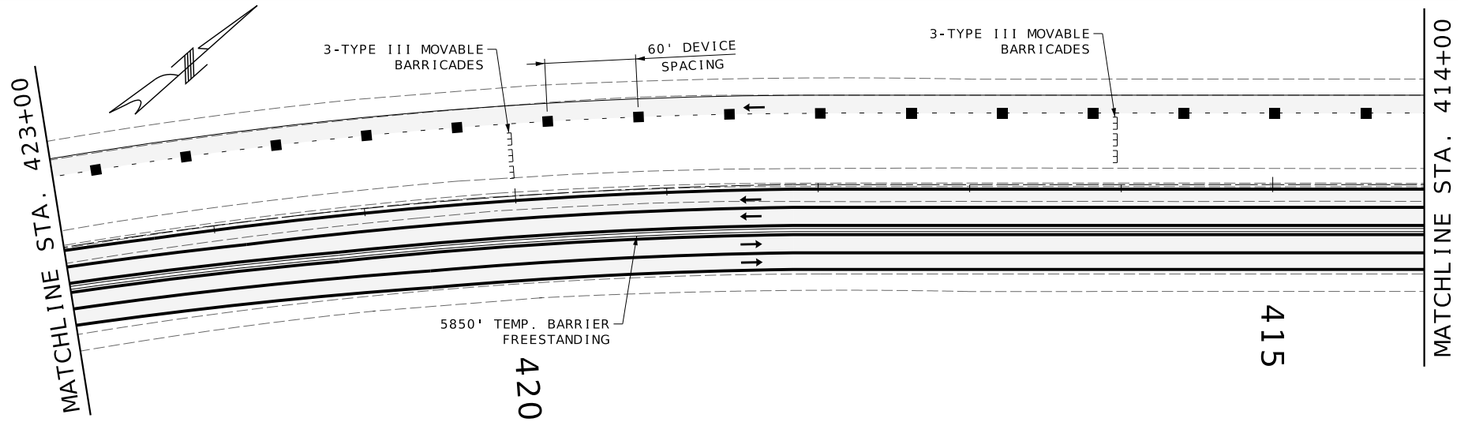
BRIDGE NO.

DESCRIPTION

DATE

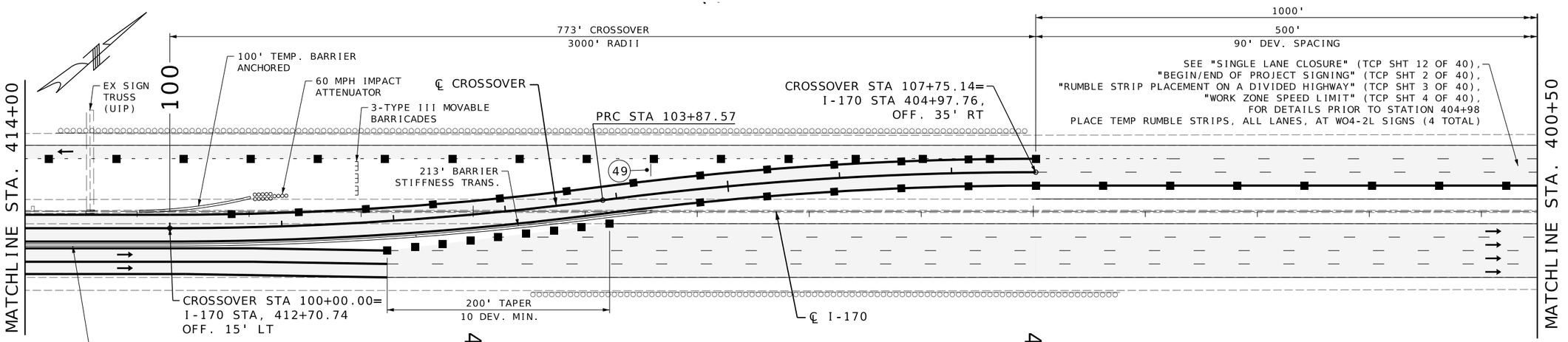
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



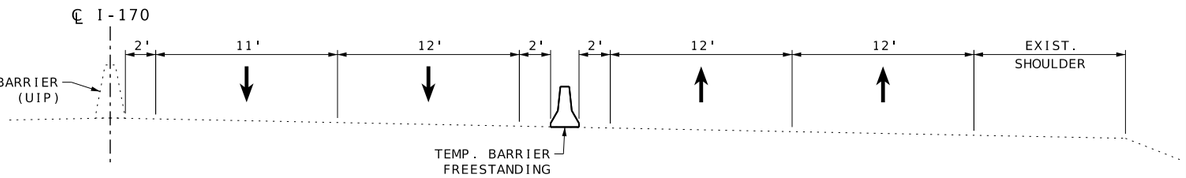
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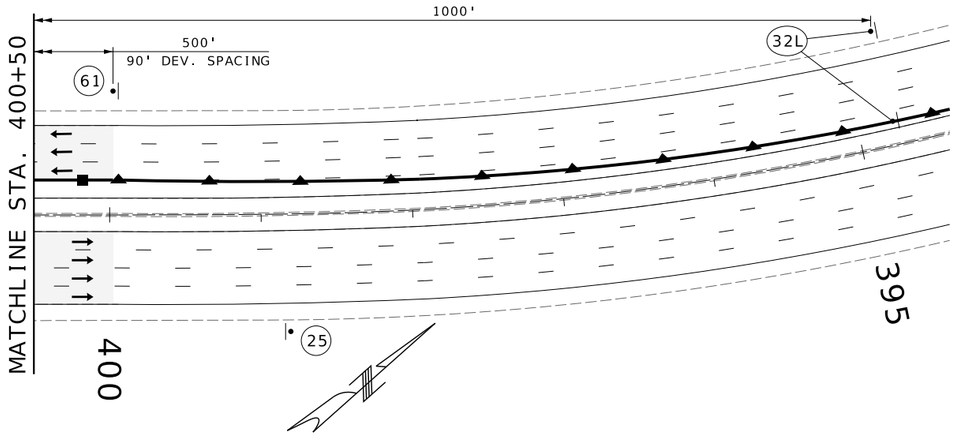


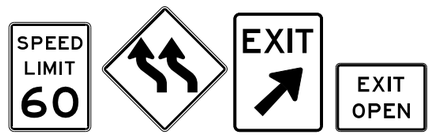
CROSSOVER	
PI	101+94.05
PC	100+00.00
PT	103+87.57
Δ	7°24'7.2" (LT)
D	1°54'35.5"
L	387.57' (ARC)
T	194.05'
R	3,000.00'

CROSSOVER	
PI	105+81.62
PC	103+87.57
PT	107+75.14
Δ	7°24'7.2" (RT)
D	1°54'35.5"
L	387.57' (ARC)
T	194.05'
R	3,000.00'



I-170 NORTHBOUND LANES
LOOKING NORTH





R2-1	WO1-4bL	E05-1	E05-2
36"x48"	48"x48"	36"x48"	48"x36"
25	32L	49	61

TRAFFIC CONTROL KEY

- DIBS ▼
- CHANNELIZER ■
- TUBULAR MARKERS ♦
- SIGN ⊥
- TRAVEL DIRECTION →
- TYPE III MOVEABLE BARRICADE
- FLASHING ARROW PANEL
- WORK AREA

SCALE

0 50 100 150

TRAFFIC CONTROL SHEET
STAGE 2
SHEET 35 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/26/2026 12:57:38 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/26/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	52

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

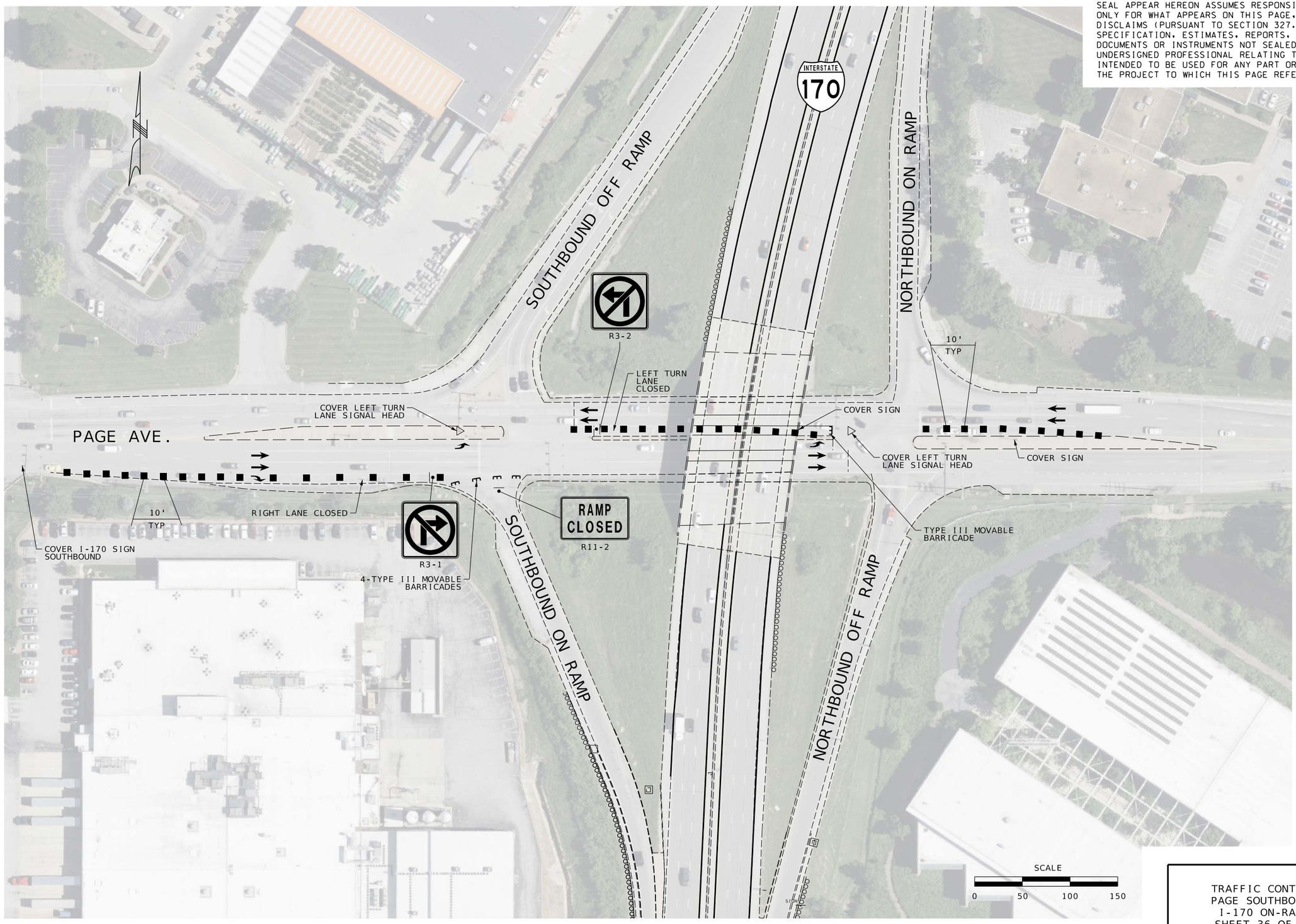
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
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TRAFFIC CONTROL
PAGE SOUTHBOUND
I-170 ON-RAMP
SHEET 36 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER E-N 023328
REGISTERED PROFESSIONAL ENGINEER

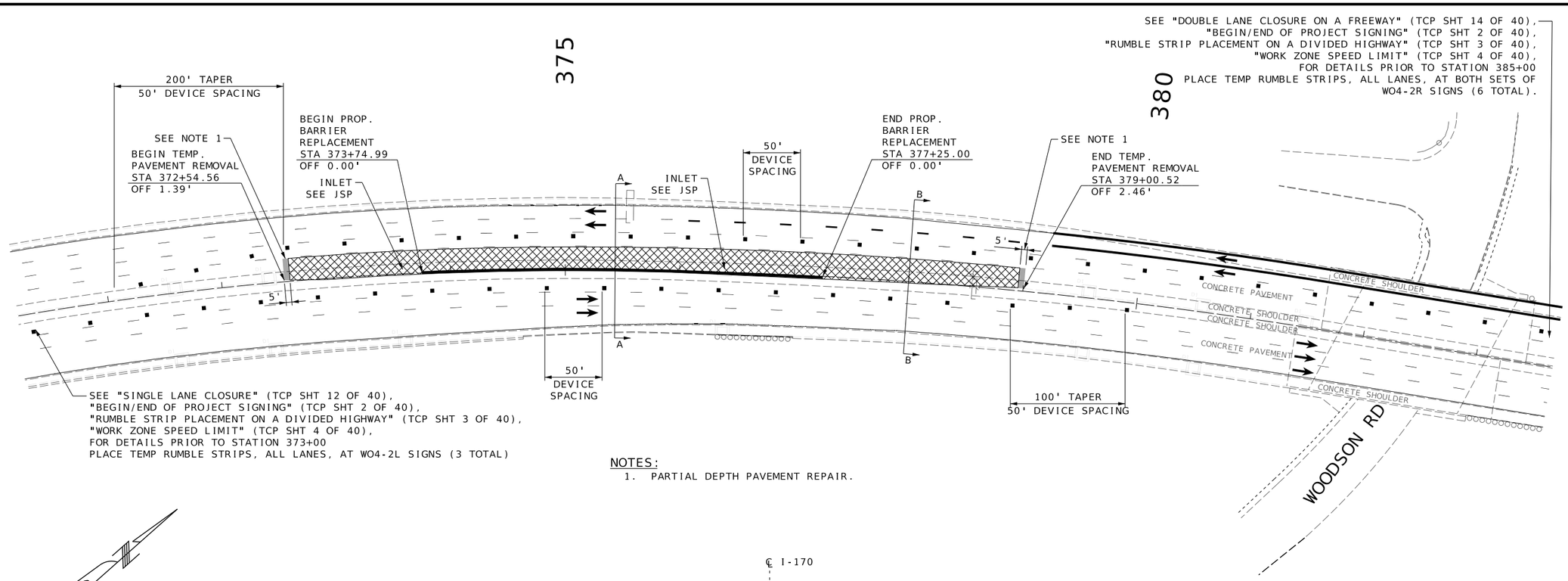
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Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED	9/25/2026
ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	53
COUNTY	ST. LOUIS
JOB NO.	J6I3572
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

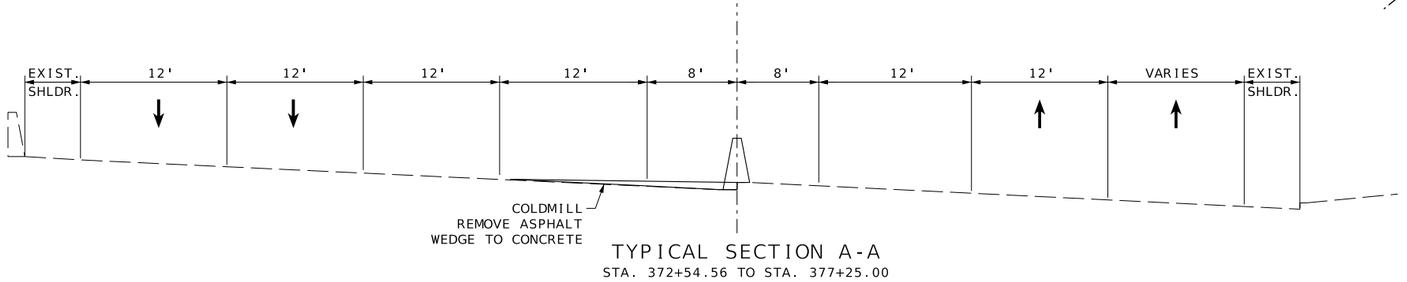
DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

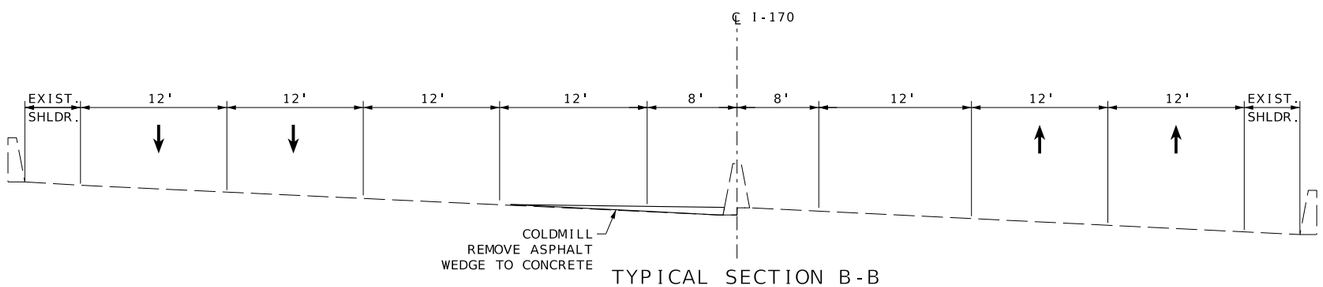
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Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
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NOTES:
1. PARTIAL DEPTH PAVEMENT REPAIR.



TYPICAL SECTION A-A
STA. 372+54.56 TO STA. 377+25.00



TYPICAL SECTION B-B
STA. 377+25.00 TO STA. 379+00.52

SCALE
0 50 100 150

TRAFFIC CONTROL KEY
- DIBS ▼
- CHANNELIZER ■
- TUBULAR MARKERS ♦
- SIGN ⊥
- TRAVEL DIRECTION →
- TYPE III MOVEABLE BARRICADE
- FLASHING ARROW PANEL
- WORK AREA

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TRAFFIC CONTROL
CROSSOVER WEDGE REMOVAL
SHEET 37 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER E/N 023328
REGISTERED PROFESSIONAL ENGINEER
09/26/2026 12:58:21 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED 9/26/2026
ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 54
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

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EX. R/W

SIGNS BACK TO BACK
ROAD CLOSED
ROAD CLOSED

EX. R/W

WOODSON ROAD

10' TYP.

12'

300'

INTERSTATE 170

300'

EX. R/W

ROAD WORK AHEAD

SIGNS BACK TO BACK
ROAD CLOSED
ROAD CLOSED

ROAD WORK AHEAD

APPROXIMATE PERM. DRAINAGE ESM'T

PENNELL DRIVE

TRAFFIC CONTROL KEY
CHANNELIZER ■
SIGN ▪
TRAVEL DIRECTION →
TYPE III MOVEABLE BARRICADE

SCALE
0 40 80 120

TRAFFIC CONTROL
WOODSON ROAD
SHEET 38 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 3:08:46 PM
Paul J. Kronlage - Civil
MO PE - 023328

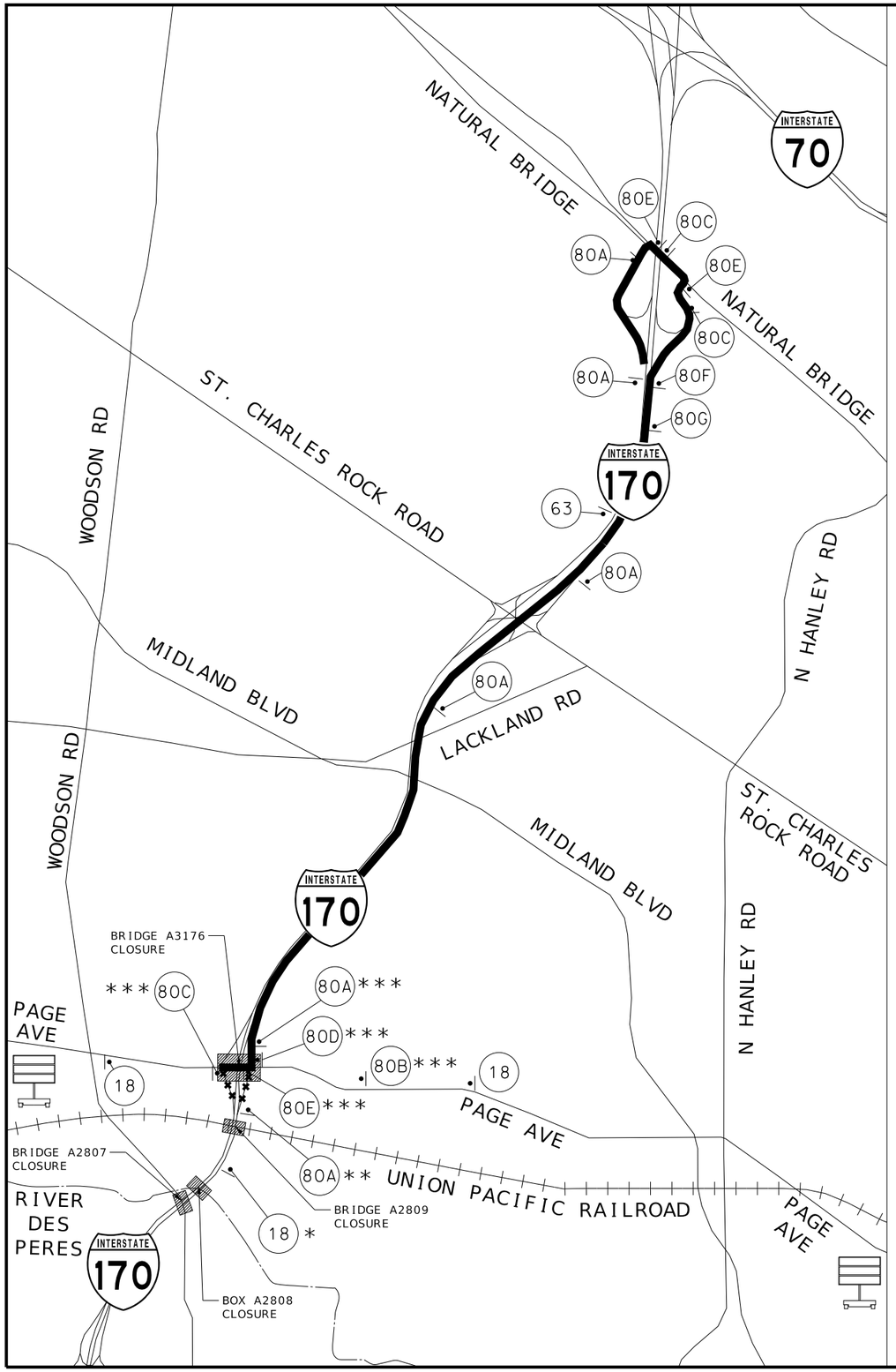
DATE PREPARED	9/25/2026
ROUTE	I-170
STATE	MO
DISTRICT	SL
SHEET NO.	55
COUNTY	ST. LOUIS
JOB NO.	J6I3572
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

c:\bms\efkmoen01\jennifer archibald\dms04448\055_TC_38_J6I3572_i40_WB Lane Shift Woodson.dgn 2:42:49 PM 9/25/2026



DETOUR MO4-8 SOUTH M3-3 INTERSTATE 170 M1-1 M6-3 — SPECIAL 36"X78" — 80A

DETOUR MO4-8 SOUTH M3-3 INTERSTATE 170 M1-1 M5-1R — SPECIAL 36"X78" — 80B

DETOUR MO4-8 SOUTH M3-3 INTERSTATE 170 M1-1 M5-1L — SPECIAL 36"X78" — 80C

DETOUR MO4-8 SOUTH M3-3 INTERSTATE 170 M1-1 M6-1 — SPECIAL 36"X78" — 80D

DETOUR MO4-8 SOUTH M3-3 INTERSTATE 170 M1-1 M6-1 — SPECIAL 36"X78" — 80E

DETOUR MO4-8 SOUTH M3-3 INTERSTATE 170 M1-1 M6-2R — SPECIAL 36"X78" — 80F

DETOUR MO4-8 SOUTH M3-3 INTERSTATE 170 M1-1 M5-2R — SPECIAL 36"X78" — 80G

* DETOUR MO4-8 D M1-5a M6-3 — SPECIAL 36"X60" — 80A

* DETOUR MO4-8 D M1-5a M5-1R — SPECIAL 36"X60" — 80B

* DETOUR MO4-8 D M1-5a M5-1L — SPECIAL 36"X60" — 80C

* DETOUR MO4-8 D M1-5a M6-1 — SPECIAL 36"X60" — 80D

* DETOUR MO4-8 D M1-5a M6-1 — SPECIAL 36"X60" — 80E

* DETOUR MO4-8 D M1-5a M6-2R — SPECIAL 36"X60" — 80F

* DETOUR MO4-8 D M1-5a M5-2R — SPECIAL 36"X60" — 80G

DETOUR AHEAD WO20-2 — 18

END DETOUR MO4-8a — 63

SCALE

0 1000 2000 3000 4000 5000

* SIGNS TO BE INSTALLED WHEN THE NORTHBOUND OFF-RAMP TO ROUTE D IS CLOSED IN STAGE 1. SIGNS TO BE REMOVED AFTER THE NORTHBOUND OFF-RAMP AT ROUTE D IS REOPENED. SIGNS LOCATED ON ROUTE D SHALL NOT HAVE THE DETOUR D SIGNS.

** ONLY THE DETOUR D SIGN AT THIS LOCATION TO BE REMOVED WHEN THE ROUTE D NORTHBOUND EXIT IS OPEN.

*** ONLY DETOUR 170 SIGNS AT THESE LOCATIONS WHEN SOUTHBOUND ON-RAMP IS CLOSED.

TRAFFIC CONTROL LEGEND

• SIGN (SINGLE SIDED)

CHANGEABLE MESSAGE BOARD

DISCLAIMER

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TRAFFIC CONTROL
SB 170 ON-RAMP CLOSURE
DETOUR
SHEET 39 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

10/30/2026 3:24:22 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED 10/30/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	56

COUNTY ST. LOUIS

JOB NO. J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

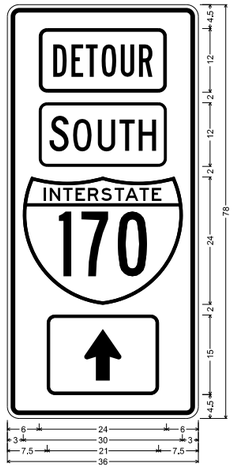
MoDOT

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

REV.

c:\bms\efkmoen01\zac waters\dms04448\056_TC_39_J6I3572_i100.dgn 1:20:19 PM 10/30/2026

SIGN NO.	80A
STATION	VARIES
ROADWAY	I-170



MO4-11 SHF-FLAT SHEET FLUORESCENT:
2.250" Radius, 0.875" Border, 0.625" Indent, Black on, Orange;
Interstate 170 12.000" C;
Table of letter and object lefts

	6.000
	6.000
	3.000
	7.500

SIGN NO.	80B
STATION	VARIES
ROADWAY	I-170



MO4-11 SHF-FLAT SHEET FLUORESCENT:
2.250" Radius, 0.875" Border, 0.625" Indent, Black on, Orange;
Interstate 170 12.000" C;
Table of letter and object lefts

	6.000
	6.000
	3.000
	7.500

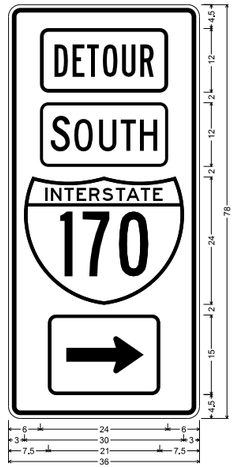
SIGN NO.	80C
STATION	VARIES
ROADWAY	I-170



MO4-11 SHF-FLAT SHEET FLUORESCENT:
2.250" Radius, 0.875" Border, 0.625" Indent, Black on, Orange;
Interstate 170 12.000" C;
Table of letter and object lefts

	6.000
	6.000
	3.000
	7.500

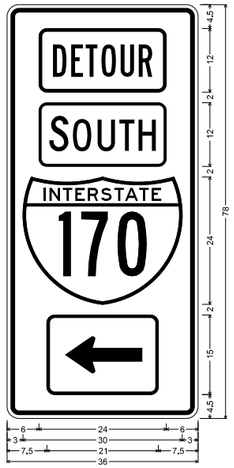
SIGN NO.	80D
STATION	VARIES
ROADWAY	I-170



MO4-11 SHF-FLAT SHEET FLUORESCENT:
2.250" Radius, 0.875" Border, 0.625" Indent, Black on, Orange;
Interstate 170 12.000" C;
Table of letter and object lefts

	6.000
	6.000
	3.000
	7.500

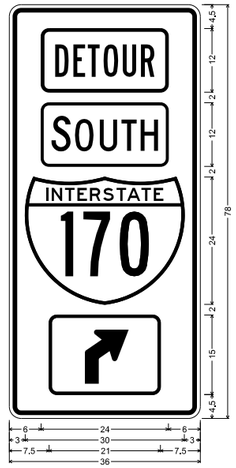
SIGN NO.	80E
STATION	VARIES
ROADWAY	I-170



MO4-11 SHF-FLAT SHEET FLUORESCENT:
2.250" Radius, 0.875" Border, 0.625" Indent, Black on, Orange;
Interstate 170 12.000" C;
Table of letter and object lefts

	6.000
	6.000
	3.000
	7.500

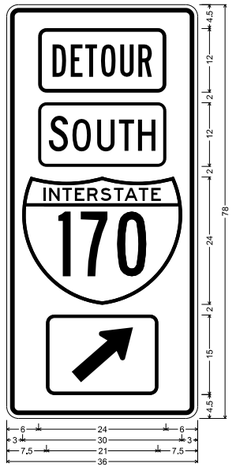
SIGN NO.	80G
STATION	VARIES
ROADWAY	I-170



MO4-11 SHF-FLAT SHEET FLUORESCENT:
2.250" Radius, 0.875" Border, 0.625" Indent, Black on, Orange;
Interstate 170 12.000" C;
Table of letter and object lefts

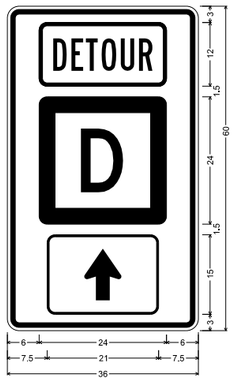
	6.000
	6.000
	3.000
	7.500

SIGN NO.	80F
STATION	VARIES
ROADWAY	I-170



MO4-11 SHF-FLAT SHEET FLUORESCENT:
2.250" Radius, 0.875" Border, 0.625" Indent, Black on, Orange;
Interstate 170 12.000" C;
Table of letter and object lefts

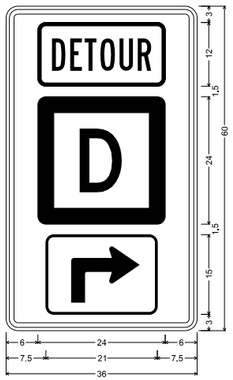
	6.000
	6.000
	3.000
	7.500



MO4-11 SHF-FLAT SHEET FLUORESCENT:
2.250" Radius, 0.875" Border, 0.625" Indent, Black on, Orange;
Table of letter and object lefts

	6.000
	6.000
	7.500

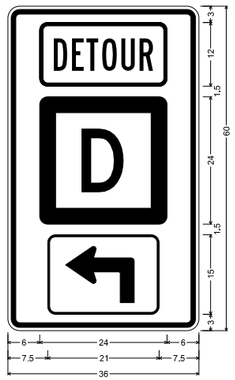
SIGN NO.	90A
STATION	VARIES
ROADWAY	VARIES



MO4-11 SHF-FLAT SHEET FLUORESCENT:
2.250" Radius, 0.875" Border, 0.625" Indent, Black on, Orange;
Table of letter and object lefts

	6.000
	6.000
	7.500

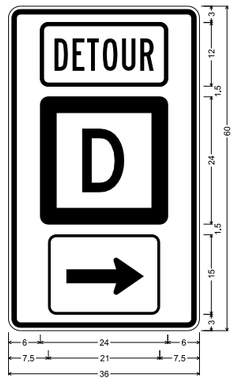
SIGN NO.	90B
STATION	VARIES
ROADWAY	VARIES



MO4-11 SHF-FLAT SHEET FLUORESCENT:
2.250" Radius, 0.875" Border, 0.625" Indent, Black on, Orange;
Table of letter and object lefts

	6.000
	6.000
	7.500

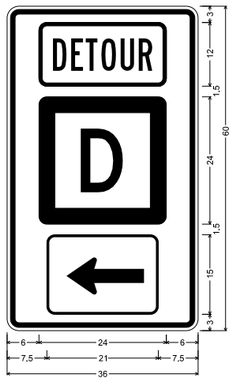
SIGN NO.	90C
STATION	VARIES
ROADWAY	VARIES



MO4-11 SHF-FLAT SHEET FLUORESCENT:
2.250" Radius, 0.875" Border, 0.625" Indent, Black on, Orange;
Table of letter and object lefts

	6.000
	6.000
	7.500

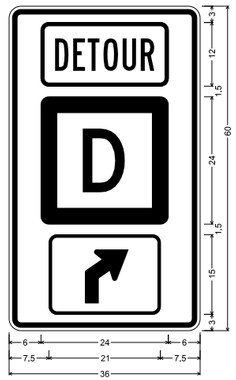
SIGN NO.	90D
STATION	VARIES
ROADWAY	VARIES



MO4-11 SHF-FLAT SHEET FLUORESCENT:
2.250" Radius, 0.875" Border, 0.625" Indent, Black on, Orange;
Table of letter and object lefts

	6.000
	6.000
	7.500

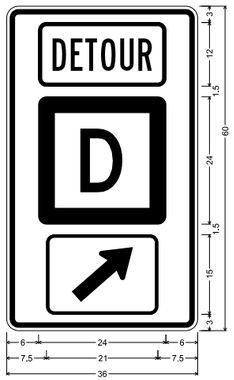
SIGN NO.	90E
STATION	VARIES
ROADWAY	VARIES



MO4-11 SHF-FLAT SHEET FLUORESCENT:
2.250" Radius, 0.875" Border, 0.625" Indent, Black on, Orange;
Table of letter and object lefts

	6.000
	6.000
	7.500

SIGN NO.	90D
STATION	VARIES
ROADWAY	VARIES



MO4-11 SHF-FLAT SHEET FLUORESCENT:
2.250" Radius, 0.875" Border, 0.625" Indent, Black on, Orange;
Table of letter and object lefts

	6.000
	6.000
	7.500

SIGN NO.	90E
STATION	VARIES
ROADWAY	VARIES

SIGN NO.	66
STATION	VARIES
ROADWAY	I-170



SPECIAL SHF-FLAT SHEET FLUORESCENT:
1.500" Radius, No border, Orange;
[CLOSED] Black E Mod 73% spacing;
Table of letter and object lefts.

C	L	O	S	E	D
2.000	9.625	16.750	24.625	32.500	39.625

SIGN NO.	65
STATION	VARIES
ROADWAY	I-170



SPECIAL SHF-FLAT SHEET FLUORESCENT: 1.500" Radius, No border, Orange;
[CLOSED] Black E Mod;
Table of letter and object lefts.

C	L	O	S	E	D
7.250	19.250	30.625	43.125	55.875	67.250

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TRAFFIC CONTROL
SPECIAL SIGNS
SHEET 40 OF 40

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

10/30/2026 3:24:44 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
10/30/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	57

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

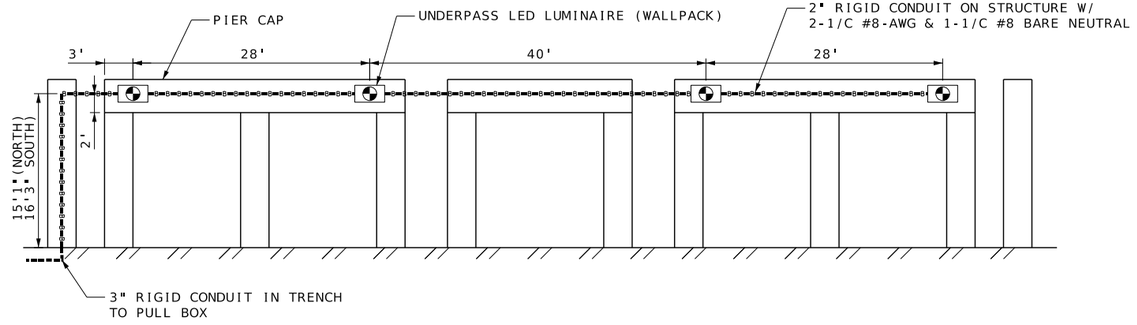
BRIDGE NO.

REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

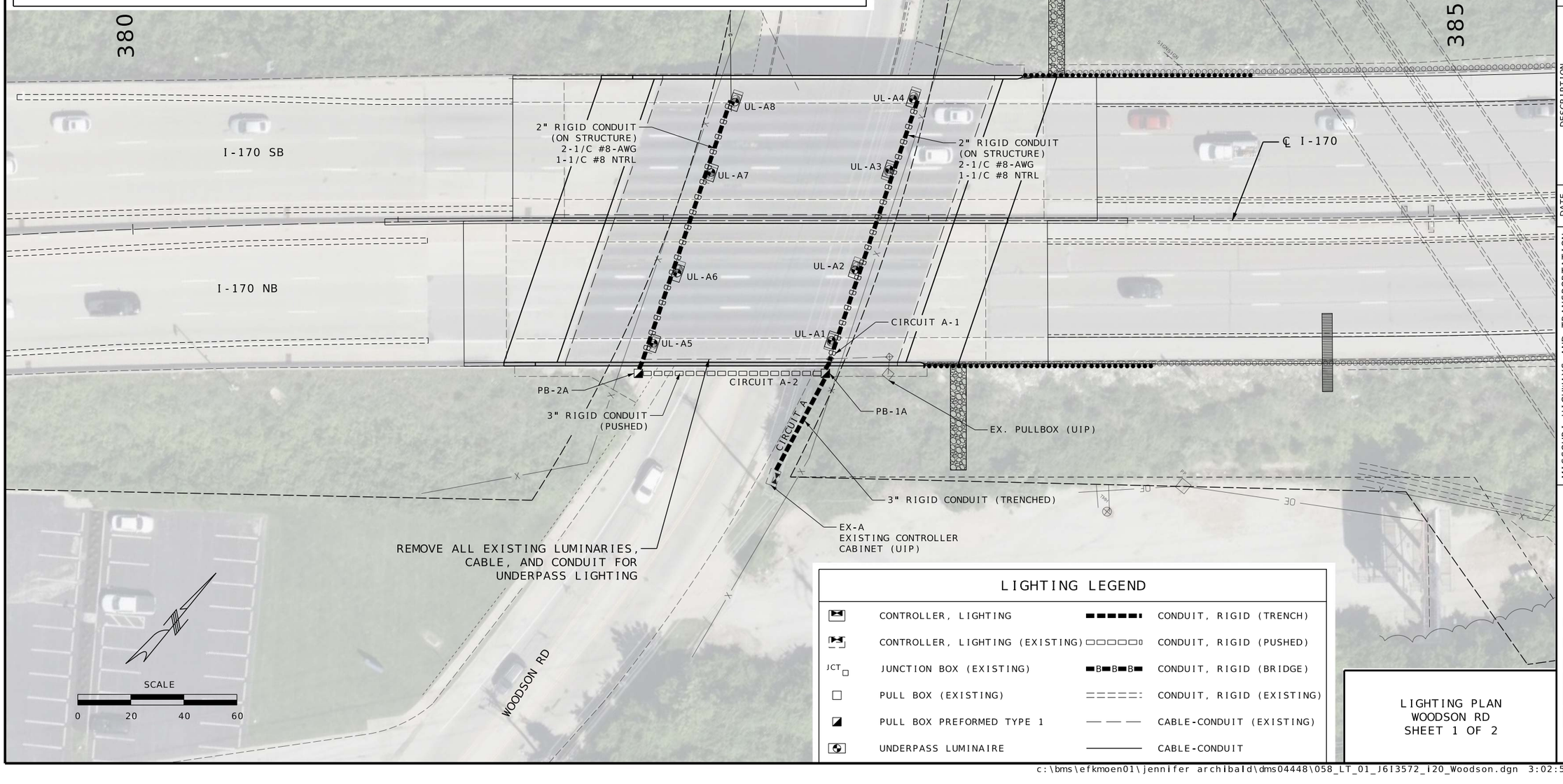
EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

MOUNTING DETAILS FOR UNDERPASS LIGHTING ON WOODSON RD



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LIGHTING LEGEND

	CONTROLLER, LIGHTING		CONDUIT, RIGID (TRENCH)
	CONTROLLER, LIGHTING (EXISTING)		CONDUIT, RIGID (PUSHED)
JCT	JUNCTION BOX (EXISTING)		CONDUIT, RIGID (BRIDGE)
	PULL BOX (EXISTING)		CONDUIT, RIGID (EXISTING)
	PULL BOX PREFORMED TYPE 1		CABLE-CONDUIT (EXISTING)
	UNDERPASS LUMINAIRE		CABLE-CONDUIT

LIGHTING PLAN
WOODSON RD
SHEET 1 OF 2

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 5:25:59 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
9/25/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	58

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

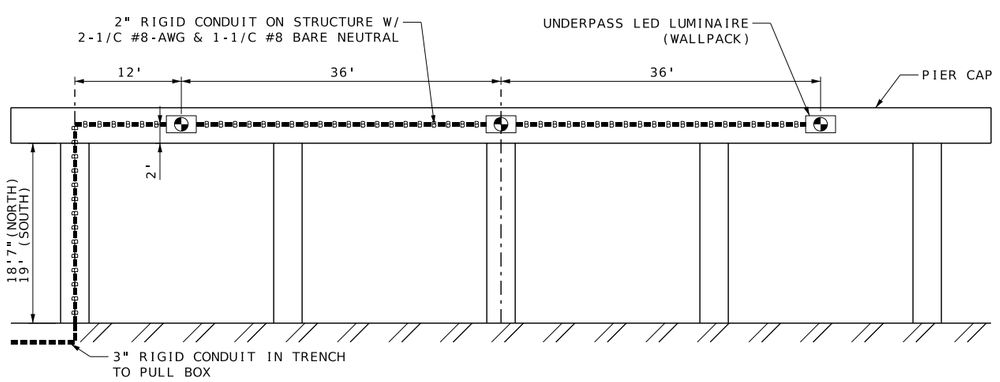
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

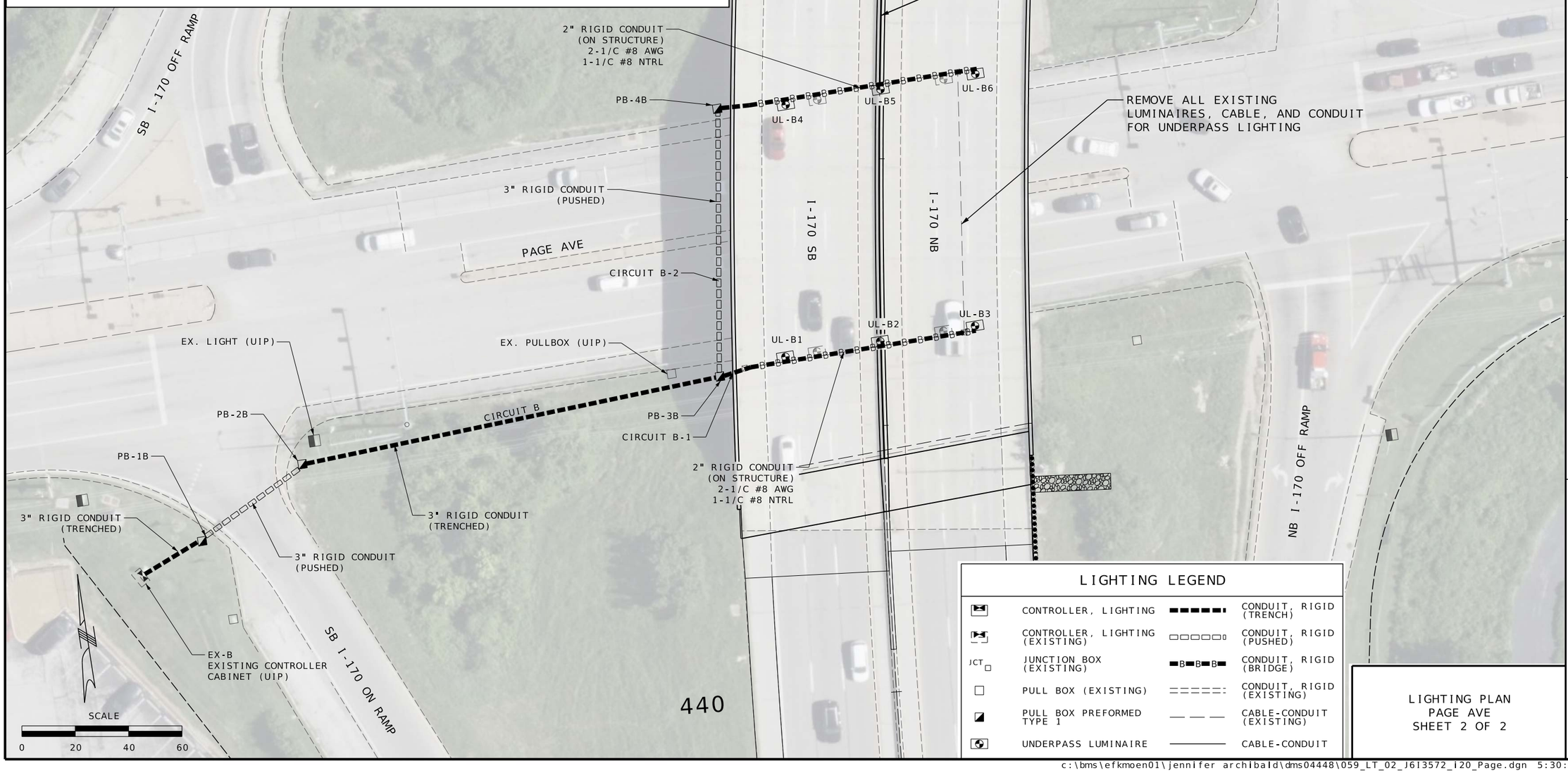
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MOUNTING DETAILS FOR UNDERPASS LIGHTING ON PAGE AVE



DISCLAIMER

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LIGHTING LEGEND

	CONTROLLER, LIGHTING		CONDUIT, RIGID (TRENCH)
	CONTROLLER, LIGHTING (EXISTING)		CONDUIT, RIGID (PUSHED)
JCT	JUNCTION BOX (EXISTING)		CONDUIT, RIGID (BRIDGE)
	PULL BOX (EXISTING)		CONDUIT, RIGID (EXISTING)
	PULL BOX PREFORMED TYPE 1		CABLE-CONDUIT (EXISTING)
	UNDERPASS LUMINAIRE		CABLE-CONDUIT

LIGHTING PLAN
PAGE AVE
SHEET 2 OF 2

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

09/25/2026 8:06:57 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED: 9/25/2026
ROUTE: I-170 | STATE: MO
DISTRICT: SL | SHEET NO.: 59
COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

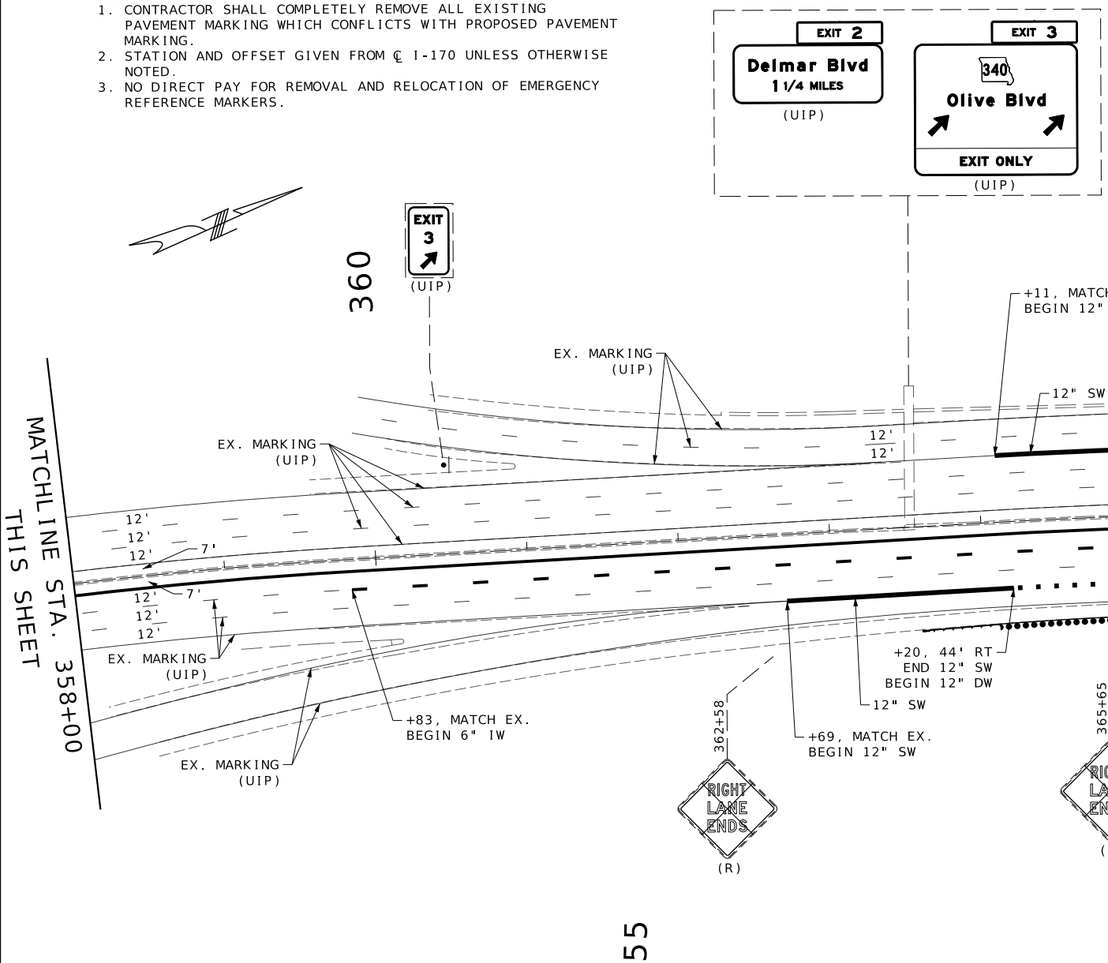
EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

c:\bms\efkmoen01\jennifer archibald\dms04448\059_LT_02_J6I3572_i20_Page.dgn 5:30:40 PM 9/25/2026

GENERAL NOTES:

1. CONTRACTOR SHALL COMPLETELY REMOVE ALL EXISTING PAVEMENT MARKING WHICH CONFLICTS WITH PROPOSED PAVEMENT MARKING.
2. STATION AND OFFSET GIVEN FROM ℄ I-170 UNLESS OTHERWISE NOTED.
3. NO DIRECT PAY FOR REMOVAL AND RELOCATION OF EMERGENCY REFERENCE MARKERS.

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PAVEMENT MARKING LEGEND			
CLASS 2 MARKING (HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS)		PREFORMED THERMOPLASTIC MARKING	
SW	6" SOLID WHITE LINE		24" WHITE (STOP BAR)
IW	6" INTERMITTENT WHITE LINE		LANE USE ARROW
SY	6" SOLID YELLOW LINE		YIELD LINE 24"x36" TRIANGLE
12" SW	12" SOLID WHITE		
12" DW	12" DOTTED WHITE LINE		

SCALE
0 50 100 150

SIGNING AND PAVEMENT MARKING
SHEET 1 OF 14

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER
11/05/2026 1:58:13 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED 11/5/2026
ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 60
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

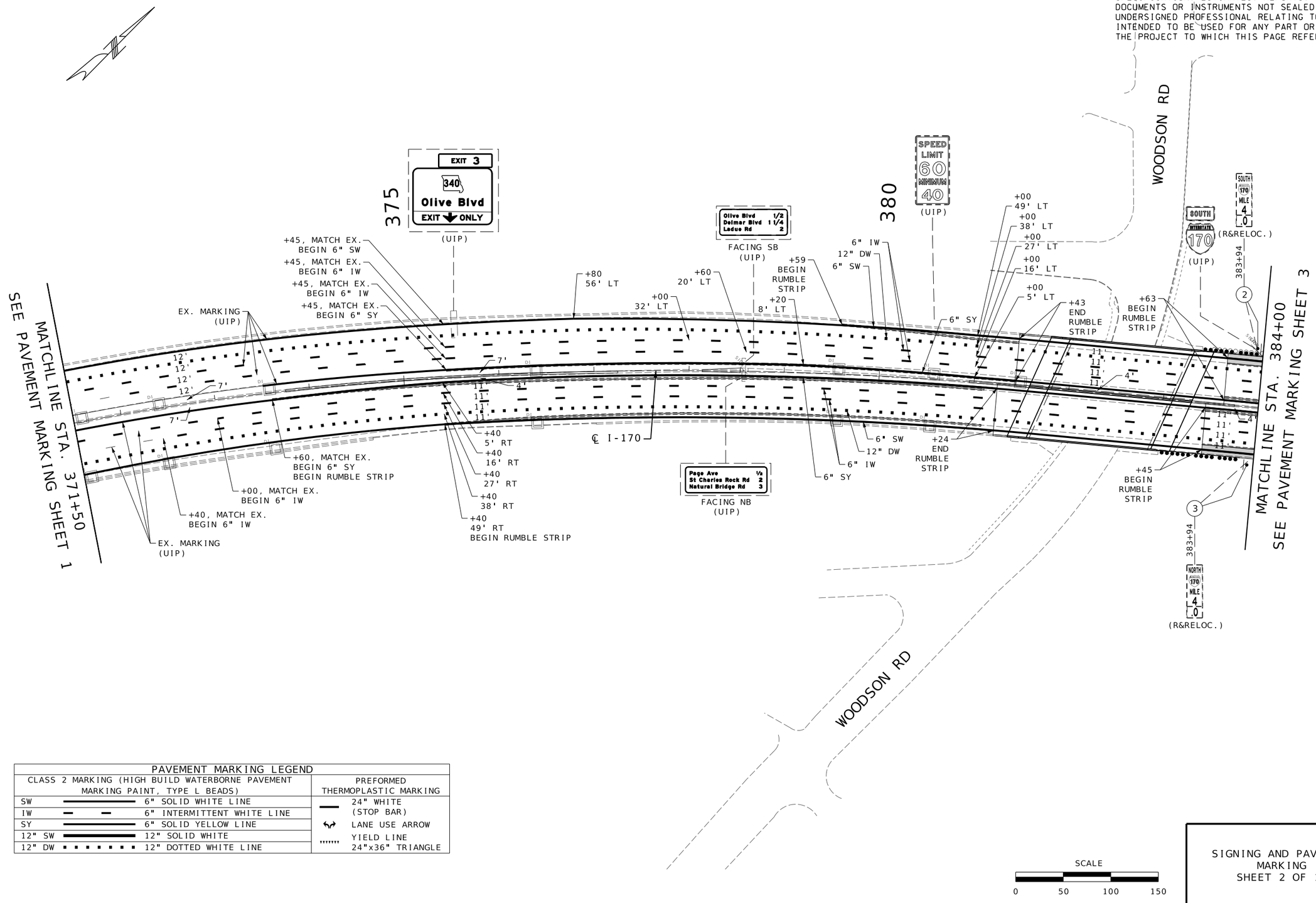
DESCRIPTION | DATE | REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

c:\bms\efkmoen01\jennifer archibald\dms04448\060-066_SN_01-07_J6I3572_i50.dgn 1:52:15 PM 11/5/2026

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PAVEMENT MARKING LEGEND			
CLASS 2 MARKING (HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS)		PREFORMED THERMOPLASTIC MARKING	
SW	6" SOLID WHITE LINE	—	24" WHITE (STOP BAR)
IW	6" INTERMITTENT WHITE LINE	↬	LANE USE ARROW
SY	6" SOLID YELLOW LINE	,,,,,,,	YIELD LINE 24"x36" TRIANGLE
12" SW	12" SOLID WHITE		
12" DW	12" DOTTED WHITE LINE		

SCALE
0 50 100 150

SIGNING AND PAVEMENT MARKING
SHEET 2 OF 14

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER
11/05/2026 1:58:30 PM
Paul J. Kronlage - Civil
MO PE - 023328

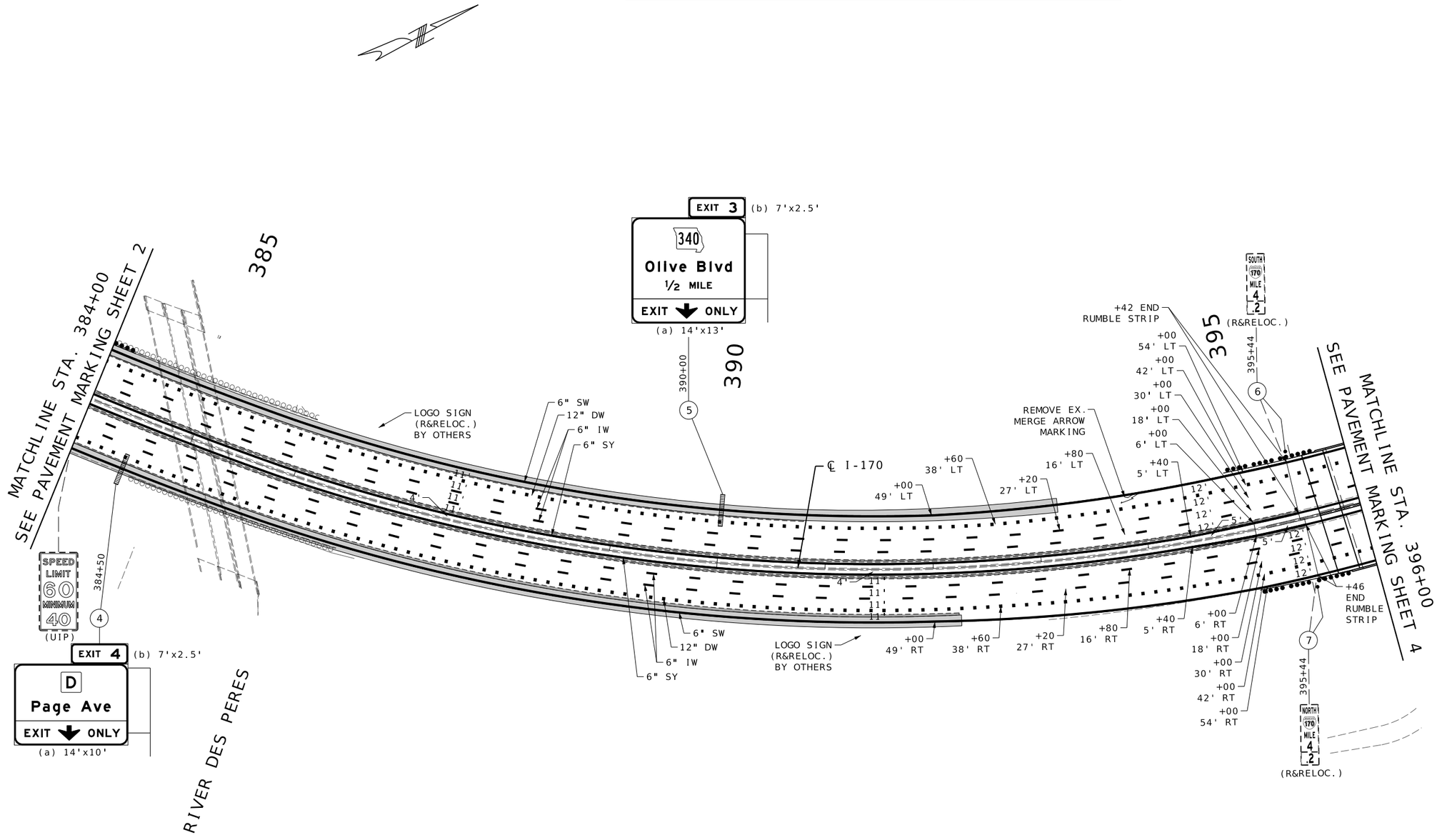
DATE PREPARED 11/5/2026
ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 61
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

PAVEMENT MARKING LEGEND			
CLASS 2 MARKING (HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS)			PREFORMED THERMOPLASTIC MARKING
SW	———	6" SOLID WHITE LINE	— 24" WHITE (STOP BAR)
IW	— —	6" INTERMITTENT WHITE LINE	LANE USE ARROW
SY	———	6" SOLID YELLOW LINE	YIELD LINE
12" SW	———	12" SOLID WHITE	24"x36" TRIANGLE
12" DW	▪ ▪ ▪ ▪ ▪ ▪ ▪	12" DOTTED WHITE LINE	



SCALE

0 50 100 150

SIGNING AND PAVEMENT MARKING
SHEET 3 OF 14

PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI

11/05/2026 1:58:50 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED 11/5/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	62

COUNTY ST. LOUIS

JOB NO. J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

PAVEMENT MARKING LEGEND			
CLASS 2 MARKING (HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS)		PREFORMED THERMOPLASTIC MARKING	
SW	6" SOLID WHITE LINE		24" WHITE (STOP BAR)
IW	6" INTERMITTENT WHITE LINE		LANE USE ARROW
SY	6" SOLID YELLOW LINE		YIELD LINE 24"x36" TRIANGLE
12" SW	12" SOLID WHITE		
12" DW	12" DOTTED WHITE LINE		

MATCHLINE STA. 396+00
SEE PAVEMENT MARKING SHEET 3

UNION PACIFIC RAILROAD

+58 END 12" DW BEGIN 12" SW
REMOVE EX. MERGE ARROW MARKING
12" DW
6" SW
6" SW 12" DW
12' 12' 12' 12' 5' 12' 5' 12' 12' 12' 12'

+00 6' RT
+00 18' RT
+00 30' RT
+00 54' RT
+00 42' LT
+00 30' LT
+00 18' LT
+00 6' LT
+00, 42' RT END 12" DW BEGIN 12" SW

EQUATION
STA 400+14.05 BK =
STA 443+57.74 AHD

STATION DIRECTION REVERSE

400

+20 44' LT
+20 32' LT
+20 20' LT
+20 8' LT
+59 BEGIN 12" SW END 6" SY
12" SW
+58 8' RT
+58 20' RT
+58 32' RT
+58 44' RT
+22, 44' RT BEGIN 12" SW END 6" SW END RUMBLE STRIP
+22 BEGIN 12" SW END 6" SY
12" SW

8
399+09

EXIT 4 (UIP)

+58 BEGIN 12" SW END 6" SW END RUMBLE STRIP
6" SW
6" SY
20'

+18 YIELD LINE

+54 BEGIN RUMBLE STRIP
6" SW
6" IW
6" SY
6" SW
6" IW
6" SY
+47 BEGIN RUMBLE STRIP
438+36
9

+05 24" STOP BAR
+49 24" STOP BAR
6" SW
+29
+95
+31
22'
6" SW
6" SY
6" SW
12'
17'
+17 YIELD LINE
6" SW
22'
6" SY
22'
6" SW

NORTH ONLY 170 — 7'x4' BRIDGE MOUNT ON EX. BRACKET
NORTH 170 ONLY — SIGN (R)

SOUTH 170 MILE 4.4 (R&RELOC.)
437+00
11
+96 END RUMBLE STRIP
+87 END RUMBLE STRIP
℄ I-170
6" SW
6" SY
12' 12' 12'
+16
+18
+22
+08
+10
+15
+66
+70
12' 12' 12' 7' 7' 12' 12' 12'

438+03
10
SOUTH ONLY 170 — 7'x4' BRIDGE MOUNT ON EX. BRACKET
SOUTH 170 ONLY — SIGN (R)

437+00
12
NORTH 170 MILE 4.4 (R&RELOC.)

435

MATCHLINE STA. 434+50
SEE PAVEMENT MARKING SHEET 5

PAGE AVE

440

EXIT 4 (b) 7'x2.5'
D Page Ave EXIT ONLY
(a) 13'x10' CENTER NEW EXIT SIGN VERTICALLY ABOVE CENTER OF EXIT LANE WITH MINIMUM 17'-6" VERTICAL SIGN CLEARANCE
SIGNS (R)
TRUSS (UIP)
MODIFY TRUSS TO REMOVE CATWALK & LIGHT

SCALE
0 50 100 150

SIGNING AND PAVEMENT MARKING
SHEET 4 OF 14

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER
Paul L Kronlage
11/05/2026 1:59:07 PM
Paul J. Kronlage - Civil
MO PE - 023328

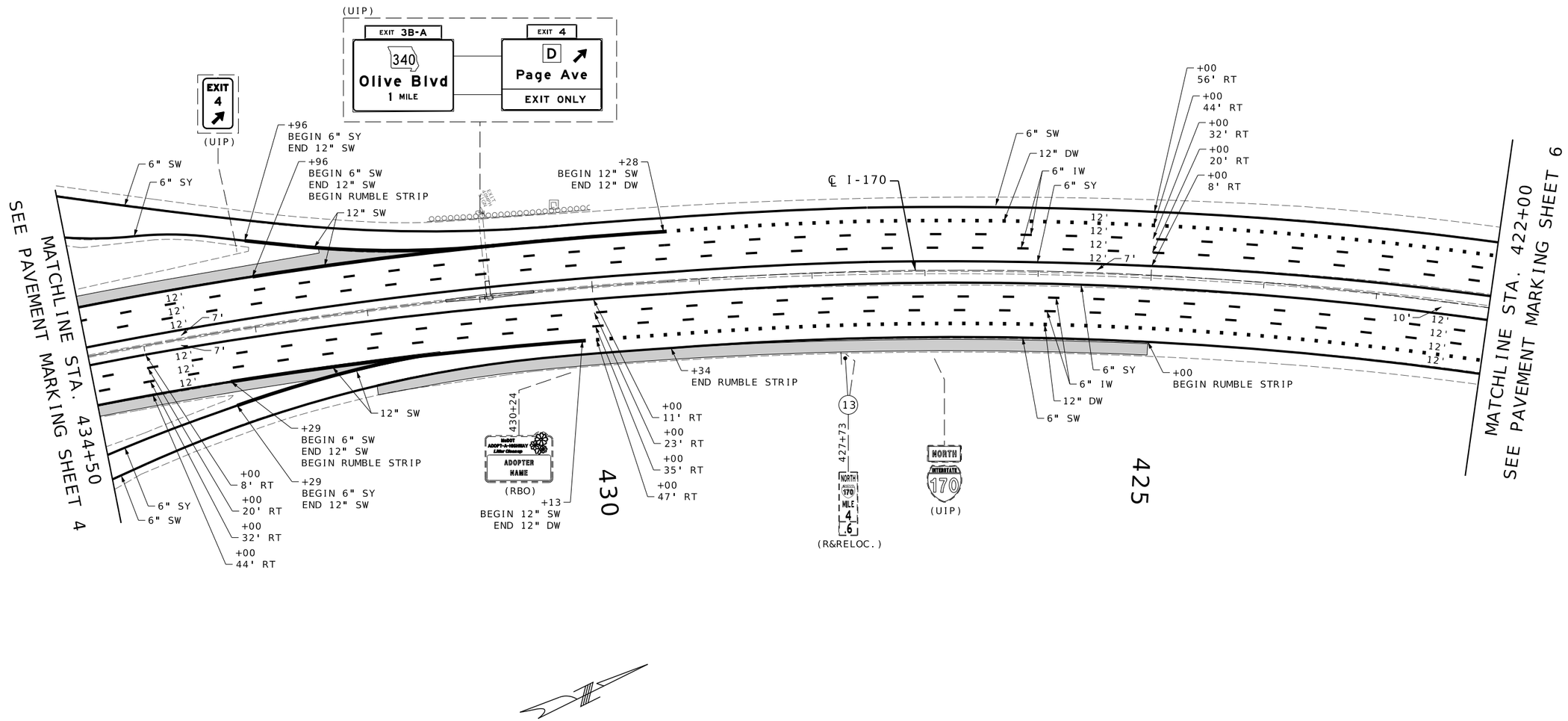
DATE PREPARED 11/5/2026
ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 63
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

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PAVEMENT MARKING LEGEND			
CLASS 2 MARKING (HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS)		PREFORMED THERMOPLASTIC MARKING	
SW	6" SOLID WHITE LINE		24" WHITE (STOP BAR)
IW	6" INTERMITTENT WHITE LINE		LANE USE ARROW
SY	6" SOLID YELLOW LINE		YIELD LINE 24"x36" TRIANGLE
12" SW	12" SOLID WHITE		
12" DW	12" DOTTED WHITE LINE		

SCALE
0 50 100 150

SIGNING AND PAVEMENT MARKING
SHEET 5 OF 14

PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI
11/05/2026 1:59:35 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED 11/5/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	64

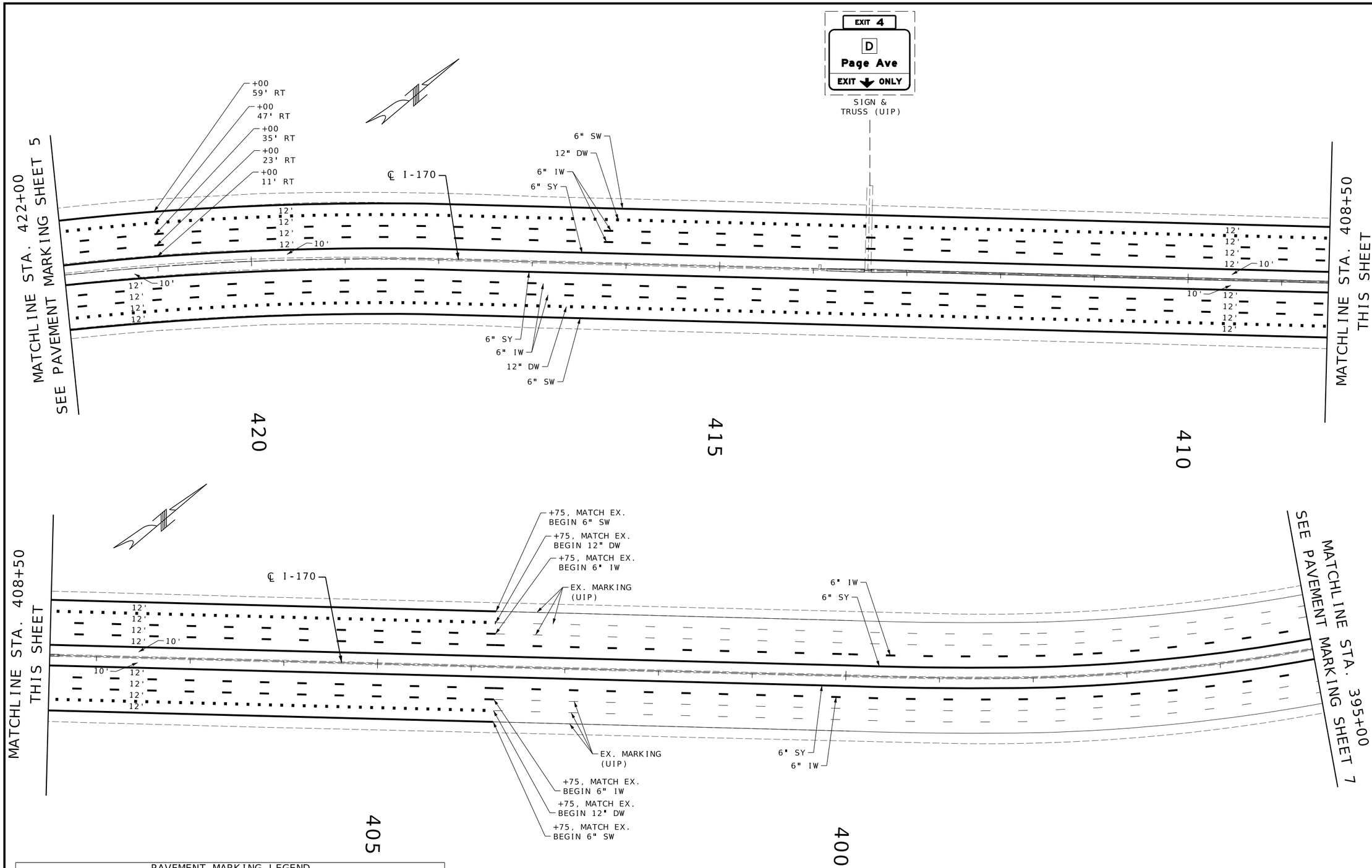
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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Missouri Certificate of Authority: 001578

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PAVEMENT MARKING LEGEND			
CLASS 2 MARKING (HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS)		PREFORMED THERMOPLASTIC MARKING	
SW	6" SOLID WHITE LINE	—	24" WHITE (STOP BAR)
IW	6" INTERMITTENT WHITE LINE	⮌	LANE USE ARROW
SY	6" SOLID YELLOW LINE	,,,,,,,	YIELD LINE 24"x36" TRIANGLE
12" SW	12" SOLID WHITE		
12" DW	12" DOTTED WHITE LINE		

SCALE
0 50 100 150

SIGNING AND PAVEMENT MARKING
SHEET 6 OF 14

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

11/05/2026 1:59:47 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
11/5/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	65

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

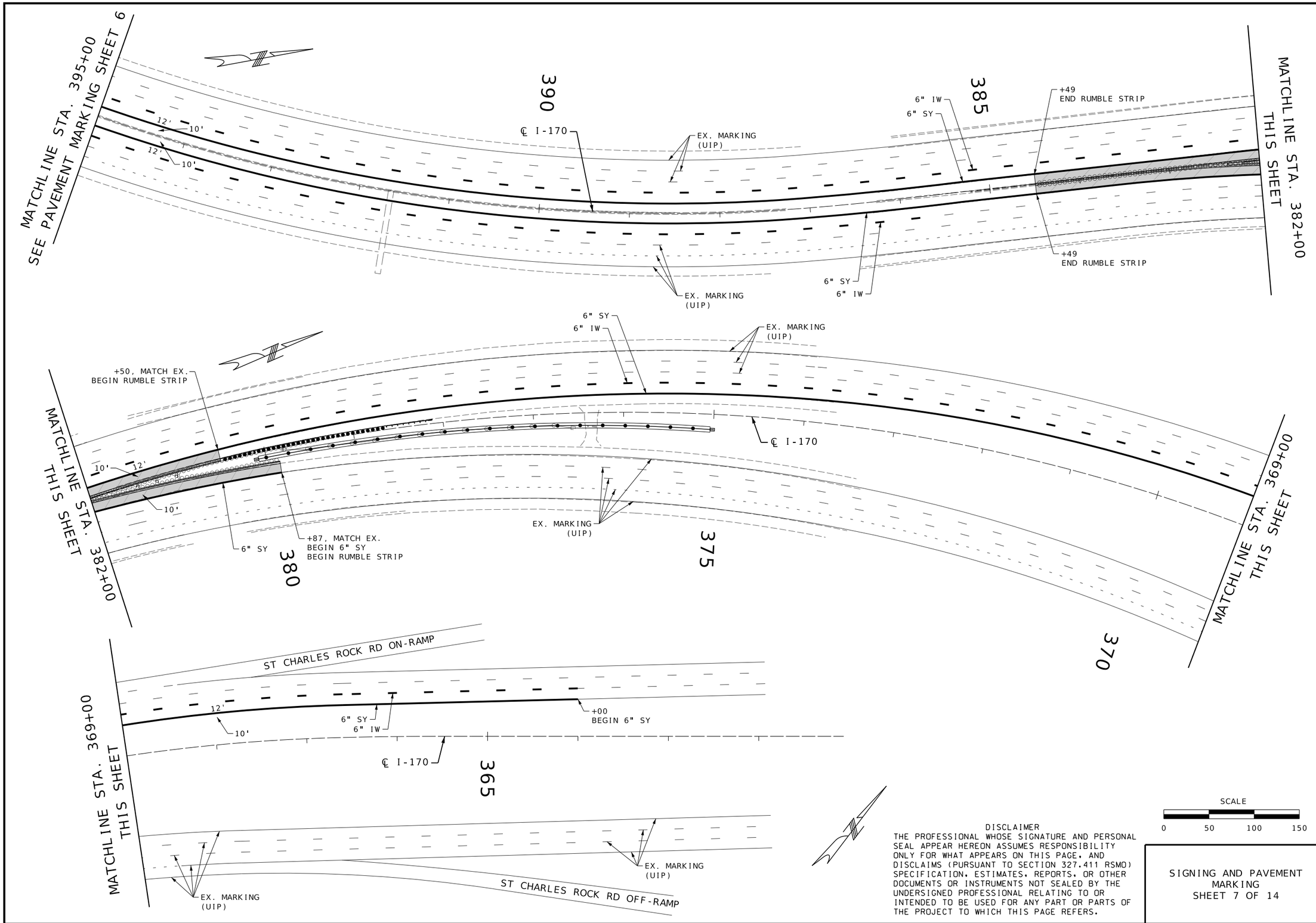
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
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St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

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SCALE
0 50 100 150

SIGNING AND PAVEMENT MARKING
SHEET 7 OF 14

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

11/05/2026 2:00:01 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
11/5/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	66

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
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1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

STANDARD SIGN ASSEMBLIES

SIGN NO.	STATION OR LOG MILE	LOCATION	SIGN, TYPE, DESIGNATION, SIZE & NUMBER OF EACH																			
			South I-170	North I-170	Page Ave EXIT ONLY	EXIT 4	Page Ave ¼ mi EXIT ONLY	Page Ave EXIT ONLY	Olive Blvd ½ mi EXIT ONLY	EXIT 3												
			ST SPECIAL 84 x 48	ST SPECIAL 84 x 48	ST SPECIAL 168 x 120	ST SPECIAL 84 x 30	ST SPECIAL 168 x 144	ST SPECIAL 168 x 120	ST SPECIAL 168 X 120	ST SPECIAL 84 X 30												
1a	366+00	I-170 RT					1															
1b	366+00	I-170 RT				1																
4a	384+50	I-170 RT						1														
4b	384+50	I-170 RT				1																
5a	390+00	I-170 LT							1													
5b	390+00	I-170 LT								1												
8a	399+09	I-170 RT			1																	
8b	399+09	I-170 RT				1																
9	438+36	I-170 RT		1																		
10	438+03	I-170 LT	1																			
		TOTALS	1	1	1	3	1	1	1	1												

SIGN SUMMARY

EFFECTIVE: 10-01-2016

STANDARD OR SPECIAL SIGN DESIGNATION		SIGN DTL. SHT. NO.	NO. EACH	SIGN SIZE	TYPE & SQUARE FEET			
					FLAT SHEET SH ITEM NO. 9035004A	FLAT SHEET FLUORESCENT SHF* ITEM NO. 9035069A	STRUCTURAL ST ITEM NO. 9035011A	STRUCTURAL FLUORESCENT STF* ITEM NO. 9035071A
SPECIAL	1a		1	168 x 144			126.0	42
SPECIAL	1b		1	84 x 30			17.5	
SPECIAL	4a		1	168 x 120			98.0	42
SPECIAL	4b		1	84 x 30			17.5	
SPECIAL	5a		1	168 x 156			140.0	42
SPECIAL	5b		1	84 x 30			17.5	
SPECIAL	8a		1	168 x 120			91.0	39
SPECIAL	8b		1	84 x 30			17.5	
SPECIAL	9		1	84 x 48			28.0	
SPECIAL	10		1	84 x 48			28.0	
				TOTALS			581	165

*ORANGE, YELLOW AND YELLOW-GREEN

DISCLAIMER
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SIGNING AND PAVEMENT MARKING
SHEET 8 OF 14

D-30

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

11/05/2026 2:00:14 PM
Paul J. Kronlage - Civil
MO PE - 023328

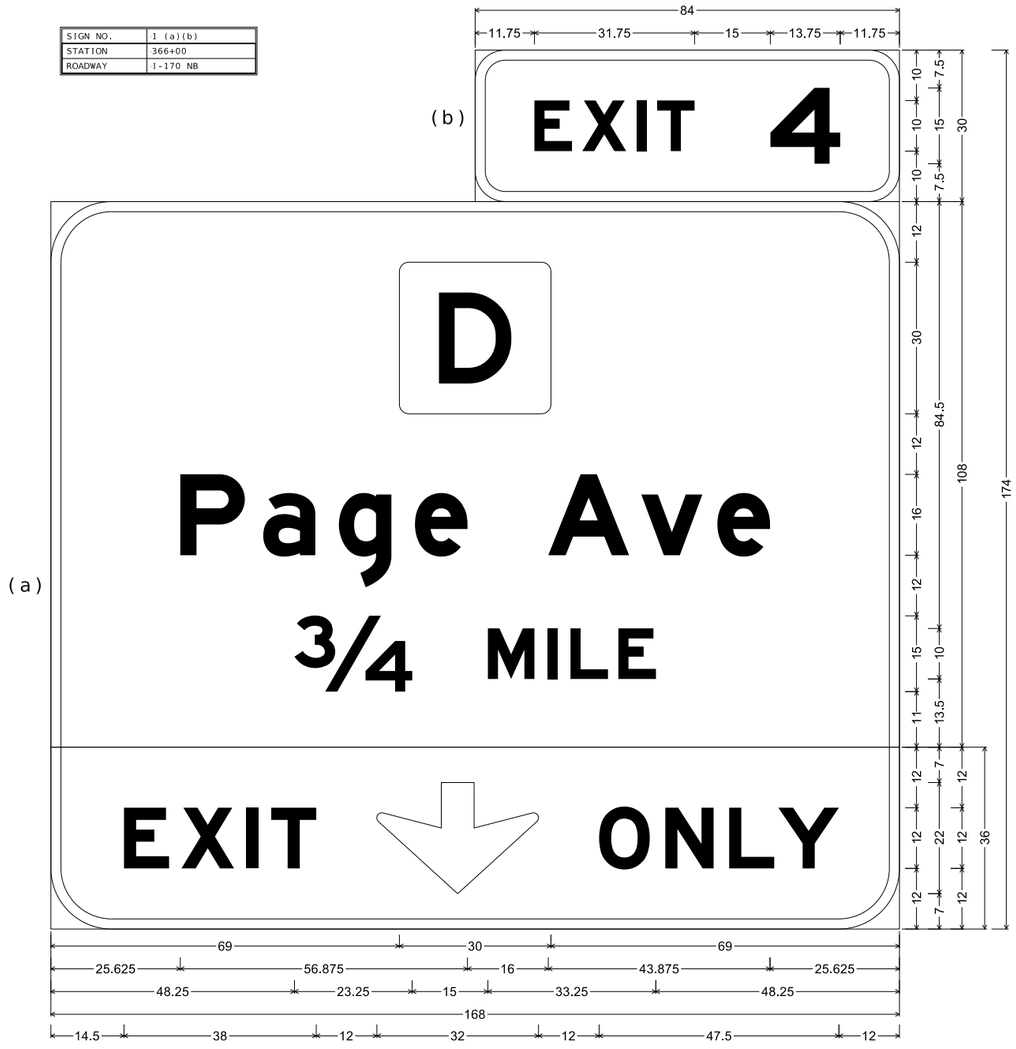
DATE PREPARED: 11/5/2026
ROUTE: I-170 | STATE: MO
DISTRICT: SL | SHEET NO.: 67
COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

SIGN NO.	1 (a)(b)
STATION	366+00
ROADWAY	I-170 NB



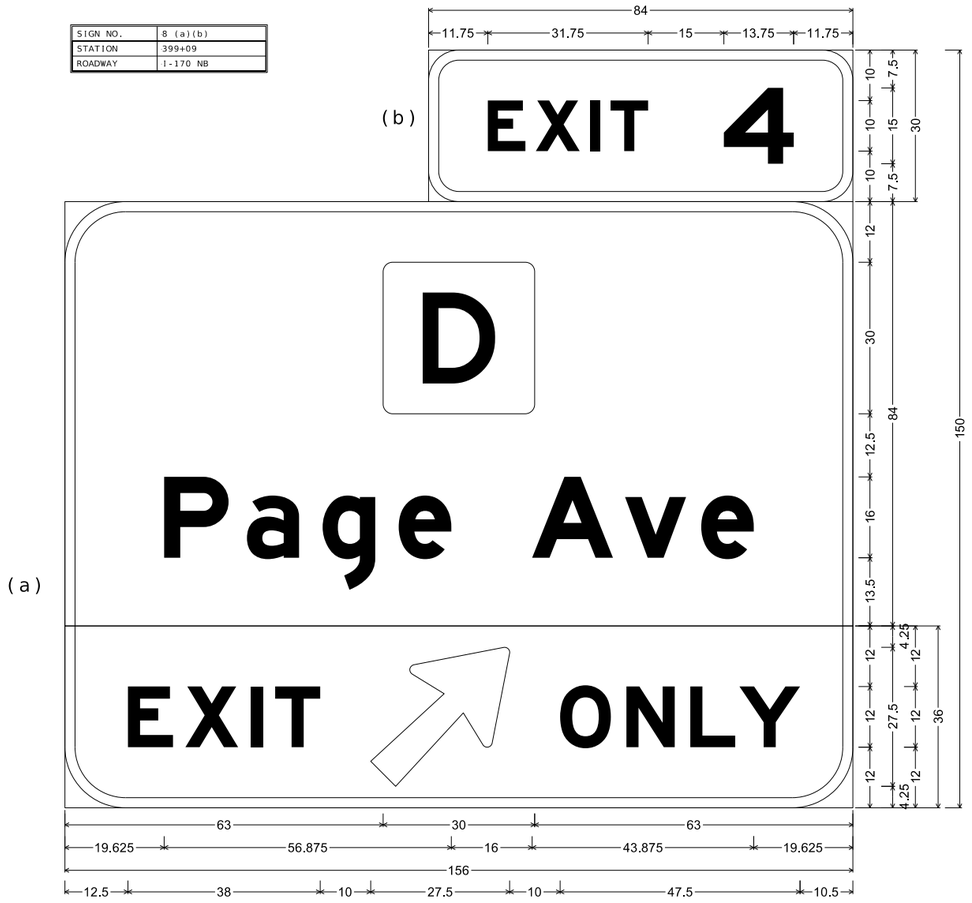
E1-5P ST-STRUCTURAL;
6.000" Radius, 2.000" Border, White on Green;
"EXIT", E Mod; "4", E Mod;

E1-1 ST-STRUCTURAL;
12.000" Radius, 2.000" Border, White on Green;
Rounded Rectangle 1.875" Radius;
"Page Ave", E Mod specified length; "¾", E Mod; "MILE", E Mod;

STF-STRUCTURAL FLUORESCENT;
12.000" Radius, 2.000" Border, Black on Yellow;
"EXIT", E Mod; Down Arrow 22.000" 270°; "ONLY", E Mod;
Table of letter and object lefts

E 95.750	**X** 105.250	**I** 116.000	**T** 120.000	**4** 142.500		
□ 69.000						
P 25.625	**a** 42.000	**g** 57.000	**e** 72.125	**A** 98.500	**v** 116.875	**e** 132.000
¾ 48.250	**M** 86.500	**I** 98.250	**L** 102.875	**E** 112.375		
E 14.500	**X** 25.875	**I** 38.750	**T** 43.625	64.500	**O** 108.500	**N** 121.625	**L** 134.250	**Y** 144.000

SIGN NO.	8 (a)(b)
STATION	399+09
ROADWAY	I-170 NB



E1-5P ST-STRUCTURAL;
6.000" Radius, 2.000" Border, White on Green;
"EXIT", E Mod; "4", E Mod;

E1-1 ST-STRUCTURAL;
12.000" Radius, 2.000" Border, White on Green;
Rounded Rectangle 1.875" Radius;
"Page Ave", E Mod specified length;

STF-STRUCTURAL FLUORESCENT;
12.000" Radius, 2.000" Border, Black on Yellow;
"EXIT", E Mod; Arrow 160 - 35.000" 45°; "ONLY", E Mod;
Table of letter and object lefts

E 83.750	**X** 93.250	**I** 104.000	**T** 108.000	**4** 130.500				
□ 63.000								
P 19.625	**a** 36.000	**g** 51.000	**e** 66.125	**A** 92.500	**v** 110.875	**e** 126.000		
E 12.500	**X** 23.875	**I** 36.750	**T** 41.625	60.500	**O** 98.000	**N** 111.125	**L** 123.750	**Y** 133.500

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SIGNING AND PAVEMENT MARKING
SHEET 9 OF 14

D-31

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

11/05/2026 2:00:30 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
11/5/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	68

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 North Highway Dr
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

SIGN NO.	5 (a)(b)
STATION	390+00
ROADWAY	I-170 SB



E1-5P ST-STRUCTURAL;
6.000" Radius, 2.000" Border, White on Green;
"EXIT", E Mod; "3", E Mod;

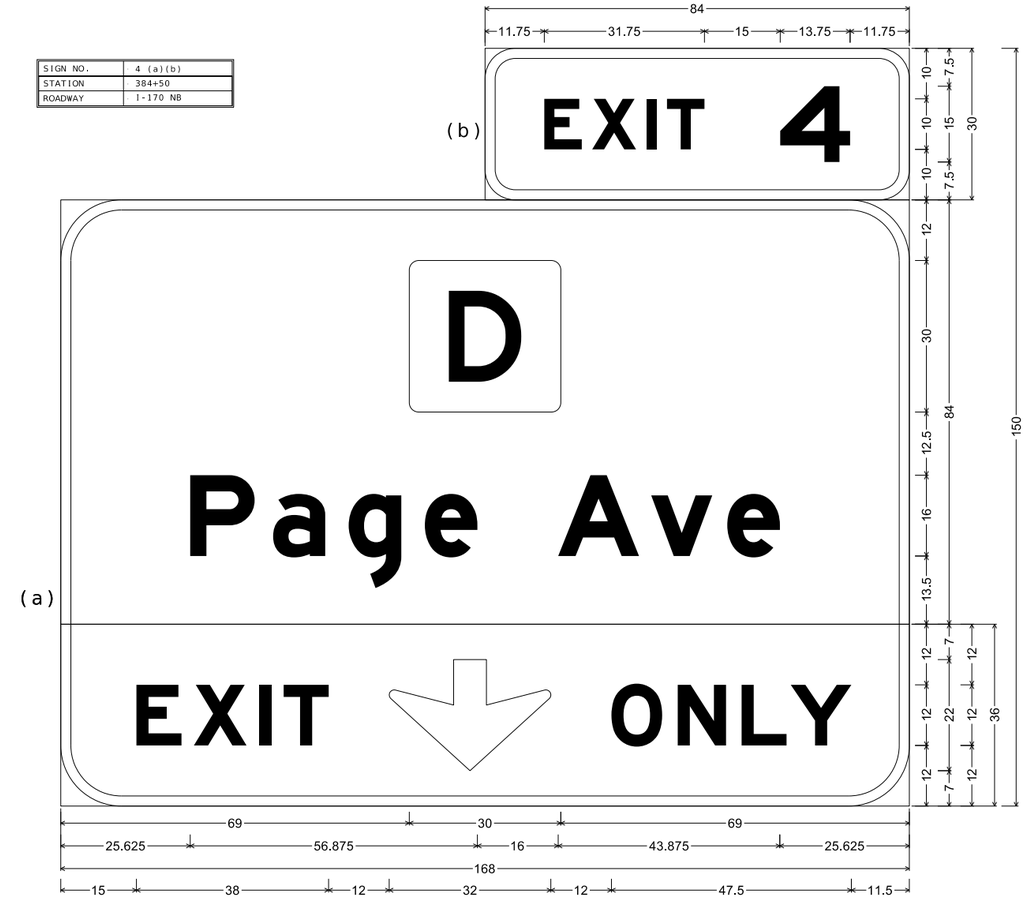
E1-1 ST-STRUCTURAL;
12.000" Radius, 2.000" Border, White on Green;
State Highway 340 4 18.000" B; "Olive Blvd", E Mod specified length; "½", E Mod; "MILE", E Mod;

STF-STRUCTURAL FLUORESCENT;
12.000" Radius, 2.000" Border, Black on Yellow;
"EXIT", E Mod; Down Arrow 22.000" 270°; "ONLY", E Mod;
Table of letter and object lefts

E 96.625	**X** 106.125	**I** 116.875	**T** 121.000	**3** 143.375
□ 61.500				

O 20.125	**I** 38.625	**I** 47.750	**v** 55.125	**e** 70.250	**B** 96.625	**I** 115.000	**v** 122.375	**d** 137.500	
½ 49.375	**M** 85.375	**I** 97.125	**L** 101.625	**E** 111.125					
E 15.000	**X** 26.375	**I** 39.250	**T** 44.125	◁ 65.000	**O** 109.000	**N** 122.125	**L** 134.750	**Y** 144.500	

SIGN NO.	4 (a)(b)
STATION	384+50
ROADWAY	I-170 NB



E1-5P ST-STRUCTURAL;
6.000" Radius, 2.000" Border, White on Green;
"EXIT", E Mod; "4", E Mod;

E1-1 ST-STRUCTURAL;
12.000" Radius, 2.000" Border, White on Green;
Rounded Rectangle 1.875" Radius;
"Page Ave", E Mod specified length;

STF-STRUCTURAL FLUORESCENT;
12.000" Radius, 2.000" Border, Black on Yellow;
"EXIT", E Mod; Down Arrow 22.000" 270°; "ONLY", E Mod;
Table of letter and object lefts

E 95.750	**X** 105.250	**I** 116.000	**T** 120.000	**4** 142.500	
□ 69.000					

P 25.625	**a** 42.000	**g** 57.000	**e** 72.125	**A** 98.500	**v** 116.875	**e** 132.000	
E 15.000	**X** 26.375	**I** 39.250	**T** 44.125	◁ 65.000	**O** 109.000	**N** 122.125	**L** 134.750	**Y** 144.500

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SIGNING AND PAVEMENT MARKING
SHEET 10 OF 14

D-31

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

11/05/2026 2:00:43 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
11/5/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	69

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

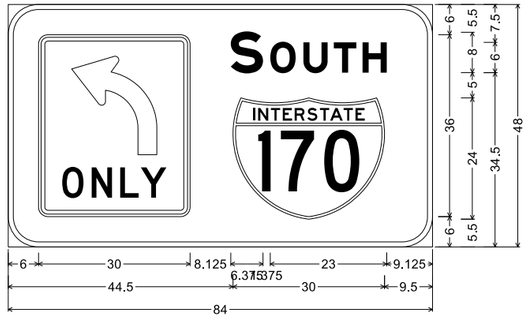
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
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Suite 200
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Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

SIGN NO.	10
STATION	438+03
ROADWAY	PAGE AVE.

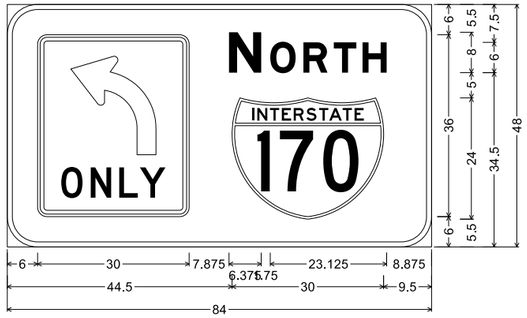


D15-1 ST-STRUCTURAL;
6.000" Radius, 1.000" Border, White on Green;
R3-5L Decal; "SOUTH", E Mod;
Table of letter and object lefts

S	O	U	T	H
6.000	44.125	51.875	58.500	64.500	70.125

W
44.500

SIGN NO.	9
STATION	438+36
ROADWAY	PAGE AVE.

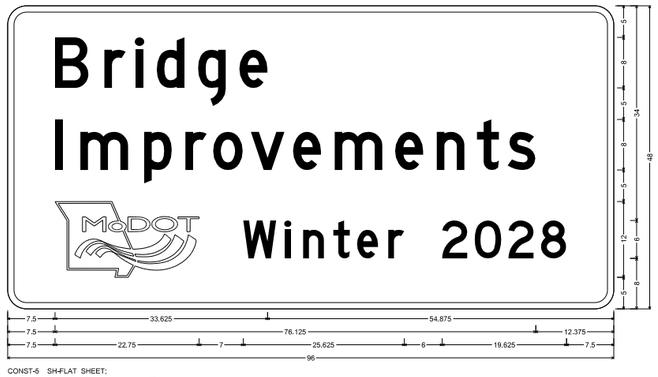


D15-1 ST-STRUCTURAL;
6.000" Radius, 1.000" Border, White on Green;
R3-5L Decal; "NORTH", E Mod;
Table of letter and object lefts

N	O	R	T	H
6.000	43.875	52.000	58.625	64.625	70.375

W
44.500

SIGN NO.	57
STATION	VARIES
ROADWAY	I-170



CONST-5 SH-FLAT SHEET;
3.000" Radius, 1.000" Border, White on, Blue;
"Bridge", D; "Improvements", D; "Winter 2028", D;
Table of letter and object lefts

B	r	i	d	g	e
7.500	15.250	20.250	23.625	30.125	36.750

l	m	p	r	o	v	e	m	e	n	t	s
7.500	11.500	21.625	28.125	32.500	38.500	45.250	51.750	61.375	68.000	74.375	79.125

W	i	n	t	e	r	2	0	2	8
7.500	37.250	43.875	46.750	51.625	55.375	60.250	68.875	74.000	79.375	84.500

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STATE OF MISSOURI
PAUL JOSEPH KRONLAGE NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

11/05/2026 2:01:00 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
11/5/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	70

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

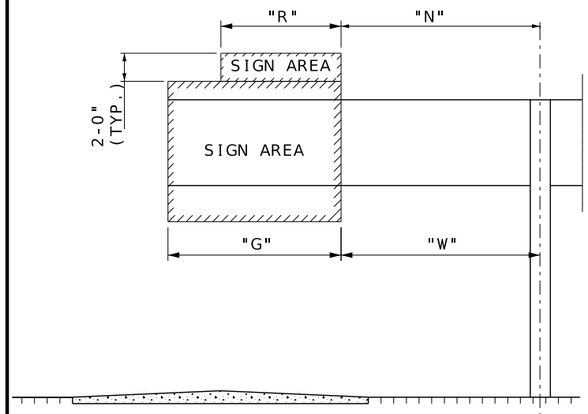
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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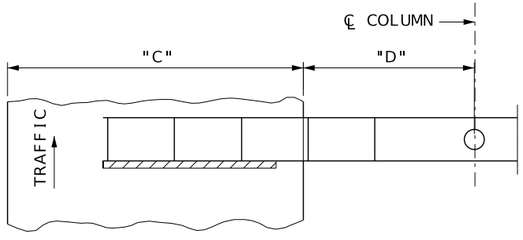
SIGNING & PAVEMENT MARKING
SHEET 11 OF 14

D-31

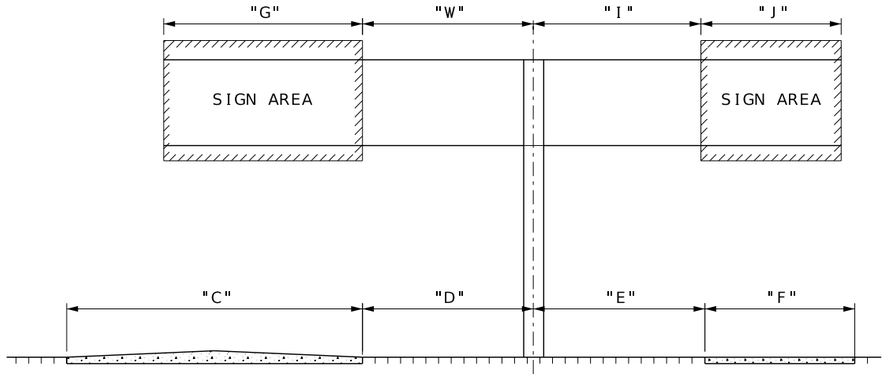
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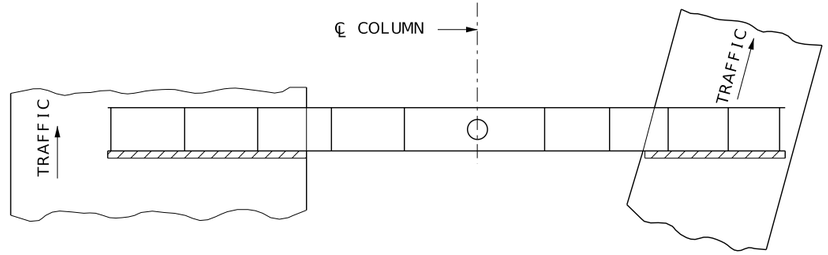
ELEVATION



PLAN
CANTILEVER OVERHEAD SIGN TRUSS



ELEVATION



PLAN
BUTTERFLY OVERHEAD SIGN TRUSS

OVERHEAD SIGN DIMENSIONS

SIGN NO.	STATION NUMBER	TYPE SIGN CANT.	TYPE SIGN BUTTERFLY	COL. H	COL. TYPE	ROADWAY DESCRIPTION "C"	"D"	"E"	"F"	SIGN SPACING "G"	Ht.	"W"	"I"	"J"	Ht.	"R"	"N"	CONCRETE FOOTINGS (CU. YD.)
1	366+00	30'		18'-8"	V					14'	12'	16'				7'	16'	28.0
4	384+50	30'		21'-8"	V					14'	10'	16'				7'	16'	28.8
5	390+00	30'		25'-3"	VI					14'	13'	16'				7'	16'	31.6
																	TOTAL	88.4

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GENERAL NOTES:

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS. LUMINAIRES AND TRAFFIC SIGNALS - 2001 AND LATEST INTERIM.

STRUCTURAL CARBON STEEL (ASTM A709 GRADE 36) fy = 36,000 psi.

REINFORCING STEEL (GRADE 60) fY = 60,000 psi.

CLASS B CONCRETE f'c = 3,000 psi.

MINIMUM CLEARANCE: VERTICAL ROADWAY CLEARANCE = 17'-6".

MINIMUM CLEARANCE TO REINFORCING SHALL BE 3", UNLESS OTHERWISE SHOWN.

TRUSS SHALL BE ALL WELDED CONSTRUCTION. ALL WELDING TO BE CONTINUOUS UNLESS OTHERWISE SHOWN.

QUALIFICATION OF WELDING OPERATORS WILL BE REQUIRED.

STRUCTURAL STEEL WELDING AND WELDER QUALIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH THE A.W.S. D1.5 BRIDGE WELDING CODE AS AMMENDED BY THE MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS ON STRUCTURAL STEEL CONSTRUCTION.

ALUMINUM WELDING AND WELDER QUALIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITION OF A.W.S. D1.2 STRUCTURAL WELDING CODE - ALUMINUM, EXCEPT AS AMENDED BY SECTION 903 OF THE MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

ALL ALUMINUM FILLET WELDS SHALL BE $\frac{3}{16}$" UNLESS OTHERWISE SHOWN.

COATING: ALL COLUMNS SHALL BE GALVANIZED AS PER AASHTO M 111. ALL STRUCTURAL STEEL (EXCEPT THE COLUMNS) SHALL BE CLEANED AND COATED WITH SYSTEM G IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 1081 AND 903 COLOR OF THE FINISHED COAT SHALL BE GRAY.

PAYMENT FOR GALVANIZING, CLEANING AND COATING SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER SIGN TRUSS. ALL THE STRUCTURAL STEEL MAY BE GALVANIZED IN LIEU OF COATING. PORTIONS OF THE STEEL MAY BE GALVANIZED WITH THE APPROVAL OF THE ENGINEER.

PERMITS MUST BE OBTAINED FOR ALL TRUCK LOADS OVER LEGAL LENGTH.

BUTTERFLY AND CANTILEVER OVERHEAD SIGN TRUSSES

STRUCTURAL STEEL

DATA SHEET
(SEE STANDARD 903.12)

SIGNING AND PAVEMENT MARKING
SHEET 12 OF 14

D-32

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

11/05/2026 2:01:17 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
11/5/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	71

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

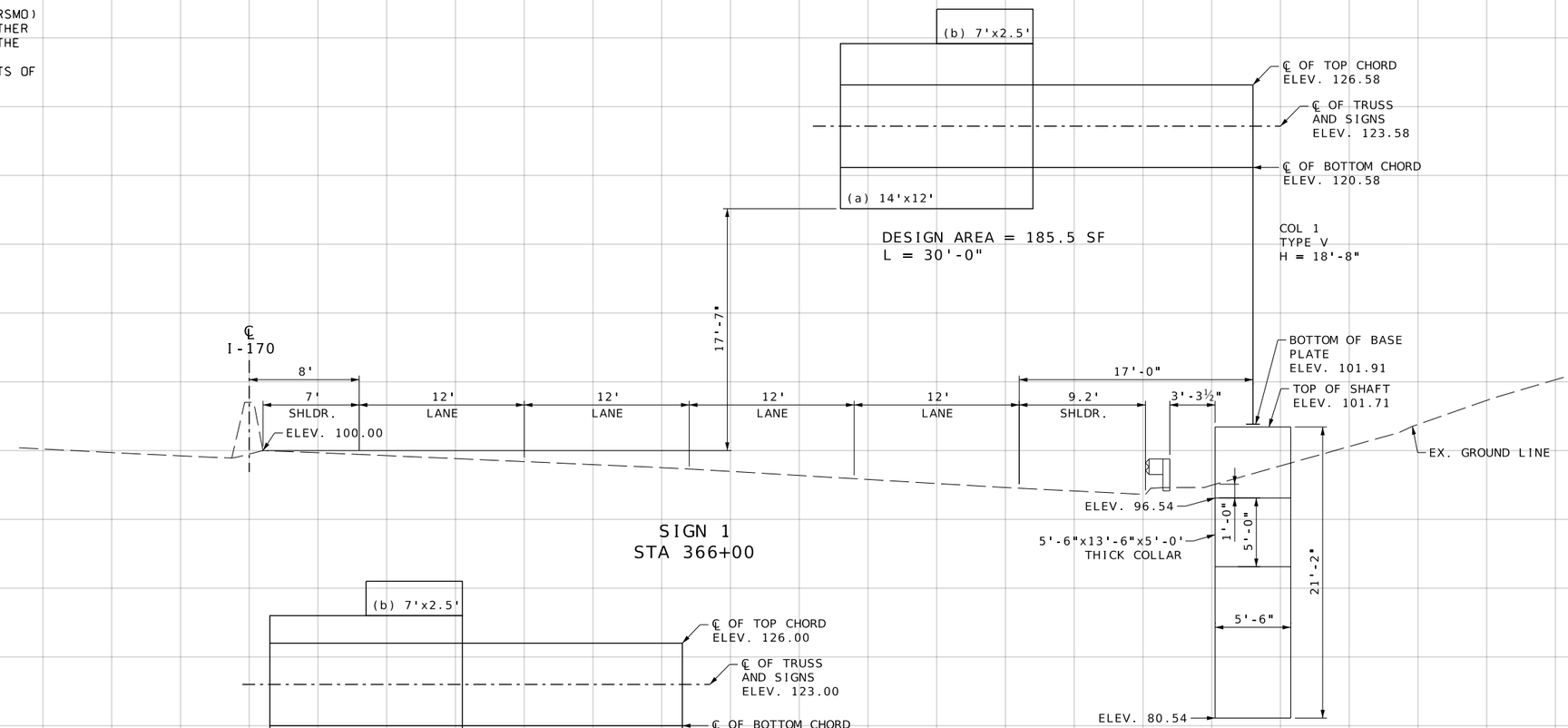
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
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SHEET 13 OF 14

PAUL JOSEPH KRONLAGE NUMBER EN 023328 REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI
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Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
11/5/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
SL	72

COUNTY
ST. LOUIS

JOB NO.
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CONTRACT ID.

PROJECT NO.

BRIDGE NO.

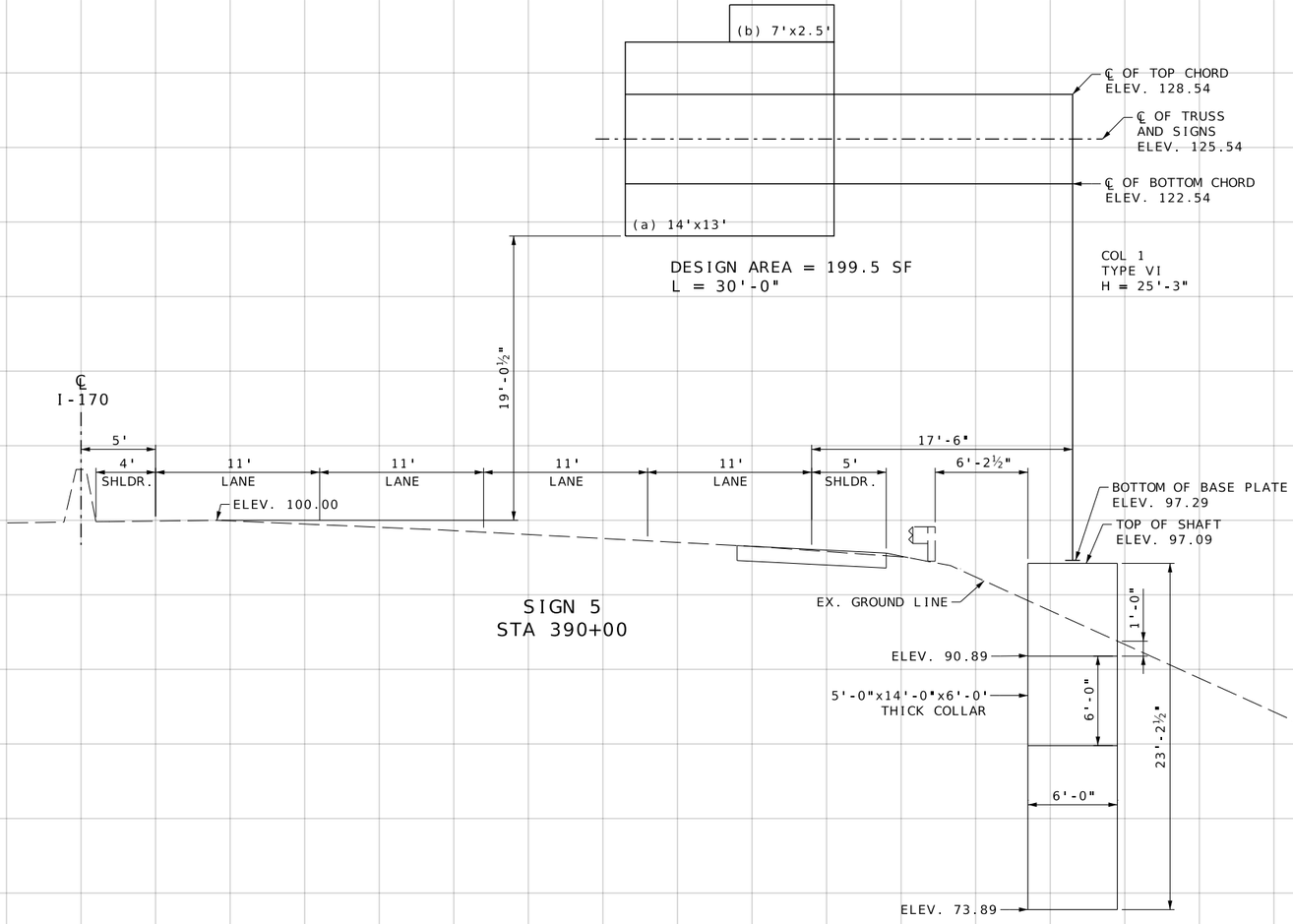
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SIGN 5
STA 390+00

5'

SIGNING AND PAVEMENT MARKING
SHEET 14 OF 14

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER

11/05/2026 2:01:46 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
11/5/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
SL	73

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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360
365
370
375
380
EX. MODOT ITS PULLBOX (UIP)
EX. MODOT ITS PULLBOX (UIP)
EX. MODOT 2" HDPE (UIP)
-24F FO CABLE (UIP)
-72F FO CABLE (UIP)
EX. MODOT 2" HDPE (UIP)
-24F FO CABLE (UIP)
-72F FO CABLE (UIP)
℄ I-170
I-170 SB
I-170 NB
WOODSON RD
MATCHLINE STA 384+00
THIS SHEET

MATCHLINE STA 384+00
THIS SHEET
385
390
395
400
435
440
EX. MODOT 2" HDPE (UIP)
-24F FO CABLE (UIP)
-72F FO CABLE (UIP)
EX. MODOT ITS PULLBOX (UIP)
TEMPORARILY RELOCATE 2-2" CONDUITS AND FIBER CABLES, THEN RECONNECT TO NEW BRIDGE DECK, SEE JSP.
+69 BEGIN TEMP. ITS RELOCATION
UNION PACIFIC RAILROAD
EX. 2-2" CONDUITS ON STRUCTURE
-EX. 24F FO CABLE
-EX. 72F FO CABLE
EX. MODOT ITS PULLBOX (UIP)
+69 BEGIN TEMP. ITS RELOCATION
EX. 2-2" CONDUITS ON STRUCTURE
-EX. 24F FO CABLE
-EX. 72F FO CABLE
+59 END TEMP. ITS RELOCATION
TEMPORARILY RELOCATE 2-2" CONDUITS AND FIBER CABLES, THEN RECONNECT TO NEW BRIDGE DECK, SEE JSP.
+59 END TEMP. ITS RELOCATION
EX. MODOT 2" HDPE (UIP)
-24F FO CABLE (UIP)
-72F FO CABLE (UIP)
I-170 SB
I-170 NB
EX. MODOT ITS PULLBOX (UIP)
EX. CCTV CAMERA (UIP)
EX. MODOT 2" PVC (UIP)
-24F FO CABLE (UIP)
EX. MODOT 2" HDPE (UIP)
-24F FO CABLE (UIP)
-72F FO CABLE (UIP)
PAGE AVE
EX. MODOT ITS PULLBOX (UIP)

SCALE
0 100 200 300 400 500

ITS PLAN
SHEET 1 OF 1

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
NUMBER EN 023328
REGISTERED PROFESSIONAL ENGINEER
10/30/2026 3:25:10 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED 10/22/2026
ROUTE I-170 | STATE MO
DISTRICT SL | SHEET NO. 74
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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Missouri Certificate of Authority: 001578

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SEC/SUR 32 TWP 46N RGE 6E

U.I.P., REDECK AND MAKE COMPOSITE (33'- 71'- 28') SIMPLE WIDE FLANGE BEAM SPANS

General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications
Seismic Performance Category B

Design Loading:

HS20-44 (1962) and Military 24,000 lb. Tandem Axle (1962) (Existing)
HS20-44 (New Construction)
15 lb/sf Future Wearing Surface
Earth - 120 lb/cf, Equivalent Fluid Pressure 45 lb/cf
Fatigue Stress - Case I

Design Unit Stresses:

Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Class B-2 Concrete (End Bents & Superstructure, except Barrier)	f'c = 4,000 psi
Steel Fiber Reinforced Concrete (Link Slab)	f'c = 4,000 psi
Reinforcing Steel (ASTM A706 Grade 60)	fy = 60,000 psi

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

Recoating Existing Steel:

Protective Coating: System L in accordance with Sec 1081.

Surface Preparation: Surface preparation for existing steel shall be in accordance with Sec 1081 for Recoating of Structural Steel (System L) with inorganic zinc primer. The cost of surface preparation will be considered completely covered by the contract unit price per sq. foot for Surface Preparation for Recoating Structural Steel.

Prime Coat: The cost of the prime coat will be considered completely covered by the contract unit price per sq. foot for Field Application of Inorganic Zinc Primer.

Field Coat(s): The color of the field coat(s) shall be Gray (Federal Standard #26373). The cost of the finish field coat will be considered completely covered by the contract unit price for other items.

Coating New Steel:

The same Finish Field Coat system for recoating existing steel shall be used for new steel.

Protective Coating: System L in accordance with Sec 1081.

Prime Coat: The cost of the inorganic zinc prime coat will be considered completely covered by the contract unit price for Fabricated Structural Carbon Steel. For the bearing assemblies the cost will be considered completely covered by the contract unit price for Laminated Neoprene Bearing Pad Assembly.

Field Coat: The color of the field coats shall be Gray (Federal Standard #26373). The cost of the finish field coat will be considered completely covered by the contract unit price for other items.

Miscellaneous:

Protective coating for concrete bents and piers (Epoxy) shall be applied as shown on the bridge plans and in accordance with Sec 711.

Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for plain bars and 30 diameters for deformed bars, unless otherwise noted.

Roadway surfacing adjacent to bridge ends shall match new bridge slab surface. (Roadway item)

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

Contractor shall verify all dimensions in field before ordering new material.

The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved qualified special mortar in accordance with Sec 704.

For adjusted girder deflection due to the weight of the new deck and barriers, see Bridge Electronic Deliverables.

Traffic Handling:

Traffic to be maintained on structure during construction. See roadway plans for traffic control and Sheet No. 3 for staged construction details.

Index of Sheets

1. General Notes and Estimated Quantities
2. Repair Details
3. Details of Staged Construction
4. Details of Concrete Removal at End Bents
5. Details of End Bents (Stage 1 Construction)
6. Details of End Bents (Stage 2 Construction)
7. Bridge Approach Notch Details
8. Vertical Drain at End Bents
9. Bearing Pad Details
10. Laminated Neoprene Bearing Pad Assembly (Sheet 1 of 2)
11. Laminated Neoprene Bearing Pad Assembly (Sheet 2 of 2)
12. Framing Plans
13. Steel Diaphragms
14. Plan of Slab Showing Top Reinforcement
15. Plan of Slab Showing Bottom Reinforcement
16. Slab Details
17. Details of Link Slab
18. Details of Conduit System
19. Left Type D Barrier
20. Right Type D Barrier
21. Type D Barrier at End Bents
22. Type C Barrier
23. Bridge Approach Slab (Major)
24. Bending Diagrams and Reinforcing Steel Totals
25. Bill of Reinforcing Steel

Estimated Quantities

Item		Total
Removal of Existing Bridge Deck	sq. foot	14,400
Removal of Existing Bearings	each	48
Removal of Existing Approach Notch	linear foot	30
Bridge Approach Slab (Major)	sq. yard	477
Slab on Steel	sq. yard	1436
Class B-2 Concrete	cu. yard	1.6
Type D Barrier	linear foot	296
Type C Barrier	linear foot	172
Steel Fiber Reinforced Concrete	cu. yard	39.5
Substructure Repair (Formed)	sq. foot	210
Substructure Repair (Unformed)	sq. foot	301
Mechanical Bar Splice	each	454
Conduit System on Structure	lump sum	1
Reinforcing Steel (Epoxy Coated)	pound	90
Protective Coating — Concrete Bents and Piers (Epoxy)	lump sum	1
Fabricated Structural Carbon Steel (Misc.)	pound	2,200
Surface Preparation for Recoating Structural Steel	sq. foot	21,100
Field Application of Inorganic Zinc Primer	sq. foot	21,100
Finish Field Coat (System L)	sq. foot	21,100
Vertical Drains at End Bents	each	2
Laminated Neoprene Bearing Pad Assembly	each	48

Cost of any required excavation for bridge will be considered completely covered by the contract unit price for other items.

Estimated Quantities for Slab on Steel

Item		Total
Class B-2 Concrete	cu. yard	367
Reinforcing Steel (Epoxy Coated)	pound	103,870

The table of Estimated Quantities for Slab on Steel represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for stay-in-place corrugated steel forms, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness Class SC 4 and a finish Type I, II or III.

Slab shall be cast-in-place with conventional forming or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

For Optional Stay-In-Place Form Details, see Sheet No. 2.

REPAIRS TO BRIDGE: I-170 OVER WOODSON ROAD

ROUTE I-170 FROM ROUTE 340 TO ROUTE D
ABOUT 0.4 MILES SOUTH OF ROUTE D
BEGINNING STATION 381+78.25± (MATCH EXISTING)

Designed Sep. 2026
Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER

Alex C. Benz
09/25/20269:08:03 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
9/25/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
BR	1

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A28074

DESCRIPTION

REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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Phone 314-394-3100
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Missouri Certificate of Authority: 001578

General Notes:

Stay-In-Place Forms:

Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

Form sheets shall not rest directly on the top of beam flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Welding on or drilling holes in the beam flanges will not be permitted. All steel fabrication and construction shall be in accordance with Sec 1080 and 712. Certified field welders will not be required for welding of the form supports.

The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for beam loading.

The contractor shall provide a method of preventing the direct contact of the stay-in-place forms and connection components with uncoated weathering steel members that is approved by the engineer.

Pouring and Finishing Slab:

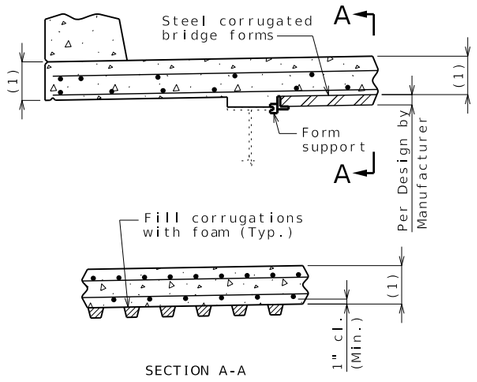
The contractor shall provide bracing necessary for lateral and torsional stability of the beams during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not weld on or drill holes in the beams. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Slab on Steel.

Slab shall be poured upgrade from end to end at a minimum rate of 25 cubic yards per hour.

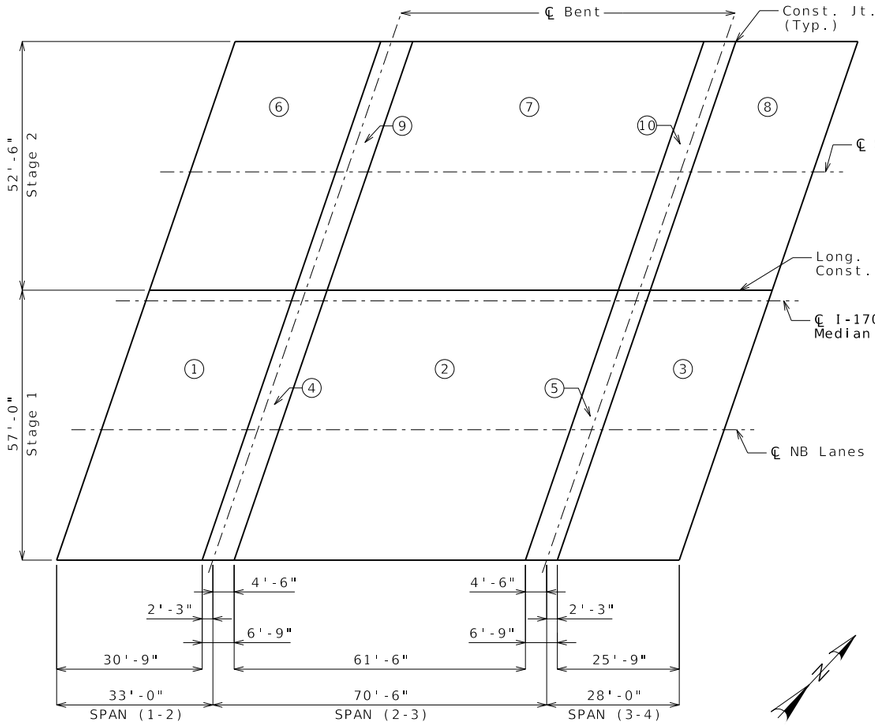
Alternate pour sequences may be submitted to the engineer for approval. Keyed construction joints shall be provided between pours.

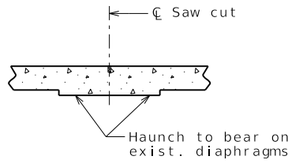
Haunching:

(1) Slab is to be considered a uniform thickness as shown on the plans. Haunching will vary. See Slab Details for slab thickness.



OPTIONAL STAY-IN-PLACE FORM DETAILS





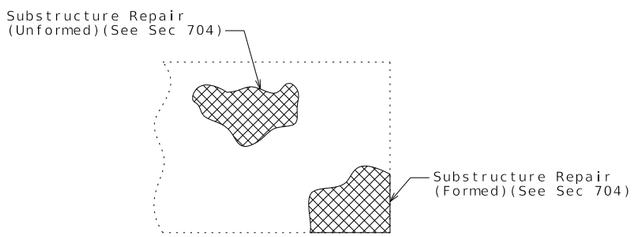
PART SECTION THRU SLAB AT INT. BENTS

	Sequence of Pours					Min. Rate of Pour Cu. Yds./Hr.	
	Direction					With Retarder	No Retarder
Basic Sequence Stage 1	1	4	2	5	3	28	46
	Either Direction						
Basic Sequence Stage 2	6	9	7	10	8	25	42
	Either Direction						

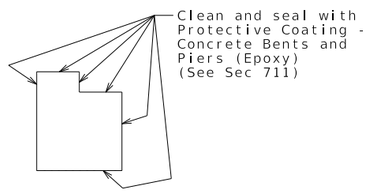
The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

The concrete diaphragm at the integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

SLAB POURING SEQUENCE



TYPICAL PART ELEVATION SHOWING SUBSTRUCTURE REPAIR



TYPICAL SECTION THRU INT. BENTS NO. 2 & 3 SHOWING PROTECTIVE COATING

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
09/25/20269:08:20 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED 9/25/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	2

COUNTY ST. LOUIS

JOB NO. J6I3572

CONTRACT ID.

PROJECT NO.

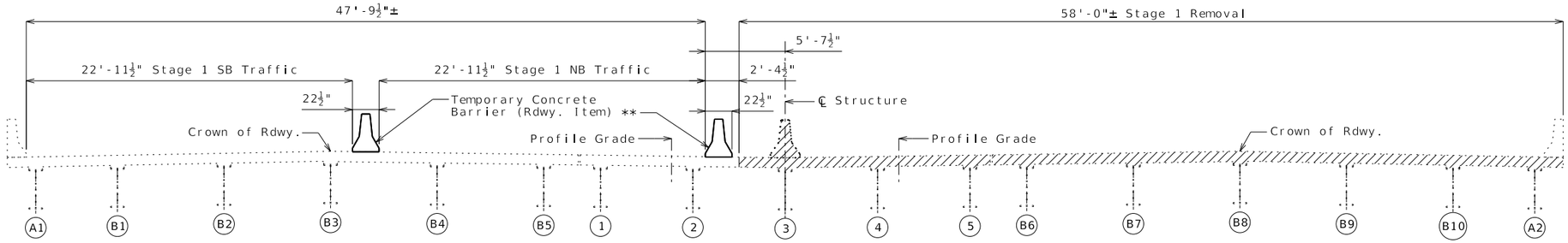
BRIDGE NO. A28074

DESCRIPTION

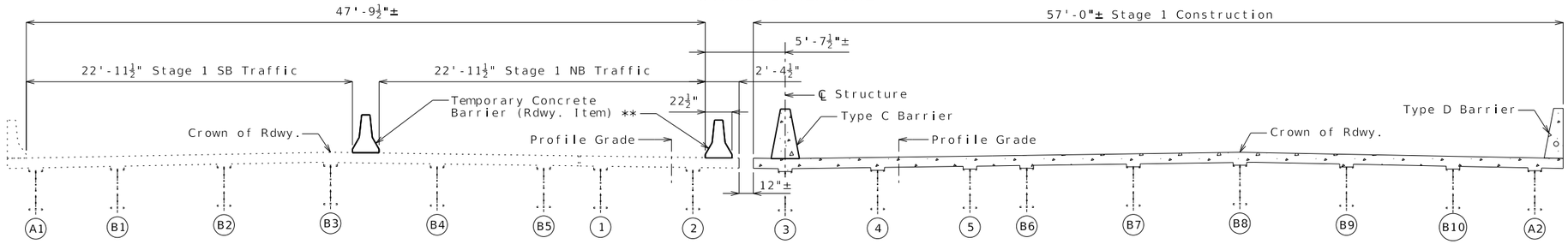
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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Civil Engineering Design
1355 N. Highway Drive
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Missouri Certificate of Authority: 001578

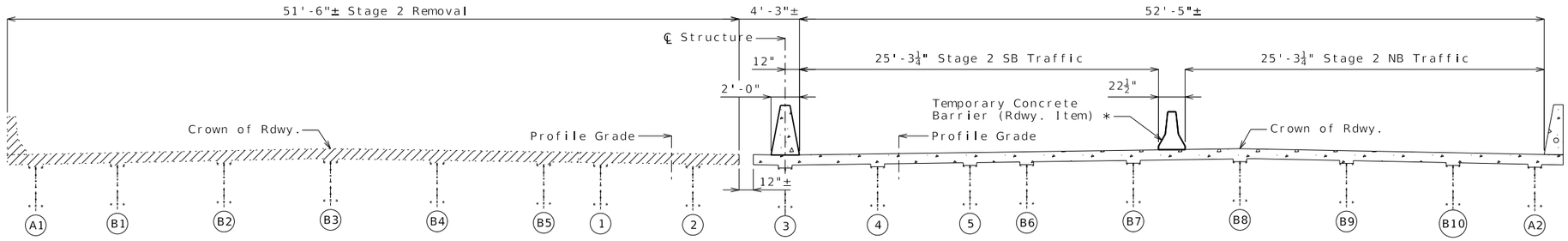
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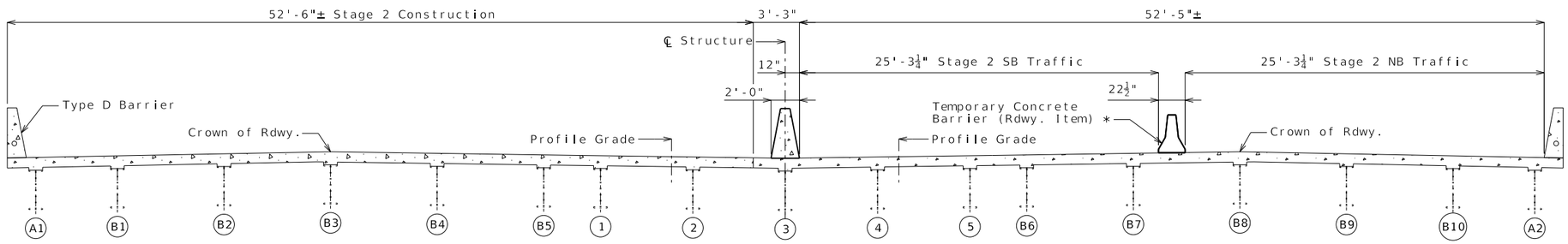
STAGE 1 REMOVAL



STAGE 1 CONSTRUCTION



STAGE 2 REMOVAL



STAGE 2 CONSTRUCTION

Notes:

For additional staging details, see Roadway Plans and Special Provisions.

* Temporary Concrete Barrier shall be freestanding.

** Temporary Concrete Barrier shall be anchored with tie-down straps.

DETAILS OF STAGED CONSTRUCTION

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
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Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
BR	3

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

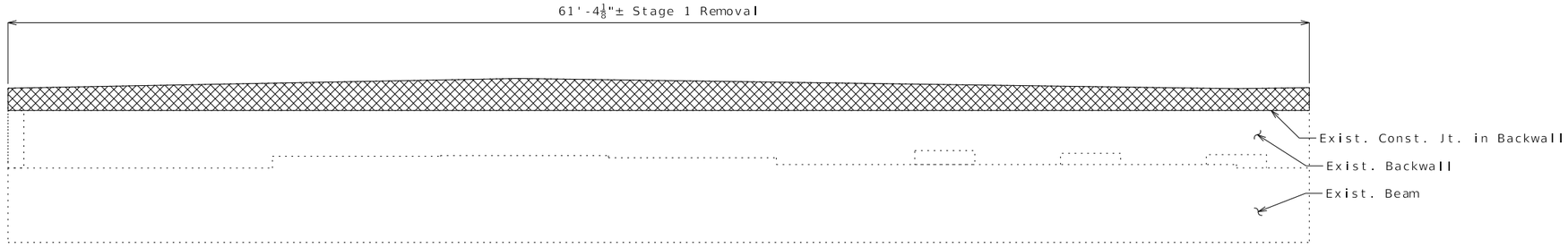
BRIDGE NO.
A28074

DESCRIPTION

REV.

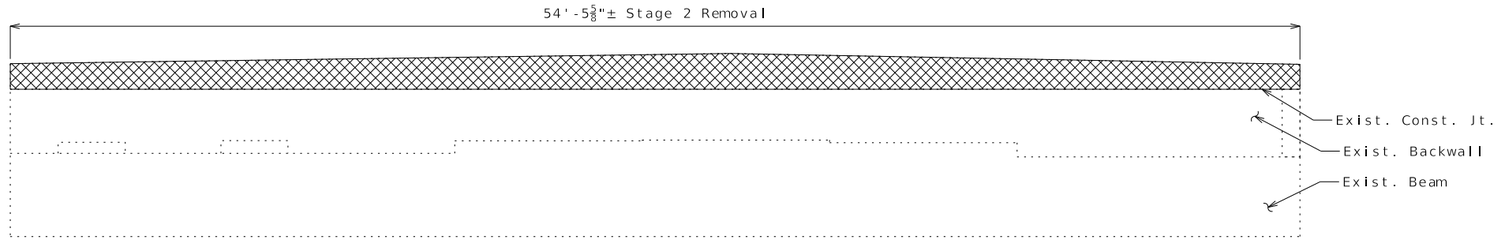
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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Missouri Certificate of Authority: 001578



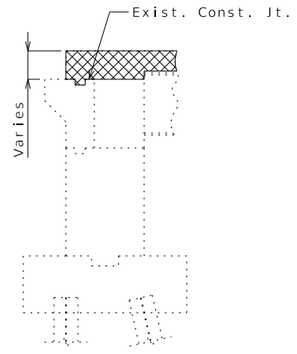
DETAILS OF CONCRETE REMOVAL AT END BENTS NO. 1 AND 4

End Bent No. 1 shown, End Bent No. 4 similar.



DETAILS OF CONCRETE REMOVAL AT END BENTS NO. 1 AND 4

End Bent No. 1 shown, End Bent No. 4 similar.



SECTION THRU END BENTS
SHOWING CONCRETE REMOVAL

Notes:

The cost of concrete removal as shown will be considered covered by the contract unit price for Removal of Existing Bridge Deck. Vertical backwall and wingwall reinforcement to be cut off one inch below concrete removal surface and the resulting holes shall be filled with a qualified special mortar.

A smooth, level surface shall be provided at Bents No. 1 & 4 removal lines.

The exposed and accessible surfaces of the existing structural steel and bearings that will be encased in concrete shall be cleaned with a minimum of SSPC-SP-3 surface preparation and coated with a minimum of one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce a dry film thickness of not less than 3 mils before concrete is poured. The surface preparation and coating for girders shall extend a minmum of one foot outside the face of the girder encasement. Payment for cleaning and coating steel to be encased in concrete will be considered completely covered by the contract unit price for Class B-2 Concrete.

DETAILS OF CONCRETE REMOVAL AT END BENTS

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
09/25/20269:08:25 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED: 9/25/2026
ROUTE: I-170 | STATE: MO
DISTRICT: BR | SHEET NO.: 4
COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A28074

DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

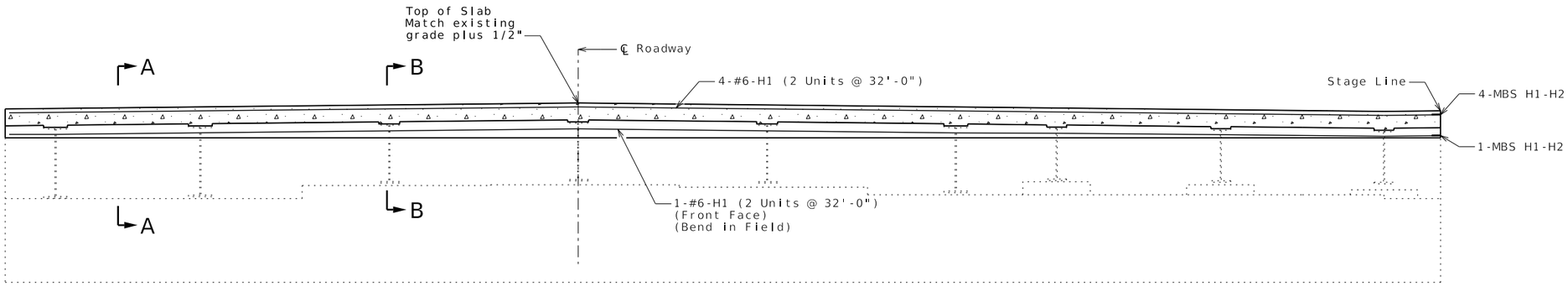
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1355 N. Highway Drive
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

REV.

Detailed Sep. 2026
Checked Sep. 2026

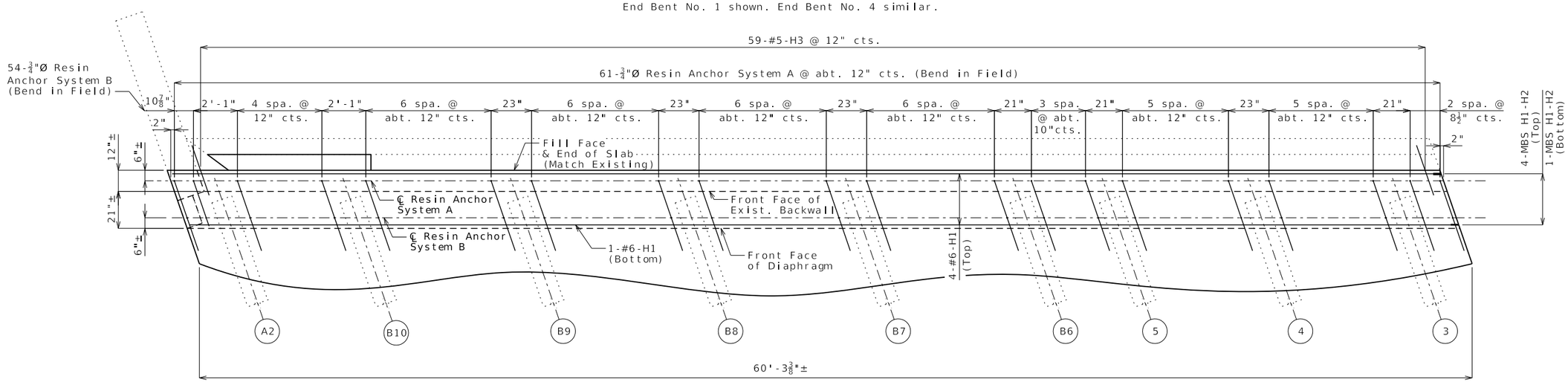
Note: This drawing is not to scale. Follow dimensions.

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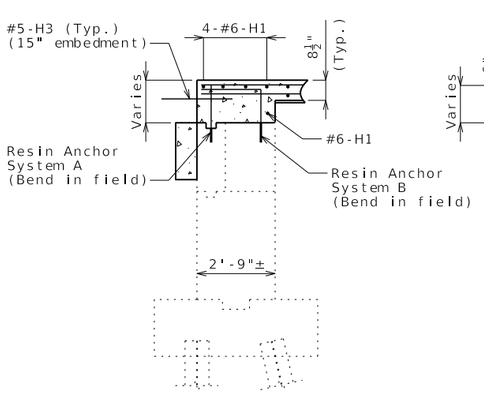
ELEVATION NEAR END BENT

End Bent No. 1 shown. End Bent No. 4 similar.

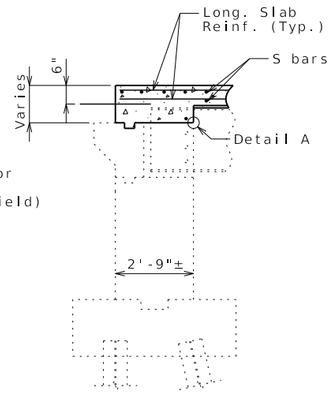


PLAN

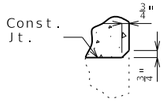
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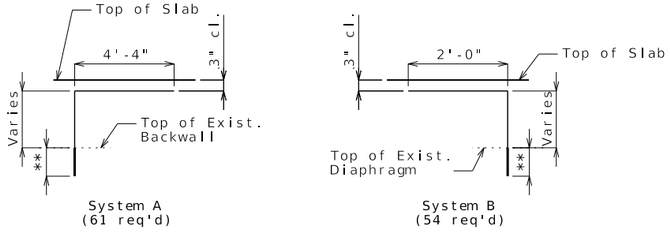
SECTION A-A



SECTION B-B



DETAIL A



DETAILS OF RESIN ANCHOR SYSTEM

** Manufacturer's recommended embedment length (5" min.)

Notes:

For details and reinforcement of Approach Notch, See Sheet No. 7.

The contractor shall use one of the qualified resin anchor system in accordance with Sec. 1039.

Cost of furnishing and installing the resin anchor system complete-in-place will be considered and completely covered by the contract unit price for Slab on Steel.

The minimum embedment depth in concrete with f'c = 4,000 psi for the Resin Anchor System shall be that required to meet the minimum ultimate pull out strength in accordance with Sec. 1039 but shall not be less than 5".

All concrete and reinforcement shown here is included in the Table of Estimated Quantities for Slab on Steel and will be considered completely covered by the contract unit price for Slab on Steel.

An epoxy coated #6 Grade 60 reinforcing bar shall be substituted for the 3/4"℄ threaded rod.

DETAILS OF END BENTS NO. 1 AND 4 (STAGE 1 CONSTRUCTION)

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
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Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	5

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

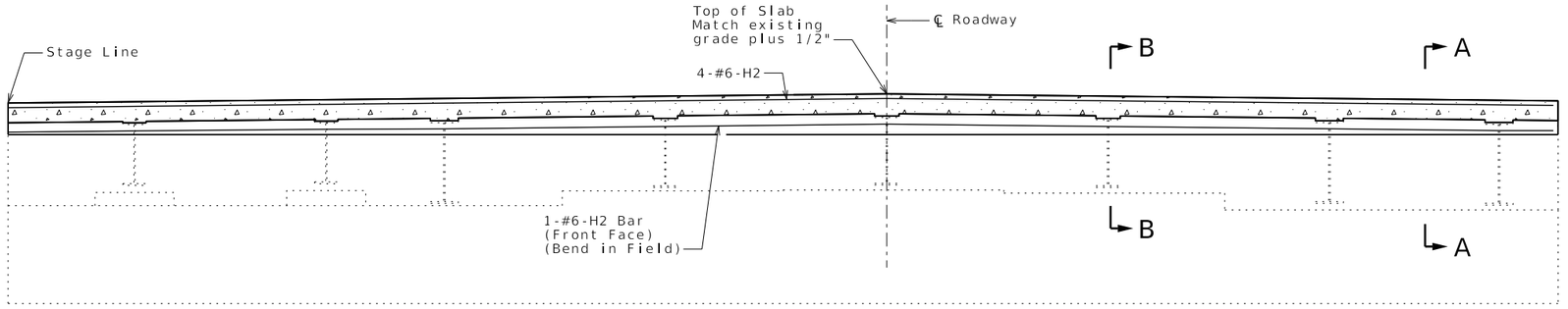
BRIDGE NO.
A28074

DESCRIPTION

REV.

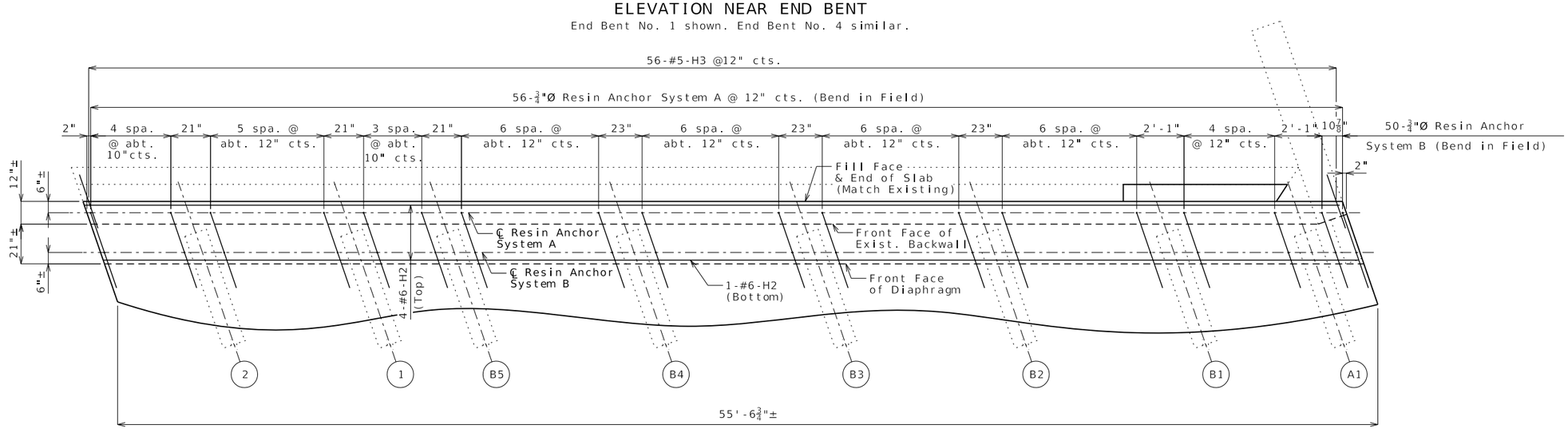
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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Civil Engineering Design
1355 N. Highway Drive
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St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



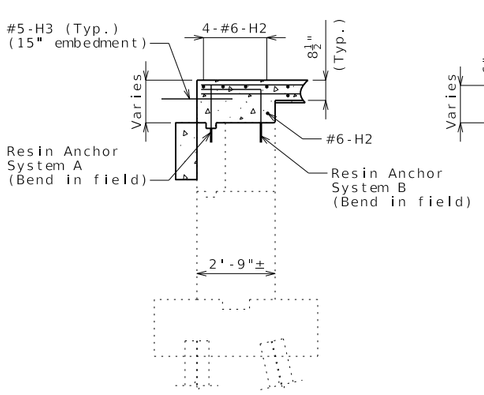
ELEVATION NEAR END BENT

End Bent No. 1 shown. End Bent No. 4 similar.

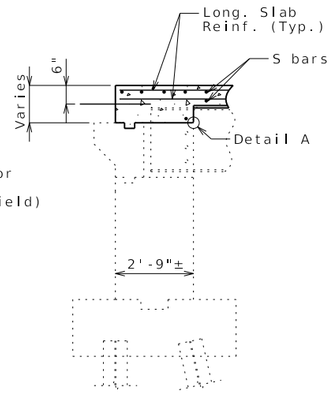


PLAN

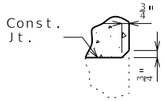
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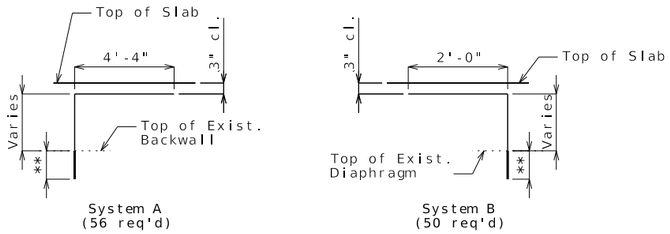
SECTION A-A



SECTION B-B



DETAIL A



DETAILS OF RESIN ANCHOR SYSTEM

** Manufacturer's recommended embedment length (5" min.)

Notes:

For details and reinforcement of Approach Notch, See Sheet No. 7.

The contractor shall use one of the qualified resin anchor system in accordance with Sec. 1039.

Cost of furnishing and installing the resin anchor system complete-in-place will be considered and completely covered by the contract unit price for Slab on Steel.

The minimum embedment depth in concrete with f'c = 4,000 psi for the Resin Anchor System shall be that required to meet the minimum ultimate pull out strength in accordance with Sec. 1039 but shall not be less than 5".

All concrete and reinforcement shown here is included in the Table of Estimated Quantities for Slab on Steel and will be considered completely covered by the contract unit price for Slab on Steel.

An epoxy coated #6 Grade 60 reinforcing bar shall be substituted for the 3/4"℄ threaded rod.

DETAILS OF END BENTS NO. 1 & 4 (STAGE 2 CONSTRUCTION)

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER

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Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	6

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

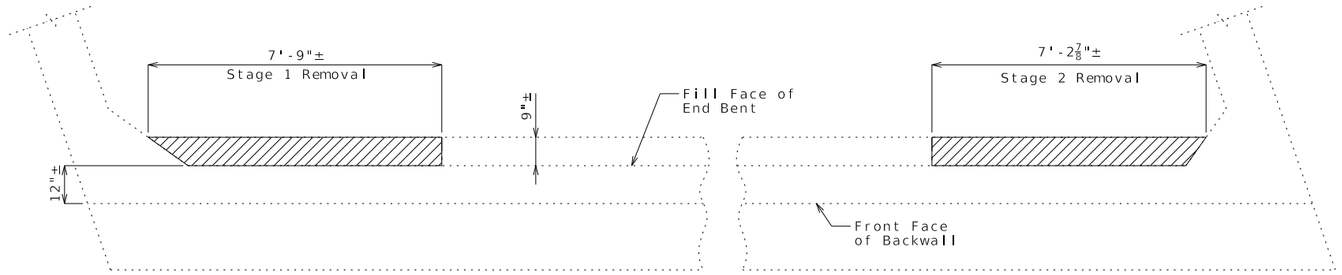
BRIDGE NO.
A28074

DESCRIPTION

REV.

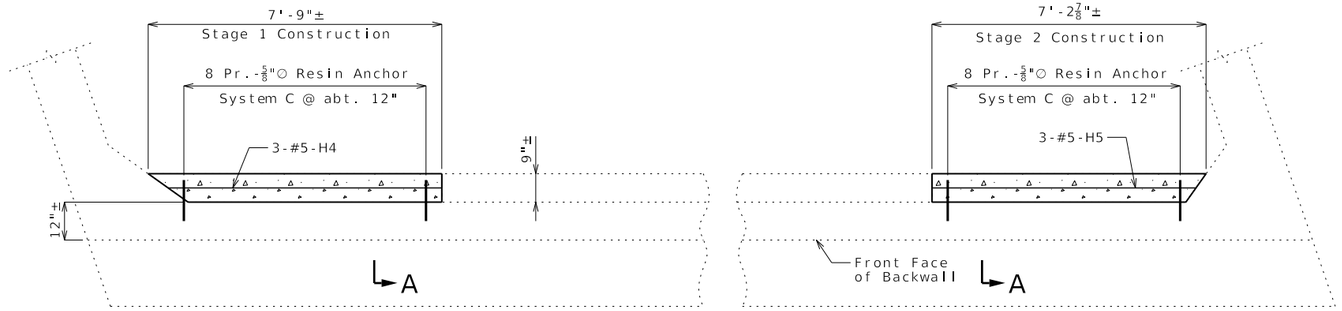
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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Civil Engineering Design
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Missouri Certificate of Authority: 001578



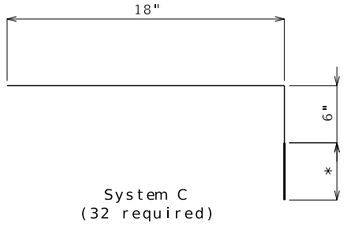
PARTIAL PLAN OF END BENTS SHOWING
EXISTING APPROACH NOTCH REMOVAL

A (End Bent No. 1 shown, End Bent No. 4 Rotated 180°) A



PARTIAL PLAN OF END BENTS
SHOWING NEW APPROACH NOTCH

(End Bent No. 1 shown, End Bent No. 4 Rotated 180°)



System C
(32 required)

DETAILS OF RESIN
ANCHOR SYSTEM C

* Manufacturer's recommended embedment length (5" min.)

Notes:

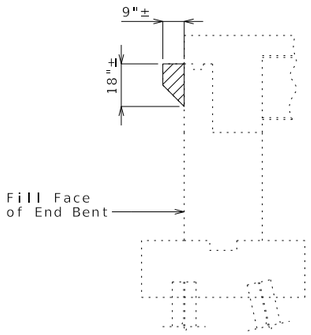
Approach notch concrete shall be class B-2 Concrete

The contractor shall use one of the qualified resin anchor system in accordance with Sec 1039.

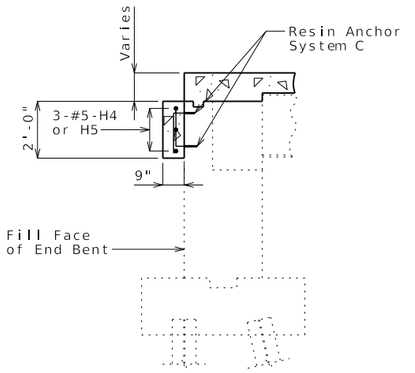
The minimum embedment depth in concrete with a f'c= 4,000 psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

An epoxy coated #5 Grade 60 reinforcing bar shall be substituted for the 5/8"∅ threaded rod.

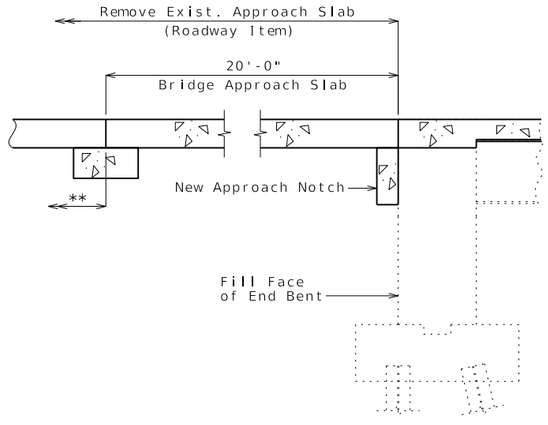
Cost of furnishing and installing the resin anchor systems complete in place will be considered completely covered by the contract unit price for Class B-2 Concrete



SECTION THRU END BENTS SHOWING
EXISTING NOTCH REMOVAL



SECTION A-A



TYPICAL SECTION THRU END BENTS

** See Roadway Plans for pavement beyond limits of new Bridge Approach Slab

BRIDGE APPROACH NOTCH DETAILS

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER

Alex C. Benz
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DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
BR	7

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

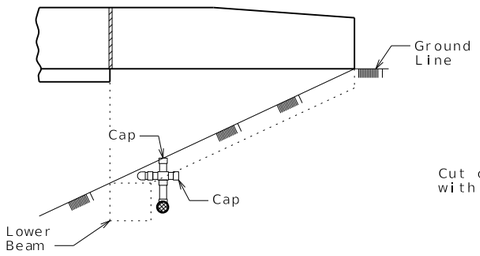
BRIDGE NO.
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DESCRIPTION

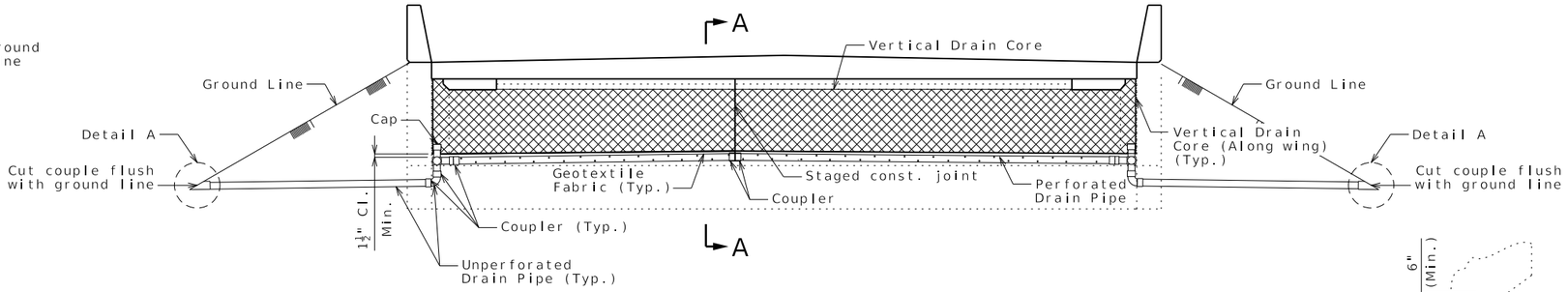
REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

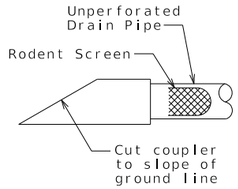
EFK•Moen
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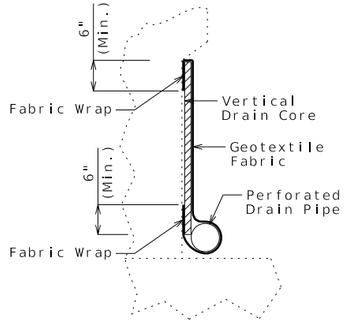
ELEVATION OF WING



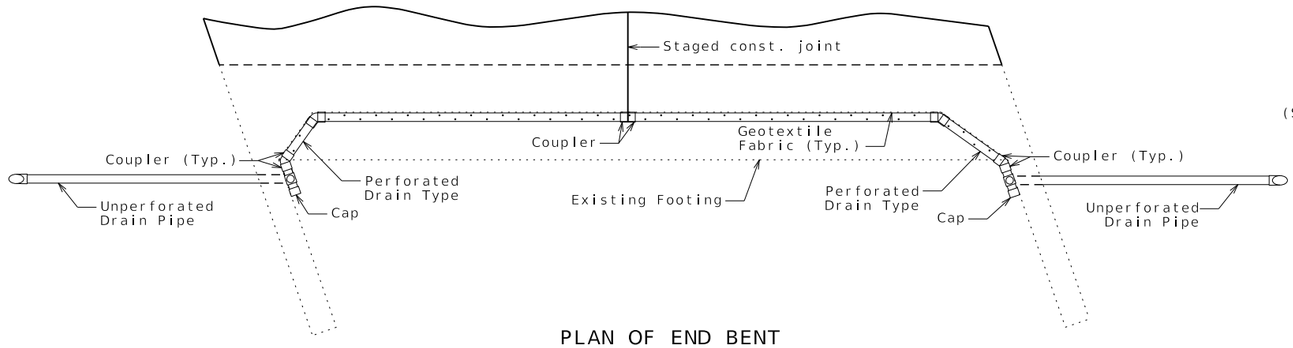
ELEVATION OF END BENT



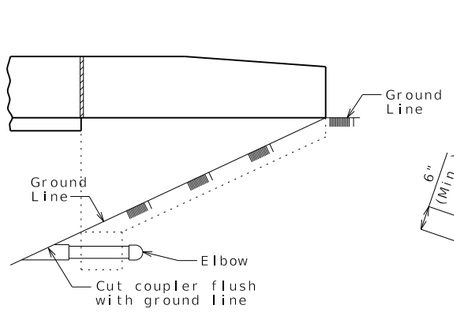
DETAIL A



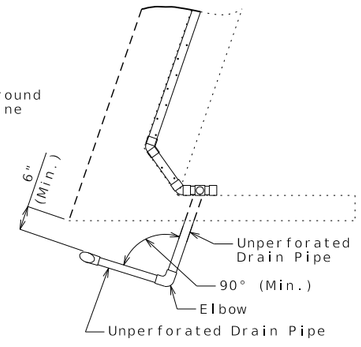
PART SECTION A-A
(Section thru wing similar)



PLAN OF END BENT



ELEVATION OF WING



PART PLAN

OPTIONAL TURNED DRAIN
(Use only when straight drain is not practical.)

General Notes:

All drain pipe shall be sloped 1 to 2 percent.

Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.

Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.

VERTICAL DRAIN AT END BENTS

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 8 of 25

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
09/23/20267:21:25 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	8

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

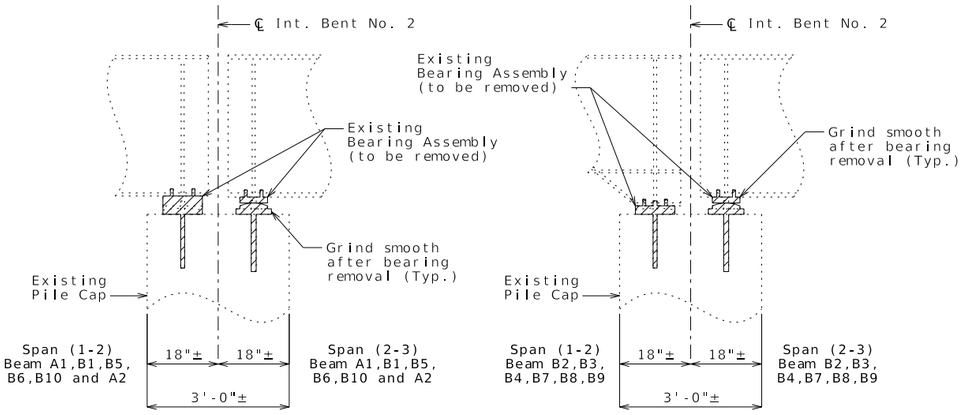
BRIDGE NO.
A28074

DESCRIPTION

REV.

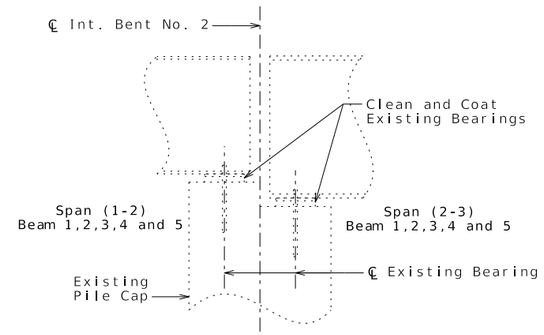
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 N. Highway Drive
Suite 200 MO 63026
St. Louis, MO
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



DETAILS OF BEARING ASSEMBLY REMOVAL AT INT. BENTS NO. 2 & 3

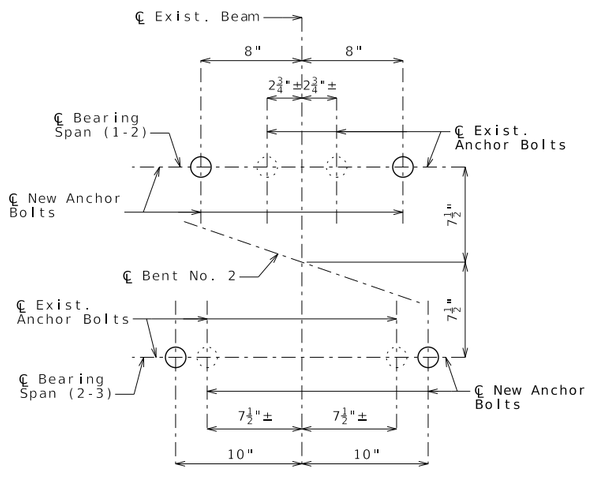
Note: Intermediate Bent No. 2 shown, Intermediate Bent No. 3 similar, but opposite.
Bearing 1-5 at Intermediate Bents No. 2 and 3 are to be used in place.



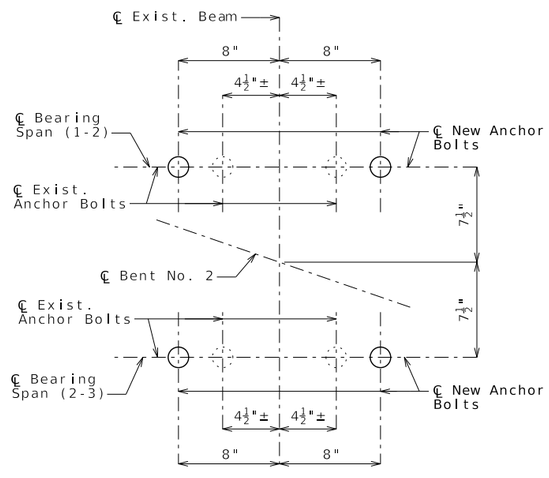
PART SECTION THRU BENT SHOWING CLEANING AND COATING EXISTING BEARINGS AT INTERMEDIATE BENTS NO. 2 & 3

Note: Intermediate Bent No. 2 shown, Intermediate Bent No. 3 similar, but opposite.

JACKING LOADS			
BEAM NO.	LOAD (KIPS)		
	Span 1	Span 2	Span 3
A1,A2	2.1	7.4	1.8
B1,B5 B6,B10	2.1	5.6	1.8
B2,B3,B4 B7,B8,B9	1.5	5.6	1.3



Beam B1-B10



Beam A1 & A2

PART PLANS OF EXISTING INT. BENT NO. 2 SHOWING ANCHOR BOLT LAYOUT

Note: Intermediate Bent No. 2 shown, Intermediate Bent No. 3 similar, but opposite

GENERAL NOTES:

Existing anchor bolts shall be removed to 1" below concrete surface and the resultant hole shall be filled with qualified mortar, or removed completely if required. If complete removal is required, existing anchor bolts and surrounding concrete within existing anchor bolt wells shall be cored, removed and replaced with the new anchor rods shown.

The temporary support shall be capable of safely supporting the service dead load per girder. Factor of safety, live load, and construction are not included in these loads. Dead load only includes the structural steel.

BEARING PAD DETAILS

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

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NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
09/23/20267:21:25 AM
Alex Benz - Civil
MO PE-2018003121

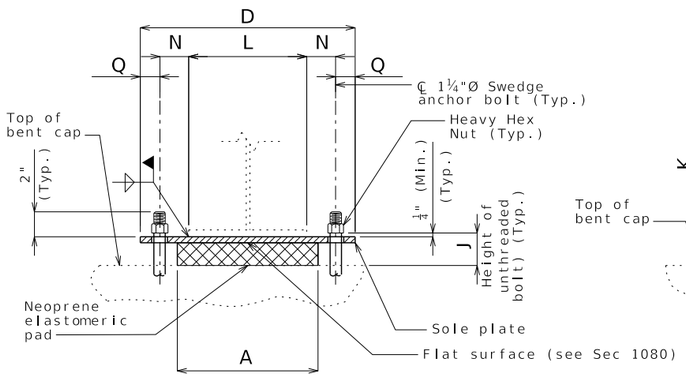
DATE PREPARED 9/22/2026
ROUTE I-170 | STATE MO
DISTRICT BR | SHEET NO. 9
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A28074

DESCRIPTION

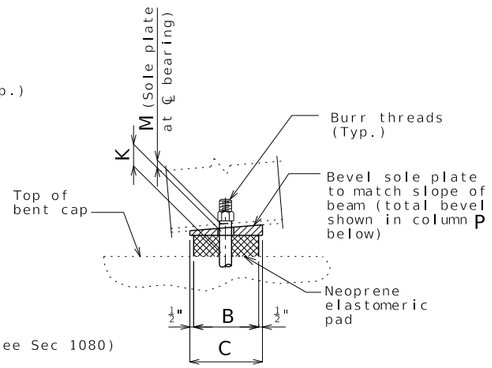
REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

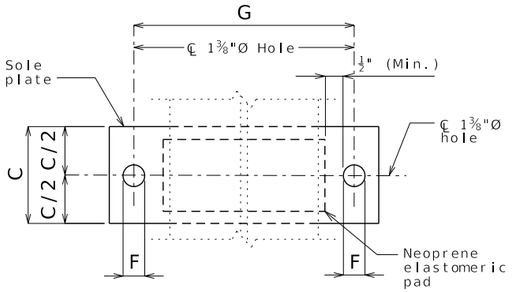
EFK•Moen
Civil Engineering Design
1355 N. Highway Drive
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



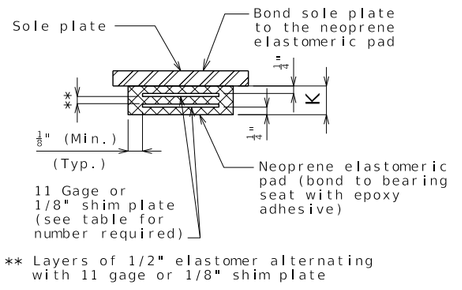
END VIEW



SIDE VIEW

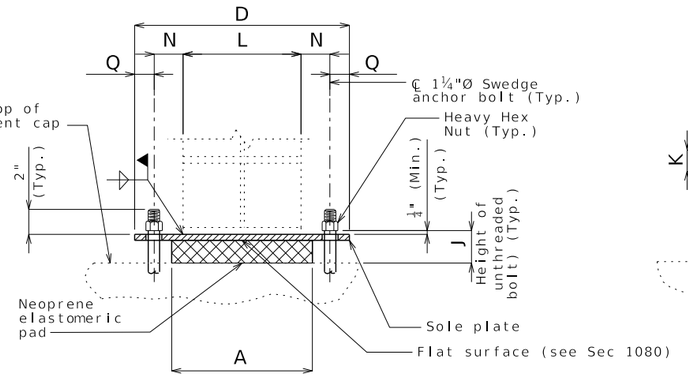


PART PLAN

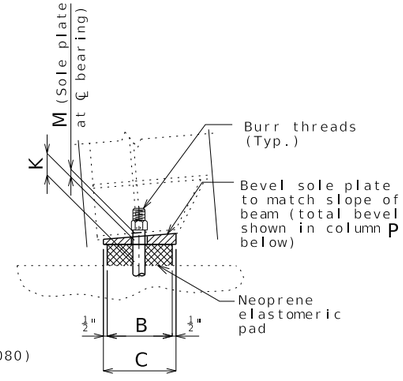


** Layers of 1/2" elastomer alternating with 11 gage or 1/8" shim plate

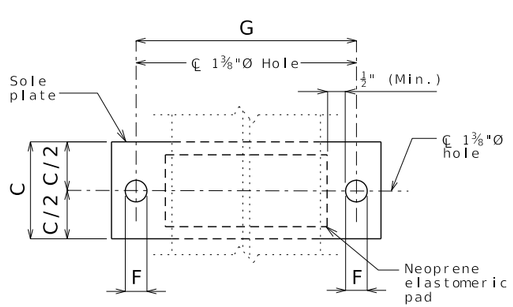
NEOPRENE ELASTOMERIC PAD



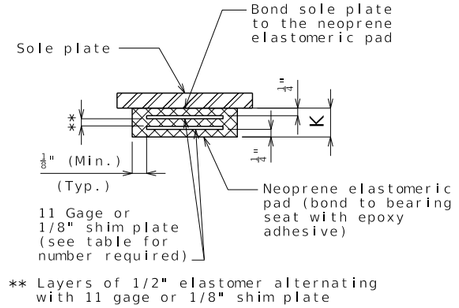
END VIEW



SIDE VIEW



PART PLAN



** Layers of 1/2" elastomer alternating with 11 gage or 1/8" shim plate

NEOPRENE ELASTOMERIC PAD

FIXED BEARINGS

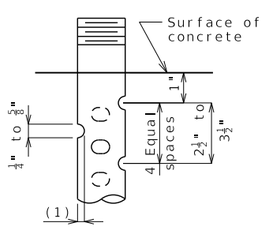
BENT NO.	BEAM NO.	A	B	C	D	F	G	J	K	L	M	N	P	Q	NUMBER OF SHIM PLATES *	NUMBER REQUIRED
2	Span (1-2) A1, A2	12½"	9	10	20½"	1⅜"	16"	3¼"	1⅞"	12"	1⅛"	2"	¼"	2¼"	3	2
2	Span (1-2) B1, B5, B6 & B10	12½"	9	10	20½"	1⅜"	16"	5¼"	3⅜"	12"	1¾"	2"	¼"	2¼"	5	4
3	Span (2-3) A1, A2	12½"	9	10	20½"	1⅜"	16"	3¼"	1⅞"	12"	1⅛"	2"	¼"	2¼"	3	2
3	Span (2-3) B1-B10	12½"	9	10	20½"	1⅜"	16"	3⅞"	1⅞"	12"	1¾"	2"	¼"	2¼"	3	10
															TOTAL BEARINGS	18

* The required shim plate shall be placed between layers of elastomer and molded together to form an integral unit.

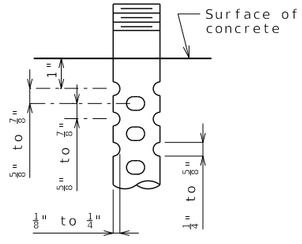
FIXED BEARINGS

BENT NO.	BEAM NO.	A	B	C	D	F	G	J	K	L	M	N	P	Q	NUMBER OF SHIM PLATES *	NUMBER REQUIRED
2	Span (1-2) B2-B4, B7-B9	12½"	9	10	20½"	1⅜"	16"	2⅝"	1¼"	10½"	1⅛"	2"	¼"	2¼"	2	6
															TOTAL BEARINGS	6

* The required shim plate shall be placed between layers of elastomer and molded together to form an integral unit.



DETAIL OF 3/4"Ø THRU 2 1/2"Ø ANCHOR BOLTS



OPTIONAL DETAIL OF 1 3/8"Ø THRU 2 1/2"Ø ANCHOR BOLTS

SWEDGE ANCHOR BOLT DETAILS

(1) ⅛" for ¾"Ø thru 1¼"Ø anchor bolts
⅜" to ¼" for 1⅜"Ø thru 2½"Ø anchor bolts

GENERAL NOTES:

For bearings not shown, see Sheet No. 11.

Anchor bolts shall be 1 1/4"Ø ASTM F1554 Grade 55 swedged bolts and shall extend 12" into the concrete with ASTM A563 Grade A Heavy Hex nuts. Actual manufacturer's certified mill test reports (chemical and mechanical) shall be provided. Swedging shall be 1" less than extension into the concrete.

Anchor bolts and heavy hex nuts shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.

Neoprene Elastomeric Pads shall be 60 Durometer.

Structural steel for sole plate shall be ASTM A709 Grade 36 and shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum.

Laminated Neoprene Bearing Pad Assembly shall be in accordance with Sec 716.

Payment for drilling and grouting anchor bolts will be considered completely covered by the contract unit price for Laminated Neoprene Bearing Pad Assembly.

LAMINATED NEOPRENE BEARING PAD ASSEMBLY

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
09/23/20267:21:25 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED 9/22/2026

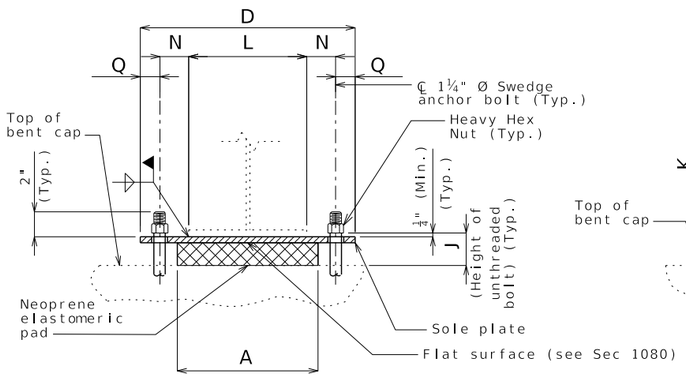
ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	10

COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A28074

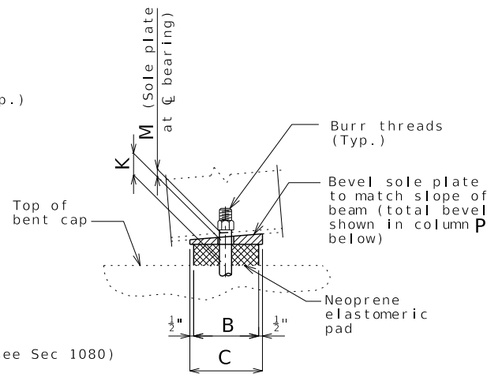
DESCRIPTION
REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

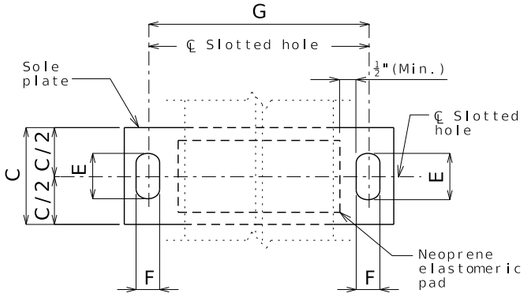
EFK•Moen
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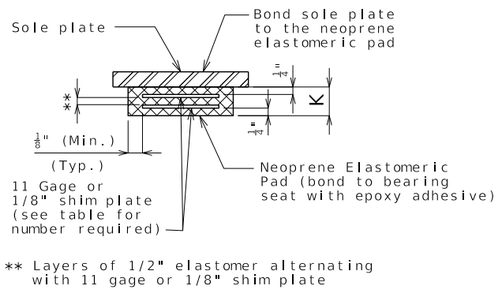
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SIDE VIEW

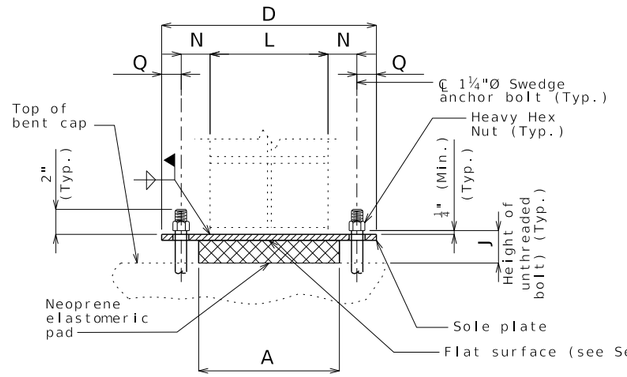


PART PLAN

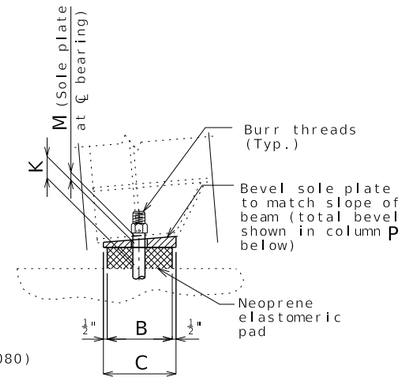


** Layers of 1/2" elastomer alternating with 11 gage or 1/8" shim plate

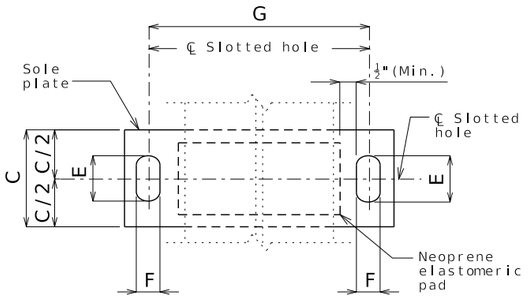
NEOPRENE ELASTOMERIC PAD



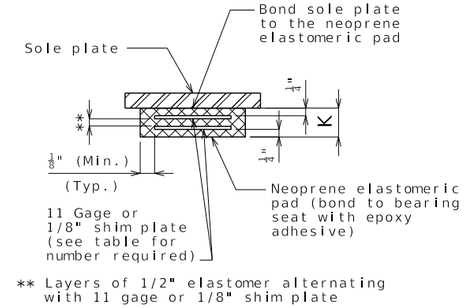
END VIEW



SIDE VIEW



PART PLAN



** Layers of 1/2" elastomer alternating with 11 gage or 1/8" shim plate

NEOPRENE ELASTOMERIC PAD

EXPANSION BEARINGS

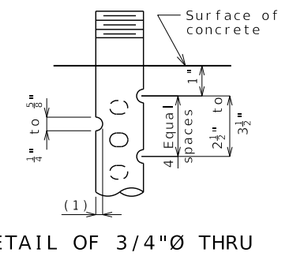
BENT NO.	BEAM NO.	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	R	NUMBER OF SHIM PLATES *	NUMBER REQUIRED
2	Span (2-3) A1, A2	12½"	9	10	20½"	¾"	1⅜"	16"	3¼"	1⅞"	12½"	1⅛"	2"	¼"	2¼"	1/16"	3	2
2	Span (2-3) B1-B10	12½"	9	10	20½"	¾"	1⅜"	20"	4⅜"	2½"	12"	1⅝"	2"	¼"	2¼"	1/16"	4	10
3	Span (3-4) A1, A2	12½"	9	10	20½"	3"	1⅜"	16"	3¼"	1⅞"	12"	1⅛"	2"	¼"	2¼"	1/16"	3	2
3	Span (3-4) B1, B5, B6 & B10	12½"	9	10	20½"	3"	1⅜"	16"	4"	2½"	12"	1¼"	2"	¼"	2¼"	1/16"	4	4
																	TOTAL BEARINGS	18

* The required shim plate shall be placed between layers of elastomer and molded together to form an integral unit.

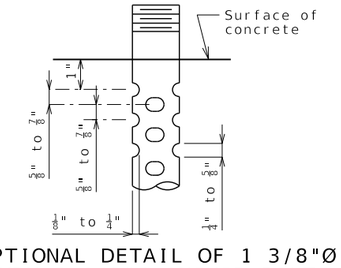
EXPANSION BEARINGS

BENT NO.	BEAM NO.	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	R	NUMBER OF SHIM PLATES *	NUMBER REQUIRED
3	Span (3-4) B2-B4, B7-B9	12½"	9	10	20½"	3"	1⅜"	16"	2⅝"	1¼"	10½"	1⅛"	2"	¼"	2¼"	1/16"	2	6
																	TOTAL BEARINGS	6

* The required shim plate shall be placed between layers of elastomer and molded together to form an integral unit.



DETAIL OF 3/4"Ø THRU 2 1/2"Ø ANCHOR BOLTS



OPTIONAL DETAIL OF 1 3/8"Ø THRU 2 1/2"Ø ANCHOR BOLTS

SWEDGE ANCHOR BOLT DETAILS

(1) ⅜" for ¾"Ø thru 1¼"Ø anchor bolts
⅛" to ¼" for 1⅜"Ø thru 2½"Ø anchor bolts

GENERAL NOTES:

For bearings not shown, see Sheet No. 10.

Anchor bolts shall be 1 1/4"Ø ASTM F1554 Grade 55 swedged bolts and shall extend 12" into the concrete with ASTM A563 Grade A Heavy Hex nuts. Actual manufacturer's certified mill test reports (chemical and mechanical) shall be provided. Swedging shall be 1" less than extension into the concrete.

Anchor bolts and heavy hex nuts shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.

Neoprene Elastomeric Pads shall be 60 Durometer.

Structural steel for sole plate shall be ASTM A709 Grade 36 and shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum.

Laminated Neoprene Bearing Pad Assembly shall be in accordance with Sec 716.

Payment for drilling and grouting anchor bolts will be considered completely covered by the contract unit price for Laminated Neoprene Bearing Pad Assembly.

LAMINATED NEOPRENE BEARING PAD ASSEMBLY

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
ALEX BENZ
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PROFESSIONAL ENGINEER
Alex C. Benz
09/23/20267:21:25 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED 9/22/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	11

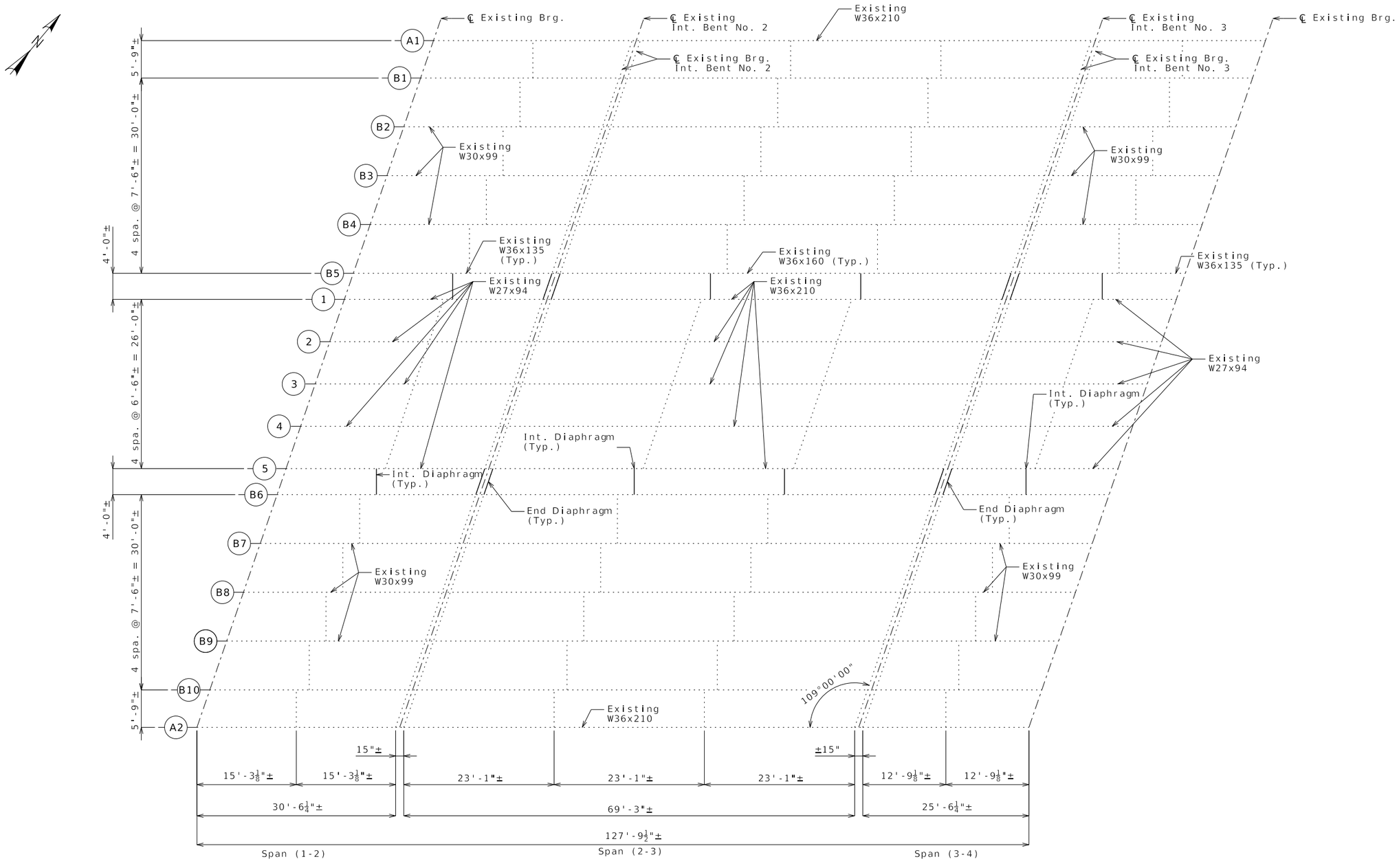
COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A28074

DESCRIPTION

REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 N. Highway Drive
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



PLAN

FRAMING PLAN

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 12 of 25

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
09/23/20267:21:25 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
BR	12

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

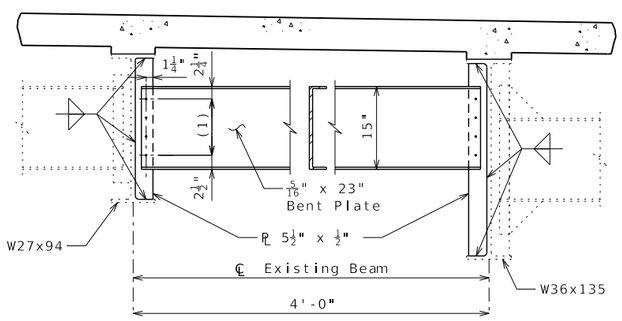
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A28074

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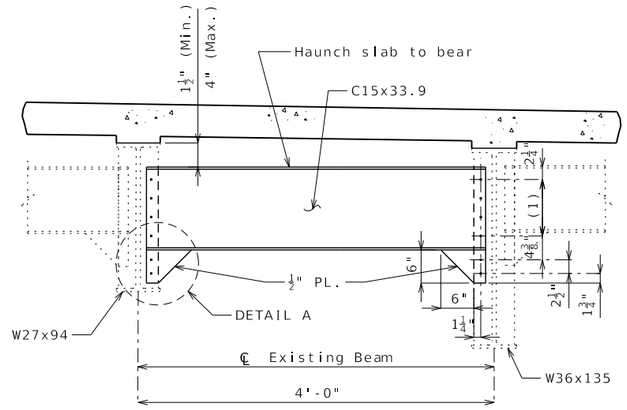
REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 N. Highway Drive
Suite 200
St Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

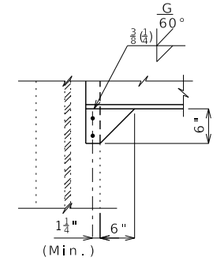


TYPICAL PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS
Span (1-2) & (3-4)

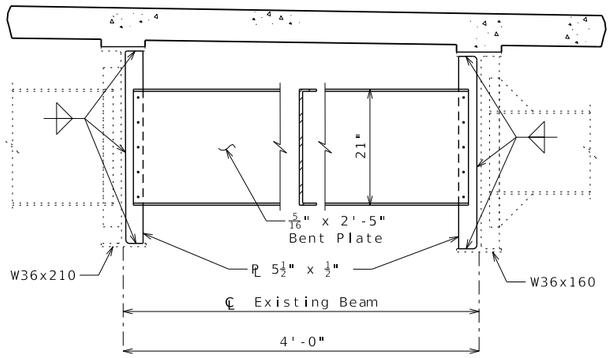


TYPICAL PART SECTION SHOWING
END DIAPHRAGMS
Span (1-2) & (3-4)

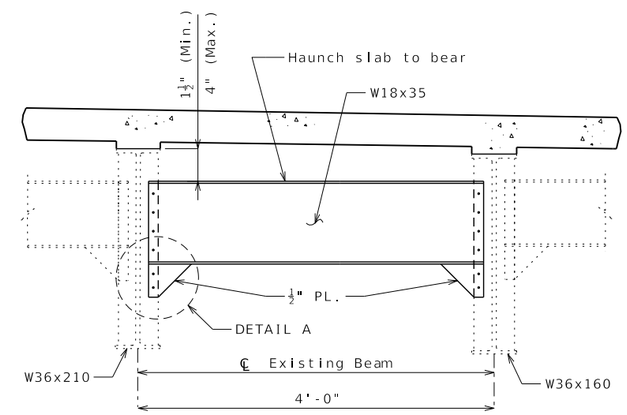
(1) 4-13/16"Ø Holes
(Equally Spaced)



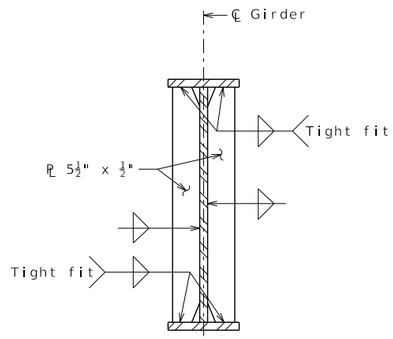
DETAIL A



TYPICAL PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS
Span (2-3)



TYPICAL PART SECTION SHOWING
END DIAPHRAGMS
Span (2-3)



INTERMEDIATE DIAPHRAGM
CONNECTION PLATE

WELDING DETAILS

Notes:

Cost of furnishing and installing intermediate diaphragms to existing girders, complete in place, shall be considered completely covered by the contract unit price for Fabricated Structural Carbon Steel.

Structural steel for diaphragms, including all welded connection plates, shall be ASTM A709, Grade 50, except as noted. Bolts shall be ASTM A325, Type 1, except as noted.

STEEL DIAPHRAGMS

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER

Alex C. Benz
09/23/20267:21:26 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	13

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

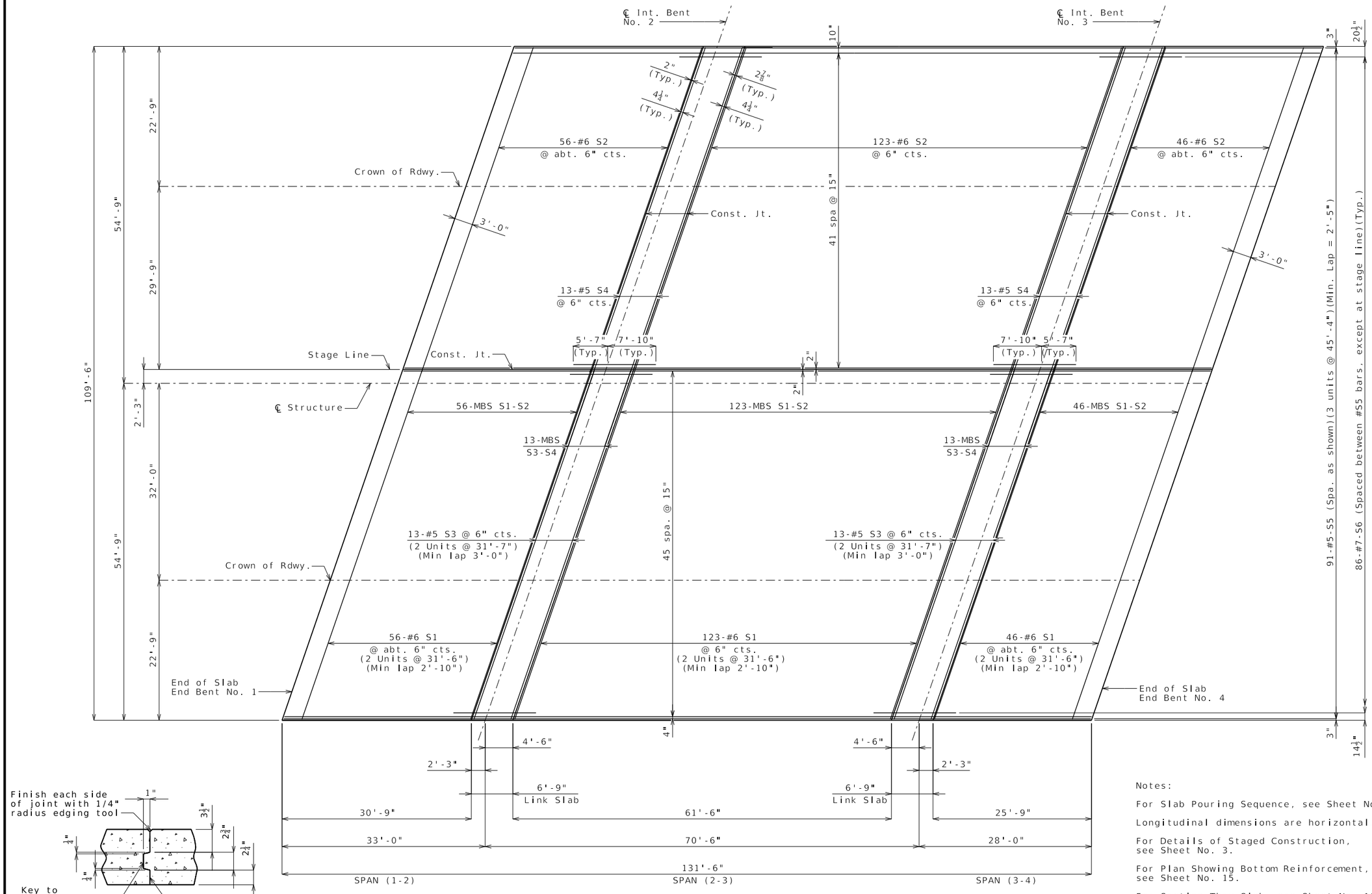
BRIDGE NO.
A28074

DESCRIPTION

REV.

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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SLAB CONSTRUCTION JOINT

PLAN OF SLAB SHOWING TOP REINFORCEMENT

Notes:

For Slab Pouring Sequence, see Sheet No. 2.

Longitudinal dimensions are horizontal.

For Details of Staged Construction, see Sheet No. 3.

For Plan Showing Bottom Reinforcement, see Sheet No. 15.

For Section Thru Slab, see Sheet No. 16.

For Details of Link Slab, see Sheet No. 17.

For details of Type D Barrier and Type C Median, see Sheets No. 19 thru 22.

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

0:\2022R3\MoDOT_ORD_v10.12.02.04\22038.40 I-170 PMC J6I3572 Bridge Redecks\DGN\Bridge\Final\Plotsheets\A2807\B_A28074_014_J6I3572_Slab Top Reinforcement.dgn 3:17:09 PM 9/22/2026

STATE OF MISSOURI
ALEX BENZ
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PROFESSIONAL ENGINEER

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DATE PREPARED
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ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	14

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

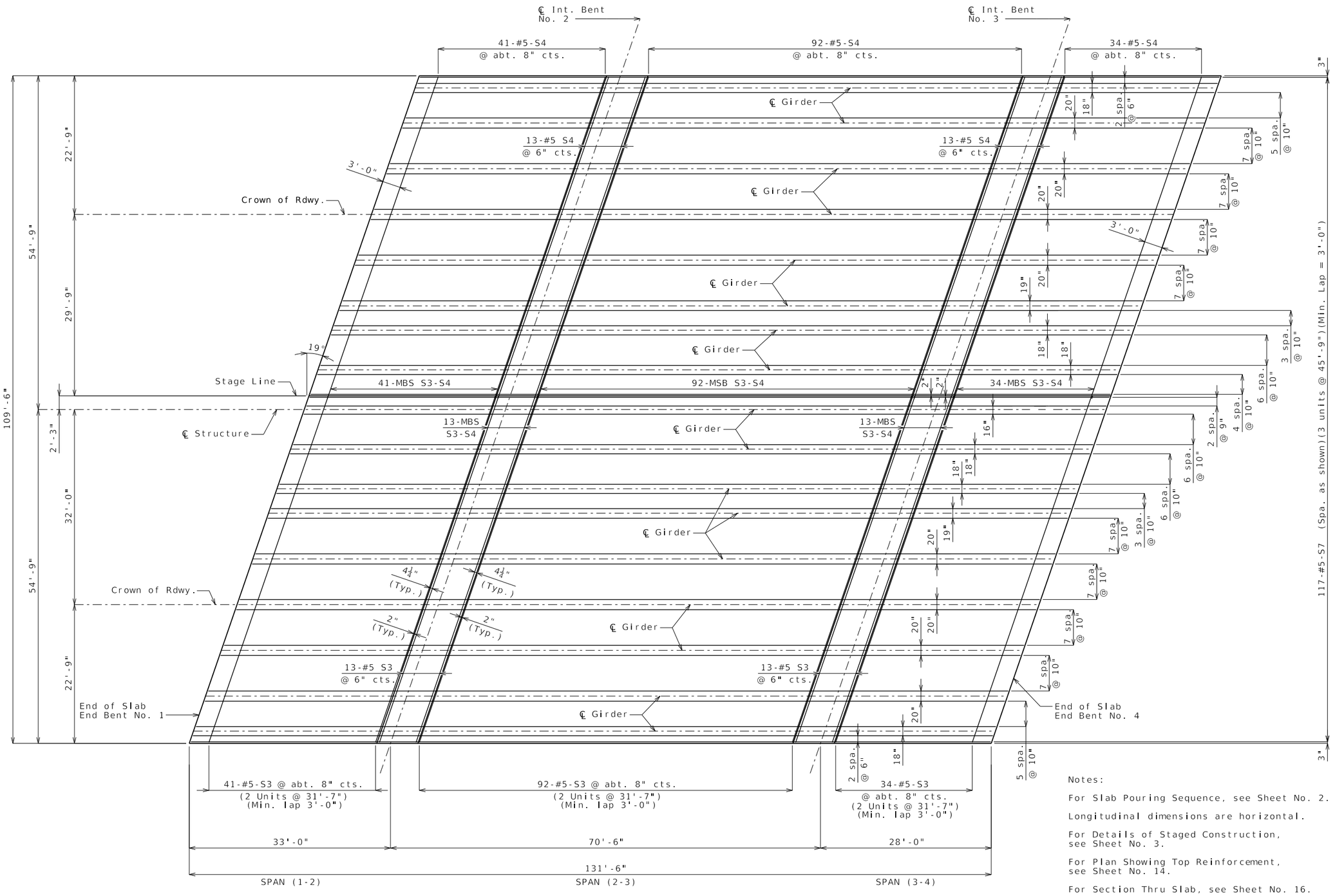
BRIDGE NO.
A28074

DESCRIPTION

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PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT

Notes:

For Slab Pouring Sequence, see Sheet No. 2.

Longitudinal dimensions are horizontal.

For Details of Staged Construction, see Sheet No. 3.

For Plan Showing Top Reinforcement, see Sheet No. 14.

For Section Thru Slab, see Sheet No. 16.

For Details of Link Slab, see Sheet No. 17.

For details of Type D Barrier and Type C Median, see Sheets No. 19 thru 22.

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

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ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	15

COUNTY ST. LOUIS

JOB NO. J6I3572

CONTRACT ID.

PROJECT NO.

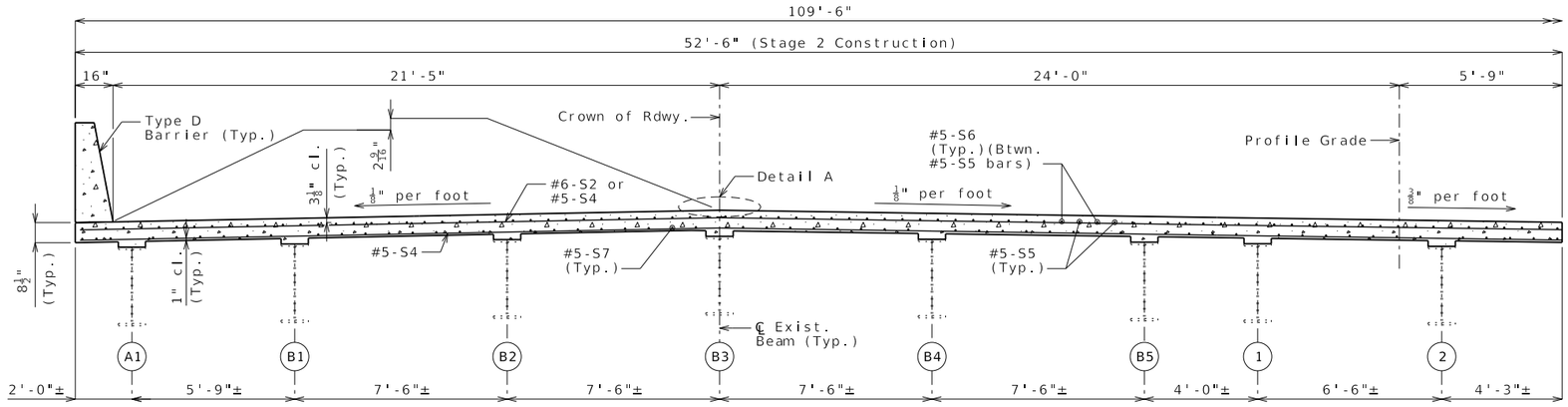
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DESCRIPTION

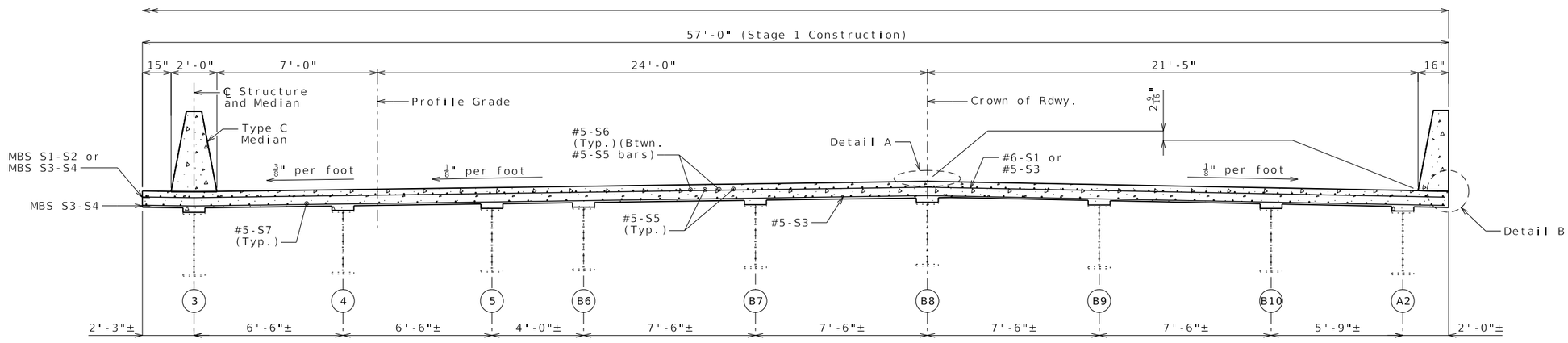
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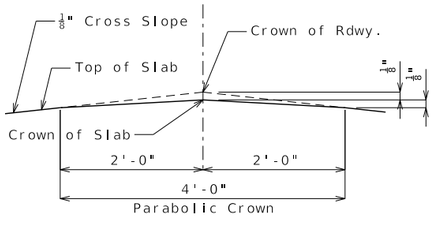


HALF SECTION NEAR MID SPAN

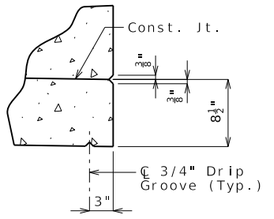


HALF SECTION NEAR INTERMEDIATE BENT

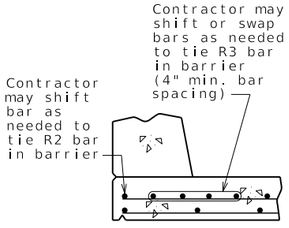
SECTION THRU SLAB SHOWING REINFORCEMENT



DETAIL A



DETAIL B



OPTIONAL SHIFTING TOP BARS AT BARRIER

Notes:

For details of staged construction, see Sheet No. 3.

For plan of Slab showing Top Reinforcement, see Sheet No. 16.

For plan of Slab showing Bottom Reinforcement, See Sheet No. 17.

For details of Link Slab, see Sheet No. 19.

For details and reinforcement of Type D barrer and Type C Median not shown, see Sheets No. 21 thru 24.

SLAB DETAILS

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

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DATE PREPARED
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ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	16

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

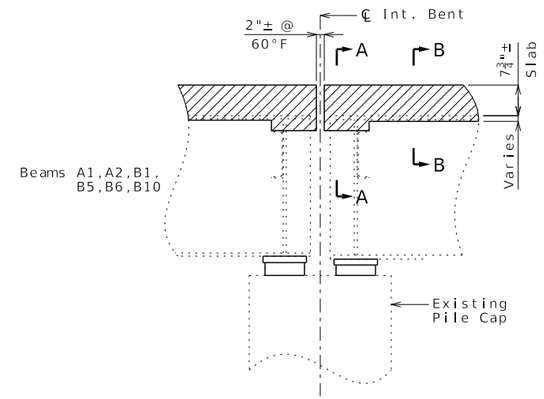
BRIDGE NO.
A28074

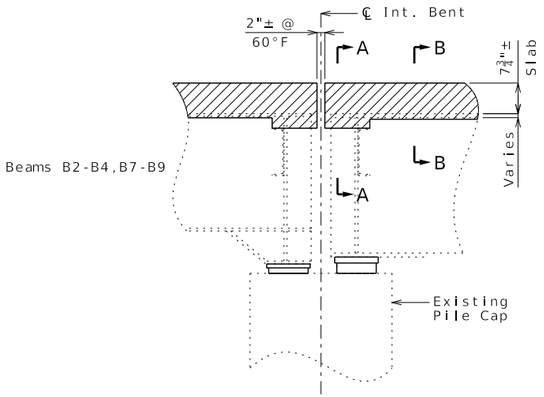
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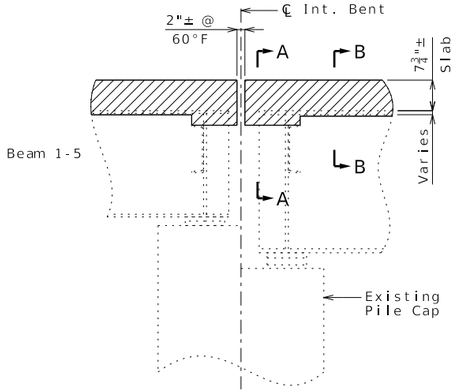
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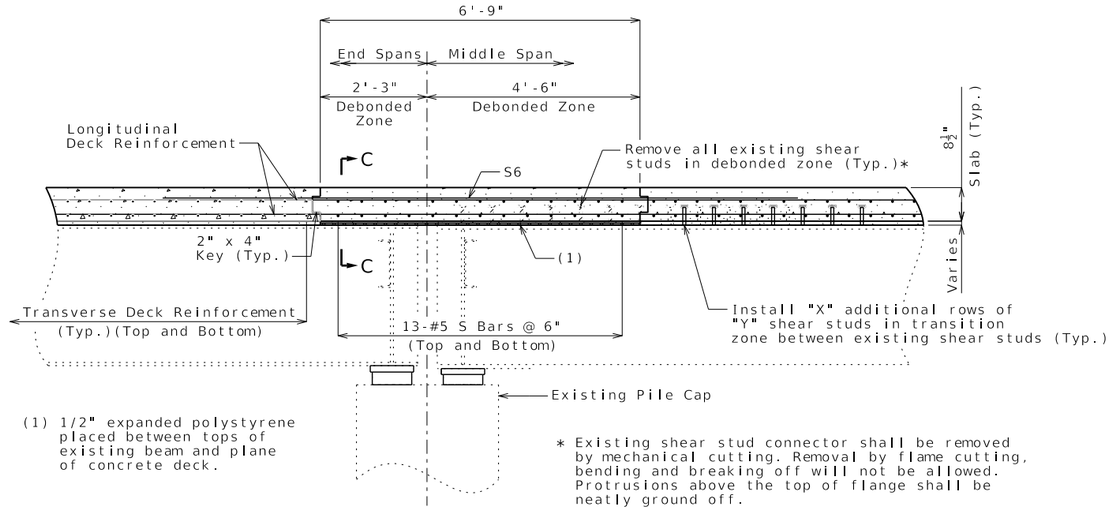






SECTION THRU DECK AT INTERMEDIATE BENTS SHOWING CONCRETE REMOVAL

(Elevation at Intermediate No.2 shown, Intermediate Bent No. 3 similar but opposite)



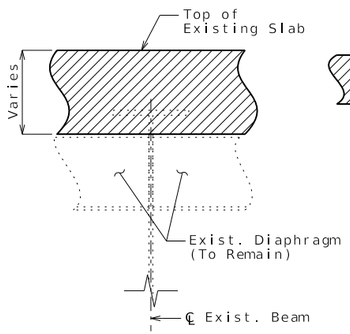
(1) 1/2" expanded polystyrene placed between tops of existing beam and plane of concrete deck.

* Existing shear stud connector shall be removed by mechanical cutting. Removal by flame cutting, bending and breaking off will not be allowed. Protrusions above the top of flange shall be neatly ground off.

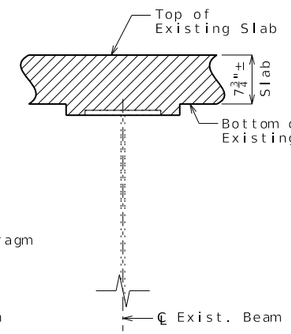
SECTION THRU DECK AT INTERMEDIATE BENTS SHOWING LINK SLAB DETAILS

(Elevation at Intermediate Bent No. 2 shown, Intermediate Bent No. 3 similar but opposite

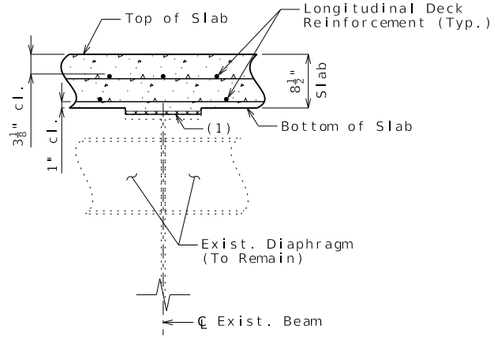
Shear Stud Removal and Replacement			
Beam Number	Span (2-3)		
	"X"	"Y"	Size
A1 & A2	5	3	5"x¾"Ø
B1-B10	7	3	5"x⅜"Ø
1-5	5	3	5"x¾"Ø



SECTION A-A



SECTION B-B



SECTION C-C

Notes:

The cost of all fibers, concrete, reinforcement, 1/2" expanded polystyrene and any other incidental material or labor to complete link slabs, complete in place, shall be considered completely coverted by the contract unit price for Steel Fiber Reinforced Concrete.

Use steel fiber reinforced concrete for link slab.

Removal and replacement of existing shear studs to be considered completely covered by the contract unit price of Removal of Existing Bridge Deck.

Shear connectors shall be in accordance with Section 712,1037 and 1080.

For details of Link Slab not shown, see Sheets No. 14 and 15.

For details of barriers on Link Slab, see Sheets No. 19, 20 and 22.

DETAILS OF LINK SLAB

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 17 of 25

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
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Alex Benz - Civil
MO PE-2018003121

DATE PREPARED 9/22/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	17

COUNTY: ST. LOUIS

JOB NO.: J6I3572

CONTRACT ID.:

PROJECT NO.:

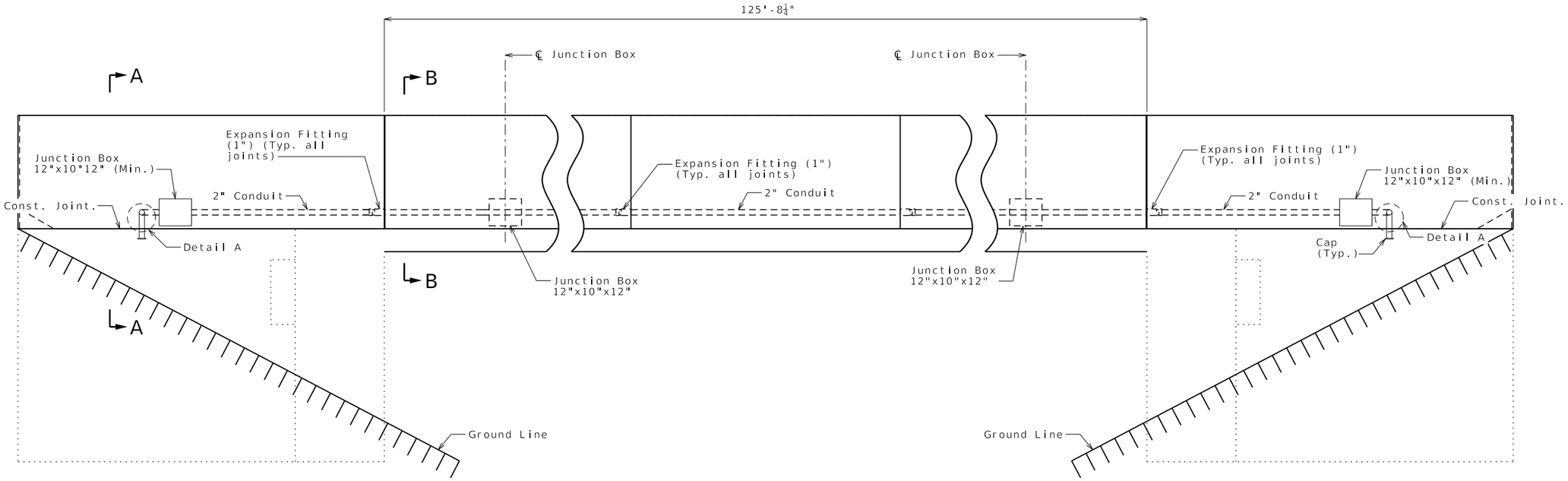
BRIDGE NO.: A28074

DESCRIPTION

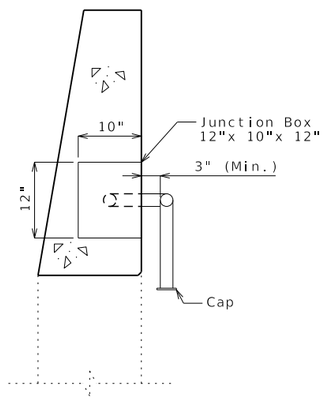
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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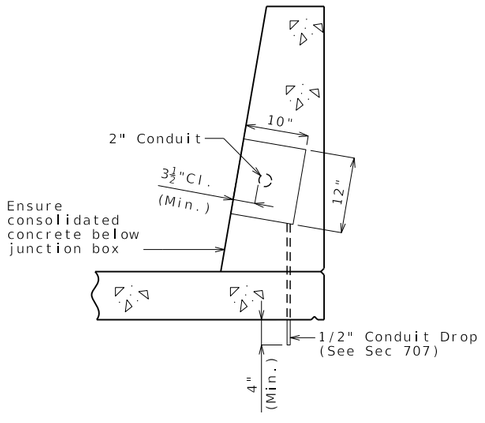
REV.



PART ELEVATION OF JUNCTION BOX IN BARRIER AND WINGWALLS
(Right Barrier shown, Left Barrier similar)



PART SECTION A-A



PART SECTION B-B

Notes:

All conduit shall be rigid non-metallic Schedule 40 heavy wall PVC (polyvinyl chloride plastic with 3 1/2-inch minimum cover in barrier and 4 1/2-inch minimum cover in abutment wing. Each section of conduit shall bear the Underwriters' Laboratories, Inc., (UL) label.

Shift reinforcing steel in field where necessary to clear conduit and junction boxes.

Expansion fittings shall be placed as shown and set in accordance with the manufacturer's requirements and based on the air temperature at the time of setting given an estimated total expansion movement of 1 inch at filled joints using a maximum temperature range of 150°F and a maximum temperature of 120°F.

Placement of junction boxes and covers, complete in place, shall be flush with the roadway face of the barrier. Junction boxes and covers may be recessed up to 1/4".

Drainage shall be provided at low points or other critical locations of all conduits and all junction boxes in accordance with Sec 707. All conduits shall be sloped to drain where possible.

Junction box size shown on plan may require special order. Smaller junction box may be substituted if junction box meets conduit installation, clearance and project requirements.

MoDOT Construction Personnel: Indicate in field and on bridge plans for future work the exact location of buried conduit at ends of bridge that are capped and not immediately used.

Payment for furnishing and installing Conduit System, complete-in-place, will be considered completely covered by the contract lump sum price for Conduit System on Structure

DETAILS OF CONDUIT SYSTEM

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

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I-170	MO
DISTRICT	SHEET NO.
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ST. LOUIS

JOB NO.
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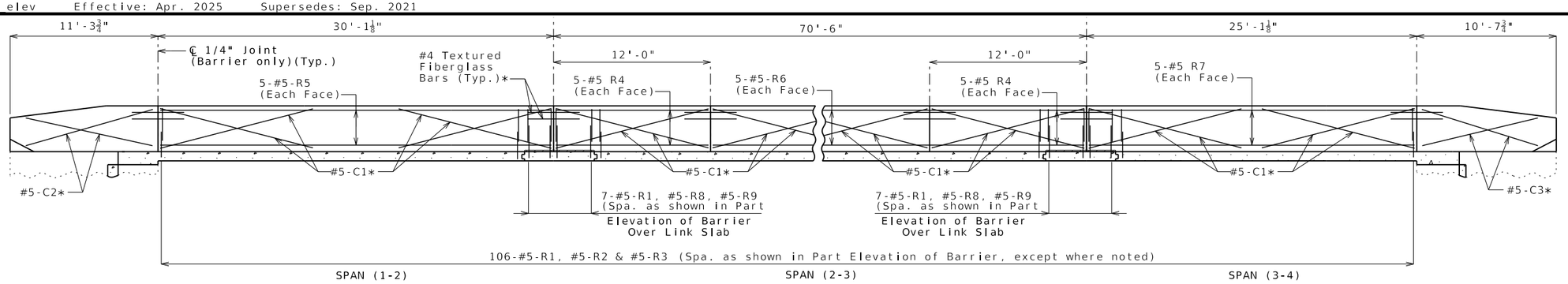
BRIDGE NO.
A28074

DESCRIPTION

REV.

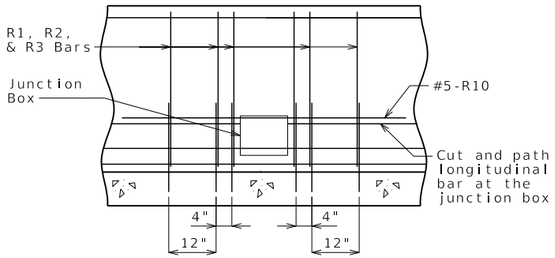
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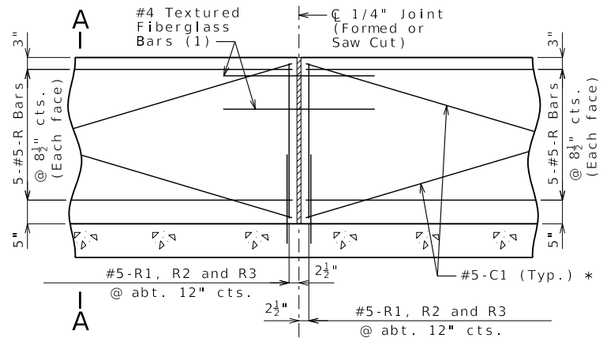
ELEVATION OF BARRIER

Longitudinal dimensions are horizontal.
Conduit not shown for clarity.



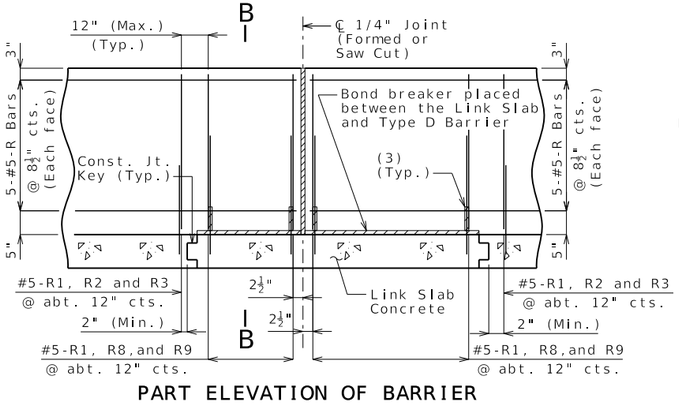
PART ELEVATION OF BARRIER

Slip-form on bars not shown for clarity



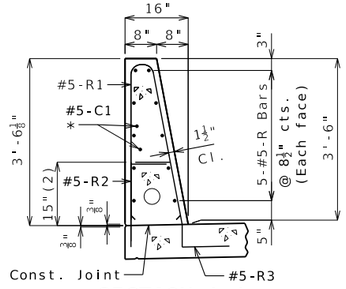
PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

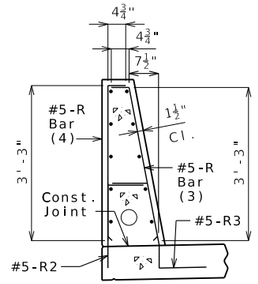


PART ELEVATION OF BARRIER

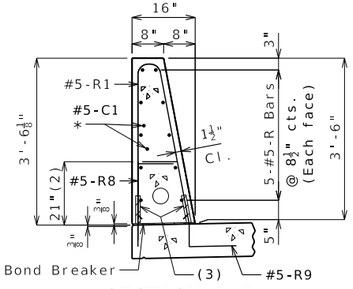
Slip-form only bars not shown for clarity



SECTION A-A



R-BAR PERMISSIBLE ALTERNATE SHAPE



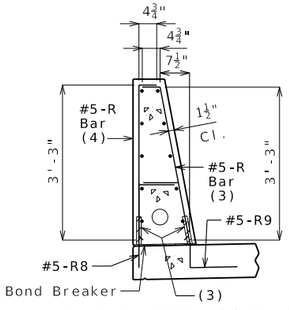
SECTION B-B

Use a minimum lap of 2'-6" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 3.52 square feet.

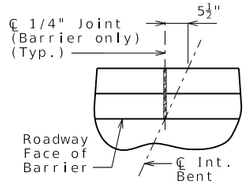
(2) To top of bar

(3) 6" debonded length of anchorage reinforcement for length of debonded zones.

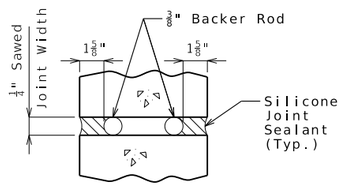


R-BAR PERMISSIBLE ALTERNATE SHAPE

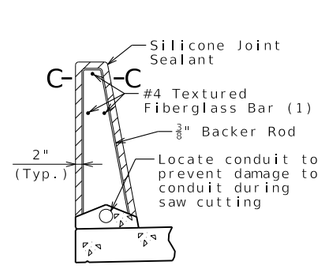
(4) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)



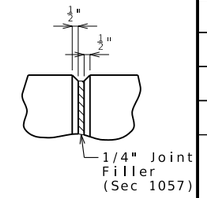
PART PLAN SHOWING JOINT LOCATION



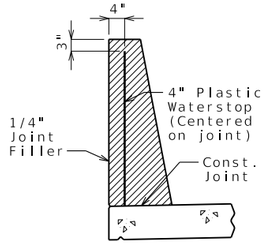
SECTION C-C



SECTION THRU SAW CUT JOINT



PART ELEVATION AT FORMED JOINT



WATERSTOP DETAIL

Plastic waterstop shall be placed in all formed joints, except structures with superelevation, use on lower joints only.

Cost of plastic waterstop, complete in place, will be considered completely covered by the contract unit price for Type D Barrier.

General Notes:

* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type D Barrier per linear foot.

Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

For details of Link Slab, see Sheet No. 19.

Method of debonding shall be approved by engineer.

The bond breaker used between the link slab surface and concrete placed on top of it shall be submitted to the engineer for approval. The cost of the bond breaker shall be considered completely covered by the concrete unit price for Slab on Steel.

Plastic waterstop shall not be used with saw cut joints.

LEFT TYPE D BARRIER

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

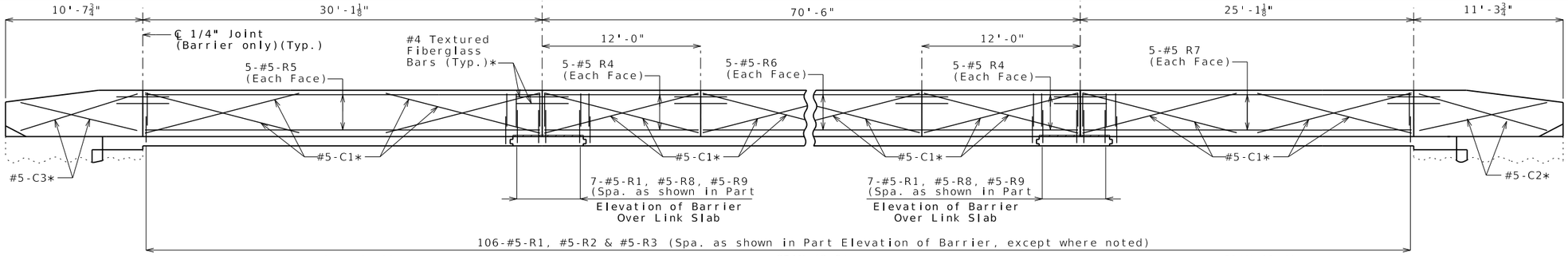
Sheet No. 19 of 25

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
09/23/20267:21:26 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED 9/22/2026
ROUTE I-170 | STATE MO
DISTRICT BR | SHEET NO. 19
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A28074

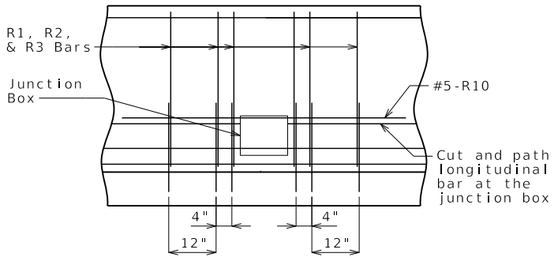
DESCRIPTION | REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
EFK•Moen
Civil Engineering Design
1355 N. Highway Drive
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



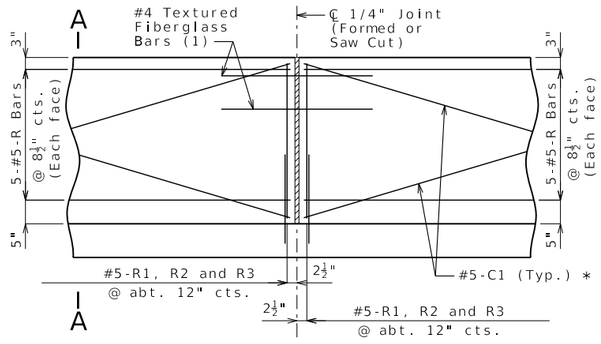
ELEVATION OF BARRIER

Longitudinal dimensions are horizontal.
Conduit not shown for clarity.



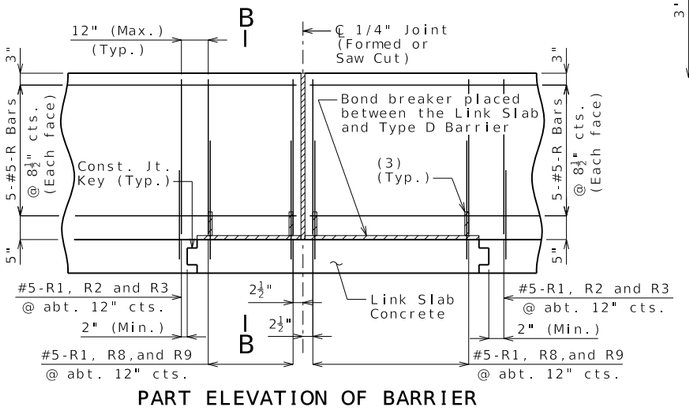
PART ELEVATION OF BARRIER

Slip-form on bars not shown for clarity



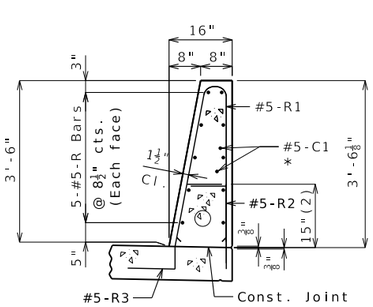
PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

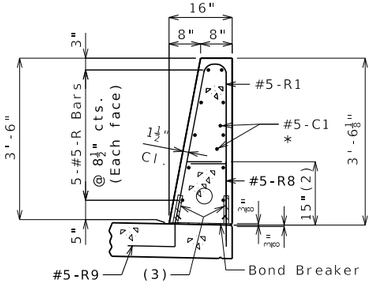


PART ELEVATION OF BARRIER

Slip-form only bars not shown for clarity



SECTION A-A



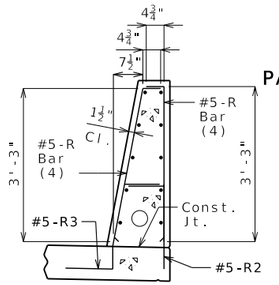
SECTION B-B

Use a minimum lap of 2'-6" for #5 horizontal barrier bars.

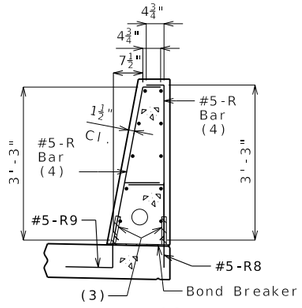
The cross-sectional area above the slab is 3.52 square feet.

(2) To top of bar

(3) 6" debonded length of anchorage reinforcement for length of debonded zones.

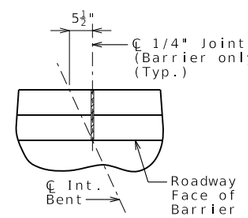


R-BAR PERMISSIBLE ALTERNATE SHAPE

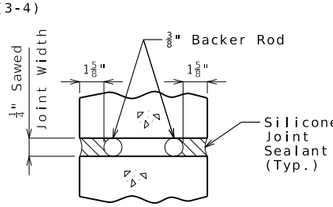


R-BAR PERMISSIBLE ALTERNATE SHAPE

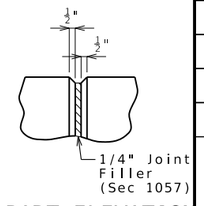
(4) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)



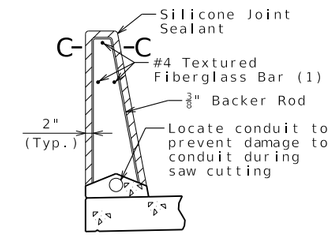
PART PLAN SHOWING JOINT LOCATION



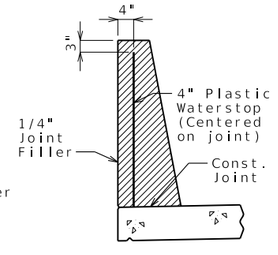
SECTION C-C



PART ELEVATION AT FORMED JOINT



SECTION THRU SAW CUT JOINT



WATERSTOP DETAIL

Plastic waterstop shall be placed in all formed joints, except structures with superelevation, use on lower joints only.

Cost of plastic waterstop, complete in place, will be considered completely covered by the contract unit price for Type D Barrier.

General Notes:

* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type D Barrier per linear foot.

Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

For details of Link Slab, see Sheet No. 19.

Method of debonding shall be approved by engineer.

The bond breaker used between the link slab surface and concrete placed on top of it shall be submitted to the engineer for approval. The cost of the bond breaker shall be considered completely covered by the concrete unit price for Slab on Steel.

Plastic waterstop shall not be used with saw cut joints.

RIGHT TYPE D BARRIER

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 20 of 25

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
09/23/20267:21:27 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED 9/22/2026

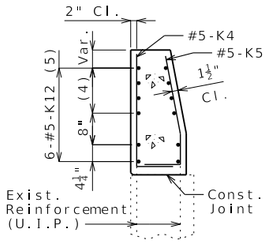
ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	20

COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A28074

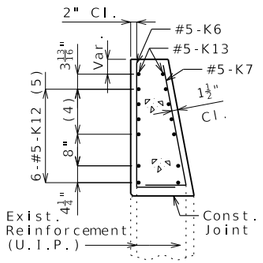
DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
EFK•Moen
Civil Engineering Design
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Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

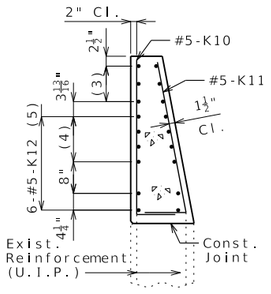
REV.



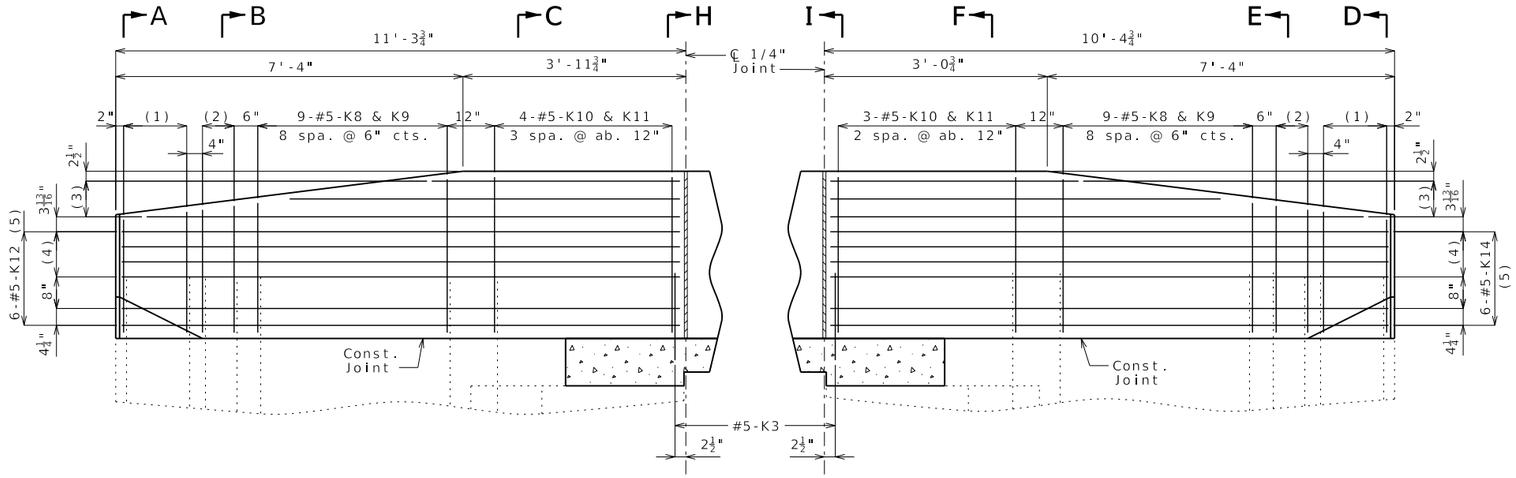
SECTION A-A



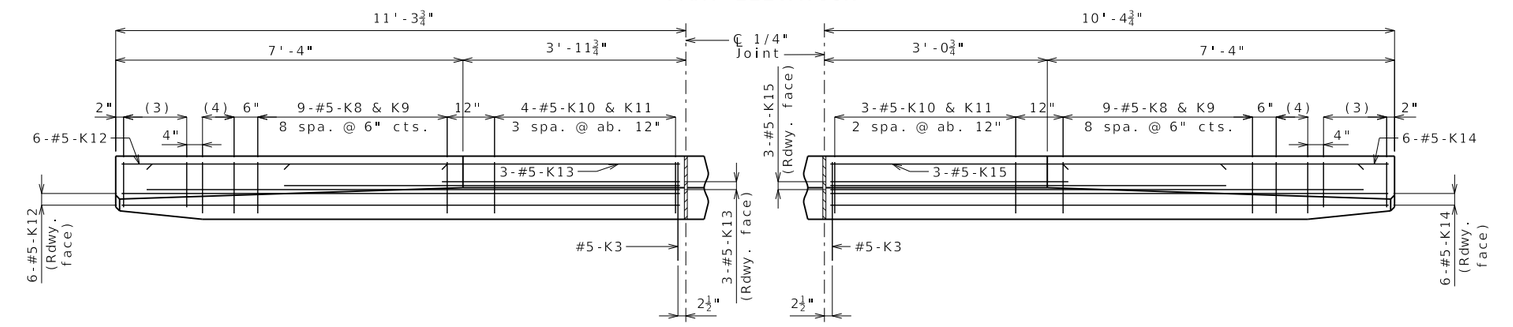
SECTION B-B



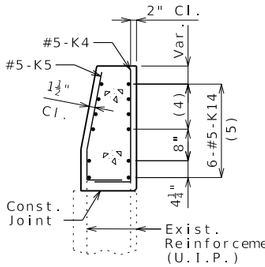
SECTION C-C



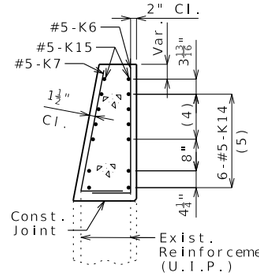
PART ELEVATION



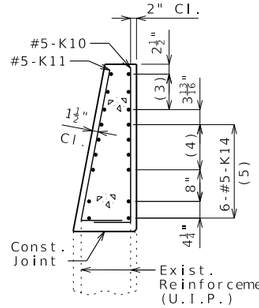
PART PLAN



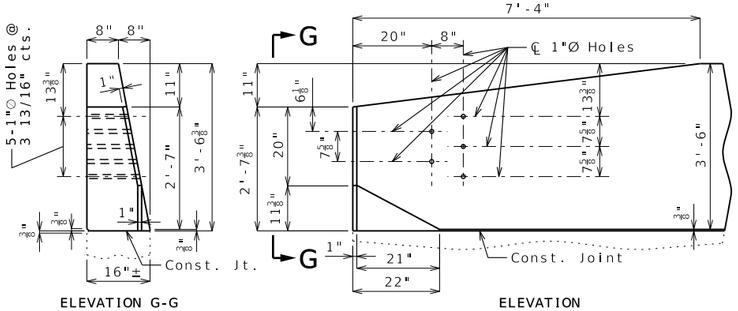
SECTION D-D



SECTION E-E



SECTION F-F



ELEVATION G-G ELEVATION

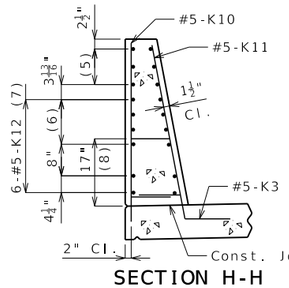
(1) 5-#5-K4 & K5

(2) 3-#5-K6 & K7

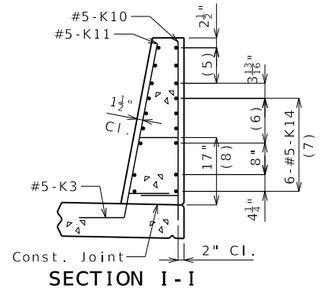
(3) 3-#5-K13 or K15 @ 4½" cts., each face

(4) 3 spaces @ 3 13/16"

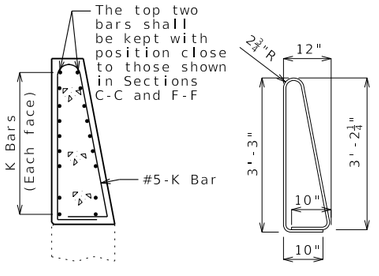
(5) Spaced as shown, each face



SECTION H-H



SECTION I-I



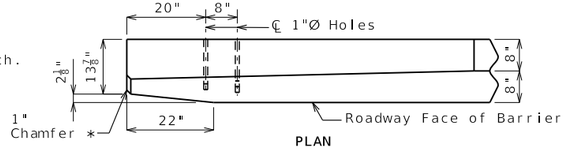
K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

* Transition to zero at Type A curb for gutter lines to match.



PLAN

DETAILS OF GUARD RAIL ATTACHMENT

General Notes:

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

TYPE D BARRIER AT END BENTS

(Left barrier shown, right barrier similar but opposite)

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions. Sheet No. 21 of 25

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
09/23/20267:21:27 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED 9/22/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	21

COUNTY ST. LOUIS

JOB NO. J6I3572

CONTRACT ID.

PROJECT NO.

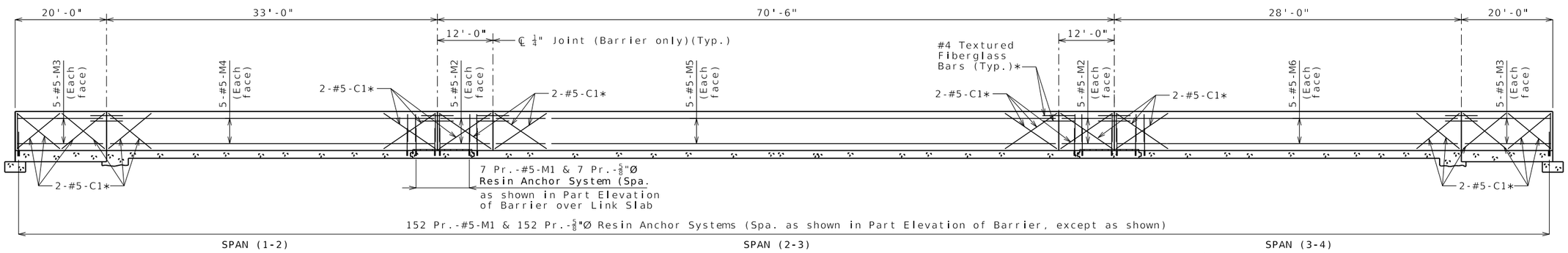
BRIDGE NO. A28074

DESCRIPTION

REV.

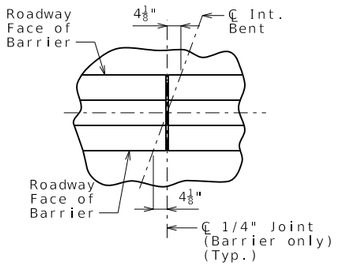
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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EFK•Moen
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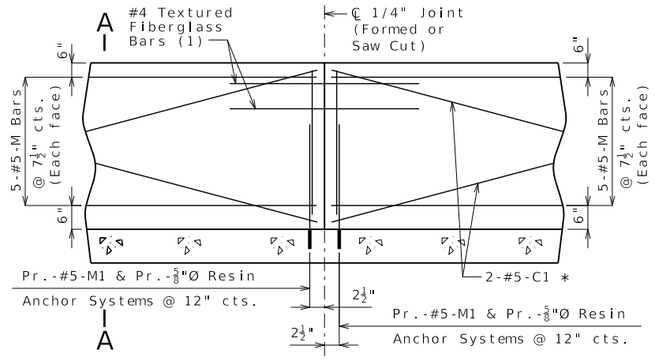


ELEVATION OF BARRIER

Longitudinal dimensions are horizontal.

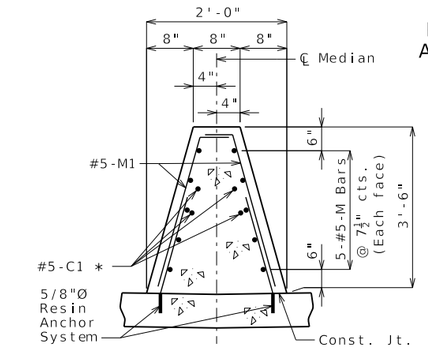


PART PLAN SHOWING JOINT LOCATION

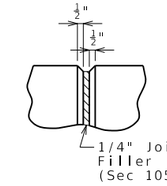


PART ELEVATION OF BARRIER

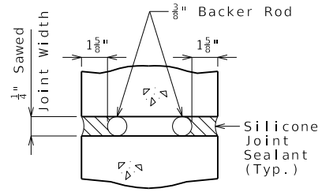
(1) Four feet long, centered on joint, slip-formed option only



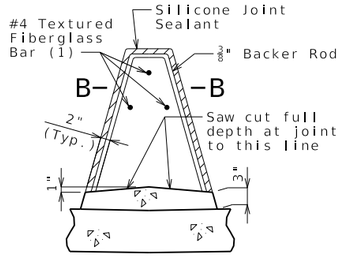
SECTION A-A



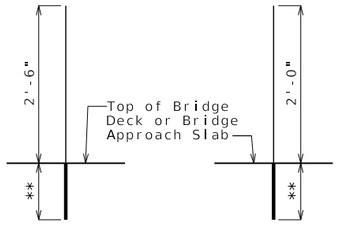
PART ELEVATION AT FORMED JOINT



SECTION B-B



SECTION THRU SAW CUT JOINT



RESIN ANCHOR SYSTEM IN LINK SLAB

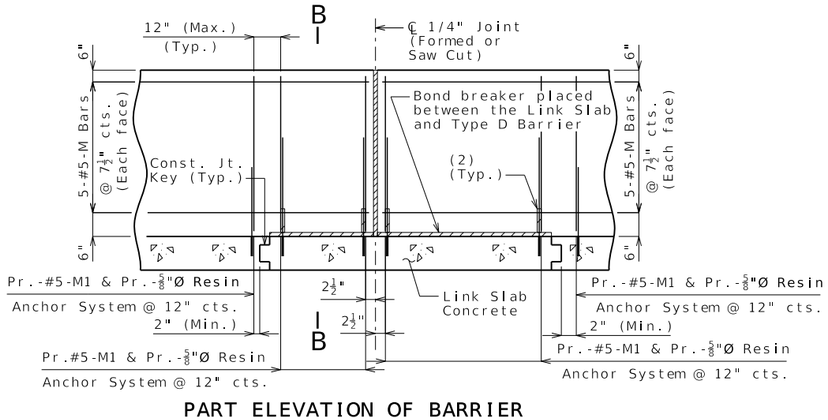
(14 required)

** Manufacturer's embedment length (5" minimum)

RESIN ANCHOR SYSTEM

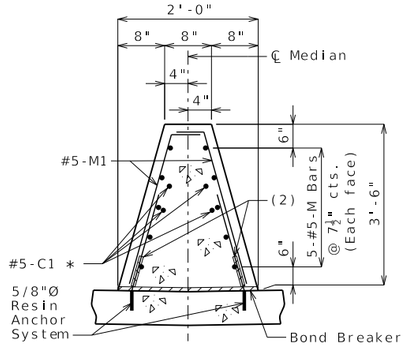
(164 required)

** Manufacturer's embedment length (5" minimum)



PART ELEVATION OF BARRIER

Slip-form only bars not shown for clarity



SECTION B-B

Use a minimum lap of 2'-6" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 4.69 square feet.

(2) 6" debonded length of anchorage reinforcement for length of debonded zone.

General Notes:

∗ Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade with barrier joints normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be completely covered by the contract unit price for Type C Barrier per linear foot.

Concrete in the barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot, measured along the top of slab at centerline median from end of bridge approach slab to end of bridge approach slab.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type C Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

The contractor shall use one of the qualified resin anchor systems in accordance with 1039.

Cost of furnishing and installing the resin anchor system, complete in place, will be considered completely covered by the contract unit price for Type C Barrier.

The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5 inches.

An epoxy coated #5 Grade 60 reinforcing bar shall be substituted for the 5/8-inch diameter threaded rod.

TYPE C BARRIER

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

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ALEX BENZ
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Alex C. Benz
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MO PE-2018003121

DATE PREPARED 9/22/2026

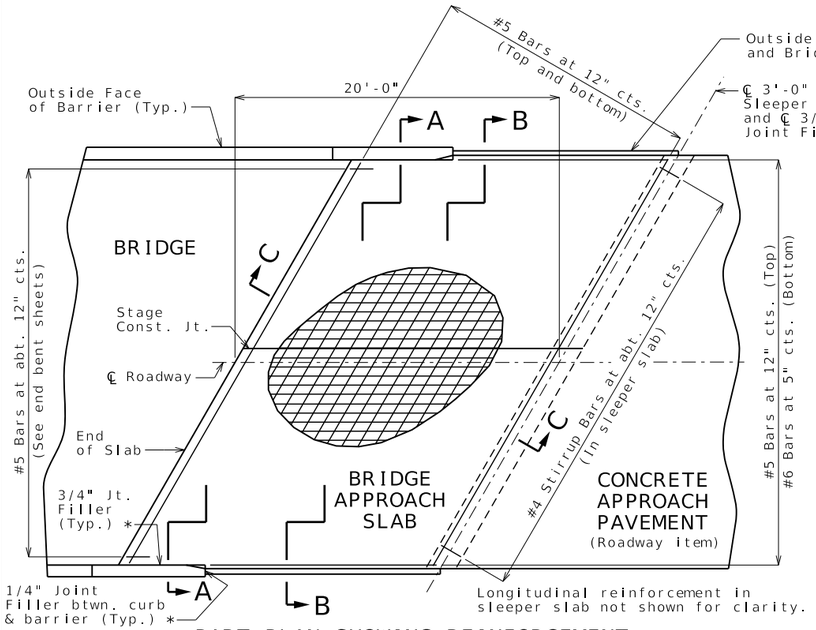
ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	22

COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A28074

DESCRIPTION | REV.

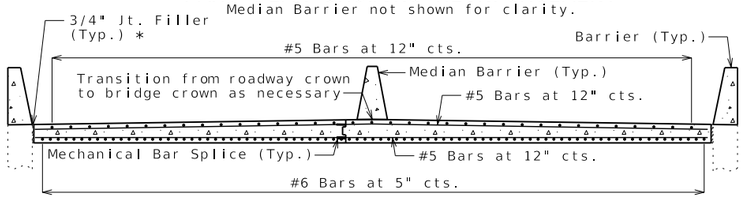
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Civil Engineering Design
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Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

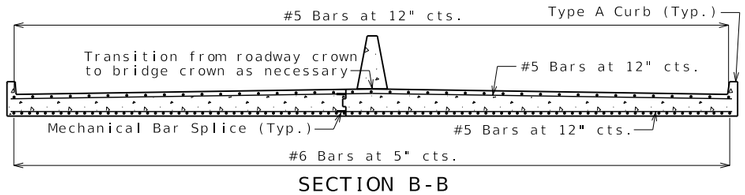


PART PLAN SHOWING REINFORCEMENT

Median Barrier not shown for clarity.

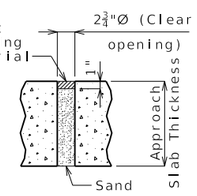


SECTION A-A



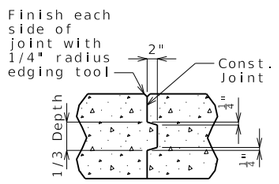
SECTION B-B

With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.

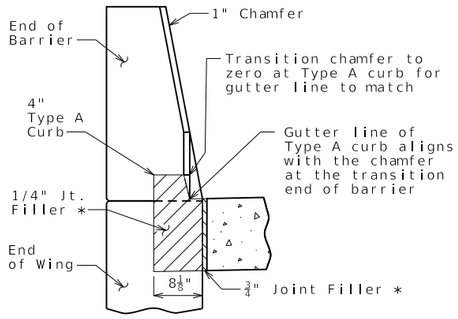


UNDERSEAL ACCESS HOLE DETAIL

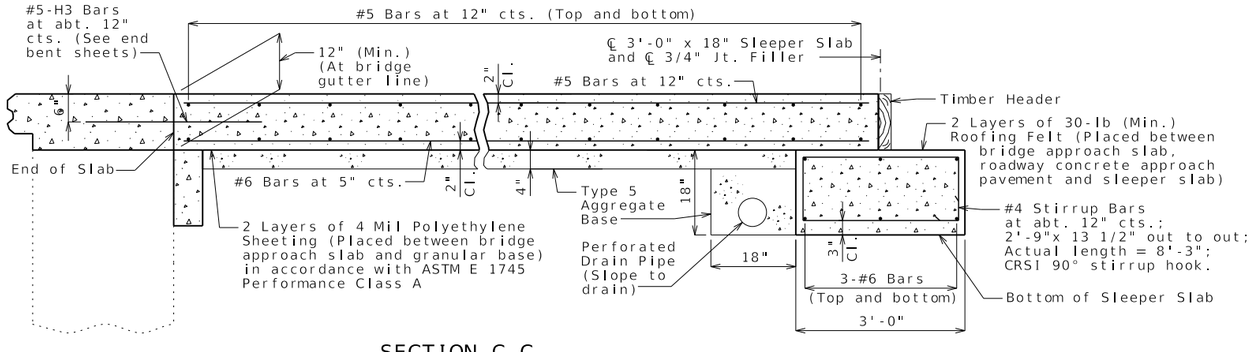
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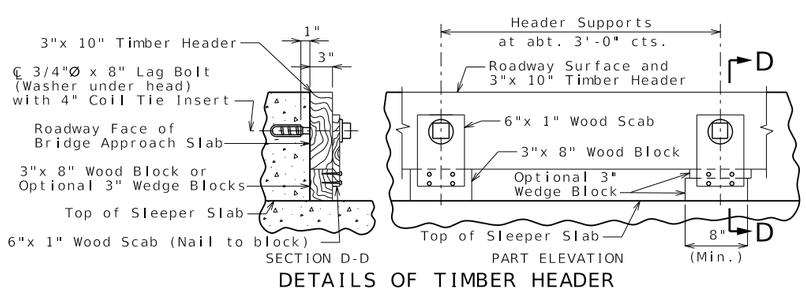
CONSTRUCTION JOINT DETAIL



SECTION BETWEEN CURB AND BARRIER



SECTION C-C



DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

General Notes:

All concrete for the bridge approach slab and sleeper slab shall be in accordance with Sec 503 (f'c = 4,000 psi).

The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated Grade 60 with fy = 60,000 psi.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 24 inches for #5 bars and 40 inches for #6 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710. (Estimated 48 splices per slab)

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab.

For concrete approach pavement details, see roadway plans.

See Missouri Standard Plan 609.00 for details of Type A curb.

Payment for furnishing all materials, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, Type 5 aggregate base, joint filler and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Major) per square yard.

* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

BRIDGE APPROACH SLAB (MAJOR)

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

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PROFESSIONAL ENGINEER
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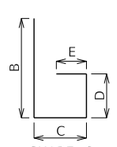
DATE PREPARED 9/22/2026
ROUTE I-170 | STATE MO
DISTRICT BR | SHEET NO. 23
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A28074

DESCRIPTION

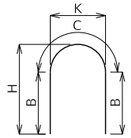
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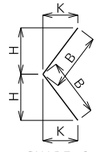
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1355 N. Highway Drive
Suite 200 MO 63026
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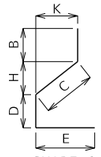
SHAPE 6
or 6S



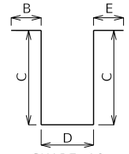
SHAPE 7



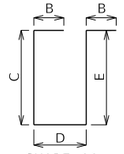
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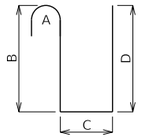
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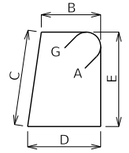
SHAPE 10
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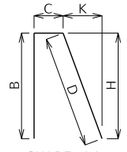
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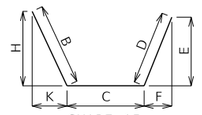
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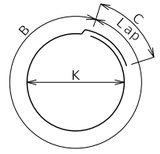
SHAPE 13S



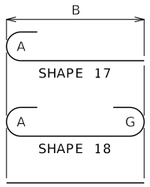
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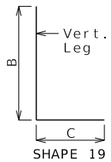
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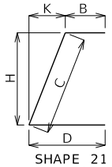
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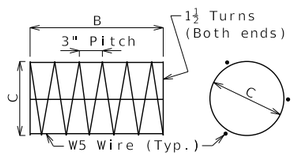
SHAPE 17
SHAPE 18
SHAPE 20



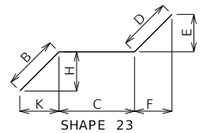
SHAPE 19
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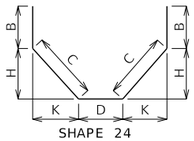
SHAPE 21
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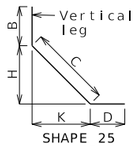
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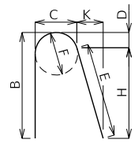
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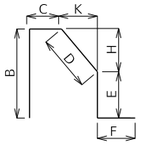
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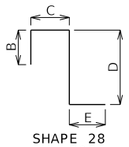
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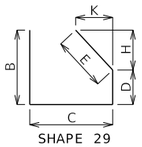
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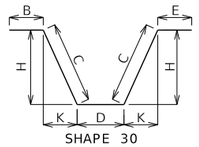
SHAPE 27S



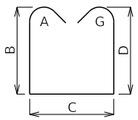
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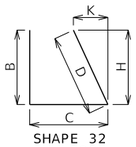
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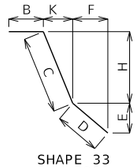
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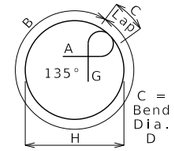
SHAPE 31S



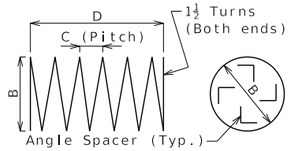
SHAPE 32
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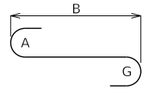
SHAPE 33
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SHAPE 34S



SHAPE 35 (1)

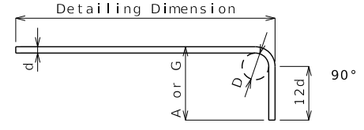


SHAPE 36

Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes

Size	Case	D	A or G		J
			90°	180°	180°
#4	1	3"	8"	6"	4"
#5	1	3¾"	10"	7"	5"
#6	1	4½"	12"	8¼"	6"
#7	2	5¼"	14"	9¾"	7"
	3	7"	15"	11½"	8¾"
#8	2	6"	16"	11"	8"
	3	8"	17"	13¼"	10"
#9	1	9½"	19½"	15½"	11¾"
#10	1	10¾"	22"	17½"	13¼"
#11	1	12"	24½"	19½"	14⅞"
#14	1	18¼"	31¼"	27½"	21⅝"
#18	1	24"	41½"	36¼"	28½"

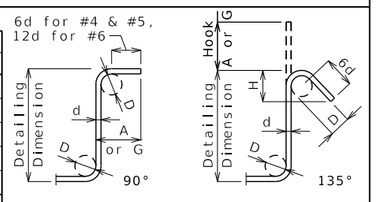


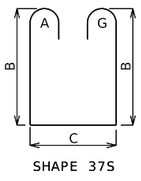
Stirrup Pin Bend Shapes (S)

Size	Case	D	A or G			H	J
			90°	135°	180°	135°	180°
#4	2	2"	4½"	4½"	5"	2⅝"	3"
	3	3"	5"	5¼"	6"	3"	4"
#5	2	2½"	5¾"	5¾"	5¾"	3⅝"	3¾"
	3	3¾"	6¼"	6½"	7"	3⅞"	5"
#6	1	4½"	12"	7¾"	8¼"	4⅝"	6"

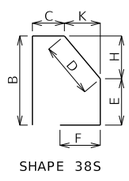
Applicable for all grades of steel.

Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.





SHAPE 37S



SHAPE 38S

BENDING DIAGRAMS

All dimensions are out to out.

Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.

Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.

(1) Shall be a deformed or plain spiral bar or wire.

Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spirals. Length and weight of column spirals do not include splices or spacers.

Reinforcing Steel Totals (Pounds)

	Size	Substructure		Superstructure				Entire Bridge	
				Slab			Slip		
		Plain	Epoxy	Plain	Epoxy	Barrier	Form	Plain	Epoxy
By Size	W5	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	89	0	57,343	9,463	1,070	0	67,965
	6	0	0	0	41,810	0	0	0	41,810
	7	0	0	0	4,717	0	0	0	4,717
	8	0	0	0	0	0	0	0	0
	9	0	0	0	0	0	0	0	0
	10	0	0	0	0	0	0	0	0
	11	0	0	0	0	0	0	0	0
	14	0	0	0	0	0	0	0	0
	18	0	0	0	0	0	0	0	0
By Type		0	89	0	103,870	9,463	1,070	0	114,492

All superstructure reinforcing steel shall be epoxy coated unless otherwise specified.

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

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ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
09/23/20267:21:27 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED 9/22/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	24

COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A28074

DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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JEFFERSON CITY, MO 65102
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St. Louis, MO
Phone 314-394-3100
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Missouri Certificate of Authority: 001578

REV.

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B	C	D	E	F	H	K	Nom. Length	Actual Length	Weight
						ft in.	ft in.	ft in.	ft in.	ft in.	ft in.	ft in.	ft in.	ft in.	lb
		SLAB													
450	6 S1	SLAB	E	20		31 6.000							31 6	31 6	21291
225	6 S2	SLAB	E	20		55 5.000							55 5	55 5	18728
438	5 S3	SLAB	E	20		31 7.000							31 7	31 7	14428
219	5 S4	SLAB	E	20		55 5.000							55 5	55 5	12658
273	5 S5	SLAB	E	20		45 4.000							45 4	45 4	12908
172	7 S6	SLAB	E	20		13 5.000							13 5	13 5	4717
351	5 S7	SLAB	E	20		45 9.000							45 9	45 9	16749
		END BENT NO 1 & 4													
20	6 H1	END BENT	E	20		32 0.000							32 0	32 0	961
10	6 H2	END BENT	E	20		55 3.000							55 3	55 3	830
230	5 H3	END BENT	E	20		2 6.000							2 6	2 6	600
6	5 H4	APPR. NOTCH	E	20		7 5.000							7 5	7 5	46
6	5 H5	APPR. NOTCH	E	20		6 10.000							6 10	6 10	43
		TYPE D BARRIER													
4	5 K3	BARRIER	E	27	S	22.500	9.250	14.500	7.750	12.000	14.250	2.750	5 6	5 2	22
20	5 K4	BARRIER	E	19	S 4	2 4.250	10.000						3 2	3 1	66
		INCR=0 1/2 IN				2 6.250	10.000						3 4	3 3	
20	5 K5	BARRIER	E	38	S 4			18.500	9.500	8.250	18.000	4.000	3 0	2 10	65
		INCR=0 1/2 IN						20.500	9.500	8.250	20.000	4.500	3 2	3 0	
12	5 K6	BARRIER	E	19	S	2 6.750	10.000						3 5	3 3	41
12	5 K7	BARRIER	E	21	S		2 6.625	10.000			2 6.000	6.250	3 5	3 4	42
36	5 K8	BARRIER	E	19	S 4	2 8.500	10.000						3 6	3 5	133
		INCR=0 3/4 IN				3 2.500	10.000						4 0	3 11	
36	5 K9	BARRIER	E	21	S 4		2 8.500	10.000			2 7.750	6.750	3 6	3 6	142
		INCR=0 3/4 IN					3 2.500	10.000			3 1.750	7.750	4 0	3 11	
14	5 K10	BARRIER	E	19	S	3 3.000	10.000						4 1	4 0	58
14	5 K11	BARRIER	E	21	S		3 3.000	10.000			3 2.250	7.750	4 1	4 0	58
24	5 K12	BARRIER	E	20		10 11.750							11 0	11 0	275
12	5 K13	BARRIER	E	20	4	10 2.750							10 3	10 3	90
		INCR=36IN				4 2.750							4 3	4 3	
24	5 K14	BARRIER	E	20		10 0.750							10 1	10 1	252
12	5 K15	BARRIER	E	20	4	9 3.750							9 4	9 4	79
		INCR=36IN				3 3.750							3 4	3 4	
240	5 R1	BARRIER	E	26		3 3.000	5.500	2.250	3 1.375	5.500	3 0.750	6.750	6 11	6 7	1648
212	5 R2	BARRIER	E	19	S	20.500	9.500						2 6	2 5	534
212	5 R3	BARRIER	E	27	S		9.500	15.250	5.000	12.000	15.000	3.000	3 6	3 3	719
40	5 R4	BARRIER	E	20		11 8.000							11 8	11 8	487
20	5 R5	BARRIER	E	20		29 9.125							29 9	29 9	621
20	5 R6	BARRIER	E	20		46 4.000							46 4	46 4	967
20	5 R7	BARRIER	E	20		24 9.125							24 9	24 9	516
28	5 R8	BARRIER	E	19	S	2 3.500	8.000						3 0	2 10	83
28	5 R9	BARRIER	E	27	S		8.000	22.375	5.000	12.000	22.000	4.000	3 11	3 9	110
4	5 R10	BARRIER	E	20		6 0.000							6 0	6 0	25
		TYPCE C BARRIER													
178	5 M1	BARRIER	E	14	S		5.000	3 3.375			3 3.000	7.500	3 8	3 7	665
20	5 M2	BARRIER	E	20		11 8.000							11 8	11 8	243
20	5 M3	BARRIER	E	20		19 8.000							19 8	19 8	410
10	5 M4	BARRIER	E	20		32 8.000							32 8	32 8	341
10	5 M5	BARRIER	E	20		46 2.000							46 2	46 2	482
10	5 M6	BARRIER	E	20		27 8.000							27 8	27 8	289
		SLIP FORM													
80	5 C1	SLIP FORM	E	20		12 0.000							12 0	12 0	1001
4	5 C2	SLIP FORM	E	20		8 9.000							8 9	8 9	37
4	5 C3	SLIP FORM	E	20		7 9.000							7 9	7 9	32

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B	C	D	E	F	H	K	Nom. Length	Actual Length	Weight
						ft in.	ft in.	ft in.	ft in.	ft in.	ft in.	ft in.	ft in.	ft in.	lb

Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

For bending diagrams and steel reinforcing totals, see Sheet No. 26.

Reinforcing Steel (ASTM A706 Grade 60) fy = 60,000 psi.

Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.
SH = Required shape, see bending diagrams.
V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

BILL OF REINFORCING STEEL

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER

Alex C. Benz
09/23/20267:21:27 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
BR	25

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A28074

DESCRIPTION

REV.

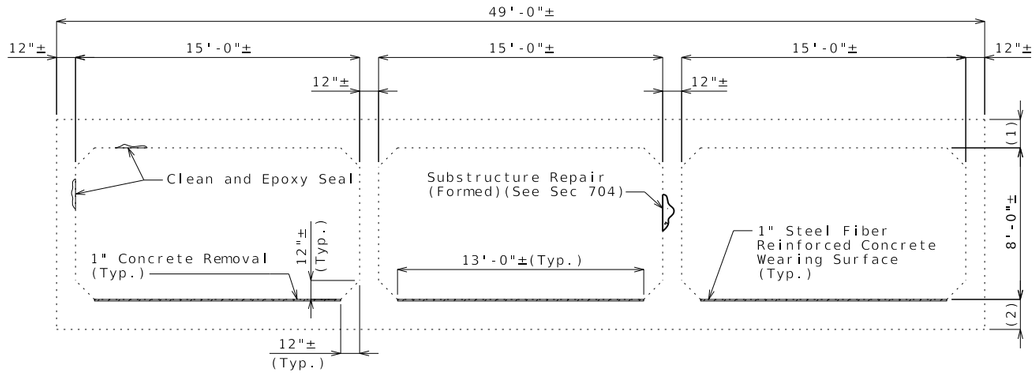
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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Missouri Certificate of Authority: 001578

U.I.P. AND REHAB EXISTING TRIPLE (15'x8') BOX CULVERT

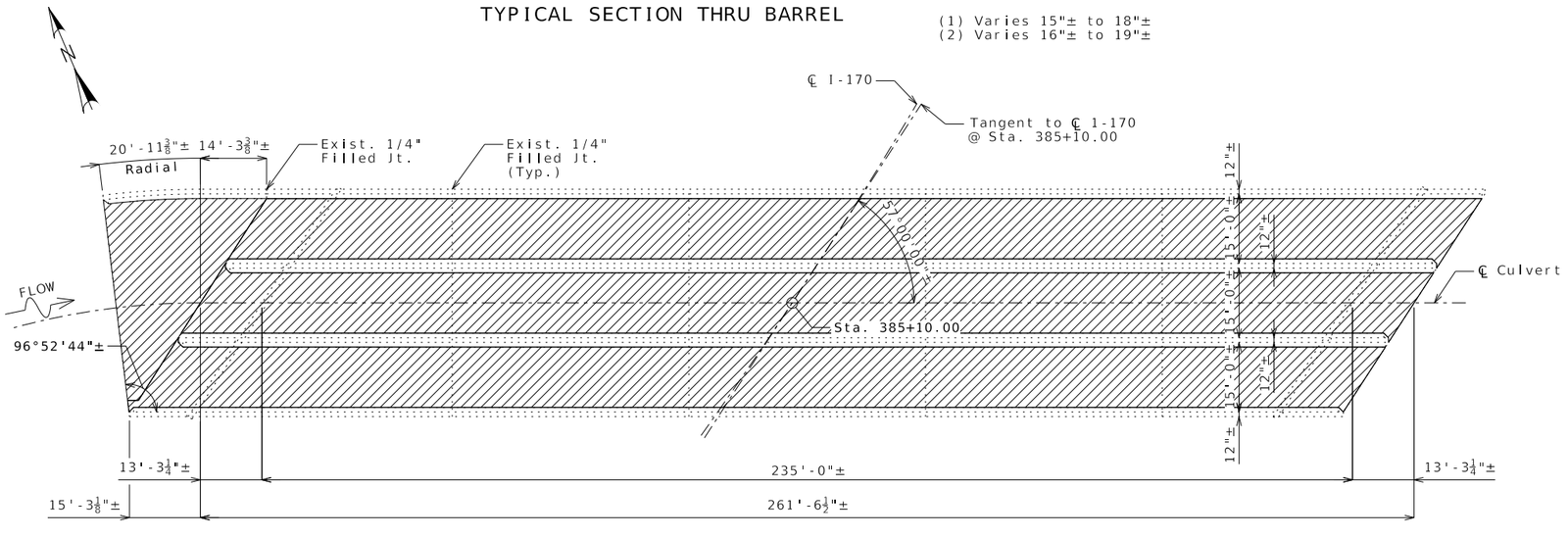
SEC/SUR 29 TWP 46 RGE 6E

Estimated Quantities			Final Quantities
Dewatering	lump sum	1	
Powerwash and Remove Loose Concrete	sq. foot	11,019	
Steel Fiber Reinforced Concrete Wearing Surface	sq. yard	1225	
Substructure Repair (Formed)	sq. foot	12	
Cleaning and Epoxy Coating	sq. foot	120	



TYPICAL SECTION THRU BARREL

(1) Varies 15"± to 18"±
(2) Varies 16"± to 19"±



PLAN

1" Concrete Removal & 1" Steel Fiber Reinforced Concrete Wearing Surface

General Notes:

Design Specifications:
2002 AASHTO LFD (17th Ed.) Standard Specifications
Culvert Rating = 4

Design Loading:
H20-S16-44(1962) and Military 24,000 lb. Tandem Axle(1962)

Design Unit Stresses:
Class B Concrete (Substructure Repair) f'c = 3,000 psi
Steel Fiber Reinforced Concrete (Wearing Surface) f'c = 4,000 psi

Miscellaneous:
All concrete repair shall be in accordance with Sec 704, unless otherwise noted.

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

Contractor shall verify all dimensions in field before ordering material.

Contractor will be responsible for dewatering and installing cofferdam at the site in accordance with Sec 206 (See Special Provisions).

Traffic Handling
Traffic to be maintained on I-170 during construction.

REPAIRS TO CULVERT:
ROUTE I-170 OVER RIVER DES PERES

ROUTE I-170 FROM ROUTE 340 TO ROUTE D
ABOUT 0.3 MILES SOUTH OF ROUTE D
TIE STA. 385+10.00±

Designed Sep. 2026
Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 1

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
09/23/20267:18:38 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED 9/22/2026
ROUTE I-170 | STATE MO
DISTRICT BR | SHEET NO. 1
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A28081

DESCRIPTION

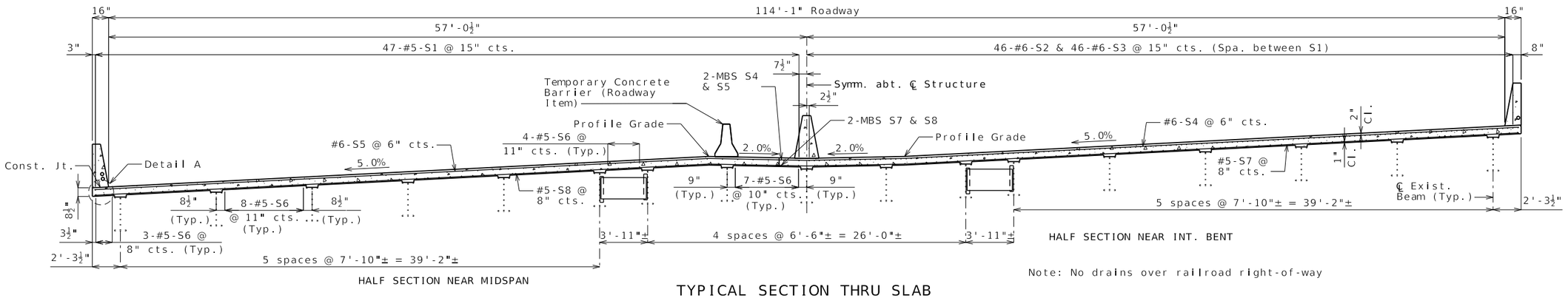
REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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Phone 314-394-3100
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Missouri Certificate of Authority: 001578

SEC/SUR 2914 TWP 46N RGE 6E

U.I.P., REDECK AND MAKE CONTINUOUS (50'- 65'- 50') COMPOSITE WIDE FLANGE BEAM SPANS



HALF SECTION NEAR MIDSPAN

HALF SECTION NEAR INT. BENT

Note: No drains over railroad right-of-way

TYPICAL SECTION THRU SLAB

General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications
Seismic Performance Category B

Design Loading:

HS20-44 (1957) and Military 24,000 lb. Tandem Axle (1957) (Existing)
HS20-44 (New Construction)
35 lb/sf Future Wearing Surface
Earth - 120 lb/cf, Equivalent Fluid Pressure 45 lb/cf
Fatigue Stress - Case I

Design Unit Stresses:

Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Class B-2 Concrete (End Bents & Superstructure, except Barrier)	f'c = 4,000 psi
Reinforcing Steel (ASTM A706 Grade 60)	fy = 60,000 psi

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

Miscellaneous:

Protective coating for concrete bents and piers (Epoxy) shall be applied as shown on the bridge plans and in accordance with Sec 711.

Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for plain bars and 30 diameters for deformed bars, unless otherwise noted.

Roadway surfacing adjacent to bridge ends shall match new bridge slab surface. (Roadway item)

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

Contractor shall verify all dimensions in field before finalizing the shop drawings.

The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved qualified special mortar in accordance with Sec 704.

For adjusted girder deflection due to the weight of the new deck and barriers, see Bridge Electronic Deliverables.

Traffic Handling:

Traffic to be maintained on structure during construction. See roadway plans for traffic control and Sheet No. 4 for staged construction details.

Index of Sheets

1. General Notes and Estimated Quantities
2. Railroad Details and Notes
3. Repair Details
4. Details of Staged Construction
5. Details of Concrete Removals at End Bents
6. Details of End Bents (Stage 1 Construction)
7. Details of End Bents (Stage 2 Construction)
8. Bent Cap Shear Strengthening using FRP Wrap
9. Shalllow Vertical Drain at End Bents
10. Steel Diaphragms
11. Concrete Diaphragms at Int. Bents No. 2 and 3 (Sheet 1 of 2)
12. Concrete Diaphragms at Int. Bents No. 2 and 3 (Sheet 2 of 2)
13. Details of Conduit System
14. Left Type D Barrier
15. Right Type D Barrier
16. Left Type D Barrier at End Bents
17. Right Type D Barrier at End Bents
18. Type C Barrier
19. Bridge Approach Slab (Major)
20. Bending Diagrams and Reinforcing Steel Totals
21. Bill of Reinforcing Steel

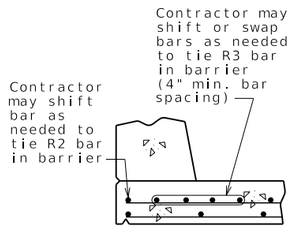
Table Showing Bar Lengths

	Int. Bent No. 2		Int. Bent No. 3	
Bar	Span 1	Span 2	Span 2	Span 3
S2	16'-9"	10'-5"	10'-5"	16'-9"
S3	9'-11"	16'-8"	16'-8"	9'-11"

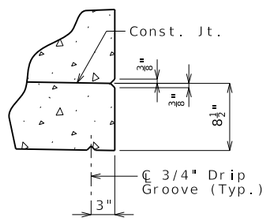
Required Lap Length For Bar Splices **

Bar Size	Splice Length
5	3'-3"
6	3'-10"

** Unless otherwise shown.



OPTIONAL SHIFTING TOP BARS AT BARRIER



DETAIL A

Estimated Quantities

Item		Total
Removal of Existing Bridge Deck	sq. foot	19,264
Bridge Approach Slab (Major)	sq. yard	510
Slab on Steel	sq. yard	2,141
Type D Barrier	linear foot	361
Type C Barrier	linear foot	205
Substructure Repair (Formed)	sq. foot	26
Substructure Repair (Unformed)	sq. foot	577
Fiber Reinforced Polymer Wrap	sq. foot	95
Mechanical Bar Splice	each	581
Conduit System on Structure	lump sum	1
Protective Coating - Concrete Bents and Piers (Epoxy)	lump sum	1
Fabricated Structural Carbon Steel (Misc.)	pound	1,240
Surface Preparation for Recoating Structural Steel	sq. foot	22,700
Field Application of Inorganic Zinc Primer	sq. foot	22,700
Finish Field Coat (System L)	sq. foot	22,700
Vertical Drains at End Bents	each	2

Cost of any required excavation for bridge will be considered completely covered by the contract unit price for other items.

Estimated Quantities for Slab on Steel

Item		Total
Class B-2 Concrete	cu. yard	528.4
Reinforcing Steel (Epoxy Coated)	pound	139,492

The table of Estimated Quantities for Slab on Steel represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for stay-in-place corrugated steel forms, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness Class SC 4 and a finish Type I, II or III.

Slab shall be cast-in-place with conventional forming or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

For Optional Stay-In-Place Form Details, see Sheet No. 3.

REPAIRS TO BRIDGE: I-170 OVER UPRR

ROUTE I-170 FROM ROUTE 340 TO ROUTE D
ABOUT 0.8 MILES NORTH OF ROUTE 340
BEGINNING STATION 395+81.67± (MATCH EXISTING)

Designed Sep. 2026
Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
09/23/20267:24:13 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED 9/22/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	1

COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A28093

DESCRIPTION
REV.

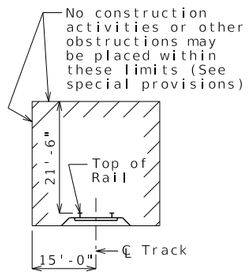
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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1365 N. Highway Drive
Suite 200
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Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

General Notes:

Overhead Structure Construction Notes:

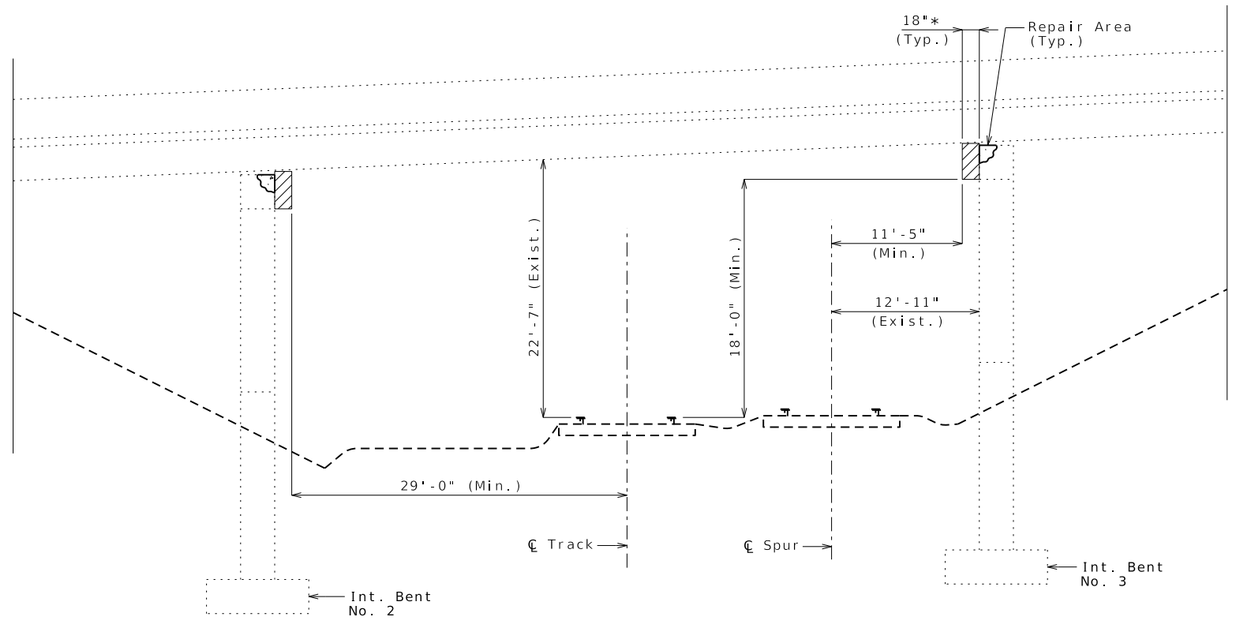
1. All work shall be performed using means and methods which cause no disruptions to Railroad operations.
2. All permanent clearances shall be verified before project closing.
3. The contractor must submit a proposed method of erosion and sediment control and have the method approved by the Railroad.
4. Regardless of underlying land ownership, all shoring systems within Railroad right-of-way or that may impact the Railroad's operations and/or supports the Railroad's embankment shall be designed and constructed per current Railroad Guidelines for Temporary Shoring. The method of shoring permissible is dependent upon the availability of track windows, if any.
5. The contractor shall submit and provide sufficient safety measures to protect unattended excavations to the Railroad for approval.
6. All demolitions within the Railroad's right-of-way and/or demolition that may impact the Railroad's tracks or operations shall be in compliance with the Railroad's Demolition Guidelines. Demolition activities shall be designed to cause no interruption to the Railroad's operation, enabling the track(s) to remain open to traffic per the Railroad's requirements. The method of demolition permissible is dependent upon the availability of track windows, if any.
7. Erection over the Railroad's right-of-way shall be designed to cause no interruption to the Railroad's operation, enabling the track(s) to remain open to traffic per the Railroad's requirements. The method of erection permissible is dependent upon the availability of track windows, if any.
8. Railroad requirements to not allow work within 50 feet of track centerline when a train passes the work site and all personnel must clear the area within 25 feet of the track centerline and secure all equipment.
9. Email Before You Dig. Prior to excavation, disrupting, or working on the Railroad property the contractor shall locate and protect UPRR facilities sending requests to the UPRR "Call Before You Dig" (CBUD) email. Guidance can be found at the following web address: www.up.com/CBUD
10. Construction activities, including falsework/formwork, are not allowed within the "Minimum Construction Clearance Envelope" as they would otherwise disrupt Railroad operations.
11. The barrier rail is a "closed" type. All drainage is directed away from UPRR Right-of-Way at all times.



MINIMUM CONSTRUCTION CLEARANCES

(Normal to railroad)
(Not to scale)

** See Part Elevation Showing Repair Clearances for minumum clearances for Spur Track



PART ELEVATION SHOWING REPAIR CLEARANCES

(Normal to railroad)
* Max. formwork depth

Note: Temporary formwork shall not be in the place for more than 5 days.

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
ALEX BENZ
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PROFESSIONAL ENGINEER

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09/23/20267:24:20 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	2

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A28093

DESCRIPTION

REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

General Notes:

Stay-In-Place Forms:

Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

Form sheets shall not rest directly on the top of beam flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Welding on or drilling holes in the beam flanges will not be permitted. All steel fabrication and construction shall be in accordance with Sec 1080 and 712. Certified field welders will not be required for welding of the form supports.

The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for beam loading.

The contractor shall provide a method of preventing the direct contact of the stay-in-place forms and connection components with uncoated weathering steel members that is approved by the engineer.

Pouring and Finishing Slab:

The contractor shall provide bracing necessary for lateral and torsional stability of the beams during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not weld on or drill holes in the beams. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Slab on Steel.

Slab shall be poured upgrade from end to end at a minimum rate of 25 cubic yards per hour.

Alternate pour sequences may be submitted to the engineer for approval. Keyed construction joints shall be provided between pours.

Haunching:

(1) Slab is to be considered a uniform thickness as shown on the plans. Haunching will vary. See front sheet for slab thickness.

Recoating Existing Steel:

Protective Coating: System L in accordance with Sec 1081.

Surface Preparation: Surface preparation of the existing steel shall be in accordance with Sec 1081 for Recoating of Structural Steel (System L) with inorganic zinc primer. The cost of surface preparation will be considered completely covered by the contract unit price per sq. foot for Surface Preparation for Recoating Structural Steel.

Prime Coat: The cost of the prime coat will be considered completely covered by the contract unit price per sq. foot for Field Application of Zinc Primer.

Field Coat(s): The color of the field coat(s) shall be Gray (Federal Standard #26373). The cost of the finish field coat will be considered completely covered by the contract unit price per sq. foot for Finish Field Coat (System L).

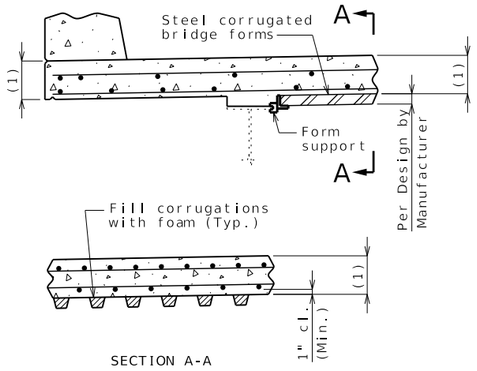
Coating New Steel:

The same Finish Field Coat system for recoating existing steel shall be used for new steel.

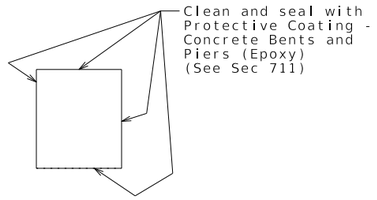
Protective Coating: System L in accordance with Sec 1081.

Prime Coat: The cost of the inorganic zinc prime coat will be considered completely covered by the contract unit price for Fabricated Structural Carbon Steel.

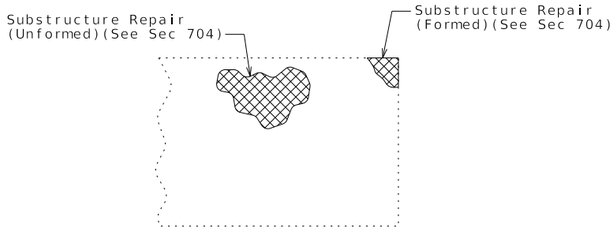
Field Coat: The color of the field coats shall be Gray (Federal Standard #26373). The cost of the finish field coat will be considered completely covered by the contract unit price for other items.



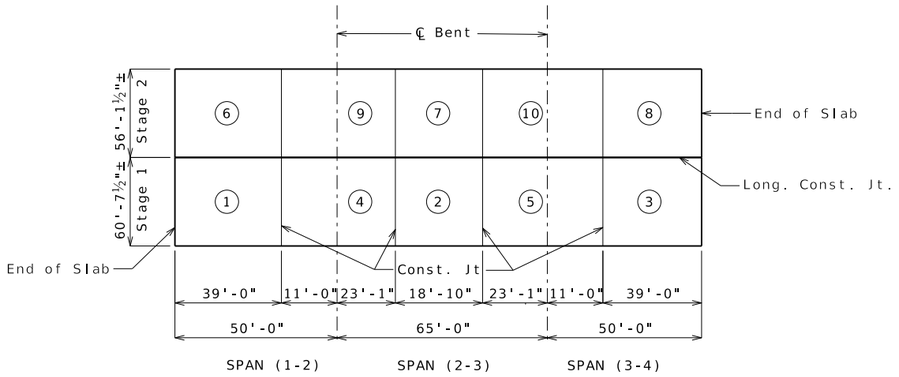
OPTIONAL STAY-IN-PLACE FORM DETAILS



TYPICAL SECTION THRU INT. BENTS NO. 2 & 3 SHOWING PROTECTIVE COATING



TYPICAL PART ELEVATION SHOWING SUBSTRUCTURE REPAIR



	Sequence of Pours					Min. Rate of Pour Cu. Yds./Hr.	
	Direction					With Retarder	No Retarder
Basic Sequence Stage 1	1	4	2	5	3	25	25
	Either Direction						
Basic Sequence Stage 2	6	9	7	10	8	25	25
	Either Direction						

The contractor shall pour and satisfactorily finish the slab pours at the rate given. Retarder, if used, shall be an approved type and retard the set of concrete to 2.5 hours.

SLAB POURING SEQUENCE

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
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Alex Benz - Civil
MO PE-2018003121

DATE PREPARED 9/25/2026

ROUTE I-170 | STATE MO

DISTRICT BR | SHEET NO. 3

COUNTY ST. LOUIS

JOB NO. J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A28093

DESCRIPTION

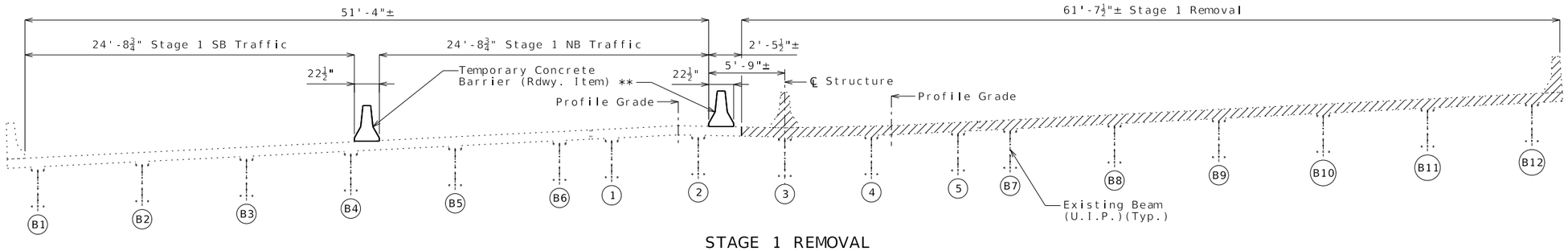
REV.

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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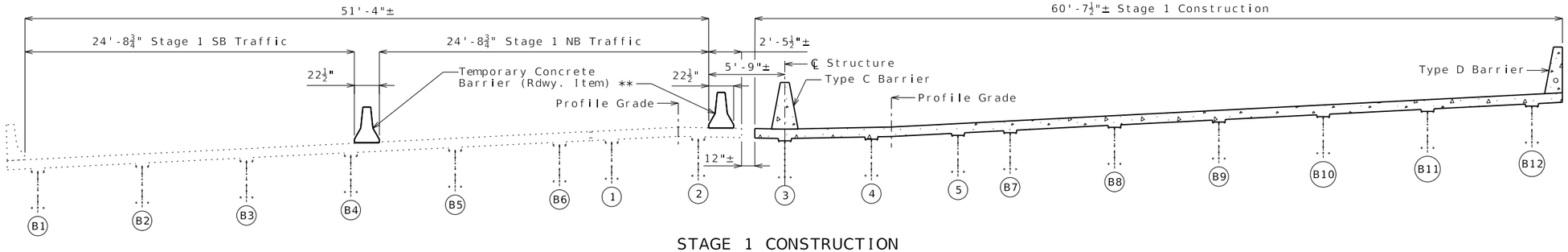
EFK•Moen
Civil Engineering Design
1355 N. Highway Drive
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

Detailed Sep. 2026
Checked Sep. 2026

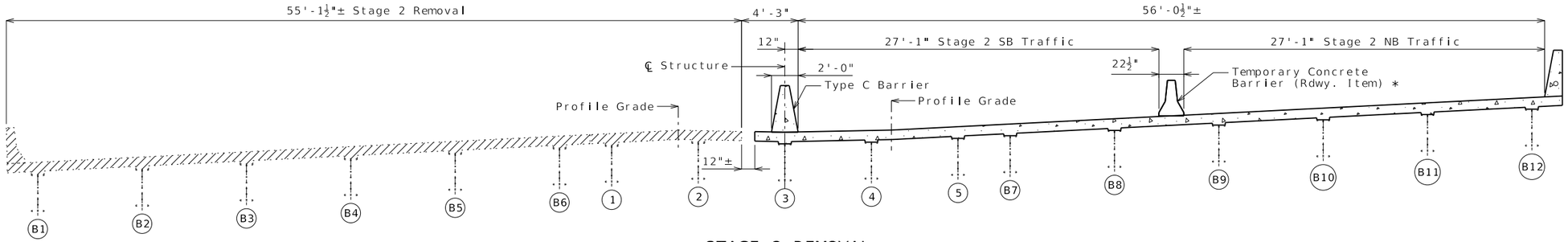
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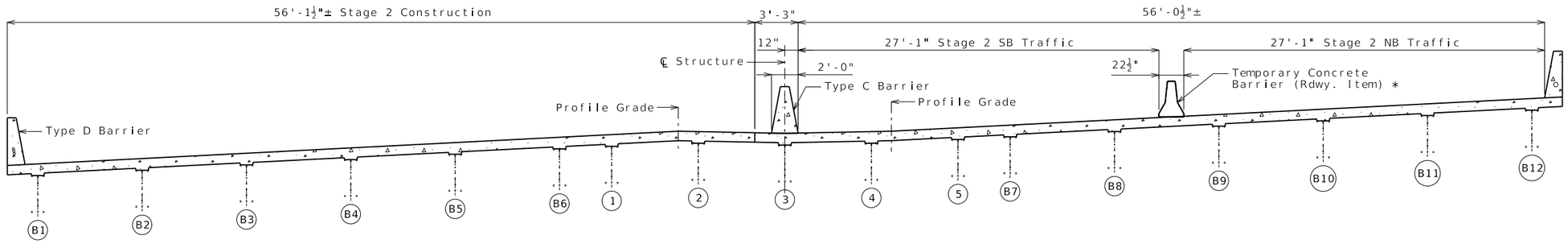
STAGE 1 REMOVAL



STAGE 1 CONSTRUCTION



STAGE 2 REMOVAL



STAGE 2 CONSTRUCTION

Notes:

For additional staging details, see Roadway Plans and Special Provisions.

* Temporary Concrete Barrier shall be freestanding.

** Temporary Concrete Barrier shall be anchored with tie-down straps.

DETAILS OF STAGED CONSTRUCTION

Detailed Sep. 2026
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NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
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Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	4

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

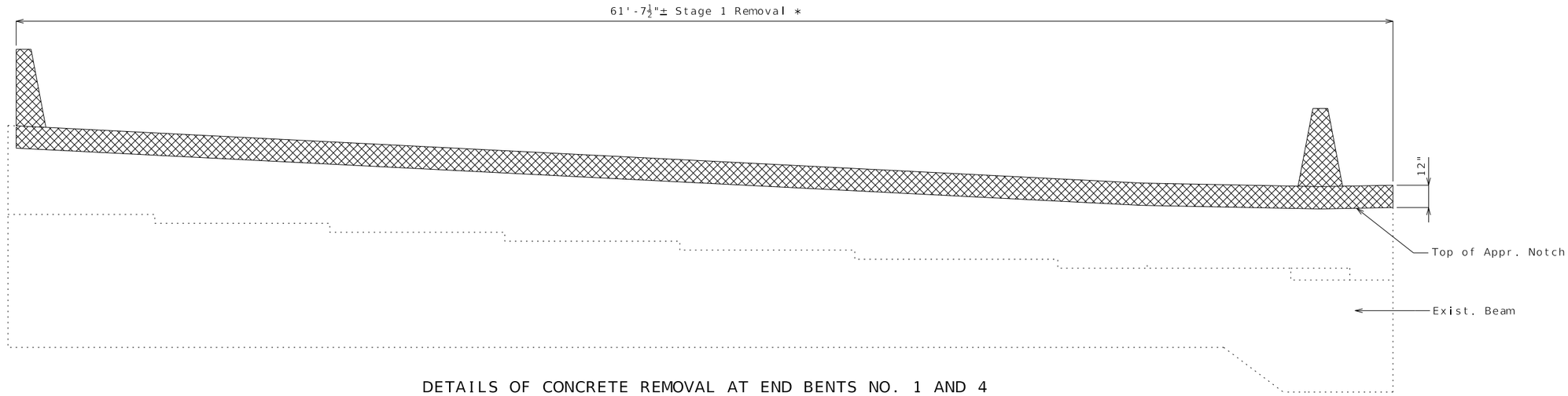
BRIDGE NO.
A28093

DESCRIPTION

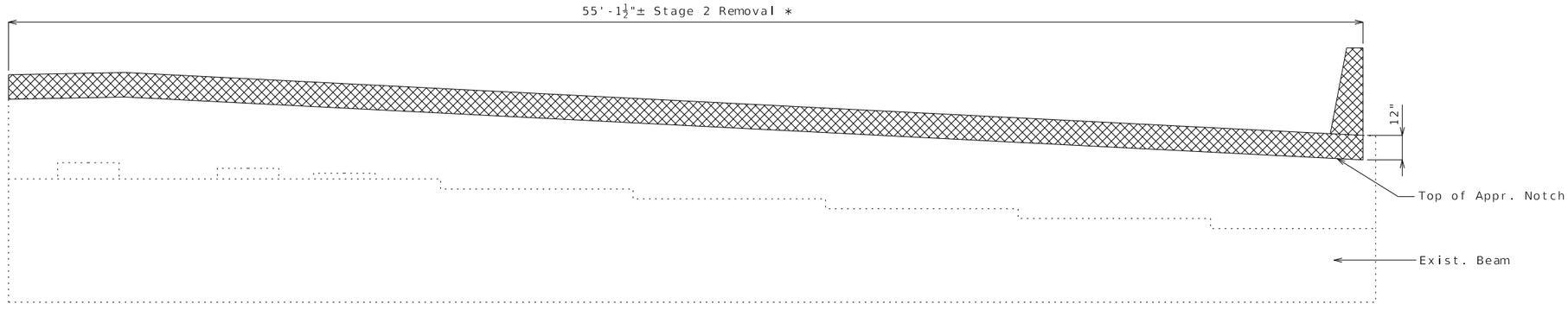
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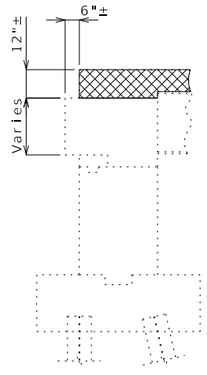
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DETAILS OF CONCRETE REMOVAL AT END BENTS NO. 1 AND 4





SECTION THRU END BENTS
SHOWING CONCRETE REMOVAL

DETAILS OF CONCRETE REMOVAL AT END BENTS NO. 1 AND 4

* Horizontal distance are along the beam.

Notes:

The cost of concrete removal as shown will be considered covered by the contract unit price for Removal of Existing Bridge Deck. Vertical backwall and wingwall reinforcement to be cutoff one inch below concrete removal surface and the resulting holes shall be filled with a qualified special mortar.

A smooth, level surface shall be provided at Bents No. 1 & 4 removal lines

The exposed and accessible surfaces of the existing structural steel and bearings that will be encased in concrete shall be cleaned with a minimum of SSPC-SP-3 surface preparation and coated with a minimum of one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce dry film thickness of not less than 3 mils before concrete is poured. The surface preparation and coating for girders shall extend a minimum of one foot outside the face of girder encasement. Payment for cleaning and coating steel to be encased in concrete will be considered completely covered by the contract unit price for Class B-2 Concrete.

DETAILS OF CONCRETE REMOVALS AT END BENTS

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

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ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER

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Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
BR	5

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

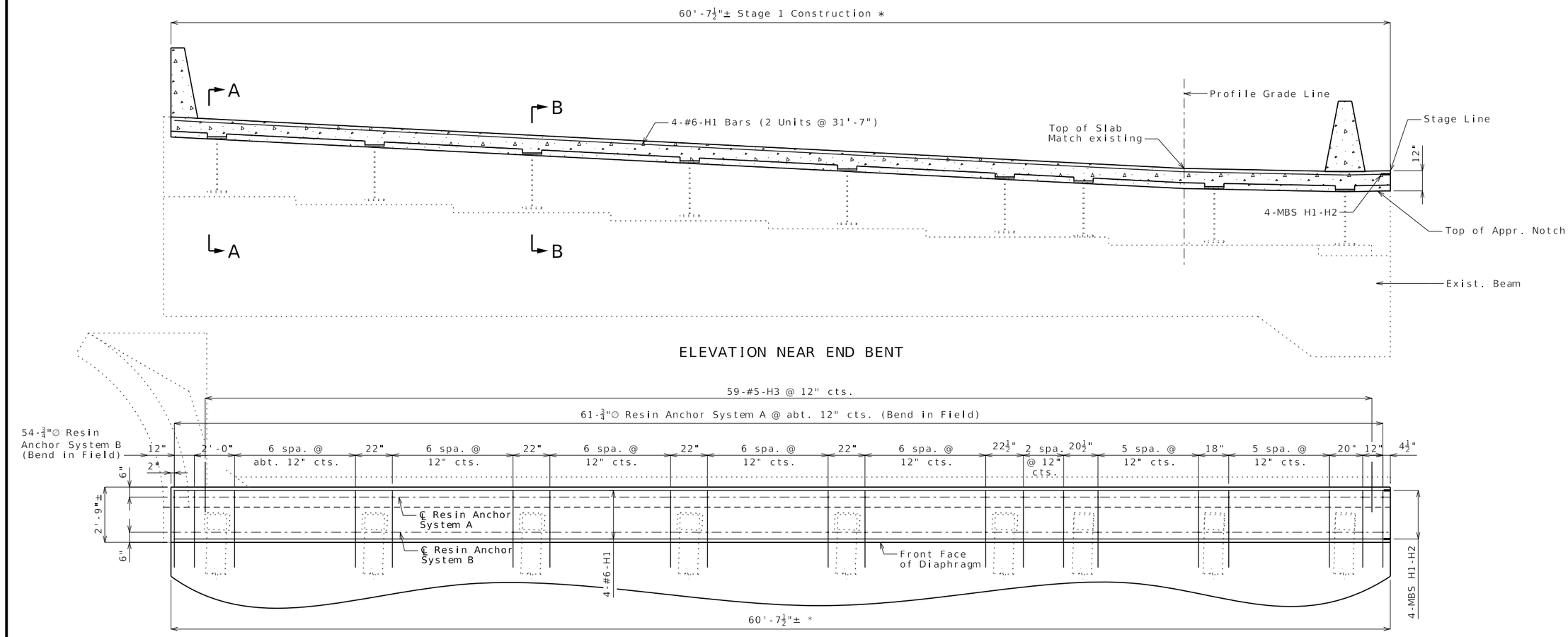
BRIDGE NO.
A28093

DESCRIPTION

REV.

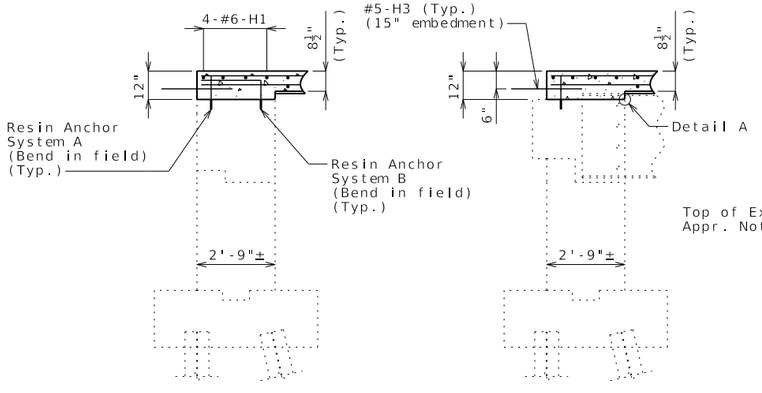
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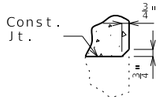
ELEVATION NEAR END BENT

PLAN

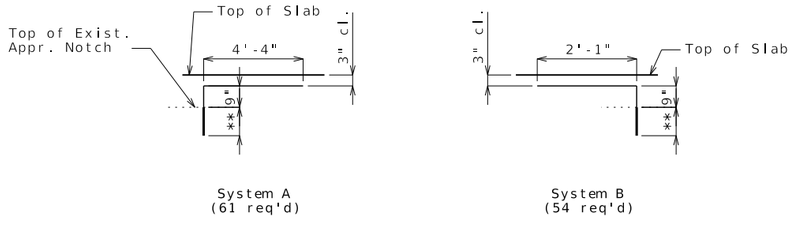


SECTION A-A

SECTION B-B



DETAIL A



DETAILS OF RESIN ANCHOR SYSTEM

** Manufacturer's recommended embedment length (5" min.)

* Horizontal distance are along the beam.

Notes:

The contractor shall use one of the qualified resin anchor system in accordance with Sec. 1039.

Cost of furnishing and installing the resin anchor system complete-in-place will be considered and completely covered by the contract unit price for Slab on Steel.

The minimum embedment depth in concrete with f'c = 4,000 psi for the Resin Anchor System shall be that required to meet the minimum ultimate pull out strength in accordance with Sec. 1039 but shall not be less than 5".

All concrete and reinforcement shown here is included in the Table of Estimated Quantities for Slab on Steel and will be considered completely covered by the contract unit price for Slab on Steel.

An epoxy coated #6 Grade 60 reinforcing bar shall be substituted for the 3/4"○ threaded rod.

DETAILS OF END BENTS NO. 1 AND 4 (STAGE 1 CONSTRUCTION)

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 6 of 21

STATE OF MISSOURI
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NUMBER PE-2018003121
PROFESSIONAL ENGINEER

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DATE PREPARED: 9/22/2026
ROUTE: I-170 | STATE: MO
DISTRICT: BR | SHEET NO.: 6
COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A28093

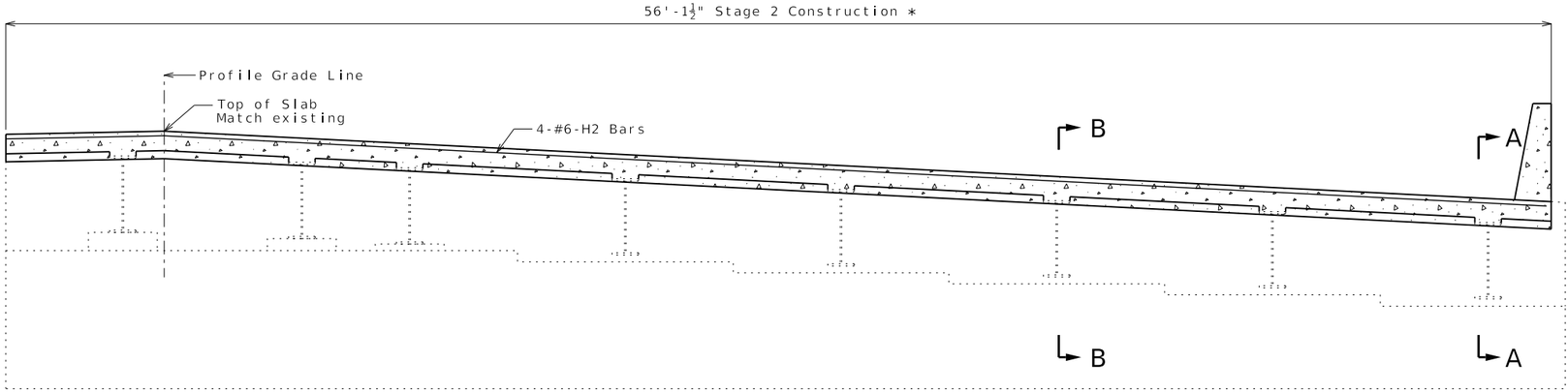
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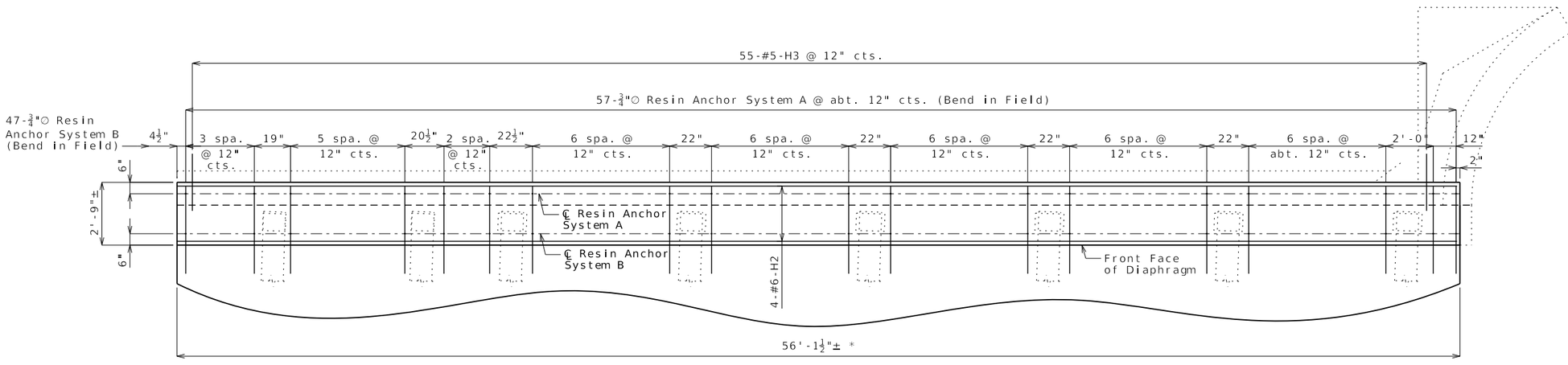
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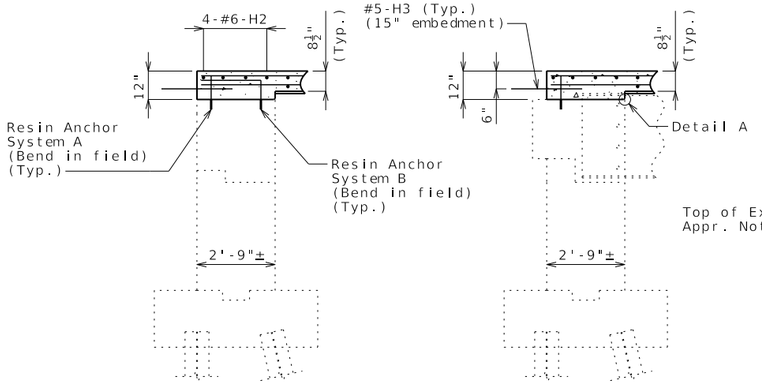
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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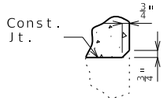




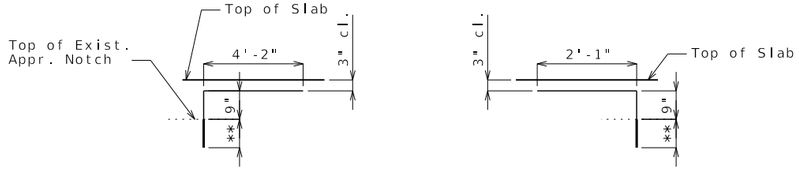


SECTION A-A

SECTION B-B



DETAIL A



DETAILS OF RESIN ANCHOR SYSTEM

** Manufacturer's recommended embedment length (5" min.)

* Horizontal distance are along the beam.

Notes:

The contractor shall use one of the qualified resin anchor system in accordance with Sec. 1039.

Cost of furnishing and installing the resin anchor system complete-in-place will be considered and completely covered by the contract unit price for Slab on Steel.

The minimum embedment depth in concrete with f'c = 4,000 psi for the Resin Anchor System shall be that required to meet the minimum ultimate pull out strength in accordance with Sec. 1039 but shall not be less than 5".

All concrete and reinforcement shown here is included in the Table of Estimated Quantities for Slab on Steel and will be considered completely covered by the contract unit price for Slab on Steel.

An epoxy coated #6 Grade 60 reinforcing bar shall be substituted for the 3/4"○ threaded rod.

DETAILS OF END BENTS NO. 1 AND 4 (STAGE 2 CONSTRUCTION)

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

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NUMBER PE-2018003121
PROFESSIONAL ENGINEER
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Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
BR	7

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

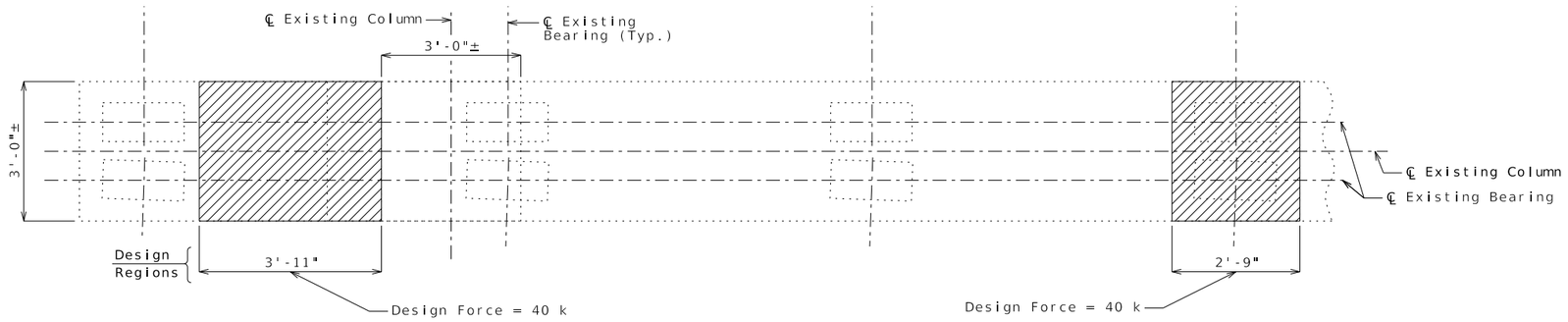
BRIDGE NO.
A28093

DESCRIPTION

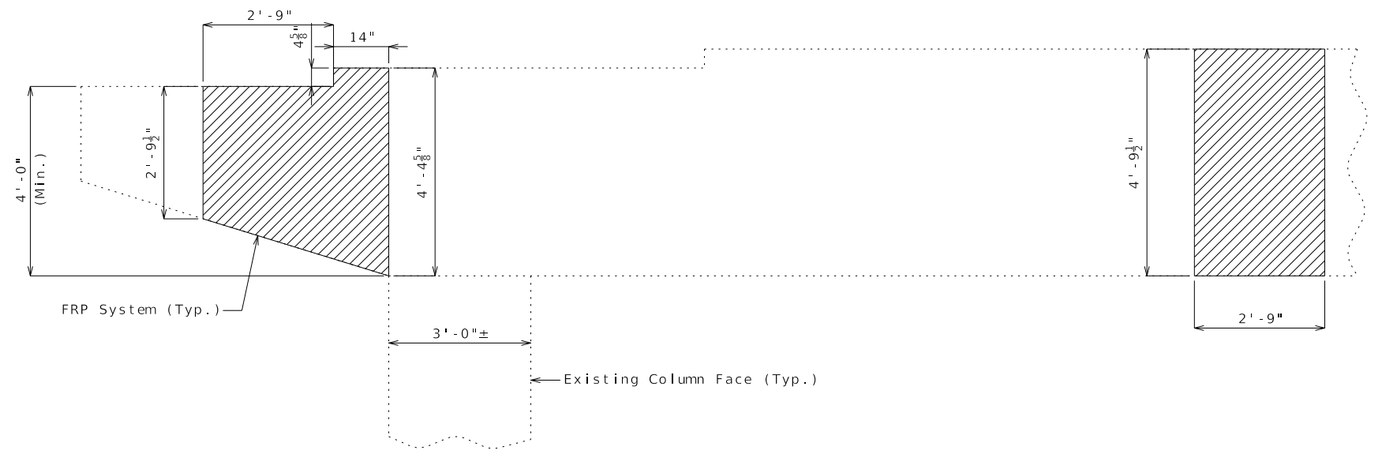
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PART PLAN



PART ELEVATION

FRP WRAP AT INT. BENT NO. 2

West end of cap shown

Notes:

Design Force is the factored shear force at any cross section in each design region that shall be resisted entirely by the FRP reinforcement.

See special provisions.

BENT CAP SHEAR STRENGTHENING USING FRP WRAP

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

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MO PE-2018003121

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ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
BR	8

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ST. LOUIS

JOB NO.
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PROJECT NO.

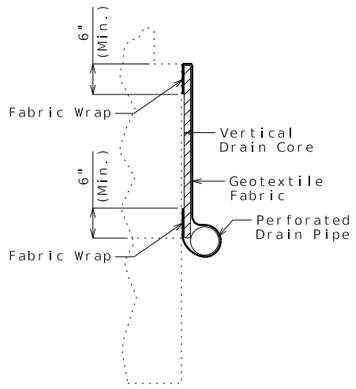
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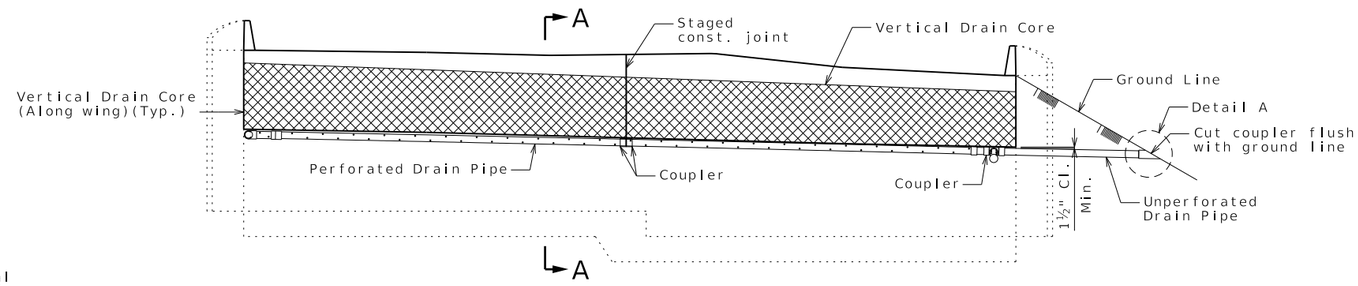
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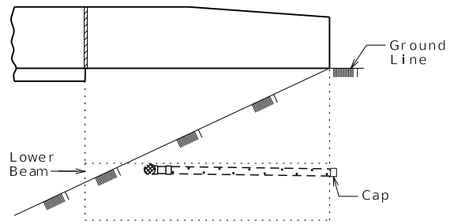
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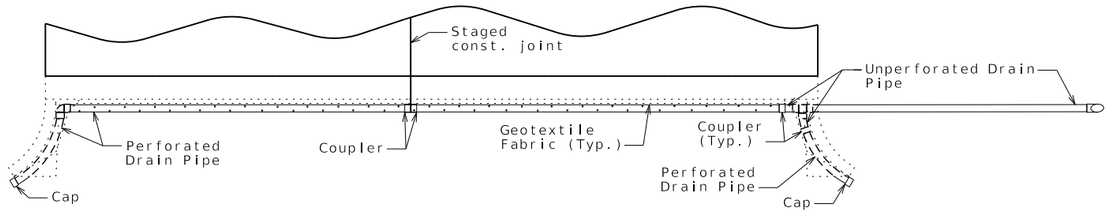
PART SECTION A-A
(Section thru wing similar)



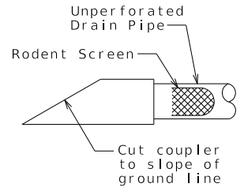
ELEVATION OF END BENT



ELEVATION OF WING



PLAN OF END BENT



DETAIL A

General Notes:

All drain pipe shall be sloped 1 to 2 percent.

Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.

Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.

SHALLOW VERTICAL DRAIN AT END BENTS

STATE OF MISSOURI
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MO PE-2018003121

DATE PREPARED: 9/22/2026
ROUTE: I-170 | STATE: MO
DISTRICT: BR | SHEET NO.: 9
COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A28093

DESCRIPTION

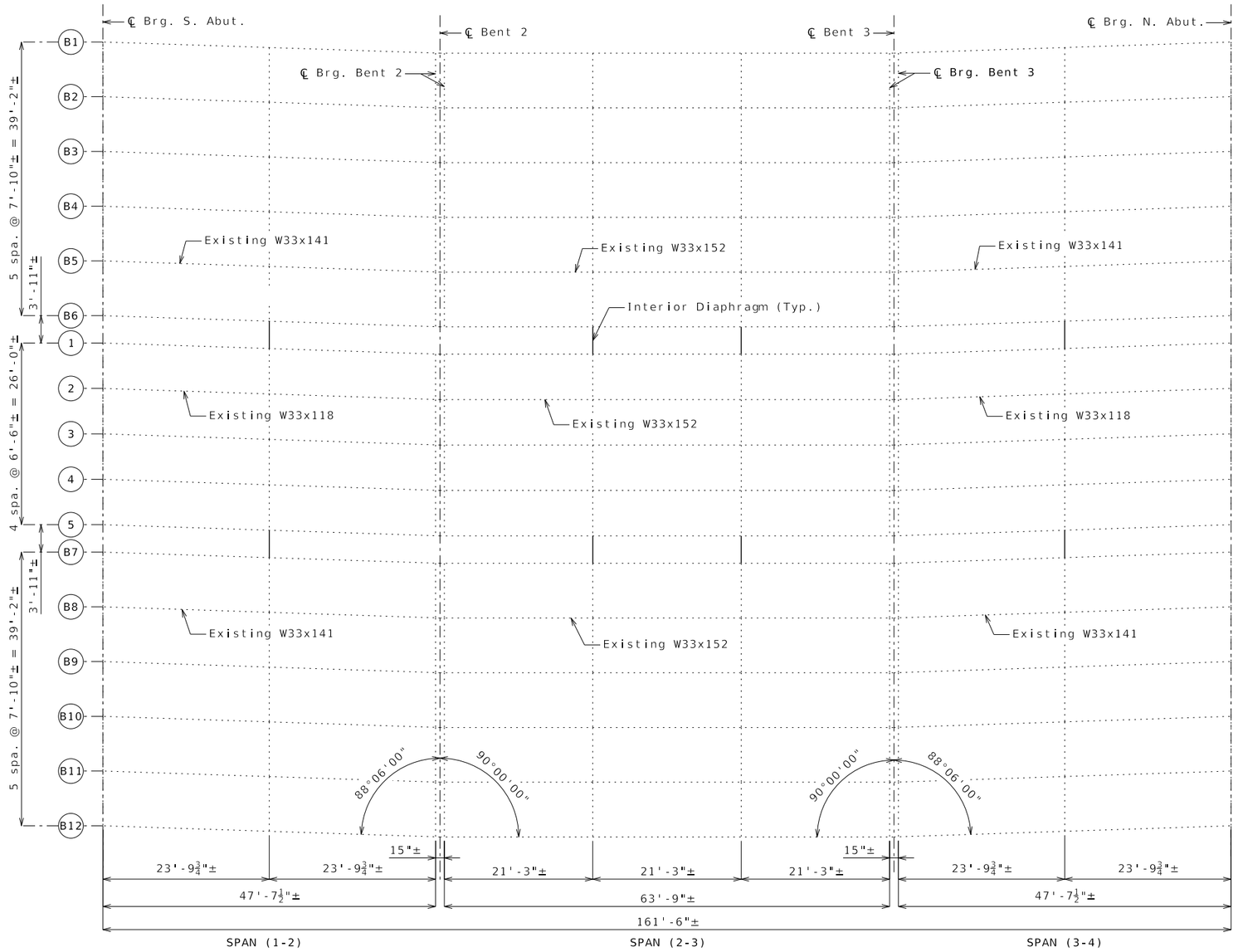
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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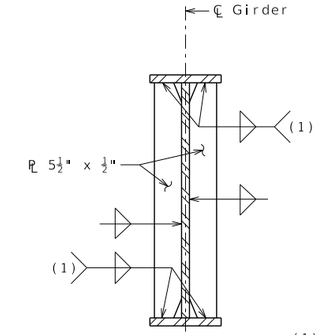
REV.

Detailed Sep. 2026
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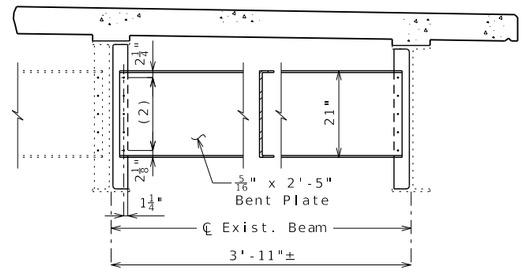
FRAMING PLAN



(1) Tight fit

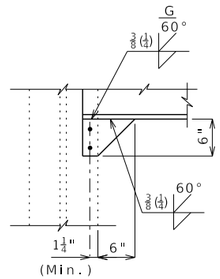
INTERMEDIATE DIAPHRAGM
CONNECTION PLATE

WELDING DETAIL



(2) 5-13/16"∅ Holes
(Equally Spaced)

TYPICAL PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS
(8 Required)



DETAIL A

STEEL DIAPHRAGMS

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
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NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
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Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
BR	10

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

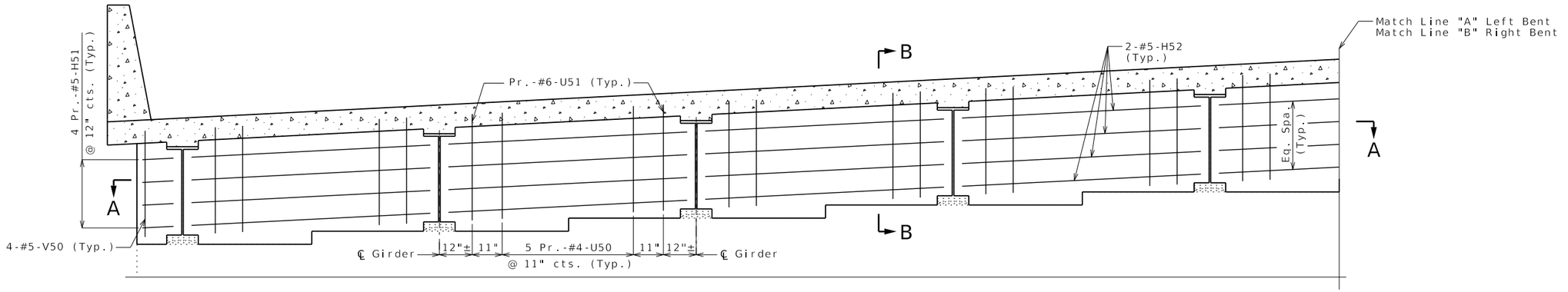
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DESCRIPTION

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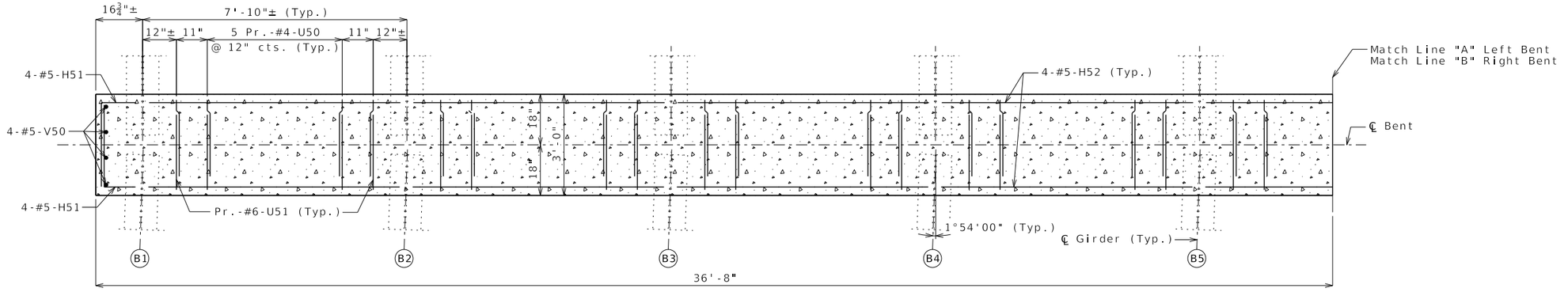
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1355 N. Highway Drive
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

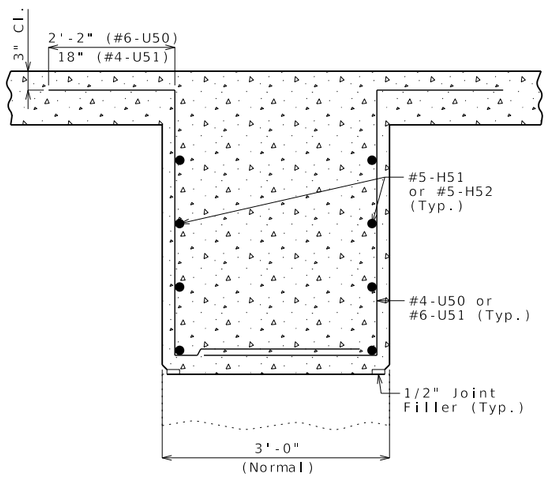


SECTION NEAR INTERMEDIATE BENT

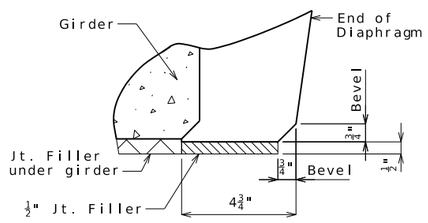
Left Bent Section shown, Right Bent Section similar



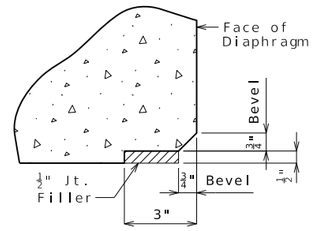
SECTION A-A



SECTION B-B



END DETAIL



EDGE DETAIL

Note:

The exposed and accessible surfaces of the existing structural steel and bearings that will be encased in concrete shall be cleaned with a minimum of SSPC-SP-3 surface preparation and coated with a minimum of one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce a dry film thickness of not less than 3 mils before concrete is poured. The surface preparation and coating for girders shall extend a minimum of one foot outside the face of the girder encasement. Payment for cleaning and coating steel to be encased in concrete will be considered completely covered by the contract unit price for Slab on Steel.

CONCRETE DIAPHRAGMS AT INTERMEDIATE BENTS NO. 2 & 3

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
09/23/20267:24:21 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED 9/22/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
BR	11

COUNTY ST. LOUIS

JOB NO. J6I3572

CONTRACT ID.

PROJECT NO.

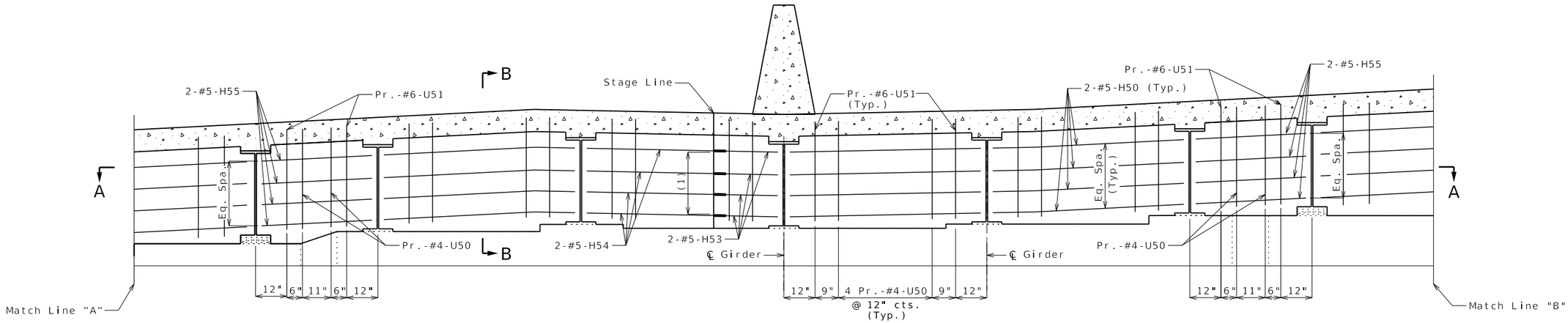
BRIDGE NO. A28093

DESCRIPTION

REV.

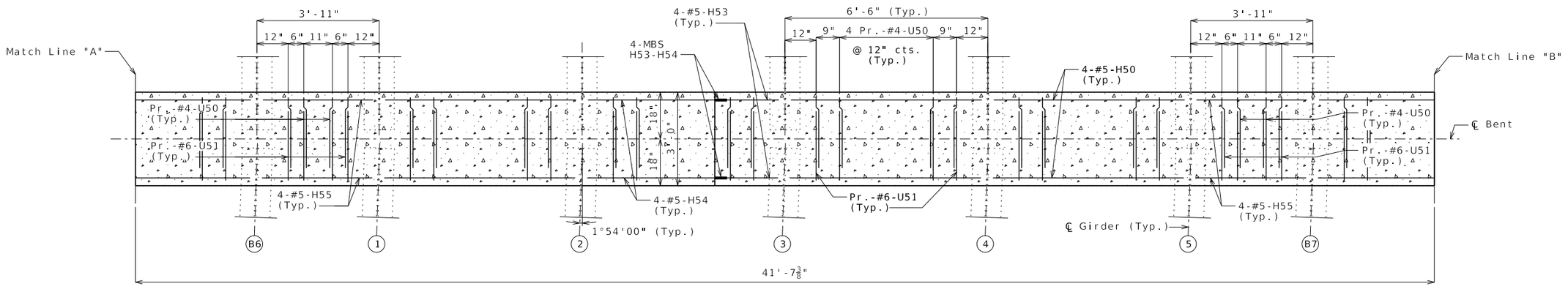
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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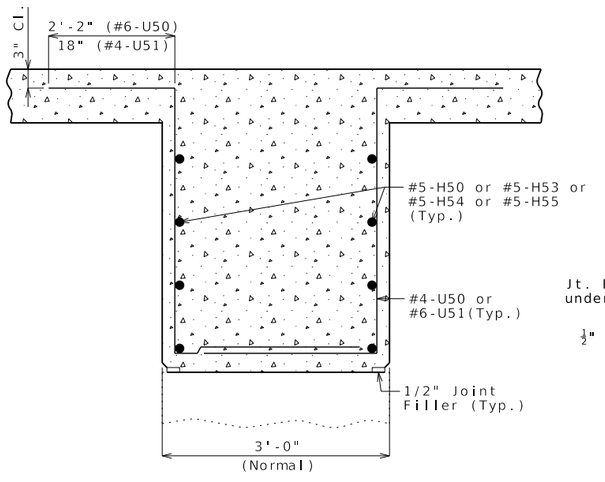


(1) 2-MBS H53-H54

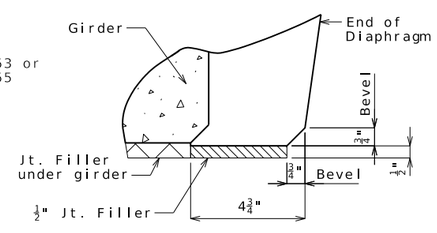
SECTION NEAR INTERMEDIATE BENT



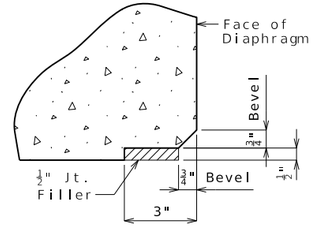
SECTION A-A



SECTION B-B



END DETAIL



EDGE DETAIL

Note:

The exposed and accessible surfaces of the existing structural steel and bearings that will be encased in concrete shall be cleaned with a minimum of SSPC-SP-3 surface preparation and coated with a minimum of one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce a dry film thickness of not less than 3 mils before concrete is poured. The surface preparation and coating for girders shall extend a minimum of one foot outside the face of the girder encasement. Payment for cleaning and coating steel to be encased in concrete will be considered completely covered by the contract unit price for Slab on Steel.

CONCRETE DIAPHRAGMS AT INTERMEDIATE BENTS NO. 2 & 3

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

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DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	12

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

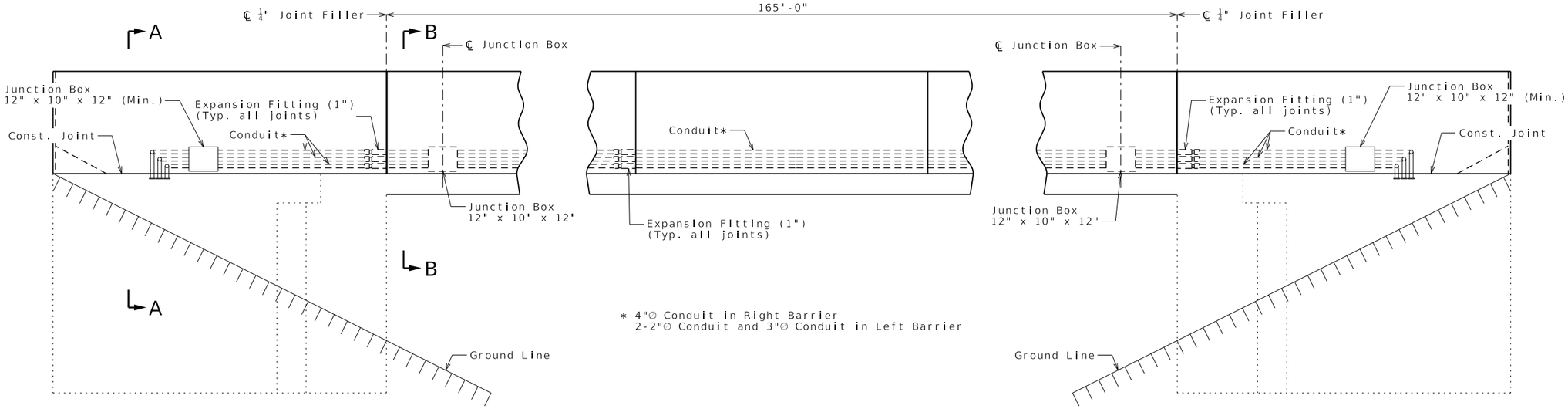
BRIDGE NO.
A28093

DESCRIPTION

REV.

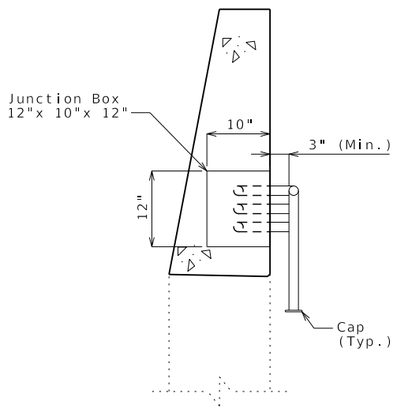
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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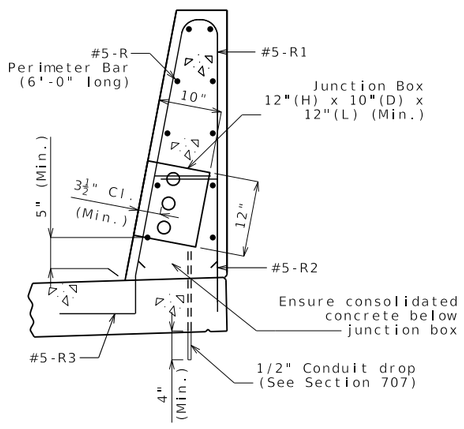


PART ELEVATION OF JUNCTION BOX IN BARRIER AND WINGWALLS

(Right Barrier shown, Left Barrier similar)



PART SECTION A-A



PART SECTION B-B

Notes:

All conduit shall be rigid non-metallic Schedule 40 heavy wall PVC (polyvinyl chloride plastic) with 3 1/2-inch minimum cover in barrier and 4 1/2-inch minimum cover in abutment wing. Each section of conduit shall bear the Underwriters' Laboratories, Inc., (UL) label.

Shift reinforcing steel in field where necessary to clear conduit and junction boxes.

Expansion fittings shall be placed as shown and set in accordance with the manufacturer's requirements and based on the air temperature at the time of setting given an estimated total expansion movement of 1 inch at filled joints using a maximum temperature range of 120°F and a maximum temperature of 110°F.

Placement of junction boxes and covers, complete in place, shall be flush with the roadway face of the barrier. Junction boxes and covers may be recessed up to 1/4".

Drainage shall be provided at low points or other critical locations of all conduits and all junction boxes in accordance with Sec 707. All conduits shall be sloped to drain where possible.

Junction box size shown on plan may require special order. No other size may be substituted.

MoDOT Construction Personnel: Indicate in field and on bridge plans for future work the exact location of buried conduit at end of bridge that are capped and not immediately used.

Payment for furnishing and installing Conduit System, complete-in-place, will be considered completely covered by the contract lump sum price for Conduit System on Structure.

DETAILS OF CONDUIT SYSTEM

Detailed Sep. 2026
Checked Sep. 2026

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DATE PREPARED
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ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
BR	13

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

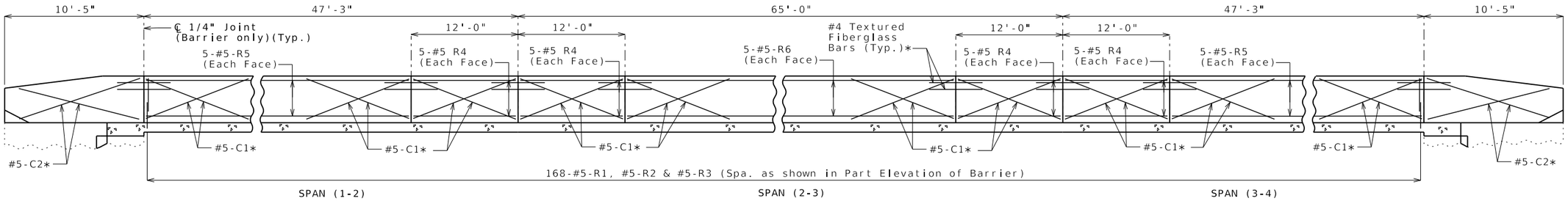
BRIDGE NO.
A28093

DESCRIPTION

REV.

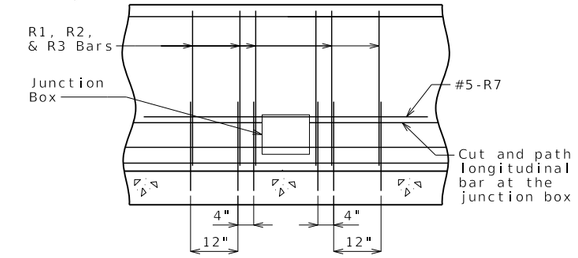
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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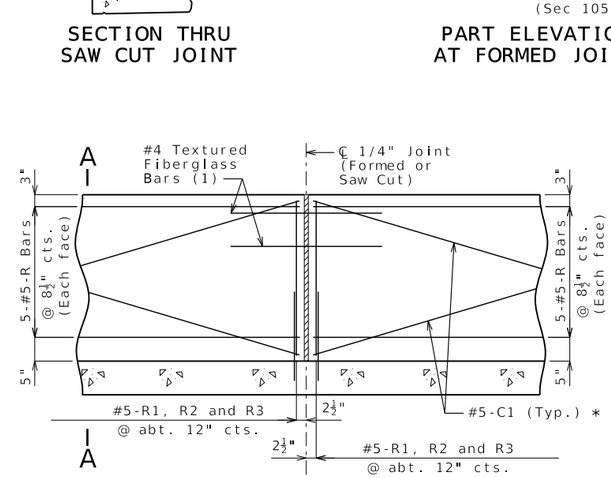
ELEVATION OF BARRIER

Longitudinal dimensions are horizontal.
Conduit not shown for clarity.



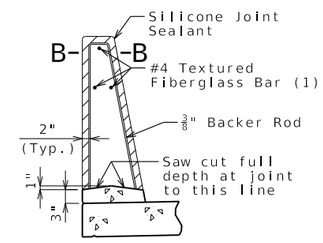
PART ELEVATION OF BARRIER

Slip-form on bars not shown for clarity

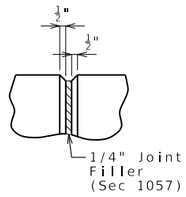


PART ELEVATION OF BARRIER

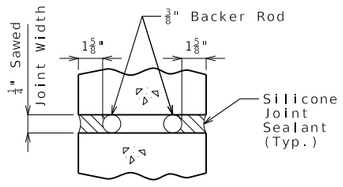
(1) Four feet long, centered on joint, slip-formed option only



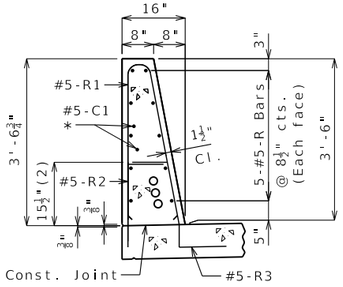
SECTION THRU SAW CUT JOINT



PART ELEVATION AT FORMED JOINT



SECTION B-B

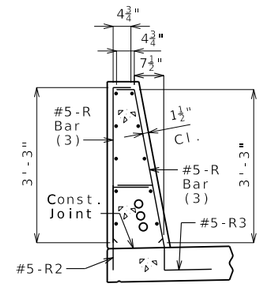


SECTION A-A

Use a minimum lap of 2'-6" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 3.56 square feet.

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

General Notes:

* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type D Barrier per linear foot.

Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

LEFT TYPE D BARRIER

Detailed Sep. 2026
Checked Sep. 2026

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Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
BR	14

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

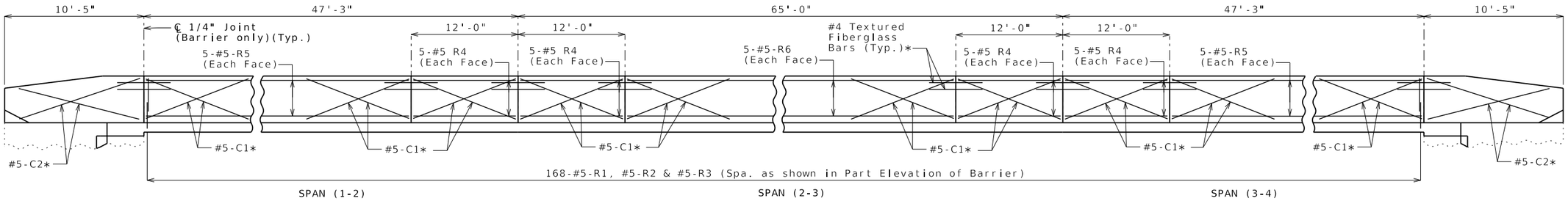
BRIDGE NO.
A28093

DESCRIPTION

REV.

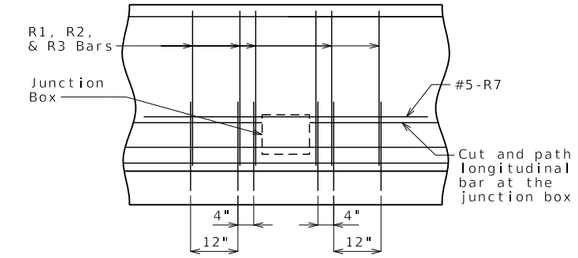
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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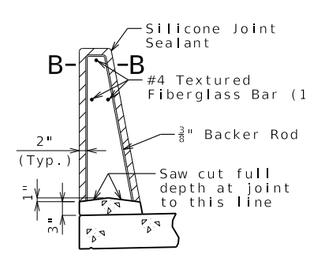
ELEVATION OF BARRIER

Longitudinal dimensions are horizontal.
Conduit not shown for clarity.

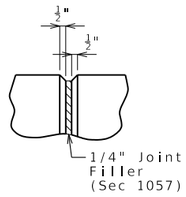


PART ELEVATION OF BARRIER

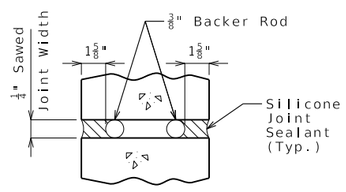
Slip-form on bars not shown for clarity



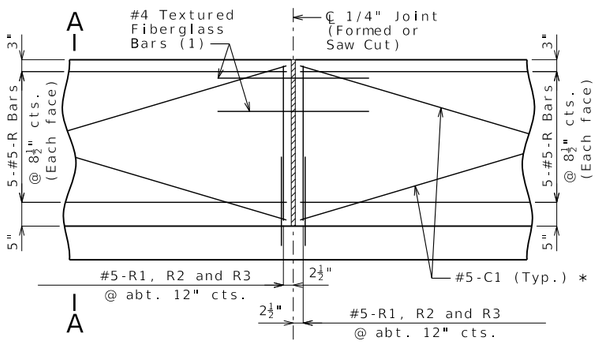
SECTION THRU
SAW CUT JOINT



PART ELEVATION
AT FORMED JOINT

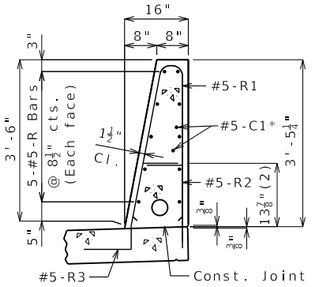


SECTION B-B



PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

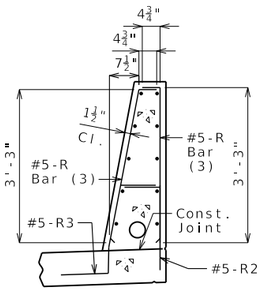


SECTION A-A

Use a minimum lap of 2'-6" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 3.48 square feet.

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

General Notes:

* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type D Barrier per linear foot.

Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

RIGHT TYPE D BARRIER

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

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Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	15

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

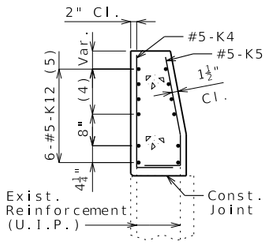
BRIDGE NO.
A28093

DESCRIPTION

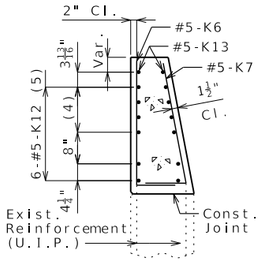
REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

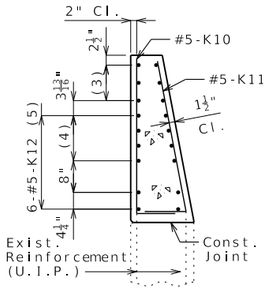
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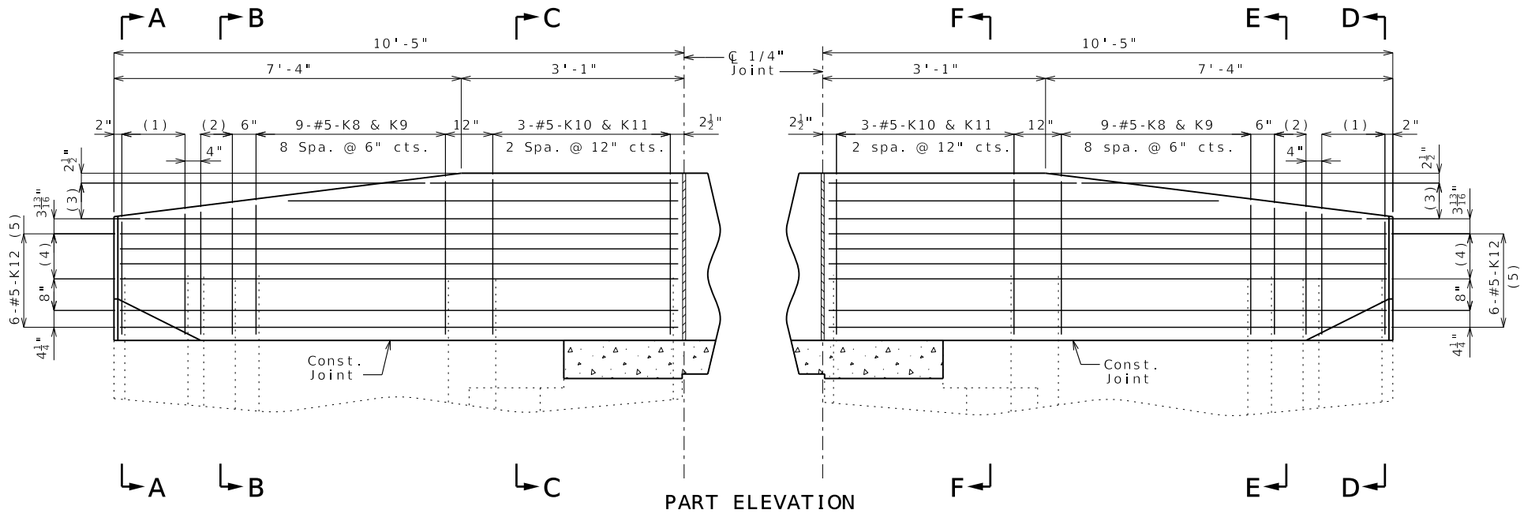
SECTION A-A



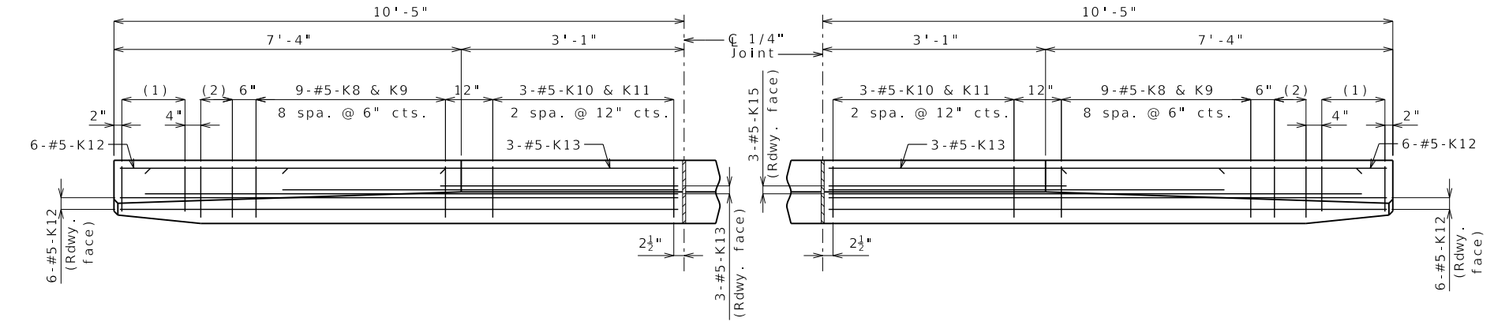
SECTION B-B



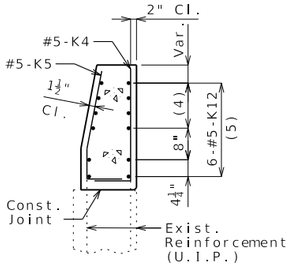
SECTION C-C



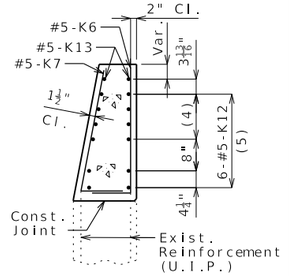
PART ELEVATION



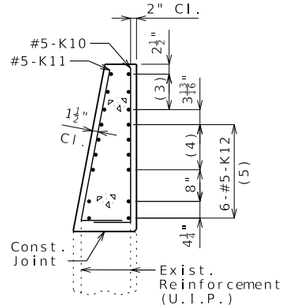
PART PLAN



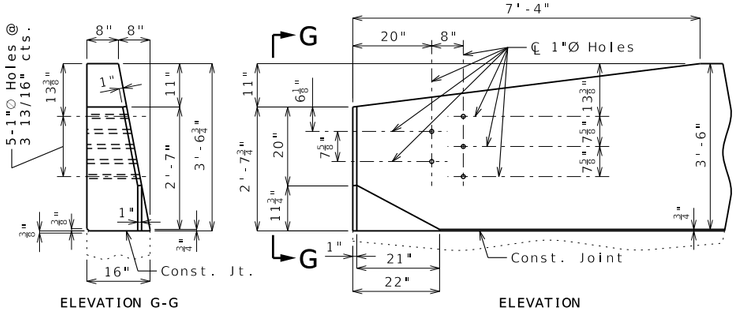
SECTION D-D



SECTION E-E



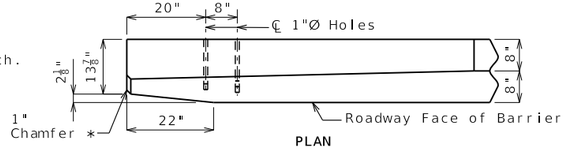
SECTION F-F



ELEVATION G-G

ELEVATION

* Transition to zero at Type A curb for gutter lines to match.



PLAN

DETAILS OF GUARD RAIL ATTACHMENT

(1) 5-#5-K4 & K5 @ 4" cts.

(2) 3-#5-K6 & K7 @ 4" cts.

(3) 3-#5-K13 @ 4½" cts., each face

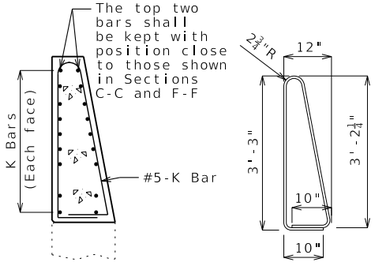
(4) 3 spaces @ 3 13/16"

(5) Spaced as shown, each face

General Notes:

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.



K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

LEFT TYPE D BARRIER AT END BENTS

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER

Alex C. Benz
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Alex Benz - Civil
MO PE-2018003121

DATE PREPARED 9/22/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	16

COUNTY ST. LOUIS

JOB NO. J6I3572

CONTRACT ID.

PROJECT NO.

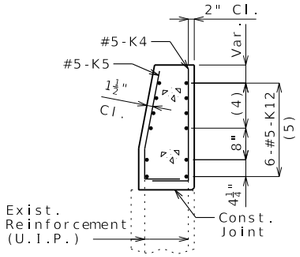
BRIDGE NO. A28093

DESCRIPTION

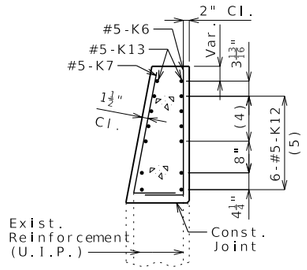
REV.

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

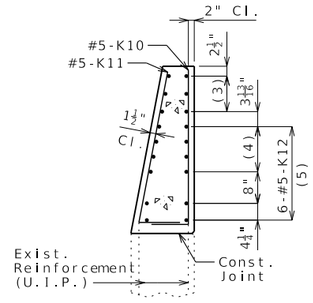
EFK•Moen
Civil Engineering Design
1355 N. Highway Drive
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



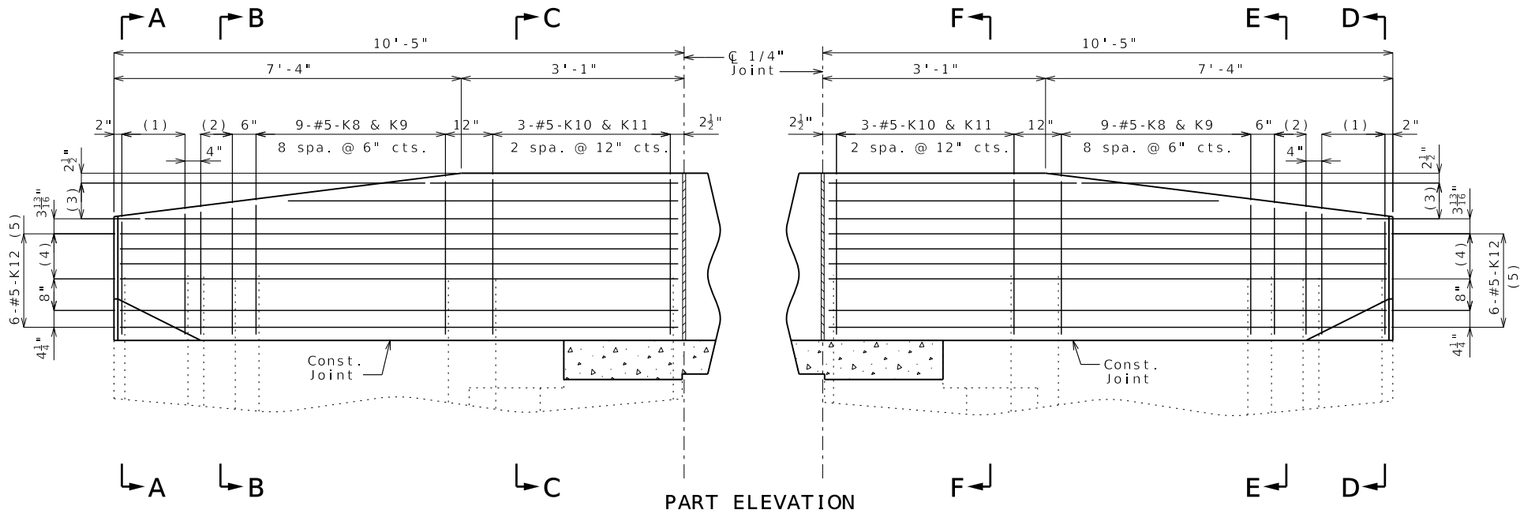
SECTION A-A



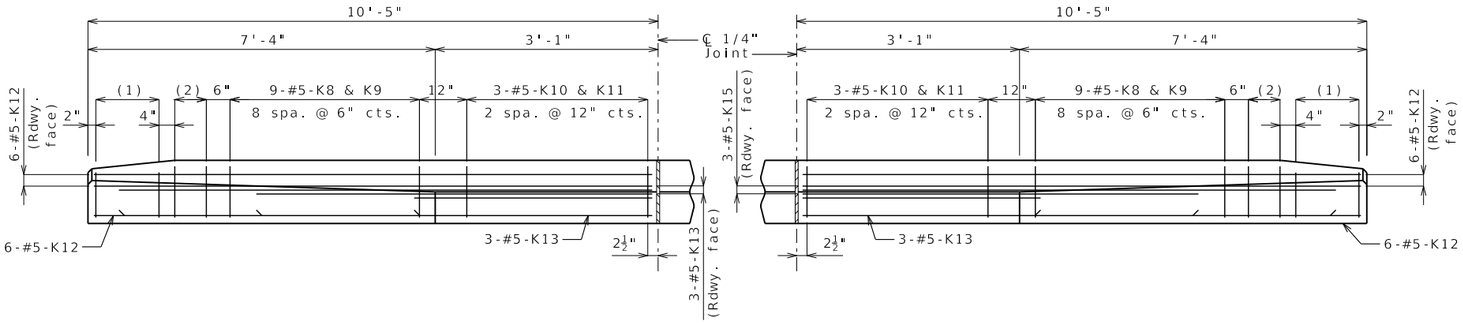
SECTION B-B



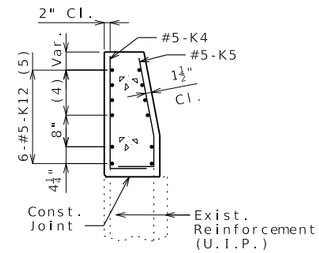
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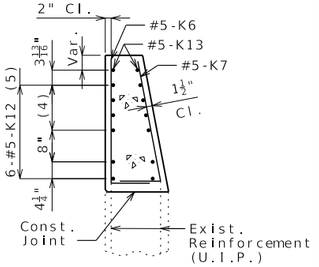
PART ELEVATION



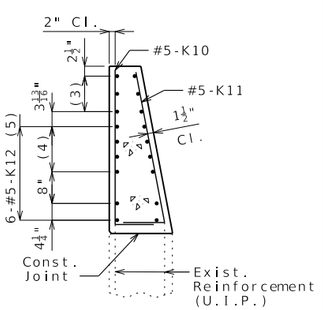
PART PLAN



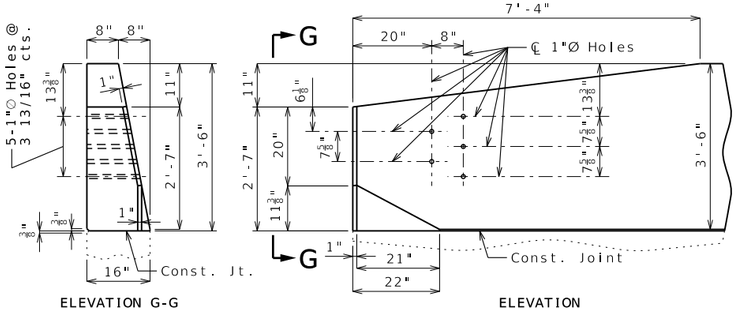
SECTION D-D



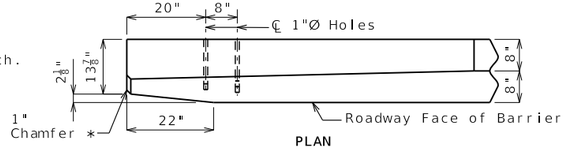
SECTION E-E



SECTION F-F



ELEVATION G-G ELEVATION



PLAN

DETAILS OF GUARD RAIL ATTACHMENT

* Transition to zero at Type A curb for gutter lines to match.

(1) 5-#5-K4 & K5 @ 4" cts.

(2) 3-#5-K6 & K7 @ 4" cts.

(3) 3-#5-K13 @ 4½" cts., each face

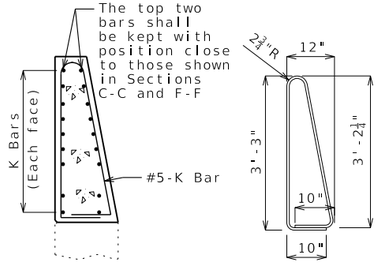
(4) 3 spaces @ 3 13/16"

(5) Spaced as shown, each face

General Notes:

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.



K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

RIGHT TYPE D BARRIER AT END BENTS

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

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ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
09/23/20267:24:21 AM
Alex Benz - Civil
MO PE-2018003121

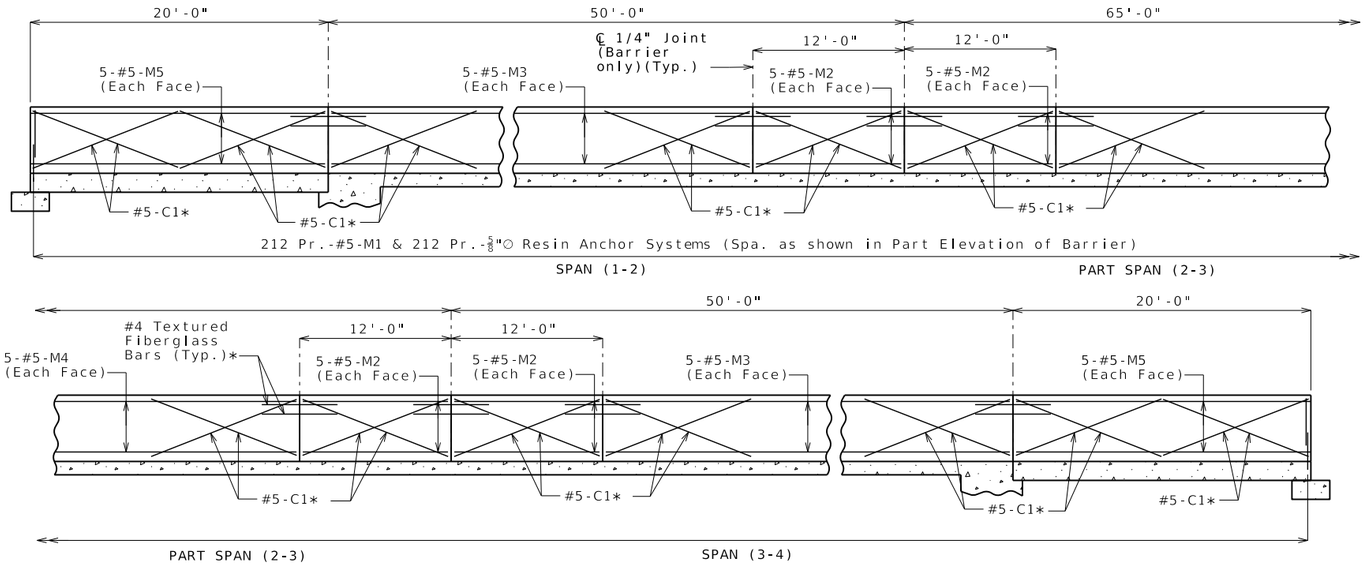
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9/22/2026	
ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	17
COUNTY	
ST. LOUIS	
JOB NO.	
J6I3572	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
A28093	

DESCRIPTION

REV.

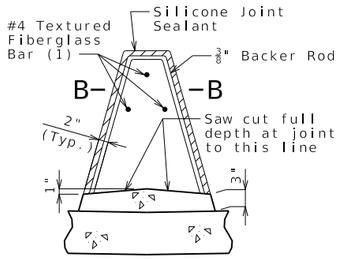
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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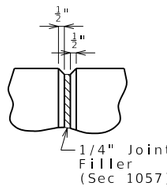


ELEVATION OF BARRIER

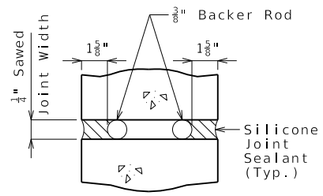
Longitudinal dimensions are horizontal.



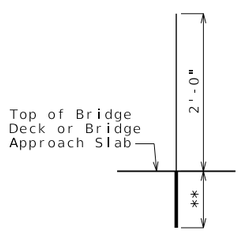
SECTION THRU SAW CUT JOINT



PART ELEVATION AT FORMED JOINT



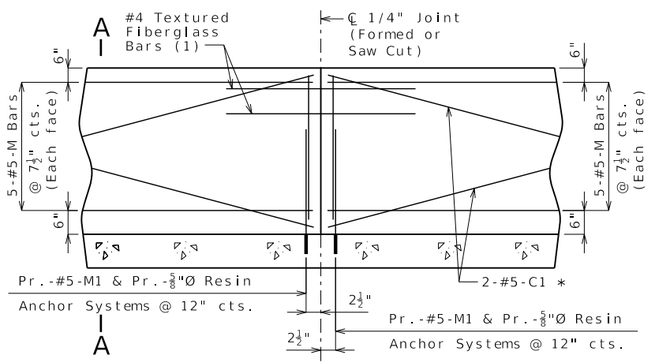
SECTION B-B



RESIN ANCHOR SYSTEM

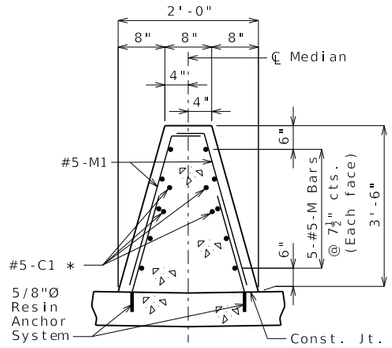
(212 required)

∗∗ Manufacturer's embedment length (5" minimum) (Field bend)



PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only



SECTION A-A

Use a minimum lap of 2'-6" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 4.69 square feet.

General Notes:

∗ Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade with barrier joints normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be completely covered by the contract unit price for Type C Barrier per linear foot.

Concrete in the barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot, measured along the top of slab at centerline median from end of bridge approach slab to end of bridge approach slab.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type C Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

The contractor shall use one of the qualified resin anchor systems in accordance with 1039.

Cost of furnishing and installing the resin anchor system, complete in place, will be considered completely covered by the contract unit price for Type C Barrier.

The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5 inches.

An epoxy coated #5 Grade 60 reinforcing bar shall be substituted for the 5/8-inch diameter threaded rod.

TYPE C BARRIER

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

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ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
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Alex Benz - Civil
MO PE-2018003121

DATE PREPARED 9/22/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	18

COUNTY: ST. LOUIS

JOB NO.: J6I3572

CONTRACT ID.:

PROJECT NO.:

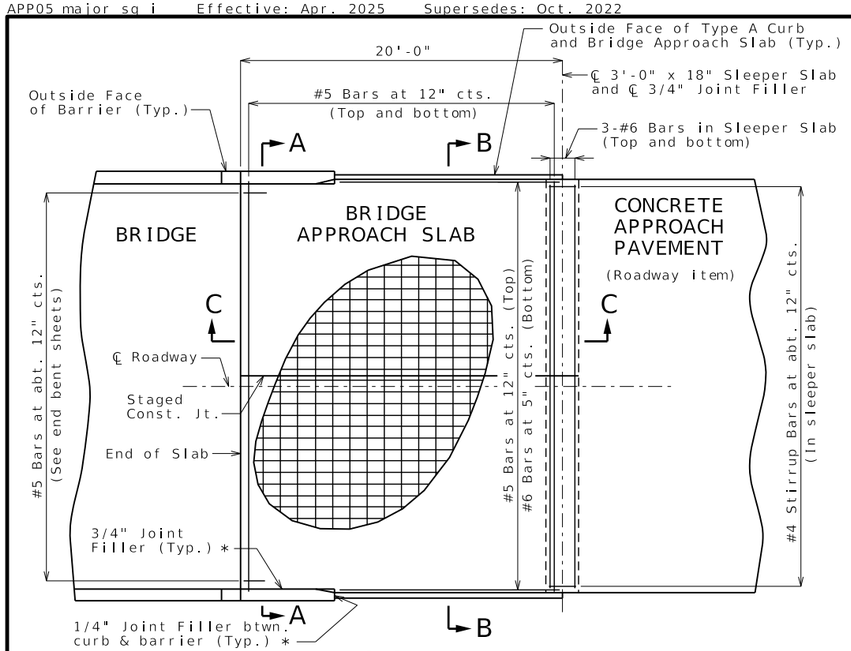
BRIDGE NO.: A28093

DESCRIPTION

REV.

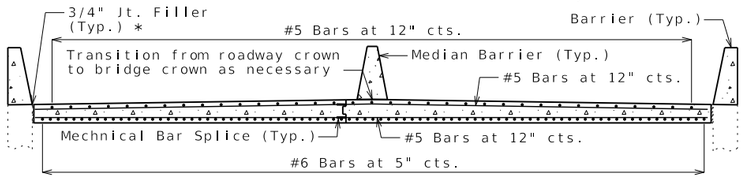
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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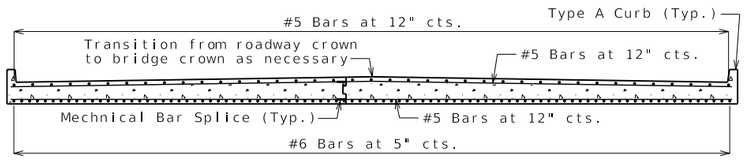


PART PLAN SHOWING REINFORCEMENT

Median Barrier not shown for clarity.

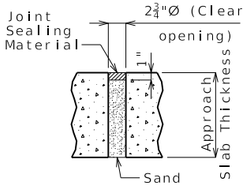


SECTION A-A



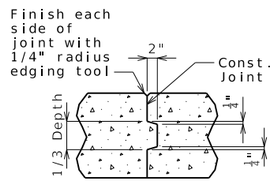
SECTION B-B

With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.

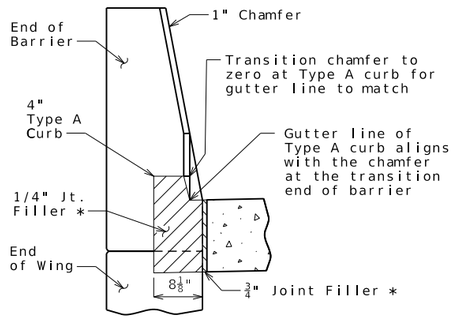


UNDERSEAL ACCESS HOLE DETAIL

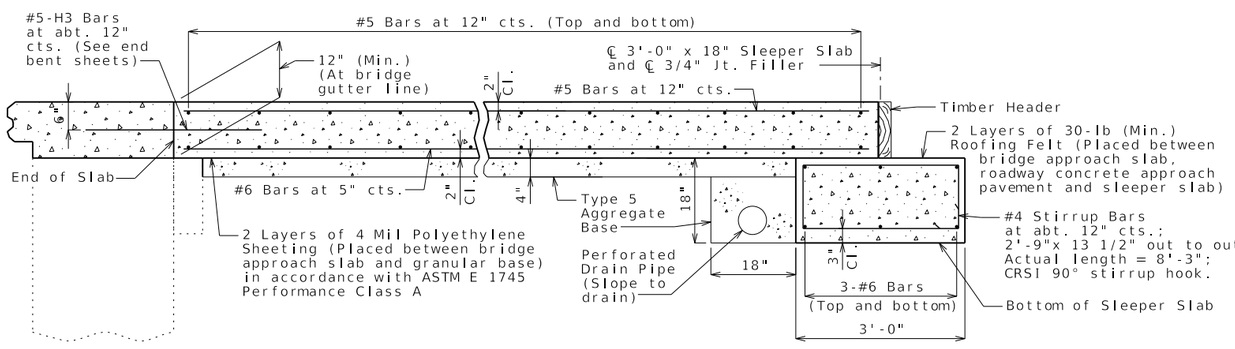
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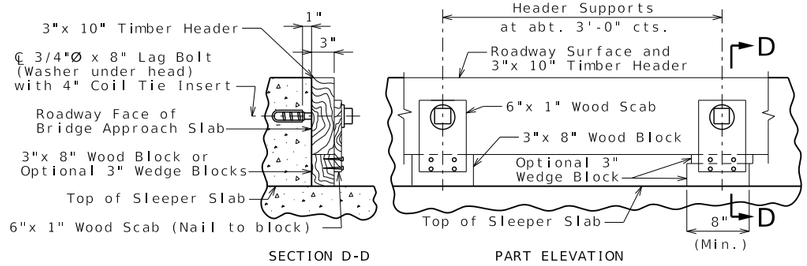
CONSTRUCTION JOINT DETAIL



SECTION BETWEEN CURB AND BARRIER



SECTION C-C



SECTION D-D PART ELEVATION

DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

General Notes:

All concrete for the bridge approach slab and sleeper slab shall be in accordance with Sec 503 (f'c = 4,000 psi).

The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated Grade 60 with fy = 60,000 psi.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 24 inches for #5 bars and 40 inches for #6 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710. (Estimated 48 splices per slab)

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab.

For concrete approach pavement details, see roadway plans.

See Missouri Standard Plan 609.00 for details of Type A curb.

Payment for furnishing all materials, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, Type 5 aggregate base, joint filler and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Major) per square yard.

* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

BRIDGE APPROACH SLAB (MAJOR)

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

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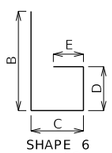
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9/22/2026	
ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	19
COUNTY	
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JOB NO.	
J6I3572	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
A28093	

DESCRIPTION

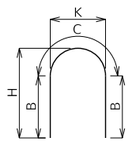
REV.

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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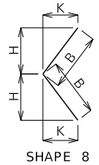
EFK•Moen
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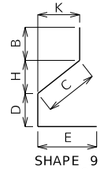
SHAPE 6
or 6S



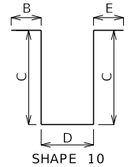
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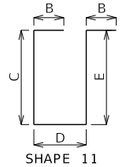
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or 8S



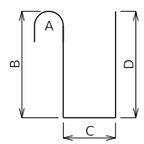
SHAPE 9
or 9S



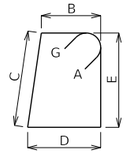
SHAPE 10
or 10S



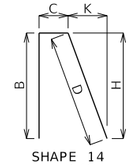
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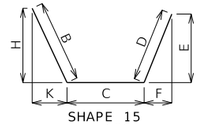
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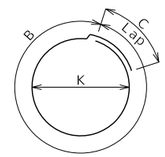
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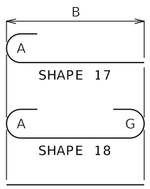
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or 14S



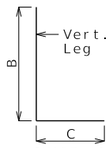
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or 15S



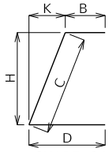
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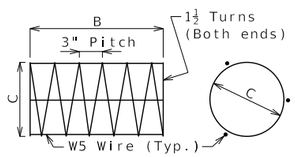
SHAPE 17
SHAPE 18
SHAPE 20



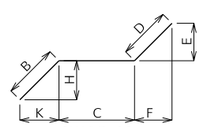
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or 19S



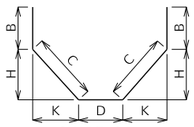
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or 21S



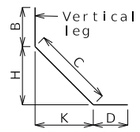
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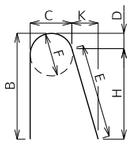
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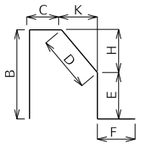
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or 24S



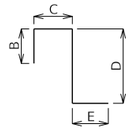
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or 25S



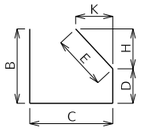
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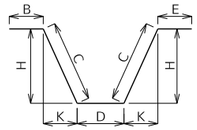
SHAPE 27S



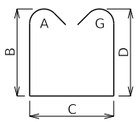
SHAPE 28
or 28S



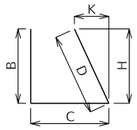
SHAPE 29
or 29S



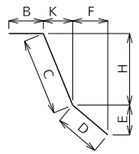
SHAPE 30
or 30S



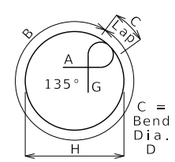
SHAPE 31S



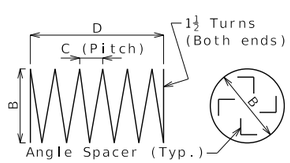
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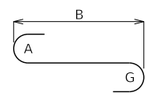
SHAPE 33
or 33S



SHAPE 34S



SHAPE 35 (1)

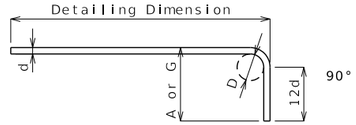


SHAPE 36

Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes

Size	Case	D	A or G		J
			90°	180°	180°
#4	1	3"	8"	6"	4"
#5	1	3¾"	10"	7"	5"
#6	1	4½"	12"	8¼"	6"
#7	2	5¼"	14"	9¾"	7"
	3	7"	15"	11½"	8¾"
#8	2	6"	16"	11"	8"
	3	8"	17"	13¼"	10"
#9	1	9½"	19½"	15½"	11¾"
#10	1	10¾"	22"	17½"	13¼"
#11	1	12"	24½"	19½"	14⅞"
#14	1	18¼"	31¼"	27½"	21⅝"
#18	1	24"	41½"	36¾"	28½"

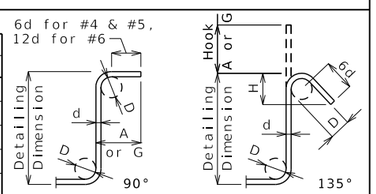


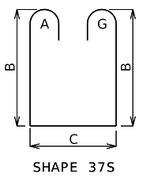
Stirrup Pin Bend Shapes (S)

Size	Case	D	A or G			H	J
			90°	135°	180°	135°	180°
#4	2	2"	4½"	4½"	5"	2⅝"	3"
	3	3"	5"	5¼"	6"	3"	4"
#5	2	2½"	5¾"	5¾"	5¾"	3⅝"	3¾"
	3	3¾"	6¼"	6½"	7"	3⅞"	5"
#6	1	4½"	12"	7¾"	8¼"	4⅝"	6"

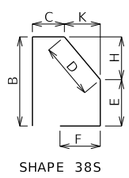
Applicable for all grades of steel.

Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.





SHAPE 37S



SHAPE 38S

BENDING DIAGRAMS

All dimensions are out to out.

Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.

Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.

(1) Shall be a deformed or plain spiral bar or wire.

Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spirals. Length and weight of column spirals do not include splices or spacers.

Reinforcing Steel Totals (Pounds)

		Substructure		Superstructure				Entire Bridge	
				Slab			Slip		
	Size	Plain	Epoxy	Plain	Epoxy	Barrier	Form	Plain	Epoxy
By Size	W5	0	0	0	0	0	0	0	0
	4	0	0	0	1,450	0	0	0	1,450
	5	0	0	0	71,490	11,840	916	0	84,246
	6	0	0	0	66,552	0	0	0	66,552
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0
	9	0	0	0	0	0	0	0	0
	10	0	0	0	0	0	0	0	0
	11	0	0	0	0	0	0	0	0
	14	0	0	0	0	0	0	0	0
	18	0	0	0	0	0	0	0	0
By Type		0	0	0	139,492	11,840	916	0	152,248

All superstructure reinforcing steel shall be epoxy coated unless otherwise specified.

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Detailed Sep. 2026
Checked Sep. 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER
Alex C. Benz
09/23/20267:24:22 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED 9/22/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	20

COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A28093

DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
Civil Engineering Design
1355 N. Highway Drive
Suite 200
St. Louis, MO 63026
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

REV.

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
		SLAB													
376	5 S1	SLAB	E	20		42 6.000							42 6	42 6	16667
92	6 S2	SLAB	E	20		27 2.000							27 2	27 2	3754
92	6 S3	SLAB	E	20		26 7.000							26 7	26 7	3673
636	6 S4	SLAB	E	20		31 7.000							31 7	31 7	30171
318	6 S5	SLAB	E	20		54 10.000							54 10	54 10	26190
610	5 S6	SLAB	E	20		34 11.000							34 11	34 11	22215
490	5 S7	SLAB	E	20		31 5.000							31 5	31 5	16056
245	5 S8	SLAB	E	20		54 10.000							54 10	54 10	14012
		END BENT NO. 1 & 4													
16	6 H1	BENT	E	20		31 7.000							31 7	31 7	759
8	6 H2	BENT	E	20		54 10.000							54 10	54 10	659
228	5 H3	BENT	E	20		2 6.000							2 6	2 6	595
		INT. BENT NO. 2 & 3													
48	5 H50	DIAPHRAGM	E	20		6 2.000							6 2	6 2	309
32	5 H51	DIAPHRAGM	E	6		2 10.000	10.000						3 8	3 5	114
160	5 H52	DIAPHRAGM	E	20		7 6.000							7 6	7 6	1252
16	5 H53	DIAPHRAGM	E	20		23.000							1 11	1 11	32
16	5 H54	DIAPHRAGM	E	20		3 11.000							3 11	3 11	65
32	5 H55	DIAPHRAGM	E	20		3 7.000							3 7	3 7	120
280	4 U50	DIAPHRAGM	E	28			2 2.000	3 2.000	2 8.000				8 0	7 9	1450
128	6 U51	DIAPHRAGM	E	28			18.000	3 2.000	2 8.000				7 4	7 0	1346
16	5 V50	DIAPHRAGM	E	20		3 2.000							3 2	3 2	53
		TYPE D BARRIER													
20	5 K4	BARRIER	E	19 S	4	2 4.250	10.000						3 2	3 1	66
		INCR=0 1/2 IN				2 6.250	10.000						3 4	3 3	
20	5 K5	BARRIER	E	38 S	4			18.500	9.500	8.250	18.000	4.000	3 0	2 10	65
		INCR=0 1/2 IN						20.500	9.500	8.250	20.000	4.500	3 2	3 0	
12	5 K6	BARRIER	E	19 S		2 6.750	10.000						3 5	3 3	41
12	5 K7	BARRIER	E	21 S			2 6.625	10.000			2 6.000	6.250	3 5	3 4	42
36	5 K8	BARRIER	E	19 S	4	2 8.500	10.000						3 6	3 5	133
		INCR=0 3/4 IN				3 2.500	10.000						4 0	3 11	
36	5 K9	BARRIER	E	21 S	4		2 8.500	10.000			2 7.750	6.750	3 6	3 6	142
		INCR=0 3/4 IN					3 2.500	10.000			3 1.750	7.750	4 0	3 11	
12	5 K10	BARRIER	E	19 S		3 3.000	10.000						4 1	4 0	50
12	5 K11	BARRIER	E	21 S			3 3.000	10.000			3 2.250	7.750	4 1	4 0	50
48	5 K12	BARRIER	E	20		10 1.000							10 1	10 1	505
24	5 K13	BARRIER	E	20	8	9 4.000							9 4	9 4	159
		INCR=36IN				3 4.000							3 4	3 4	
336	5 R1	BARRIER	E	26		3 3.000	5.500	2.250	3 1.375	5.500	3 0.750	6.750	6 11	6 7	2307
336	5 R2	BARRIER	E	19 S		20.500	9.500						2 6	2 5	847
336	5 R3	BARRIER	E	27 S			9.500	15.250	5.000	12.000	15.000	3.000	3 6	3 3	1139
80	5 R4	BARRIER	E	20		11 8.000							11 8	11 8	973
40	5 R5	BARRIER	E	20		36 8.000							36 8	36 8	1530
20	5 R6	BARRIER	E	20		40 8.000							40 8	40 8	848
4	5 R7	BARRIER	E	20		6 0.000							6 0	6 0	25
		TYPE C BARRIER													
212	5 M1	BARRIER	E	14 S			5.000	3 3.750			3 3.000	7.500	3 9	3 8	811
40	5 M2	BARRIER	E	20		11 8.000							11 8	11 8	487
20	5 M3	BARRIER	E	20		37 8.000							37 8	37 8	786
10	5 M4	BARRIER	E	20		40 8.000							40 8	40 8	424
20	5 M5	BARRIER	E	20		19 8.000							19 8	19 8	410
		SLIP FORM													
68	5 C1	SLIP FORM	E	20		12 0.000							12 0	12 0	851
8	5 C2	SLIP FORM	E	20		7 9.000							7 9	7 9	65

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb

Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

For bending diagrams and steel reinforcing totals, see Sheet No. 17.

Reinforcing steel (ASTM A706 Grade 60) fy = 60,000 psi.

Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.

SH = Required shape, see bending diagrams.

V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

Detailed Sep. 2026
Checked Sep. 2026

BILL OF REINFORCING STEEL

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
ALEX BENZ
NUMBER PE-2018003121
PROFESSIONAL ENGINEER

Alex C. Benz
09/23/20267:24:22 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
9/22/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
BR	21

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A28093

DESCRIPTION

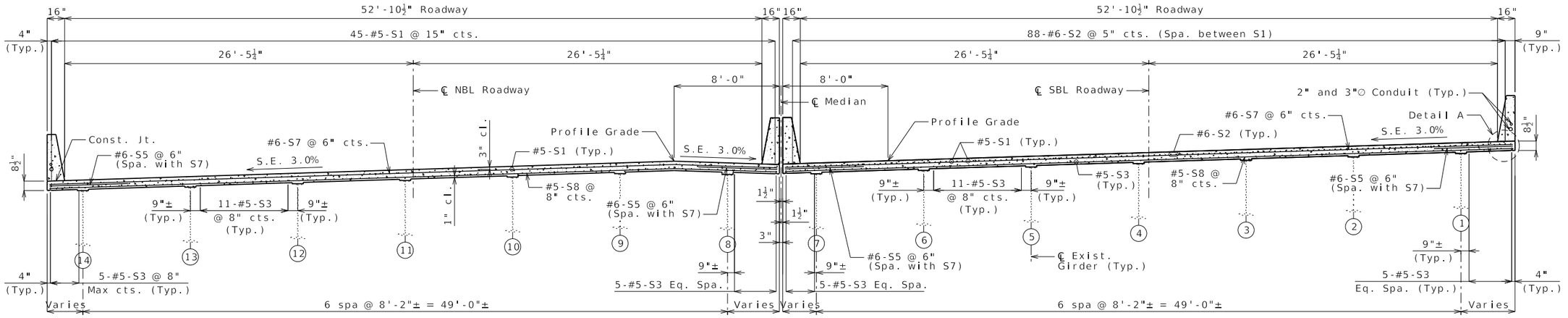
REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen
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Phone 314-394-3100
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Missouri Certificate of Authority: 001578

U.I.P., REDECK AND REHABILITATE EXISTING (41'-98'-41') COMPOSITE PLATE GIRDER SPANS (SKEW 8°30'46"RA)

SEC/SUR 33 TWP 46N RGE 6E



HALF SECTION NEAR MIDSPAN

HALF SECTION NEAR INTERMEDIATE BENT

General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications
Seismic Performance Category B

Design Loading:

HS20-44 (1973) and Military 24,000 lb. Tandem Axel (1973) (Existing)
HS20-44 (New Construction)
15 lb/sf Future Wearing Surface
Earth - 120 lb/cf, Equivalent Fluid Pressure 30 lb/cf
Fatigue Stress - Case I (1974)

Design Unit Stresses:

Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Class B-2 Concrete (End Bents, Intermediate Bents & Superstructure except Barrier)	f'c = 4,000 psi
Reinforcing Steel	fy = 60,000 psi

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for performance sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2" unless otherwise shown.

Miscellaneous:

Protective coating for concrete bents and piers (Epoxy) shall be applied as shown on the bridge plans and in accordance with Sec 711.

Bars bonded in existing concrete not removed shall be cleaned stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for plan bars and 30 diameters for deformed bars, unless otherwise noted.

Roadway surfacing adjacent to bridge ends shall match new bridge slab surface (Roadway item).

All concrete repairs shall be in accordance with Sec 704, unless otherwise noted.

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

Contractor shall verify all dimensions in field before ordering new material.

The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved qualified special morter in accordance with Sec 704.

Traffic Handling:

Structure to be closed during construction. See roadway plans for traffic control and Sheets No. 3 and 4 for staged construction details.

Slab Drainage System:
Extend Bent 1 Drain to ground line and add ditch liner material. Clean and flush scuppers and drain pipe. The cost of this work will be considered completely covered by the contract lump sum price for Cleaning and Modifying Existing Drainage System.

TYPICAL SECTION THRU SLAB

(Looking South)

Estimated Quantities for Slab on Steel		
Item		Total
Class B-2 Concrete	cu. yard	555
Reinforcing Steel (Epoxy Coated)	pound	202,038

The table of Estimated Quantities for Slab on Steel represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for stay-in-place corrugated steel forms, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

Slab shall be cast-in-place with conventional forming or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

For Optional Stay-In-Place Form Details, see Sheet No. 2.

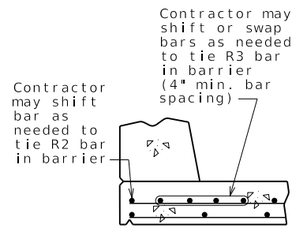
Required Lap Length For Bar Splices **	
Bar Size	Splice Length
4	2'-7"
5	3'-3"
6	3'-10"
7	4'-11"

** Unless otherwise shown.

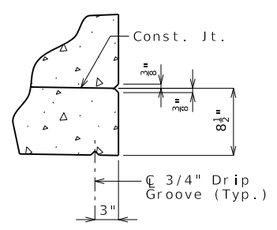
Estimated Quantities		
Item		Total
Removal of Existing Bridge Deck	sq. foot	20,600
Bridge Approach Slab (Major)	sq. yard	472
Slab on Steel	sq. yard	2289
Type D Barrier	linear foot	760
Type C Barrier	linear foot	40
* Substructure Repair (Formed)	sq. foot	175
Substructure Repair (Unformed)	sq. foot	35
Superstructure Repair (Unformed)	sq. foot	120
Epoxy Pressure Injecting	linear foot	100
Conduit System on Structure	lump sum	1
Protective Coating - Concrete Bents and Piers (Epoxy)	lump sum	1
Fabricated Sign Support Brackets	lump sum	1
Cleaning and Coating Existing Bearings	each	28
Surface Preparation for Recoating Structural Steel	sq. foot	28,900
Field Application of Inorganic Zinc Primer	sq. foot	28,900
Finish Field Coat (System L)	sq. foot	28,900
Cleaning and Modifying Existing Drainage System	lump sum	1
Vertical Drain at End Bents	each	2

Cost of any required excavation for bridge will be considered completely covered by the contract unit price for other items.

* Modified Median Type C Barrier, see Sheet No. 14.



OPTIONAL SHIFTING TOP BARS AT BARRIER



DETAIL A

REPAIRS TO BRIDGE: A3176 ROUTE I-170 (MAJOR) OVER PAGE AVENUE

ROUTE I-170 FROM ROUTE I-70 TO ROUTE 340
ABOUT 3.3 MILES SOUTH OF ROUTE I-70
BEGINNING STATION 437+30.34± (Match Existing)

Detailed July 2026
Checked July 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
SHARON A.W. HOFFMANN
NUMBER E-2001018753
REGISTERED PROFESSIONAL ENGINEER
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Sharon Hoffmann
MO PE-E-2001018753

DATE PREPARED 9/29/2026
ROUTE I-170 | STATE MO
DISTRICT BR | SHEET NO. 1
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
BRIDGE NO. A31761

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CERTIFICATE OF AUTHORITY #00704

General Notes:

Stay-In-Place Forms:

Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

Form sheets shall not rest directly on the top of beam flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Welding on or drilling holes in the beam flanges will not be permitted. All steel fabrication and construction shall be in accordance with Sec 1080 and 712. Certified field welders will not be required for welding of the form supports.

The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for beam loading.

Pouring and Finishing Slab:

The contractor shall provide bracing necessary for lateral and torsional stability of the beams during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not weld on or drill holes in the beams. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Slab on Steel.

The contractor shall pour and satisfactorily finish the slab pours at a minimum rate of 25 cubic yards per hour. Slab shall be poured upgrade from end to end.

Retarder, if used, shall be an approved type and retard the set of concrete to 2.5 hours.

Alternate pour sequences may be submitted to the engineer for approval. Keyed construction joints shall be provided between pours.

For adjusted girder deflection due to weight of new deck and barriers, see Electronic Deliverable.

Haunching:

(1) Slab is to be considered a uniform thickness as shown on the plans. Haunching will vary. See front sheet for slab thickness.

Recoating Existing Steel:

Protective Coating: System L in accordance with Sec 1081.

Surface preparation of the existing steel shall be in accordance with Sec 1081 for Recoating of Structural Steel (System L) with zinc primer. The cost of surface preparation will be considered completely covered by the contract lump sum unit price for Surface Preparation for Recoating Structural Steel.

Prime Coat: The cost of the inorganic zinc prime coats will be considered completely covered by the contract unit price for the fabricated structural steel. For the bearing assemblies the cost will be considered completely covered by the contract unit price for Laminated Neoprene Bearing Pad Assembly.

Field Coat: The color of the field coats shall be Gray (Federal Standard #26373). The cost of the finish field coat will be considered completely covered by the contract unit price for other items.

Miscellaneous:

The cost to remove the approach slab, barrier curb and railing will be considered completely covered by the contract unit price for Removal of Existing Bridge Deck, unless noted otherwise.

Scope of Work:

(1) Remove and replace bridge decks.

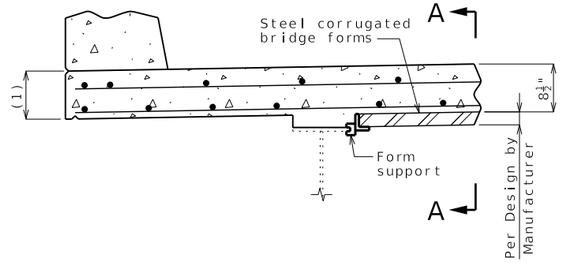
(2) Remove and replace approach slabs.

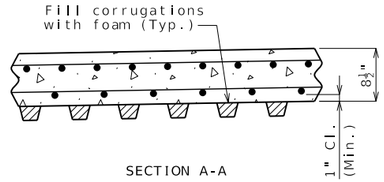
(3) Substructure Repairs at End Bents No. 1 & 4 and Intermediate Bents No. 2 & 3.

(4) Blast clean and recoat all steel.

(5) Apply Protectice Coating - Concrete Bents and and Piers (Epoxy) at Intermediate Bent Caps.

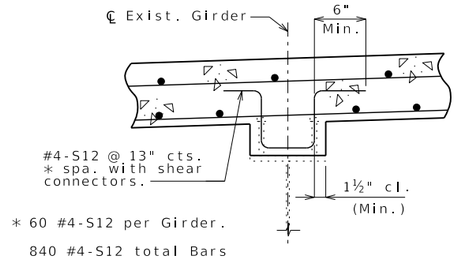
(6) Remove and replace sign structures.





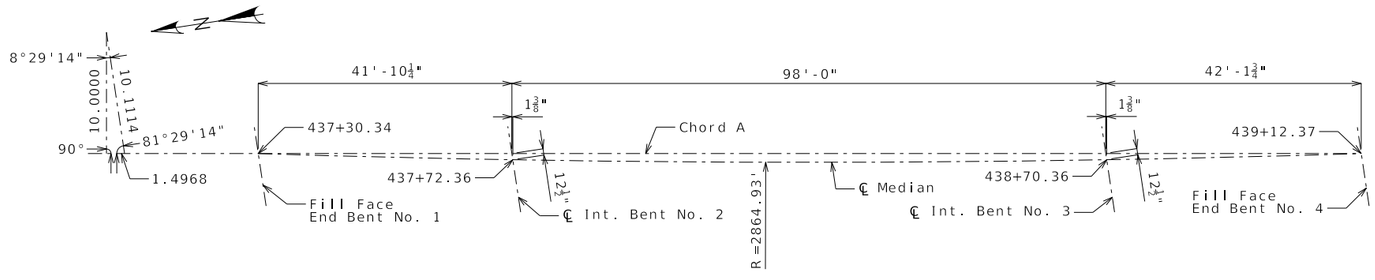
SECTION A-A

OPTIONAL STAY-IN-PLACE FORM DETAILS



SECTION THRU HAUNCH

Note: Typical each Girder in span 2 from approx. 27 feet to 54 feet.



LAYOUT OF STRUCTURE

(Stationing based on Original Bridge Plans)

GENERAL NOTES

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REGISTERED PROFESSIONAL ENGINEER
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Sharon Hoffmann
MO PE-E-2001018753

DATE PREPARED: 9/28/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	2

COUNTY: ST. LOUIS

JOB NO.: J6I3572

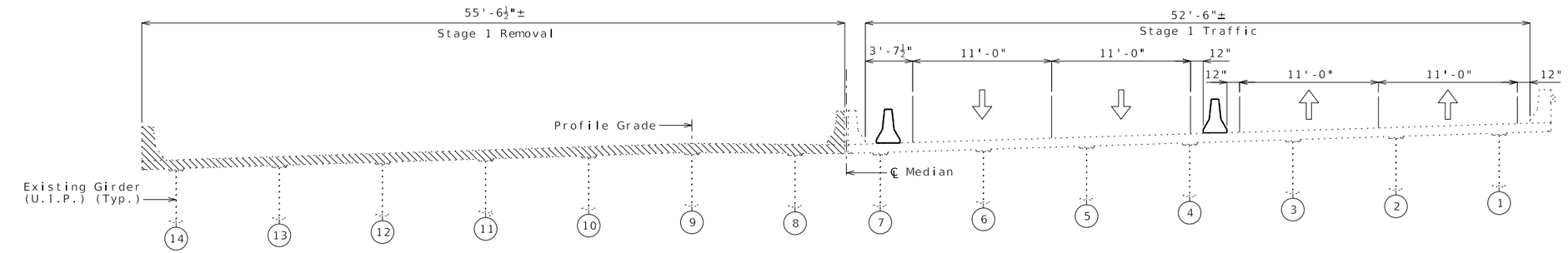
CONTRACT ID.:

BRIDGE NO.: A31761

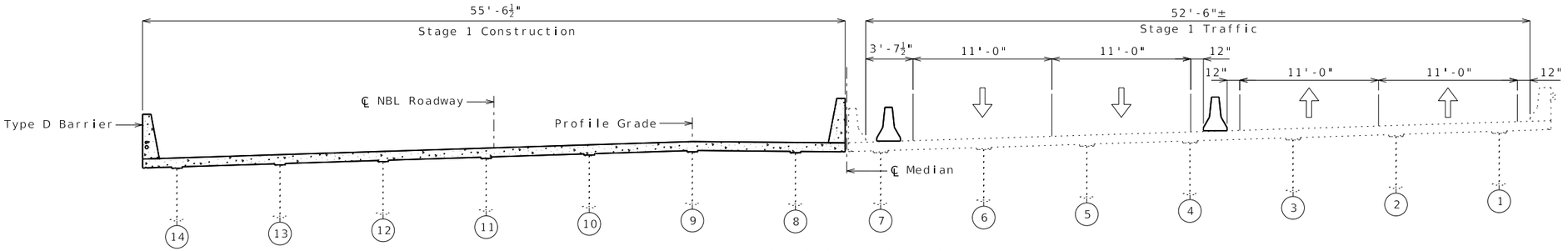
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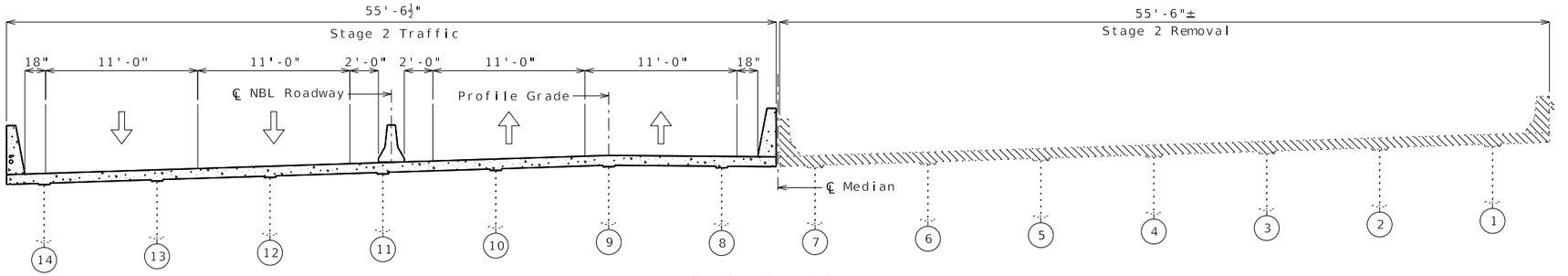
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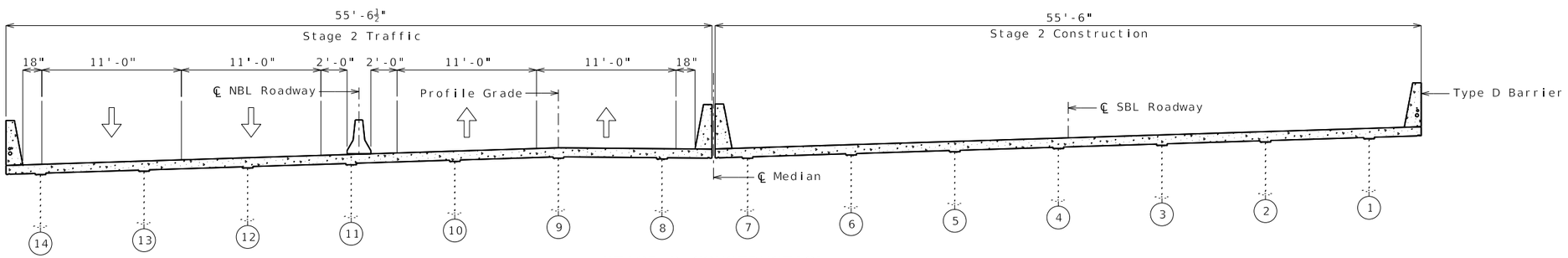
STAGE 1 REMOVAL



STAGE 1 CONSTRUCTION



STAGE 2 REMOVAL



STAGE 2 CONSTRUCTION
(Looking South, Typ.)

Notes:

For additional staging details, see Roadway Plans and Special Provisions.

STAGE CONSTRUCTION

Detailed July 2026
Checked July 2026

Note: This drawing is not to scale. Follow dimensions.

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ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	3

COUNTY
ST. LOUIS

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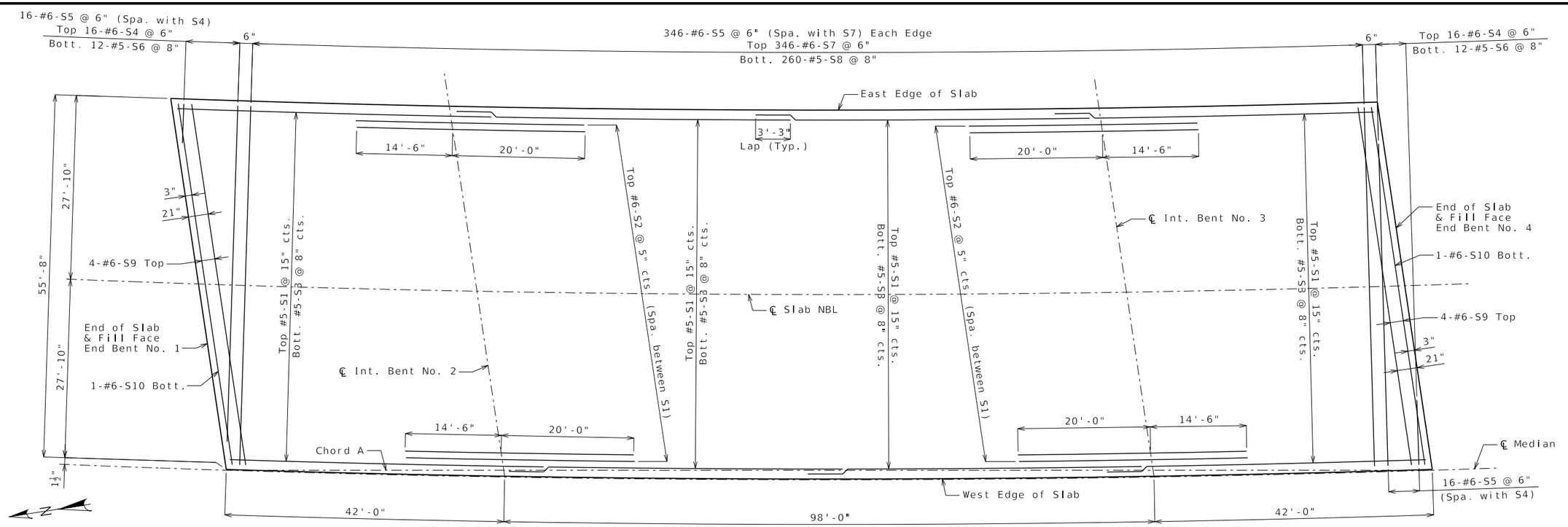
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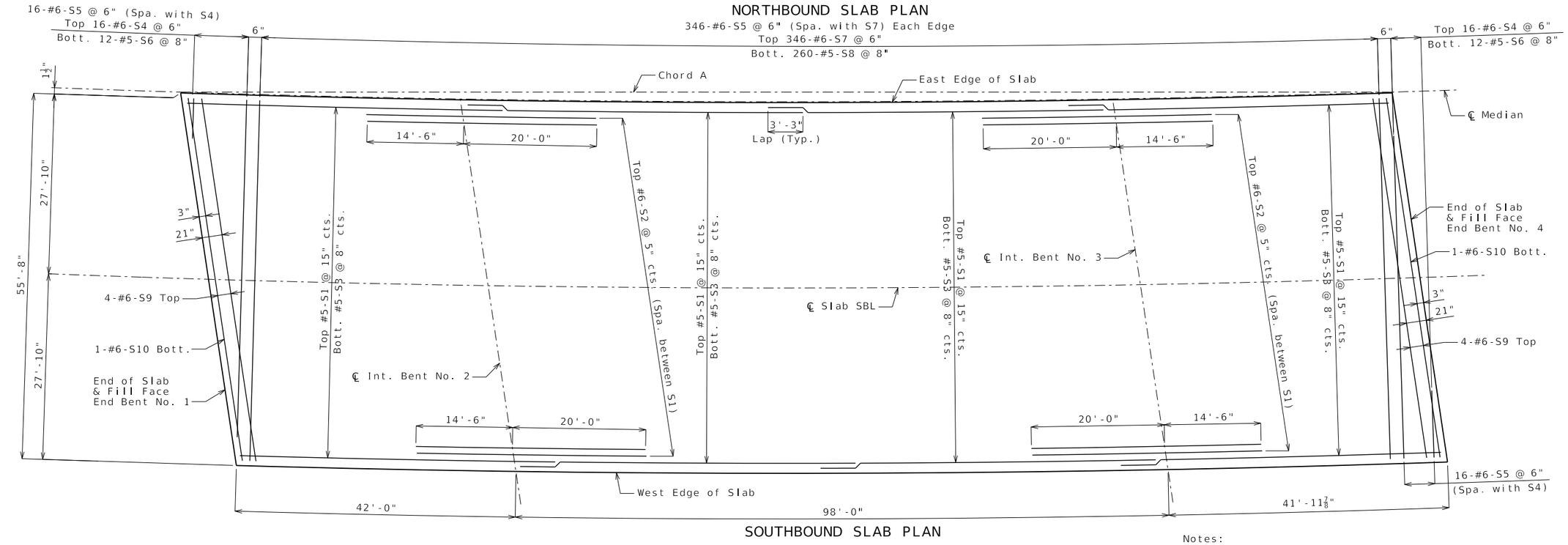
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NORTHBOUND SLAB PLAN



SOUTHBOUND SLAB PLAN

PLAN OF SLAB REINFORCING

Notes:

For Section Thru Slab, see Sheet No. 1.

For Section Thru End of Slab, see Sheet No. 5.

Detailed July 2026
Checked July 2026

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I-170	MO
DISTRICT	SHEET NO.
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COUNTY ST. LOUIS

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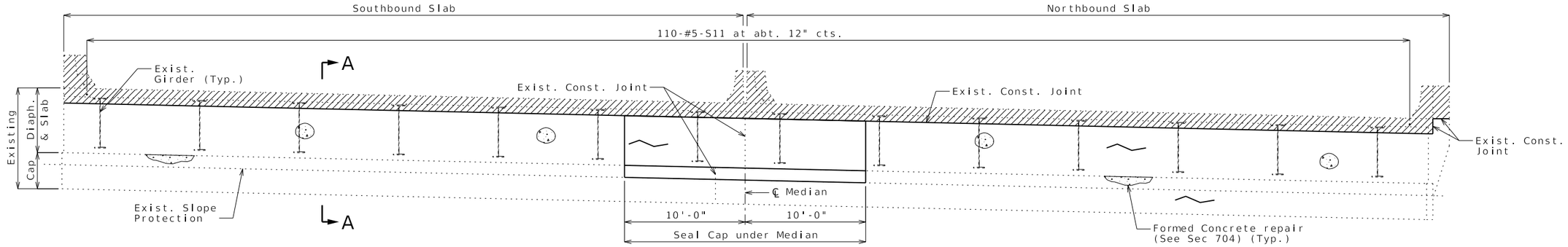
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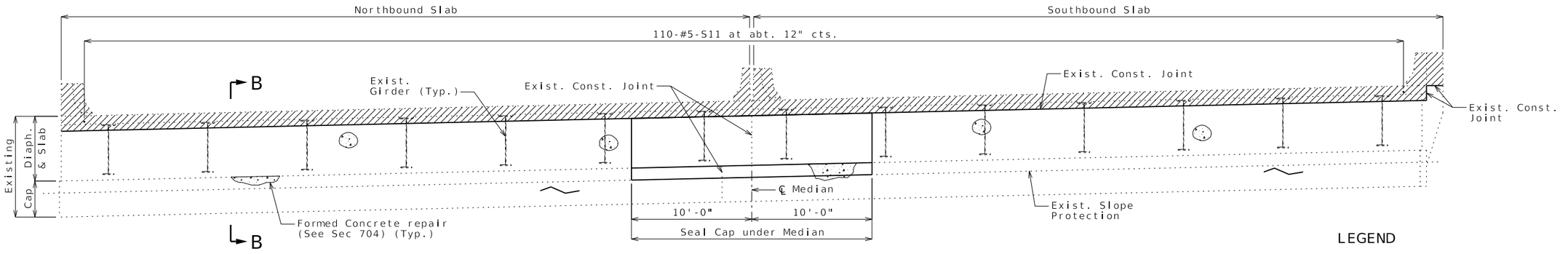
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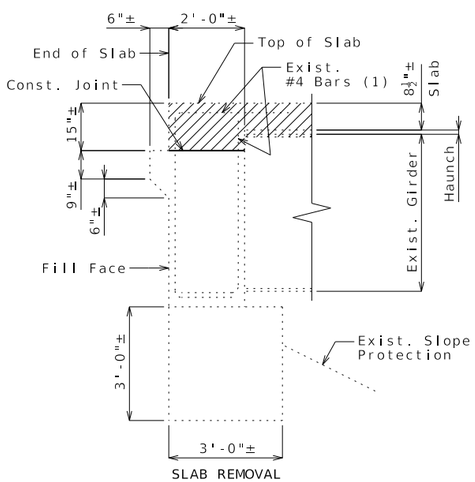
ELEVATION OF END BENT NO. 1
(Looking North)



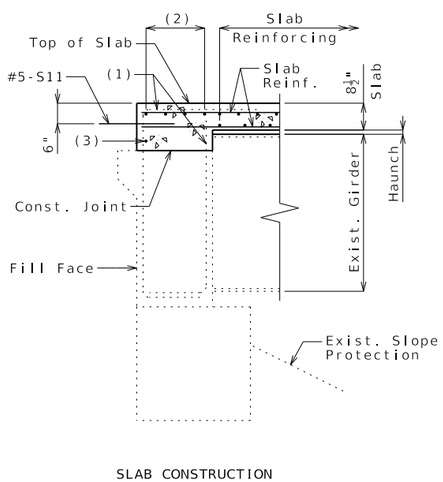
ELEVATION OF END BENT NO. 4
(Looking South)

LEGEND

- Concrete Removal
- Epoxy Injection
- Formed Repairs



SLAB REMOVAL



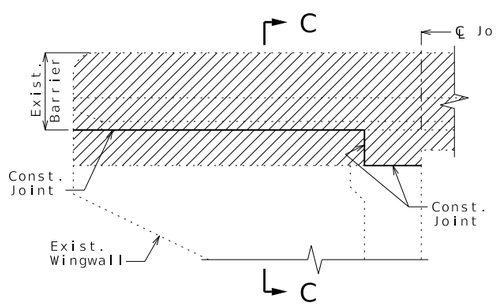
SLAB CONSTRUCTION

SECTION A-A
Section B-B (similar)

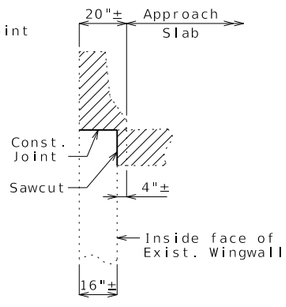
(1) Embedded #4 bars shall be cleaned, straightened, and reused.

(2) 4-#6 S9 at End Bent No. 1
4-#6 S9 at End Bent No. 4

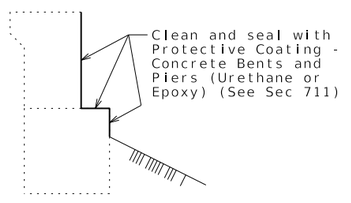
(3) 1-#6 S10 at End Bent No. 1
1-#6 S10 at End Bent No. 4



TYPICAL EXISTING WINGWALL ELEVATION
(Inside Face of Wingwall)



SECTION C-C



TYPICAL SECTION THRU END BENTS NO. 1 & 4 SHOWING PROTECTIVE COATING

DETAILS OF END BENT CONSTRUCTION AND REPAIR

Detailed July 2026
Checked July 2026

Note: This drawing is not to scale. Follow dimensions.

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ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
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COUNTY
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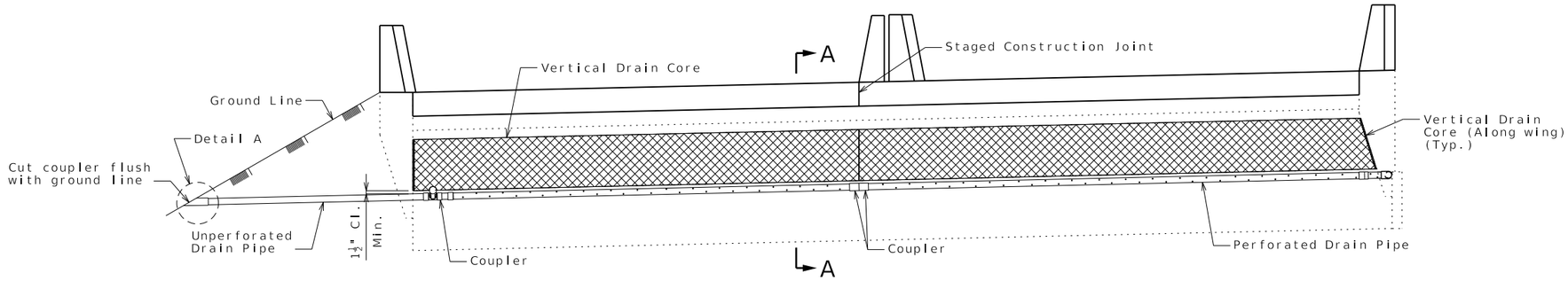
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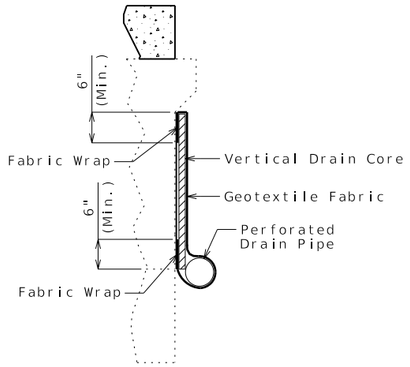
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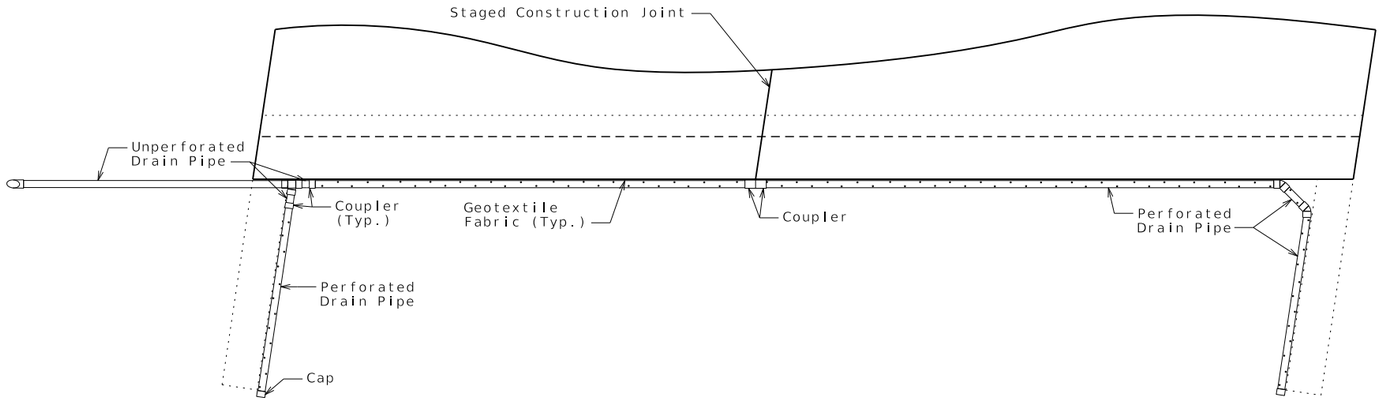
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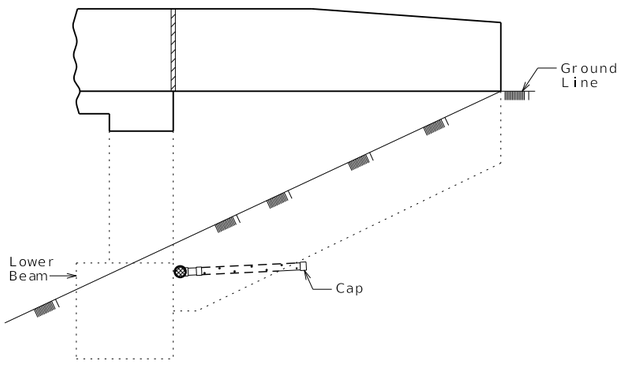
ELEVATION OF END BENT



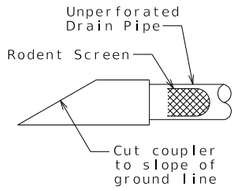
PART SECTION A-A
(Section thru wing similar)



PLAN OF END BENT



ELEVATION OF WING



DETAIL A

General Notes:

All drain pipe shall be sloped 1 to 2 percent.

Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.

Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of backwall and plain pipe shall be used where the vertical drain ends to the exit at ground line.

SHALLOW DRAIN AT END BENTS

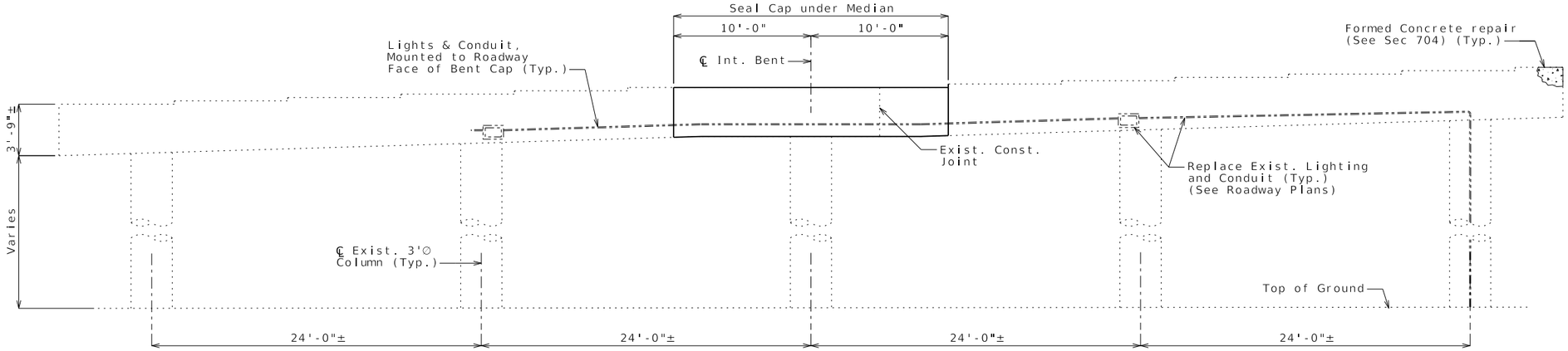
STATE OF MISSOURI
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REGISTERED PROFESSIONAL ENGINEER
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MO PE-E-2001018753

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ROUTE I-170 | STATE MO
DISTRICT BR | SHEET NO. 6
COUNTY ST. LOUIS
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CONTRACT ID.
BRIDGE NO. A31761

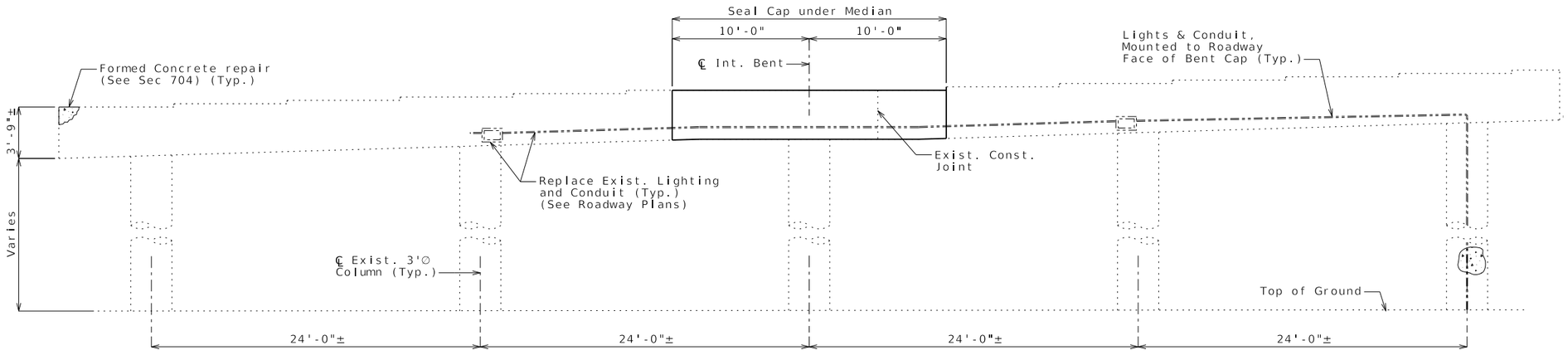
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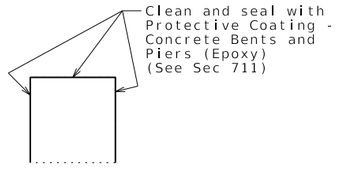
ELEVATION OF INTERMEDIATE BENT NO. 2
(Looking South)



ELEVATION OF INTERMEDIATE BENT NO. 3
(Looking South)

LEGEND

Unformed Repairs



TYPICAL SECTION THRU
INT. BENTS NO. 2 & 3 SHOWING
PROTECTIVE COATING

Notes:

Underbridge lighting fixtures shall be mounted to the bridge intermediate bent cap at the locations shown on the Roadway plans.

DETAILS OF INTERMEDIATE BENT REPAIR

Detailed July 2026
Checked July 2026

Note: This drawing is not to scale. Follow dimensions.

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REGISTERED PROFESSIONAL ENGINEER
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MO PE-E-2001018753

DATE PREPARED
9/28/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	7

COUNTY
ST. LOUIS

JOB NO.
J6I3572

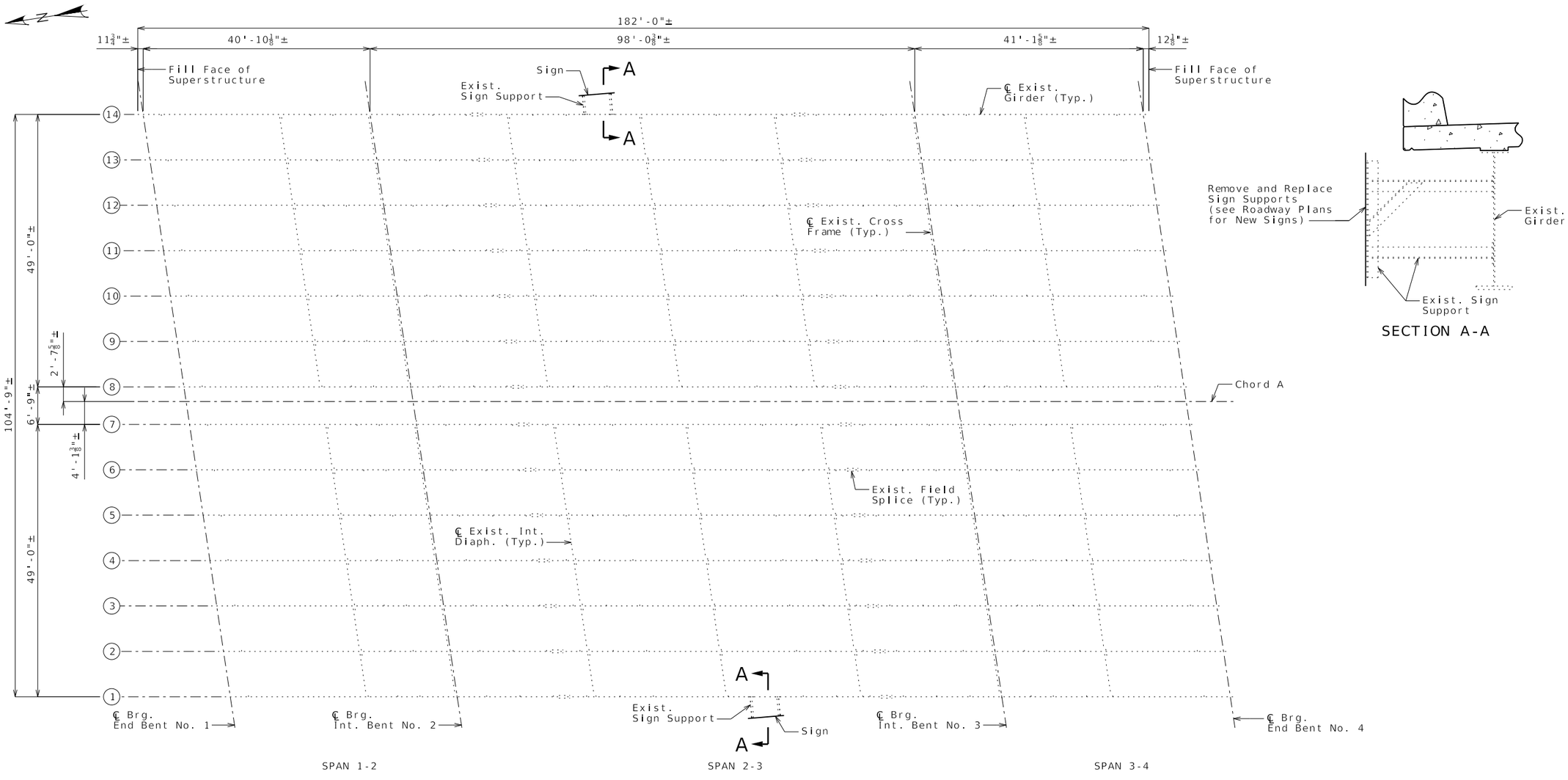
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BRIDGE NO.
A31761

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

Jacobs
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STRUCTURAL STEEL

Detailed July 2026
Checked July 2026

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 8 of 17

STATE OF MISSOURI
SHARON A.W. HOFFMANN
NUMBER E-2001018753
REGISTERED PROFESSIONAL ENGINEER
09/28/2026 12:54 PM
Sharon Hoffmann
MO PE-E-2001018753

DATE PREPARED
9/28/2026

ROUTE	STATE
I-170	MO

DISTRICT	SHEET NO.
BR	8

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

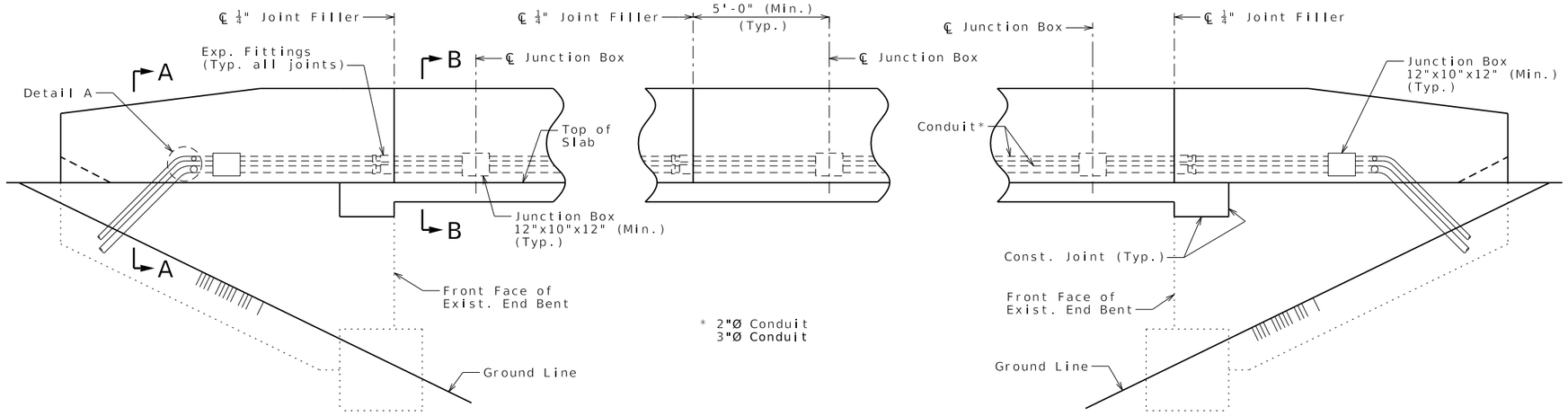
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A31761

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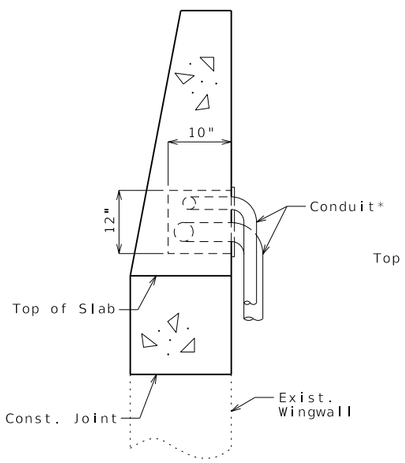
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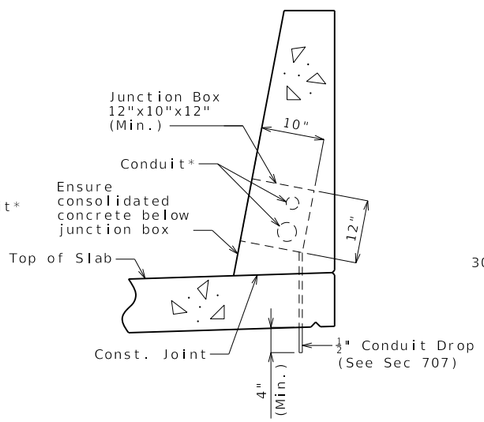
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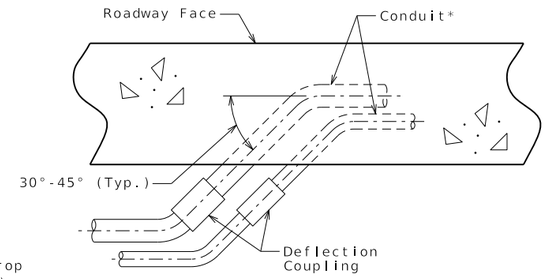
PART ELEVATION OF JUNCTION BOX IN BARRIER
(Right Barrier shown, Left Barrier similar)



PART SECTION A-A



PART SECTION B-B



DETAIL A

Notes:
All conduit shall be rigid non-metallic Schedule 40 heavy wall PVC (polyvinyl chloride plastic) with 3 1/2-inch minimum cover in barrier and 4 1/2-inch minimum cover in abutment wing. Each section of conduit shall bear the Underwriters' Laboratories, Inc., (UL) label.

Shift reinforcing steel in field where necessary to clear conduit and junction boxes.

Expansion fittings shall be placed as shown and set in accordance with the manufacturer's requirements and based on the air temperature at the time of setting given an estimated total expansion movement of 1 inch at filled joints using a maximum temperature range of 120°F and a maximum temperature of 110°F.

Placement of junction boxes and covers, complete in place, shall be flush with the roadway face of the barrier. Junction boxes and covers may be recessed up to 1/4".

Drainage shall be provided at low points or other critical locations of all conduits and all junction boxes in accordance with Sec 707. All conduits shall be sloped to drain where possible.

Junction box size shown on plan may require special order. No other size may be substituted.

MoDOT Construction Personnel: Indicate in field and on bridge plans for future work the exact location of buried conduit at end of bridge that are capped and not immediately used.

Payment for furnishing and installing Conduit System, complete-in-place, will be considered completely covered by the contract lump sum price for Conduit System on Structure.

NORTHBOUND LEFT AND SOUTHBOUND RIGHT DETAILS OF CONDUIT SYSTEM

Detailed July 2026
Checked July 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
SHARON A.W. HOFFMANN
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Sharon Hoffmann
MO PE-E-2001018753

DATE PREPARED
9/29/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	9

COUNTY
ST. LOUIS

JOB NO.
J6I3572

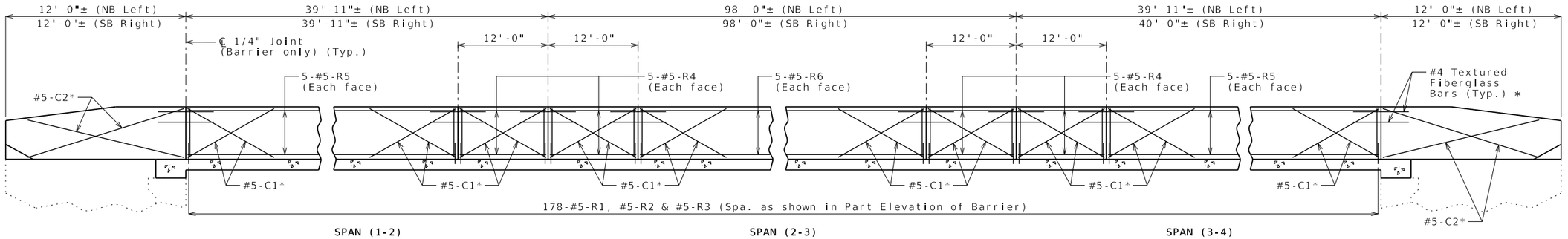
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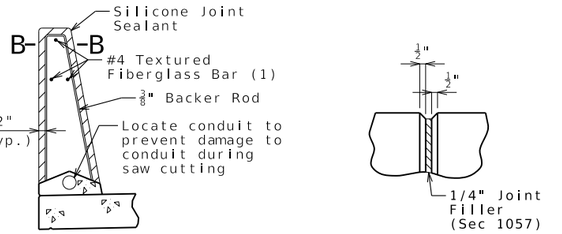
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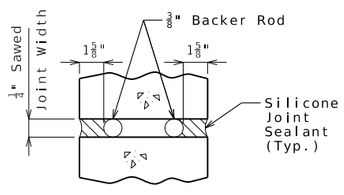
ELEVATION OF BARRIER

Longitudinal dimensions are horizontal.
Conduit not shown for clarity

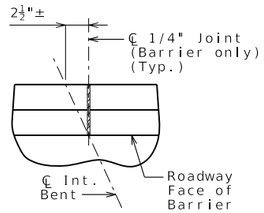


SECTION THRU
SAW CUT JOINT

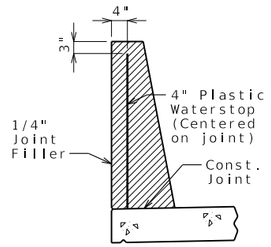
PART ELEVATION
AT FORMED JOINT



SECTION B-B



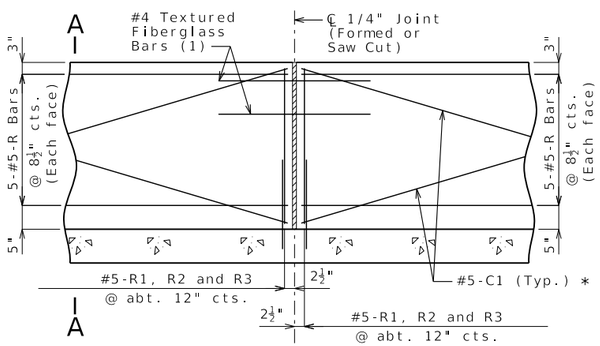
PART PLAN SHOWING
JOINT LOCATION



WATERSTOP DETAIL

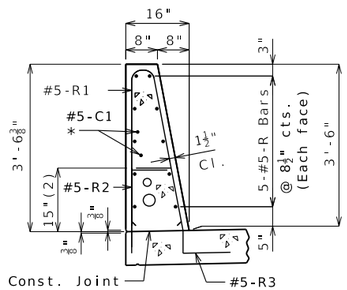
Plastic waterstop shall be placed in all formed joints, except structures with superelevation, use on lower joints only.

Cost of plastic waterstop, complete in place, will be considered completely covered by the contract unit price for Type D Barrier.



PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

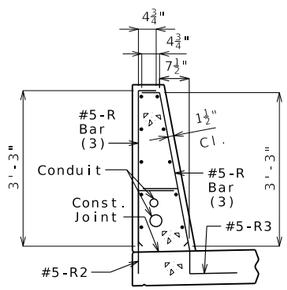


SECTION A-A

Use a minimum lap of 2'-6" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 3.52 square feet.

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

General Notes:

* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type D Barrier per linear foot.

Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

Plastic waterstop shall not be used with saw cut joints.

NORTHBOUND LEFT TYPE D BARRIER
SOUTHBOUND RIGHT TYPE D BARRIER

Detailed July 2026
Checked July 2026

Note: This drawing is not to scale. Follow dimensions.

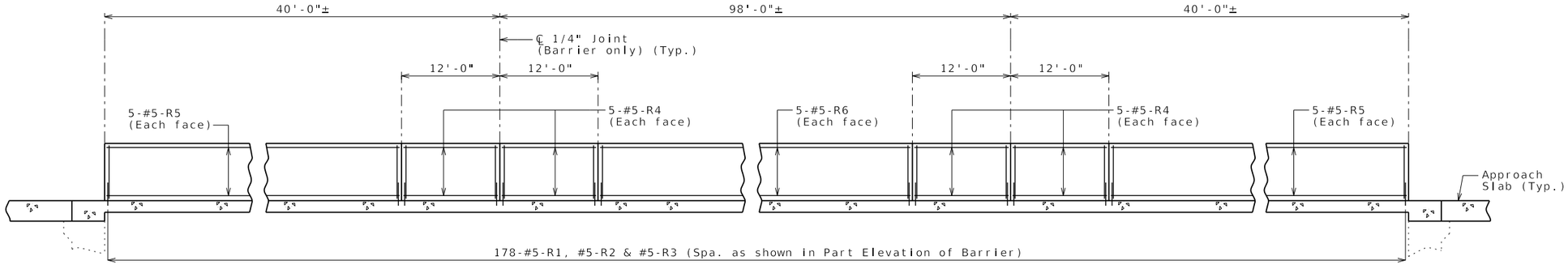
STATE OF MISSOURI
SHARON A.W. HOFFMANN
NUMBER E-2001018753
REGISTERED PROFESSIONAL ENGINEER
09/28/2026 12:54 PM
Sharon Hoffmann
MO PE-E-2001018753

DATE PREPARED 9/28/2026
ROUTE I-170 | STATE MO
DISTRICT BR | SHEET NO. 10
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
BRIDGE NO. A31761

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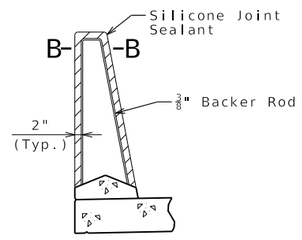
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CERTIFICATE OF AUTHORITY #00704

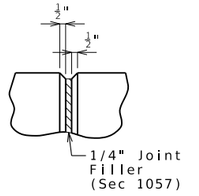


ELEVATION OF BARRIER

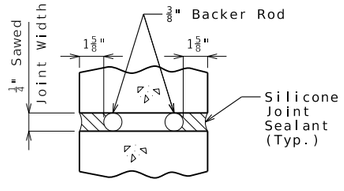
Longitudinal dimensions are horizontal.



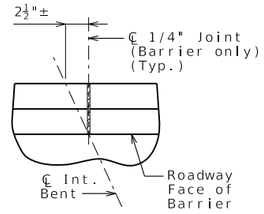
SECTION THRU
SAW CUT JOINT



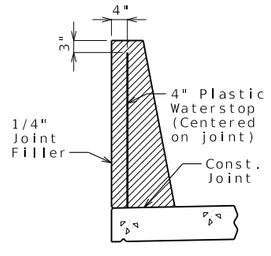
PART ELEVATION
AT FORMED JOINT



SECTION B-B



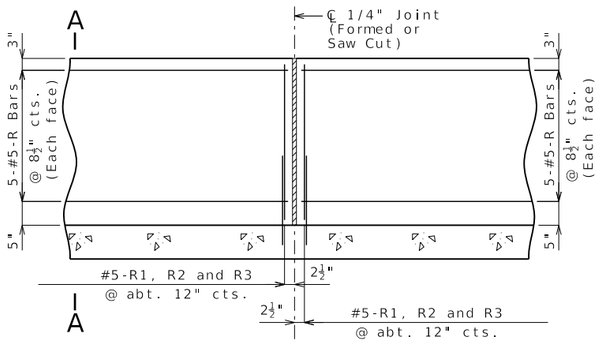
PART PLAN SHOWING
JOINT LOCATION



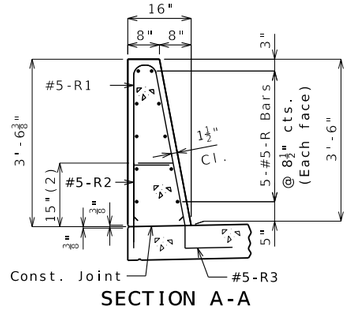
WATERSTOP DETAIL

Plastic waterstop shall be placed in all formed joints, except structures with superelevation, use on lower joints only.

Cost of plastic waterstop, complete in place, will be considered completely covered by the contract unit price for Type D Barrier.



PART ELEVATION OF BARRIER

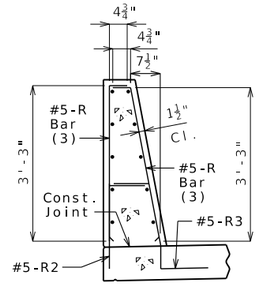


SECTION A-A

Use a minimum lap of 2'-6" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 3.52 square feet.

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

(3) The R1 bar may be separated into two bars as shown, at the contractor's option. (All dimensions are out to out.)

General Notes:

Conventional forming required. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type D Barrier per linear foot.

Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

Plastic waterstop shall not be used with saw cut joints.

NORTHBOUND RIGHT TYPE D BARRIER
SOUTHBOUND LEFT TYPE D BARRIER

Detailed July 2026
Checked July 2026

Note: This drawing is not to scale. Follow dimensions.

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SHARON A.W. HOFFMANN
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REGISTERED PROFESSIONAL ENGINEER
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MO PE-E-2001018753

DATE PREPARED
9/28/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	11

COUNTY
ST. LOUIS

JOB NO.
J6I3572

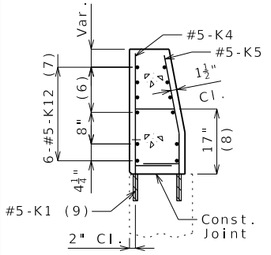
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BRIDGE NO.
A31761

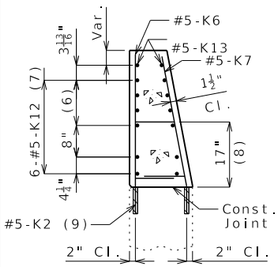
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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JEFFERSON CITY, MO 65102
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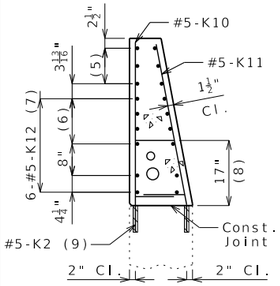
Jacobs
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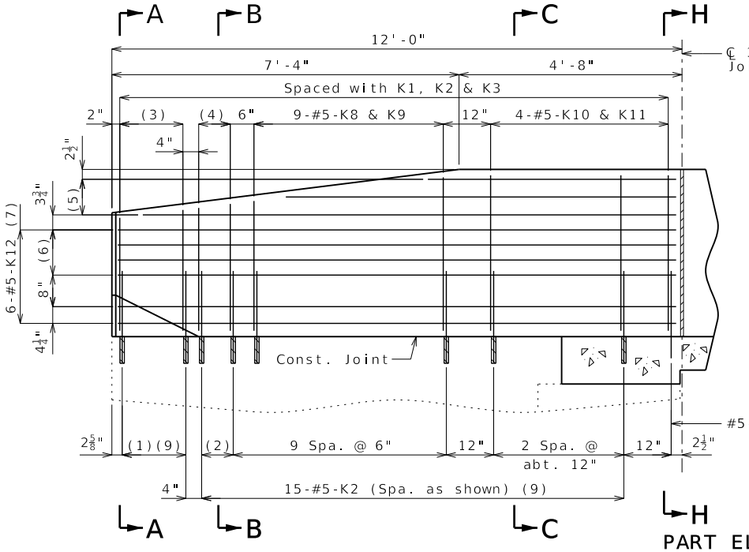
SECTION A-A



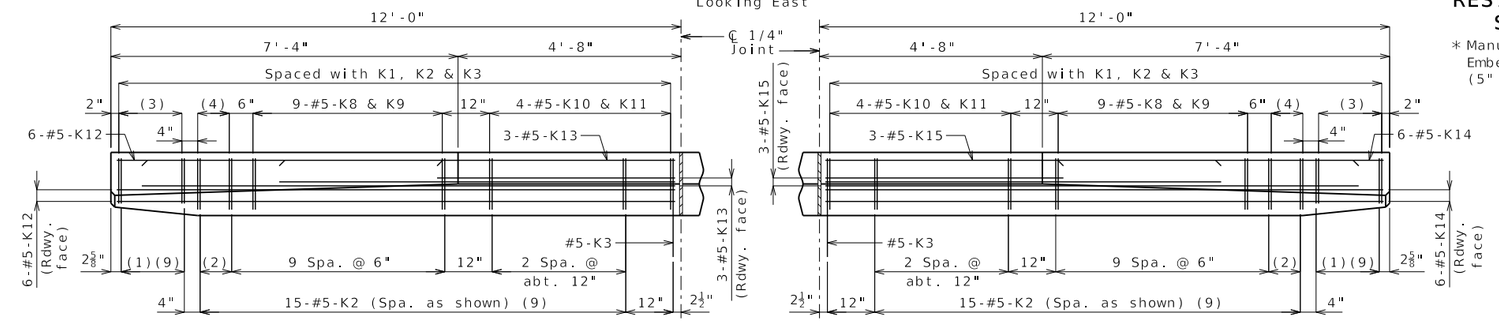
SECTION B-B



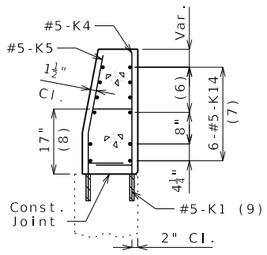
SECTION C-C



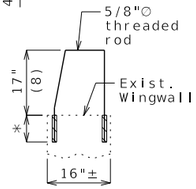
PART ELEVATION
Looking East



PART PLAN

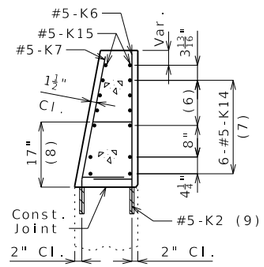


SECTION D-D

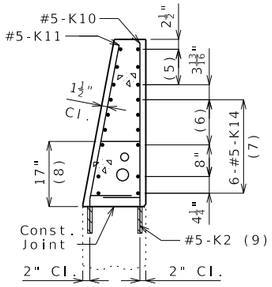


RESIN ANCHOR SYSTEM

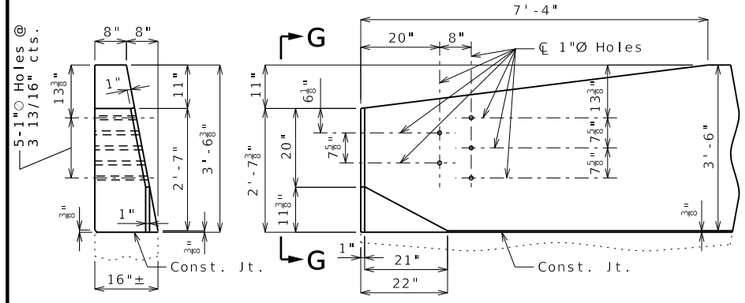
* Manufacturer's Embedment length (5" min.)



SECTION E-E



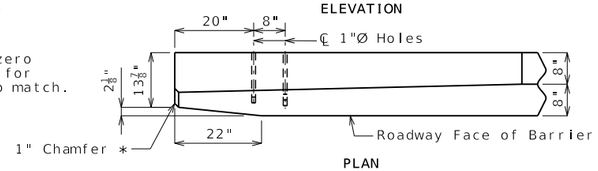
SECTION F-F



ELEVATION G-G

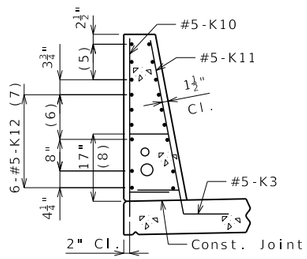
ELEVATION

* Transition to zero at Type A curb for gutter lines to match.



PLAN

DETAILS OF GUARD RAIL ATTACHMENT



SECTION H-H

(1) 5-#5-K1 @ 4" cts.

(2) 2 spaces @ 4"

(3) 5-#5-K4 & K5

(4) 3-#5-K6 & K7

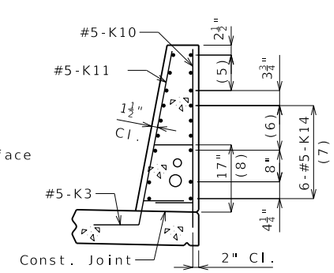
(5) 3-#5-K13 or K15 @ 4½" cts., each face

(6) 3 spaces @ 3 13/16"

(7) Spaced as shown, each face

(8) To top of bar

(9) Resin Anchor System



SECTION I-I

General Notes:

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

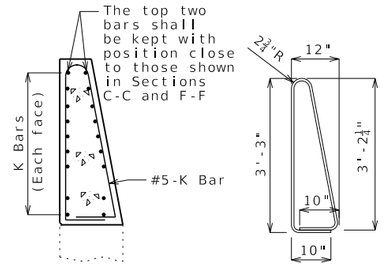
Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

The contractor shall use one of the qualified resin anchor systems in accordance with 1039.

Cost of furnishing and installing the resin anchor system, complete in place, will be considered completely covered by the contract unit price for the Left Barrier Curb (Type D).

The minimum embedment depth in concrete with f'c = 3,000 psi or f'c = 4,000 for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

An epoxy coated #5-K1 & #5-K2 Grade 60 reinforcing bar shall be substituted for the 5/8"℄ threaded rod.



K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

NORTHBOUND LEFT TYPE D BARRIER AT END BENTS

Detailed July 2026
Checked July 2026

Note: This drawing is not to scale. Follow dimensions.

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SHARON A.W. HOFFMANN
NUMBER E-2001018753
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Sharon Hoffmann
MO PE-E-2001018753

DATE PREPARED 9/28/2026

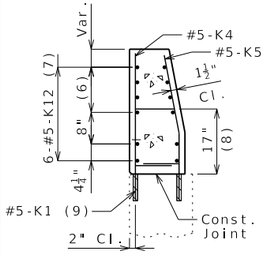
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I-170	MO
DISTRICT	SHEET NO.
BR	12

COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
BRIDGE NO.: A31761

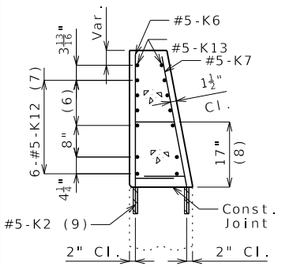
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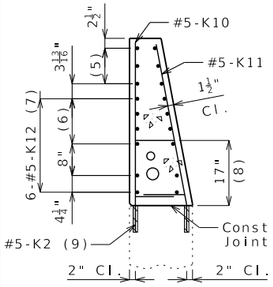
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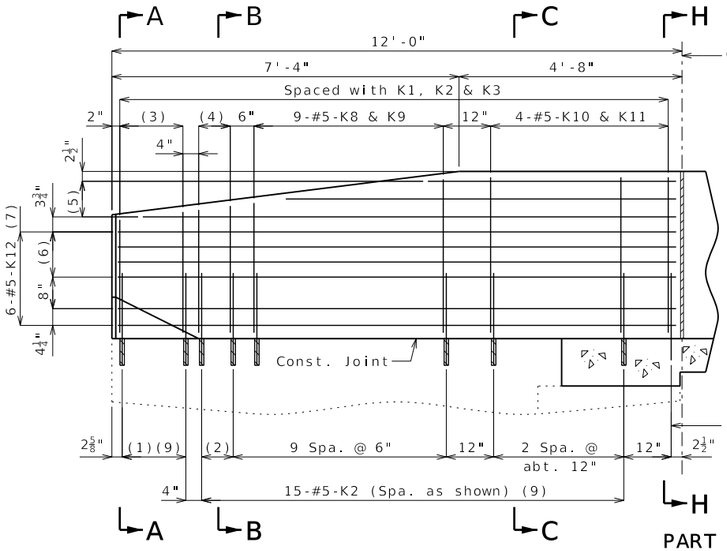
SECTION A-A



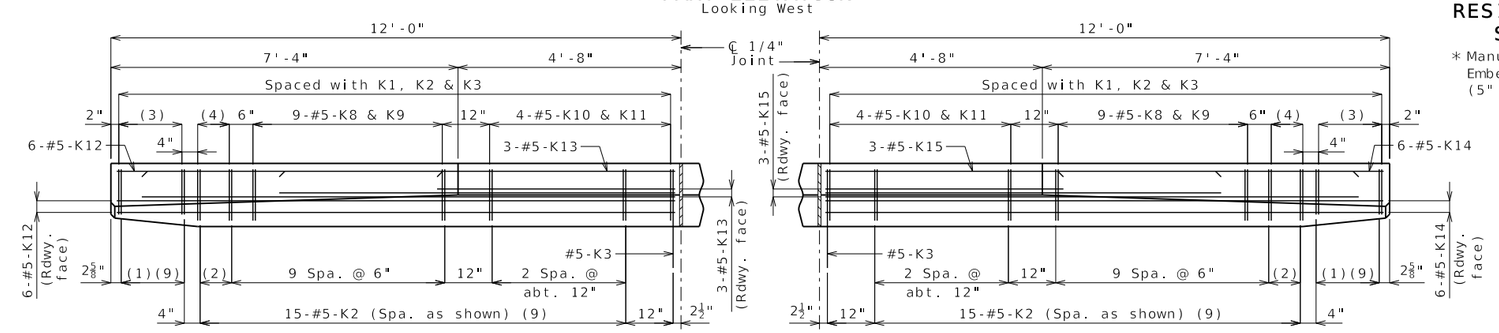
SECTION B-B



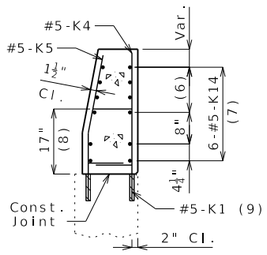
SECTION C-C



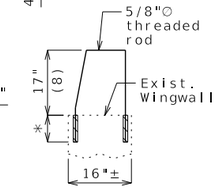
PART ELEVATION
Looking West



PART PLAN

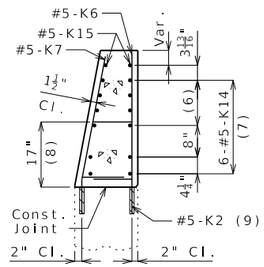


SECTION D-D

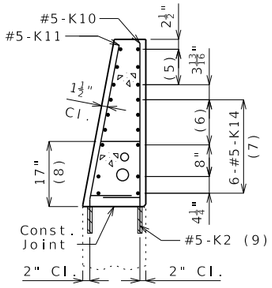


RESIN ANCHOR SYSTEM

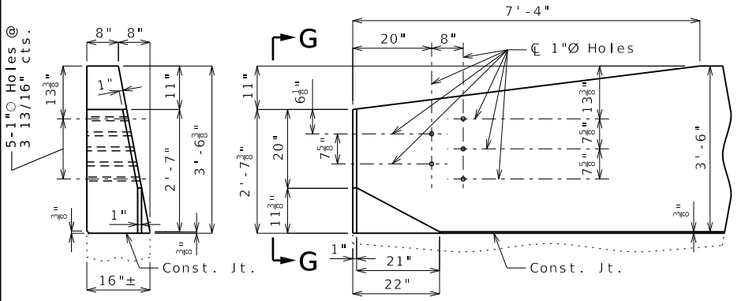
* Manufacturer's Embedment length (5" min.)



SECTION E-E



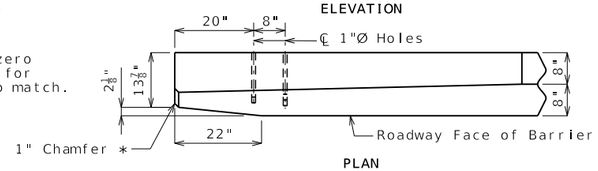
SECTION F-F



ELEVATION G-G

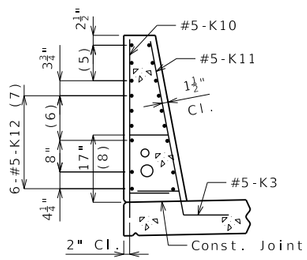
ELEVATION

* Transition to zero at Type A curb for gutter lines to match.



PLAN

DETAILS OF GUARD RAIL ATTACHMENT



SECTION H-H

(1) 5-#5-K1 @ 4" cts.

(2) 2 spaces @ 4"

(3) 5-#5-K4 & K5

(4) 3-#5-K6 & K7

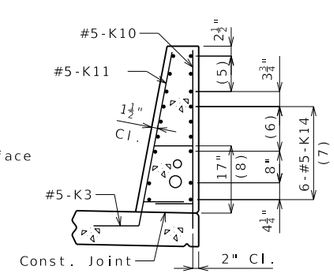
(5) 3-#5-K13 or K15 @ 4½" cts., each face

(6) 3 spaces @ 3 13/16"

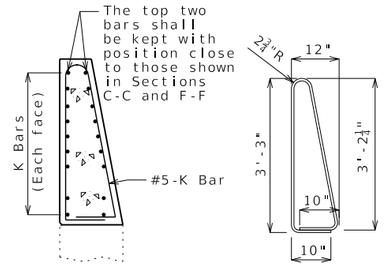
(7) Spaced as shown, each face

(8) To top of bar

(9) Resin Anchor System



SECTION I-I



K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

General Notes:

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

The contractor shall use one of the qualified resin anchor systems in accordance with 1039.

Cost of furnishing and installing the resin anchor system, complete in place, will be considered completely covered by the contract unit price for the Left Barrier Curb (Type D).

The minimum embedment depth in concrete with f'c = 3,000 psi or f'c = 4,000 for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

An epoxy coated #5-K1 & #5-K2 Grade 60 reinforcing bar shall be substituted for the 5/8"℄ threaded rod.

SOUTHBOUND RIGHT TYPE D BARRIER AT END BENTS

Detailed July 2026
Checked July 2026

Note: This drawing is not to scale. Follow dimensions.

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NUMBER E-2001018753
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Sharon Hoffmann
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DATE PREPARED 9/28/2026

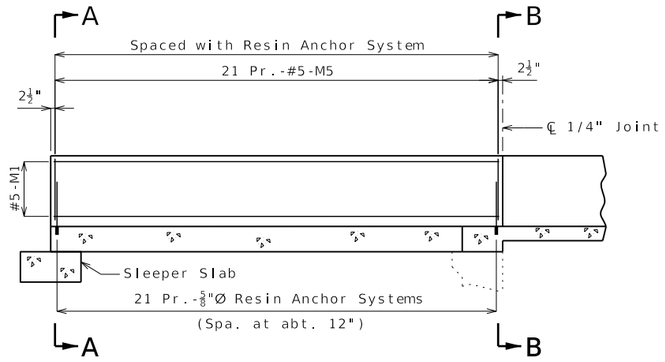
ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	13

COUNTY: ST. LOUIS
JOB NO.: J6I3572
CONTRACT ID.:
BRIDGE NO.: A31761

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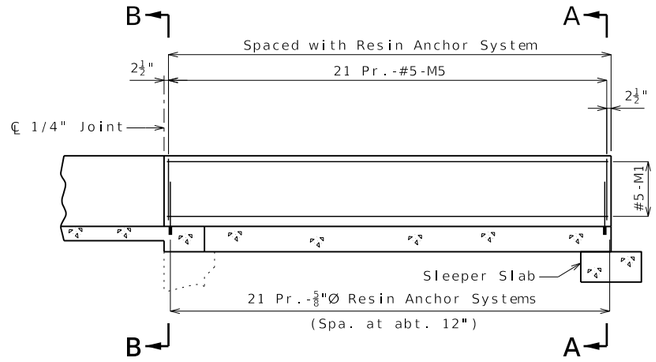
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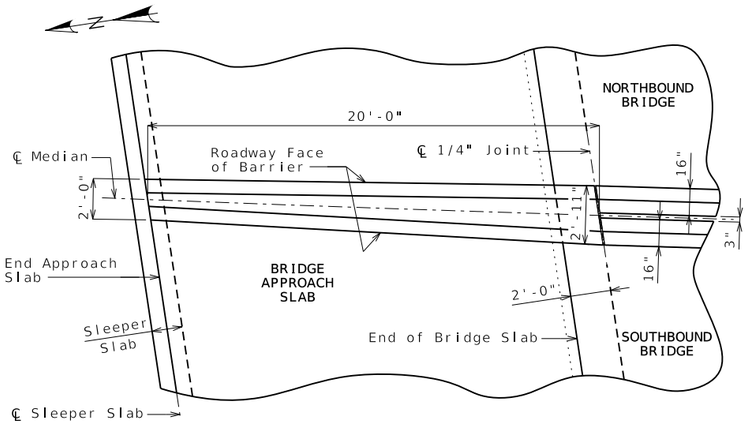
PART ELEVATION END BENT 1

Longitudinal dimensions are horizontal.



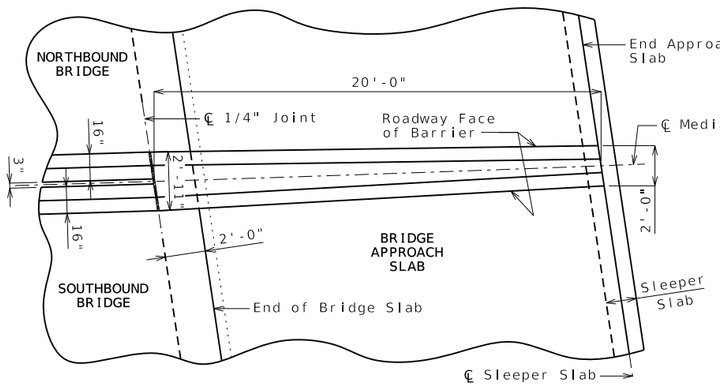
PART ELEVATION END BENT 4

Longitudinal dimensions are horizontal.



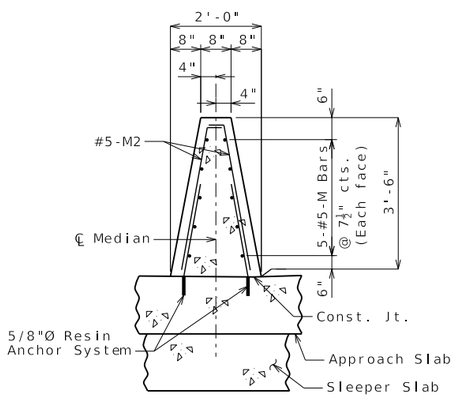
PART PLAN END BENT NO. 1

Reinforcement not shown for clarity.

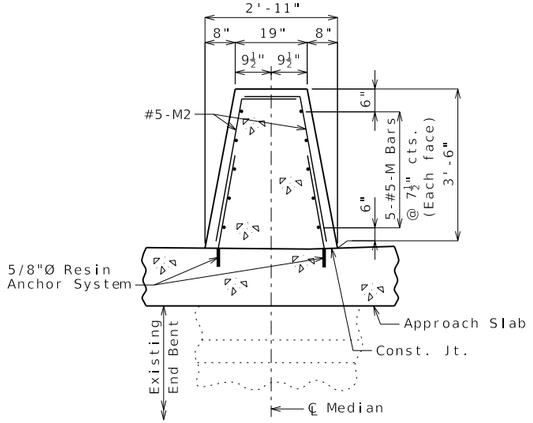


PART PLAN END BENT NO. 4

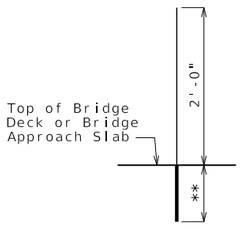
Reinforcement not shown for clarity.



SECTION A-A



SECTION B-B



RESIN ANCHOR SYSTEM

(84 required)

** Manufacturer's embedment length (5" minimum)

(Bend in field)

General Notes:

Conventional forming required. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade with barrier joints normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be completely covered by the contract unit price for Type C Barrier per linear foot.

Concrete in the barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot, measured along the top of slab at centerline median from end of bridge approach slab to end of bridge approach slab.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type C Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

The contractor shall use one of the qualified resin anchor systems in accordance with 1039.

Cost of furnishing and installing the resin anchor system, complete in place, will be considered completely covered by the contract unit price for Type C Barrier.

The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5 inches.

An epoxy coated #5 Grade 60 reinforcing bar shall be substituted for the 5/8-inch diameter threaded rod.

For details of Bridge Approach Slab, see Sheet No. 15.

MODIFIED MEDIAN TYPE C BARRIER

Detailed Aug. 2026
Checked Aug. 2026

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 14 of 17

STATE OF MISSOURI
SHARON A.W. HOFFMANN
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DATE PREPARED 9/28/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	14

COUNTY: ST. LOUIS

JOB NO.: J6I3572

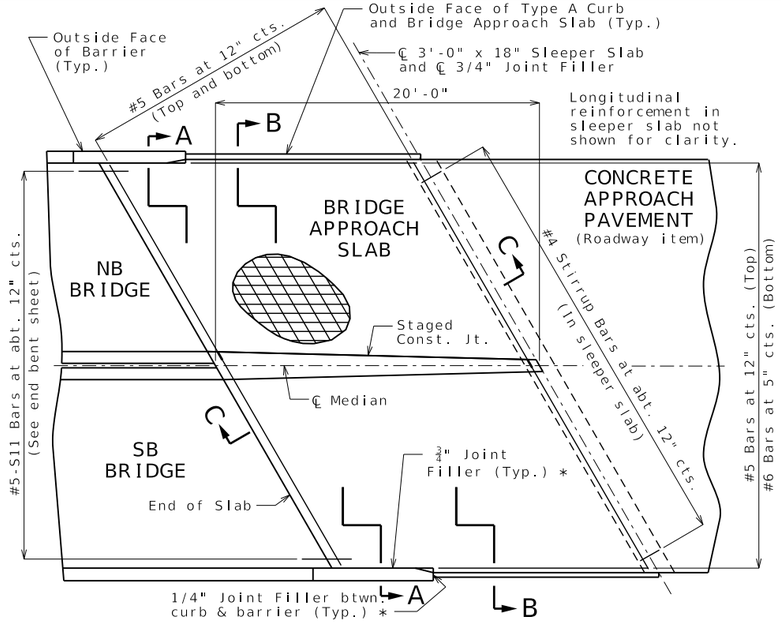
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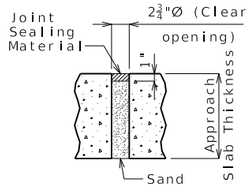
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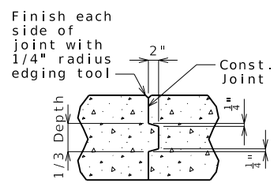
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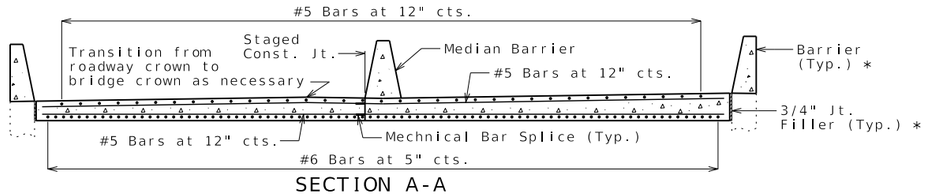
PART PLAN SHOWING REINFORCEMENT



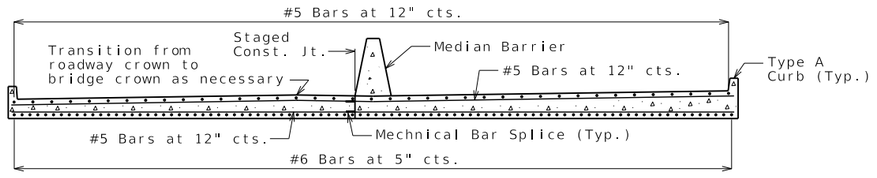
UNDERSEAL ACCESS HOLE DETAIL
(If required)



CONSTRUCTION JOINT DETAIL

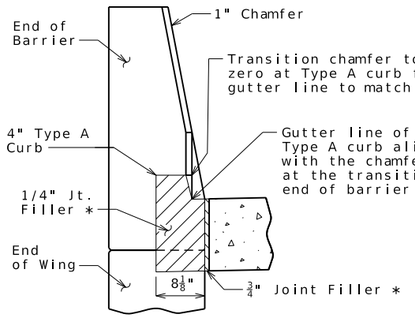


SECTION A-A

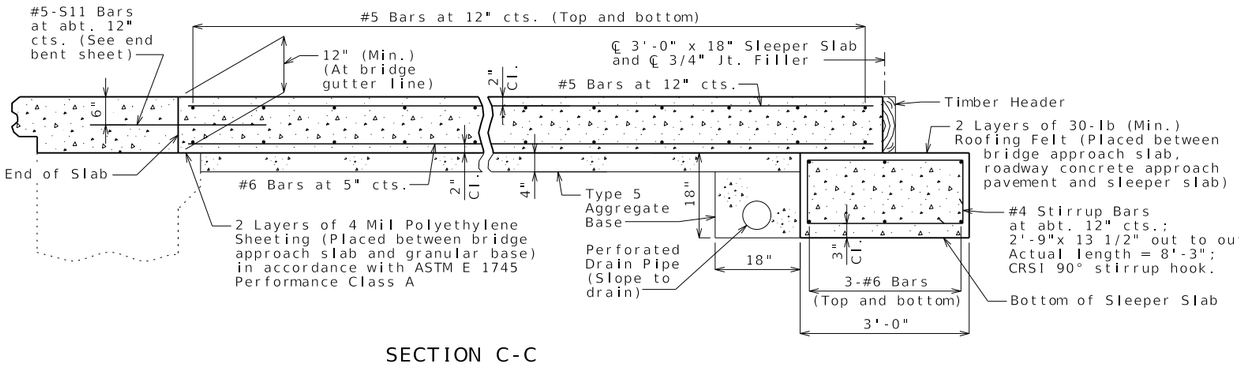


SECTION B-B

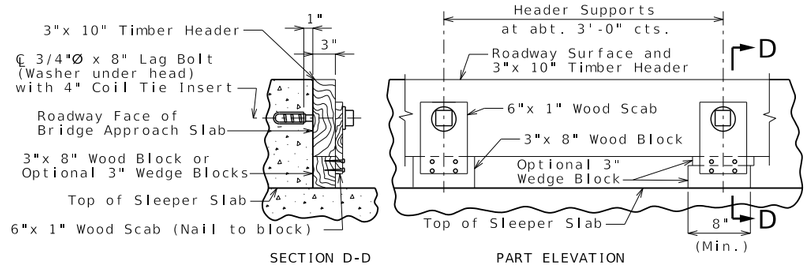
With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION BETWEEN CURB AND BARRIER



SECTION C-C



SECTION D-D PART ELEVATION

DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

General Notes:

All concrete for the bridge approach slab and sleeper slab shall be in accordance with Sec 503 (f'c = 4,000 psi).

The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated Grade 60 with fy = 60,000 psi.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 24 inches for #5 bars and 40 inches for #6 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710.

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab.

For concrete approach pavement details, see roadway plans.

See Missouri Standard Plan 609.00 for details of Type A curb.

Payment for furnishing all materials, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, Type 5 aggregate base, joint filler and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Major) per square yard.

* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For additional details of Modified Median Type C Barrier, see Sheet No. 14.

STATE OF MISSOURI
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DATE PREPARED
9/29/2026

ROUTE	STATE
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DISTRICT	SHEET NO.
BR	15

COUNTY
ST. LOUIS

JOB NO.
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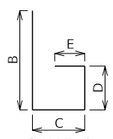
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Detailed Aug. 2026
Checked Aug. 2026

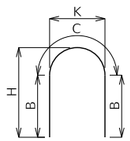
Note: This drawing is not to scale. Follow dimensions.

BRIDGE APPROACH SLAB (MAJOR)

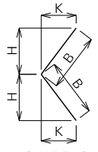
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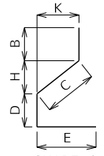
SHAPE 6
or 6S



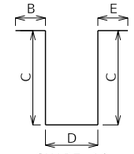
SHAPE 7



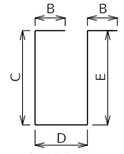
SHAPE 8
or 8S



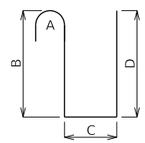
SHAPE 9
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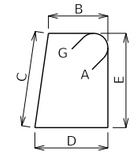
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or 10S



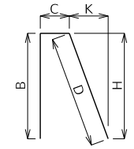
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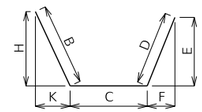
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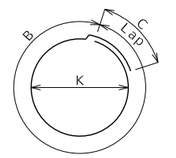
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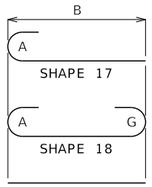
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or 14S



SHAPE 15
or 15S



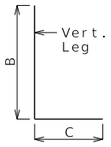
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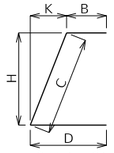
SHAPE 20

SHAPE 17

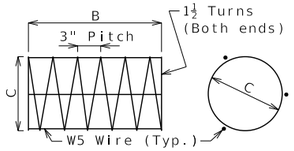
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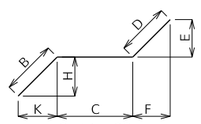
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or 19S



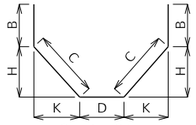
SHAPE 21
or 21S



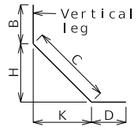
SHAPE 22



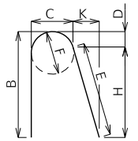
SHAPE 23
or 23S



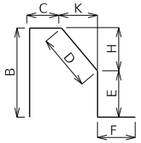
SHAPE 24
or 24S



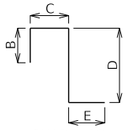
SHAPE 25
or 25S



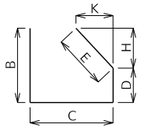
SHAPE 26



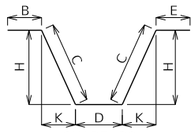
SHAPE 27S



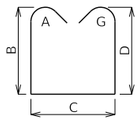
SHAPE 28
or 28S



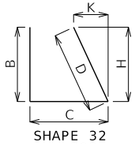
SHAPE 29
or 29S



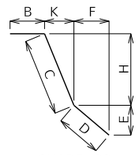
SHAPE 30
or 30S



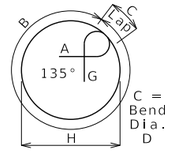
SHAPE 31S



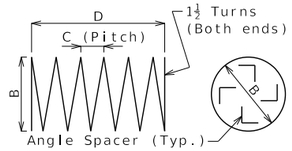
SHAPE 32
or 32S



SHAPE 33
or 33S



SHAPE 34S



SHAPE 35 (1)

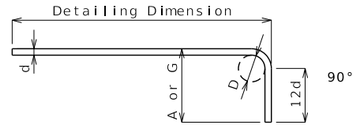


SHAPE 36

Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes

Size	Case	D	A or G		J
			90°	180°	180°
#4	1	3"	8"	6"	4"
#5	1	3¾"	10"	7"	5"
#6	1	4½"	12"	8¼"	6"
#7	2	5¼"	14"	9¾"	7"
	3	7"	15"	11½"	8¾"
#8	2	6"	16"	11"	8"
	3	8"	17"	13¾"	10"
#9	1	9½"	19½"	15½"	11¾"
#10	1	10¾"	22"	17½"	13¼"
#11	1	12"	24½"	19½"	14⅞"
#14	1	18¾"	31¼"	27½"	21⅝"
#18	1	24"	41½"	36¼"	28½"

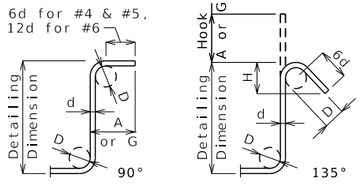


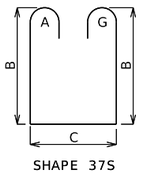
Stirrup Pin Bend Shapes (S)

Size	Case	D	A or G		H	J
			90°	135° 180°	135°	180°
#4	2	2"	4½"	4½"	2⅞"	3"
	3	3"	5"	5¼"	3"	4"
#5	2	2½"	5¾"	5¾"	3⅝"	3¾"
	3	3¾"	6¼"	6½"	3⅞"	5"
#6	1	4½"	12"	7¾" 8¼"	4⅜"	6"

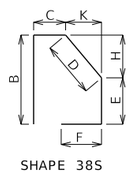
Applicable for all grades of steel.

Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.





SHAPE 37S



SHAPE 38S

BENDING DIAGRAMS

All dimensions are out to out.

Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.

Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.

(1) Shall be a deformed or plain spiral bar or wire.

Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spirals. Length and weight of column spirals do not include splices or spacers.

Reinforcing Steel Totals (Pounds)

		Substructure		Superstructure				Entire Bridge	
				Slab			Slip		
	Size	Plain	Epoxy	Plain	Epoxy	Barrier	Form	Plain	Epoxy
By Size	W5	0	0	0	0	0	0	0	0
	4	0	0	0	1122	0	0	0	1122
	5	0	0	0	80376	19041	582	0	99999
	6	0	0	0	100917	0	0	0	100917
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0
	9	0	0	0	0	0	0	0	0
	10	0	0	0	0	0	0	0	0
	11	0	0	0	0	0	0	0	0
	14	0	0	0	0	0	0	0	0
	18	0	0	0	0	0	0	0	0
By Type		0	0	0	182415	19041	582	0	202038

All superstructure reinforcing steel shall be epoxy coated unless otherwise specified.

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Detailed Aug. 2026
Checked Aug. 2026

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
SHARON A.W. HOFFMANN
NUMBER E-2001018753
REGISTERED PROFESSIONAL ENGINEER
09/28/2026 12:54 PM
Sharon Hoffmann
MO PE-E-2001018753

DATE PREPARED
9/28/2026

ROUTE	STATE
I-170	MO
DISTRICT	SHEET NO.
BR	16

COUNTY
ST. LOUIS

JOB NO.
J6I3572

CONTRACT ID.

BRIDGE NO.
A31761

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

Jacobs
JACOBS ENGINEERING GROUP
1001 HIGHLANDS PLAZA DR.WEST, SUITE 400
ST.LOUIS, MISSOURI 63110
PHONE: (314) 335-4000
CERTIFICATE OF AUTHORITY
#00704

Bill of Reinforcing Steel

No. Req.	Size/ Mark	0090 Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
		SLAB													
360	5 S1	SLAB	E	20		47 10.000							47 10	47 10	17960
352	6 S2	SLAB	E	20		34 6.000							34 6	34 6	18240
608	5 S3	SLAB	E	20		47 10.000							47 10	47 10	30333
64	6 S4	SLAB	E	20	2	4 3.250							4 3	4 3	2820
	6 S4	INCR.= 19.375 in		20		54 4.500							54 5	54 5	
1448	6 S5	SLAB	E	20		9 6.000							9 6	9 6	20662
48	5 S6	SLAB	E	20	2	5 4.500							5 5	5 5	1498
	5 S6	INCR.= 25.625 in		20		54 4.500							54 5	54 5	
692	6 S7	SLAB	E	20		55 4.000							55 4	55 4	57513
520	5 S8	SLAB	E	20		55 4.000							55 4	55 4	30011
16	6 S9	SLAB	E	20		56 0.000							56 0	56 0	1346
4	6 S10	SLAB	E	20		56 0.000							56 0	56 0	336
220	5 S11	SLAB	E	20		2 6.000							2 6	2 6	574
840	4 S12	SLAB	E	10		0 0.600	0 5.000	0 6.500	0 6.000				2 6	2 6	1122
		TYPE D BARRIER													
712	5 R1	BARRIER	E	26		3 3.000	0 5.500	0 2.250	3 1.375	0 5.500	3 0.750	0 6.750	6 10	6 9	5013
712	5 R2	BARRIER	E	19		1 8.500	0 9.500						2 6	2 4	1733
712	5 R3	BARRIER	E	27			0 9.500	1 3.250	0 5.000	1 0.000	1 3.000	0 3.000	3 6	3 3	2414
160	5 R4	BARRIER	E	20		11 9.000							11 9	11 9	1961
80	5 R5	BARRIER	E	20		27 8.000							27 8	27 8	2309
80	5 R6	BARRIER	E	20		38 6.000							38 6	38 6	3212
		SLIP FORM													
		TYPE D BARRIER													
40	5 C1	BARRIER	E	20		12 0.000							12 0	12 0	501
8	5 C2	BARRIER	E	20		9 9.000							9 9	9 9	81
		BARRIER CURB													
20	5 K1	BARRIER CURB	E	27S		2 0.000	0 9.250	0 5.375	1 7.000		0 5.250	0 1.000	4 10	4 7	96
60	5 K2	BARRIER CURB	E	27S		2 0.000	0 9.250	1 2.500	0 10.000		1 2.250	0 2.750	4 10	4 8	292
4	5 K3	BARRIER CURB	E	27S		1 10.500	0 9.250	1 2.500	0 7.750	1 0.000	1 2.250	0 2.750	5 6	5 2	22
20	5 K4	BARRIER CURB	E	19S	4	2 4.250	0 10.000						3 2	3 1	66
	5 K4	INCR.= 0.50 in		19S		2 6.250	0 10.000						3 4	3 3	
20	5 K5	BARRIER CURB	E	38S	4			1 6.500	0 9.500	0 8.250	1 6.000	0 4.000	3 0	2 10	61
	5 K5	INCR.= 0.50 in		38S				1 8.500	0 9.500	0 8.250	1 8.000	0 4.500	3 2	3 0	
12	5 K6	BARRIER CURB	E	19S		2 6.750	0 10.000						3 5	3 4	42
12	5 K7	BARRIER CURB	E	21S			2 6.625	0 10.000			2 6.000	0 6.250	3 5	3 3	41
36	5 K8	BARRIER CURB	E	19S	4	2 9.000	0 10.000						3 7	3 6	141
	5 K8	INCR.= 0.75 in		19S		3 3.000	0 10.000						4 1	4 0	
36	5 K9	BARRIER CURB	E	32S	4		0 10.000	2 8.750			2 8.000	0 6.750	3 7	3 4	135
	5 K9	INCR.= 0.75 in		32S			0 10.000	3 2.750			3 2.000	0 7.705	4 1	3 10	
16	5 K10	BARRIER CURB	E	19S		3 3.500	0 10.000						4 2	4 0	67
16	5 K11	BARRIER CURB	E	32S			0 10.000	3 4.250			3 3.500	0 7.750	4 2	3 11	65
24	5 K12	BARRIER CURB	E	20		11 9.000							11 9	11 9	294
12	5 K13	BARRIER CURB	E	20	4	11 0.000							11 0	11 0	100
		INCR.= 36.00 in		20		5 0.000							5 0	5 0	
24	5 K14	BARRIER CURB	E	20		11 9.000							11 9	11 9	294
12	5 K15	BARRIER CURB	E	20	4	11 0.000							11 0	11 0	100
		INCR.= 36.00 in		20		5 0.000							5 0	5 0	
		MEDIAN BARRIER													
20	5 M1	MEDIAN BARRIER	E	20		19 11.000							19 11	19 11	415
84	5 M2	MEDIAN BARRIER	E	14S	2		0 5.000	1 2.125			1 0.000	0 7.500	1 7	1 7	168
		INCR.= 0.25 in		14S			1 1.500	1 2.125			1 0.000	0 7.500	2 4	2 3	

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb

Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

For bending diagrams and steel reinforcing totals, see Sheet No. 16.

Detailed Aug. 2026
Checked Aug. 2026

Reinforcing steel (ASTM A706 Grade 60) fy = 60,000 psi

Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.
SH = Required shape, see bending diagrams.
V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

BILL OF REINFORCING STEEL

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
SHARON A.W. HOFFMANN
NUMBER E-2001018753
REGISTERED PROFESSIONAL ENGINEER
09/28/2026 12:54 PM
Sharon Hoffmann
MO PE-E-2001018753

DATE PREPARED 9/28/2026
ROUTE I-170 | STATE MO
DISTRICT BR | SHEET NO. 17
COUNTY ST. LOUIS
JOB NO. J6I3572
CONTRACT ID.
BRIDGE NO. A31761

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CERTIFICATE OF AUTHORITY #00704