MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED STATE HIGHWAY

LACLEDE COUNTY

DESIGN DESIGNATION ROUTE C - W/O RR AVE.

A.A.D.T. - 2025 = 1749
A.A.D.T. - 2035 = 2117
T = 10.26%
V = 55 M.P.H.

ROUTE C - E/O RR AVE.

A.A.D.T. - 2025 = 538
A.A.D.T. - 2035 = 566
T = 7.71%
V = 55 M.P.H.

FUNCTIONAL CLASSIFICATION-MAJOR COLLECTOR

DESIGN DESIGNATION ROUTE PP

A.A.D.T. - 2025 = 466
A.A.D.T. - 2035 = 490
T = 6.29%
V = 55 M.P.H.

FUNCTIONAL CLASSIFICATION-MAJOR COLLECTOR

DESIGN DESIGNATION ROUTE HH

A.A.D.T. - 2025 = 645
A.A.D.T. - 2035 = 667
T = 7.31%
V = 55 M.P.H.

FUNCTIONAL CLASSIFICATION-MINOR COLLECTOR

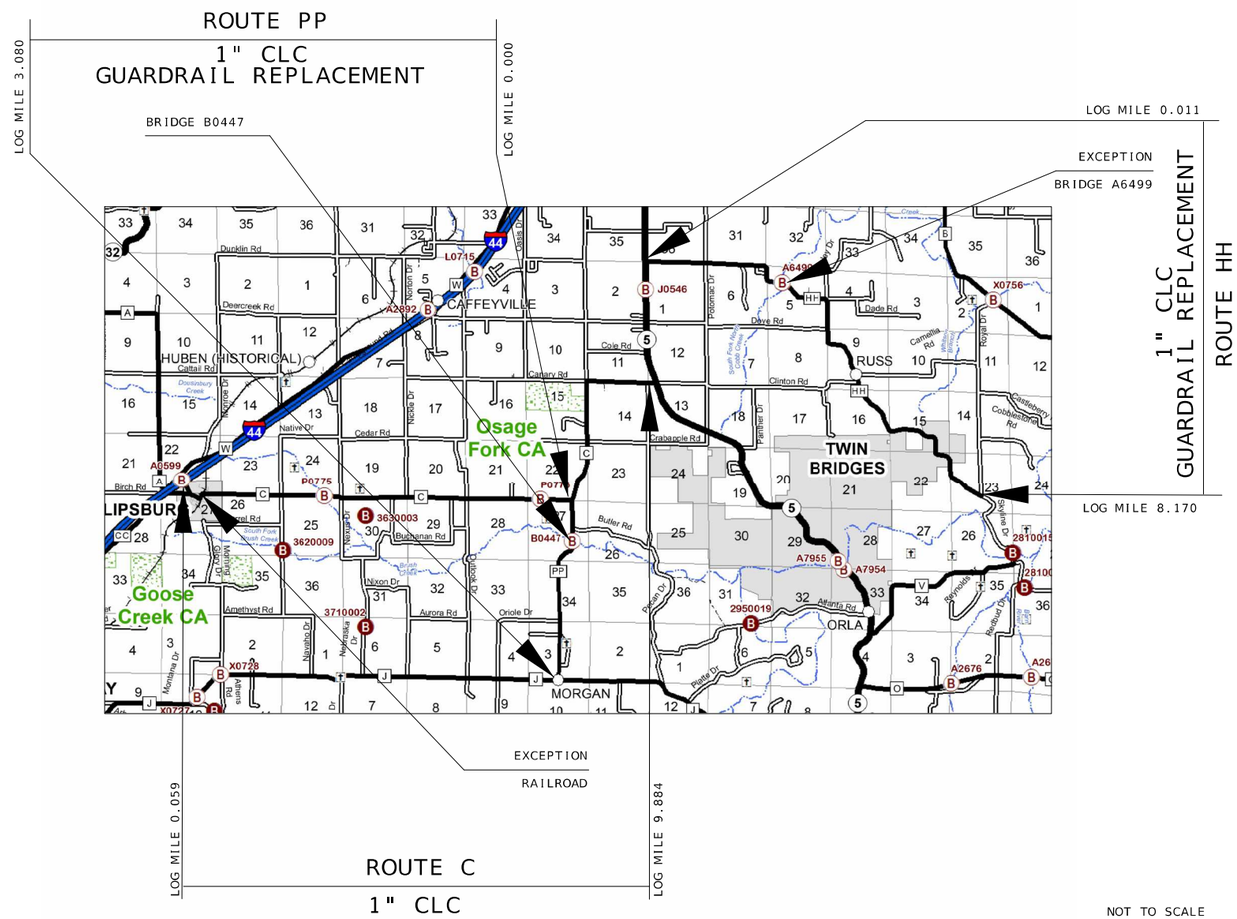
NO NEW R/W REQUIRED

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	SAN	
FIRE HYDRANT	HYD	
WATER VALVE	WV	
WATER METER	WM	
DROP INLET		
DITCH BLOCK		
GROUND MOUNTED SIGN	SIGN	
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL	PED	
FENCE		
CHAIN LINK	—V—	
WOVEN WIRE	—X—	
GATE POST		
BENCHMARK	BM	

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

KEY MAP
LOCATION OF LACLEDE COUNTY



NOT TO SCALE

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

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (TS) (1 SHEET)	2
QUANTITIES (QU) (5 SHEETS)	3
SPECIAL SHEETS (SS)	4-7
TRAFFIC CONTROL SHEETS (TC)	8-14
SIGNING (SN)	15
BRIDGE DRAWINGS (B)	
B04471	4

LENGTH OF PROJECT ROUTE C

BEGINNING OF PROJECT — LOG MILE 0.059
END OF PROJECT — LOG MILE 9.884

APPARENT LENGTH — 51,876.0 FEET

EQUATIONS AND EXCEPTIONS:

RAILROAD CROSSING
LOG MILE 0.572 TO LOG MILE 0.583
LENGTH — 58.1 FEET

LENGTH OF PROJECT ROUTE PP

BEGINNING OF PROJECT — LOG MILE 0.000
END OF PROJECT — LOG MILE 3.080

APPARENT LENGTH — 16,262.40 FEET

EQUATIONS AND EXCEPTIONS:

BRIDGE B0447
LOG MILE 0.711 TO LOG MILE 0.757
LENGTH — 242.8 FEET

LENGTH OF PROJECT ROUTE HH

BEGINNING OF PROJECT — LOG MILE 0.011
END OF PROJECT — LOG MILE 8.170

APPARENT LENGTH — 43079.52 FEET

EQUATIONS AND EXCEPTIONS:

BRIDGE A6499
LOG MILE 2.475 TO LOG MILE 2.507
LENGTH — 168.9 FEET

TOTAL CORRECTIONS — 469.80 FEET
NET LENGTH OF PROJECT — 110,748.12 FEET
STATE LENGTH — 20.97 MILES

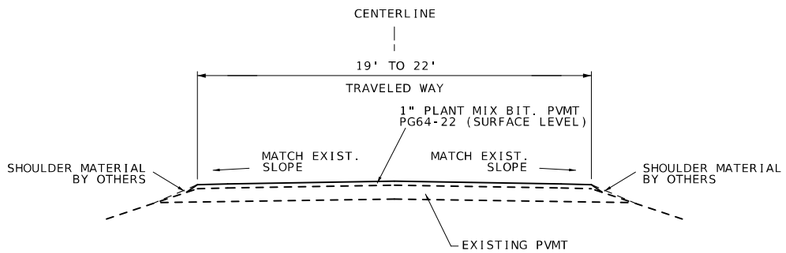
FOR INFORMATION ONLY
ESTIMATED DISTURBED ACRES — 0 ACRES

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER PE-2006019679
PROFESSIONAL ENGINEER
08/06/2024 11:33:48 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED	8/6/2024
ROUTE	C/PP/HH
STATE	MO
DISTRICT	CD
SHEET NO.	1
COUNTY	LACLEDE
JOB NO.	JCD0048
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

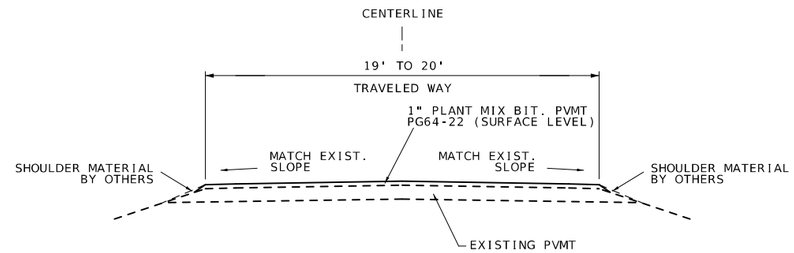
DESCRIPTION
DATE

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



TYPICAL SECTION
ROUTE C

LOG MILE 0.059 TO LOG MILE 0.379

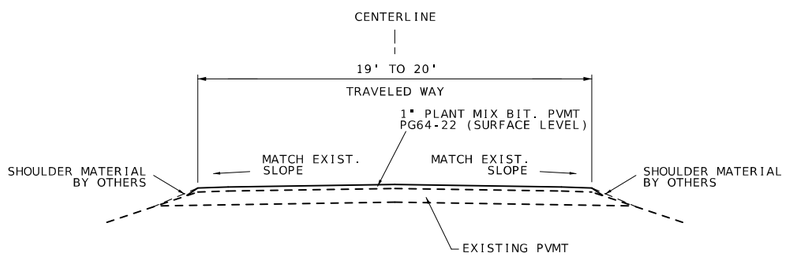


TYPICAL SECTION
ROUTE C

LOG MILE 0.379 TO LOG MILE 9.884

RAILROAD CROSSING EXCEPTION - LOG MILE 0.572 TO LOG MILE 0.583

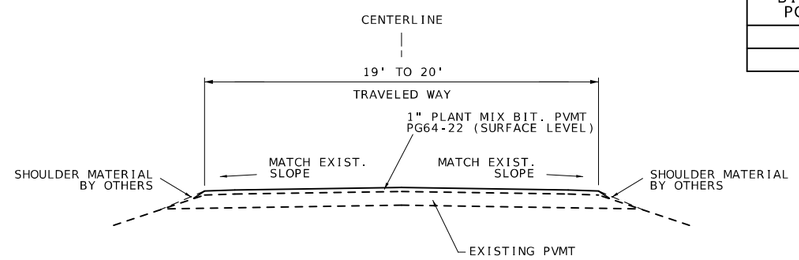
BITUMINOUS PAVEMENT MIXTURE PG64-22 (SURFACE LEVELING)	2.060 TON/YD³
TACK COAT-OVERLAY	.08 GAL/YD²
TACK COAT-COLDMILLING	.10 GAL/YD²



TYPICAL SECTION
ROUTE PP

LOG MILE 0.000 TO LOG MILE 3.080

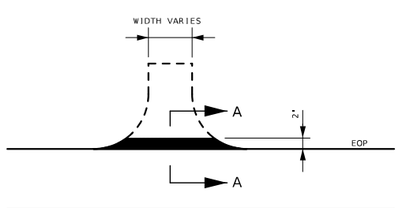
BRIDGE B0447 - LOG MILE 0.684 TO LOG MILE 0.735



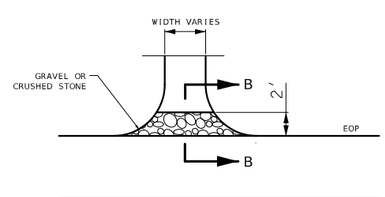
TYPICAL SECTION
ROUTE HH

LOG MILE 0.011 TO LOG MILE 8.170

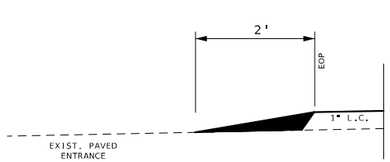
BRIDGE A6499 EXCEPTION - LOG MILE 2.475 TO LOG MILE 2.516



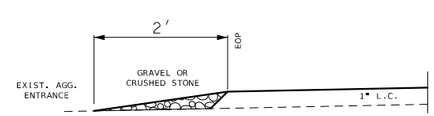
TYPICAL ENTRANCE



TYPICAL ENTRANCE



SECTION A-A
TYPICAL PAVED ENTRANCE



SECTION B-B
TYPICAL AGGREGATE ENTRANCE
(TAPER 1:1 AT FIELD ENTRANCES)

NOTE:
SURFACE PLACEMENT SHALL BE ONE PASS PER LANE
NO S.E. CORRECTION.

TYPICAL SECTION SHEET
SHEET 1 OF 1

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER
PE-2006019679
PROFESSIONAL ENGINEER
08/06/2024 11:33:39 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED	8/6/2024
ROUTE	C/PP/HH
STATE	MO
DISTRICT	CD
SHEET NO.	2
COUNTY	LACLEDE
JOB NO.	JCD0048
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)

REMOVAL OF IMPROVEMENTS

APPROX. LOG MILE FROM	TO	LOCATION	QTY (FT)	QTY (EACH)	DESCRIPTION	REMARKS
ROUTE C						
2.600		RTE. C LT. & RT.		4	OBJECT MARKERS	INCLUDES SIGNS AND POSTS
2.676		RTE. C LT. & RT.		2	OBJECT MARKERS	INCLUDES SIGNS AND POSTS
6.189		RTE. C LT. & RT.		4	OBJECT MARKERS	INCLUDES SIGNS AND POSTS
6.553		RTE. C LT. & RT.		2	OBJECT MARKERS	INCLUDES SIGNS AND POSTS
6.611		RTE. C RT.		1	SIGN	W1-1 SIGN ONLY
8.573		RTE. C LT. & RT.		2	OBJECT MARKERS	INCLUDES SIGNS AND POSTS
ROUTE HH						
1.376		RTE HH LT. & RT.		2	OBJECT MARKERS	INCLUDES SIGNS AND POSTS
2.417	2.475	RTE HH. RT.	245		GUARDRAIL	INCLUDES C.E.T. AND BRIDGE TRANSITION
2.436	2.475	RTE. HH LT.	175		GUARDRAIL	INCLUDES C.E.T. AND BRIDGE TRANSITION
2.516	2.544	RTE. HH RT.	245		GUARDRAIL	INCLUDES C.E.T. AND BRIDGE TRANSITION
2.516	2.561	RTE. HH LT.	175		GUARDRAIL	INCLUDES C.E.T. AND BRIDGE TRANSITION
2.898		RTE HH LT. & RT.		2	OBJECT MARKERS	INCLUDES SIGNS AND POSTS
4.138		RTE HH LT. & RT.		2	OBJECT MARKERS	INCLUDES SIGNS AND POSTS
5.557		RTE HH LT. & RT.		2	OBJECT MARKERS	INCLUDES SIGNS AND POSTS
		TOTAL	840	23		
		USE	1 LUMP SUM			

MOBILIZATION

1 LUMP SUM

GRAVEL (A), CRUSHED STONE (B)

APPROX. LOG MILE FROM	TO	LOCATION	GRAVEL, CRUSHED STONE (TON)	REMARKS
ROUTE C				
0.059	9.884	ROUTE C	520.00	GRAVEL ENTRANCES FROM BEGIN RTE. TO END RTE.
ROUTE PP				
0.000	3.080	ROUTE PP	135.00	GRAVEL ENTRANCES FROM BEGIN RTE. TO END RTE.
ROUTE HH				
0.000	8.170	ROUTE HH	360.00	GRAVEL ENTRANCES FROM BEGIN RTE. TO END RTE.
		TOTAL	1015.00	
		USE	1015	

BITUMINOUS PAVEMENT QUANTITIES - ROUTE C

APPROX. LOG MILE FROM	TO	LOCATION	LENGTH (FT)	AVG. WIDTH (FT)	DEPTH (IN)	SURF. LEVEL PG 64-22 (T)	TACK (GAL)	REMARKS
0.059	0.090	ROUTE C	163.68	22.00	1.00	22.89	40.01	BEGIN ROUTE
0.090	0.379	ROUTE C	1,525.92	22.00	1.00	213.44	298.40	FROM BEGIN ROUTE TO SECOND STREET
0.298		ROUTE CC	2,775.00		1.00	17.64	24.67	
0.379	0.572	ROUTE C	1,019.04	20.00	1.00	129.58	181.16	FROM SECOND STREET TO R/R CROSSING
0.583	9.884	ROUTE C	49,109.28	20.00	1.00	6,244.76	8,730.54	FROM R/R CROSSING TO END ROUTE
			820.00	2.00	1.00	10.43	14.58	PAVED ENTRANCES - ROUTE C
						1,321.08		20% FOR IRREGULARITIES
					TOTAL	7,959.82	9,289.36	SEE TYPICAL SECTION SHEET FOR ESTIMATE FACTORS
					USE	7,959.8	9,289	

SUMMARY OF QUANTITIES
SHEET 1 OF 5

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER PE-2006019679
PROFESSIONAL ENGINEER
08/06/2024 11:33:29 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED: 8/6/2024
ROUTE: C/PP/HH
STATE: MO
DISTRICT: CD
SHEET NO.: 3
COUNTY: LACLEDE
JOB NO.: JCS0048
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)

BITUMINOUS PAVEMENT QUANTITIES - ROUTE PP

APPROX. LOG MILE FROM	TO	LOCATION	LENGTH (FT)	AVG. WIDTH (FT)	DEPTH (IN)	SURF. LEVEL PG 64-22 (T)	TACK (GAL)	REMARKS
0.000		ROUTE PP	3,140.00		1.00	19.96	27.91	SEE SPECIAL SHEET
0.000		ROUTE PP	1,330.00		1.00	8.46	11.82	SEE SPECIAL SHEET
0.014	0.684	ROUTE PP	3,537.60	20.00	1.00	449.84	628.91	FROM BEGIN ROUTE TO BRIDGE B0447
0.735	3.080	ROUTE PP	12,381.60	20.00	1.00	1,574.45	2,201.17	FROM BRIDGE B0447 TO END ROUTE
			50.00	2.00	1.00	0.64	0.89	PAVED ENTRANCES - ROUTE PP
						410.54		20% FOR IRREGULARITIES
					TOTAL	2,463.89	2,870.70	SEE TYPICAL SECTION SHEET FOR ESTIMATE FACTORS
					USE	2,463.9	2,871	

BITUMINOUS PAVEMENT QUANTITIES - ROUTE HH

APPROX. LOG MILE FROM	TO	LOCATION	LENGTH (FT)	AVG. WIDTH (FT)	DEPTH (IN)	SURF. LEVEL PG 64-22 (T)	TACK (GAL)	REMARKS
0.011	2.475	ROUTE HH	13,009.92	20.00	1.00	1,654.35	2,312.87	FROM BEGIN ROUTE TO BRIDGE A6499
2.507	8.170	ROUTE HH	29,900.64	20.00	1.00	3,802.18	5,315.67	FROM BRIDGE A6499 TO END ROUTE
			690.00	2.00	1.00	8.77	12.27	PAVED ENTRANCES - ROUTE HH
						1,091.31		20% FOR IRREGULARITIES
					TOTAL	6,556.61	7,640.81	SEE TYPICAL SECTION SHEET FOR ESTIMATE FACTORS
					USE	6,556.6	7,641	

BITUMINOUS PAVEMENT QUANTITIES - ALL ROUTES

APPROX. LOG MILE FROM	TO	LOCATION	SURF. LEVEL PG 64-22 (T)	TACK (GAL)	REMARKS
ROUTE C					
0.590	9.884	ROUTE C	7,959.82	9,289.36	
ROUTE PP					
0.000	3.080	ROUTE PP	2,463.90	2,871.00	
ROUTE HH					
0.011	8.170	ROUTE HH	6,556.60	7,641.00	
		TOTAL	16,980.32	19,801.36	
		USE	16,980.3	19,801	

COLDMILLING BITUMINOUS PAVEMENT FOR REMOVAL OF SURFACING (3 IN. OR LESS)

APPROX. LOG MILE FROM	TO	LOCATION	LENGTH (FT)	AVG. WIDTH (FT)	QUANTITY (SY)	REMARKS
ROUTE C						
0.059	0.090	ROUTE C	163.7	22	400.2	BEGIN ROUTE
ROUTE PP						
0.699	0.711	ROUTE PP	63.4	20	140.9	BRIDGE B0447
0.757	0.768	ROUTE PP	58.1	20	129.1	BRIDGE B0447
				TOTAL	670.20	
				USE	670	

GUARDRAIL

APPROX. LOG MILE FROM	TO	LOCATION	TRANSITION SECTION 6.5 FT. POSTS (EA)	MGS GUARDRAIL (LF)	TYPE A C.E.T. (MASH) (EA)	SHAPING SLOPES CLASS III (100 FT)	REMARKS
ROUTE HH							
2.475		RTE HH LT.	1	100.0	1	0.75	BR A6499
2.475		RTE HH RT.	1	100.0	1	0.75	BR A6499
2.516		RTE HH LT.	1	100.0	1	0.75	BR A6499
2.516		RTE HH RT.	1	100.0	1	0.75	BR A6499
		TOTAL	4	400.0	4	3	SEE SPECIAL SHEET FOR DETAILS.
		USE	4	400	4	3	

SUMMARY OF QUANTITIES

SHEET 2 OF 5

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER
PE-2006019679
PROFESSIONAL ENGINEER

08/06/2024 11:33:17 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED: 8/6/2024

ROUTE: C/PP/HH | STATE: MO

DISTRICT: CD | SHEET NO.: 3

COUNTY: LACLEDE

JOB NO.: JCD0048

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 - ROUTE C

APPROX. LOG MILE FROM	TO	LOCATION	LENGTH (FT)	WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS 4" SOLID WHITE (FT)	4" INT. YELLOW (FT)	4" SOLID YELLOW (FT)	24" SOLID WHITE (FT)	PREFORMED THERMOPLASTIC R/R CROSSING MARKER (EACH)	REMARKS
ROUTE C									
0.059	0.072	ROUTE C LT. & RT.	68.64	137.28					
0.090	0.277	ROUTE C RT.	987.36	987.36		1,974.72			EDGELINE
0.090	0.480	ROUTE C LT.	2,059.20	2,059.20					EDGELINE
0.059	0.480	ROUTE C	2,222.88			4,445.76			CENTERLINE
0.297	0.480	ROUTE C RT.	966.24	966.24					EDGELINE
0.480		ROUTE C					10.00		STOP BAR
0.490		ROUTE C					10.00		STOP BAR
0.490	0.572	ROUTE C LT. & RT.	432.96	865.92					EDGELINE
0.490	0.572	ROUTE C	432.96			865.92			CENTERLINE
0.500		ROUTE C						1	
0.570		ROUTE C					10.00		STOP BAR
RAILROAD EXCEPTION - L.M. 0.572 TO L.M. 0.583									
0.583	6.690	ROUTE C RT.	32,244.96	32,244.96					EDGELINE
0.583	9.884	ROUTE C LT.	49,109.28	49,109.28					EDGELINE
0.583	0.905	ROUTE C	1,700.16			3,400.32			CENTERLINE
0.584		ROUTE C					10.00		STOP BAR
0.650		ROUTE C						1	
0.905	1.263	ROUTE C	1,890.24		472.56	1,890.24			CENTERLINE
1.263	1.521	ROUTE C	1,362.24			2,724.48			CENTERLINE
1.521	1.681	ROUTE C	844.80		211.20	844.80			CENTERLINE
1.681	1.780	ROUTE C	522.72		130.68				CENTERLINE
1.780	1.900	ROUTE C	633.60		158.40	633.60			CENTERLINE
1.900	1.939	ROUTE C	205.92		51.48				CENTERLINE
1.939	2.039	ROUTE C	528.00		132.00	528.00			CENTERLINE
2.039	2.060	ROUTE C	110.88			221.76			CENTERLINE
2.060	2.199	ROUTE C	733.92		183.48	733.92			CENTERLINE
2.199	2.378	ROUTE C	945.12			1,890.24			CENTERLINE
2.378	2.537	ROUTE C	839.52		209.88	839.52			CENTERLINE
2.537	2.676	ROUTE C	733.92		183.48				CENTERLINE
2.676	2.816	ROUTE C	739.20		184.80	739.20			CENTERLINE
2.816	2.915	ROUTE C	522.72			1,045.44			CENTERLINE
2.915	3.074	ROUTE C	839.52		209.88	839.52			CENTERLINE
3.074	3.114	ROUTE C	211.20		52.80				CENTERLINE
3.114	3.292	ROUTE C	939.84		234.96	939.84			CENTERLINE
3.292	3.768	ROUTE C	2,513.28			5,026.56			CENTERLINE
3.768	3.928	ROUTE C	844.80		211.20	844.80			CENTERLINE
3.928	3.987	ROUTE C	311.52		77.88				CENTERLINE
3.987	4.265	ROUTE C	1,467.84		366.96	1,467.84			CENTERLINE
4.265	4.326	ROUTE C	322.08			644.16			CENTERLINE
4.326	4.405	ROUTE C	417.12		104.28	417.12			CENTERLINE
4.405	4.424	ROUTE C	100.32		25.08				CENTERLINE
4.424	4.544	ROUTE C	633.60		158.40	633.60			CENTERLINE
4.544	4.564	ROUTE C	105.60			211.20			CENTERLINE
4.564	4.703	ROUTE C	733.92		183.48	733.92			CENTERLINE
4.703	5.360	ROUTE C	3,468.96			6,937.92			CENTERLINE
5.360	5.498	ROUTE C	728.64		182.16	728.64			CENTERLINE
5.498	5.518	ROUTE C	105.60			211.20			CENTERLINE
5.518	5.658	ROUTE C	739.20		184.80	739.20			CENTERLINE
5.658	6.115	ROUTE C	2,412.96			4,825.92			CENTERLINE
6.115	6.294	ROUTE C	945.12		236.28	945.12			CENTERLINE
6.294	6.314	ROUTE C	105.60		26.40				CENTERLINE
6.314	6.493	ROUTE C	945.12		236.28	945.12			CENTERLINE
6.493	9.110	ROUTE C	13,817.76			27,635.52			CENTERLINE
6.708	6.745	ROUTE C RT.	195.36	195.36					EDGELINE
6.765	9.884	ROUTE C RT.	16,468.32	16,468.32					EDGELINE
9.110	9.269	ROUTE C	839.52		209.88	839.52			CENTERLINE
9.269	9.448	ROUTE C	945.12		236.28				CENTERLINE
9.448	9.606	ROUTE C	834.24		208.56	834.24			CENTERLINE
9.606	9.897	ROUTE C	1,536.48			3,072.96			CENTERLINE
9.897		ROUTE C					10.00		STOP BAR
			TOTAL	103,033.92	5,063.52	82,251.84	50.00	2	
			USE	103,034	87,315		50	2	

MODIFIED COLDMILLING (DEPTH TRANSITIONS)

APPROX. LOG MILE FROM	TO	LOCATION	LENGTH (FT)	AVG. WIDTH (FT)	QUANTITY (SY)	REMARKS
ROUTE C						
0.090	0.094	ROUTE C	25.0	22.0	61.1	BEGIN ROUTE
0.298		ROUTE CC	10.0	22.0	24.4	
8.729		OSTRICH DR.	10.0	20.0	22.2	
9.879	9.884	ROUTE C	25.0	20.0	55.6	END ROUTE
ROUTE PP						
0.689	0.699	ROUTE PP	50.0	20.0	111.1	BR B0447
0.768	0.777	ROUTE PP	50.0	20.0	111.1	BR B0447
3.070	3.080	ROUTE PP	50.0	20.0	111.1	END ROUTE
ROUTE HH						
0.011	0.020	ROUTE HH	50.0	20.0	111.1	BEGIN ROUTE
2.465	2.475	ROUTE HH	50.0	20.0	111.1	BR A6499
2.507	2.516	ROUTE HH	50.0	20.0	111.1	BR A6499
				TOTAL	829.90	
				USE	830	

SUMMARY OF QUANTITIES
SHEET 3 OF 5

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER PE-2006019679
PROFESSIONAL ENGINEER
08/06/2024 11:33:11 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED 8/6/2024
ROUTE C/PP/HH
STATE MO
DISTRICT CD
SHEET NO. 3
COUNTY LACLEDE
JOB NO. JCD0048
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 - ROUTE PP

APPROX. LOG MILE FROM	TO	LOCATION	LENGTH (FT)	WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS 4" SOLID WHITE (FT)	4" INT. YELLOW (FT)	4" SOLID YELLOW (FT)	REMARKS
ROUTE PP							
0.011	3.080	ROUTE PP LT. & RT.	16,204.32	32,408.64		32,408.64	EDGELINES
0.009	0.280	ROUTE PP	1,430.88		357.7	1,430.88	CENTERLINE
0.280	0.379	ROUTE PP	522.72			1,045.44	CENTERLINE
0.379	0.519	ROUTE PP	739.20		184.8	739.20	CENTERLINE
0.519	0.599	ROUTE PP	422.40		105.6		CENTERLINE
0.599	0.759	ROUTE PP	844.80		211.2	844.80	CENTERLINE
0.759	1.641	ROUTE PP	4,656.96			9,313.92	CENTERLINE
1.641	1.981	ROUTE PP	1,795.20		448.8	1,795.20	CENTERLINE
1.981	2.280	ROUTE PP	1,578.72			3,157.44	CENTERLINE
2.280	2.440	ROUTE PP	844.80		211.2	844.80	CENTERLINE
2.440	2.639	ROUTE PP	1,050.72		262.7		CENTERLINE
2.639	2.839	ROUTE PP	1,056.00		264.0	1,056.00	CENTERLINE
2.839	3.080	ROUTE PP	1,272.48			2,544.96	CENTERLINE
			TOTAL	32408.64	2046.00	55181.28	
			USE	32,409	57,227		

PAVEMENT MARKING - ROUTE HH

APPROX. LOG MILE FROM	TO	LOCATION	LENGTH (FT)	WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS 4" SOLID WHITE (FT)	4" INT. YELLOW (FT)	4" SOLID YELLOW (FT)	24" SOLID WHITE (FT)	REMARKS
ROUTE HH								
0.005		ROUTE HH					10.00	STOP BAR
0.005	0.199	ROUTE HH	1,024.32			1,024.32		CENTERLINE
0.011	8.170	ROUTE HH LT. & RT.	43,079.52	86,159.04				EDGELINE
0.199	0.259	ROUTE HH	316.80		79.2	316.80		CENTERLINE
0.259	0.319	ROUTE HH	316.80		79.2			CENTERLINE
0.319	0.398	ROUTE HH	417.12		104.3	417.12		CENTERLINE
0.398	3.520	ROUTE HH	16,484.16			32,968.32		CENTERLINE
3.520	3.680	ROUTE HH	844.80		211.2	844.80		CENTERLINE
3.680	3.759	ROUTE HH	417.12		104.3			CENTERLINE
3.759	3.938	ROUTE HH	945.12		236.3	945.12		CENTERLINE
3.938	8.170	ROUTE HH	22,344.96			44,689.92		CENTERLINE
			TOTAL	86,159.04	814.50	81,206.40	10.00	
			USE	86,159	82,021		10	

PAVEMENT MARKING - ALL ROUTES

APPROX. LOG MILE FROM	TO	LOCATION	LENGTH (FT)	WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS 4" SOLID WHITE (FT)	4" INT. YELLOW (FT)	4" SOLID YELLOW (FT)	24" SOLID WHITE (FT)	PREFORMED THERMOPLASTIC R/R CROSSING MARKER (EACH)	REMARKS
ROUTE C									
				103033.92	5063.52	82251.84	50	2	
ROUTE PP									
				32408.64	2046.00	55181.28	0	0	
ROUTE HH									
				86159.04	814.50	81206.40	10	0	
			TOTAL	221601.60	7924.02	218639.52	60	2	
			USE	221,602	226,564		60	2	

SUMMARY OF QUANTITIES
SHEET 4 OF 5

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER PE-2006019679
PROFESSIONAL ENGINEER
08/06/2024 11:33:02 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED 8/6/2024
ROUTE C/PP/HH
STATE MO
DISTRICT CD
SHEET NO. 3
COUNTY LACLEDE
JOB NO. JCD0048
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)

EFFECTIVE: 07-01-2024

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
WARNING SIGNS								
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT)
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT)
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT)
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT)
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT)
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
WO1-8	18X24	3.00						CHEVRON (SYMBOL)
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
WO3-4	48X48	16.00						BE PREPARED TO STOP
WO3-5	48X48	16.00	5	80			11	SPEED LIMIT AHEAD
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)
WO4-1aL	48X48	16.00						MERGE (LEFT)
WO4-1aR	48X48	16.00						MERGE (RIGHT)
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS
WO5-3	48X48	16.00						ONE LANE BRIDGE
WO5-5	48X48	16.00						NARROW LANES
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)
WO6-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)
WO7-3a	30X24	5.00						NEXT XX MILES (PLAQUE)
WO8-1	48X48	16.00						BUMP
WO8-2	48X48	16.00						DIP
WO8-3	48X48	16.00						PAVEMENT ENDS
WO8-4	48X48	16.00						SOFT SHOULDER
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)
WO8-6	48X48	16.00						TRUCK CROSSING
WO8-6c	48X48	16.00						TRUCK ENTRANCE
WO8-7	36X36	9.00						LOOSE GRAVEL
WO8-7a	36X36	9.00						FRESH OIL / LOOSE GRAVEL
WO8-9	48X48	16.00						LOW SHOULDER
WO8-11	48X48	16.00	44	704			36	UNEVEN LANES
WO8-12	48X48	16.00	22	352			35	NO CENTER LINE
WO8-15	48X48	16.00						GROOVED PAVEMENT
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)
WO8-17L	48X48	16.00						SHOULDER DROP-OFF (SYMBOL LEFT)
WO8-17R	48X48	16.00						SHOULDER DROP-OFF (SYMBOL RIGHT)
WO8-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)
W10-1	42RND.	9.62						RAILROAD CROSSING
WO12-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)
W012-2x	24X18	3.00						LOW CLEARANCE (PLAQUE)
WO12-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)
WO12-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD
WO12-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD
WO13-1	30X30	6.25						ADVISORY SPEED (PLAQUE)
WO16-2	30X24	5.00						XXX FEET (PLAQUE)
WO16-3	30X24	5.00						X MILE (PLAQUE)
WO20-1	48X48	16.00	7	112			2	ROAD/BRIDGE/RAMP WORK AHEAD
WO20-2	48X48	16.00						DETOUR AHEAD
WO20-3	48X48	16.00						ROAD CLOSED AHEAD
WO20-4	48X48	16.00	9	144			7	ONE LANE ROAD AHEAD
WO20-5	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED AHEAD
WO20-5a	48X48	16.00						2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
WO20-6a	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED
WO20-7a	48X48	16.00	7	112			8	FLAGGER (SYMBOL)
WO21-2	36X36	9.00						FRESH OIL
WO21-5	48X48	16.00						SHOULDER WORK / SHOULDER WORK AHEAD
WO22-1	48X48	16.00						BLASTING ZONE AHEAD
WO22-2	42X36	10.50						TURN OFF 2-WAY RADIO AND PHONE
WO22-3	42X36	10.50						END BLASTING ZONE
GO22-1	21X15	2.19	4	8.76				WET PAINT (ARROW PIVOTS)

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
GUIDE SIGNS								
E05-1	36X48	12.00						GORE EXIT
E05-2	48X36	12.00						EXIT OPEN
E05-2a	48X36	12.00						EXIT CLOSED
GO20-1	60X24	10.00	4	40			1	ROAD WORK NEXT XX MILES
GO20-2	48X24	8.00	4	32			26	END ROAD WORK
GO20-4	36X18	4.50	2	9			53	PILOT CAR FOLLOW ME
GO20-4a	42X30	8.75	10	87.5			58	PILOT CAR IN USE WAIT & FOLLOW
GO20-4a	18X12	1.50	30	45			62	PILOT CAR IN USE WAIT & FOLLOW
GO20-5aP	36X24	6.00	4	24			54	WORK ZONE (PLAQUE)
MO4-8a	24X18	3.00						END DETOUR
MO4-9L	48X36	12.00						DETOUR (LEFT)
MO4-9R	48X36	12.00						DETOUR (RIGHT)
MO4-9P	48X12	4.00						STREET NAME (PLAQUE)
MO4-10L	48X18	6.00						DETOUR ARROW (LEFT)
MO4-10R	48X18	6.00						DETOUR ARROW (RIGHT)
REGULATORY SIGNS								
R1-1	48X48	13.25						STOP
R1-2	48TRI.	6.93						YIELD
R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)
R1-3P	30X12	2.50						ALL WAY (PLAQUE)
R2-1	36X48	12.00	8	96			4,25	SPEED LIMIT XX (4@45, 4@55)
R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00						NO TURNS
R3-4	48X48	16.00						NO U-TURN (SYMBOL)
R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00						DO NOT PASS
R4-2	36X48	12.00						PASS WITH CARE
R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)
R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)
R5-1	30X30	6.25						DO NOT ENTER
R5-1a	36X24	6.00						WRONG WAY
R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)
R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)
R6-2L	24X30	5.00						ONE WAY (LEFT)
R6-2R	24X30	5.00						ONE WAY (RIGHT)
R9-9	24X12	2.00						SIDEWALK CLOSED
R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE
R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE
R10-6	24X36	6.00						STOP HERE ON RED (45^ ARROW)
R11-2	48X30	10.00						ROAD CLOSED
R11-3a	60X30	12.50						ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60X30	12.50						ROAD CLOSED TO THRU TRAFFIC
CONST-3A	60X48	20.00						FINE SIGN
CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)
MISCELLANEOUS SIGNS								
CONST-5	48X36	12.00	4	48			61	POINT OF PRESENCE
CONST-5	96X48	32.00						POINT OF PRESENCE
CONST-8	48X36	12.00	4	48			33	WORK ZONE NO PHONE ZONE

616-10.05 CONSTRUCTION SIGNS	TOTAL 1943
616-10.10 RELOCATED SIGNS	TOTAL 0

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)
6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)
6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)
6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
6122020		REPLACEMENT SAND BARREL
6122030		IMPACT ATTENUATOR (RELOCATION)
6123001		TRUCK MOUNTED ATTENUATOR (TMA)
6161008		ADVANCED WARNING RAIL SYSTEM
6161012		BUOYS (BOATS KEEP OUT)
6161013		BUOYS (NO WAKE)
6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
6161025	75	CHANNELIZER (TRIM LINE)
6161030		TYPE III MOVEABLE BARRICADE
6161033		DIRECTION INDICATOR BARRICADE
6161040		FLASHING ARROW PANEL
6161047		TYPE III OBJECT MARKER
6161055		SEQUENTIAL FLASHING WARNING LIGHT
6161070		TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A	4	CHANGEABLE MESSAGE SIGN W/O COMM. INTERFACE - CONTRACTOR FURNISHED/RETAINED
6161099		CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE - CONTRACTOR FURNISHED/RETAINED
6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
6162002		TEMPORARY LONG-TERM RUMBLE STRIPS
6173600D		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/RETAINED
6173602B		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/COMMISSION RETAINED
6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION
6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER
6176000B		TEMPORARY TRAFFIC BARRIER COMMISSION FURNISHED/RETAINED
6177000B		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION COMMISSION FURNISHED/RETAINED
6208064A		TEMPORARY RAISED PAVEMENT MARKER
9029400		TEMPORARY TRAFFIC SIGNALS
9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING

SUMMARY OF QUANTITIES

SHEET 5 OF 5

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER PE-2006019679
PROFESSIONAL ENGINEER

08/06/2024 11:32:53 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED: 8/6/2024

ROUTE	STATE
C/PP/HH	MO
DISTRICT	SHEET NO.
CD	3

COUNTY: LACLEDE

JOB NO.: JCD0109

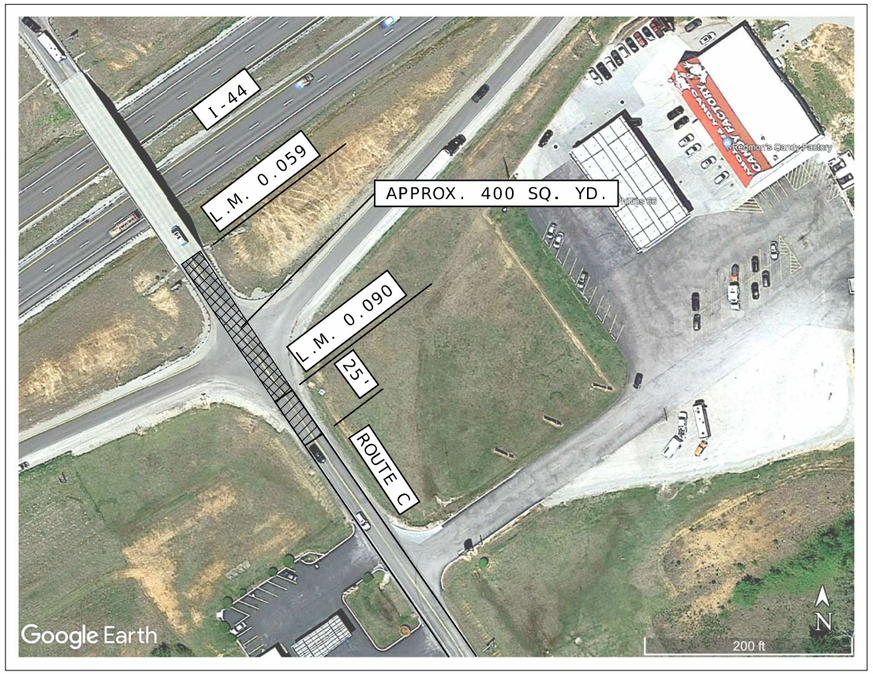
CONTRACT ID.

PROJECT NO.

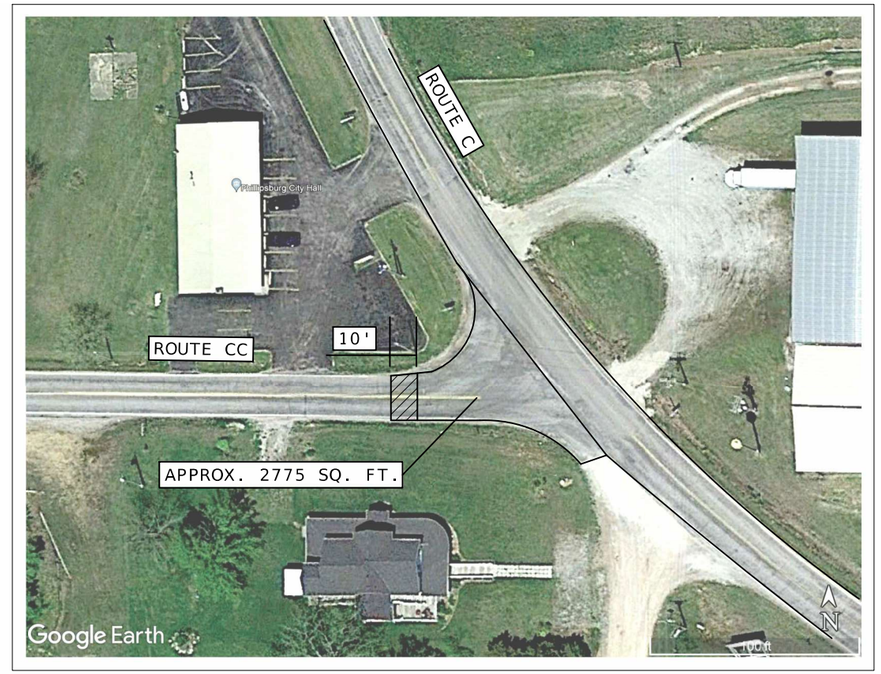
BRIDGE NO.

DESCRIPTION	DATE

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



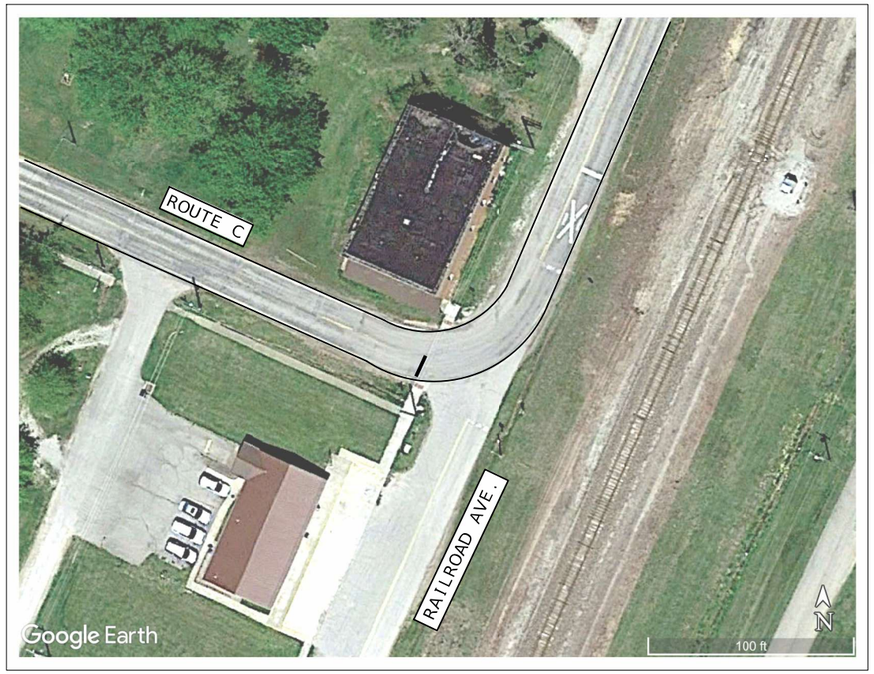
ROUTE C - BEGIN ROUTE - LOG MILE 0.090



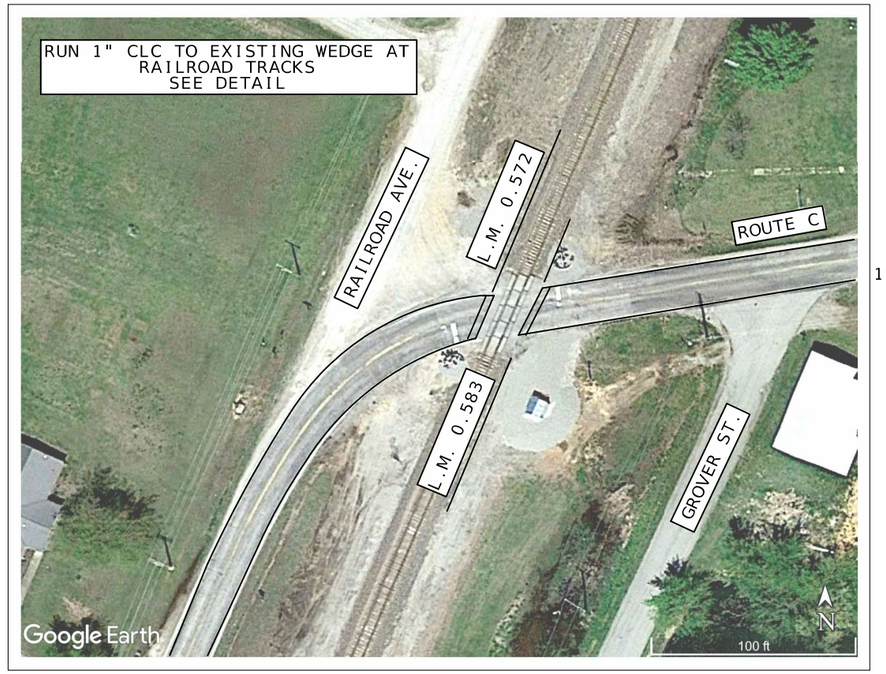
ROUTE CC - LOG MILE 0.298

MODIFIED MILLING

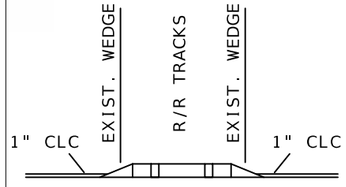
COLDMILLING



ROUTE C & RAILROAD AVE.- LOG MILE 0.379



ROUTE C & R/R CROSSING - LOG MILE 0.578



RAILROAD TRACK DETAIL

SPECIAL SHEET
SHEET 1 OF 4

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER PE-2006019679
PROFESSIONAL ENGINEER

08/06/2024 11:32:44 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED	8/6/2024
ROUTE	C/PP/HH
STATE	MO
DISTRICT	CD
SHEET NO.	4
COUNTY	LACLEDE
JOB NO.	JCD0048
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

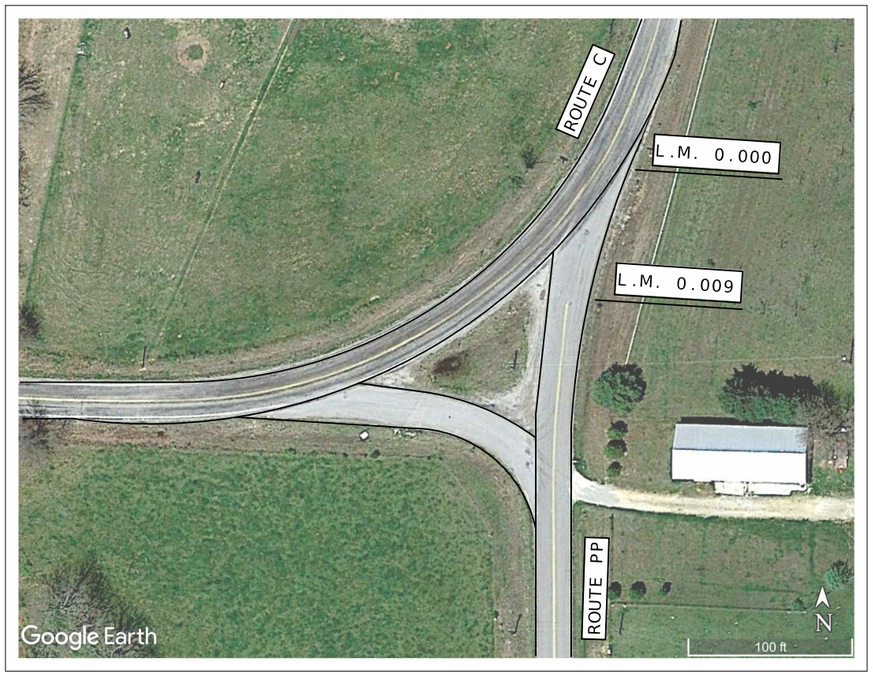
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

ROUTE C - BRIDGE CULVERT P0775 - LOG MILE 2.600

ROUTE C - BRIDGE CULVERT P0776 - LOG MILE 6.189

MODIFIED MILLING



ROUTE C & ROUTE PP- LOG MILE 6.724

ROUTE C & OSTRICH DR. - LOG MILE 8.729

SPECIAL SHEET
SHEET 2 OF 4

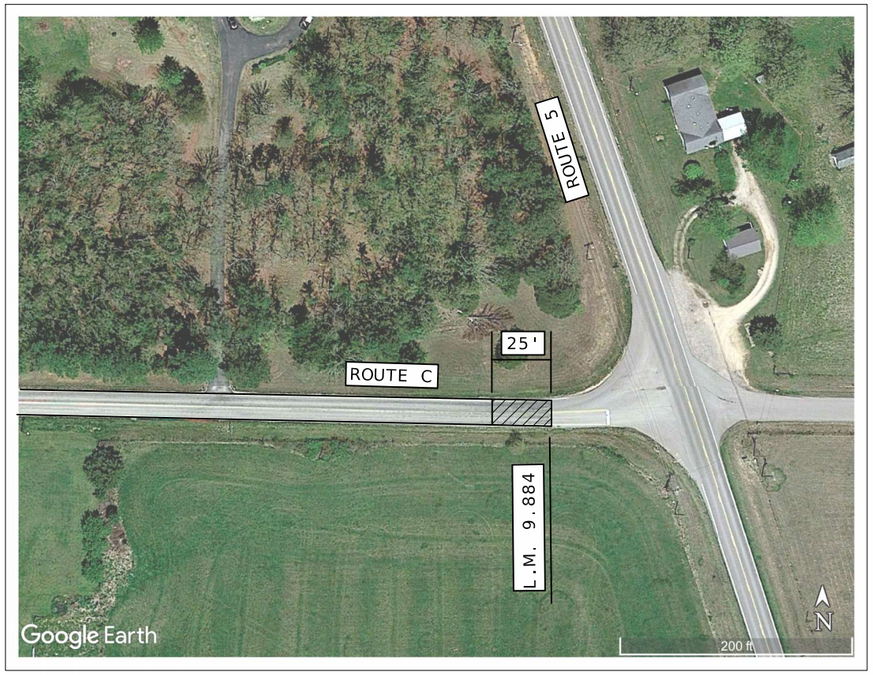
STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER
PE-2006019679
PROFESSIONAL ENGINEER

08/06/2024 11:32:35 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED	8/6/2024
ROUTE	C/PP/HH
STATE	MO
DISTRICT	CD
SHEET NO.	5
COUNTY	LACLEDE
JOB NO.	JCD0048
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)



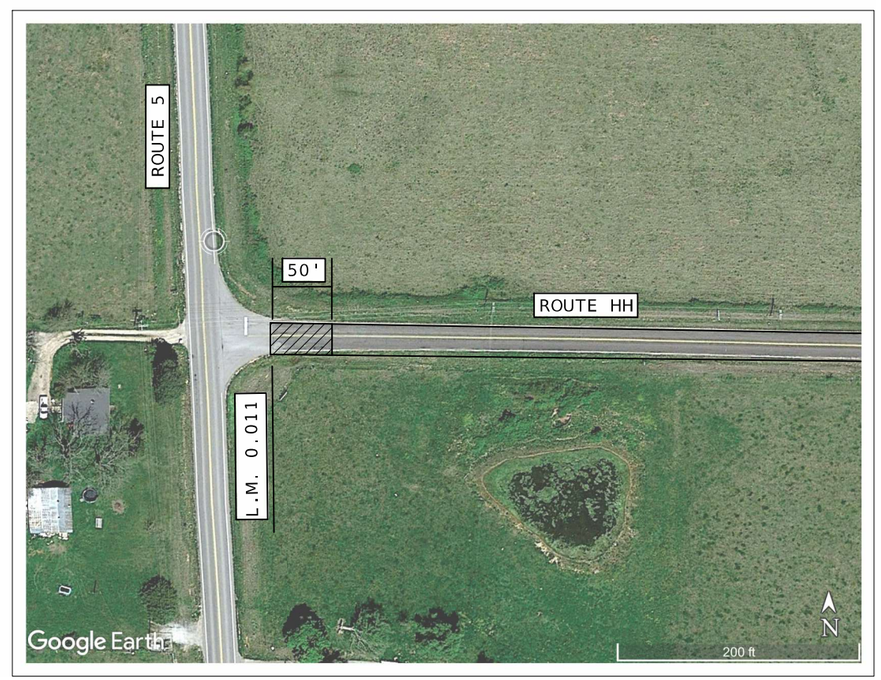
ROUTE C - END ROUTE - LOG MILE 9.884

ROUTE PP - BRIDGE B0447 - LOG MILE 0.684

UIP EXISTING GUARDRAIL COLDMILL IN FRONT OF EXISTING GUARDRAIL

MODIFIED MILLING

ROUTE PP & ROUTE J - END ROUTE- LOG MILE 3.080



ROUTE HH & ROUTE 5 - BEGIN ROUTE - LOG MILE 0.XXX

SPECIAL SHEET
SHEET 3 OF 4

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER PE-2006019679
PROFESSIONAL ENGINEER

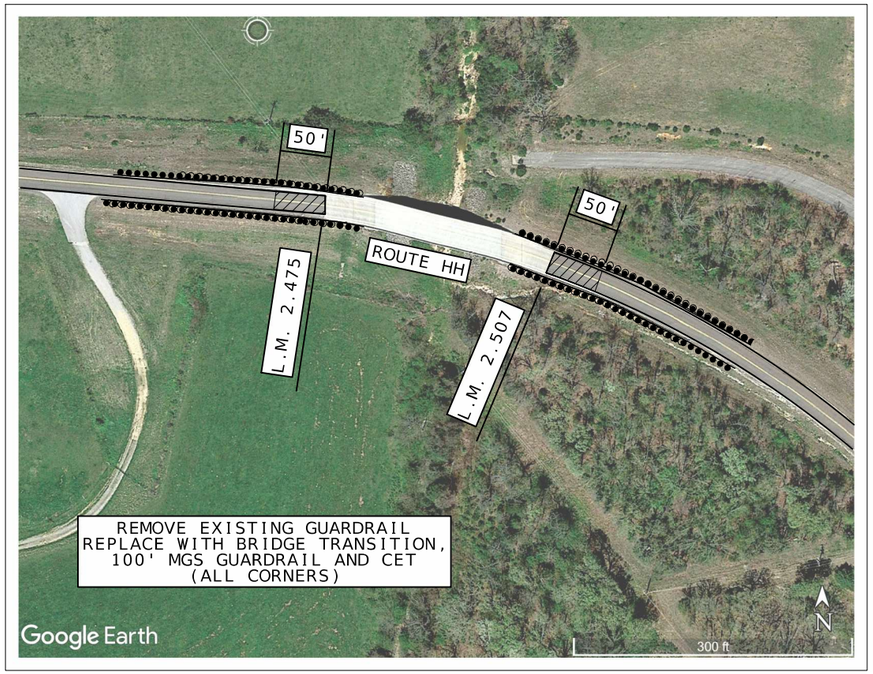
08/06/2024 11:32:18 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED	8/6/2024
ROUTE	C/PP/HH
STATE	MO
DISTRICT	CD
SHEET NO.	6
COUNTY	LACLEDE
JOB NO.	JCD0048
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)



ROUTE HH - BRIDGE A6499 - LOG MILE 2.480

ROUTE HH - END ROUTE - LOG MILE 8.170

MODIFIED MILLING

SPECIAL SHEET
SHEET 4 OF 4

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER
PE-2006019679
PROFESSIONAL ENGINEER

08/05/2024 11:32:08 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED	8/6/2024
ROUTE	C/PP/HH
STATE	MO
DISTRICT	CD
SHEET NO.	7
COUNTY	LACLEDE
JOB NO.	JCD0048
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)

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′

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

TAPER LENGTHS AND SPACING FOR CHANNELIZERS							
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (3) (T2)			MINIMUM SHOULDER TAPER LENGTH BASED ON 10′ SHOULDER (T1)	BUFFER LENGTH FT. (B)	MAXIMUM CHANNELIZER SPACING	
	10′	11′	12′			THROUGH TAPER	THROUGH WORK AREA
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.

NOTES:

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

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

(3) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10′ SHOULDER.

(4) CONCRETE BARRIER MAY BE INSTALLED AT AND 8:1 FLARE RATE FROM THE SHOULDER POINT TO THE LIMITS OF THECLEAR ZONE WHERE TEH SIDE SLOPE IS 6:1 OR FLATTER.

ROADWAY TYPE	SIGN HEIGHT	MAX. WORK ZONE LENGTH (L)
URBAN	1′ PORTABLE 7′ POST	1 MILE
RURAL DIVIDED	1′ PORTABLE 7′ POST	2 MILE
RURAL UNDIVIDED	1′ PORTABLE 5′ POST	3 MILE

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- SIGN (DOUBLE SIDED)
- FLAGGER
- CONE
- CHANNELIZER
- DIRECTIONAL INDICATOR BARRICADE
- TUBULAR MARKER
- MOVABLE BARRICADE (PLAN VIEW)
- CHANGEABLE MESSAGE BOARD
- TRAFFIC BARRIER (PLAN VIEW)
- TRAFFIC BARRIER (SECTION VIEW)
- HIGH-LEVEL WARNING DEVICE (FLAG TREE)
- OR SHORT -TERM OR LONG-TERM RUMBLE STRIPS
- WORK SPACE
- ADVANCE WARNING RAIL SYSTEM
- FLASHING ARROW PANEL
- FLASHING ELECTRIC LIGHT
- IMPACT ATTENUATOR ARRAY (SAND BARRELS)
- MOVABLE BARRICADE (SIDE VIEW)
- OBJECT MARKER - TYPE I
- OBJECT MARKER - TYPE II
- OBJECT MARKER - TYPE III
- LUMINAIRE
- TMA - TRUCK MOUNTED ATTENUATOR
- CRASH CUSHION
- TRAFFIC OR PEDESTRIAN SIGNAL

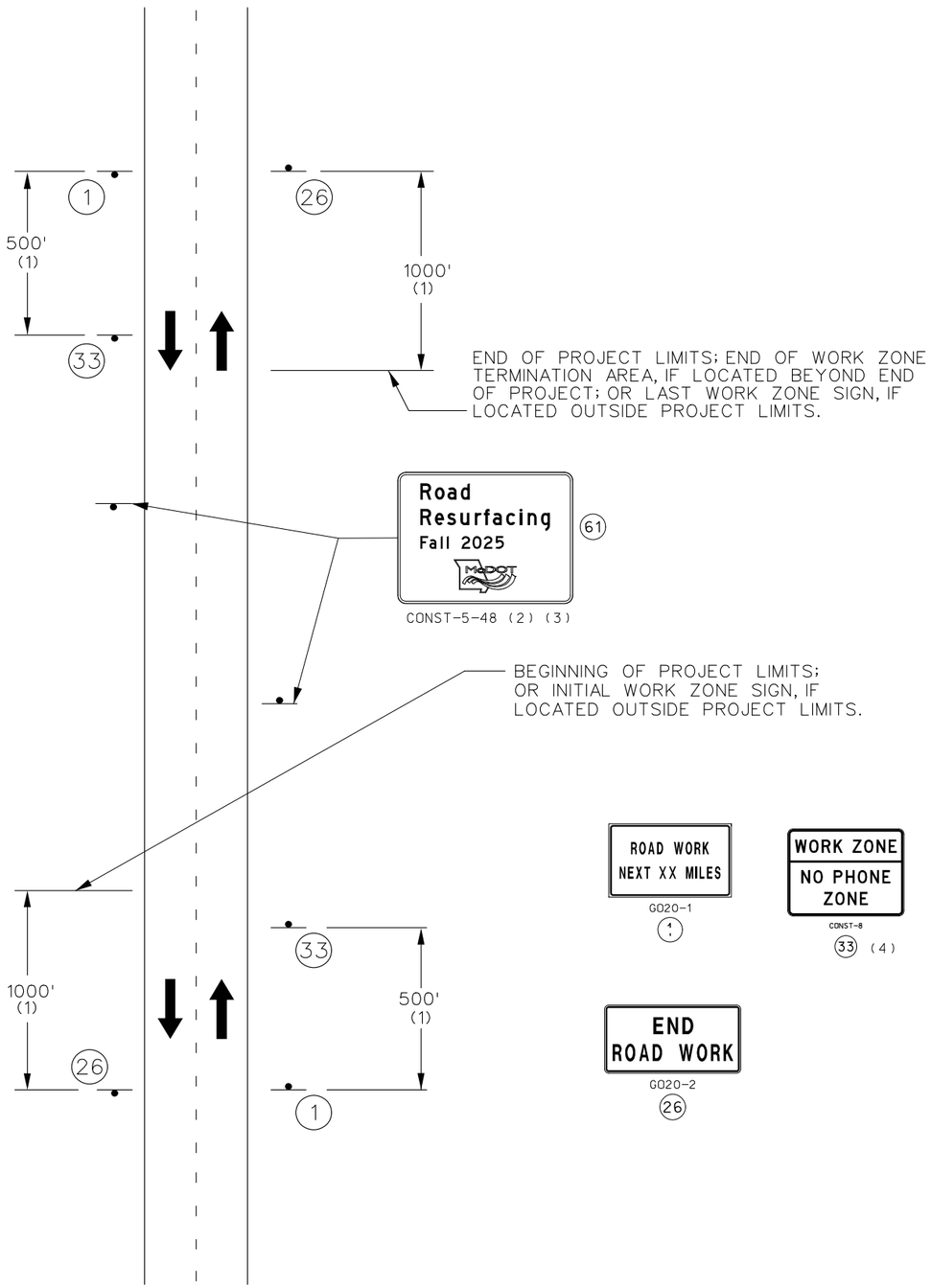
TEMPORARY TRAFFIC CONTROL SHEET
SPACING AND TAPER LENGTHS FOR
WORK ZONES, CHANNELIZERS AND
CONCRETE BARRIER
TRAFFIC CONTROL LEGEND
SHEET 1 OF 7

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER PE-2006019679
PROFESSIONAL ENGINEER
08/06/2024 11:31:19 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED	
8/6/2024	
ROUTE C/PP/HH	STATE MO
DISTRICT CD	SHEET NO. 8
COUNTY LACLEDE	
JOB NO. JCD0048	
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)



TWO-LANE UNDIVIDED
BEGIN/END OF PROJECT SIGNING

NOTES:

SIGN G020-2 IS USED ON ALL PROJECTS WHERE SIGN G020-1 IS USED.

OTHER SIGNS SUCH AS DETOUR OR ALTERNATE ROUTE SIGNING MAY BE USED OUTSIDE THE PROJECT LIMITS.

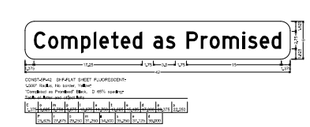
ANY EXISTING SIGNING THAT CONFLICTS WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED.

(1) DISTANCE MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS. WHERE TRAFFIC BACKUPS ARE EXPECTED BEYOND THE ADVANCE WARNING AREA, ADDITIONAL SIGNING MAY BE NEEDED.

(2) SIGN CONST-5-96 IS PLACED IN A VISIBLE AREA WITHIN THE PROJECT LIMITS PROVIDED ITS PLACEMENT DOES NOT DISRUPT A SEQUENCE OF SIGNS.

(3) THE "POINT OF PRESENCE" SIGN IS AVAILABLE IN TWO SIZES DEPENDING ON ROADWAY CONDITION. THE 48 IN. X 36 IN. SIGN IS USED ON LOW VOLUME ROUTES THAT CARRY 400 AADT OR LESS, ON PROJECTS THAT HAVE A DURATION OF 4 WEEKS OR LESS OR IN URBAN AREAS WHERE THERE IS INSUFFICIENT RIGHT OF WAY FOR AN EIGHT FOOT WIDE SIGN. THE 96IN. X 48 IN. VERSION OF THE SIGN IS USED IN ALL OTHER APPLICATIONS. BUT CAN ALSO BE USED IN PLACE OF THE 48 IN. X 36 IN. SIGN IF ADDED EMPHASIS IS DEEMED NECESSARY.

(4) THE "WORK ZONE NO PHONE ZONE" SIGN IS PLACED A MINIMUM OF 500 FEET BEFORE THE ROAD WORK AHEAD SIGN.



TEPORARY TRAFFIC CONTROL SHEET
BEGIN / END PROJECT SIGNING
2-LANE UNDIVIDED
SHEET 2 OF 7

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER
PE-2006019679
PROFESSIONAL ENGINEER

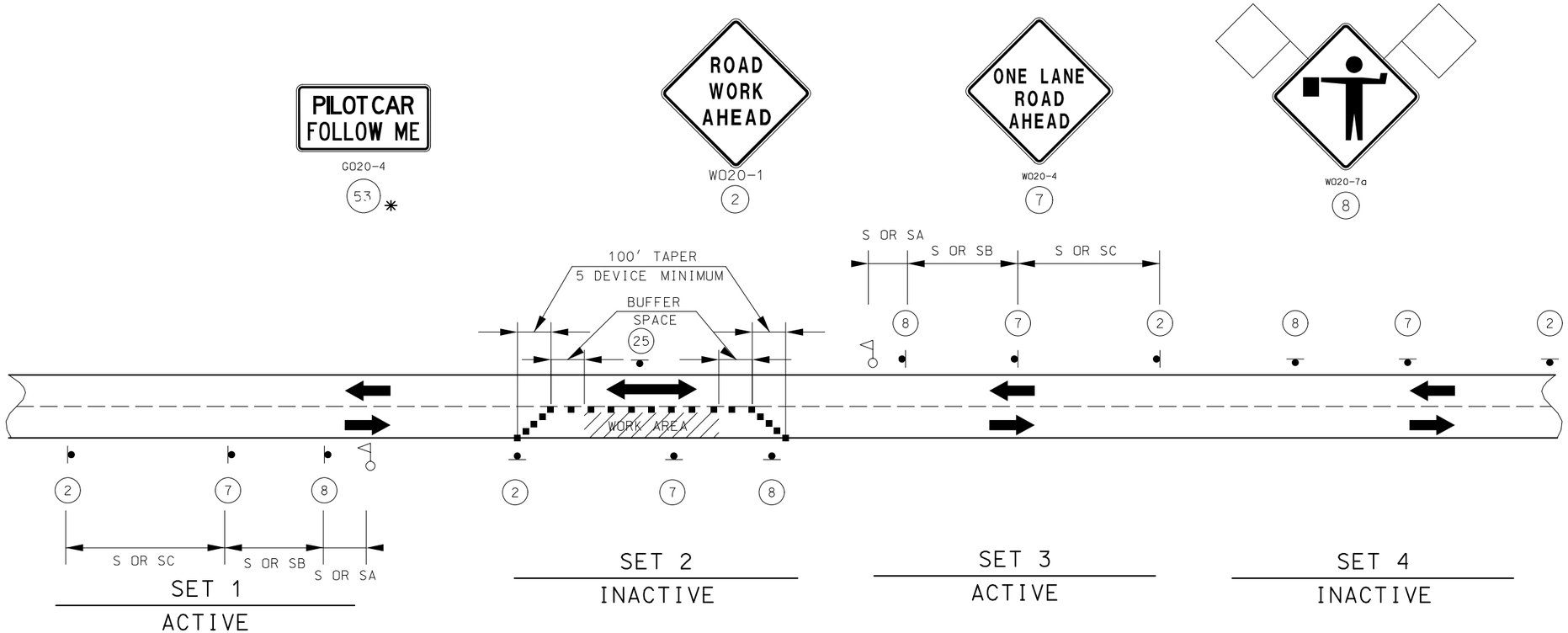
08/06/2024 11:31:54 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED	
8/6/2024	
ROUTE	STATE
C/PP/HH	MO
DISTRICT	SHEET NO.
CD	9
COUNTY	
LACLEDE	
JOB NO.	
JCD0048	
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)



GENERAL NOTES:

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

NOTES:

DAYLIGHT FLAGGING OPERATIONS ONLY.

CHANNELIZING DEVICES LOCATED DOWNSTREAM OF THE ONE-LANE, TWO-WAY TAPER ARE OPTIONAL. THESE DEVICES SHOULD BE ELIMINATED WHEN THEIR USE WILL REDUCE THE USABLE LANE WIDTH, INCLUDING ANY ACCEPTABLE SHOULDERS, TO LESS THAN 10' OR WILL SIGNIFICANTLY AFFECT THE RESURFACING OPERATION.

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES, SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

- FLAGGER

CHANNELIZERS

SIGN SETS 1 AND 3 ARE ACTIVE AND (I.E., SIGNS FACE ONCOMING TRAFFIC).

SIGN SETS 2 AND 4 ARE INACTIVE (I.E., SIGNS DO NOT FACE EITHER DIRECTION OF TRAFFIC) WHEN THE RESURFACING OPERATION IS LOCATED BETWEEN SIGN SETS 1 AND 3.

WHEN SIGN SETS 2 AND 4 ARE ACTIVE, SIGN SETS 1 AND 3 BECOME INACTIVE AND ARE ADVANCED TO BECOME SETS 2 AND 4 WITH SIGN LEGENDS TURNED AWAY FROM BOTH DIRECTIONS OF TRAFFIC. WHEN THE RESURFACING OPERATION ADVANCES TO BETWEEN SIGN SET 2 AND 4, SIGN SET 2 AND 4 BECOME ACTIVE (I.E. NEW SIGN SET 1 AND 3) AND SIGN SET 1 AND 3 ADVANCED IN THE DIRECTION OF THE OPERATION (I.E. NEW SIGN SET 2 AND 4).

* THIS SIGN SHALL BE THE CONTRACTORS RESPONSIBILITY WHEN IN USE DURING OPERATION.

TEMPORARY TRAFFIC CONTROL SHEET
FLAGGER CONTROL RESURFACING
OR MOVING OPERATION
1 LANE - 2 WAY OPERATION
WITH SIGN SPACING
SHEET 3 OF 7

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER
PE-2006019679
PROFESSIONAL ENGINEER
08/06/2024 11:31:46 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

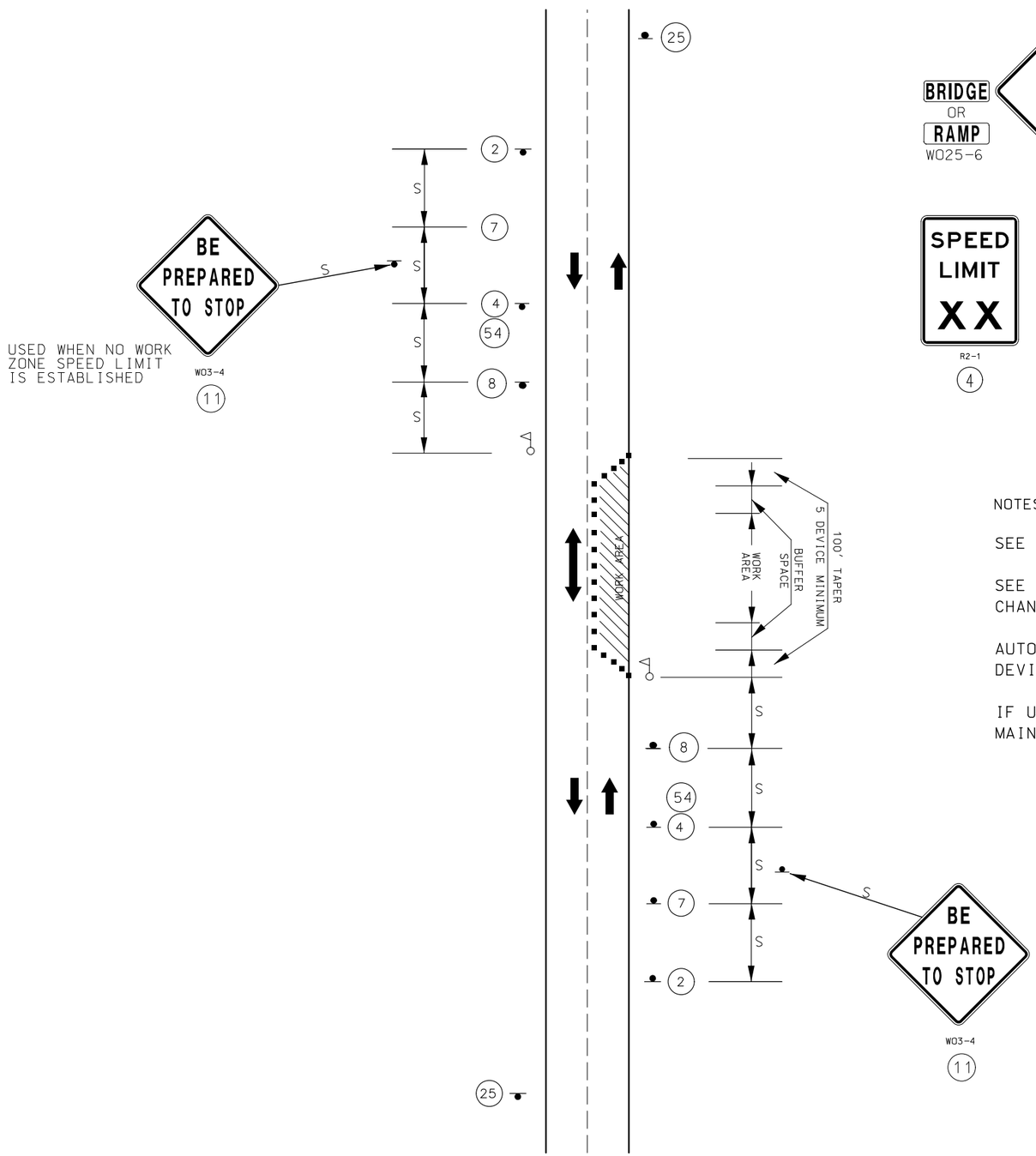
DATE PREPARED	8/6/2024
ROUTE	C/PP/HH
STATE	MO
DISTRICT	CD
SHEET NO.	10
COUNTY	LACLEDE
JOB NO.	JCD0048
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

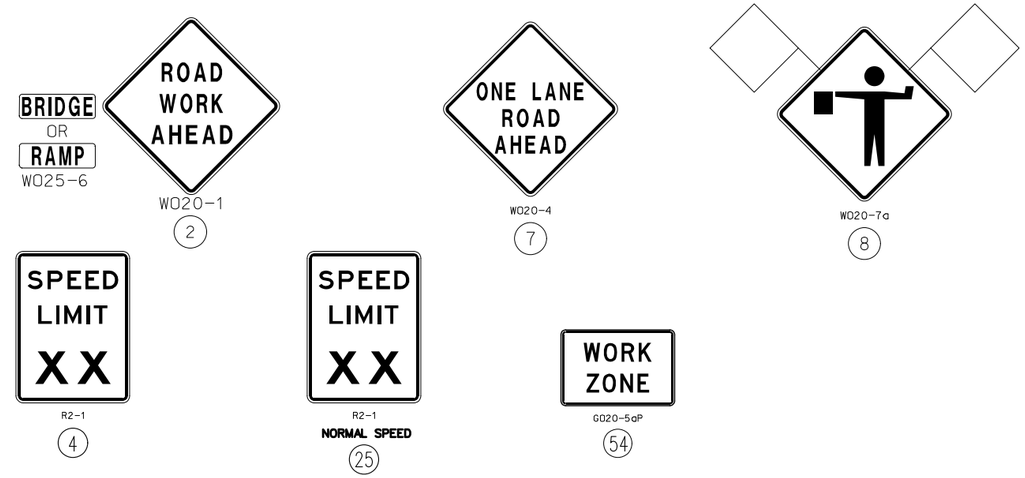
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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





NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

AUTOMATED FLAGGER ASSISTANCE DEVICES (AFAD) AND PORTABLE SIGNAL FLAGGING DEVICES (PSFD) MAY BE USED AS AND ALTERNATIVE FLAGGING OPERATION.

IF USED AT NIGHT, THE FLAGGER STATIONS SHALL BE ILLUMINATED WITH AN AVERAGE MAINTAINED INTENSITY OF 0.6 FOOT CANDLES (6.5 LUX).

LANE CLOSURE ON TWO-LANE ROAD USING FLAGGERS

TEMPORARY TRAFFIC CONTROL SHEET
LANE CLOSURE ON 2-LANE ROAD
USING FLAGGERS
SHEET 4 OF 7

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER PE-2006019679
PROFESSIONAL ENGINEER
08/06/2024 11:36:25 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

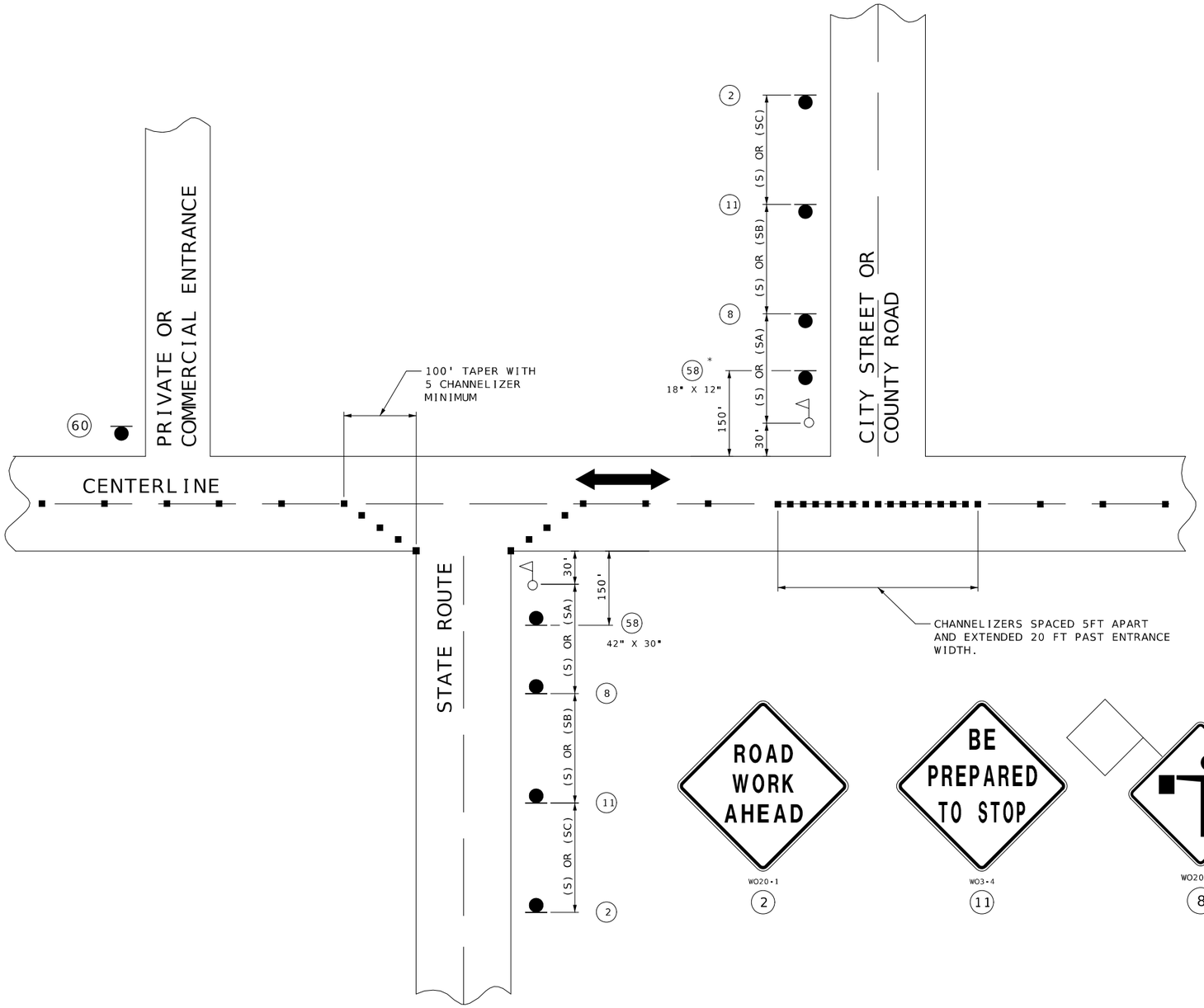
DATE PREPARED	8/6/2024
ROUTE	C/PP/HH
STATE	MO
DISTRICT	CD
SHEET NO.	11
COUNTY	LACLEDE
JOB NO.	JCD0048
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



SPEED	SIGN SPACING (FT.)	
PERMANENT POSTED (MPH)	NON-DIVIDED 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

DISTANCE MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS.

NOTES:
WARNING SIGNS SHALL BE ERECTED AT EACH INTERSECTION WITH ANOTHER STATE HIGHWAY WITHIN THE WORK ZONE.

ADDITIONAL WARNING SIGNS SHALL BE ERECTED AT OTHER INTERSECTIONS WITHIN THE WORK ZONE, AS DIRECTED BY THE ENGINEER.

■ - CHANNELIZERS (AS SPECIFIED)

- FLAGGER

WO20-1 (2) WO3-4 (11) WO20-7a (8)

GO20-4a (58) — SHALL BE USED ON ALL STATE ROUTES AND MAY BE USED ON ANY NON-STATE ROUTES, AS DETERMINED BY THE ENGINEER.

24" X 18" (60) — SHALL ONLY BE USED AT PRIVATE AND COMMERCIAL ENTRANCES. SEE STD PLAN 616.10

* THE SMALLER 18" X 12" SIGN 58 IS USED ON ALL OTHER NON-STATE ROUTES (CITY STREETS, COUNTY ROADS, ETC.).

SIDE ROADS ENTERING WORK ZONES

TRAFFIC CONTROL
SHEET 5 OF 7

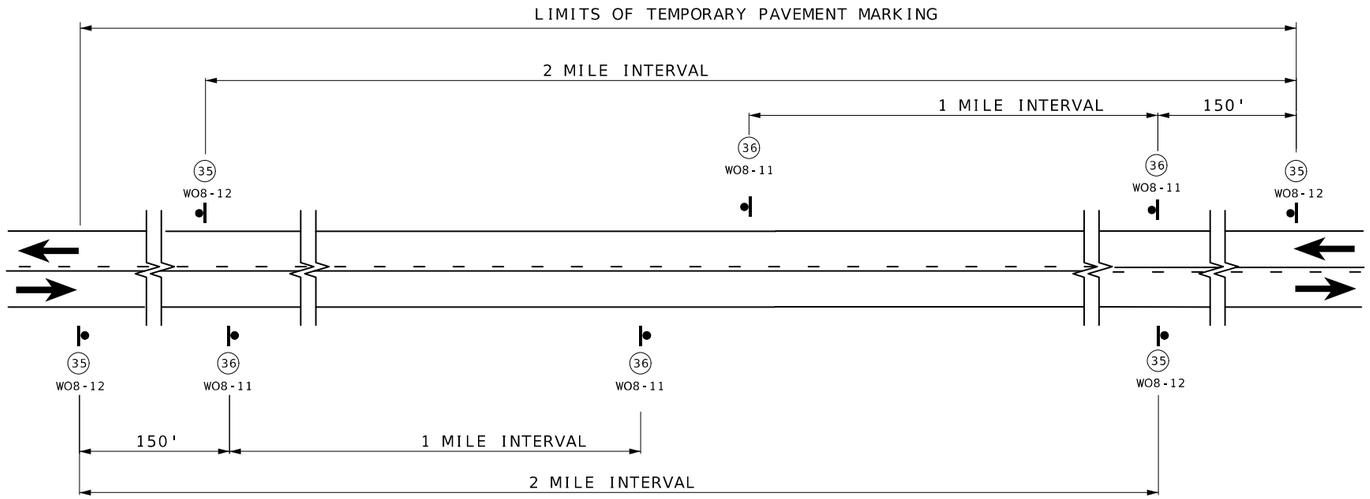
STATE OF MISSOURI
RYAN JOSEPH UBBERT
NUMBER PE-2006019679
PROFESSIONAL ENGINEER
08/06/2024 11:31:37 AM
RYAN JOSEPH UBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED	8/6/2024
ROUTE	C/PP/HH
STATE	MO
DISTRICT	CD
SHEET NO.	12
COUNTY	LACLEDE
JOB NO.	JCD0048
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

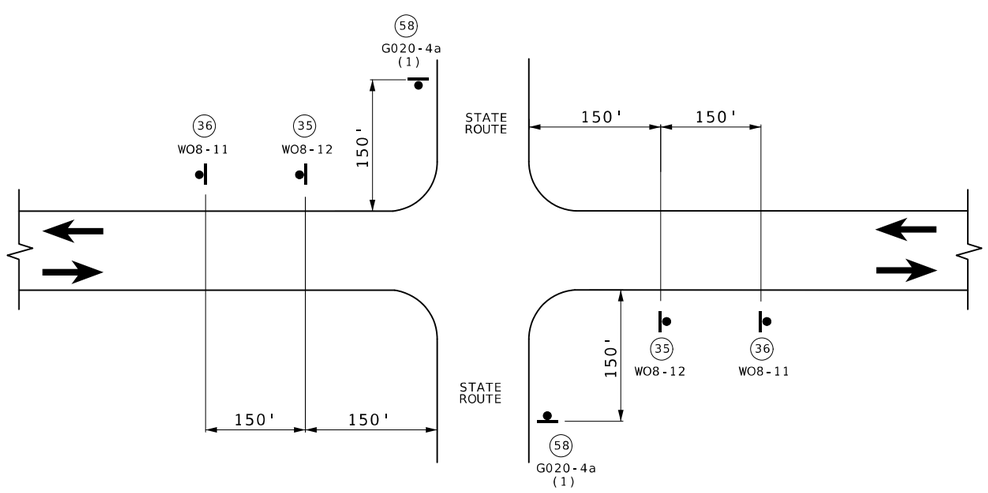
DESCRIPTION

DATE

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



SIGN SPACING AND TEMPORARY STRIPING FOR MAINLINE



SIGN SPACING AT STATE ROUTE INTERSECTIONS
SHOWING TEMPORARY STRIPING FOR MAINLINE

(1) ADDITIONAL SIDEROADS MAY BE SIGNED AS APPROVED BY THE ENGINEER.

G020-4a
58

WO8-12
35

WO8-11
36

NOTES:

SIGN 35 AND TEMPORARY RAISED PAVEMENT MARKING (SEE STANDARD PLAN 620.10) INSTALLED WHERE CENTERLINE STRIPING HAS BEEN COVERED OR REMOVED. SIGNS ARE TO REMAIN IN PLACE UNTIL THE PERMANENT CENTERLINE PAVEMENT MARKINGS ARE IN PLACE. SIGNS SHALL BE COVERED OR REMOVED WHEN PAVEMENT CENTERLINE MARKING HAS BEEN INSTALLED.

SIGN 35 IS PLACED AT APPROXIMATELY TWO-MILE INTERVALS AND AT STATE ROUTE JUNCTIONS. WHEN THE INSTALLATION AT A JUNCTION IS WITHIN ONE-EIGHTH MILE OF THE NORMAL MAINLINE SIGN 35, THE LATTER MAY BE ELIMINATED.

ALL SIGNS SHALL BE POST MOUNTED AND IN ACCORDANCE WITH STANDARD PLAN 616.10 AND 903.03.

NOT TO SCALE

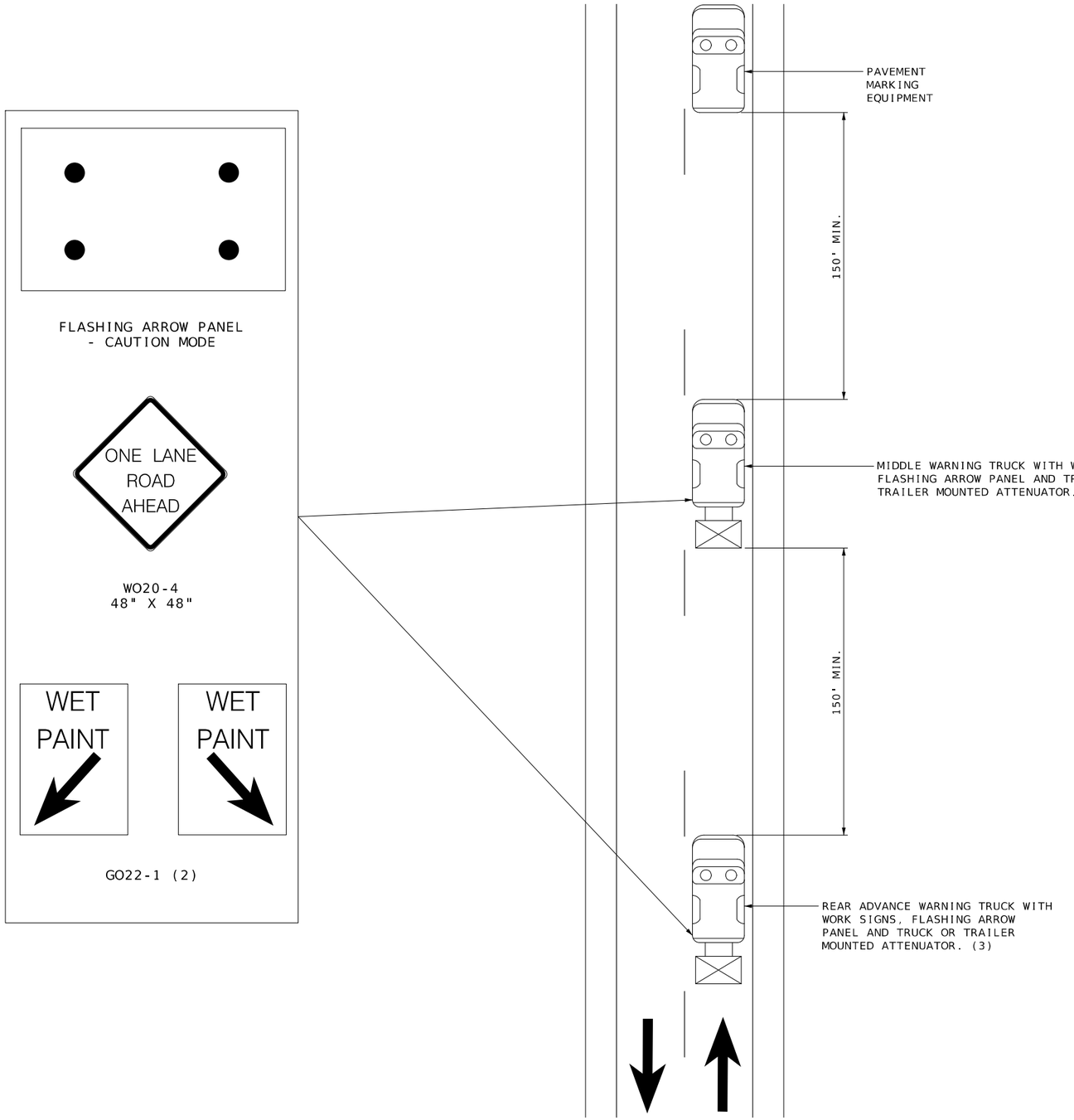
TEMPORARY TRAFFIC CONTROL SHEET
SIGN SPACING - TEMP. STRIPING
SHEET 6 OF 7

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER PE-2006019679
PROFESSIONAL ENGINEER
08/06/2024 11:36:47 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED	
8/6/2024	
ROUTE	STATE
C/PP/HH	MO
DISTRICT	SHEET NO.
CD	13
COUNTY	
LACLEDE	
JOB NO.	
JCD0048	
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)



CENTERLINE/EDGELINE STRIPING ON TWO-LANE HIGHWAYS

NOTES:
UPON APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY PROVIDE ADDITIONAL PROTECTIVE TRUCK 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, OSCILLATING, OR STROPE LIGHTS.

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

(1) TRUCK IS OPTIONAL ON TWO-LANE UNDIVIDED HIGHWAYS IF SIGNING AND ARROW BOARD IS MOUNTED ON THE PAVEMENT MARKING EQUIPMENT.

(2) 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.

(3) REAR ADVANCE WARNING TRUCK IS POSITIONED AT THE NO TRACK POINT OF THE PAVEMENT MARKING MATERIAL, OR VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE, OR SPACING SHOWN.

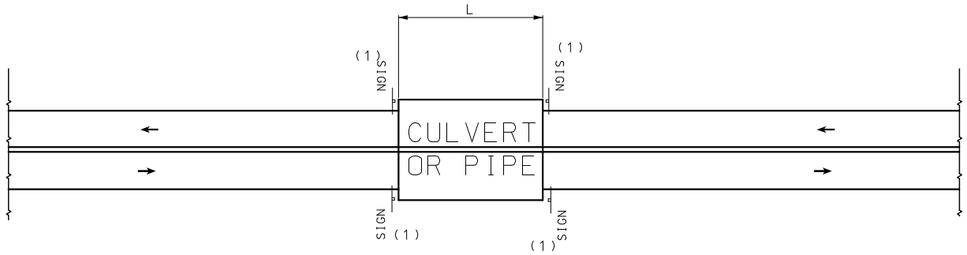
TEMPORARY TRAFFIC CONTROL SHEET
STRIPING ON TWO-LANE HIGHWAY
SHEET 7 OF 7

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER PE-2006019679
PROFESSIONAL ENGINEER
08/06/2024 11:31:08 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED	8/6/2024
ROUTE	C/PP/HH
STATE	MO
DISTRICT	CD
SHEET NO.	14
COUNTY	LACLEDE
JOB NO.	JCD0048
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

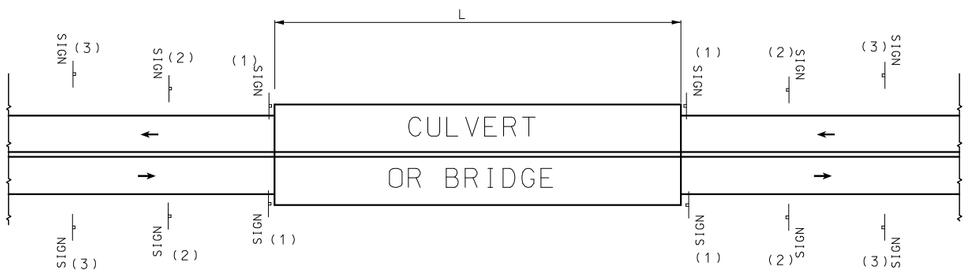
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



SIGN DETAIL AT CULVERTS OR PIPE – L = < 20′

ROUTE C		ROUTE PP	ROUTE HH
L.M. 2.676	L.M. 4.862	L.M. 2.599	L.M. 1.376
L.M. 3.034	L.M. 6.553		L.M. 2.898
L.M. 4.584	L.M. 8.573		L.M. 4.138
			L.M. 5.557

(1) PLACED AS NEAR THE OBSTRUCTION AS POSSIBLE AND SET TO LINE UP WITH INSIDE EDGE OF OBSTRUCTION.

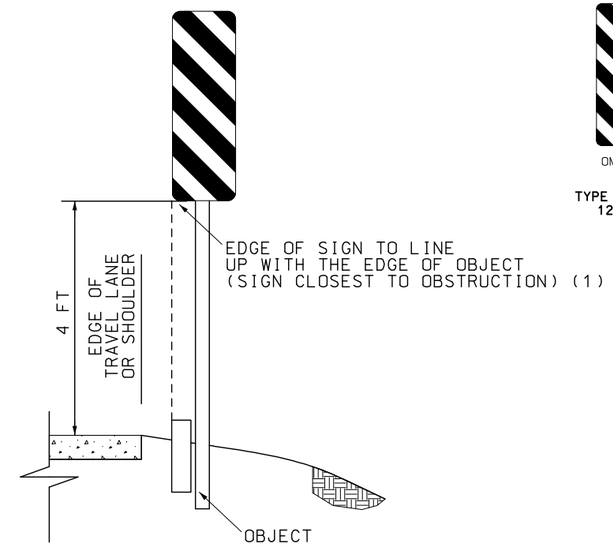


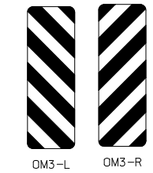
SIGN DETAIL AT CULVERTS OR BRIDGES – L = ≥ 20′

ROUTE C

L.M. 2.600
L.M. 6.189

(1) PLACED AS NEAR THE OBSTRUCTION AS POSSIBLE AND SET TO LINE UP WITH INSIDE EDGE OF OBSTRUCTION.
(2) PLACED 1.5 FEET OFF THE EDGE OF PAVEMENT AND 20 FEET FROM THE END OF THE OBSTRUCTION.
(3) PLACED 3.0 FEET OFF THE EDGE OF PAVEMENT AND 40 FEET FROM THE END OF THE OBSTRUCTION.





TYPE 3 OBJECT MARKER
12 IN. X 36 IN.

MOUNTING HEIGHT AND OFFSET
TYPE 3 OBJECT MARKER INSTALLATION

SEE DETAIL FOR OFFSETS OF SIGNS FURTHER AWAY FROM OBSTRUCTION

EFFECTIVE 12-01-2017

SIGNS						U CHANNEL POST, 3 LB. POST SIZE 14′ EACH ITEM NO. 9031250A	
SIGN NO. OR SET NO.	SIGN SIZE	LOG MILE	HORZ CLEAR IF NOT STD	LOCATION	POST QTY EA	LF	REMARKS AND OTHER REQUIRED ITEMS.
S1	1x3	2.600		RTE. C LT. & RT.	12	168	
S2	1x3	2.676		RTE. C LT. & RT.	2	28	
S3	1x3	3.034		RTE. C LT. & RT.	2	28	
S4	1x3	4.584		RTE. C LT. & RT.	2	28	
S5	1x3	4.862		RTE. C LT. & RT.	2	28	
S6	1x3	6.189		RTE. C LT. & RT.	12	168	
S7	1x3	6.553		RTE. C LT. & RT.	2	28	
S8		6.611		RTE. C & RT.			USE EXIST. POST & STUB
S9	1x3	8.573		RTE. C LT. & RT.	2	28	
S10	1x3	2.599		RTE. PP LT. & RT.	2	28	
S11	1x3	1.376		RTE. HH LT. & RT.	2	28	
S12	1x3	2.898		RTE. HH LT. & RT.	2	28	
S13	1x3	4.138		RTE. HH LT. & RT.	2	28	
S14	1x3	5.557		RTE. HH LT. & RT.	2	28	
				SUBTOTAL		644	
				TOTAL		644	

EFFECTIVE 10-01-2016

STANDARD SIGN ASSEMBLIES								SIGN SUMMARY				
SIGN NUMBER OR SET NUMBER	LOG MILE	LOCATION	TYPE: OM3-R	TYPE: OM3-L	TYPE: W1-10L			STANDARD SIGN OR SPECIAL SIGN NUMBER	SIGN DETAIL SHEET NO.	NO. EACH	SIZE, TYPE & SQ. FT.: SIZE	SIZE, TYPE & SQ. FT.: FLAT SHEET FLUORESCENT SHF ✱ ITEM NO. 9035069A
			SIGN DESC., SIZES & # OF EACH									
			12IN. X 36IN.	12IN. X 36IN.	36IN. X 36IN.							
S1	2.600	RTE. C LT. & RT.	6	6				OM3-R	STD.	34	1′X3′	102
S2	2.676	RTE. C LT. & RT.	2					OM3-L	STD.	12	1′X3′	36
S3	3.034	RTE. C LT. & RT.	2					W1-10L	STD.	1	3′X3′	9
S4	4.584	RTE. C LT. & RT.	2									
S5	4.862	RTE. C LT. & RT.	2									
S6	6.189	RTE. C LT. & RT.	6	6								
S7	6.553	RTE. C LT. & RT.	2									
S8	6.611	RTE. C RT.			1						TOTAL	147
S9	8.573	RTE. C LT. & RT.	2									
S10	2.599	RTE. PP LT. & RT.	2									
S11	1.376	RTE. HH LT. & RT.	2									
S12	2.898	RTE. HH LT. & RT.	2									
S13	4.138	RTE. HH LT. & RT.	2									
S14	5.557	RTE. HH LT. & RT.	2									

✱ ORANGE, YELLOW & YELLOW/GREEN

D-30

SIGNING SHEET
SHEET 1 OF 1

STATE OF MISSOURI
RYAN JOSEPH LIBBERT
NUMBER PE-2006019679
PROFESSIONAL ENGINEER
08/06/2024 11:32:26 AM
RYAN JOSEPH LIBBERT - CIVIL
MO-PE-2006019679

DATE PREPARED	8/6/2024
ROUTE	C/PP/HH
STATE	MO
DISTRICT	CD
SHEET NO.	15
COUNTY	LACLEDE
JOB NO.	JCD0048
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

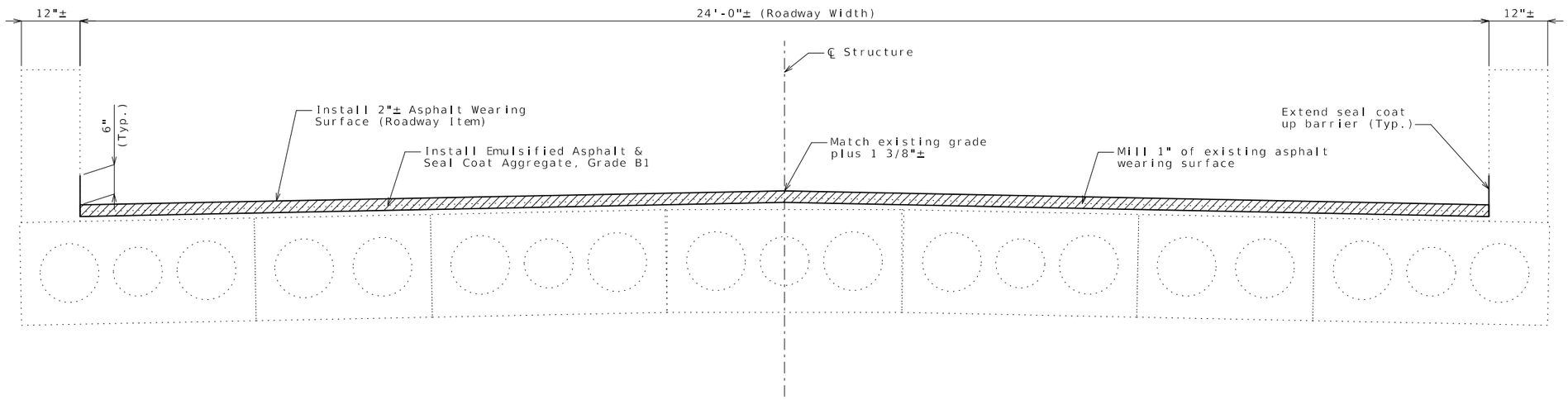
DESCRIPTION

DATE

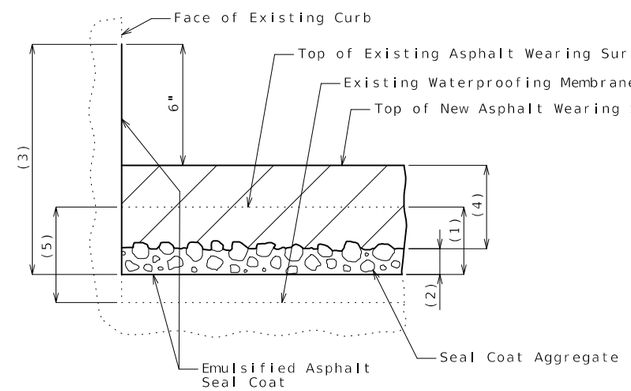
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

SEC/SUR	27	TWP	33N	RGE	16W

U.I.P. & REHABILITATE EXISTING (75',90',75') SIMPLE PRESTRESSED CONCRETE ADJACENT VOIDED SLAB BEAM SPANS (SKEW: 10° L.A.)



TYPICAL SECTION THRU EXISTING DECK



DETAIL A

(1) Remove 1"± of existing asphalt wearing surface

(2) 3/8" Emulsified Asphalt Seal Coat with Seal Coat Aggregate, Grade B1

(3) Extend Emulsified Asphalt, Seal Coat up the curb face.

(4) 2" minimum Asphalt Wearing Surface (Roadway Item)

(5) 2" Existing Asphalt Wearing Surface

General Notes:

Design Specifications:
2002 AASHTO LFD (17th Ed.) Standard Specifications
Bridge Deck Rating = 9

Design Unit Stresses:
Class B-1 Concrete f'c = 4,000 psi
Reinforcing Steel (Grade 60) fy = 60,000 psi

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

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

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

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

All reinforcement in barrier end modification shall be epoxy coated.

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 a qualified special mortar in accordance with Sec 704.

Cost of removing existing barrier concrete, and cost of furnishing and installing new concrete, new reinforcing steel, and any other work incidental to the barrier end modification, complete in place, will be considered completely covered by the contract unit price for Barrier End Modification.

Estimated Quantities

Item		Total
Removal of Asphalt Wearing Surface	sq. foot	5766
Emulsified Asphalt, Seal Coat	gallon	272
Seal Coat Aggregate, Grade B1	sq. yard	641
Barrier End Modification	each	4

REPAIRS TO BRIDGE:
ROUTE PP OVER BRUSH CREEK

ROUTE PP FROM ROUTE C TO ROUTE J
ABOUT 0.7 MILE SOUTH OF ROUTE C
BEGINNING STATION 100+00.28± (MATCH EXISTING)

Detailed July 2024
Checked July 2024

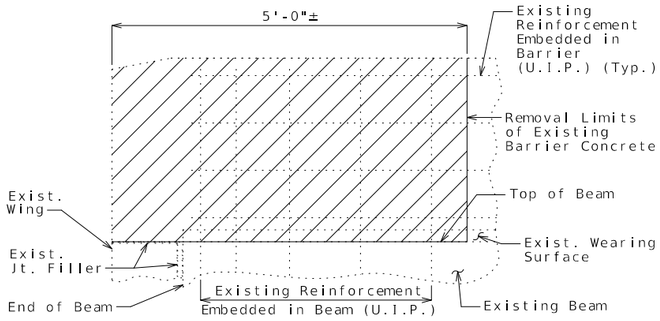
Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
TRENTON B. CRAWFORD
NUMBER PE-2012018053
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

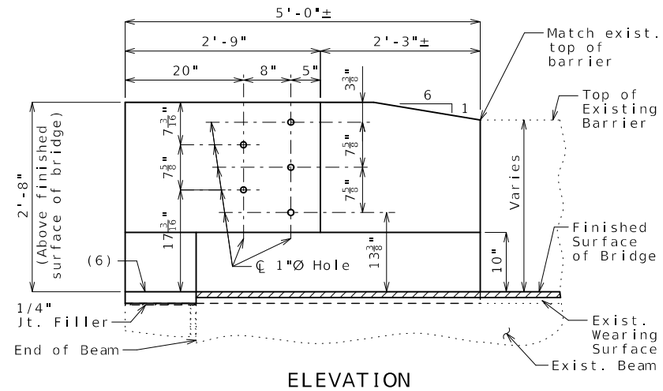
DATE PREPARED	
8/6/2024	
ROUTE: PP	STATE: MO
DISTRICT: BR	SHEET NO.: 1
COUNTY: LACLEDE	
JOB NO.: JCD0048	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.: B04471	

DATE	DESCRIPTION

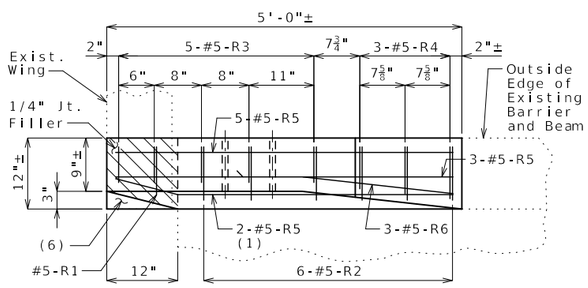
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



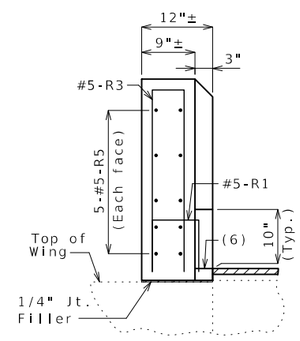
PART ELEVATION SHOWING CONCRETE REMOVAL



ELEVATION



PLAN (3)



ELEVATION A-A

(1) Bend in field.

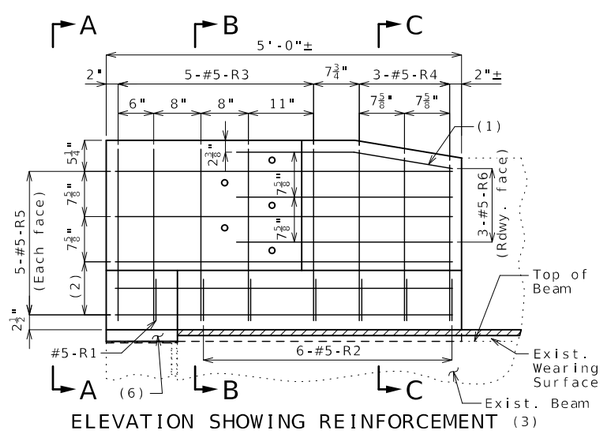
(2) 2 Spa. @ $4\frac{1}{2}$"

(3) Existing reinforcement not shown for clarity.

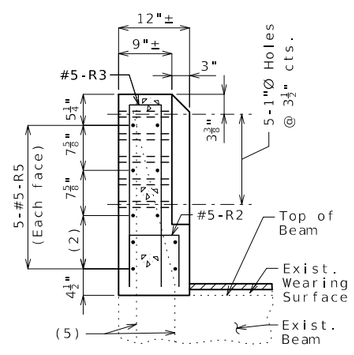
(4) Existing longitudinal reinforcement not shown for clarity.

(5) Existing reinforcement embedded in beam (U.I.P.) (Bend in field as needed) (Typ.)

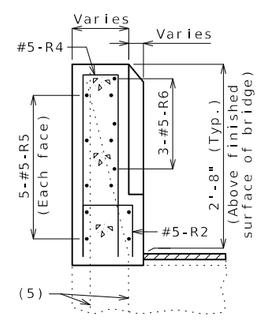
(6) Fill with mortar or concrete.



ELEVATION SHOWING REINFORCEMENT (3)



SECTION B-B (4)



SECTION C-C (4)

BARRIER MODIFICATION FOR GUARDRAIL ATTACHMENT

Detailed July 2024
Checked July 2024

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

STATE OF MISSOURI
TRENTON B. CRAWFORD
NUMBER PE-2012018053
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

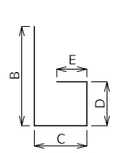
DATE PREPARED	8/6/2024
ROUTE	PP
STATE	MO
DISTRICT	BR
SHEET NO.	2
COUNTY	LACLEDE
JOB NO.	JCD0048
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	B04471

DESCRIPTION

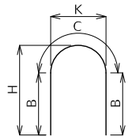
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



SHAPE 6
or 6S



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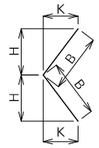

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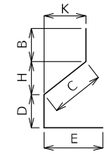

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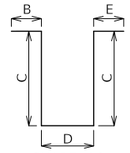

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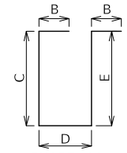

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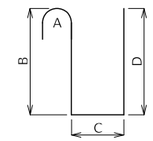

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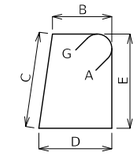

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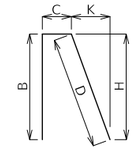

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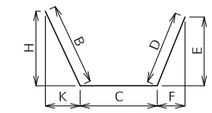

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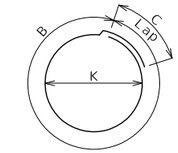

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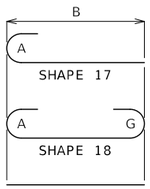
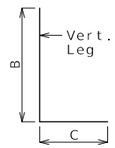


SHAPE 17
SHAPE 18
SHAPE 20



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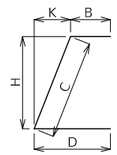

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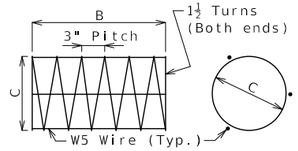

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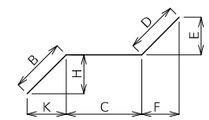

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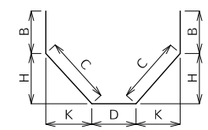

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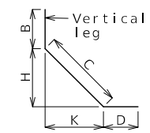

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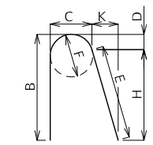

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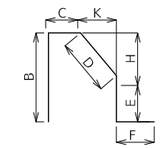

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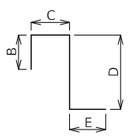

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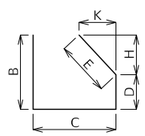

SHAPE 29
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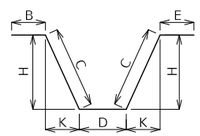
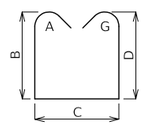
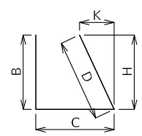


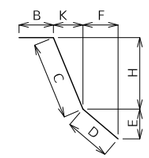
SHAPE 30
or 30S



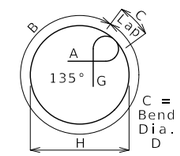
SHAPE 31S



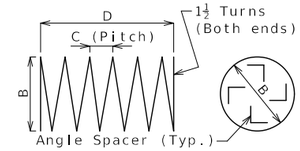
SHAPE 32
or 32S



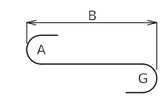
SHAPE 33
or 33S



SHAPE 34S



SHAPE 35 (1)

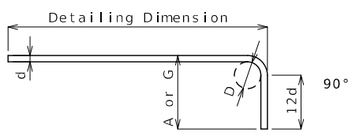


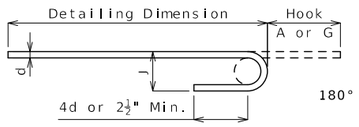
SHAPE 36

Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes

Size	Case	D	A or G 90°	A or G 180°	J 180°
#4	1	3"	8"	6"	4"
#5	1	3¾"	10"	7"	5"
#6	1	4½"	12"	8¼"	6"
#7	2	5¼"	14"	9¾"	7"
	3	7"	15"	11½"	8¾"
#8	2	6"	16"	11"	8"
	3	8"	17"	13¼"	10"
#9	1	9½"	19½"	15½"	11¾"
#10	1	10¾"	22"	17½"	13¼"
#11	1	12"	24½"	19½"	14⅞"
#14	1	18¼"	31¼"	27½"	21⅝"
#18	1	24"	41½"	36¼"	28½"



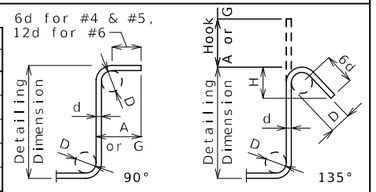


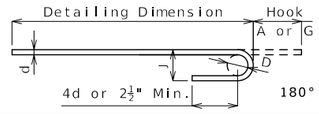
Stirrup Pin Bend Shapes (S)

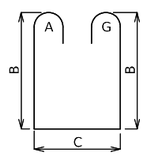
Size	Case	D	A or G 90°	A or G 135°	A or G 180°	H 135°	J 180°
#4	2	2"	4½"	4½"	5"	2⅝"	3"
	3	3"	5"	5¼"	6"	3"	4"
#5	2	2½"	5¾"	5¾"	5¾"	3⅝"	3¾"
	3	3¾"	6¼"	6½"	7"	3⅞"	5"
#6	1	4½"	12"	7¾"	8¼"	4⅜"	6"

Applicable for all grades of steel.

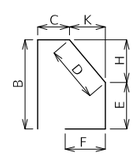
Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.







SHAPE 37S



SHAPE 38S

BENDING DIAGRAMS

All dimensions are out to out.

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

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

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

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

Reinforcing Steel Totals (Pounds)

	Size	Substructure Plain	Substructure Epoxy	Superstructure Slab	Superstructure Barrier	Superstructure Slip Form	Entire Bridge Plain	Entire Bridge Epoxy
By Size	W5	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0
	5	0	0	0	477	0	0	477
	6	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0
	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	0	477	0	0	477

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

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Detailed July 2024
Checked July 2024

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

STATE OF MISSOURI
TRENTON B. CRAWFORD
NUMBER PE-2012018053
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	8/6/2024
ROUTE	PP
STATE	MO
DISTRICT	BR
SHEET NO.	3
COUNTY	LACLEDE
JOB NO.	JCD0048
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	B04471

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 C	Codes SH	Codes V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
		End Post Mod.													
4	5 R1	MODIFIED END	E	10S			10.38	8.00					2 5	2 2	9
24	5 R2	MODIFIED END	E	10S			9.00	9.00					2 3	2 0	50
20	5 R3	MODIFIED END	E	10S			2 7.00	6.00					5 8	5 5	113
12	5 R4	MODIFIED END	E	10S	4		2 8.13	7.00					6 0	5 9	
		Incr. = 2.000"					2 5.63	8.50					5 8	5 5	70
40	5 R5	MODIFIED END	E	20		4 9.00							4 9	4 9	198
12	5 R6	MODIFIED END	E	15S		11.25	2 1.50				1.25	11.25	3 1	2 11	37

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	Codes SH	Codes V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb

Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

For bending diagrams and steel reinforcing totals, see Sheet No. 3.

All bars shall be Grade 60.

Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.

SH = Required shape, see bending diagrams.

V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

Detailed July 2024
Checked July 2024

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

BILL OF REINFORCING STEEL

STATE OF MISSOURI
TRENTON B. CRAWFORD
NUMBER PE-2012018053
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 8/6/2024

ROUTE	STATE
PP	MO
DISTRICT	SHEET NO.
BR	4

COUNTY: LACLEDE

JOB NO. JCD0048

CONTRACT ID.

PROJECT NO.

BRIDGE NO. B04471

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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