

DESIGN DESIGNATION

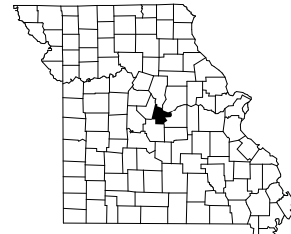
- A.A.D.T. - 2025 ■ 20,789
- A.A.D.T. - 2045 ■ 23,633
- D.H.V. ■ 10.18%
- T ■ 10.14%
- V ■ 65 M.P.H.
- D (E/W) ■ 48.4% / 51.6%
- FUNCTIONAL CLASSIFICATION - FREEWAY

NO NEW RIGHT OF WAY REQUIRED

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED STATE HIGHWAY

COLE COUNTY



KEY MAP
LOCATION OF COLE COUNTY



NOT TO SCALE

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
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A9470.....	1-23
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DATE PREPARED
11/4/2024

ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 1
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

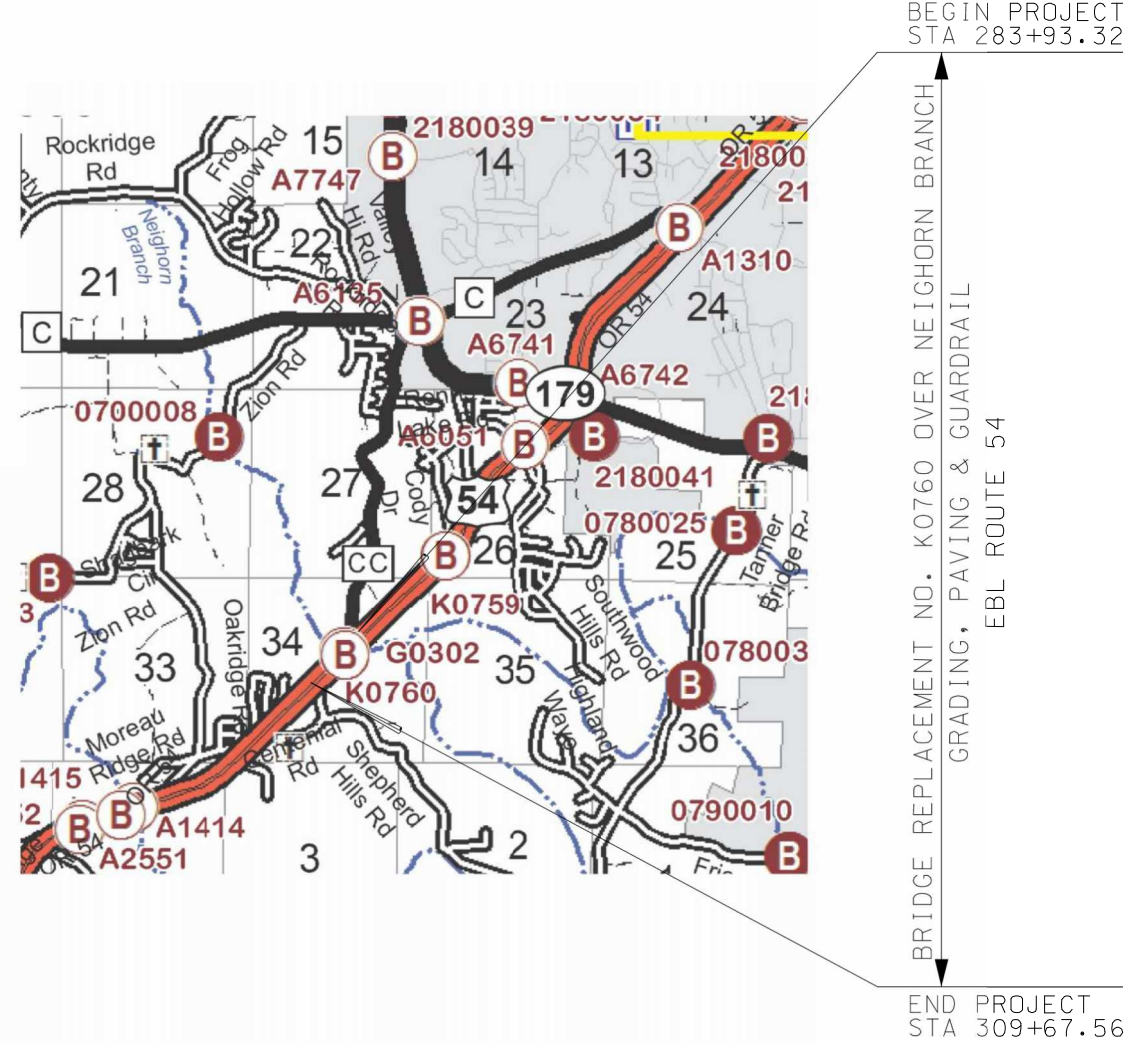
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CONVENTIONAL SYMBOLS
(USED IN PLANS)

	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
GUARD CABLE		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
UTILITIES		
FIBER OPTICS	-FO-	-FO-
OVERHEAD CABLE TV	-OTV-	-OTV-
UNDERGROUND CABLE TV	-UTV-	-UTV-
OVERHEAD TELEPHONE	-OT-	-OT-
UNDERGROUND TELEPHONE	-UT-	-UT-
OVERHEAD POWER	-OE-	-OE-
UNDERGROUND POWER	-UE-	-UE-
SANITARY SEWER	-S-	-S-
STORM SEWER	-SS-	-SS-
GAS	-G-	-G-
WATER	-W-	-W-
MANHOLE		
FIRE HYDRANT		
WATER VALVE		
WATER METER		
DROP INLET		
DITCH BLOCK		
GROUND MOUNTED SIGN		
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL		
FENCE		
CHAIN LINK		
WOVEN WIRE		
GATE POST		
BENCHMARK		

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

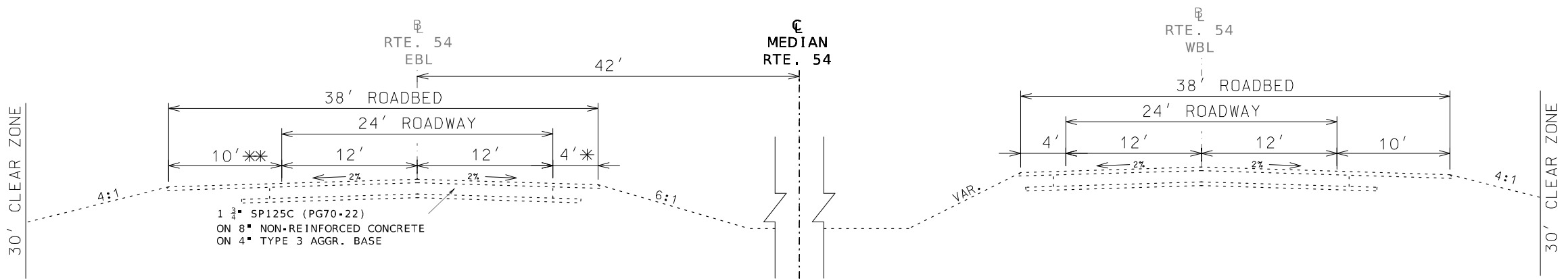


THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY 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.

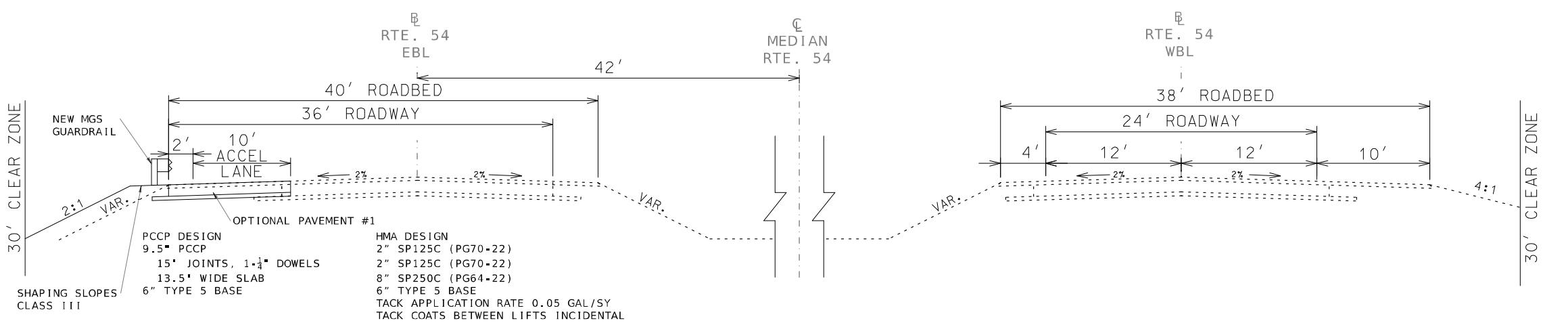
LENGTH OF PROJECT

BEGINNING OF PROJECT	STA 283+93.32
END OF PROJECT	STA 309+67.56
APPARENT LENGTH	2,574.24 FEET
EQUATIONS AND EXCEPTIONS:	

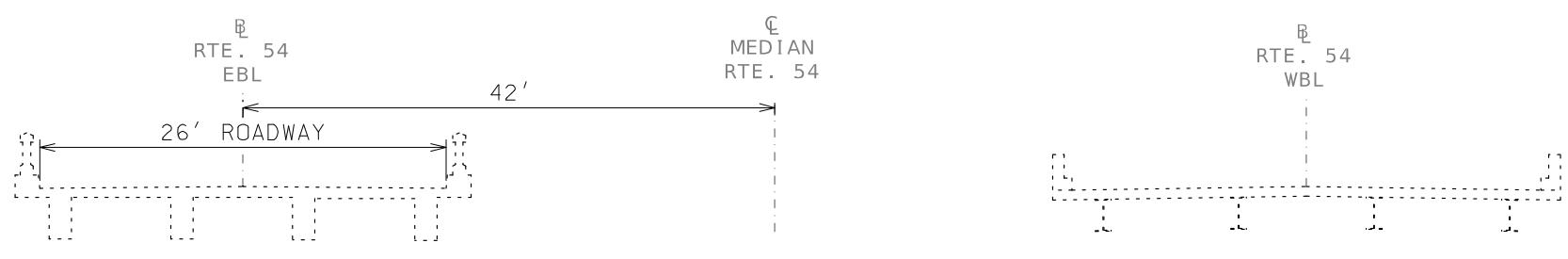
TOTAL CORRECTIONS	0.00	FEET
NET LENGTH OF PROJECT	2,574.24	FEET
STATE LENGTH	0.488	MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES	3	ACRES



ROUTE 54 EXISTING TYPICAL SECTION ON TANGENT
 STA 289+16.79 TO STA 291+51.79
 STA 292+47.57 TO STA 294+54.66
 * STA 292+86.98 TO STA 293+64.52 (TAPER 0' TO 4')
 ** STA 292+71.30 TO STA 293+96.27 (TAPER 0' TO 10')

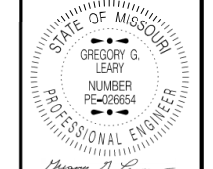


ROUTE 54 PROPOSED TYPICAL SECTION
 ACCELERATION LANE WIDENING
 STA 289+16.79 TO STA 290+36.09



BRIDGE (K0760)
 BRIDGE (G0302)
 EXISTING BRIDGE TYPICAL SECTION
 STA 291+51.79 TO STA 292+47.57

NOT TO SCALE
 TYPICAL SECTION SHEET
 SHEET 1 OF 5



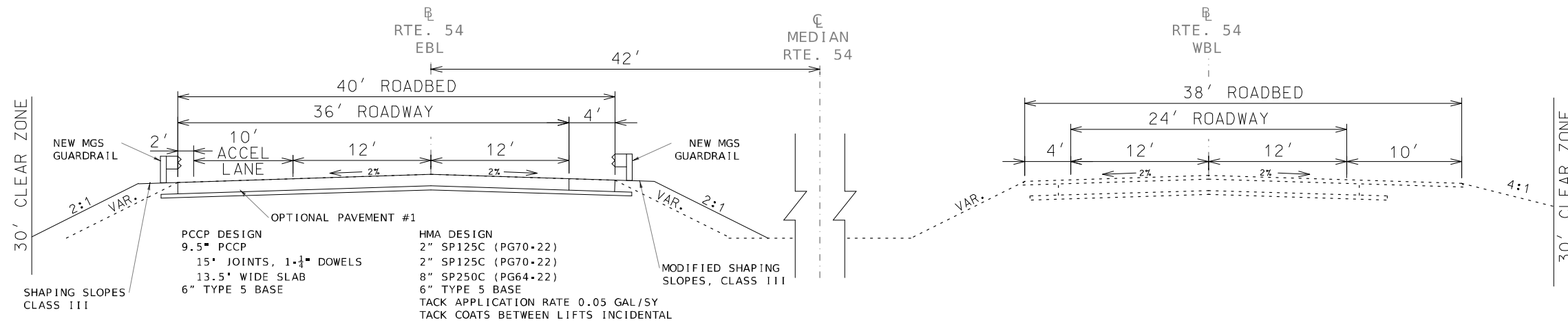
GREGORY G. LEARY - CIVIL
 MO PE 026654
 DATE PREPARED
 11/4/2024

ROUTE	STATE
54	MO
DISTRICT	SHEET NO.
CD	2
COUNTY	
COLE	
JOB NO.	
J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

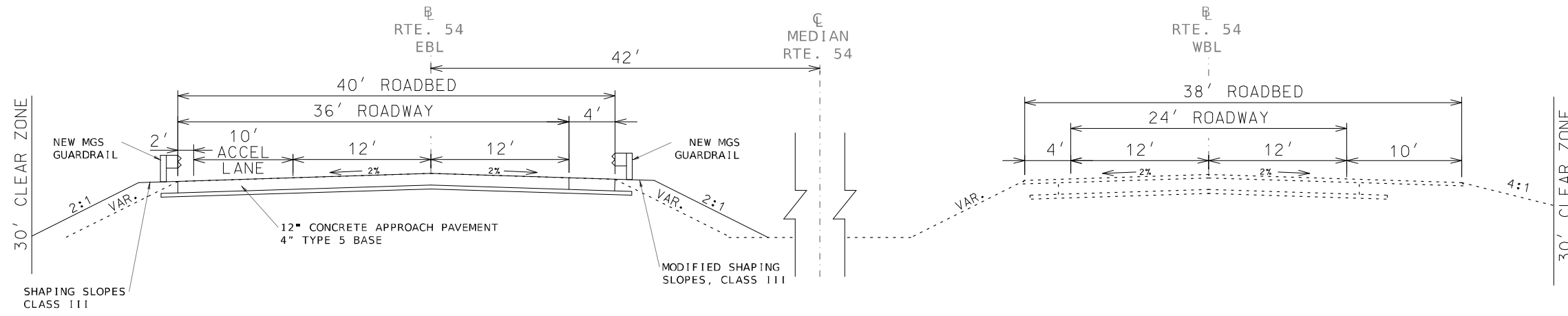
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



OPTIONAL PAVEMENT #1
PCCP DESIGN
 9.5" PCCP
 15" JOINTS, 1-1/4" DOWELS
 13.5" WIDE SLAB
 6" TYPE 5 BASE
HMA DESIGN
 2" SP125C (PG70-22)
 2" SP125C (PG70-22)
 8" SP250C (PG64-22)
 6" TYPE 5 BASE
 TACK APPLICATION RATE 0.05 GAL/SY
 TACK COATS BETWEEN LIFTS INCIDENTAL

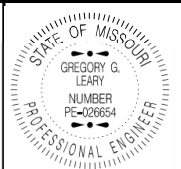
ROUTE 54 PROPOSED TYPICAL SECTION ON TANGENT
 STA 290+36.09 TO STA 290+93.34
 STA 293+06.08 TO STA 293+96.35



ROUTE 54 PROPOSED TYPICAL SECTION ON TANGENT
 CONCRETE APPROACH PAVEMENT
 STA 290+93.34 TO STA 291+22.20
 STA 292+81.84 TO STA 293+06.08

NOT TO SCALE
 TYPICAL SECTION SHEET
 SHEET 2 OF 5

DATE PREPARED 11/4/2024	
ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 2
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



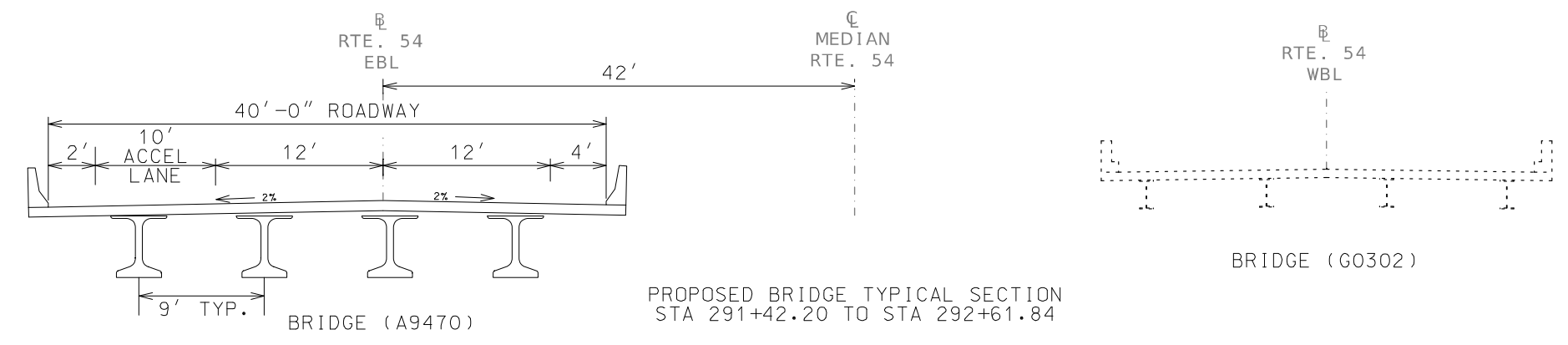
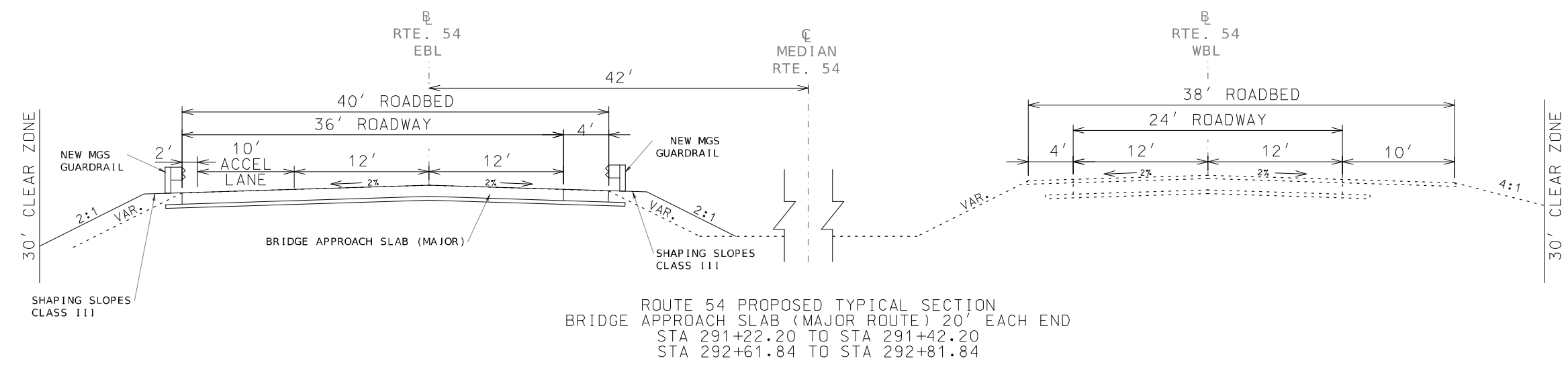
DATE PREPARED
 11/4/2024
 ROUTE 54 STATE MO
 DISTRICT CD SHEET NO. 2
 COUNTY COLE
 JOB NO. J5P3560
 CONTRACT ID.

PROJECT NO.
 BRIDGE NO.

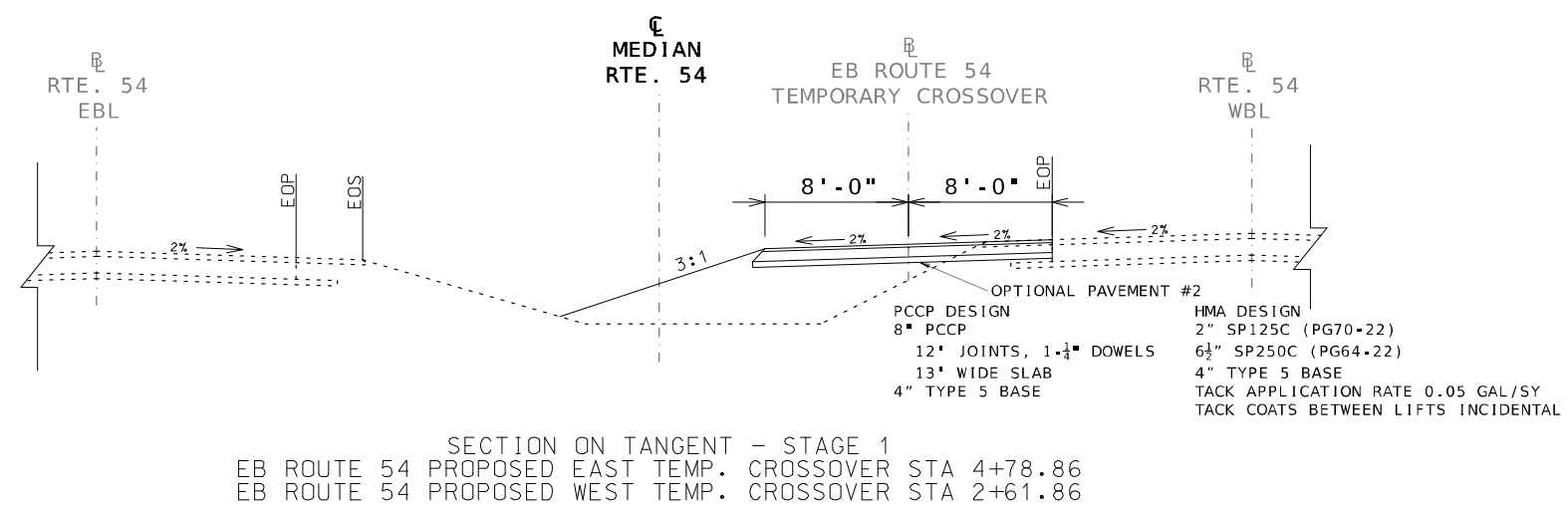
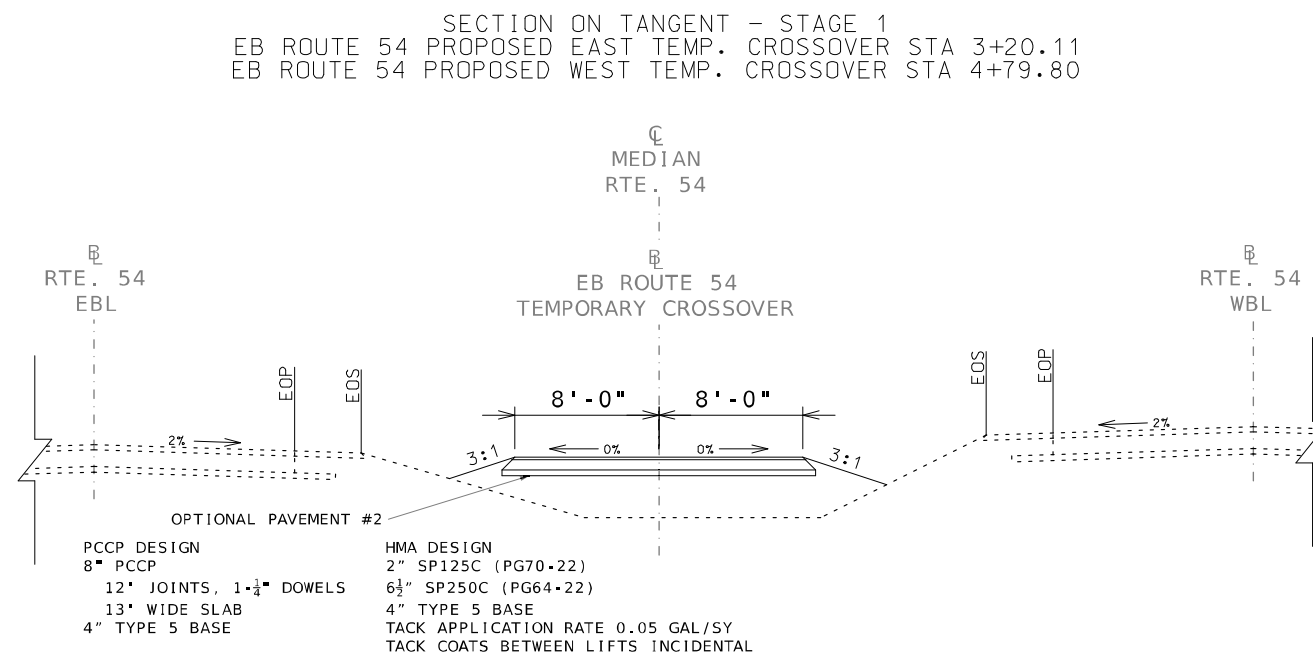
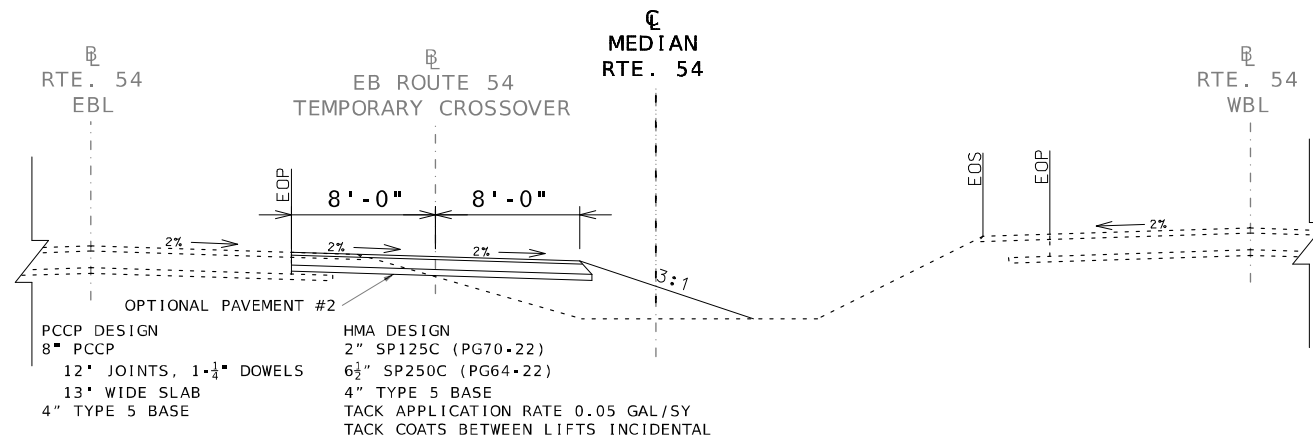
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

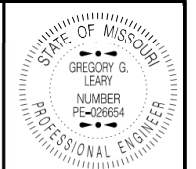
105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)



NOT TO SCALE
 TYPICAL SECTION SHEET
 SHEET 3 OF 5



NOT TO SCALE
 TYPICAL SECTION SHEET
 SHEET 4 OF 5



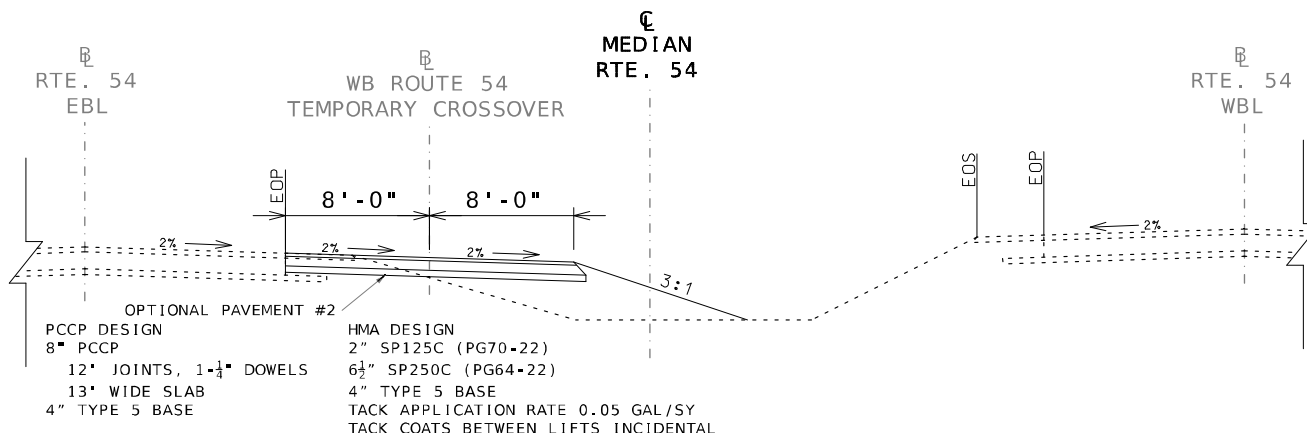
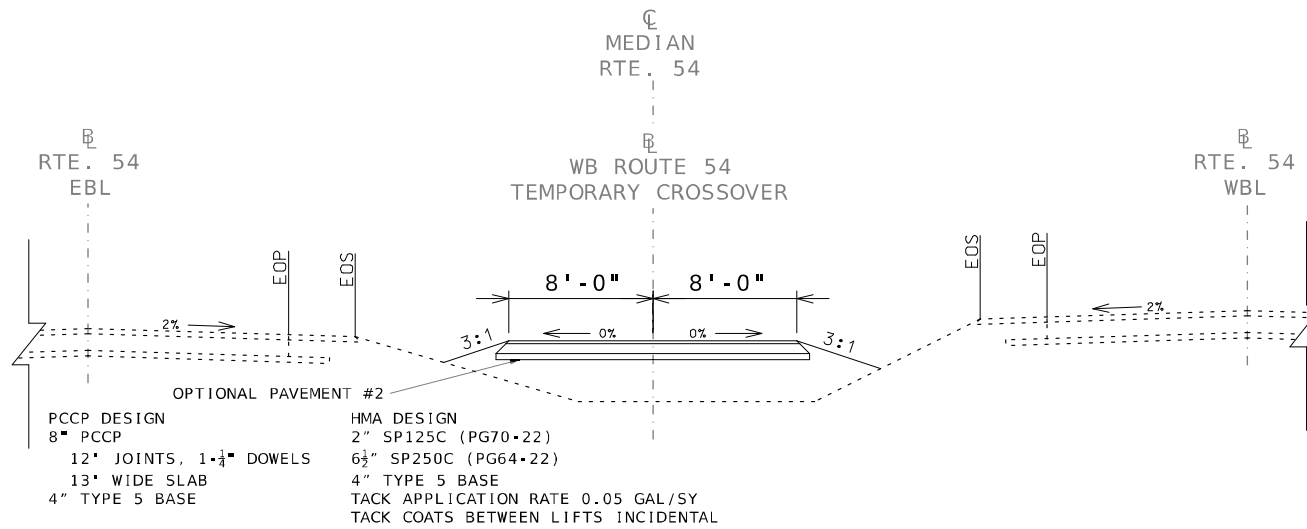
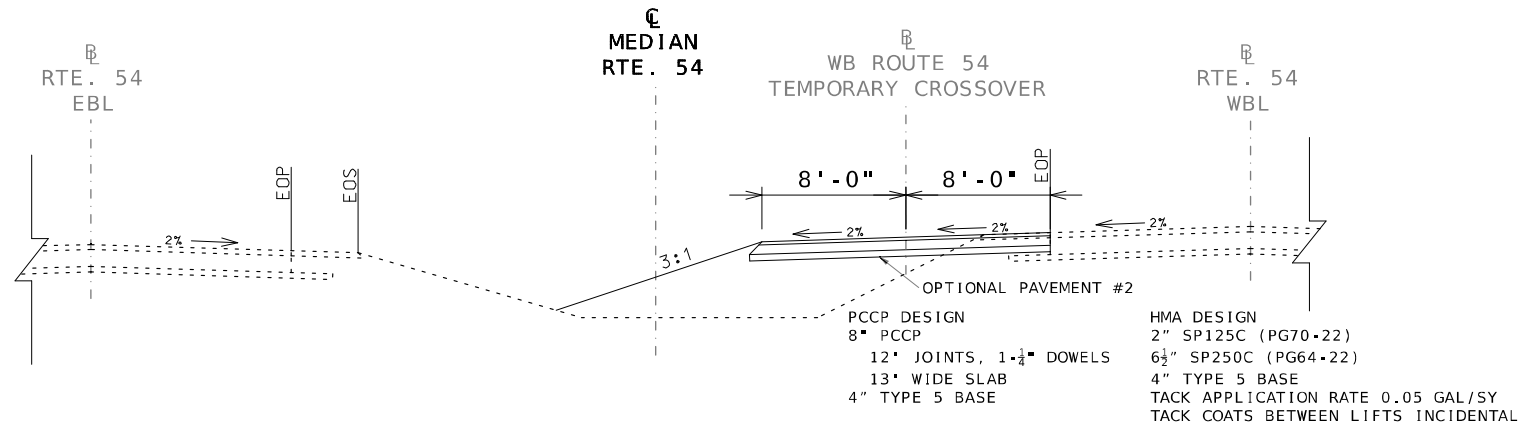
DATE PREPARED
11/4/2024

ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 2
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



NOT TO SCALE
 TYPICAL SECTION SHEET
 SHEET 5 OF 5

STATE OF MISSOURI
 GREGORY G. LEARY
 NUMBER PF-02654
 PROFESSIONAL ENGINEER

DATE PREPARED
 11/4/2024

ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 2

COUNTY
COLE
 JOB NO.
J5P3560
 CONTRACT ID.

PROJECT NO.
 BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

TYPE 5 AGGREGATE FOR BASE (4 IN.)						
STATION		LOCATION	LENGTH (FT)	PAVING WIDTH (FT)	QUANTITY (SY)	REMARKS
FROM	TO					
290+93.34	291+22.20	54 EBL	28.9	40	118.0	CONCRETE APPROACH PAVEMENT
292+81.84	293+06.08	54 EBL	24.2	40	118.0	CONCRETE APPROACH PAVEMENT
1+29.79	2+50.85	WB CROSSOVER EAST	121.1	VAR	143.88	STAGE 2
2+50.85	4+20.93	WB CROSSOVER EAST	170.1	16	302.40	STAGE 2
4+20.93	5+12.61	WB CROSSOVER EAST	91.7	VAR	90.10	STAGE 2
2+17.61	3+20.11	EB CROSSOVER EAST	102.5	VAR	93.99	STAGE 1
3+20.11	4+78.86	EB CROSSOVER EAST	158.8	16	282.30	STAGE 1
4+78.86	6+72.38	EB CROSSOVER EAST	193.5	VAR	189.58	STAGE 1
0+57.56	2+66.15	WB CROSSOVER WEST	208.6	VAR	237.76	STAGE 2
2+66.15	4+81.30	WB CROSSOVER WEST	215.2	16	382.60	STAGE 2
4+81.30	7+42.23	WB CROSSOVER WEST	260.9	VAR	225.64	STAGE 2
0+57.62	2+61.86	EB CROSSOVER WEST	204.2	VAR	117.99	STAGE 1
2+61.86	4+79.80	EB CROSSOVER WEST	217.9	16	387.40	STAGE 1
4+79.80	7+42.23	EB CROSSOVER WEST	262.4	VAR	247.59	STAGE 1
0+97.49	1+10.07	SHEPHERD HILLS RD.	12.6	VAR	61.50	WEST SIDE WIDENING
0+36.11	0+44.10	SHEPHERD HILLS RD.	8.0	VAR	17.00	EAST SIDE WIDENING
0+44.10	0+75.82	SHEPHERD HILLS RD.	31.7	VAR	45.30	EAST SIDE WIDENING
0+23.00	0+60.00	SHEPHERD HILLS RD.	37.0	VAR	375.80	
					TOTAL	3,436.8
					USE	3,437

TYPE 5 AGGREGATE FOR BASE (6 IN.)						
STATION		LOCATION	LENGTH (FT)	PAVING WIDTH (FT)	QUANTITY (SY)	REMARKS
FROM	TO					
289+16.79	290+36.09	54 EBL	119.3	12	159.1	LT ACCELERATION LANE
290+36.09	290+93.34	54 EBL	57.3	40	254.7	
293+06.08	293+96.35	54 EBL	90.3	40	401.3	
					TOTAL	815.1
					USE	815

3 IN. CONCRETE MEDIAN STRIP				
STA	STA	LOCATION	CONCRETE MEDIAN STRIP (S.Y.)	REMARKS
302+29.94	302+38.45	EB RTE 54 LT	5.1	SHEPHERD HILLS RD.
			TOTAL	5.1
			USE	5.1

OPTIONAL PAVEMENT #1- ROUTE 54 EBL						
STATION		LOCATION	LENGTH (FT)	PAVING WIDTH (FT)	QUANTITY (SY)	REMARKS
FROM	TO					
289+16.79	290+36.09	54 EBL	119.3	12	159.1	LT ACCELERATION LANE
290+36.09	290+93.34	54 EBL	57.3	40	254.7	
293+06.08	293+96.35	54 EBL	90.3	40	401.3	
					TOTAL	815.1
					USE	815


SEEDING QUANTITIES					
STA	STA	LOCATION	COOL SEASON GRASSES (ACRE)	TEMPORARY SEEDING (ACRE)	MULCH (ACRE)
283+93.30	288+60.06	EB RTE 54. MEDIAN	0.28	0.06	0.34
289+06.48	291+16.14	EB RTE 54 LT	0.14	0.03	0.17
292+40.70	293+96.35	EB RTE 54 LT	0.09	0.02	0.11
292+79.73	293+96.35	RTE 54 MEDIAN	0.01	0.00	0.01
302+87.30	309+67.56	RTE 54 MEDIAN	0.37	0.07	0.44
290+92.92	291+93.57	WB RTE 54 LT& RT	0.02	0.00	0.02
293+03.42	293+47.72	WB RTE 54 LT& RT	0.01	0.00	0.01
			TOTAL	0.92	1.10
			USE	0.9	1.1

CONCRETE APPROACH PAVEMENT						
STATION		LOCATION	LENGTH (FT)	PAVING WIDTH (FT)	QUANTITY (SY)	REMARKS
FROM	TO					
290+93.34	291+22.20	54 EBL	28.9	40	118.0	IRREGULAR AREA
292+81.84	293+06.08	54 EBL	24.2	40	118.0	IRREGULAR AREA
					TOTAL	236.0
					USE	236.0

OPTIONAL PAVEMENT #2- TEMPORARY CROSSOVERS & SHEPHERD HILLS RD.						
STATION		LOCATION	LENGTH (FT)	PAVING WIDTH (FT)	QUANTITY (SY)	REMARKS
FROM	TO					
1+29.79	2+50.85	WB CROSSOVER EAST	121.1	VAR	143.88	STAGE 2
2+50.85	4+20.93	WB CROSSOVER EAST	170.1	16	302.40	STAGE 2
4+20.93	5+12.61	WB CROSSOVER EAST	91.7	VAR	90.10	STAGE 2
2+17.61	3+20.11	EB CROSSOVER EAST	102.5	VAR	93.99	STAGE 1
3+20.11	4+78.86	EB CROSSOVER EAST	158.8	16	282.30	STAGE 1
4+78.86	6+72.38	EB CROSSOVER EAST	193.5	VAR	189.58	STAGE 1
0+57.56	2+66.15	WB CROSSOVER WEST	208.6	VAR	237.76	STAGE 2
2+66.15	4+81.30	WB CROSSOVER WEST	215.2	16	382.60	STAGE 2
4+81.30	7+42.23	WB CROSSOVER WEST	260.9	VAR	225.64	STAGE 2
0+57.62	2+61.86	EB CROSSOVER WEST	204.2	VAR	117.99	STAGE 1
2+61.86	4+79.80	EB CROSSOVER WEST	217.9	16	387.40	STAGE 1
4+79.80	7+42.23	EB CROSSOVER WEST	262.4	VAR	247.59	STAGE 1
0+97.49	1+10.07	SHEPHERD HILLS RD.	12.6	VAR	61.50	WEST SIDE WIDENING
0+36.11	0+44.10	SHEPHERD HILLS RD.	8.0	VAR	17.00	EAST SIDE WIDENING
0+44.10	0+75.82	SHEPHERD HILLS RD.	31.7	VAR	45.30	EAST SIDE WIDENING
0+23.00	0+60.00	SHEPHERD HILLS RD.	37.0	VAR	375.80	
					TOTAL	3,200.83
					USE	3,201

MOBILIZATION
1 LUMP SUM


CONTRACTOR FURNISHED SURVEY AND STAKING
1 LUMP SUM



DATE PREPARED
12/2/2024

ROUTE	54	STATE	MO
DISTRICT	CD	SHEET NO.	3
COUNTY	COLE		
JOB NO.	J5P3560		
CONTRACT ID.			
PROJECT NO.			
BRIDGE NO.			

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



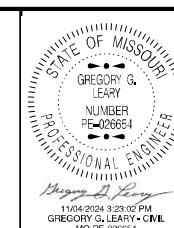
GUARDRAIL AND GUARD CABLE											
SHEET	STA	STA	LOCATION	MGS GUARDRAIL (LF)	MGS BRIDGE APPROACH TRANSITION SECTION REGULAR NO CURB (EA)	TYPE A MASH CRASHWORTHY END TERMINAL (EA)	MGS END ANCHOR (EA)	SHAPING SLOPES (GUARDRAIL) CL III STA	REMOVAL AND REINSTALLATION OF GUARDCABLE (LF)	ANCHOR ASSEMBLY GUARDCABLE 3- STRAND (EACH)	REMARKS
10	283+93.54	288+49.59	54 WBL LT						456	2	REMOVE 456' GUARD CABLE AND REINSTALL
10	289+06.97	291+43.44	54 EBL LT	175	1		1	0.1			
10	289+07.07	292+01.99	54 WBL RT	275	1	1		3.5			REMOVE 362.5' EXISTING GUARDRAIL
10	289+54.03	291+66.53	54 EBL RT	125	1	1		1.1			REMOVE 200' EXISTING GUARD CABLE
10	289+58.40	291+83.40	54 WBL LT	137.5	1	1		2.1			REMOVE 225' EXISTING GUARDRAIL
10	292+83.08	295+70.58	54 EBL RT	200	1	1		2.0			REMOVE 300' EXISTING GUARDRAIL
10	292+59.98	294+09.98	54 EBL LT	112.5	1			0.4			REMOVE 175' EXISTING GUARDRAIL
10	292+93.22	294+80.72	54 WBL LT	100	1	1		1.8			INSTALL BEFORE STAGE 1 CONSTRUCTION BEGINS
10	302+89.70	309+67.56	54 EBL RT						678	2	REMOVE 678' EXISTING GUARD CABLE AND REINSTALL
10	302+89.70	309+67.56	54 WBL LT						678	2	REMOVE 678' EXISTING GUARD CABLE AND REINSTALL
TOTAL				1,125	7	5	1	11	1812	6	
USE				1,125	7	5	1	11	1812	6	

TYPE 2 ROCK BLANKET						
STA	LOCATION	AREA (S.F.)	DEPTH (FT.)	FURNISHING		PERMANENT EROSION
				TYPE 2 ROCK BLANKET (C.Y.)	TYPE 2 ROCK BLANKET (C.Y.)	CONTROL GEOTEXTILE (S.Y.)
291+42.20	EB RTE 54	4249.4	2	314.8	314.8	472.2
292+61.82	EB RTE 54	4423.9	2	327.7	327.7	491.5
TOTAL				642.5	642.5	963.7
USE				643	643	964

DRAINAGE												
STA	LOCATION	GROUP B PIPE 24 IN. (LF)	GROUP C PIPE 18 IN. (LF)	GROUP B FLARED END SECTION 24 IN. (EA)	GROUP C FLARED END SECTION 18 IN. (EA)	DRAIN BASIN (EACH)	CLASS 3 EXCAVATION (CY)	FURNISHING TYPE 1 ROCK DITCH LINER (CY)	PLACING TYPE 1 ROCK DITCH LINER (CY)	PERMANENT EROSION CONTROL GEOTEXTILE (S.Y.)	ROCK LINING (CY)	REMARKS
305+19.30	RTE 54 MEDIAN		173		2		37.5					TEMPORARY PIPE UNDER WEST SIDE CROSSOVERS. REMOVE AFTER PROJECT COMPLETION.
0+57.08	SHEPHERD HILLS RD.	102		2			88.4				6.2	
290+99.76	RTE 54 LT					1	3.7				2.0	
292+76.57	RTE 54 LT					1	7.1				2.0	
291+29.10	RTE 54 MEDIAN							1.4	1.4	6.4		DRAIN FLUME
292+93.41	RTE 54 MEDIAN							1.0	1.0	4.4		DRAIN FLUME
TOTAL		102	173	2	2	2	136.7	2.4	2.4	10.8	10.2	
USE		102	173	2	2	2	137	2.0	2.0	11	10	

PAVEMENT MARKING REMOVAL						REMARKS
STA	STA	YELLOW 6"		WHITE 6"		
		SOLID (L.F.)	SOLID (L.F.)	INT. 10'/30' (L.F.)	DOT. 3'/9' (L.F.)	
WESTBOUND LANES						
283+21.83	285+18.00	196.2				LEFT EDGELINE
302+73.79	304+80.00	206.2				LEFT EDGELINE
270+19.86	309+53.00			983.3		CENTERLINE
307+55.72	309+67.56	211.84				LEFT EDGELINE
EASTBOUND LANES						
284+08.15	285+06.29	98.14				LEFT EDGELINE
286+86.75	290+01.52	81.0	235.0			LEFT TURN DECELERATION LANE
302+74.72	304+49.83	197.0				LEFT EDGELINE
307+36.08	309+34.48	193.0				LEFT EDGELINE
282+74.56	336+37.71				1,340.8	CENTERLINE
302+95.68	306+66.38				60.0	HASH MARKS
SUBTOTAL		1,183.4	235.0	983.3	1,340.8	60.0
TOTAL		1,183	235	983	1,341	60
USE		3,802				

SUMMARY OF QUANTITIES
SHEET 2 OF 6



DATE PREPARED
11/4/2024
ROUTE 54 STATE MO
DISTRICT CD SHEET NO. 3

COUNTY COLE
JOB NO. J5P3560
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

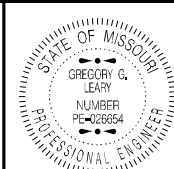
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



PAVEMENT MARKING														
STA	STA	HIGH BUILD WATERBORNE PAINT, TYPE L BEADS					PERFORMED THERMOPLASTIC PAVEMENT MARKING					REMARKS		
		YELLOW		WHITE			24" SOLID WHITE (L.F.)	LEFT TURN ARROW (EACH)	LEFT/THROUGH ARROW (EACH)	YIELD TRIANGLES (EACH)	12" SOLID WHITE (L.F.)			
		6" SOLID (L.F.)	DOT. 3'/'9' (L.F.)	6" SOLID (L.F.)	INT. 10'/'30' (L.F.)	DOT. 3'/'9' (L.F.)							12" SOLID (L.F.)	
WESTBOUND LANES														
270+19.86	283+23.30	1,303.4												LEFT EDGELINE
283+23.30	283+72.29		12.2											LEFT EDGELINE
283+23.00		75.4		54.8										J-TURN
283+72.29	288+85.59	513.3												LEFT EDGELINE
288+85.59	289+21.25		8.9											LEFT EDGELINE
289+21.25	302+04.36	1,283.1												LEFT EDGELINE
302+04.36										7				REMOVE AND REPLACE
302+22.12										9				SHEPHERD HILLS RD.
302+47.52												14		SHEPHERD HILLS RD. STOP BAR
302+56.00		80.0												SHEPHERD HILLS RD. DOUBLE YELLOW
296+37.81	297+48.03													LEFT TURN DECELERATION LINE
297+25.49									1					REMOVE AND REPLACE
297+48.03	302+31.12							483.1						
298+28.03	302+20.90							392.9						LEFT TURN DECELERATION EDGELINE
302+31.12	302+93.75													LEFT EDGELINE
302+93.75	309+53.00	659.3												LEFT EDGELINE
270+19.86	309+53.00													CENTERLINE
270+19.86	288+02.97			1,783.1		983.3								RIGHT EDGELINE
288+02.97				100.5										ROUTE CC RADIUS
283+28.44	284+79.54													RIGHT TURN DECELERATION LINE
284+79.54	288+74.99													RIGHT TURN DECELERATION EDGELINE
288+74.99	289+51.98													RIGHT EDGELINE
289+51.98	309+53.00			2,001.0										RIGHT EDGELINE
EASTBOUND LANES														
265+83.94	283+41.55	1,757.6												RIGHT EDGELINE
283+72.29	288+85.59	513.3												RIGHT EDGELINE
288+74.09	302+13.46	1,339.4												RIGHT EDGELINE
288+74.09														CROSSOVER EDGELINE
302+13.46	302+93.75		20.1											RIGHT EDGELINE
302+93.75	336+37.71	3,344.0												RIGHT EDGELINE
265+83.94	336+37.71					1,763.4								CENTERLINE
279+76.88	287+13.95									184.3				J-TURN ACCEL./DECEL. LANE
284+50.00													1.0	REMOVE AND REPLACE
287+13.95													1	REMOVE AND REPLACE
287+13.95	288+74.09			160.1										J-TURN ACCEL./DECEL. LANE
292+16.79	297+98.36													ACCEL LANE LINE
297+98.36	302+13.46			415.1										ACCEL LANE LINE
302+13.46	302+93.75													
302+93.75	306+66.15													HASH MARKS
302+93.75	306+66.15									372.4				
302+93.75	307+49.16									455.4				
307+49.16	308+24.14													RIGHT TURN LANE LINE
265+83.94	302+49.52			3,665.6										LEFT EDGELINE
302+49.52				25.6										SHEPHERD HILLS RD ISLAND
302+94.64	303+12.42			61.8										SHEPHERD HILLS RD RADIUS
303+12.42	336+37.71			3,325.3										LEFT EDGELINE
SUBTOTAL	10,868.8	41.2	11,677.9	2,746.7	468.8	2,099.3	60.0	1	2	16	14			
TOTAL	10,869	41	11,678	2,747	469	2,099	60	1	2	16	14			
USE	10,910		14,894			2,099	60	1	2	16	14			

TEMPORARY EROSION CONTROL QUANTITIES							
STATION	STATION	LOC.	SILT FENCE L.F.	ROCK DITCH CHECK L.F.	TYPE C BERM L.F.	SEDIMENT REMOVAL CY	REMARKS
289+06.48	291+56.52	RTE 54 LT	251.7			2.5	LT SLOPE LIMIT EB LANES
	291+56.52	RTE 54 MEDIAN			110.0	10.0	
284+45.30		RTE 54 MEDIAN		36.0		4.0	4 ROCK DITCH CHECKS AROUND DROP INLET
288+06.04		RTE 54 MEDIAN		9.0		1.0	1 ROCK DITCH CHECK AT 9 LF
291+43.02		RTE 54 MEDIAN		9.0		1.0	1 ROCK DITCH CHECK AT 9 LF
	291+82.37	RTE 54 MEDIAN			110.0	10.0	
289+92.53		RTE 54 MEDIAN		18.0		2.0	2 ROCK DITCH CHECK AT 9 LF
290+98.86		RTE 54 MEDIAN		36.0		4.0	4 ROCK DITCH CHECKS AROUND DROP INLET
293+53.51		RTE 54 MEDIAN		36.0		4.0	4 ROCK DITCH CHECKS AROUND DROP INLET
291+82.37	294+25.98	RTE 54 LT	243.7			2.4	LT SLOPE LIMIT EB LANES
301+46.94	302+48.05	RTE 54 LT	115.9			1.2	EAST SLOPE LIMIT AT SHEPHERD HILLS RD
301+59.40		RTE 54 LT		9.0		1.0	1 ROCK DITCH CHECK AT 9 LF
303+10.00	304+85.00	RTE 54 MEDIAN		72.0		8.0	8 ROCK DITCH CHECK AT 9 LF - TO REMAIN IN PLACE DURING STAGE 1 AND STAGE 2 CONSTRUCTION
307+35.00	308+60.00	RTE 54 MEDIAN		54.0		6.0	6 ROCK DITCH CHECK AT 9 LF - TO REMAIN IN PLACE DURING STAGE 1 AND STAGE 2 CONSTRUCTION
TOTALS			611.3	279.0	220.0	57.1	
USE			611	279	220	57	

SUMMARY OF QUANTITIES
SHEET 3 OF 6



11/04/2024 9:22:29 PM
GREGORY G. LEARY - CIVIL
MO-PE-426654
DATE PREPARED

ROUTE	STATE
54	MO
DISTRICT	SHEET NO.
CD	3

COUNTY
COLE
JOB NO.
J5P3560
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

TEMPORARY PAVEMENT MARKING					
STA	STA	YELLOW	WHITE		REMARKS
		4" SOLID (L.F.)	4" SOLID (L.F.)	24" SOLID (L.F.)	
STAGE 1 - EB BRIDGE CLOSURE					
270+19.86	305+95.14	3,575.3			EB LEFT EDGELINE
277+85.00	281+46.56		361.6		WB RIGHT EDGELINE
309+90.38	336+37.71		2,647.3		WB LEFT EDGELINE
302+95.68	309+90.38		1,389.4		WB LANE LINES FOR RTE CC RIGHT TURN
302+30.00	309+90.38	1,520.8	1,520.8		WB LEFT & RIGHT EDGELINE DOUBLED THROUGH CROSSOVER
289+29.56	302+30.00	1,300.4	1,300.4		WB LEFT & RIGHT EDGELINE
284+08.15	289+25.56	1,034.8	1,034.8		WB LEFT & RIGHT EDGELINE DOUBLED THROUGH CROSSOVER
282+74.56	284+08.15		133.6		WB RIGHT EDGELINE
301+96.53	302+34.88		80.2		SHEPHERD HILLS ROAD RT LANE LINE
301+86.00	302+55.18		119.2		SHEPHERD HILLS ROAD LT LANE LINE
306+40.64				12.0	ROUTE 54 STOP BAR AT SHEPHERD HILLS ROAD
1+15.00				12.0	STOP BAR AT SHEPHERD HILLS ROAD
STAGE 2 - WB BRIDGE CLOSURE					
265+83.93	282+77.75	1,693.8			WB LEFT EDGELINE
282+77.75	290+01.48	1,447.5	1,447.5		WB LEFT & RIGHT EDGELINE DOUBLED THROUGH CROSSOVER
290+01.48	302+30.00	1,228.5			WB LEFT EDGELINE
302+30.00	309+67.26	1,474.5	1,474.5		WB LEFT & RIGHT EDGELINE DOUBLED THROUGH CROSSOVER
280+68.30	282+77.75		209.5		WB RIGHT EDGELINE
290+01.48	302+30.00		1,228.5		WB RIGHT EDGELINE
302+30.00	309+67.26		737.3		WB RIGHT EDGELINE
280+68.30	284+92.53		424.2		ROUTE CC RIGHT TURN LANE LEFT EDGE LINE
303+01.24	309+67.26		666.0		WB LEFT LANE LINE FROM WOODED HILLS LN.
288+16.09	302+82.94		1,466.9		EB RIGHT EDGELINE
286+22.56	336+37.71	5,015.2			EB LEFT EDGELINE
TOTAL		18,290.8	16,241.7	24.0	
USE		18,291	16,242	24	

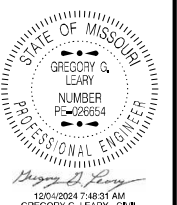
RUMBLE STRIPS					
STA	STA	LOCATION	LENGTH (L.F.)	RUMBLE STRIPS (STA.)	REMARKS
EASTBOUND LANES					
289+16.79	291+08.34	EB 54 - LT EDGELINE	191.550	1.9	
290+36.09	291+31.44	EB 54 - RT EDGELINE	95.350	1.0	
292+67.98	293+96.35	EB 54 - LT EDGELINE	128.370	1.3	
292+91.08	293+96.35	EB 54 - RT EDGELINE	105.270	1.1	
TOTAL				5.3	
USE				5	

SUBGRADING AND SHOULDERING, CLASS 1						
STATION FROM	STATION TO	LOCATION	LENGTH (FT)	PAVING WIDTH (FT)	QUANTITY (100 FT)	REMARKS
289+16.79	290+36.09	54 EBL	119.3	12	1.2	LT ACCELERATION LANE
290+36.09	290+93.34	54 EBL	57.3	40	0.6	
290+93.34	291+22.20	54 EBL	28.9	40	0.3	BRIDGE APPROACH PAVEMENT - IRREGULAR AREA
292+81.84	293+06.08	54 EBL	24.2	40	0.2	BRIDGE APPROACH PAVEMENT - IRREGULAR AREA
293+06.08	293+96.35	54 EBL	90.3	40	0.9	
TOTAL					3.2	
USE					3	

EARTHWORK								
STA	STA	LOCATION	CLASS A EXCAVATION (C.Y.)	COMPACTING EMBANKMENT (C.Y.)	EMBANKMENT IN PLACE (C.Y.)	FURNISHING ROCK FILL (C.Y.)	PLACING ROCK FILL (C.Y.)	REMARKS
289+16.80	291+42.20	EB RTE 54	258.3			879.4	879.4	
291+42.20	291+89.78	EB RTE 54	41.8			506.1	506.1	INCLUDES SPILL FILL QUANTITY
292+12.39	292+61.84	EB RTE 54	57.0			99.1	99.1	INCLUDES SPILL FILL QUANTITY
292+61.84	293+96.27	EB RTE 54	259.2			305.5	305.5	
2+17.37	6+72.38	EB CROSSOVER EAST	57.5	48.9	120.7			STAGE 1
0+57.62	7+42.23	EB CROSSOVER WEST	131.2	111.5	326.9			STAGE 1
1+29.95	5+12.55	WB CROSSOVER EAST	50.9	43.3	50.7			STAGE 2
0+57.64	6+61.58	WB CROSSOVER WEST	196.0	153.0	0.0			STAGE 2
0+23.53	0+60.48	SHEPHERD HILLS RD.	137.4	38.8	0.0			INCLUDES PAVEMENT REMOVAL
283+93.32	309+66.44	RTE 54 MEDIAN	855.0					REMOVAL OF TEMPORARY CROSSOVER FILL MATERIAL
TOTAL			2,044.3	395.5	498.3	1,790.1	1,790.1	
USE			2,044	396	498	1,790	1,790	

NOTE: ASSUMES 15% SHRINKAGE OF CLASS A MATERIAL

SUMMARY OF QUANTITIES
SHEET 4 OF 6



GREGORY G. LEARY
NUMBER PE-026654
PROFESSIONAL ENGINEER

DATE PREPARED: 12/4/2024

ROUTE 54 STATE MO
DISTRICT CD SHEET NO. 3

COUNTY COLE
JOB NO. J5P3560
CONTRACT ID.


PROJECT NO.
BRIDGE NO.

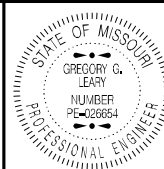
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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





11/04/2024 2:21:23 PM
 GREGORY G. LEARY - CIVIL
 MO#PE-026654

DATE PREPARED
 11/4/2024

ROUTE 54 STATE MO

DISTRICT CD SHEET NO. 3

COUNTY COLE

JOB NO. J5P3560

CONTRACT ID.

PROJECT NO.

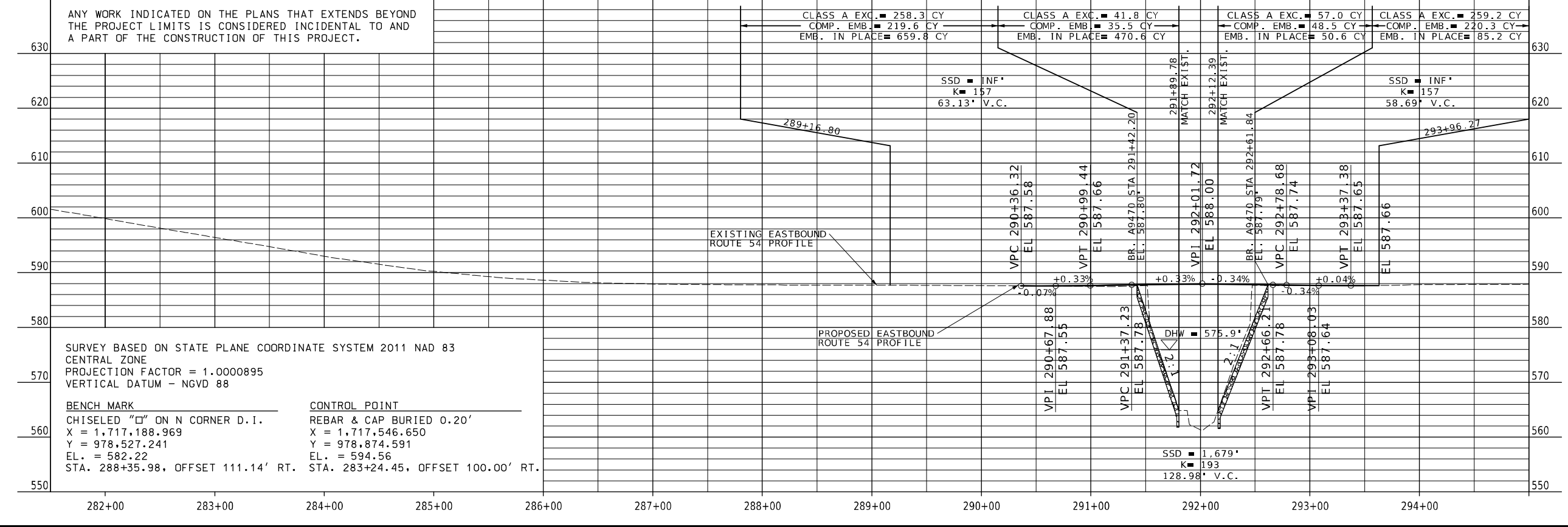
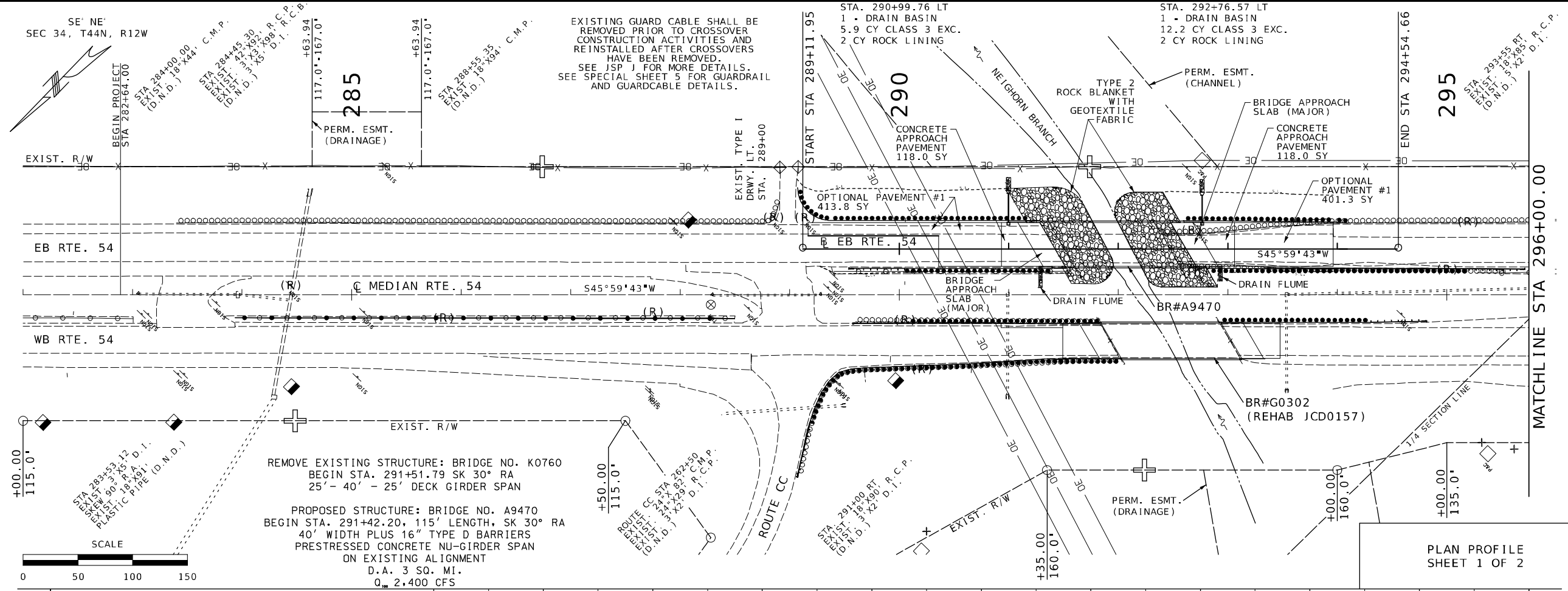
BRIDGE NO.

REMOVAL OF IMPROVEMENTS				
SHEET	STA	STA	LOCATION	REMARKS
10	283+93.54	288+49.59	WB 54 LT	REMOVE & REINSTALL 456' EXISTING GUARD CABLE AS SHOWN ON PLANS
10	289+07.07	292+01.99	54 WBL RT	REMOVE 362.5' EXISTING GUARDRAIL
10	289+54.03	291+66.53	54 EBL RT	REMOVE 200' EXISTING GUARD CABLE
10	289+58.40	291+83.40	54 WBL LT	REMOVE 225' EXISTING GUARDRAIL
10	292+83.08	295+70.58	54 EBL RT	REMOVE 300' EXISTING GUARDRAIL
10	292+59.98	294+09.98	54 EBL LT	REMOVE 175' EXISTING GUARDRAIL
10	302+89.70	309+67.56	54 EBL RT	REMOVE & REINSTALL 678' EXISTING GUARD CABLE AS SHOWN ON PLANS
10	302+89.70	309+67.56	54 WBL LT	REMOVE 678' EXISTING GUARD CABLE
4	289+16.79	290+36.09	54 EBL LT	119.3' SAWCUT ALONG ACCELERATION LANE
4	290+36.09		54 EBL	28' SAWCUT ON ROUTE 54 AT BEGINNING OF MAINLINE PAVEMENT
5	293+96.35		54 EBL	38' SAWCUT ON ROUTE 54 EB AT THE END OF MAINLINE PAVEMENT
6	284+08.15	285+11.94	54 EBL RT	106' SAWCUT ALONG EB ROUTE 54 AND THE EB CROSSOVER
6	286+65.92	288+60.06	54 WBL LT	197' SAWCUT ALONG WB ROUTE 54 AND THE EB CROSSOVER
7	302+87.38	304+92.13	54 WBL LT	211' SAWCUT ALONG WB ROUTE 54 AND THE EB CROSSOVER
7	307+04.85	309+67.56	54 EBL RT	271' SAWCUT ALONG EB ROUTE 54 AND THE EB CROSSOVER
8	283+93.69	285+14.92	54 WBL LT	128' SAWCUT ALONG WB ROUTE 54 AND THE WB CROSSOVER
8	286+80.43	287+73.15	54 EBL RT	95' SAWCUT ALONG EB ROUTE 54 AND THE WB CROSSOVER
9	302+87.3	304+96.72	54 EBL RT	220' SAWCUT ALONG EB ROUTE 54 AND THE WB CROSSOVER
9	307+06.35	308+87.26	54 WBL LT	187' SAWCUT ALONG WB ROUTE 54 AND THE WB CROSSOVER
6	284+08.15	285+11.94	54 EBL RT	104' SAWCUT ALONG EB ROUTE 54 FOR CROSSOVER PAVEMENT REMOVAL
6	286+65.92	288+60.06	54 WBL LT	195' SAWCUT ALONG WB ROUTE 54 FOR CROSSOVER PAVEMENT REMOVAL
7	302+87.38	304+92.13	54 WBL LT	205' SAWCUT ALONG WB ROUTE 54 FOR CROSSOVER PAVEMENT REMOVAL
7	307+04.85	309+67.56	54 EBL RT	263' SAWCUT ALONG EB ROUTE 54 FOR CROSSOVER PAVEMENT REMOVAL
8	283+93.69	285+14.92	54 WBL LT	121' SAWCUT ALONG WB ROUTE 54 FOR CROSSOVER PAVEMENT REMOVAL
8	286+80.43	287+73.15	54 EBL RT	93' SAWCUT ALONG WB ROUTE 54 FOR CROSSOVER PAVEMENT REMOVAL
9	302+87.3	304+96.72	54 EBL RT	209' SAWCUT ALONG EB ROUTE 54 FOR CROSSOVER PAVEMENT REMOVAL
9	307+06.35	308+87.26	54 WBL LT	181' SAWCUT ALONG WB ROUTE 54 FOR CROSSOVER PAVEMENT REMOVAL
11	0+47.88	0+75.60	SHEPHERD HILLS RD. LT	42' SAWCUT ALONG SHEPHERD HILLS RD.
11	0+47.89	1+10.07	SHEPHERD HILLS RD. RT	50' SAWCUT ALONG SHEPHERD HILLS RD.
11	301+86.36	303+03.27	54 EBL LT	147' SAWCUT ALONG EB ROUTE 54
31	284+43.70		54 EBL RT	REMOVE SIGN POST AND FOOTING, RELOCATE SIGNS AS SHOWN ON PLANS
31	285+10.86		54 WBL LT & RT	REMOVE SIGN POSTS AND FOOTINGS, RELOCATE SIGNS AS SHOWN ON PLANS
31	287+74.51		54 WBL LT	REMOVE SIGN POST AND FOOTING, RELOCATE SIGNS AS SHOWN ON PLANS
31	288+75.95		54 EBL LT	REMOVE SIGN POST AND FOOTING, RELOCATE SIGNS AS SHOWN ON PLANS
31	289+14.63		54 EBL LT	REMOVE SIGN POST AND FOOTING, RELOCATE SIGNS AS SHOWN ON PLANS
31	290+00.00		54 EBL LT	REMOVE SIGN POST AND FOOTING, RELOCATE SIGNS AS SHOWN ON PLANS
31	292+72.65		54 EBL LT & RT	REMOVE SIGN POSTS, SIGNS AND FOOTINGS
32	293+58.65		54 EBL LT	REMOVE SIGN POSTS AND FOOTINGS, RELOCATE SIGNS AS SHOWN ON PLANS
32	297+42.28		54 WBL LT & RT	REMOVE SIGN POSTS AND FOOTINGS, RELOCATE SIGNS AS SHOWN ON PLANS
32	299+00.00		54 EBL LT	REMOVE SIGN POST AND FOOTING, RELOCATE SIGN AS SHOWN ON PLANS
32	302+19.00		54 EBL LT	REMOVE SIGN POSTS, SIGNS AND FOOTINGS
32	303+46.46		54 EBL RT	REMOVE SIGN POSTS, SIGN AND FOOTINGS
32	305+91.74		54 EBL LT & RT	REMOVE SIGN POSTS, SIGNS AND FOOTINGS
34	284+50.00		54 EBL	REMOVE LEFT TURN/THROUGH ARROW
34	287+13.95		54 EBL	REMOVE LEFT TURN/THROUGH ARROW
35	302+04.36		54 EBL RT	REMOVE 7 YIELD TRIANGLES FROM OFFSET LEFT LANE
35	297+25.49		54 WBL	REMOVE LEFT TURN ARROW
4	289+16.79	291+42.00	54 EBL	634 SY PAVEMENT REMOVAL - EAST SIDE OF EXISTING BRIDGE K0760
4	292+61.84	293+96.27	54 EBL	608 SY PAVEMENT REMOVAL - WEST SIDE OF EXISTING BRIDGE K0760
6+9			ROUTE 54 MEDIAN	TEMPORARY CROSSOVER PAVEMENT REMOVAL INCLUDED IN CLASS A EXCAVATION QUANTITIES
			1 LUMP SUM	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



CLASS A EXC. ■ 258.3 CY COMP. EMB. ■ 219.6 CY EMB. IN PLACE ■ 659.8 CY	CLASS A EXC. ■ 41.8 CY COMP. EMB. ■ 35.5 CY EMB. IN PLACE ■ 470.6 CY	CLASS A EXC. ■ 57.0 CY COMP. EMB. ■ 48.5 CY EMB. IN PLACE ■ 50.6 CY	CLASS A EXC. ■ 259.2 CY COMP. EMB. ■ 220.3 CY EMB. IN PLACE ■ 85.2 CY
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SSD ■ INF' K ■ 157 63.13' V.C.	SSD ■ INF' K ■ 157 58.69' V.C.	SSD ■ 1.679' K ■ 193 128.98' V.C.
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ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

SURVEY BASED ON STATE PLANE COORDINATE SYSTEM 2011 NAD 83
CENTRAL ZONE
PROJECTION FACTOR = 1.0000895
VERTICAL DATUM - NGVD 88

BENCH MARK CHISELED "□" ON N CORNER D.I. X = 1,717,188.969 Y = 978,527.241 EL. = 582.22 STA. 288+35.98, OFFSET 111.14' RT.	CONTROL POINT REBAR & CAP BURIED 0.20' X = 1,717,546.650 Y = 978,874.591 EL. = 594.56 STA. 283+24.45, OFFSET 100.00' RT.
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DATE PREPARED: 11/4/2024

ROUTE 54 STATE MO
DISTRICT CD SHEET NO. 4

COUNTY COLE
JOB NO. J5P3560
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

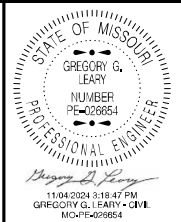
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

EXISTING GUARD CABLE SHALL BE REMOVED PRIOR TO CROSSOVER CONSTRUCTION ACTIVITIES AND REINSTALLED AFTER CROSSOVERS HAVE BEEN REMOVED. SEE JSP J FOR MORE DETAILS. SEE SPECIAL SHEET 5 FOR GUARDRAIL AND GUARDCABLE DETAILS.

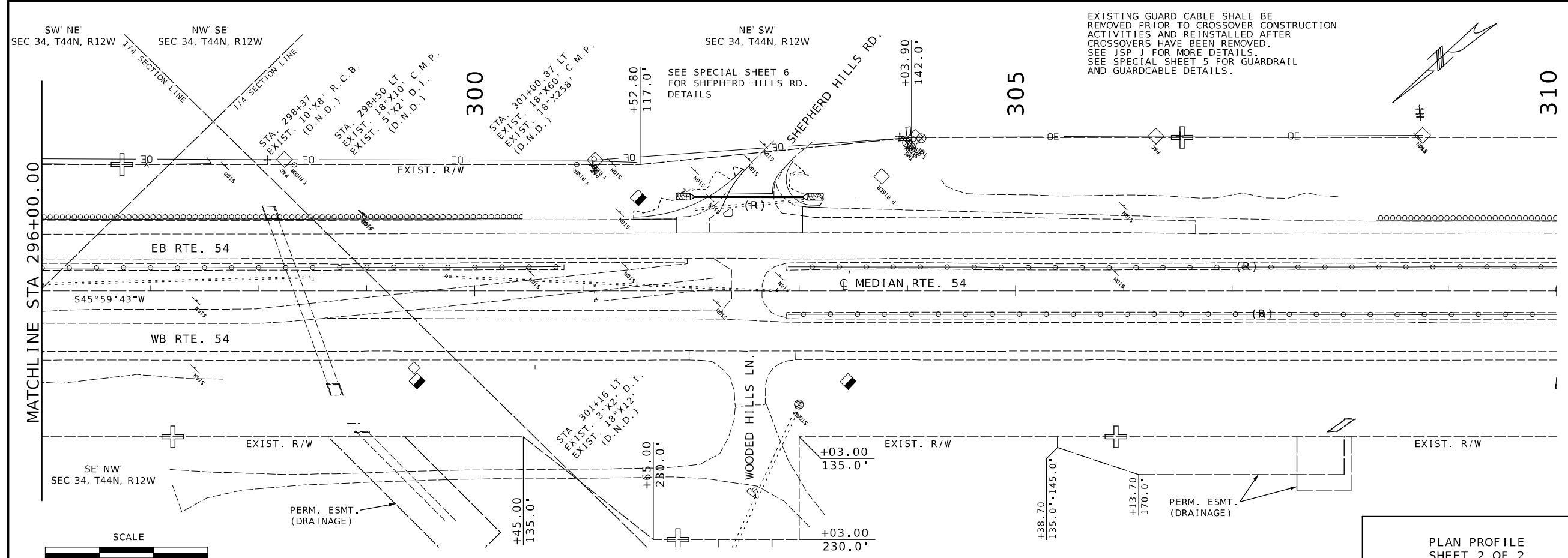


DATE PREPARED
11/4/2024

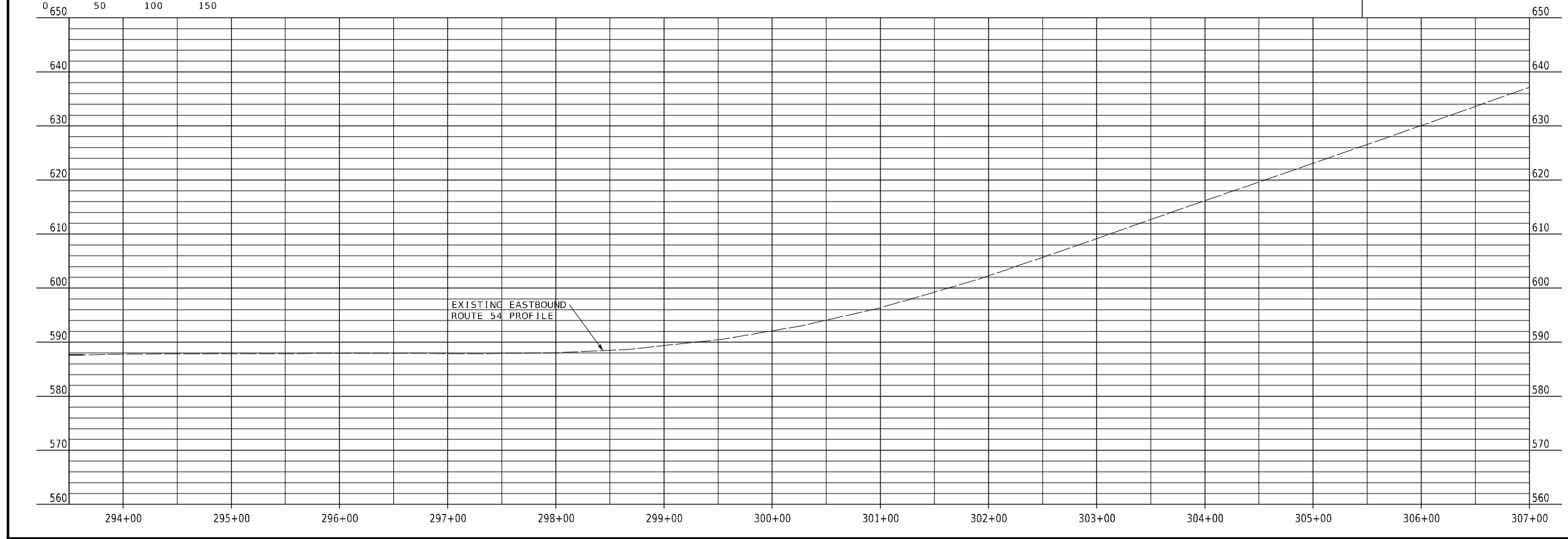
ROUTE 54 STATE MO
DISTRICT CD SHEET NO. 5

COUNTY COLE
JOB NO. J5P3560
CONTRACT ID.

PROJECT NO.
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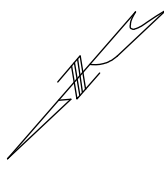
PLAN PROFILE SHEET 2 OF 2



DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

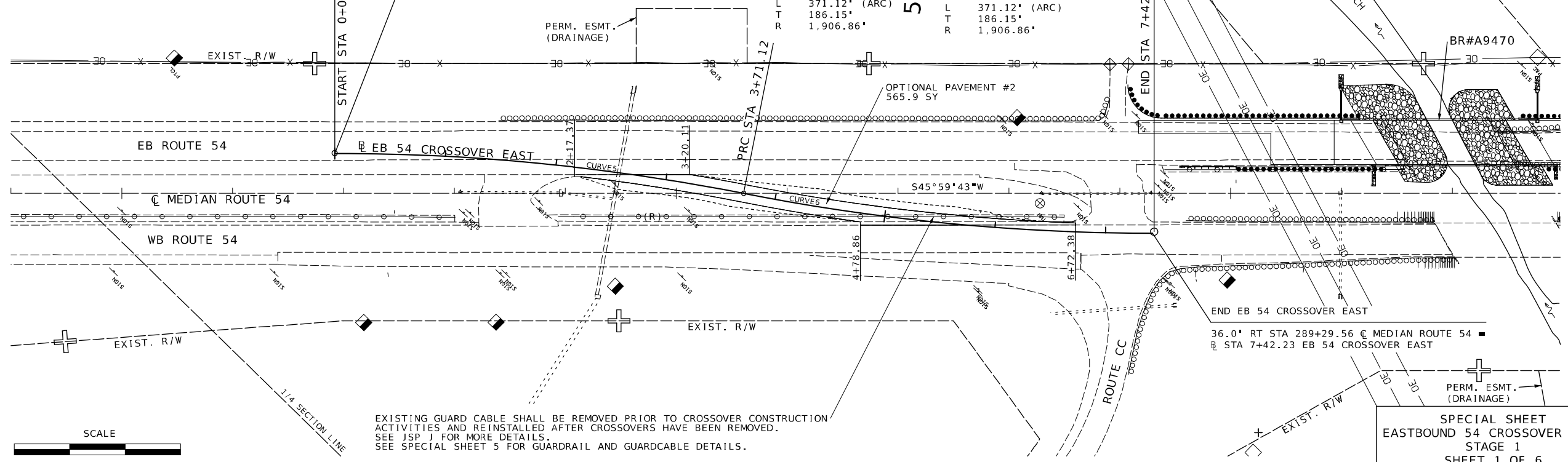


SEE PLAN PROFILE SHEETS 4-5
FOR EXIST. DRAINAGE
STRUCTURE DETAILS

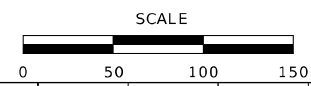
BEGIN EB 54 CROSSOVER EAST
36.0' LT STA 281+92.00 C MEDIAN ROUTE 54
B STA 0+00.00 EB 54 CROSSOVER EAST

CURVE5
PI 1+86.15
PC 0+00.00
PT 3+71.12
Δ 11°9'3.7" (RT)
D 3°0'17.0"
L 371.12' (ARC)
T 186.15'
R 1,906.86'

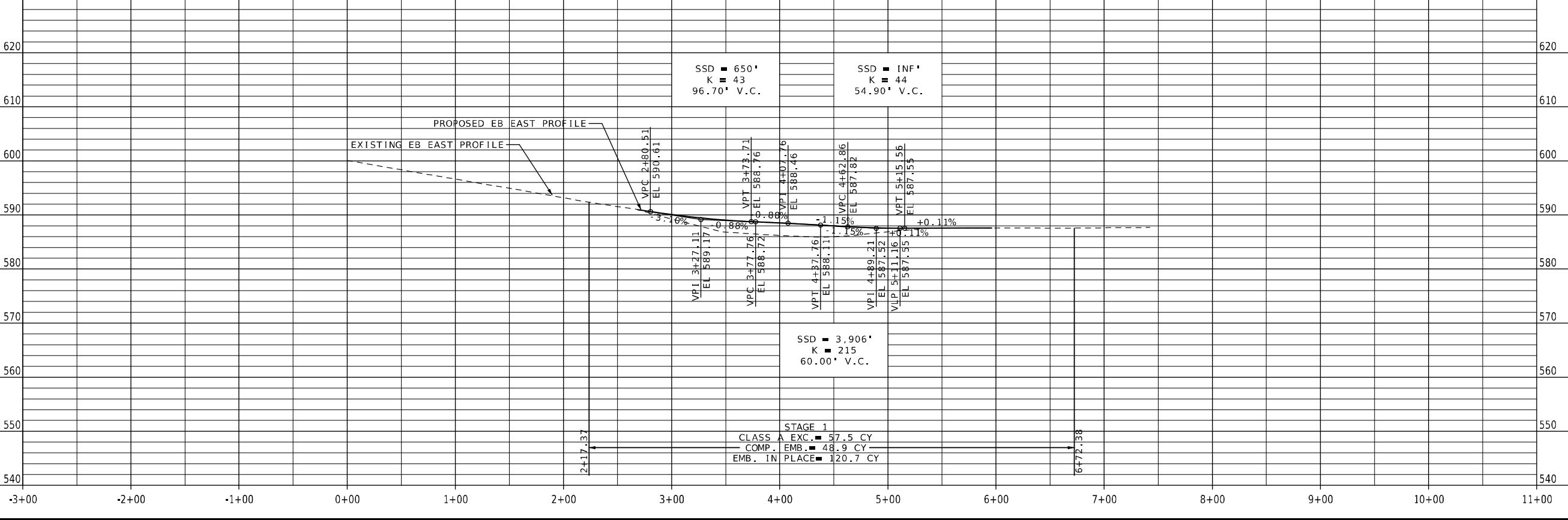
CURVE6
PI 5+57.26
PC 3+71.12
PT 7+42.23
Δ 11°9'3.7" (LT)
D 3°0'17.0"
L 371.12' (ARC)
T 186.15'
R 1,906.86'



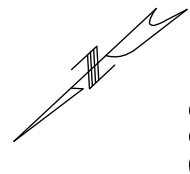
EXISTING GUARD CABLE SHALL BE REMOVED PRIOR TO CROSSOVER CONSTRUCTION
ACTIVITIES AND REINSTALLED AFTER CROSSOVERS HAVE BEEN REMOVED.
SEE JSP J FOR MORE DETAILS.
SEE SPECIAL SHEET 5 FOR GUARDRAIL AND GUARDCABLE DETAILS.



SPECIAL SHEET
EASTBOUND 54 CROSSOVER EAST
STAGE 1
SHEET 1 OF 6



DATE PREPARED 11/4/2024	
ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 6
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)



300

START STA 0+00.00

305

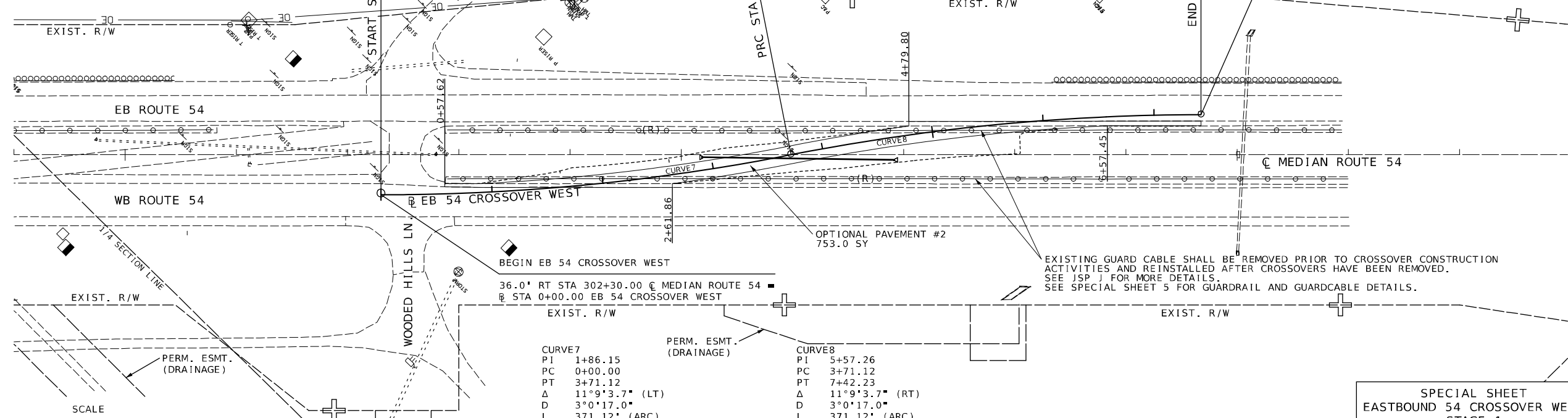
SEE PLAN PROFILE SHEETS 4-5
FOR EXIST. DRAINAGE
STRUCTURE DETAILS

5

18" X 17 1/2" GROUP C PIPE
2 - 18" GROUP C F.E.S.

310

END EB 54 CROSSOVER WEST
36.0' LT STA 309+67.56 @ MEDIAN ROUTE 54
@ STA 7+42.23 EB 54 CROSSOVER WEST



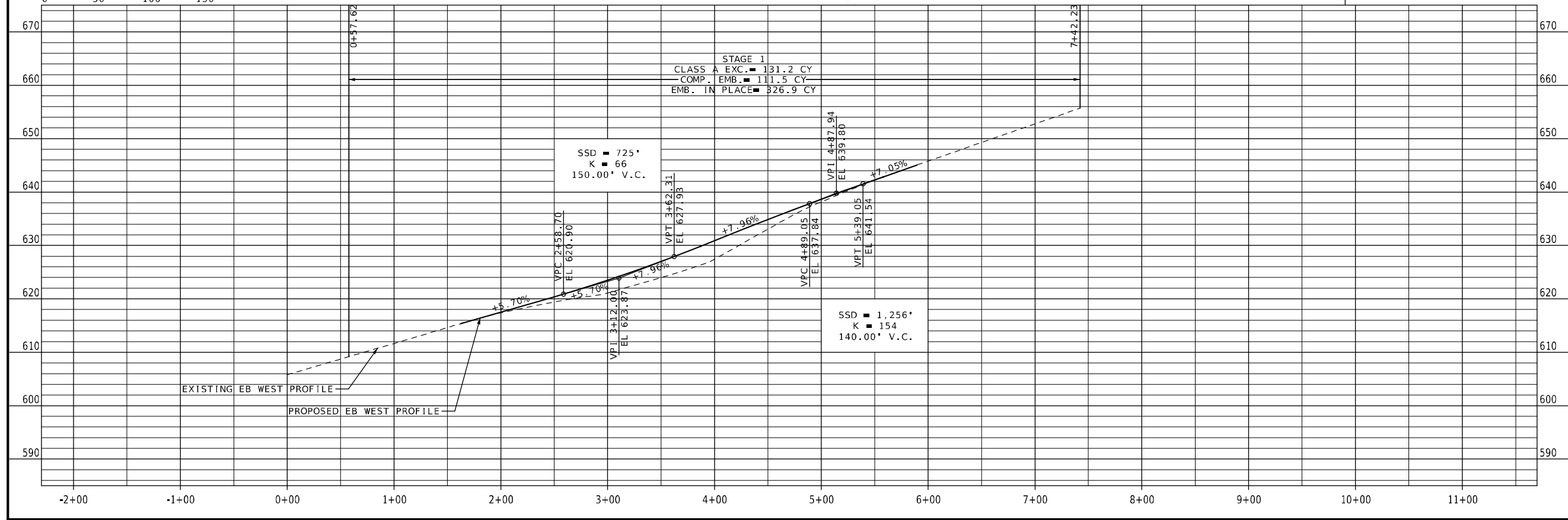
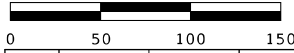
BEGIN EB 54 CROSSOVER WEST
36.0' RT STA 302+30.00 @ MEDIAN ROUTE 54
@ STA 0+00.00 EB 54 CROSSOVER WEST

CURVE 7
PI 1+86.15
PC 0+00.00
PT 3+71.12
Δ 11°9'3.7" (LT)
D 3°0'17.0"
L 371.12' (ARC)
T 186.15'
R 1,906.86'

CURVE 8
PI 5+57.26
PC 3+71.12
PT 7+42.23
Δ 11°9'3.7" (RT)
D 3°0'17.0"
L 371.12' (ARC)
T 186.15'
R 1,906.86'

EXISTING GUARD CABLE SHALL BE REMOVED PRIOR TO CROSSOVER CONSTRUCTION
ACTIVITIES AND REINSTALLED AFTER CROSSOVERS HAVE BEEN REMOVED.
SEE JSP J FOR MORE DETAILS.
SEE SPECIAL SHEET 5 FOR GUARDRAIL AND GUARDCABLE DETAILS.

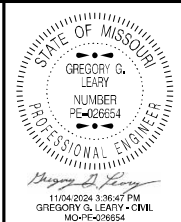
SPECIAL SHEET
EASTBOUND 54 CROSSOVER WEST
STAGE 1
SHEET 2 OF 6



SSD ■ 725'
K ■ 66
150.00' V.C.

SSD ■ 1,256'
K ■ 154
140.00' V.C.

STAGE 1
CLASS A EXC. ■ 131.2 CY
COMP. EMB. ■ 111.5 CY
EMB. IN PLACE ■ 326.9 CY

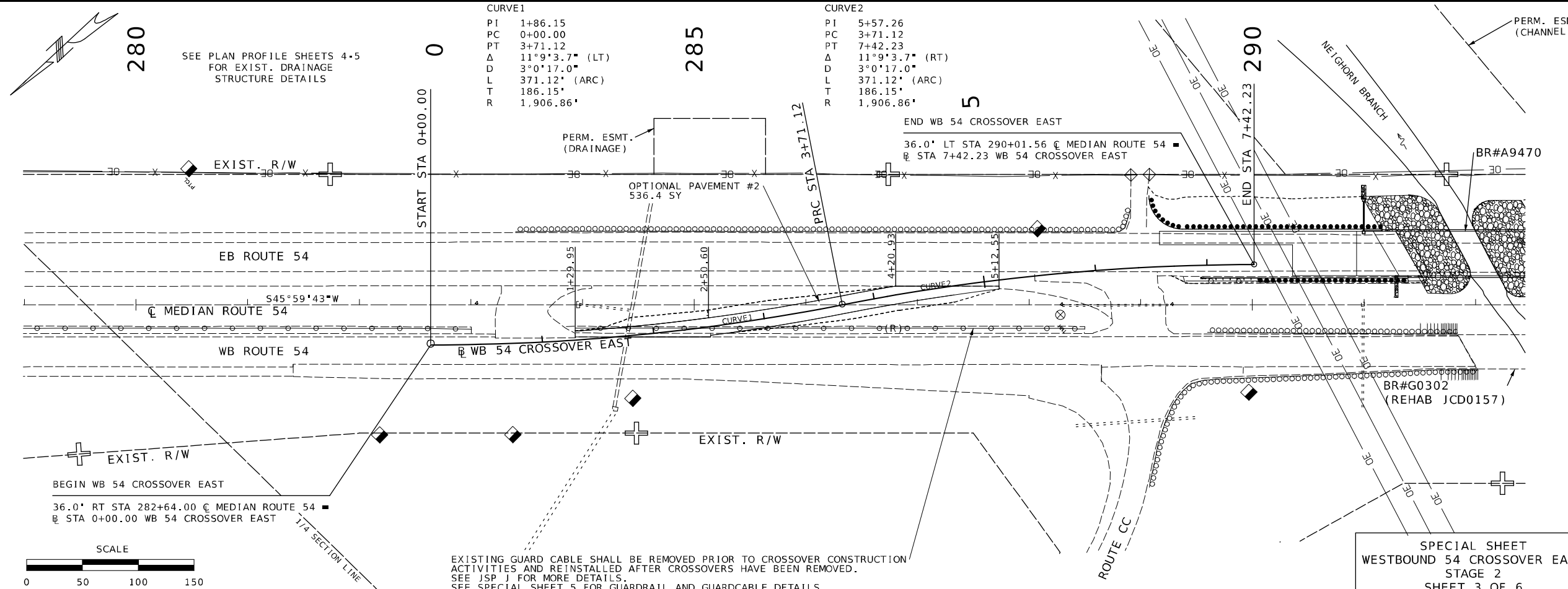


DATE PREPARED 11/4/2024	
ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 7
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

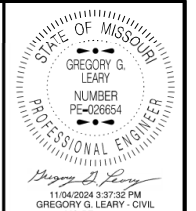


CURVE1

PI	1+86.15
PC	0+00.00
PT	3+71.12
Δ	11°9'3.7" (LT)
D	3°0'17.0"
L	371.12' (ARC)
T	186.15'
R	1,906.86'

CURVE2

PI	5+57.26
PC	3+71.12
PT	7+42.23
Δ	11°9'3.7" (RT)
D	3°0'17.0"
L	371.12' (ARC)
T	186.15'
R	1,906.86'



DATE PREPARED
11/4/2024

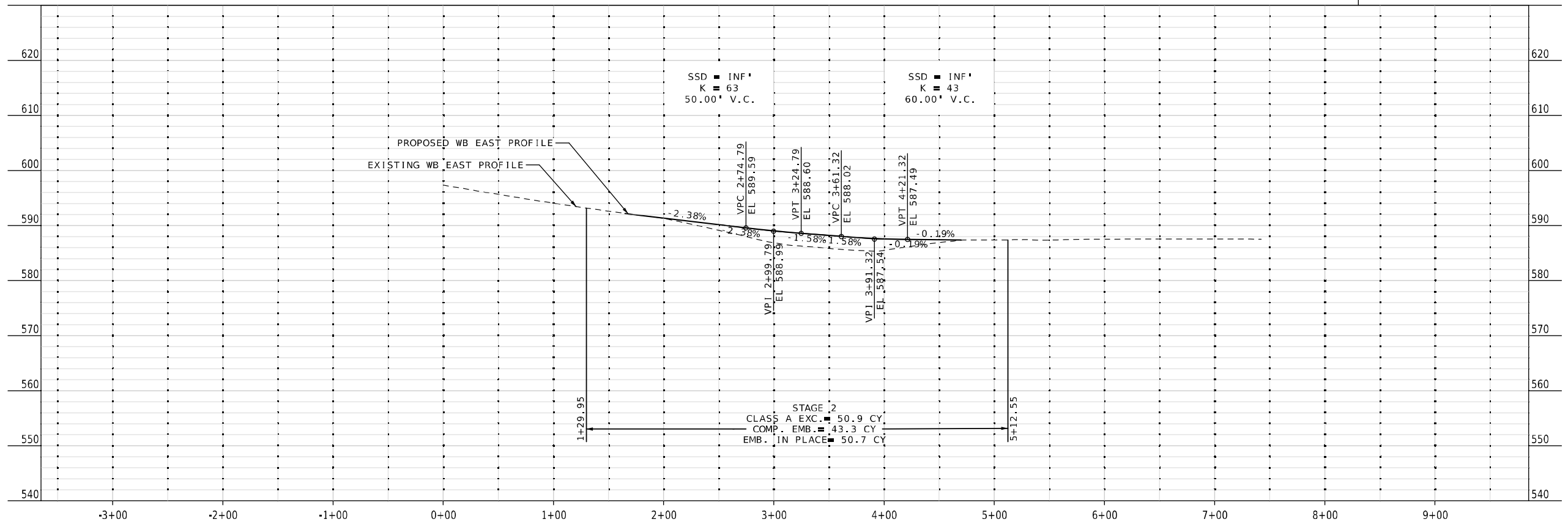
ROUTE	54	STATE	MO
DISTRICT	CD	SHEET NO.	8
COUNTY	COLE		
JOB NO.	J5P3560		
CONTRACT ID.			
PROJECT NO.			
BRIDGE NO.			

DESCRIPTION	DATE

**SPECIAL SHEET
WESTBOUND 54 CROSSOVER EAST
STAGE 2
SHEET 3 OF 6**

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

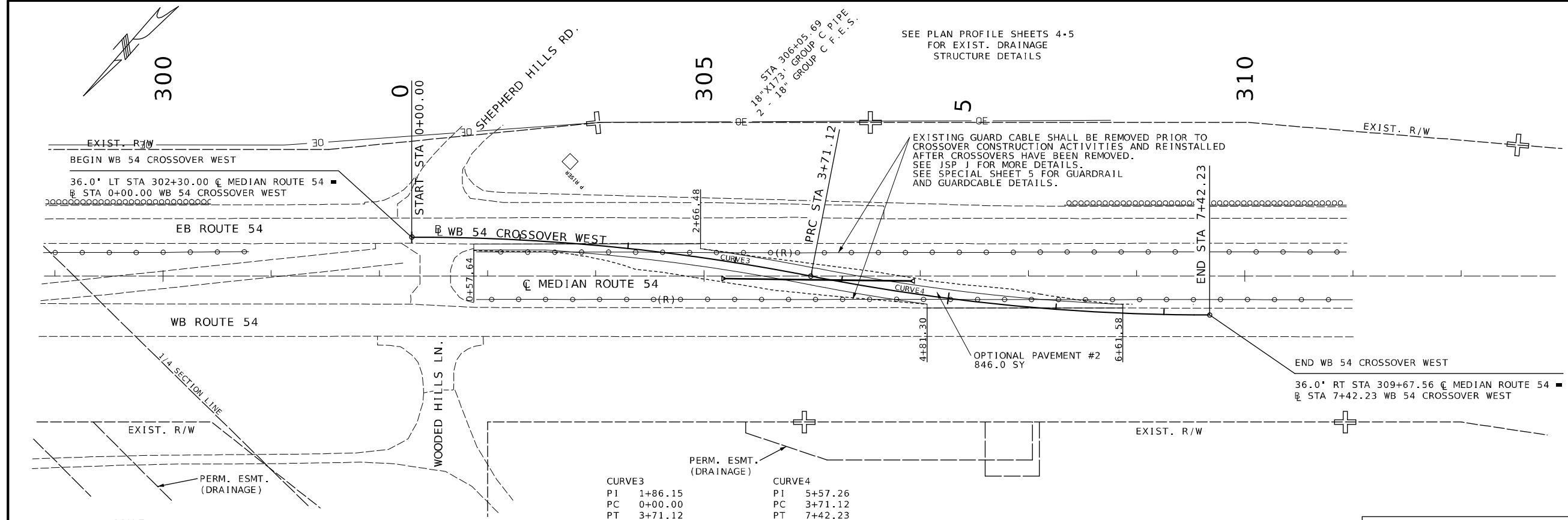
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



SSD INF' K 63 50.00' V.C.

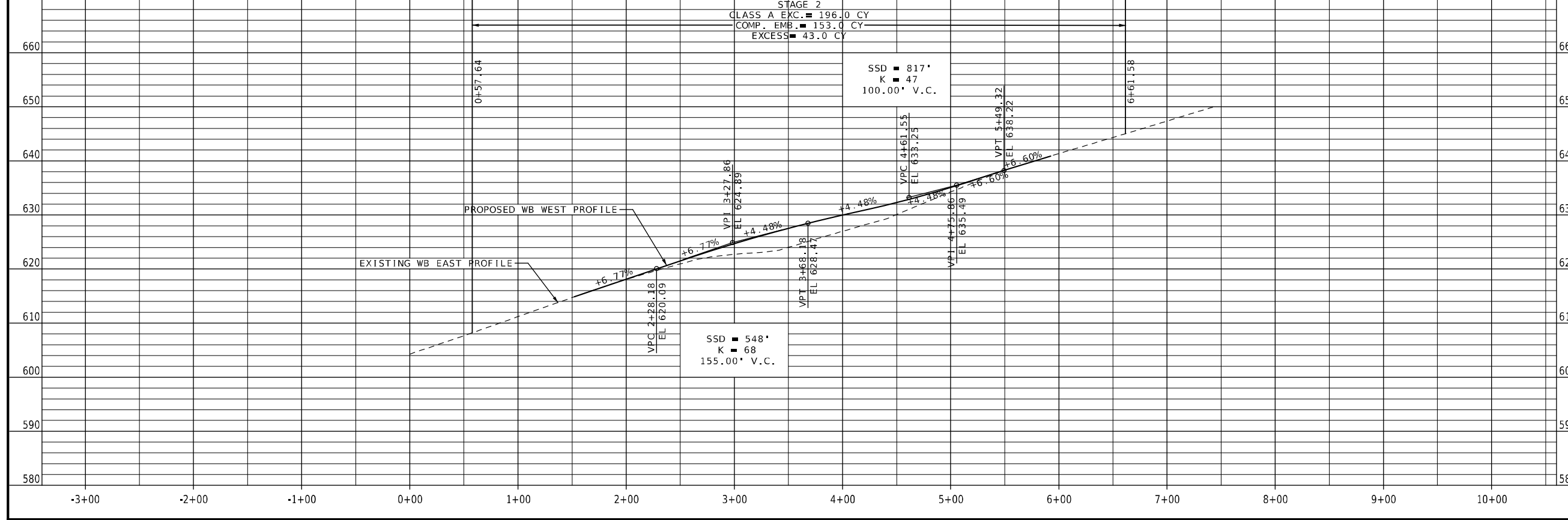
SSD INF' K 43 60.00' V.C.

STAGE 2
CLASS A EXC. 50.9 CY
COMP. EMB. 43.3 CY
EMB. IN PLACE 50.7 CY



CURVE 3		CURVE 4	
PI	1+86.15	PI	5+57.26
PC	0+00.00	PC	3+71.12
PT	3+71.12	PT	7+42.23
Δ	11°9'3.7" (RT)	Δ	11°9'3.7" (LT)
D	3°0'17.0"	D	3°0'17.0"
L	371.12' (ARC)	L	371.12' (ARC)
T	186.15'	T	186.15'
R	1,906.86'	R	1,906.86'

SPECIAL SHEET
WESTBOUND 54 CROSSOVER WEST
STAGE 2
SHEET 4 OF 6

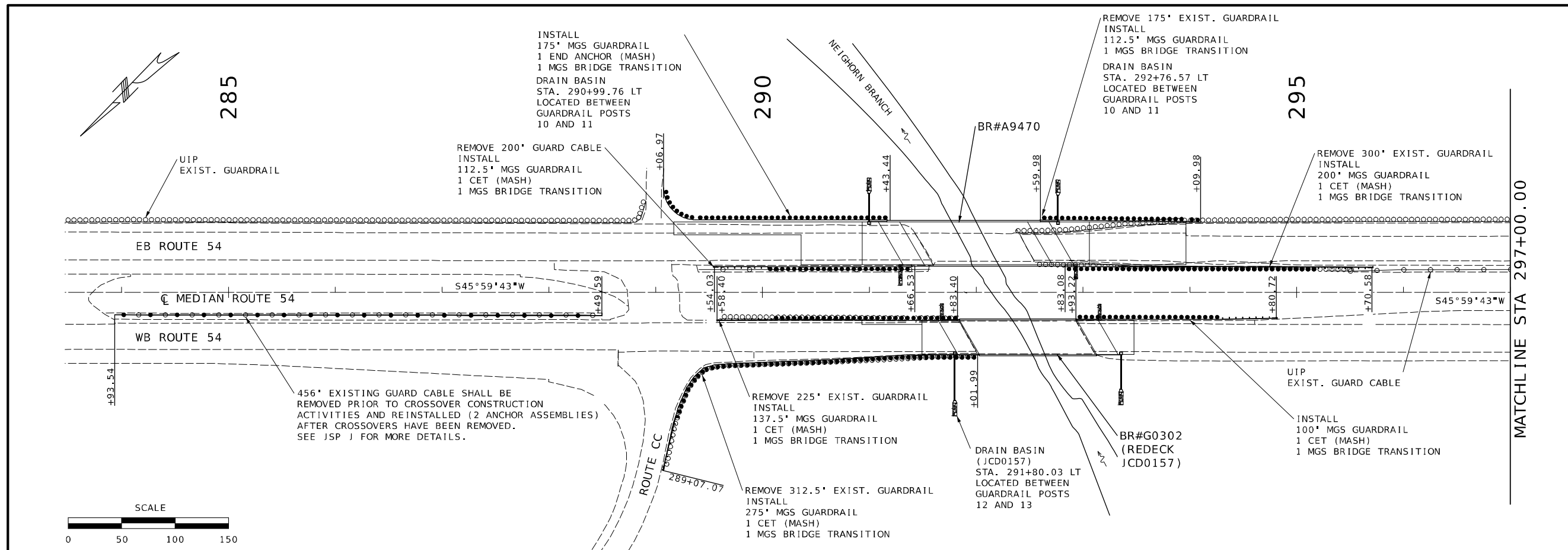


GREGORY G. LEARY
PROFESSIONAL ENGINEER
11/4/2024

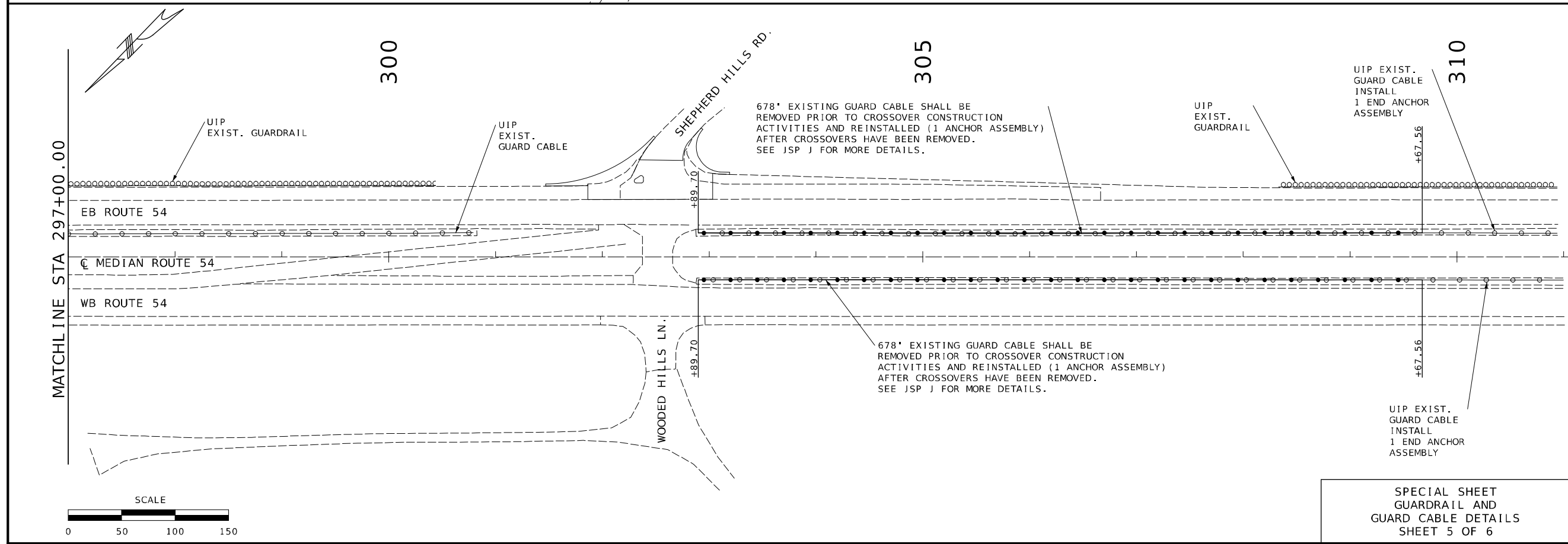
ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 9
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

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



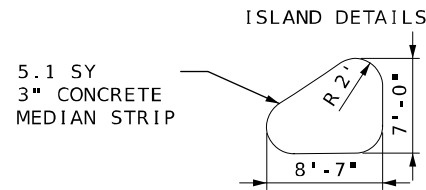
DATE PREPARED 11/4/2024	
ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 10
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DATE	DESCRIPTION



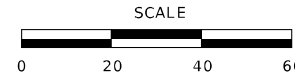
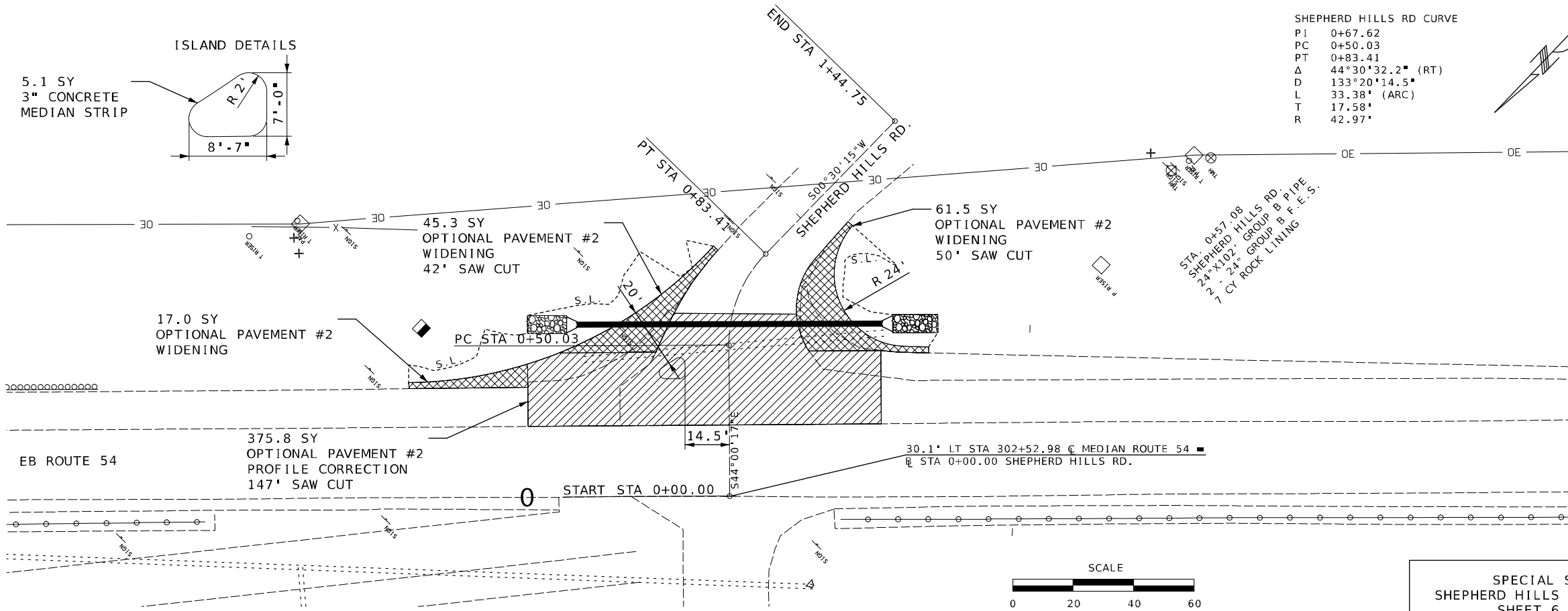
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

SPECIAL SHEET
GUARDRAIL AND
GUARD CABLE DETAILS
SHEET 5 OF 6

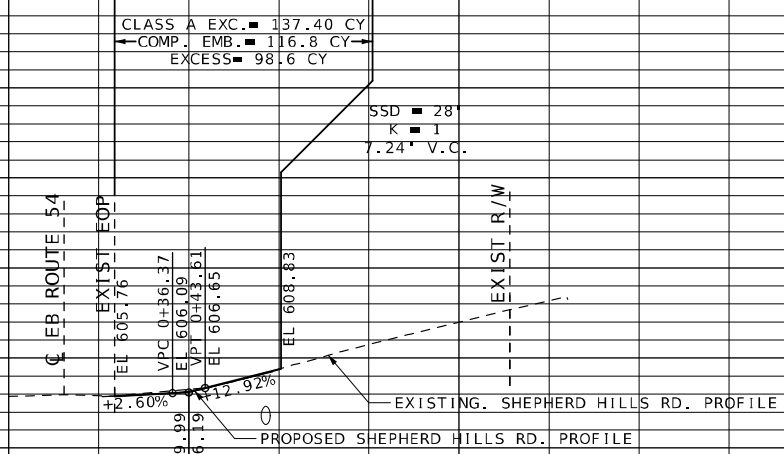


SHEPHERD HILLS RD CURVE
 PI 0+67.62
 PC 0+50.03
 PT 0+83.41
 Δ 44°30'32.2" (RT)
 D 133°20'14.5"
 L 33.38' (ARC)
 T 17.58'
 R 42.97'



SPECIAL SHEET
 SHEPHERD HILLS RD. DETAILS
 SHEET 6 OF 6

SHEPHERD HILLS RD. NE RADIUS			SHEPHERD HILLS RD. SW RADIUS		
STA	OFF	ELEV.	STA	OFF	ELEV.
0+38.11	-106.00	598.75	0+98.91	60.10	609.52
0+38.23	-101.00	599.02	0+95.51	56.43	609.24
0+38.54	-96.01	599.3	0+92.16	52.72	608.96
0+39.02	-91.03	599.56	0+89.54	48.47	608.66
0+39.69	-86.08	599.83	0+87.86	43.77	608.52
0+40.53	-81.15	600.09	0+87.21	38.82	608.82
0+41.55	-76.25	600.34	0+87.56	33.85	609.14
0+42.74	-71.4	600.62	0+88.95	29.05	610.07
0+44.11	-66.59	600.96	0+91.30	24.65	611.08
0+45.65	-61.83	601.32	0+94.52	20.83	611.87
0+47.36	-57.13	601.72	0+98.44	17.75	612.55
0+49.24	-52.5	602.31	1+02.92	15.56	613.58
0+50.62	-47.95	603.43	1+07.76	14.33	614.47
0+51.75	-43.52	604.32	1+10.15	14.11	614.84
0+53.08	-39.26	604.58			
0+54.63	-35.18	605.02			
0+56.44	-31.34	605.96			
0+58.51	-27.76	606.83			
0+60.87	-24.51	607.51			
0+63.53	-21.62	608.17			
0+66.48	-19.17	608.79			
0+69.70	-17.2	609.43			
0+73.18	-15.76	610.1			
0+75.82	-15.08	610.59			



DATE PREPARED: 11/4/2024

ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 11
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

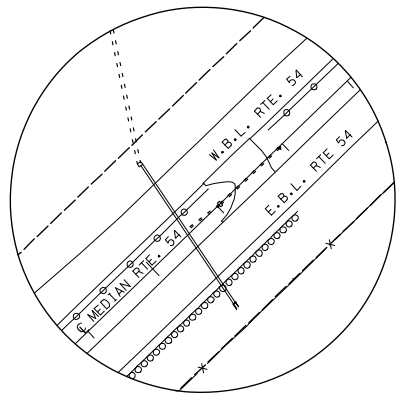
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CONTROL POINT

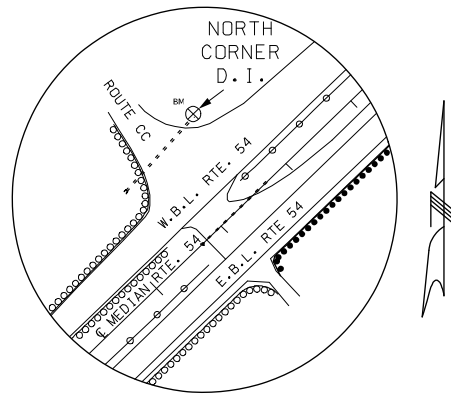
REBAR W/ CAP BURIED 0.2'
STA. 283+24.45
OFFSET 100.00' RT.



X = 1717546.650
Y = 978874.591
Z = 594.56

BENCHMARK

CHISELED "□" ON
N CORNER D.I.
STA. 288+35.98
OFFSET 111.14' RT.



X = 1717188.969
Y = 978527.241
Z = 582.22

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

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	MODIFIED STATE PLANE
HORIZONTAL DATUM	NAD83
VERTICAL DATUM	NGVD88
GEOID MODEL	
ELEVATIONS DETERMINED BY	
PROJECT PROJECTION FACTOR	1.00008950

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	
CONTROL STATION	
DESIGNATION	MODOT JEFF CITY CORS ARP
CORS_ID	MOJC
PID	DL6141
LATITUDE	38 34 47.29643
LONGITUDE	92 17 40.74728
NORTHING (M)	304807.7473
EASTING (M)	517892.1060
ZONE	
PROJECT AVERAGE GRID FACTOR	0.99991050

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

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

EXAMPLE: CONTROL POINT
N 978,874.591 X 0.99991050 = N 978,786.982
E 1,717,546.650 X 0.99991050 = E 1,717,392.930

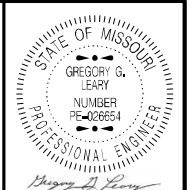
LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND)			DESCRIPTION	GPK POINT ID
				NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)		
PROJECT CONTROL POINTS								
	283+24.45	RTE 54	100.0' RT	978,874.59	1,717,546.65	594.56	REBAR WITH CAP BURIED 0.2'	
	288+35.98	RTE 54	111.14' RT	978,527.24	1,717,188.97	582.22	CHISELED "□" ON N CORNER D.I.	
ALIGNMENTS								
	253+05.19	RTE 54		980,900.19880	1,719,805.82440		BEGINNING OF EXISTING C/L MEDIAN ROUTE 54	RTE 54
	340+26.65	RTE 54		974,841.25370	1,713,532.62500		END OF EXISTING C/L MEDIAN ROUTE 54	RTE 54
	289+11.95	EB RTE 54		978,364.31166	1,717,240.72038		BEGINNING OF ALIGNMENT FOR EB ROUTE 54	EB 54 CONST
	294+54.66	EB RTE 54		977,987.28189	1,716,850.35822			
	0+00.00	WB EAST		978,870.55763	1,717,652.59210		BEGINNING OF CROSSOVER_WB_EAST P.C. CURVE 1	CROSSOVER_WB_EAST
	3+71.12	WB EAST		978,588.46645	1,717,412.34538		P.R.C.	CROSSOVER_WB_EAST
	7+42.23	WB EAST		978,306.37527	1,717,172.09866		P.T. CURVE 2	CROSSOVER_WB_EAST
	0+00.00	WB WEST		977,452.95577	1,716,288.50084		BEGINNING OF CROSSOVER_WB_WEST P.C. CURVE 3	CROSSOVER_WB_WEST
	3+71.12	WB WEST		977,222.65299	1,715,998.23450		P.R.C.	CROSSOVER_WB_WEST
	7+42.23	WB WEST		976,992.35020	1,715,707.96816		P.T. CURVE 4	CROSSOVER_WB_WEST
	0+00.00	EB EAST		978,868.78885	1,717,754.40011		BEGINNING OF CROSSOVER_EB_EAST P.C. CURVE 5	CROSSOVER_EB_EAST
	3+71.12	EB EAST		978,638.48607	1,717,464.13377		P.R.C.	CROSSOVER_EB_EAST
	7+42.23	EB EAST		978,408.18328	1,717,173.86743		P.T. CURVE 6	CROSSOVER_EB_EAST
	0+00.00	EB WEST		977,504.74417	1,716,238.48122		BEGINNING OF CROSSOVER_EB_WEST P.C. CURVE 7	CROSSOVER_EB_WEST
	3+71.12	EB WEST		977,222.65299	1,715,998.23450		P.R.C.	CROSSOVER_EB_WEST
	7+42.23	EB WEST		976,940.56181	1,715,757.98778		P.T. CURVE 8	CROSSOVER_EB_WEST

COORDINATE POINT AND
REFERENCE POINT SHEET
SHEET 1 OF 1

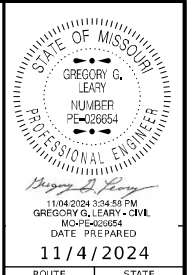


DATE PREPARED 11/4/2024	
ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 12
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

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



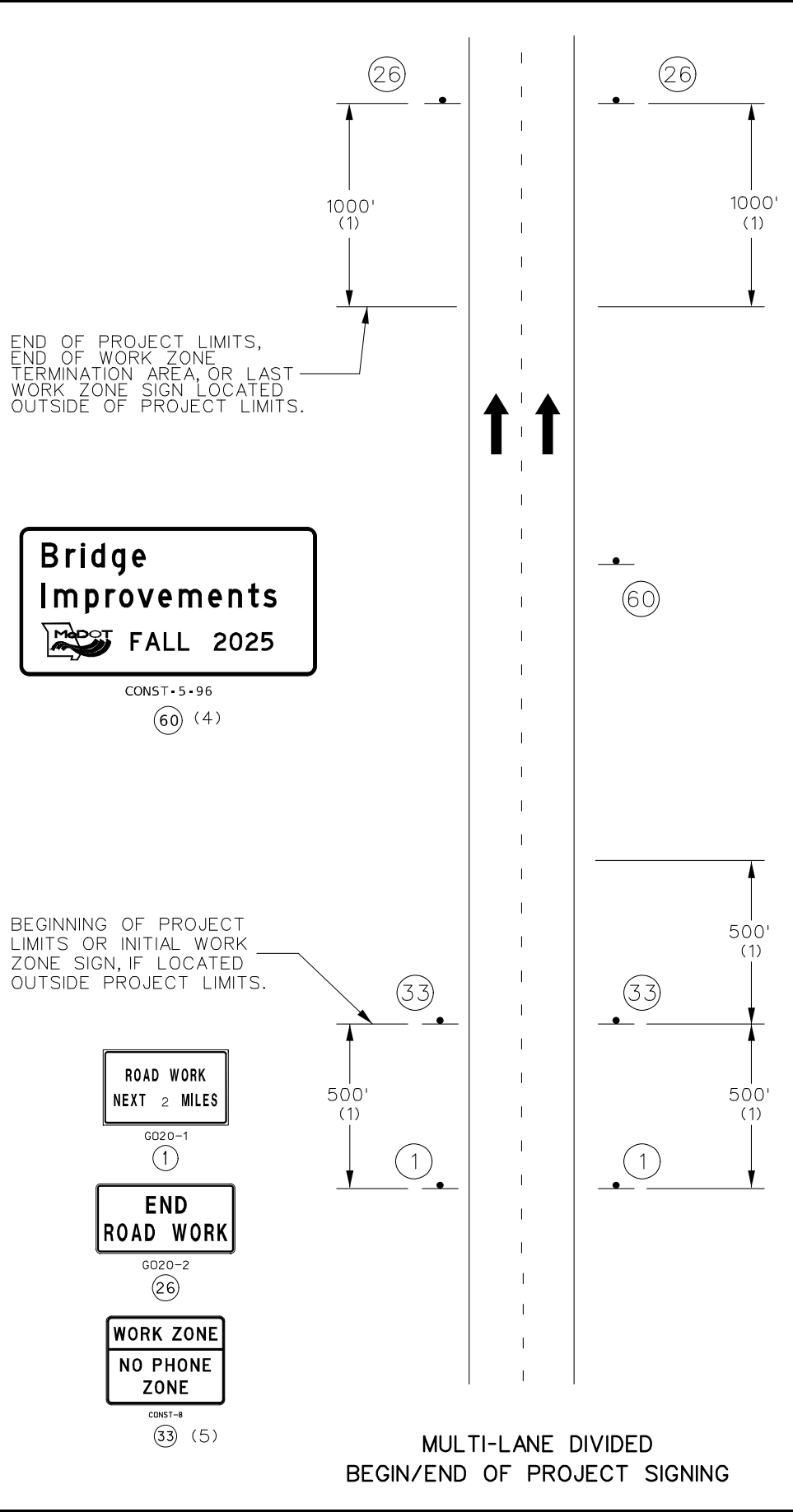


ROUTE	STATE
54	MO
DISTRICT	SHEET NO.
CD	13
COUNTY	
COLE	
JOB NO.	
J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

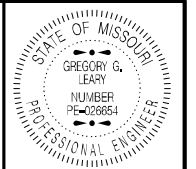


MULTI-LANE DIVIDED
BEGIN/END OF PROJECT SIGNING

- NOTES:
- ALL SIGNS ON THIS SHEET ARE CONSIDERED PERMANENT FOR THE DURATION OF THE PROJECT.
 - (4) PLACE THE POINT OF PRESENCE SIGN, CONST-5-96, AT A VISIBLE LOCATION WITHIN THE PROJECT LIMITS WHERE IT DOES NOT INTERFERE WITH A SIGN SEQUENCE. IF SUCH A LOCATION IS NOT AVAILABLE, THE SIGN MAY BE PLACED 500 FEET BEFORE SIGN 1.
 - (5) THE "WORK ZONE NO PHONE ZONE" SIGN IS PLACED A MINIMUM OF 500 FEET BEFORE THE ROAD WORK AHEAD SIGN.

- GENERAL NOTES:
- LAYOUT IS TYPICAL FOR EITHER DIRECTION.
 - CMS TO BE LOCATED AS APPROVED BY THE ENGINEER.
 - ANY EXISTING SIGNING THAT CONFLICTS WITH TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED.
 - (1) DISTANCE MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS. ADDITIONAL SIGNING MAY BE NEEDED WHERE TRAFFIC BACKUPS ARE EXPECTED BEYOND THE ADVANCE WARNING AREA.

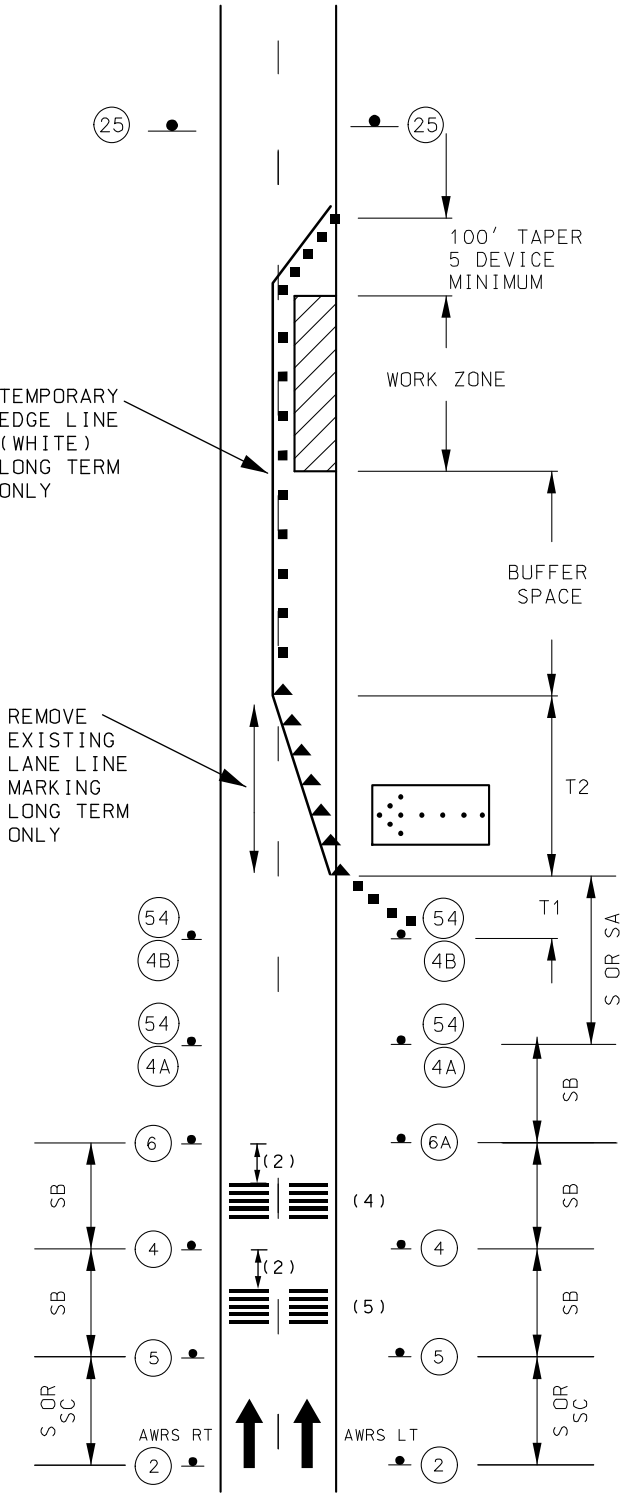
TEMPORARY TRAFFIC CONTROL SHEET
BEGIN / END PROJECT
MULTI-LANE DIVIDED
SHEET 01 OF 16



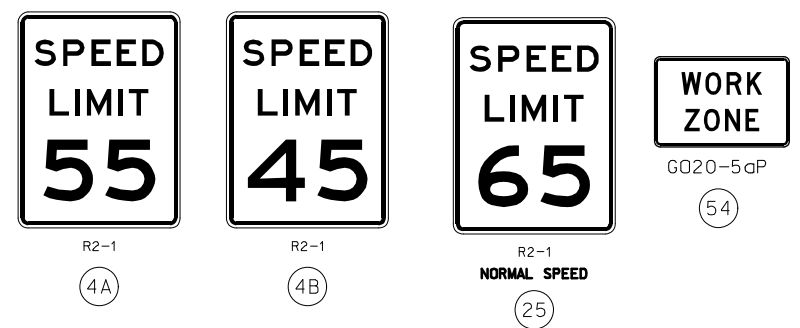
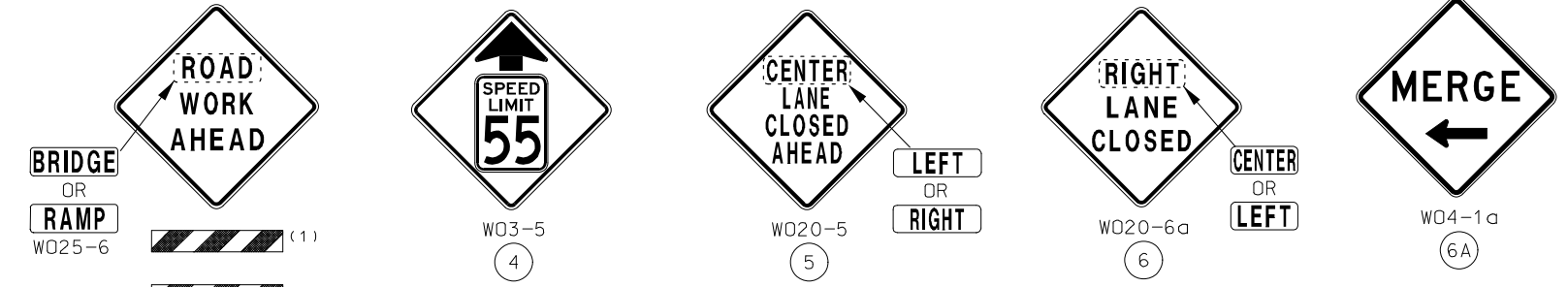
DATE PREPARED
11/4/2024
 ROUTE **54** STATE **MO**
 DISTRICT **CD** SHEET NO. **14**
 COUNTY **COLE**
 JOB NO. **J5P3560**
 CONTRACT ID.

DESCRIPTION	DATE

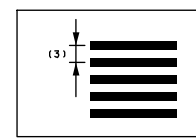
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
 105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)



**STATIONARY LANE CLOSURE
 DIVIDED HIGHWAY**



LONG-TERM RUMBLE STRIPS SPACING EXAMPLE



LONG-TERM RUMBLE STRIPS		
SPEED	DISTANCE (2)	SPACING (3)
0-45 MPH	120 FT	10 FT
50-55 MPH	160 FT	15 FT
60-70 MPH	200 FT	20 FT

NOTES:

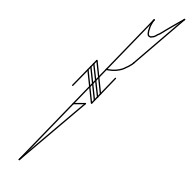
(1) ADVANCED WARNING RAIL SYSTEM (AWRS LT). REVERSE FOR AWRS RT.
 LONG-TERM TEMPORARY RUMBLE STRIPS SHALL BE ORANGE IN COLOR AND CONSIST OF 5 STRIPS.
 TWO SETS OF RUMBLE STRIPS (4) & (5) MAY BE USED SIMULTANEOUSLY OR ONE SET OF RUMBLE STRIPS MAY BE USED. IF ONE SET OF RUMBLE STRIPS ARE USED, THE PREFERRED PLACEMENT IS AT LOCATION (4).
 LAYOUTS ARE TYPICAL FOR EITHER LANE.
 SIGN (2) NOT NEEDED IF LOCATED WITHIN LIMITS OF AN ACTIVITY AREA WHERE ANOTHER SIGN (2) IS ALREADY USED.

SEE TRAFFIC CONTROL SHEET 3 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.
 REMOVE AND/OR MODIFY ANY EXISTING PAVEMENT MARKING AS NEEDED.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- ▲ DIRECTIONAL INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHT
- ▨ WORK SPACE
- ⋯ FLASHING ARROW PANEL
- ▮ LONG-TERM RUMBLE STRIPS

TEMPORARY TRAFFIC CONTROL SHEET
 STATIONARY LANE CLOSURE
 ON DIVIDED HIGHWAY
 SHEET 2 OF 16



NOTE:
LOG ALL EXISTING PAVEMENT
MARKINGS PRIOR TO REMOVAL

R2-1
NORMAL SPEED
(25)

R5-1
(56)

GO20-5aP
(54)

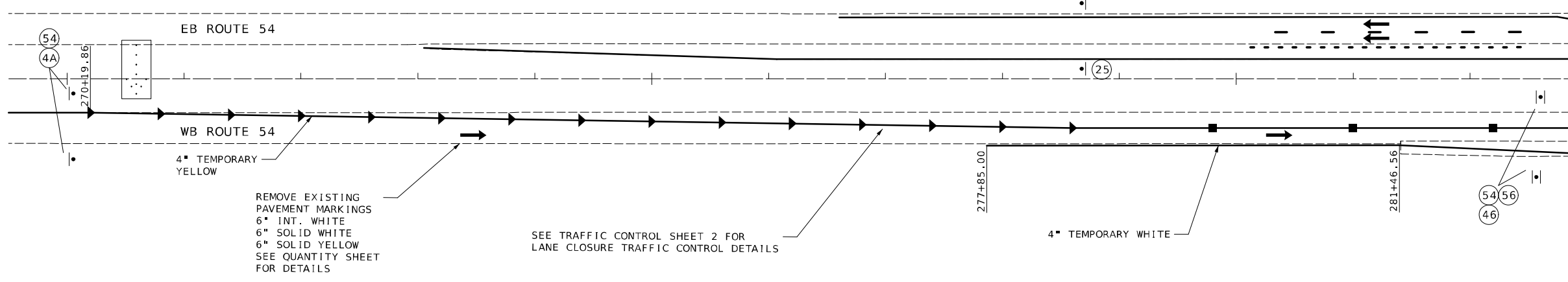
R2-1
(4A)

R4-1
(46)

270

275

280



REMOVE EXISTING
PAVEMENT MARKINGS
6" INT. WHITE
6" SOLID WHITE
6" SOLID YELLOW
SEE QUANTITY SHEET
FOR DETAILS

SEE TRAFFIC CONTROL SHEET 2 FOR
LANE CLOSURE TRAFFIC CONTROL DETAILS

4" TEMPORARY WHITE

MATCHLINE STA 283+00

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

- NOTES:
- SPACINGS MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS AND VISIBILITY.
 - TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER.
 - CONCRETE BARRIER MAY BE INSTALLED AT AND 8:1 FLARE RATE FROM THE SHOULDER POINT TO THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER.

TAPER LENGTHS AND END TREATMENTS FOR CONCRETE BARRIER				
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (3)			END TREATMENT (4)
	10'	11'	12'	
<40	160'	168'	176'	BARRIER HEIGHT TRANSITION
>40	160'	168'	350'	APPROVED CRASH CUSHION

PERMANENT POSTED SPEED MPH	TAPER LENGTHS AND SPACING FOR CHANNELIZERS				BUFFER LENGTH FT. (B)	MAXIMUM CHANNELIZER SPACING	
	MINIMUM LANE TAPER LENGTH (T2)			MINIMUM SHOULDER TAPER LENGTH BASED ON 10' SHOULDER (T1)		THROUGH TAPER	THROUGH WORK AREA
	10'	11'	12'				
0-35	205'	225'	245'	70'	400'	35'*	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'***

* SPACING REDUCED TO 1/2 AT INTERSECTIONS.
** SPACING MAY BE REDUCED TO 1/2 AT INTERSECTIONS.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- DIRECTIONAL INDICATOR BARRICADE
- FLASHING ARROW PANEL

TEMPORARY TRAFFIC CONTROL SHEET
STAGE 1 - EB BRIDGE CLOSURE
SHEET 3 OF 16

GREGORY G. LEARY
 NUMBER 22654
 PROFESSIONAL ENGINEER

DATE PREPARED: 11/4/2024

ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 15

COUNTY COLE
JOB NO. J5P3560
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



DATE PREPARED
11/4/2024

ROUTE STATE
54 MO

DISTRICT SHEET NO.
CD 16

COUNTY
COLE

JOB NO.
J5P3560

CONTRACT ID.

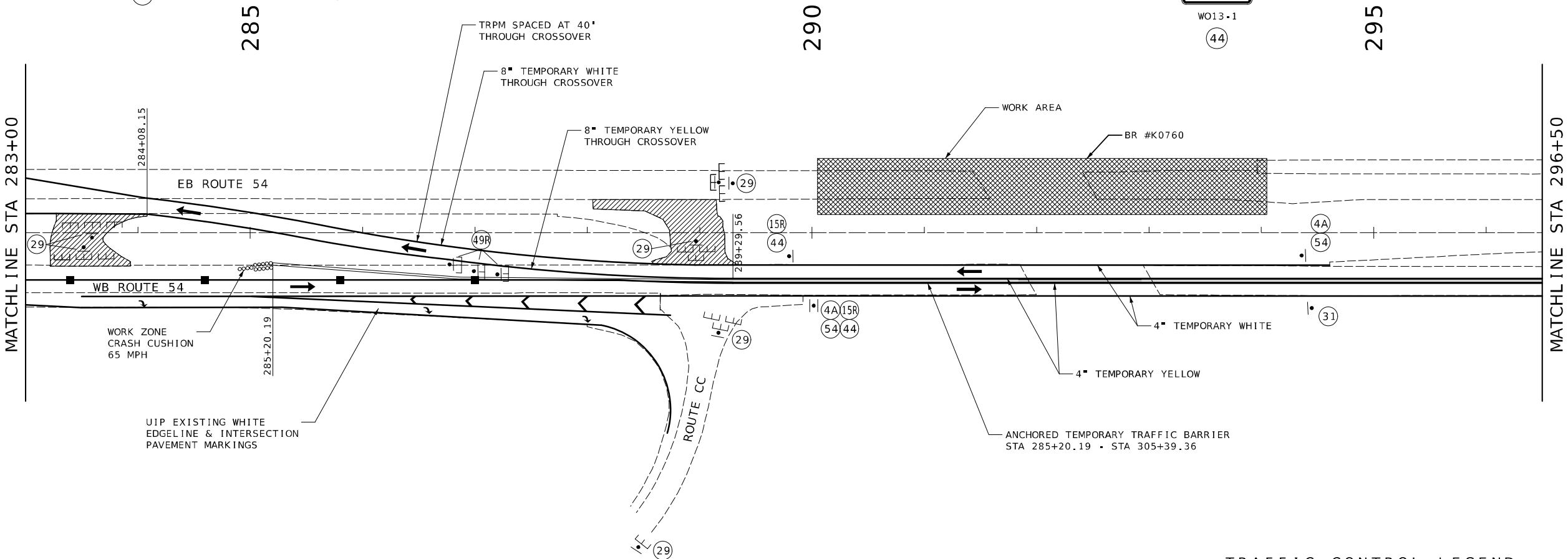
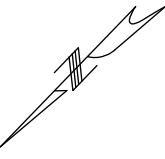
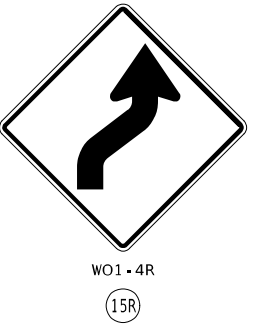
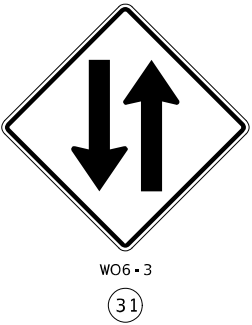
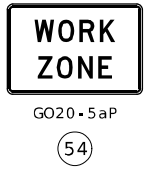
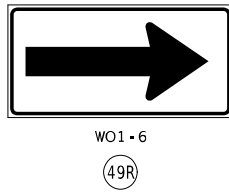
PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

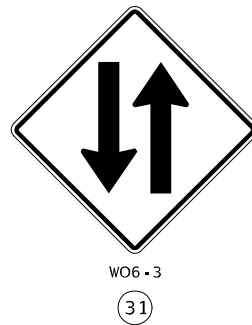
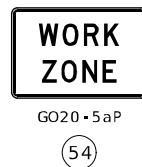
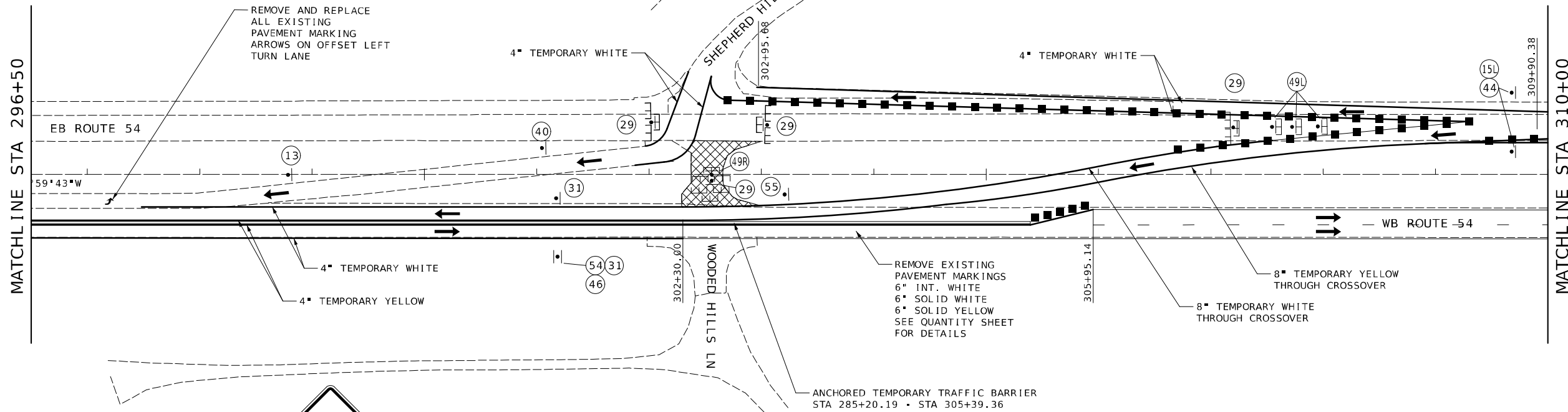
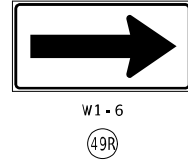
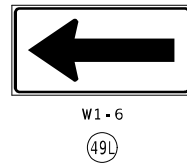
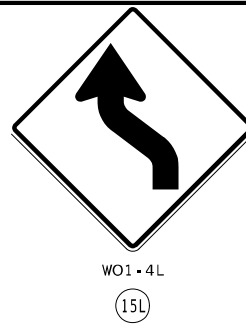
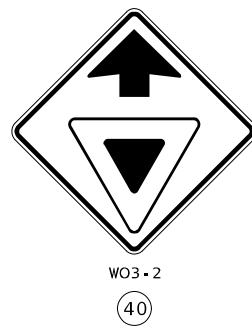
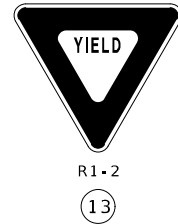
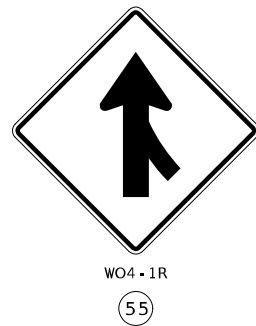
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- ▲ DIRECTIONAL INDICATOR BARRICADE
- E MOVABLE BARRICADE (PLAN VIEW)
- IMPACT ATTENUATOR ARRAY (SAND BARRELS)

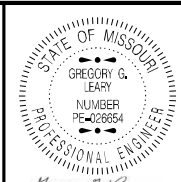
TEMPORARY TRAFFIC CONTROL SHEET
STAGE 1 - EB BRIDGE CLOSURE
SHEET 4 OF 16



TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- ▲ DIRECTIONAL INDICATOR BARRICADE
- ⌈ MOVABLE BARRICADE (PLAN VIEW)

TEMPORARY TRAFFIC CONTROL SHEET
 STAGE 1 - EB BRIDGE CLOSURE
 SHEET 5 OF 16



DATE PREPARED: 11/4/2024

ROUTE	STATE
54	MO
DISTRICT	SHEET NO.
CD	17
COUNTY	
COLE	
JOB NO.	
J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

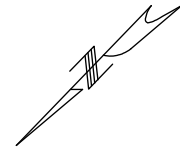
105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)



SPECIAL (51)

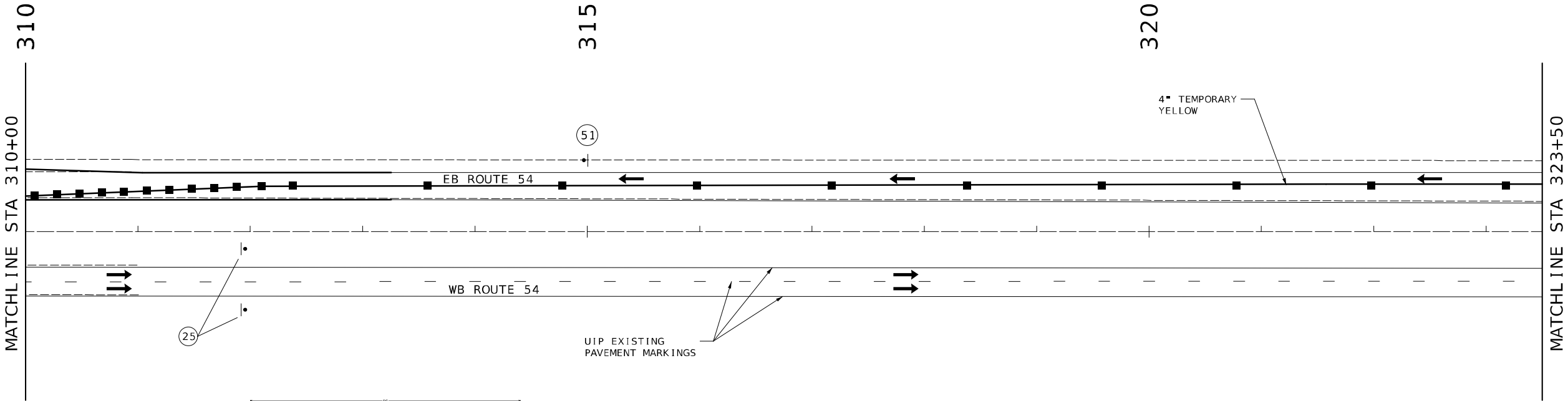


R2-1 NORMAL SPEED (25)



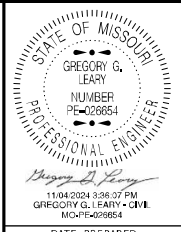
MATCHLINE STA 310+00

MATCHLINE STA 323+50



TRAFFIC CONTROL LEGEND
SIGN (SINGLE SIDED)
CHANNELIZER
DIRECTIONAL INDICATOR BARRICADE
TEMPORARY TRAFFIC CONTROL SHEET
STAGE 1 - EB BRIDGE CLOSURE
SHEET 6 OF 16

Professional Engineer Seal: STATE OF MISSOURI, GREGORY G. LEARY, NUMBER PE-022654, PROFESSIONAL ENGINEER. Project information: DATE PREPARED 11/4/2024, ROUTE 54, STATE MO, DISTRICT CD, SHEET NO. 18, COUNTY COLE, JOB NO. J5P3560, CONTRACT ID., PROJECT NO., BRIDGE NO., MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION, MoDOT logo, 105 WEST CAPITOL, JEFFERSON CITY, MO 65102, 1-888-ASK-MODOT (1-888-275-6636).



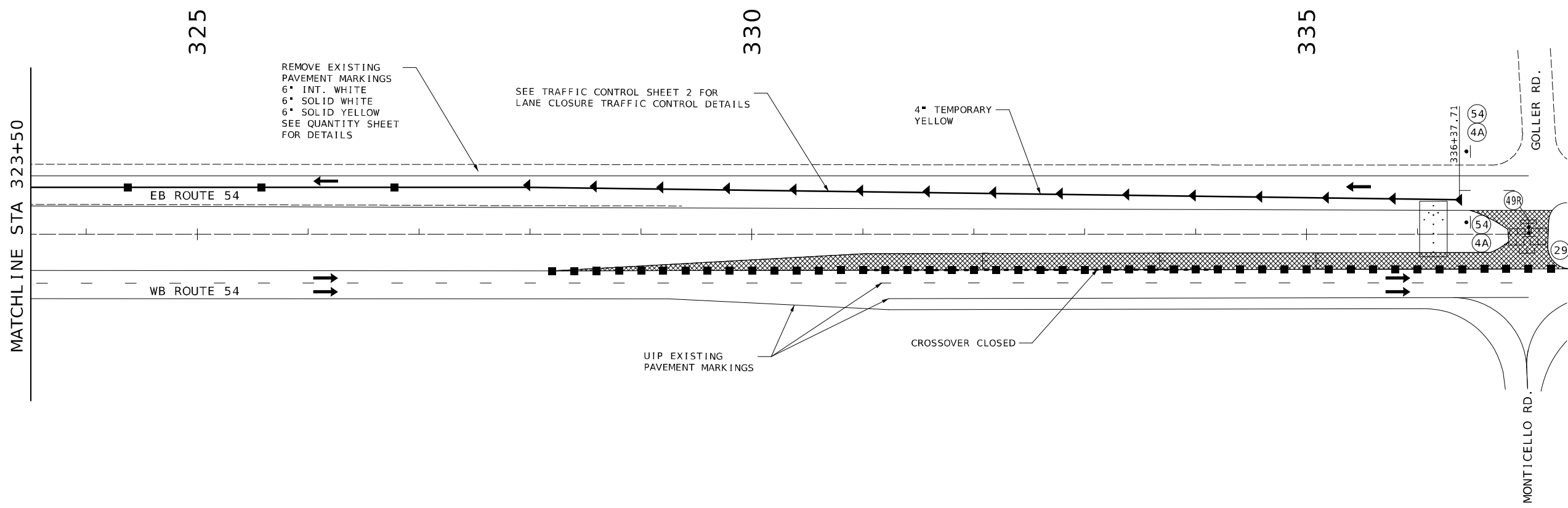
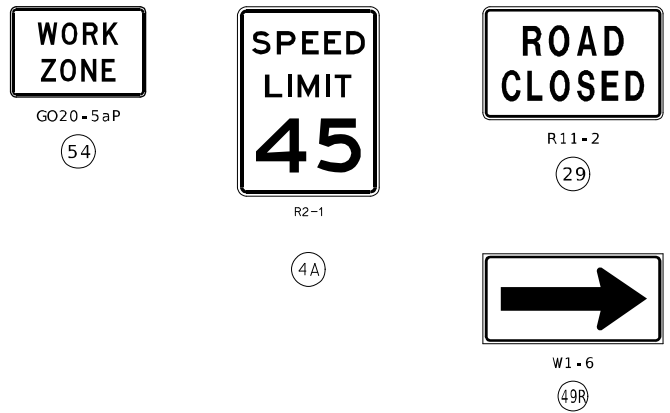
DATE PREPARED
11/4/2024

ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 19
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

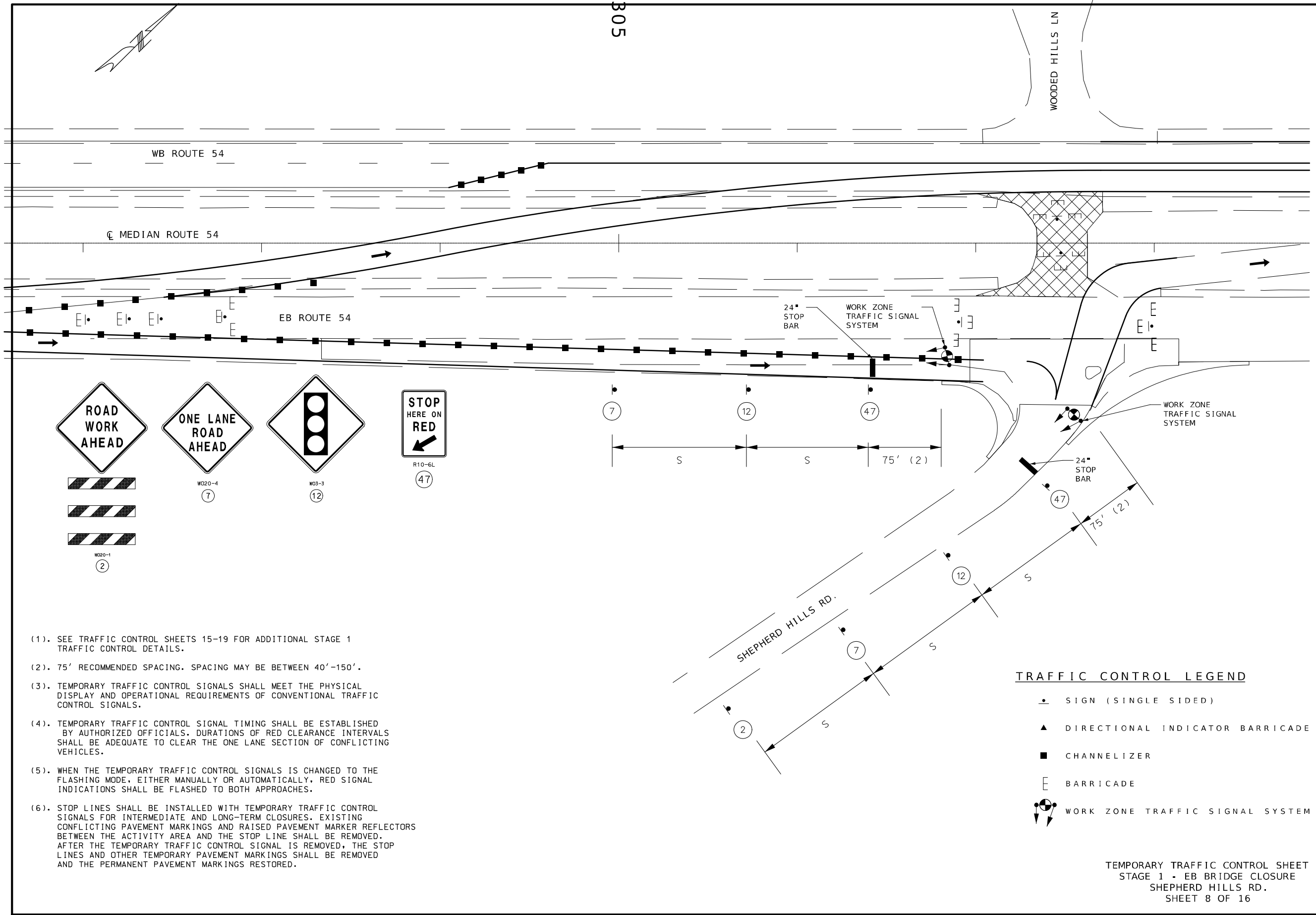
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



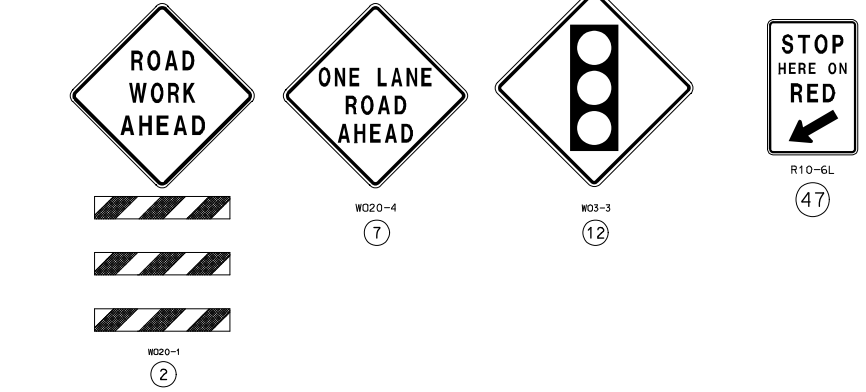
TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- ▲ DIRECTIONAL INDICATOR BARRICADE
- ⌈ MOVABLE BARRICADE (PLAN VIEW)

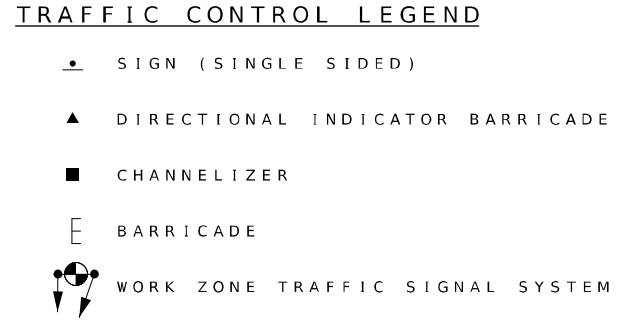
TEMPORARY TRAFFIC CONTROL SHEET
STAGE 1 - EB BRIDGE CLOSURE
SHEET 7 OF 16



DATE PREPARED 11/4/2024	
ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 20
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

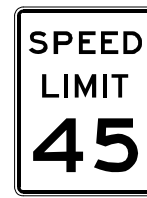


- (1). SEE TRAFFIC CONTROL SHEETS 15-19 FOR ADDITIONAL STAGE 1 TRAFFIC CONTROL DETAILS.
- (2). 75' RECOMMENDED SPACING. SPACING MAY BE BETWEEN 40'-150'.
- (3). TEMPORARY TRAFFIC CONTROL SIGNALS SHALL MEET THE PHYSICAL DISPLAY AND OPERATIONAL REQUIREMENTS OF CONVENTIONAL TRAFFIC CONTROL SIGNALS.
- (4). TEMPORARY TRAFFIC CONTROL SIGNAL TIMING SHALL BE ESTABLISHED BY AUTHORIZED OFFICIALS. DURATIONS OF RED CLEARANCE INTERVALS SHALL BE ADEQUATE TO CLEAR THE ONE LANE SECTION OF CONFLICTING VEHICLES.
- (5). WHEN THE TEMPORARY TRAFFIC CONTROL SIGNALS IS CHANGED TO THE FLASHING MODE, EITHER MANUALLY OR AUTOMATICALLY, RED SIGNAL INDICATIONS SHALL BE FLASHED TO BOTH APPROACHES.
- (6). STOP LINES SHALL BE INSTALLED WITH TEMPORARY TRAFFIC CONTROL SIGNALS FOR INTERMEDIATE AND LONG-TERM CLOSURES. EXISTING CONFLICTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKER REFLECTORS BETWEEN THE ACTIVITY AREA AND THE STOP LINE SHALL BE REMOVED. AFTER THE TEMPORARY TRAFFIC CONTROL SIGNAL IS REMOVED, THE STOP LINES AND OTHER TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED AND THE PERMANENT PAVEMENT MARKINGS RESTORED.



TEMPORARY TRAFFIC CONTROL SHEET
STAGE 1 - EB BRIDGE CLOSURE
SHEPHERD HILLS RD.
SHEET 8 OF 16

NOTE:
LOG ALL EXISTING PAVEMENT
MARKINGS PRIOR TO REMOVAL



R2-1

(4A)



R2-1

NORMAL SPEED

(25)



R5-1

(56)



GO20-5aP

(54)



R4-1

(46)

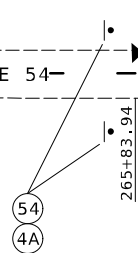
265

270

275

EB ROUTE 54

WB ROUTE 54

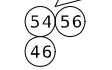


SEE TRAFFIC CONTROL SHEET 2 FOR
LANE CLOSURE TRAFFIC CONTROL DETAILS

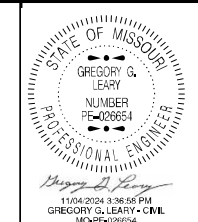
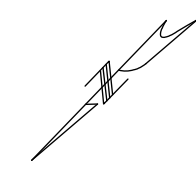
REMOVE EXISTING
PAVEMENT MARKINGS
6" INT. WHITE
6" SOLID WHITE
6" SOLID YELLOW
SEE QUANTITY SHEET
FOR DETAILS

4" TEMPORARY YELLOW

274+23.99



MATCHLINE STA 278+00



DATE PREPARED 11/4/2024	
ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 21
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

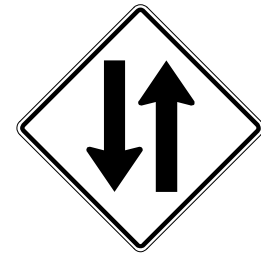
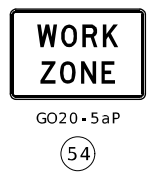
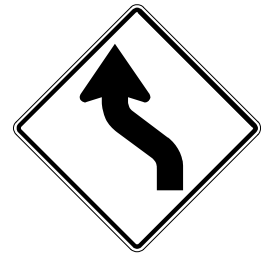
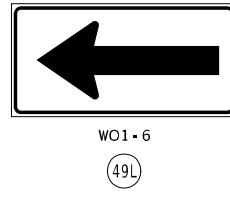
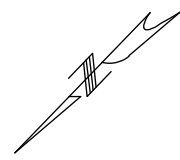
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- ▲ DIRECTIONAL INDICATOR BARRICADE
- [MOVABLE BARRICADE (PLAN VIEW)

TEMPORARY TRAFFIC CONTROL SHEET
STAGE 2 - WB BRIDGE CLOSURE
SHEET 9 OF 16



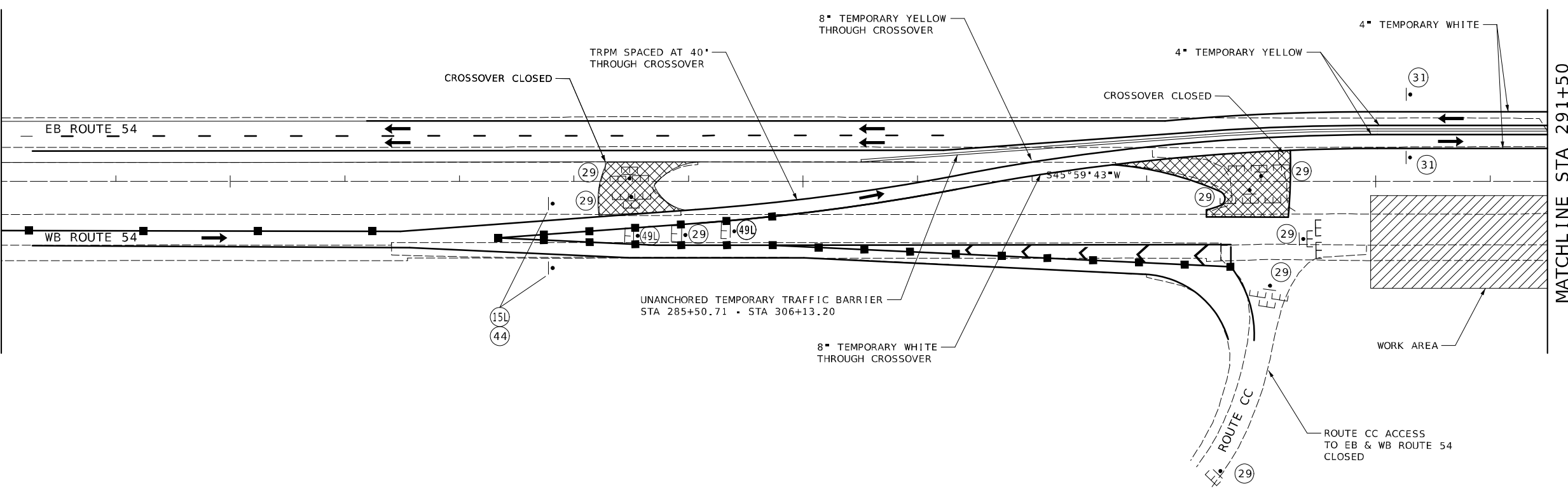
MATCHLINE STA 278+00

MATCHLINE STA 291+50

280

285

290



CROSSOVER CLOSED

TRPM SPACED AT 40' THROUGH CROSSOVER

8" TEMPORARY YELLOW THROUGH CROSSOVER

CROSSOVER CLOSED

4" TEMPORARY YELLOW

4" TEMPORARY WHITE

UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 - STA 306+13.20

8" TEMPORARY WHITE THROUGH CROSSOVER

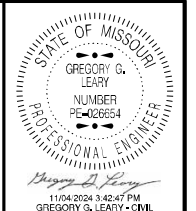
WORK AREA

ROUTE CC ACCESS TO EB & WB ROUTE 54 CLOSED

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- ▲ DIRECTIONAL INDICATOR BARRICADE
- [MOVABLE BARRICADE (PLAN VIEW)

TEMPORARY TRAFFIC CONTROL SHEET
STAGE 2 - WB BRIDGE CLOSURE
SHEET 10 OF 16



DATE PREPARED
11/4/2024

ROUTE 54 STATE MO
DISTRICT CD SHEET NO. 22

COUNTY COLE
JOB NO. J5P3560
CONTRACT ID.

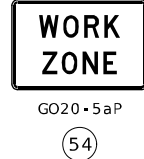
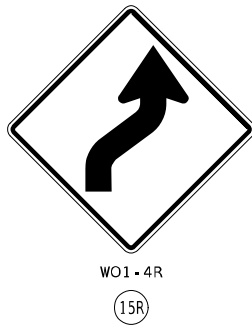
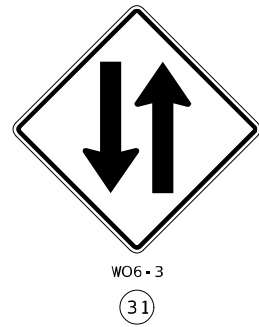
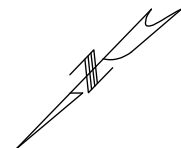
PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 • STA 306+13.20

295

300

305

MATCHLINE STA 291+50

MATCHLINE STA 305+00

4" TEMPORARY WHITE
4" TEMPORARY YELLOW

UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 • STA 306+13.20

UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 • STA 306+13.20

UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 • STA 306+13.20

UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 • STA 306+13.20

UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 • STA 306+13.20

UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 • STA 306+13.20

UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 • STA 306+13.20

UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 • STA 306+13.20

UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 • STA 306+13.20

UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 • STA 306+13.20

UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 • STA 306+13.20

UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 • STA 306+13.20

UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 • STA 306+13.20

UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 • STA 306+13.20

UNANCHORED TEMPORARY TRAFFIC BARRIER
STA 285+50.71 • STA 306+13.20

4A 31
54

4A
54

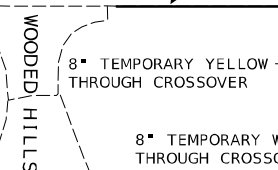
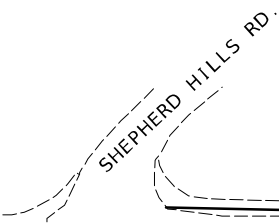
S45°59'43"W

WB ROUTE 54

CROSSOVER CLOSED

15R 4A
44 54

15R
4A



WORK AREA



TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- ▲ DIRECTIONAL INDICATOR BARRICADE
- E MOVABLE BARRICADE (PLAN VIEW)
- IMPACT ATTENUATOR ARRAY (SAND BARRELS)

TEMPORARY TRAFFIC CONTROL SHEET
STAGE 2 - WB BRIDGE CLOSURE
SHEET 11 OF 16

STATE OF MISSOURI
GREGORY G. LEARY
NUMBER
PE-026654
PROFESSIONAL ENGINEER

Gregory G. Leary
11/04/2024 3:42:35 PM
GREGORY G. LEARY - CIVIL
MO-PE-026654
DATE PREPARED
11/4/2024

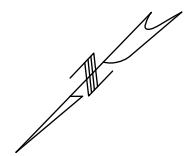
ROUTE	STATE
54	MO
DISTRICT	SHEET NO.
CD	23
COUNTY	
COLE	
JOB NO.	
J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

MoDOT

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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



WORK ZONE

GO20-5aP

(54)

DO NOT PASS

R4-1

(46)

DO NOT ENTER

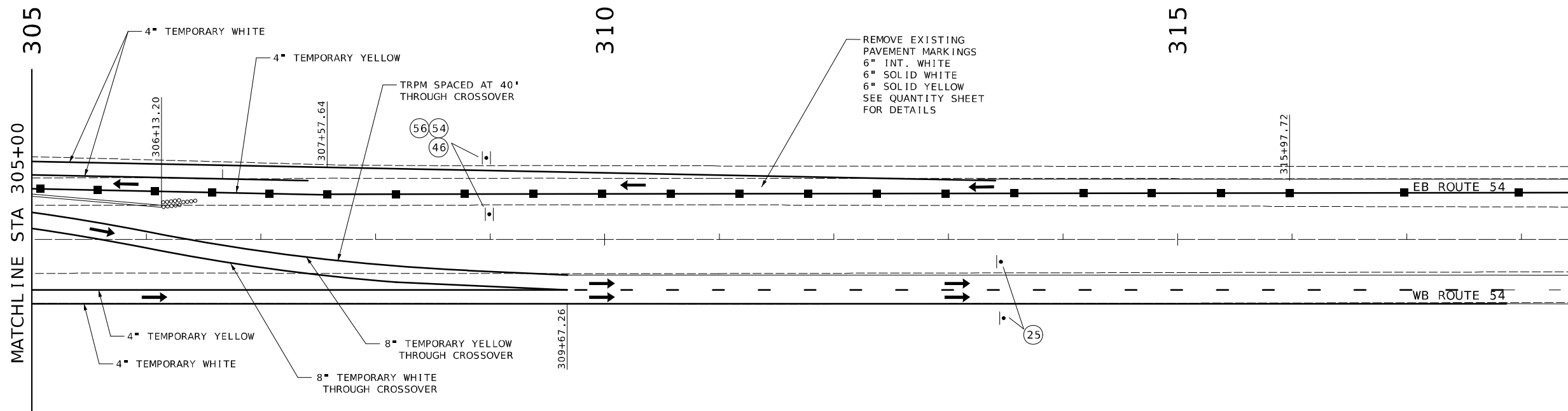
R5-1

(56)

SPEED LIMIT 65

R2-1
NORMAL SPEED

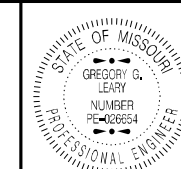
(25)



TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- DIRECTIONAL INDICATOR BARRICADE
- IMPACT ATTENUATOR ARRAY (SAND BARRELS)

TEMPORARY TRAFFIC CONTROL SHEET
STAGE 2 - WB BRIDGE CLOSURE
SHEET 12 OF 16



11/04/2024 3:46:56 PM
GREGORY G. LEARY - CIVIL
MO-PE-02654
DATE PREPARED

11/4/2024

ROUTE 54 STATE MO
DISTRICT CD SHEET NO. 24

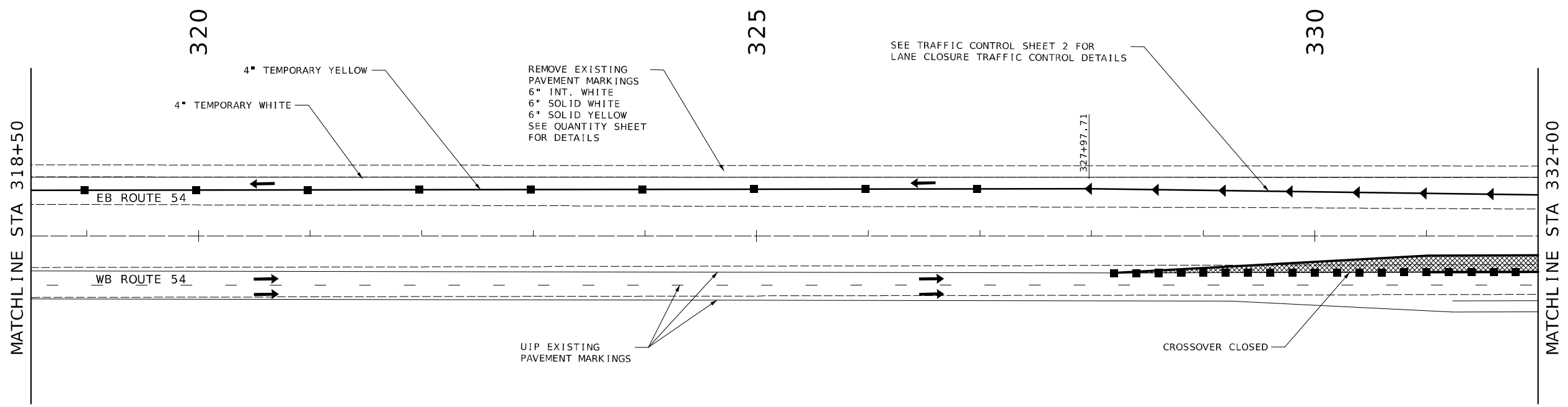
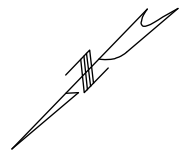
COUNTY COLE
JOB NO. J5P3560
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

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

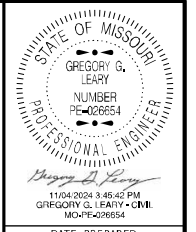




TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- ▲ DIRECTIONAL INDICATOR BARRICADE

TEMPORARY TRAFFIC CONTROL SHEET
 STAGE 2 - WB BRIDGE CLOSURE
 SHEET 13 OF 16



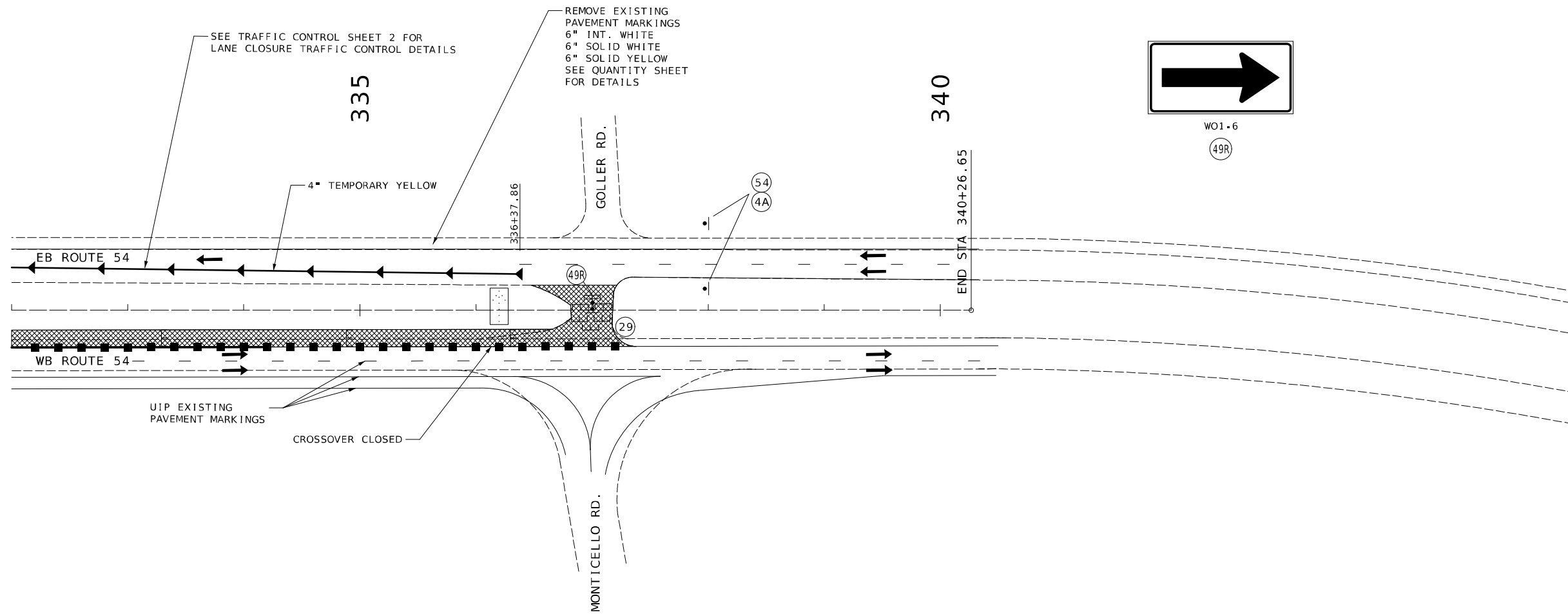
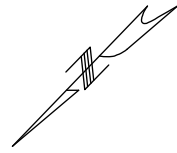
DATE PREPARED
11/4/2024

ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 25
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



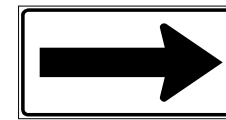
R2-1

(4A)



GO20-5aP

(54)



W01-6

(49R)

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- ▲ DIRECTIONAL INDICATOR BARRICADE

TEMPORARY TRAFFIC CONTROL SHEET
 STAGE 2 - WB BRIDGE CLOSURE
 SHEET 14 OF 16



11/04/2024 3:45:16 PM
 GREGORY G. LEARY - C.M.I.
 MO-PE-020954
 DATE PREPARED
 11/4/2024

ROUTE	STATE
54	MO
DISTRICT	SHEET NO.
CD	26
COUNTY	
COLE	
JOB NO.	
J5P3560	
CONTRACT ID.	

PROJECT NO.
 BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



11/04/2024 3:45:30 PM
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 MO-F-42654

DATE PREPARED
 11/4/2024

ROUTE	STATE
54	MO

DISTRICT	SHEET NO.
CD	27

COUNTY
 COLE

JOB NO.
 J5P3560

CONTRACT ID.

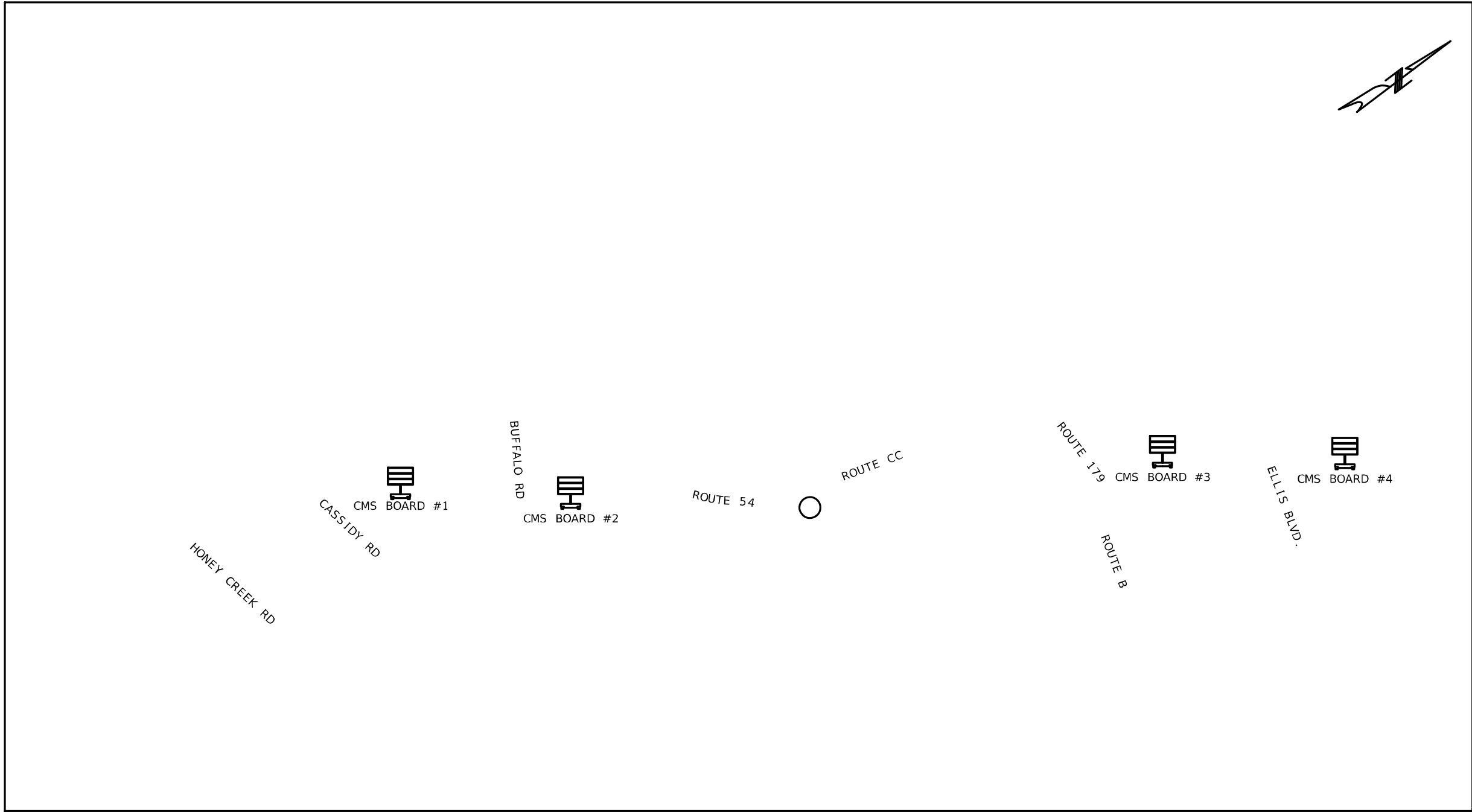
PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



- CMS BOARDS
- | | |
|--|--|
| <p>#1 - LOG MILE 160.145 - 54 EAST
 SLOW/STOPPED TRAFFIC AHEAD
 OR USE BOTH LANES</p> <p>#2 - LOG MILE 161.164 - 54 EAST
 SLOW/STOPPED TRAFFIC AHEAD</p> | <p>#3 - LOG MILE 106.6 - 54 WEST
 SLOW/STOPPED TRAFFIC AHEAD
 OR USE BOTH LANES</p> <p>#4 - LOG MILE 105.4 - 54 WEST
 SLOW/STOPPED TRAFFIC AHEAD</p> |
|--|--|

NOTES:

ALL SIGNS HAVE TYPE 3 FLUORESCENT ORANGE RETROFLECTIVE SHEETING.

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

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

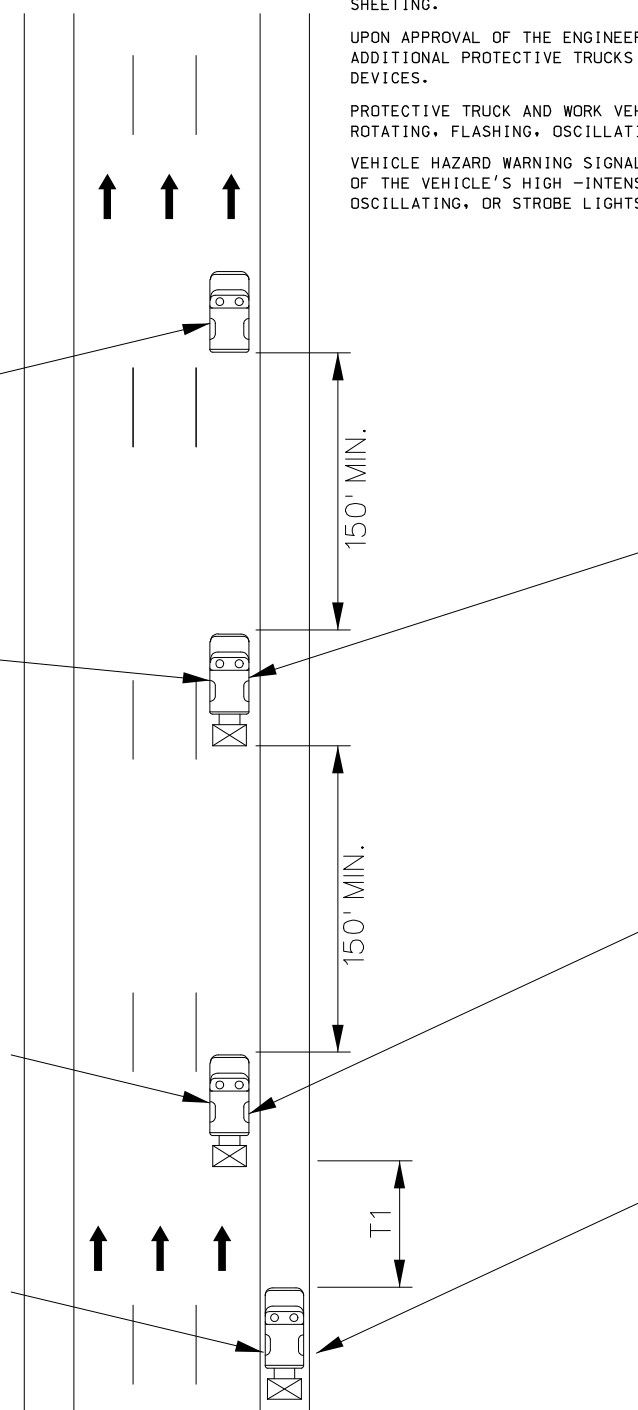
VEHICLE HAZARD WARNING SIGNALS SHALL NOT BE USED INSTEAD OF THE VEHICLE'S HIGH-INTENSITY ROTATING FLASHING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

- (1). WET PAINT SIGNS ARE INSTALLED TO INDICATE THE SIDE IN WHICH THE PAVEMENT MARKING MATERIAL IS BEING APPLIED. AT THE CONTRACTOR'S OPTION, A FRONT FACING WET PAINT SIGN MAY BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT MARKING EQUIPMENT.
- (2). ADVANCE WARNING TRUCK IS POSITIONED AT THE NO TRACK POINT OF THE PAVEMENT MARKING MATERIAL OR SPACING SHOWN, WHICHEVER IS GREATER.

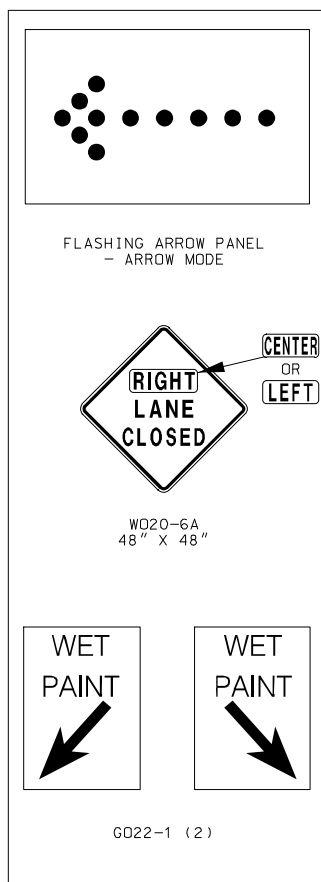
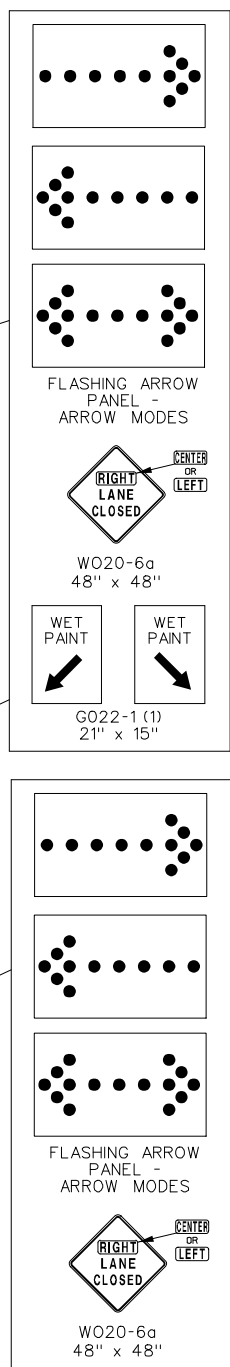
FLASHING ARROW PANELS SHALL, AS A MINIMUM, BE TYPE B, WITH A SIZE OF 60 X 30 INCHES.

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

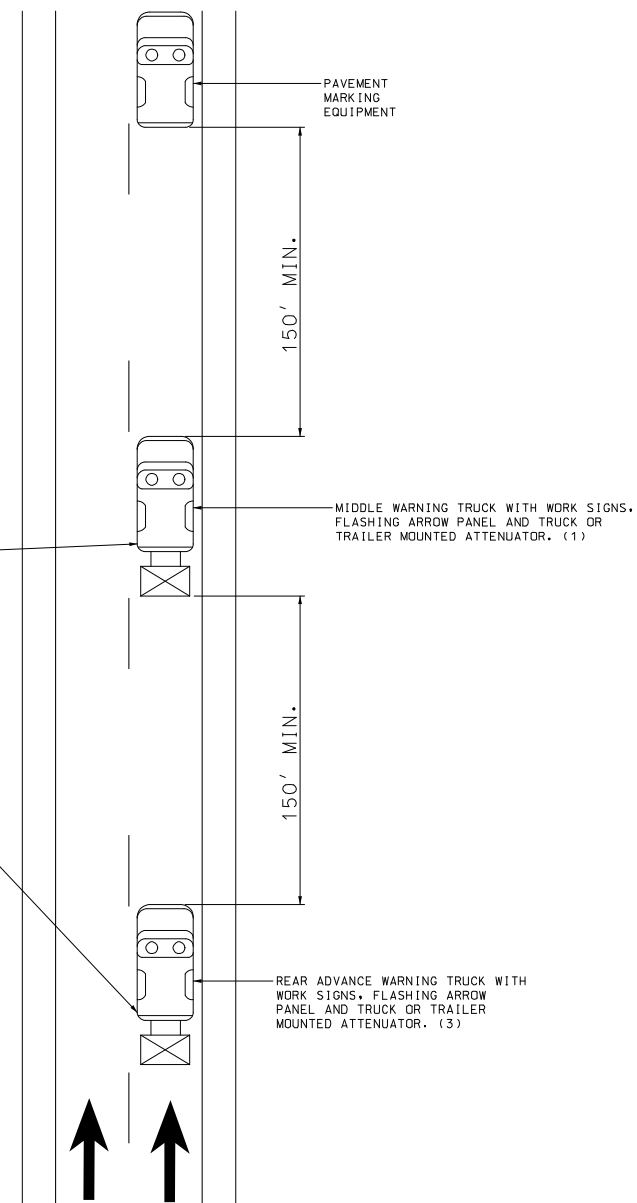
A FLASHING ARROW BOARD SHALL BE USED WHEN A FREEWAY LANE IS CLOSED, WHEN MORE THAN ONE LANE IS CLOSED A SEPARATE FLASHING ARROW BOARD SHALL BE USED FOR EACH CLOSED LANE.



CENTER LINE AND/OR LANE LINE STRIPING ON MULTI-LANE DIVIDED HIGHWAYS

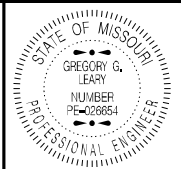


SPEED	SPACING LENGTH
REGULATORY MPH	SPACING (T1)
0-35	245'
40-45	540'
50-55	660'
60-70	840'



MULTI-LANE DIVIDED HIGHWAY MOVING OPERATION ON HIGHWAY OPEN TO TRAFFIC

TEMPORARY TRAFFIC CONTROL SHEET
STRIPING ON MULTI-LANE
DIVIDED HIGHWAY
SHEET 16 OF 16



DATE PREPARED
11/4/2024

ROUTE **54** STATE **MO**
DISTRICT **CD** SHEET NO. **28**

COUNTY
COLE
JOB NO.
J5P3560
CONTRACT ID.

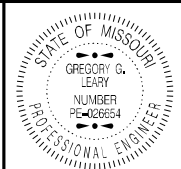
PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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





DATE PREPARED
11/4/2024

ROUTE	STATE
54	MO
DISTRICT	SHEET NO.
CD	29

COUNTY
COLE

JOB NO.
J5P3560

CONTRACT ID.

PROJECT NO.

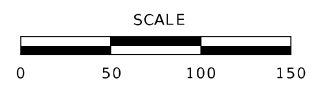
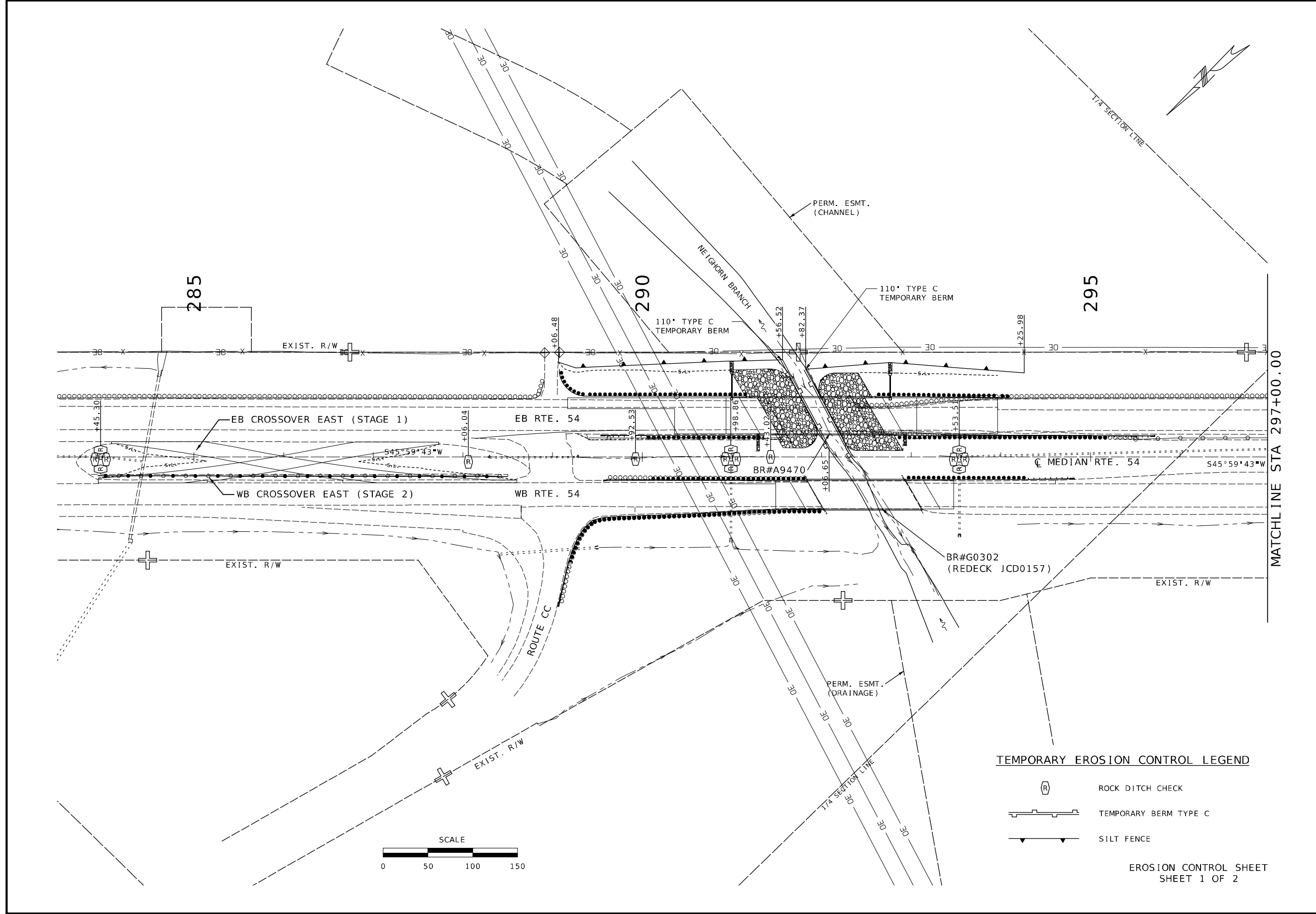
BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

EROSION CONTROL SHEET
SHEET 1 OF 2



TEMPORARY EROSION CONTROL LEGEND

- ROCK DITCH CHECK
- TEMPORARY BERM TYPE C
- SILT FENCE

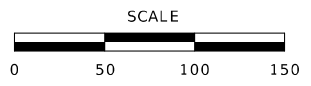
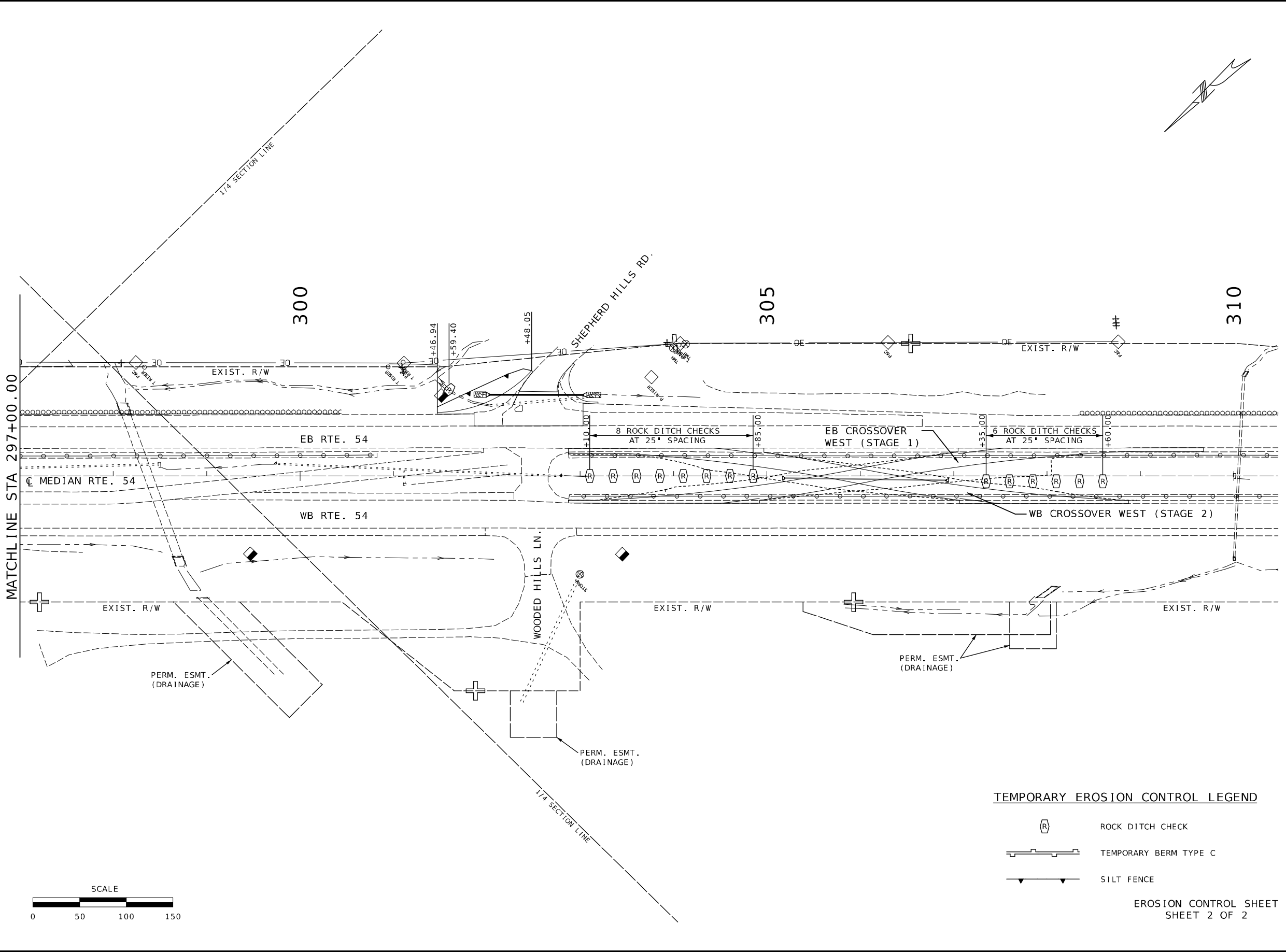
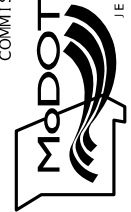


DATE PREPARED		11/4/2024	
ROUTE	STATE	ROUTE	STATE
54	MO	54	MO
DISTRICT	SHEET NO.	DISTRICT	SHEET NO.
CD	30	CD	30
COUNTY			
COLE			
JOB NO.			
J5P3560			
CONTRACT ID.			
PROJECT NO.			
BRIDGE NO.			

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



TEMPORARY EROSION CONTROL LEGEND

- ROCK DITCH CHECK
- TEMPORARY BERM TYPE C
- SILT FENCE

EROSION CONTROL SHEET
SHEET 2 OF 2

**RIDESHARE
INFO**
mo.lcarpool.com

RELOCATED

1

282+00.00
13.1' LT

280

TO



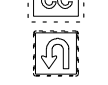
RELOCATED

2

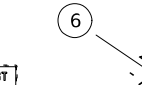
284+43.70
-8.8' LT

285

TO



RELOCATE

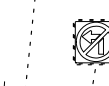


RELOCATED

6

288+75.95
-70.8' LT

TO



RELOCATE

290



RELOCATED

16

290+00.00
-70.8' LT

WRONG WAY

EB RTE. 54

☐ MEDIAN RTE. 54

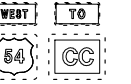
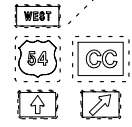
WB RTE. 54

545°59'43"W

BR#K0760

BR#G0302
(REHAB JCD0157)

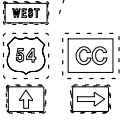
MATCHLINE STA 293+50



WRONG WAY

R5-1a

4



RELOCATED

5



Shoulder Hills Rd
NEXT LEFT

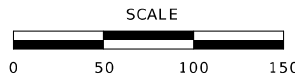


WRONG WAY

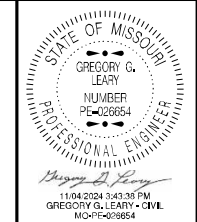
R5-1a

3

RELOCATED



SIGNING SHEET
SHEET 1 OF 3



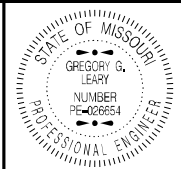
DATE PREPARED
11/4/2024

ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 31
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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



DATE PREPARED
11/4/2024

ROUTE 54 STATE MO
DISTRICT CD SHEET NO. 34

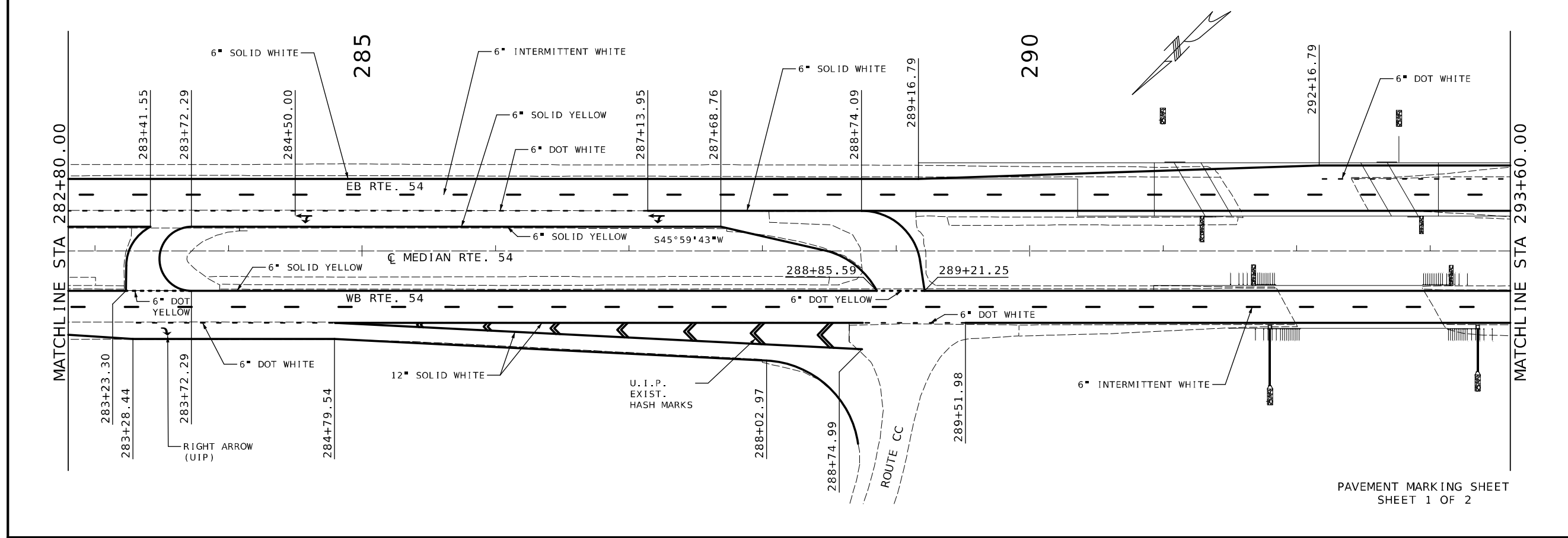
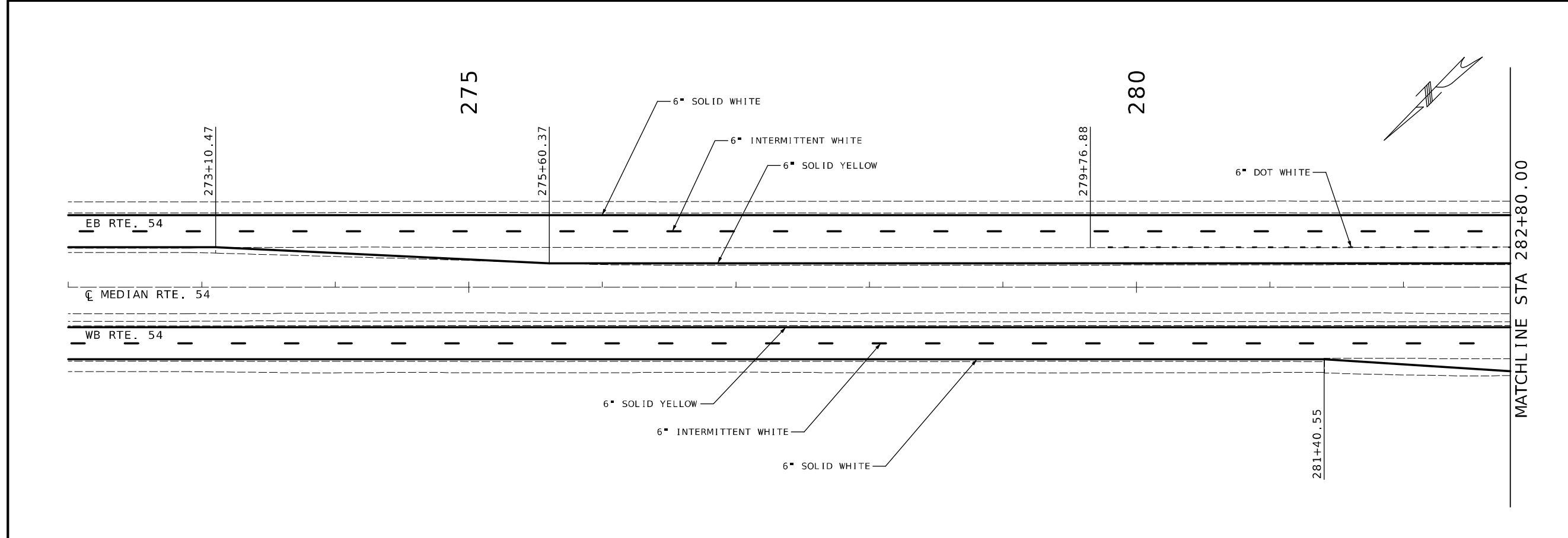
COUNTY COLE
JOB NO. J5P3560
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

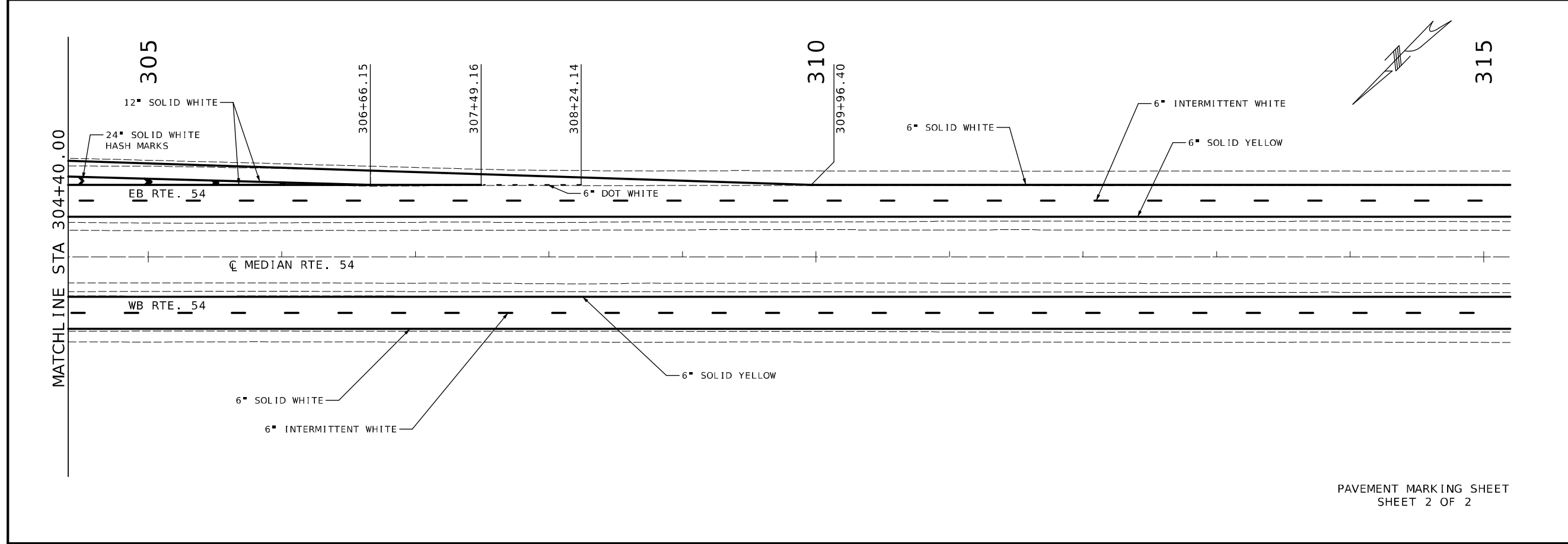
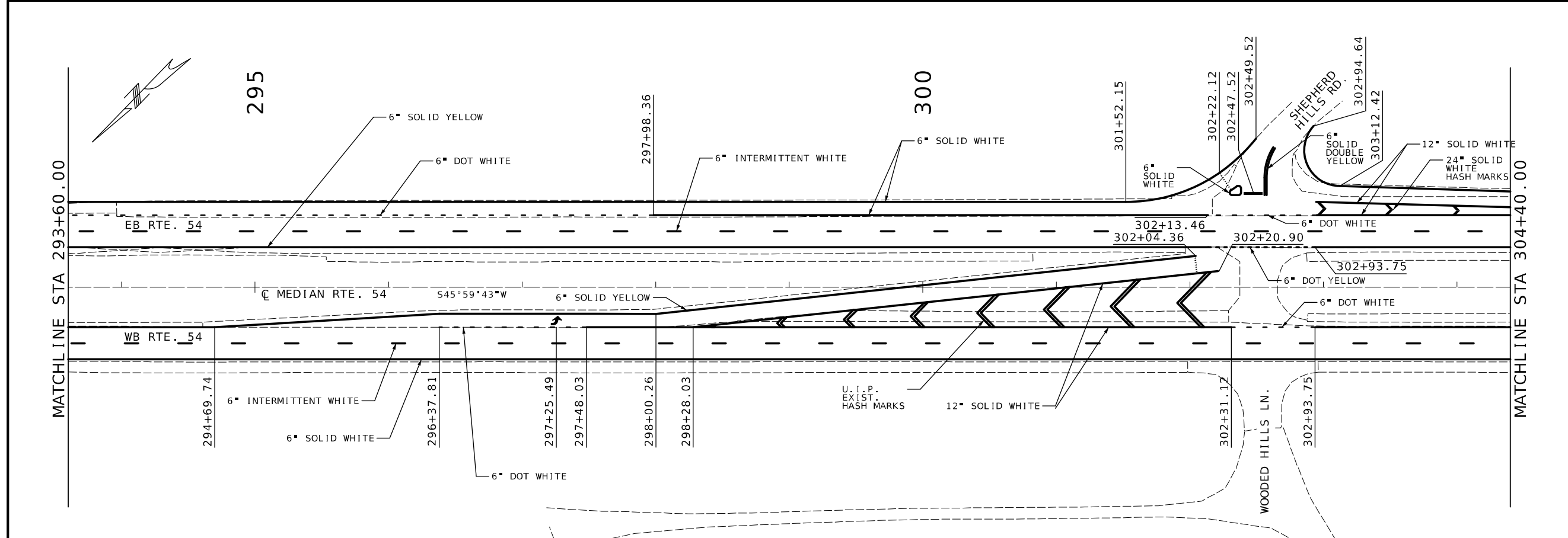
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION


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




PAVEMENT MARKING SHEET
SHEET 1 OF 2



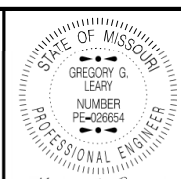
PAVEMENT MARKING SHEET
SHEET 2 OF 2

 DATE PREPARED 11/4/2024	
ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 35
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



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



GREGORY G. LEARY
NUMBER PE-026654
PROFESSIONAL ENGINEER

11/04/2024 3:52:53 PM
GREGORY G. LEARY - CIVIL
MO-PE-036654

DATE PREPARED
11/4/2024

ROUTE 54 STATE MO

DISTRICT CD SHEET NO. 37

COUNTY COLE

JOB NO. J5P3560

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

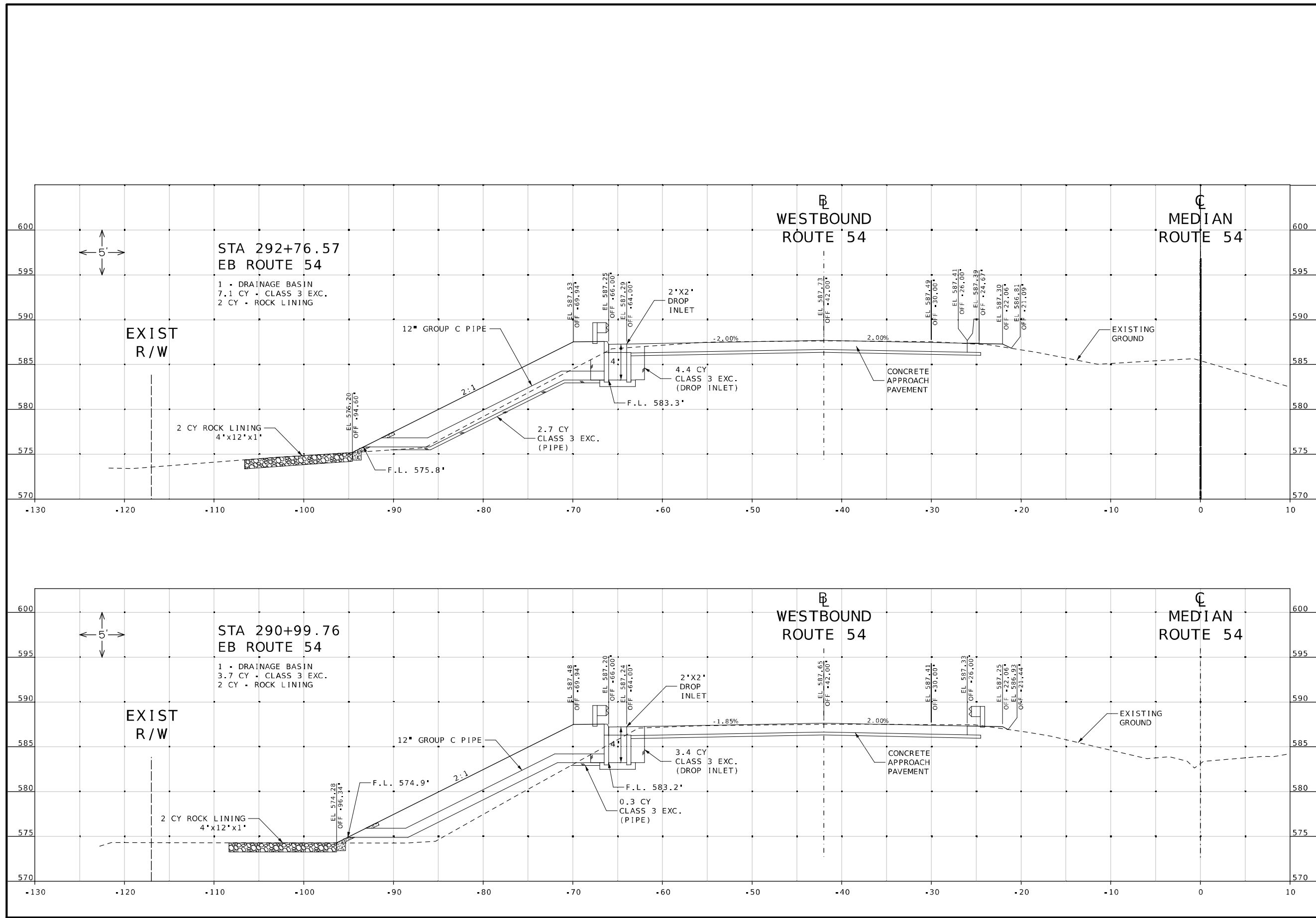
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

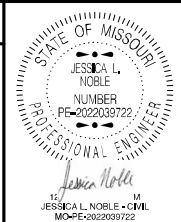
1-888-ASK-MODOT (1-888-275-6636)

MoDOT

CULVERT SECTION SHEET SHEET 2 OF 2



(115') PRESTRESSED CONCRETE NU-GIRDER SPAN
(SKEW: 30° R.A.)



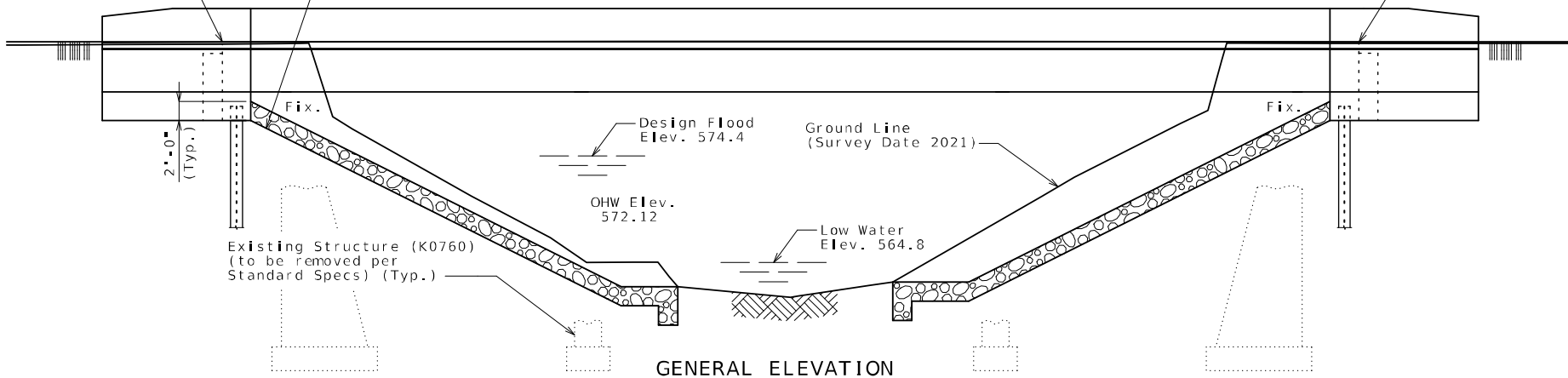
DATE PREPARED 12/3/2024	
ROUTE 54 EB	STATE MO
DISTRICT BR	SHEET NO. 1
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9470	

Sta. 291+42.78
Pr. Gr. Elev. 587.80
@ End of Slab
@ Roadway

2:1 Slope (Normal) with
2'-0" Type 2 Rock Blanket
with Permanent Erosion
Control Geotextile (Typ.)
(Roadway Item)

VPI Sta. 292+01.72
Elev. 588.00
L=128.98'
+0.33% -0.34%

Sta. 292+61.24
Pr. Gr. Elev. 587.80
@ End of Slab
@ Roadway



GENERAL ELEVATION

⊗ Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

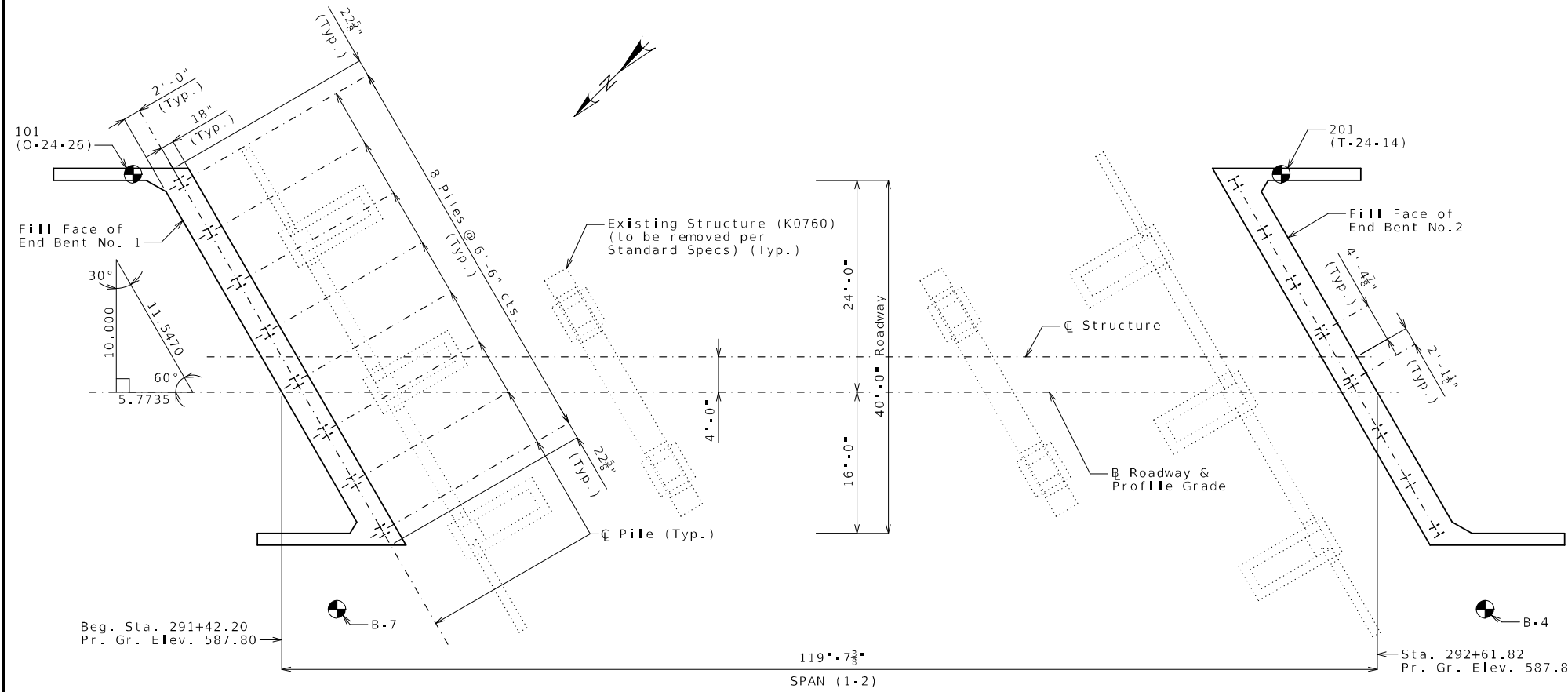
The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheet No. 23 and may be included in the Electronic Bridge Deliverables. They will also be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

The Commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the Commission.

Notes:

For General Notes, Foundation Data, Hydrologic Data, Estimated Quantities, Estimated Quantities for Slab on Concrete NU-Girder and Location Sketch, see Sheet No. 2.

Roadway fill, shall be completed to the final roadway section and up to the elevation of the bottom of the concrete approach beam within the limits of the structure and for not less than 25 feet in back of the fill face of the end bents before any piles are driven for any bents falling within the embankment section.



PLAN

B.M. - CHISELED SQUARE ON N CORNER D.1.
STA. 288+35.98, 111.14' RT., ELEV. 582.22
1717188.969 NORTHING, 978527.241 EASTING

BRIDGE: ROUTE 54 EB OVER NEIGHORN BRANCH
ROUTE 54 EB FROM ROUTE B TO ROUTE D
ABOUT 2.0 MILES SOUTHWEST OF ROUTE B
BEGINNING STATION 291+42.20

Designed Aug. 2024
Detailed Aug. 2024
Checked Sept. 2024

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

Sheet No. 1 of 23

DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
<p>105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)</p>	

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
 2011 AASHTO Guide Specifications for LRFD Seismic Bridge Design (2nd Ed.)
 and 2014 Interim Revisions (Seismic Details)

Seismic Design Category = A

Design Loading:

Vehicular = HL-93
 Future Wearing Surface = 35 lb/sf
 Earth = 120 lb/sf
 Equivalent Fluid Pressure = 45 lb/cf (Min.)
 Superstructure: Non-Composite for dead load,
 Composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure) f'c = 3,000 psi
 Class B-1 Concrete (Barrier) f'c = 4,000 psi
 Class B-2 Concrete (Superstructure except
 Prestressed Girders and Barrier) f'c = 4,000 psi
 Reinforcing Steel (ASTM 615 Grade 60) fy = 60,000 psi
 Structural Steel HP Pile (ASTM A709 Grade 50) fy = 50,000 psi

For prestressed girder stresses, see Sheets No. 10 & 11.

Neoprene Pads:

Neoprene bearing pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:

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

Reinforcing Steel:

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

Traffic Handling:

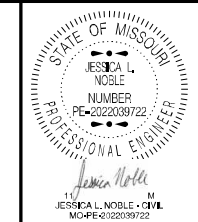
Structure to be closed during construction. Traffic to be maintained on other routes during construction. See Roadway plans for traffic control.

Estimated Quantities				
Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	130		130
Removal of Bridges (K0760)	lump sum			1
Bridge Approach Slab (Major)	sq. yard		180	180
Galvanized Structural Piles (12")	linear foot	448		448
Pre-Bore for Piling	linear foot	400		400
Pile Point Reinforcement	each	16		16
Class B Concrete (Substructure)	cu. yard	48.7		48.7
Type D Barrier	linear foot		287	287
Slab on Concrete NU-Girder	sq. yard		562	562
NU 53, Prestressed Concrete NU-Girder	linear foot		579	579
Steel Intermediate Diaphragm for P/S Concrete Girders	each		8	8
Slab Drain	each		22	22
Vertical Drain at End Bents	each			2
Plain Neoprene Bearing Pad	each		10	10

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

Hydrologic Data	
Drainage Area	= 3.0 mi ²
Design Flood Frequency	= 50 years
Design Flood Discharge	= 2,100 cfs
Design Flood (D.F.) Elevation	= 574.4
Base Flood (100-year)	
Base Flood Elevation	= 575.9 ft
Base Flood Discharge	= 2,400 cfs
Estimated Backwater	= -0.1 ft
Average Velocity thru Opening	= 6.5 ft/s
Freeboard (50-year)	
Freeboard	= 7.7 ft
Roadway Overtopping	
Overtopping Flood Discharge	> 3,300 cfs
Overtopping Flood Frequency	> 500 years
500-Year Flood Elevation	= 578.9



DATE PREPARED	
10/31/2024	
ROUTE	STATE
54 EB	MO
DISTRICT	SHEET NO.
BR	2
COUNTY	
COLE	
JOB NO.	
J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
A9470	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

Estimated Quantities for Slab on Concrete NU-Girder		
Item		Total
Class B-2 Concrete	cu. yard	206
Reinforcing Steel (Epoxy Coated)	pound	49,650

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

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

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

For details of stay-in-place corrugated steel forms, see Sheet No. 16.

Foundation Data			
Type	Design Data	Bent Number	
		1	2
Load Bearing Pile	Pile Type and Size	HP 12x53	HP 12x53
	Number	8	8
	Approximate Length Per Each	ft 29	27
	Pile Point Reinforcement	ea ALL	ALL
	Min. Galvanized Penetration (Elev.)	ft Full Length	Full Length
	Pile Driving Verification Method	DF	DF
	Resistance Factor	0.40	0.40
Minimum Nominal Axial Compressive Resistance	kip	536	541

DF = FHWA-modified Gates Dynamic Pile Formula

Minimum Nominal Axial Compressive Resistance = $\frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$

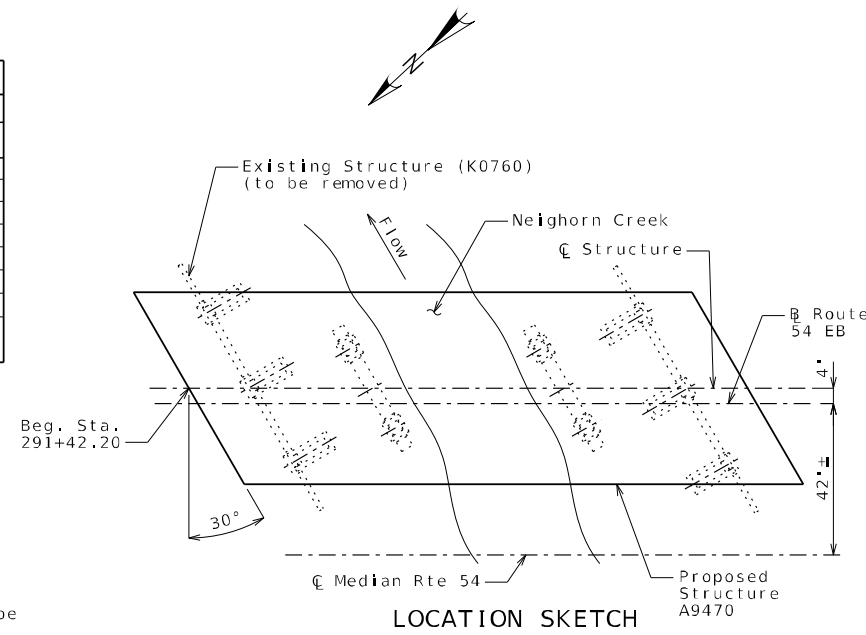
Load Bearing Pile:

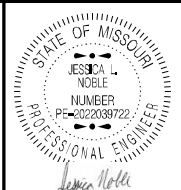
Prebore for piles at Bents No. 1 and 2 to elevations 553.3 & 554.6, respectively.

All piles shall be galvanized down to the minimum galvanized penetration (elevation).

Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.

The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.



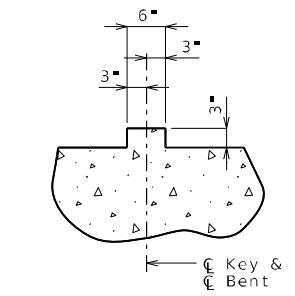
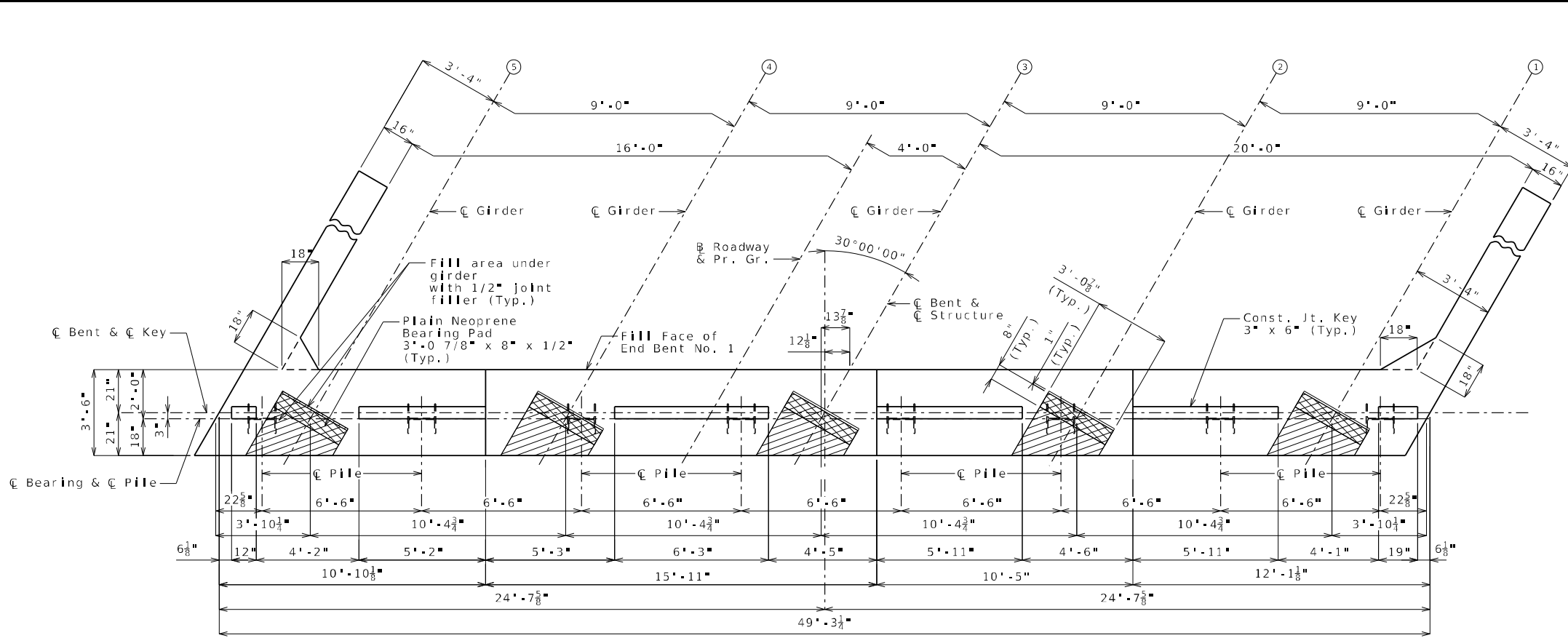


DATE PREPARED
10/31/2024

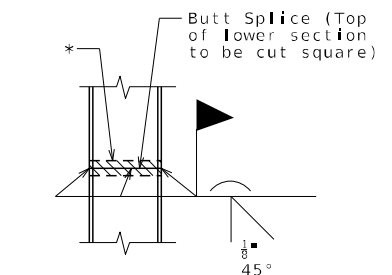
ROUTE 54 EB STATE MO
DISTRICT BR SHEET NO. 3
COUNTY COLE
JOB NO. J5P3560
CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9470

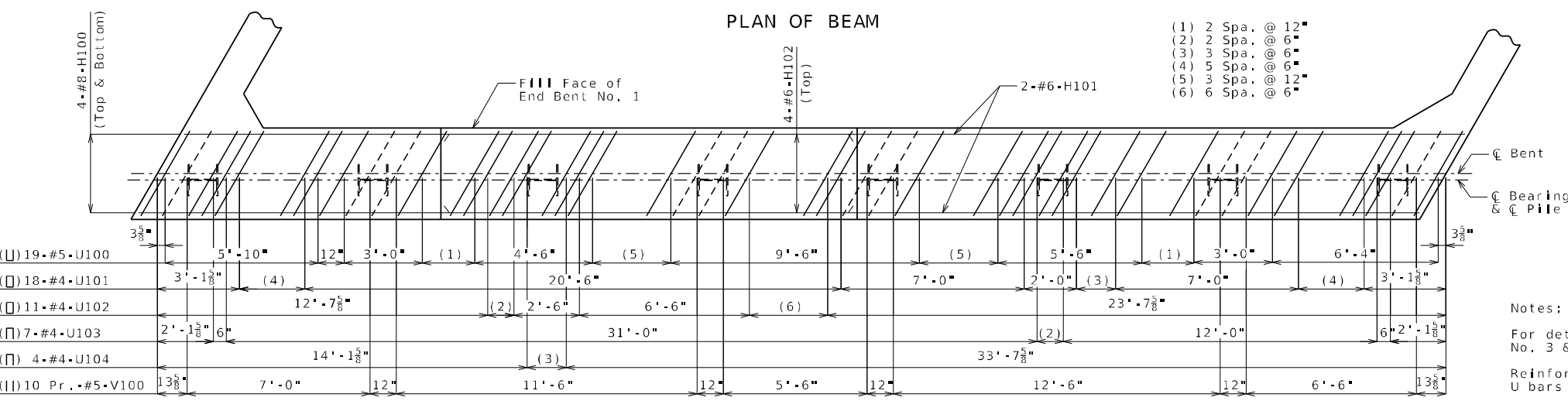


SECTION THRU KEY



STEEL PILE SPLICE
(If required)

* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.



PLAN OF BEAM SHOWING REINFORCEMENT
Keys not shown for clarity.

Notes:
For details of End Bent No. 1 not shown, see Sheets No. 3 & 4.
Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2".
The U bars and Pr. V bars shall be placed parallel to Roadway.

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	65
Galvanized Structural Steel Pile (12 in.)	linear foot	232
Pre-Bore for Piling	linear foot	208
Pile Point Reinforcement	each	8
Class B Concrete (Substructure)	cu. yard	24.4

These quantities are included in the Estimated Quantities table on Sheet No. 2.

Detailed Aug, 2024
Checked Sept, 2024

DETAILS OF END BENT NO. 1

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

Sheet No. 3 of 23

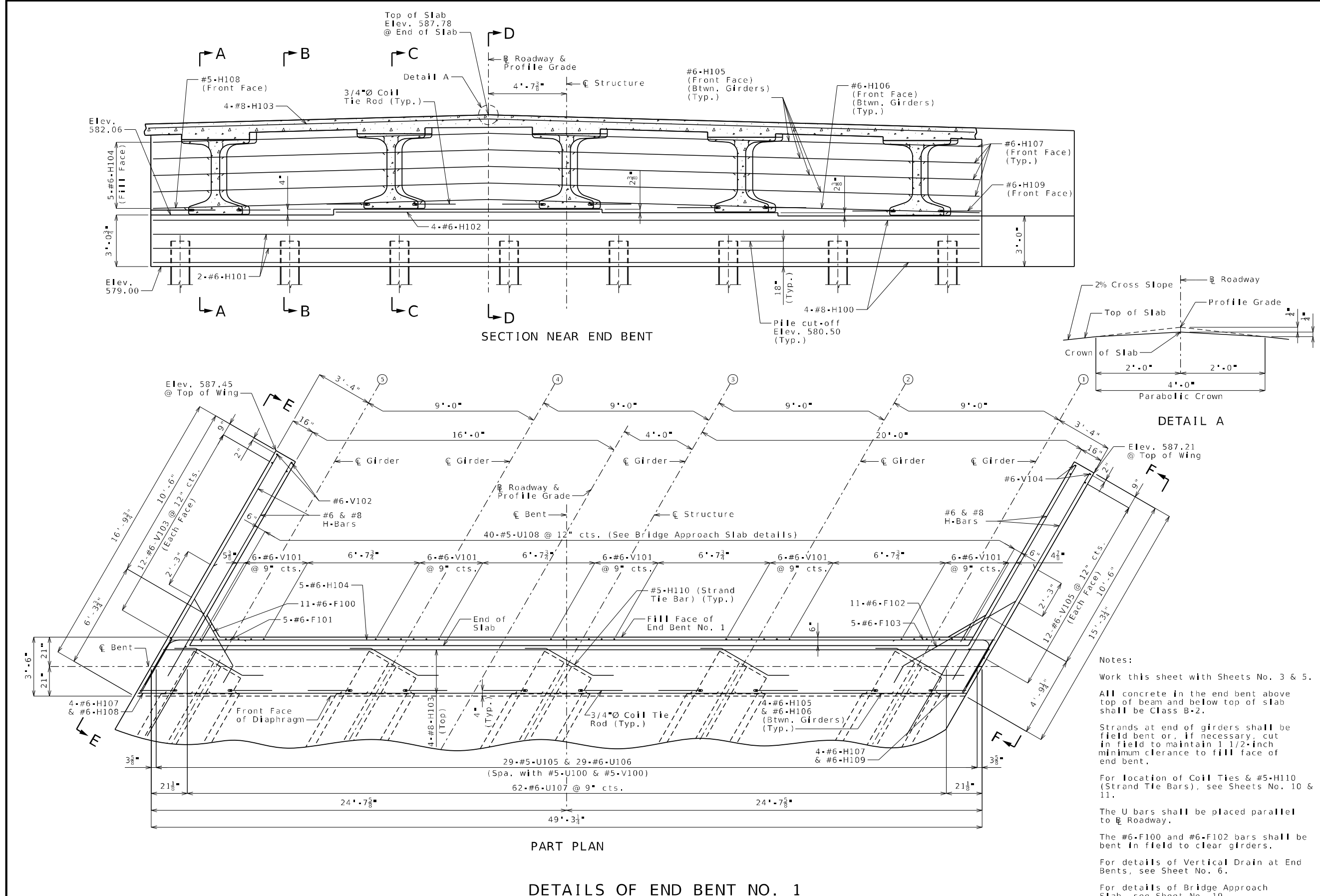
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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SECTION NEAR END BENT

DETAIL A

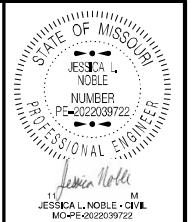
PART PLAN

DETAILS OF END BENT NO. 1

Detailed Aug, 2024
Checked Sept, 2024

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

Sheet No. 4 of 23

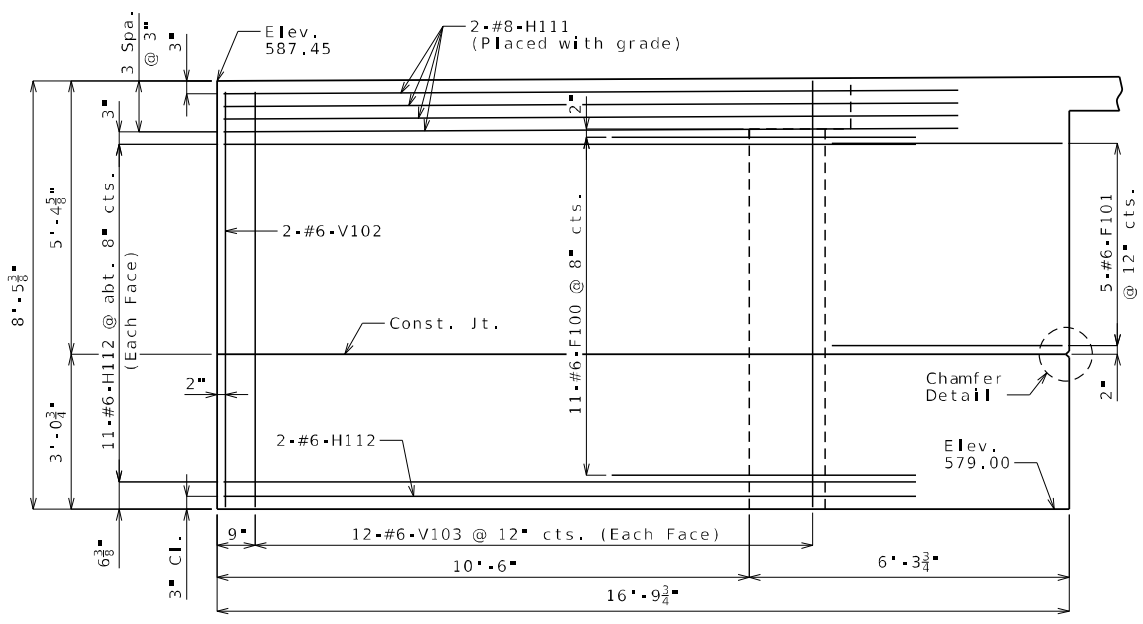


DATE PREPARED
10/31/2024
ROUTE STATE
54 EB MO
DISTRICT SHEET NO.
BR 4
COUNTY
COLE
JOB NO.
J5P3560
CONTRACT ID.
PROJECT NO.
BRIDGE NO.
A9470

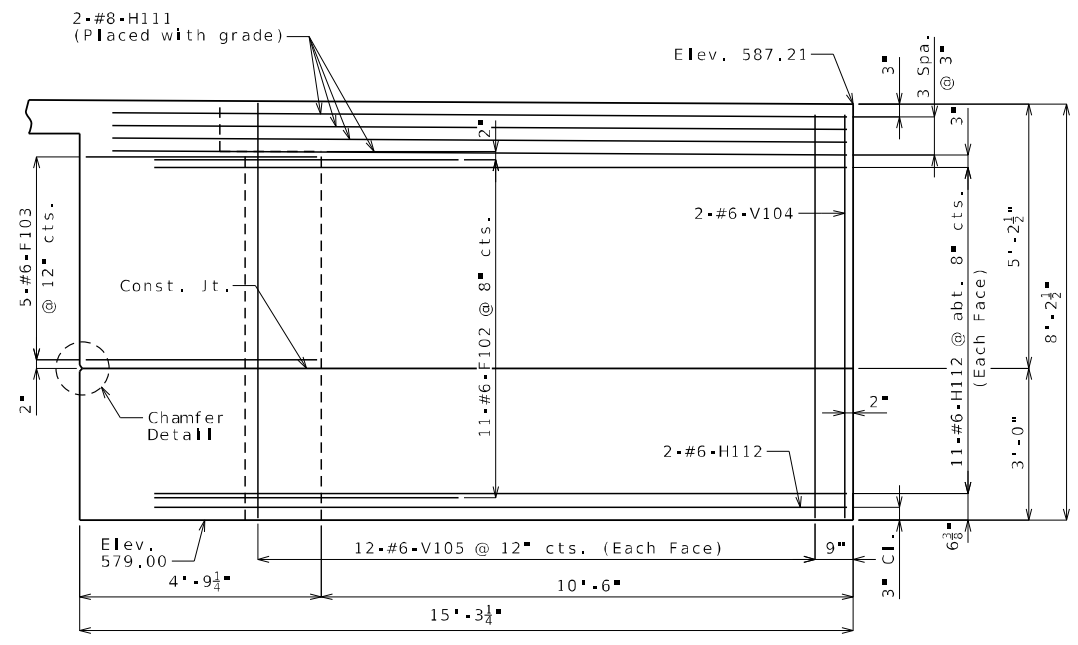
DESCRIPTION	DATE

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

Notes:
Work this sheet with Sheets No. 3 & 5.
All concrete in the end bent above top of beam and below top of slab shall be Class B-2.
Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.
For location of Coil Ties & #5-H110 (Strand Tie Bars), see Sheets No. 10 & 11.
The U bars shall be placed parallel to the Roadway.
The #6-F100 and #6-F102 bars shall be bent in field to clear girders.
For details of Vertical Drain at End Bents, see Sheet No. 6.
For details of Bridge Approach Slab, see Sheet No. 19.

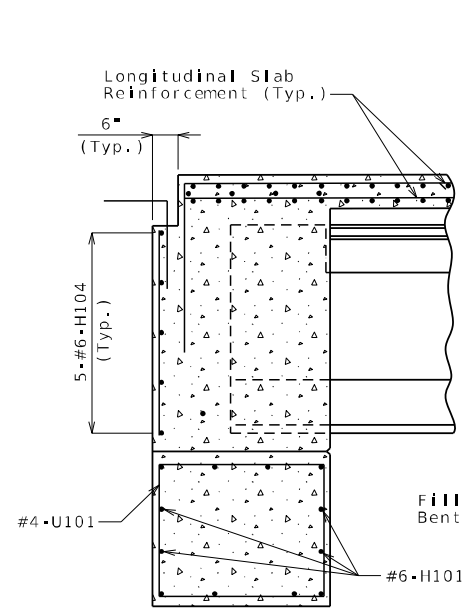


ELEVATION E-E

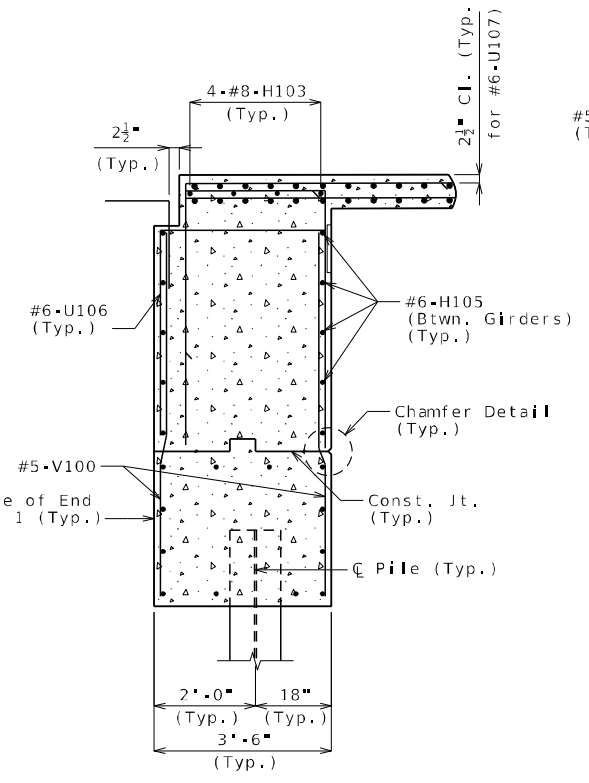


ELEVATION F-F

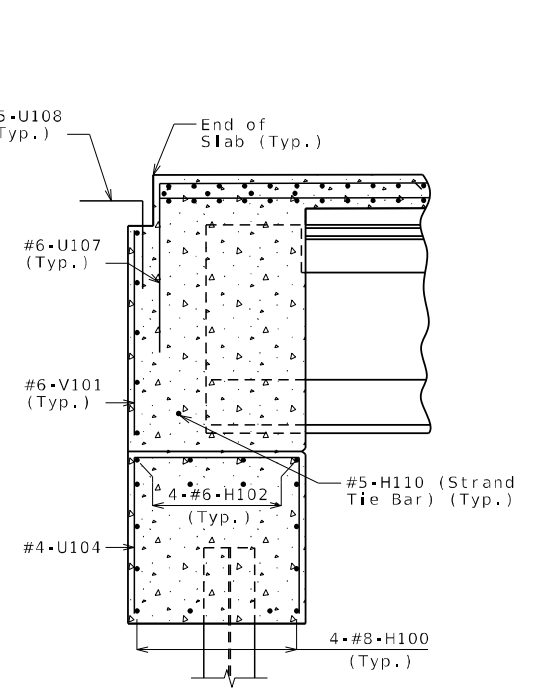
Notes:
For reinforcement of the barrier, see Sheet No. 18.



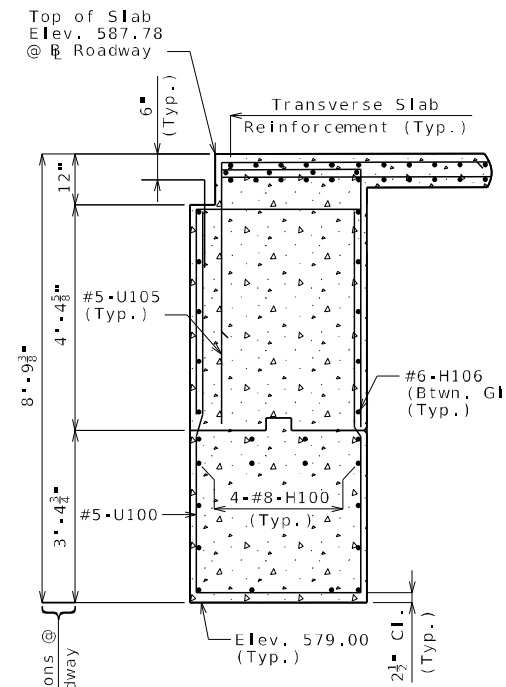
SECTION A-A



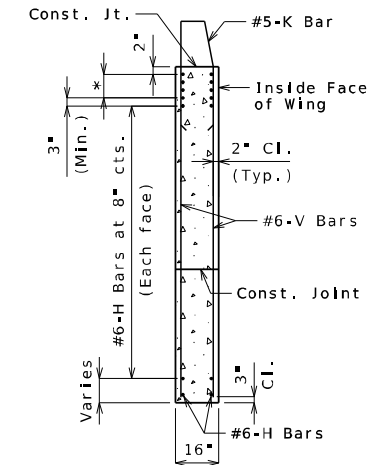
SECTION B-B



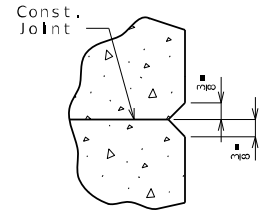
SECTION C-C



SECTION D-D



TYPICAL SECTION THRU WING
* #8-H Bars at 3" cts. (Each face) (Place with grade)



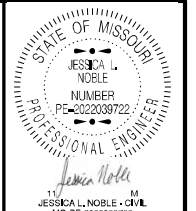
CHAMFER DETAIL

DETAILS OF END BENT NO. 1

Detailed Sept. 2024
Checked Sept. 2024

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

Sheet No. 5 of 23

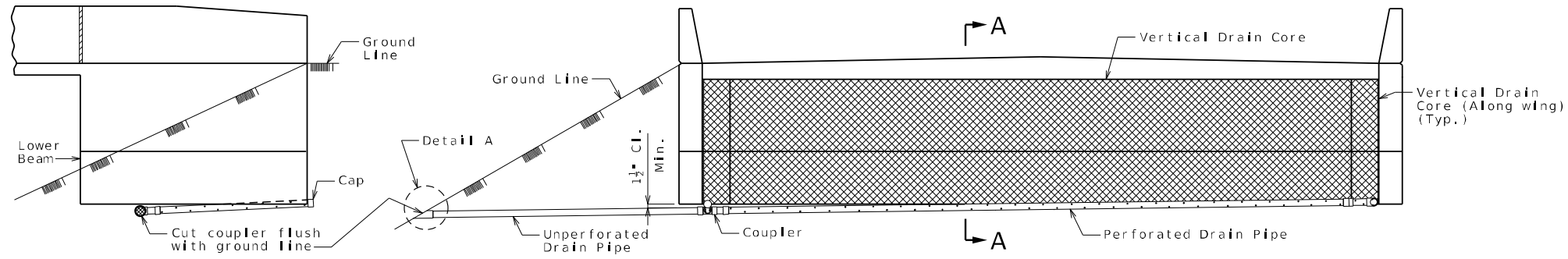


DATE PREPARED 10/31/2024	
ROUTE 54 EB	STATE MO
DISTRICT BR	SHEET NO. 5
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9470	

DESCRIPTION	DATE

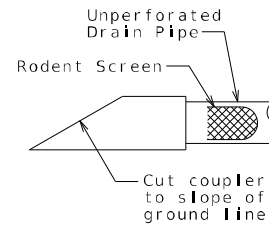
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

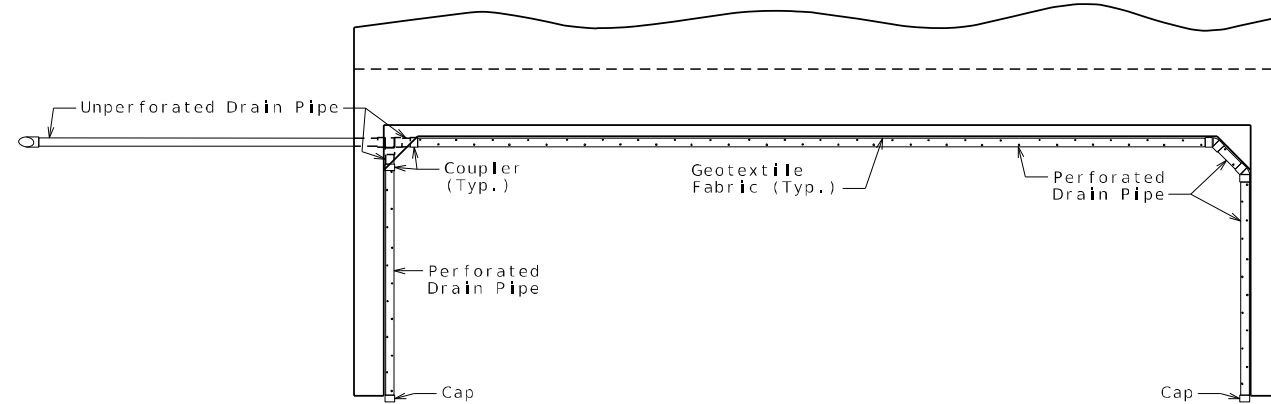


ELEVATION OF WING

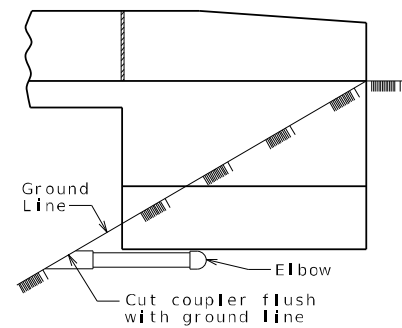
ELEVATION OF END BENT



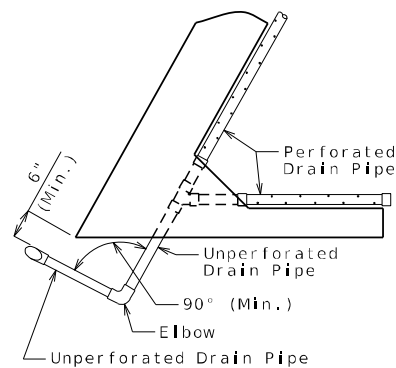
DETAIL A



PLAN OF END BENT

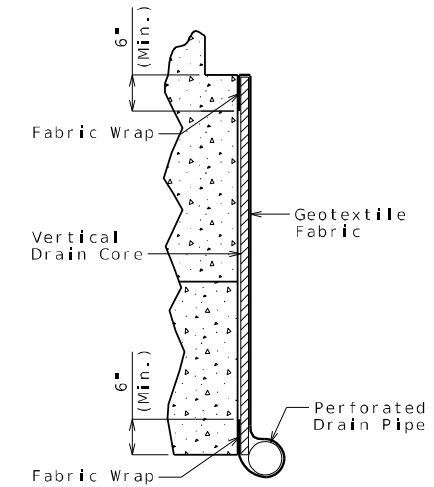


ELEVATION OF WING



PART PLAN

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



PART SECTION A-A
(Section thru wing similar)

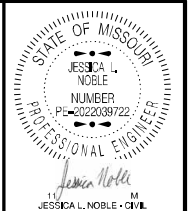
General Notes:

All drain pipe shall be sloped 1 to 2 percent.

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

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

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



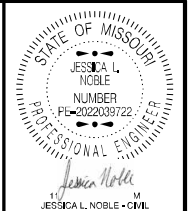
DATE PREPARED 10/31/2024	
ROUTE 54 EB	STATE MO
DISTRICT BR	SHEET NO. 6
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9470	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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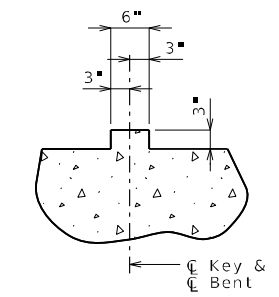
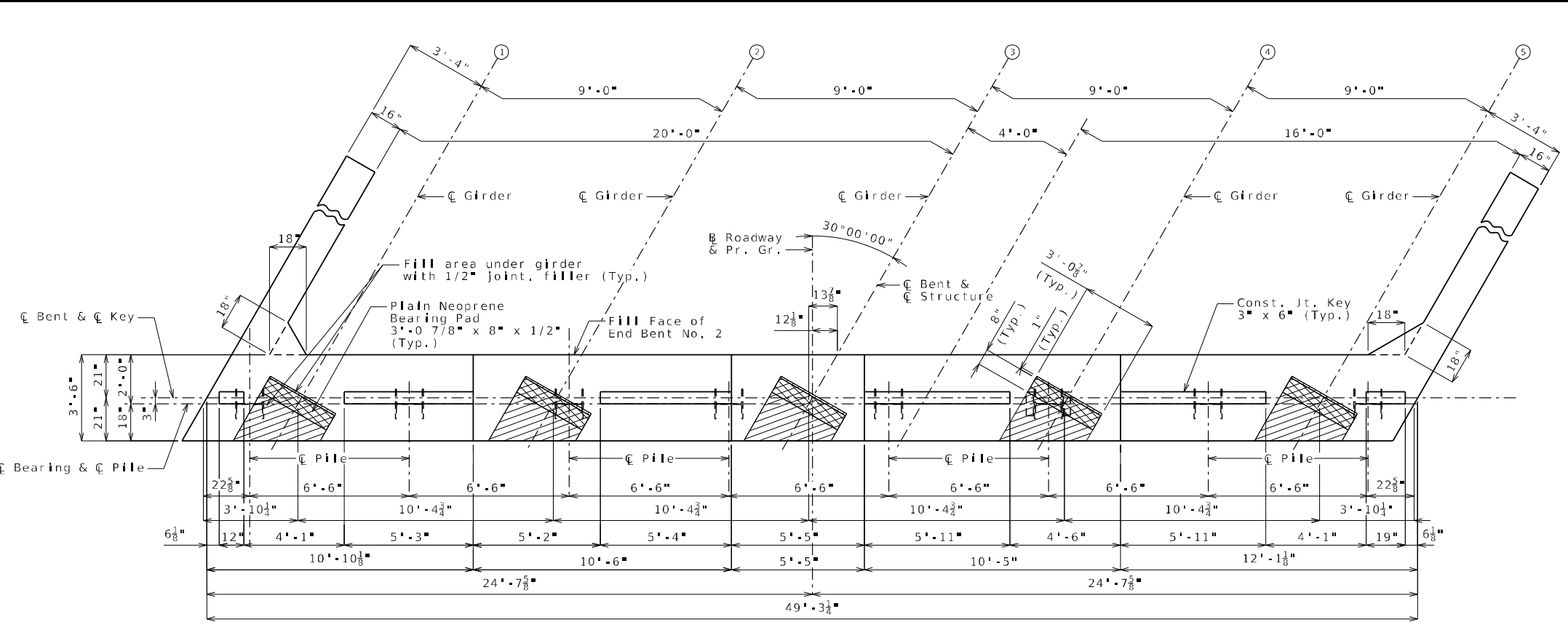
VERTICAL DRAIN AT END BENTS
(Squared end bent shown, skewed end bent similar)



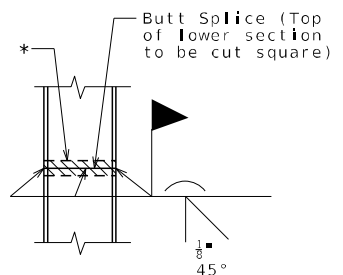
DATE PREPARED
11/1/2024

ROUTE 54 EB STATE MO
DISTRICT BR SHEET NO. 7
COUNTY COLE
JOB NO. J5P3560
CONTRACT ID.

PROJECT NO.
BRIDGE NO. A9470



SECTION THRU KEY

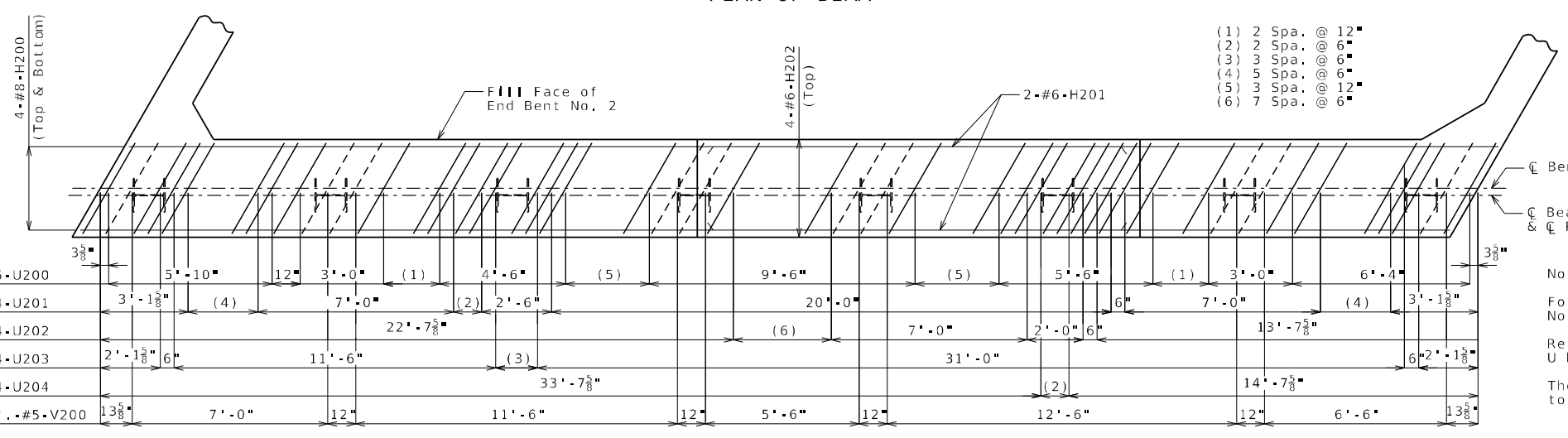


STEEL PILE SPLICE
(If required)

* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

Notes:

For details of End Bent No. 2 not shown, see Sheets No. 8 & 9.
Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2".
The U bars and Pr. V bars shall be placed parallel to Roadway.



PLAN OF BEAM SHOWING REINFORCEMENT
Keys not shown for clarity.

- (1) 2 Spa. @ 12"
- (2) 2 Spa. @ 6"
- (3) 3 Spa. @ 6"
- (4) 5 Spa. @ 6"
- (5) 3 Spa. @ 12"
- (6) 7 Spa. @ 6"

Substructure Quantity Table for Bent No. 2		
Item		Quantity
Class 1 Excavation	cu. yard	65
Galvanized Structural Steel Pile (12 in.)	linear foot	216
Pre-Bore for Piling	linear foot	192
Pile Point Reinforcement	each	8
Class B Concrete (Substructure)	cu. yard	24.3

These quantities are included in the Estimated Quantities table on Sheet No. 2.

DETAILS OF END BENT NO. 2

Detailed Aug, 2024
Checked Sept, 2024

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

Sheet No. 7 of 23

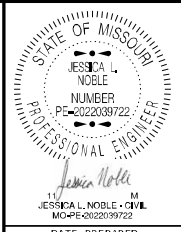
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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

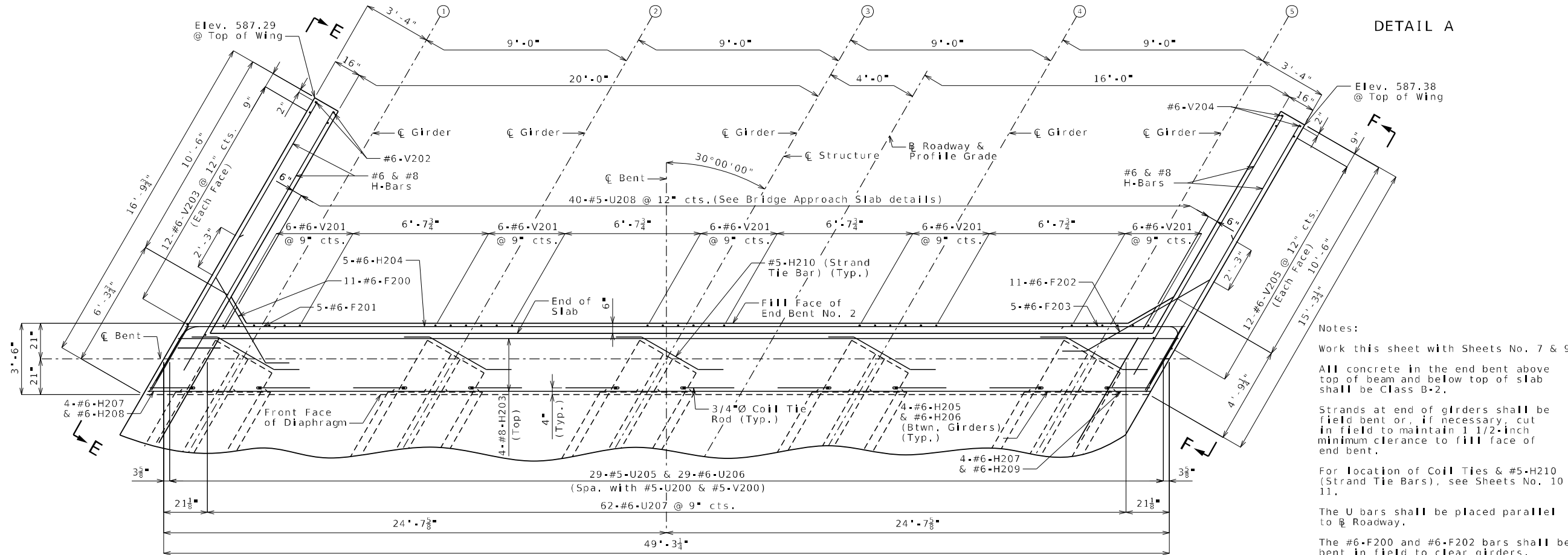
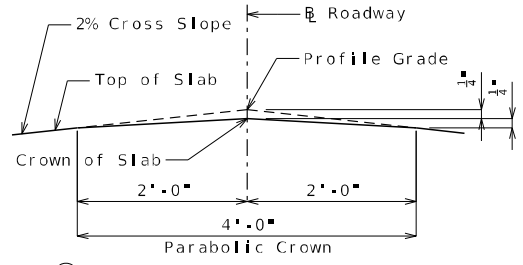
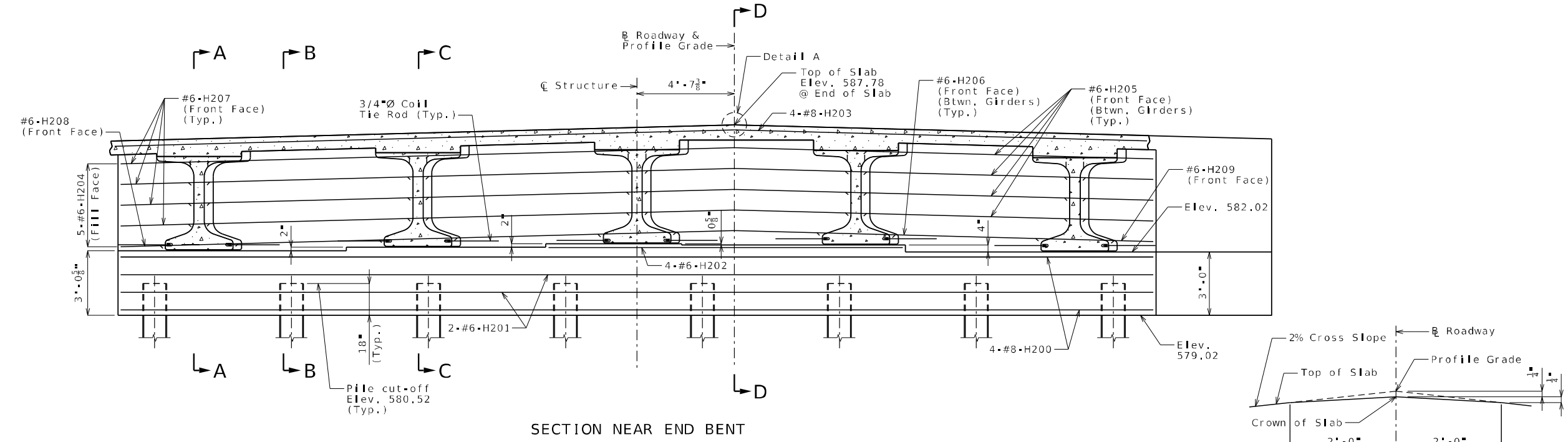


DATE PREPARED 11/1/2024	
ROUTE 54 EB	STATE MO
DISTRICT BR	SHEET NO. 8
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9470	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



Notes:

Work this sheet with Sheets No. 7 & 9.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.

For location of Coil Ties & #5-H210 (Strand Tie Bars), see Sheets No. 10 & 11.

The U bars shall be placed parallel to the Roadway.

The #6-F200 and #6-F202 bars shall be bent in field to clear girders.

For details of Vertical Drain at End Bents, see Sheet No. 6.

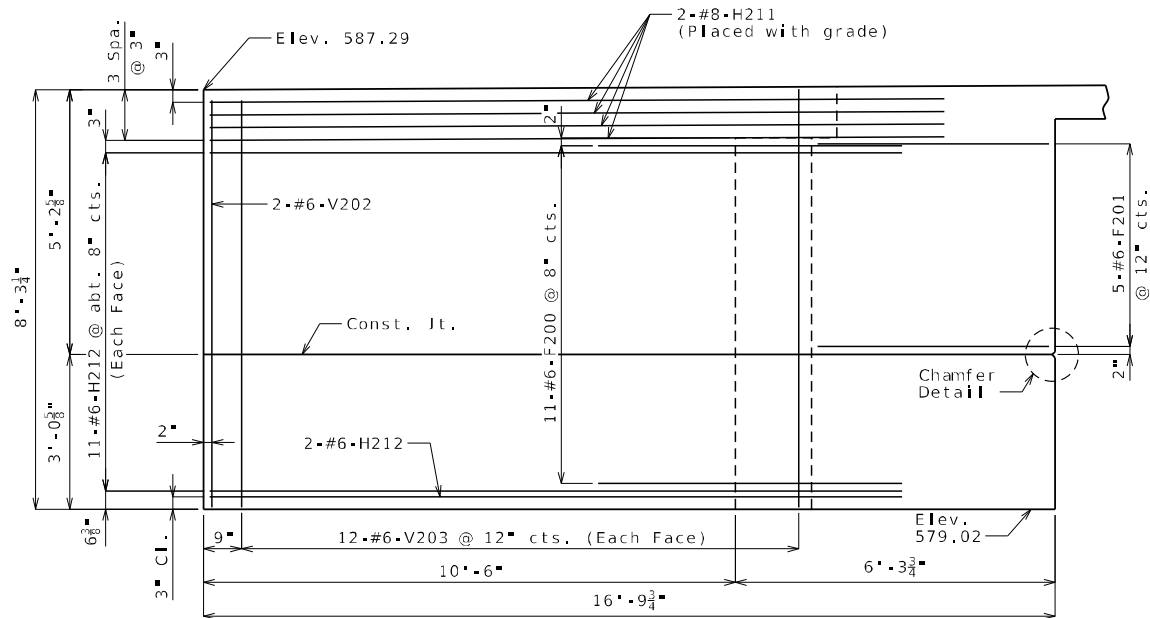
For details of Bridge Approach Slab, see Sheet No. 19.

PART PLAN
DETAILS OF END BENT NO. 2

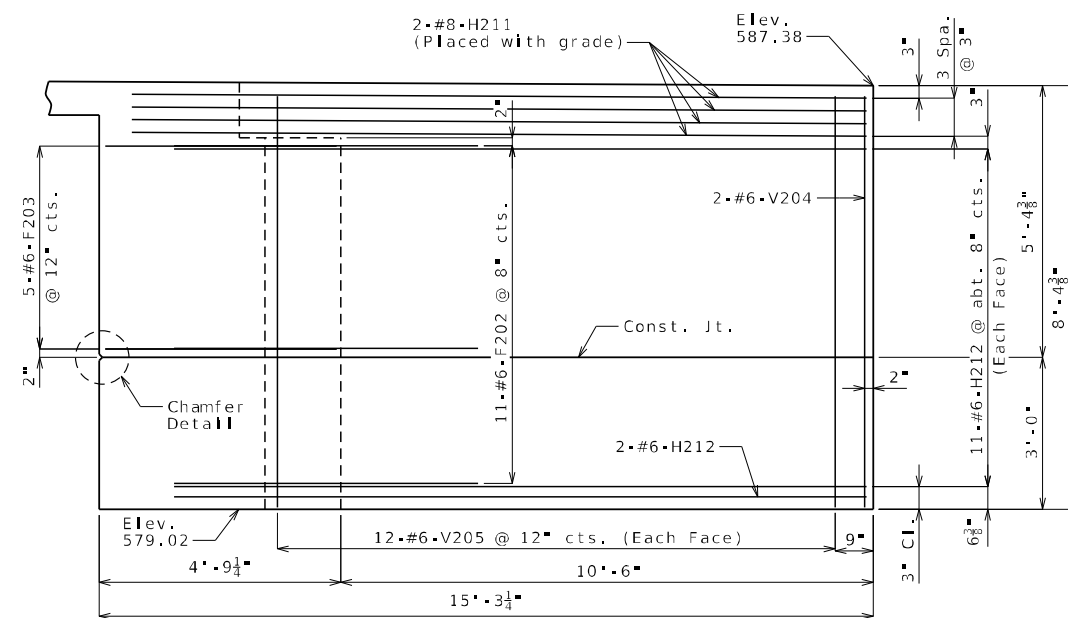
Detailed Aug, 2024
Checked Sept, 2024

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

Sheet No. 8 of 23

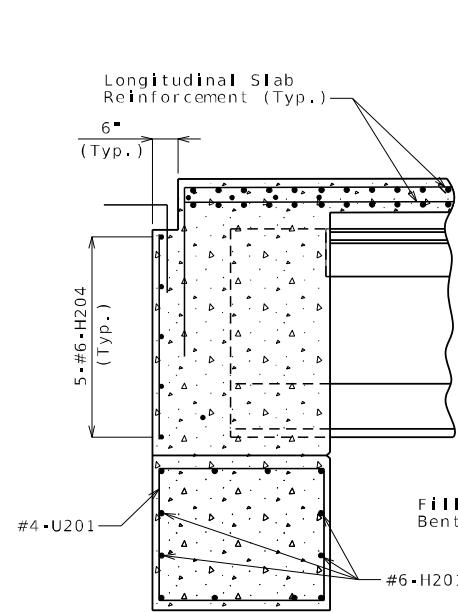


ELEVATION E-E

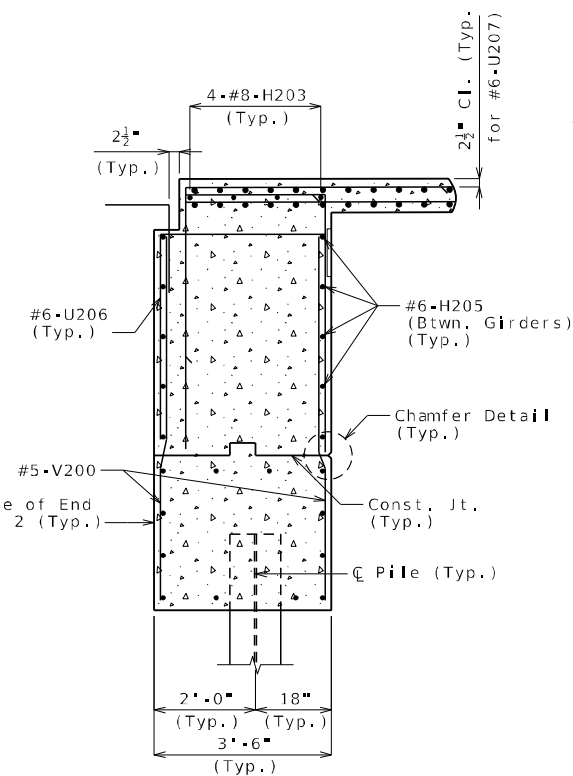


ELEVATION F-F

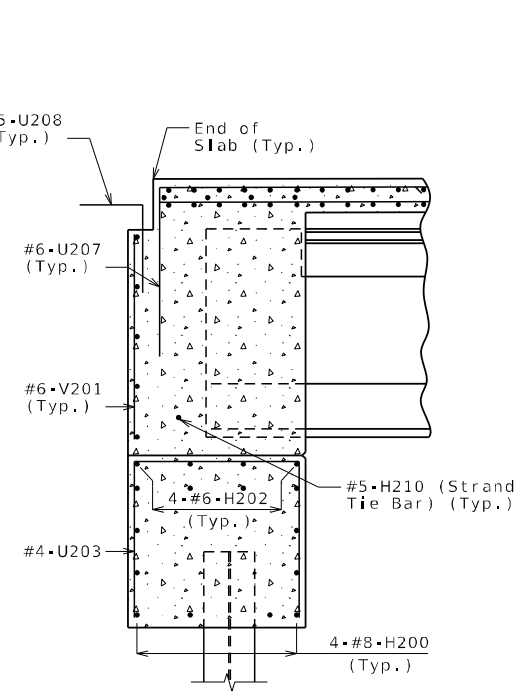
Notes:
For reinforcement of the barrier, see Sheet No. 18.



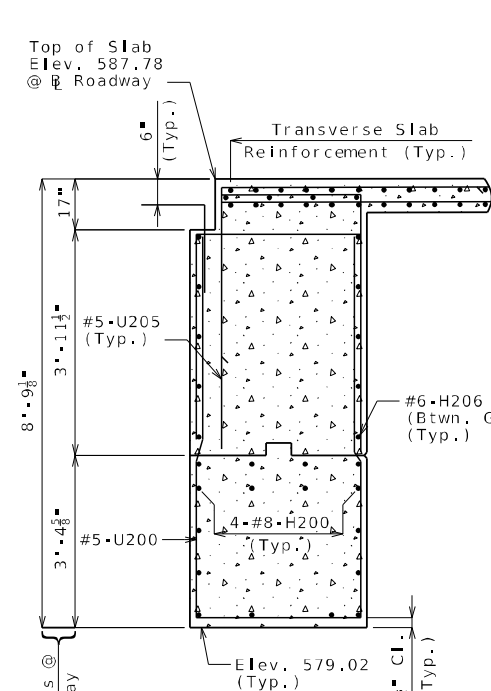
SECTION A-A



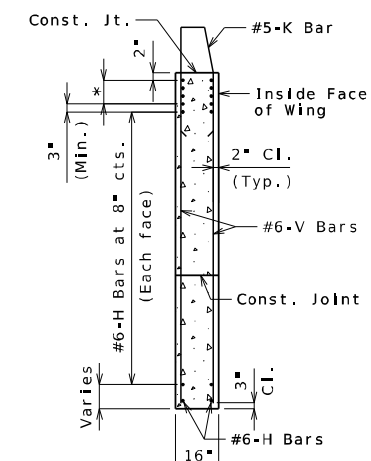
SECTION B-B



SECTION C-C

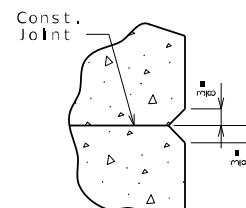


SECTION D-D



TYPICAL SECTION THRU WING

* #8-H Bars at 3" cts. (Each face) (Place with grade)



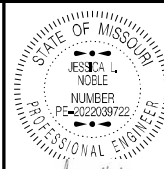
CHAMFER DETAIL

DETAILS OF END BENT NO. 2

Detailed Sept. 2024
Checked Sept. 2024

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

Sheet No. 9 of 23



DATE PREPARED 10/31/2024	
ROUTE 54 EB	STATE MO
DISTRICT BR	SHEET NO. 9
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9470	

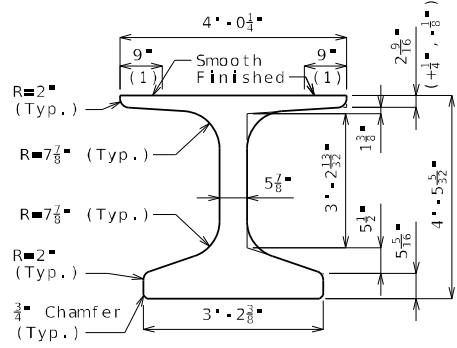
DESCRIPTION	DATE

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

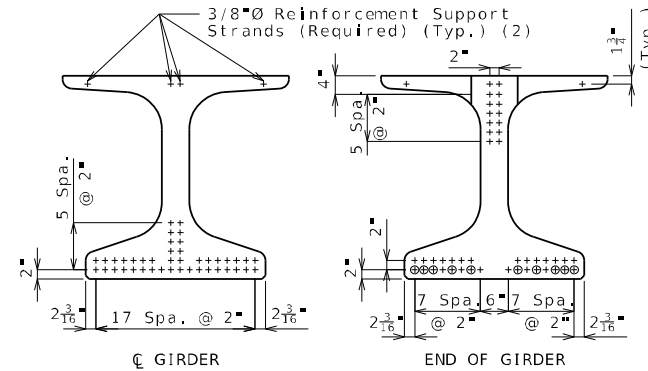


(1) Fabricator shall apply a bond breaker to this region.

(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about \bar{C} Girder. May be moved laterally in pairs.

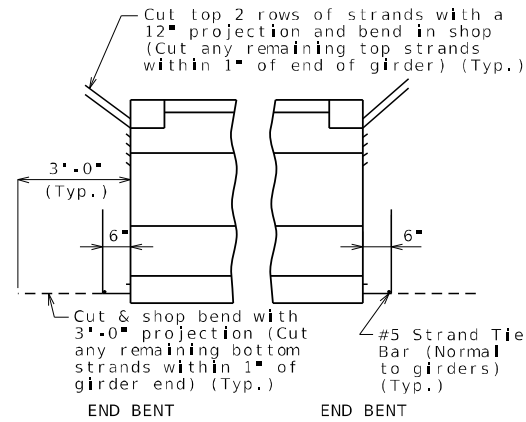


DIMENSIONS

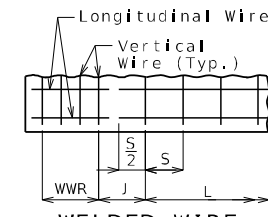


STRAND ARRANGEMENT

+ Indicates prestressing strand. \circ Indicates cut & shop bend with 3'-0" projection.

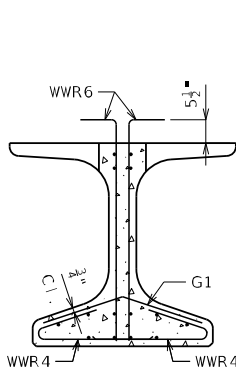


STRANDS AT GIRDER ENDS

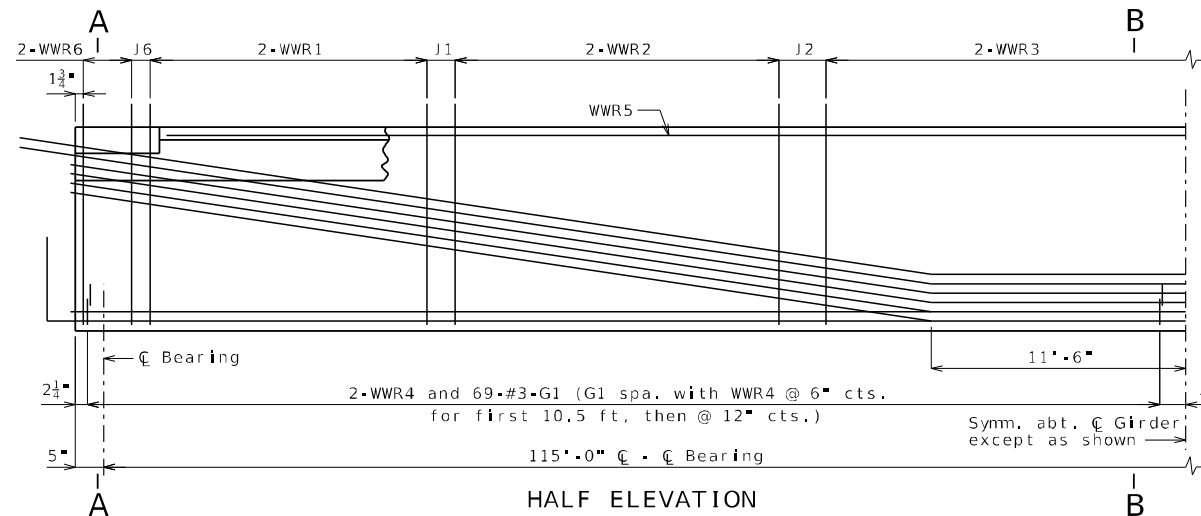


WELDED WIRE PLACEMENT

S = Vertical wire spacing
L = Length of WWR mats
J = Distance between WWR mats

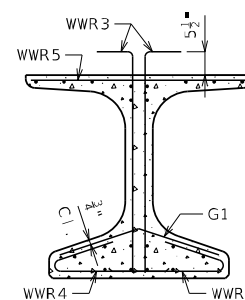


SECTION A-A
Strands not shown for clarity.

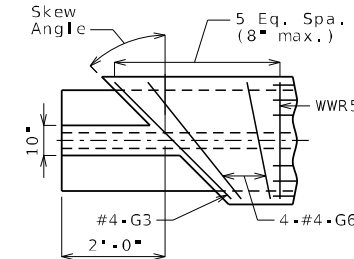


HALF ELEVATION

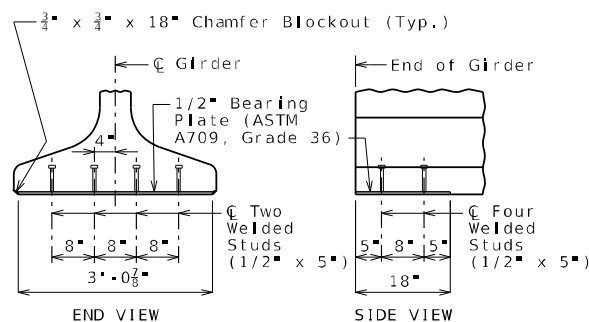
Reinforcement support strands not shown for clarity.



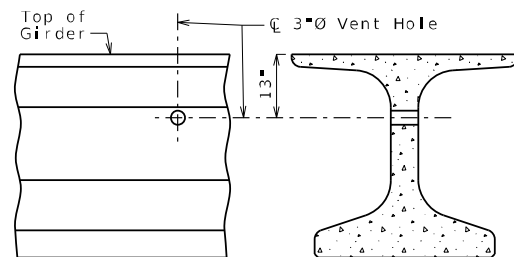
SECTION B-B
Strands not shown for clarity.



ALL GIRDERS AT END BENTS
TOP FLANGE BLOCKOUT

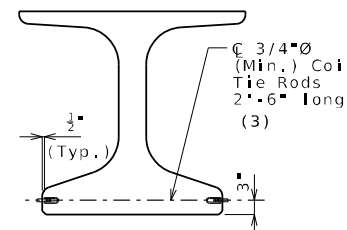


BEARING PLATE



VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel intermediate diaphragm bolt connections by 6" minimum.



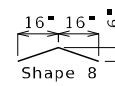
COIL TIES

(3) 22" at exterior face of exterior girders at end bents

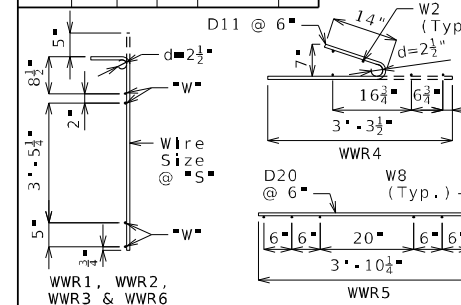
Bars Each Girder				
No.	Size/Mark	Length	Shape	
138	3 G1	2'-10"	8	
2	4 G3	4'-5"	20	
8	4 G6	Varies	20	

Welded Wire Each Girder				
Mark	Size	S	W	L
WWR1	D31	4"	W12	5'-4"
WWR2	D31	12"	W12	7'-0"
WWR3	D31	20"	W12	85'-0"
WWR6	D31	2"	W12	16"

Bending Diagrams



Shape 20



All dimensions are out to out.

Hooks and bends shall be in accordance with the CRS1 Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

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

All bar reinforcement shall be Grade 60.

WWR shall not be epoxy coated.

General Notes:

Concrete for prestressed beams shall be Class A-1 with $f'c = 8500$ psi and $f'ci = 7000$ psi.

Use 42 strands, 0.6" Grade 270, with an initial prestress force of 1846 kips.

Prestressed members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior girders are the same except: coil ties, coil inserts for slab drains, holes for steel intermediate diaphragms.

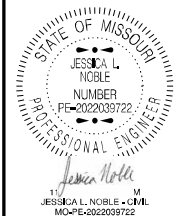
For Girder Camber Diagram, see Sheet No. 14.

The 1 1/2" holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 12.

For location of coil inserts at slab drains, see Sheet No. 13.

For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 4 and 8.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.



DATE PREPARED	10/31/2024
ROUTE	54 EB
STATE	MO
DISTRICT	BR
SHEET NO.	10
COUNTY	COLE
JOB NO.	J5P3560
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A9470

DESCRIPTION	DATE

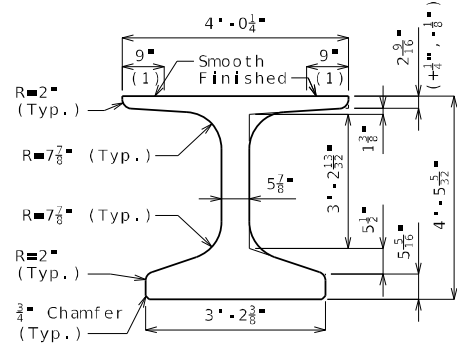
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



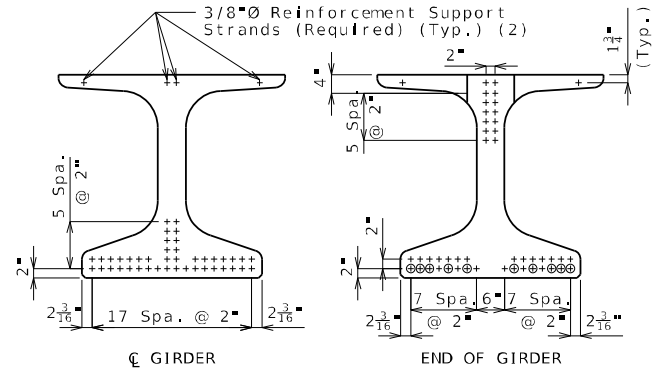
NU-GIRDERS - SPAN (1-2)

(1) Fabricator shall apply a bond breaker to this region.

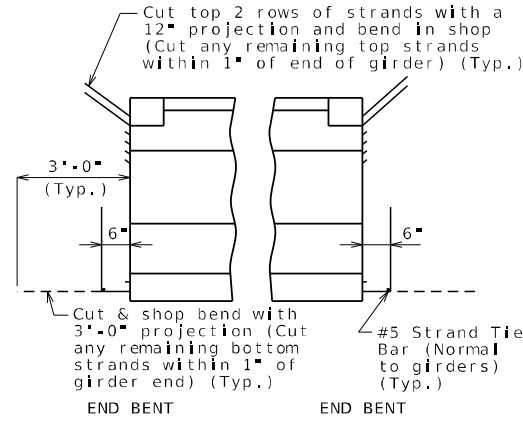


DIMENSIONS

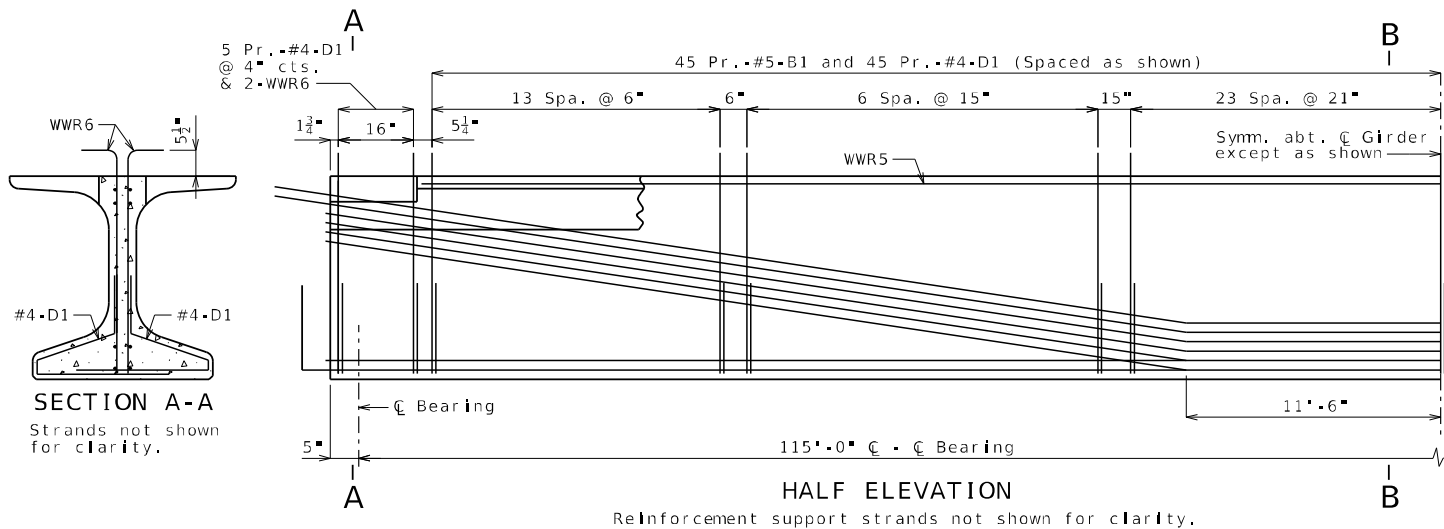
(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about \bar{C} Girder. May be moved laterally in pairs.



STRAND ARRANGEMENT
 + Indicates prestressing strand.
 o Indicates cut & shop bend with 3'-0" projection.

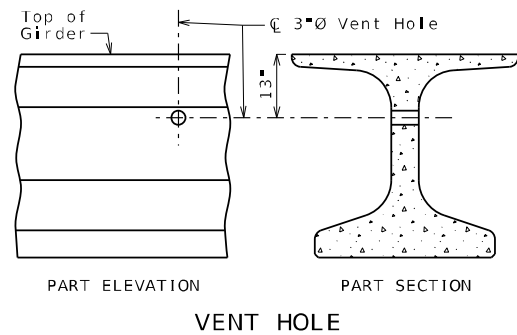
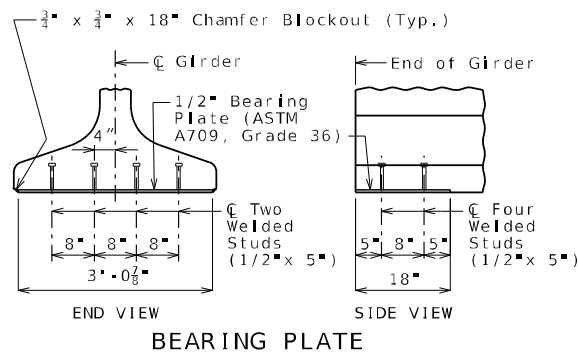
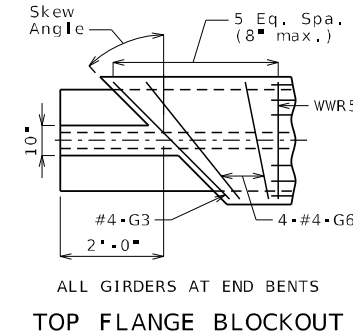


STRANDS AT GIRDER ENDS



SECTION A-A
 Strands not shown for clarity.

SECTION B-B
 Strands not shown for clarity.

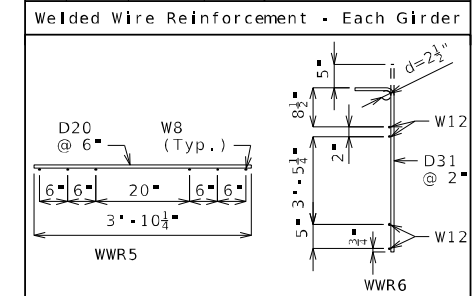


Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel intermediate diaphragm bolt connections by 6" minimum.

(3) 22" at exterior face of exterior girders at end bents

Bill of Reinforcing Steel - Each Girder

No.	Size/Mark	Length	Shape	Bending Diagrams
178	5 B1	5'-10"	11S	
198	4 D1	4'-0"	9S	
2	4 G3	4'-5"	20	
8	4 G6	Varies	20	



All dimensions are out to out.
 Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.
 Actual bar lengths are measured along centerline of bar to the nearest inch.
 Minimum clearance to reinforcing shall be one inch.
 All bar reinforcement shall be Grade 60.
 The two D1 bars may be furnished as one bar at the fabricator's option.
 All B1 bars shall be epoxy coated.

General Notes:
 Concrete for prestressed girders shall be Class A-1 with $f'_c = 8500$ psi and $f'_{ci} = 7000$ psi.
 Use 42 strands, 0.6" \bar{C} Grade 270, with an initial prestress force of 1846 kips.
 Pretensioned members shall be in accordance with Sec 1029.
 Fabricator shall be responsible for location and design of lifting devices.
 Exterior and interior girders are the same except: coil ties, coil inserts for slab drains, holes for steel intermediate diaphragms.
 For Girder Camber Diagram, see Sheet No. 14.
 The 1 1/2" \bar{C} holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 12.
 For location of coil inserts at slab drains, see Sheet No. 13.
 For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 4 and 8.
 Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

STATE OF MISSOURI
 JESSICA L. NOBLE
 PROFESSIONAL ENGINEER
 NO. PE-202039722
 DATE PREPARED 10/31/2024

ROUTE	STATE
54 EB	MO
DISTRICT	SHEET NO.
BR	11
COUNTY	JOB NO.
COLE	J5P3560
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9470	

DESCRIPTION
 DATE

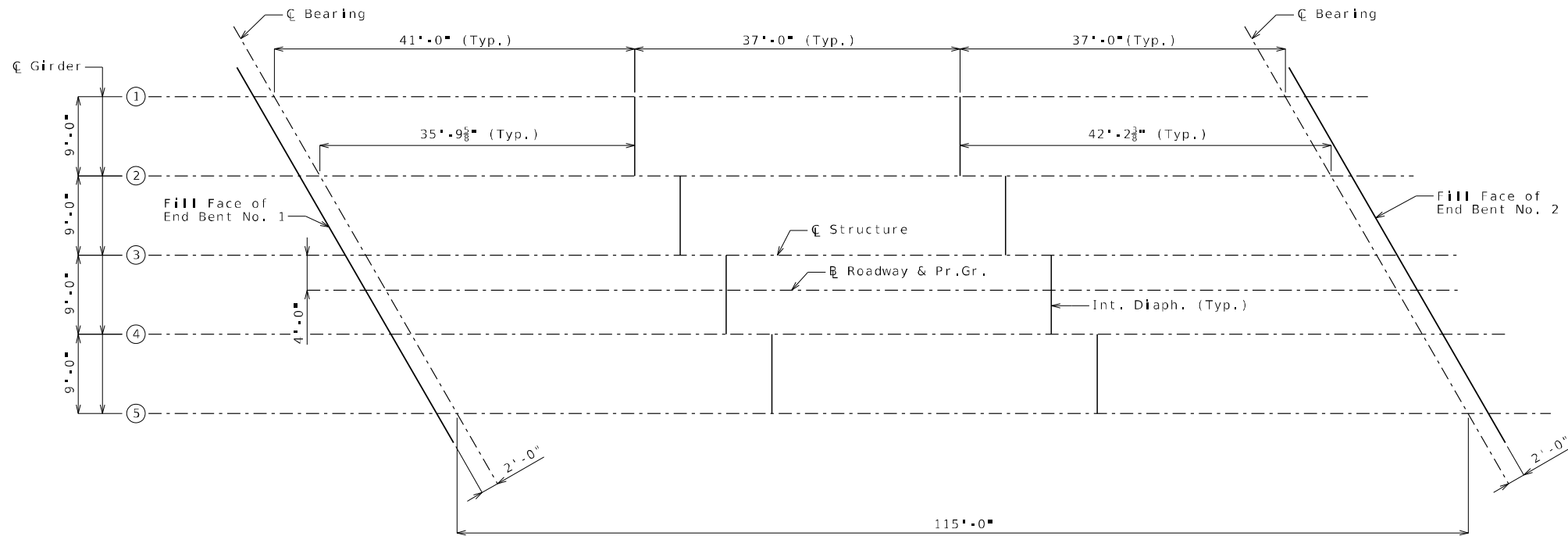
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
 105 WEST CAPITOL JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

NU-GIRDERS (ALTERNATE REINFORCEMENT) - SPAN (1-2)

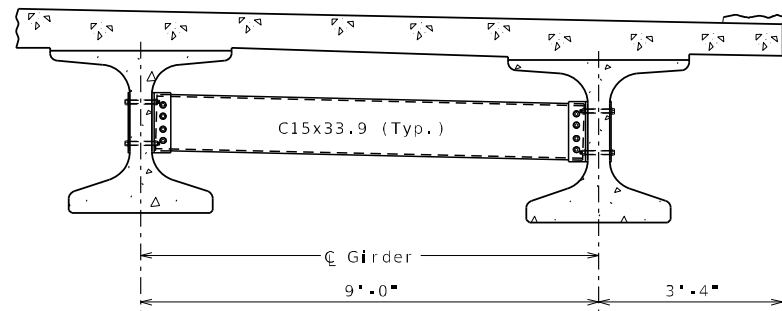
Detailed Aug. 2024
 Checked Sept. 2024

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

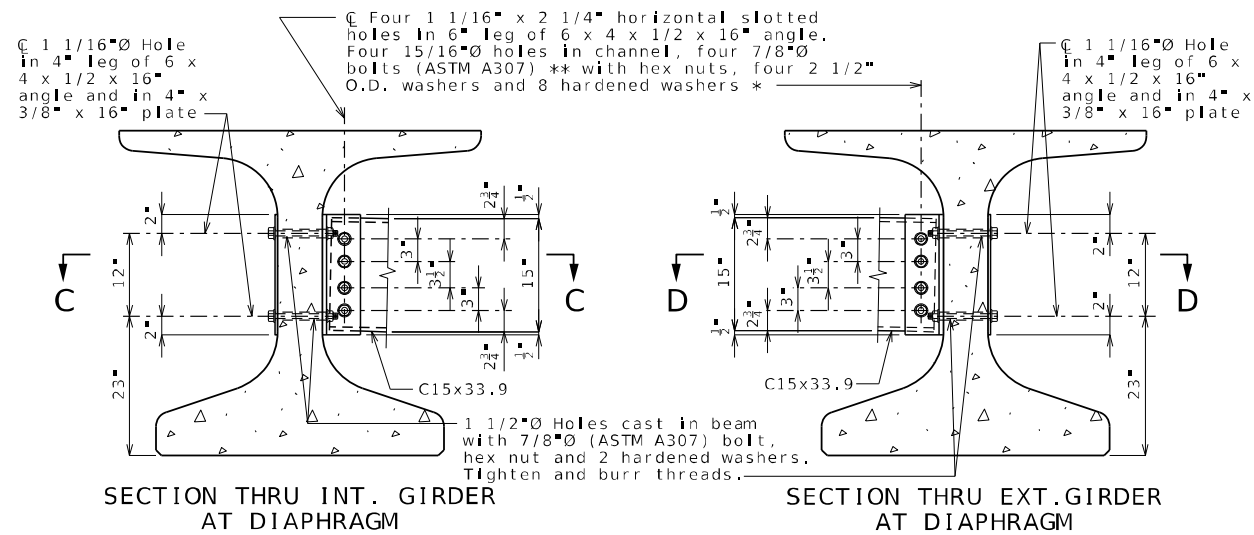
Sheet No. 11 of 23



PLAN SHOWING LOCATION OF STEEL INTERMEDIATE DIAPHRAGMS
Longitudinal dimensions are measured horizontal.



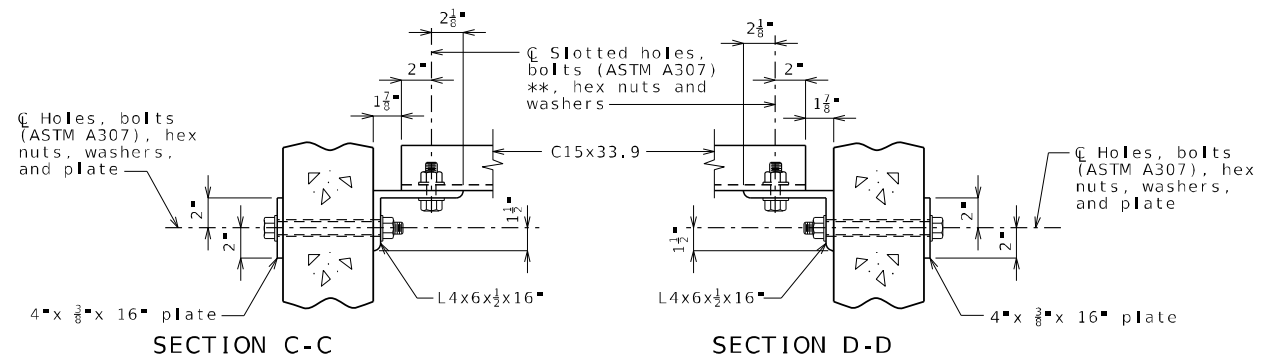
PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS



SECTION THRU INT. GIRDER AT DIAPHRAGM

SECTION THRU EXT. GIRDER AT DIAPHRAGM

STEEL INTERMEDIATE DIAPHRAGMS



SECTION C-C

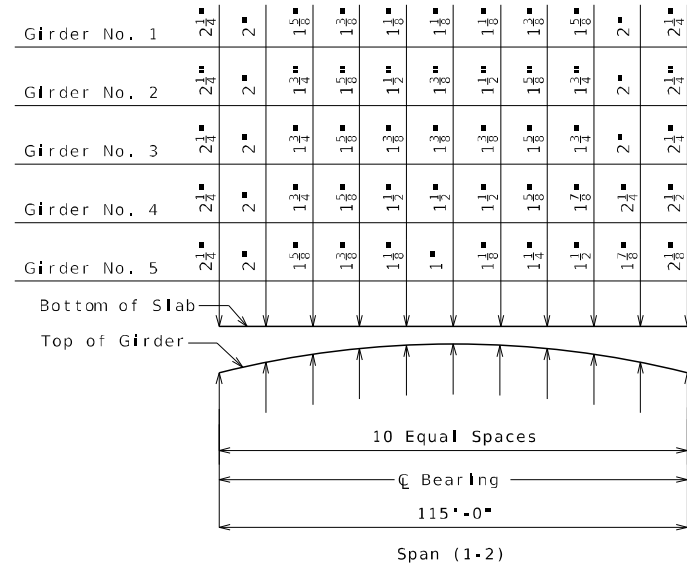
SECTION D-D

STEEL DIAPHRAGM NOTES:

- * In lieu of 2 1/2" outside diameter washers, contractor may substitute a 3/16" (Min. thickness) plate with four 15/16" Ø holes and one hardened washer per bolt.
- ** Bolts shall be tightened to provide a tension of one-half that specified in Sec 712 for high strength bolt installation. ASTM F3125 Grade A325 Type 1 bolts may be substituted for and installed in accordance with the requirements for the specified ASTM A307 bolts.
- All diaphragm materials including bolts, nuts, and washers shall be galvanized.
- Fabricated structural steel shall be ASTM A709 Grade 36 except as noted.
- Payment for furnishing and installing steel intermediate diaphragms will be considered completely covered by the contract unit price for Steel Intermediate Diaphragm for P/S Concrete Girders.
- Shop drawings will not be required for steel intermediate diaphragms and angle connections.

Jessica L. Noble
Professional Engineer
Missouri

DATE PREPARED 10/31/2024	
ROUTE 54 EB	STATE MO
DISTRICT BR	SHEET NO. 12
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9470	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)



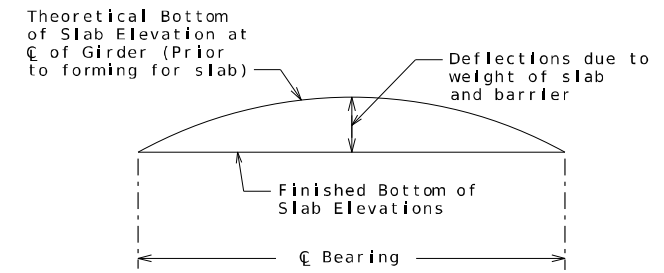
THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness, an adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment.
Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete NU-Girder.

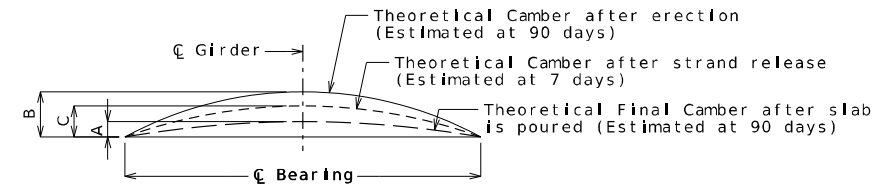
Theoretical Bottom of Slab Elevations at Centerline of Girder (Prior to forming for slab) (Estimated at 90 days)

Girder Number	Span (1-2) (115'-0" C Brg. - C Brg.)											
	C Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	C Brg.	
1	586.66	586.75	586.83	586.89	586.93	586.95	586.94	586.92	586.87	586.81	586.73	
2	586.86	586.95	587.04	587.10	587.14	587.15	587.15	587.11	587.06	586.98	586.90	
3	587.06	587.15	587.23	587.29	587.32	587.34	587.32	587.29	587.23	587.15	587.06	
4	587.05	587.14	587.21	587.27	587.31	587.32	587.30	587.26	587.20	587.12	587.03	
5	586.73	586.80	586.87	586.92	586.94	586.95	586.93	586.89	586.83	586.76	586.67	

Elevations are based on a constant slab thickness of 8" and include allowance for theoretical dead load deflections due to weight of slab (including precast panel) and barrier.



TYPICAL SLAB ELEVATIONS DIAGRAM



GIRDER CAMBER DIAGRAM

Girder	Span (1-2)		
	A	B	C
Exterior	2 1/4"	4 1/4"	3"
Interior	1 3/4"		

GIRDER CAMBER DIAGRAM

Conversion Factors for Girder Camber (Estimated at 90 days):

- 0.1 pt. ■ 0.314 x 0.5 pt.
- 0.2 pt. ■ 0.593 x 0.5 pt.
- 0.3 pt. ■ 0.813 x 0.5 pt.
- 0.4 pt. ■ 0.952 x 0.5 pt.

SLAB ELEVATIONS, DEAD LOAD DEFLECTIONS, AND HAUNCHING

STATE OF MISSOURI

JESSICA L. NOBLE
PROFESSIONAL ENGINEER
NUMBER PE-2022039722

Jessica Noble
M
JESSICA L. NOBLE - CIVIL
MO-PE-0202039722

DATE PREPARED
11/1/2024

ROUTE 54 EB	STATE MO
DISTRICT BR	SHEET NO. 14
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9470	

DESCRIPTION

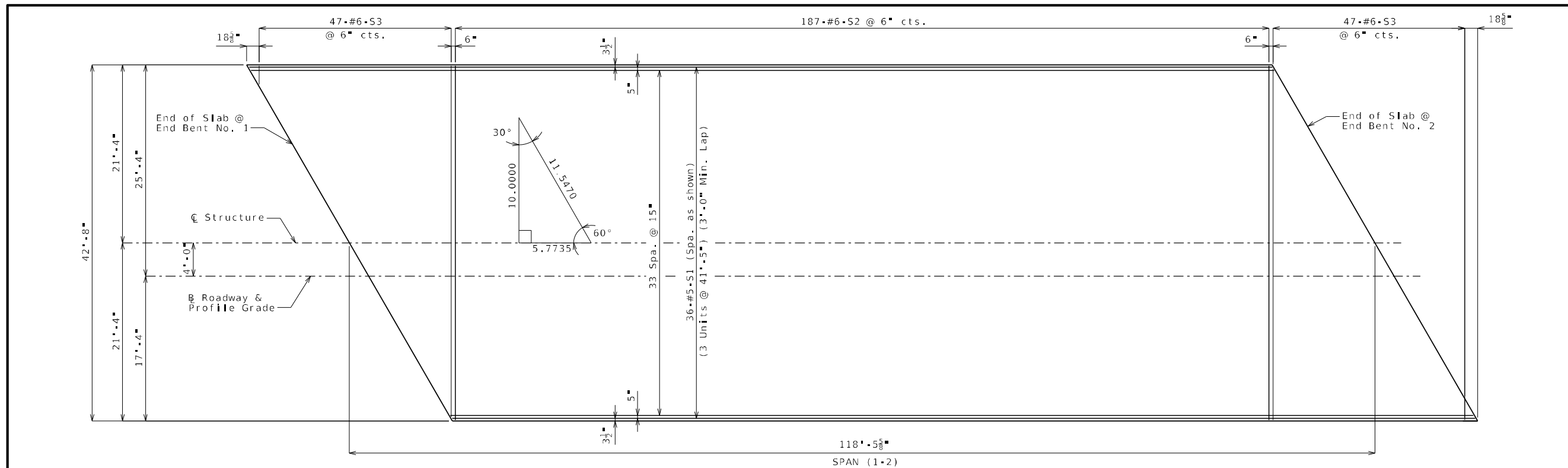
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DATE

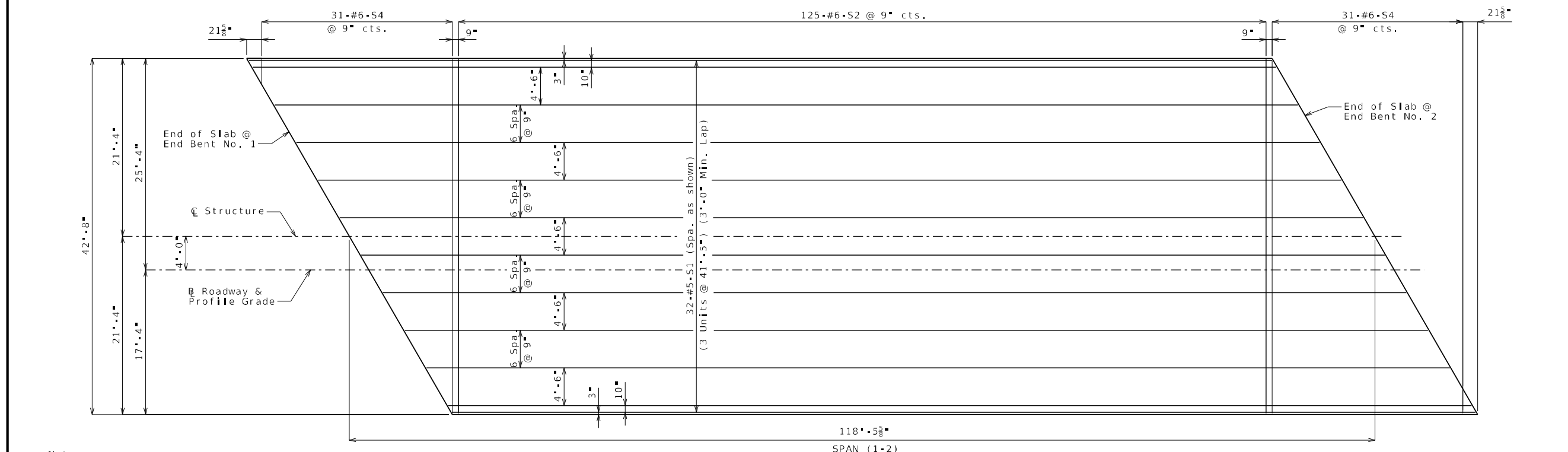
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT



PLAN OF SLAB SHOWING TOP REINFORCEMENT



PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT

Notes:
 Longitudinal slab dimensions are measured horizontally.
 For Theoretical Slab Haunching Diagram, Girder Camber Diagram and Theoretical Bottom of Slab Elevations, see Sheet No. 14.
 For Section Thru Slab, see Sheet No. 16.

For details and locations of Slab Drains, see Sheet No. 13.
 For reinforcement of barrier not shown, see Sheets No. 17 & 18.

PLAN OF SLAB SHOWING REINFORCEMENT

STATE OF MISSOURI
 JESSICA L. NOBLE
 NUMBER
 PE-222039722
 PROFESSIONAL ENGINEER

Jessica Noble
 11 JESSICA L. NOBLE - CIVIL
 MO-PE-222039722

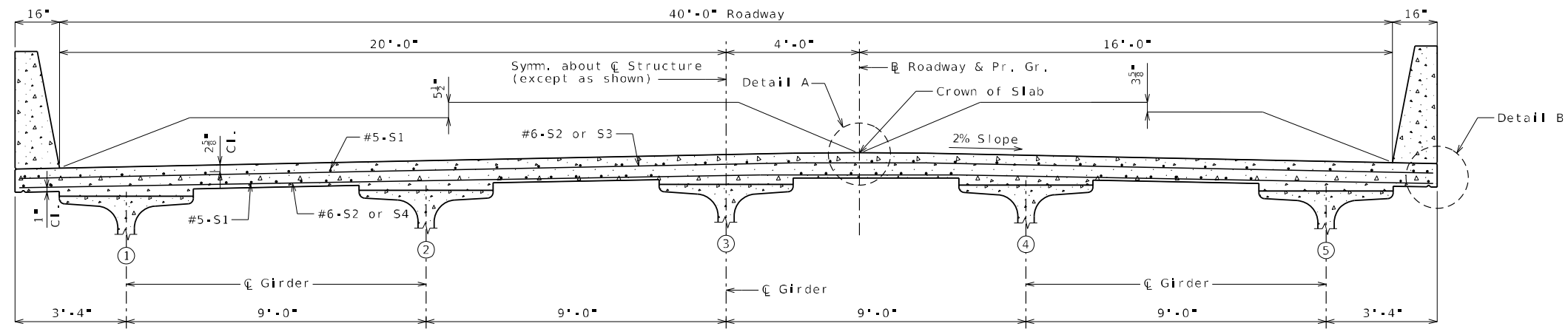
DATE PREPARED
 10/31/2024

ROUTE 54 EB	STATE MO
DISTRICT BR	SHEET NO. 15
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9470	

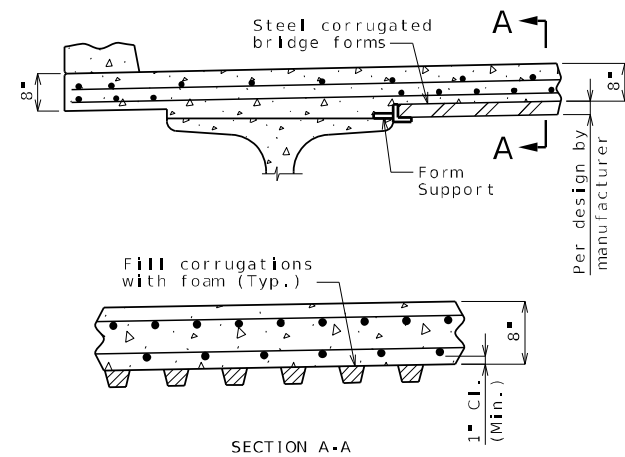
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



SECTION THRU SLAB



OPTIONAL STAY-IN-PLACE FORM DETAILS

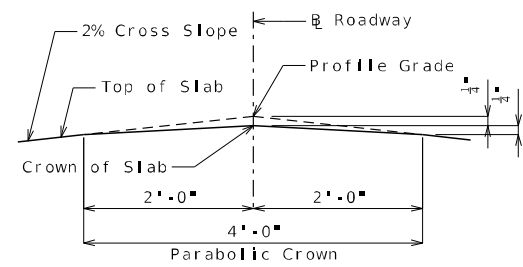
Stay-In-Place Forms:

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

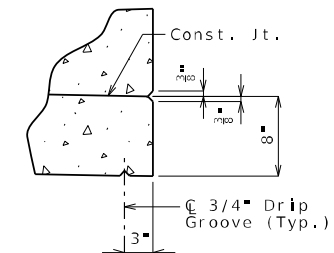
Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

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

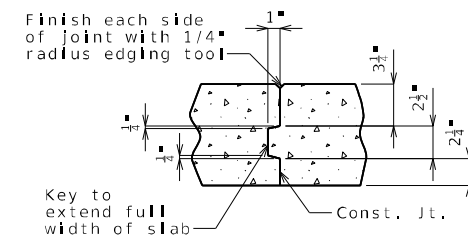
The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for girder loading.



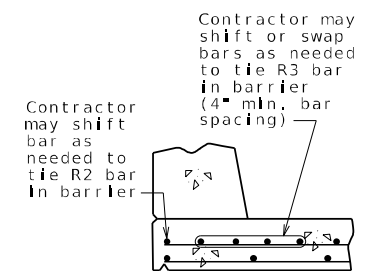
DETAIL A



DETAIL B



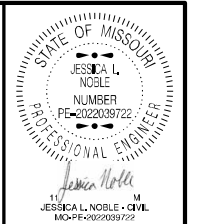
SLAB CONSTRUCTION JOINT



OPTIONAL SHIFTING TOP BARS AT BARRIER

Notes:

- For reinforcement of barrier not shown, see Sheets No. 17 & 18.
- For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 14.
- For Plan of Slab Showing Reinforcement, see Sheet No. 15.

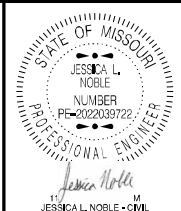


DATE PREPARED 10/31/2024	
ROUTE 54 EB	STATE MO
DISTRICT BR	SHEET NO. 16
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9470	

DESCRIPTION	DATE

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



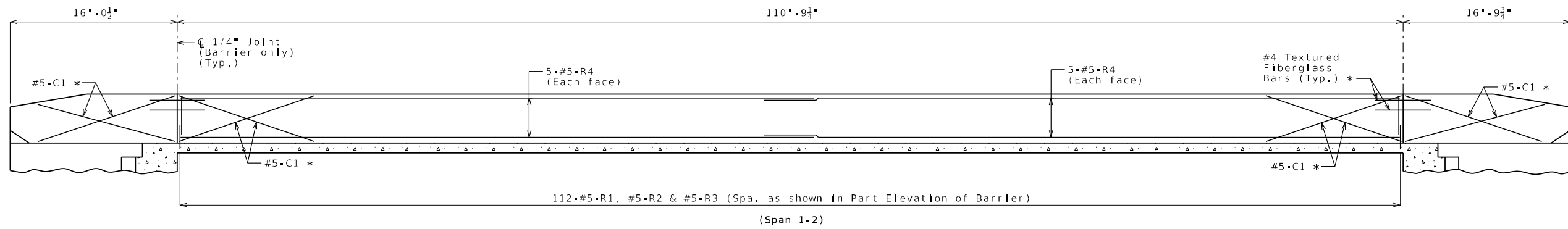


DATE PREPARED 10/31/2024	
ROUTE 54 EB	STATE MO
DISTRICT BR	SHEET NO. 17
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9470	

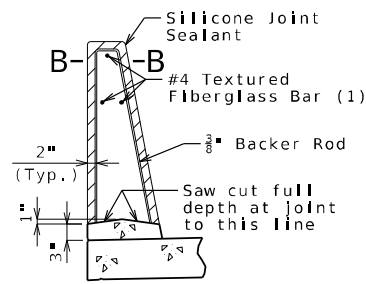
DESCRIPTION	
DATE	

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

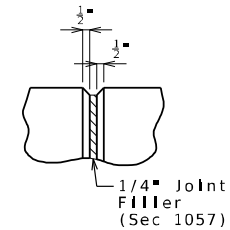
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



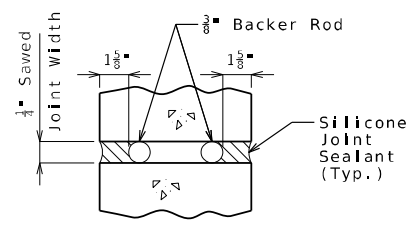
ELEVATION OF BARRIER
(Left barrier shown, right barrier similar)
Longitudinal dimensions are horizontal.



SECTION THRU SAW CUT JOINT



PART ELEVATION AT FORMED JOINT



SECTION B-B

General Notes:

* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type D Barrier per linear foot.

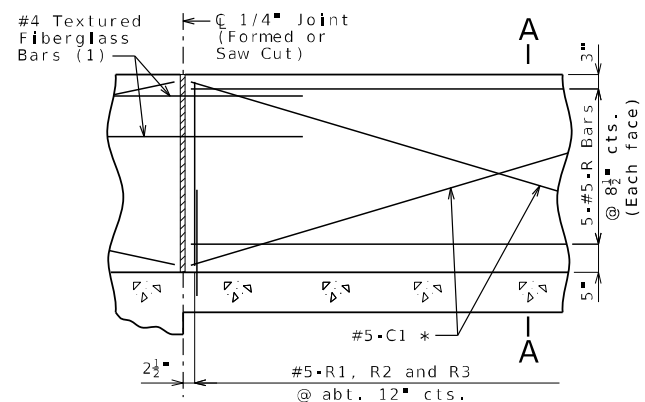
Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

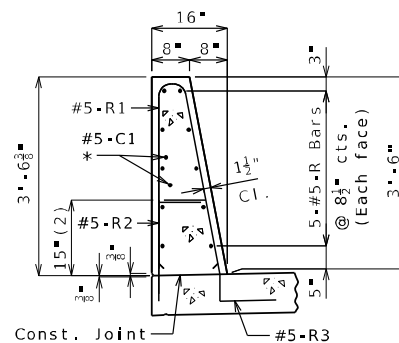
Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.



PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

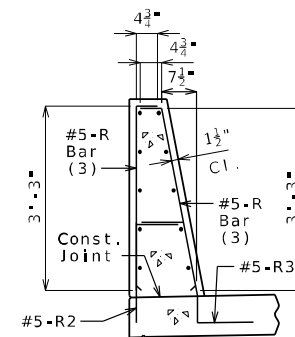


SECTION A-A

Use a minimum lap of 3'-1" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 3.52 square feet.

(2) To top of bar

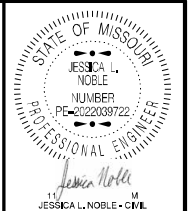


R-BAR PERMISSIBLE ALTERNATE SHAPE

(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

TYPE D BARRIER

Sheet No. 17 of 23



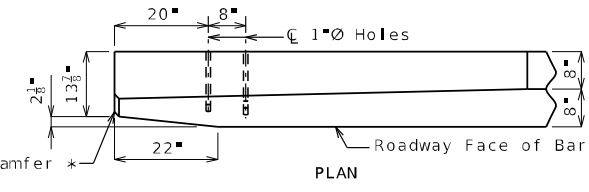
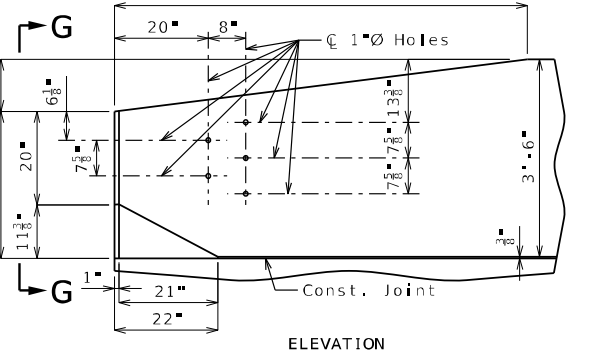
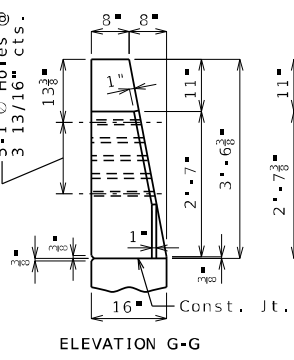
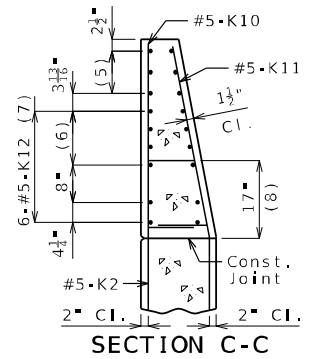
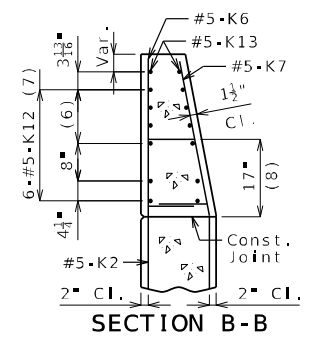
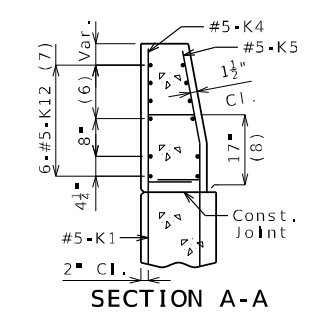
DATE PREPARED 10/31/2024	
ROUTE 54 EB	STATE MO
DISTRICT BR	SHEET NO. 18
COUNTY COLE	
JOB NO. J5P3560	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9470	

DESCRIPTION	DATE

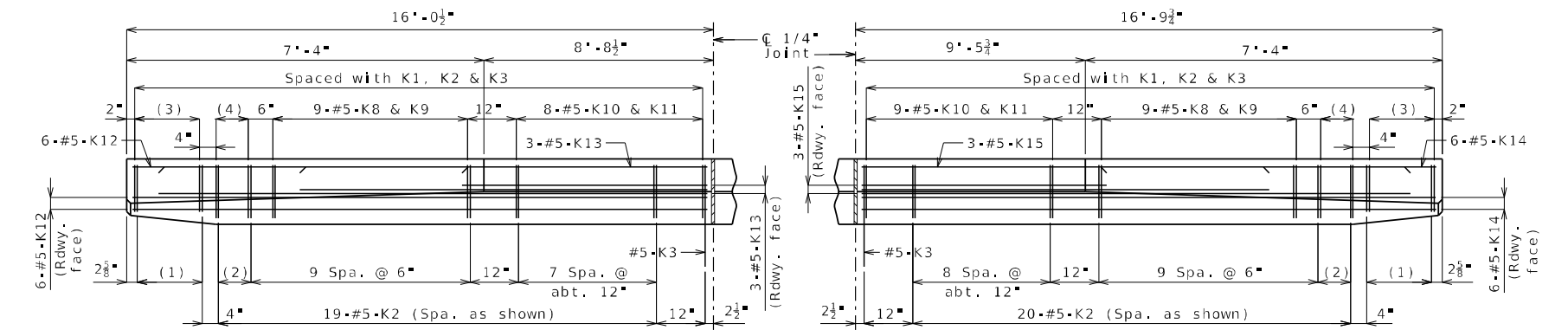
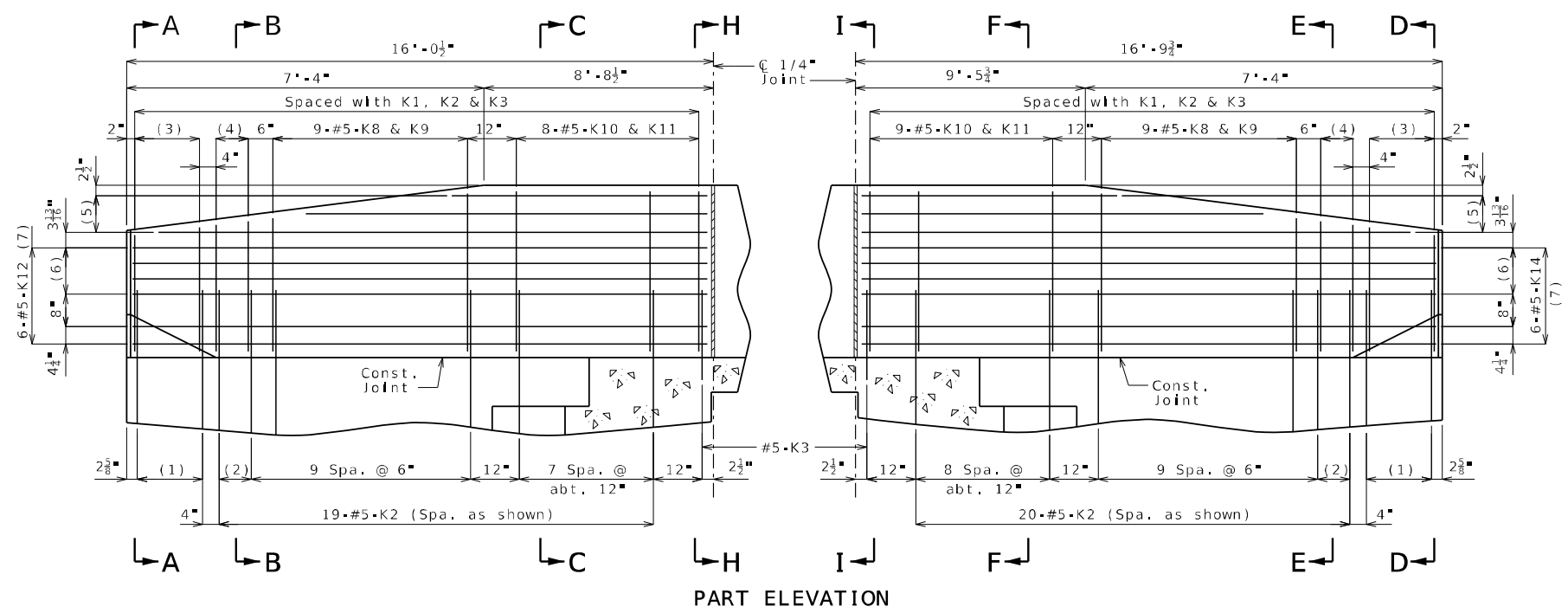
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

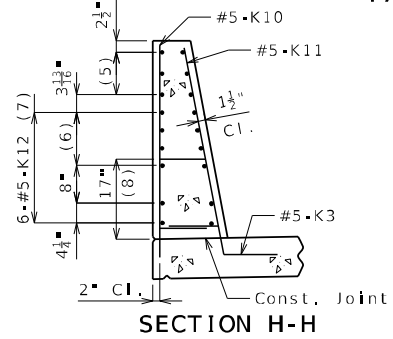
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



DETAILS OF GUARD RAIL ATTACHMENT

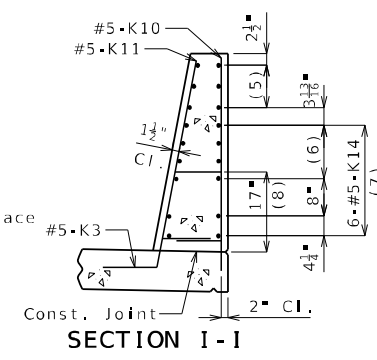


PART PLAN

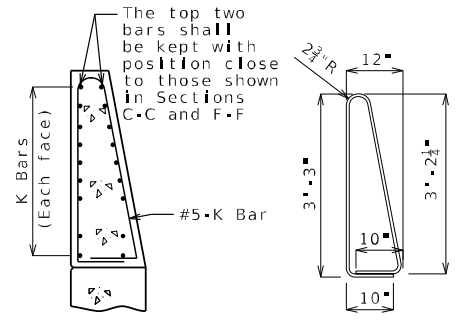


SECTION H-H

- (1) 5-#5-K1 @ 4" cts.
- (2) 2 spaces @ 4"
- (3) 5-#5-K4 & K5
- (4) 3-#5-K6 & K7
- (5) 3-#5-K13 or K15 @ 4 1/2" cts., each face
- (6) 3 spaces @ 3 13/16"
- (7) Spaced as shown, each face
- (8) To top of bar



SECTION I-I



K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

General Notes:

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

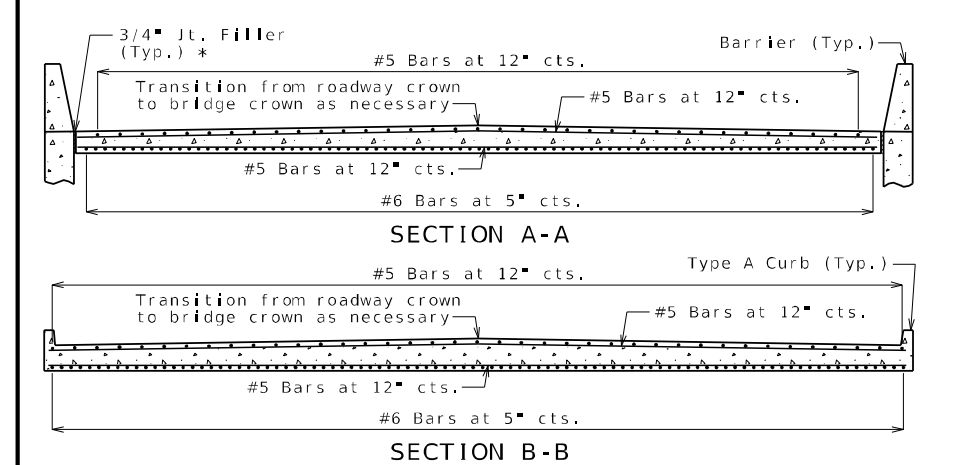
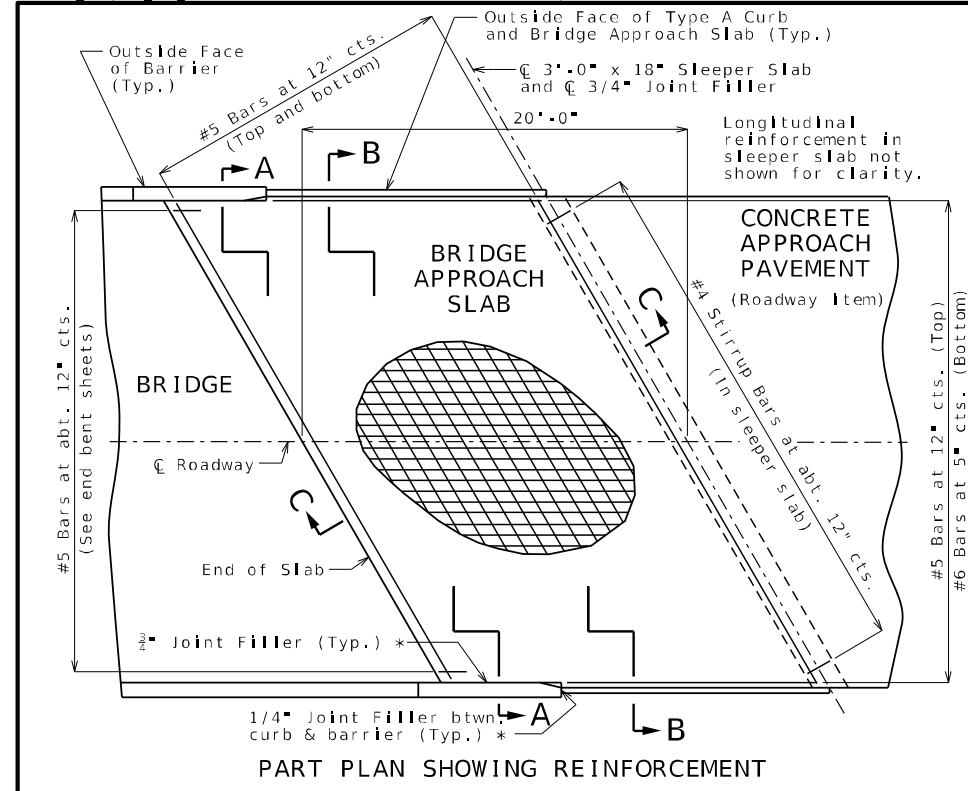
TYPE D BARRIER AT END BENTS

(Left barrier shown, right barrier similar)

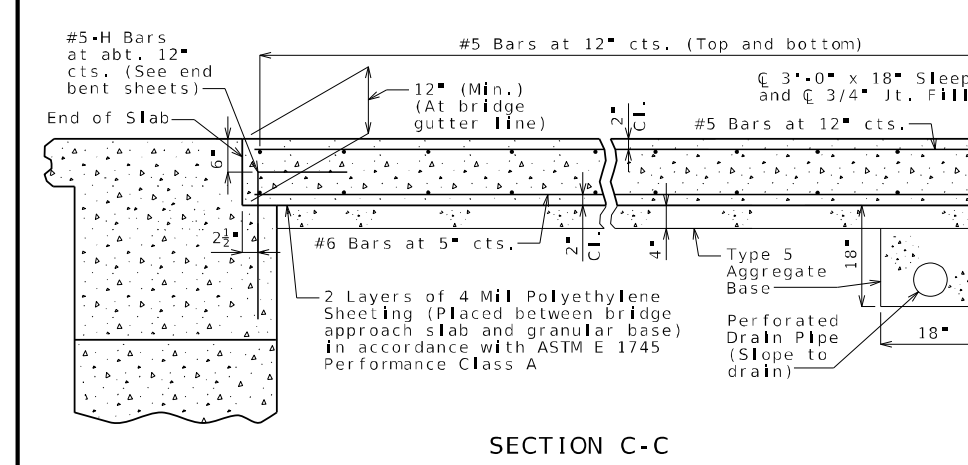
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 18 of 23

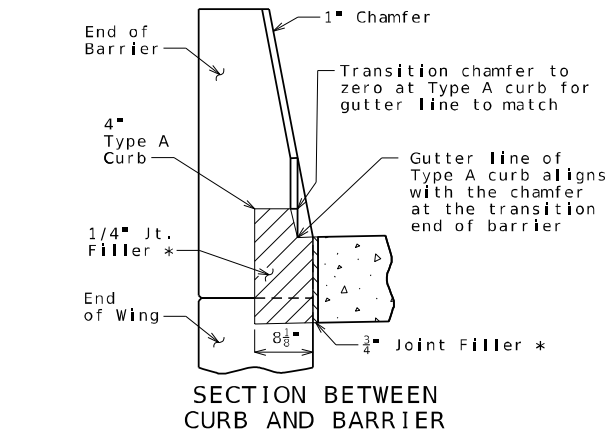
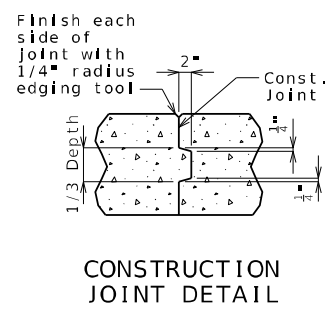
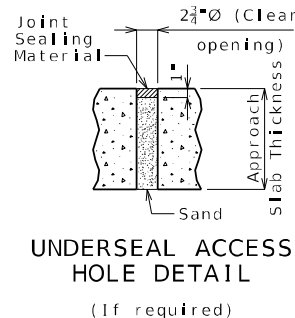
Detailed Aug. 2024
Checked Sept. 2024



With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



BRIDGE APPROACH SLAB (MAJOR)



General Notes:

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

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

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

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

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 29 inches for #5 bars and 44 inches for #6 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710.

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

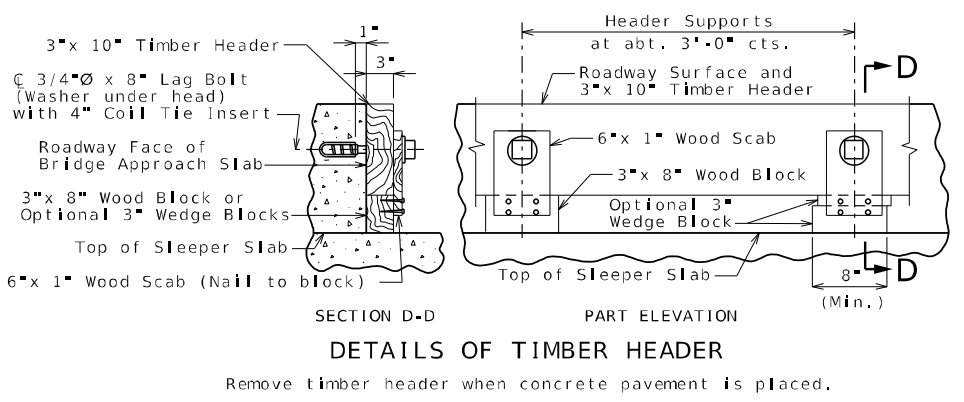
The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

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

For concrete approach pavement details, see roadway plans. See Missouri Standard Plan 609.00 for details of Type A curb.

Payment for furnishing all materials, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, Type 5 aggregate base, joint filler and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Major) per square yard.

* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.



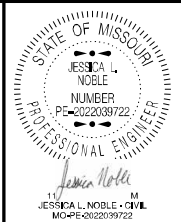
DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

		DATE PREPARED 10/31/2024
		ROUTE 54 EB DISTRICT BR
		STATE MO SHEET NO. 19
		COUNTY COLE
		JOB NO. J5P3560
		CONTRACT ID.
		PROJECT NO.
		BRIDGE NO. A9470
DESCRIPTION		
DATE		
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION		

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



DATE PREPARED
10/31/2024

ROUTE **54 EB** STATE **MO**

DISTRICT **BR** SHEET NO. **20**

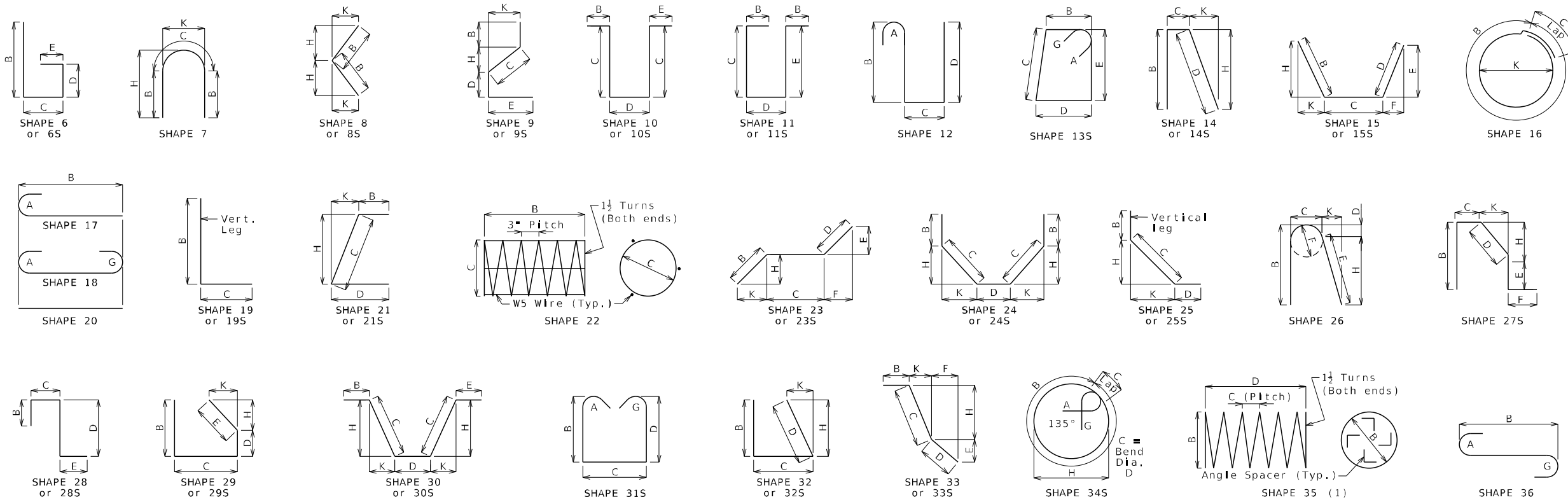
COUNTY **COLE**

JOB NO. **J5P3560**

CONTRACT ID.

PROJECT NO.

BRIDGE NO. **A9470**



Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes

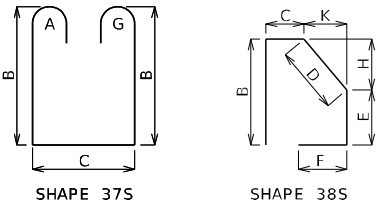
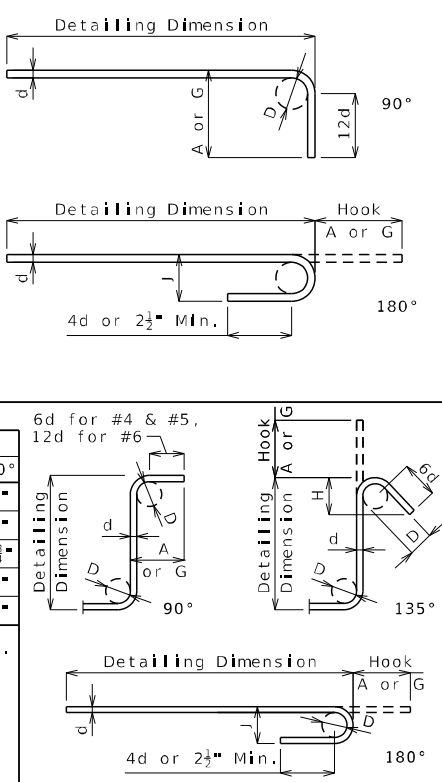
Size	Case	D	A or G		J
			90°	180°	180°
#4	1	3"	8"	6"	4"
#5	1	3 3/4"	10"	7"	5"
#6	1	4 1/2"	12"	8 1/2"	6"
	2	5 1/4"	14"	9 3/4"	7"
#7	3	7"	15"	11 1/2"	8 3/4"
	2	6"	16"	11"	8"
#8	3	8"	17"	13 1/4"	10"
#9	1	9 1/2"	19 1/2"	15 1/2"	11 1/2"
#10	1	10 3/4"	22"	17 1/2"	13 1/2"
#11	1	12"	24 1/2"	19 1/2"	14 3/8"
#14	1	18 1/2"	31 1/2"	27 1/2"	21 3/8"
#18	1	24"	41 1/2"	36 1/2"	28 1/2"

Stirrup Pin Bend Shapes (S)

Size	Case	D	A or G		H	J	
			90°	135°	180°	135°	180°
#4	2	2"	4 1/2"	4 1/2"	5"	2 7/8"	3"
	3	3"	5"	5 1/2"	6"	3"	4"
#5	2	2 1/2"	5 1/2"	5 1/2"	5 1/2"	3 5/8"	3 3/4"
	3	3 3/4"	6 1/4"	6 1/2"	7"	3 7/8"	5"
#6	1	4 1/2"	12"	7 1/2"	8 1/4"	4 3/8"	6"

Applicable for all grades of steel.

Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.



BENDING DIAGRAMS

All dimensions are out to out.

Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.

Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.

(1) Shall be a deformed or plain spiral bar or wire.

Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spirals. Length and weight of column spirals do not include splices or spacers.

Reinforcing Steel Totals (Pounds)

Size	Substructure		Superstructure				Entire Bridge	
	Plain	Epoxy	Slab		Barrier	Slip Form	Plain	Epoxy
			Plain	Epoxy				
W5	0	0	0	0	0	0	0	0
4	0	0	0	660	0	0	0	660
5	0	0	60	10,997	7,974	200	60	19,171
6	0	0	0	33,621	0	0	0	33,621
7	0	0	0	0	0	0	0	0
8	0	0	0	4,372	0	0	0	4,372
9	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0
By Type	0	0	60	49,650	7,974	200	60	57,824

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

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Detailed Sept. 2024
Checked Sept. 2024

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

Sheet No. 20 of 23

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

Bill of Reinforcing Steel															
No. Req.	Size/Mark	Location	Codes			Dimensions							Nom. Length	Actual Length	Weight
			C	SH	V	B	C	D	E	F	H	K			
			ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	lb
Superstructure															
End Bent 1															
11	6 F100	WING BRACE	E	23S		14.00	4 7.50	2 3.00	23.50	13.50	12.25	7.00	8 1	7 11	131
5	6 F101	DIAPHRAGM	E	23S		3 8.50	4 7.00				3 2.50	22.25	8 4	8 1	61
11	6 F102	WING BRACE	E	23S		14.00	7 9.25	2 3.00	13.50	23.25	7.00	12.00	11 2	11 2	184
5	6 F103	DIAPHRAGM	E	21S			3 8.50	6 3.00			3 2.50	22.25	10	9 11	74
8	8 H100	BEAM	E	20		48 11.00							48 11	48 11	1,045
4	6 H101	BEAM	E	20		48 11.00							48 11	48 11	294
4	6 H102	BEAM	E	20		15 8.00							15 8	15 8	94
4	8 H103	DIAPHRAGM	E	20		48 11.00							48 11	48 11	522
5	6 H104	DIAPHRAGM	E	20		48 11.00							48 11	48 11	367
16	6 H105	DIAPHRAGM	E	20		9 6.00							9 1	9 1	218
4	6 H106	DIAPHRAGM	E	20		6 4.00							6 4	6 4	38
8	6 H107	DIAPHRAGM	E	20		3 3.00							3	3	36
1	6 H108	DIAPHRAGM	E	21S			3 8.50	20.00			3 2.50	22.25	5 5	5 4	8
1	6 H109	DIAPHRAGM	E	23S			3 8.25	20.00			3 2.50	22.00	5 4	5 2	8
5	5 H110	STRAND TIE	E	23S			15.00		15.00	7.50	13.00	7.50	5 9	5 8	30
16	8 H111	WING	E	20		14 6.00							14 6	14 6	619
48	6 H112	WING	E	20		13 8.00							13 8	13 8	985
19	5 U100	BEAM	E	10S			6 4.00	3 9.00					16 5	16 2	320
18	4 U101	BEAM	E	13S			3 9.00	2 8.00	3 9.00	2 8.00			13 7	13 4	160
11	4 U102	BEAM	E	13S			3 9.00	3 0.75	3 9.00	3 0.75			14 5	14 1	103
7	4 U103	BEAM	E	10S			2 8.00	3 9.00					9 1	8 11	42
4	4 U104	BEAM	E	10S			3 0.75	3 9.00					9 11	9 8	26
29	5 U105	DIAPHRAGM	E	10S			5 0.00	3 2.00					13 2	12 11	391
29	6 U106	DIAPHRAGM	E	19S			4 0.00	3 9.00					7 11	7 9	338
62	6 U107	DIAPHRAGM	E	19S			2 11.00	5 10.00					8 9	8 7	799
40	5 U108	APPROACH NOTCH	E	19S			2 0.00	15.00					3 3	3 2	132
20	5 V100	BEAM	E	20			6 4.00						6 4	6 4	132
30	5 V101	DIAPHRAGM	E	20			4 0.00						4 1	4 1	128
2	6 V102	WING	E	20			8 2.00						8 2	8 2	25
24	6 V103	WING	E	20			8 2.00						8 2	8 2	25
		Incr. = 0.125"					8 3.00						8 3	8 3	296
2	6 V104	WING	E	20			7 11.00						7 11	7 11	24
24	6 V105	WING	E	20			7 11.00						7 11	7 11	24
		Incr. = 0.125"					8 0.00						8	8	287
End Bent 2															
11	6 F200	WING BRACE	E	23S		14.00	4 7.50	2 3.00	23.50	13.50	12.25	7.00	8 1	7 11	131
5	6 F201	DIAPHRAGM	E	23S		3 8.50	4 7.00				3 2.50	22.25	8 4	8 1	61
11	6 F202	WING BRACE	E	23S		14.00	7 9.25	2 3.00	13.50	23.25	7.00	12.00	11 2	11 2	184
5	6 F203	DIAPHRAGM	E	21S			3 8.50	6 3.00			3 2.50	22.25	10	9 11	74
8	8 H200	BEAM	E	20		48 11.00							48 11	48 11	1,045
4	6 H201	BEAM	E	20		48 11.00							48 11	48 11	294
4	6 H202	BEAM	E	20		15 7.00							15 7	15 7	94
4	8 H203	DIAPHRAGM	E	20		48 11.00							48 11	48 11	522
5	6 H204	DIAPHRAGM	E	20		48 11.00							48 11	48 11	367
16	6 H205	DIAPHRAGM	E	20		9 1.00							9 1	9 1	218
4	6 H206	DIAPHRAGM	E	20		6 4.00							6 4	6 4	38
8	6 H207	DIAPHRAGM	E	20		3 0.00							3	3	36
1	6 H208	DIAPHRAGM	E	21S			3 8.50	20.00			3 2.50	22.25	5 5	5 4	8
1	6 H209	DIAPHRAGM	E	23S			3 8.25	20.00			3 2.50	22.00	5 4	5 2	8
5	5 H210	STRAND TIE	E	23S			15.00		15.00	7.50	13.00	7.50	5 9	5 8	30
16	8 H211	WING	E	20		14 6.00							14 6	14 6	619
48	6 H212	WING	E	20		13 8.00							13 8	13 8	985
19	5 U200	BEAM	E	10S			6 4.00	3 9.00					16 5	16 2	320
18	4 U201	BEAM	E	13S			3 9.00	2 8.00	3 9.00	2 8.00			13 7	13 4	160
11	4 U202	BEAM	E	13S			3 9.00	2 11.75	3 9.00	2 11.75			14 3	13 11	102
8	4 U203	BEAM	E	10S			2 8.00	3 9.00					9 1	8 11	48
3	4 U204	BEAM	E	10S			2 11.75	3 9.00					9 9	9 6	19
29	5 U205	DIAPHRAGM	E	10S			4 10.50	3 2.00					12 11	12 8	383
29	6 U206	DIAPHRAGM	E	19S			3 8.00	3 9.00					7 5	7 3	316
62	6 U207	DIAPHRAGM	E	19S			3 4.00	5 10.00					9 2	9	838
40	5 U208	APPROACH NOTCH	E	19S			2 0.00	15.00					3 3	3 2	132
20	5 V200	BEAM	E	20			6 4.00						6 4	6 4	132
30	5 V201	DIAPHRAGM	E	20			3 8.00						3 8	3 8	115

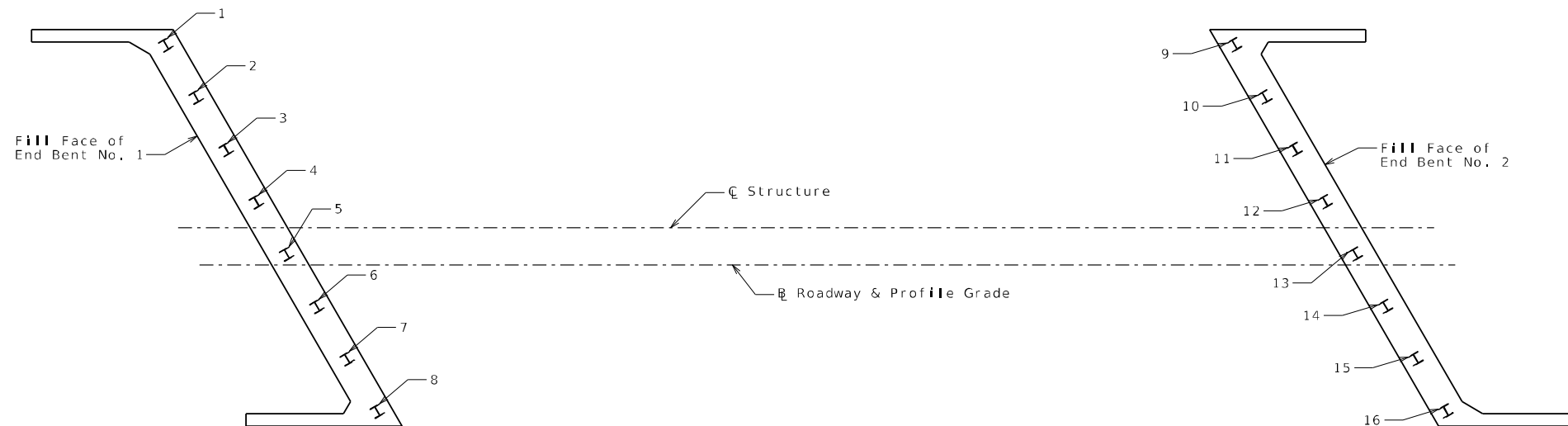
Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.
 For bending diagrams and steel reinforcing totals, see Sheet No. 20.
 Detailed Sept. 2024
 Checked Sept. 2024

All bars shall be Grade 60.

BILL OF REINFORCING STEEL

Note: This drawing is not to scale. Follow dimensions. Sheet No. 21 of 23

Bill of Reinforcing Steel															
No. Req.	Size/Mark	Location	Codes			Dimensions							Nom. Length	Actual Length	Weight
			C	SH	V	B	C	D	E	F	H	K			
			ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	lb
2	6 V202	WING	E	20			8 0.00								8
24	6 V203	WING	E	20			8 0.00								8
		Incr. = 0.125"					8 1.00								8 1
2	6 V204	WING	E	20			8 1.00								8 1
24	6 V205	WING	E	20			8 1.00								8 1
		Incr. = 0.125"					8 2.00								8 2
Slab															
204	5 S1	SLAB	E	20			41 5.00								41 5
312	6 S2	SLAB	E	20			42 5.00								42 5
94	6 S3	SLAB	E	20			2 3.00								2 3
		Incr. = 10.375"					42 1.00								42 1
62	6 S4	SLAB	E	20			2 9.00								2 8
		Incr. = 15.625"					41 8.00								41 8
Barrier															
Type D															
20	5 K1	BARRIER	E	27S			3 8.00	9.25	5.25	3 2.75					8 1
78	5 K2	BARRIER	E	27S			3 8.00	9.25	14.50	2 5.75					8 2
4	5 K3	BARRIER	E	27S			22.00	9.25	14.50	7.25	12.00				5 5
20	5 K4	BARRIER	E	19S			2 4.25	10.00							3 2
		Incr. = 0.500"					2 6.25	10.00							3 4
20	5 K5	BARRIER	E	38S				18.50	9.50	8.25	18.00	4.00			3
		Incr. = 0.500"						20.50	9.50	8.25	20.00	4.50			3 2
12	5 K6	BARRIER	E	19S			2 6.75	10.00							3 5
12	5 K7	BARRIER	E	21S				2 6.75	10.00		2 6.00	6.25			3 5
36	5 K8	BARRIER	E	19S			2 8.50	10.00							3 7
		Incr. = 0.750"					3 2.50	10.00							4 1
36	5 K9	BARRIER	E	21S			2 8.50	10.00			2 7.75	6.75			3 7
		Incr. = 0.750"					3 2.50	10.00			3 1.75	7.75			4 1
34	5 K10														

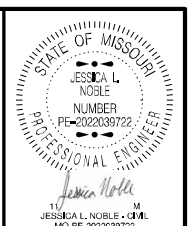


PART PLAN SHOWING PILE NUMBERING FOR RECORDING AS-BUILT PILE DATA

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
End Bent No. 1			
1			
2			
3			
4			
5			
6			
7			
8			
End Bent No. 2			
9			
10			
11			
12			
13			
14			
15			
16			

Note:
 Indicate in remarks column:
 A. Pile type and grade
 B. Batter
 C. Driven to practical refusal

This sheet to be completed by MoDOT construction personnel.



DATE PREPARED
10/31/2024
 ROUTE STATE
54 EB MO
 DISTRICT SHEET NO.
BR 22
 COUNTY
COLE
 JOB NO.
J5P3560
 CONTRACT ID.
 PROJECT NO.
 BRIDGE NO.
A9470

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

DESIGN DESIGNATION

A.A.D.T. - 2025 ■ 20,789
 A.A.D.T. - 2045 ■ 23,633
 D.H.V. ■ 10.18%
 T ■ 10.14%
 V ■ 65 M.P.H.
 D (E/W) ■ 48.4% / 51.6%
 FUNCTIONAL CLASSIFICATION - FREEWAY

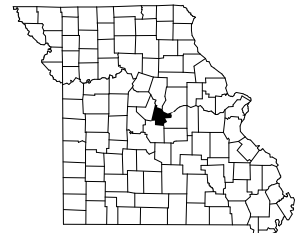
**NO NEW RIGHT OF WAY
 REQUIRED**

**CONVENTIONAL SYMBOLS
 (USED IN PLANS)**

	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
GUARD CABLE		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
UTILITIES		
FIBER OPTICS	-FO-	+FO-
OVERHEAD CABLE TV	-OTV-	+OTV-
UNDERGROUND CABLE TV	-UTV-	+UTV-
OVERHEAD TELEPHONE	-OT-	+OT-
UNDERGROUND TELEPHONE	-UT-	+UT-
OVERHEAD POWER	-OE-	+OE-
UNDERGROUND POWER	-UE-	+UE-
SANITARY SEWER	-S-	+S-
STORM SEWER	-SS-	+SS-
GAS	-G-	+G-
WATER	-W-	+W-
MANHOLE		
FIRE HYDRANT		
WATER VALVE		
WATER METER		
DROP INLET		
DITCH BLOCK		
GROUND MOUNTED SIGN		
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL		
FENCE		
CHAIN LINK		
WOVEN WIRE		
GATE POST		
BENCHMARK		

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION PLANS FOR PROPOSED STATE HIGHWAY COLE COUNTY

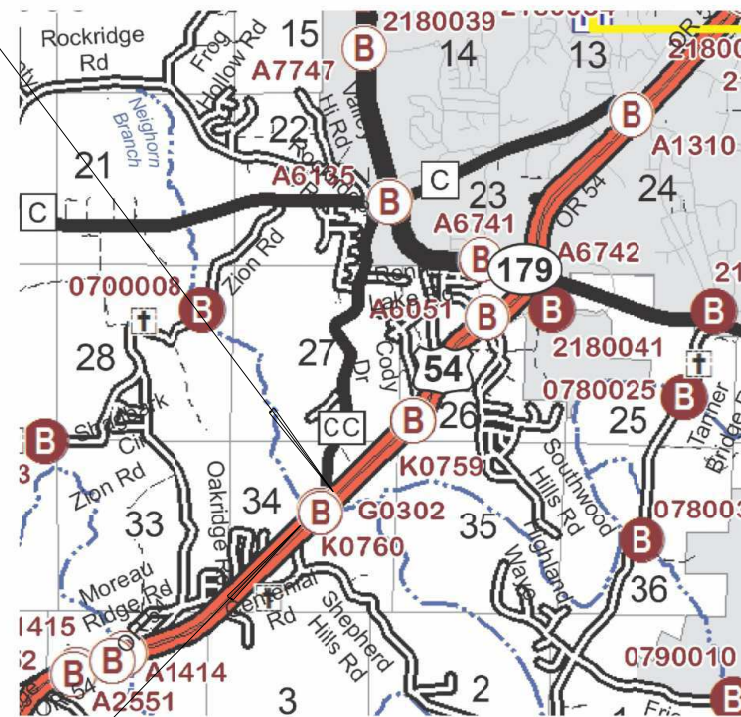


KEY MAP
 LOCATION OF COLE COUNTY

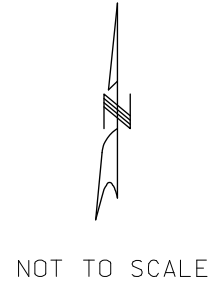
BEGIN PROJECT
 STA 283+93.54

BRIDGE REDECK NO. G0302 OVER NEIGHORN BRANCH
 GRADING, PAVING, GUARDRAIL & GUARDCABLE
 WBL ROUTE 54

END PROJECT
 STA 293+47.72

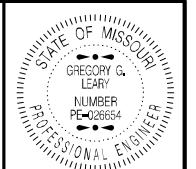


NOT TO SCALE



INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (TS) (2 SHEETS)...	2
QUANTITIES (QU) (1 SHEET).....	3
PLAN PROFILE SHEETS (PP).....	4
EROSION CONTROL SHEETS (EC).....	5
CULVERT SECTION SHEET (CS).....	6
BRIDGE DRAWINGS (B) G0302.....	1-11



DATE PREPARED
 12/2/2024
 ROUTE 54 STATE MO
 DISTRICT CD SHEET NO. 1
 COUNTY COLE
 JOB NO. JCD0157
 CONTRACT ID.
 PROJECT NO.
 BRIDGE NO.

DESCRIPTION	DATE

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA 283+93.54
END OF PROJECT	STA 293+47.72
APPARENT LENGTH	954.18 FEET
EQUATIONS AND EXCEPTIONS:	

TOTAL CORRECTIONS	0 FEET
NET LENGTH OF PROJECT	954.18 FEET
STATE LENGTH	0.18 MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES	1 ACRES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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.

DRAINAGE								
STA	LOCATION	DRAIN BASIN (EACH)	CLASS 3 EXCAVATION (CY)	FURNISHING TYPE 1 ROCK DITCH LINER (CY)	PLACING TYPE 1 ROCK DITCH LINER (CY)	PERMANENT EROSION CONTROL GEOTEXTILE (S.Y.)	ROCK LINING (CY)	REMARKS
291+80.03	RTE 54 RT	1	27.3				2.0	
293+35.55	RTE 54 RT	1	20.9				2.0	
291+67.69	RTE 54 MEDIAN			1.1	1.1	5.2		3' X 15.5' X 8" DRAIN FLUME
293+15.62	RTE 54 MEDIAN			1.1	1.1	5.2		3' X 15' X 8" DRAIN FLUME
TOTAL		2	48.2	2.2	2.2	10.4	4	
USE		2	48	2	2	10	4	

TEMPORARY EROSION CONTROL QUANTITIES						
STATION	STATION	LOCATION	SILT FENCE L.F.	ROCK DITCH CHECK L.F.	SEDIMENT REMOVAL CY	REMARKS
289+45.20	291+80.07	RTE 54 MEDIAN	234.9		2.3	LT SLOPE LIMIT WB LANES
292+24.67		RTE 54 RT		9.0	1.0	1 ROCK DITCH CHECK AT 9 LF
289+05.73	292+15.01	RTE 54 RT	390.0		3.9	RT SLOPE LIMIT WB LANES AND ROUTE CC
295+00.00	292+84.72	RTE 54 LT & RT	400.0		4.0	WEST SIDE OF BRIDGE SLOPE LIMITS
	293+54.09	RTE 54 RT		9.0	1.0	1 ROCK DITCH CHECK AT 9 LF
TOTALS			1024.9	18.0	12.2	
USE			1025	18	12	

RUMBLE STRIPS					
STA	STA	LOCATION	LENGTH (L.F.)	RUMBLE STRIPS (STA.)	REMARKS
WESTBOUND LANES					
290+92.92	291+64.27	WB 54 - LT EDGELINE	71.4	0.7	
291+49.32	291+82.87	WB 54 - RT EDGELINE	33.5	0.3	
293+14.12	293+47.72	WB 54 - LT EDGELINE	33.6	0.3	
293+32.72	293+47.72	WB 54 - RT EDGELINE	15.0	0.2	
TOTAL				1.5	
USE				2	

SUBGRADING AND SHOULDERING, CLASS 1						
STATION FROM	STATION TO	LOCATION	LENGTH (FT)	PAVING WIDTH (FT)	QUANTITY (100 FT)	REMARKS
290+92.92	291+49.32	54 WBL	56.4	4	0.6	
291+49.32	291+73.57	54 WBL	24.3	32	0.2	BRIDGE APPROACH PAVEMENT - IRREGULAR AREA
293+23.42	293+47.72	54 WBL	24.3	32	0.2	BRIDGE APPROACH PAVEMENT - IRREGULAR AREA
TOTAL					1.0	
USE					1	

CONTRACTOR FURNISHED SURVEY AND STAKING
1 LUMP SUM

MOBILIZATION
1 LUMP SUM

CONCRETE APPROACH PAVEMENT						
STATION FROM	STATION TO	LOCATION	LENGTH (FT)	PAVING WIDTH (FT)	QUANTITY (SY)	REMARKS
291+49.32	291+73.57	54 WBL	24.3	32	86.4	IRREGULAR AREA
293+23.42	293+47.72	54 WBL	24.3	32	86.4	IRREGULAR AREA
TOTAL					172.8	
USE					172.8	

OPTIONAL PAVEMENT #1 - ROUTE 54 WBL						
STATION FROM	STATION TO	LOCATION	LENGTH (FT)	PAVING WIDTH (FT)	QUANTITY (SY)	REMARKS
290+92.92	291+49.32	54 WBL	56.4	4	25.1	LT SHOULDER
TOTAL					25.1	
USE					25	

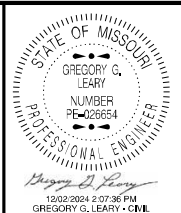
TYPE 5 AGGREGATE FOR BASE (4 IN.)						
STATION FROM	STATION TO	LOCATION	LENGTH (FT)	PAVING WIDTH (FT)	QUANTITY (SY)	REMARKS
291+49.32	291+73.57	54 WBL	24.3	32	86.4	IRREGULAR AREA
293+23.42	293+47.72	54 WBL	24.3	32	86.4	IRREGULAR AREA
TOTAL					172.8	
USE					173	

TYPE 5 AGGREGATE FOR BASE (6 IN.)						
STATION FROM	STATION TO	LOCATION	LENGTH (FT)	PAVING WIDTH (FT)	QUANTITY (SY)	REMARKS
290+92.92	291+49.32	54 WBL	56.4	4	25.1	LT SHOULDER
TOTAL					25.1	
USE					25	

REMOVAL OF IMPROVEMENTS				
SHEET	STA	STA	LOCATION	REMARKS
4	290+92.92	291+93.57	54 WBL	183 SY PAVEMENT REMOVAL - EAST SIDE OF EXISTING BRIDGE G0302
4	293+03.42	293+47.72	54 WBL	156 SY PAVEMENT REMOVAL - WEST SIDE OF EXISTING BRIDGE G0302
4	290+92.92	291+49.32	54 WBL LT	54' SAWCUT ALONG LT SHOULDER
4	291+49.32		54 WBL	28' SAWCUT ON ROUTE 54 AT BEGINNING OF MAINLINE PAVEMENT
4	293+47.72		54 WBL	32' SAWCUT ON ROUTE 54 EB AT THE END OF MAINLINE PAVEMENT
1 LUMP SUM				

NOTE: THE FOLLOWING PAY ITEMS INCLUDED IN J5P3560
 - TEMPORARY TRAFFIC CONTROL
 - PAVEMENT MARKING
 - GUARDRAIL AND GUARD CABLE
 - SEEDING - COOL SEASON GRASSES
 - TEMPORARY SEEDING
 - MULCH

SUMMARY OF QUANTITIES
SHEET 1 OF 1



DATE PREPARED
12/2/2024

ROUTE 54	STATE MO
DISTRICT CD	SHEET NO. 3

COUNTY
COLE

JOB NO.
JCD0157

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

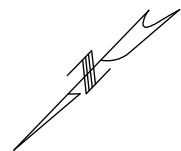
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



SW NE'
SEC 34, T44N, R12W



STA 284+45.30
EXIST. 42'x90' R.C.P.
EXIST. 3'x3'x98' R.C.B.
EXIST. 3'x5' D.I.

STA 288+55.35
EXIST. 18'x94' C.M.P.

285

PERM. ESMT.
(DRAINAGE)

PERM. ESMT.
(CHANNEL)

SEE J5P3560 FOR GUARDRAIL
AND GUARD CABLE DETAILS

+90.56
282.5'

EXIST. TYPE I
DRWY. LT.
STA. 289+00

290

+43.77
411.1'

NEIGHORN BRANCH

PERM. ESMT.
(CHANNEL)

STA. 293+55 RT
EXIST. 18'x85' R.C.P.
EXIST. 5'x2' D.I.

295

EB RTE. 54

☉ MEDIAN RTE. 54

WB RTE. 54

EXIST. R/W

BEGIN PROJECT
STA 283+93.54

+50.00
115.0'

+27.85
221.7'

+85.00
300.0'

ROUTE CC STA 262+50
EXIST. 24'x82' C.M.P.
EXIST. 24'x29' R.C.P.
EXIST. 3'x2' D.I.

STA 291+00 RT
EXIST. 18'x90' R.C.P.
EXIST. 3'x2' D.I.

EXISTING STRUCTURE: BRIDGE NO. G03022
BEGIN STA. 291+93.57 SK 30° RA
32' - 42' - 32' CONTINUOUS COMPOSITE
WIDE FLANGE BEAM SPANS

REDECK EXISTING STRUCTURE
32' WIDTH PLUS 16" TYPE D BARRIERS
MATCH EXISTING PROFILE GRADE
D.A. 3 SQ. MI.
Q_a 2,400 CFS

PERM. ESMT.
(DRAINAGE)

SE' NW'
SEC 34, T44N, R12W

BR#A9470
(REPLACEMENT J5P3560)

PAVEMENT REPLACEMENT
(J5P3560)

CONCRETE APPROACH PAVEMENT
86.4 SY

OPTIONAL PAVEMENT #1
25 SY

BRIDGE APPROACH
SLAB (MAJOR)

CONCRETE APPROACH PAVEMENT
86.4 SY

STA. 293+35.55 RT
1 • DRAIN BASIN
27.8 CY CLASS 3 EXC.
2 CY ROCK LINING

BR#G0302
REDECK

+35.00
160.0'

+77.84
160.0'

+00.00
160.0'

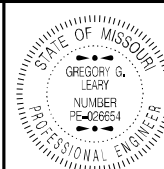
+28.88
152.8'

+00.00
135.0'

EXIST. R/W



PLAN SHEET
SHEET 1 OF 1



11/04/2024 2:58:48 PM
GREGORY G. LEARY - CIVIL
MOPF-22854

DATE PREPARED
11/4/2024

ROUTE 54 STATE MO

DISTRICT CD SHEET NO. 4

COUNTY COLE

JOB NO. JCD0157

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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



DATE PREPARED
11/4/2024

ROUTE STATE
54 MO

DISTRICT SHEET NO.
CD 5

COUNTY
COLE

JOB NO.
JCD0157

CONTRACT ID.

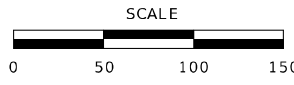
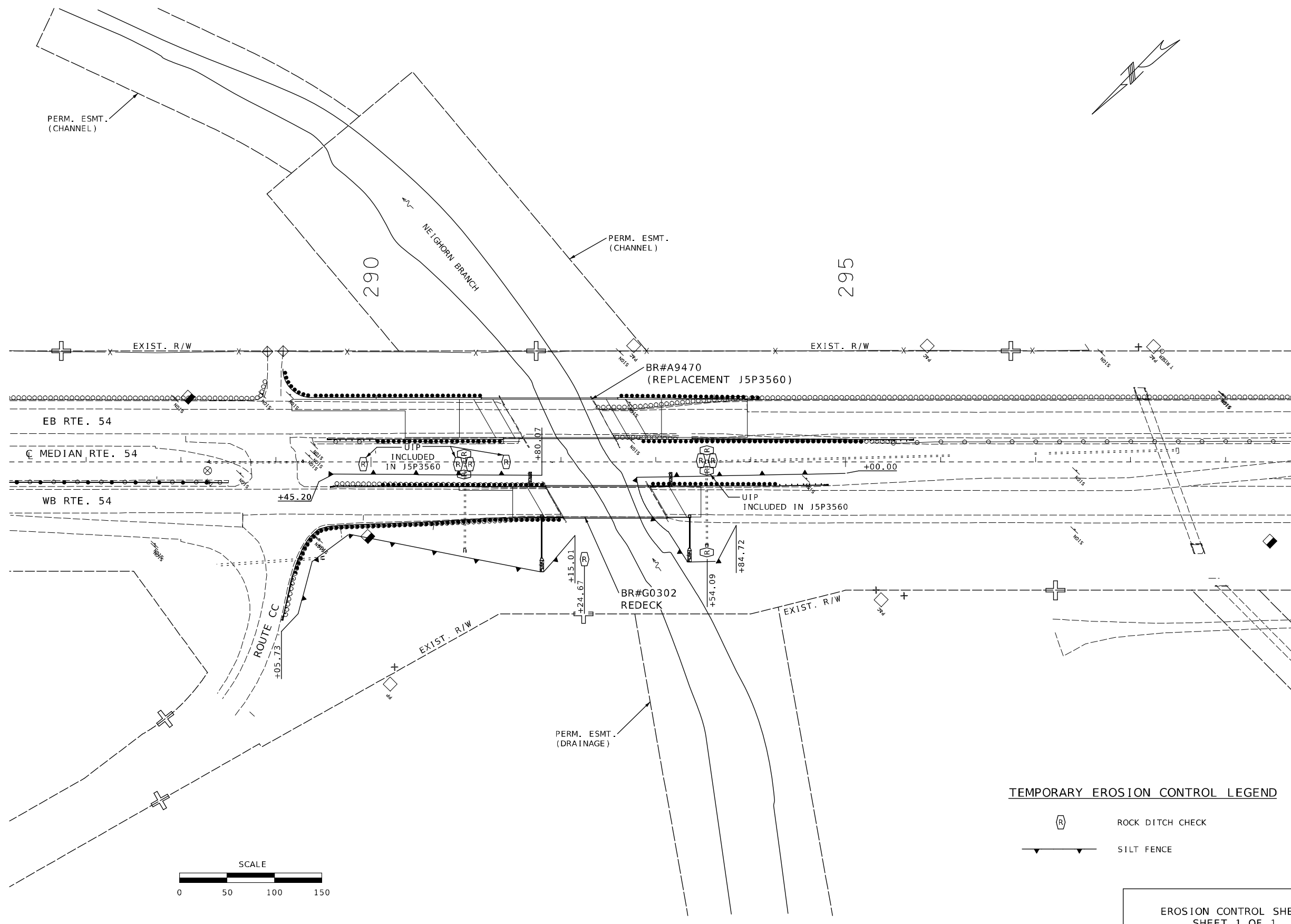
PROJECT NO.

BRIDGE NO.



DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

TEMPORARY EROSION CONTROL LEGEND

-  ROCK DITCH CHECK
-  SILT FENCE



DATE PREPARED
11/4/2024

ROUTE 54 STATE MO

DISTRICT CD SHEET NO. 6

COUNTY COLE

JOB NO. JCD0157

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

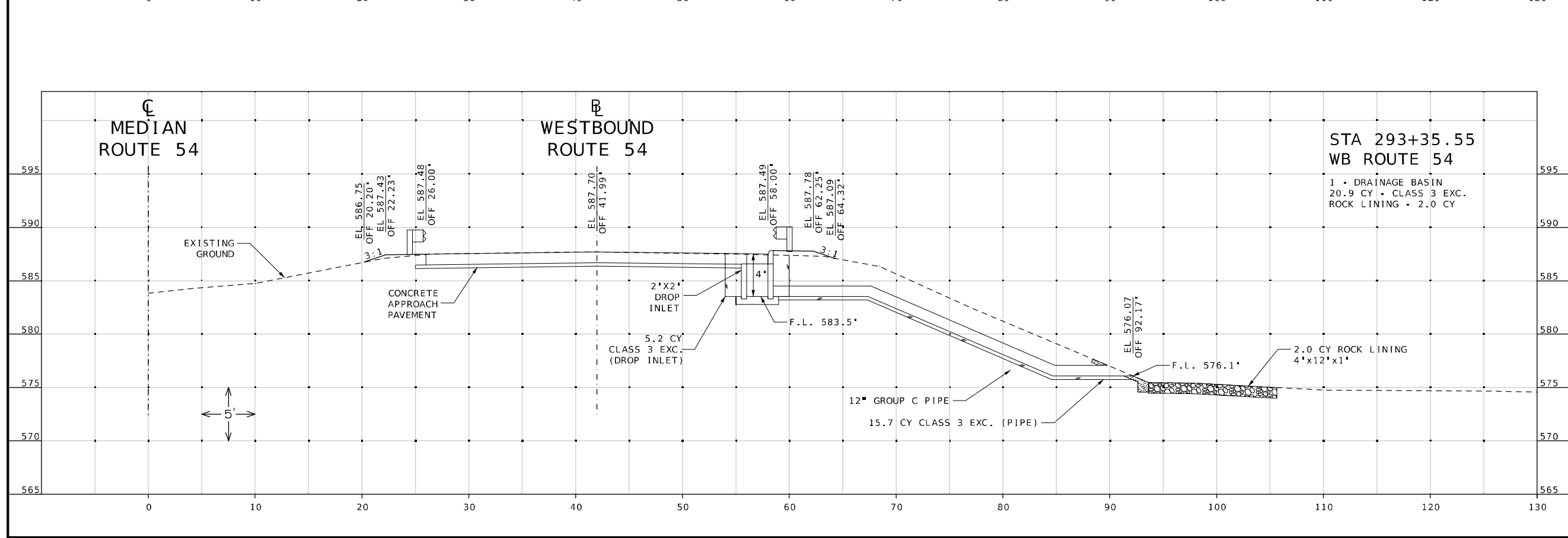
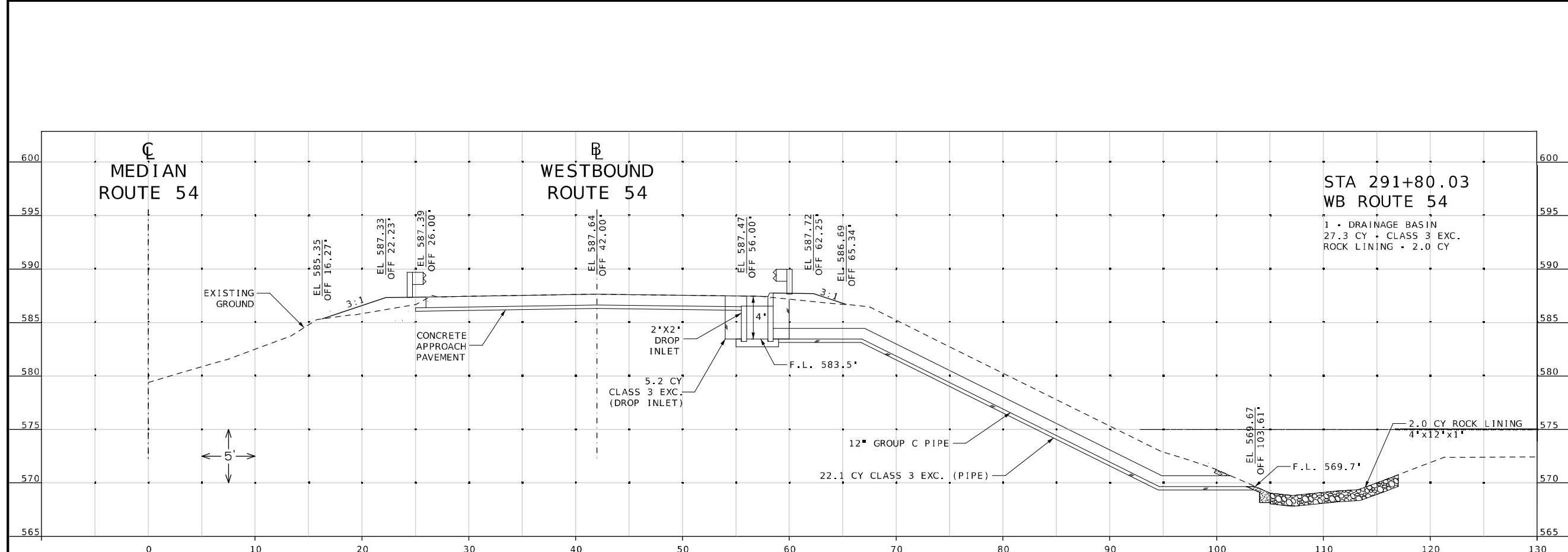
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MDDOT

CULVERT SECTION SHEET
SHEET 1 OF 1

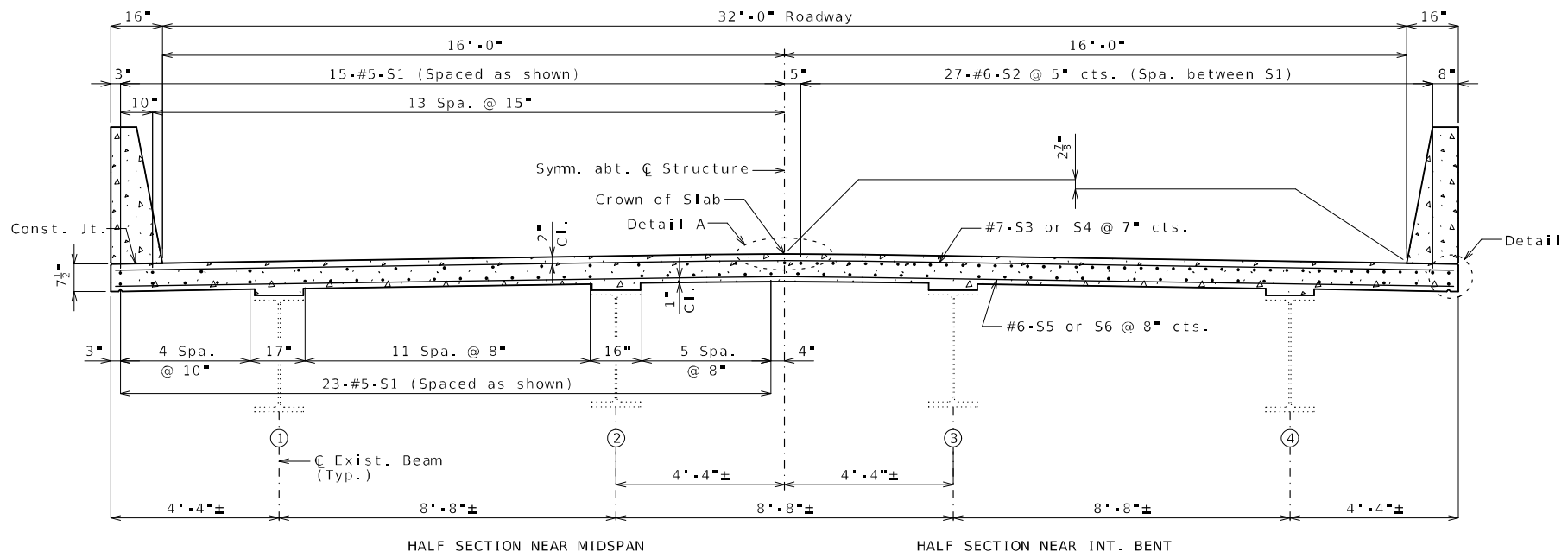


Int. Bent No. 2		Int. Bent No. 3	
Span 1	Span 2	Span 2	Span 3
13'-9"	13'-3"	13'-3"	13'-9"

Bar Size	Splice Length
4	2'-7"
5	3'-3"
6	3'-10"
7	4'-11"

** Unless otherwise shown.

U.I.P., REDECK AND EXISTING (32'- 42'- 32') CONTINUOUS COMPOSITE WIDE FLANGE BEAM SPANS



General Notes:

Design Specifications:
 2002 AASHTO LFD (17th Ed.) Standard Specifications
 Seismic Performance Category A

Design Loading:
 H20-44 (1961) (Existing)
 HS20-44 (New Construction)
 35 lb/sf Future Wearing Surface
 Earth - 120 lb/cf, Equivalent Fluid Pressure 45 lb/cf
 Fatigue Stress - Case I

Design Unit Stresses:
 Class B-1 Concrete (Barrier) f'c = 4,000 psi
 Class B-2 Concrete (End Bents & Superstructure, except Barrier) f'c = 4,000 psi
 Reinforcing Steel (ASTM A615 Grade 60) fy = 60,000 psi

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

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

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

Miscellaneous:
 Roadway surfacing adjacent to bridge ends shall match new bridge slab surface. (Roadway Item)

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

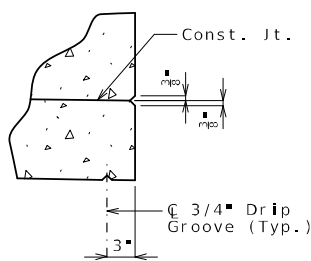
Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for plain bars and 30 diameters for deformed bars, unless otherwise noted.

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

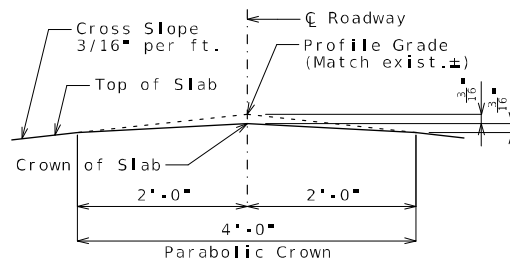
For adjusted girder deflection due to the weight of the new deck and barriers, see Bridge Electronic Deliverables.

The existing bridge rails and posts shall be stored at a location as designated by the engineer at the Bridge Maintenance Building at 1511 Missouri Blvd, Jefferson City, MO 65102.

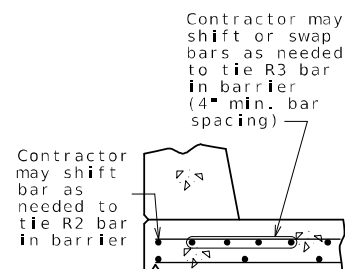
Traffic Handling:
 Structure to be closed during construction. See roadway plans for traffic control.



DETAIL B



DETAIL A



OPTIONAL SHIFTING TOP BARS AT BARRIER

Item	Unit	Total
Removal of Miscellaneous ACM (Non-Friable)	sq. foot	10
Removal of Existing Bridge Deck	sq. foot	3570
Bridge Approach Slab (Major)	sq. yard	154
Slab on Steel	sq. yard	423
Type D Barrier	linear foot	217
Substructure Repair (Unformed)	sq. foot	50
Protective Coating - Concrete Bents and Piers (Epoxy)	linear sum	1
Slab Drain	each	18
Non-Destructive Testing	linear foot	28
Vertical Drain at End Bents	each	2

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

Item	Unit	Total
Class B-2 Concrete	cu. yard	88
Reinforcing Steel (Epoxy Coated)	pound	28,908

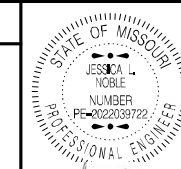
The table of Estimated Quantities for Slab on Steel represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out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

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

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

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

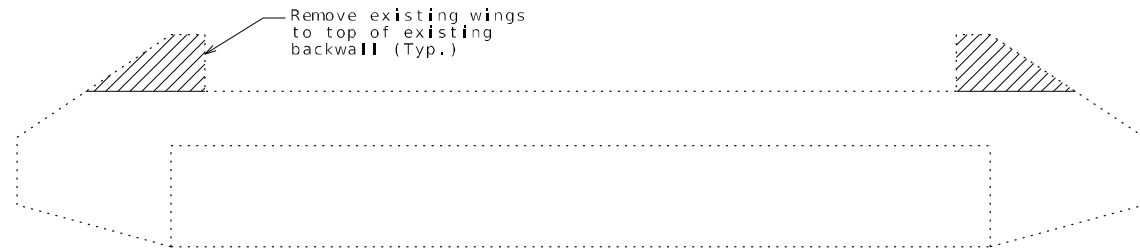
REPAIRS TO BRIDGE:
 ROUTE 54 WB OVER NEIGHORN BRANCH
 ROUTE 54 WB FROM 179 TO D
 ABOUT 2.0 MILES SW OF RTE 179
 BEGINNING STATION 291+93.57 ± (MATCH EXISTING)



DATE PREPARED	
12/3/2024	
ROUTE	STATE
54 WB	MO
DISTRICT	SHEET NO.
BR	1
COUNTY	
COLE	
JOB NO.	
JCD0157	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
G03022	

DESCRIPTION	DATE

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



DETAILS OF CONCRETE REMOVAL AT END BENTS

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

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

General Notes:

Stay-in-Place Forms:

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

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

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

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

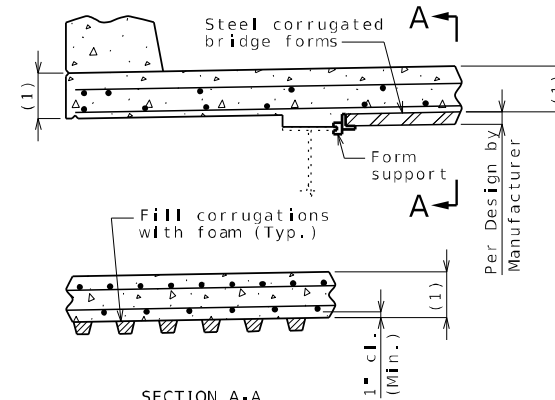
The contractor shall provide a method of preventing the direct contact of the stay-in-place forms and connection components with uncoated weathering steel members that is approved by the engineer.

Pouring and Finishing Slab:

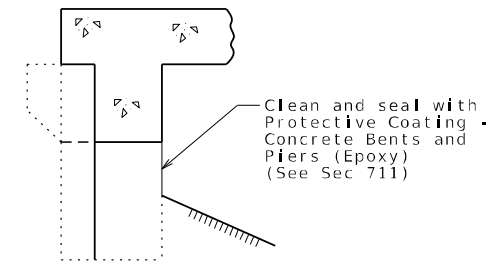
The contractor shall provide bracing necessary for lateral and torsional stability of the beams during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not weld on or drill holes in the beams. The cost for furnishing, installing,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

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

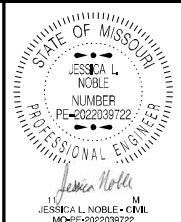
Alternate pour sequences may be submitted to the engineer for approval. Keyed construction joints shall be provided between pours.



OPTIONAL STAY-IN-PLACE FORM DETAILS



TYPICAL SECTION THRU END BENTS 1 & 4 SHOWING PROTECTIVE COATING

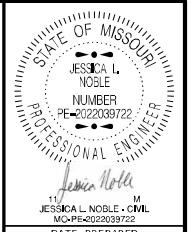


DATE PREPARED 11/5/2024	
ROUTE 54 WB	STATE MO
DISTRICT BR	SHEET NO. 2
COUNTY COLE	
JOB NO. JCD0157	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. G03022	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



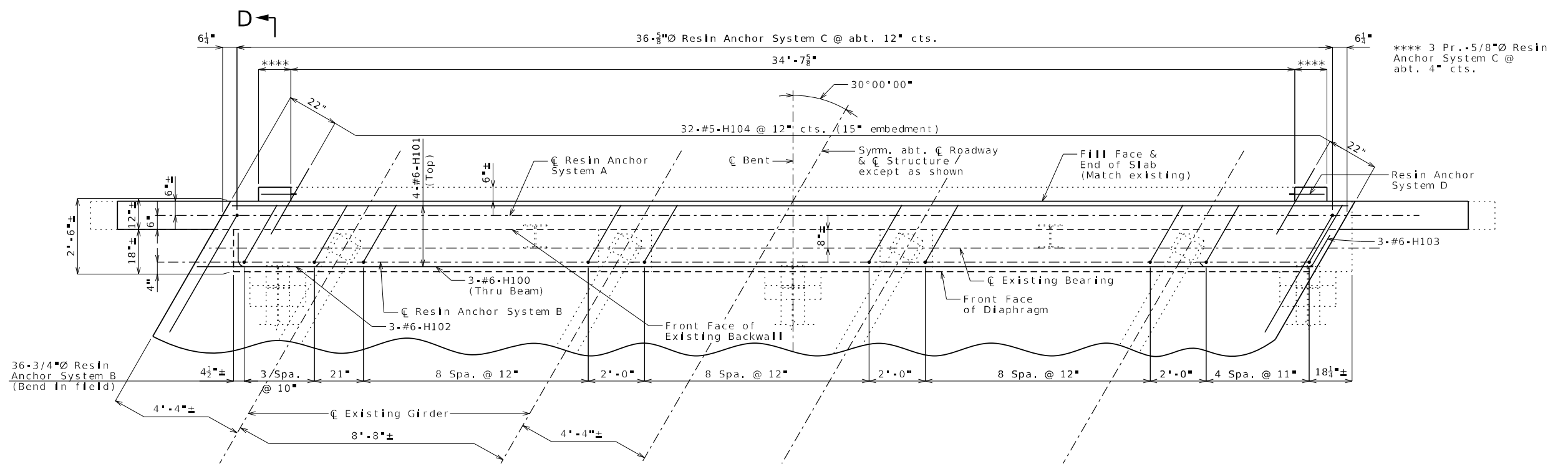
DATE PREPARED
11/5/2024

ROUTE 54 WB STATE MO
DISTRICT BR SHEET NO. 4

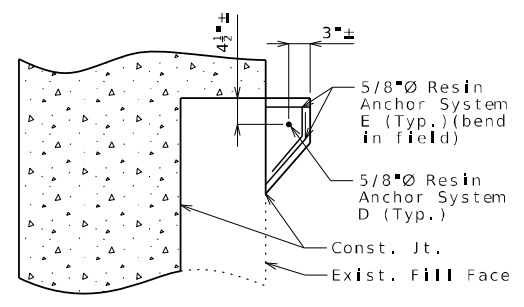
COUNTY COLE
JOB NO. JCD0157
CONTRACT ID.

PROJECT NO.

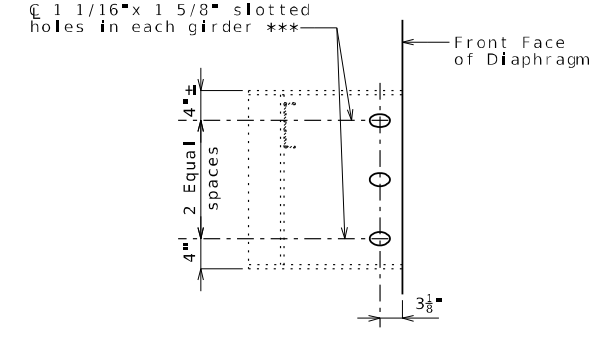
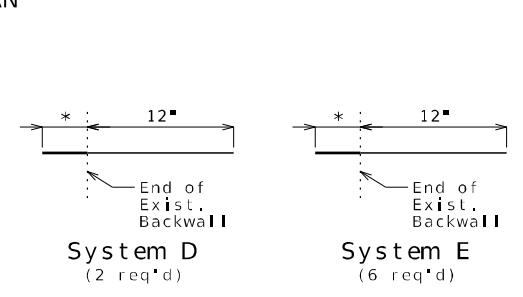
BRIDGE NO. G03022



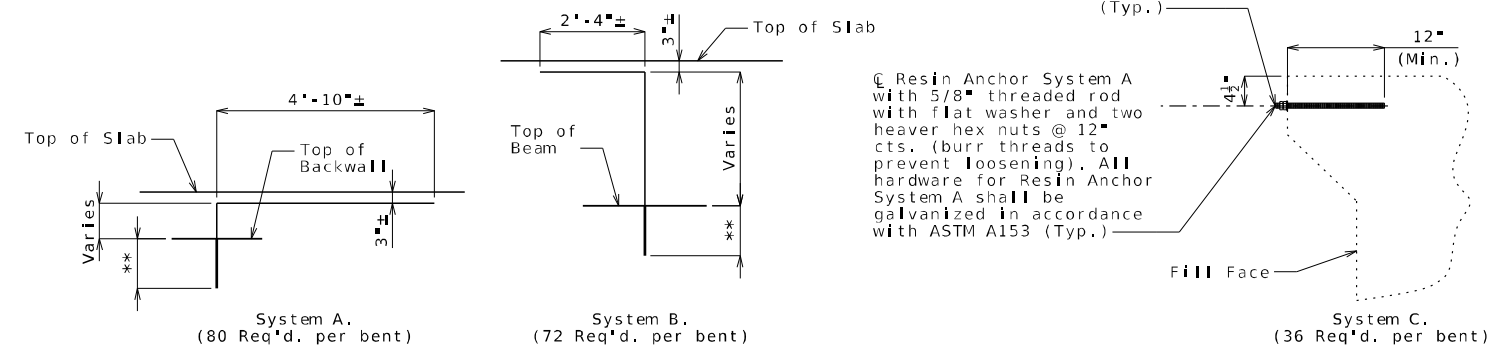
PART PLAN



PART SECTION D-D



DETAIL OF WEB HOLES AT END BENTS
*** Cost of field drilling slotted holes in existing webs will be considered completely covered by the contract unit price for Slab on Steel.



DETAILS OF RESIN ANCHOR SYSTEMS

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

END BENTS NO. 1 & 4
(End Bent No. 1 shown, End Bent No. 4 similar)

Notes:
Work this sheet with Sheet No. 3.
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 Slab on Steel.
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".
An epoxy coated #6 Grade 60 reinforcing bar shall be substituted for the 3/4"Ø threaded rod.

Detailed June 2024
Checked

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

Sheet No. 4 of 11

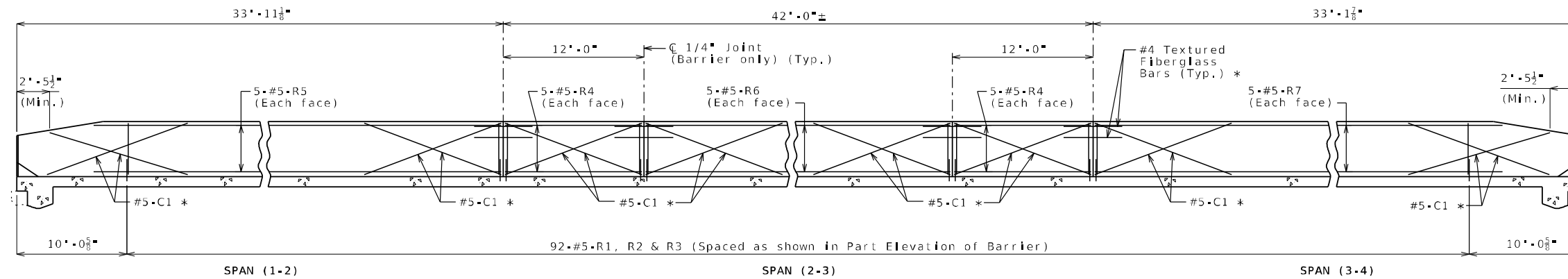
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

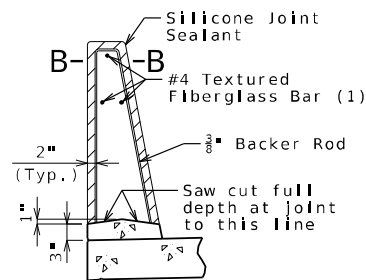
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



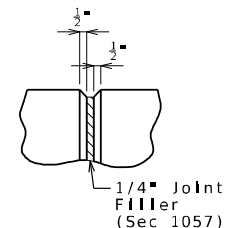
DATE PREPARED 11/5/2024	
ROUTE 54 WB	STATE MO
DISTRICT BR	SHEET NO. 7
COUNTY COLE	
JOB NO. JCD0157	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. G03022	



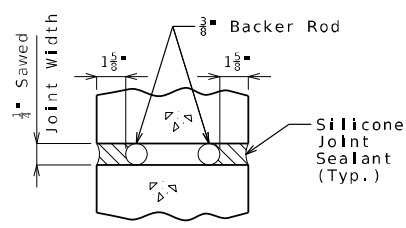
ELEVATION OF BARRIER
(Left barrier shown, right barrier similar)
Longitudinal dimensions are horizontal.



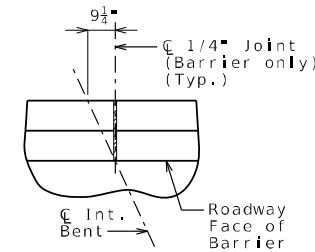
SECTION THRU SAW CUT JOINT



PART ELEVATION AT FORMED JOINT



SECTION B-B



PART PLAN SHOWING JOINT LOCATION

General Notes:

* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type D Barrier per linear foot.

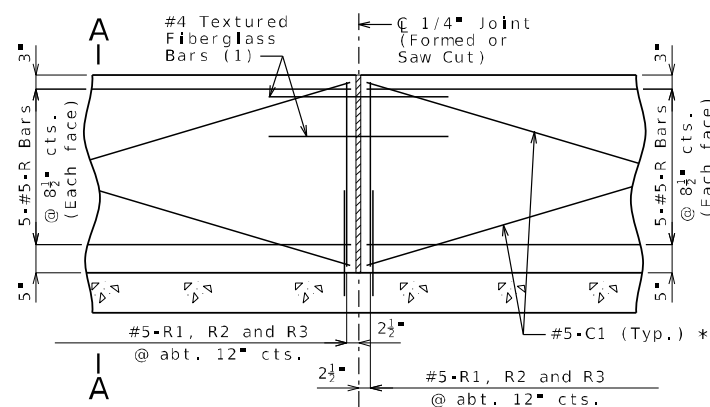
Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of slab to end of slab.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

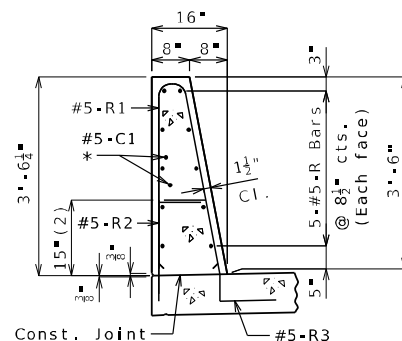
Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.



PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

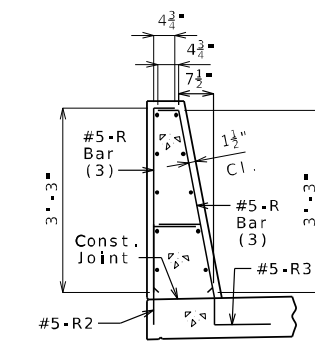


SECTION A-A

Use a minimum lap of 3'-1" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 3.52 square feet.

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

TYPE D BARRIER

Sheet No. 7 of 11

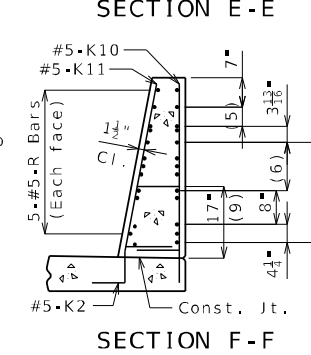
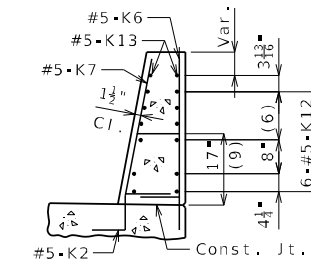
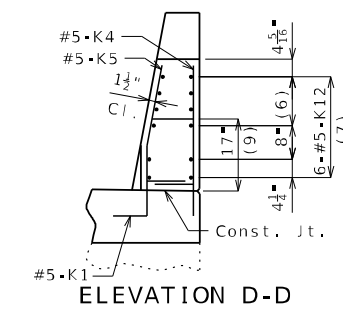
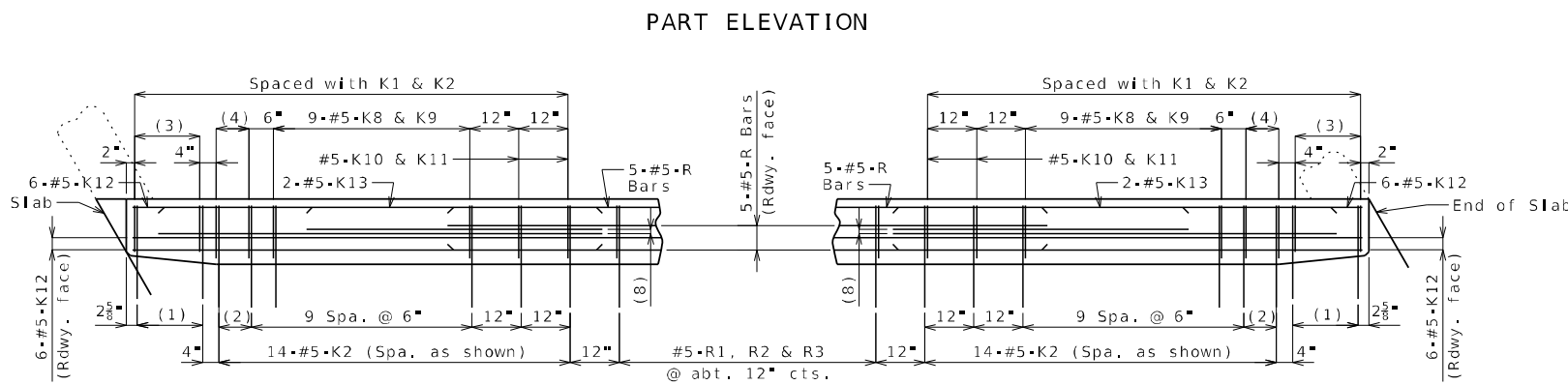
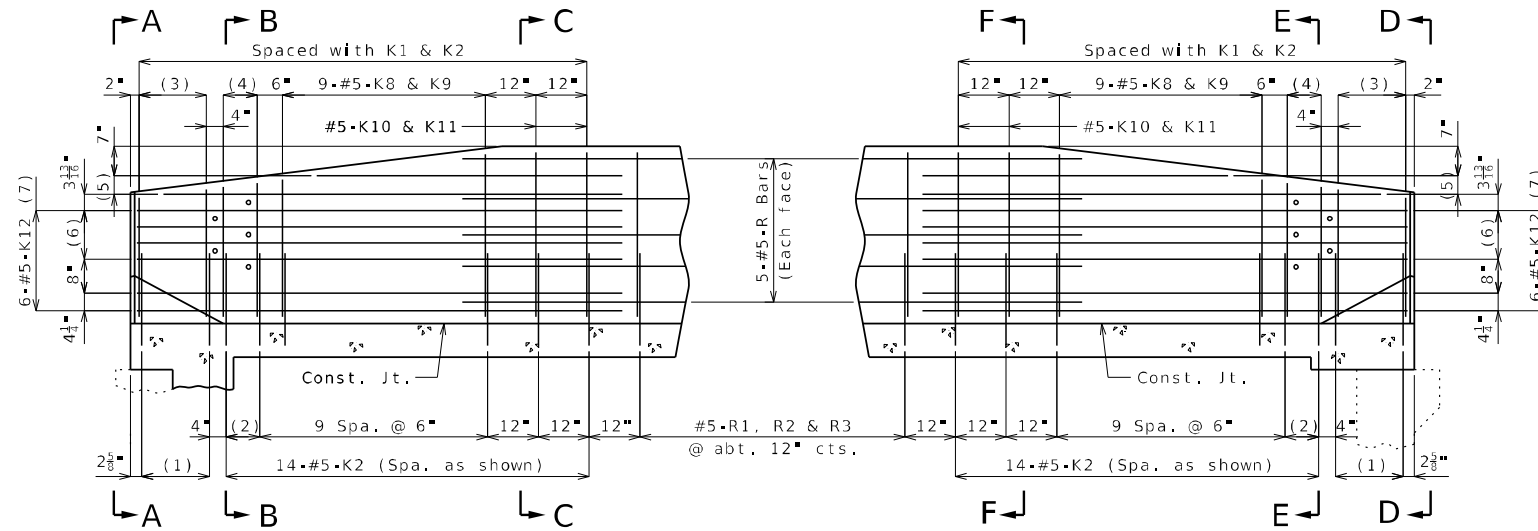
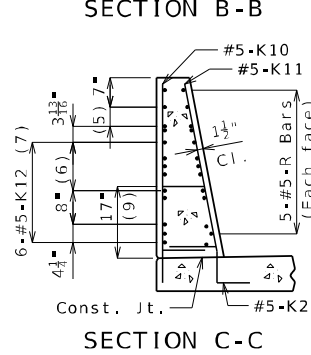
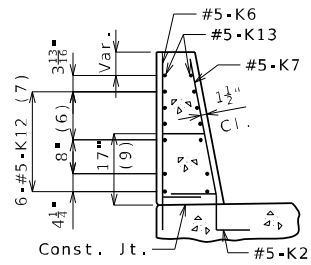
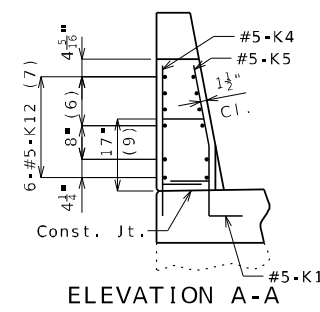
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	



105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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DATE PREPARED
11/5/2024
ROUTE 54 WB MO
DISTRICT BR SHEET NO. 8
COUNTY COLE
JOB NO. JCD0157
CONTRACT ID.
PROJECT NO.
BRIDGE NO. G03022



(Top of barrier not shown for clarity.)

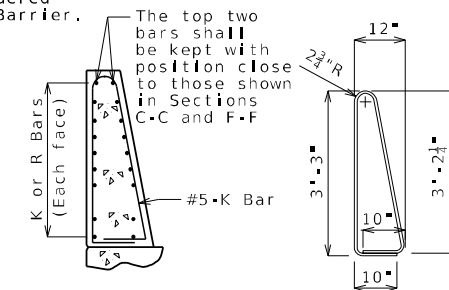
- (1) 5-#5-K1 @ 4" cts.
- (2) 2 spaces @ 4"
- (3) 5-#5-K4 & K5
- (4) 3-#5-K6 & K7
- (5) 2-#5-K13 @ 4 1/2" cts., each face
- (6) 3 spaces @ 3 1/8"
- (7) Spaced as shown, each face
- (8) 2-#5-K13 (Roadway face)
- (9) To top of bar

General Notes:

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2". Use a minimum lap of 3'-1" between horizontal K bars and R bars.

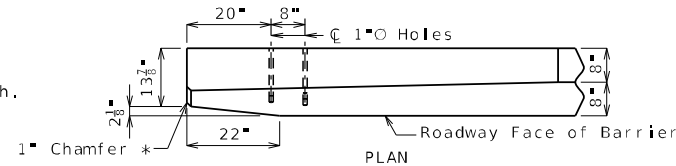
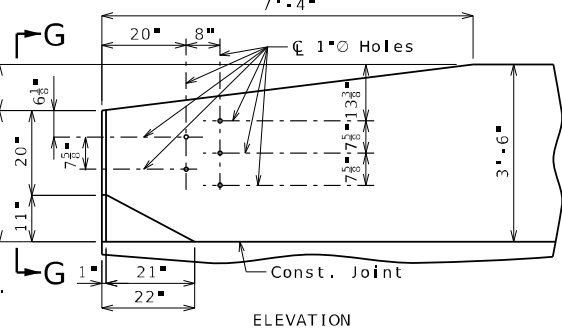
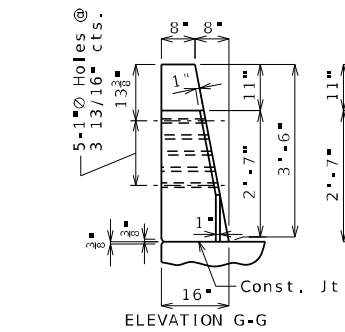


K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.



DETAILS OF GUARD RAIL ATTACHMENT

* Transition to zero at Type A curb for gutter lines to match.

1" Chamfer

TYPE D BARRIER AT END BENTS

(Left barrier shown, right barrier similar)

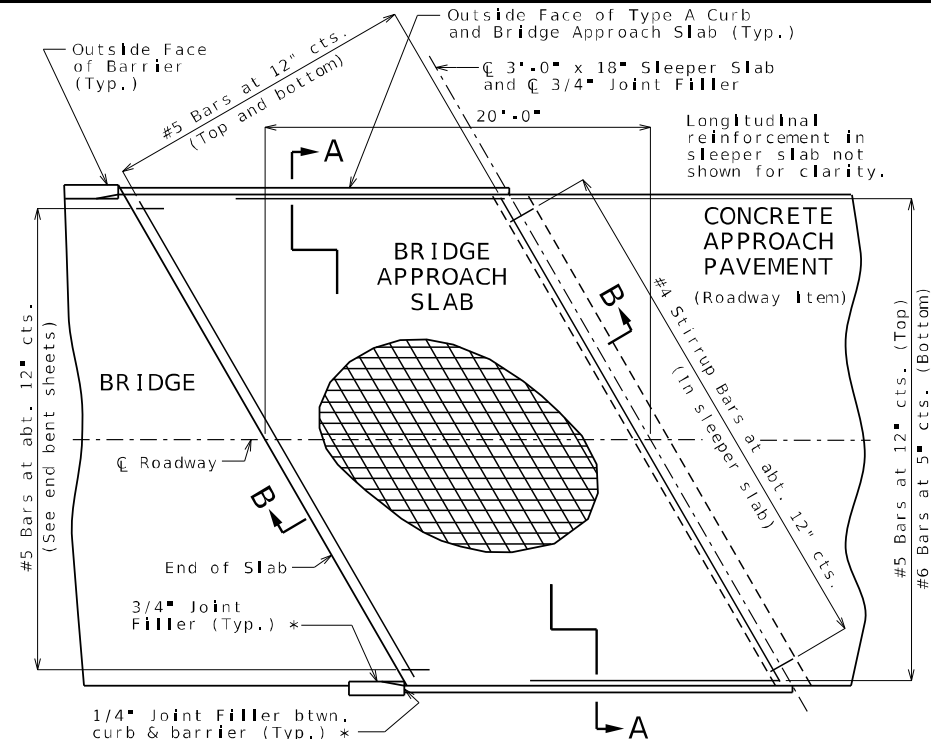
DESCRIPTION

DATE

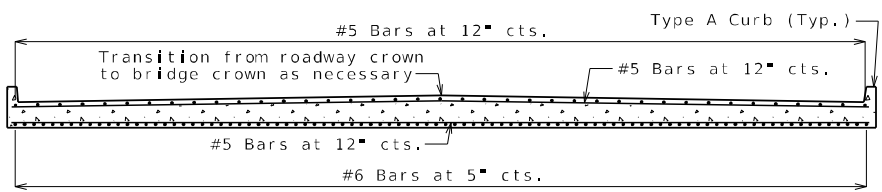
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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

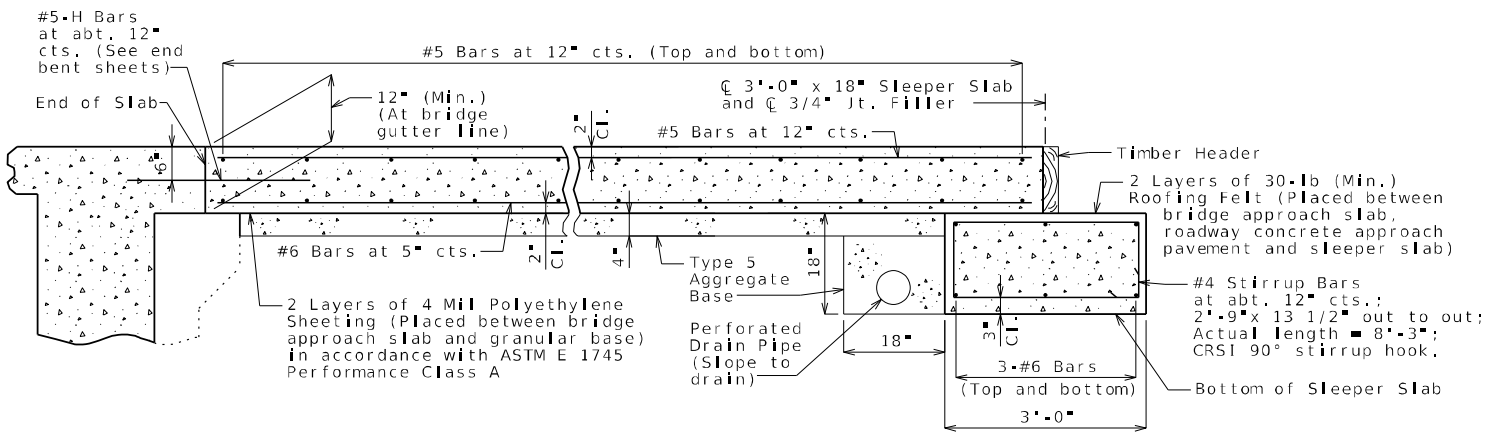


PART PLAN SHOWING REINFORCEMENT

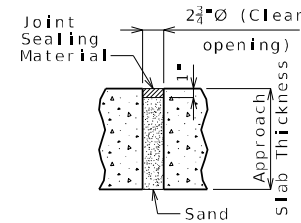


SECTION A-A

With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.

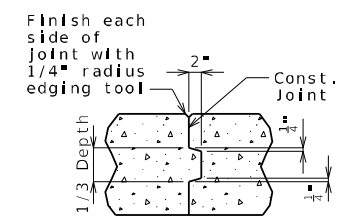


SECTION B-B

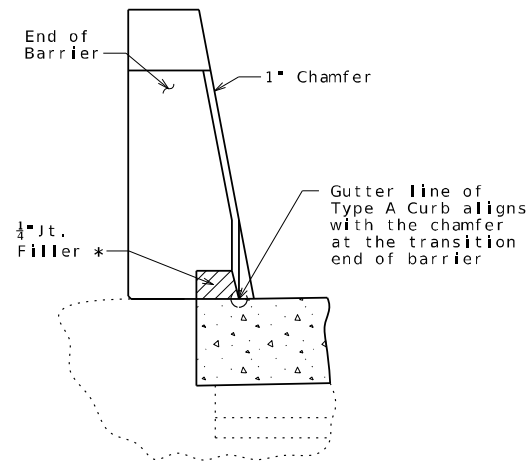


UNDERSEAL ACCESS HOLE DETAIL

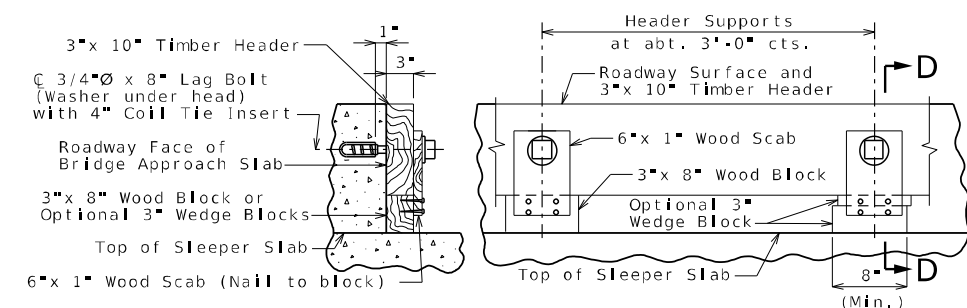
(If required)



CONSTRUCTION JOINT DETAIL



4\"/>



DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

General Notes:

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

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

Drain pipe may be either 6\"/>

Minimum clearance to reinforcing steel shall be 1 1/2\"/>

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 29 inches for #5 bars and 44 inches for #6 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710.

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

The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

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

For concrete approach pavement details, see roadway plans.

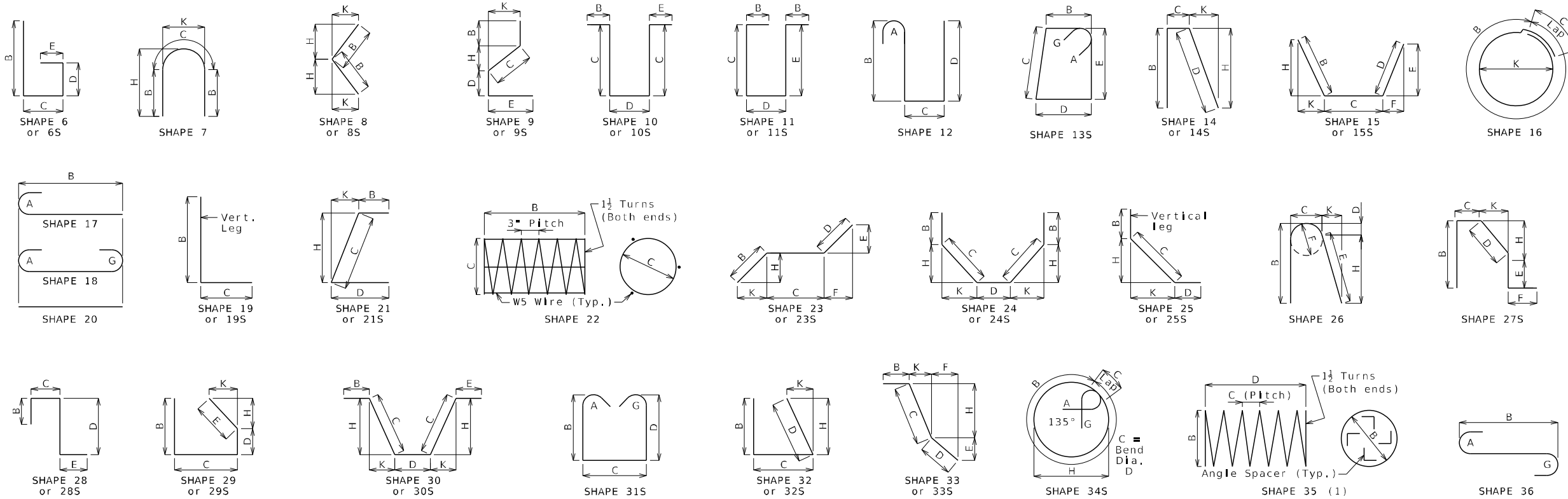
See Missouri Standard Plan 609.00 for details of Type A curb.

Payment for furnishing all materials, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, Type 5 aggregate base, joint filler and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Major) per square yard.

* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

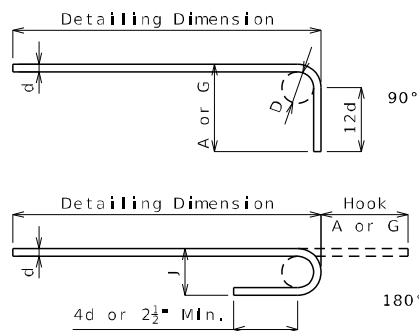
		DATE PREPARED	11/5/2024
		ROUTE	STATE
54	WB	MO	
DISTRICT	BR	SHEET NO.	9
COUNTY	COLE	JOB NO.	JCD0157
CONTRACT ID.		PROJECT NO.	
BRIDGE NO.		G03022	
DESCRIPTION	DATE		
	DATE		
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION		105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

BRIDGE APPROACH SLAB (MAJOR)



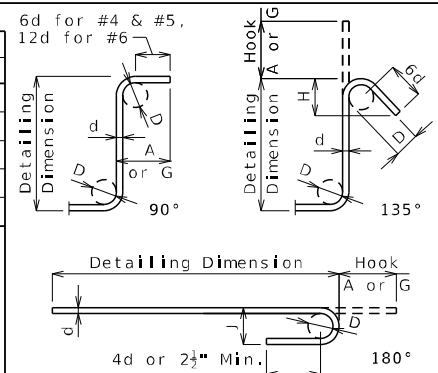
Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes					
Size	Case	D	A or G		J
			90°	180°	180°
#4	1	3"	8"	6"	4"
#5	1	3 3/4"	10"	7"	5"
#6	1	4 1/2"	12"	8 1/2"	6"
	2	5 1/4"	14"	9 3/4"	7"
#7	3	7"	15"	11 1/2"	8 3/4"
	2	6"	16"	11"	8"
#8	3	8"	17"	13 1/4"	10"
	1	9 1/2"	19 1/2"	15 1/2"	11 1/4"
#10	1	10 3/4"	22"	17 1/2"	13 1/4"
#11	1	12"	24 1/2"	19 1/2"	14 3/8"
#14	1	18 1/2"	31 1/4"	27 1/2"	21 3/8"
#18	1	24"	41 1/2"	36 1/4"	28 1/4"

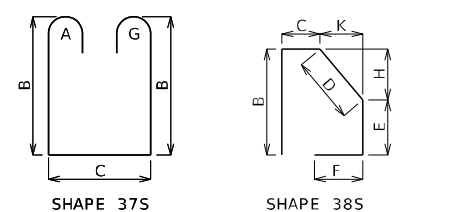


Stirrup Pin Bend Shapes (S)

Size	Case	D	A or G		H	J	
			90°	135°	180°	135°	180°
#4	2	2"	4 1/2"	4 1/2"	5"	2 7/8"	3"
	3	3"	5"	5 1/2"	6"	3"	4"
#5	2	2 1/2"	5 1/2"	5 1/2"	5 1/2"	3 5/8"	3 3/4"
	3	3 3/4"	6 1/4"	6 1/2"	7"	3 7/8"	5"
#6	1	4 1/2"	12"	7 1/2"	8 1/4"	4 3/8"	6"



Applicable for all grades of steel.
 Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.



BENDING DIAGRAMS

All dimensions are out to out.
 Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.
 Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.
 (1) Shall be a deformed or plain spiral bar or wire.
 Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spirals. Length and weight of column spirals do not include splices or spacers.

Reinforcing Steel Totals (Pounds)							
Size	Substructure		Superstructure			Entire Bridge	
	Plain	Epoxy	Slab	Barrier	Slip Form	Plain	Epoxy
W5	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	9,006	5,834	401	0	15,241
6	0	0	13,803	0	0	0	13,803
7	0	0	13,543	0	0	0	13,543
8	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0
By Type	0	0	36,352	5,834	401	0	42,587

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

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

DATE PREPARED: 11/5/2024

ROUTE: 54 WB STATE: MO
 DISTRICT: BR SHEET NO.: 10
 COUNTY: COLE
 JOB NO.: JCD0157
 CONTRACT ID.:
 PROJECT NO.:
 BRIDGE NO.: G03022

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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 JEFFERSON CITY, MO 65102
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