DESIGN DESIGNATION

ROUTE 50 A.A.D.T. - 2023 = 31,162

V = 55 M.P.H. FUNCTIONAL CLASSIFICATION- OTHER FREEWAY AND EXPRESSWAY

BOLIVAR ST

A.A.D.T. - 2023 = 7,744

V = 30 M.P.H.

KEY MAP

FUNCTIONAL CLASSIFICATION- LOCAL

NO RIGHT OF WAY ACQUISITION

DISCLAIMER

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CONVENTIONAL SYMBOLS

BUILDINGS AND STRUCTURES ロコニコ GUARD RAIL •••• GUARD CARLE •••• CONCRETE RIGHT-OF-WAY MARKER STEEL RIGHT-OF-WAY MARKER LOCATION SURVEY MARKER \circ UTILITIES FIBER OPTICS - FO--FO-OVERHEAD CABLE TV -VTO--OTV- UNDERGROUND CABLE TV OVERHEAD TELEPHONE -UTV-- OT - $\neg \cup \top \lor \neg$

-OT-—UT— —OE— UNDERGROUND TELEPHONE – UT – - OE -- UE -- S -- SS -OVERHEAD POWER -UE-UNDERGROUND POWER SANITARY SEWER - SS-STORM SEWER —G— WATER SAN HYD MANHOLE FIRE HYDRANT WATER VALVE ... ⊕ WATER METER DROP INLET = DITCH BLOCK GROUND MOUNTED SIGN LIGHT POLE H-FRAME POWER POLE TELEPHONE PEDESTAL

Δ

 \boxtimes

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

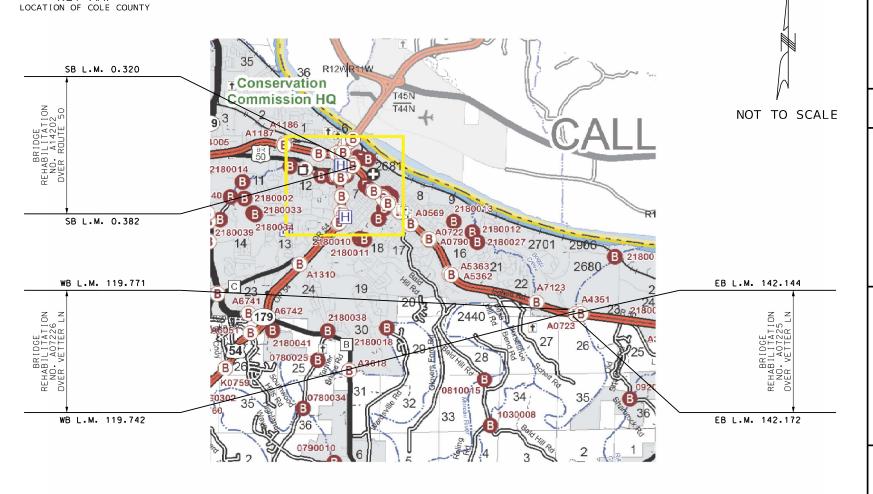
FENCE CHAIN LINK WOVEN WIRE GATE POST

BENCHMARK

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED STATE HIGHWAY **COLE COUNTY**

US ROUTE 50 A14202, A07225 & A07226 REHABILITATIONS & ASSOCIATED ROADWAY IMPROVEMENTS MoDOT JOB NO. J5P3523



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

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (TS) (2 SHEETS)	2
QUANTITIES (QU) (3 SHEET)	3
PLAN SHEETS (PL)	4-5
SPECIAL SHEETS (SS)	6-9
EROSION CONTROL SHEET (EC)	10
TRAFFIC CONTROL SHEETS (TC)	11-32
BRIDGE DRAWINGS (B) A14202 A07225A07226	1 - 3

SIGNED, SEALED, AND DATED ELECTRONICALLY.						
	REPARED					
	/2024					
ROUTE	STATE					
50	MO					
DISTRICT	SHEET NO.					
CD	1					
COU	NTY					
	LE					
JOB	NO.					
, , , ,	J5P3523					
CONTRACT ID.						
PROJECT NO.						
BRIDGE NO.						

OF MICH

LENGTH OF PROJECT

BOLIVAR ST. BRIDGE A14202

STATE LENGTH

BEGINNING OF PROJECT	LOG MIL	E 0.320	
END OF PROJECT	LOG MIL	E 0.382	
APPARENT LENGTH		328.50	FEET
EQUATIONS AND EXCEPTIONS	i:		
TOTAL CORRECTIONS		0	FEET
NET LENGTH OF PROJECT		328.50	FEET
STATE LENGTH		0.062	MILES
US-50 EBL BRIDGE A07225			
BEGINNING OF PROJECT	LOG MILE	119.742	
END OF PROJECT	LOG MILE	119.771	
APPARENT LENGTH		149.50	FEET
EQUATIONS AND EXCEPTIONS	i :		
TOTAL CORRECTIONS		0	FEET

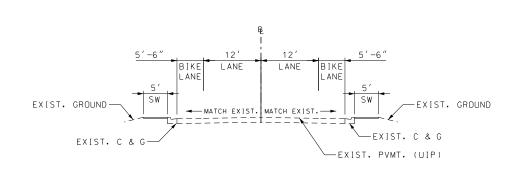
US-50 WBL BRIDGE A07226				
BEGINNING OF PROJECT	LOG MILE	142.144		l
END OF PROJECT	LOG MILE	142.172		l
APPARENT LENGTH		149.50	FEET	Р
EQUATIONS AND EXCEPTIONS	:			
TOTAL CORRECTIONS		0	FEET	l
NET LENGTH OF PROJECT		149.50	FEET	l
STATE LENGTH		0.028	MILES	l
FOR INFORMATION ONLY	5	0 045	ACRES	





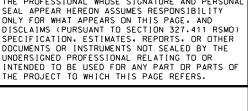
0.028 MILES

SHELBY P. REYNOLD



EXIST. TYPICAL SECTION BOLIVAR ST. BRIDGE A14202 APPROACH

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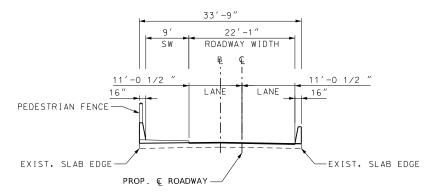
32'-5" 22'-1" ROADWAY WIDTH 11'-0 1/2 11'-0 1/2 " LANE -BRIDGE APPROACH SLAB PROP. © ROADWAY -

PROP. TYPICAL SECTION BOLIVAR ST. BRIDGE A14202 APPROACH (2)

SB LOG MILE 0.320 - LOG MILE 0.324 SB LOG MILE 0.378 - LOG MILE 0.382

39'-9" 30'-0" 15′-0″ 15'-0" LANE LANE 10 1/2 10 1/2 " ➡ MATCH EXIST. MATCH EXIST. -EXIST. BRIDGE (UIP)

EXIST. TYPICAL SECTION BOLIVAR ST. BRIDGE A14202 (3) LOG MILE 0.324 - LOG MILE 0.378



PROP. TYPICAL SECTION BOLIVAR ST. BRIDGE A14202 PROPOSED (4) SB LOG MILE 0.324 - LOG MILE 0.378

TYPICAL SECTION BOLIVAR ST. OVER RTE. 50 SHEET 1 OF 2

BRIAN D. KIERATH JR. NUMBER PE • 2023008624

THIS SHEET HAS
BEEN SEALED AND
DATED
ELECTRONICALLY

11/3/2024 50 MO SHEET NO. CD 2

COLE IOB NO. J5P3523 CONTRACT ID.

PROJECT NO.

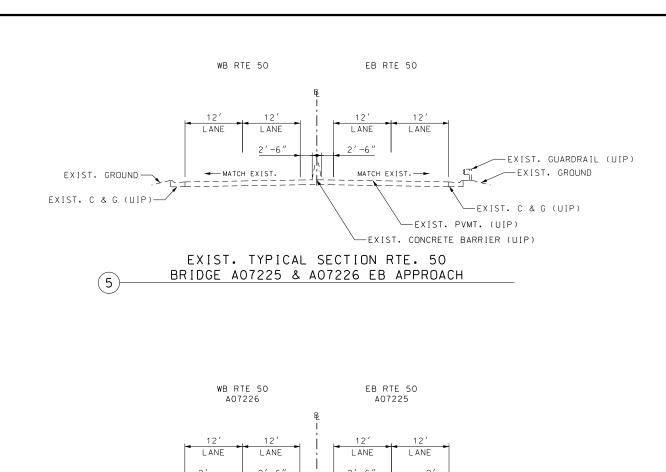
BRIDGE NO.

GBA

ST. 300 CHESTERFIELD, MO 63017 314.231.0100 GBAteam.com

GEORGE BUTLER ASSOCIATES, INC. PRO. ENGINEER 000133 ARCHITECT 000212 PRO. LAND SURVEYOR 0000

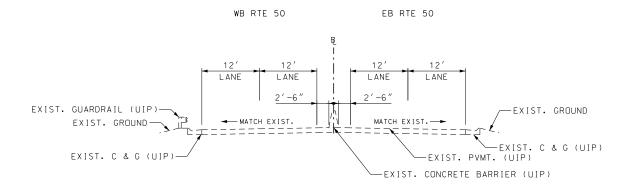
BRIAN KIERATH PROFESSIONAL ENGINEER PE-2023008624





MATCH EXIST.→

-EXIST. BRIDGE (UIP)



EXIST. TYPICAL SECTION RTE. 50 BRIDGE A07225 & A07226 WB APPROACH

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THIS SHEET HAS
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DATED
ELECTRONICALLY

11/3/2024 50 MO SHEET NO DISTRICT CD 2

COLE LOB NO J5P3523 CONTRACT ID.

PROJECT NO.

BRIDGE NO.

GBA

ST. 300 CHESTERFIELD, MO 63017 314.231.0100 GBAteam.com

GEORGE BUTLER ASSOCIATES, INC. PRO. ENGINEER 000133 ARCHITECT 000212 PRO. LAND SURVEYOR 0000

BRIAN KIERATH PROFESSIONAL ENGINEER PE-2023008624

TYPICAL SECTION RTE. 50 OVER VETTER LN SHEET 2 OF 2

	REMOVAL OF IMPROVEMENTS							
SHEET NO.	ROADWAY	SIDE	ITEM	QUANTITY	UNIT			
5	RTE. 50	BL	EXISTING TRAFFIC BARRIER	230	LF			
5	RTE. 50	BL	EXISTING TRAFFIC BARRIER	230	LF			
7	SB BOLIVAR ST.	LT	SIDEWALK REMOVAL	40	SY			
7	SB BOLIVAR ST.	LT	EXISTING TYPE B CURB & GUTTER	53	LF			
7	SB BOLIVAR ST.	LT	SAWCUT EXISTING PAVEMENT	54	LF			
7	SB BOLIVAR ST.	LT	FULL DEPTH PAVEMENT	27	SY			
7	SB BOLIVAR ST.	RT	SIDEWALK REMOVAL	94	SY			
8	SB BOLIVAR ST.	RT	EXISTING TYPE B CURB & GUTTER	28	LF			
7	SB BOLIVAR ST.	BL	SAWCUT EXISTING PAVEMENT	31	LF			
7	SB BOLIVAR ST.	BL	EXISTING BRIDGE APPROACH SLAB	75	SY			
7	SB BOLIVAR ST.	LT	SIDEWALK REMOVAL	32	SY			
7	SB BOLIVAR ST.	LT	EXISTING TYPE B CURB & GUTTER	47	LF			
7	SB BOLIVAR ST.	LT	SAWCUT EXISTING PAVEMENT	48	LF			
7	SB BOLIVAR ST.	LT	FULL DEPTH PAVEMENT	23	SY			
7	SB BOLIVAR ST.	RT	SIDEWALK REMOVAL	52	SY			
7	SB BOLIVAR ST.	BL	SAWCUT EXISTING PAVEMENT	31	LF			
7	SB BOLIVAR ST.	BL	EXISTING BRIDGE APPROACH SLAB	75	SY			
7	SB BOLIVAR ST.	RT	EXISTING TYPE B CURB & GUTTER	28	LF			
		-						
			PROJECT TOTAL	1	LS			

MOBILIZATION
1 LUMP SUM

CONTRACTOR FURNISHED SURVEYING AND STAKING 1 LUMP SUM

SIDEWALK									
SHEET NO.	ROADWAY	LOCATION	SIDE	CONCRETE SIDEWALK, 4.0 IN. (SY)	TYPE 5 AGGREGATE FOR BASE (4 IN. THICK) (SY)				
7	SB BOLIVAR ST.	NE QUADRANT BRDIGE A14202	LT	42.6	43				
7	SB BOLIVAR ST.	SE QUADRANT BRDIGE A1420W	LT	48.5	49				
			PROJECT TOTAL	91.1	92				

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THE PROJECT TO WHICH THIS PAGE REFERS.



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DATE P	REPARED					
11/14	/2024					
ROUTE	STATE					
50	MO					
DISTRICT	SHEET NO.					
CD	3					
COU	NTY					
COLE						
JOB	JOB NO.					
J5P3523						
CONTRA	CT ID.					

PROJECT NO.

DESCRIPTION			
DATE			

DESCRIPTION					
DATE					
ORTATION			ST CAPITOL	, MO 65102	12622 376

GBA 16305 SWINGLEY RIDGE RD ST. 300 CHESTERFIELD, MO 63017 314.231.0100 GBAteam.com

GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 00005

SHELBY P. REYNOLDS PROFESSIONAL ENGINEER PE-2023018931

PAVEMENT									
SHEET NO.	ROADWAY	LOCATION	SIDE		COLDMILLING BITUMINOUS PAVEMENT FOR REMOVAL OF SURFACING (3 IN. THICK OR LESS) (SY)				
5	RTE. 50	MEDIAN BARRIER WEST OF BRIDGE A07225/A07226	BL	51	51				
5	RTE. 50	MEDIAN BARRIER EAST OF BRIDGE A07225/A07226	BL	51	51				
			PROJECT TOTAL	102	102				

	CONCRETE BARRIER								
SHEET NO.	ROADWAY	LOCATION	SIDE	CONCRETE TRAFFIC BARRIER, TYPE C (LF)	CONCRETE TRAFFIC BARRIER, TYPE D (LF)	CONCRETE MEDIAN (SY)			
5	RTE. 50	MEDIAN BARRIER WEST OF BRIDGE A07225/A07226	BL	230	-	-			
5	RTE. 50	MEDIAN BARRIER EAST OF BRIDGE A07225/A07226	BL	230	-	-			
7	SB BOLIVAR ST.	MEDIAN BARRIER NORTH WEST OF BRIDGE A14202	LT	-	28	-			
7	SB BOLIVAR ST.	MEDIAN BARRIER NORTH EAST OF BRIDGE A14203	RT	-	28	0.3			
7	SB BOLIVAR ST.	MEDIAN BARRIER SOUTH WEST OF BRIDGE A14202	LT	-	28	-			
7	SB BOLIVAR ST.	MEDIAN BARRIER SOUTH EAST OF BRIDGE A14203	RT	-	28	0.3			
			PROJECT TOTAL	460	112	0.6			

	EROSION CONTROL										
SHEET NO.	ROADWAY	LOCATION	SIDE	SEEDING - COOL SEASON GRASSES (ACRE)	SILT FENCE (LF)	TEMPORARY SEEDING (ACRE)	MULCHING (ACRE)				
10	SB BOLIVAR ST.	NW QUADRANT BRIDGE A14202	RT	0.1	118	0.1	0.1				
10	SB BOLIVAR ST.	NE QUADRANT BRIDGE A14202	LT	0.1	85	0.1	0.1				
10	SB BOLIVAR ST.	SW QUADRANT BRDIGE A14202	RT	0.1	240	0.1	0.1				
10	SB BOLIVAR ST.	SE QUADRANT BRIDGE A14202	LT	0.1	99	0.1	0.1				
			PROJECT TOTAL	0.4	542	0.4	0.4				

SHEET NO.	ROADWAY	LOCATION	SIDE	CURB AND GUTTER TYPE B (LF)
7	SB BOLIVAR ST.	NE QUADRANT BRIDGE A14202	LT	48
7	SB BOLIVAR ST.	NW QUADRANT BRIDGE A14202	RT	28
7	SB BOLIVAR ST.	SW QUADRANT BRDIGE A14202	RT	28
7	SB BOLIVAR ST.	SE QUADRANT BRIDGE A14202	LT	54
			PROJECT TOTAL	158

CURB AND GUTTER

	LINEAR GRADING										
SHEET NO.	ROADWAY	LOCATION	SIDE	LINEAR GRADING CLASS 2 (STA)							
7	SB BOLIVAR ST.	NW QUADRANT BRIDGE A14202	RT	1.2							
7	SB BOLIVAR ST.	NE QUADRANT BRIDGE A14202	LT	0.6							
7	SB BOLIVAR ST.	SW QUADRANT BRDIGE A14202	RT	2.1							
7	SB BOLIVAR ST.	SE QUADRANT BRIDGE A14202	LT	0.7							
			PROJECT TOTAL	4.6							

						PERMANEN	T PAVEME	NT MARKINO	3				
					HIGH	BUILD WATERBOR TYPE L	NE PAVEMENT BEADS	MARK I NG	STANDARD WA	TERBORNE PAV TYPE P BEAD	EMENT MARKING S	PREFORMED THERMOPLASTIC PAVEMENT MARKING	
SHEET	FROM STATION	LOCATION	TO STATION	LOCATION		6" WHITE		6" YELLOW	LLOW 4" WHITE 4" YE		4" YELLOW	I NATEROAD	
	STATION		STATION		SOL ID	INTERMITTENT	DOTTED	SOL I D	SOL I D	DOTTED	INTERMITTENT	CROSSING MARKING	
					(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(EA)	
27		BOLIVAR ST.		BOLIVAR ST.					818	45	123	1	
		US-50		US-50	6,584	1,901	86	7,601					
		PROJECT TOTA	AL		6,584	1,901	86	7,601	818 45		123	1	
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	BID ITEM TOT	AL			8.571	•	7 • 601	8	363	123	1	

				SIGN SUMMARY			
					SIZE, TYPE & SQUARE	E FEET	
STANDARD SIGN OR SPECIAL SIGN NUMBER	SIGN DETAIL SHEET NO.	NO. EACH	SIZE	FLAT SHEET SH	FLAT SHEET FLUORESCENT SHF **	STRUCTURAL ST ITEM NO.	STRUCTURAL FLUORESCENT STF *
				ITEM NO. 9035004A	ITEM NO. 9035069A	9035011A	ITEM NO. 9035071A
E1-1 (US-50 / US-63)	28	1	9'-0"x8'-0"			72	
E1-1 (US-50 BUS)	28	1	11'-0"x8'-0"			88	
				-			
TOTAL		, and the second				160	

* ORANGE, YELLOW & YELLOW/GREEN

4 IN TEMPORARY PAVEMENT MARKING PAINT*											
ITEM	UNITS	PHASE	1	2	3	4	5	6	7	TOTAL	TOTAL BY TYPE
4" WHITE SOLID	LF					1,783	944			2.727	2.727
4" YELLOW SOLID	LF					7,564	7,575			15,139	15,139
TOTAL ITEM NUMBER 6208076											17,866

* QUANTITIES DENOTE TEMPORARY PAVEMENT MARKING TO BE INSTALLED PER INDIVIDUAL PHASE

	TEMPO	DRARY	RAISED) PAVE	MENT	MARKER-	*			
ITEM	UNITS	PHASE	1	2	3	4	5	6	7	TOTAL
WH I TE	EA									
YELLOW	EA					48	48			96
TOTAL ITEM NUMBER 6208064A	•		•	-		•		•		96

* QUANTITIES DENOTE TEMPORARY PAVEMENT MARKERS TO BE INSTALLED PER INDIVIDUAL PHASE

- 1	
	WURK ZONE INTELLIGENT TRANSPORTATION SYSTEMS
	1 LIMP SUM

P.A	<u>VEMENT MARKI</u>	<u>NG REMOVAL</u>	
PHASE	EXISTING PAVEMENT MARKING SYMBOL REMOVAL (EA)	EXISTING PAVEMENT MARKING REMOVAL (LF)	TEMPORARY PAVEMENT MARKING REMOVAL (LF)
	ITEM NO. 6207002	ITEM NO.	6207001
PHASE 1 *	1	1.533	
PHASE 2			
PHASE 3			
PHASE 4		10,404	9.347
PHASE 5		11.188	8.519
PHASE 6			
PHASE 7			
TOTAL		23,125	17,866
BID ITEM TOTAL	1	40.	991

* PHASE 1 REMOVAL FOR BRIDGE A14202 PAVEMENT MARKING; SEE SHEET 31



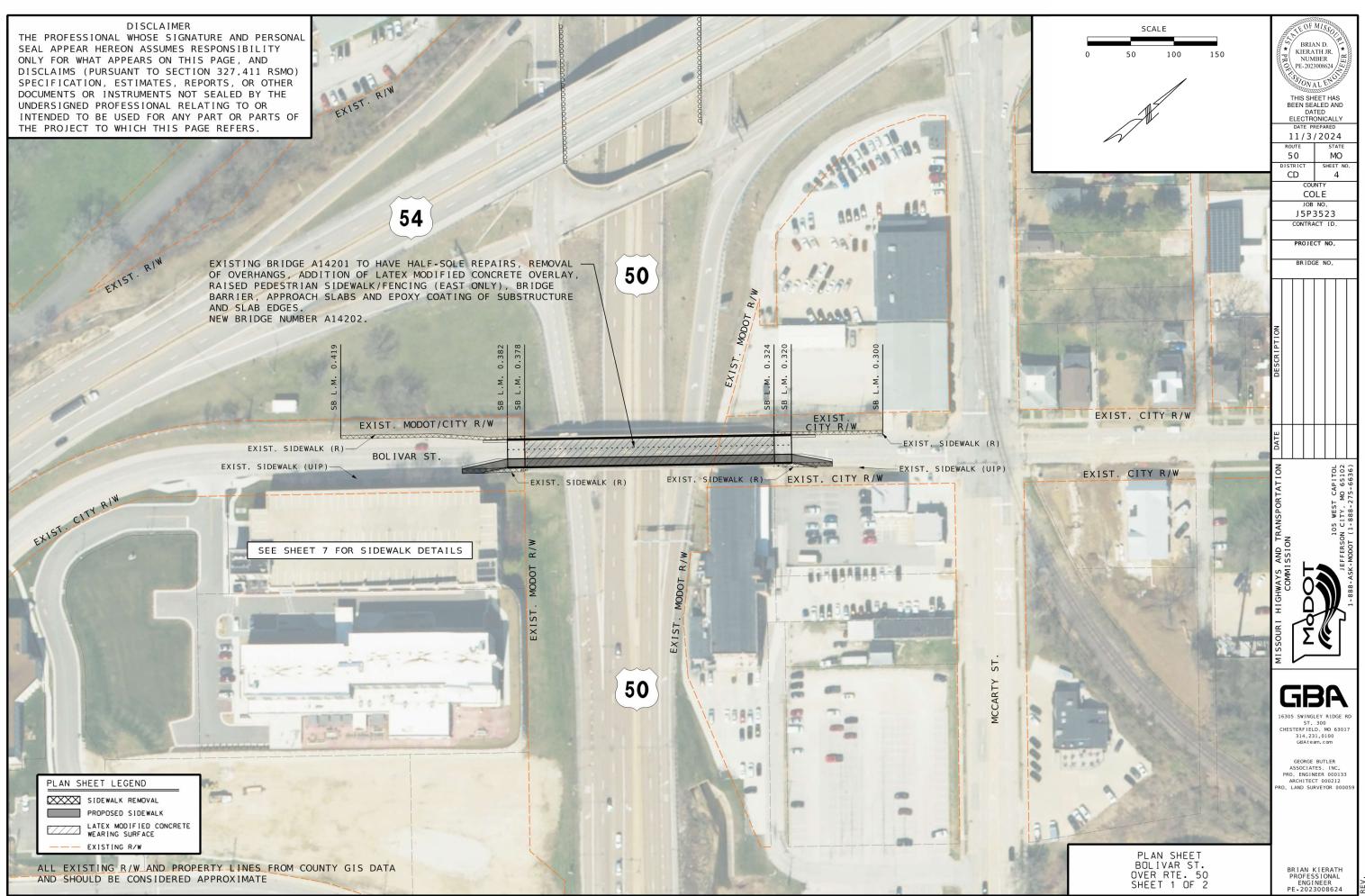


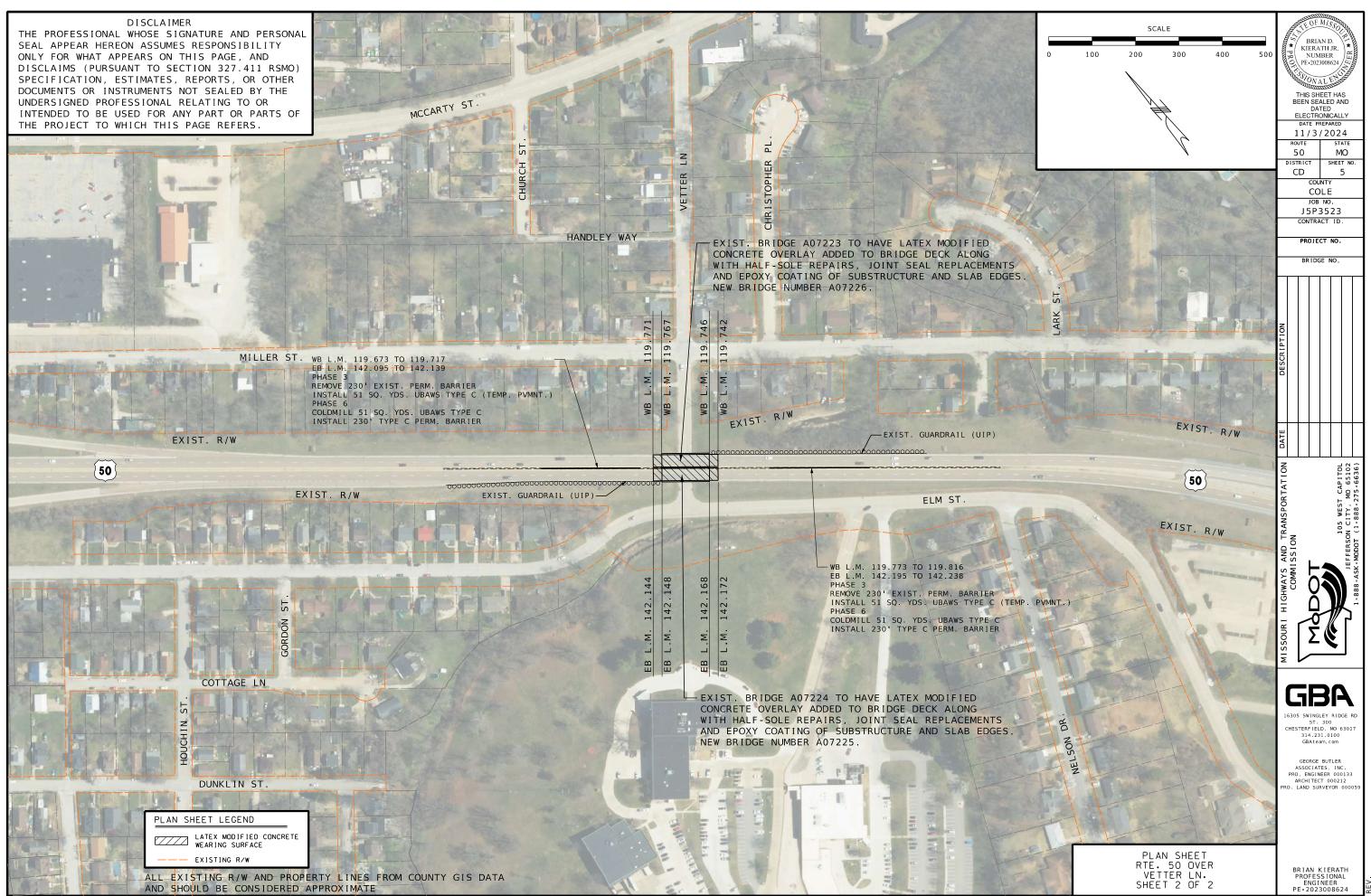
GEORGE BUTLER ASSOCIATES, INC. PRO. ENGINEER 000133 ARCHITECT 000212 PRO. LAND SURVEYOR 00005

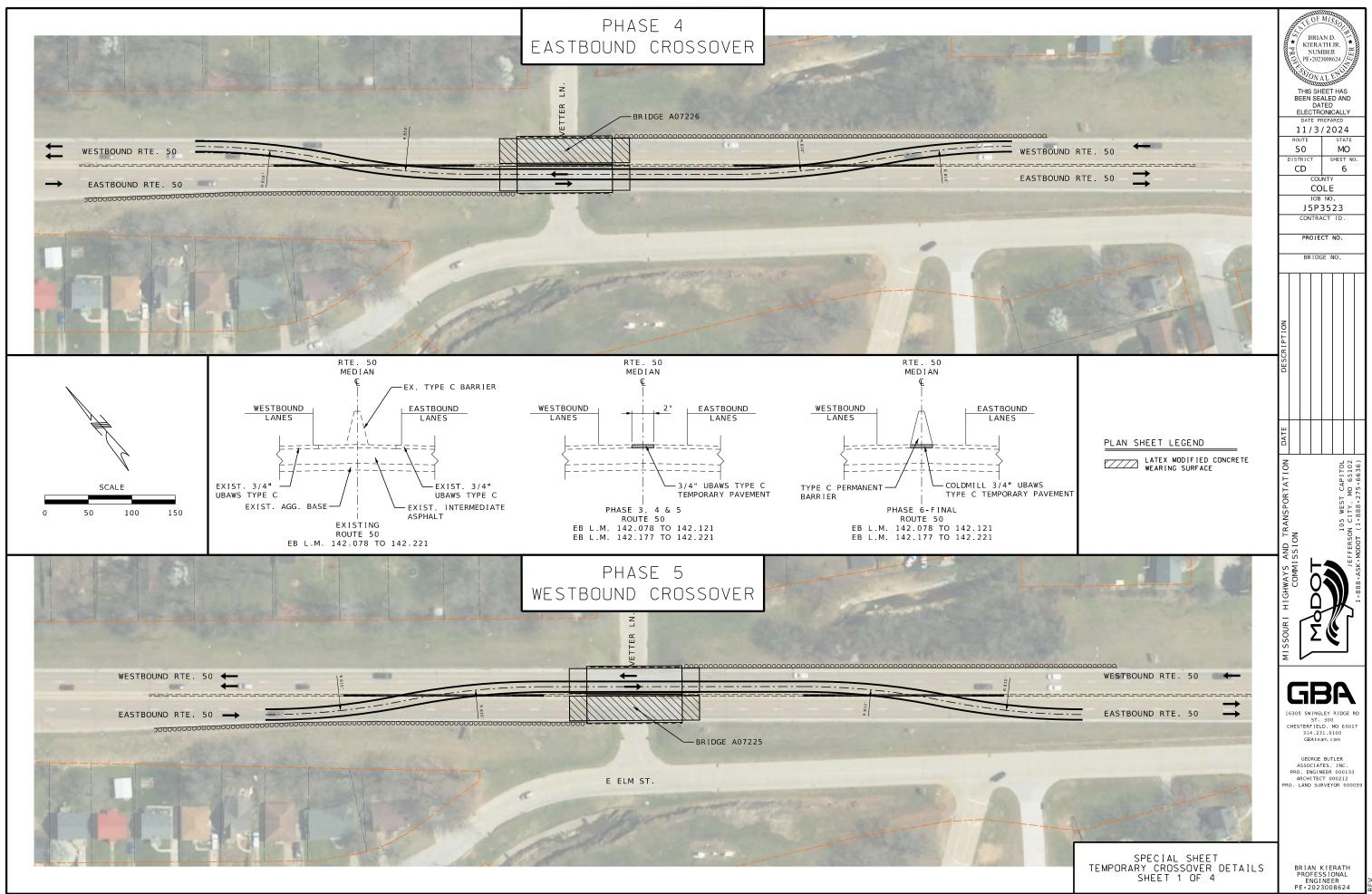
CHRISTOPHER NOVOSEL PROFESSIONAL ENGINEER PE-2018024421

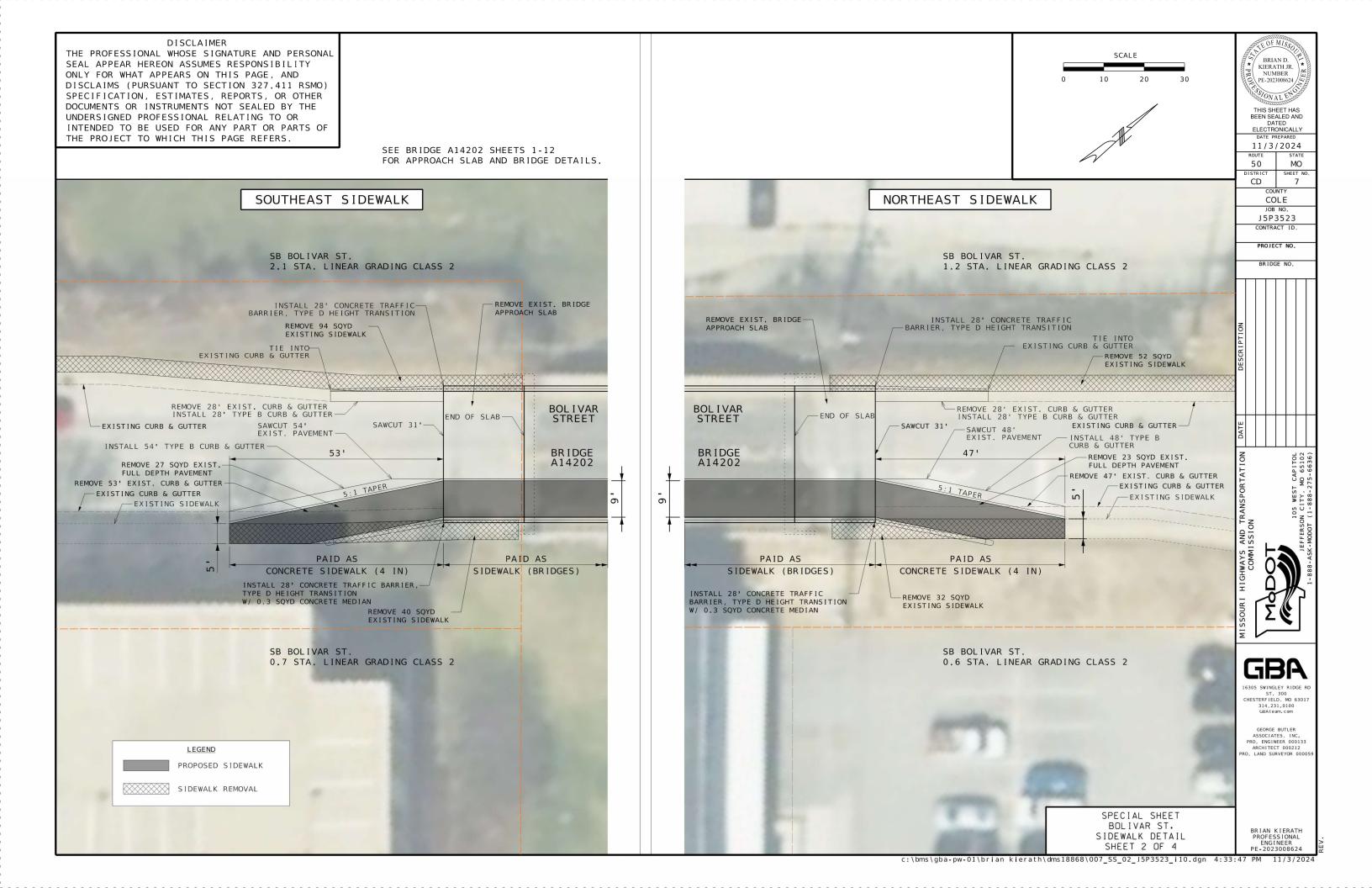
QUANTITIES SHEET 2 OF 3

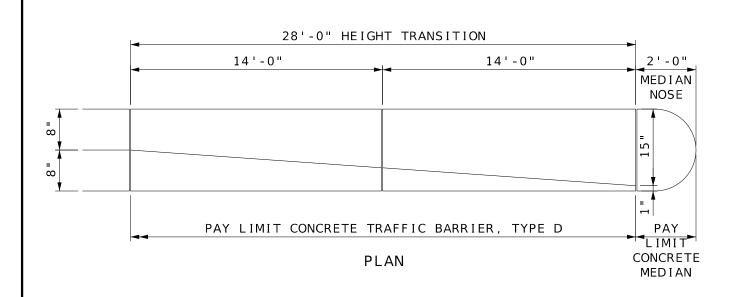
																	EFFECTIVE: 04-01-2024	JANAS OF MISSON
	SIZE	AREA	QTY TOTAL	QTY TOTAL	SIGN			SIZE A	REA QT	Y TOTAL	QTY	TOTAL	SIGN					CHRISTOPHER
SIGN	IN.		AREA		NUM.	DESCRIPTION	SIGN		FT EAC	AREA	RELOC	RELOC	NUM.	DESCRIPTION	ITEM	TOTAL	DESCRIPTION	* NOVOSEL *
			VARNING SIGNS	EACH SQ.FT.					GUU	DE SIGNS	EACH	SQ.FI.			NUMBER	QTY		PE-2018024421
WO1 - 1L	48X48	3 16.00		<u>, </u>		TURN (SYMBOL LEFT)	E05-1	36X48 12		JE 310N3				GORE EXIT	6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)	- WONAL ELLIN
		3 16.00				TURN (SYMBOL RIGHT)		48X36 12						EXIT OPEN	6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)	THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED
		3 16.00 3 16.00				CURVE (SYMBOL LEFT) CURVE (SYMBOL RIGHT)	-	48X36 12 60X24 10		20.00				EXIT CLOSED ROAD WORK NEXT XX MILES	6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS) IMPACT ATTENUATOR 55 MPH (SAND BARRELS)	ELECTRONICALLY.
		3 16.00				REVERSE TURN (SYMBOL LEFT)	-	2 48X24 8		72.00	8	64.00		END ROAD WORK	6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)	DATE PREPARED 11/5/2024
		3 16.00				REVERSE TURN (SYMBOL RIGHT)	-	36X18 4						PILOT CAR FOLLOW ME	6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)	ROUTE STATE
		16.00				REVERSE CURVE (SYMBOL LEFT)	1 — —	a 42X30 8					_	PILOT CAR IN USE WAIT & FOLLOW PILOT CAR IN USE WAIT & FOLLOW	6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)	50 MO
		3 16.00 3 16.00		2 32.00	13K	REVERSE CURVE (SYMBOL RIGHT) DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)	1 — —	a 18X12 1 aP 36X24 6		24.00	4	24.00	_	WORK ZONE (PLAQUE)	6122020		REPLACEMENT SAND BARREL IMPACT ATTENUATOR (RELOCATION)	CD 3
		3 16.00				DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)	-	24X18 3		15.00				END DETOUR	6122040		WORK ZONE CRASH CUSHION (NARROW)	COUNTY COLE
		16.00				TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)	-	48X36 12						DETOUR (LEFT)	6161008		ADVANCED WARNING RAIL SYSTEM	JOB NO.
		16.00				TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT) HORIZONTAL ARROW (SYMBOL)	-	48X36 12 48X12 4						DETOUR (RIGHT) STREET NAME (PLAQUE)	6161012		BUOYS (BOATS KEEP OUT) BUOYS (NO WAKE)	J5P3523
			3 54.00	3 54.00	16	HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)	-	L 48X18 6						DETOUR ARROW (LEFT)	6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)	CONTRACT ID.
		12.50				DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)	MO4 - 10R	R 48X18 6		TORY CLC	N.C.			DETOUR ARROW (RIGHT)	6161025	_	*	PROJECT NO.
WO1-7a		18.00 1 3.00				DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.) CHEVRON (SYMBOL)	R1-1	48X48 13		TORY SIG	NS			STOP	6161030		TYPE III MOVEABLE BARRICADE DIRECTION INDICATOR BARRICADE	BRIDGE NO.
		7.50				CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)	-	48TRI 6						YIELD	6161040		FLASHING ARROW PANEL	1
WO3 - 1		16.00				STOP AHEAD (SYMBOL)	R1-2a							TO ONCOMING TRAFFIC (PLAQUE)	6161047		TYPE III OBJECT MARKER	$\parallel \mid \mid$
WO3 - 2 WO3 - 3		3 16.00 3 16.00				YIELD AHEAD (SYMBOL) SIGNAL AHEAD (SYMBOL)	R1-3P R2-1	30X12 2 36X48 12		48.00	4	48 00		ALL WAY (PLAQUE) SPEED LIMIT XX	6161055		SEQUENTIAL FLASHING WARNING LIGHT TUBULAR MARKER	$\{ \! \{ \ \ \ \ \ \ \ \ \ \$
		3 16.00				BE PREPARED TO STOP	R3-1	48X48 16		64.00				NO RIGHT TURN (SYMBOL)	6161095		RADAR SPEED ADVISORY SYSTEM	▋▎▎▎▎
WO3 - 5		3 16.00				SPEED LIMIT AHEAD	R3-2	48X48 16		64.00	8	128.00		NO LEFT TURN (SYMBOL)	6161096		CHANGEABLE MESSAGE SIGN,	 8
		3 16.00 3 16.00				MERGE (SYMBOL FROM LEFT) MERGE (SYMBOL FROM RIGHT)	R3-3 R3-4	36X36 9 48X48 16						NO TURNS NO U-TURN (SYMBOL)			COMMISSION FURNISHED/RETAINED CHANGEABLE MESSAGE SIGN W/O COMM.	 [a
		3 16.00				MERGE (LEFT)	R3-7L			9.00				LEFT LANE MUST TURN LEFT	6161098	A	INTERFACE - CONTRACTOR FURNISHED/RETAINED	1
		3 16.00		2 32.00	6A	MERGE (RIGHT)	R3-7R			9.00				RIGHT LANE MUST TURN RIGHT	6161099	8	CHANGEABLE MESSAGE SIGN WITH COMM.	
		3 16.00 3 16.00				ROAD/BRIDGE/RAMP NARROWS ONE LANE BRIDGE	R4-1 R4-2	36X48 12						DO NOT PASS PASS WITH CARE	6162000		INTERFACE - CONTRACTOR FURNISHED/RETAINED WORK ZONE TRAFFIC SIGNAL SYSTEM	4
WO5 - 5		3 16.00				NARROW LANES	R4-7a			12.00				KEEP RIGHT (HORIZONTAL ARROW)	6162002		TEMPORARY LONG-TERM RUMBLE STRIPS	1
WO6 - 1		3 16.00				DIVIDED HIGHWAY (SYMBOL)	R4-8a							KEEP LEFT (HORIZONTAL ARROW)	6173600		TEMPORARY TRAFFIC BARRIER	1
WO6-2		16.00	4 64 00	4 64 00	2.1	DIVIDED HIGHWAY END (SYMBOL)	R5-1	30X30 6		12.50	2	12.50		DO NOT ENTER WRONG WAY	10173000		CONTRACTOR FURNISHED/RETAINED TEMPORARY TRAFFIC BARRIER	\mathbb{L}_{ω}
	30X24	3 16.00 1 5.00	4 64.00	4 64.00	31	TWO WAY TRAFFIC (SYMBOL) NEXT XX MILES (PLAQUE)	R5-1a R6-1L							ONE WAY ARROW (LEFT)	6173602	3	CONTRACTOR FURNISHED/COMMISSION RETAINED	TAN
WO8 - 1		3 16.00				BUMP	R6-1R							ONE WAY ARROW (RIGHT)	6174000	Δ	TEMP. TRAFFIC BARRIER HEIGHT TRANSITION	
WO8 - 2		3 16.00 3 16.00				DIP	R6-2L							ONE WAY (LEFT)	6175010	Α	RELOCATING TEMPORARY TRAFFIC BARRIER	TRANSPORTATION ON 105 WEST CAPITOL SON CITY, MO 655102
WO8-3 WO8-4		3 16.00				PAVEMENT ENDS SOFT SHOULDER	R6-2R R9-9			6.00				ONE WAY (RIGHT) SIDEWALK CLOSED	6176000	3	TEMPORARY TRAFFIC BARRIER COMMISSION FURNISHED/RETAINED	AT. (AP.1
WO8 - 5		3 16.00				SLIPPERY WHEN WET (SYMBOL)		24X18 3						SIDEWALK CLOSED AHEAD,	6177000	3	TEMP. TRAFFIC BARRIER HEIGHT TRANSITION	ORT C
WO8 - 6		16.00				TRUCK CROSSING	N3-11E	. 24/10 3	.00					(ARROW LEFT) CROSS HERE	1		COMMISSION FURNISHED/RETAINED TEMPORARY RAISED PAVEMENT MARKER	SP (SP)
		3 16.00 5 9.00				TRUCK ENTRANCE LOOSE GRAVEL	R9-11R	24X18 3	.00					SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE	9029400		TEMPORARY TRAFFIC SIGNALS	105 N C
		9.00				FRESH OIL / LOOSE GRAVEL	R10-6	24X36 6	.00					STOP HERE ON RED (45^ ARROW)	9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING	T C I S I S I S I S I S I S I S I S I S I
		16.00				LOW SHOULDER	R11-2	48X30 10	0.00 12	120.00				ROAD CLOSED	6200076	Mode	TEMPORARY REMOVARIES MARKING RAINT 4 IN	AND
		3 16.00 3 16.00				UNEVEN LANES NO CENTER LINE	R11-3a	60X30 12	2.50					ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY	6208076		TEMPORARY REMOVABLE MARKING PAINT 4 IN. PAVEMENT MARKING REMOVAL	S F S
		3 16.00				GROOVED PAVEMENT	R11-4	60X30 12	2.50 5	62.50				ROAD CLOSED TO THRU TRAFFIC	1	1	**SEE QUANTITIES ON PREVIOUS SHEET	
WO8 - 15		_				MOTORCYCLE (PLAQUE)	-	A 60X48 20						FINE SIGN	-			
WO8 - 17		_				SHOULDER DROP-OFF (SYMBOL LEFT) SHOULDER DROP-OFF (SYMBOL RIGHT)	CONST-3	X 56X12 4		ANEOUS SI	GNS			SPEEDING/PASSING (PLATE)	1			
WO8 - 17		_				SHOULDER DROP-OFF (PLAQUE)	CONST - 5	5 48X36 12		333 31				POINT OF PRESENCE	1			
		9.62				RAILROAD CROSSING	-	5 96X48 32		128.00				POINT OF PRESENCE	4			
		9.00 3 16.00	1 9.00		55	DOUBLE DOWN ARROW (SYMBOL) LOW CLEARANCE (SYMBOL)		7 48X24 8 7 72X36 18						RATE OUR WORK ZONE RATE OUR WORK ZONE	1			
W012-2		_				LOW CLEARANCE (SIMBOL)		8 48X36 12		48.00				WORK ZONE NO PHONE ZONE	1			
WO12-2		_				OVERHEAD LOW CLEARANCE (FEET AND INCHES)	1	L VAR 29		_			_	DETOUR ROUTE SIGN ASSEMBLY				
		0 50.00				LOW CLEARANCE XX FT XX IN XX MILES AHEAD WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD		L 48X48 16 L 48X48 16		16 00				RUMBLE STRIPS AHEAD RUMBLE STRIPS AHEAD (SQUARE)	-			GBA
		_	4 25.00	4 25.00	44	ADVISORY SPEED (PLAQUE)	-	R 48X48 16		16.00	1			MERGE (RIGHT) (SQUARE)	1			16305 SWINGLEY RIDGE RE
		5.00				XXX FEET (PLAQUE)	WO20-1	48X48 16	5.00 3	48.00	2	32.00	2*	ROAD/BRIDGE/RAMP WORK AHEAD				ST. 300 CHESTERFIELD, MO 63017
		1 5.00	19 304.0	16 256.00) 2	X MILE (PLAQUE) ROAD/BRIDGE/RAMP WORK AHEAD					_			(SQUARE) RIGHT/CENTER/LEFT LANE CLOSED	-			314.231.0100 GBAteam.com
		3 16.00				DETOUR AHEAD	WO20-5	5 48X48 16	5.00 1	16.00	1	16.00	5*	AHEAD (SQUARE)				GEORGE BUTLER
WO20-3	48X48	3 16.00	4 64.00			ROAD CLOSED AHEAD		L 30X24 5					71	TAKE TURNS	1			ASSOCIATES, INC PRO ENGINEER 000133
		3 16.00		5 80.00	E	ONE LANE ROAD AHEAD	SPECIAL	L 30X24 5	.00 4	20.00			_	TAKE TURNS AT MERGE	-			ARCHITECT 000212 PRO. LAND SURVEYOR 00005
		3 16.00	3 48.00	3 80.00	1 5	RIGHT/CENTER/LEFT LANE CLOSED AHEAD 2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD	SPECIAL	L 96X48 32	2.00 8	256.00				DURING BACKUPS USE BOTH LANES TAKE TURNS AT MERGE				
WO20-6	a 48X48	3 16.00	2 32.00	3 48.00	6	RIGHT/CENTER/LEFT LANE CLOSED	616-10		-	TOTAL	1				_			
		16.00				FLAGGER (SYMBOL)		RUCTION	SIGNS	4,281		TOTAL						
		9.00 3 16.00	2 32.00		21	FRESH OIL SHOULDER WORK / SHOULDER WORK AHEAD	616-10 RELOCA	0.10 ATED SIC	SNS		- t	TOTAL 1,124						_
		3 16.00				BLASTING ZONE AHEAD		5.0									TEMPORARY TRAFFIC CONTROL	
		10.50				TURN OFF 2-WAY RADIO AND PHONE											QUANTITIES	CHRISTOPHER NOVOSE PROFESSIONAL
		5 10.50 5 2.19		 		END BLASTING ZONE WET PAINT (ARROW PIVOTS)	-										SHEET 3 OF 3	ENGINEER PE-2018024421
10022-1	1 -1/1-	- 2.13			1	(/											v hohoo\dms19043\002 OH 02 I5B3532 dan 7:44	

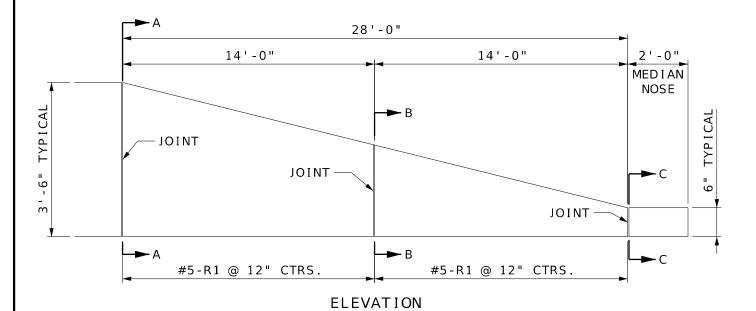


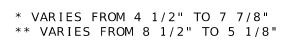


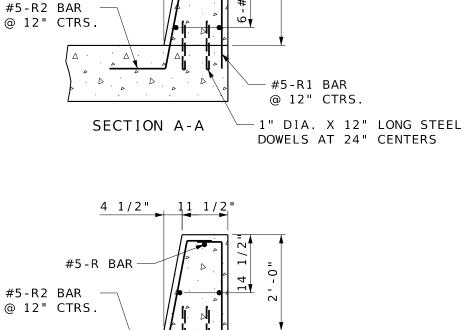










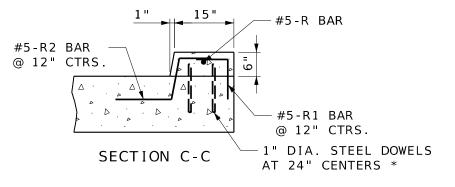


#5-R1 BAR @ 12" CTRS.

1" DIA. STEEL DOWELS

AT 24" CENTERS *

#5-R BAR



* LENGTH OF DOWEL BAR EQUALS HEIGHT OF BARRIER PLUS 3"

SECTION B-B

SPECIAL SHEET BOLIVAR ST. SIDEWALK PERMANENT BARRIER HEIGHT TRANSITION SHEET 3 OF 4

50 MO DISTRICT SHEET NO CD 8 COLE JOB NO. J5P3523 CONTRACT ID. PROJECT NO. BRIDGE NO.

KIERATH JR. NUMBER PE 2023008624

THIS SHEET HAS
BEEN SEALED AND
DATED
ELECTRONICALLY

11/3/2024

GBA

16305 SWINGLEY RIDGE RD

ST. 300

CHESTERFIELD. MO 63017
314.231.0100

GBATEAM. com

GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 00005:

BRIAN KIERATH PROFESSIONAL ENGINEER PE-2023008624

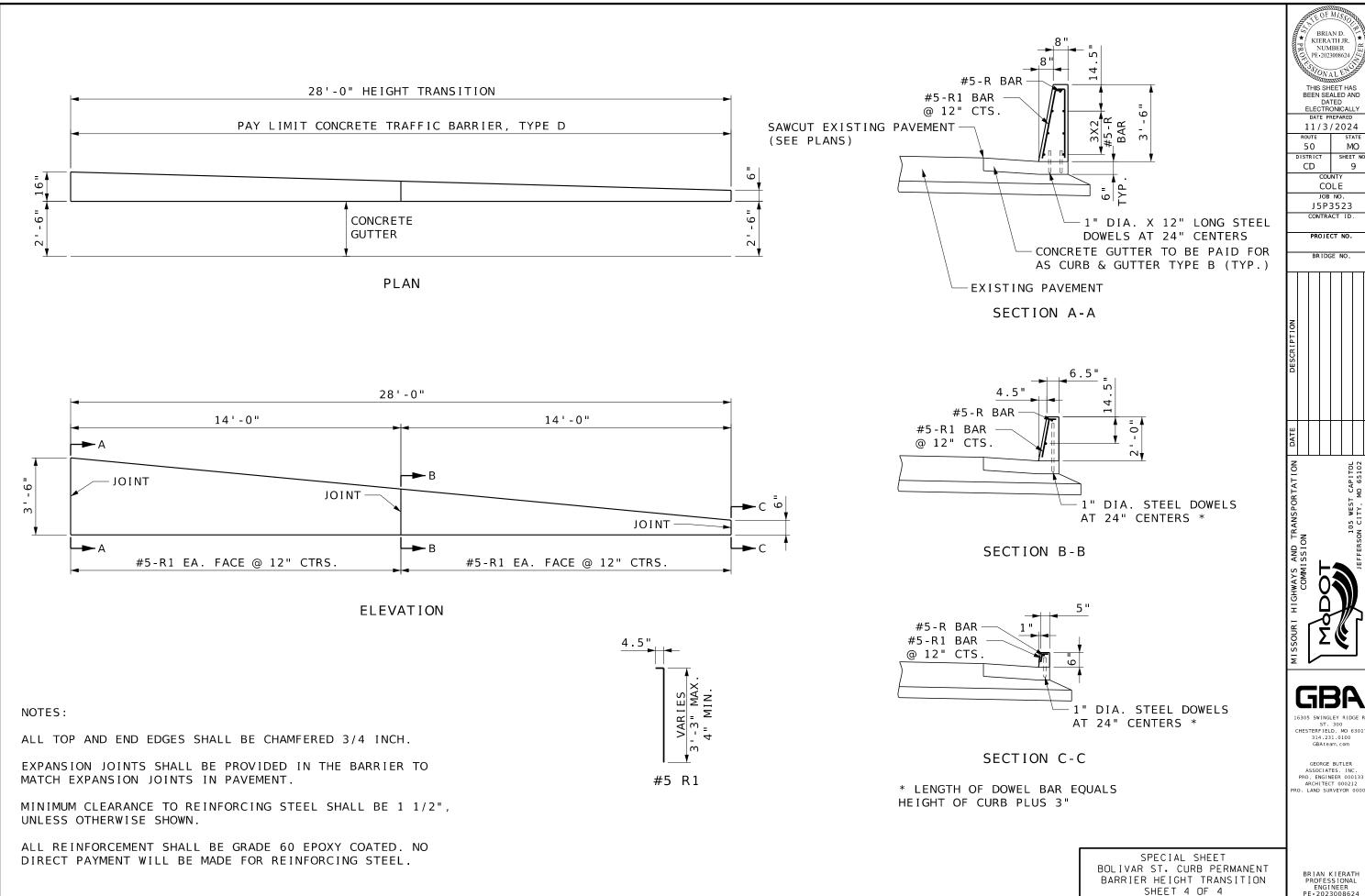
NOTES:

ALL TOP AND END EDGES SHALL BE CHAMFERED 3/4 INCH.

EXPANSION JOINTS SHALL BE PROVIDED IN THE BARRIER TO MATCH EXPANSION JOINTS IN PAVEMENT.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2", UNLESS OTHERWISE SHOWN.

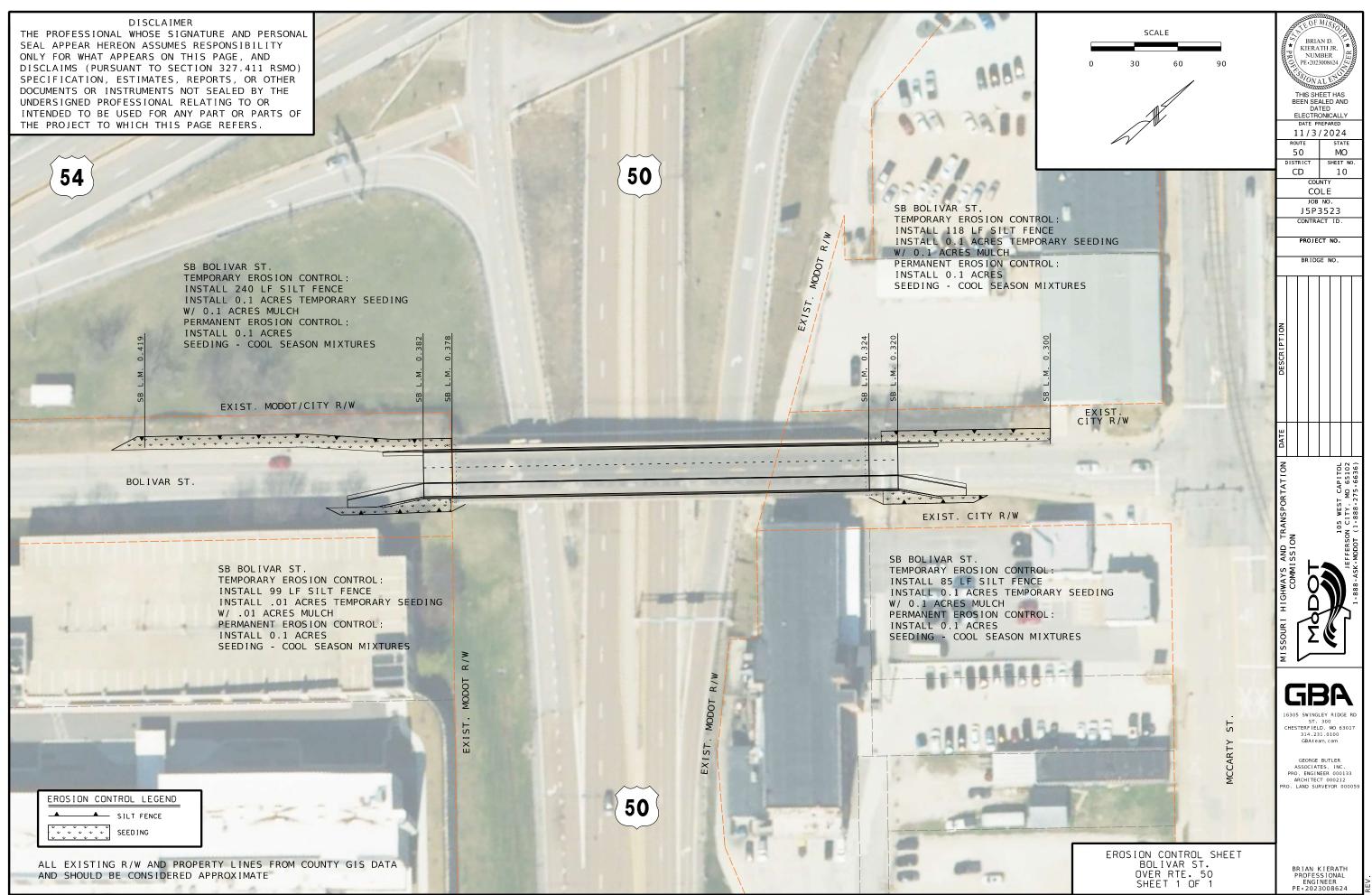
ALL REINFORCEMENT SHALL BE GRADE 60 EPOXY COATED. NO DIRECT PAYMENT WILL BE MADE FOR REINFORCING STEEL.

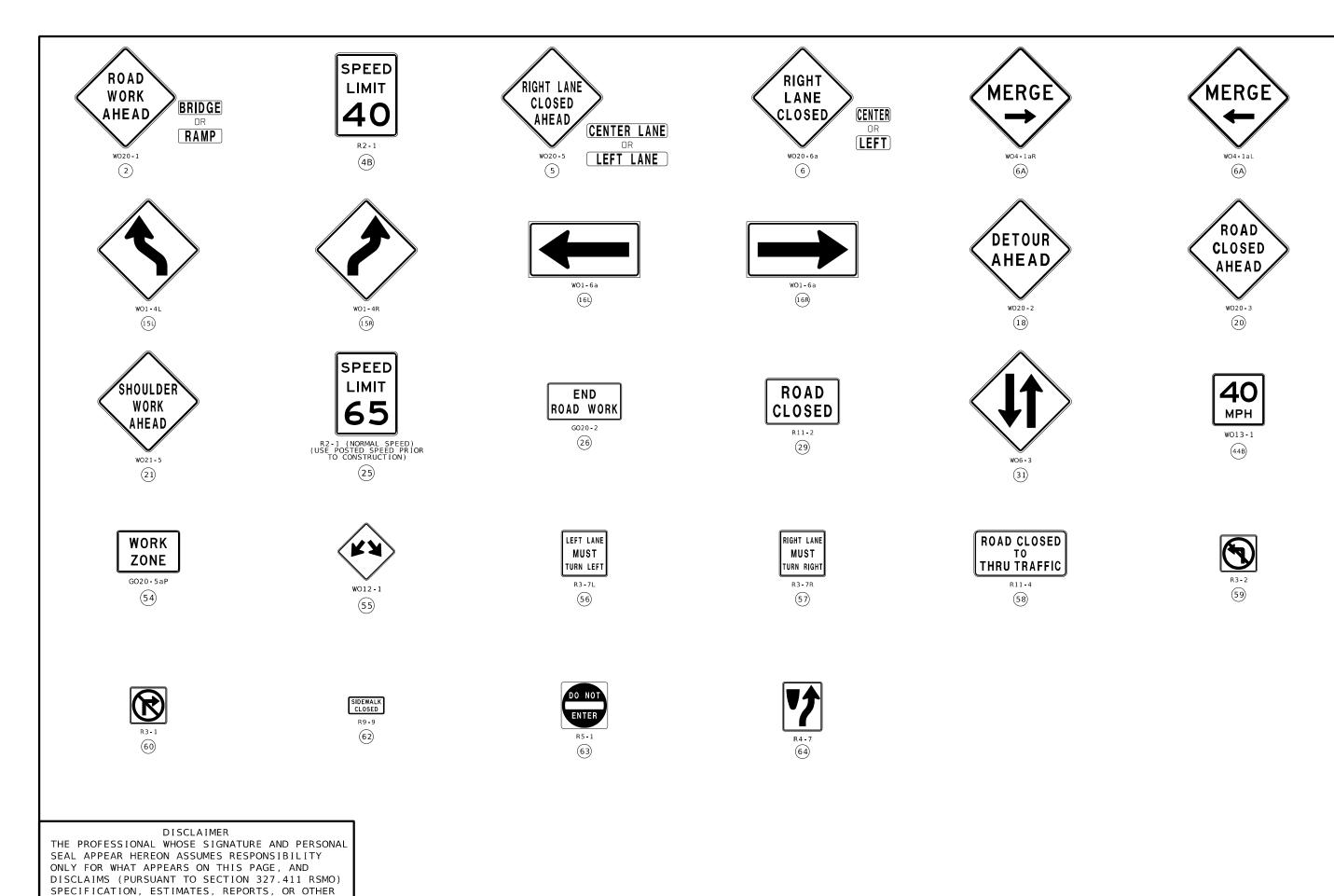


PROJECT NO. BRIDGE NO. GBP ST. 300 CHESTERFIELD, MO 63017 314.231.0100 GBAteam.com GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 0000 BRIAN KIERATH PROFESSIONAL ENGINEER PE-2023008624

MO

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THE PROJECT TO WHICH THIS PAGE REFERS.

INTENDED TO BE USED FOR ANY PART OR PARTS OF

SIGNING LEGEND SHEET 1 OF 1 CHRISTOPHER NOVOSEL PROFESSIONAL ENGINEER PE-2018024421

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ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 0000

CHRISTOPHER NOVOSEL NUMBER PE-2018024421

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11/5/2024

COLE

ЈОВ NO. Ј5Р3523

CONTRACT ID

PROJECT NO.

BRIDGE NO.

MO

SHEET NO.

11

50

DISTRICT

CD



5*)

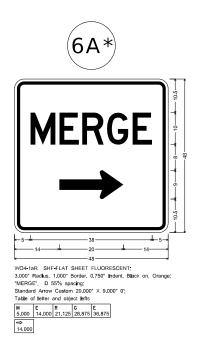
RIGHT LANE CLOSED AHEAD

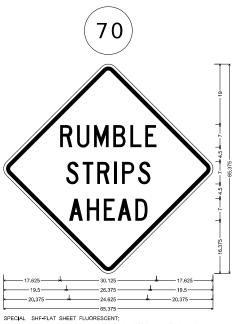
4,875 - 18,5-	1 1	15.625 4.875
1 .	4.125	1
· 11.625 *	24.75	* 11.625 →
13,5	21	13,5 →
	40	

WO20-5 SHF-FLAT SHEET FLUORESCENT; 3.000" Radius, 1.000" Border, 0.750" Indent, Black on, Orange; "RIGHT LANE", C; "CLOSED", C; "AHEAD", C; Table of leter and object lefts

R 4.875	9.500	G 11.625	H 16.125	T 20.375	
	L 27.500	A 30.750	N 35.500	E 40.125	
C	L	0	\$	E	D
11,625	16.000	20,000	24,500	29.000	33,000
A	H	E	A	D	
13.500	18.250	22.750	26.500	31.250	

LEFT





SPECIAL SHF-FLAT SHEET FLUORESCENT; 48.000° across sides 3.000° Radius, 1.250° Border, 0.750° Indent, Black on, Orange; "RUMBLE", C; "STRIPS", C; "AHEAD", C; Table of letter and object lefts

R	U	M	B	L	E
17.625	23.000	28,250	34.250	39.625	44.
\$	T	R	1	P	\$
19.500	24.625	29.250	34.500	37.000	42.
A	H	E	A	D	
20.375	26.000	31.250	35.625	41.125	





8.75 - 30.5 - 8.75 - 8.75 - 48 - 8.75 - 48 - 8.75 - 48 - 8.75 - 48 - 8.75 - 48 - 8.75 - 48 - 8.75 - 48 - 8.75 - 8.

Table of letter and object letts					
R	U	M	B	L	E
6.000	12.375	18.750	25.750	32.125	37.750
\$	T	R	I	P	\$
8.250	14.375	19.875	26.250	29.000	35.000
A 8 750	H 15 975	22.250	A 27 275	D 34 500	



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ELECTRONICALLY.

DATE PREPARED

11/5/2024

ROUTE STATE

50 MO

DISTRICT SHEET NO.

CD 12

COUNTY
COLE

JOB NO.
J5P3523

CONTRACT ID

PROJECT NO.

BRIDGE NO.

DATE DESCRIPTION

URI HIGHWAYS AND TRANSPORTATION
COMMISSION
100 T
105 WEST CAPITO
HEFFERSON CITY, MO 6110

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16305 SWINGLEY RIDGE RD ST. 300 CHESTERFIELD, MO 63017 314.231.0100 GBAteam.com

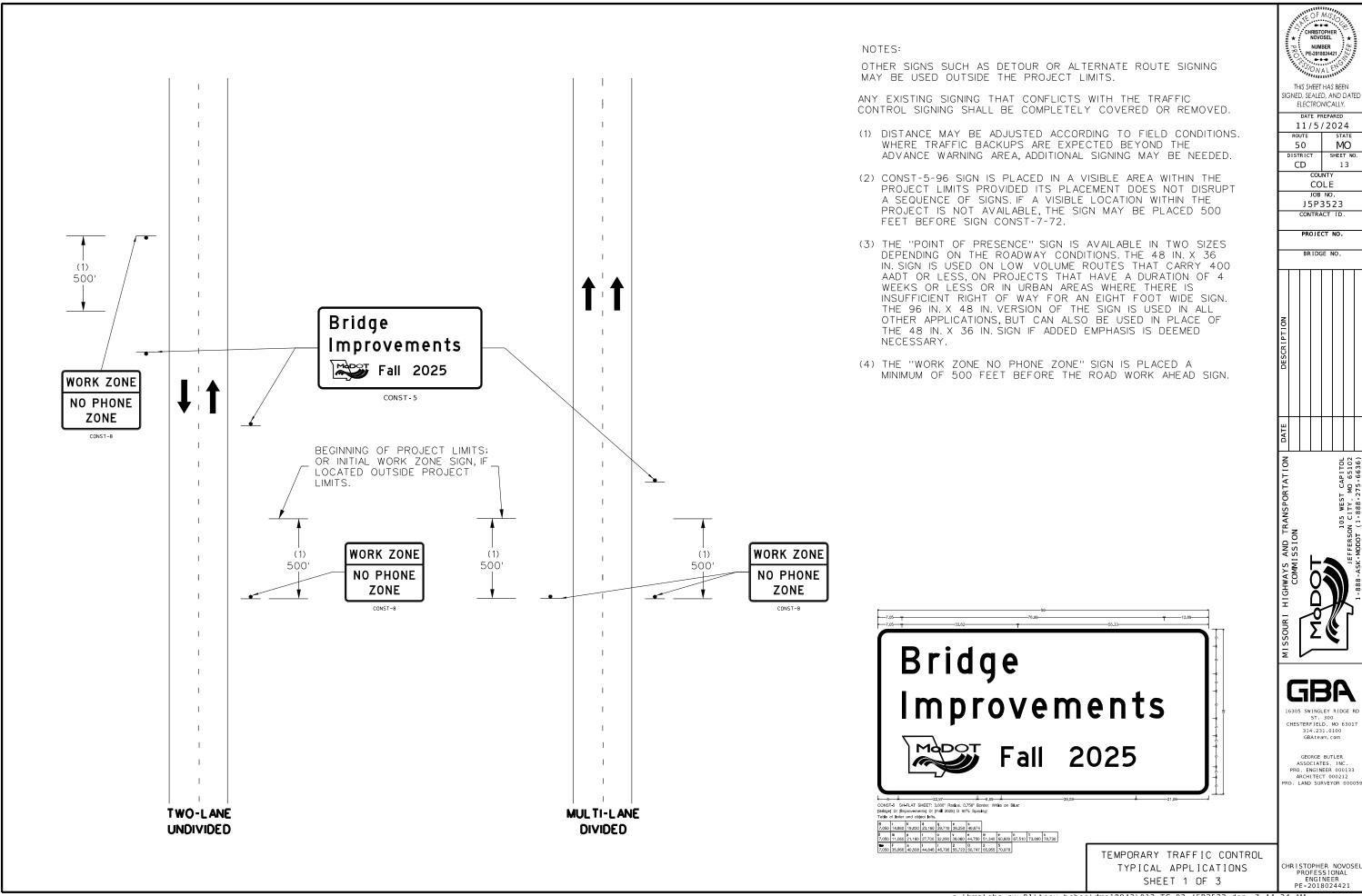
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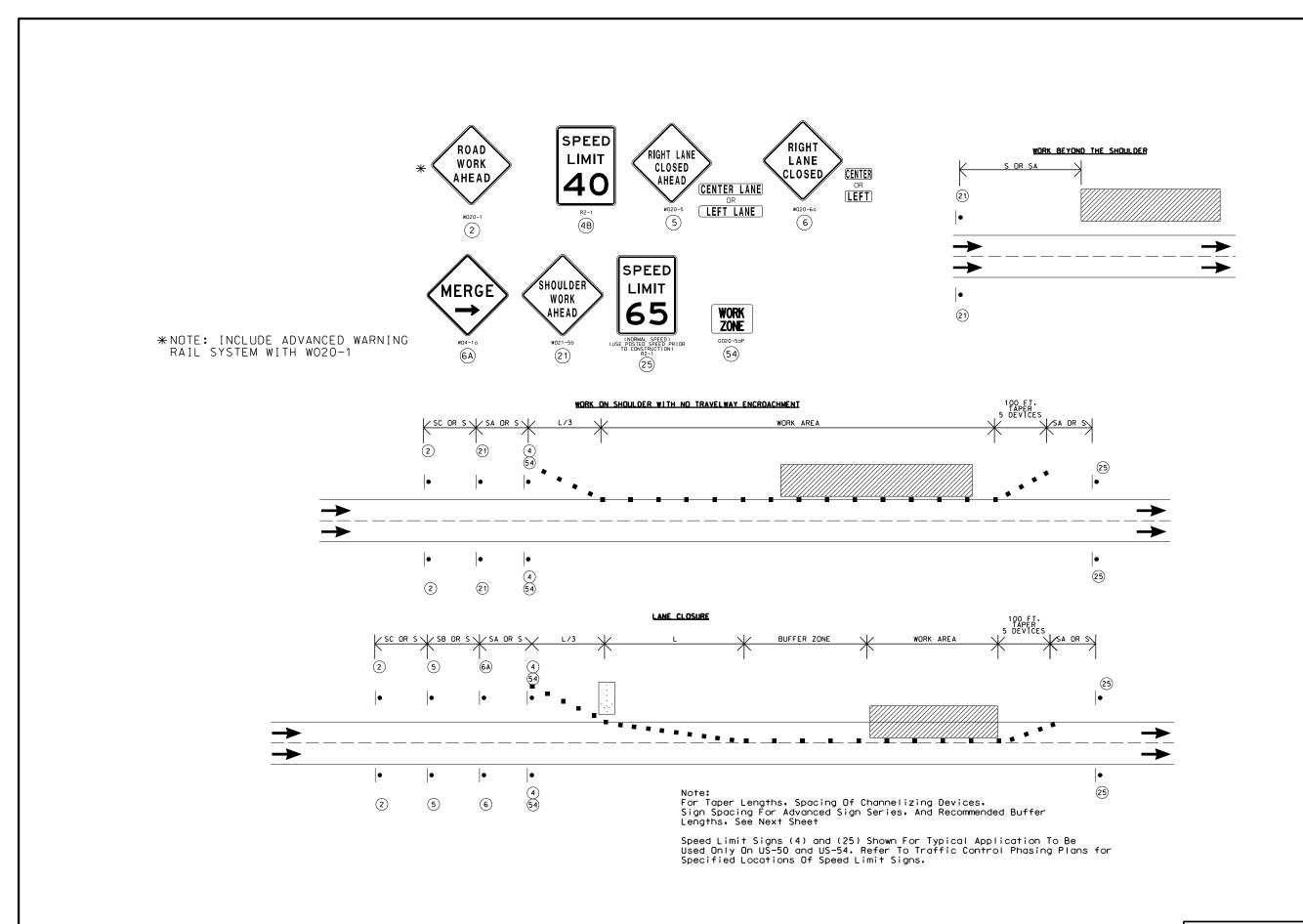
CHRISTOPHER NOVOSEL PROFESSIONAL ENGINEER PE-2018024421

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SIGNING DETAIL SHEETS TRAFFIC CONTROL SIGNS SHEET 1 OF 1





CHRISTOPHER NOVOSEL & NOVO

DATE PREPARED

11/5/2024

ROUTE STATE

50 MO

50 MO
DISTRICT SHEET NO.
CD 14

COUNTY
COLE
JOB NO.
J5P3523

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE DESCRIPTION

URI HIGHWAYS AND TRANSPORTATION
COMMISSION

10D T

105 WEST CAPITOL
HEFFERSON CITY, MO 65102

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GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 0000

SPACING AND TAPER LENGTHS FOR WORK ZONE SIGNS, CHANNELIZERS AND CONCRETE BARRIER

SIGN SPAC	ING FOR ADVANC	CE SIGN SERIES (1) (2)
PERMANENT		
POSTED SPEED	UNDIVIDED	DIVIDED
MPH	HIGHWAYS	HIGHWAYS
0-35	200′	200′
40-45	350′	500′
50-55	500′	1000′
60-70	10001	SA - 1000' SB - 1500' SC - 2640'

TAPER LENGT	HS AND E	ND TREATE	EMENTS F	OR CONCRETE BARRIER
PERMANENT				
POSTED SPEED	MINIMUM LA	ANE TAPER L	LENGTH (3)	
MPH	10'	11 '	12'	END TREATMENT (4)
<40	160′	168′	176′	BARRIER HEIGHT TRANSITION
>40	160′	168′	176′	APPROVED CRASH CUSHION

		TAPER	LENGTHS	AND SPACIN	G FOR CH	ANNEL	IZERS	
PERMANENT				MINIMUM SH	OULDER	BUFFER	MAXIMUM CHANNE	LIZER SPACING
POSTED SPEED	MINIMUM	LANE TAPE	R LENGTH	TAPER LE	NGTH	LENGTH	THROUGH	THROUGH
MPH	10′	11′	12′	BASED ON 10'	SHOULDER	FT.	TAPER	WORK AREA
0-35	205 ′	225′	245	70 '		280'	35 <i>′</i>	40′
40-45	450′	495′	540′	150′		400'	40′	80′
50-55	550′	605′	660′	185 ′		560'	50 <i>′</i>	80′
60-70	700′	770′	840'	235 ′		840'	60′	120'

NOTES:

- (1) SPACING BETWEEN SIGNS AND SPACING BETWEEN LAST SIGN AND FLAGGER, BEGINNING OF TAPER, OF SIGNED CONDITION.
- (2) SPACINGS MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS.
- (3) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER.
- (4) CONCRETE BARRIER MAY BE INSTALLED AT AND 8:1 FLARE RATE FROM THE SHOULDER POINT O THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER



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11/5/2024 50 MO DISTRICT SHEET NO. CD 15 COUNTY

> COLE JOB NO. J5P3523 CONTRACT ID.

PROJECT NO. BRIDGE NO.

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TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS SHEET 3 OF 3

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PHASE	BR I DGE (S)	WORK TO BE COMPLETED	SHEETS
PHASE 1	A14202*	A14202 (BOLIVAR) WORK OVER US-50.	17 - 24
PHASE 2	A14202*	EMBANKMENT WORK ON US-50	14 (TYPICAL APPLICATION)
PHASE 3	A07225 & A07226	REMOVAL OF BARRIER ON US-50.	14 (TYPICAL APPLICATION)
PHASE 4	A07226	WORK ON A07226 FOR WESTBOUND US-50. TWO-LANE, TWO-WAY TRAFFIC TO BE CARRIED ON EASTBOUND US-50.	25 - 26 29 - 30
PHASE 5	A07225	WORK ON A07225 FOR EASTBOUND US-50. TWO-LANE, TWO-WAY TRAFFIC TO BE CARRIED ON WESTBOUND US-50.	27 - 28 29 - 30
PHASE 6	A07225 & A07226	REINSTALLATION OF BARRIER ON US-50.	14 (TYPICAL APPLICATION)

^{*} TEMPORARY TRAFFIC CONTROL RELATED TO CLOSURE OF BOLIVAR STREET SHALL REMAIN IN PLACE FOR THE DURATION OF WORK ON BRIDGE A14202





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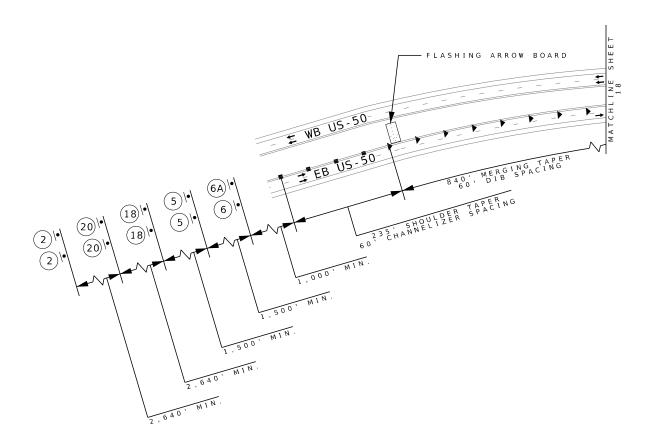
TRAFFIC CONTROL LEGEND

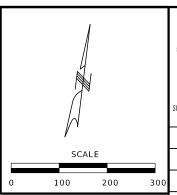
- SIGN (SINGLE SIDED)
- SIGN (DOUBLE SIDED)
- FLAGGER
- ▲ DIRECTIONAL INDICATOR BARRICADE (DIB)
 WITH SEQUENTIAL FLASHING WARNING LIGHTS
- CHANNELIZER

└─ TYPE III BARRICADE

☐ CHANGEABLE MESSAGE BOARD

☐ CHANGEABLE MESSAGE BOARD







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| 11/5/2024 | ROUTE | STATE | STO | MO | STATE | STATE

COUNTY
COLE
JOB NO.
J5P3523
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

2

ISSOUR! HIGHWAYS AND TRANSPORTATION DATE COMMISSION

COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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16305 SWINGLEY RIDGE RD

ST. 300

CHESTERFIELD, MO 63017

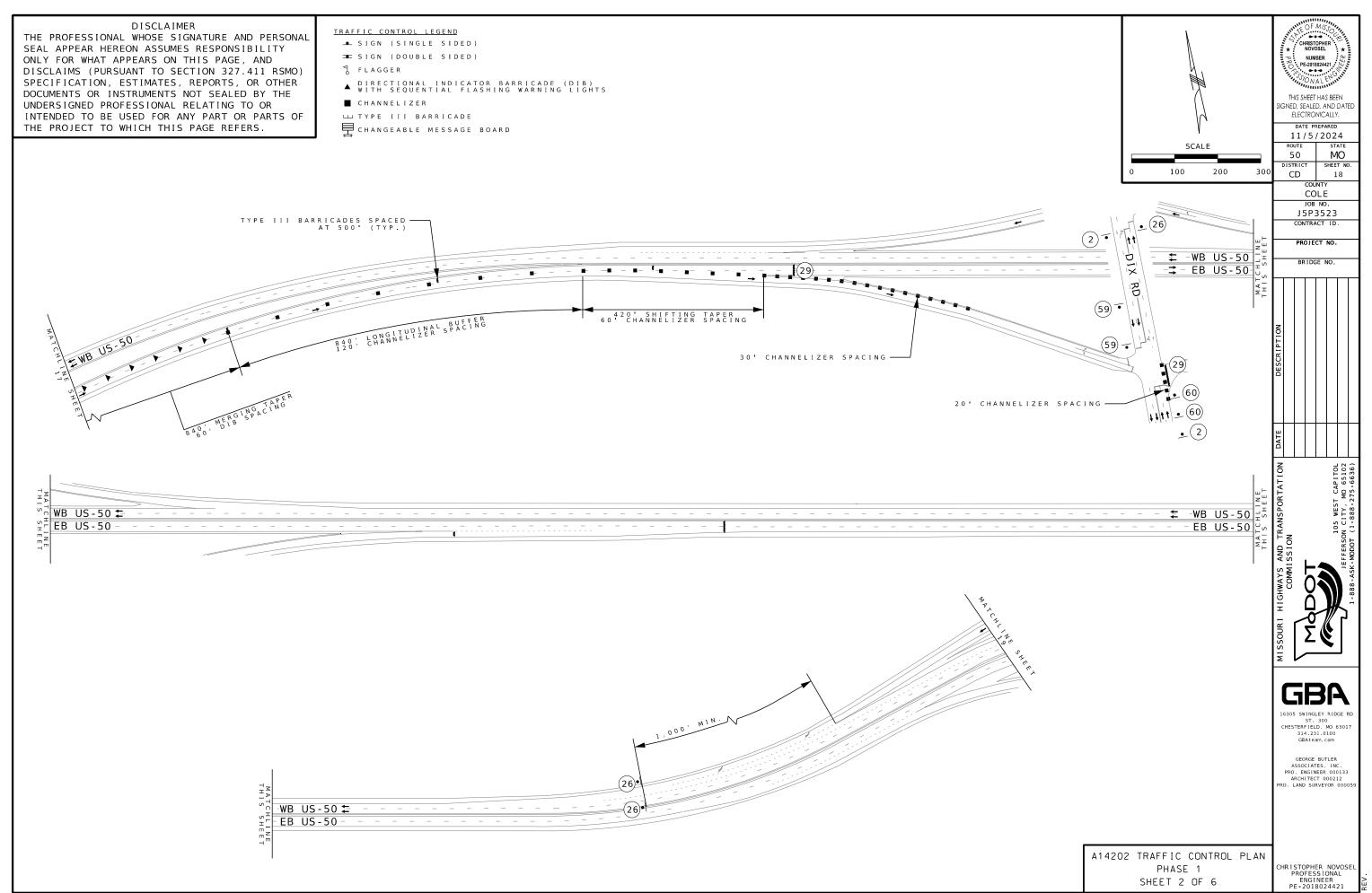
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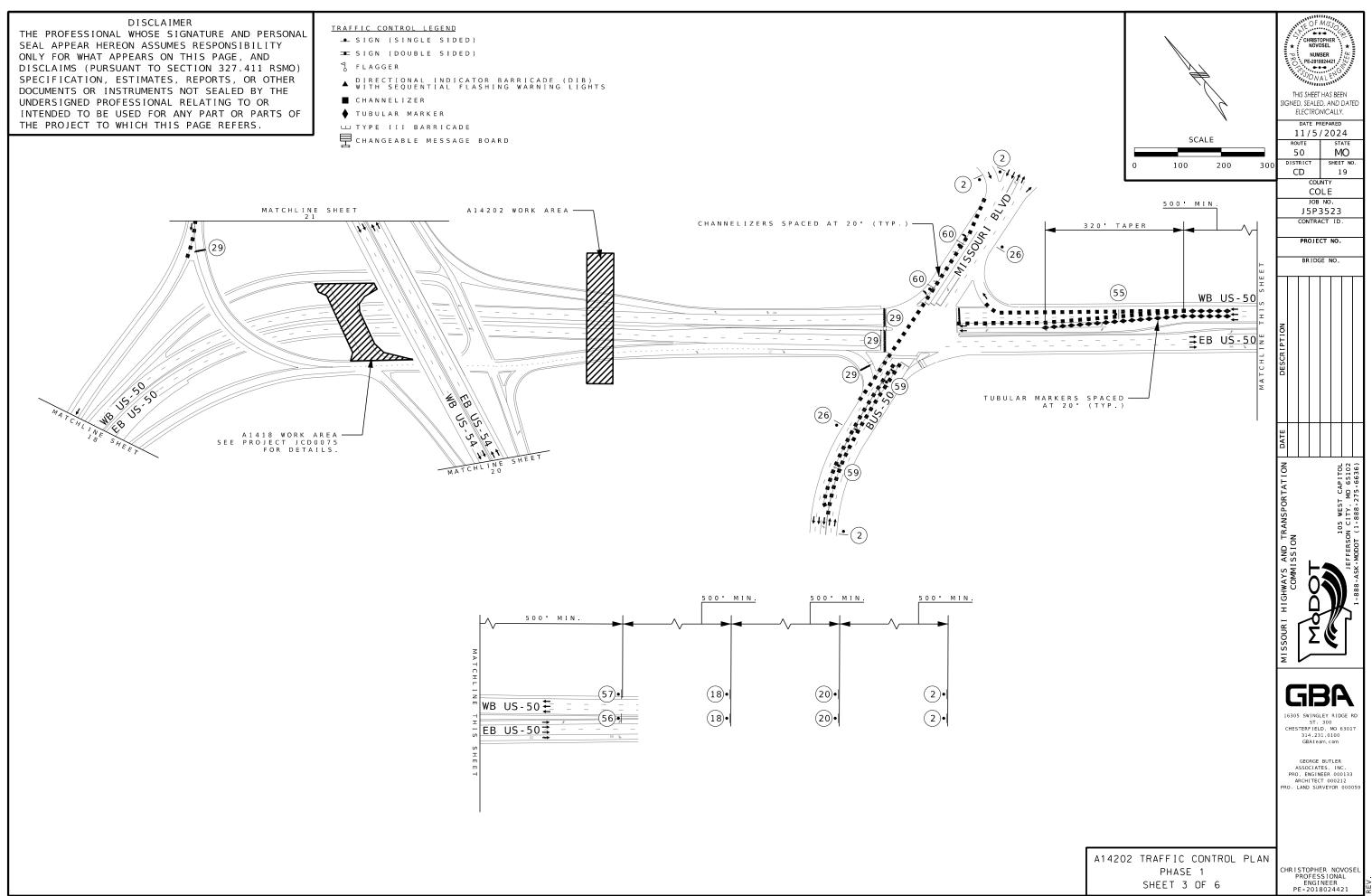
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CHRISTOPHER NOVOSEL PROFESSIONAL ENGINEER PE-2018024421

A14202 TRAFFIC CONTROL PLAN
PHASE 1
SHEET 1 OF 6





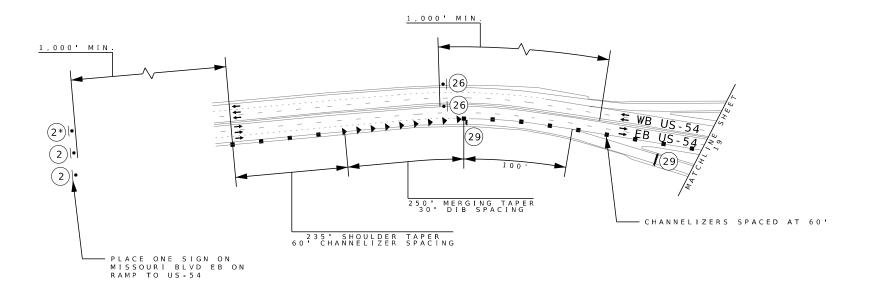
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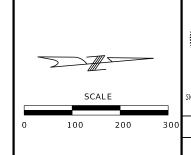
TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- SIGN (DOUBLE SIDED)
- ₹ FLAGGER
- ▲ DIRECTIONAL INDICATOR BARRICADE (DIB)
 WITH SEQUENTIAL FLASHING WARNING LIGHTS
- CHANNELIZER

LL TYPE III BARRICADE

☐ CHANGEABLE MESSAGE BOARD







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11/5/2024

ROUTE STATE
50 MO

DISTRICT SHEET NO.
CD 20

COUNTY
COLE
JOB NO.
J5P3523
CONTRACT ID.

PROJECT NO.

DESCRIPTION

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GBA

16305 SWINGLEY RIDGE RD

ST. 300

CHESTERFIELD. MO 63017

314.231.0100

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GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 00005

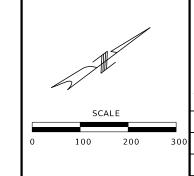
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TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- SIGN (DOUBLE SIDED)
- ₹ FLAGGER
- ▲ DIRECTIONAL INDICATOR BARRICADE (DIB)
 WITH SEQUENTIAL FLASHING WARNING LIGHTS
- CHANNELIZER

LL TYPE III BARRICADE

☐ CHANGEABLE MESSAGE BOARD





THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

| 11/5/2024 | ROUTE | STATE | STO | MO | STRICT | SHEET NO. | CD | 21

COUNTY
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JOB NO.
J5P3523
CONTRACT ID.

PROJECT NO.

DESCRIPTION OF SCRIPTION

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COMMISSION

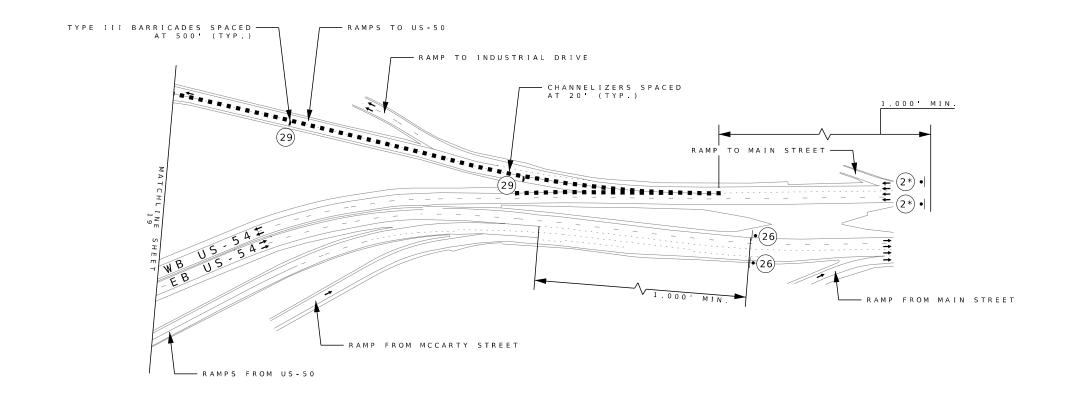
MADOT

105 WEST CAPITO
JEFFERSON CITY, MO 6510

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ST. 300

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NOTE: TEMPORARY TRAFFIC CONTROL RELATED TO CLOSURE OF BOLIVAR STREET SHALL REMAIN IN PLACE FOR THE DURATION OF WORK ON BRIDGE A14202

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- SIGN (DOUBLE SIDED)
- ₹ FLAGGER

US-50 BUS

▲ DIRECTIONAL INDICATOR BARRICADE (DIB)
WITH SEQUENTIAL FLASHING WARNING LIGHTS

A14202 WORK AREA —

S

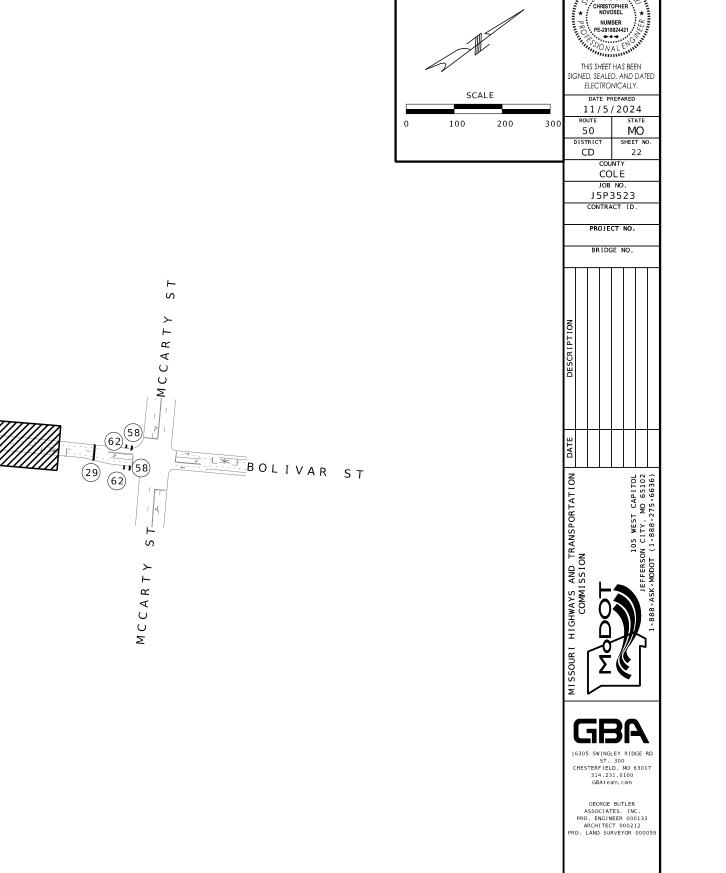
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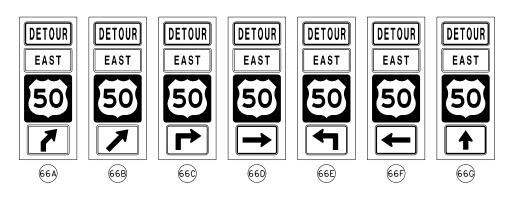
CHANNELIZER

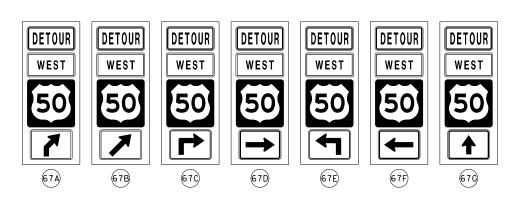
LL TYPE III BARRICADE

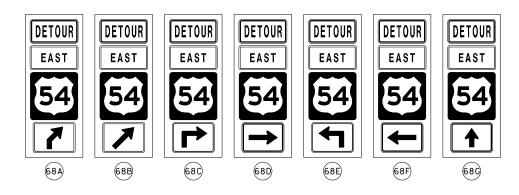
☐ CHANGEABLE MESSAGE BOARD



A14202 TRAFFIC CONTROL PLAN
PHASE 1
SHEET 6 OF 6







DETOUR WEST 54	DETOUR WEST 54	DETOUR WEST 54	DETOUR WEST 54	DETOUR WEST 54	DETOUR WEST 54	DETOUR WEST 54
(69A)	69B	69C	69D	69E	69F)	690

18

ROAD **CLOSED**

> R11-2 29

END DETOUR M04-8a

(52)

DISCLAIMER	
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PROJECT QUANTITY

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A.E. OF MASSO	ı
CHRISTOPHER	ı
* NOVOSEL *	ı
P. NUMBER	ı
PE-2018024421	ı
CHRISTOPHER NOVOSEL * NUMBER PE-2018024421	ı
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THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DA	DATE PREPARED					
11	/5/2024					
ROUTE	E STATE					
50	MO					
DISTRI	CT SHEET NO.					
CD	23					
COUNTY						
COLE						
JOB NO.						
J	5P3523					

CONTRACT ID. PROJECT NO.

BRIDGE NO.

GBA

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GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 0000

CHRISTOPHER NOVOSEL PROFESSIONAL ENGINEER PE-2018024421

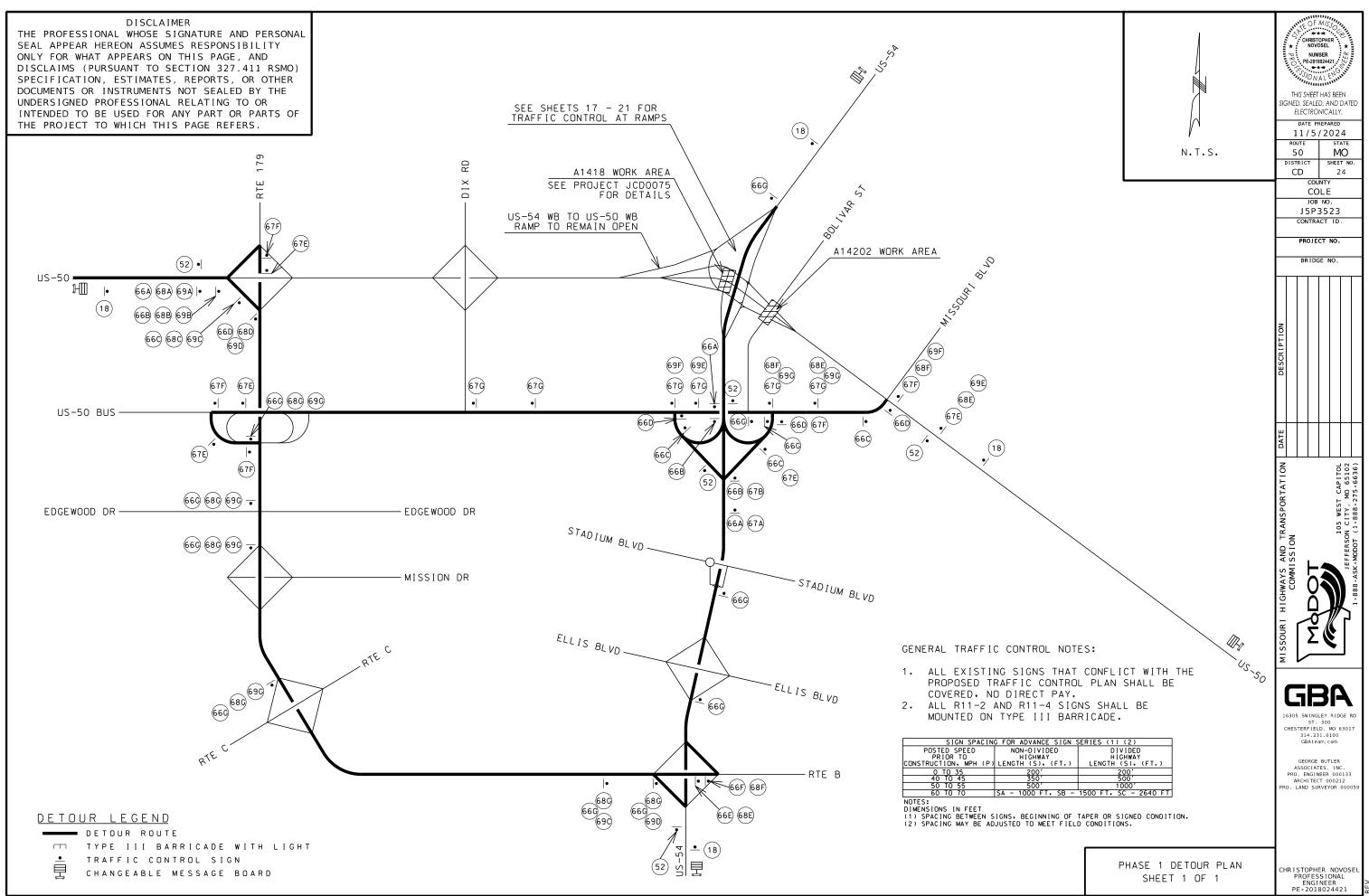
SUMMARY OF SPECIAL DETOUR SIGN QUANTITIES

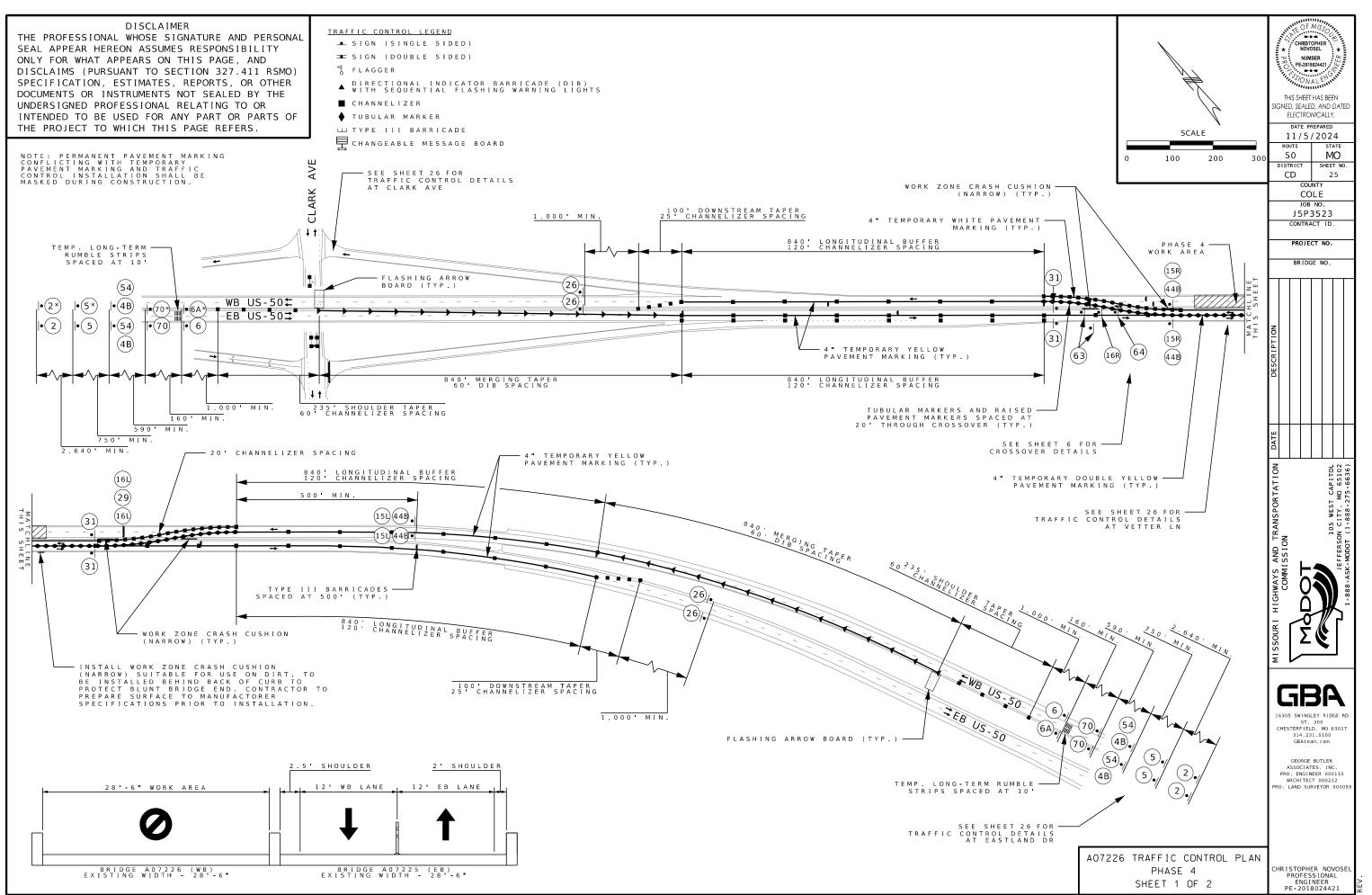
SIGN DESIGNATION

66A

66B

66C





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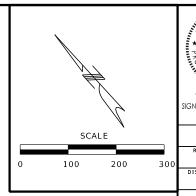
NOTE: PERMANENT PAVEMENT MARKING CONFLICTING WITH TEMPORARY PAVEMENT MARKING AND TRAFFIC CONTROL INSTALLATION SHALL BE MASKED DURING CONSTRUCTION.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- SIGN (DOUBLE SIDED)
- 7 FLAGGER
- ▲ DIRECTIONAL INDICATOR BARRICADE (DIB)
 WITH SEQUENTIAL FLASHING WARNING LIGHTS
- CHANNELIZER

LL TYPE III BARRICADE

H CHANGEABLE MESSAGE BOARD



NUMBER PE-2018024421

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11/5/2024 50 MO SHEET NO. DISTRICT CD 26

COUNTY COLE JOB NO. J5P3523 CONTRACT ID.

PROJECT NO.

BRIDGE NO.



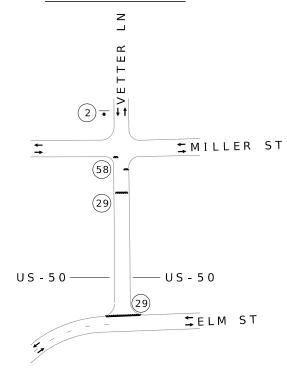
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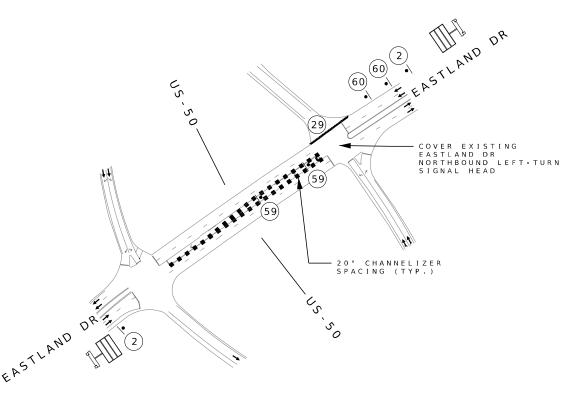
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ARCHITECT 000212
PRO. LAND SURVEYOR 0000

CHRISTOPHER NOVOSE PROFESSIONAL ENGINEER PE-2018024421

VETTER LANE TRAFFIC CONTROL PLAN





EASTLAND DRIVE TRAFFIC

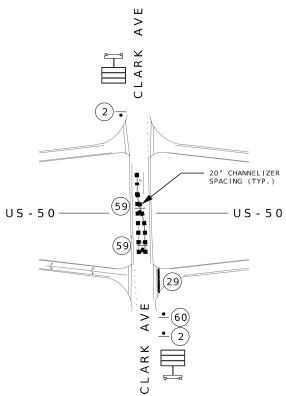
CONTROL PLAN

PERMANENT SIGNING NOTE:
ALL EXISTING SIGNING FOR US-50 WEST ON-RAMP
AT EASTLAND DRIVE SHALL BE COVERED OR REMOVED
WHILE RAMP IS CLOSED TO TRAFFIC, INCLUDING
EXISTING ROUTE ASSEMBLY, ADVANCED ROUTE
ASSEMBLY, AND GROUND MOUNTED GUIDE SIGNS FOR
US-50 WEST AND US-63 NORTH.

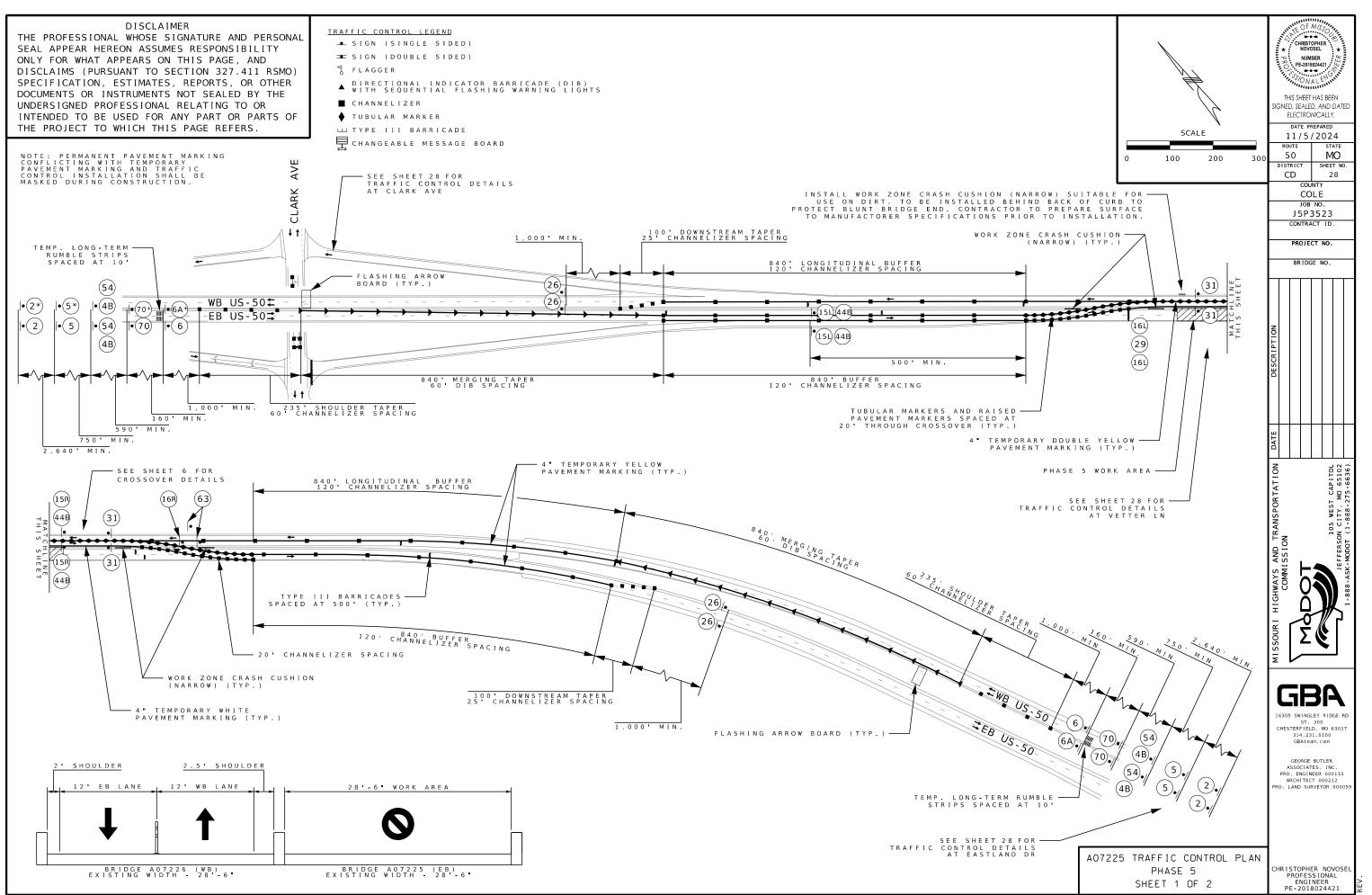
A07226 TRAFFIC CONTROL PLAN PHASE 4 SHEET 2 OF 2

CONTROL PLAN

CLARK AVENUE TRAFFIC



PERMANENT SIGNING NOTE:
ALL EXISTING SIGNING FOR US-50 EAST ON-RAMP
AT CLARK AVENUE SHALL BE COVERED OR REMOVED
WHILE RAMP IS CLOSED TO TRAFFIC, INCLUDING
EXISTING ROUTE ASSEMBLY AND ADVANCED ROUTE
ASSEMBLY SIGNS FOR US-50 EAST AND US-63
SOUTH.



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CLARK AVENUE TRAFFIC

CONTROL PLAN

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59

US - 50

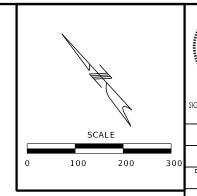
NOTE: PERMANENT PAVEMENT MARKING CONFLICTING WITH TEMPORARY PAVEMENT MARKING AND TRAFFIC CONTROL INSTALLATION SHALL BE MASKED DURING CONSTRUCTION.

TRAFFIC CONTROL LEGEND

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- CHANNELIZER

LL TYPE III BARRICADE

H CHANGEABLE MESSAGE BOARD



NUMBER PE-2018024421

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11/5/2024 50 MO SHEET NO. DISTRICT

CD 28 COUNTY COLE JOB NO. J5P3523

CONTRACT ID. PROJECT NO.

BRIDGE NO.



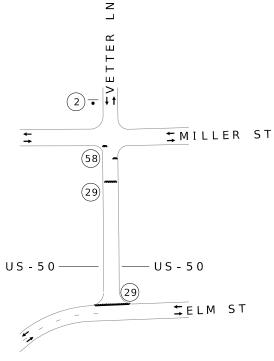
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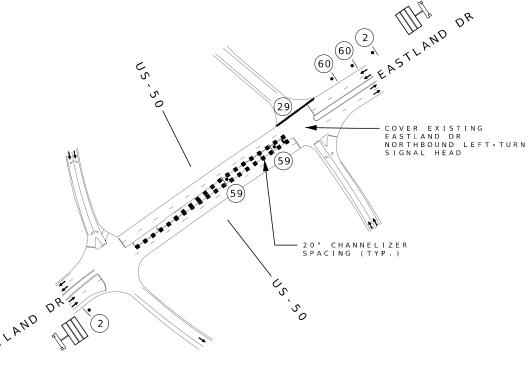
16305 SWINGLEY RIDGE P ST. 300 CHESTERFIELD, MO 63017 314.231.0100 GBAteam.com

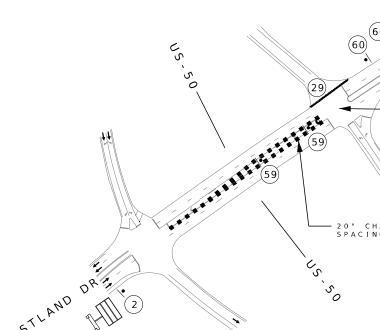
GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 0000

CHRISTOPHER NOVOSE PROFESSIONAL ENGINEER PE-2018024421

VETTER LANE TRAFFIC CONTROL PLAN







EASTLAND DRIVE TRAFFIC

CONTROL PLAN

PERMANENT SIGNING NOTE:
ALL EXISTING SIGNING FOR US-50 EAST ON-RAMP
AT CLARK AVENUE SHALL BE COVERED OR REMOVED
WHILE RAMP IS CLOSED TO TRAFFIC, INCLUDING
EXISTING ROUTE ASSEMBLY AND ADVANCED ROUTE
ASSEMBLY SIGNS FOR US-50 EAST AND US-63
SOUTH.

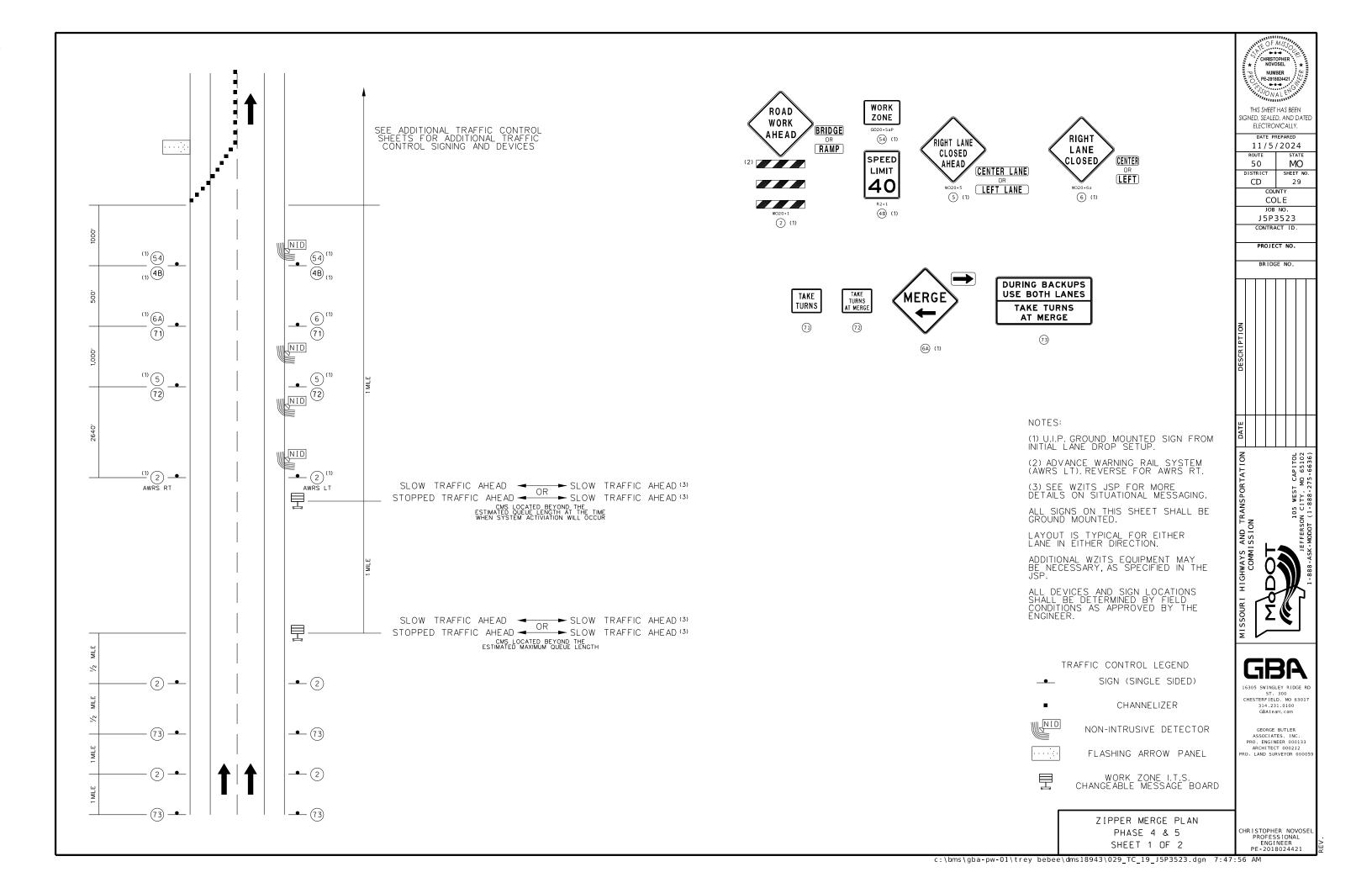
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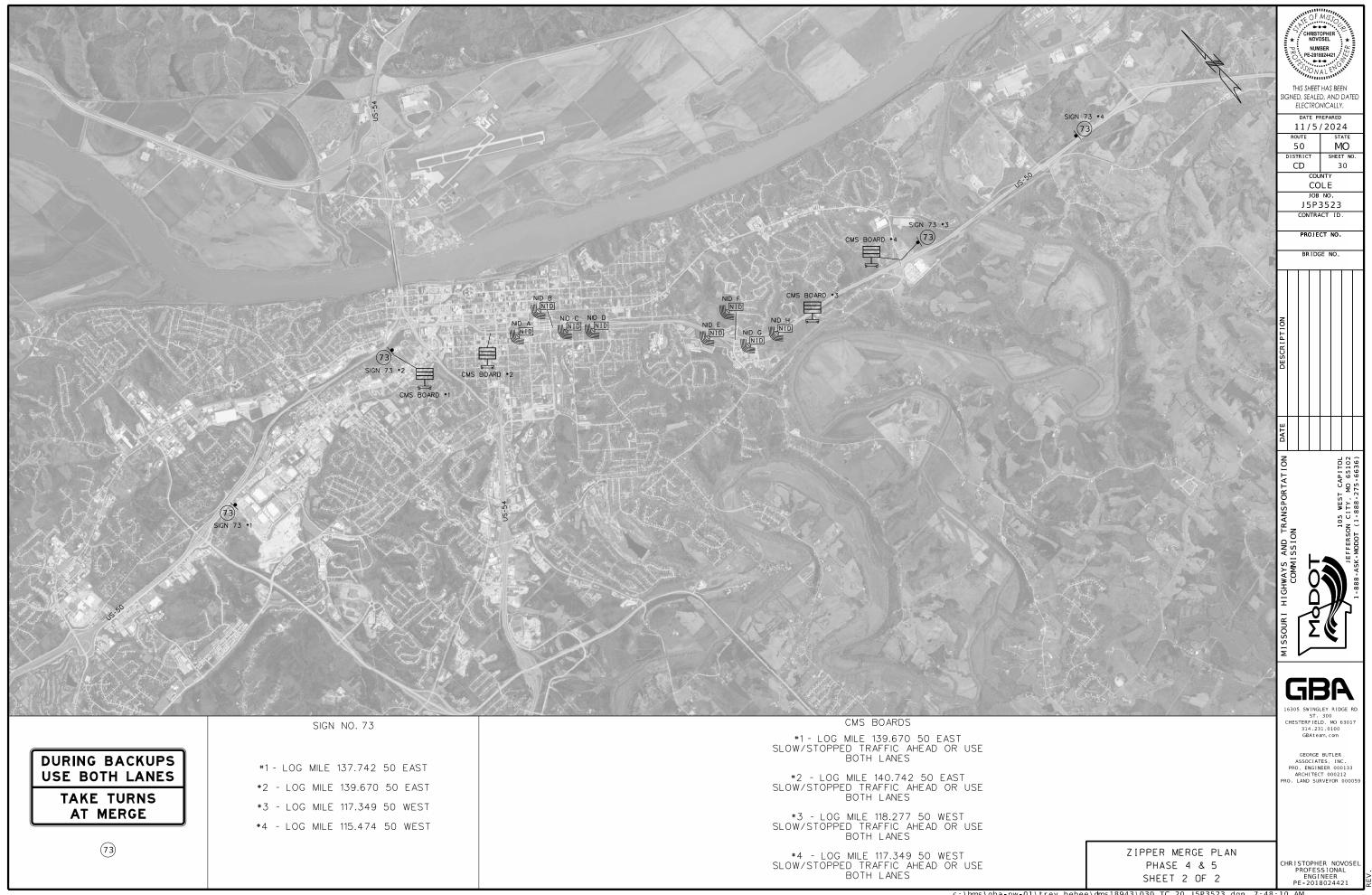
20 CHANNELIZER SPACING (TYP.)

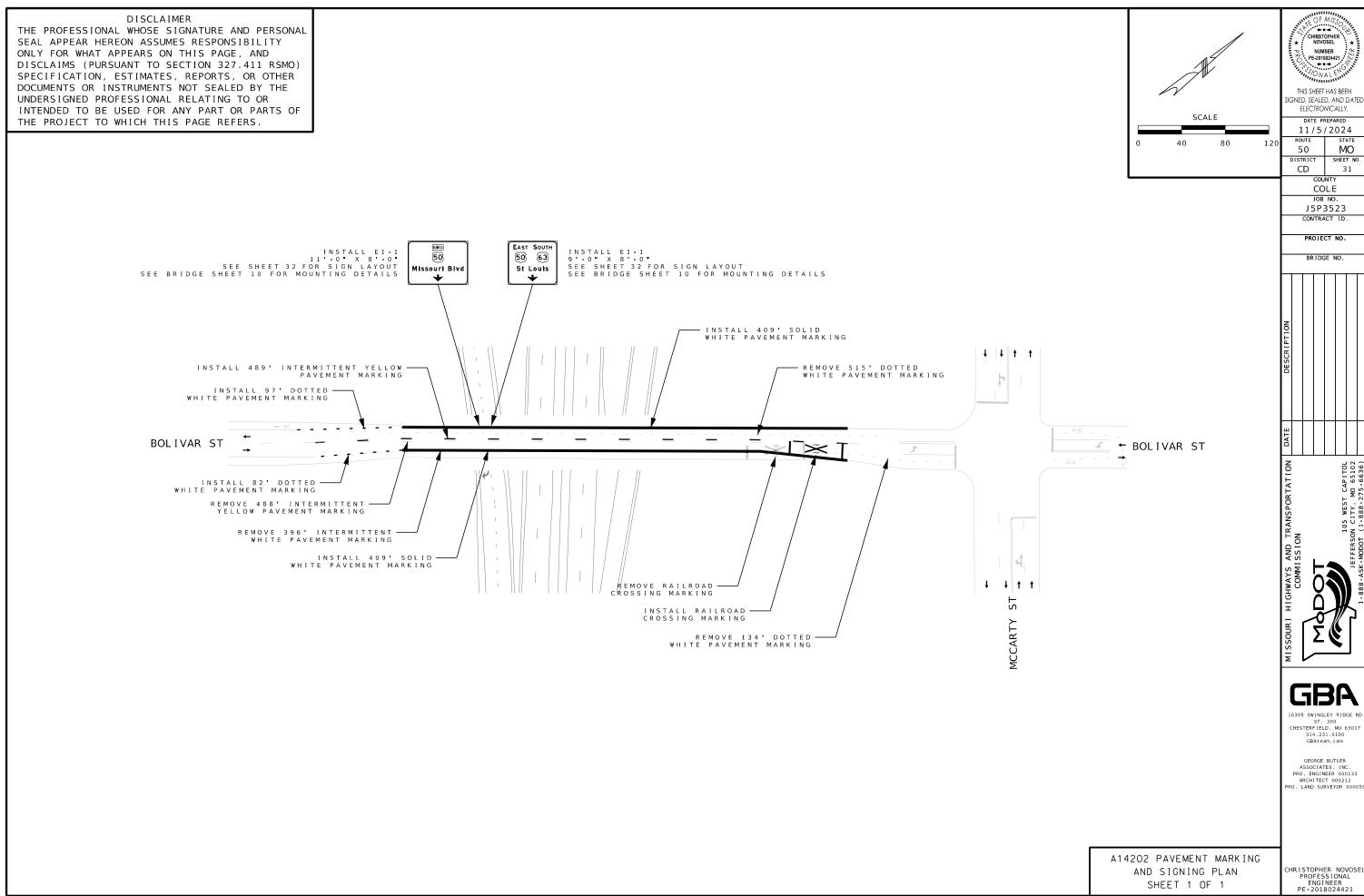
US - 50

PERMANENT SIGNING NOTE:
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AT EASTLAND DRIVE SHALL BE COVERED OR REMOVED
WHILE RAMP IS CLOSED TO TRAFFIC, INCLUDING
EXISTING ROUTE ASSEMBLY, ADVANCED ROUTE
ASSEMBLY, AND GROUND MOUNTED GUIDE SIGNS FOR
US-50 WEST AND US-63 NORTH.

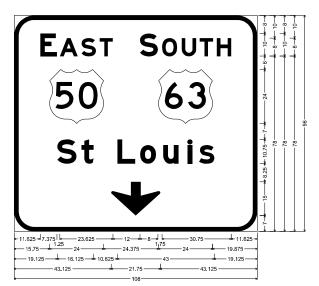
A07225 TRAFFIC CONTROL PLAN PHASE 5 SHEET 2 OF 2







SIGN NO.	66
STATION	N/A
ROADWAY	US-50



#E1-1 ST-STRUCTURAL;
9.000" Radius, 2.000" Border, White on, Green;
"EAST", E Mod; "SOUTH", E Mod; "St Louis", E Mod; Down Arrow 22.000" 270^;
Table of letter and object lefts

| Table of letter and object lefts

11,625	A 20,250	S 29,875	T 37,875	55.875	65,625	74,375	82,500	90,000
⊚ 15,750	⊞ 64,125							
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19.125	29.875	45.875	56.000	66.250	77.125	82.125		

BUSINESS 50 Missouri Blvd	k 8.25 de 10.75 de 7 de
9,625 *	-7-4-15-4-8.25-4-1
E1-1 ST-STRUCTURAL: 9.000" Radius, 2,000" Border, White on, Green: **Missouri Bivd", E Mod! Down Arrow 22,000" 270"; Table of letter and object lefts \$\frac{\text{Eq.}}{54,000}\$ \$\frac{\text{Eq.}}{54,000}\$ \$\frac{\text{Eq.}}{30,000}\$ \$\frac{\text{Eq.}}{30,0000}\$ \$\frac{\text{Eq.}}{30,0000}\$ \$\frac{\text{Eq.}}{30,0000}\$ \$\frac{\text{Eq.}}{30,0000}\$ \$\frac{\text{Eq.}}{30,00000}\$ \$\frac{\text{Eq.}}{30,0000000000000000000000000000000000	





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11/5/2024 50 MO DISTRICT SHEET NO. CD 32 COUNTY COLE JOB NO. J5P3523

CONTRACT ID. PROJECT NO.

BRIDGE NO.

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ARCHITECT 000212
PRO. LAND SURVEYOR 0000

CHRISTOPHER NOVOSEL PROFESSIONAL ENGINEER PE-2018024421

D-31

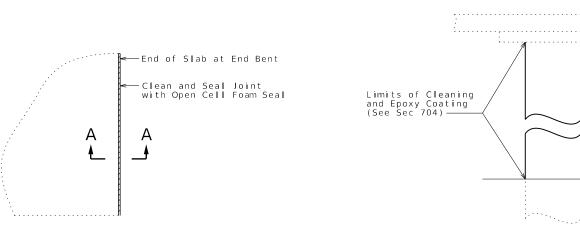
Groundline

28'-6"± (EBL) -Diamond Grind new wearing surface — **€** Roadway Removal of Asphalt Wearing Surface and Total Surface (See Job Special Provisions) Match Removal of Asphalt Wearing Surface and (After deck repairs) Total Surface existing Hydro Demolitiongrade ± -Existing Crown Removal of -Cleaning & Epoxy Coating (Area under existing sign Existing Deck Repai 2" Latex Modified Hydro Demolition Concrete Wearing Surface shall be excluded) -Half-Sole 2'-6" 2'-6" - MonoLithic Monolithia Deck Repai Deck Repair Cleaning Limits of Cleaning & Epoxy Coating and Epoxy Coating

INSIDE SPECIAL REPAIR ZONES (PRE-HYDRO DEMOLITION REPAIRS)

OUTSIDE SPECIAL REPAIR ZONES (POST-HYDRO DEMOLITION REPAIRS)

TYPICAL SECTION THRU EXISTING DECK

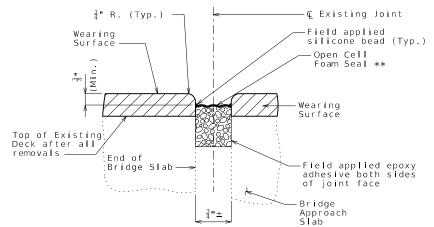


CLEAN AND SEAL JOINT AT END BENTS

Right side shown, left side similar.

LIMITS OF CLEANING AND EPOXY COATING ON COLUMNS

all exposed surfaces of each column at the intermediate



SECTION A-A

** Manufacturer's recommended size

Note: Cleaning and Epoxy Coating shall be performed on

Notes: Open cell foam joint seal size (width and depth) shall be determined by the manufacturer.

Manufacturer recommended seal size shall meet the movement and installation gap requirements and skew effect.

The open cell foam joint seal shall be installed according to the manufacturer's recommendations.

Extend seal 3" past edges of slab.

Any removals and other incidentals to install Open Cell Foam Joint Seal will be considered completely covered by the contract unit price for Open Cell Foam Joint Seal

Estimated Quantities		
I t em		Total
Total Surface Hydro Demolition	sq. yard	474
Removal of Asphalt Wearing Surface	sq. foot	4261
Removal of Existing Deck Repair	sq. foot	100
Supplementary Wearing Surface Material	cu. yard	3
Latex Modified Concrete Wearing Surface	sq. yard	474
Diamond Grinding	sq. yard	474
Half-Sole Repair	sq. foot	100
Cleaning and Epoxy Coating	sq. foot	1130
Open Cell Foam Joint Seal	linear foot	57

* Supplementary wearing surface material for monolithic deck repair will be paid for at the fixed unit price in accordance with Sec 109.

General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications Bridge Deck Rating = 7

Design Loading:

HS20-44 (1961)

Design Unit Stresses:

Class B-1 Concrete (Half-Sole Repair) f'c = 4,000 psi

Roadway surfacing adjacent to bridge ends shall match new bridge wearing surface

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

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

In order to maintain grade and a minimum thickness of wearing surface as shown on plans it may be necessary to use additional quantities of wearing surface as various locations throughout the structure. The cost of furnishing and installing the wearing surface will be considered completely covered in the contract unit price, including all additional labor, materials or equipment for variations in thickness of wearing surface.

Traffic Handling:

Structure to be closed during construction. Traffic to be maintained on A0722 WB during construction. See roadway plans for traffic control.

ROUTE 50 FROM ROUTE 54 TO ROUTE M ABOUT 2.1 MILES EAST OF ROUTE 54 BEGINNING STATION 100+84.40± (Match Existing)

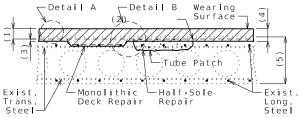
REPAIRS TO BRIDGE: ROUTE 50 EBL OVER VETTER LN

DATE PREPARED 11/5/2024 50 MO BR COLE

J5P3523 CONTRACT ID PROJECT NO

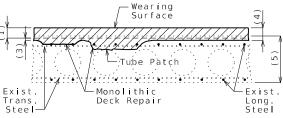
BRIDGE NO A07225





MONOLITHIC AND HALF-SOLE REPAIR

DECK REPAIR INSIDE SPECIAL REPAIR ZONES (BEFORE HYDRO DEMOLITION)



MONOLITHIC DECK REPAIR

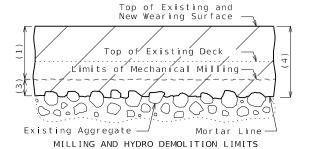
DECK REPAIR OUTSIDE SPECIAL REPAIR ZONES (AFTER HYDRO DEMOLITION)

- (1) Removal of existing 1 1/2"± asphalt wearing surface plus 1/4" of existing deck. The wearing surface thickness is an estimate and any additional thickness of wearing surface is considered completely covered by the contract unit price of Removal of Asphalt Wearing Surface.
- (2) 1" vertical side shall be established outside the deteriorated area.
- (3) Total surface hydro demolition of sound concrete, measured to mortar line:

1/4" minimum inside special repair zones

1/4" minimum outside special repair zones

- (4) Latex concrete wearing surface:
 - 2" minimum inside special repair zones
 - 2" minimum outside special repair zones
- (5) Original depth minus previous scarification



DETAIL A

Detailed May 2024 Checked June 2024

DETAIL B

Monolithic deck repair shall be used when only half the diameter or less of the top bar is exposed

Clearance around top bar and around bottom bar at the intersection of top bar shall be required when more than half the diameter of the top bar is exposed.

DECK REPAIR DETAILS

Note: This drawing is not to scale. Follow dimensions

Sheet No. 2 of 3

Deck Repair Notes:

Order of Repair:

- Remove existing wearing surface plus 1/4" of existing deck.
- Power wash deck to identify sound and unsound existing deck repair.
- 3. Inside special repair zones, complete the
- following repairs:

 a. Removal of existing deck repair

 b. Half-sole repair
- 4. Outside special repair zones, remove existing deck repair.
- 5. Complete total surface hydro demolition, removing 1/4" minimum of sound concrete inside special repair zones and removing 1/4" minimum of sound concrete and all deteriorated concrete outside special repair zones.
- Sound deck and if needed complete incidental concrete removal.
- Place new wearing surface including additional material for areas of monolithic deck repair.

Special Repair Zones:

Deck repair required in the areas designated as special repair zones shall be completed before hydro demolition in alphabetical sequence beginning with Zone A. Zones with the same letter designation may be repaired at the same time. Hydro demolition shall not move forward until the repairs in all special repair zones are completed and properly cured.

Any deck repair in areas not designated as a special repair zone shall be completed after hydro demolition.

Removal and deck repair shall be completed in one special repair zone and concrete shall have attained a compressive strength of 3200 psi before work can be started in the next special repair zone.

If any single repair area does not exceed 4 square feet in size and the total repair area within a special repair zone does not exceed 12 square feet, the special repair zone may be repaired at the same time as an adjacent zone.

Void Repair:

Any damage sustained to the void tube as a result of the contractor's operations shall be patched or replaced as required by the engineer at the contractor's expense.

An exposed void in the deck shall be patched as approved by the engineer in a manner that shall maintain the void area completely free of concrete. Cost of patching an exposed void will be considered completely covered by the contract unit price for Half-Sole Repair inside special repair zones and Monolithic Deck Repair outside special repair zones.



SEALED AND DATED ELECTRONICALLY.					
DATE PREPARED					
11/5/2024					
ROUTE	STATE				
50	MO				
DISTRICT	SHEET NO.				
BR	2				
COUNTY					
COLE					
100 110					

J5P3523 CONTRACT ID.

PROJECT NO.

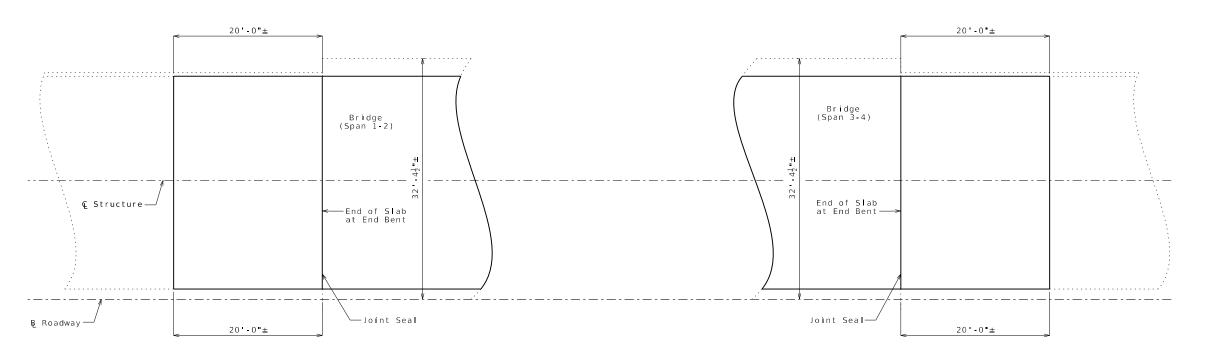
BRIDGE NO.

A07225







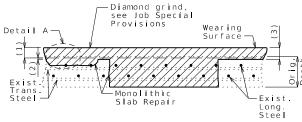


CONCRETE APPROACH SLAB (WEST)

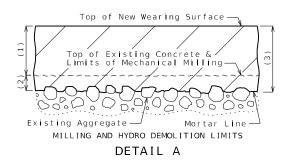


- Removal of 3"± existing asphalt wearing surface to top of concrete, thickness may vary along slab.
- (2) 1/2° total surface hydro demolition of sound concrete.
- (3) 3 1/2"± latex modified concrete wearing surface, thickness may vary along slab.

APPROACH SLAB PARTIAL PLAN VIEW



TOP OF APPROACH SLAB REPAIR



BRIDGE APPROACH SLAB REPAIRS

CONCRETE APPROACH SLAB (EAST)

Notes:

Final grade of approach slab wearing surface shall match adjacent roadway and final grade of bridge deck wearing surface, the thickness of the Latex Modified Concrete wearing surface may vary.

Extents of reinforced concrete Approach Slabs as shown are approximate. $% \label{eq:concrete} % \label{eq:concrete}$

Remove existing asphalt wearing surface and hydro demo existing Approach Slabs. Provide new Latex Modified Concrete Wearing Surface with Monolithic Repairs.

If wearing surface thickness values vary significantly from plan drawings, notify engineer.

KIMBERLY
STRECHER
PE-2003001105
SUMMERS
STONAL DESCRIPTION
STATE OF THE PERSON OF THE

DATE PREPARED

11/5/2024

ROUTE STATE
50 MO

DISTRICT SHEET NO.

BR 3

COUNTY

COLE

JOB NO.

J5P3523

CONTRACT ID.

PROJECT NO.

A07225

ION DATE DESCRIPTION

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HIGHWAYS AND TRANSPORTATIO
COMMISSION

105 WEST CAPITO
1-888-ASK-MODOT (1.888-75-668)



GIVIL DESIGN, INC.

WEE | DEE

5220 Oakland Avenue

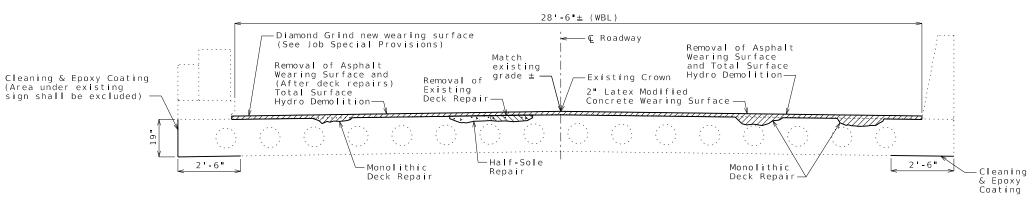
\$1. Louis, MO 63110

314.863.5570

Missouri State Certificate
of Authority #2002008804

Detailed Oct 2024 Checked Oct 2024

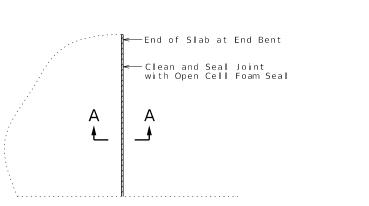
U.I.P. AND REHABILITATE EXISTING (33'-41'-33') CONTINUOUS CONCRETE VOIDED SLAB SPANS (SKEW: SQUARE)



INSIDE SPECIAL REPAIR ZONES (PRE-HYDRO DEMOLITION REPAIRS)

OUTSIDE SPECIAL REPAIR ZONES (POST-HYDRO DEMOLITION REPAIRS)

TYPICAL SECTION THRU EXISTING DECK



CLEAN AND SEAL JOINT AT END BENTS

Right side shown, left side similar.

Limits of Cleaning and Epoxy Coating (See Sec 704) -Groundline

LIMITS OF CLEANING AND EPOXY COATING ON COLUMNS

Note: Cleaning and Epoxy Coating shall be performed on all exposed surfaces of each column at the intermediate

© Existing Joint $\frac{1}{4}$ " R. (Typ.) Field applied Wearing silicone bead (Typ.) Surface -Open Cell Foam Seal ** Top of Existing Deck after all removals — Field applied epoxy :Bridge Slab adhesive both sides of joint face Bridge 3/4 ± Approach Slab

SECTION A-A

** Manufacturer's recommended size

Designed May 2024

Detailed May 2024

Notes:

Open cell foam joint seal size (width and depth) shall be determined by the manufacturer.

Manufacturer recommended seal size shall meet the movement and installation gap requirements and skew effect.

The open cell foam joint seal shall be installed according to the manufacturer's recommendations.

Extend seal 3" past edges of slab.

Any removals and other incidentals to install Open Cell Foam Joint Seal will be considered completely covered by the contract unit price for Open Cell Foam Joint Seal.

	Estimated Quantities	
Ī	I t em	Total
ſ	Total Surface Hydro Demolition sq. yard	474
[Removal of Asphalt Wearing Surface sq. foot	4261
	Removal of Existing Deck Repair sq. foot	100
*	Supplementary Wearing Surface Material cu. yard	3
	Latex Modified Concrete Wearing Surface sq. yard	474
	Diamond Grinding sq. yard	474
	Half-Sole Repair sq. foot	100
	Cleaning and Epoxy Coating sq. foot	1130
	Open Cell Foam Joint Seal linear foot	57
- [
- 1		

* Supplementary wearing surface material for monolithic deck repair will be paid for at the fixed unit price in accordance with Sec 109.

General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications Bridge Deck Rating = 7

Design Loading:

HS20-44 (1961)

Design Unit Stresses:

Class B-1 Concrete (Half-Sole Repair) f'c = 4,000 psi

Roadway surfacing adjacent to bridge ends shall match new bridge wearing surface

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

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

In order to maintain grade and a minimum thickness of wearing surface as shown on plans it may be necessary to use additional quantities of wearing surface as various locations throughout the structure. The cost of furnishing and installing the wearing surface will be considered completely covered in the contract unit price, including all additional labor, materials or equipment for variations in thickness of wearing surface.

Traffic Handling:

Structure to be closed during construction. Traffic to be maintained on A0722 EB during construction. See roadway plans for traffic control.

ABOUT 2.1 MILES EAST OF ROUTE 54

OVER VETTER LN ROUTE 50 FROM ROUTE 54 TO ROUTE M

REPAIRS TO BRIDGE: ROUTE 50 WBL

CIVIL DESIGN, INC.

5220 Oakland Avenue

DATE PREPARED

50

BR

11/5/2024

COLE

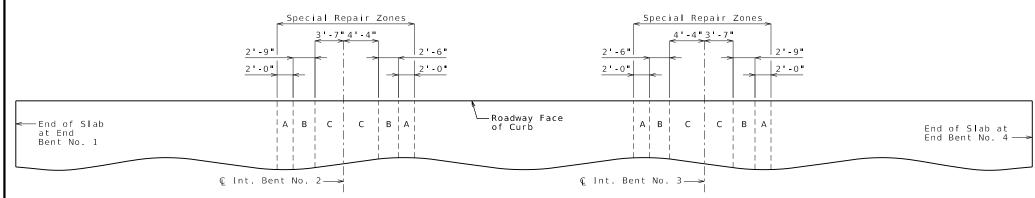
J5P3523 CONTRACT ID

PROJECT NO

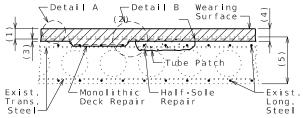
BRIDGE NO

A07226

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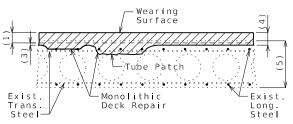


PART PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES



MONOLITHIC AND HALF-SOLE REPAIR

DECK REPAIR INSIDE SPECIAL REPAIR ZONES (BEFORE HYDRO DEMOLITION)



MONOLITHIC DECK REPAIR

DECK REPAIR OUTSIDE SPECIAL REPAIR ZONES (AFTER HYDRO DEMOLITION)

- (1) Removal of existing 1 1/2"± asphalt wearing surface plus 1/4" of existing deck. The wearing surface thickness is an estimate and any additional thickness of wearing surface is considered completely covered by the contract unit price of Removal of Asphalt Wearing Surface.
- (2) 1" vertical side shall be established outside the deteriorated area.
- (3) Total surface hydro demolition of sound concrete, measured to mortar line:

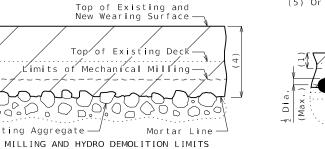
1/4" minimum inside special repair zones

1/4" minimum outside special repair zones

(4) Latex concrete wearing surface:

DETAIL B

- 2" minimum inside special repair zones
- 2" minimum outside special repair zones
- (5) Original depth minus previous scarification



Monolithic deck repair shall be used when only half the diameter or less of the top bar is exposed

Clearance around top bar and around bottom bar at the intersection of top bar shall be required when more than half the diameter of the top bar is exposed.

DETAIL A

Detailed May 2024 Checked June 2024

Existing Aggregate-

Note: This drawing is not to scale. Follow dimensions

Sheet No. 2 of 3

DECK REPAIR DETAILS

Deck Repair Notes:

Order of Repair:

- 1. Remove existing wearing surface plus 1/4" of
- 2. Power wash deck to identify sound and unsound existing deck repair
- 3. Inside special repair zones, complete the
- following repairs: a. Removal of existing deck repair b. Half-sole repair
- 4. Outside special repair zones, remove existing deck repair.
- 5. Complete total surface hydro demolition, removing 1/4" minimum of sound concrete inside special repair zones and removing 1/4" minimum of sound concrete and all deteriorated concrete outside special repair
- 6. Sound deck and if needed complete incidental concrete removal.
- 7. Place new wearing surface including additional material for areas of monolithic deck repair.

Special Repair Zones:

Deck repair required in the areas designated as special repair required in the areas designated as special repair zones shall be completed before hydro demolition in alphabetical sequence beginning with Zone A. Zones with the same letter designation may be repaired at the same time. Hydro demolition shall not move forward until the repairs in all special repair zones are completed and properly cured

Any deck repair in areas not designated as a special repair zone shall be completed after hydro demolition.

Removal and deck repair shall be completed in one special repair zone and concrete shall have attained a compressive strength of 3200 psi before work can be started in the next special repair zone.

If any single repair area does not exceed 4 square feet in size and the total repair area within a special repair zone does not exceed 12 square feet, the special repair zone may be repaired at the same time as an adjacent zone

Void Repair:

Any damage sustained to the void tube as a result of the contractor's operations shall be patched or replaced as required by the engineer at the contractor s expense.

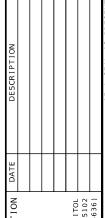
An exposed void in the deck shall be patched as approved by the engineer in a manner that shall maintain the void area completely free of concrete. Cost of patching an exposed void will be considered completely covered by the contract unit price for Half-Sole Repair inside special repair zones and Monolithic Deck Repair outside special repair zones.

DATE PREPARED						
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ROUTE	STATE					
50	MO					
DISTRICT	SHEET NO.					
BR	2					
COUNTY						
CO. F						

COLE J5P3523 CONTRACT ID

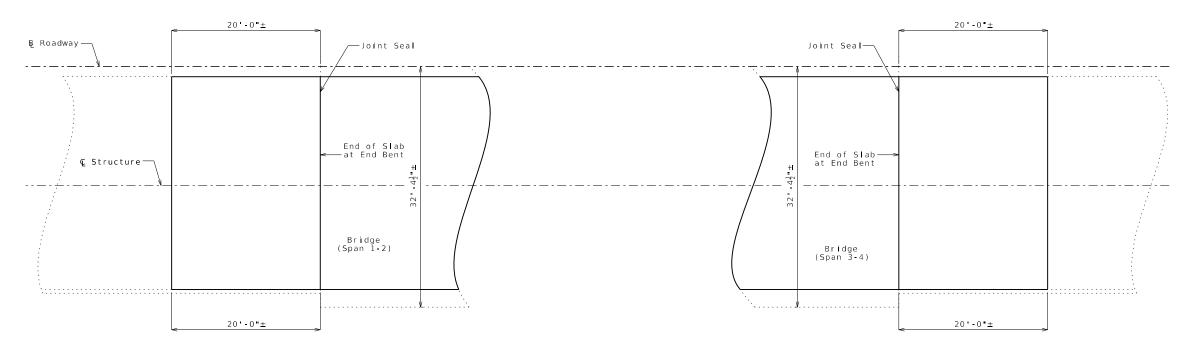
PROJECT NO.

BRIDGE NO A07226







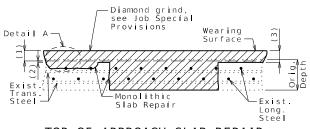


CONCRETE APPROACH SLAB (WEST)

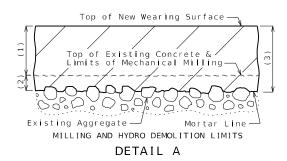


- Removal of 3"± existing asphalt wearing surface to top of concrete, thickness may vary along slab.
- (2) 1/2° total surface hydro demolition of sound concrete.
- (3) 3 1/2"± latex modified concrete wearing surface, thickness may vary along slab.

APPROACH SLAB PARTIAL PLAN VIEW



TOP OF APPROACH SLAB REPAIR



BRIDGE APPROACH SLAB REPAIRS

CONCRETE APPROACH SLAB (EAST)

Notes:

Final grade of approach slab wearing surface shall match adjacent roadway and final grade of bridge deck wearing surface, the thickness of the Latex Modified Concrete wearing surface may vary.

Extents of reinforced concrete Approach Slabs as shown are approximate. $% \label{eq:concrete} % \label{eq:concrete}$

Remove existing asphalt wearing surface and hydro demo existing Approach Slabs. Provide new Latex Modified Concrete Wearing Surface with Monolithic Repairs.

If wearing surface thickness values vary significantly from plan drawings, notify engineer.

	ED ELECTRONICALLY.					
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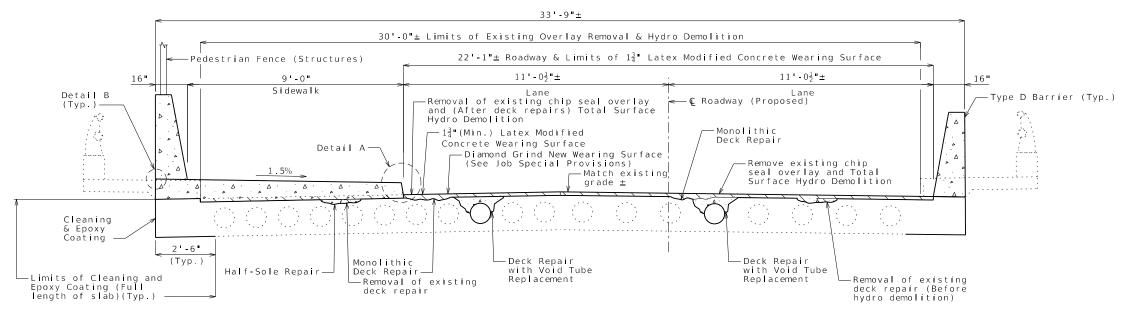


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Detailed Oct 2024 Checked Oct 2024

SEC/SUR TWP 44N RGE 11W

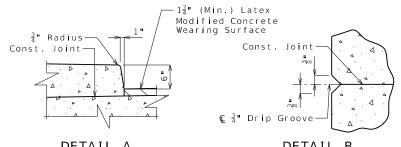
U.I.P. AND REHABILITATE EXISTING (36'-44'-44'-44'-40'-34') CONTINUOUS CONCRETE VOIDED SLAB SPANS (SKEW: SQUARE)



INSIDE SPECIAL REPAIR ZONES (PRE-HYDRO DEMOLITION REPAIRS)

OUTSIDE SPECIAL REPAIR ZONES (POST-HYDRO DEMOLITION REPAIRS)

TYPICAL SECTION THRU EXISTING DECK



DETAIL A DETAIL B

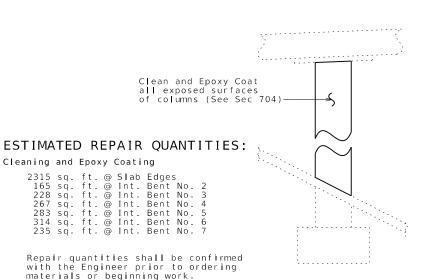
165 sq. 228 sq.

283 sq.

Designed Nov 2024

Detailed Nov 2024

Checked Nov 2024



TYPICAL SECTION THRU INT. BENTS NO. 2-7 SHOWING PROTECTIVE COATING

General Notes:

Design Specifications:

2002 AASHTO LFD (17th ${\tt Ed.}$) Standard Specifications Bridge Deck Rating = 5

Design Loading:

H20-44 (1961) and 15 psf future wearing surface

Design Unit Stresses:

Class B Concrete (Substructure) f'c = 4,000 psiClass B-1 Concrete (Half-Sole Repair f'c = 4.000 psiBarrier and Sidewalk) Reinforcing Steel (Grade 60) fy = 60,000 psiReinforcing Steel:

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

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

Miscellaneous:

Roadway surfacing adjacent to bridge ends shall match new bridge wearing 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 materials

In order to maintain grade and a minimum thickness of wearing surface as shown on plans it may be necessary to use additional quantities of wearing surface at various locations throughout the structure. The cost of furnishing and installing the wearing surface will be considered completely covered in the contract unit price, including all additional labor, materials or equipment for variations in thickness of wearing surface.

Structure to be closed during construction. See roadway plans for traffic control.

Estimated Quantities	•	
I t em		Total
Removal of Miscellaneous ACM (Non-Friable)	sq. foot	28
Total Surface Hydro Demolition	sq. yard	962
Removal of Asphalt Wearing Surface	sq. foot	8655
Partial Removal of Existing Bridge Deck	sq. foot	2791
Partial Removal of Substructure Concrete	lump sum	1
Bridge Approach Slab (Minor)	sq. yard	150
Supplementary Wearing Surface Material	cu. yard	5
Latex Modified Concrete Wearing Surface	sq. yard	708
(120 in.) Pedestrian Fence (Structures)	linear foot	329
Diamond Grinding	sq. yard	708
Class B Concrete (Substructure)	cu. yard	2.5
Type D Barrier	linear foot	657
Sidewalk (Bridges)	sq. foot	3395
Half-Sole Repair	sq. foot	1700
Deck Repair with Void Tube Replacement	sq. foot	212
Cleaning and Epoxy Coating	sq. foot	3807
Fabricated Sign Support Brackets	lump sum	1

st Supplementary wearing surface material for monolithic deck repair will be paid for at the fixed unit price in accordance with Sec 109.

GEORGE BUTLER ASSOCIATES, INC. PRO. ENGINEER 000133 ARCHITECT 000212 O. LAND SURVEYOR 0000

16305 Swingley Ridge Ro Ste. 300 Chesterfield, MO 63017

314.231.0100 gbateam.com

REPAIRS TO BRIDGE: BOLIVAR ST. OVER ROUTE 50

ROUTE 50 FROM ROUTE 54 TO ROUTE M ABOUT 0.1 MILES EAST OF ROUTE 54 BEGINNING STATION 8+05.80± (MATCH EXISTING) RYAN G. HAGERTY PROFESIONAL PE-2016034015

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

Sheet No. 1 of 12

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DATE PREPARED

POLITE

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11/5/2024

COLE

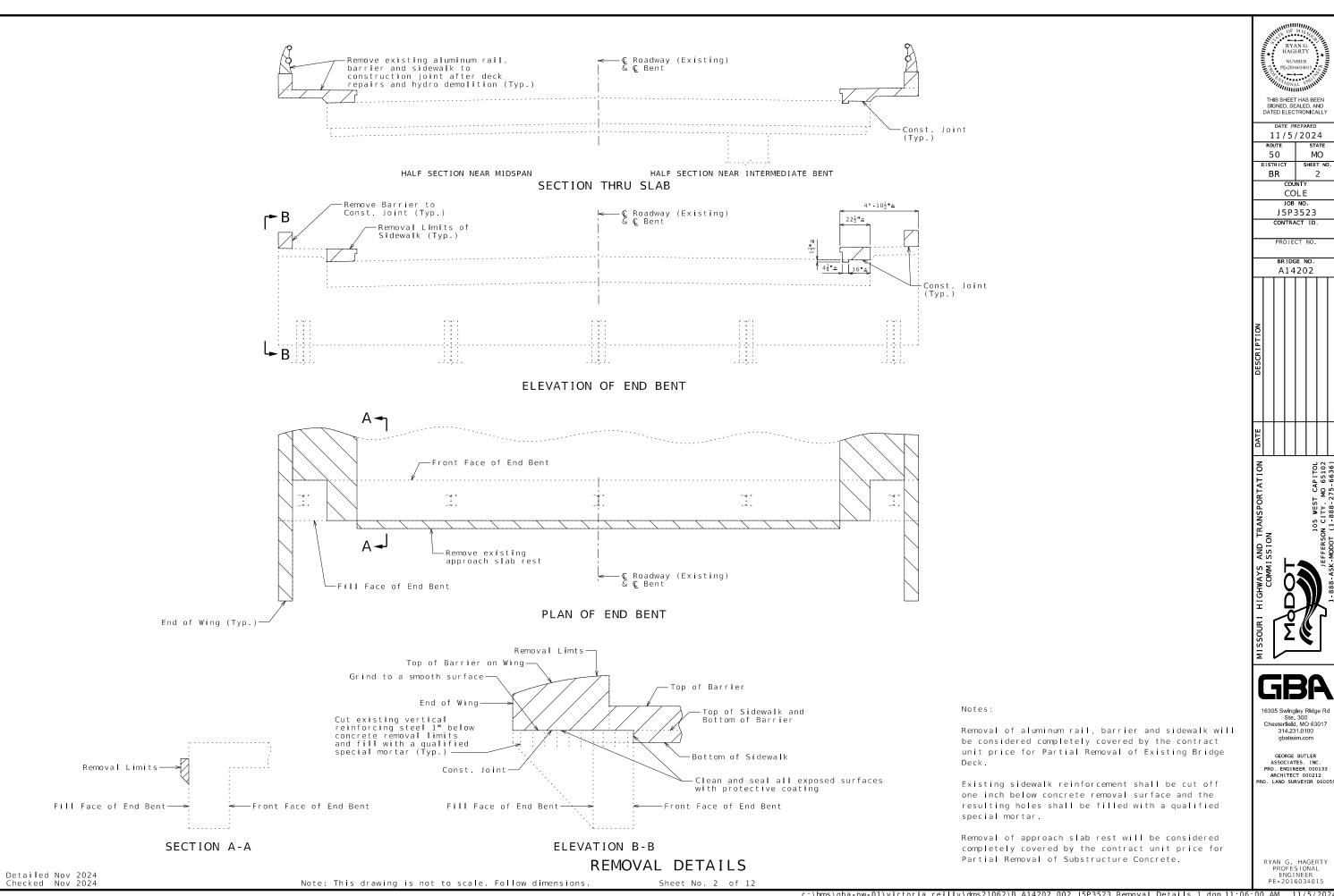
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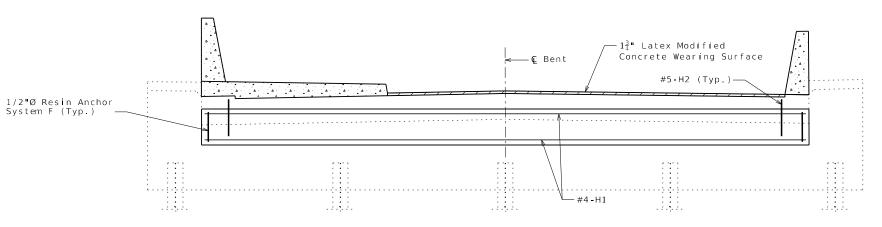
CONTRACT ID PROJECT NO

BRIDGE NO

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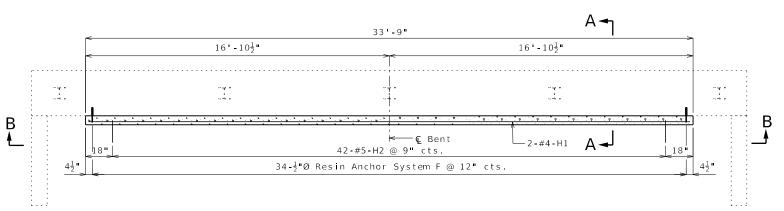
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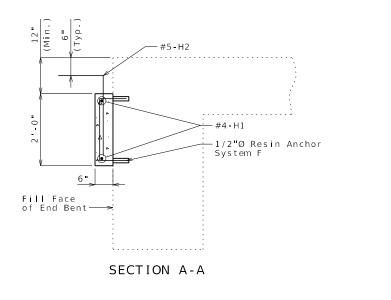


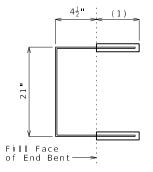
ELEVATION B-B

(End Bent No. 1 shown, End Bent No. 8 similar)



PLAN OF END BENT





1/2"Ø RESIN ANCHOR SYSTEM F

(34 req'd per End Bent)

(1) Use manufacturer's embedment length (5" minimum embedment)

Notes:

Longitudinal dimensions are horizontal.

Payment for epoxy coated reinforcing steel and resin anchor systems, complete in place, will be considered completely covered by the contract unit price for Class B Concrete (Substructure).

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

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

An epoxy coated #4 Grade 60 reinforcing bar shall be substituted for the $1/2\,^{\text{"O}}$ threaded rod.

New approach slab rest shall be Class B Concrete (Substructure).

SIGNED, SEALED, AND DATED ELECTRONICALLY DATE PREPARED 11/5/2024 ROUTE 50 MO BR COLE J5P3523 CONTRACT ID PROJECT NO. BRIDGE NO A14202



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GEORGE BUTLER ASSOCIATES, INC. PRO. ENGINEER 000133 ARCHITECT 000212 O. LAND SURVEYOR 0000

RYAN G. HAGERTY PROFESIONAL ENGINEER PE-2016034015

END BENT DETAILS

Sheet No. 3 of 12

Detailed Nov 2024 Checked Nov 2024

An re Rer sp cor st

Deck Repair Notes: Order of Repair:

End of Slab @

End Bent No.

4 - 1 "

Special Repair Zones

BCC BA

- Remove existing wearing surface plus 1/2" of existing deck.
- Power wash deck to identify sound and unsound existing deck repair.
- Inside special repair zones, complete the following repairs:

 Half-sole repair
 Deck repair with void tube replacement
- 4. Complete total surface hydro demolition, removing zones and removing 1/2" minimum of sound concrete inside special repair zones and removing 1/2" minimum of sound concrete and all deteriorated concrete outside special repair zones.
- Sound deck and if needed complete incidental concrete removal.
- Outside special repair zones, complete the following repairs:

 a. Deck repair with void tube replacement
- Place new wearing surface including additional material for areas of monolithic deck repair.

Special Repair Zones

Deck repair required in the areas designated as special repair zones shall be completed before hydro demolition in alphabetical sequence beginning with Zone A. Zones with the same letter designation may be repaired at the same time. Hydro demolition shall not move forward until the repairs in all special repair zones are completed and properly cured.

Any deck repair in areas not designated as a special repair zone shall be completed after hydro demolition.

Removal and deck repair shall be completed in one special repair zone and concrete shall have attained a compressive strength of 3200 psi before work can be started in the next special repair zone.

If any single repair area does not exceed 4 square feet in size and the total repair area within a special repair zone does not exceed 12 square feet, the special repair zone may be repaired at the same time as an adjacent zone.

Void Repair:

Any damage sustained to the void tube as a result of the contractor's operations shall be patched or replaced as required by the engineer at the contractor's expense.

An exposed void in the deck shall be patched as approved by the engineer in a manner that shall maintain the void area completely free of concrete. Cost of patching an exposed void will be considered completely covered by the contract unit price for Half Sole Repair inside special repair zones and Monolithic Deck Repair outside special repair zones.

When a deteriorated portion of the void tube is beyond the point of patching as determined by the engineer, the portion of the deteriorated void tube shall be replaced. The void area shall be maintained completely free of concrete. Cutting of the longitudinal reinforcing steel will not be permitted. The fiber tubes for producing the voids shall have an outside diameter with the wall thickness the same as the existing tubes and anchored at not more than the original spacing. Cost of replacing the void tube will be considered completely covered by the contract unit price for Deck Repair with Void Tube Replacement. Measurement will be horizontal projection of the area of exposed tube in plan.

RYAN G HAGERTY NUMBER PE2016034015 THIS SHEET HAS BEEN SIGNED SEALED AND

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

DATE PREPARED

11/5/2024

MO

DISTRICT SHEET N
BR 4
COUNTY
COLE
JOB NO.
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CONTRACT ID.

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PROJECT NO.

BRIDGE NO. A14202

DATE DESCRIPTION

COMMISSION

105 WEST CAPITOL

165 LEFFERSON CITY, M0 65102

888-ASK-MODOT (1-888-275-6636)

COMMISSI MODOT 1-888-ASK-MODO

GBA

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GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 00005

RYAN G. HAGERTY PROFESIONAL ENGINEER PE-2016034015

DECK REPAIR DETAILS

MILLING AND HYDRO DEMOLITION LIMITS DETAIL A

Top of Existing Deck

Mortar Line

DETAIL B

imits of Mechanical Milling-

Detailed Nov 2024 Checked Nov 2024

Existing Aggregate

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

Monolithic deck repair

shall be used when only half the diameter or less

of the top bar is exposed

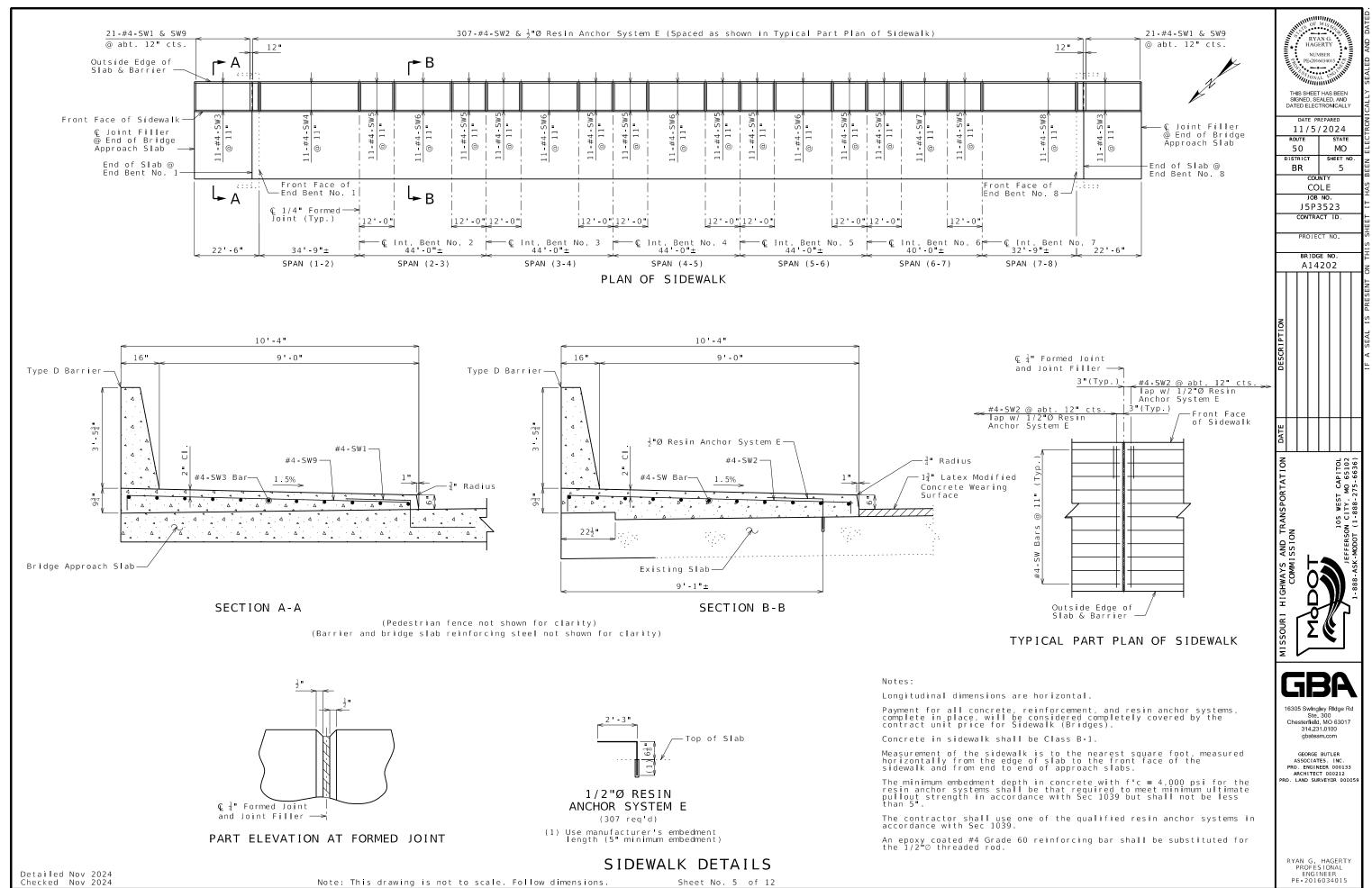
Clearance around top bar and around bottom bar at

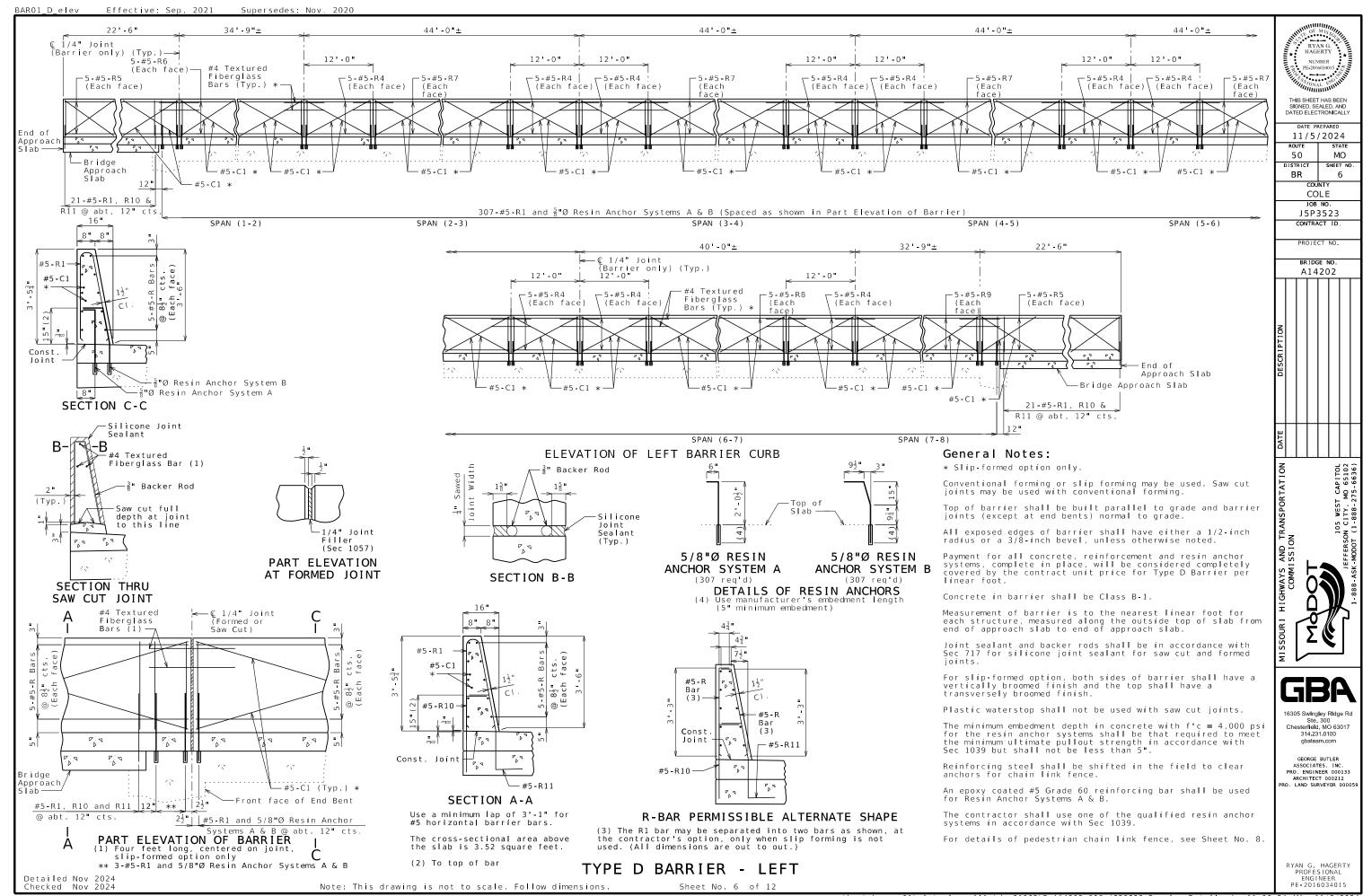
the top bar is exposed.

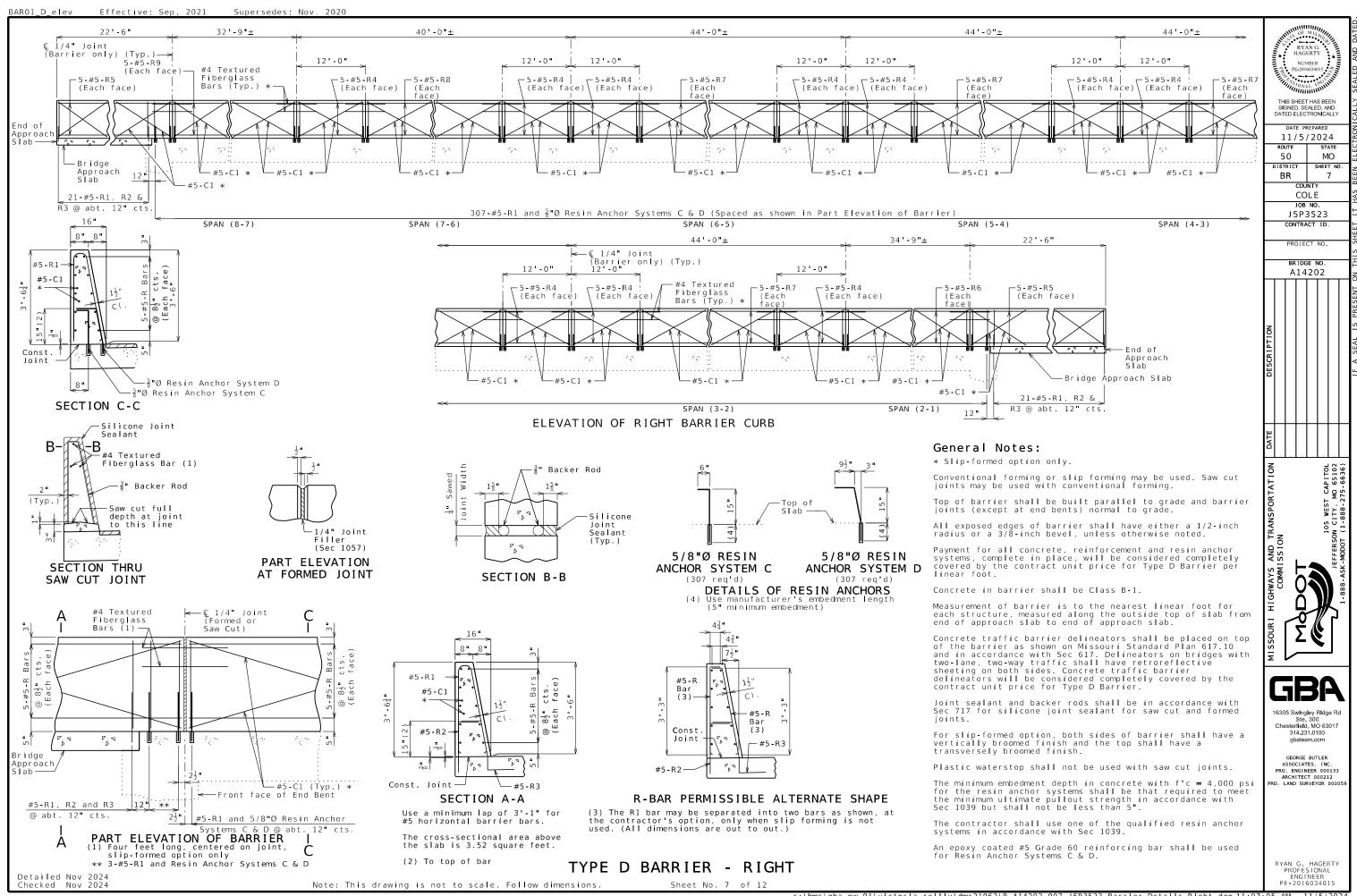
the intersection of top bar

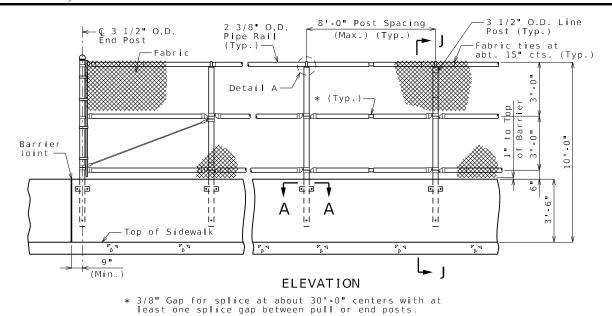
shall be required when more than half the diameter of

Sheet No. 4 of 12





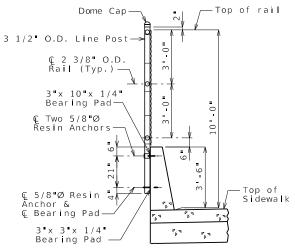




UPPER TRUSS ROD

CONNECTION DETAIL

-Ç ¾"Ø Hole



SECTION J-J (TYPE D BARRIER)

2 3/8" O.D. -Loop Cap Pipe Rail $-3\frac{1}{2}$ " O.D. Line Post

DETAIL A

* 3/8" Gap for splice at about 30'-0" centers with at least one splice gap between pull or end posts.

Neoprene

Ç 5/8"Ø

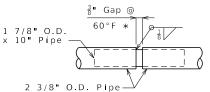
Řesin

Bearing Pad 10"x 3"x 1/4"

SECTION A-A

3" Min

covei



TYPICAL RAIL DETAIL AT SPLICE GAP

> Note: At the contractor's option, manufacturer-approved expansion

coupling may be used in lieu of detail shown. No additional payment

will be made for this substitution.

2 3/8" O.D. with double heavy Truss Rod Pipe Rail nuts & washers Connection (Typ.)--3 1/2" O.D. 0) Pipe Post (Typ.) (0) Rail Clamp (Typ.) 0 3 1/2" O.D. Pipe Post (Typ.) Truss Rod -Rail Clamp Pipe Rail (Typ.) (Tvp.)

1/2 Ø Truss Rod

LOWER TRUSS ROD CONNECTION DETAIL

GENERAL NOTES:

Pedestrian chain link fence shall be in accordance with Sec 1043 except all fabric shall have the top and bottom edges knuckled and pipe members shall be in accordance with ASTM F1043, high strength grade (minimum yield = 50 ksi) heavy industrial steel pipe Group 1A.

All posts shall be vertical.

Payment for furnishing, galvanizing and erecting the fence and frame complete in place will be considered completely covered by the contract unit price for (120 in.) Pedestrian Fence (Structures) per linear foot

Dimensions of pedestrian chain link fence are measured horizontally.

The maximum spacing allowed between pull posts and end posts is 100 feet. Post brace and 1/2-inch diameter truss rod are required for panels adjacent to pull post and end posts only. Connect the lower end of truss rod to bottom of pull posts and end posts to which the stretcher bar is

Rail clamps, dome cap, bands, tie wires, stretcher bars and truss rod connections shall be in accordance with the manufacturer's recommendations. The truss rod and truss rod connections shall have a minimum capacity of 2000 pounds. Dome cap shall fit tightly.

Expansion joints shall be placed in the horizontal pieces at not more than 30-foot centers and at all joint filler locations in the barrier with a minimum gap of 3/8 inch at 60 degrees F

Steel for truss rods shall be ASTM A709 Grade 36. Steel for post straps shall be ASTM A709 Grade 50. Neoprene bearing pads_shall be 50 durometer and shall be in accordance with

Sheet No. 8 of 12

Contractor shall submit complete detailed shop drawings in accordance with Sec 1080.

All straps, anchors, hex nuts and washers shall be galvainized in accordance with ASTM A123 and Sec 1081.

Anchors shall be ASTM F1554 Grade 36.

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

Cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for (120 in.) Pedestrian Fence (Structures).

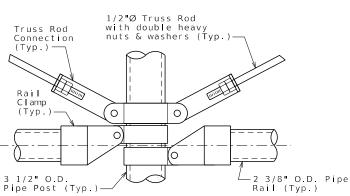
The minimum embedment depth in concrete with f'c = 4,000psi for the resin anchor systems shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5 inches.

(120 in.) Pedestrian Fence (Structures) will be measured to the nearest linear foot for each structure, measured along the centerline fence from end of fence to end of fence

Chain link wire fabric shall be 9 gage minimum, 2-inch diamond mesh

The chain link fence shall be built in accordance with Sec 607 and Sec 1043.

For details of barrier, see Sheet No. 6.



DUAL LOWER TRUSS ROD CONNECTION DETAIL

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CONTRACT ID

PROJECT NO

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RYAN G. HAGERTY PROFESIONAL ENGINEER PE-2016034015



STRAP DETAIL

31 "

1³/₈"

PEDESTRIAN CHAIN LINK FENCE

Detailed Nov 2024 Checked Nov 2024

Front Face

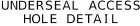
of End Bent

BRIDGE

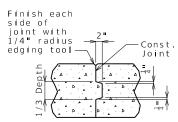
Slab

В

at abt. 12" cts. (Epoxy (See end bent sheets)



(If required)



CONSTRUCTION JOINT DETAIL

Notes For Concrete Slab Only:

General Notes:

All concrete for the concrete cap and bridge approach slab shall be in accordance with Sec 503 (f'c = 4,000 psi).

The contractor shall pour and satisfactorily

finish the bridge slab before placing the bridge approach slab.

The reinforcing steel in the concrete cap and bridge approach slab shall be epoxy coated Grade 60 with fy = 60,000 psi.

Longitudinal construction joints in bridge approach slab shall be aligned with longitudinal construction joints in bridge slab.

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

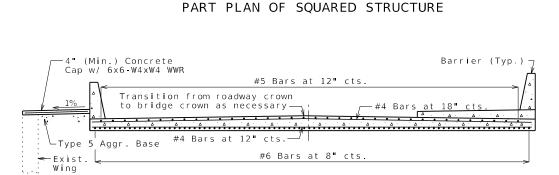
The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 23 inches for #4 bars, or by mechanical bar splice.

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

Payment for furnishing all materials, labor rayment for furnishing all materials, labor and excavation necessary to construct the concrete cap and bridge approach slab, including the timber header, 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 (Minor) per square yard.

See Missouri Standard Plan 609.00 for details of Type A curb.

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.



7'-6"± (Typ.)

20 -0

—Fnd of Wina

w/ 6x6-W4xW4 WWR (Typ.)

-End of Wina

#4 Bars at 18" cts. (Top)

#4 Bars at 12" cts. (Bottom)

CONCRETE BRIDGE

APPROACH SLAB

3/4 Jt.

-#4 Bars

R

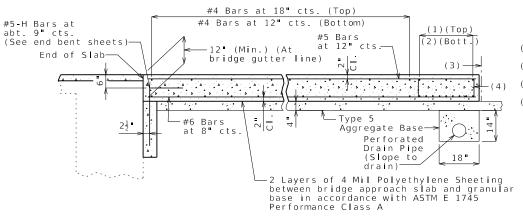
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(Top) 9-#4 Bars (Bott.)

ab t

SECTION A-A

(Approach slab near End Bent No. 8 shown. Approach slab near End Bent No. 1 similar, opposite hand.) 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 B-B

(Integral end bent)

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

- (1) 3-#4 Bars
- (2) 9-#4 Bars
- (3) © 3/4" Jt. Filler
- (4) #4 Stirrup Bars at abt. #4 STITUP Bals at abt.
 12" cts.; 2'-0'x 8" (Min.)
 out to out; Actual
 length = 5'-10" (Min.);
 90° stirrup hook at bottom;
 Stirrup height (8') and actual length vary due to crown.

© 3/4"Ø x 8" Lag —Roadway Surface and "3" x 10" Timber Header 3" × 10" Bolt (Washer under head) with 4" Coil Timber Header Supports at abt 3 -0" cts Header Tie Insert-Roadway Face of Optional 3" Wedge Bridge Approach Slab Wood Scab 3" x 8" Wood Block or Optional 3" Wedge Blocks Block Wood Block Top of Aggregate Base 8" Top or Aggregate Base-6" x 1" Wood Scab (Nail to block)-(Min.) PART ELEVATION SECTION E-E

> DETAILS OF TIMBER HEADER Remove timber header when concrete payement is placed.

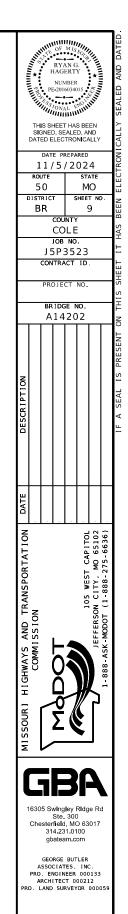
OPTIONAL CONCRETE SLAB BRIDGE APPROACH SLAB (MINOR)

Integral end bents shown, non-integral end bent similar.

Detailed Nov 2024 Checked Nov 2024

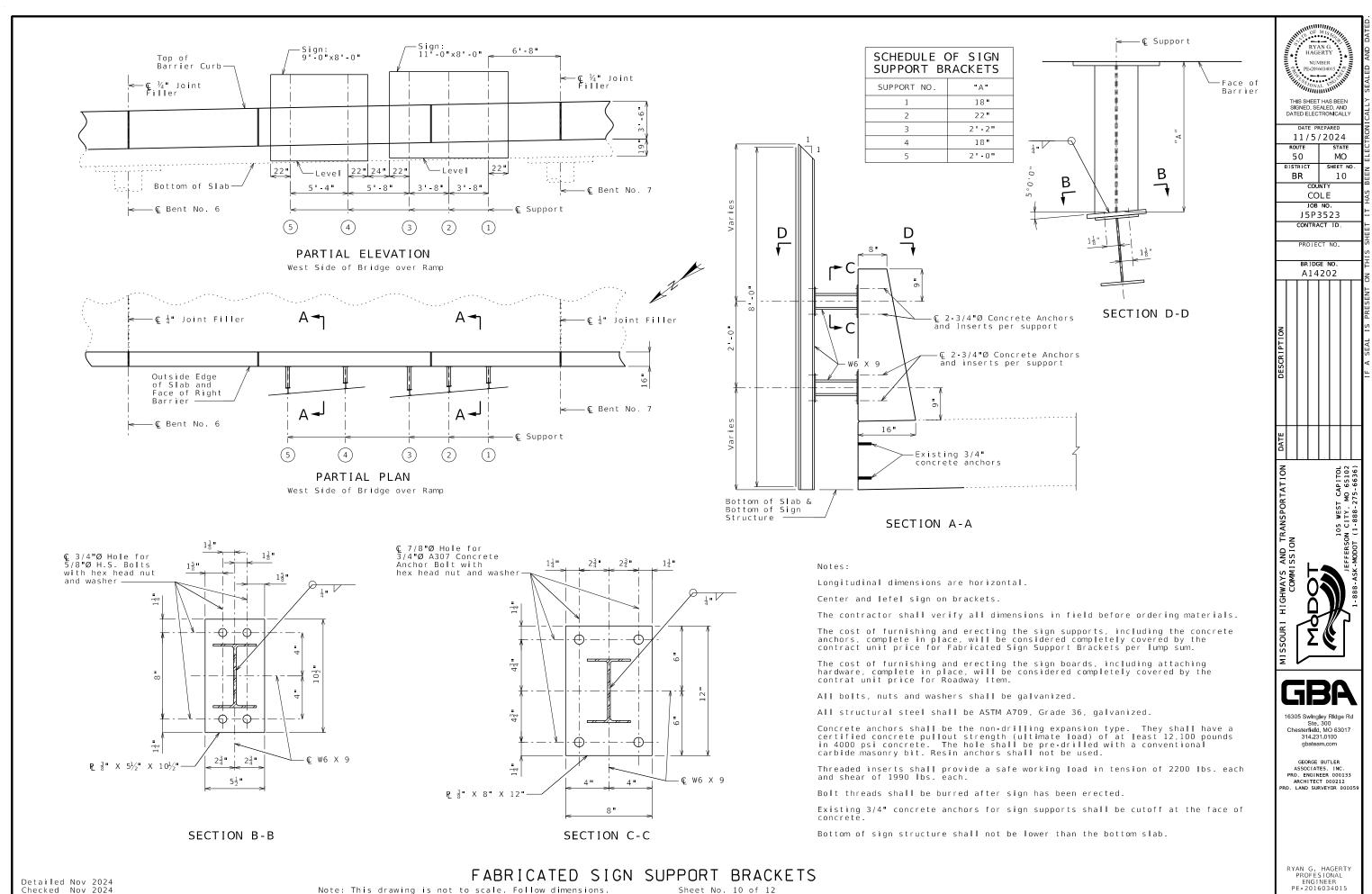
Sheet No. 9 of 12

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RYAN G. HAGERTY PROFESIONAL

PE-2016034015



BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Note: This drawing is not to scale. Follow dimensions

Detailed Nov 2024 Checked Nov 2024

Sheet No. 11 of 12

All superstructure reinforcing steel shall be epoxy coated unless otherwise specified.

RYAN G. HAGERTY PROFESIONAL ENGINEER

PE-2016034015

New: Mar<u>. 2</u>024 BILL03 data tables

Bill of Reinforcing Steel												Billo	f Rein	nfor c i	ng St	ee l												
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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.

All bars shall be Grade 60.

Codes: C = Required coatings, where E = Epoxy Coated and <math>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.

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THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

DATE PREPARED 11/5/2024 ROUTE 50 STATE DISTRICT BR 12

> COLE J5P3523 CONTRACT ID.

PROJECT NO.

BRIDGE NO. A14202

16305 Swingley Ridge Rd Ste. 300 Chesterfield, MO 63017 314.231.0100 gbateam.com

GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 00005

For bending diagrams and steel reinforcing totals, see Sheet No. 11.

Detailed Nov 2024 Checked Nov 2024

BILL OF REINFORCING STEEL Sheet No. 12 of 12

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

DESIGN DESIGNATION

US - 54

A.A.D.T. - 2023 = 32,007

V = 60 M.P.H

FUNCTIONAL CLASSIFICATION - OTHER FREEWAY AND EXPRESSWAY

A.A.D.T. - 2023 = 3,692

V = 30 M.P.H

FUNCTIONAL CLASSIFICATION- MINOR ARTERIAL

NO RIGHT OF WAY ACQUISITION

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CONVENTIONAL SYMBOLS

(USED IN PLANS	> <i>)</i>	
	EXISTING	NEW
BUILDINGS AND STRUCTURES GUARD RAIL GUARD CABLE CONCRETE RIGHT-OF-WAY MARKER STEEL RIGHT-OF-WAY MARKER LOCATION SURVEY MARKER UTILITIES	0000	
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FIRE HYDRANT	wv C)
WATER VALVE	wv.	€
WATER METER	₽	€
DROP INLET	°[_	
DITCH BLOCK	=	=
GROUND MOUNTED SIGN	SIGN	-
LIGHT POLE		
H-FRAME POWER POLE		-
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NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED

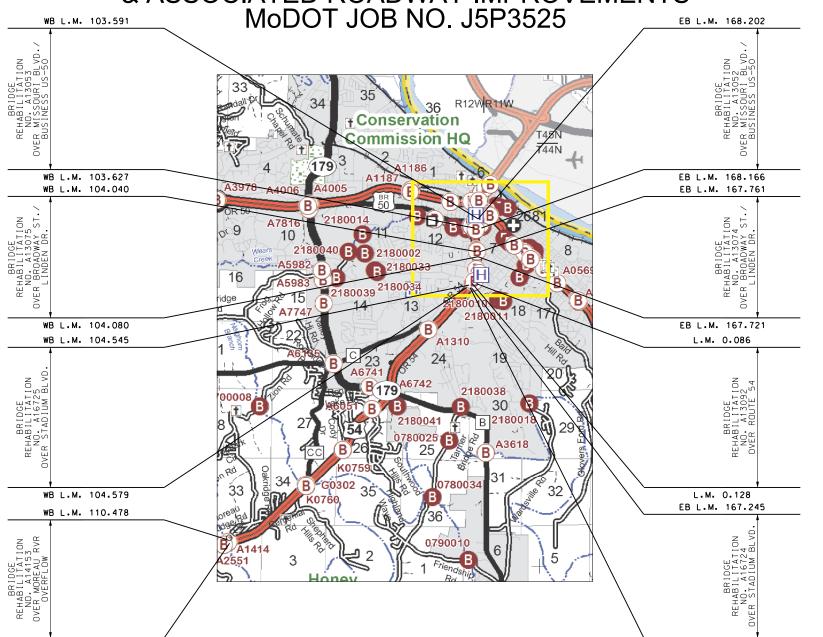
KEY MAP

LOCATION OF COLE COUNTY

STATE HIGHWAY **COLE COUNTY** US ROUTE 54

A13052, A13053, A13074, A13075, A13092, A16724, A16725, & A14153 REHABILITATIONS

& ASSOCIATED ROADWAY IMPROVEMENTS



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

INDEX OF SHEETS

DESCRIPTION	NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (TS) (5 SHEETS)	2
QUANTITIES (QU) (3 SHEET)	3
PLAN SHEETS (PL)	4 - 7
SPECIAL SHEETS (SS)	8
TRAFFIC CONTROL SHEETS (TC)	9-33
BRIDGE DRAWINGS (B) A13052	1-3 1-3 1-3 1-3 1-3
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EQUATIONS AND EXCEPTIONS:

EQUATIONS AND EXCEPTIONS:

FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES

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END OF PROJECT

APPARENT LENGTH

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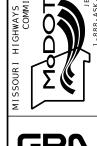
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575.37 FEET

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LOG MILE 0.128

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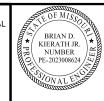
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ARCHITECT 000212
RO LAND SURVEYOR 0000

BRIAN KIFRATH

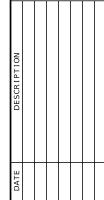
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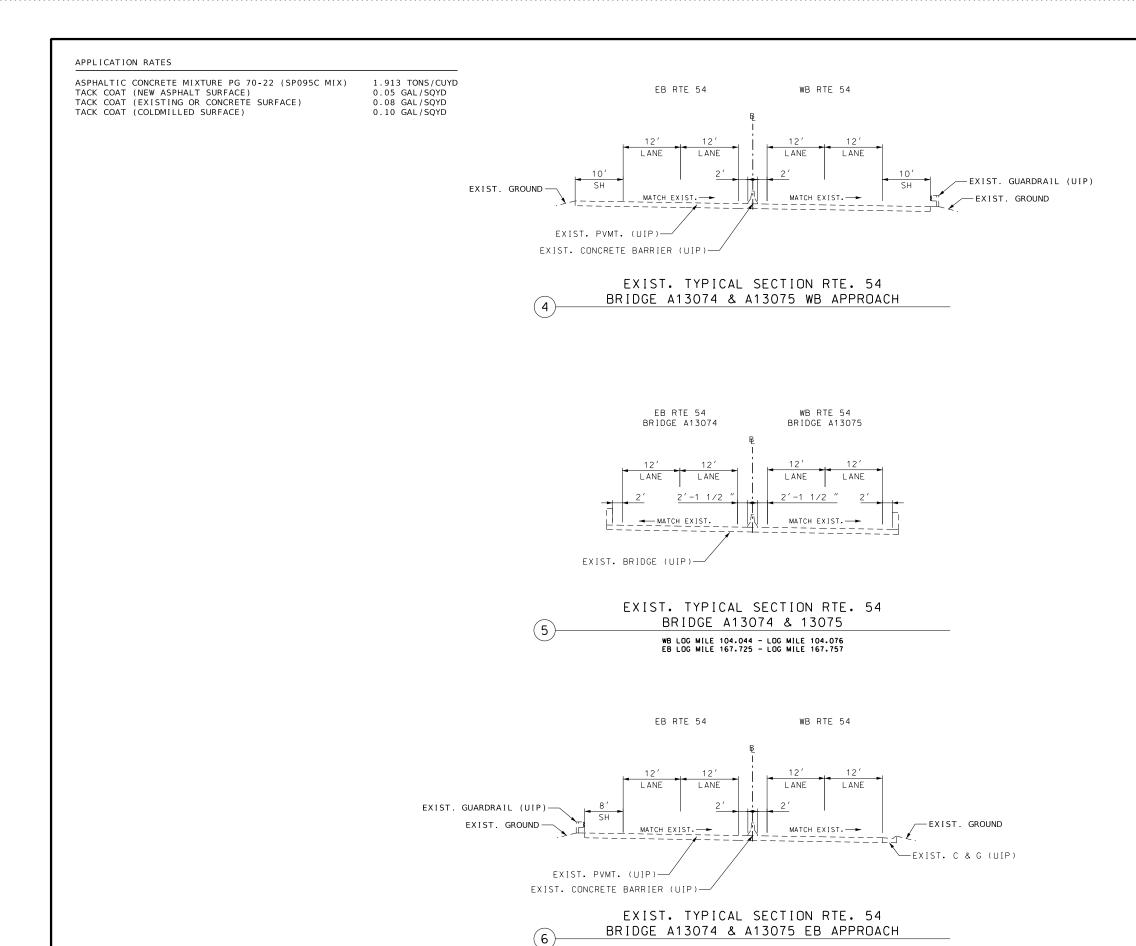


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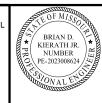
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11/3/2024

ROUTE STATE
54 MO

DISTRICT SHEET NO.
CD 2

COUNTY
COLE
JOB NO.
J5P3525

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE DESCRIPTION

SOURI HIGHWAYS AND TRANSPORTATION

COMMISSION

MODOT

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

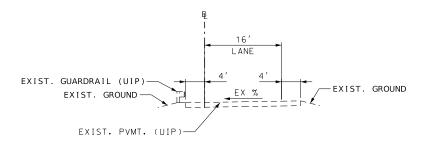
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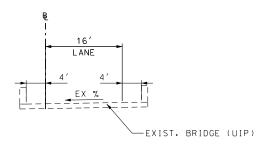
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TYPICAL SECTION RTE. 54 OVER LINDEN DR./BROADWAY ST. SHEET 2 OF 5



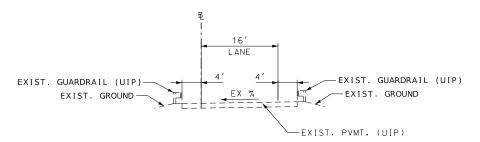
EXIST. SECTION ON CURVE/TANGENT BRIDGE A13092 SOUTH APPROACH TYPICAL SECTION MADISON ST.



EXIST. SECTION ON CURVE BRIDGE A13092 TYPICAL SECTION MADISON ST.

(8)

LOG MILE 0.090 - LOG MILE 0.124



EXIST. SECTION ON CURVE BRIDGE A13092 NORTH APPROACH TYPICAL SECTION MADISON ST. 9

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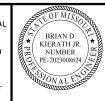
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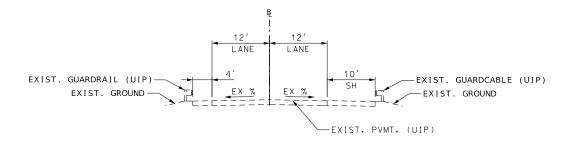
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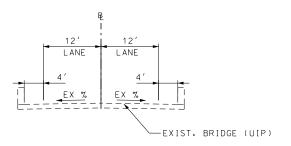
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PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 0000

BRIAN KIERATH PROFESSIONAL ENGINEER PE-2023008624

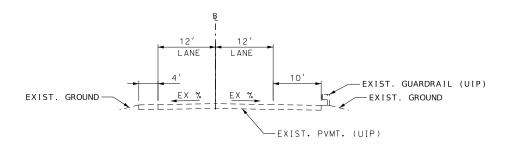


EXIST. TYPICAL SECTION RTE. 54 BRIDGE A14153 EAST END (13)



EXIST. TYPICAL SECTION RTE. 54 BRIDGE A14153 (14)

WB LOG MILE 110.478 - LOG MILE 110.514



EXIST. TYPICAL SECTION RTE. 54 BRIDGE A14153 WEST END

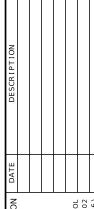
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INTENDED TO BE USED FOR ANY PART OR PARTS OF
THE PROJECT TO WHICH THIS PAGE REFERS. THE PROJECT TO WHICH THIS PAGE REFERS.



DATE PREPARED									
11/3/2024									
ROUTE	STATE								
54	MO								
DISTRICT	SHEET NO.								
CD	2								
COU	NTY								
CO	LE								
JOB	NO.								
J5P3	3525								
CONTRA	CT ID.								

PROJECT NO.

BRIDGE NO.



GBA

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GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 0000

BRIAN KIERATH PROFESSIONAL ENGINEER PE-2023008624

TYPICAL SECTION RTE, 54 OVER MOREAU RVR OVERFLOW SHEET 5 OF 5

	REMOVAL OF IMPROVEMENTS										
SHEET NO.	ROADWAY	SIDE	ITEM	QUANTITY	UNIT						
5	MADISON ST.	BL	EXISTING CONCRETE SLOPE PROTECTION	10	SY						
6	RTE. 54	BL	EXISTING TRAFFIC BARRIER	230	LF						
6	RTE. 54	BL	EXISTING TRAFFIC BARRIER	230	LF						
7	EB RTE. 54	BL	EXISTING CONCRETE SLOPE PROTECTION	10	SY						
			PROJECT TOTAL	1	LS						

MOBILIZATION

1 LUMP SUM

CONTRACTOR FURNISHED SURVEYING AND STAKING

1 LUMP SUM

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DATE PE	REPARED		
11/3	/2024		
ROUTE	STATE		
54	MO		
DISTRICT	SHEET NO.		
CD	3		
COU	INTY		
СО	LE		
JOB	NO.		
J5P3	3525		
CONTRA	CT ID.		
l			

PROJECT	NO.
BRIDGE	NO.

DESCRIPTION				

MISSION

IFFERSON CITY, MO 63102

MISSOURI HIGHWAYS AND TRANSPORT
COMMISSION
TO THE TO THE TRANSPORT
TO THE

GBA 16305 SWINGLEY RIDGE RD ST. 300 CHESTERFIELD, MO 63017 314.221,0100 GBALEAM.COM

GEORGE BUTLER ASSOCIATES, INC. PRO. ENGINER 000133 ARCHITECT 000212 PRO. LAND SURVEYOR 00005

> BRIAN KIERATH PROFESSIONAL ENGINEER PE-2023008624

	PAVEMENT												
SHEET NO.	ROADWAY	LOCATION	SIDE	ASPHALTIC CONCRETE MIXTURE PG 70-22 (SP095C MIX) 1.50" (TON)	TACK COAT (GAL)	COLDMILLING BITUMINOUS PAVEMENT FOR REMOVAL OF SURFACING (3 IN. THICK OR LESS) (SY)							
6	RTE. 54	MEDIAN BARRIER NORTH OF BRIDGE A13074/A13075	BL	4.1	4	51							
6	RTE. 54	MEDIAN BARRIER SOUTH OF BRIDGE A13074/A13076	BL	4.1	4	51							
			PROJECT TOTAL	8.2	8	102							

	ROCK BLANKET											
SHEET NO.	ROADWAY	BRIDGE	LOCATION	SIDE	FURNISHING TYPE 2 ROCK BLANKET (CY)	PLACING TYPE 2 ROCK BLANKET (CY)	PERMANENT EROSION CONTROL GEOTEXTILE (SY)					
4	WB RTE. 54	A14153	NORTH BRIDGE BERM	BL	93	93	140					
5	MADISON ST.	A13092	NORTH BRIDGE BERM	BL	7	7	10					
7	EB RTE. 54	A13052	SOUTH BRIDGE BERM	BL	7	7	10					
				PROJECT TOTAL	107	107	160					

CONCRETE BARRIER										
SHEET NO.	ROADWAY	LOCATION	SIDE	CONCRETE TRAFFIC BARRIER, TYPE C (LF)						
6	RTE. 54	MEDIAN BARRIER NORTH OF BRIDGE A13074/A13075	BL	230						
6	RTE. 54	MEDIAN BARRIER SOUTH OF BRIDGE A13074/A13076	BL	230						
			PROJECT TOTAL	460						

PAVEMENT REPAIR											
SHEET. NO.	ROADWAY BRIDGE LOCATION			SIDE	FURNISHING AND PLACING BITUMINOUS MATERIAL FOR CLASS B PARTIAL DEPTH PAVEMENT REPAIR (TONS)	REMOVAL FOR CLASS B PARTIAL DEPTH PAVEMENT REPAIR (SY)					
4	WB RTE. 54	A14153	SOUTH APPROACH	BL	2.8	17.8					
4	WB RTE. 54	A14153	NORTH APPROACH	BL	2.8	17.8					
				PROJECT TOTAL	5.6	35.6					

QUANTITIES SHEET 1 OF 3

	PERMANENT PAVEMENT MARKING									
PHASE(S)		FROM LOCATION ROADWAY			HIGH	BUILD WATERBOR		MARK ING		
			FROM LOCATION	ROADWAY	6" WHITE			6" YELLOW		
			LOCATION		SOL ID	INTERMITTENT	DOTTED	SOLID		
					(LF)	(LF)	(LF)	(LF)		
1.2	HERITAGE HWY	US-54 EB	MONTICELLO RD	US-54 EB						
1.2	MONTICELLO RD	US-54 WB	HERITAGE HWY	US-54 WB	2,689	684		2,735		
5.6.7.8	ELLIS BLVD	US-54 EB	US-50	US-54 EB	8.870	2.040	296	8.078		
5,6,7,8	US-50	US-54 WB	ELLIS BLVD	US-54 WB	8,135	1,888	408	7,689		
	PROJECT TOTAL					4,612	704	18,502		
BID ITEM TOTAL					25,010		18,502			

4 IN TEMPORARY PAVEMENT MARKING PAINT*													
ITEM	UNITS	PHASE	1	2	3	4	5	6	7	8	9	TOTAL	TOTAL BY TYPE
4" WHITE SOLID	LF		446	585		2,950	7.612		2.854	4,980		19,427	20,957
4" WHITE DOTTED	LF					272	604		75	579		1.530	20,957
4" YELLOW SOLID	LF		2,250	2,400		10,155	5.898		5.971			26,674	26,674
TOTAL ITEM NUMBER 6208076													47.631

* QUANTITIES DENOTE TEMPORARY PAVEMENT MARKING TO BE INSTALLED PER INDIVIDUAL PHASE

TEMPORARY RAISED PAVEMENT MARKER*												
ITEM	UNITS	PHASE	1	2	3	4	5	6	7	8	9	TOTAL
WHITE	EA											
YELLOW	EΑ					73	73					146
TOTAL ITEM NUMBER 6208064A												146

* QUANTITIES DENOTE TEMPORARY PAVEMENT MARKERS TO BE INSTALLED PER INDIVIDUAL PHASE

WORK	ZONE	INTELLIGENT	TRANSPORTATION	SYSTEMS
		1 LUM	P SUM	

PAVEMEN	<u>it marking</u>	REMOVAL
PHASE	EXISTING PAVEMENT MARKING REMOVAL (LF)	TEMPORARY PAVEMENT MARK ING REMOVAL (LF)
PHASE 1	2,821	2,696
PHASE 2	3.320	2,985
PHASE 3		
PHASE 4	16,899	13,377
PHASE 5	16,991	14,114
PHASE 6		
PHASE 7	8,699	8,900
PHASE 8	5,979	5,559
PHASE 9		
TOTAL	54,709	47.631
TOTAL ITEM		
NUMBER	102	.340
6207001		

MO SHEET NO. DISTRICT CD COUNTY COLE JOB NO.
J5P3525
CONTRACT ID. PROJECT NO. BRIDGE NO.

11/5/2024

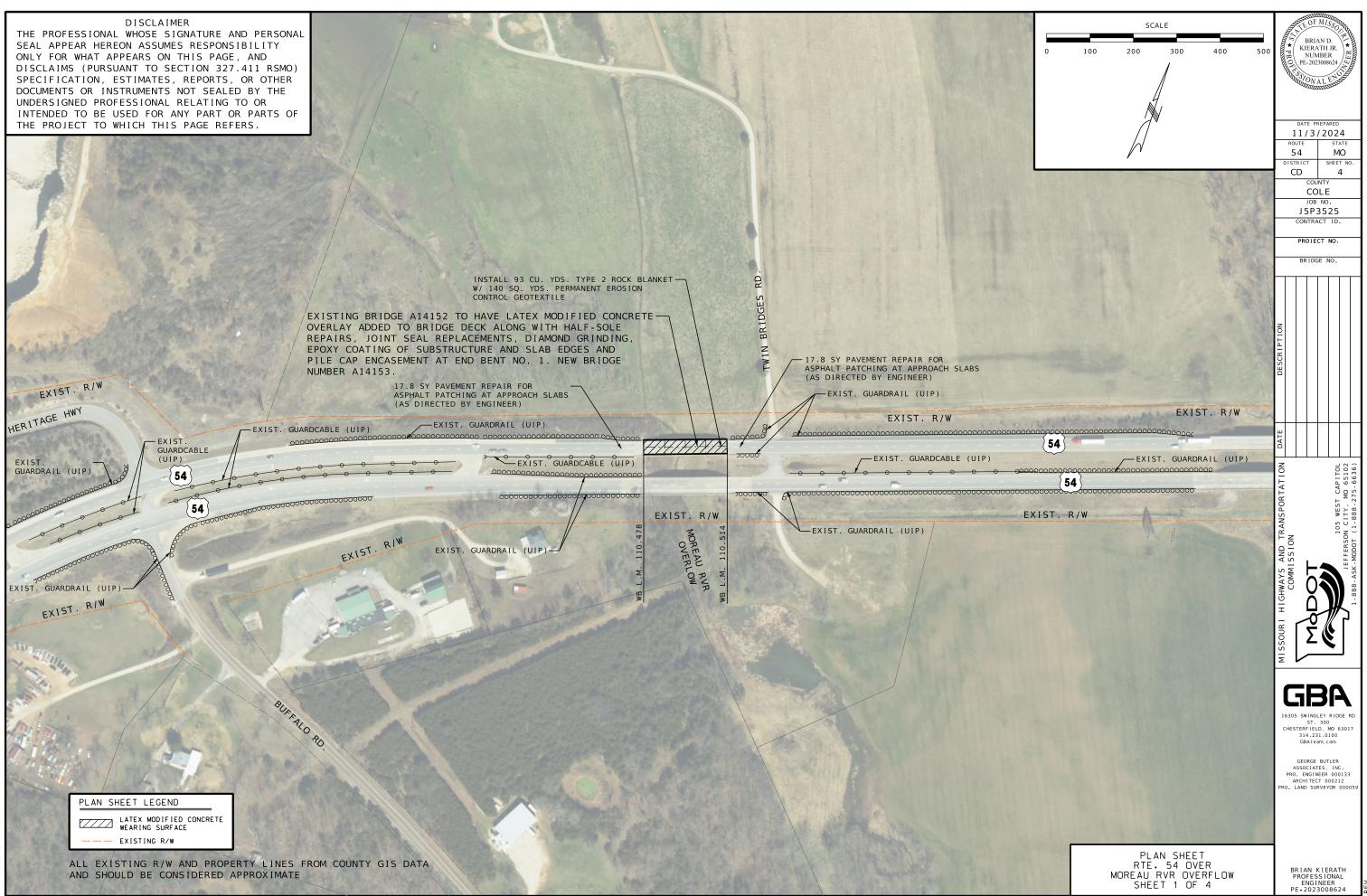
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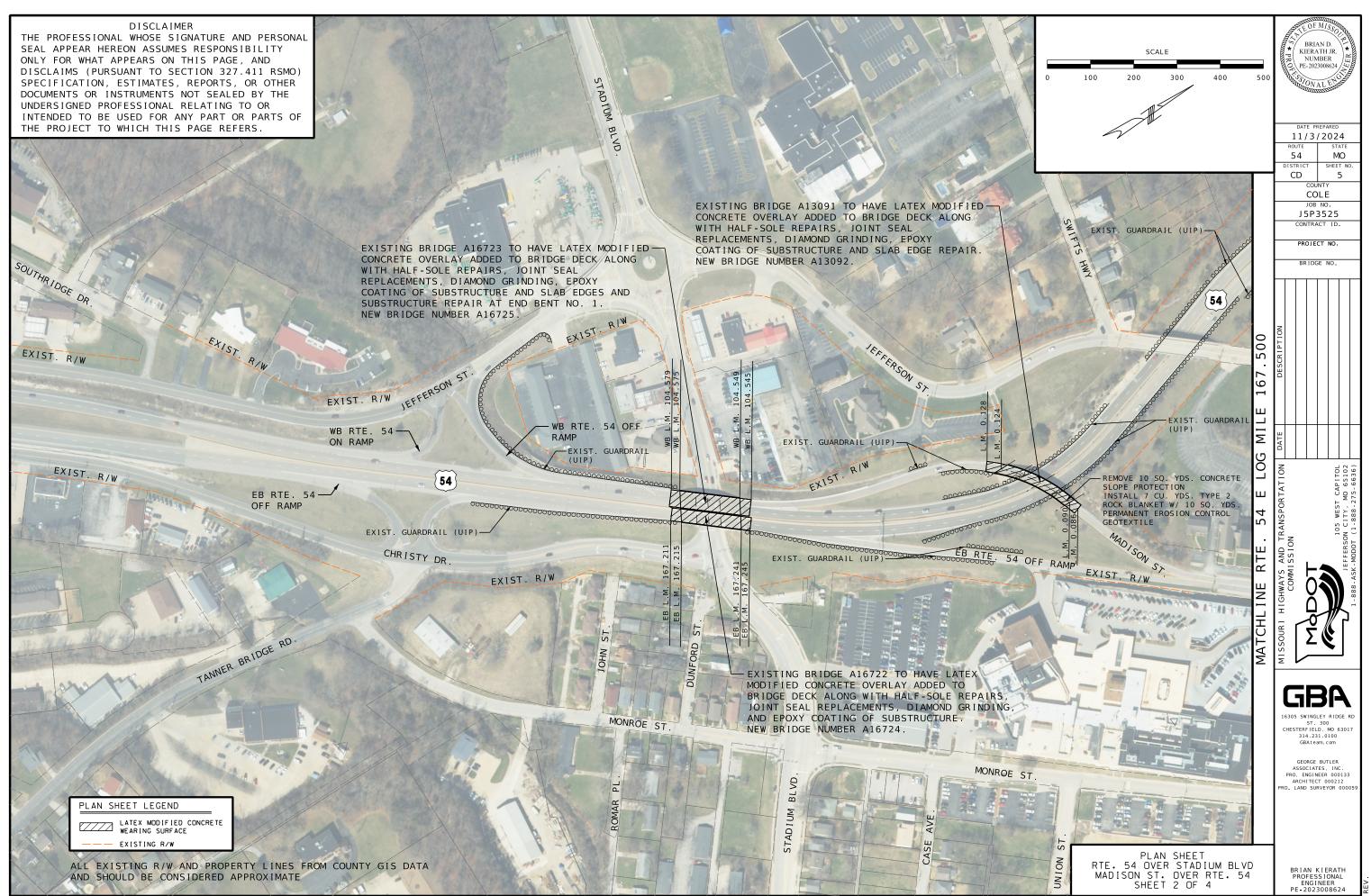
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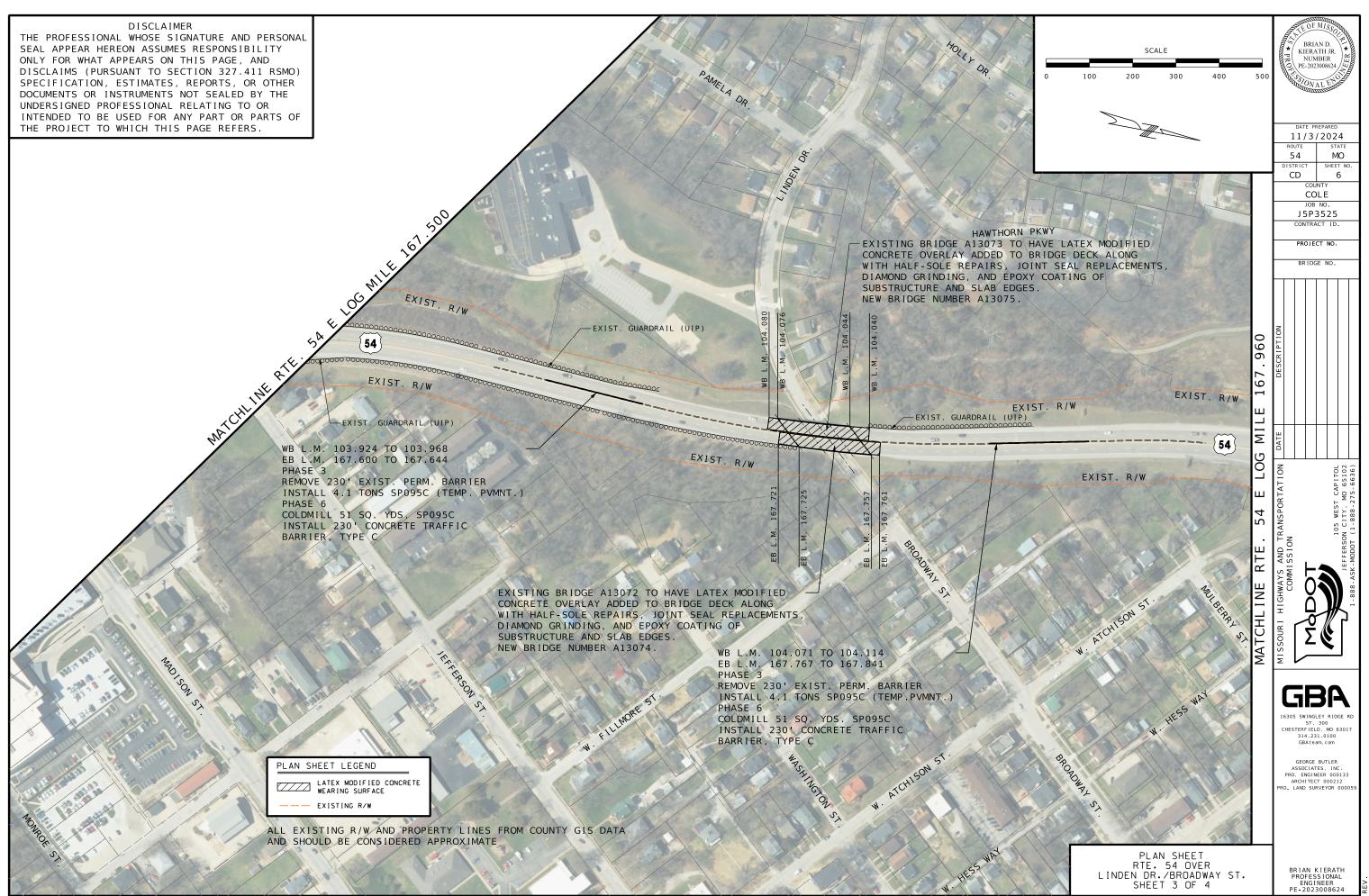
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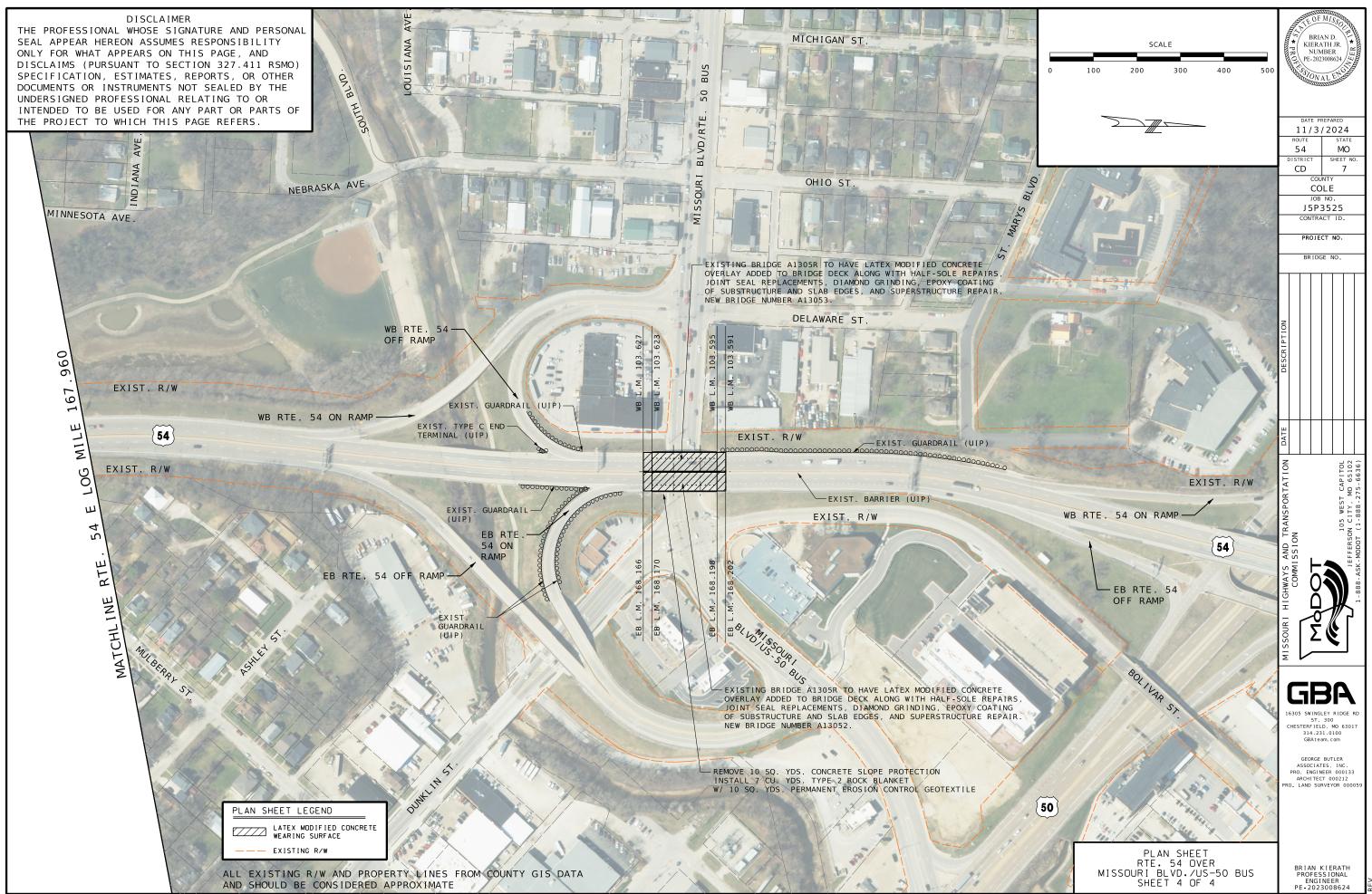
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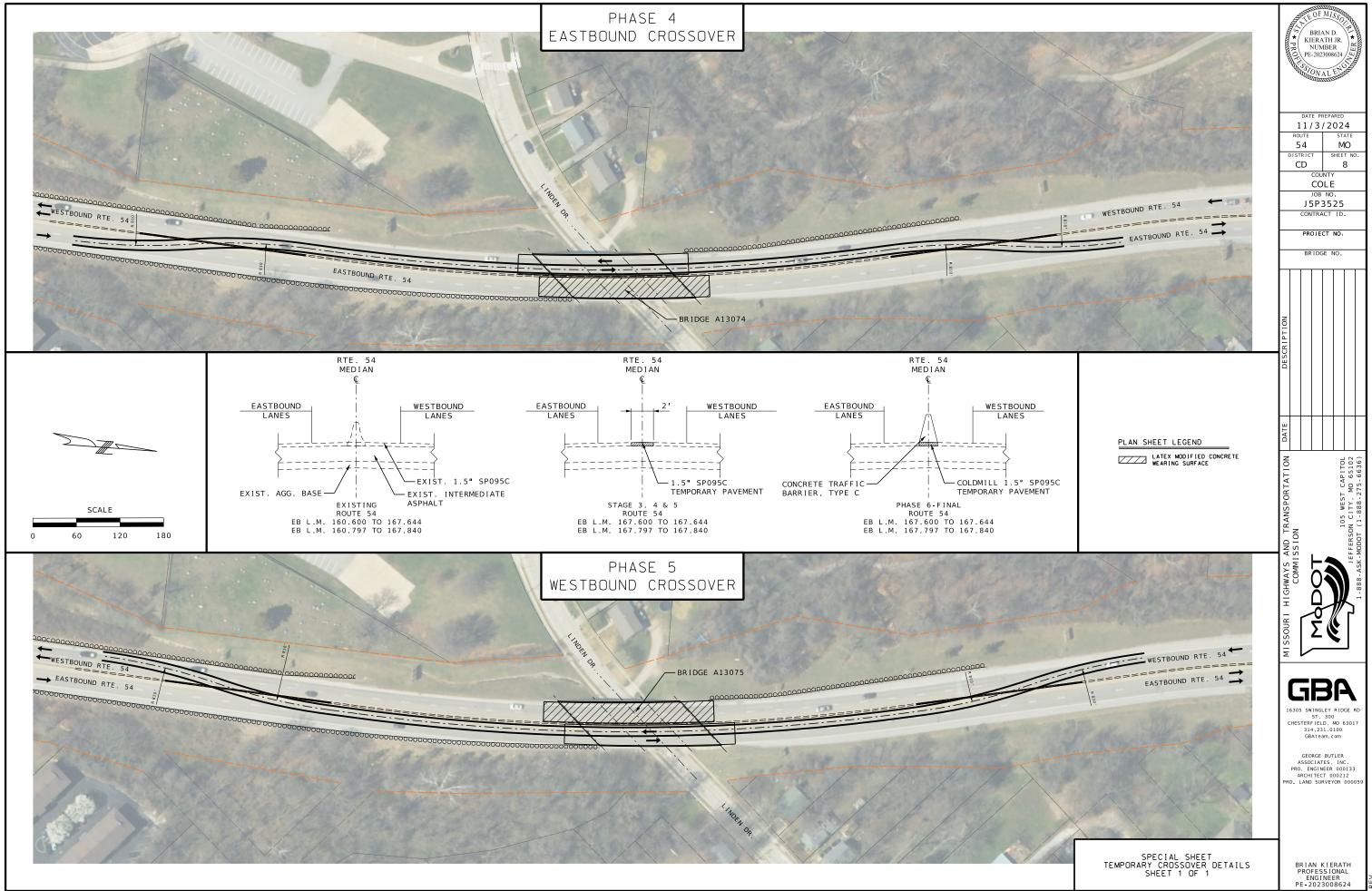
																		EFFECTIVE: 04-01-2024	
	SIZE	AREA	QTY TOTAL	QTY TOTAL	SIGN			SIZ	ZE AREA	QTY	TOTAL	QTY	TOTAL	SIGN					
SIGN		SQ.FT.	EACH AREA	RELOC RELOC	NUM.		SIGN		I. SQ.FT			RELOC		NUM.	DESCRIPTION	I TEM	TOTAL	DESCRIPTION	
			SQ.FT.								SQ.FT.	EACH	SQ.FT.			NUMBER	QTY		
WO1-1L	10710	_	ARNING SIGNS		1	TURN (SYMBOL LEFT)	E05 1	36V/	48 12.00		SIGNS				GORE EXIT	6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)	4
WO1 - 1E						TURN (SYMBOL RIGHT)			36 12.00					_	EXIT OPEN	6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)	-
WO1 - 2L						CURVE (SYMBOL LEFT)		_	36 12.00					_	EXIT CLOSED	6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)	
WO1 - 2R						CURVE (SYMBOL RIGHT)			24 10.00						ROAD WORK NEXT XX MILES	6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)	DATE PREPARED
WO1-3L WO1-3R						REVERSE TURN (SYMBOL LEFT) REVERSE TURN (SYMBOL RIGHT)			24 8.00 18 4.50		32.00	16	128.00		END ROAD WORK PILOT CAR FOLLOW ME	6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS) IMPACT ATTENUATOR 65 MPH (SAND BARRELS)	11/5/2024
WO1-3K			4 64.00	2 32.00	15L	REVERSE CURVE (SYMBOL LEFT)	GO20 - 4a								PILOT CAR TOLLOW ME	_		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)	ROUTE STATE 54 MO
WO1 - 4R						REVERSE CURVE (SYMBOL RIGHT)	GO20-4a	_							PILOT CAR IN USE WAIT & FOLLOW	_		REPLACEMENT SAND BARREL	DISTRICT SHEET NO.
WO1-4bL						DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)	GO20 - 5 a P				48.00				WORK ZONE (PLAQUE)	6122030		IMPACT ATTENUATOR (RELOCATION)	CD 3
WO1-4bR WO1-4cL						DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT) TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)			36 12.00		6.00	2	6.00		END DETOUR DETOUR (LEFT)	6122040		WORK ZONE CRASH CUSHION (NARROW) ADVANCED WARNING RAIL SYSTEM	COLE
WO1-4cE						TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)			36 12.00						DETOUR (RIGHT)	6161012		BUOYS (BOATS KEEP OUT)	JOB NO.
WO1-6	60X30	12.50				HORIZONTAL ARROW (SYMBOL)	MO4-9P	48X1	12 4.00						STREET NAME (PLAQUE)	6161013		BUOYS (NO WAKE)	J5P3525 CONTRACT ID.
		18.00	3 54.00	3 54.00	16	HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)	MO4 - 10L	_							DETOUR ARROW (LEFT)	6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)	
WO1 - 7a	60X30					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL) DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)	MO4 - 10R	1 48X]			DRY SIG	NS.			DETOUR ARROW (RIGHT)	6161025		CHANNELIZER (TRIM LINE) TYPE III MOVEABLE BARRICADE	PROJECT NO.
						CHEVRON (SYMBOL)	R1-1	48X4	48 13.25	_	JK1 310				STOP	6161033		DIRECTION INDICATOR BARRICADE	BRIDGE NO.
WO1-8a	30X36	7.50				CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)	R1-2	48TR	RI. 6.93						YIELD	6161040	2	FLASHING ARROW PANEL	
	48X48					STOP AHEAD (SYMBOL)	R1-2a	_	36 9.00					_	TO ONCOMING TRAFFIC (PLAQUE)	6161047		TYPE III OBJECT MARKER	
	48X48 48X48					YIELD AHEAD (SYMBOL) SIGNAL AHEAD (SYMBOL)	R1-3P R2-1		12 2.50 48 12.00		120 00	16	192 00		ALL WAY (PLAQUE) SPEED LIMIT XX	6161055 6161070		SEQUENTIAL FLASHING WARNING LIGHT TUBULAR MARKER	$\{ \! \{ \! \{ \! \} \! \} \mid \{ \! \} \mid $
	48X48					BE PREPARED TO STOP	R3-1		48 16.00		64.00				NO RIGHT TURN (SYMBOL)	6161070		RADAR SPEED ADVISORY SYSTEM	$1 \mid 1 \mid 1 \mid 1 \mid 1 \mid 1 \mid 1$
	48X48					SPEED LIMIT AHEAD	R3-2	_	48 16 .00						NO LEFT TURN (SYMBOL)	6161096		CHANGEABLE MESSAGE SIGN,	1 8
WO4 - 1L						MERGE (SYMBOL FROM LEFT)	R3-3		36 9.00						NO TURNS	1 2101036		COMMISSION FURNISHED/RETAINED	∄ Ĕ
WO4-1R WO4-1aL			2 32.00	1 16.00	6.4	MERGE (SYMBOL FROM RIGHT) MERGE (LEFT)	R3-4 R3-7L		30 6.25		12.50	2	12 50		NO U-TURN (SYMBOL) LEFT LANE MUST TURN LEFT	- 6161098A		CHANGEABLE MESSAGE SIGN W/O COMM. INTERFACE - CONTRACTOR FURNISHED/RETAINED	
			2 32.00			MERGE (RIGHT)	R3-7E		30 6.25		12.50				RIGHT LANE MUST TURN RIGHT	1		CHANGEABLE MESSAGE SIGN WITH COMM.	
	48X48					ROAD/BRIDGE/RAMP NARROWS	R4-1		48 12.00						DO NOT PASS	6161099	12	INTERFACE - CONTRACTOR FURNISHED/RETAINED	
	48X48					ONE LANE BRIDGE	R4-2	_	48 12.00						PASS WITH CARE	6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM	1
	48X48 48X48					NARROW LANES DIVIDED HIGHWAY (SYMBOL)	R4-7a R4-8a	_	48 12.00 48 12.00						KEEP RIGHT (HORIZONTAL ARROW) KEEP LEFT (HORIZONTAL ARROW)	6162002	20	TEMPORARY LONG-TERM RUMBLE STRIPS TEMPORARY TRAFFIC BARRIER, ANCHORED	$\{ \! \! \mid \ \ \mid \ \ \mid \ \ \mid \ \ \mid \ \ $
	48X48					DIVIDED HIGHWAY END (SYMBOL)	R5 - 1		30 6.25		12.50	2	12.50		DO NOT ENTER	- 6173700E	575	CONTRACTOR FURNISHED/RETAINED	
WO6 - 3	48X48	16.00	4 64.00	3 48.00	31	TWO WAY TRAFFIC (SYMBOL)	R5-1a	36X2	24 6.00						WRONG WAY	61736000	688	TEMPORARY TRAFFIC BARRIER	
	30X24					NEXT XX MILES (PLAQUE)	R6-1L		18 6.75						ONE WAY ARROW (LEFT)			CONTRACTOR FURNISHED/RETAINED	
WO8 - 1	48X48 48X48					BUMP DIP	R6-1R R6-2L		18 6.75 30 5.00						ONE WAY ARROW (RIGHT) ONE WAY (LEFT)	61740004		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION RELOCATING TEMPORARY TRAFFIC	Z = 200
	48X48					PAVEMENT ENDS	R6-2R		30 5.00						ONE WAY (RIGHT)	6175011E	663	BARRIER, ANCHORED	ID TRANSPORTATION SION 105 WEST CAPITOL ERSON CITY, MO 65102
	48X48					SOFT SHOULDER	R9-9	24X1	12 2.00						SIDEWALK CLOSED	6175010A	1,775	RELOCATING TEMPORARY TRAFFIC BARRIER	CAP TA-
	48X48	_				SLIPPERY WHEN WET (SYMBOL)	R9-11L	24X1	18 3.00						SIDEWALK CLOSED AHEAD,	6177000E	:	TEMP. TRAFFIC BARRIER HEIGHT TRANSITION	OR ST
WO8-6c	48X48	_				TRUCK CROSSING TRUCK ENTRANCE									(ARROW LEFT) CROSS HERE SIDEWALK CLOSED AHEAD,	62080644	. **	COMMISSION FURNISHED/RETAINED TEMPORARY RAISED PAVEMENT MARKER	NSR WE
	36X36					LOOSE GRAVEL	R9-11R	24X1	3.00						(ARROW RIGHT) CROSS HERE	9029400	11111	TEMPORARY TRAFFIC SIGNALS	A
WO8-7a						FRESH OIL / LOOSE GRAVEL			36 6.00						STOP HERE ON RED (45^ ARROW)	9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING	T ON I ON
WO8 - 9 WO8 - 11						LOW SHOULDER UNEVEN LANES	R11-2	48X3	30 10.00	7	70.00				ROAD CLOSED XX MILES AHEAD	6209076	**	TEMPORARY REMOVABLE MARKING PAINT 4 IN.	SS
WO8-11 WO8-12	-					NO CENTER LINE	R11-3a	60X3	30 12.50						LOCAL TRAFFIC ONLY	6207001		PAVEMENT MARKING REMOVAL	SY SY
WO8 - 15	48X48	16.00				GROOVED PAVEMENT	R11-4	60X3	30 12.50) 1	12.50			58	ROAD CLOSED TO THRU TRAFFIC			**SEE QUANTITIES ON PREVIOUS SHEET	f ≨ 8 0
WO8 - 15P		_				MOTORCYCLE (PLAQUE)	CONST - 3A	4 60X4	48 20.00		EQUAL ST	CNS			FINE SIGN	4			
WO8 - 17L WO8 - 17R	-					SHOULDER DROP-OFF (SYMBOL LEFT) SHOULDER DROP-OFF (SYMBOL RIGHT)	CONST - 5	48X			EOUS SI	GNS			POINT OF PRESENCE	\dashv			
WO8 - 17R	-					SHOULDER DROP-OFF (PLAQUE)	CONST - 5				128.00				POINT OF PRESENCE	1			
W10-1	42RND	9.62				RAILROAD CROSSING	CONST - 7	48X2	24 8.00						RATE OUR WORK ZONE				Si 4 &
WO12-1		_				DOUBLE DOWN ARROW (SYMBOL)	CONST - 7	_			06.00				RATE OUR WORK ZONE	4			
WO12-2 W012-2x	-					LOW CLEARANCE (SYMBOL) LOW CLEARANCE (PLAOUE)	CONST-8 SPECIAL	_							WORK ZONE NO PHONE ZONE DETOUR ROUTE SIGN ASSEMBLY	\dashv			<u> </u>
WO12-2X		_				OVERHEAD LOW CLEARANCE (FEET AND INCHES)	SPECIAL	_							RUMBLE STRIPS AHEAD	1			
WO12-4	120X60	50.00				LOW CLEARANCE XX FT XX IN XX MILES AHEAD	SPECIAL	. 48X4	48 16.00) 3	48.00	3	48.00	70*	RUMBLE STRIPS AHEAD (SQUARE)				
WO12-5		_	6 37.50	1 2 12 52	4.4	WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD	WO24-1R								DOUBLE REVERSE CURVE (RIGHT)	4			16305 CWINGLEY 31305
WO13-1	-		6 37.50	2 12.50	44	ADVISORY SPEED (PLAQUE) XXX FEET (PLAQUE)	WO4-1aR								MERGE (RIGHT) (SQUARE) ROAD/BRIDGE/RAMP WORK AHEAD	-			16305 SWINGLEY RIDGE RD ST. 300 CHESTERFIELD, MO 63017
WO16-3		_				X MILE (PLAQUE)	WO20-1	48X4	16.00		16.00	3	48.00	2*	(SQUARE)				314.231.0100 GBAteam.com
			11 304.00			ROAD/BRIDGE/RAMP WORK AHEAD	WO20-5	48X4	48 16.00	3	48.00	5	80.00	5*	RIGHT/CENTER/LEFT LANE CLOSED				35.77.50.77.50.77
WO20-2 WO20-3		_	3 48.00 1 16.00			ROAD CLOSED AHEAD									AHEAD (SQUARE) RIGHT/CENTER/LEFT LANE CLOSED	\dashv			GEORGE BUTLER ASSOCIATES, INC.
WO20-3			1 10.00	1 16.00	20	ONE LANE ROAD AHEAD	WO20-6a	48X4	48 16.00	1	16.00	1	16.00	6*	(SQUARE)				PRO. ENGINEER 000133 ARCHITECT 000212
		_	3 48.00	9 144.00	5	RIGHT/CENTER/LEFT LANE CLOSED AHEAD	WO1 45	100	48 16.00		22 00			15*	REVERSE CURVE (SYMBOL RIGHT)	1			PRO. LAND SURVEYOR 00005
WO20-5a	-					2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD									(SQUARE)	_			
WO20-6a WO20-7a			2 32.00	8 128.00	6	RIGHT/CENTER/LEFT LANE CLOSED	SPECIAL								TAKE TURNS AT MERCE	4			
WO20 - 7a		_				FLAGGER (SYMBOL) FRESH OIL	SPECIAL								TAKE TURNS AT MERGE DURING BACKUPS USE BOTH LANES	\dashv			
		_	2 32.00		21	SHOULDER WORK / SHOULDER WORK AHEAD	SPECIAL	96X4	32.00	8	256.00	4	128.00		TAKE TURNS AT MERGE				4
WO22-1	-					BLASTING ZONE AHEAD	616-10				TOTAL					_		TEMPORARY TRAFFIC CONTROL	
WO22-2		_				TURN OFF 2-WAY RADIO AND PHONE	CONSTR			GNS	2,629	L	TOTAL					QUANTITIES	CHRISTOPHER NOVOSE PROFESSIONAL
WO22 - 3 GO22 - 1		_				END BLASTING ZONE WET PAINT (ARROW PIVOTS)	616-10 RELOCA						TOTAL 2,434					SHEET 3 OF 3	ENGINEER PE-2018024421
	-1/13	2.13				(/m//on 117015/	LILLOCA	・・・・・・	210112				_, ¬,			, ,		/ hehee\dms18944\003 OU 03 I5P3525 dan 9:07	

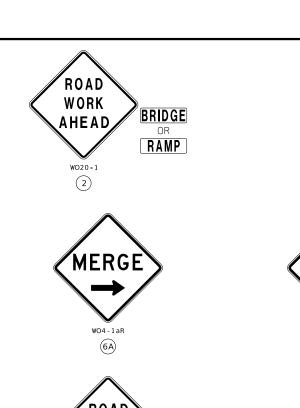














SPEED

LIMIT

R2-1

4



SPEED

LIMIT

R2-1

4B

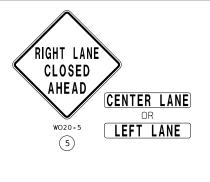


SPEED

LIMIT

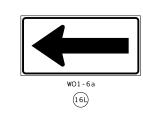
R2-1

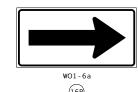
(4C)

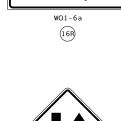














25

MPH

WO13-1

(44)



































11/5/2024

COLE ЈОВ NO. Ј5Р3525

CONTRACT ID. PROJECT NO. BRIDGE NO.

MO

SHEET NO.

9

54

DISTRICT

CD

GBA 16305 SWINGLEY RIDGE F ST. 300 CHESTERFIELD, MO 63017 314.231.0100 GBAteam.com GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 0000

CHRISTOPHER NOVOSE PROFESSIONAL ENGINEER PE-2018024421

SIGNING LEGEND SHEET 1 OF 1

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ROAD WORK **AHEAD**

- 11.375 - -- 25.25

WO20-1 SHF-FLAT SHEET FLUORESCENT; 3.000" Radlus, 1.000" Border, 0.750" Indent, Black on, Orange; "ROAD", D; "WORK", D; "AHEAD", D;

RIGHT LANE **CLOSED AHEAD**

4.875	18.5	4 4	15.625	4.875
	.L	4.125	J.	
· 11.625		— 24.75 —		- 11.625
13.5		21	—₩—	- 13.5
k		48		,

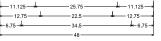
WO20-5 SHF-FLAT SHEET FLUORESCENT; 3.000" Radius, 1.000" Border, 0.750" Indent, Black on, Orange; "RIGHT LANE", C; "CLOSED", C; "AHEAD", C; Table of letter and object lefts

R I G H T 4.875 9.500 11.625 16.125 20.375

LEFT



RIGHT LANE CLOSED

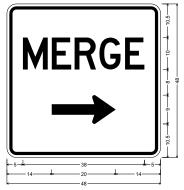


WO20-6a SHF-FLAT SHEET FLUORESCENT; 3.000" Radius, 1.000" Border, 0.750" Indent, Black on, Orange; "RIGHT", D; "LANE", D; "CLOSED", D

R I G H T 11.125 17.500 20.250 26.625 32.625 C L 0 S E D 6.750 12.750 18.375 24.625 31.000 36.500

LEFT

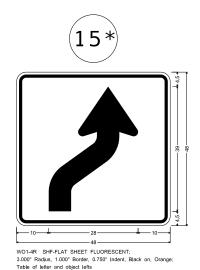




WO4-1aR SHF-FLAT SHEET FLUORESCENT: Non-Tan Sin-Tanter Troubles Control Solid No. 3000° Radius, 1.000° Border, 0.750° Indent, Black on, Orange; "MERGE", D 55% spacing; Standard Arrow Custom 20.000° X 9.000° 0; Table of letter and object lefts

M E R G E 5.000 14.000 21.125 28.875 36.875





RUMBLE **STRIPS AHEAD** -- 65.375 --SPECIAL SHF-FLAT SHEET FLUORESCENT:
48.000" across sides 3.000" Radius, 1.250" Border, 0.750" Indent, Black on, Orange;
"RUMBLE", C; "STRIPS", C; "AHEAD", C;
Table of letter and abited letter

Table of letter and object lefts

S T R I P S 19,500 24,625 29,250 34,500 37,000 42,000 A H E A D 20,375 26,000 31,250 35,625 41,125

RUMBLE STRIPS AHEAD -8,25 -L 8.25 -SPECIAL SHF-FLAT SHEET FLUORESCENT;

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SIGNING DETAIL SHEETS TRAFFIC CONTROL SIGNS SHEET 1 OF 1

CHRISTOPHER NOVOSEL PROFESSIONAL ENGINEER PE-2018024421

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ARCHITECT 000212
PRO. LAND SURVEYOR 0000

11/5/2024

JOB NO. J5P3525 CONTRACT ID.

PROJECT NO. BRIDGE NO.

MO

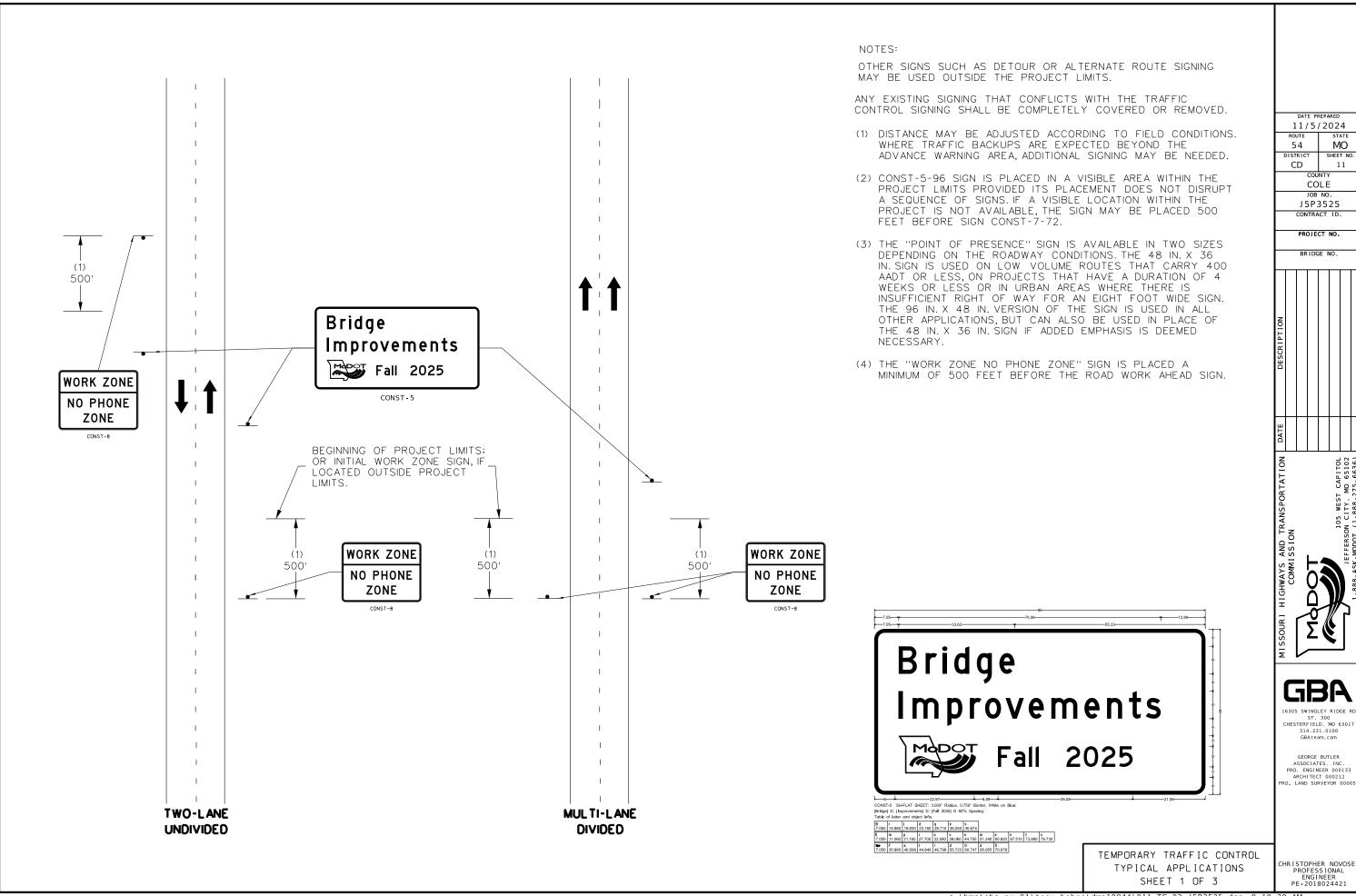
SHEET NO.

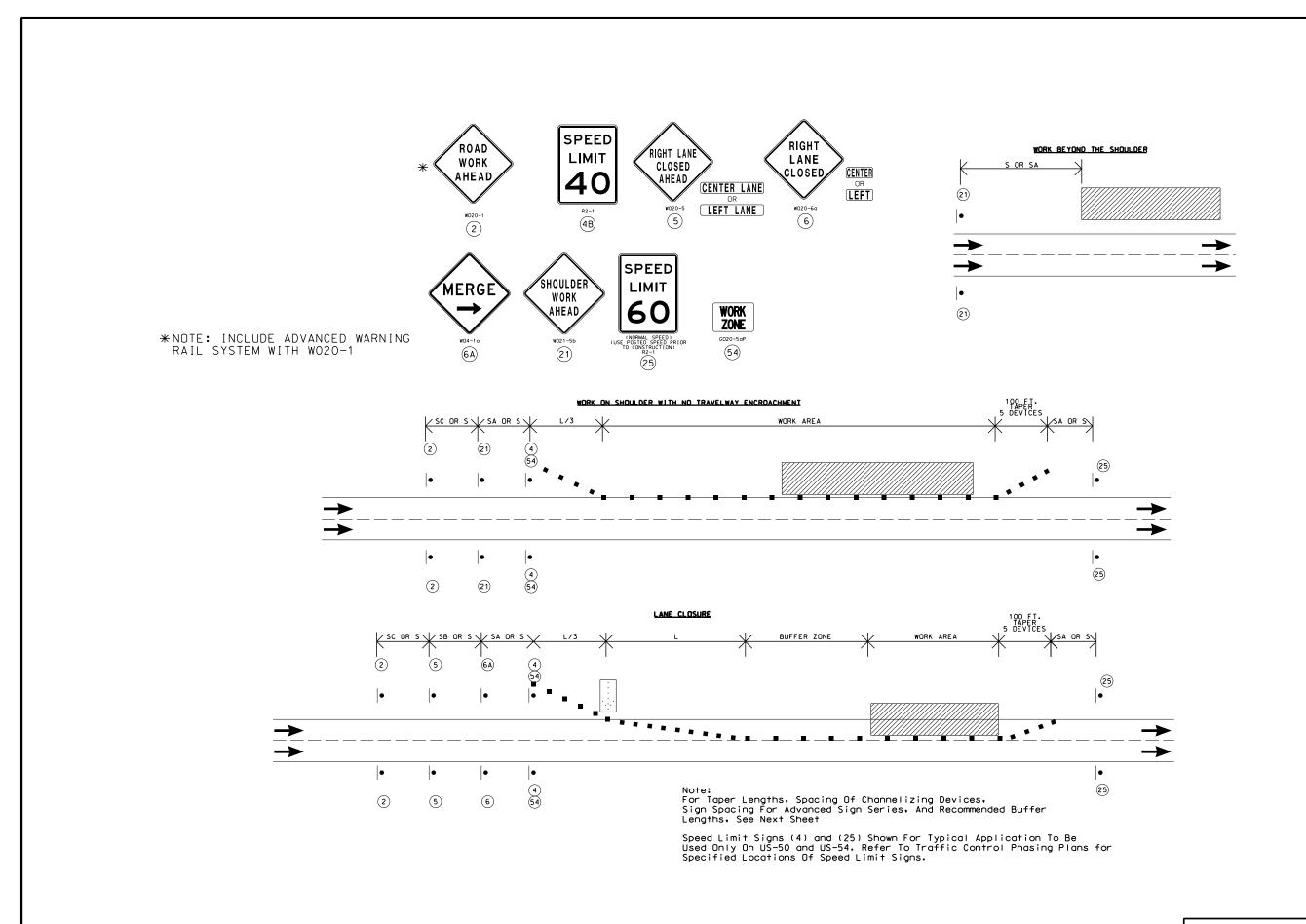
10 COUNTY COLE

54

DISTRICT

CD





11/5/2024 54 MO DISTRICT SHEET NO. CD 12 COLE ЈОВ NO. Ј5Р3525 CONTRACT ID. PROJECT NO. BRIDGE NO.

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TEMPORARY TRAFFIC CONTROL
TYPICAL APPLICATIONS
SHEET 2 OF 3

SPACING AND TAPER LENGTHS FOR WORK ZONE SIGNS, CHANNELIZERS AND CONCRETE BARRIER

SIGN SPAC	ING FOR ADVANC	E SIGN SERIES (1) (2)
PERMANENT		
POSTED SPEED	UNDIVIDED	DIVIDED
MPH	HIGHWAYS	HIGHWAYS
0-35	200′	200′
40-45	350′	500′
50-55	500′	1000′
60-70	1000′	SA - 1000' SB - 1500' SC - 2640'

TAPER LENGT	HS AND E	ND TREATE	EMENTS F	OR CONCRETE BARRIER
PERMANENT				
POSTED SPEED	MINIMUM L	ANE TAPER L	_ENGTH (3)	
MPH	10′	11′	12′	END TREATMENT (4)
<40	160′	168′	176′	BARRIER HEIGHT TRANSITION
>40	160′	168′	176′	APPROVED CRASH CUSHION

	TAPER LENGTHS AND SPACING FOR CHANNELIZERS											
PERMANENT				MINIMUM SH	IOULDER	BUFFER	MAXIMUM CHANNE	ELIZER SPACING				
POSTED SPEED	MINIMUM	LANE TAPE	R LENGTH	TAPER LE	NGTH	LENGTH	THROUGH	THROUGH				
MPH	10′	11′	12′	BASED ON 10'	SHOULDER	FT.	TAPER	WORK AREA				
0-35	205′	225′	245′	70′		280'	35 <i>'</i>	40′				
40-45	450′	495′	540′	150′		400 '	40′	80′				
50-55	550′	605′	660′	185′		560'	50′	80′				
60-70	700′	770′	840′	235′		840'	60′	120'				

NOTES:

- (1) SPACING BETWEEN SIGNS AND SPACING BETWEEN LAST SIGN AND FLAGGER, BEGINNING OF TAPER, OF SIGNED CONDITION.
- (2) SPACINGS MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS.
- (3) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER.
- (4) CONCRETE BARRIER MAY BE INSTALLED AT AND 8:1 FLARE RATE FROM THE SHOULDER POINT O THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER

DATE PREPARED

11/5/2024

ROUTE
54 MO

DISTRICT SHEET NO.
CD 13

COUNTY
COLE
JOB NO.
J5P3525
CONTRACT ID.

PROJECT NO.

BRIDGE NO.



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TEMPORARY TRAFFIC CONTROL
TYPICAL APPLICATIONS
SHEET 3 OF 3

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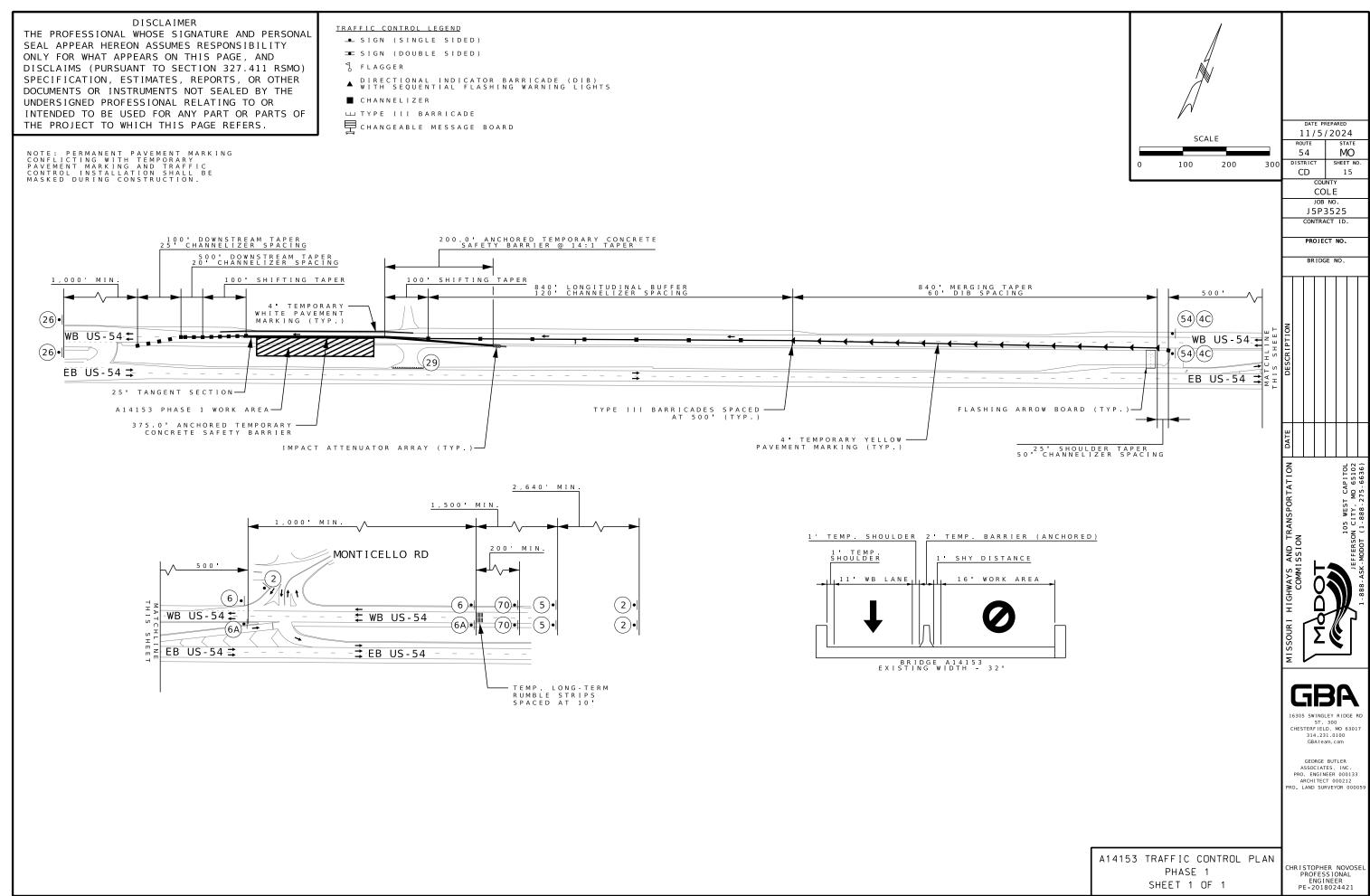
PHASE	BR I DGE (S)	WORK TO BE COMPLETED	SHEETS
PHASE 1	A14153	A14153 INNER LANE WORK	15
PHASE 2	A14153	A14153 OUTER LANE WORK	16
PHASE 3	A13074 A13075	REMOVAL OF BARRIER ON US-54.	12 (TYPICAL APPLICATION)
PHASE 4	A13074 A16724 A16725	BRIDGE WORK ON A13074, A16724, AND A16725 OVER US-54 EASTBOUND. TWO-WAY, TWO-LANE TRAFFIC TO BE CARRIED ON US-54 WESTBOUND LANES.	17 - 19 23 - 24
PHASE 5	A13075 A13092 A16724 A16725	BRIDGE WORK ON A13075 OVER LINDEN DR. TWO-WAY,TWO-LANE TRAFFIC TO BE CARRIED ON A13074. BRIDGE WORK ON A16724 AND A16725 OUTER LANES. A13092 TO BE CLOSED DURING CONSTRUCTION.	20 - 22 23 - 24
PHASE 6	A13074 A13075	REINSTALLATION OF BARRIER ON US-54.	12 (TYPICAL APPLICATION)
PHASE 7	A13052 A13053	INTERIOR LANE BRIDGE WORK ON A13052 AND A13053 OVER US-50 BUS.	25 - 28 33
PHASE 8	A13052 A13053	OUTER LANE BRIDGE WORK ON A13052 AND A13053 OVER US-50 BUS.	29 - 32 33
PHASE 9	A13052	PIER REPAIR ON A13052 OVER US-50 BUS.	12 (TYPICAL APPLICATION)

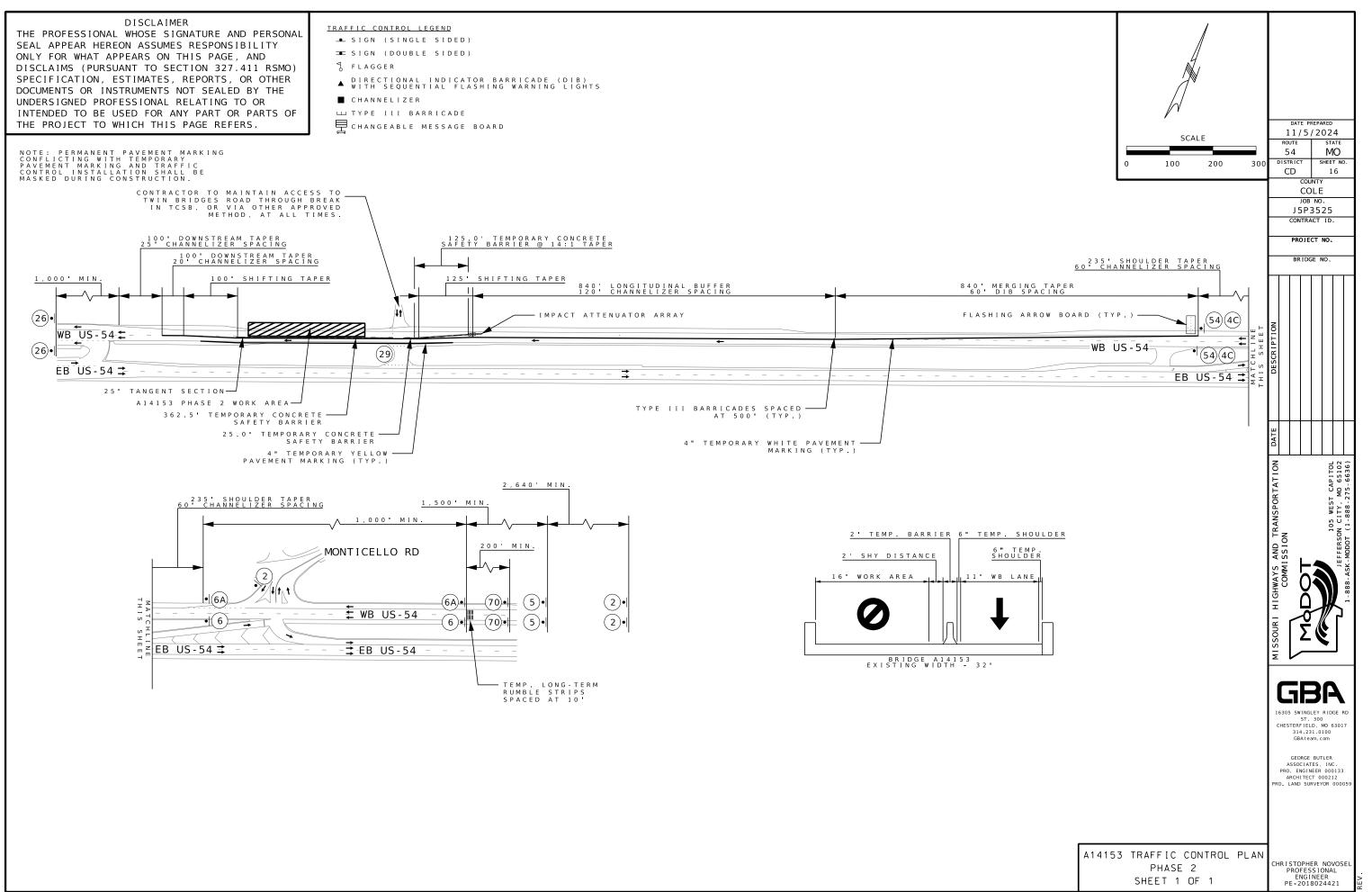
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DATE							
MISSOURI HIGHWAYS AND TRANSPORTATION	COMMISSION				105 WEST CAPITOL	JEFFERSON CITY, MO 65102	1-888-ASK-MODOT (1-888-275-6636)
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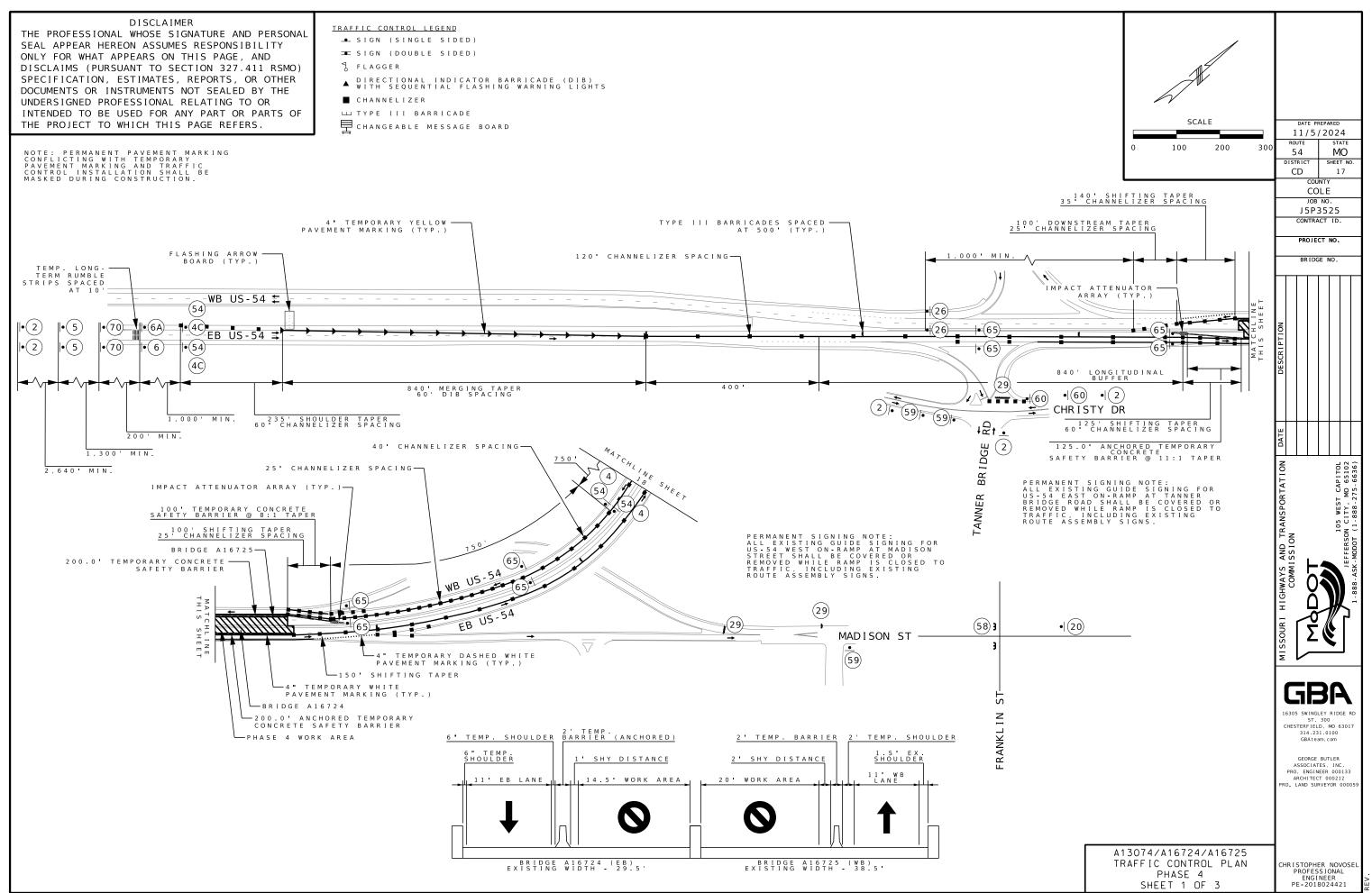
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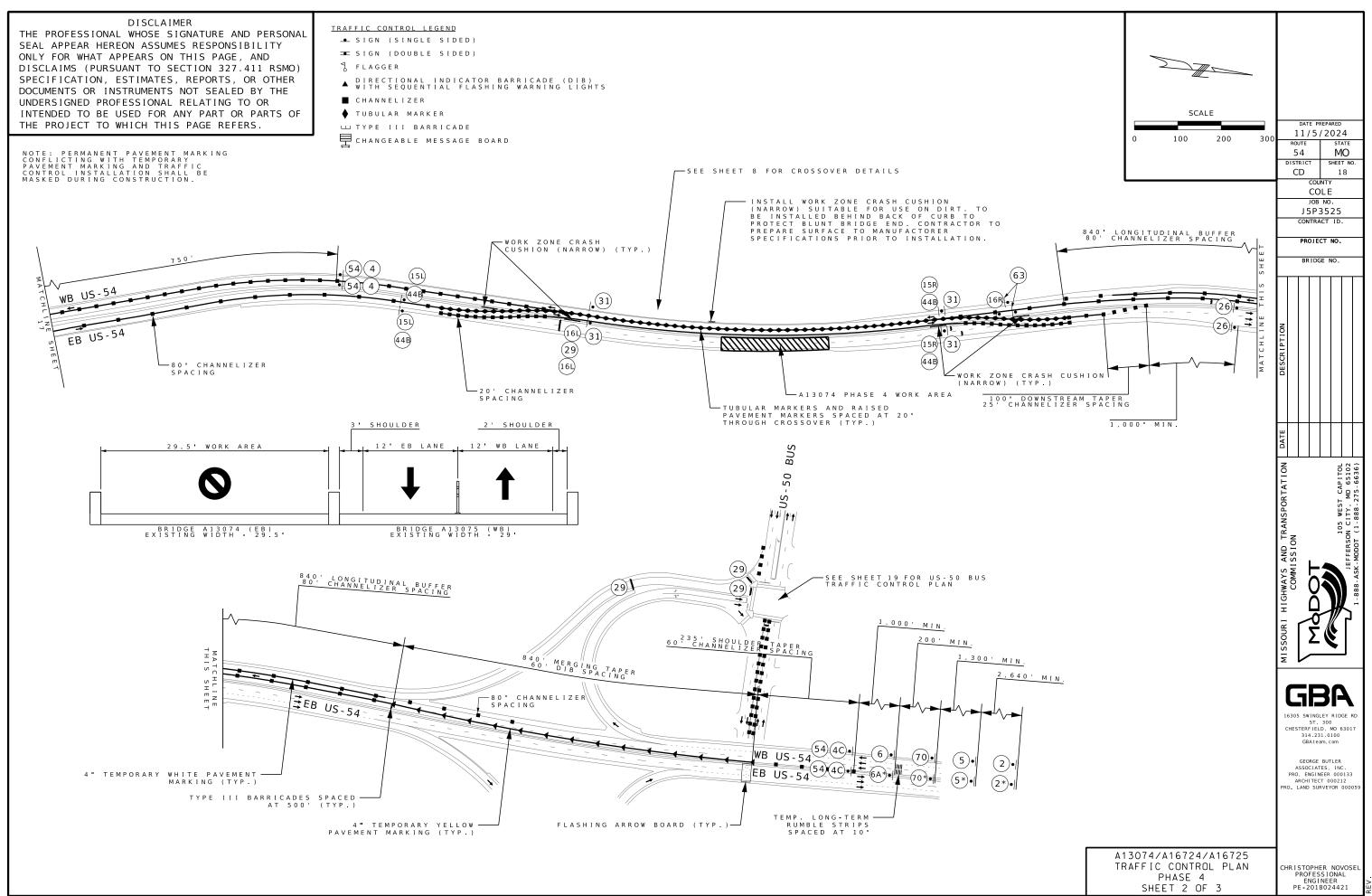
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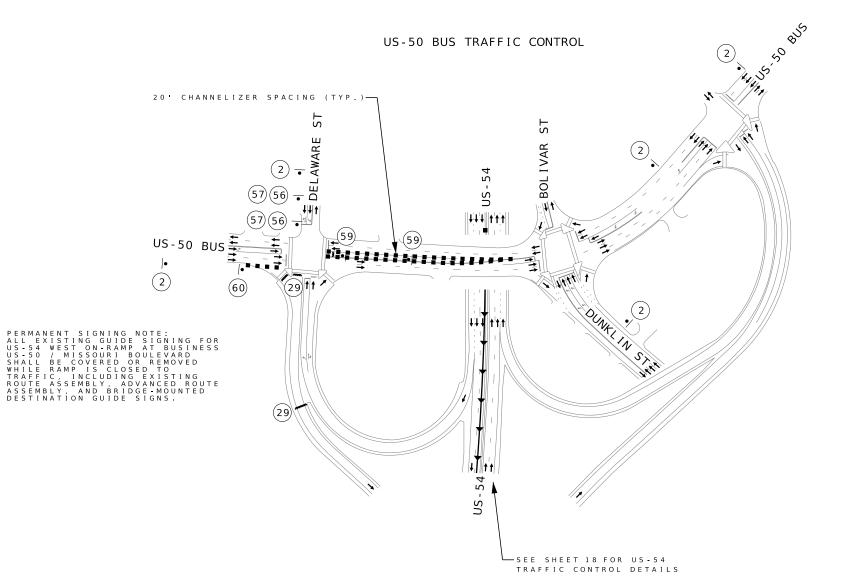
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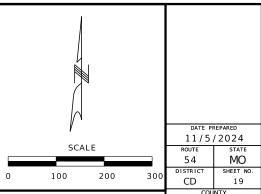
TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- SIGN (DOUBLE SIDED)
- ₹ FLAGGER
- ▲ DIRECTIONAL INDICATOR BARRICADE (DIB)
 WITH SEQUENTIAL FLASHING WARNING LIGHTS
- CHANNELIZER

□ TYPE III BARRICADE

H CHANGEABLE MESSAGE BOARD





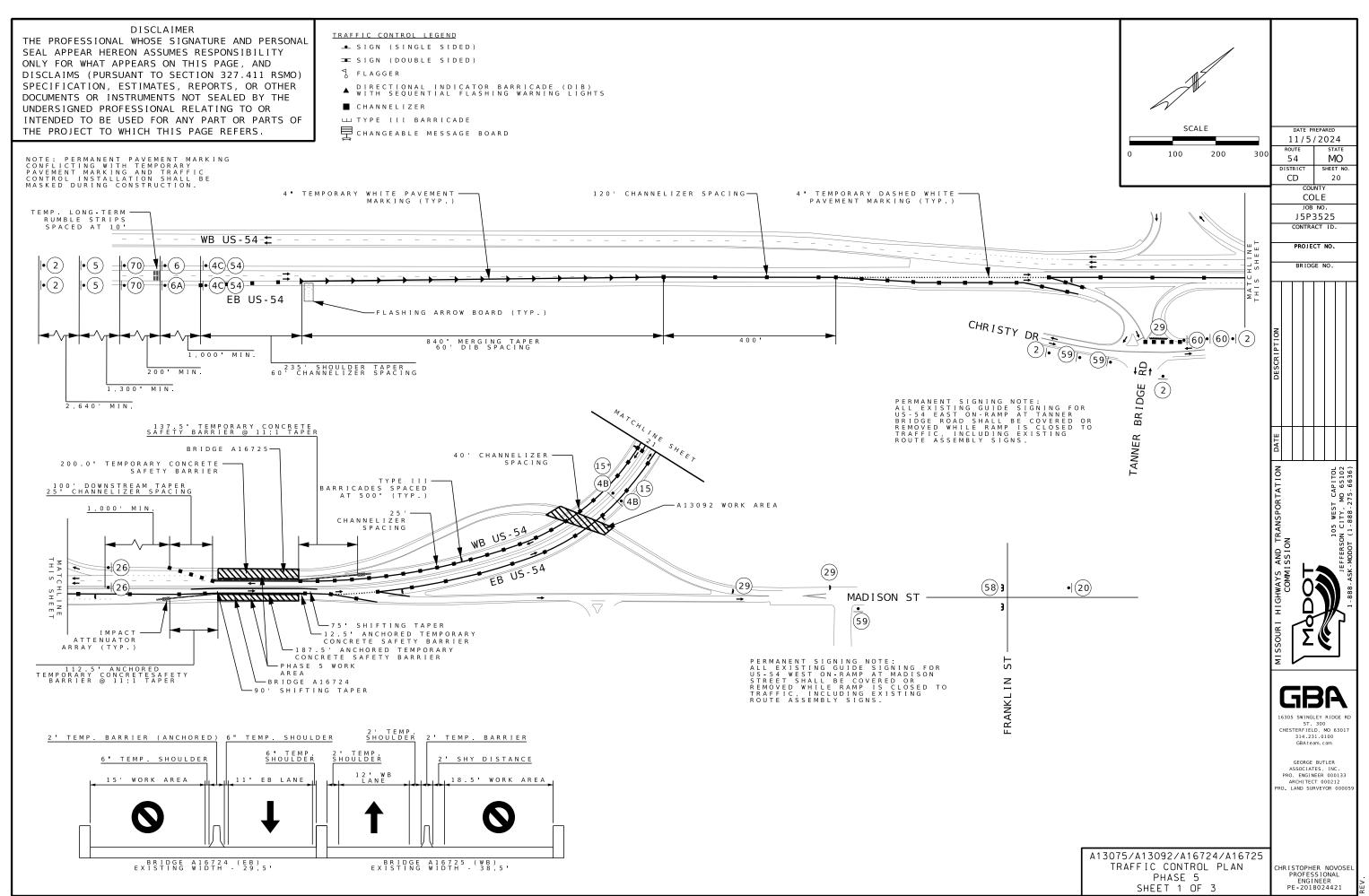
COLE JOB NO. J5P3525 CONTRACT ID. PROJECT NO. BRIDGE NO.

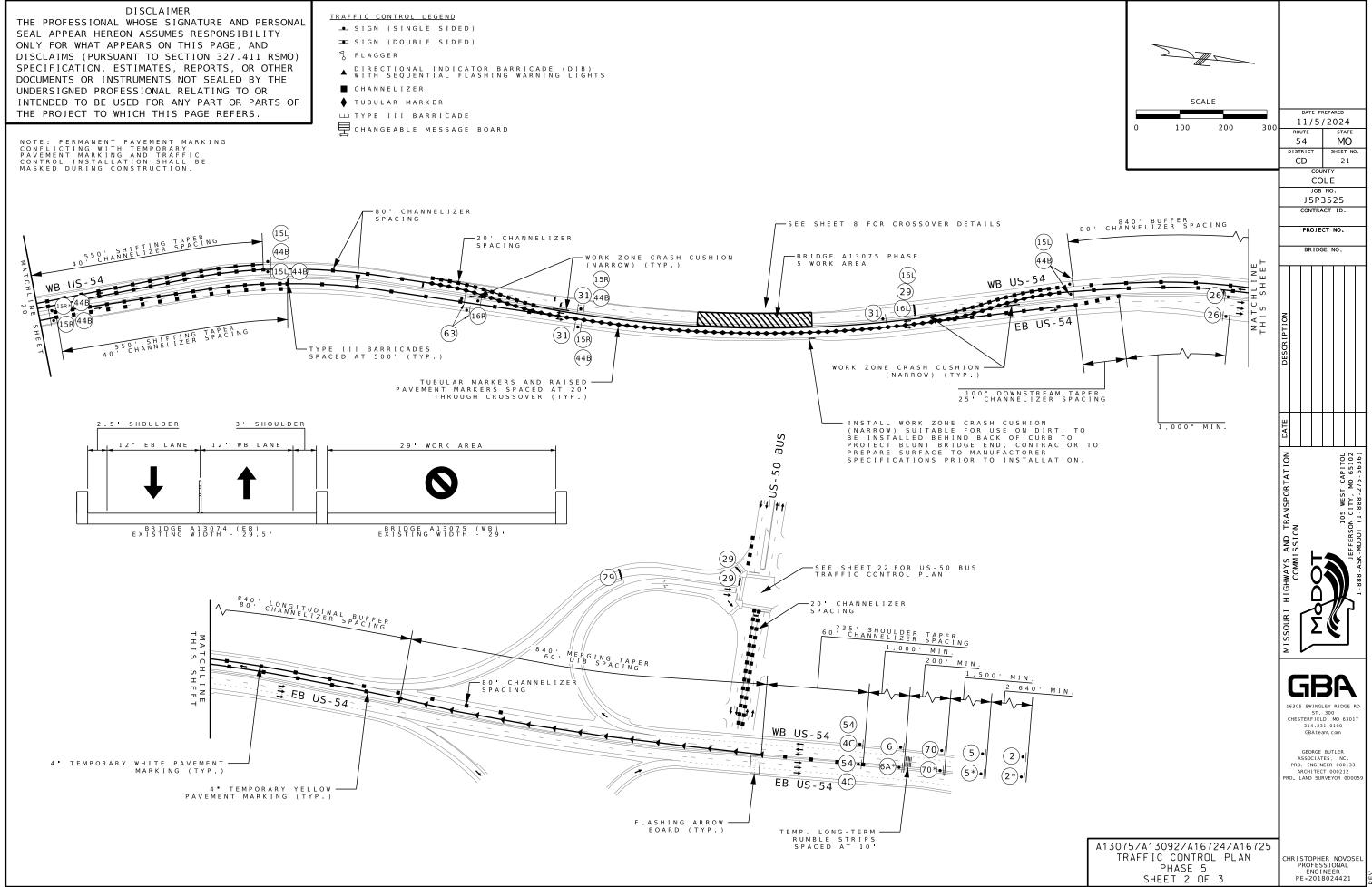
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A13074/A16724/A16725 TRAFFIC CONTROL PLAN CHRISTOPHER NOVOSEL PROFESSIONAL ENGINEER PE-2018024421

PHASE 4 SHEET 3 OF 3





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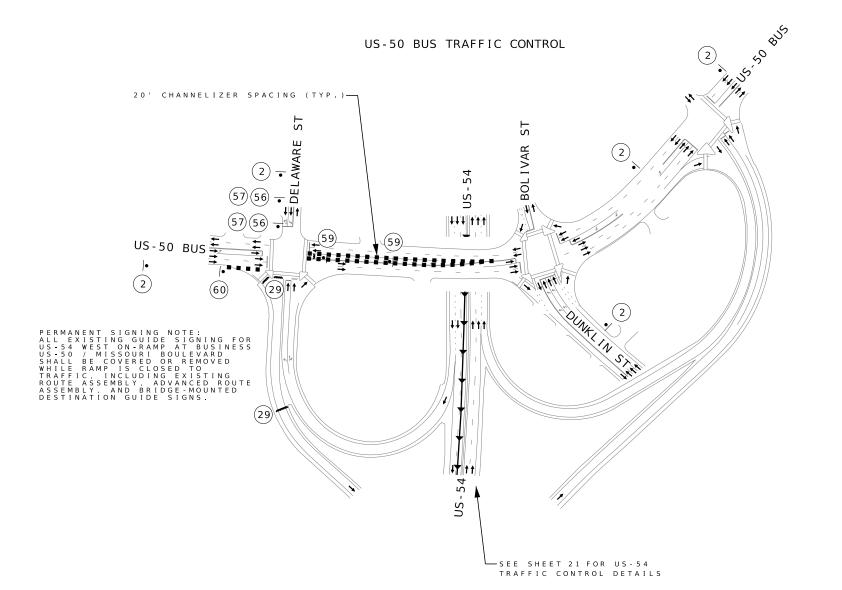
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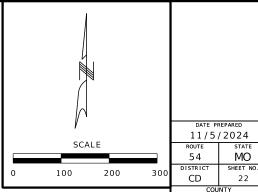
TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- SIGN (DOUBLE SIDED)
- ₹ FLAGGER
- ▲ DIRECTIONAL INDICATOR BARRICADE (DIB)
 WITH SEQUENTIAL FLASHING WARNING LIGHTS
- CHANNELIZER

□ TYPE III BARRICADE

H CHANGEABLE MESSAGE BOARD





COLE JOB NO. J5P3525 CONTRACT ID. PROJECT NO. BRIDGE NO.

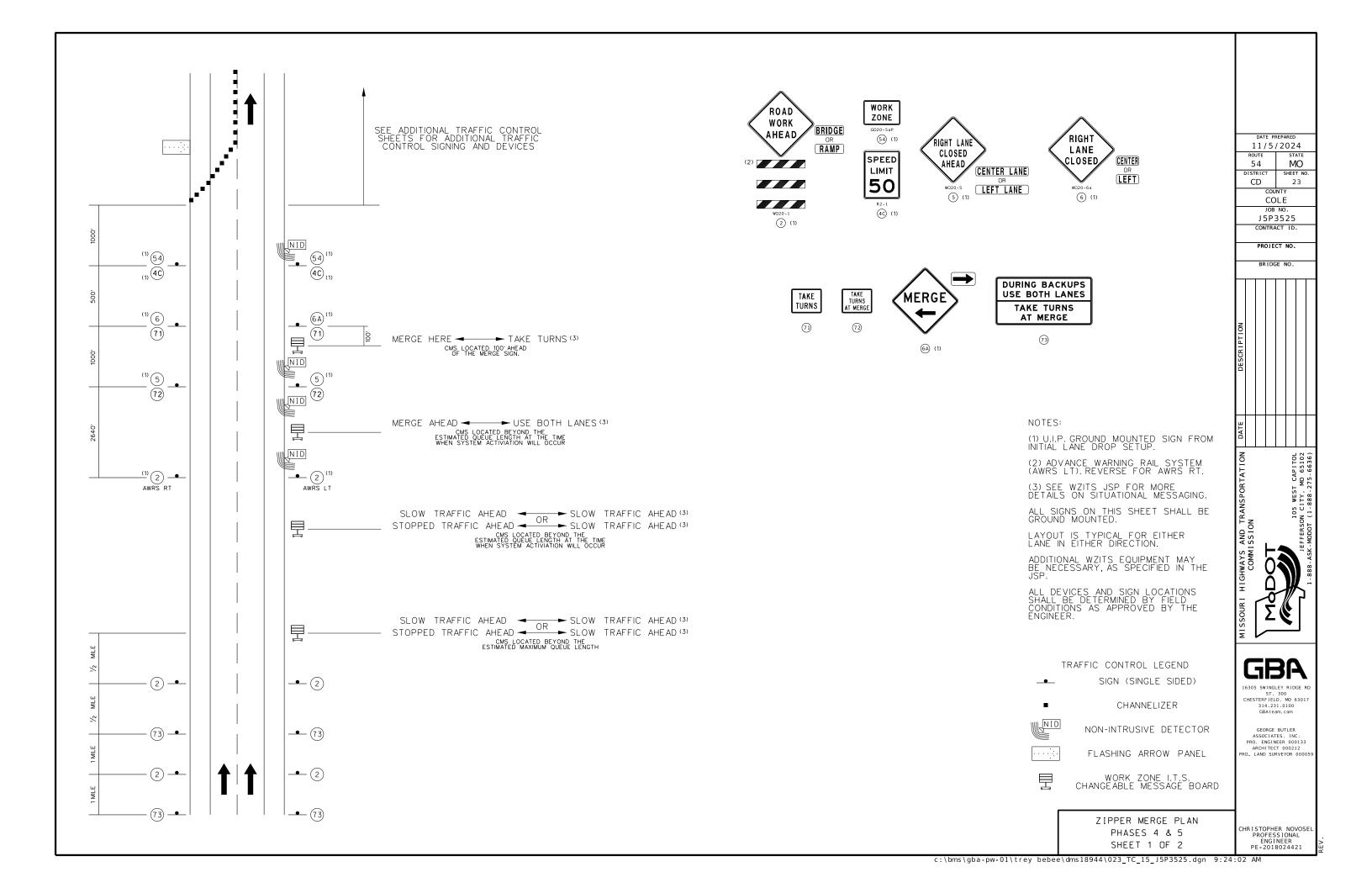
> **GBA** 16305 SWINGLEY RIDGE P

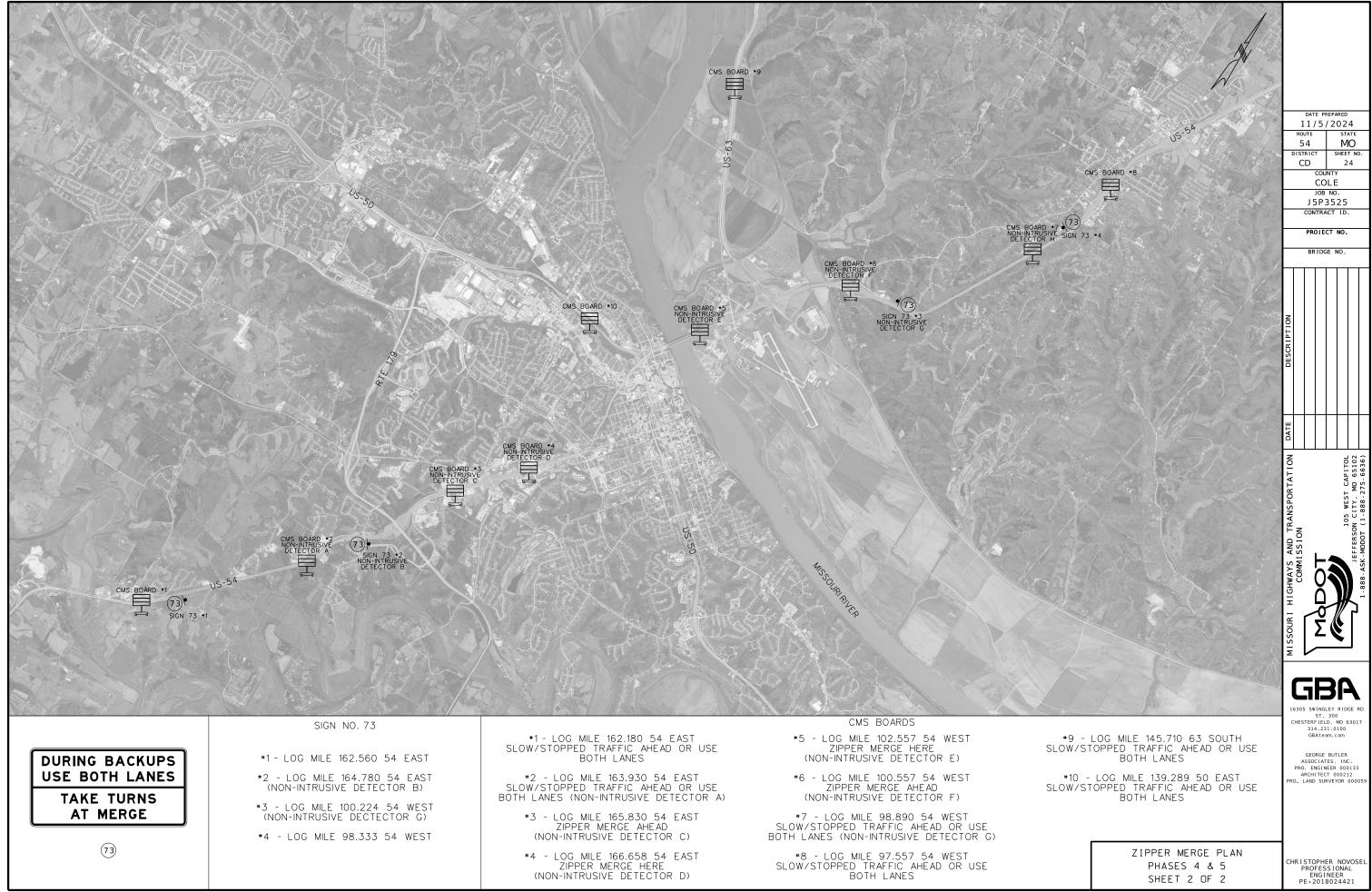
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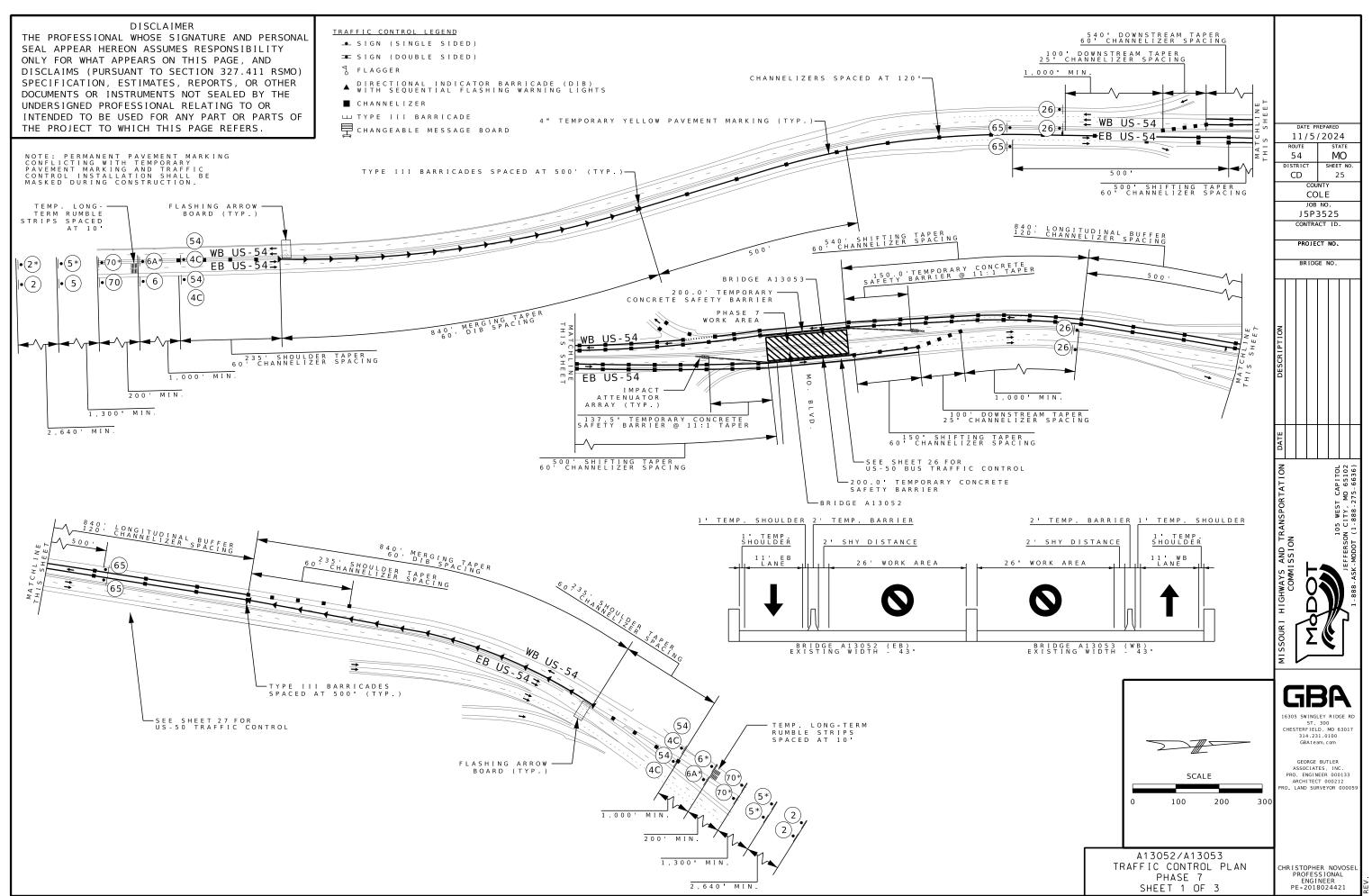
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A13075/A13092/A16724/A16725 TRAFFIC CONTROL PLAN CHRISTOPHER NOVOSEL PROFESSIONAL ENGINEER PE-2018024421

PHASE 5 SHEET 3 OF 3

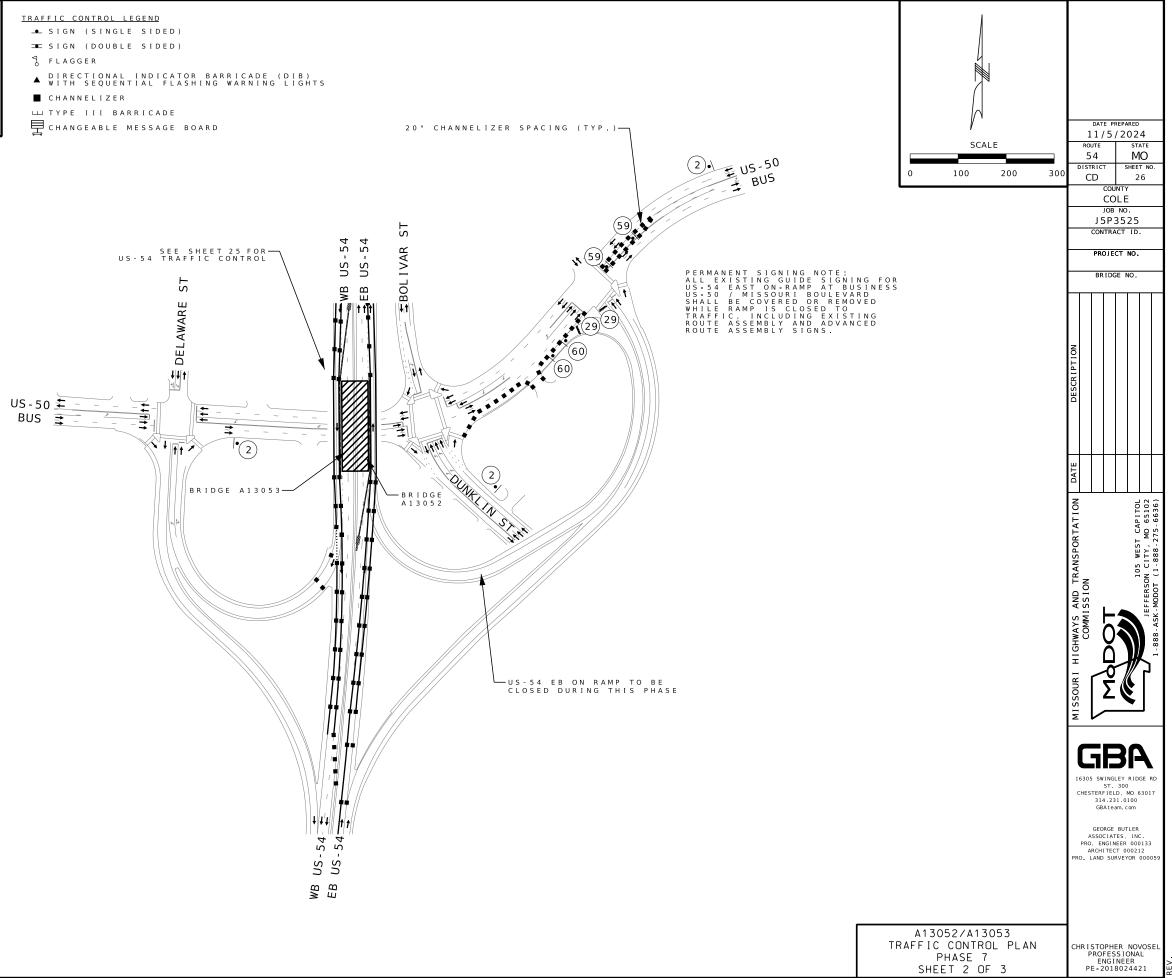






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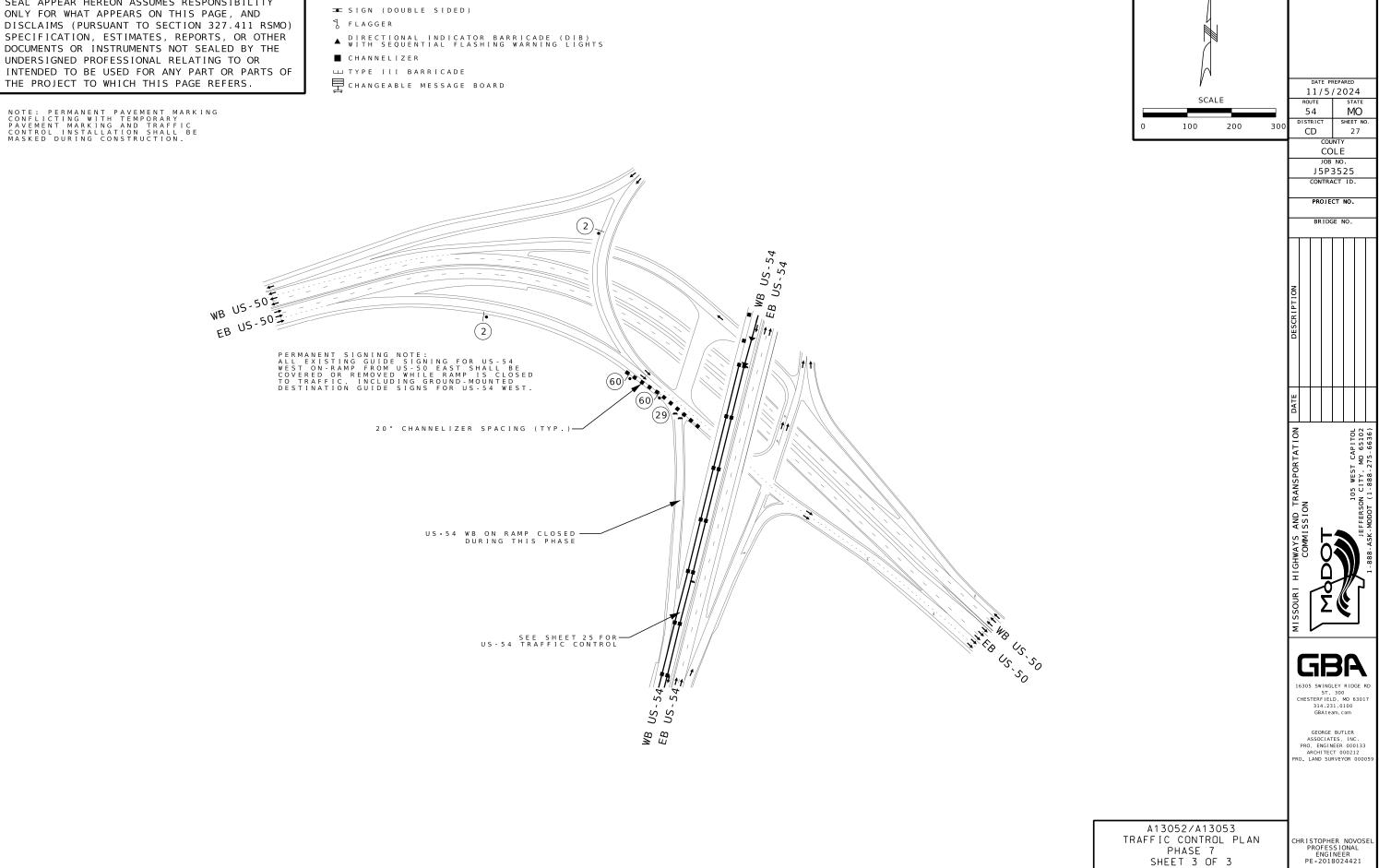
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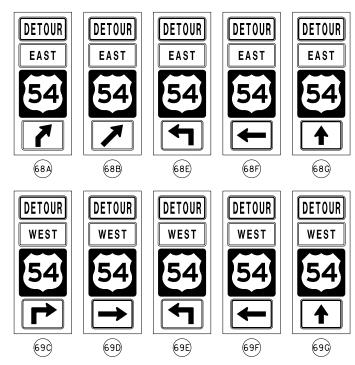
TRAFFIC CONTROL LEGEND

■ SIGN (SINGLE SIDED)



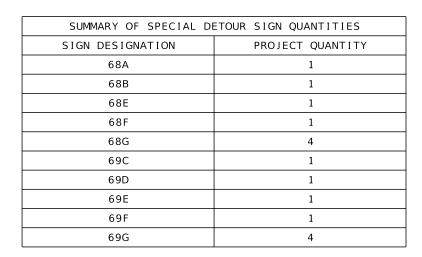


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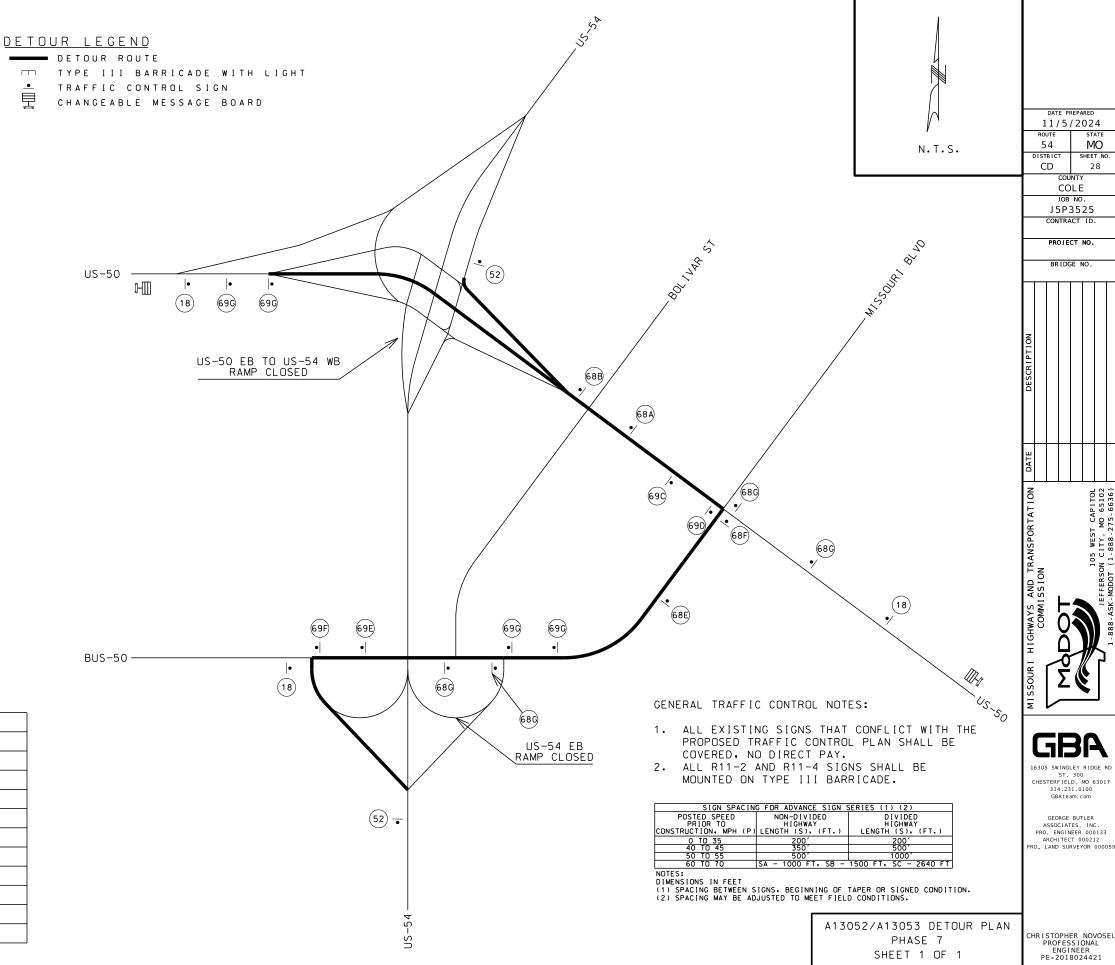
(18)

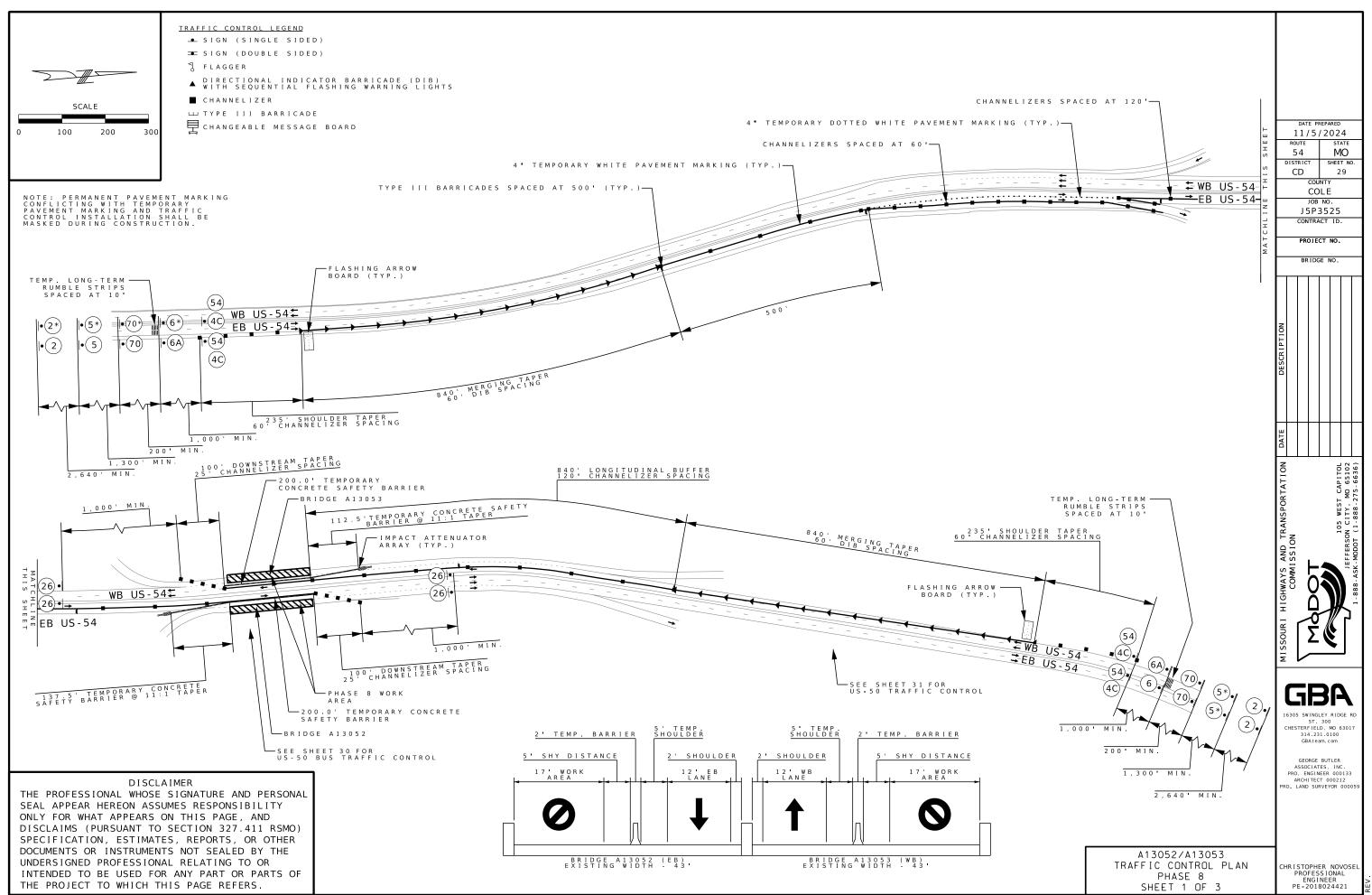


END

DETOUR

M04-8a



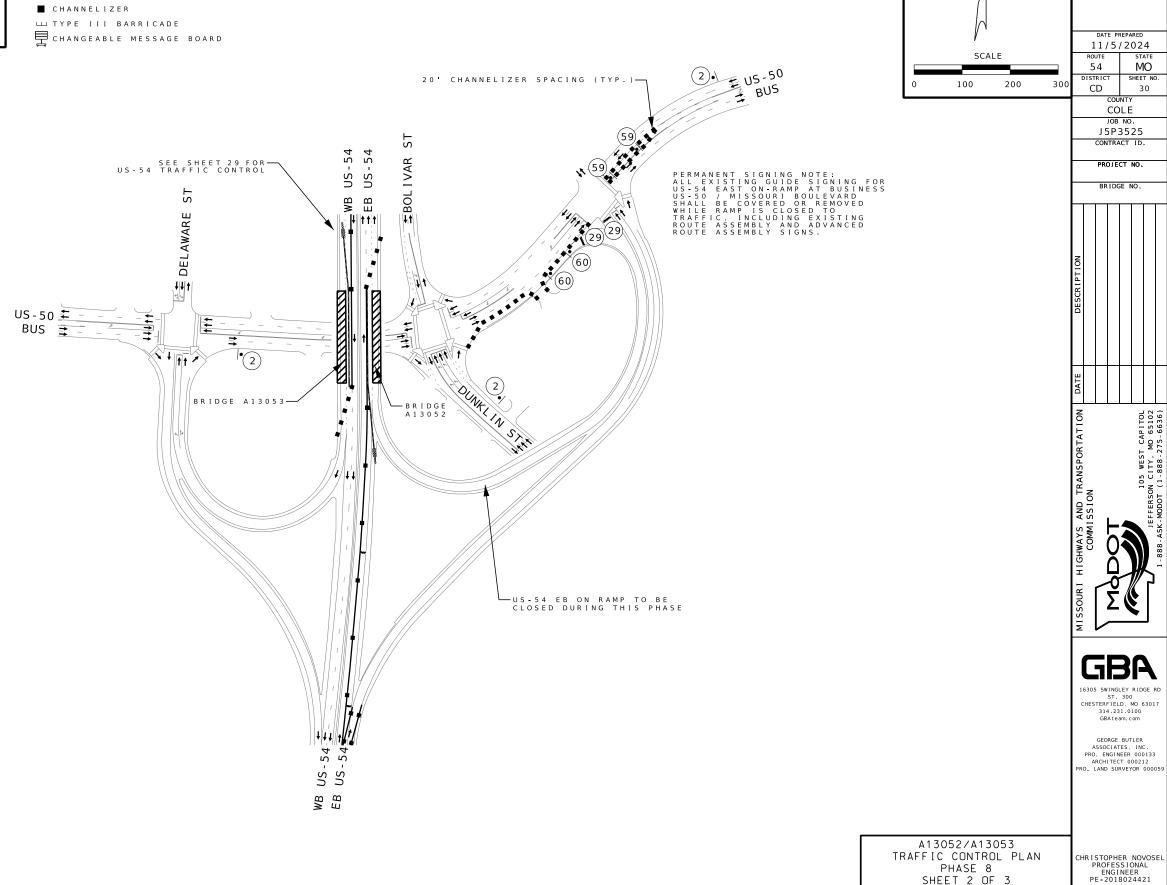


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NOTE: PERMANENT PAVEMENT MARKING CONFLICTING WITH TEMPORARY PAVEMENT MARKING AND TRAFFIC CONTROL INSTALLATION SHALL BE MASKED DURING CONSTRUCTION.

TRAFFIC CONTROL LEGEND

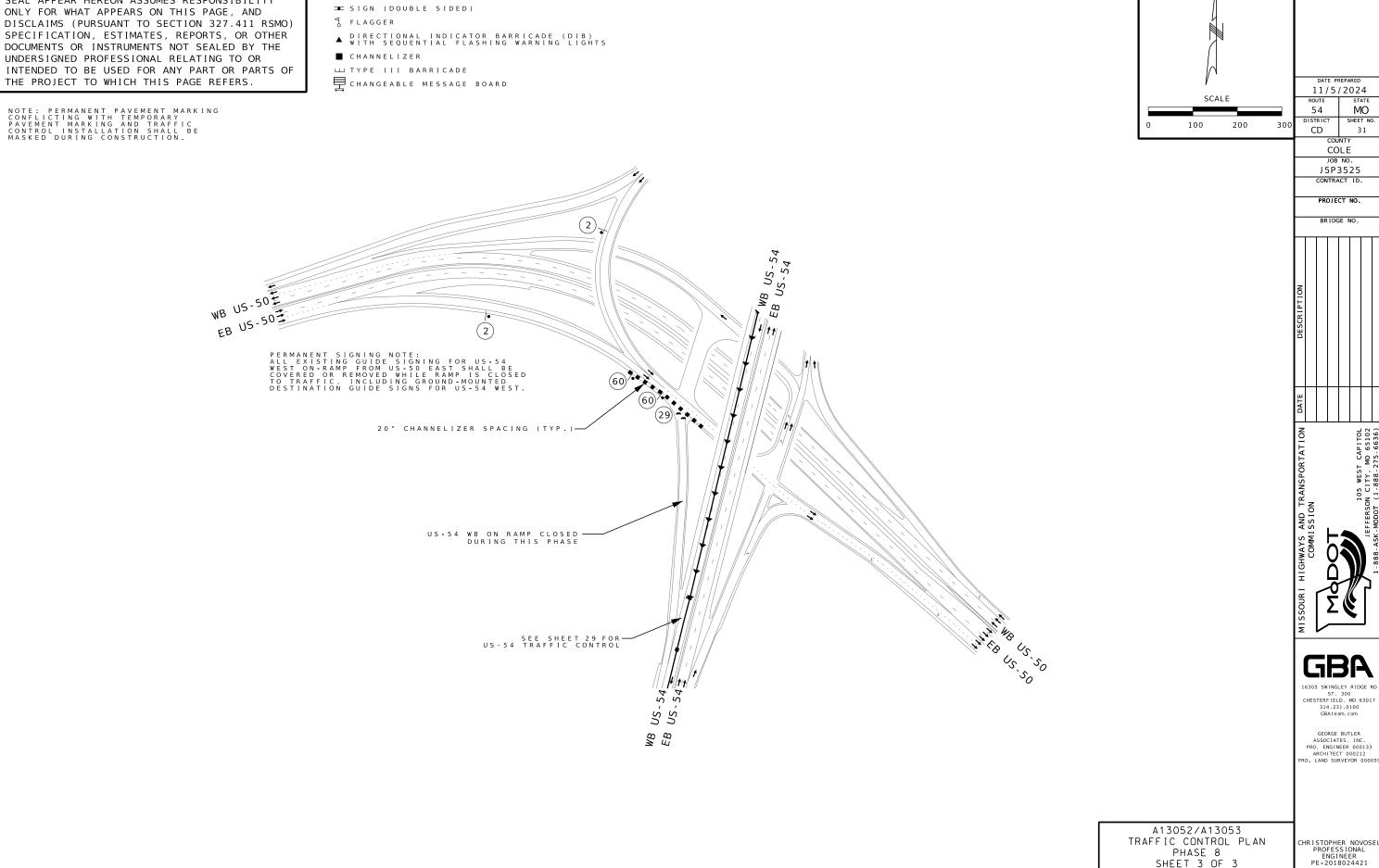
- SIGN (SINGLE SIDED)
- SIGN (DOUBLE SIDED)
- ₹ FLAGGER
- ▲ DIRECTIONAL INDICATOR BARRICADE (DIB)
 WITH SEQUENTIAL FLASHING WARNING LIGHTS



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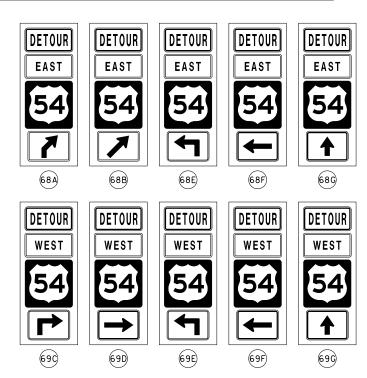
TRAFFIC CONTROL LEGEND

■ SIGN (SINGLE SIDED)



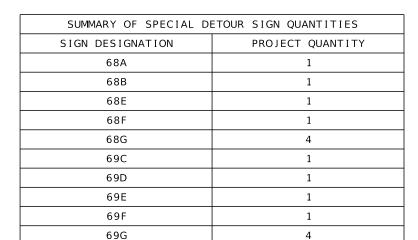


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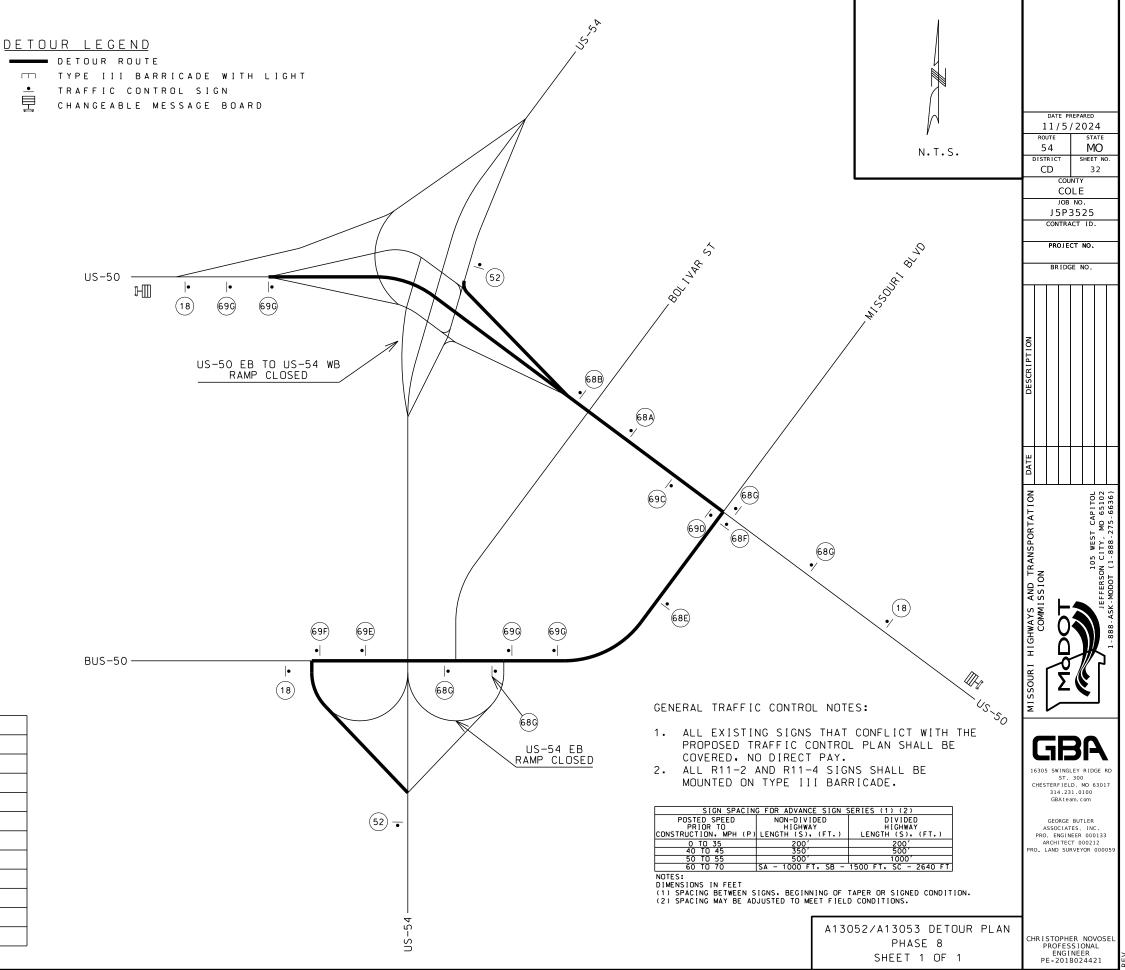
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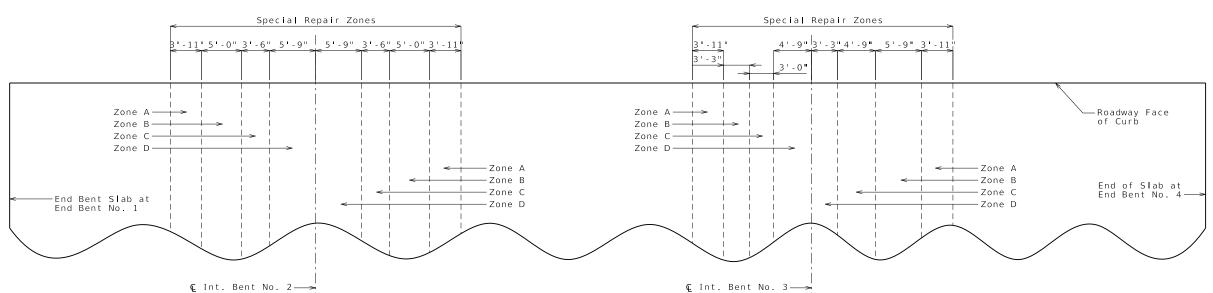
END

DETOUR

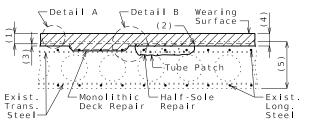
M04-8a



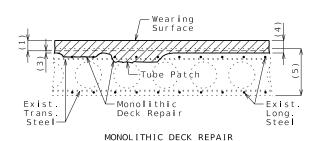




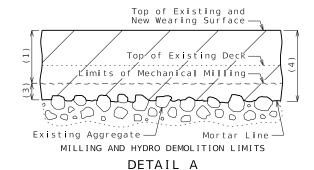
PART PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES



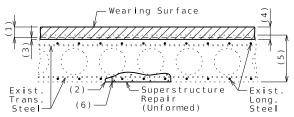
MONOLITHIC AND HALF-SOLE REPAIR DECK REPAIR INSIDE SPECIAL REPAIR ZONES (BEFORE HYDRO DEMOLITION)



DECK REPAIR OUTSIDE SPECIAL REPAIR ZONES (AFTER HYDRO DEMOLITION)



Detailed Nov 2024 Checked Nov 2024



SUPERSTRUCTURE REPAIR (UNFORMED)

- (1) Removal of existing 2 1/4"± concrete wearing surface plus 1/4" of existing deck from the original section. 2 1/2" scarification of the existing deck from the widened section. The wearing surface thickness is an estimate and any additional thickness of wearing surface is considered completely covered by the contract unit price of Removal of Concrete Wearing Surface.
- (2) 1" vertical side shall be established outside the deteriorated area.
- (3) Total surface hydro demolition of sound concrete, measured to mortar line:

1/2" minimum inside special repair zones

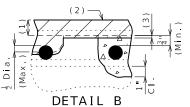
1/2" minimum outside special repair zones

(4) Latex modified concrete wearing surface:

3" minimum inside special repair zones

3" minimum outside special repair zones

- (5) Original depth minus previous scarification
- (6) Restore existing weep hole, if encountered.



Monolithic deck repair shall be used when only half the diameter or less of the top bar is exposed

Clearance around top bar and around bottom bar at the intersection of top bar shall be required when more than half the diameter of the top bar is exposed.

DECK REPAIR DETAILS

Note: This drawing is not to scale. Follow dimensions

Sheet No. 2 of 3

Deck Repair Notes:

Order of Repair:

- Remove existing wearing surface plus 1/4" of existing deck from the original section. Scarify 2 1/2" existing concrete from widened section.
- Power wash deck to identify sound and unsound existing deck repair.
- 3. Inside special repair zones, complete the following repairs:

 a. Removal of existing deck repair b. Half-sole repair
- 4. Outside special repair zones, remove existing
- 5. Complete total surface hydro demolition, removing 1/2" minimum of sound concrete inside special repair zones and removing 1/2" minimum of sound concrete and all deteriorated concrete outside special repair zones.
- 6. Sound deck and if needed complete incidental concrete removal.
- Place new wearing surface including additional material for areas of monolithic deck repair.

Special Repair Zones:

Deck repair required in the areas designated as special repair zones shall be completed before hydro demolition in alphabetical sequence beginning with Zone A. Zones with the same letter designation may be repaired at the same time. Hydro demolition shall not move forward until the repairs in all special repair zones are completed and properly cured.

Any deck repair in areas not designated as a special repair zone shall be completed after hydro demolition.

Removal and deck repair shall be completed in one special repair zone and concrete shall have attained a compressive strength of 3200 psi before work can be started in the next special repair zone.

If any single repair area does not exceed 4 square feet in size and the total repair area within a special repair zone does not exceed 12 square feet, the special repair zone may be repaired at the same time as an adiacent zone.

Void Repair:

Any damage sustained to the void tube as a result of the contractor's operations shall be patched or replaced as required by the engineer at the contractor s expense.

An exposed void in the deck shall be patched as approved by the engineer in a manner that shall maintain the void area completely free of concrete. Cost of patching an exposed void will be considered completely covered by the contract unit price for Half-Sole Repair inside special repair zones and Monolithic Deck Repair outside special repair zones.



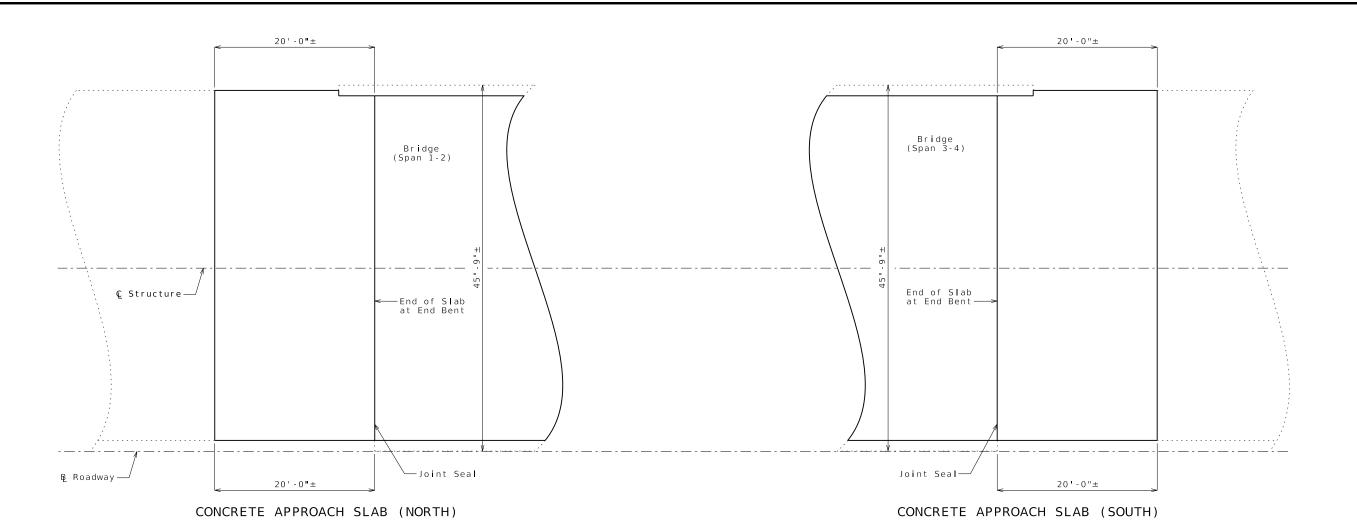






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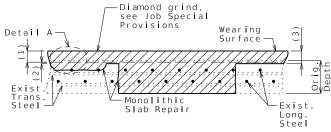
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 Removal of 3"± existing asphalt wearing surface to top of concrete, thickness may vary along slab.

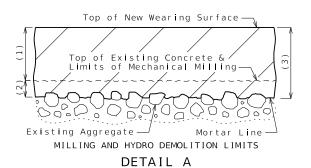
(2) 1/2" total surface hydro demolition of sound concrete.

(3) 3 1/2"± latex modified concrete wearing surface, thickness may vary along slab.

APPROACH SLAB PARTIAL PLAN VIEW



TOP OF APPROACH SLAB REPAIR



BRIDGE APPROACH SLAB REPAIRS

Detailed Nov 2024 Checked Nov 2024

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

Sheet No. 3 of 3

Notes:

Final grade of approach slab wearing surface shall match adjacent roadway and final grade of bridge deck wearing surface, the thickness of the Latex Modified Concrete wearing surface may vary.

Extents of reinforced concrete Approach Slabs as shown are $\mbox{\it approx}\mbox{\it imate}\,.$

Remove existing asphalt wearing surface and hydro demo existing Approach Slabs. Provide new Latex Modified Concrete Wearing Surface with Monolithic Repairs.

If wearing surface thickness values vary significantly from plan drawings, notify engineer.

DATE PREPARED 11/5/2024 54 MO BR COLE J5P3525 CONTRACT ID. PROJECT NO BRIDGE NO A13052

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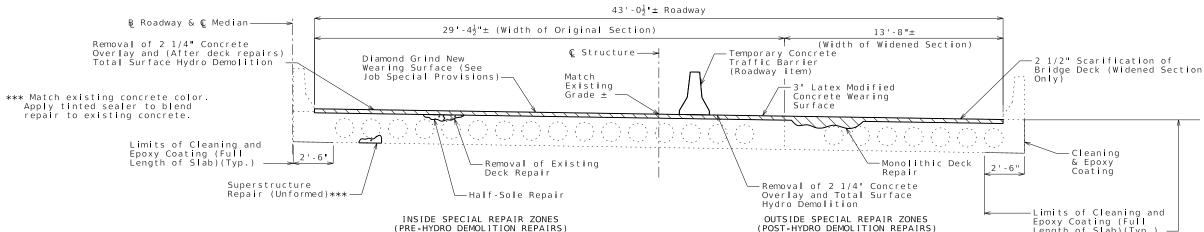
GEORGE BUTLER ASSOCIATES, INC. PRO. ENGINEER 000133 ARCHITECT 000212 PRO. LAND SURVEYOR 0000

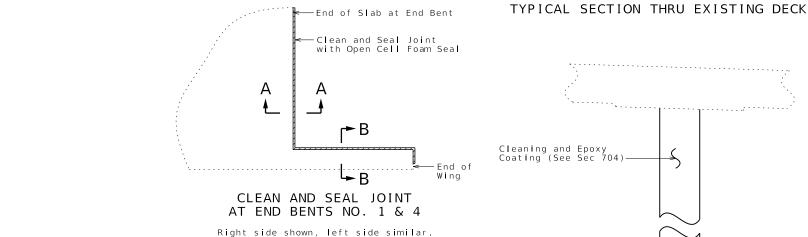
RYAN G. HAGERTY PROFESIONAL

ENGINEER

PE-2016034015

U.I.P. AND REHABILITATE EXISTING (48'-62'-37') CONTINUOUS CONCRETE VOIDED SLAB SPANS (SKEW: SQUARE)





Ground line-€ Existing Joint-Roadway Face Field applied of Barrier Curb $\frac{1}{4}$ " R. (Typ.)silicone bead (Typ.) Top of New Wearing Surface Open Cell Foam Seal** Top of New Wearing Surface-Top of Existing Deck after all removals ield applied epoxy SHOWING PROTECTIVE COATING adhesive both sides of joint face ¦Bridge Slab → Bridge Approach Slab 3 " ± 3/4 ±

ESTIMATED REPAIR QUANTITIES: Cleaning and Epoxy Coating

TYPICAL SECTION THRU

INT. BENTS NO. 2 & 3

1059 sq. ft. @ Slab Edges 400 sq. ft. @ Int. Bent No. 2 400 sq. ft. @ Int. Bent No. 3

Superstructure Repair (Unformed)

15 sq. ft. @ bottom of bridge deck

Repair quantities shall be confirmed with the Engineer prior to ordering materials or beginning work.

I t em Scarification of Bridge Deck otal Surface Hydro Demolition Removal of Asphalt Wearing Surface Removal of Concrete Wearing Surface Removal of Existing Deck Repair Supplementary Wearing Surface Material atex Modified Concrete Wearing Surface Diamond Grinding Superstructure Repair (Unformed) Half-Sole Repair Cleaning and Epoxy Coating Open Cell Foam Joint Seal

* Supplementary wearing surface material for monolithic deck repair will be paid or at the fixed unit price in accordance with Sec 109.

General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications

Bridge Deck Rating = 6

HS20-44 (1961) and 15 psf future wearing surface (Original)

Design Unit Stresses:

Class B-1 Concrete (Half-Sole Repair) f'c = 4,000 psi

Miscellaneous:

Roadway surfacing adjacent to bridge ends shall match new bridge wearing surface

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

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

In order to maintain grade and a minimum thickness of wearing surface as shown on plans it may be necessary to use additional quantities of wearing surface as shown on plans it may be necessary to use additional quantities of wearing surface at various locations throughout the structure. The cost of furnishing and installing the wearing surface will be considered completely covered in the contract unit price, including all additional labor, materials or equipment for variations in thickness of wearing surface.

Traffic to be maintained on structure during construction. See roadway plans for traffic control.

REPAIRS TO BRIDGE: ROUTE 54 WB OVER BUSINESS ROUTE 50

ROUTE 54 FROM ROUTE 50 TO ROUTE 179 ABOUT 0.3 MILES SOUTH OF ROUTE 50 BEGINNING STATION 22+46.70± (Match Existing)

manufacturer. Manufacturer recommended seal size shall meet the movement and installation gap requirements and skew effect.

The open cell foam joint seal shall be installed according to the

** Manufacturer's recommended size

Open cell foam joint seal size (width and depth) shall be determined by the

Any removals and other incidentals to install Open Cell Foam Joint Seal will be considered completely covered by the contract unit price for Open Cell Foam Joint Seal.

SECTION A-A

Designed Nov 2024 Detailed Nov 2024

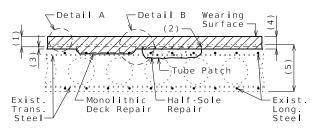
Note: This drawing is not to scale. Follow dimensions.

SECTION B-B

Sheet No. 1 of 3

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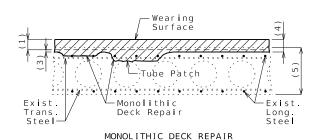
PART PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES



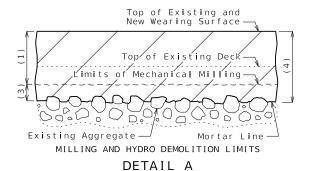
MONOLITHIC AND HALF-SOLE REPAIR

DECK REPAIR INSIDE SPECIAL REPAIR

ZONES (BEFORE HYDRO DEMOLITION)



DECK REPAIR OUTSIDE SPECIAL REPAIR ZONES (AFTER HYDRO DEMOLITION)



Exist. (2) Superstructure Exist. Trans. Steel (6) (Unformed) Steel

SUPERSTRUCTURE REPAIR (UNFORMED)

- (1) Removal of existing 2 1/4"± concrete wearing surface plus 1/4" of existing deck from the original section. 2 1/2" scarification of existing deck from the widened section. The wearing surface thickness is an estimate and any additional thickness of wearing surface is considered completely covered by the contract unit price of Removal of Concrete Wearing Surface.
- (2) 1" vertical side shall be established outside the deteriorated area.
- (3) Total surface hydro demolition of sound concrete, measured to mortar line:

1/2" minimum inside special repair zones

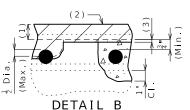
1/2" minimum outside special repair zones

(4) Latex modified concrete wearing surface:

3" minimum inside special repair zones

3" minimum outside special repair zones

- (5) Original depth minus previous scarification
- (6) Restore existing weep hole, if encountered.



Monolithic deck repair shall be used when only half the diameter or less of the top bar is exposed.

Clearance around top bar and around bottom bar at the intersection of top bar shall be required when more than half the diameter of the top bar is exposed.

Deck Repair Notes:

Order of Repair:

- Remove existing wearing surface plus 1/4" of existing deck from the original section. Scarify 2 1/2" existing concrete from widened section.
- Power wash deck to identify sound and unsound existing deck repair.
- Inside special repair zones, complete the following repairs:

 Removal of existing deck repair
 Half-sole repair
- 4. Outside special repair zones, remove existing deck repair.
- 5. Complete total surface hydro demolition, removing 1/2" minimum of sound concrete inside special repair zones and removing 1/2" minimum of sound concrete and all deteriorated concrete outside special repair zones.
- Sound deck and if needed complete incidental concrete removal.
- Place new wearing surface including additional material for areas of monolithic deck repair.

Special Repair Zones:

Deck repair required in the areas designated as special repair zones shall be completed before hydro demolition in alphabetical sequence beginning with Zone A. Zones with the same letter designation may be repaired at the same time. Hydro demolition shall not move forward until the repairs in all special repair zones are completed and properly cured.

Any deck repair in areas not designated as a special repair zone shall be completed after hydro demolition.

Removal and deck repair shall be completed in one special repair zone and concrete shall have attained a compressive strength of 3200 psi before work can be started in the next special repair zone.

If any single repair area does not exceed 4 square feet in size and the total repair area within a special repair zone does not exceed 12 square feet, the special repair zone may be repaired at the same time as an adjacent zone.

Void Repair:

Any damage sustained to the void tube as a result of the contractor's operations shall be patched or replaced as required by the engineer at the contractor's expense.

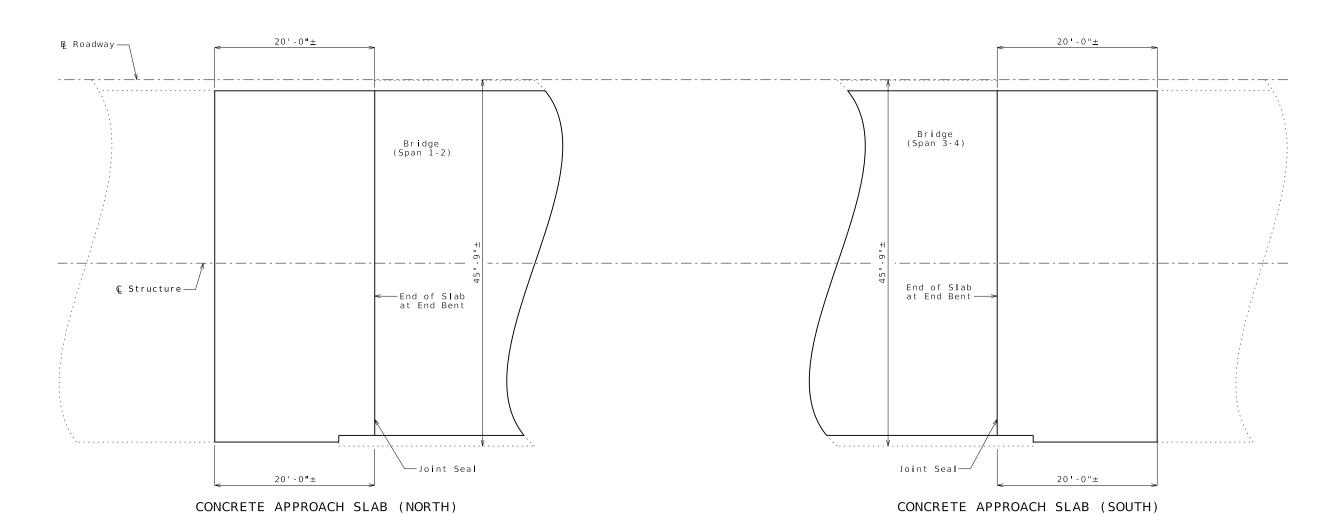
An exposed void in the deck shall be patched as approved by the engineer in a manner that shall maintain the void area completely free of concrete. Cost of patching an exposed void will be considered completely covered by the contract unit price for Half-Sole Repair inside special repair zones and Monolithic Deck Repair outside special repair zones.







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ARCHITECT 000212
PRO. LAND SURVEYOR 00005



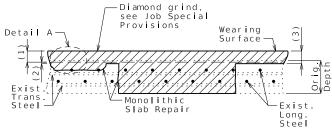
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Removal of 3"± existing asphalt wearing surface to top of concrete, thickness may vary along slab.

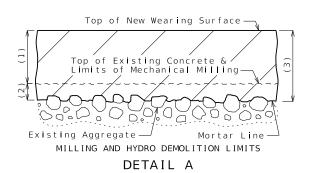
(2) 1/2" total surface hydro demolition of sound concrete.

(3) 3 1/2"± latex modified concrete wearing surface, thickness may vary along slab.

APPROACH SLAB PARTIAL PLAN VIEW



TOP OF APPROACH SLAB REPAIR



BRIDGE APPROACH SLAB REPAIRS

Detailed Nov 2024 Checked Nov 2024

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

Sheet No. 3 of 3

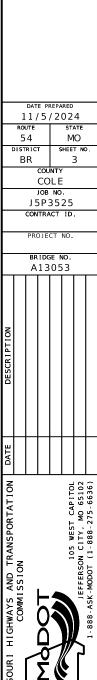
Notes:

Final grade of approach slab wearing surface shall match adjacent roadway and final grade of bridge deck wearing surface, the thickness of the Latex Modified Concrete wearing surface may vary.

Extents of reinforced concrete Approach Slabs as shown are approximate.

Remove existing asphalt wearing surface and hydro demo existing Approach Slabs. Provide new Latex Modified Concrete Wearing Surface with Monolithic Repairs.

If wearing surface thickness values vary significantly from plan drawings, notify engineer.







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Α

SECTION A-A

Foam Joint Seal.

Notes:

Designed Nov 2024

Detailed Nov 2024

Checked Nov 2024

- B

Bridge

Approach Slab —

** Manufacturer's recommended size

Open cell foam joint seal size (width and depth) shall be determined by the manufacturer. Manufacturer recommended seal size shall meet the movement and

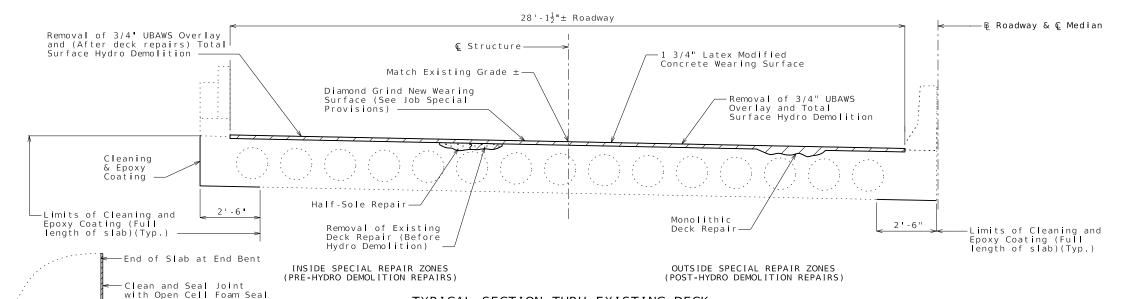
Any removals and other incidentals to install Open Cell Foam Joint Seal will be considered completely covered by the contract unit price for Open Cell

The open cell foam joint seal shall be installed according to the

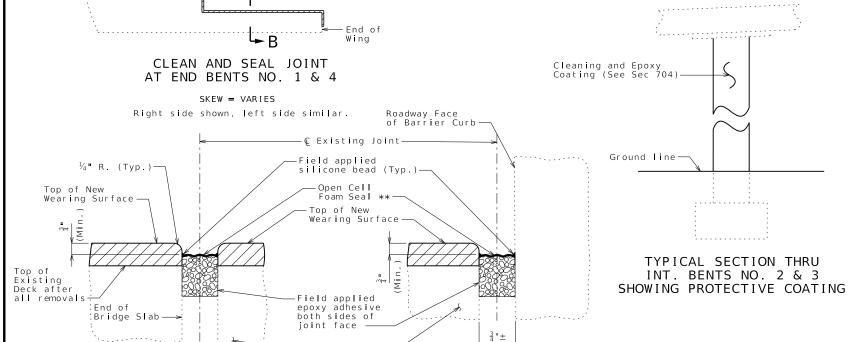
installation gap requirements and skew effect.

manufacturer's recommendations.

U.I.P. AND REHABILITATE EXISTING (46'-65'-54') CONTINUOUS CONCRETE VOIDED SLAB SPANS (SKEW: VARIES)



TYPICAL SECTION THRU EXISTING DECK



Estimated Quantities		
I t em		Total
Total Surface Hydro Demolition	sq. yard	737
Removal of Asphalt Wearing Surface	sq. foot	6637
Removal of Existing Deck Repair	sq. foot	300
* Supplementary Wearing Surface Material	cu. yard	4
Latex Modified Concrete Wearing Surface	sq. yard	737
Diamond Grinding	sq. yard	737
Half-Sole Repair	sq. foot	50
Cleaning and Epoxy Coating	sq. foot	1792
Open Cell Foam Joint Seal	linear foot	94

* Supplementary wearing surface material for monolithic deck repair will be paid for at the fixed unit price in accordance with Sec 109.

General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications

Bridge Deck Rating = 6

Design Loading:

 $\mathsf{HS20\text{-}44}$ (1961) and 15 psf future wearing surface

Design Unit Stresses:

Class B-1 Concrete (Half-Sole Repair) f'c = 4,000 psi

1iscellaneous:

Roadway surfacing adjacent to bridge ends shall match new bridge wearing 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 the field before ordering new material.

In order to maintain grade and a minimum thickness of wearing surface as shown on plans it may be necessary to use additional quantities of wearing surface at various locations throughout the structure. The cost of furnishing and installing the wearing surface will be considered completely covered in the contract unit price, including all additional labor, materials or equipment for variations in thickness of wearing surface.

Traffic Handling:

Structure to be closed during construction. Traffic to be maintained on A13075 during construction. See roadway plans for traffic control.

ROUTE 54 FROM ROUTE 50 TO ROUTE 179
ABOUT 0.7 MILES SOUTH OF ROUTE 50
BEGINNING STATION 46+01.03± (Match Existing)

REPAIRS TO BRIDGE: ROUTE 54 EB OVER BROADWAY ST./LINDEN DR.

> RYAN G. HAGERTY PROFESIONAL ENGINEER PE-2016034015

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DATE PREPARED 11/5/2024

COLE

J5P3525 CONTRACT ID.

BRIDGE NO

A13074

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54

BR

Note: This drawing is not to scale. Follow dimensions

SECTION B-B

Sheet No. 1 of 3

ESTIMATED REPAIR QUANTITIES:

Repair quantities shall be confirmed

with the Engineer prior to ordering materials or beginning work.

1192 sq. ft. @ Slab Edges 300 sq. ft. @ Int. Bent No. 2 300 sq. ft. @ Int. Bent No. 3

Cleaning and Epoxy Coating

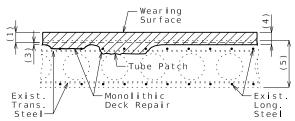
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Detailed Nov 2024 Checked Nov 2024

Detail A Detail B Wearing Surface Tube Patch Exist Deck Repair Repair Steel Deck Repair Steel

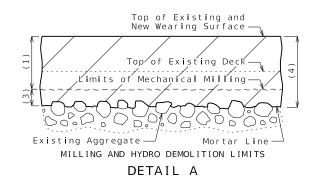
DECK REPAIR INSIDE SPECIAL REPAIR ZONES (BEFORE HYDRO DEMOLITION)

MONOLITHIC AND HALF-SOLE REPAIR



MONOLITHIC DECK REPAIR

DECK REPAIR OUTSIDE SPECIAL REPAIR ZONES (AFTER HYDRO DEMOLITION)



(1) Removal of existing 3/4"± Ultra-thin Bond Asphalt wearing surface (UBAWS) plus 1/2" of existing deck. The wearing surface thickness is an estimate and any additional thickness of wearing surface is considered

PART PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES

(2) 1" vertical side shall be established outside the deteriorated area.

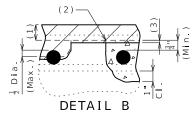
completely covered by the contract unit price of Removal of Asphalt Wearing Surface.

(3) Total surface hydro demolition of sound concrete, measured to mortar line:

1/2" minimum inside special repair zones

1/2" minimum outside special repair zones

- (4) Latex modified concrete wearing surface:
 - 1 3/4" minimum inside special repair zones
 - 1 3/4" minimum outside special repair zones
- (5) Original depth minus previous scarification



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

Monolithic deck repair shall be used when only half the diameter or less of the top bar is exposed.

Clearance around top bar and around bottom bar at the intersection of top bar shall be required when more than half the diameter of the top bar is exposed.

Deck Repair Notes:

Order of Repair:

- Remove existing wearing surface plus 1/2" of existing deck.
- Power wash deck to identify sound and unsound existing deck repair.
- Inside special repair zones, complete the following repairs:

 a. Removal of existing deck repair
 b. Half-sole repair
- 4. Outside special repair zones, remove existing deck repair.
- Complete total surface hydro demolition, removing 1/2" minimum of sound concrete inside special repair zones and removing 1/2" minimum of sound concrete and all deteriorated concrete outside special repair zones.
- 6. Sound deck and if needed complete incidental concrete removal.
- Place new wearing surface including additional material for areas of monolithic deck repair.

Special Repair Zones:

Deck repair required in the areas designated as special repair zones shall be completed before hydro demolition in alphabetical sequence beginning with Zone A. Zones with the same letter designation may be repaired at the same time. Hydro demolition shall not move forward until the repairs in all special repair zones are completed and properly cured.

Any deck repair in areas not designated as a special repair zone shall be completed after hydro demolition.

Removal and deck repair shall be completed in one special repair zone and concrete shall have attained a compressive strength of 3200 psi before work can be started in the next special repair zone.

If any single repair area does not exceed 4 square feet in size and the total repair area within a special repair zone does not exceed 12 square feet, the special repair zone may be repaired at the same time as an adjacent zone.

Void Repair:

Any damage sustained to the void tube as a result of the contractor's operations shall be patched or replaced as required by the engineer at the contractor's expense.

An exposed void in the deck shall be patched as approved by the engineer in a manner that shall maintain the void area completely free of concrete. Cost of patching an exposed void will be considered completely covered by the contract unit price for Half-Sole Repair inside special repair zones and Monolithic Deck Repair outside special repair zones.

DECK REPAIR DETAILS

Sheet No. 2 of 3

DATE PREPARED

11/5/2024

COLE

J5P3525 CONTRACT ID.

BRIDGE NO

A13074

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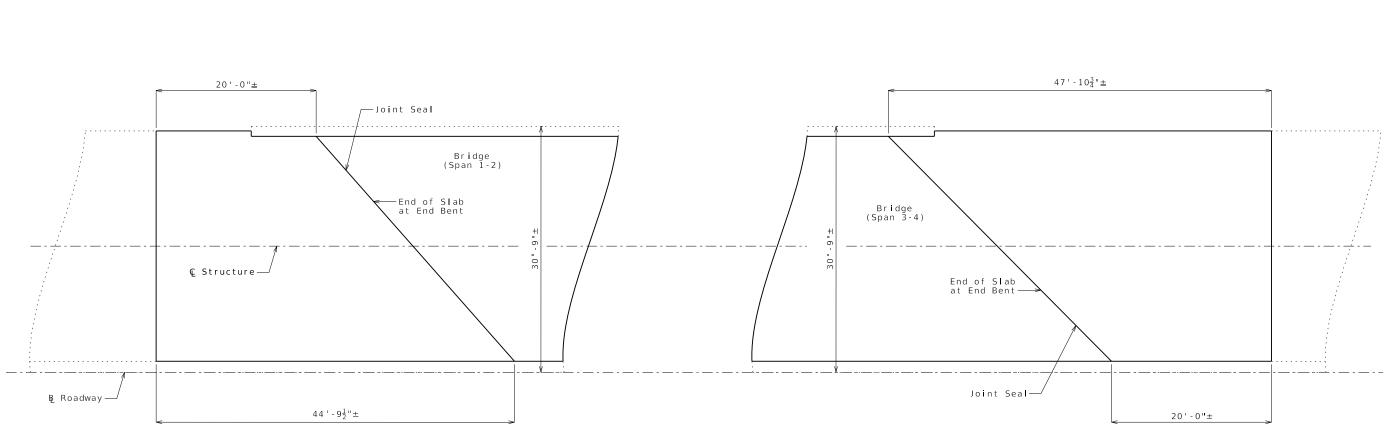
GEORGE BUTLER ASSOCIATES, INC. PRO. ENGINEER 000133 ARCHITECT 000212 O, LAND SURVEYOR 0000

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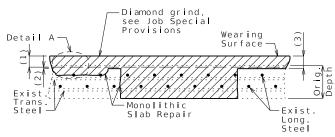
CONCRETE APPROACH SLAB (NORTH)

 Removal of 3"± existing asphalt wearing surface to top of concrete, thickness may vary along slab.

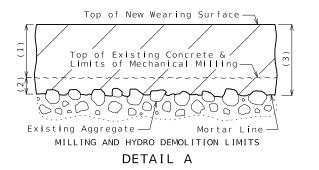
(2) 1/2" total surface hydro demolition of sound concrete.

(3) 3 1/2"± latex modified concrete wearing surface, thickness may vary along slab.

APPROACH SLAB PARTIAL PLAN VIEW



TOP OF APPROACH SLAB REPAIR



BRIDGE APPROACH SLAB REPAIRS

Sheet No. 3 of 3

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

Detailed Nov 2024 Checked Nov 2024

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CONCRETE APPROACH SLAB (SOUTH)

Notes:

Final grade of approach slab wearing surface shall match adjacent roadway and final grade of bridge deck wearing surface, the thickness of the Latex Modified Concrete wearing surface may vary.

Extents of reinforced concrete Approach Slabs as shown are $\mbox{\it approx}\mbox{\it imate}\,.$

Remove existing asphalt wearing surface and hydro demo existing Approach Slabs. Provide new Latex Modified Concrete Wearing Surface with Monolithic Repairs.

If wearing surface thickness values vary significantly from plan drawings, notify engineer.

DATE PREPARED 11/5/2024 54 MO BR COLE J5P3525 CONTRACT ID. PROJECT NO BRIDGE NO A13074

GBA

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PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 0000

Notes:

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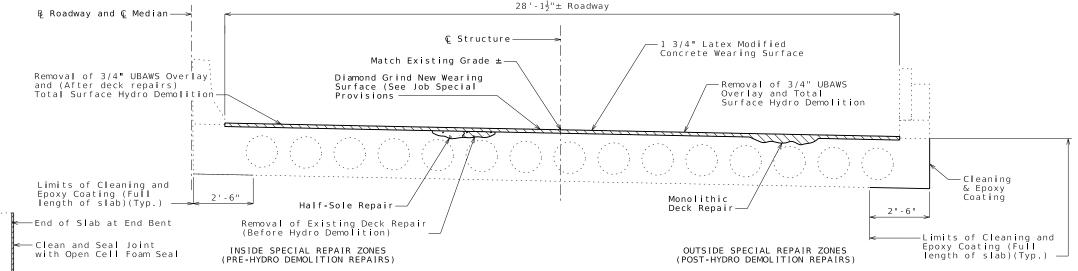
Detailed Nov 2024

Checked Nov 2024

Foam Loint Seal

RGE 12W SEC/SUR 12 TWP 44N

U.I.P. AND REHABILITATE EXISTING (46'-65'-54') CONTINUOUS CONCRETE VOIDED SLAB SPANS (SKEW: VARIES)





Cleaning and Epoxy Coating

1192 sq. ft. @ Slab Edges 300 sq. ft. @ Int. Bent No. 2 300 sq. ft. @ Int. Bent No. 3

Repair quantities shall be confirmed

Sheet No. 1 of 3

with the Engineer prior to ordering materials or beginning work.

Estimated Quantitie	es	
I t em		Total
Total Surface Hydro Demolition	sq. yard	737
Removal of Asphalt Wearing Surface	sq. foot	6637
Removal of Existing Deck Repair	sq. foot	200
Supplementary Wearing Surface Material	cu. yard	4
Latex Modified Concrete Wearing Surface	sq. yard	737
Diamond Grinding	sq. yard	737
Half-Sole Repair	sq. foot	50
Cleaning and Epoxy Coating	sq. foot	1792
Open Cell Foam Joint Seal	linear foot	94

* Supplementary wearing surface material for monolithic deck repair will be paid for at the fixed unit price in accordance with Sec 109.

General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications Bridge Deck Rating = 6

Design Loading:

HS20-44 (1961) and 15 psf future wearing surface

Design Unit Stresses:

Class B-1 Concrete (Half-Sole Repair) f'c = 4,000 psi

Roadway surfacing adjacent to bridge ends shall match new bridge wearing surface

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

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

In order to maintain grade and a minimum thickness of wearing surface as shown on plans it may be necessary to use additional quantities of wearing surface at various locations throughout the structure. The cost of furnishing and installing the wearing surface will be considered completely covered in the contract unit price, including all additional labor, materials or equipment for variations in thickness of wearing surface.

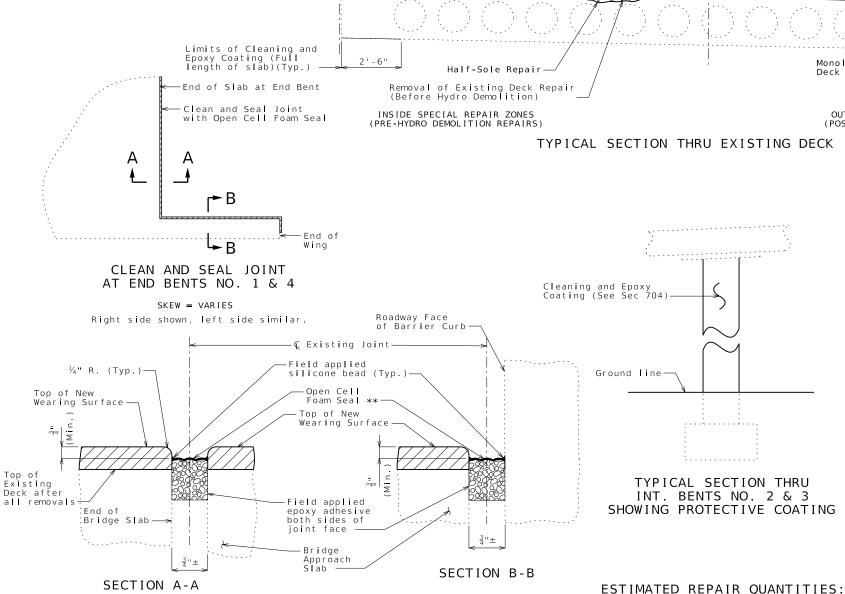
Traffic Handling:

Structure to be closed during construction. Traffic to be maintained on A13074 during construction. See roadway plans for traffic control.

REPAIRS TO BRIDGE: ROUTE 54 WB

BEGINNING STATION 46+01.03± (Match Existing)

OVER BROADWAY ST./LINDEN DR. ROUTE 54 FROM ROUTE 50 TO ROUTE 179 ABOUT 0.7 MILES SOUTH OF ROUTE 50



** Manufacturer's recommended size

Open cell foam joint seal size (width and depth) shall be determined by the manufacturer. Manufacturer recommended seal size shall meet the movement and

Any removals and other incidentals to install Open Cell Foam Joint Seal will

Note: This drawing is not to scale. Follow dimensions

be considered completely covered by the contract unit price for Open Cell

The open cell foam joint seal shall be installed according to the manufacturer's recommendations.

installation gap requirements and skew effect.

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RYAN G. HAGERTY PROFESIONAL

ENGINEER

PE-2016034015

DATE PREPARED 11/5/2024

COLE J5P3525 CONTRACT ID PROJECT NO

BRIDGE NO

A13075

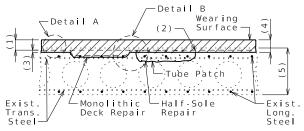
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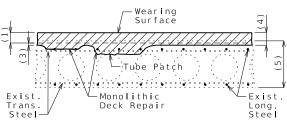
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Detailed Nov 2024 Checked Nov 2024



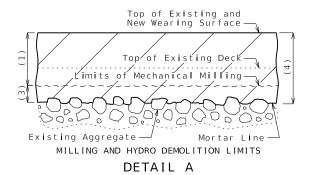
MONOLITHIC AND HALF-SOLE REPAIR

DECK REPAIR INSIDE SPECIAL REPAIR ZONES (BEFORE HYDRO DEMOLITION)



MONOLITHIC DECK REPAIR

DECK REPAIR OUTSIDE SPECIAL REPAIR ZONES (AFTER HYDRO DEMOLITION)



PART PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES

- (1) Removal of existing 3/4"± Ultra-thin Bond Asphalt wearing surface (UBAWS) plus 1/2" of existing deck. The wearing surface thickness is an estimate and any additional thickness of wearing surface is considered completely covered by the contract unit price of Removal of Asphalt Wearing surface
- (2) 1" vertical side shall be established outside the deteriorated area
- (3) Total surface hydro demolition of sound concrete, measured to mortar line:

1/2" minimum inside special repair zones

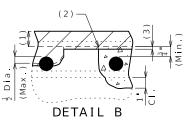
1/2" minimum outside special repair zones

(4) Latex modified concrete wearing surface:

1 3/4" minimum inside special repair zones

1 3/4" minimum outside special repair zones

(5) Original depth minus previous scarification



Monolithic deck repair shall be used when only half the diameter or less the top bar is exposed.

Clearance around top bar and around bottom bar at the intersection of top bar shall be required when more than half the diameter of the top bar is exposed.

Deck Repair Notes:

Order of Repair:

- 1. Remove existing wearing surface plus 1/2" of existing deck.
- 2. Power wash deck to identify sound and unsound existing deck repair.

3. Inside special repair zones, complete the following repairs:
a. Removal of existing deck repair b. Half-sole repair

- 4. Outside special repair zones, remove existing deck repair.
- 5. Complete total surface hydro demolition, removing 1/2" minimum of sound concrete inside special repair zones and removing 1/2" minimum of sound concrete and all deteriorated concrete outside special repair zones.
- Sound deck and if needed complete incidental concrete removal.
- Place new wearing surface including additional material for areas of monolithic deck repair.

Special Repair Zones:

Deck repair required in the areas designated as special repair required in the areas designated as special repair zones shall be completed before hydro demolition in alphabetical sequence beginning with Zone A. Zones with the same letter designation may be repaired at the same time. Hydro demolition shall not move forward until the repairs in all special repair zones are completed and properly cured.

Any deck repair in areas not designated as a special repair zone shall be completed after hydro demolition.

Removal and deck repair shall be completed in one special repair zone and concrete shall have attained a compressive strength of 3200 psi before work can be started in the next special repair zone.

If any single repair area does not exceed 4 square feet in size and the total repair area within a special repair zone does not exceed 12 square feet, the special repair zone may be repaired at the same time as an adjacent zone.

Void Repair:

Any damage sustained to the void tube as a result of the contractor's operations shall be patched or replaced as required by the engineer at the contractor's expense

An exposed void in the deck shall be patched as approved by the engineer in a manner that shall maintain the void area completely free of concrete. Cost of patching an exposed void will be considered completely covered by the contract unit price for Half-Sole Repair inside special repair zones and Monolithic Deck Repair outside special repair zones.

DECK REPAIR DETAILS

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

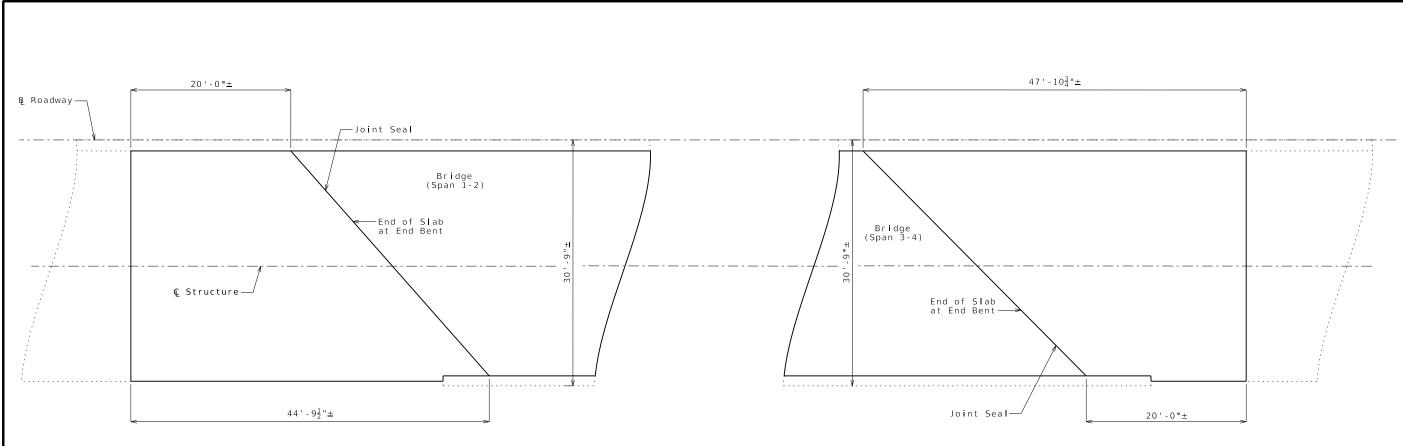
Sheet No. 2 of 3

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DATE PREPARED 11/5/2024 54 MO BR 2 COLE J5P3525 CONTRACT ID. PROJECT NO BRIDGE NO A13075

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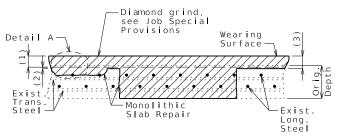


CONCRETE APPROACH SLAB (NORTH)

CONCRETE APPROACH SLAB (SOUTH)

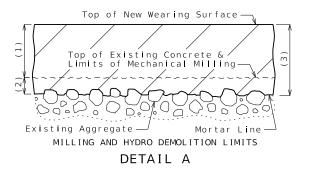


- (1) Removal of 3"± existing asphalt wearing surface to top of concrete, thickness may vary along slab.
- (2) 1/2" total surface hydro demolition of sound concrete.
- (3) 3 1/2"± latex modified concrete wearing surface, thickness may vary along slab.



APPROACH SLAB PARTIAL PLAN VIEW

TOP OF APPROACH SLAB REPAIR



BRIDGE APPROACH SLAB REPAIRS

Detailed Nov 2024 Checked Nov 2024

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

Sheet No. 3 of 3

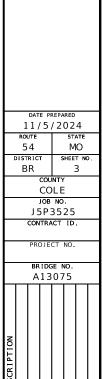
Notes:

Final grade of approach slab wearing surface shall match adjacent roadway and final grade of bridge deck wearing surface, the thickness of the Latex Modified Concrete wearing surface may vary.

Extents of reinforced concrete Approach Slabs as shown are $\mbox{\it approx}\mbox{\it imate}\,.$

Remove existing asphalt wearing surface and hydro demo existing Approach Slabs. Provide new Latex Modified Concrete Wearing Surface with Monolithic Repairs.

If wearing surface thickness values vary significantly from plan drawings, notify engineer.



COMMISSION

COMMISSION

105 WEST CAPITOL

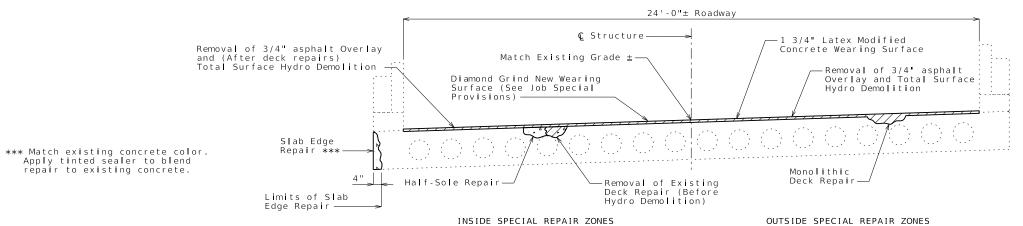
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PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 00005

U.I.P. AND REHABILITATE EXISTING (32'-48'-56'-39') CONTINUOUS CONCRETE VOIDED SLAB SPANS (SKEW: VARIES)



(PRE-HYDRO DEMOLITION REPAIRS)

Cleaning and Epoxy Coating (See Sec 704)-

Ground line-

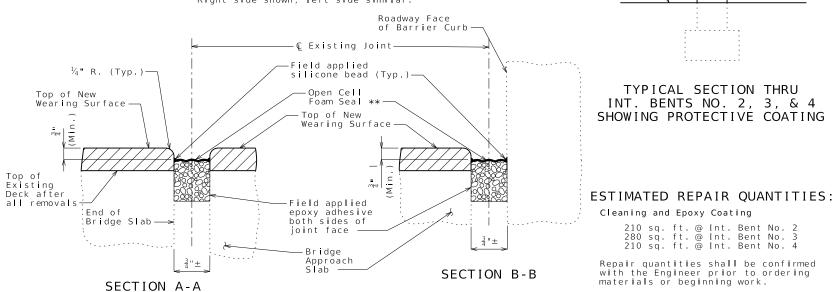
-End of Slab at End Bent Clean and Seal Joint with Open Cell Foam Seal Α

> CLEAN AND SEAL JOINT AT END BENTS NO. 1 & 5

Wing

SKEW = VARIES

Right side shown, left side similar.



210 sq. ft. @ Int. Bent No. . 280 sq. ft. @ Int. Bent No. . 210 sq. ft. @ Int. Bent No. .

TYPICAL SECTION THRU

INT. BENTS NO. 2, 3, & 4

Repair quantities shall be confirmed with the Engineer prior to ordering materials or beginning work.

TYPICAL SECTION THRU EXISTING DECK

	Estimated Quantities	
	I t em	Total
	Total Surface Hydro Demolition sq. yard	638
	Removal of Asphalt Wearing Surface sq. foot	5748
	Removal of Existing Deck Repair sq. foot	100
*	Supplementary Wearing Surface Material cu. yard	5
	Latex Modified Concrete Wearing Surface sq. yard	638
	Diamond Grinding sq. yard	638
	Half-Sole Repair sq. foot	100
	Slab Edge Repair (Bridges) linear foot	10
	Cleaning and Epoxy Coating sq. foot	700
	Open Cell Foam Joint Seal linear foot	89

* Supplementary wearing surface material for monolithic deck repair will be paid for at the fixed unit price in accordance with Sec 109.

General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications Bridge Deck Rating = 6

Design Loading:

(POST-HYDRO DEMOLITION REPAIRS)

HS20-44 (1961) and 15 psf future wearing surface

Design Unit Stresses:

Class B-1 Concrete (Half-Sole Repair) f'c = 4,000 psi

Miscellaneous:

Roadway surfacing adjacent to bridge ends shall match new bridge wearing surface

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

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

In order to maintain grade and a minimum thickness of wearing surface as shown on plans it may be necessary to use additional quantities of wearing surface at various locations throughout the structure. The cost of furnishing and installing the wearing surface will be considered completely covered in the contract unit price, including all additional labor, materials or equipment for variations in thickness of wearing surface.

Traffic Handling:

Structure to be closed during construction. See roadway plans for traffic

REPAIRS TO BRIDGE: MADISON STREET OVER ROUTE 54

ROUTE 54 FROM ROUTE 179 TO ROUTE 50 ABOUT 1.1 MILES SOUTH OF ROUTE 50 BEGINNING STATION 3+88.12± (Match Existing) 16305 Swingley Ridge Ro Ste. 300 Chesterfleld, MO 63017 314,231,0100 gbateam.com

DATE PREPARED 11/5/2024

COLE

J5P3525

CONTRACT ID

PROJECT NO

BRIDGE NO

A13092

MO

54

BR

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RYAN G. HAGERTY PROFESIONAL ENGINEER PE-2016034015

Notes:

Open cell foam joint seal size (width and depth) shall be determined by the manufacturer. Manufacturer recommended seal size shall meet the movement and installation gap requirements and skew effect.

** Manufacturer's recommended size

The open cell foam joint seal shall be installed according to the manufacturer's recommendations.

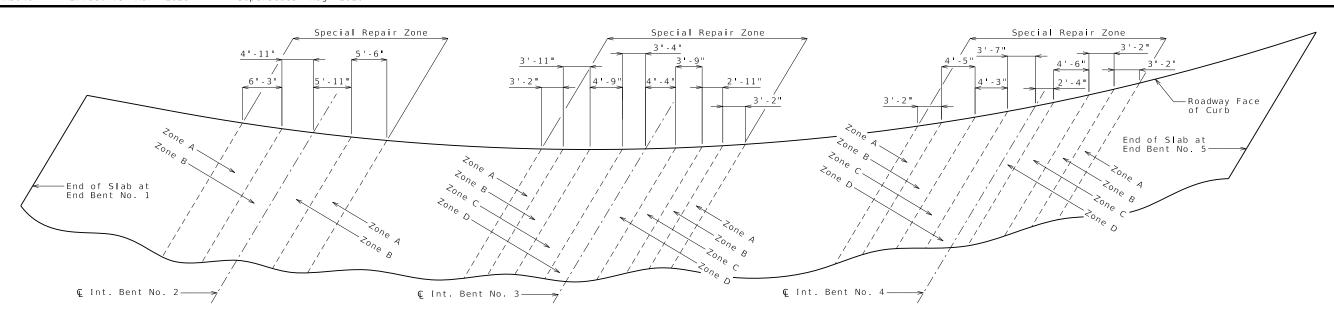
Any removals and other incidentals to install Open Cell Foam Joint Seal will be considered completely covered by the contract unit price for Open Cell Foam Joint Seal

Designed Nov 2024 Detailed Nov 2024 Checked Nov 2024

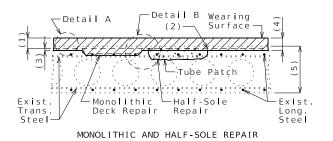
Note: This drawing is not to scale. Follow dimensions

Sheet No. 1 of 3

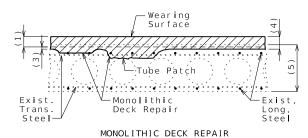
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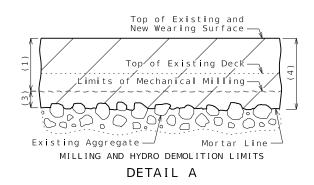
PART PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES



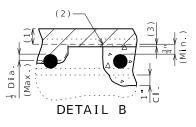
DECK REPAIR INSIDE SPECIAL REPAIR ZONES (BEFORE HYDRO DEMOLITION)



DECK REPAIR OUTSIDE SPECIAL REPAIR ZONES (AFTER HYDRO DEMOLITION)



- (1) Removal of existing 3/4"± Ultra-thin Bond Asphalt wearing surface (UBAWS) plus 1/2" of existing deck. The wearing surface thickness is an estimate and any additional thickness of wearing surface is considered completely covered by the contract unit price of Removal of Asphalt Wearing Surface.
- (2) 1" vertical side shall be established outside the deteriorated area.
- (3) Total surface hydro demolition of sound concrete, measured to mortar line:
 - 1/2" minimum inside special repair zones
 - 1/2" minimum outside special repair zones
- (4) Latex modified concrete wearing surface:
 - 1 3/4" minimum inside special repair zones
 - 1 3/4" minimum outside special repair zones
- (5) Original depth minus previous scarification



Monolithic deck repair shall be used when only half the diameter or less of the top bar is exposed.

Clearance around top bar and around bottom bar at the intersection of top bar shall be required when more than half the diameter of the top bar is exposed.

Deck Repair Notes:

Order of Repair:

- 1. Remove existing wearing surface plus 1/2" of existing deck.
- 2. Power wash deck to identify sound and unsound existing deck repair.
- 3. Inside special repair zones, complete the following repairs: a. Removal of existing deck repair
 b. Half-sole repair
- 4. Outside special repair zones, remove existing deck repair.
- 5. Complete total surface hydro demolition, removing 1/2" minimum of sound concrete inside special repair zones and removing 1/2" minimum of sound concrete and all deteriorated concrete outside
- 6. Sound deck and if needed complete incidental concrete removal.
- 7. Place new wearing surface including additional material for areas of monolithic deck repair.

Special Repair Zones:

Deck repair required in the areas designated as special repair zones shall be completed before hydro demolition in alphabetical sequence beginning with Zone A. Zones with the same letter designation may be repaired at the same time. Hydro demolition shall not move forward until the repairs in all special repair zones are completed and properly cured.

Any deck repair in areas not designated as a special repair zone shall be completed after hydro demolition.

Removal and deck repair shall be completed in one special repair zone and concrete shall have attained a compressive strength of 3200 psi before work can be started in the next special repair zone.

If any single repair area does not exceed 4 square feet in size and the total repair area within a special repair zone does not exceed 12 square feet, the special repair zone may be repaired at the same time as an adjacent zone.

Void Repair:

Any damage sustained to the void tube as a result of the contractor's operations shall be patched or replaced as required by the engineer at the contractor's expense.

An exposed void in the deck shall be patched as approved by the engineer in a manner that shall maintain the void area completely free of concrete. Cost of patching an exposed void will be considered completely covered by the contract unit price for Half-Sole Repair inside special repair zones and Monolithic Deck Repair outside special repair zones.

DATE PREPARED 11/5/2024 54 MO BR COLE J5P3525 CONTRACT ID. PROJECT NO BRIDGE NO A13092

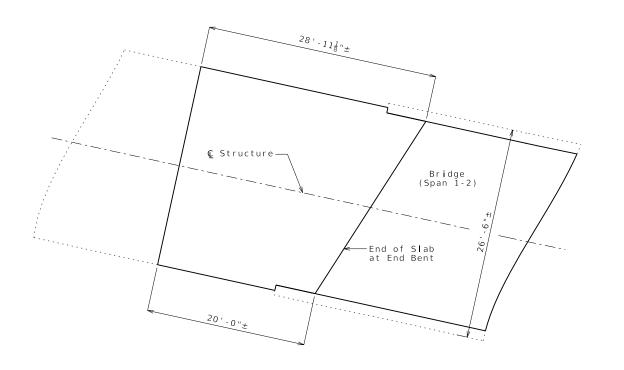


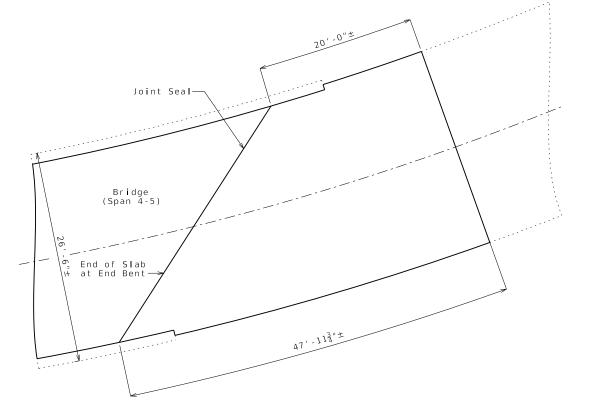
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RYAN G. HAGERTY PROFESIONAL PE-2016034015

DECK REPAIR DETAILS





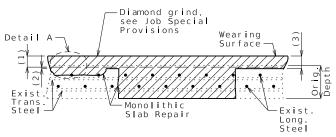
CONCRETE APPROACH SLAB (EAST)

 Removal of 3"± existing asphalt wearing surface to top of concrete, thickness may vary along slab.

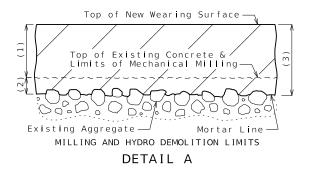
(2) 1/2" total surface hydro demolition of sound concrete.

(3) 3 1/2"± latex modified concrete wearing surface, thickness may vary along slab.

APPROACH SLAB PARTIAL PLAN VIEW



TOP OF APPROACH SLAB REPAIR



BRIDGE APPROACH SLAB REPAIRS

Detailed Nov 2024 Checked Nov 2024

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

Sheet No. 3 of 3

CONCRETE APPROACH SLAB (WEST)

Notes:

Final grade of approach slab wearing surface shall match adjacent roadway and final grade of bridge deck wearing surface, the thickness of the Latex Modified Concrete wearing surface may vary.

Extents of reinforced concrete Approach Slabs as shown are approximate.

Remove existing asphalt wearing surface and hydro demo existing Approach Slabs. Provide new Latex Modified Concrete Wearing Surface with Monolithic Repairs.

If wearing surface thickness values vary significantly from plan drawings, notify engineer.





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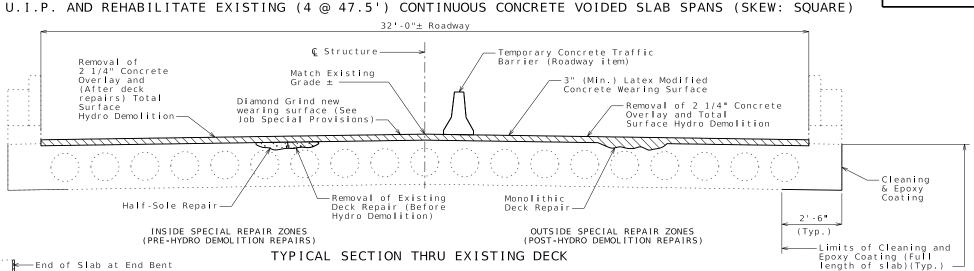
Top of New

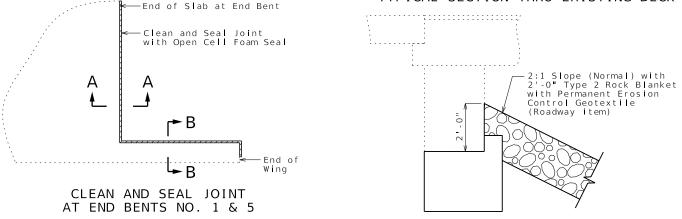
Existing Deck after all removals

Designed Nov 2024

Detailed Nov 2024

Checked Nov 2024





SLOPE PROTECTION DETAIL SKEW = SOUARE AT END BENT NO. 1 Right side shown, left side similar

The top of rock blanket shall be flush to the ground line as directed by the engineer (Roadway item). Roadway Face of Barrier Curb -C, Existing Joint-Field applied $\frac{1}{4}$ R. (Typ.) silicone bead (Typ.)-Cleaning and Epoxy Coating (See Sec 704) Open Cell Wearing Surface Foam Seal ** -Top of Existing Approach Slab Ground line ield applied epoxy adhesive both sides of :Bridge Slab --> joint face 3/4 ±

SECTION B-B

Note: This drawing is not to scale. Follow dimensions

Bridge

** Manufacturer's recommended size

The open cell foam joint seal shall be installed according to the

Open cell foam joint seal size (width and depth) shall be determined by the manufacturer. Manufacturer recommended seal size shall meet the movement and installation gap requirements and skew effect.

be considered completely covered by the contract unit price for Open Cell

removals and other incidentals to install Open Cell Foam Joint Seal will

Slab

3 "±

manufacturer's recommendations.

SECTION A-A

Notes:

Approach

TYPICAL SECTION THRU INT. BENTS NO. 2, 3 & 4 SHOWING PROTECTIVE COATING

ESTIMATED REPAIR QUANTITIES:

Cleaning and Epoxy Coating

- 1700 sq. ft. @ Slab Edges 270 sq. ft. @ Int. Bent No. 2 315 sq. ft. @ Int. Bent No. 3 315 sq. ft. @ Int. Bent No. 4
- Repair quantities shall be confirmed with the Engineer prior to ordering
- materials or beginning work.

Sheet No. 1 of 4

Estimated Quantities I t em Total Class 1 Excavation 23 cu. yard Total Surface Hydro Demolition sq. yard 684 emoval of Concrete Wearing Surface sq. foo 6160 Supplementary Wearing Surface Material cu. yard atex Modified Concrete Wearing Surface 684 sq. yard Diamond Grinding 684 sq. yard Self-Consolidating Concrete cu. yar 11 Half-Sole Repair sq. foot 100 Cleaning and Epoxy Coating sq. foot 2600 Reinforcing Steel (Epoxy Coated) pound 1210 Open Cell Foam Joint Seal linear foo 92

SEC/SUR

TWP 43N

RGE 12W

* Supplementary wearing surface material for monolithic deck repair will be paid for at the fixed unit price in accordance with Sec 109.

General Notes:

Design Specifications:

2002 AASHTO LFD (17th_Ed.) Standard Specifications Bridge Deck Rating = 6

Design Loading:

HS20-44 (1965) and 15 psf future wearing surface

Design Unit Stresses:

Self-Consolidating Concrete Class B-1 Concrete (Half-Sole Repair) Reinforcing Steel (Grade 60) f'c = 4,000 psifv = 60,000 ps

Reinforcing Steel:

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

Roadway surfacing adjacent to bridge ends shall match new bridge wearing surface

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 the field before ordering new material.

In order to maintain grade and a minimum thickness of wearing surface as shown on plans it may be necessary to use additional quantities of wearing surface at various locations throughout the structure. The cost of furnishing and installing the wearing surface will be considered completely covered in the contract unit price, including all additional labor, materials or equipment for variations in thickness of wearing surface.

Traffic Handling:

Traffic to be maintained on structure during construction. See roadway plans for traffic control.

REPAIRS TO BRIDGE: ROUTE 54 WB OVER MOREAU RIVER OVERFLOW

ROUTE 54 FROM ROUTE CC TO ROUTE D ABOUT 1.8 MILES SOUTHWEST OF ROUTE CC BEGINNING STATION 386+55.70± (Match Existing)

DATE PREPARED 11/5/2024 54 MO BR COLE J5P3525 CONTRACT ID. PROJECT NO BRIDGE NO A14153

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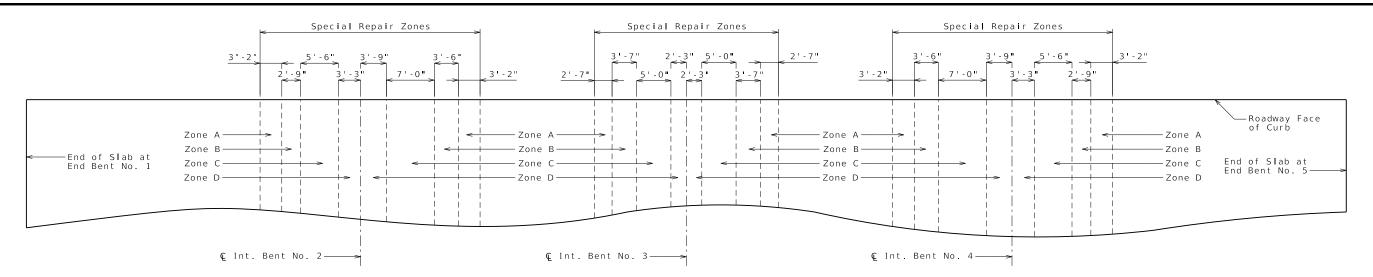
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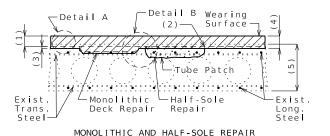
RYAN G. HAGERTY PROFESIONAL PE-2016034015

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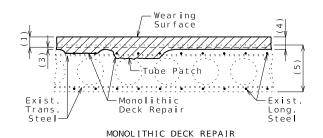
Detailed Nov 2024 Checked Nov 2024



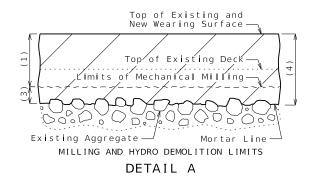
PART PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES



DECK REPAIR INSIDE SPECIAL REPAIR ZONES (BEFORE HYDRO DEMOLITION)



DECK REPAIR OUTSIDE SPECIAL REPAIR ZONES (AFTER HYDRO DEMOLITION)



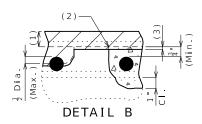
(1) Removal of existing 2 1/4"± concrete overlay plus 1/4" of existing deck. The wearing surface thickness is an estimate and any additional thickness of wearing surface is considered completely covered by the contract unit price of Removal of Concrete Wearing Surface

- (2) 1" vertical side shall be established outside the deteriorated area.
- (3) Total surface hydro demolition of sound concrete, measured to mortar line:

1/2" minimum inside special repair zones

1/2" minimum outside special repair zones

- (4) Latex modified concrete wearing surface:
 - 3" minimum inside special repair zones
 - 3" minimum outside special repair zones
- (5) Original depth minus previous scarification



Monolithic deck repair shall be used when only half the diameter or less of the top bar is exposed.

Clearance around top bar and around bottom bar at the intersection of top bar shall be required when more than half the diameter of the top bar is exposed.

Deck Repair Notes:

Order of Repair:

- Remove existing wearing surface plus 1/4" of existing deck.
- Power wash deck to identify sound and unsound existing deck repair.
- Inside special repair zones, complete the following repairs: Half-sole repair
- 4. Outside special repair zones, remove existing deck repair.
- 5. Complete total surface hydro demolition, removing 1/2" minimum of sound concrete inside special repair zones and removing 1/2" minimum of sound concrete and all deteriorated concrete outside special repair zones.
- Sound deck and if needed complete incidental concrete removal.
- Place new wearing surface including additional material for areas of monolithic deck repair.

Special Repair Zones:

Deck repair required in the areas designated as special repair zones shall be completed before hydro demolition in alphabetical sequence beginning with Zone A. Zones with the same letter designation may be repaired at the same time. Hydro demolition shall not move forward until the repairs in all special repair zones are completed and properly cured.

Any deck repair in areas not designated as a special repair zone shall be completed after hydro demolition.

Removal and deck repair shall be completed in one special repair zone and concrete shall have attained a compressive strength of 3200 psi before work can be started in the next special repair zone.

If any single repair area does not exceed 4 square feet in size and the total repair area within a special repair zone does not exceed 12 square feet, the special repair zone may be repaired at the same time as an adjacent zone.

Void Repair:

Any damage sustained to the void tube as a result of the contractor's operations shall be patched or replaced as required by the engineer at the contractor's expense.

An exposed void in the deck shall be patched as approved by the engineer in a manner that shall maintain the void area completely free of concrete. Cost of patching an exposed void will be considered completely covered by the contract unit price for Half-Sole Repair inside special repair zones and Monolithic Deck Repair outside special repair zones.

GEORGE BUTLER
ASSOCIATES, INC.
PO. ENGINEER 000133
ARCHITECT 000212
PRO, LAND SURVEYOR 0000

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DATE PREPARED

11/5/2024

JOB NO.
J5P3525
CONTRACT ID.

PROJECT NO

A14153

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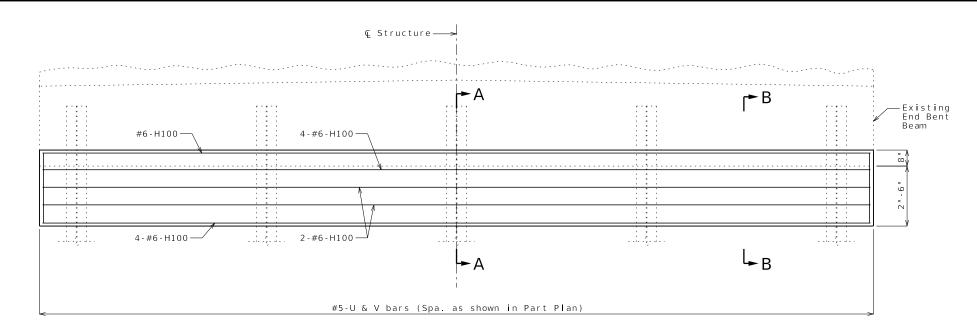
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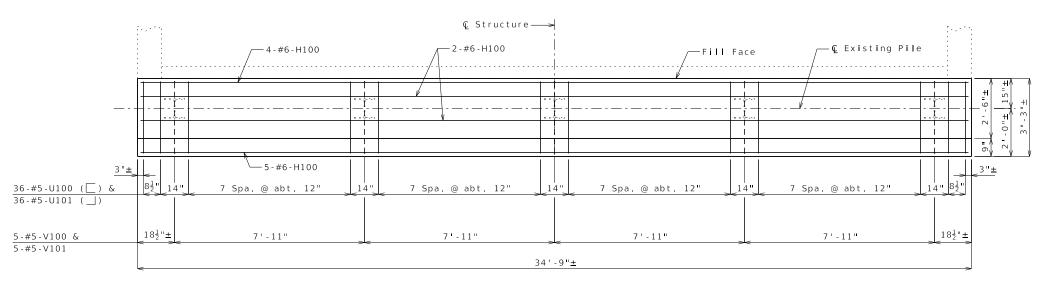
RYAN G. HAGERTY PROFESIONAL ENGINEER PE-2016034015

DECK REPAIR DETAILS

Sheet No. 2 of 4



PART ELEVATION SHOWING PILE ENCASEMENT



PART PLAN SHOWING PILE ENCASEMENT

Notes:

Detailed Nov 2024 Checked Nov 2024

All U and V bars shall be placed parallel to centerline of roadway.

Reinforcing steel shall be shifted as necessary to clear existing piles by at least 1 1/2 inches.

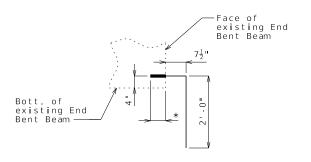
The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

The cost of furnishing and installing the resin anchor system, complete in place, will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated)

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

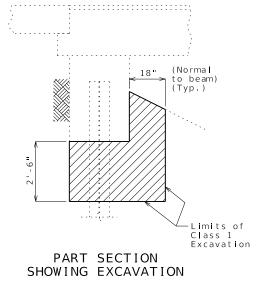
 ${\tt Concrete \ for \ pile \ encasement \ shall \ be \ Self-Consolidating \ Concrete}.$

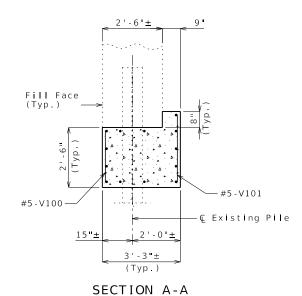
The exposed and accessible surfaces of the existing structural steel piles that will be encased in concrete shall be cleaned with a minimum of SSPC-SP-3 surface preparation and coated with a minimum of one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce a dry film thickness of not less than 3 mils before concrete is poured. The surface preparation and coating will be considered completely covered by the contract unit price for Self-Consolidating Concrete.

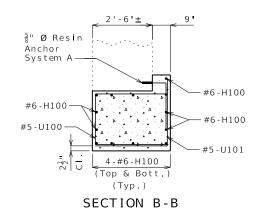


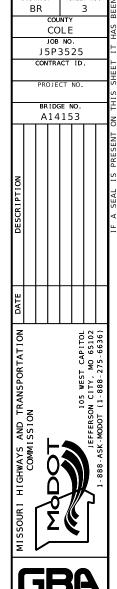
DETAILS OF RESIN ANCHOR SYSTEM A

* Manufacturer's recommended embedment length (5" min.) (36 req'd total for End Bent No. 1) (Spa. with U100 & U101)









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RYAN G. HAGERTY PROFESIONAL ENGINEER

PE-2016034015

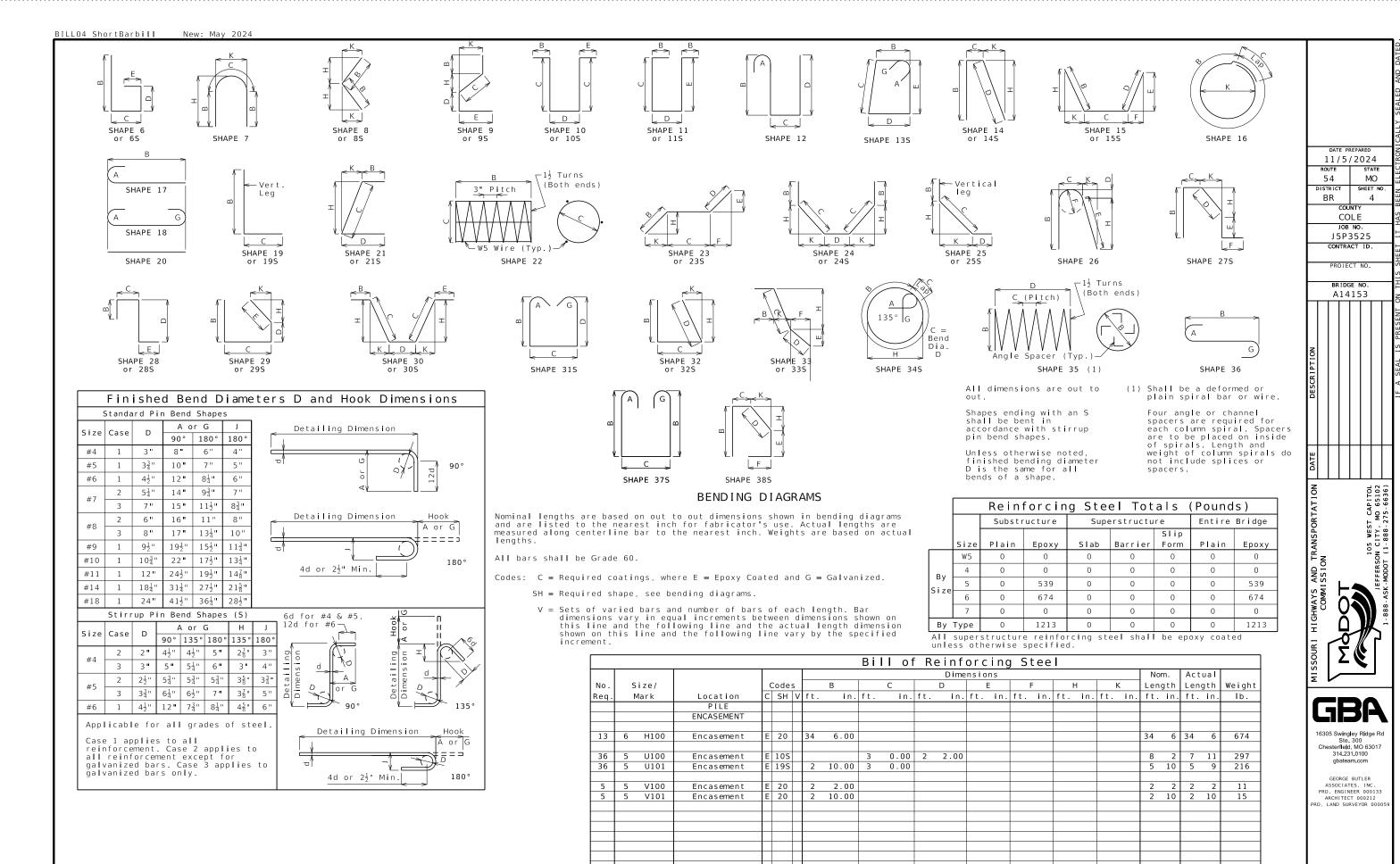
DATE PREPARED

11/5/2024

MO

54

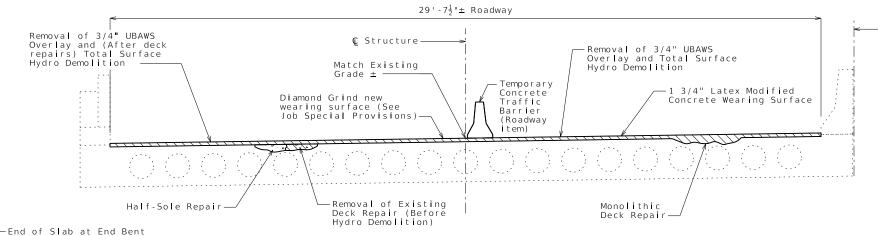
PILE ENCASEMENT AT END BENT NO. 1



RYAN G. HAGERTY PROFESIONAL

PE-2016034015

U.I.P. AND REHABILITATE EXISTING (46'-56'-35') CONTINUOUS CONCRETE VOIDED SLAB SPANS (SKEW: 10° R.A.)

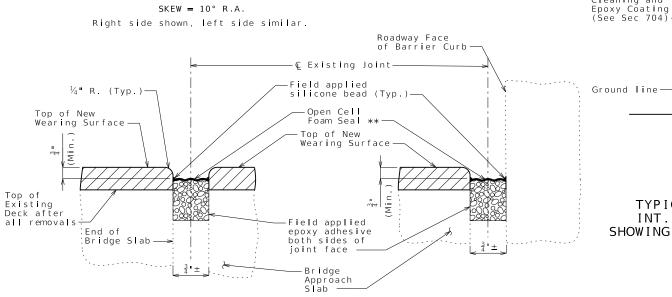


Cleaning and

-Clean and Seal Joint with Open Cell Foam Seal

CLEAN AND SEAL JOINT AT END BENTS NO. 1 & 4

 $SKEW = 10^{\circ} R.A.$



End of

** Manufacturer's recommended size

Notes:

Designed Nov 2024

Detailed Nov 2024

Checked Nov 2024

SECTION A-A

Open cell foam joint seal size (width and depth) shall be determined by the manufacturer. Manufacturer recommended seal size shall meet the movement and installation gap requirements and skew effect.

The open cell foam joint seal shall be installed according to the

Any removals and other incidentals to install Open Cell Foam Joint Seal will be considered completely covered by the contract unit price for Open Cell Foam Joint Seal.

	Estimated Quantities	
	I t em	Total
	Total Surface Hydro Demolition sq. yard	611
	Removal of Asphalt Wearing Surface sq. foo	5502
	Removal of Existing Deck Repair sq. foo	250
*	Supplementary Wearing Surface Material cu. yaro	3
	Latex Modified Concrete Wearing Surface sq. yard	611
	Diamond Grinding sq. yard	611
	Half-Sole Repair sq. foo	50
	Cleaning and Epoxy Coating sq. foo	500
	Open Cell Foam Joint Seal linear foo	7 1

₽ Roadway & C Median

* Supplementary wearing surface material for monolithic deck repair will be paid for at the fixed unit price in accordance with Sec 109.

General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications

Design Loading:

HS20-44 (1961) and 15 psf future wearing surface

Design Unit Stresses:

Class B-1 Concrete (Half-Sole Repair) f'c = 4,000 psi

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

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

In order to maintain grade and a minimum thickness of wearing surface as shown on plans it may be necessary to use additional quantities of wearing surface at various locations throughout the structure. The cost of furnishing and installing the wearing surface will be considered completely covered in the contract unit price, including all additional labor, materials or equipment for variations in thickness of wearing surface.

for traffic control.

REPAIRS TO BRIDGE: ROUTE 54 EB

ROUTE 54 FROM ROUTE 50 TO ROUTE 179 ABOUT 1.2 MILES SOUTH OF ROUTE 50 BEGINNING STATION 72+88.29± (Match Existing)

OVER STADIUM BLVD.

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PROJECT NO BRIDGE NO A16724

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DATE PREPARED

11/5/2024

COLE J5P3525 CONTRACT ID.

MO

54

BR

INSIDE SPECIAL REPAIR ZONES

(PRE-HYDRO DEMOLITION REPAIRS)

SECTION B-B

Note: This drawing is not to scale. Follow dimensions

OUTSIDE SPECIAL REPAIR ZONES

TYPICAL SECTION THRU INT. BENTS NO. 2 & 3

SHOWING PROTECTIVE COATING

ESTIMATED REPAIR QUANTITIES:

Sheet No. 1 of 3

250 sq. ft. @ Int. Bent No. 2 250 sq. ft. @ Int. Bent No. 3

Repair quantities shall be confirmed with the Engineer prior to ordering

Cleaning and Epoxy Coating

materials or beginning work.

(POST-HYDRO DEMOLITION REPAIRS)

TYPICAL SECTION THRU EXISTING DECK

Estimated Quantities

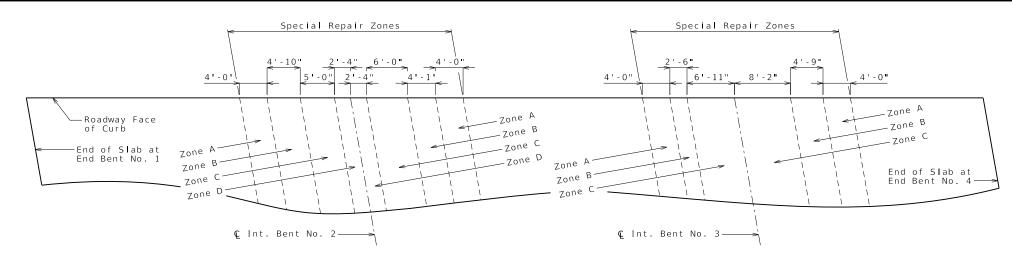
Bridge Deck Rating = 6

Roadway surfacing adjacent to bridge ends shall match new bridge wearing surface

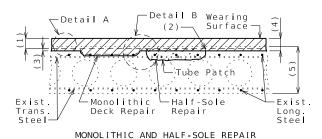
Outline of existing work is indicated by light dashed lines. Heavy lines indicate

Traffic Handling:

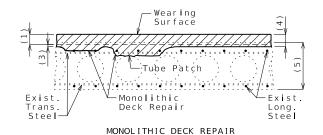
Traffic to be maintained on structure during construction. See roadway plans



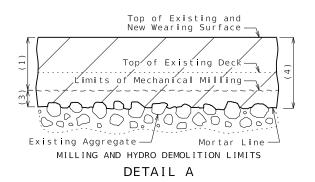
PART PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES



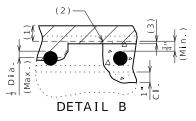
DECK REPAIR INSIDE SPECIAL REPAIR ZONES (BEFORE HYDRO DEMOLITION)



DECK REPAIR OUTSIDE SPECIAL REPAIR ZONES (AFTER HYDRO DEMOLITION)



- (1) Removal of existing 3/4"± Ultra-thin Bond Asphalt wearing surface (UBAWS) plus 1/2" of existing deck. The wearing surface thickness is an estimate and any additional thickness of wearing surface is considered completely covered by the contract unit price of Removal of Asphalt Wearing Surface.
- (2) 1" vertical side shall be established outside the deteriorated area.
- (3) Total surface hydro demolition of sound concrete, measured to mortar line:
 - 1/2" minimum inside special repair zones
 - 1/2" minimum outside special repair zones
- (4) Latex modified concrete wearing surface:
 - 1 3/4" minimum inside special repair zones
 - 1 3/4" minimum outside special repair zones
- (5) Original depth minus previous scarification



Monolithic deck repair shall be used when only half the diameter or less of the top bar is exposed.

Clearance around top bar and around bottom bar at the intersection of top bar shall be required when more than half the diameter of the top bar is exposed.

Deck Repair Notes:

Order of Repair:

- Remove existing wearing surface plus 1/2" of existing deck.
- Power wash deck to identify sound and unsound existing deck repair.

DATE PREPARED

11/5/2024

JOB NO.
J5P3525
CONTRACT ID.

PROJECT NO

BRIDGE NO

A16724

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54

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- Inside special repair zones, complete the following repairs:

 a. Removal of existing deck repair
 b. Half-sole repair
- 4. Outside special repair zones, remove existing deck repair.
- Complete total surface hydro demolition, removing 1/2" minimum of sound concrete inside special repair zones and removing 1/2" minimum of sound concrete and all deteriorated concrete outside special repair
- Sound deck and if needed complete incidental concrete removal.
- Place new wearing surface including additional material for areas of monolithic deck repair.

Special Repair Zones:

Deck repair required in the areas designated as special repair zones shall be completed before hydro demolition in alphabetical sequence beginning with Zone A. Zones with the same letter designation may be repaired at the same time. Hydro demolition shall not move forward until the repairs in all special repair zones are completed and properly cured.

Any deck repair in areas not designated as a special repair zone shall be completed after hydro demolition.

Removal and deck repair shall be completed in one special repair zone and concrete shall have attained a compressive strength of 3200 psi before work can be started in the next special repair zone.

If any single repair area does not exceed 4 square feet in size and the total repair area within a special repair zone does not exceed 12 square feet, the special repair zone may be repaired at the same time as an adjacent zone.

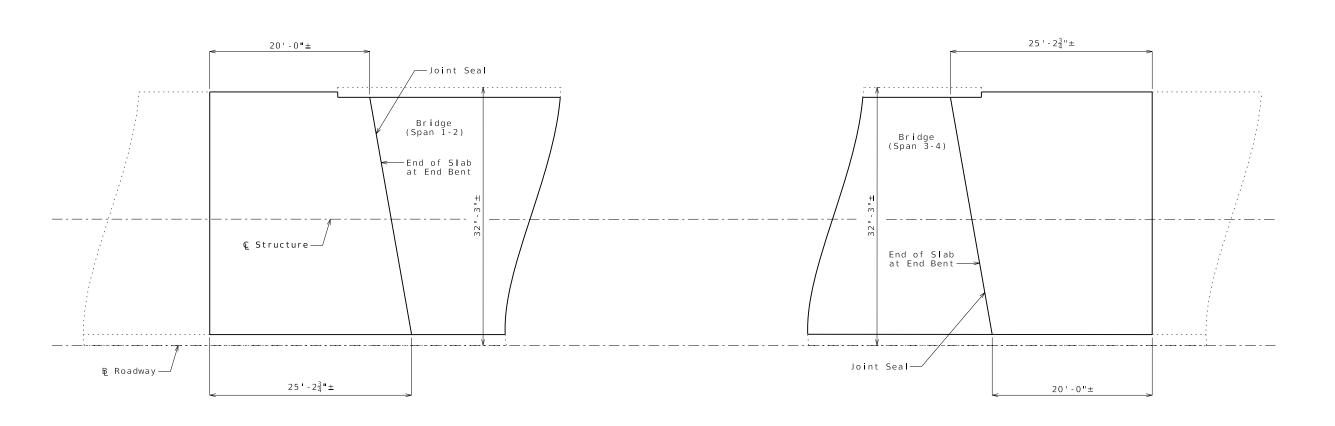
Void Repair:

Any damage sustained to the void tube as a result of the contractor's operations shall be patched or replaced as required by the engineer at the contractor's expense.

An exposed void in the deck shall be patched as approved by the engineer in a manner that shall maintain the void area completely free of concrete. Cost of patching an exposed void will be considered completely covered by the contract unit price for Half-Sole Repair inside special repair zones and Monolithic Deck Repair outside special repair zones.

DECK REPAIR DETAILS

Detailed Nov 2024 Checked Nov 2024



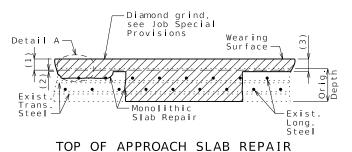
CONCRETE APPROACH SLAB (NORTHEAST)

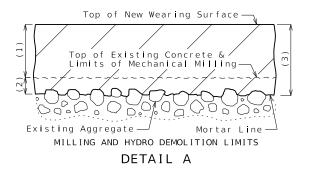
Removal of 3"± existing asphalt wearing surface to top of concrete, thickness may vary along slab.

(2) 1/2" total surface hydro demolition of sound concrete.

(3) 3 1/2"± latex modified concrete wearing surface, thickness may vary along slab.

APPROACH SLAB PARTIAL PLAN VIEW





BRIDGE APPROACH SLAB REPAIRS

Detailed Nov 2024 Checked Nov 2024

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

Sheet No. 3 of 3

CONCRETE APPROACH SLAB (SOUTHWEST)

Notes:

Final grade of approach slab wearing surface shall match adjacent roadway and final grade of bridge deck wearing surface, the thickness of the Latex Modified Concrete wearing surface may vary.

Extents of reinforced concrete Approach Slabs as shown are approximate.

Remove existing asphalt wearing surface and hydro demo existing Approach Slabs. Provide new Latex Modified Concrete Wearing Surface with Monolithic Repairs.

If wearing surface thickness values vary significantly from plan drawings, notify engineer.

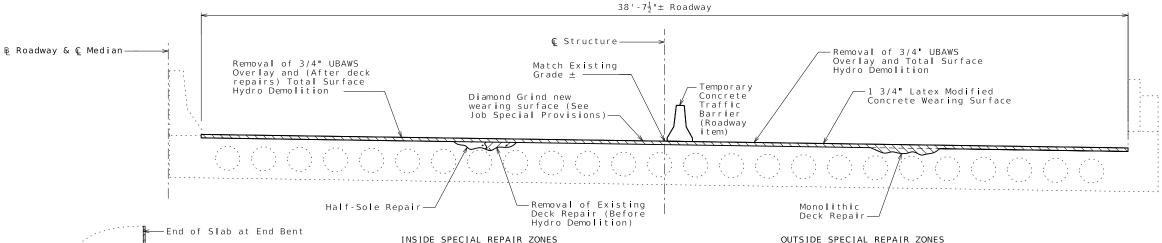
DATE PREPARED 11/5/2024 54 MO BR COLE J5P3525 CONTRACT ID. PROJECT NO. BRIDGE NO A16724



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U.I.P. AND REHABILITATE EXISTING (46'-56'-35') CONTINUOUS CONCRETE VOIDED SLAB SPANS (SKEW: 10° R.A.)

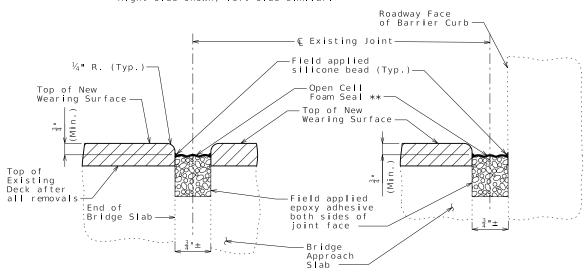


-Clean and Seal Joint with Open Cell Foam Seal Α

> CLEAN AND SEAL JOINT AT END BENTS NO. 1 & 4

> > $SKEW = 10^{\circ} R.A.$

Right side shown, left side similar.



** Manufacturer's recommended size

Notes:

Designed Nov 2024

Detailed Nov 2024

Checked Nov 2024

SECTION A-A

Open cell foam joint seal size (width and depth) shall be determined by the manufacturer. Manufacturer recommended seal size shall meet the movement and installation gap requirements and skew effect.

SECTION B-B

Note: This drawing is not to scale. Follow dimensions

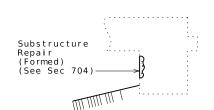
The open cell foam joint seal shall be installed according to the

Any removals and other incidentals to install Open Cell Foam Joint Seal will be considered completely covered by the contract unit price for Open Cell Foam Joint Seal.

Cleaning and Epoxy Coating (See Sec 704) Ground line-

TYPICAL SECTION THRU EXISTING DECK

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



TYPICAL SECTION THRU END BENT NO. 1 SHOWING SUBSTRUCTURE REPAIR

ESTIMATED REPAIR OUANTITIES:

Sheet No. 1 of 3

Cleaning and Epoxy Coating

375 sq. ft. @ Int. Bent No. 2 375 sq. ft. @ Int. Bent No. 3

Substructure Repair (Formed)

10 sq. ft. @ End Bent No. 1

Repair quantities shall be confirmed with the Engineer prior to ordering materials or beginning work.

Estimated Quantities		
I t em		Total
Total Surface Hydro Demolition	sq. yard	803
Removal of Asphalt Wearing Surface	sq. foot	7227
Removal of Existing Deck Repair	sq. foot	300
Supplementary Wearing Surface Material	cu. yard	9
Latex Modified Concrete Wearing Surface	sq. yard	803
Diamond Grinding	sq. yard	803
Substructure Repair (Formed)	sq. foot	10
Half-Sole Repair	sq. foot	500
Cleaning and Epoxy Coating	sq. foot	750
Open Cell Foam Joint Seal	linear foot	90

* Supplementary wearing surface material for monolithic deck repair will be paid for at the fixed unit price in accordance with Sec 109.

General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications Bridge Deck Rating = 6

(POST-HYDRO DEMOLITION REPAIRS)

HS20-44 (1961) and 15 psf future wearing surface

Design Unit Stresses:

Class B-1 Concrete (Half-Sole Repair) f'c = 4,000 psi

Roadway surfacing adjacent to bridge ends shall match new bridge wearing surface

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 the field before ordering new material.

In order to maintain grade and a minimum thickness of wearing surface as shown on plans it may be necessary to use additional quantities of wearing surface at various locations throughout the structure. The cost of furnishing and installing the wearing surface will be considered completely covered in the contract unit price, including all additional labor, materials or equipment for variations in thickness of wearing surface.

Traffic Handling:

Traffic to be maintained on structure during construction. See roadway plans for traffic control.

> REPAIRS TO BRIDGE: ROUTE 54 WB OVER STADIUM BLVD.

ROUTE 54 FROM ROUTE 50 TO ROUTE 179 ABOUT 1.2 MILES SOUTH OF ROUTE 50 BEGINNING STATION 72+88.29± (Match Existing)

ENGINEER PE-2016034015

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COLE J5P3525 CONTRACT ID.

PROJECT NO

BRIDGE NO

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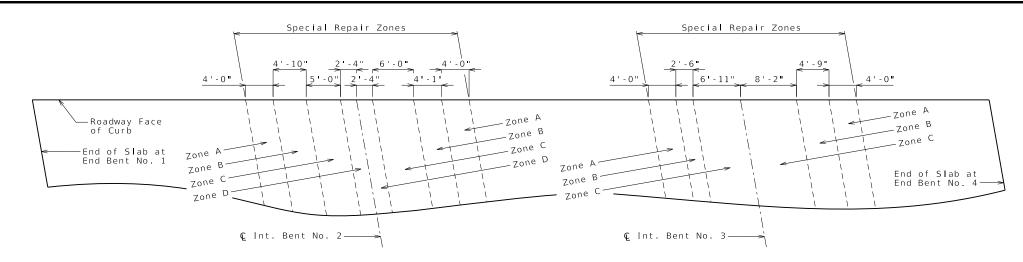
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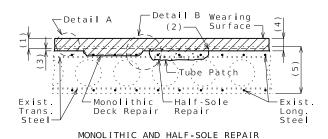
MO

GEORGE BUTLER ASSOCIATES, INC. PRO. ENGINEER 000133 ARCHITECT 000212 O, LAND SURVEYOR 0000

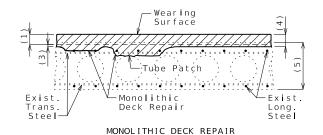
RYAN G. HAGERTY PROFESIONAL



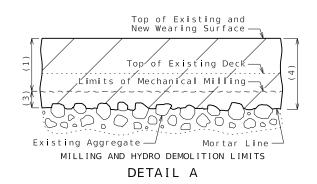
PART PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES



DECK REPAIR INSIDE SPECIAL REPAIR ZONES (BEFORE HYDRO DEMOLITION)



DECK REPAIR OUTSIDE SPECIAL REPAIR ZONES (AFTER HYDRO DEMOLITION)



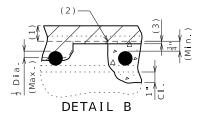
(1) Removal of existing 3/4"± Ultra-thin Bond Asphalt wearing surface (UBAWS) plus 1/2" of existing deck. The wearing surface thickness is an estimate and any additional thickness of wearing surface is considered completely covered by the contract unit price of Removal of Asphalt Wearing Surface.

- (2) 1" vertical side shall be established outside the deteriorated area.
- (3) Total surface hydro demolition of sound concrete, measured to mortar line:

1/2" minimum inside special repair zones

1/2" minimum outside special repair zones

- (4) Latex modified concrete wearing surface:
 - 1 3/4" minimum inside special repair zones
 - 1 3/4" minimum outside special repair zones
- (5) Original depth minus previous scarification



Monolithic deck repair shall be used when only half the diameter or less of the top bar is exposed.

Clearance around top bar and around bottom bar at the intersection of top bar shall be required when more than half the diameter of the top bar is exposed.

Deck Repair Notes:

Order of Repair:

- Remove existing wearing surface plus 1/2" of existing deck.
- Power wash deck to identify sound and unsound existing deck repair.

DATE PREPARED

11/5/2024

JOB NO.
J5P3525
CONTRACT ID.

PROJECT NO

BRIDGE NO

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- Inside special repair zones, complete the following repairs:

 a. Removal of existing deck repair
 b. Half-sole repair
- 4. Outside special repair zones, remove existing deck repair.
- 5. Complete total surface hydro demolition, removing 1/2" minimum of sound concrete inside special repair zones and removing 1/2" minimum of sound concrete and all deteriorated concrete outside special repair zones.
- 6. Sound deck and if needed complete incidental concrete removal.
- Place new wearing surface including additional material for areas of monolithic deck repair.

Special Repair Zones:

Deck repair required in the areas designated as special repair zones shall be completed before hydro demolition in alphabetical sequence beginning with Zone A. Zones with the same letter designation may be repaired at the same time. Hydro demolition shall not move forward until the repairs in all special repair zones are completed and properly cured.

Any deck repair in areas not designated as a special repair zone shall be completed after hydro demolition.

Removal and deck repair shall be completed in one special repair zone and concrete shall have attained a compressive strength of 3200 psi before work can be started in the next special repair zone.

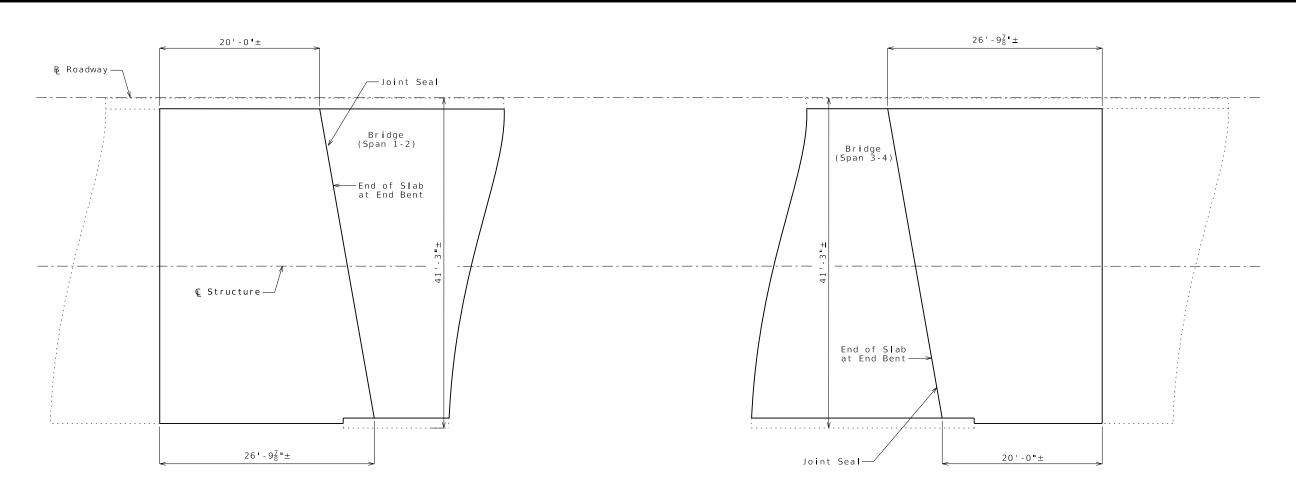
If any single repair area does not exceed 4 square feet in size and the total repair area within a special repair zone does not exceed 12 square feet, the special repair zone may be repaired at the same time as an adjacent zone.

Any damage sustained to the void tube as a result of the contractor's operations shall be patched or replaced as required by the engineer at the contractor's expense.

An exposed void in the deck shall be patched as approved by the engineer in a manner that shall maintain the void area completely free of concrete. Cost of patching an exposed void will be considered completely covered by the contract unit price for Half-Sole Repair inside special repair zones and Monolithic Deck Repair outside special repair zones.

DECK REPAIR DETAILS

Detailed Nov 2024 Checked Nov 2024



A

CONCRETE APPROACH SLAB (NORTHEAST)

 Removal of 3"± existing asphalt wearing surface to top of concrete, thickness may vary along slab.

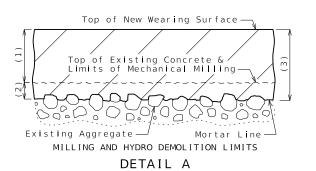
(2) 1/2" total surface hydro demolition of sound concrete.

(3) 3 1/2"± latex modified concrete wearing surface, thickness may vary along slab.

APPROACH SLAB PARTIAL PLAN VIEW

Detail A See Job Special Provisions Wearing Surface Surface Monolithic Steel Slab Repair Exist Long. Steel

TOP OF APPROACH SLAB REPAIR



Notes:

Final grade of approach slab wearing surface shall match adjacent roadway and final grade of bridge deck wearing surface, the thickness of the Latex Modified Concrete wearing surface may vary.

Extents of reinforced concrete Approach Slabs as shown are $\mbox{\it approx}\mbox{\it imate}\,.$

Remove existing asphalt wearing surface and hydro demo existing Approach Slabs. Provide new Latex Modified Concrete Wearing Surface with Monolithic Repairs.

If wearing surface thickness values vary significantly from plan drawings, notify engineer.

CONCRETE APPROACH SLAB (SOUTHWEST)

ets of the Latex Modified by vary.

ete Approach Slabs as shown

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11/5/2024

COLE
JOB NO.
J 5 P 3 5 2 5
CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A 1 6 7 2 5

MO

ROUTE 54

BR

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ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 0000

RYAN G. HAGERTY PROFESIONAL ENGINEER PE-2016034015

BRIDGE APPROACH SLAB REPAIRS

Detailed Nov 2024 Checked Nov 2024

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

Sheet No. 3 of 3