

I-255

A.A.D.T. EB (2019) =	31,819
A.A.D.T. WB (2019) =	33,179
A.D.T. TOTAL (2042) =	65,423
TRUCKS EB (CONST.) =	18.2%
TRUCKS WB (CONST.) =	18.2%

FUNCTIONAL CLASSIFICATION - INTERSTATE

OPERATIONAL (POSTED) SPEED = 60 MPH

CONVENTIONAL SYMBOLS (USED IN PLANS)

NOTE: DASHED OR OPEN SYMBOLS INDICATE
EXISTING FEATURES

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DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	1
TYPICAL SECTIONS (TS) (1 SHEET)----	2
QUANTITIES (QU)(3 SHEETS)-----	3
PLAN SHEET (PP)-----	4-13
COORDINATE POINTS (CP)-----	14
SPECIAL SHEETS (SS)-----	15-16
TRAFFIC CONTROL SHEETS (TC)-----	17-41
LIGHTING SHEETS (LT)-----	42-43
SIGNING SHEETS (SN)-----	44
CROSS SECTIONS (XS)-----	1-2

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**MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION**

MoDOT

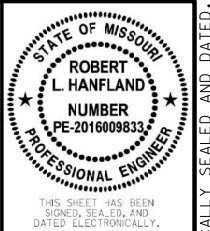
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JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

BEGINNING OF PROJECT	120+15.00
END OF PROJECT	674+81.00

EQUATIONS AND EXCEPTIONS:	
STA. 115+33.43 BK =	
STA. 115+37.45 AH	4.02 FEET
STA. 146+14.87 BK =	
STA. 0+83.00 AH	14,531.87 FEET
STA. 2+82.86 BK (MD) =	
STA. 730+83.43 AH (IL) *	72,800.57 FEET


TOTAL BRIDGE EXCEPTIONS	0	MILES
NET LENGTH OF PROJECT	8402.16	FEET
STATE LENGTH	1.591	MILES

* ILLINOIS STATIONING DECREASES FROM WEST TO EAST.



DATE PREPARED 9/19/2021	
ROUTE I-255	STATE MO
DISTRICT STL	SHEET NO. 1
COUNTY ST. LOUIS	
JOB NO. J613413/J613500	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

[illegible]

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COMMISSION

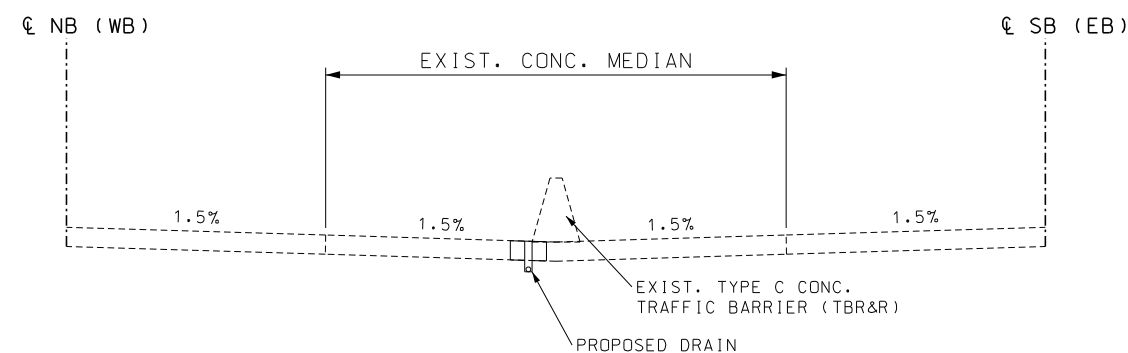
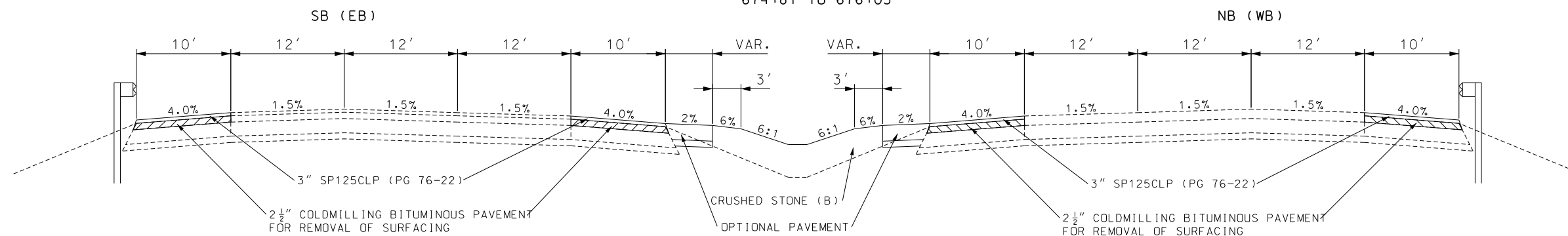
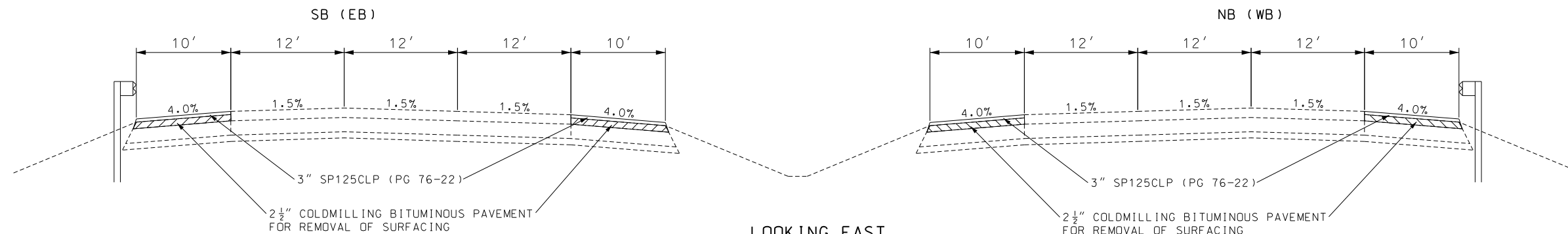
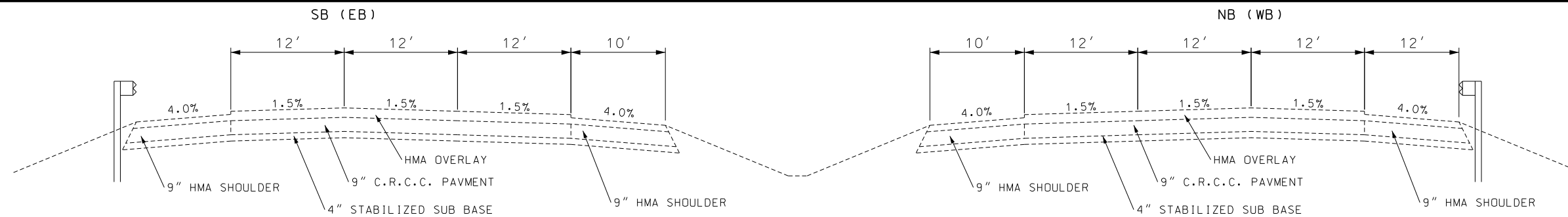
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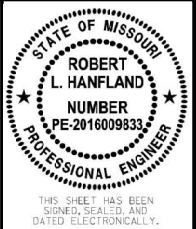
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TYPICAL SECTIONS
SHEET 1 OF 1



DATE PREPARED
9/22/2021

ROUTE I-255	STATE MO
DISTRICT STL	SHEET NO. 2

COUNTY
ST. LOUIS


JOB NO.
J6I3413/J6I3500
CONTRACT ID.

PROJECT NO.

	BRIDGE NO.

[illegible]

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FULL DEPTH PAVEMENT REPAIR (J613500)										
ROUTE	APPROXIMATE LOCATION	DIRECTION	LANE	WIDTH FT	LENGTH FT	FURN. & PLACE CONC. FULL DEPTH SQ YD	SUBGRADE COMP. (6" DEPTH) SY	TYPE 1 OR 5 AGG. (4" THICK) SY	FULL DEPTH PVMT. REPAIR SAW CUTS LF	DOWEL BARS FULL DEPTH PVMT. REPAIR EA
KOCH RD	OLD SOUTH GATE ENTRANCE TO NEW SOUTH GATE ENTRANCE	SB	LTL/MEDIAN	6	11	7.3	1.0	1.0	40.0	12
KOCH RD		SB	LTL/MEDIAN	6	12	8.0	1.0	1.0	42.0	12
KOCH RD		SB	LTL/MEDIAN	6	20	13.3	1.0	1.0	64.0	12
KOCH RD		SB	LTL/MEDIAN	6	15	10.0	1.0	1.0	54.0	12
KOCH RD		SB	LTL/MEDIAN	4	9	4.0	0.0	0.0	30.0	8
KOCH RD		SB	LTL/MEDIAN	6	12	8.0	1.0	1.0	42.0	12
KOCH RD		SB	LTL/MEDIAN	4	16	7.1	1.0	1.0	48.0	8
KOCH RD		SB	LTL/MEDIAN	4	12	5.3	1.0	1.0	36.0	8
KOCH RD		SB	#1	6	13	8.7	1.0	1.0	44.0	12
KOCH RD		SB	#1	4	6	2.7	0.0	0.0	20.0	8
KOCH RD		SB	#1	4	10	4.4	0.0	0.0	32.0	8
KOCH RD		NB	#1	4	13	5.8	1.0	1.0	38.0	8
KOCH RD		NB	#1	4	10	4.4	0.0	0.0	32.0	8
KOCH RD		NB	#2	6	14	9.3	1.0	1.0	46.0	12
KOCH RD		NB	#2	4	8	3.6	0.0	0.0	24.0	8
KOCH RD		NB	#2	8	25	22.2	2.0	2.0	90.0	16
KOCH RD	NEW NORTH GATE ENTRANCE TO LICENSE TESTING FACILITY	SB	#1	14	16	24.9	2.0	2.0	88.0	28
KOCH RD		SB	#2	6	11	7.3	1.0	1.0	40.0	12
KOCH RD		SB	#2	5	8	4.4	0.0	0.0	26.0	10
KOCH RD		SB	#2	4	14	6.2	1.0	1.0	40.0	8
KOCH RD		SB	#2	9	15	15.0	2.0	2.0	66.0	18
KOCH RD		NB	#2	6	12	8.0	1.0	1.0	42.0	12
KOCH RD		NB	#2	4	12	5.3	1.0	1.0	36.0	8
KOCH RD		NB	#2	12	12	16	2.0	2.0	60	24
TOTAL						211.2	22.0	22.0	1080.0	284

CLASS A PAVEMENT REPAIRS (J613500)							
ROUTE	APPROXIMATE LOCATION	DIRECTION	LANE	APPROX AREA SY	APPROX DEPTH IN	FURN. & PLACE CONVERSION FACTOR LB/FT3	CLASS A PARTIAL DEPTH CONC PVMT REPAIR USING FLEXIBLE HOT POLYMER MOD. REPAIR MATL. LB
KOCH RD	OLD SOUTH GATE ENTRANCE TO NEW SOUTH GATE ENTRANCE	SB	LTL/MEDIAN	31.3	3	120	8451
KOCH RD		SB	#1	37.3	3	120	10071
KOCH RD		NB	#1	46.0	3	120	12420
KOCH RD		NB	#2	25.1	3	120	6777
KOCH RD	NEW NORTH GATE ENTRANCE TO LICENSE TESTING FACILITY	SB	#2	37.8	3	120	10206
KOCH RD	ENTRANCE TO LICENSE TESTING FACILITY TO RAMPS	NB	#2	40.7	3	120	10989
KOCH RD							
KOCH RD		SB	#2	1.6	3	120	432
KOCH RD		NB	#1	0.7	3	120	189
KOCH RD	RAMPS TO KINSWOOD LN	NB	#2	0.3	3	120	81
KOCH RD		SB	#2	0.2	3	120	54
KOCH RD							
TOTAL							59670.0

AS DIRECTED BY ENGINEER

ESTIMATE OF QUANTITIES FOR EAST CROSSOVER													
ROUTE	BEGIN STATION	END STATION	OPTIONAL PAVEMENT SQ. YD.	ADJUST INLET EACH	4" TYPE 5 BASE SQ. YD.	CLASS A EXCAVATION CU. YD.	CRUSHED STONE (B) TONS	COMPACTING IN CUT STA.	TYPE 5 AGGREGATE SQ. YD.	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL EACH	TEMPORARY MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR/NO CURB) EACH	TYPE A CRASHWORTHY END TERMINAL (MASH) EACH	MGS GUARDRAIL LF
I-255	676+05.02	680+84.29	1646.2	1.0	1646.2	178.5	1000.0	7.5	423.5	50	1	1	275
			1646.2	1.0	1646.2	178.5	1000.0	7.5	423.5	50.0	1.0	1.0	275.0
													0.4

FOR INFORMATION PURPOSES ONLY

TEMPORARY MEDIAN CROSSOVER (WEST) (J613413) TOTAL = 1 LUMP SUM	TEMPORARY MEDIAN CROSSOVER (EAST) (J613413) TOTAL = 1 LUMP SUM	BRIDGE MOUNTING SIGNS WITHOUT BRACKET(J613500) TOTAL = 1 LUMP SUM	CONTRACTOR FURNISHED SURVEYING AND STAKING(J613413) TOTAL = 1 LUMP SUM	MOBILIZATION(J613413) TOTAL = 1 LUMP SUM	MOBILIZATION(J613500) TOTAL = 1 LUMP SUM
		RELAP GUARDRAIL(J613413) TOTAL = 1 LUMP SUM	TRENCH DRAIN(J613413) TOTAL = 1 LUMP SUM	WELD DRAINAGE GRATES(J613413) TOTAL = 1 LUMP SUM	

SUMMARY OF QUANTITIES
SHEET 1 OF 3

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CONCRETE TRAFFIC BARRIER (J613413)			
ROUTE	STA.	STA.	TYPE C FEET
I-255	120+15	126+83	668
		TOTAL	668

CONCRETE TRAFFIC BARRIER (J613500)			
ROUTE	STA.	STA.	TYPE C TRANSITION FEET
I-255	120+15	126+83	
I-255	135+30	135+45	15
I-255	133+25	133+40	15
		TOTAL	30

ESTIMATE OF QUANTITIES FOR WEST CROSSOVER(J613413)					
ROUTE	BEGIN STATION	END STATION	LOCATION	FILL RUMBLE STRIP STA.	REMARKS
I-255	118+55	133+00	LT	14.5	NB INSIDE SHLDR
I-255	118+55	133+00	RT	14.5	SB INSIDE SHLDR
I-255	136+30	2+56	RT	10.1	SB INSIDE SHLDR
I-255	142+50	2+56	RT	5.4	SB OUTSIDE SHLDR
I-255	136+30	2+56	LT	10.1	NB INSIDE SHLDR
I-255	1+00	2+56	LT	1.6	NB OUTSIDE SHLDR
TOTAL				56.2	

FOR INFORMATION PURPOSES ONLY

REMOVAL OF IMPROVEMENTS(J613500)						
RTE.	STA.	STA.	LOCATION	DESCRIPTION	AMOUNT	UNIT
I-255	89+94	105+91	LEFT	GUARDRAIL	1611	LF
I-255	109+67	111+43	LEFT	GUARDRAIL	175	LF
I-255	133+25	133+40	CENTER	CONCRETE BARRIER	15	LF
I-255	135+30	135+45	CENTER	CONCRETE BARRIER	15	LF
I-255	134+93	136+28	LEFT	GUARDRAIL	137	LF
I-255	135+79	2+63	RIGHT	GUARDRAIL	1214	LF
TOTAL					1	LS

REMOVAL OF IMPROVEMENTS(J613413)						
RTE.	STA.	STA.	LOCATION	DESCRIPTION	AMOUNT	UNIT
I-255	120+15	126+83	CENTER	CONCRETE BARRIER	668	LF
I-255	122+68	124+96	RIGHT	GUARDRAIL	231	LF
I-255	126+40	128+08	RIGHT	GUARDRAIL	167	LF
I-255	132+32	133+68	RIGHT	GUARDRAIL	137	LF
I-255	139+57	144+34	LEFT	GUARDRAIL	480	LF
TOTAL					1	LS



DATE PREPARED 10/13/2021	
ROUTE I-255	STATE MO
DISTRICT STL	SHEET NO. 3
COUNTY ST. LOUIS	
JOB NO. J613413/J613500	
CONTRACT NO.	

PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

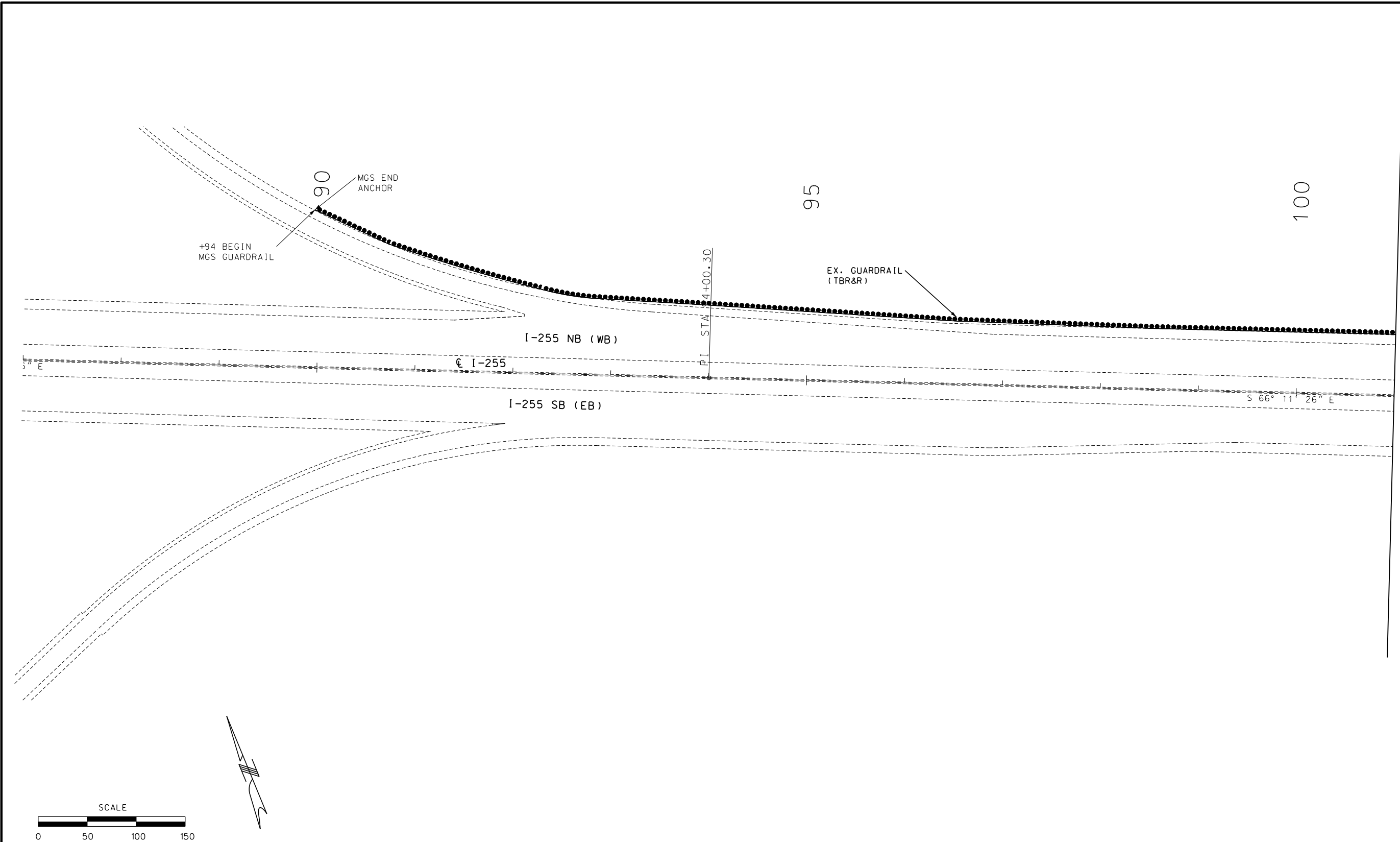
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ROADWAY PLAN SHEET
SHEET 1 OF 10

MATCHLINE STA. 101+00 SHEET 2

STATE OF MISSOURI

ROBERT L. HANFLAND

NUMBER PE-2016009833

PROFESSIONAL ENGINEER

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DATE PREPARED 9/19/2021

ROUTE I-255

DISTRICT STL

STATE MO

SHEET NO. 4

COUNTY ST. LOUIS

JOB NO. J613413/J613500

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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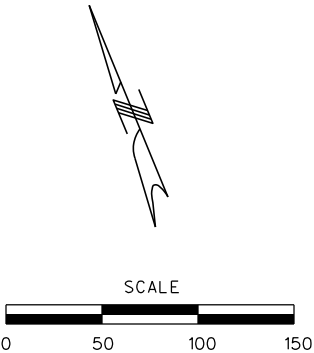
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MATCHLINE STA. 101+00 SHEET 1



EX. GUARDRAIL
(TBR&R)

I-255 NB (WB)

I-255 SB (EB)

SOLID WHITE

PC STA 105+88.80

℄ I-255

105

110

+66 BEGIN MGS
GUARDRAIL

MASH CRASHWORTHY
END SECTION

+76 END MGS
GUARDRAIL

MGS END
ANCHOR

EX. GUARDRAIL
(TBR&R)

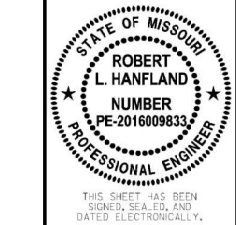
+91 END
MGS GUARDRAIL

MASH CRASHWORTHY
END SECTION

+06

SOLID YELLOW
INTERMITTENT WHITE
INTERMITTENT WHITE

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DATE PREPARED 9/19/2021	
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DISTRICT STL	SHEET NO. 5
COUNTY ST. LOUIS	
JOB NO. J613413/J613500	
CONTRACT ID.	

PROJECT NO.

DATE	DESCRIPTION

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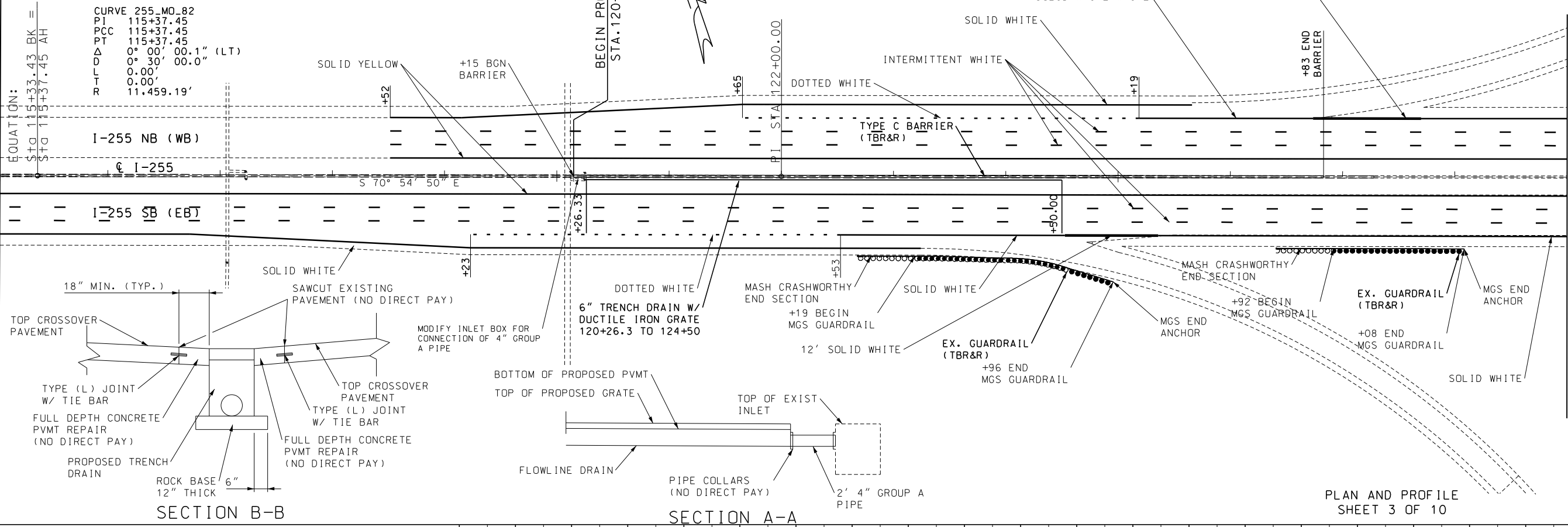
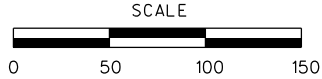
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MATCHLINE STA. 115+00 SHEET 3

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MATCHLINE STA. 115+00 SHEET 2 115

EQUATION:
STG 115+33.43 BK =
STG 115+37.45 AH
CURVE 255_MO_82
PI 115+37.45
PCC 115+37.45
PT 115+37.45
0° 00' 00.1" (LT)
0° 30' 00.0"
0.00'
0.00'
11.459.19'

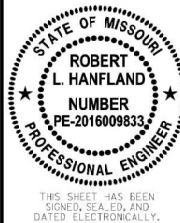


SECTION B-B

SECTION A-A

PLAN AND PROFILE
SHEET 3 OF 10

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DATE PREPARED
9/19/2021
ROUTE
I-255
DISTRICT
STL
COUNTY
ST. LOUIS
JOB NO.
J613413/J613500
CONTRACT ID.

PROJECT NO.
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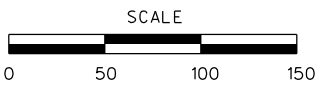
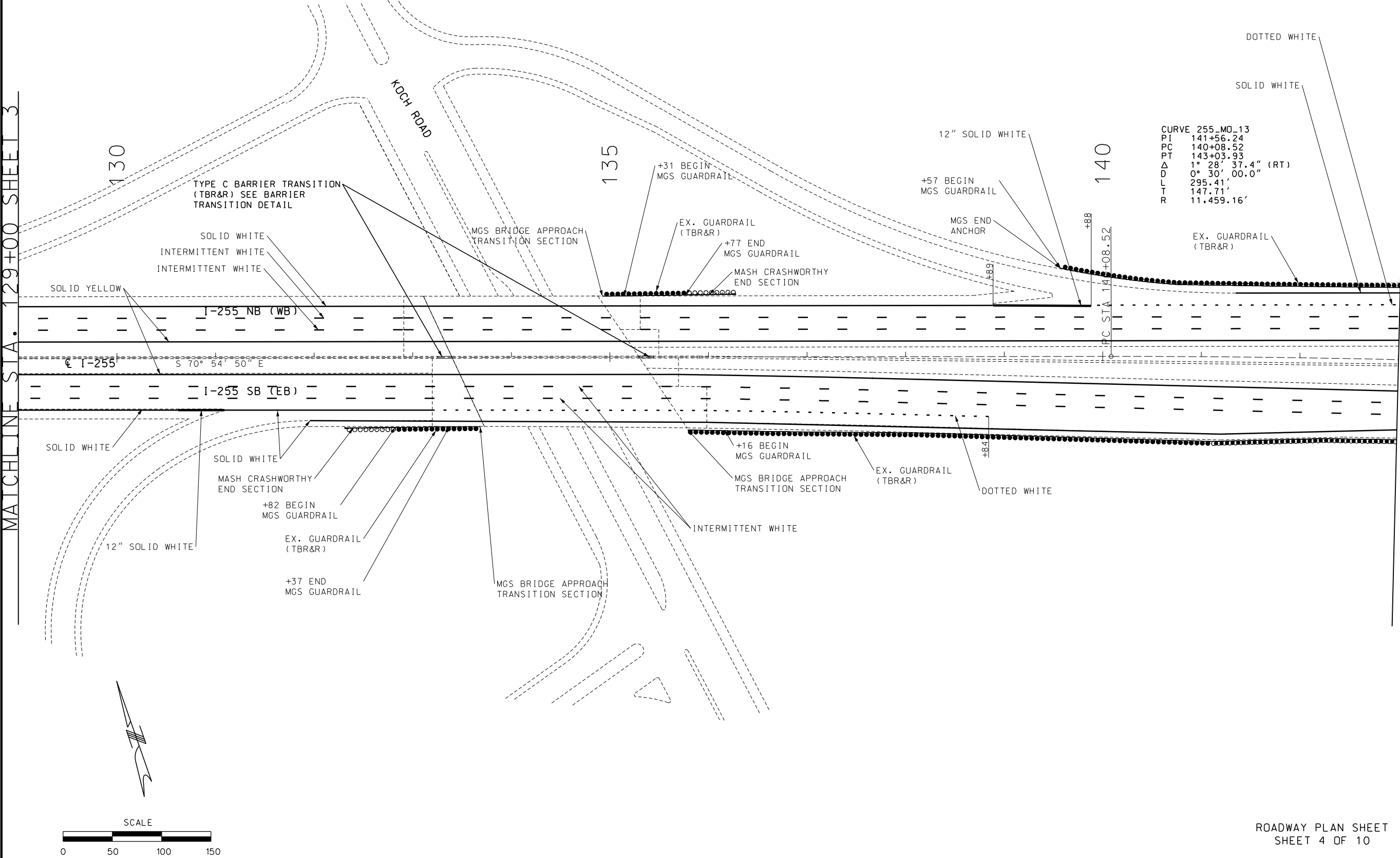
DATE	DESCRIPTION

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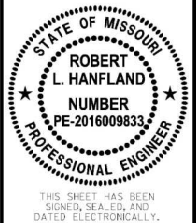
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ROADWAY PLAN SHEET
SHEET 4 OF 10



DATE PREPARED 9/19/2021	
ROUTE I-255	STATE MO
DISTRICT STL	SHEET NO. 7
COUNTY ST. LOUIS	
JOB NO. J613413/J613500	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

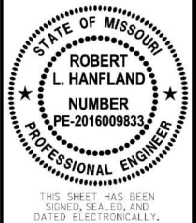
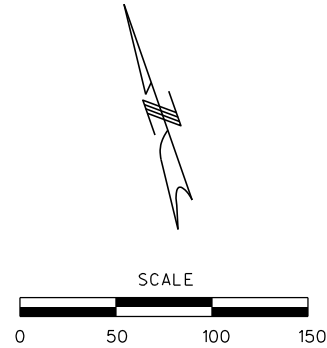
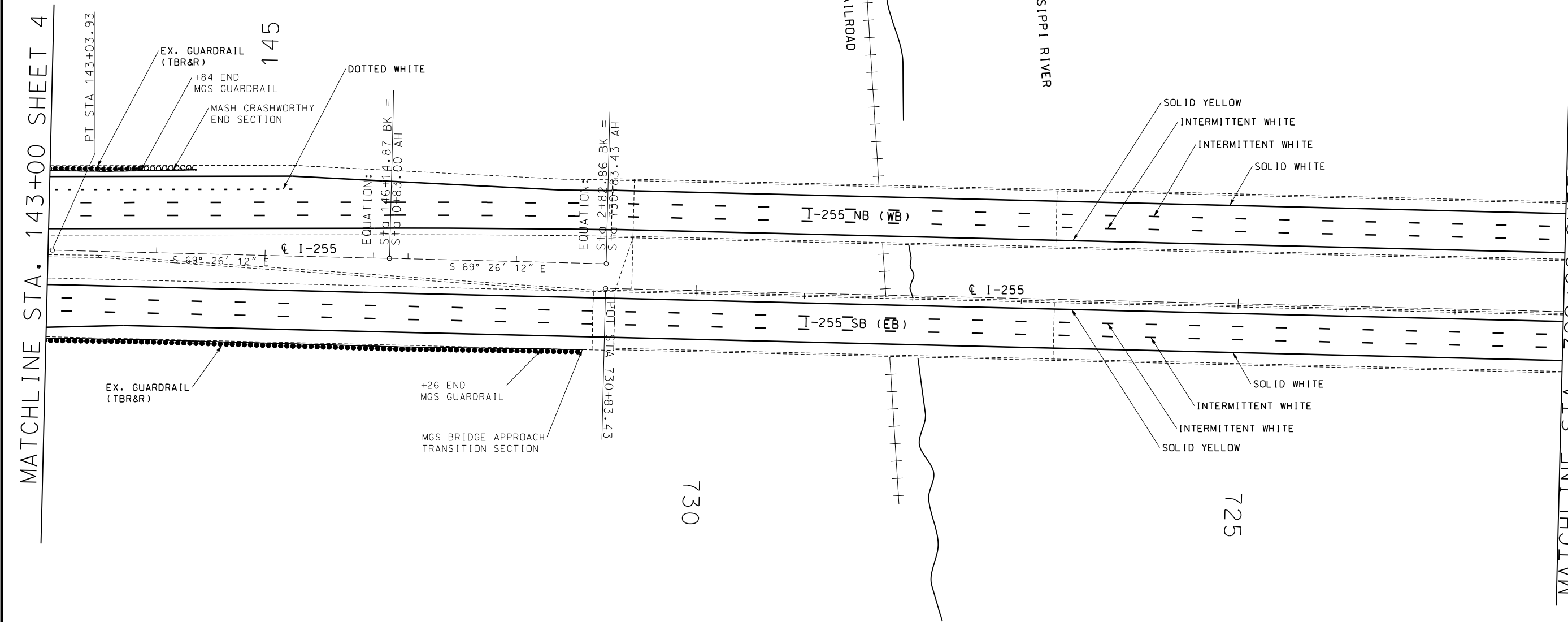
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COUNTY ST. LOUIS	
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PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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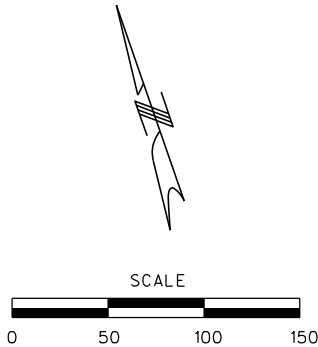
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MATCHLINE STA. 722+00 SHEET 5

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720

715

710

SOLID YELLOW
INTERMITTENT WHITE
INTERMITTENT WHITE
SOLID WHITE

CL I-255

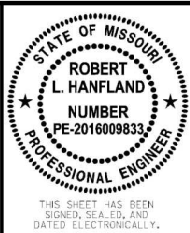
SOLID WHITE
INTERMITTENT WHITE
INTERMITTENT WHITE
SOLID YELLOW

I-255 NB (WB)

I-255 SB (EB)

MATCHLINE STA. 708+00 SHEET 7

ROADWAY PLAN SHEET
SHEET 6 OF 10



DATE PREPARED 9/19/2021	
ROUTE I-255	STATE MO
DISTRICT STL	SHEET NO. 9
COUNTY ST. LOUIS	
JOB NO. J613413/J613500	
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)

5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570

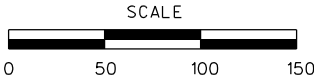
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Missouri State Certificate of Authority #2002006804

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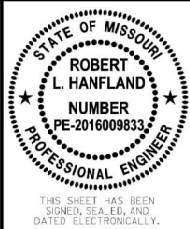
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MATCHLINE STA. 708+00 SHEET 6

569 MATCHLINE STA. 695+00 SHEET 8



ROADWAY PLAN SHEET
SHEET 7 OF 10



DATE PREPARED 9/19/2021	
ROUTE I-255	STATE MO
DISTRICT STL	SHEET NO. 10
COUNTY ST. LOUIS	
JOB NO. J613413/J613500	
CONTRACT ID.	


PROJECT NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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



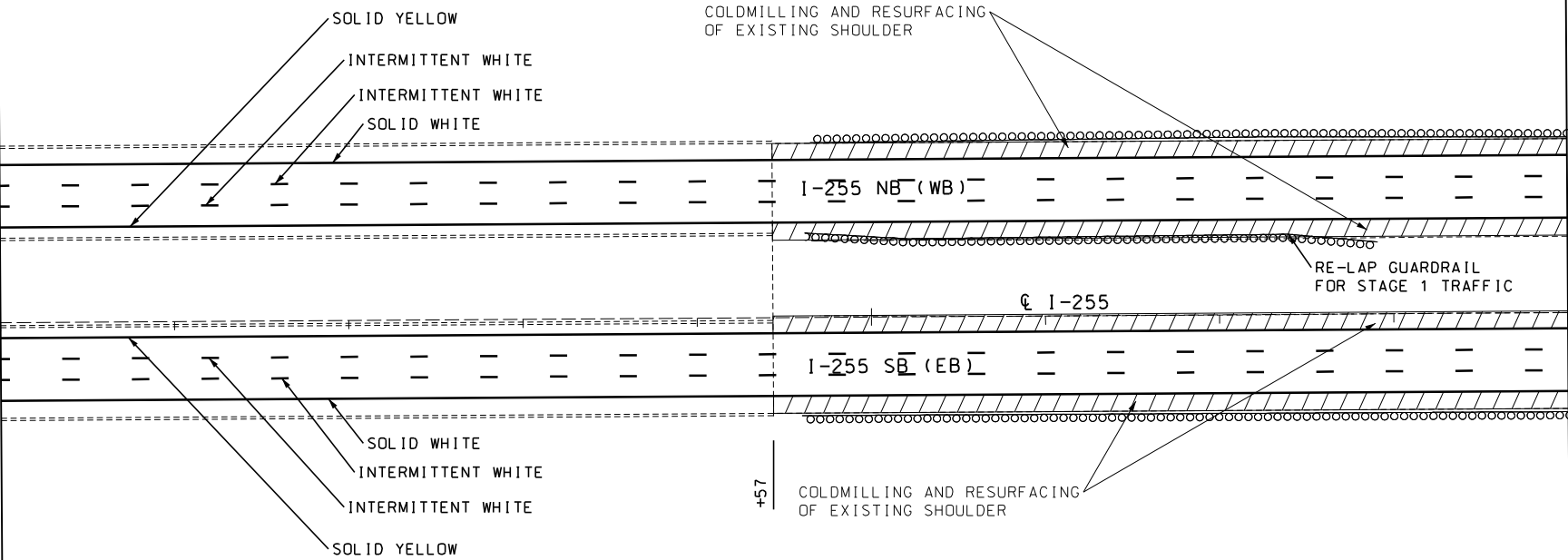
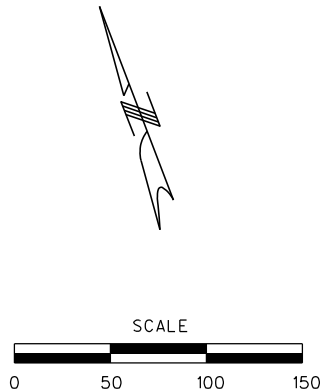
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MATCHLINE STA. 695+00 SHEET 7

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069

MATCHLINE STA. 686+00 SHEET 9

ROADWAY PLAN SHEET
SHEET 8 OF 10

DATE PREPARED
9/19/2021

ROUTE I-255	STATE MO
DISTRICT STL	SHEET NO. 11

COUNTY
ST. LOUIS

JOB NO.
J613413/J613500

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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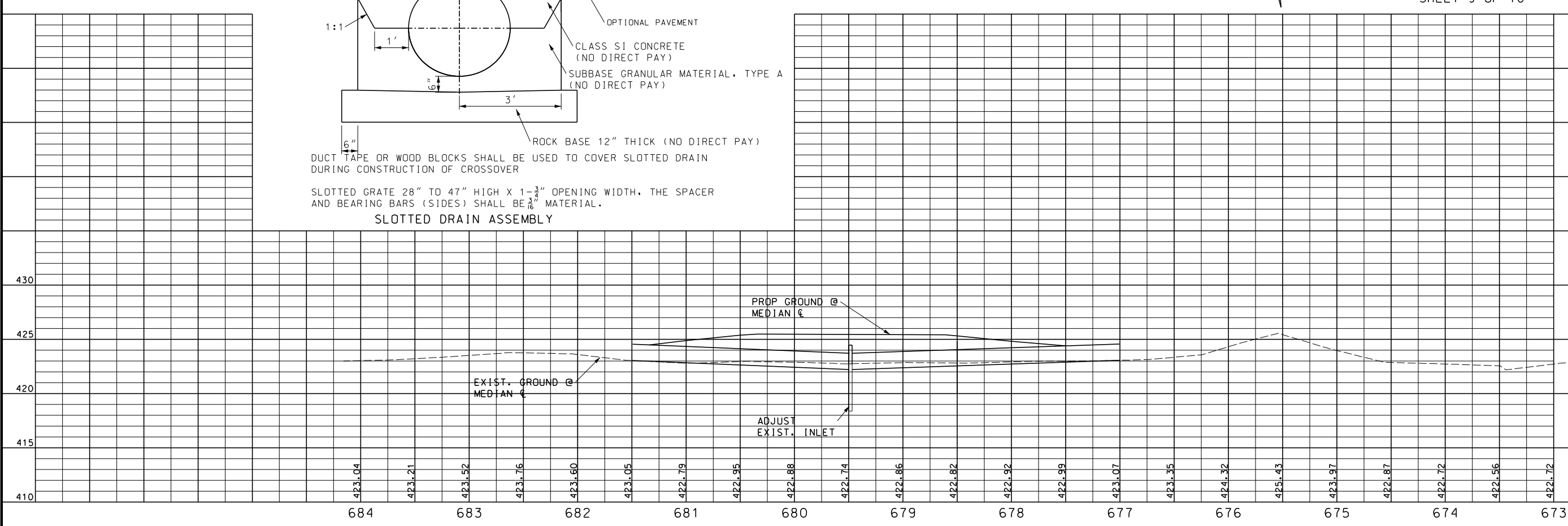
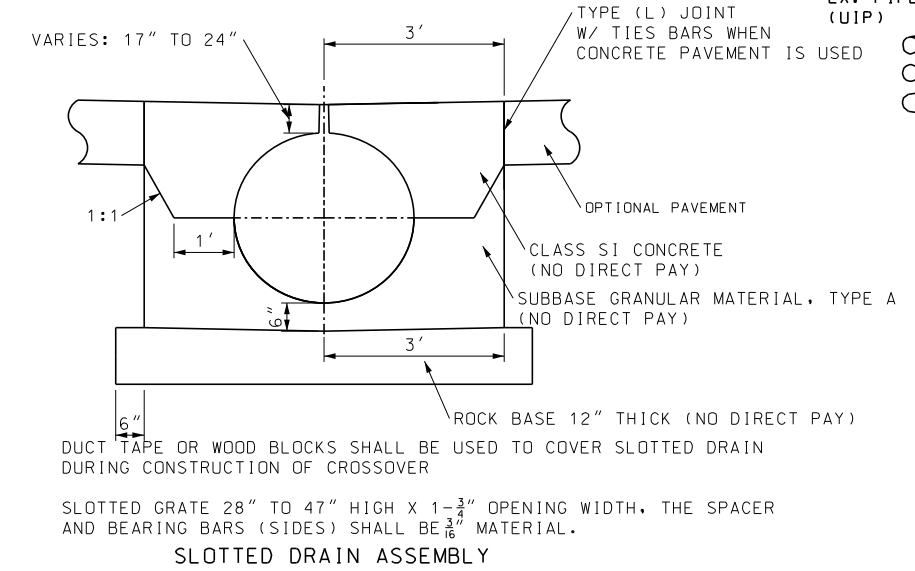
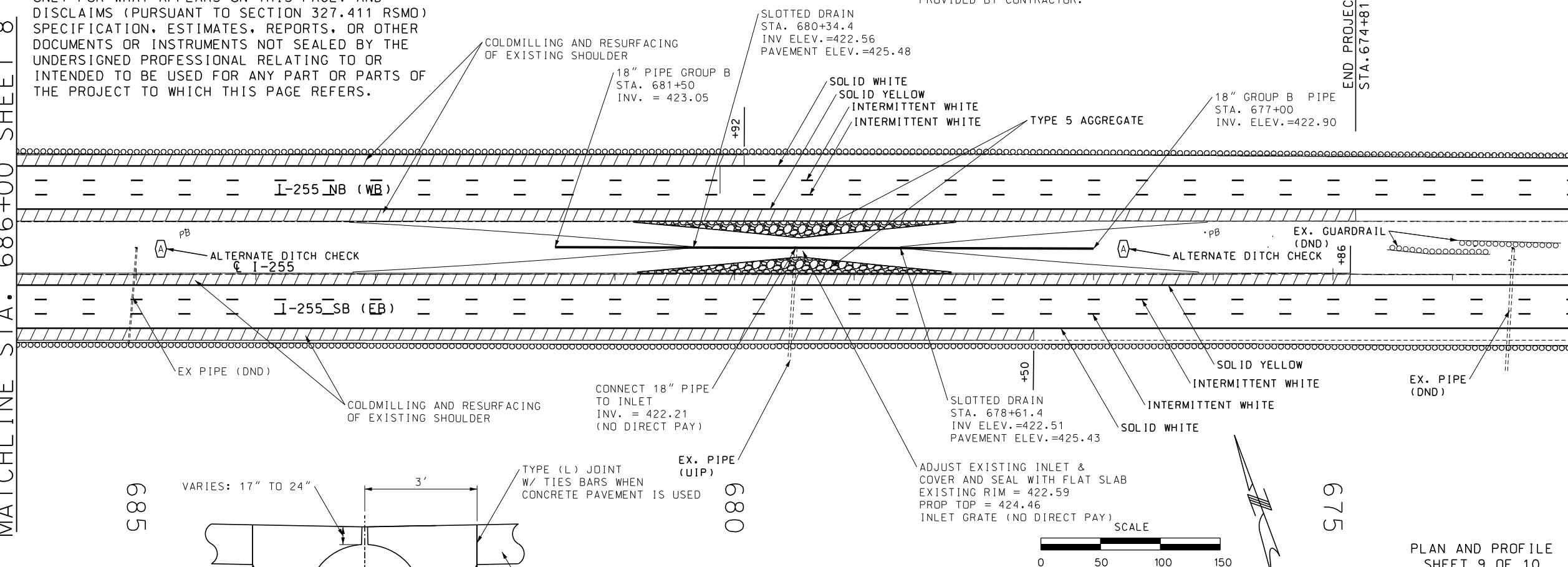
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MATCHLINE STA. 686+00 SHEET 8

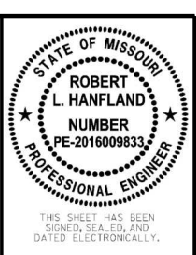
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TEMPORARY LIGHTING AT CROSSOVER TO BE PROVIDED BY CONTRACTOR.

END PROJECT
STA. 674+81.00



MATCHLINE STA. 673+00 SHEET 10



DATE PREPARED 9/19/2021	
ROUTE I-255	STATE MO
DISTRICT STL	SHEET NO. 12
COUNTY ST. LOUIS	
JOB NO. J613413/J613500	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

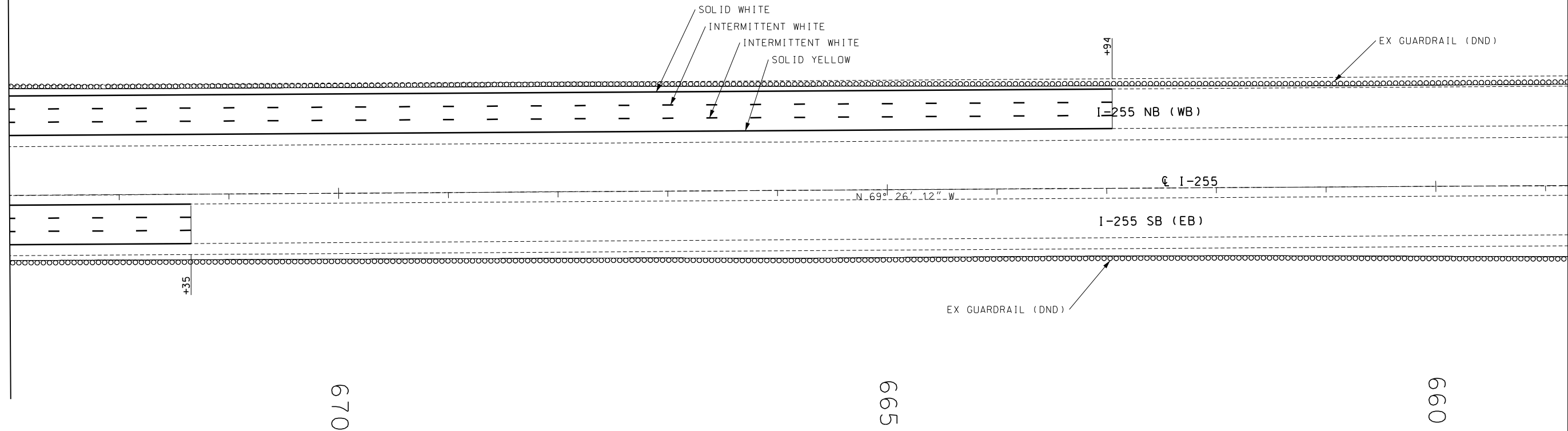
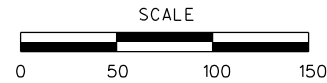
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MATCHLINE 673+00 SHEET 9

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ROADWAY PLAN SHEET
SHEET 10 OF 10

STATE OF MISSOURI
ROBERT L. HANFLAND
NUMBER PE-2016009833
PROFESSIONAL ENGINEER

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

DATE PREPARED
9/19/2021

ROUTE I-255	STATE MO
DISTRICT STL	SHEET NO. 13

COUNTY
ST. LOUIS

JOB NO.
J613413/J613500

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)

5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570

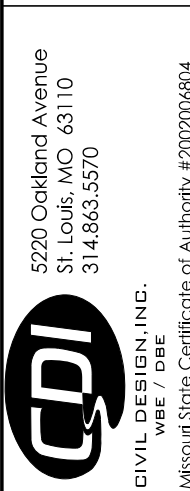
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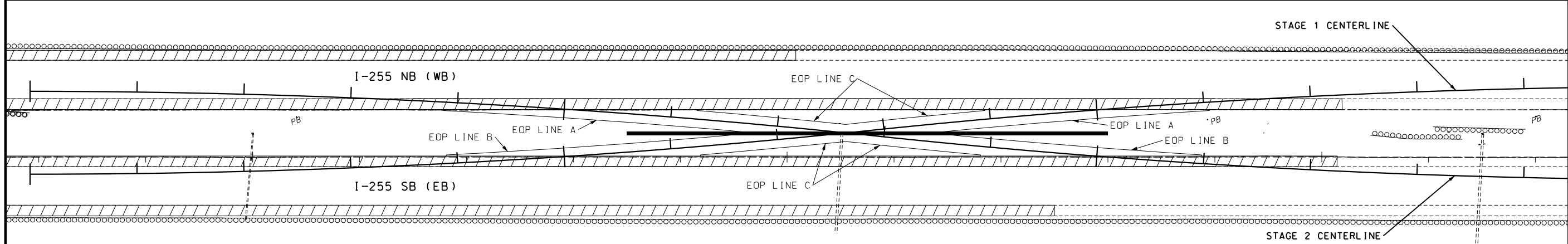
Missouri State Certificate of Authority #2002006804

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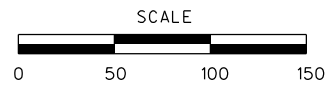
RTE.	STATION	OFFSET	NORTHING (FEET)	EASTING (FEET)	DESCRIPTION	POINT ID
I-255	64+99.99		969,865.6782	875,639.9223		POT
I-255	73+01.48		969,461.1493	876,331.8403	CURVE 255 MD 3	PC
I-255	79+51.82		969,165.4448	876,910.6688	CURVE 255 MD 3	PT
I-255	94+00.30		968,580.7025	878,235.8711		PI
I-255	105+88.80		968,100.9100	879,323.2251	CURVE 255 MD 81	PC
I-255	115+33.43		967,755.6011	880,202.1906	CURVE 255 MD 81	PT
I-255	115+37.45		967,755.6011	880,202.1906	CURVE 255 MD 81	PC
I-255	122+00.00		967,538.9537	880,828.3179		PI
I-255	140+08.52		966,947.5841	882,537.4212	CURVE 255 MD 13	PC
I-255	143+03.93		966,847.3997	882,815.3175	CURVE 255 MD 13	PT
I-255	2+82.86		966,667.9882	883,293.5645		POT
I-255	730+83.43		966,646.6878	883,285.5737		POT
I-255	598+83.43		962,010.2990	895,644.5340		POT

COORDINATE POINTS
SHEET 1 OF 1





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STA.	STAGE 1 CENTERLINE	STAGE 2 CENTERLINE	BREAK POINT LEFT	BREAK POINT RIGHT		EOP LINE A		EOP LINE B		EOP LINE C		EOP LINE D		
I-255	OFFSET	OFFSET	OFFSET	ELEV	OFFSET	ELEV	OFFSET	ELEV	OFFSET	ELEV	OFFSET	ELEV	OFFSET	ELEV
675+50	54.75	-9.73												
675+75	53.33	-8.31												
676+05	51.52	-6.48			44.50	425.90	43.50	425.88						
676+25	50.24	-5.2	1	425.84	44.50	425.92	42.23	425.87	2.82	425.80				
676+50.00	48.57	-3.52	1	425.83	44.50	425.93	40.55	425.85	4.50	425.76				
676+75	46.82	-1.76	1	425.82	44.50	425.94	38.80	425.83	6.26	425.71				
677+00	44.99	0.09	1	425.83	44.50	425.95	36.96	425.80	8.11	425.69				
677+25	43.07	2.02	1	425.84	44.50	425.95	35.04	425.76	10.05	425.66				
677+50	41.06	4.03	1	425.82	44.50	425.92	33.04	425.69	12.06	425.60				
677+75.00	38.98	6.13	1	425.8	44.50	425.88	30.95	425.61	14.16	425.54				
678+00	36.8	8.31	1	425.78	44.50	425.90	28.77	425.59	16.35	425.47				
678+25	34.55	10.58	1	425.75	44.50	425.93	26.52	425.57	18.61	425.40	42.58	425.89	2.5454	425.72
678+50.00	32.21	12.93	1	425.73	44.50	425.92	24.17	425.42	20.97	425.42	40.25	425.74	4.8928	425.74
678+75.00	29.79	15.36	1	425.73	44.50	425.89				37.82	425.69	7.3243		425.69
679+00	27.28	17.88	1	425.74	44.50	425.88				35.32	425.63	9.84		425.63
679+25	24.69	20.48	1	425.8	44.50	425.90				32.73	425.62	12.4389		425.62
679+50	22.12	23.06	1	425.86	44.50	425.91				31.10	425.62	14.0792		425.62
679+75	19.64	25.56	1	425.87	44.50	425.92				33.59	425.68	11.5981		425.68
680+00	17.24	27.97	1	425.89	44.50	425.91				36.00	425.74	9.2012		425.74
680+25	14.92	30.29	1	425.92	44.50	425.87				38.33	425.78	6.8883		425.78
680+50	12.69	32.53	1	425.94	44.50	425.86	24.50	425.50	20.72	425.50	40.56	425.82	4.6595	425.82
680+75	10.54	34.69	1	425.88	44.50	425.91	26.66	425.58	18.57	425.53	42.72	425.87	2.5145	425.85
681+00	8.48	36.77	1	425.83	44.50	425.96	28.74	425.64	16.51	425.52				
681+25.00	6.5	38.76	1	425.81	44.50	425.97	30.73	425.69	14.52	425.54				
681+50.00	4.6	40.66	1	425.79	44.50	425.98	32.64	425.74	12.63	425.56				
681+75.00	2.79	42.48	1	425.79	44.50	425.96	34.46	425.76	10.81	425.59				
682+00.00	1.06	44.22	1	425.8	44.50	425.94	36.20	425.77	9.08	425.64				
682+25.00	-0.58	45.88	1	425.81	44.50	425.96	37.86	425.83	7.44	425.68				
682+50.00	-2.14	47.45	1	425.81	44.50	425.98	39.43	425.88	5.87	425.71				
682+75.00	-3.62	48.94	1	425.8	44.50	426.00	40.92	425.93	4.39	425.73				
683+00.00	-5.01	50.34	1	425.79	44.50	426.00	42.33	425.96	3.00	425.75				
683+25.00	-6.32	51.66												
683+50.00	-7.55	52.9												

STATE OF MISSOURI

ROBERT L. HANFLAND

NUMBER PE-2016009833

PROFESSIONAL ENGINEER

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

DATE PREPARED 9/19/2021

ROUTE I-255 STATE MO

DISTRICT STL SHEET NO. 15

COUNTY ST. LOUIS

JOB NO. J613413/J613500

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

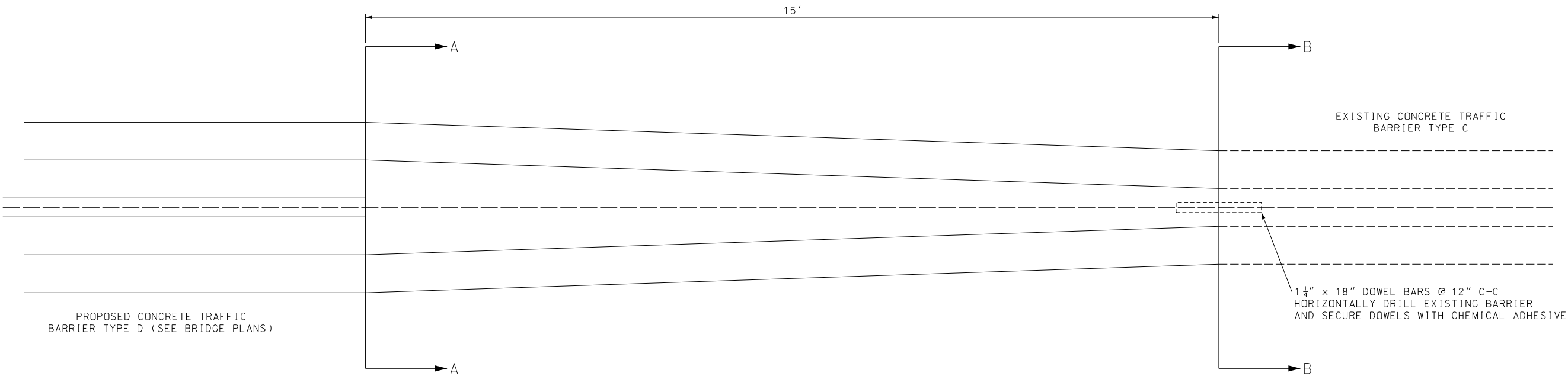
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

5220 Oakland Avenue
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314.863.5570

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

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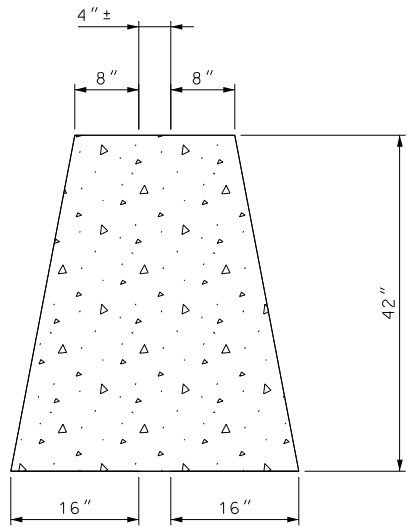
PROPOSED CONCRETE TRAFFIC
BARRIER TYPE D (SEE BRIDGE PLANS)

EXISTING CONCRETE TRAFFIC
BARRIER TYPE C

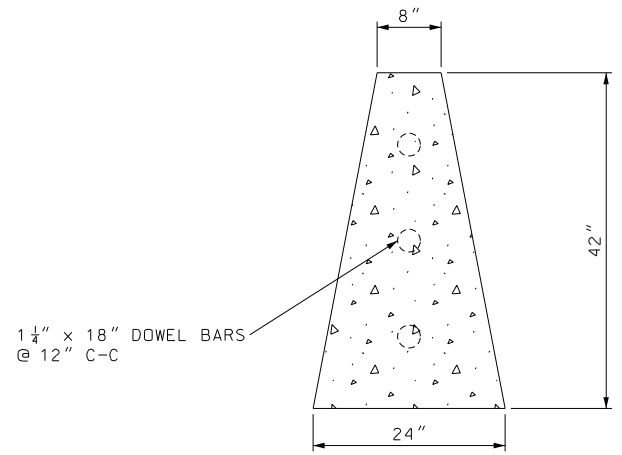
1 1/4" x 18" DOWEL BARS @ 12" C-C
HORIZONTALLY DRILL EXISTING BARRIER
AND SECURE DOWELS WITH CHEMICAL ADHESIVE

NOTE: SEE STANDARD 617.10M (PERMANENT CONCRETE TRAFFIC
BARRIER TYPE C) FOR REINFORCEMENT.

DIRECTION SHOWN IN DETAIL IS FOR BARRIER TRANSITION
FROM STA. 135+30 TO STA. 135+45. FOR TRANSITION
SECTION FROM STA. 133+25 TO STA. 133+40, THE DETAIL
IS REVERSED.



SECTION A-A



1 1/4" x 18" DOWEL BARS
@ 12" C-C

SECTION B-B



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DATE PREPARED
9/19/2021

ROUTE I-255 STATE MO

DISTRICT STL SHEET NO. 16

COUNTY ST. LOUIS

JOB NO. J613413/J613500

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

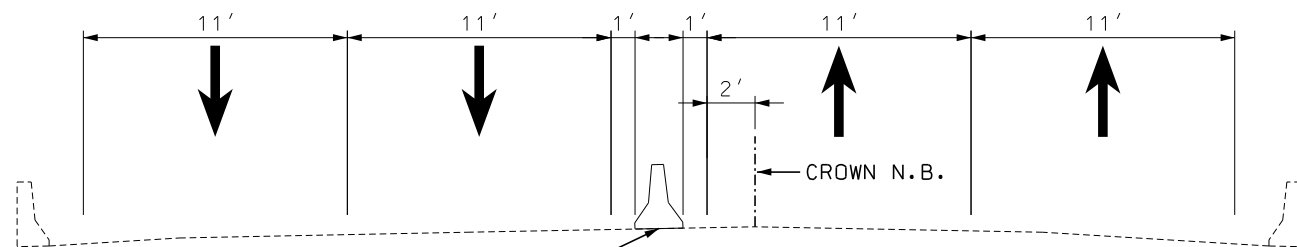
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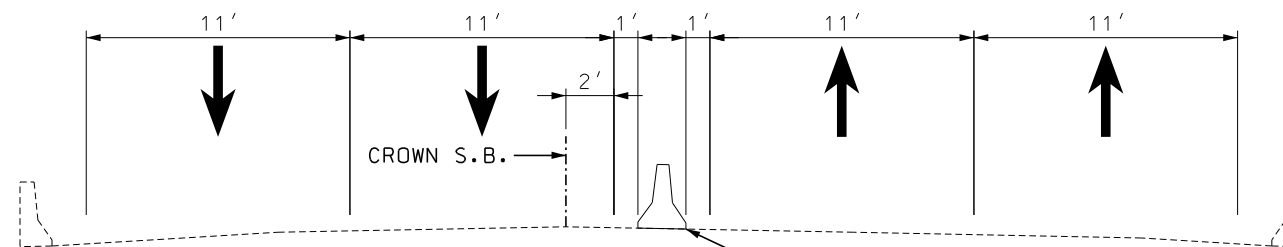
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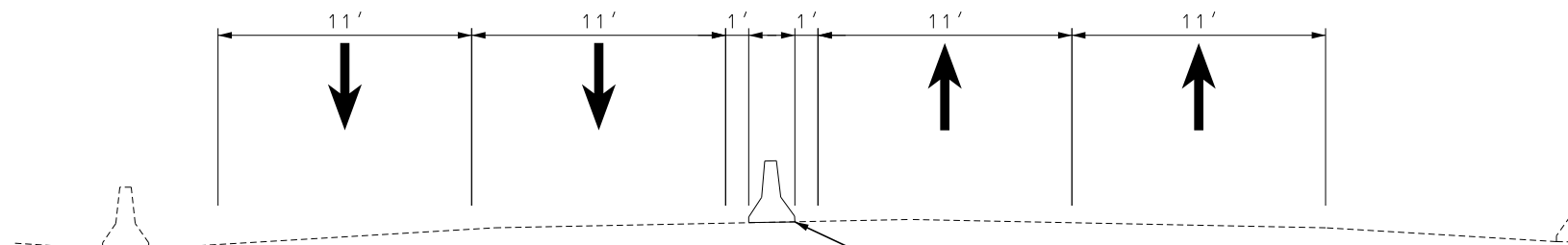
TEMPORARY CONCRETE
BARRIER (ANCHORED)

STAGE 1 TYPICAL
NORTHBOUND (WB) JB BRIDGE
LOOKING EAST



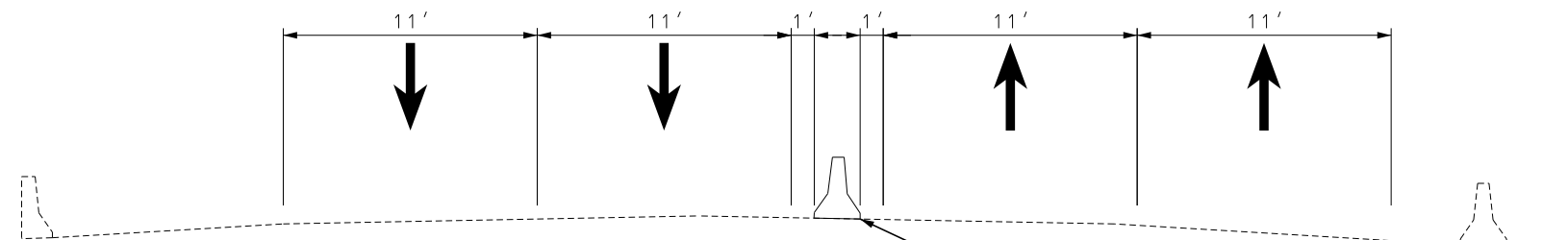
TEMPORARY CONCRETE
BARRIER (ANCHORED)

STAGE 2 TYPICAL
SOUTHBOUND (EB) JB BRIDGE
LOOKING EAST



TEMPORARY CONCRETE
BARRIER (ANCHORED)

STAGE 1 TYPICAL
NORTHBOUND (WB) KOCH ROAD BRIDGE
LOOKING EAST

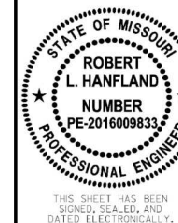


TEMPORARY CONCRETE
BARRIER (ANCHORED)

STAGE 2 TYPICAL
SOUTHBOUND (EB) KOCH ROAD BRIDGE
LOOKING EAST

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BRIDGE STAGING
TYPICALS
SHEET 1 OF 1



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DATE PREPARED
9/19/2021

ROUTE
I-255

STATE
MO

DISTRICT
STL

SHEET NO.
17

COUNTY
ST. LOUIS

JOB NO.
J613413/J613500

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

5220 Oakland Avenue
St. Louis, MO 63110
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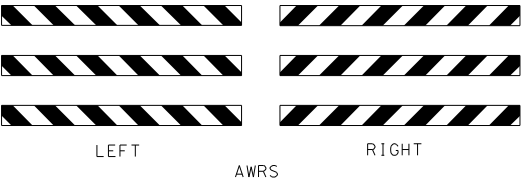
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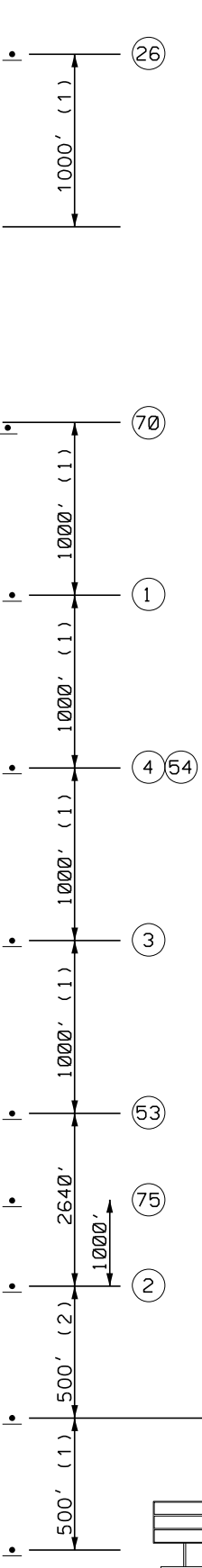
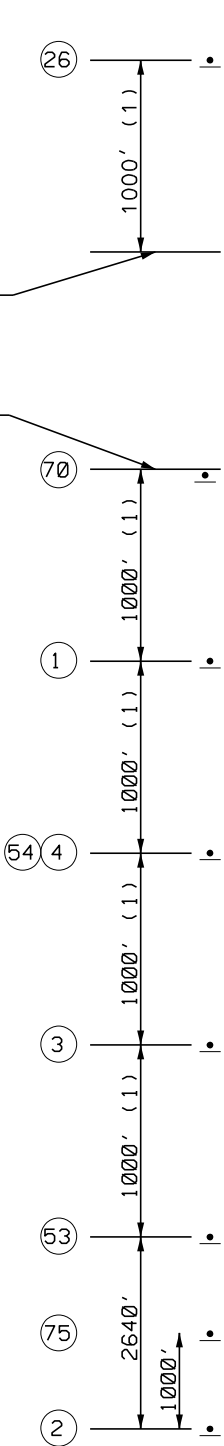
END OF PROJECT LIMITS; END OF WORK ZONE TERMINATION AREA, IF LOCATED BEYOND END OF PROJECT; OR LAST WORK ZONE SIGN, IF LOCATED OUTSIDE PROJECT LIMITS.

BEGINNING OF PROJECT LIMITS; OR INITIAL WORK ZONE SIGN, IF LOCATED OUTSIDE PROJECT LIMITS.



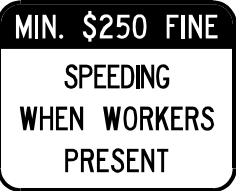
TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- TYPE III MOVEABLE BARRICADE
- WORK AREA
- CHANGEABLE MESSAGE SIGN



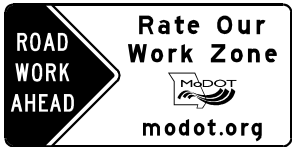
R4-3

75



CONST-3A

53



CONST-7-72

71



W03-5

3



G020-2

26



R2-1

4



G020-5aP

54

MULTI-LANE DIVIDED
BEGIN/END OF PROJECT SIGNING
(FOR USE ON ALL PROJECTS)

LOCATION OF CMS TO BE DETERMINED BY THE ENGINEER. EACH CMS SHALL HAVE 5 CHANNELIZERS IN FRONT OF IT.

BEGIN/END
TEMPORARY
TRAFFIC CONTROL
SHEET 1 OF 1

NOTES:

MINIMUM WIDTH FOR INTERSTATE 255 TRAFFIC LANE IS 11 FEET.

SIGN 1 IS REQUIRED PER EPG 616.6.56

SIGN 26 IS USED ON ALL PROJECTS WHERE SIGN 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 BREAKUPS ARE EXPECTED BEYOND THE ADVANCE WARNING AREA, ADDITIONAL SIGNING MAY BE NEEDED.

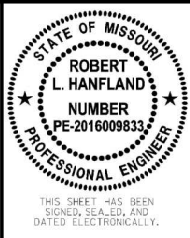
(2) SIGN CONST-7-72 IS PLACED 500 FEET BEFORE THE BEGINNING OF PROJECT LIMITS OR THE ROAD WORK AHEAD SIGN OR ROAD WORK NEXT XX MILES SIGN, IF USED, WHEN THESE SIGNS ARE LOCATED OUTSIDE THE PROJECT LIMITS.

(3) SIGN CONST-5-96 IS PLACED IN A VISIBLE AREA WITHIN THE PROJECT LIMITS PROVIDED ITS PLACEMENT DOES NOT DISRUPT A SEQUENCE OF SIGNS. IF A VISIBLE LOCATION WITHIN THE PROJECT IS NOT AVAILABLE, THEN THE SIGN MAY BE PLACED 500 FEET BEFORE SIGN CONST-7-72 OR CONST-7-48.

(4) 2 CHANGEABLE MESSAGE BOARDS ARE REQUIRED. ONE FOR EB I-255 AND ONE FOR WB I-255.

ALL TEMPORARY TRAFFIC CONTROL SIGNS ARE PORTABLE UNLESS OTHERWISE NOTED. ALL SIGNS ON THIS SHEET ARE PERMANENT MOUNTING.

PLACE SIGN R4-3 TO ENCOURAGE TRUCKS TO NOT DRIVE ON THE SHOULDER.



DATE PREPARED
9/19/2021

ROUTE I-255 STATE MO

DISTRICT STL SHEET NO. 18

COUNTY ST. LOUIS

JOB NO. J613413/J613500

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

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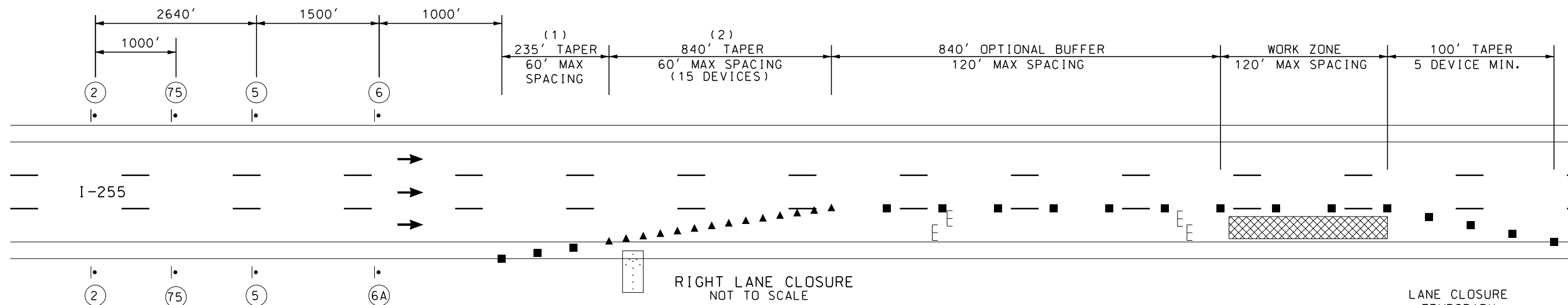
DATE

DATE

DATE

DATE

DATE



NOTES:

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

LOCATE FLASHING ARROW PANEL AT BEGINNING OF TAPER
WHEN FEASIBLE. ARROW PANELS ARE ALWAYS LOCATED
BEHIND CHANNELIZERS.

SPACING OF SIGNS SHOWN ON THE PLANS ARE MINIMUM
AND MAY BE ADJUSTED BY THE ENGINEER TO
MEET FIELD CONDITIONS.

LANE CLOSURES ARE ALLOWED DURING NIGHTTIME HOURS ONLY. SEE SPECIAL PROVISIONS FOR ALL CLOSURE RESTRICTIONS.

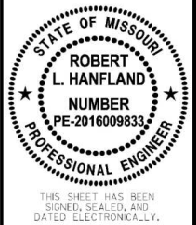
SPEED RADAR TRAILER MAY BE UTILIZED IN THE WORKZONE WHEN DEEMED NECESSARY. LOCATIONS TO BE DETERMINED BY THE ENGINEER.

(1). TAPER LENGTH BASED ON 10' SHOULDER WIDTH.

(2). TAPER LENGTH BASED ON 12' LANE WIDTH.

PLACE SIGN R4-3 TO ENCOURAGE TRUCKS TO NOT DRIVE ON THE SHOULDER.

LANE CLOSURE
TEMPORARY
TRAFFIC CONTROL
SHEET 1 OF 1



DATE PREPARED

ROUTE	STATE
-------	-------

DISTRICT	SHEET NO.
----------	-----------

STATE	COUNTY
-------	--------

JOB NO.

0015115700155
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

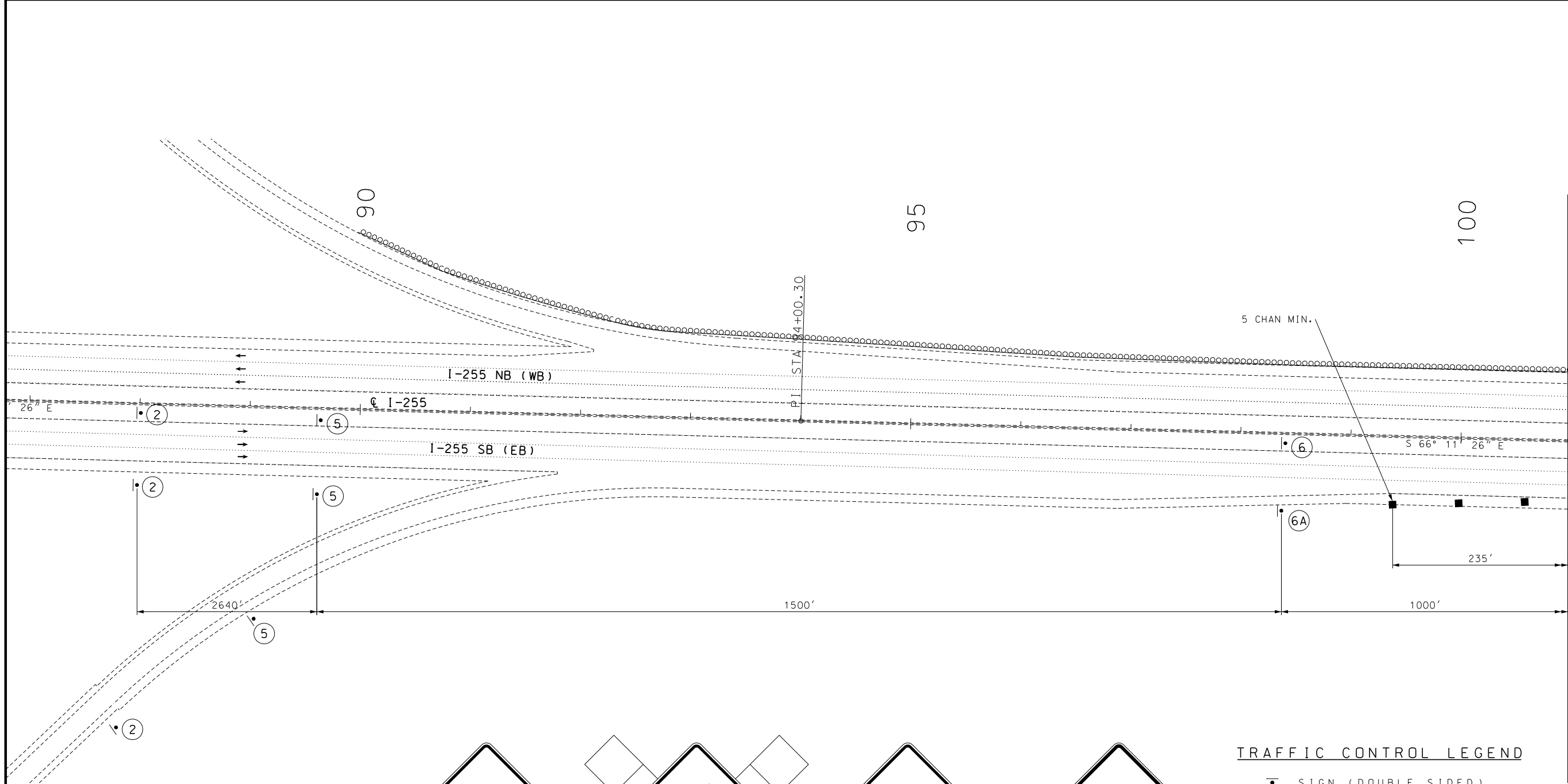
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St. Louis, MO 63110
314.863.5570

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WBF / DBF

Missouri State Certificate of Authority #2002006804

[illegible]

Aissiv



SCALE

0 50 100 150

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RIGHT
LANE
CLOSED

WD20-6a

6

BRIDGE
WORK
AHEAD

WD20-1

2

RIGHT LANE
CLOSED
AHEAD

WD20-5

5

MERGE

WD4-1 aL

6A

TRAFFIC CONTROL LEGEND

- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- FLASHING ARROW PANEL
- DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER

STAGE 1
TRAFFIC CONTROL SHEET
SHEET 1 OF 20

STATE OF MISSOURI

ROBERT L. HANFLAND

NUMBER PE-2016009833

PROFESSIONAL ENGINEER

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

DATE PREPARED 9/19/2021

ROUTE I-255 STATE MO

DISTRICT STL SHEET NO. 20

COUNTY ST. LOUIS

JOB NO. J613413/J613500

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 (1-888-273-6636)

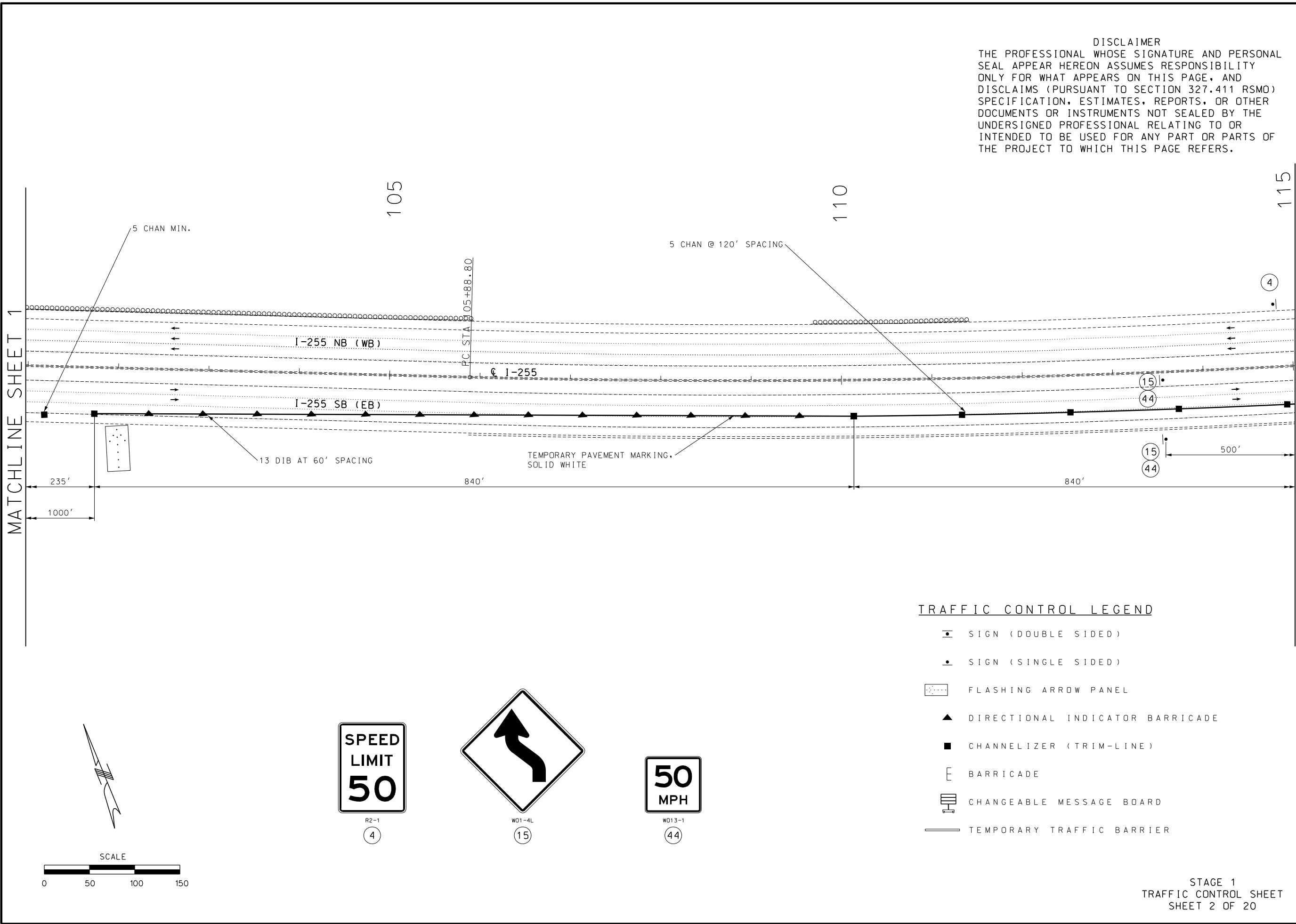
5220 Oakland Avenue St. Louis, MO 63110 314.863.5570

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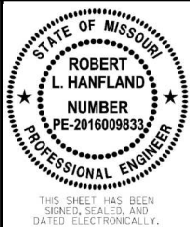
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MATCHLINE SHEET 2

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DATE PREPARED 9/19/2021	
ROUTE I-255	STATE MO
DISTRICT STL	SHEET NO. 21
COUNTY ST. LOUIS	
JOB NO. J613413/J613500	
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)

5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570

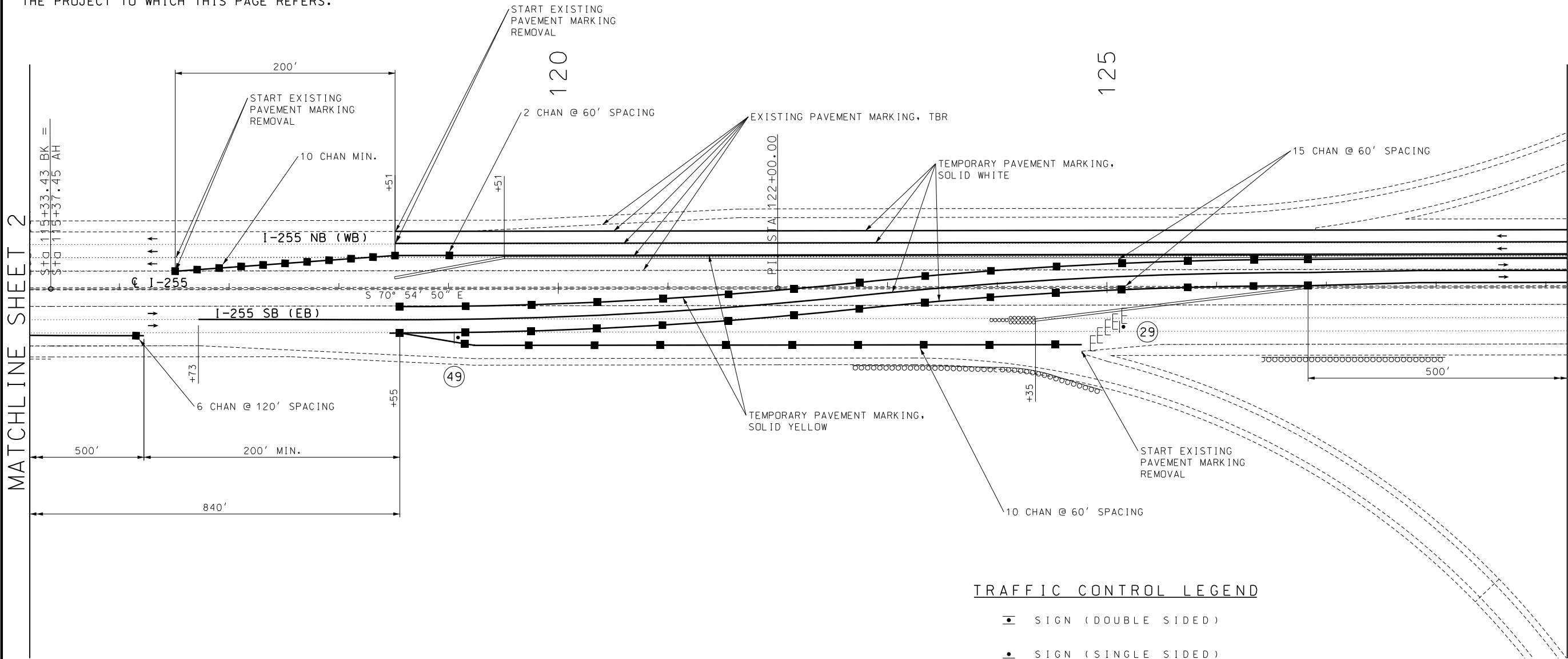
CIVIL DESIGN, INC.
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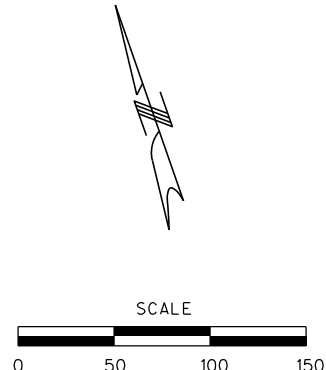
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TEMPORARY LIGHTING AT CROSSOVER TO BE PROVIDED BY CONTRACTOR.



MATCHLINE SHEET 2

MATCHLINE SHEET 4



ROAD CLOSED

R11-2
(29)

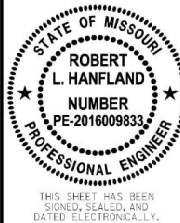
EXIT

E05-1
(49)

TRAFFIC CONTROL LEGEND

- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- ◻ FLASHING ARROW PANEL
- ▲ DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- ⌈ BARRICADE
- ⌈ CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER
- ⊞ TEMPORARY IMPACT ATTENUATOR

STAGE 1
TRAFFIC CONTROL SHEET
SHEET 3 OF 20



DATE PREPARED
9/19/2021

ROUTE	STATE
I-255	MO
DISTRICT	SHEET NO.
STL	22
COUNTY	
ST. LOUIS	
JOB NO.	
J613413/J613500	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

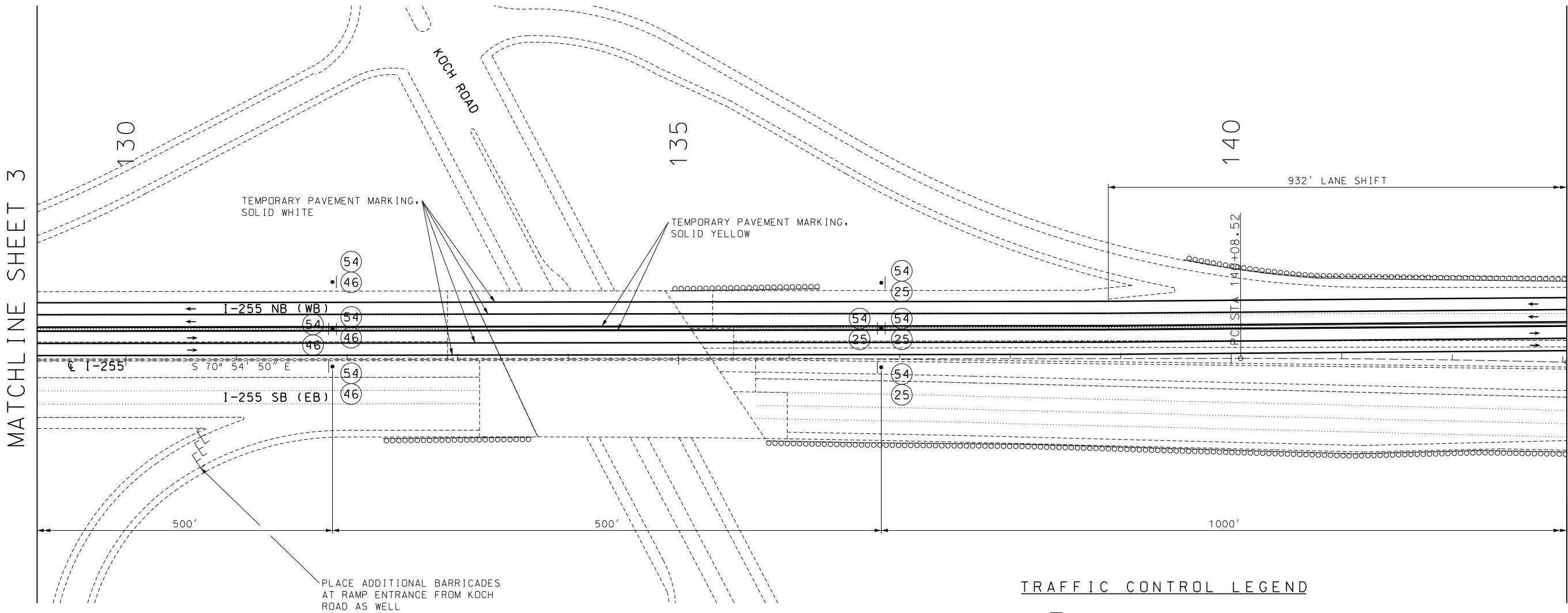
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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St. Louis, MO 63110
314.863.5570

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TRAFFIC CONTROL LEGEND

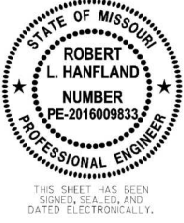
- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- ⬡ FLASHING ARROW PANEL
- ▲ DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- ⌌ BARRICADE
- ⌌ CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER

R2-1
(25)

R4-1
(46)

G020-5aP
(54)

STAGE 1
TRAFFIC CONTROL SHEET
SHEET 4 OF 20



DATE PREPARED 9/19/2021	
ROUTE I-255	STATE MO
DISTRICT STL	SHEET NO. 23
COUNTY ST. LOUIS	
JOB NO. J613413/J613500	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

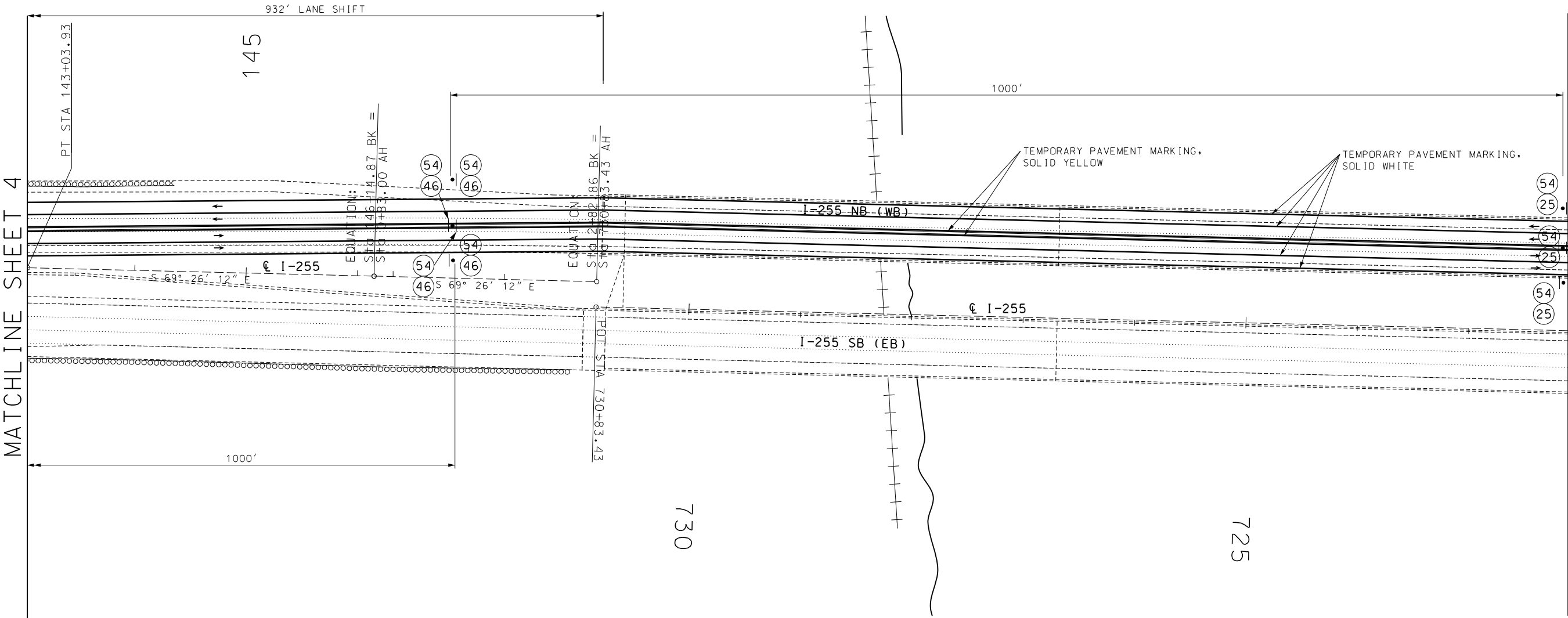
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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314.863.5570

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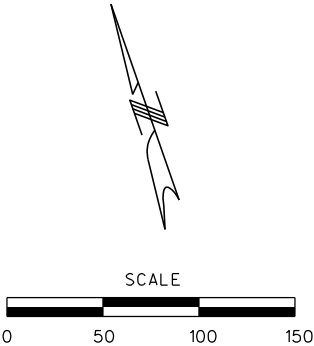
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MATCHLINE SHEET 4

MATCHLINE SHEET 6



(25)



(46)

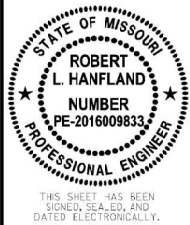


(54)

TRAFFIC CONTROL LEGEND

- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- FLASHING ARROW PANEL
- ▲ DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- E BARRICADE
- CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER

STAGE 1
TRAFFIC CONTROL SHEET
SHEET 5 OF 20



DATE PREPARED
9/19/2021
ROUTE
I-255
STATE
MO
DISTRICT
STL
SHEET NO.
24
COUNTY
ST. LOUIS
JOB NO.
J613413/J613500
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

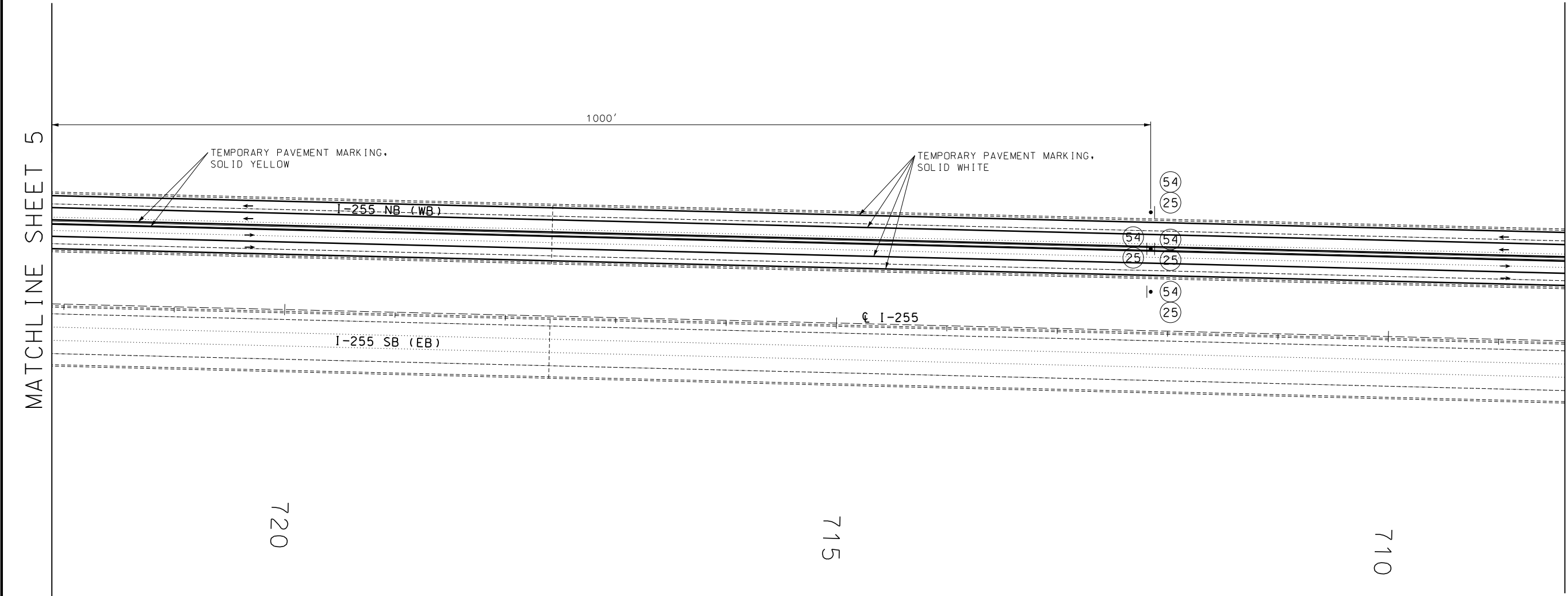
DATE	DESCRIPTION

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

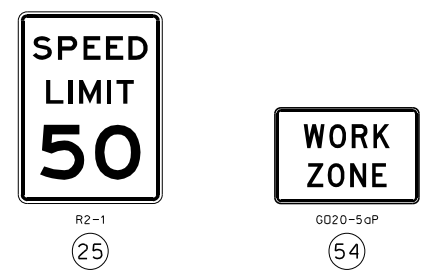
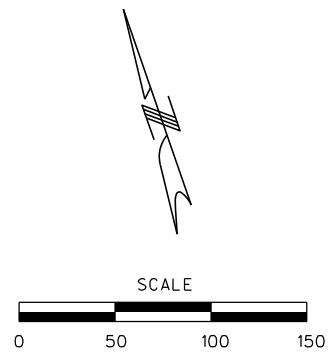
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314.863.5570
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Missouri State Certificate of Authority #2002006804

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- TRAFFIC CONTROL LEGEND**
- SIGN (DOUBLE SIDED)
 - SIGN (SINGLE SIDED)
 - FLASHING ARROW PANEL
 - ▲ DIRECTIONAL INDICATOR BARRICADE
 - CHANNELIZER (TRIM-LINE)
 - E BARRICADE
 - CHANGEABLE MESSAGE BOARD
 - TEMPORARY TRAFFIC BARRIER



STAGE 1
TRAFFIC CONTROL SHEET
SHEET 6 OF 20

STATE OF MISSOURI

ROBERT L. HANFLAND

NUMBER PE-2016009833

PROFESSIONAL ENGINEER

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

DATE PREPARED 9/19/2021

ROUTE I-255

DISTRICT STL

STATE MO

SHEET NO. 25

COUNTY ST. LOUIS

JOB NO. J613413/J613500

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

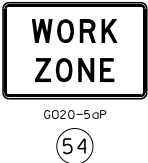
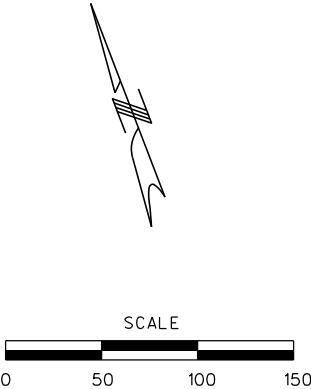
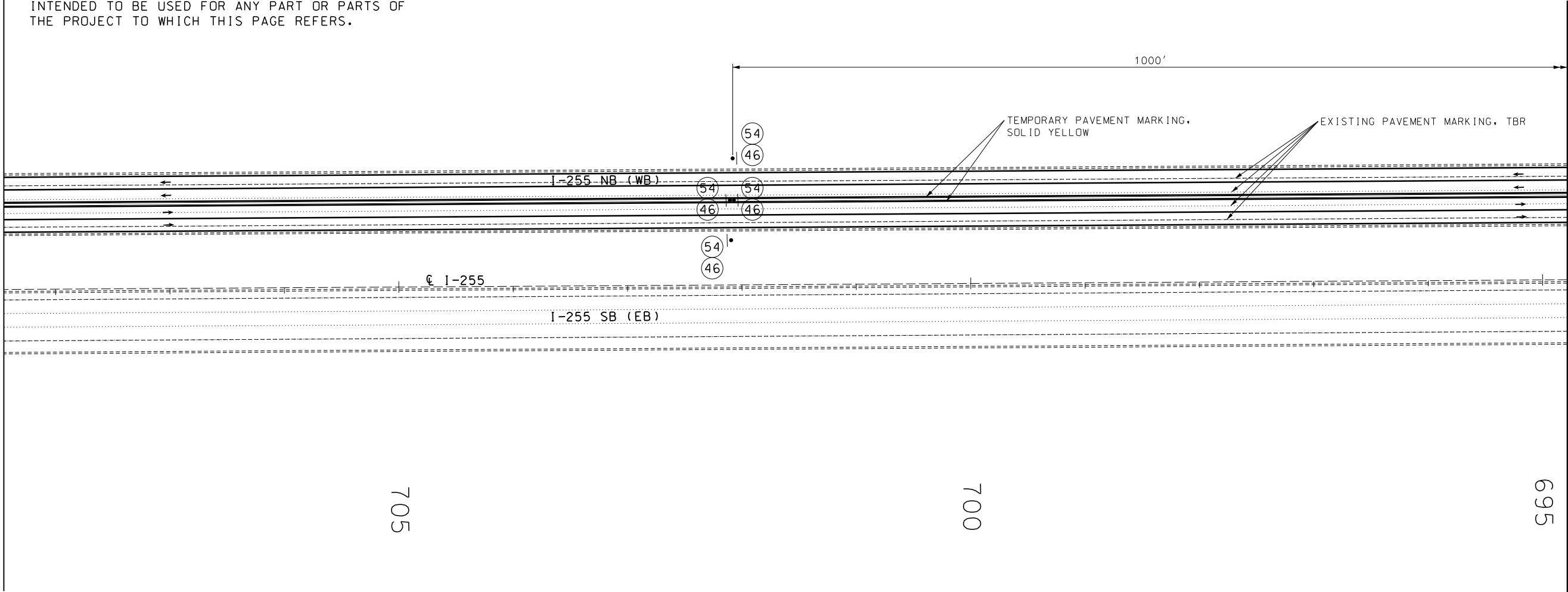
105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

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MATCHLINE SHEET 6

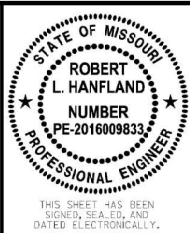


TRAFFIC CONTROL LEGEND

- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- FLASHING ARROW PANEL
- DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER

STAGE 1
TRAFFIC CONTROL SHEET
SHEET 7 OF 20

MATCHLINE SHEET 8



DATE PREPARED 9/19/2021	
ROUTE I-255	STATE MO
DISTRICT STL	SHEET NO. 26
COUNTY ST. LOUIS	
JOB NO. J613413/J613500	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6636)

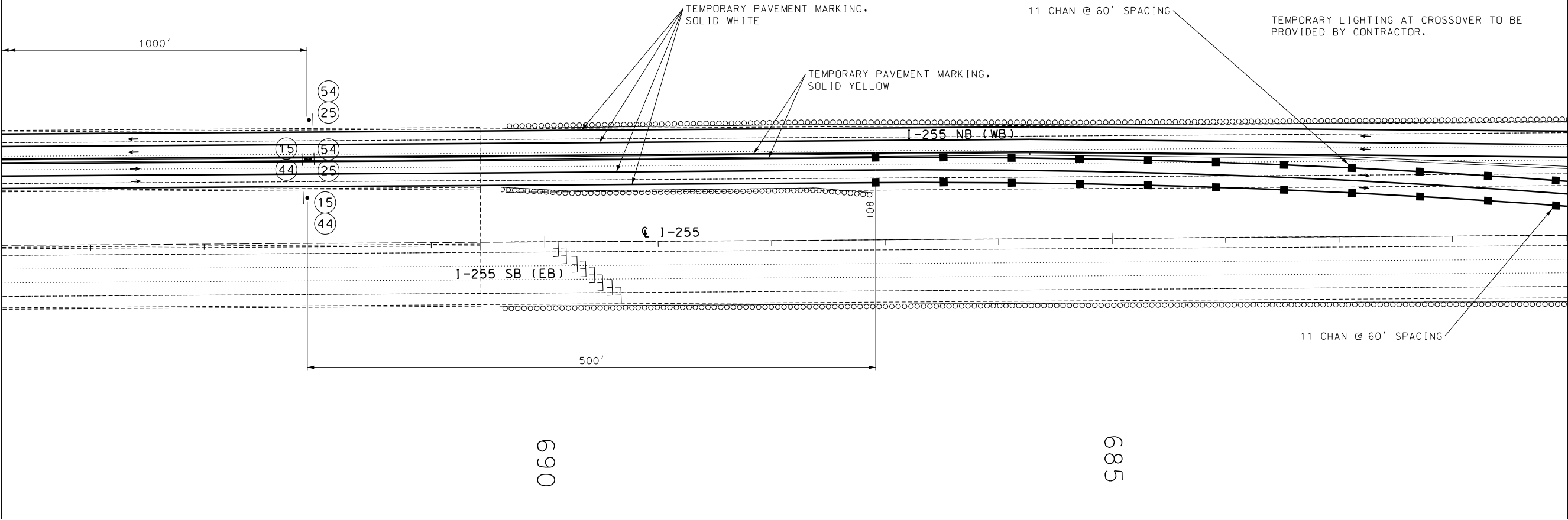
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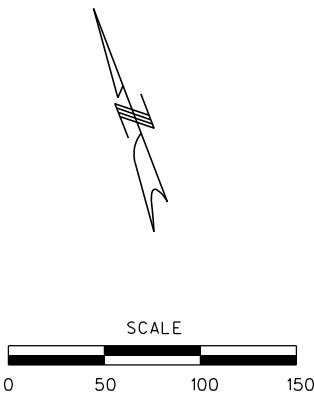
MATCHLINE SHEET 7



MATCHLINE SHEET 9

TRAFFIC CONTROL LEGEND

- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- ⬅ FLASHING ARROW PANEL
- ▲ DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- ⌈ BARRICADE
- ⌈ CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER



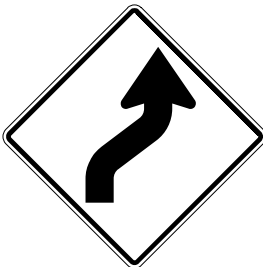
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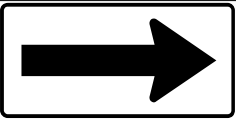
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(44)

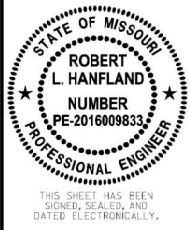


(15)



(16)

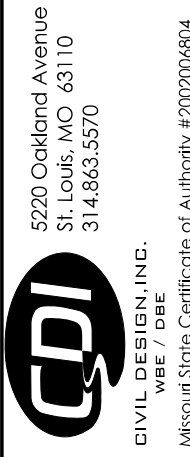
STAGE 1
TRAFFIC CONTROL SHEET
SHEET 8 OF 20



DATE PREPARED
9/19/2021
ROUTE
I-255
DISTRICT
STL
STATE
MO
SHEET NO.
27
COUNTY
ST. LOUIS
JOB NO.
J613413/J613500
CONTRACT ID.

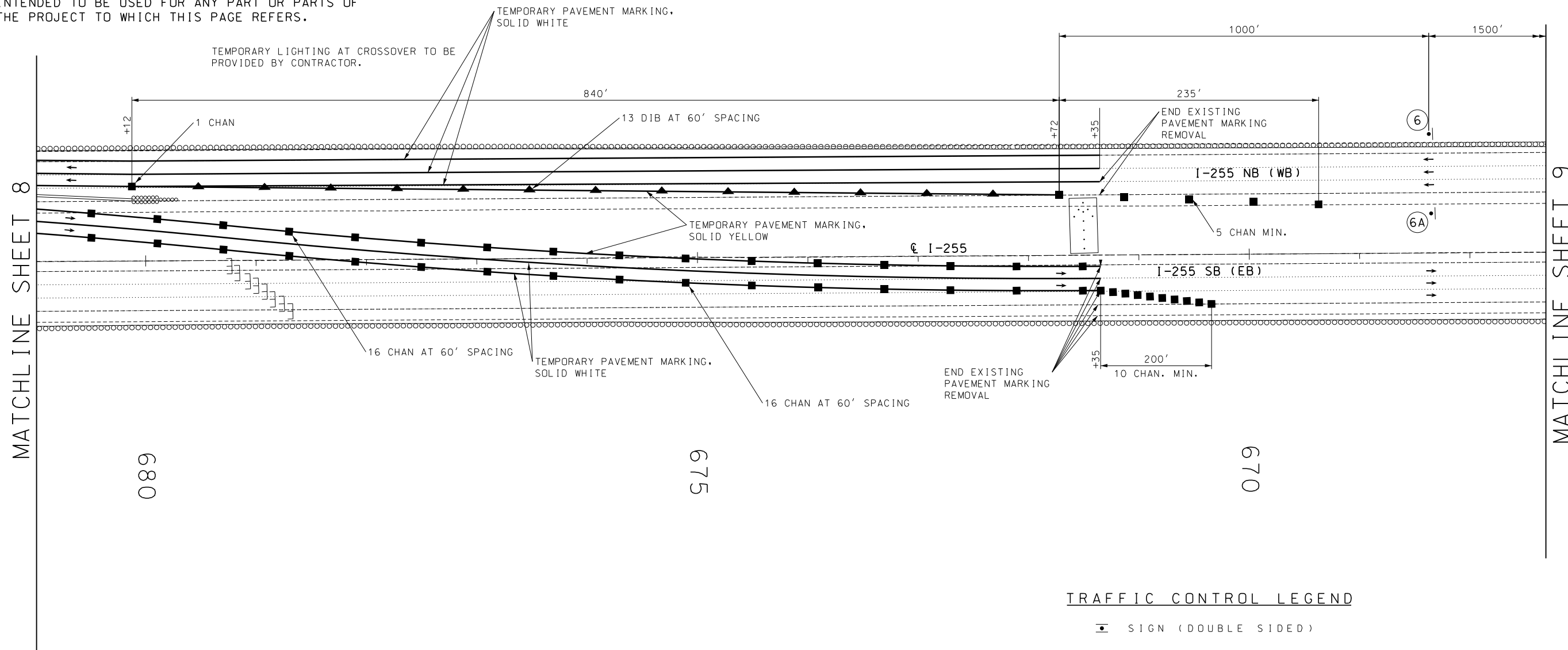
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION



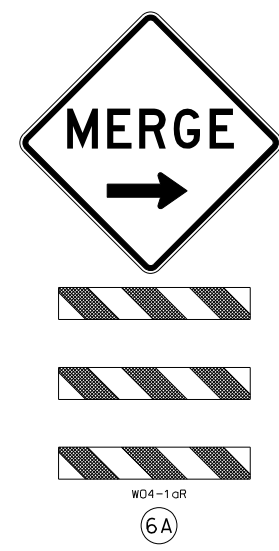
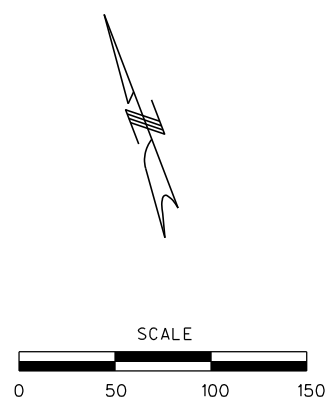
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MATCHLINE SHEET 8

MATCHLINE SHEET 9



TRAFFIC CONTROL LEGEND

- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- FLASHING ARROW PANEL
- ▲ DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- E BARRICADE
- CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER
- ○ ○ ○ ○ TEMPORARY IMPACT ATTENUATOR

STAGE 1
TRAFFIC CONTROL SHEET
SHEET 9 OF 20

STATE OF MISSOURI

ROBERT L. HANFLAND

NUMBER PE-2016009833

PROFESSIONAL ENGINEER

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

DATE PREPARED 9/19/2021

ROUTE I-255 STATE MO

DISTRICT STL SHEET NO. 28

COUNTY ST. LOUIS

JOB NO. J613413/J613500

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)

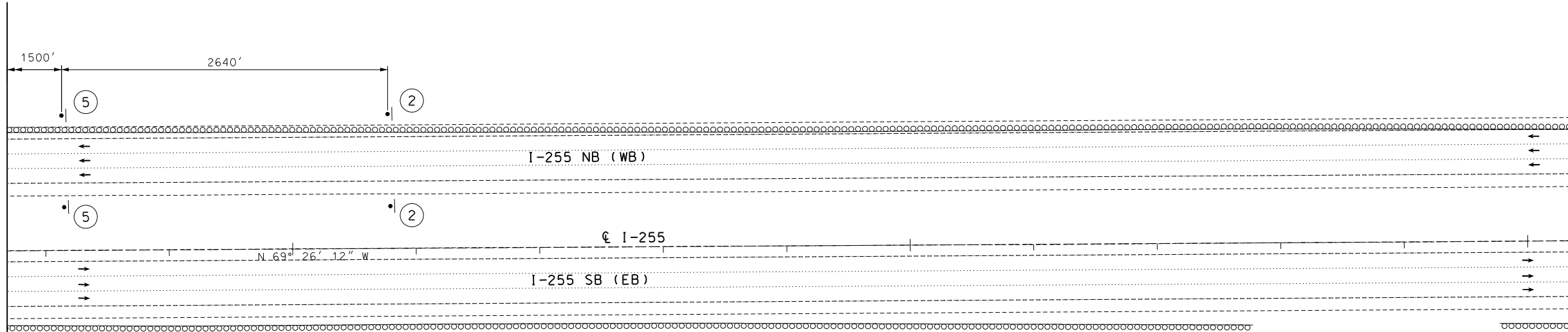
5220 Oakland Avenue St. Louis, MO 63110 314.863.5570

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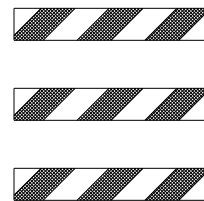
MATCHLINE SHEET 9



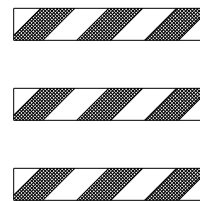
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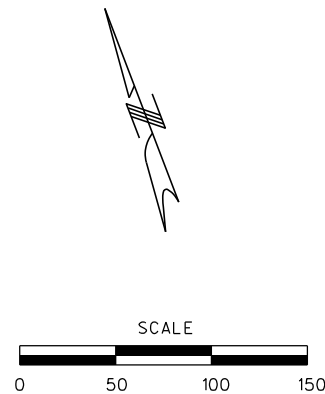
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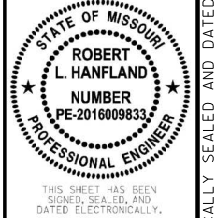
W020-1
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TRAFFIC CONTROL LEGEND

- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- ⬢ FLASHING ARROW PANEL
- ▲ DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- E BARRICADE
- ⬢ CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER



STAGE 1
TRAFFIC CONTROL SHEET
SHEET 10 OF 20



DATE PREPARED
9/19/2021

ROUTE	STATE
I-255	MO
DISTRICT	SHEET NO.
STL	29

COUNTY
ST. LOUIS

JOB NO.
J613413/J613500

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 (1-888-273-6636)

5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570

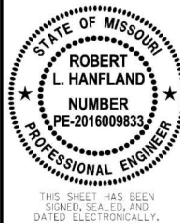
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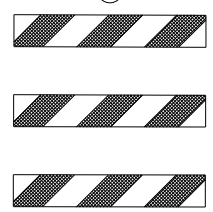
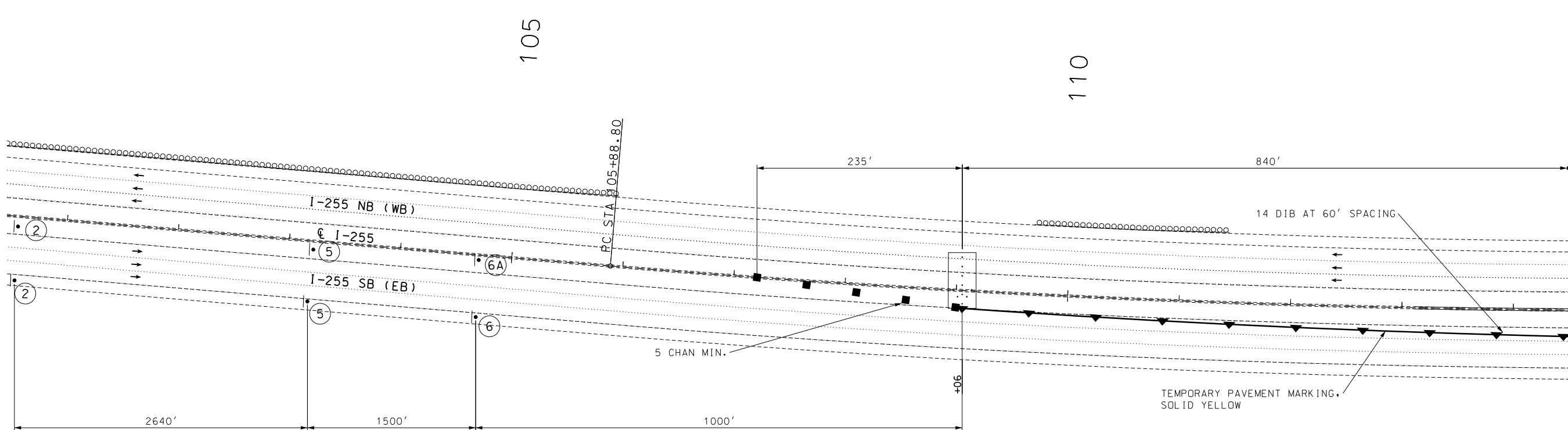
DATE PREPARED
9/19/2021
ROUTE I-255 STATE MO
DISTRICT STL SHEET NO. 30
COUNTY ST. LOUIS
JOB NO. J613413/J613500
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

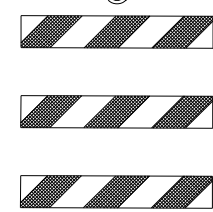
DATE	DESCRIPTION

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

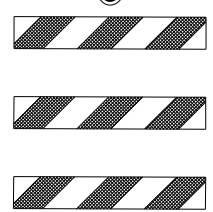
5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
CIVIL DESIGN, INC.
WBE / DBE
Missouri State Certificate of Authority #2002006804



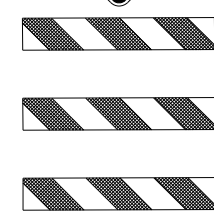
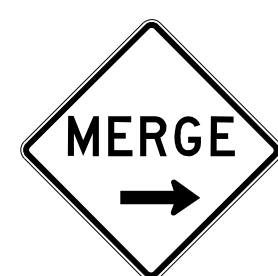
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W020-1
2



W020-5
5

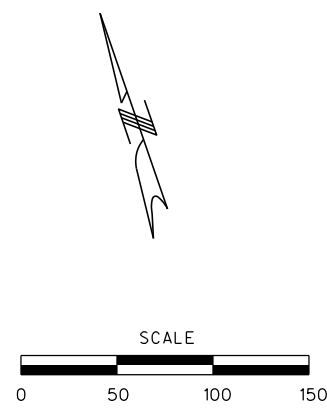


W04-1aR
6A

TRAFFIC CONTROL LEGEND

- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- FLASHING ARROW PANEL
- DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER

STAGE 2
TRAFFIC CONTROL SHEET
SHEET 11 OF 20



MATCHLINE SHEET 11

115

↑↑	↑↑	EQUATION:	Std	115	+33.43	BK	=
			Std	115 <th>+37.45</th> <td>AH</td> <td></td>	+37.45	AH	

START EXISTING
PAVEMENT MARKING
REMOVAL

I-255 NB (WB)

TEMPORARY PAVEMENT MARKING,
SOLID YELLOW

9 CHAN @ 60' SPACING

+56

S 70° 54' 50" E

5 CHAN @ 60' SPACING

TEMPORARY PAVEMENT MARKING,
SOLID WHITE

TEMPORARY PAVEMENT MARKING,
SOLID YELLOW

6 CHAN @ 120' SPACING

TEMPORARY LIGHTING AT CROSSOVER TO BE PROVIDED BY CONTRACTOR.

TEMPORARY PAVEMENT MARKING,
SOLID WHITE

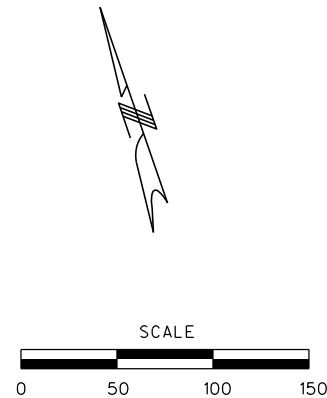
100.00

/14 CHAN @ 60' SPACING

13 CHAN @ 60' SPACING

125







MATCHLINE SHEET 13



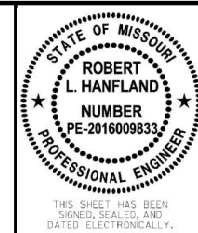
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TRAFFIC CONTROL LEGEND

-  SIGN (DOUBLE SIDED)
-  SIGN (SINGLE SIDED)
-  FLASHING ARROW PANEL
-  DIRECTIONAL INDICATOR BARRICADE
-  CHANNELIZER (TRIM-LINE)
-  BARRICADE
-  CHANGEABLE MESSAGE BOARD
-  TEMPORARY TRAFFIC BARRIER

STAGE 2
TRAFFIC CONTROL SHEET
SHEET 12 OF 20



DATE PREPARED

ROUTE I-255	STATE MO
DISTRICT STL	SHEET NO. 31

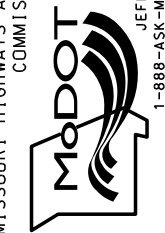
COUNTY
ST. LOUIS

JOB NO.
J6I3413/J6I350

CONTRACT ID.	
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PROJECT NO.

BRIDGE NO.

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

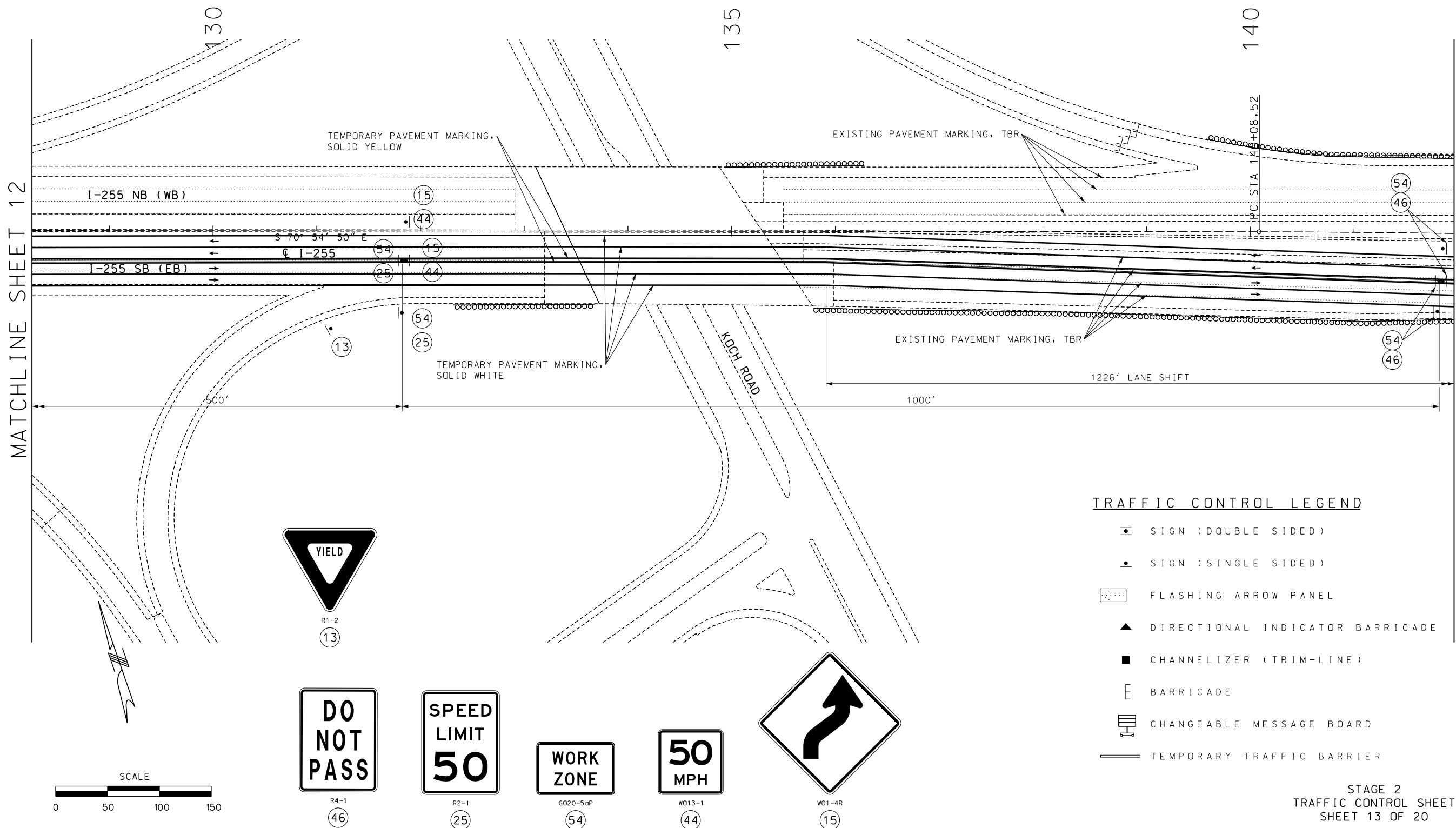
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314.863.5570



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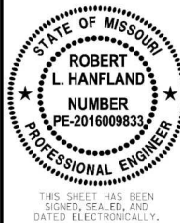
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TRAFFIC CONTROL LEGEND

- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- FLASHING ARROW PANEL
- ▲ DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- E BARRICADE
- ▮ CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER

STAGE 2
TRAFFIC CONTROL SHEET
SHEET 13 OF 20



DATE PREPARED
9/19/2021
ROUTE I-255 STATE MO
DISTRICT STL SHEET NO. 32
COUNTY ST. LOUIS
JOB NO. J613413/J613500
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)

5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
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145

PT STA 143+03.93

I-255 NB (WB)

€ I-255

I-255 SB (EB)

EXISTING PAVEMENT MARKING, TBR

EQUATION:

STA 146+14.87 BK =
STA 0+83.00 AH

S 69° 26' 12" E

EQUATION:

STA 2+82.86 BK =
STA 730+83.43 AH

TEMPORARY PAVEMENT MARKING,
SOLID YELLOW

TEMPORARY PAVEMENT MARKING,
SOLID WHITE

EXISTING PAVEMENT MARKING, TBR

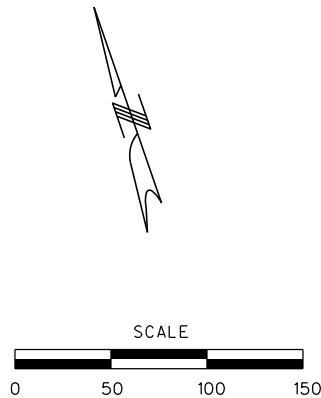
€ I-255

1226' LANE SHIFT

730

725

MATCHLINE SHEET 15



(25)

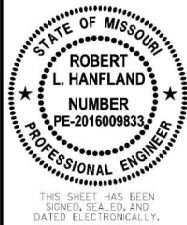


(54)

TRAFFIC CONTROL LEGEND

- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- ⬇ FLASHING ARROW PANEL
- ▲ DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- ⌈ BARRICADE
- 📢 CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER

STAGE 2
TRAFFIC CONTROL SHEET
SHEET 14 OF 20



DATE PREPARED
9/19/2021

ROUTE	STATE
I-255	MO
DISTRICT	SHEET NO.
STL	33
COUNTY	
ST. LOUIS	
JOB NO.	
J613413/J613500	
CONTRACT ID.	

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6636)

5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570



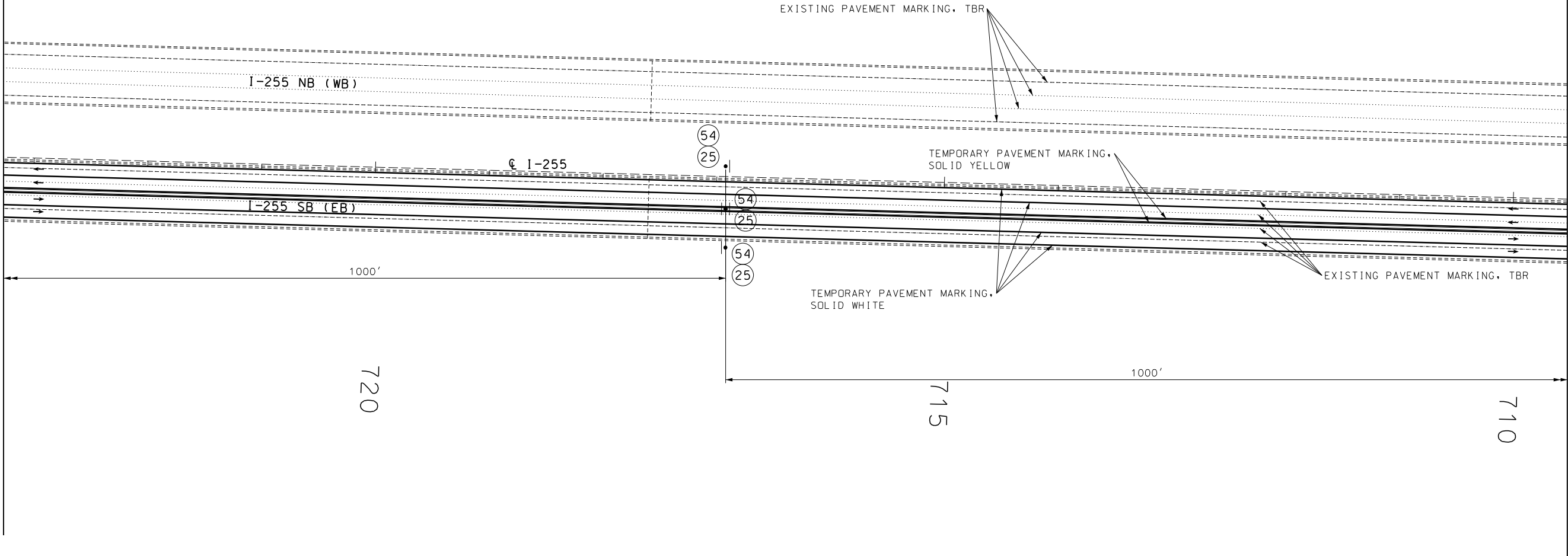
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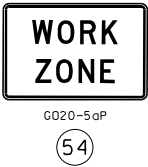
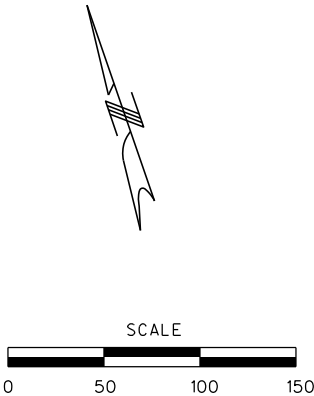
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MATCHLINE SHEET 14



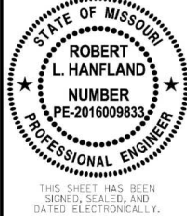
MATCHLINE SHEET 16



TRAFFIC CONTROL LEGEND

- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- FLASHING ARROW PANEL
- DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER

STAGE 2
TRAFFIC CONTROL SHEET
SHEET 15 OF 20



DATE PREPARED
9/19/2021
ROUTE
I-255
STATE
MO
DISTRICT
STL
SHEET NO.
34
COUNTY
ST. LOUIS
JOB NO.
J613413/J613500
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

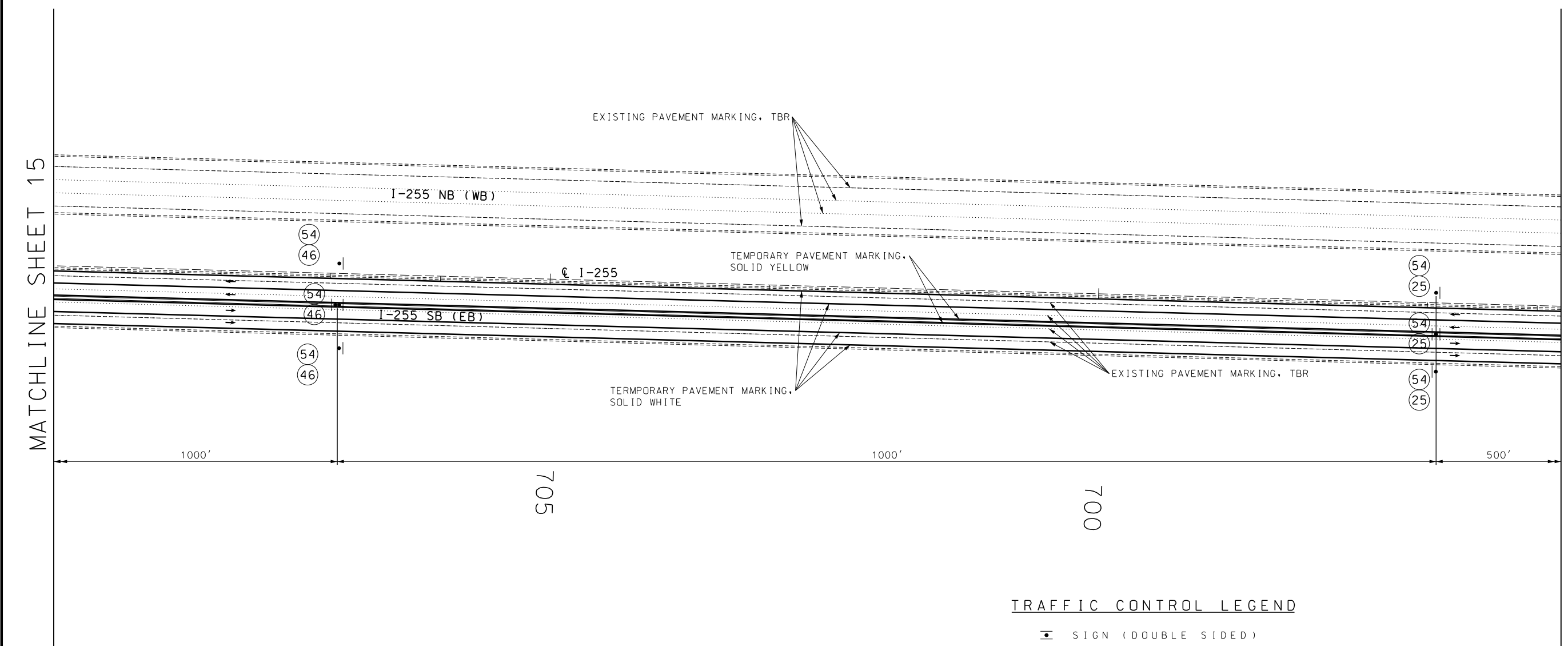
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570

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WBE / DBE
Missouri State Certificate of Authority #2002006804

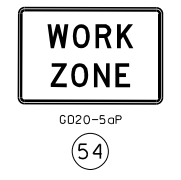
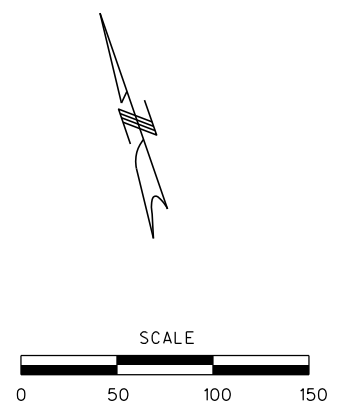
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MATCHLINE SHEET 15

MATCHLINE SHEET 17



TRAFFIC CONTROL LEGEND

- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- FLASHING ARROW PANEL
- DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER

STAGE 2
TRAFFIC CONTROL SHEET
SHEET 16 OF 20

STATE OF MISSOURI

ROBERT L. HANFLAND

NUMBER PE-2016009833

PROFESSIONAL ENGINEER

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DATE PREPARED 9/19/2021

ROUTE I-255

DISTRICT STL

STATE MO

SHEET NO. 35

COUNTY ST. LOUIS

JOB NO. J613413/J613500

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

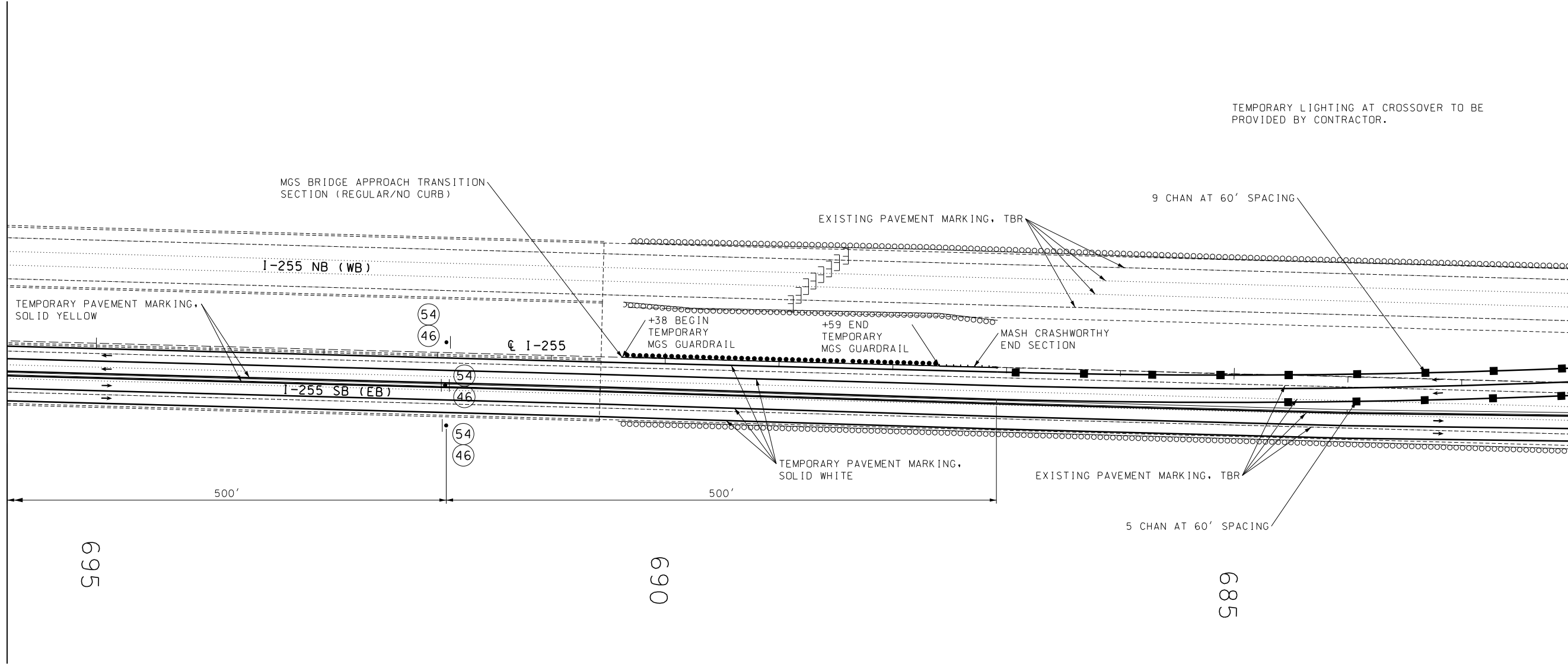
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-273-6636)

5220 Oakland Avenue St. Louis, MO 63110 314.863.5570

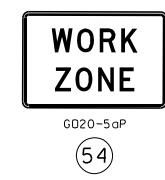
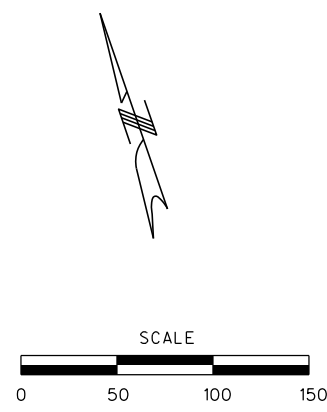
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MATCHLINE SHEET 16

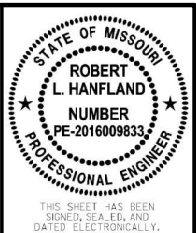


TRAFFIC CONTROL LEGEND

- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- ⬇ FLASHING ARROW PANEL
- ▲ DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- ⌈ BARRICADE
- 📄 CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER



MATCHLINE SHEET 18



DATE PREPARED 9/19/2021	
ROUTE I-255	STATE MO
DISTRICT STL	SHEET NO. 36
COUNTY ST. LOUIS	
JOB NO. J613413/J613500	
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)

5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570

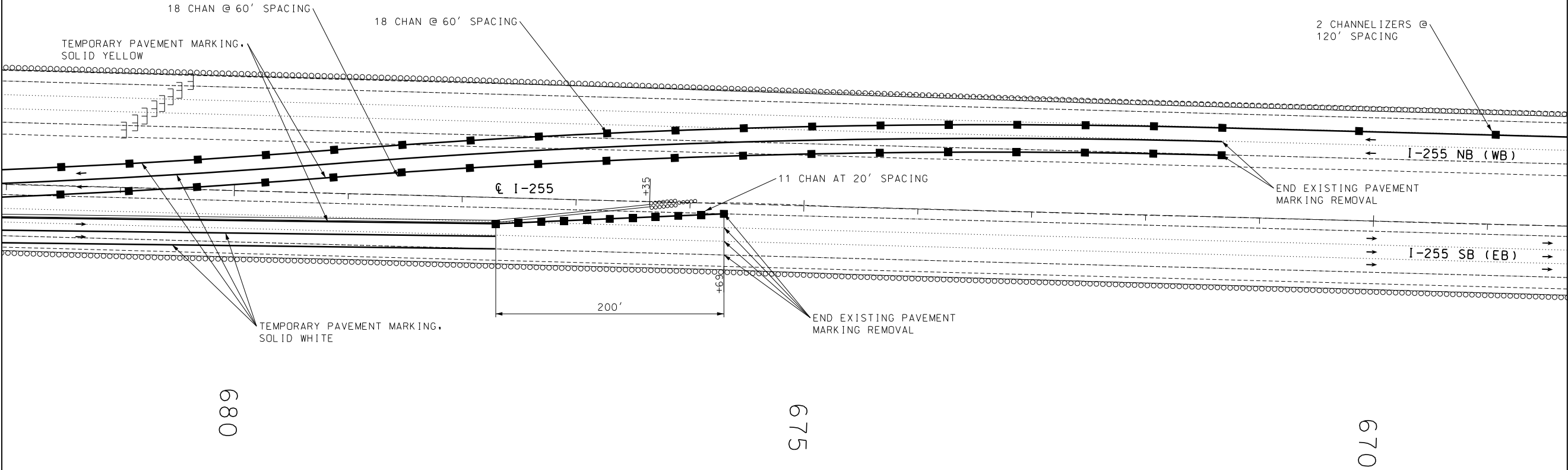
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TEMPORARY LIGHTING AT CROSSOVER TO BE PROVIDED BY CONTRACTOR.

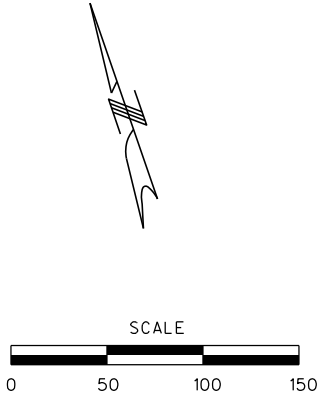
MATCHLINE SHEET 17



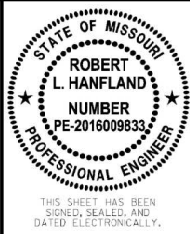
MATCHLINE SHEET 19

TRAFFIC CONTROL LEGEND

- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- ⬇ FLASHING ARROW PANEL
- ▲ DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- ⌌ BARRICADE
- Ⓜ CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER
- ⊞ TEMPORARY IMPACT ATTENUATOR



STAGE 2
TRAFFIC CONTROL SHEET
SHEET 18 OF 20



DATE PREPARED 9/19/2021	
ROUTE I-255	STATE MO
DISTRICT STL	SHEET NO. 37
COUNTY ST. LOUIS	
JOB NO. J613413/J613500	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

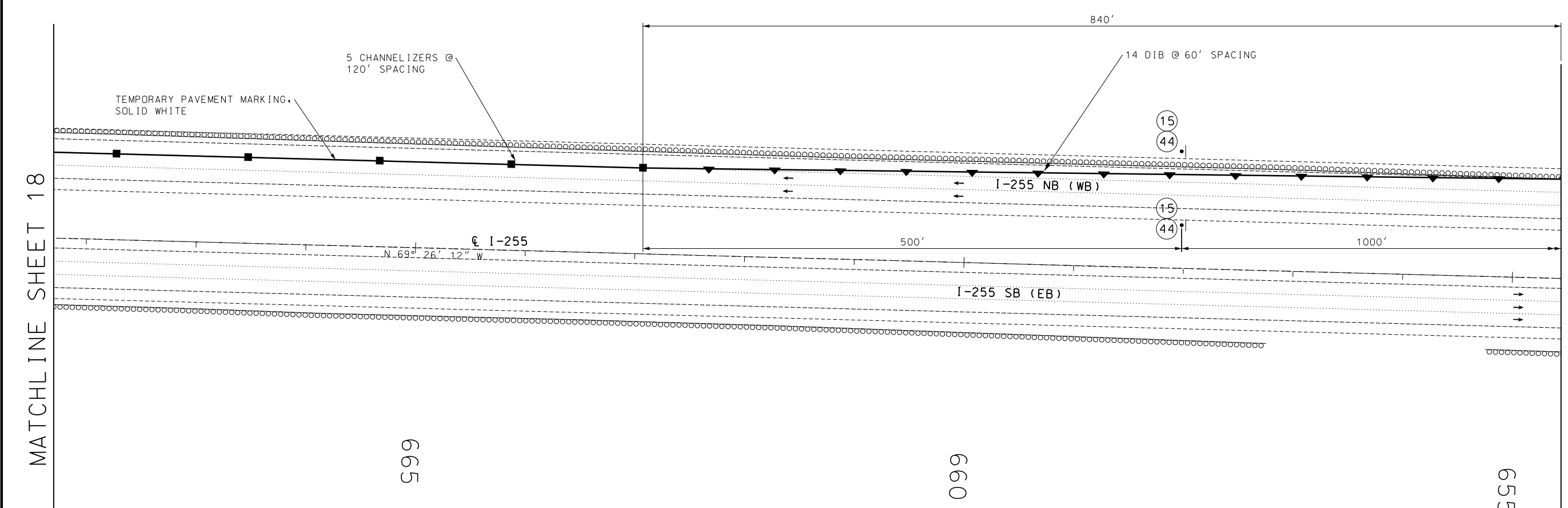
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570

CIVIL DESIGN, INC.
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Missouri State Certificate of Authority #2002006804

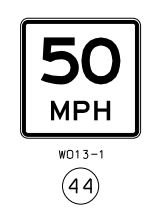
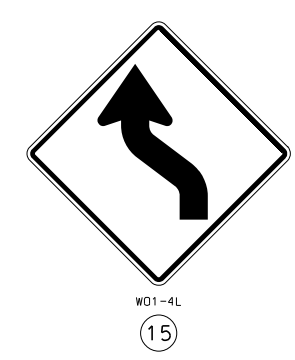
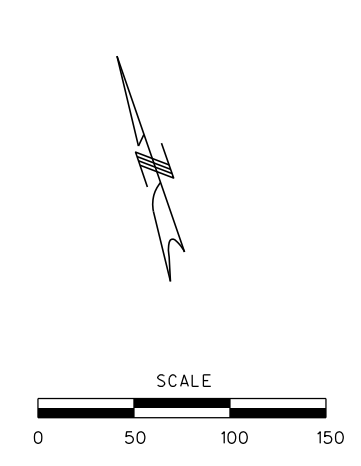
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MATCHLINE SHEET 18

MATCHLINE SHEET 20



TRAFFIC CONTROL LEGEND

- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- FLASHING ARROW PANEL
- DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER

STAGE 2
TRAFFIC CONTROL SHEET
SHEET 19 OF 20

STATE OF MISSOURI

ROBERT L. HANFLAND

NUMBER PE-2016009833

PROFESSIONAL ENGINEER

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

DATE PREPARED 9/19/2021

ROUTE I-255

STATE MO

DISTRICT STL

SHEET NO. 38

COUNTY ST. LOUIS

JOB NO. J613413/J613500

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-273-6636)

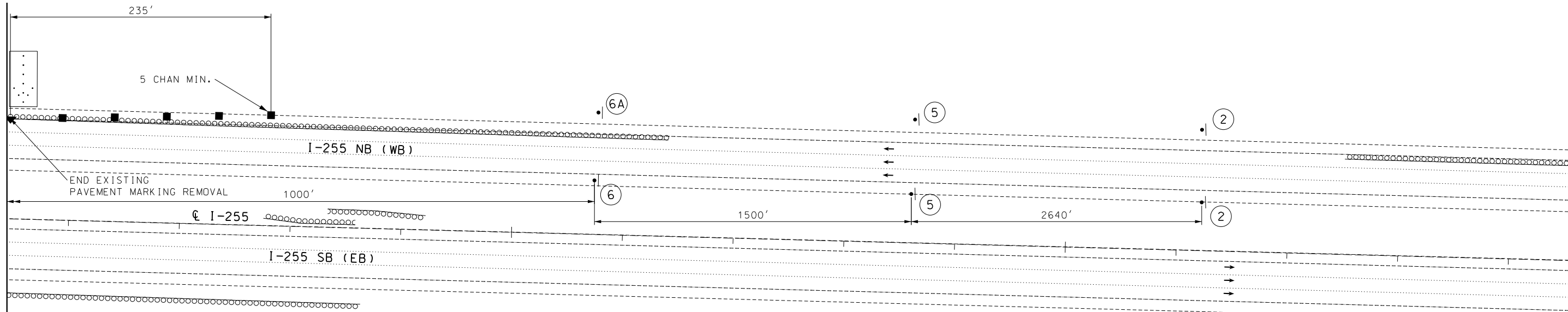
5220 Oakland Avenue St. Louis, MO 63110 314.863.5570

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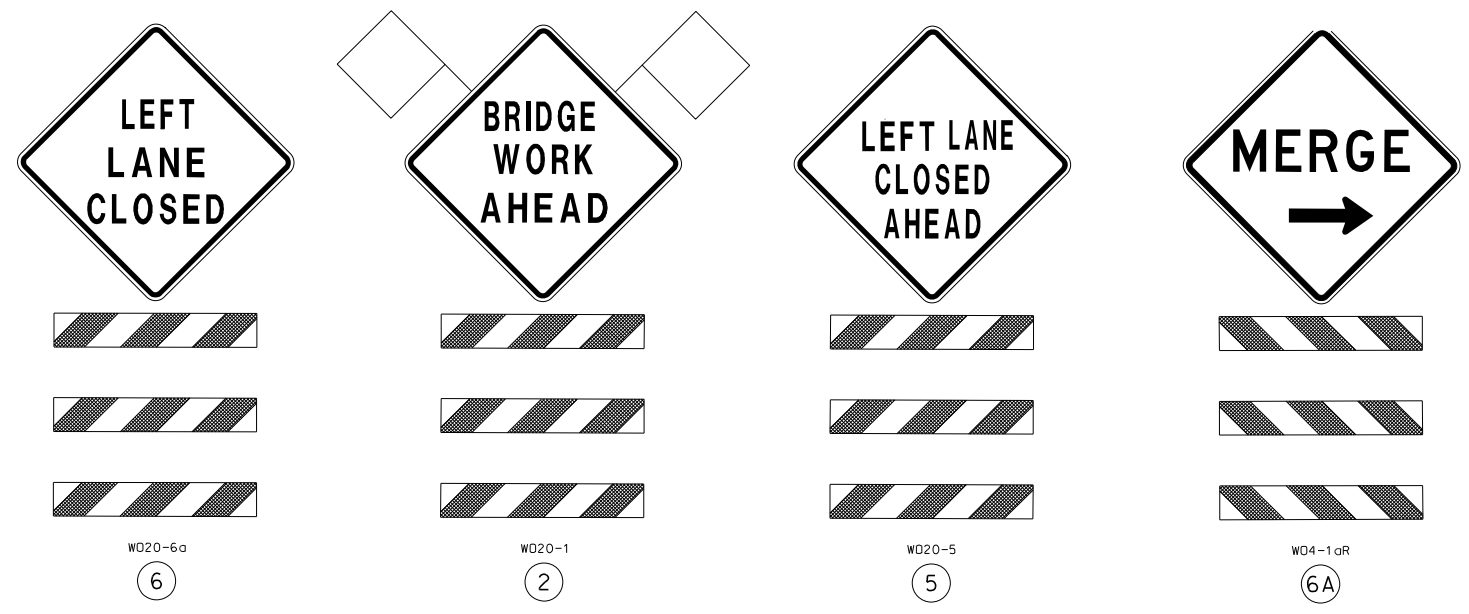
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MATCHLINE SHEET 19



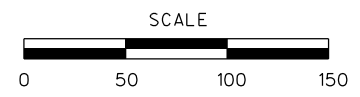
650

645



TRAFFIC CONTROL LEGEND

- SIGN (DOUBLE SIDED)
- SIGN (SINGLE SIDED)
- FLASHING ARROW PANEL
- DIRECTIONAL INDICATOR BARRICADE
- CHANNELIZER (TRIM-LINE)
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- TEMPORARY TRAFFIC BARRIER



STAGE 2
TRAFFIC CONTROL SHEET
SHEET 20 OF 20

STATE OF MISSOURI

ROBERT L. HANFLAND

NUMBER PE-2016009833

PROFESSIONAL ENGINEER

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

DATE PREPARED

9/19/2021

ROUTE

I-255

STATE

MO

DISTRICT

STL

SHEET NO.

39

COUNTY

ST. LOUIS

JOB NO.

J613413/J613500

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)

5220 Oakland Avenue

St. Louis, MO 63110

314.863.5570

CPI

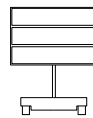
CIVIL DESIGN, INC.

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Missouri State Certificate of Authority #2002006804

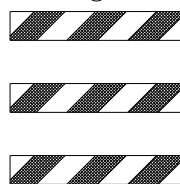
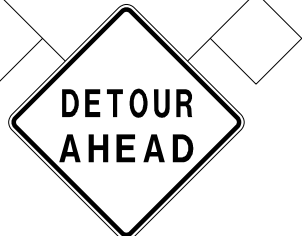
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— SIGN (SINGLE SIDED)



CHANGEABLE MESSAGE BOARD

A = 1,000 FT
B = 500 FT



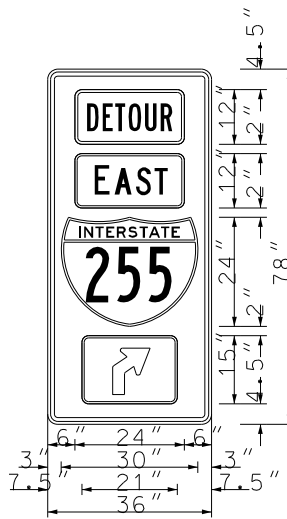
W20-2

18

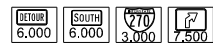


MO4-8a

52

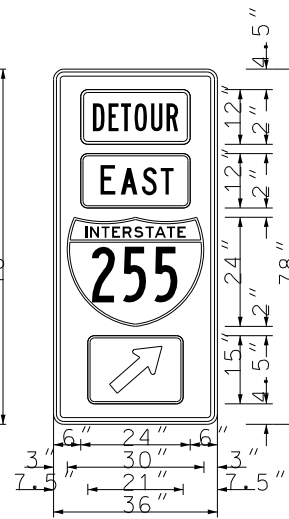


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2.250" Radius, 0.875" Border, 0.625" Indent, Black
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Table of letter and object lefts.

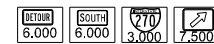


SPECIAL

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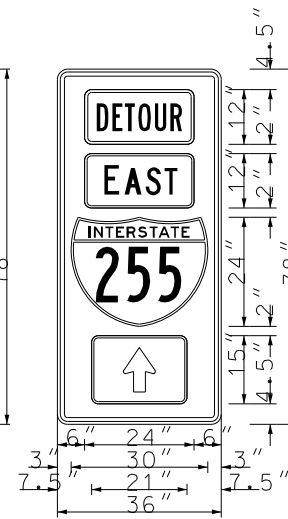


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on Orange; Interstate 270 12,000" B;
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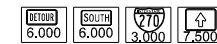


SPECIAL

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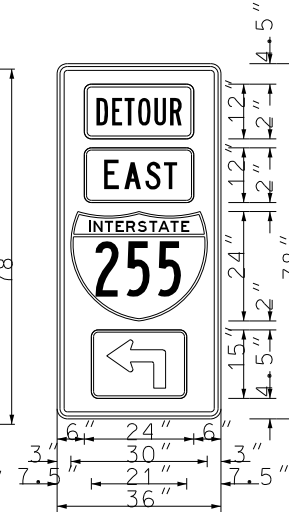


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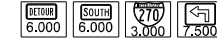


SPECIAL

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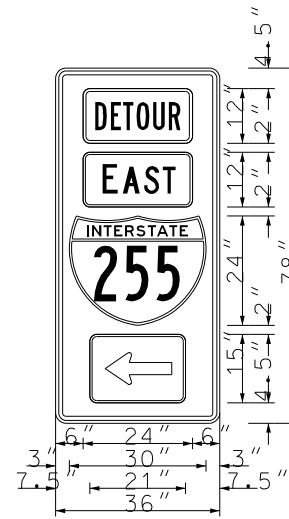


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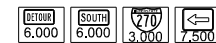


SPECIAL

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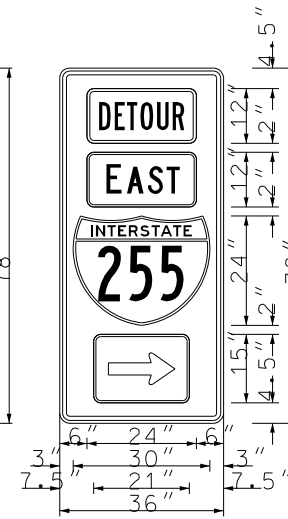


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Table of letter and object lefts.



SPECIAL

50E



MO4-11-36 SHF-FLAT SHEET FLUORESCENT;
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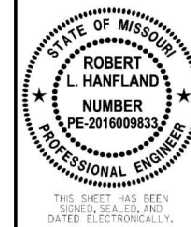
SPECIAL

50F

I-255 NB ON RAMP
CLOSED

LOCATION OF CMS TO BE DETERMINE BY
THE ENGINEER. EACH CMS SHALL HAVE 5
CHANNELIZERS IN FRONT OF IT.

DETOUR SHEET
SHEET 1 OF 2



DATE PREPARED
9/19/2021

ROUTE
I-255

STATE
MO

DISTRICT
STL

SHEET NO.
40

COUNTY
ST. LOUIS

JOB NO.
J613413/J613500

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

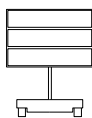
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570

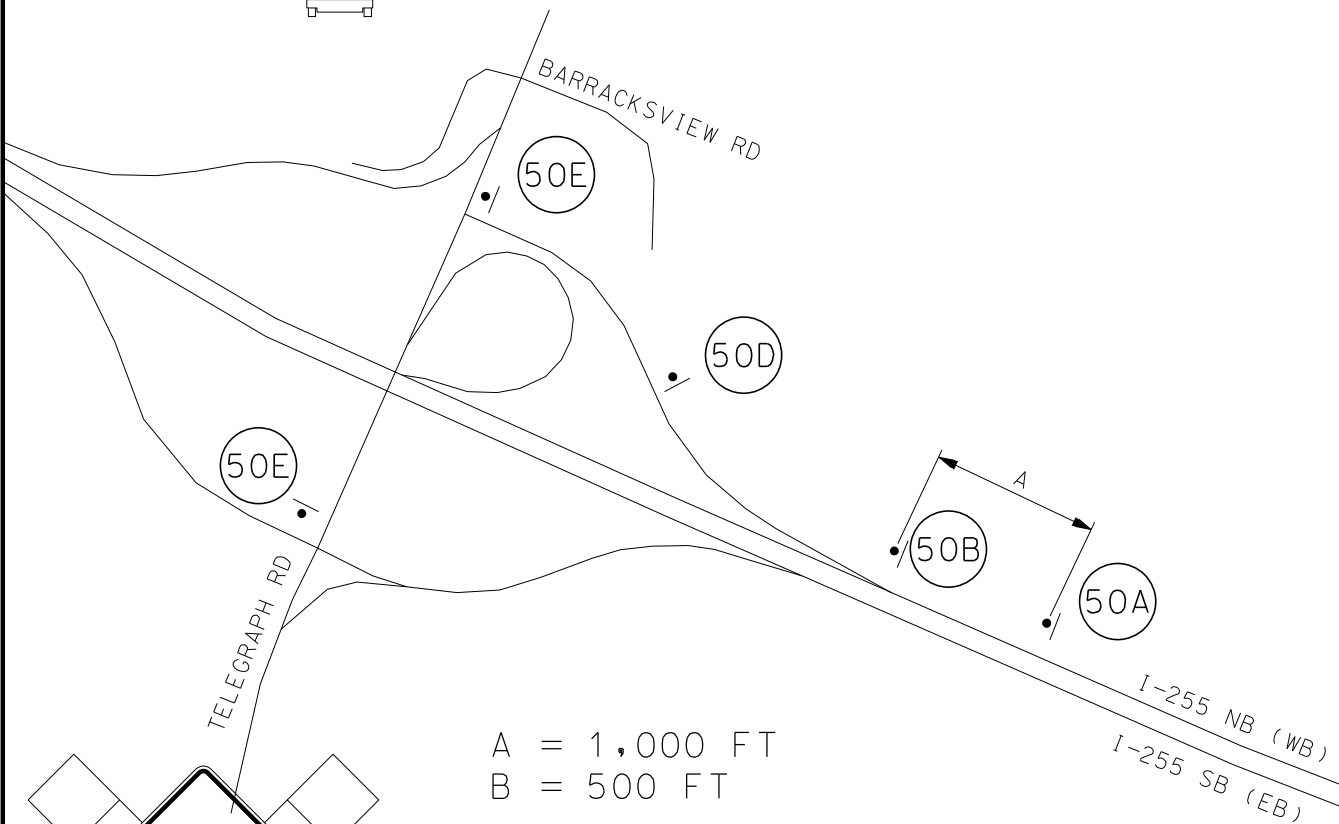
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WBE / DBE
Missouri State Certificate of Authority #2002004604

TRAFFIC CONTROL LEGEND

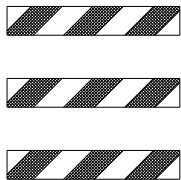
— SIGN (SINGLE SIDED)



CHANGEABLE MESSAGE BOARD

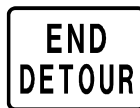


A = 1,000 FT
B = 500 FT



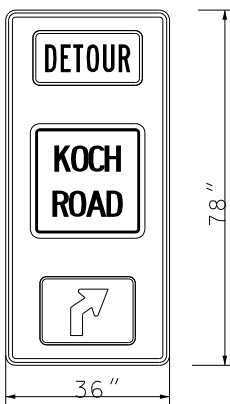
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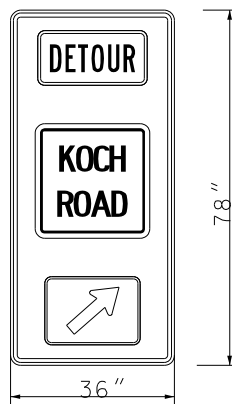
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52



SPECIAL

50A



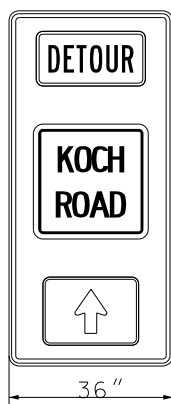
SPECIAL

50B

MO4-11-36 SHF-FLAT SHEET FLUORESCENT;
2,250" Radius, 0.875" Border, 0.625" Indent, Black
on Orange; Interstate 270 12,000" B;
Table of letter and object lefts.

MO4-11-36 SHF-FLAT SHEET FLUORESCENT;
2,250" Radius, 0.875" Border, 0.625" Indent, Black
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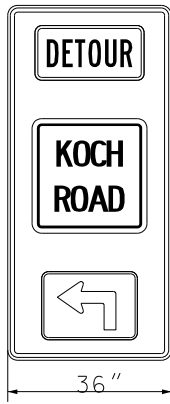
LOCATION OF CMS TO BE DETERMINED BY
THE ENGINEER. EACH CMS SHALL HAVE 5
CHANNELIZERS IN FRONT OF IT.



SPECIAL

50C

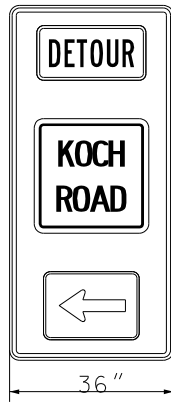
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Table of letter and object lefts.



SPECIAL

50D

MO4-11-36 SHF-FLAT SHEET FLUORESCENT;
2,250" Radius, 0.875" Border, 0.625" Indent, Black
on Orange; Interstate 270 12,000" B;
Table of letter and object lefts.



SPECIAL

50E

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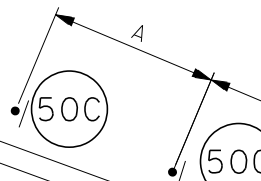


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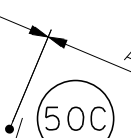
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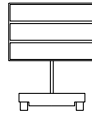
I-255 SB OFF RAMP
CLOSED



50C

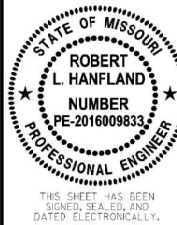


50C



18

DETOUR SHEET
SHEET 2 OF 2



DATE PREPARED
9/19/2021

ROUTE
I-255

STATE
MO

DISTRICT
STL

SHEET NO.
41

COUNTY
ST. LOUIS

JOB NO.
J613413/J613500

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

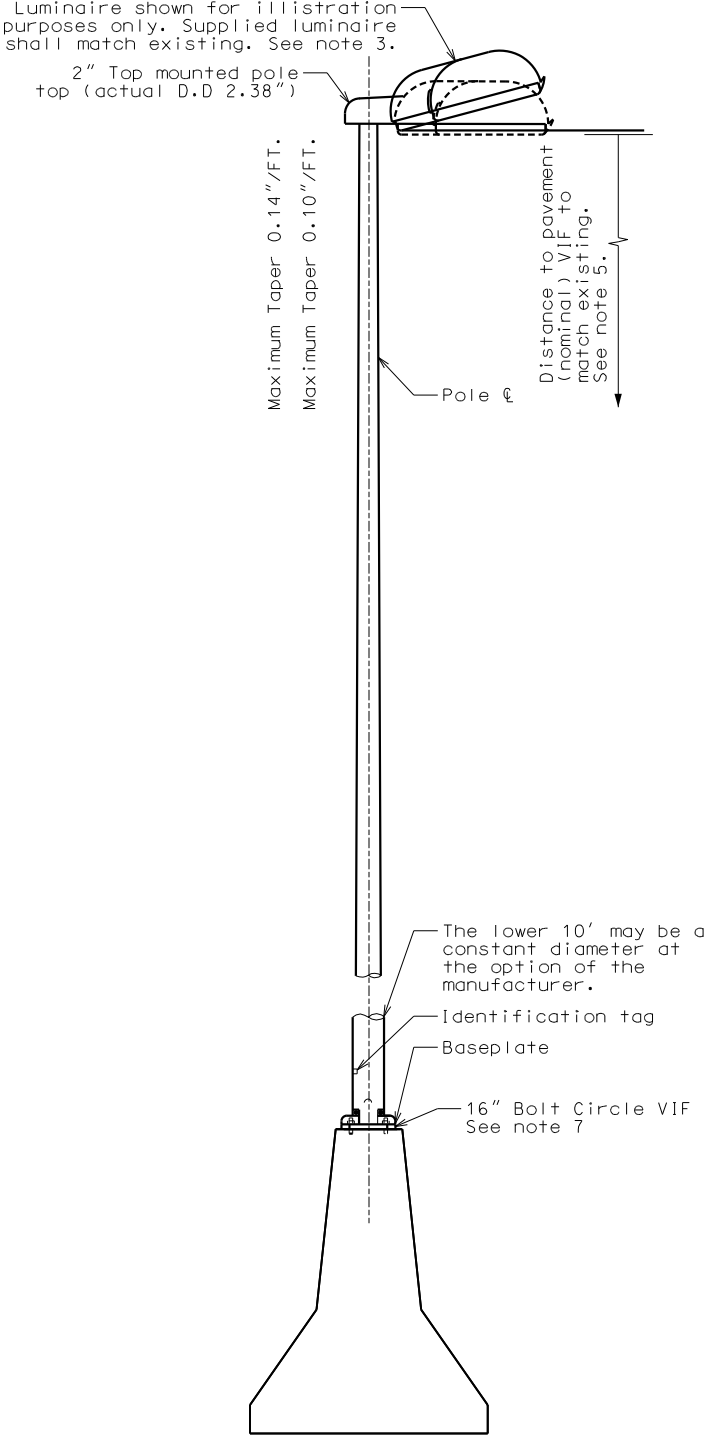
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6636)

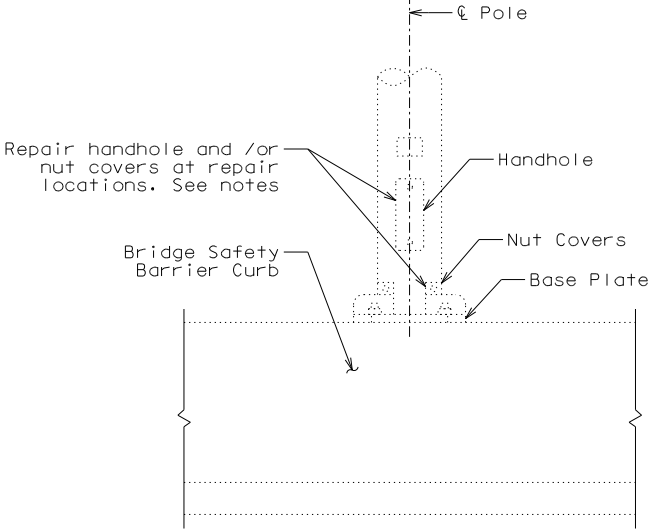
5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570

CIVIL DESIGN, INC.
WBE / DBE

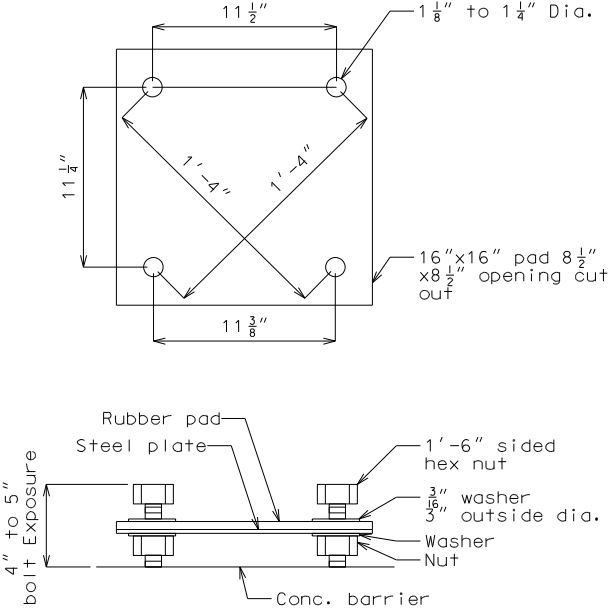
Missouri State Certificate of Authority #2002006804



LIGHT POLE DETAIL



LIGHT POLE REPAIR DETAIL



TYPICAL POLE BASE

LIGHT POLE REPAIRS

- Notes:
- Existing light poles are located on the north barrier rail throughout the bridge.
 - Light poles are to have missing or broken nut covers replaced, or have the entire light poles and light fixture replaced. Approximate locations and quantity of repairs as follows:
Span 9, replace pole and fixture
Span 11, one nut cover
Span 12, replace pole and fixture
Span 13 replace pole and fixture
Span 13 replace pole and fixture
Span 13 replace pole and fixture
 - Existing poles and light fixtures were replaced in 2002 with Holopane HL2A Vector Series, Cat. No. HL2A400HP48B1 or similar assemblies that can accommodate the levels of vibration encountered on the bridge. Details shown are based on historic details of the lighting are for illustrative purposes only. Contractor shall verify dimensions in the field and submit proposed fixtures. Fixtures will be considered by the Engineer based on appearance, performance, and certification that they are suitable for the respective level of vibration encountered on the bridge.
 - Existing poles and light fixtures that are replaced shall re-use the existing lighting circuit wiring to the extent possible, and shall replace in kind any damaged or missing components.
 - Replacement poles shall be round tapered steel poles with 2.375" tenon mount top, height 40' nominal. Contractor shall coordinate pole top tenon size with the luminaire tenon mount to ensure compatibility.
 - Due to vibration problems encountered on the bridge, secure fixtures to tenon mount pole top by drilling a hole through the tenon mount on the fixture and pole top and install a 1/4" bolt through the respective mounting interface. Bolts, nuts and washers shall be stainless steel.
 - Contractor shall field verify pole base plate pattern and furnish new poles with base plates to match the existing bolt pattern. Select base plates have dampening pads below the light pole base plate. Reinstall existing pads or replace in kind as part of any light pole replacement.
 - Coordinate all power outages associated with the bridge lighting system with the Engineer.
 - Repair existing flexible conduit installations for roadway lighting circuits located at the bridge expansion joints below the bridge deck.
 - Light pole nut covers and all connecting fasteners shall conform to MDDOT standard specifications. All work required for the listed repairs shall be considered completely covered by the contract unit price for "Light Pole Repairs" per each light pole to receive repairs.
 - All work required for the listed light pole and fixture replacements shall be completely covered by the contract unit price for "Light Pole Replacement"



DATE PREPARED 9/19/2021	
ROUTE 255	STATE MO
DISTRICT BR	SHEET NO. 42
COUNTY ST. LOUIS	
JOB NO. J613413/J613500	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A18502	

DESCRIPTION	DATE

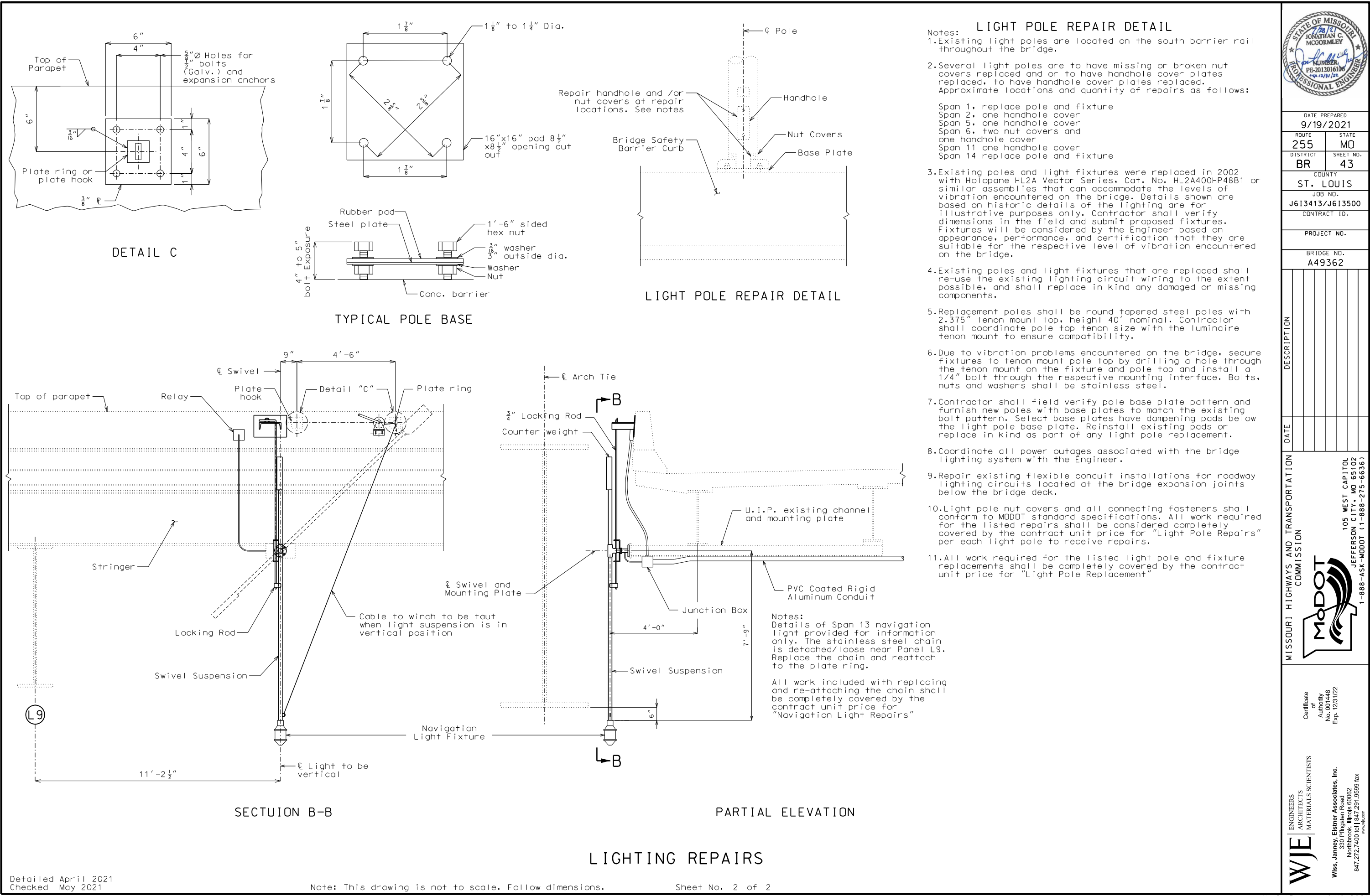
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

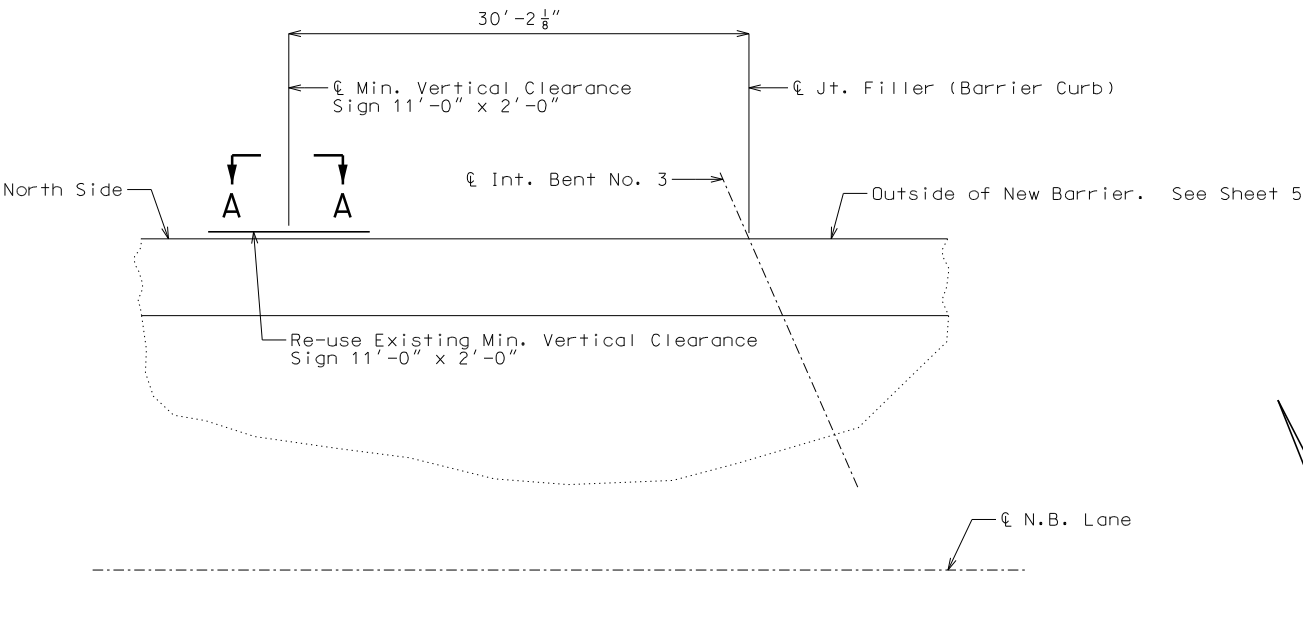
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MDDOT (1-888-275-6636)

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

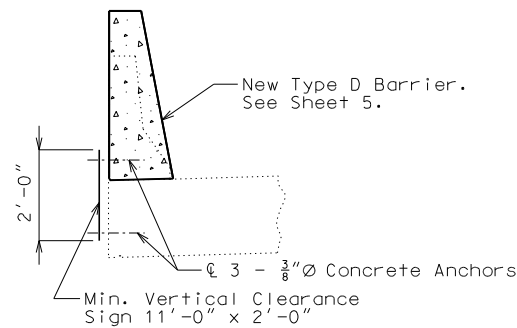
Wiss, Janney, Elstner Associates, Inc.
330 Pflugstein Road
Northbrook, Illinois 60062
847.272.7400 tel 847.231.9599 fax
www.wje.com

Certificate of Authority
No. 001448
Exp. 12/31/22

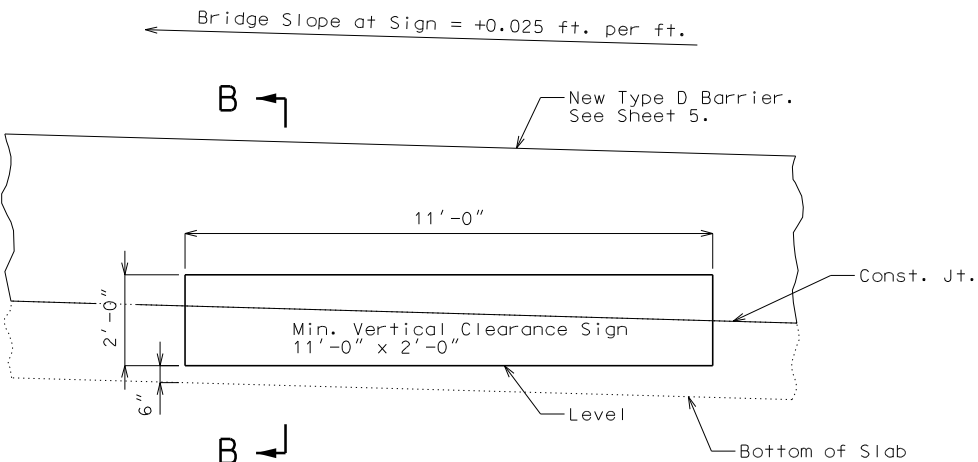




PART PLAN SHOWING LOCATION OF SIGN



SECTION B-B



PART ELEVATION A-A

General Notes:

Prior to barrier rail rehabilitation, remove and store existing vertical clearance sign.

Center and level sign.

All bolts, nuts and washers shall be galvanized.

A 3/16" thick plastic washer, 7/8" outside diameter shall be placed on each side of the sign at all concrete anchor connections.

Concrete anchors shall be the non-drilling expansion type. They shall have a certified pullout strength (Ultimate Load) of at least 3,900 pounds in 4000 PSI concrete. The hole shall be pre-drilled with a conventional carbide masonry bit.

Outlin of old work is indicated by light dashed lines. Heavy lines indicate new work.

The contractor shall verify all dimensions in field before erecting the sign.

The cost of removing, storing and erecting the sign including the concrete anchors complete-in-place, shall be paid for as "Bridge Mounting Signs Without Brackets" per each.

Sign substrate shall be sheet.

RELOCATE EXISTING VERTICAL CLEARANCE SIGN

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

Sheet No. SRR401 of TS



DATE PREPARED 9/19/2021	
ROUTE 255	STATE MO
DISTRICT BR	SHEET NO. 44
COUNTY ST. LOUIS	
JOB NO. J613413/J613500	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A2590	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

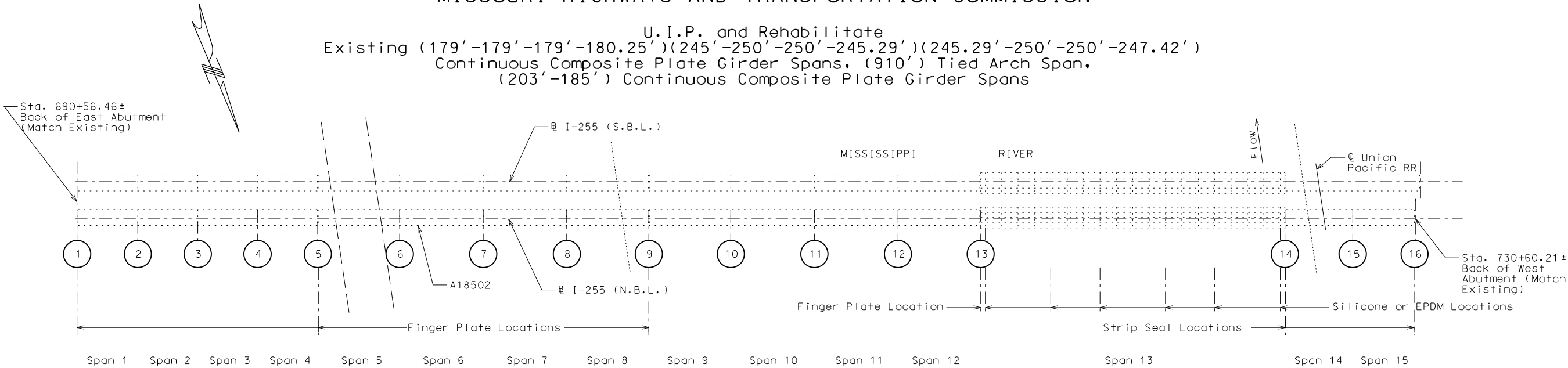
Wiss, Janney, Elstner Associates, Inc.
330 Pflingsten Road
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847.272.7400 tel / 847.231.9599 fax
www.wje.com

Certificate of Authority
No. 001448
Exp. 12/31/22

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SEC/SUR 6 TWP 43N RGE 7E

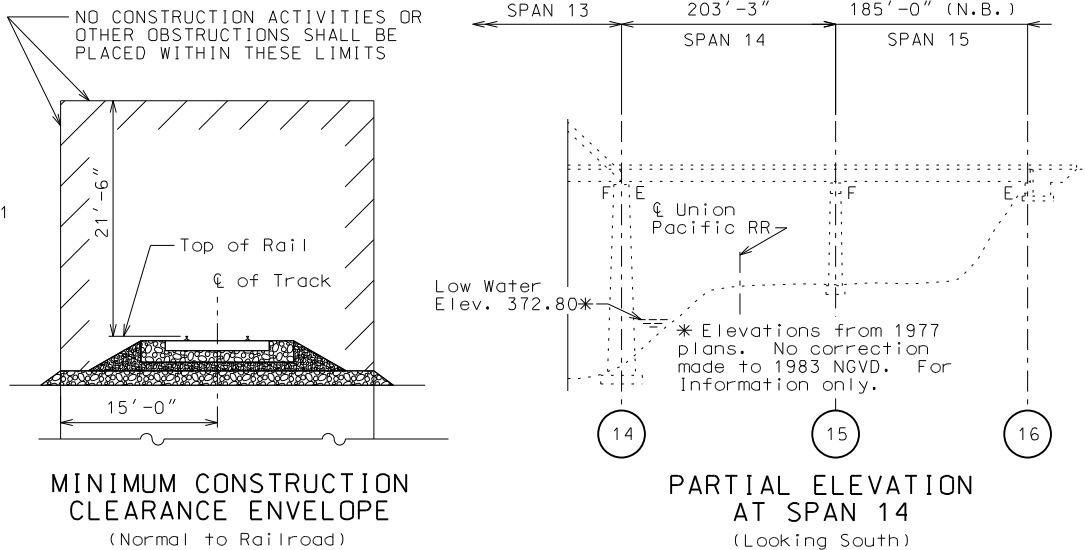
U.I.P. and Rehabilitate
Existing (179'-179'-179'-180.25')(245'-250'-250'-245.29')(245.29'-250'-250'-247.42')
Continuous Composite Plate Girder Spans, (910') Tied Arch Span,
(203'-185') Continuous Composite Plate Girder Spans



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5. Location of Structural Steel Retrofits & Repairs - Approaches 03
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7. Location of Structural Steel Retrofits & Repairs - Arch Span
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9. Clearance Gauge Details
10. Approach Steel Protective Coating Limits & Details
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48. Approach Pavement Repairs Polyester Polymer Concrete Wearing Surface Alternate
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LOCATION SKETCH SHOWING PIER NUMBERING AND APPROXIMATE LOCATION OF EXPANSION JOINTS



RAILROAD MAINTENANCE NOTES

1. All permanent clearances shall be verified before project closing.
2. The contractor must submit a proposed method of erosion and sediment control and have the method approved by the Railroad.
3. Regardless of underlying land ownership, all shoring systems within Railroad right-of-way or that may impact the Railroad's operations and/or supports the Railroad's embankment shall be designed and constructed per current Railroad Guidelines for Temporary Shoring.
4. The contractor submit and provide sufficient safety measures to protect unattended excavations to the Railroad for approval.
5. All demolitions/removals within the Railroad's right-of-way and/or that may impact the Railroad's track or operations shall be in compliance with the current Railroad's Demolition Guidelines.
6. Railroad requirements do not allow work within 50 feet of track centerline when a train passes the work site and all personnel must clear the area within 25 feet of the track centerline and secure all equipment.
7. Call Before You Dig. Prior to excavation, disrupting, or working on the Railroad property the contractor shall locate and protect UPRR facilities by calling the UPRR "Call Before You Dig" (CBYD) phone number: 1-800-336-9193.
8. Construction activities, including falsework/formwork, are not allowed within the "Minimum Construction Clearance Envelope" as they would otherwise disrupt Railroad operations.

REPAIRS TO BRIDGE: I-255 N.B. (W.B) OVER MISSISSIPPI RIVER & UNION PACIFIC RAILROAD

ROUTE I-255 FROM I-55 EAST TO MISSISSIPPI RIVER
ABOUT 4.0 MILES EAST OF I-55
BEG. STA. 690+56.46± (MATCH EXISTING)

LOCATION PLAN AND SHEET LIST

Estimated Quantities				
Item		Substr.	Superstr.	Total
Scarification of Bridge Decks	square yard		22,887	22,887
Removal of Asphalt Wearing Surface	square foot		3,800	3,800
Removal of Existing Expansion Joint & Adjacent Concrete	linear foot		306	306
Removal of Existing Expansion Joint Seal or Sealant	linear foot		306	306
Remove and Replace Barrier Curb	linear foot		139	139
* Ultra-High Performance Concrete	cubic yard		96	96
Substructure Repair (Formed)	square foot	539		539
Substructure Repair (Unformed)	square foot	539		539
Barrier Curb Repair	linear foot		11	11
Reinforcing Steel (Epoxy Coated)	lb.		27,700	27,700
Protective Coating – Concrete Bents & Piers (Urethane)	square foot		10,930	10,930
Finger Joint Expansion Joint System (Abut. 1 and Bent 5)	linear foot		102	102
Finger Joint Expansion Joint System (Bents 9 and 13)	linear foot		102	102
Surface Preparation for Recoating Structural Steel	square foot		284,000	284,000
Field Application of Inorganic Zinc Primer	square foot		284,000	284,000
Intermediate Field Coat (System H)	square foot		220,000	220,000
Finish Field Coat (System H)	square foot		220,000	220,000
Finish Field Coat (System I)	square foot		64,000	64,000
Metalizing Hanger Cables	linear foot		2,800	2,800
Bridge Washing	lump sum		1	1
Reset Rocker Bearings	each		2	2
Steel Retrofits – Ladder Landing Plates	each		32	32
Steel Retrofits – Walkway Truss Broken Welds	each		216	216
Steel Retrofits – Drainage Truss Member Connection	each		1	1
Steel Retrofits – Reconnect Drain Downspout Bracket	each		18	18
Steel Retrofit – Strut Access Door Pin	each		1	1
Trimming of Steps Inside Arch/Tie Intersection Chamber	each		112	112
Weld Inspection	linear foot		4,568	4,568
Crack Removal – Grinding	linear foot		555	555
Weld Repair	linear foot		230	230
Access Door Gasket Replacement	each		4	4
Cable Tension Measurement Inspection	each		2	2
Cable Shoring, System Installation, Cable Tension Adjustment	each		8	8
Hanger Cable Replacement	linear foot		3,228	3,228
Strip Seal Expansion Joint System	linear foot		102	102
Preformed Silicone or EPDM Expansion Joint Seal	linear foot		306	306
Clearance Gauge	lump sum	1		1
Latex Modified Concrete Wearing Surface Alternate				
Item		Substr.	Superstr.	Total
Removal of Existing Deck Repair	square foot		600	600
Total Surface Hydro Demolition	square yard		22,952	22,952
Latex Modified Concrete Wearing Surface	square yard		22,952	22,952
Full Depth Repair	square foot		100	100
Supplementary Wearing Surface Material	cubic yard		53	53
Diamond Grinding	square yard		22,952	22,952
Polyester Polymer Concrete (PCC) Wearing Surface Alternate				
Item		Substr.	Superstr.	Total
Furnish Polyester Polymer Concrete Material	cubic yard		956	956
Place Polyester Polymer Concrete Wearing Surface	square yard		22,952	22,952
Half-Sole Repair	square foot		4,200	4,200
Full Depth Repair	square foot		100	100

* UHPC is required where specified. Value Engineering proposals will not be considered for substitutions.

Designed P.J.M.
Detailed L.S
Checked J.C.M.

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

General Notes:

Design Specifications:
2020 – AASHTO LRFD Bridge Design Specifications (9th Edition) for new construction.
Seismic Design Category = A.
Bridge Deck Rating – 6

Design Loading:
HS20-44 (1977) with 24,000# Military Tandem Axle

Design Unit Stresses:
Class B-1 Concrete (Barrier Curb Replacement) f’c = 4,000 psi
Class B-2 Concrete (Half Sole and Full Depth Repair) f’c = 4,000 psi
Ultra-High Performance Concrete UHPC (Slab Replacement) f’c = 17,400 psi (min)
f1 = 1,400 psi
fp = 2,000 psi
fy = 60,000 psi
fy = 36,000 psi
fy = 50,000 psi
Reinforcing Steel (Grade 60)
Structural Steel (ASTM A709 Grade 36)
Structural Steel (ASTM A709 Grade 50)

Fabricated Steel Connections:
Field connections shall be made with 3/4” digmeter ASTM F3125 Grade A325 Type 1 galvanized bolts and 13/16” diameter holes, except as noted. Provide Type 3 fasteners when connecting uncoated weathering steel, except as noted.

Field Welding:
When field welding to primary structural members, the following shall apply:
- Use E7018 electrodes for SMAW with an H8 or H4 rating.
- Practice proper electrode maintenance to maintain a low-hydrogen conditions.
- Grind to white metal and completely remove moisture, oils, grease, rust, paint, etc. before welding.
- Avoid exposing or melting into original root face between the two sides of double-sided fillet welds.
- Preheat weld a distance of 10 inches transverse to the weld axis to 300 deg. F for at least one hour before welding
- Maintain 300 to 450 deg. F interpass temperature until entire length of weld has been repaired.
- Maintain 300 deg. F post-heat after completion of welding for at least 3 hours.
Contractor shall submit and have approved welding procedures for all other field welding operations. Procedures shall be prepared by an AWS Certified Welding Inspector.

Weld Inspection
All existing welds identified on the drawings for inspection shall be cleaned of existing coating prior to inspection. Any additional cleaning and surface preparation necessary to recoat the existing steel after the inspection will be considered completely covered by the contract unit price for Surface Preparation for Recoating Structural Steel.

Nondestructive Testing:
All nondestructive testing shall be performed by an ASNT certified Level II or Level III MT and UT inspector.
Nondestructive testing procedures to be prepared by an ASNT certified Level III MT and UT inspector. Contractor to submit certifications prior to starting work.

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

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

Recoating Existing Weathering Steel and Coating New Weathering Steel:
Protective Coating: System H or System I in accordance with Sec 1081 and limits shown on plans. Installed coating system shall be System H unless noted otherwise.

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

Prime Coat: The cost of the prime coat will be considered completely covered by the contract price per sq. foot for Field Application of Inorganic Zinc Primer. Tint of the prime coat shall be similar to the color of the field coat to be used.

Field Coats: The color of the field coats shall be Gray (Federal Standard #26373). The cost of the intermediate field coat will be considered completely covered by the contract price per sq. foot for Intermediate Field Coat (System H). The cost of the finish field coat will be considered completely covered by the price per sq. foot for Finish Field Coat (System H or System I).

General Notes (Continued):

Coating New Steel (Non – Weathering):
Protective Coating: System G in accordance with Sec 1081.

Prime Coat: The cost of the prime coat shall be considered completely covered by the contract unit price for other items. Tint of the prime coat shall be similar to the color of the field coat to be used.

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

At the option of the contractor the intermediate field coat and finish field coat may be applied in the shop. The contractor shall exercise extreme care during all phases of loading, hauling, handling, erection and pouring of the slab to minimize damage and shall be fully responsible for all repairs and cleaning of the coating system as required by the engineer.

Cost for coating new steel to be completely covered by steel retrofit pay item.

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

Existing coatings shall be removed prior to installation of new Urethane.

Traffic Control:
Structure to be closed to traffic for the duration of the work.

Miscellaneous:
Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.

High strength bolts, nuts and washers will be sampled for quality assurance as specified in Sec 106.

All existing dimensions shown were taken from as-built drawings, shop drawings or limited field measurements.

Finish each side of the construction joints with a 1/4” radius edging tool.

All existing steel surfaces to be plated over shall be recoated with one 6-mil gray epoxy-mastic primer applied over an SS PC-SP3 surface preparation in accordance with Sec 1081.

Longitudinal dimensions are based on original design plans.

Manhole covers shall be secured prior to being subjected to temporary or permanent traffic.

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

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

Resin Anchors:
The Contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor system complete-in-place will be considered completely covered by the contract price for other items.

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


An epoxy coated Grade 60 reinforcing bar shall be substituted for the equally sized threaded rod.



LICENSE EXPIRES 12/31/2022	
DATE PREPARED 10/1/2021	
ROUTE 255	STATE MO
DISTRICT BR	SHEET NO. 2
COUNTY ST. LOUIS	
JOB NO. J613413	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A18503	


DESCRIPTION	DATE	VE	STUDY
	9/28/21		

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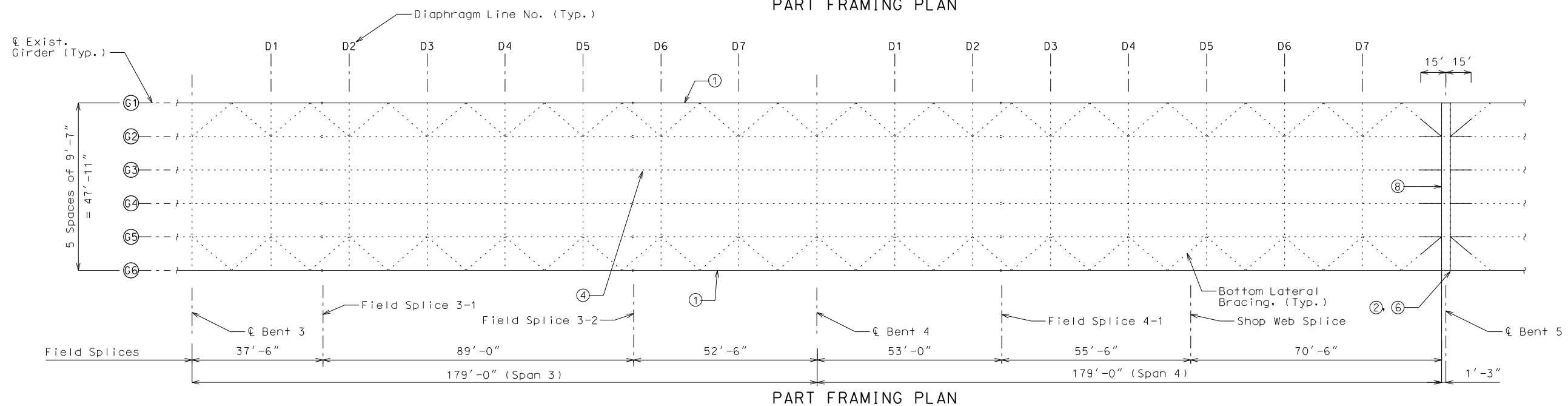
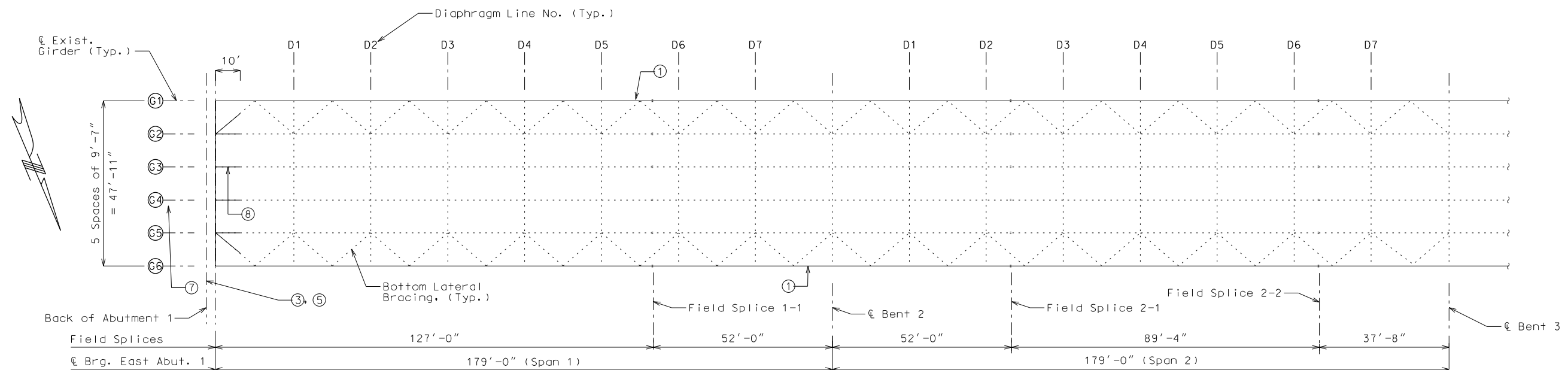
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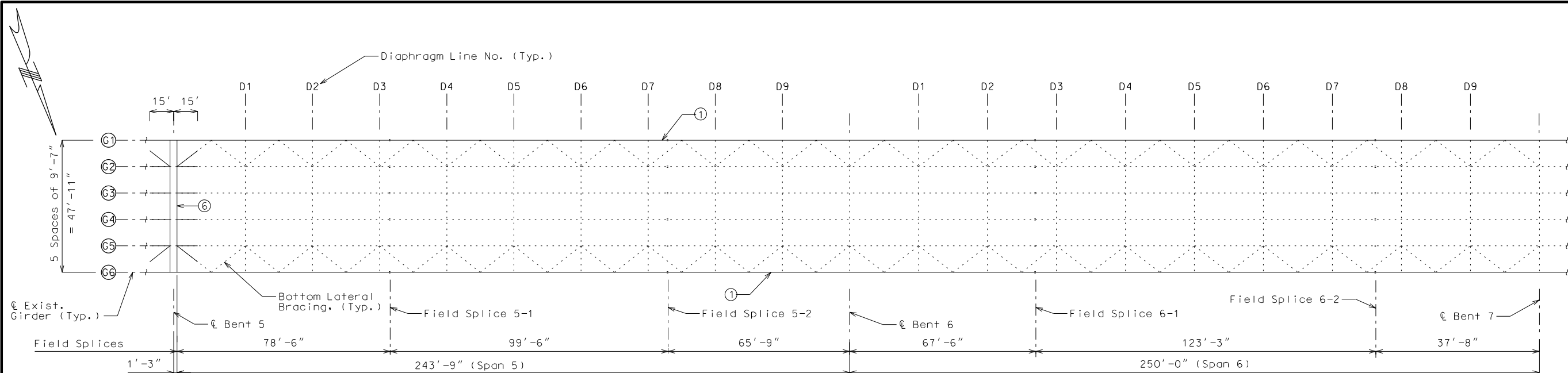
GENERAL NOTES AND SUMMARY OF QUANTITIES



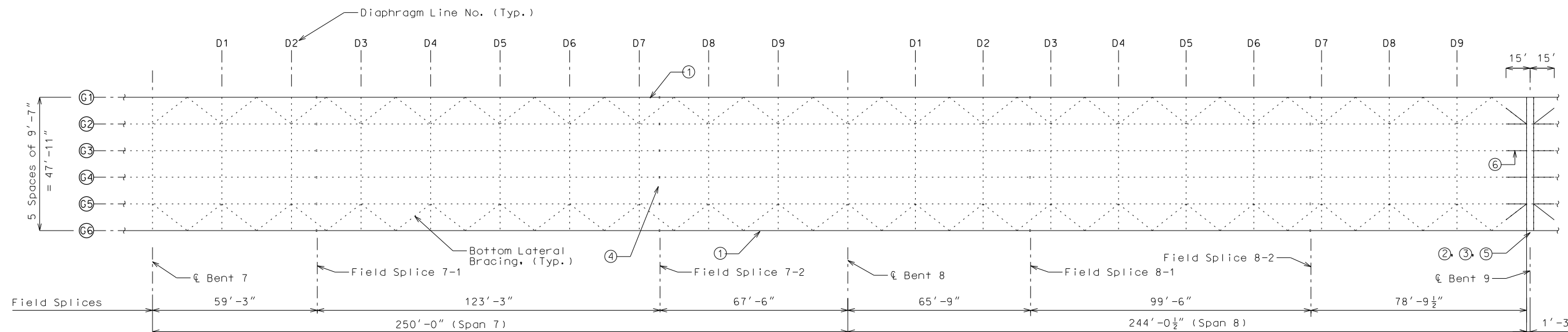
Retrofit/ Repair	General Location	Description
①	Approach span fascia girders	Clean & coat. See Sheet 10.
②	Reinforced concrete bent	Concrete repairs. See Sheet 8.
③	Reinforced concrete abutment	Concrete repairs. See Sheet 8.
④	Concrete deck and barrier curb	Concrete repairs, wearing surface and penetrating sealer installation. See Sheets 22 and 23.
⑤	Expansion joint, Abutment 1	Replace existing finger joint with new finger joint. See Sheets 24,26,30,33 and 44
⑥	Expansion joint, Bent 5	Replace existing finger joint with new finger joint. See Sheets 24,25,27,31,34 and 45
⑦	Approach slab	Approach slab repairs, see Sheets 47 and 48.
⑧	Expansion joints	Clean and coat expansion devices and structural steel, See Sheet 10.

Notes:

⑦ Denotes location of retrofit or repair in Approach Spans.



PART FRAMING PLAN



PART FRAMING PLAN

Retrofit/ Repair	General Location	Description
①	Approach span fascia girders	Clean & coat. See Sheet 10.
②	Bent 9, Span 8 girder bearings	Measure tilt and reset at direction of engineer. See Sheet 12.
③	Reinforced concrete bent	Concrete repairs. See Sheet 8.
④	Concrete deck and barrier curb	Concrete repairs, wearing surface and penetrating sealer installation. See Sheets 22 and 23.
⑤	Expansion joint, Bent 9	Replace existing finger joint with new finger joint. See Sheets 24-25, 28-29, 31, 35 and 45.
⑥	Expansion joints	Clean and coat expansion devices and Structural Steel. See Sheet 10.

Notes:

⊕ Denotes location of retrofit or repair in Approach Spans.

LOCATION OF RETROFITS, REPAIRS & COATING LIMITS - APPROACHES 02

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 4 of 49



LICENSE EXPIRES
12/31/2022

DATE PREPARED
7/29/2021

ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 4

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A18503

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



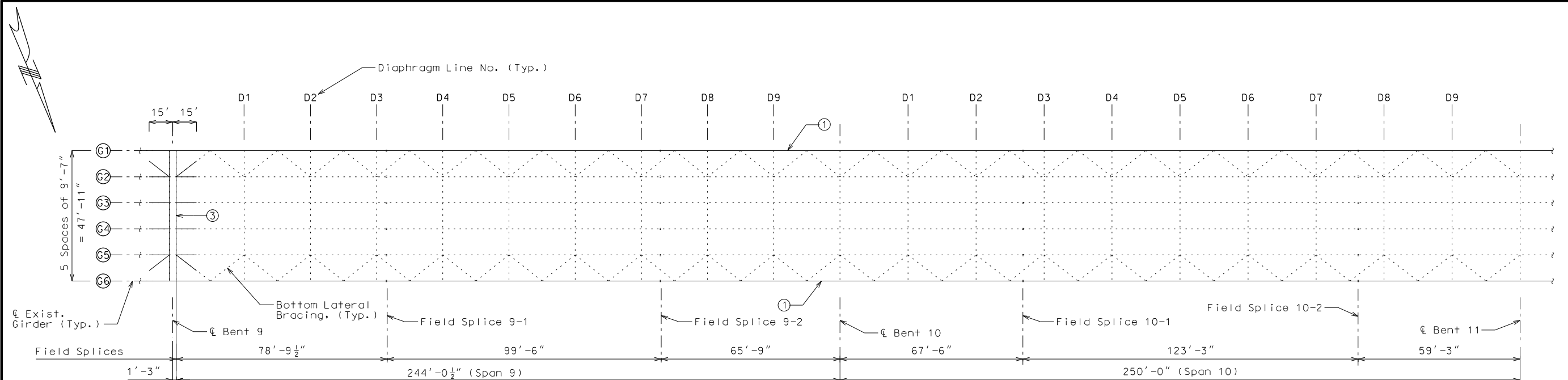
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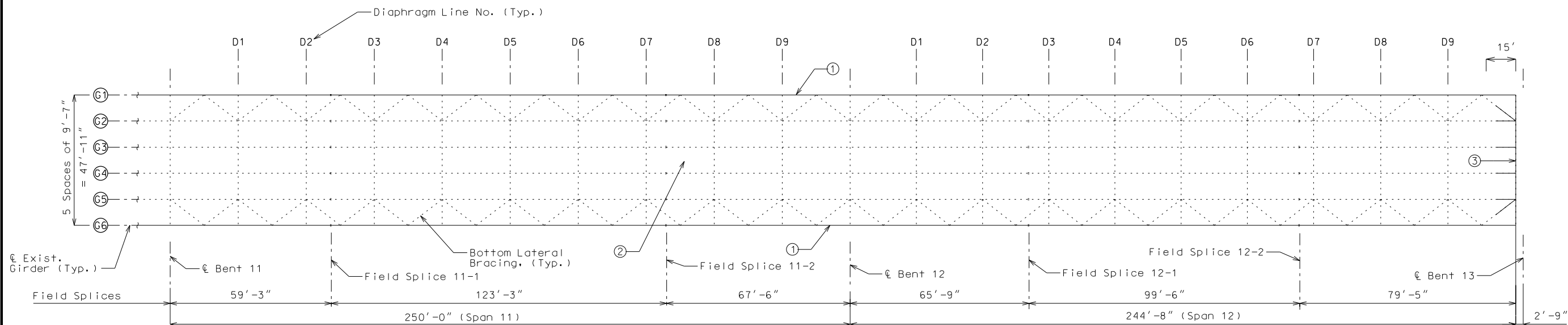
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PART FRAMING PLAN



PART FRAMING PLAN

Retrofit/ Repair	General Location	Description
①	Approach span fascia girders	Clean & coat. See Sheet 10
②	Concrete deck and barrier curb	Concrete repairs, wearing surface and penetrating sealer installation. See Sheets 22 and 23.
③	Expansion joints	Clean and coat expansion devices and Structural Steel. See Sheet 10.

Notes:

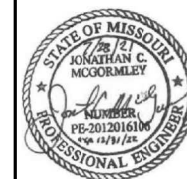
- ⊕ Denotes location of retrofit or repair in Approach Spans.

LOCATION OF RETROFITS, REPAIRS & COATING LIMITS - APPROACHES 03

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 5 of 49



LICENSE EXPIRES
12/31/2022

DATE PREPARED
7/29/2021

ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 5

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A18503

DESCRIPTION

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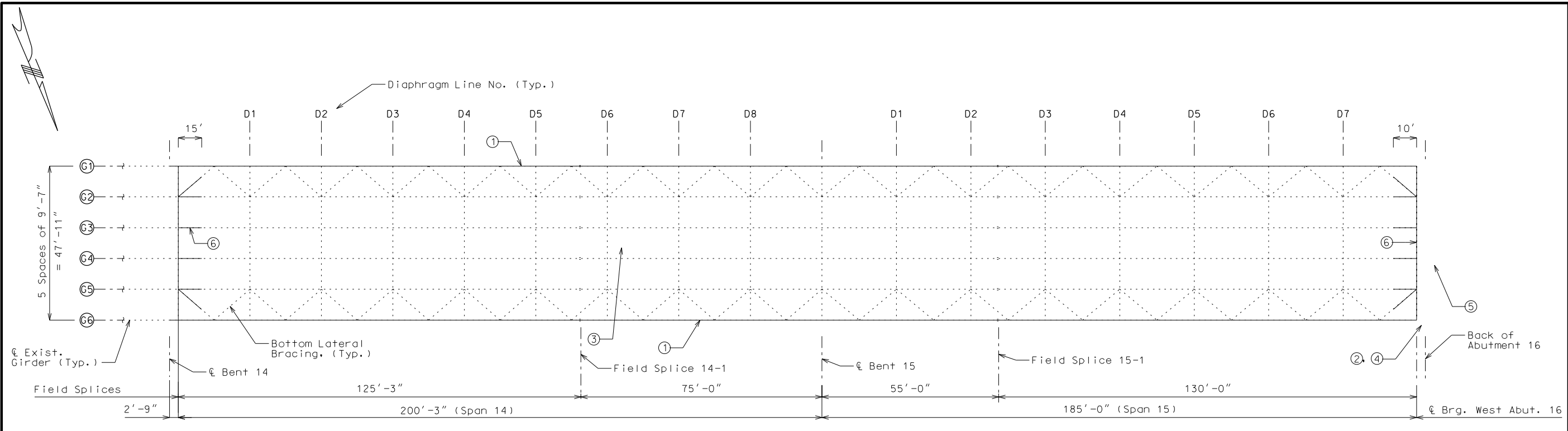
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PART FRAMING PLAN

Retrofit/ Repair	General Location	Description
①	Approach span fascia girders	Clean & coat. See Sheet 10.
②	Reinforced concrete abutment	Concrete repairs. See Sheet 8.
③	Concrete deck and barrier curb	Concrete repairs, wearing surface and penetrating sealer installation. See Sheets 22 and 23.
④	Expansion joint, Abutment 16	Replace existing finger joint with new strip seal joint. See Sheets 24,25,32,36 and 44.
⑤	Approach slab	Approach slab repairs, See Sheets 47 and 48.
⑥	Expansion joints	Clean and coat expansion devices and Structural Steel. See Sheet 10.

Notes:
⑥ Denotes location of retrofit or repair in Approach Spans.

LICENSE EXPIRES 12/31/2022
DATE PREPARED 7/29/2021
ROUTE 255 STATE MO
DISTRICT BR SHEET NO. 6
COUNTY ST. LOUIS
JOB NO. J613413
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A18503

DESCRIPTION	DATE

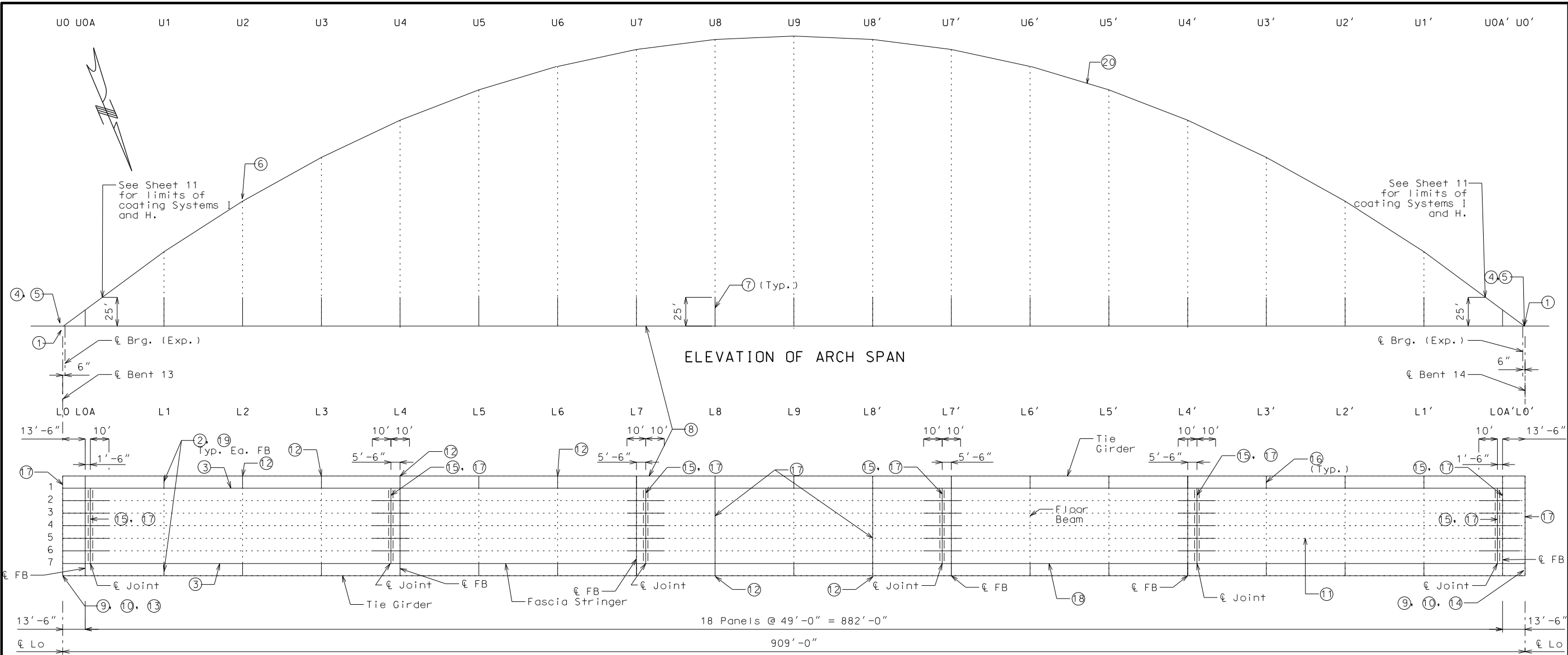
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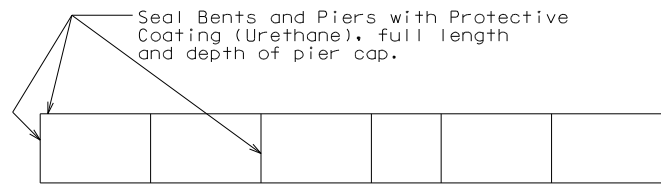
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Exp. 12/31/22



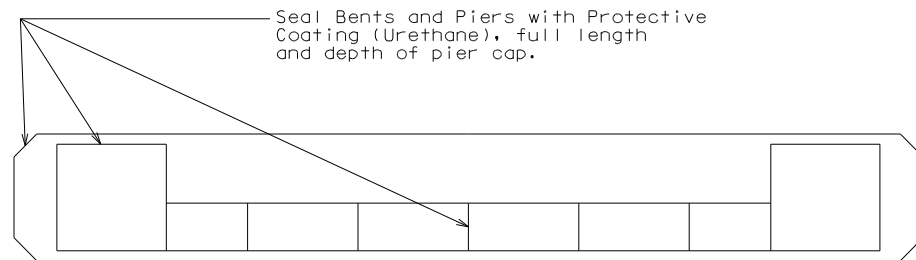
Retrofit/Repair	General Location	Description
①	Arch to tie girder connection	Weld inspection and repair at arch to tie girder connections. See Sheets 13-14 and 16.
②	Floor beam to tie girder connection	Weld inspection and repair at floor beam to tie girder connections. See Sheets 15-16.
③	Drainage truss and walkway	Repairs to misc. components. See Sheets 17 and 18.
④	Arch chamber interior	Stair removal. See Sheet 17.
⑤	Arch chamber door	Gasket replacement. See Sheet 16.
⑥	Portal access door	Pin replacement. See Sheet 19.
⑦	Hanger cables	Metalizing of lower 25 ft. See Sheet 11.
⑧	Tie girder	Clean & coat. See Sheet 11.
⑨	Reinforced concrete bent	Concrete repairs. See Sheet 8.
⑩	Reinforced concrete bent	Clearance gauge installation. See Sheet 9.

Retrofit/Repair	General Location	Description
⑪	Concrete deck and barrier curb	Concrete repairs, wearing surface and penetrating sealer installation. See Sheets 22 and 23.
⑫	Hanger cables	Replace hanger cables and remove and replace casting connections as part of weld inspection. See Sheets 15, 20-21.
⑬	Expansion joint, Bent No. 13	Replace existing modular joint with new finger joint. See Sheets 37-40, 42 and 45.
⑭	Expansion joint, Bent No. 14	Replace existing finger joint with new strip seal joint. See Sheets 37, 41, 43 and 45.
⑮	Link joints	Replace existing joint seals with new preformed joint seals. See Sheet 46.
⑯	Floor beam ends	Clean & coat. See Sheet 11.
⑰	Floor beams and expansion devices	Clean & coat full length at joints and where indicated. See Sheet 11.
⑱	Stringer, exterior fascia	Clean & coat. See Sheet 11.
⑲	Walkway ladder repairs	Repair or replace ladder landing plates, each FB except L9. See Sheet 17.
⑳	Arch and struts	Clean & coat - System I from 25' above tie girder, System H below 25'. See Sheet 11.

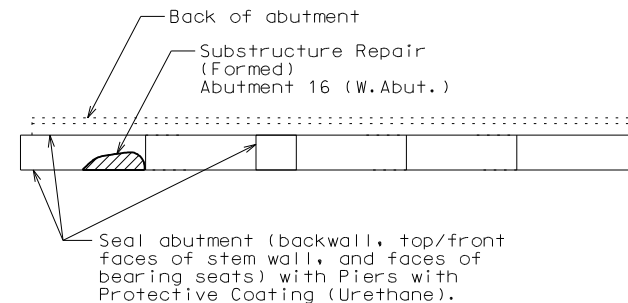
LOCATION OF RETROFITS, REPAIRS & COATING LIMITS - TIED ARCH SPAN



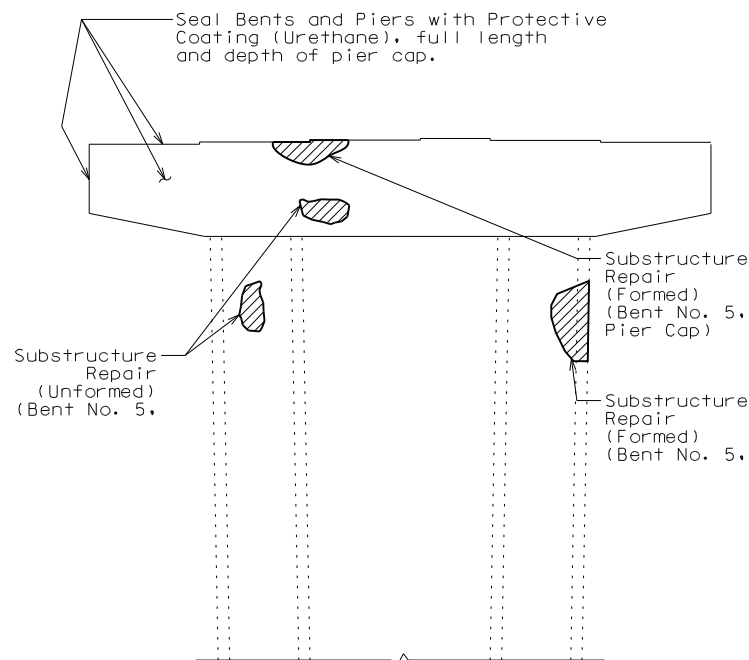
PLAN
(Bent Nos. 5 and 9)



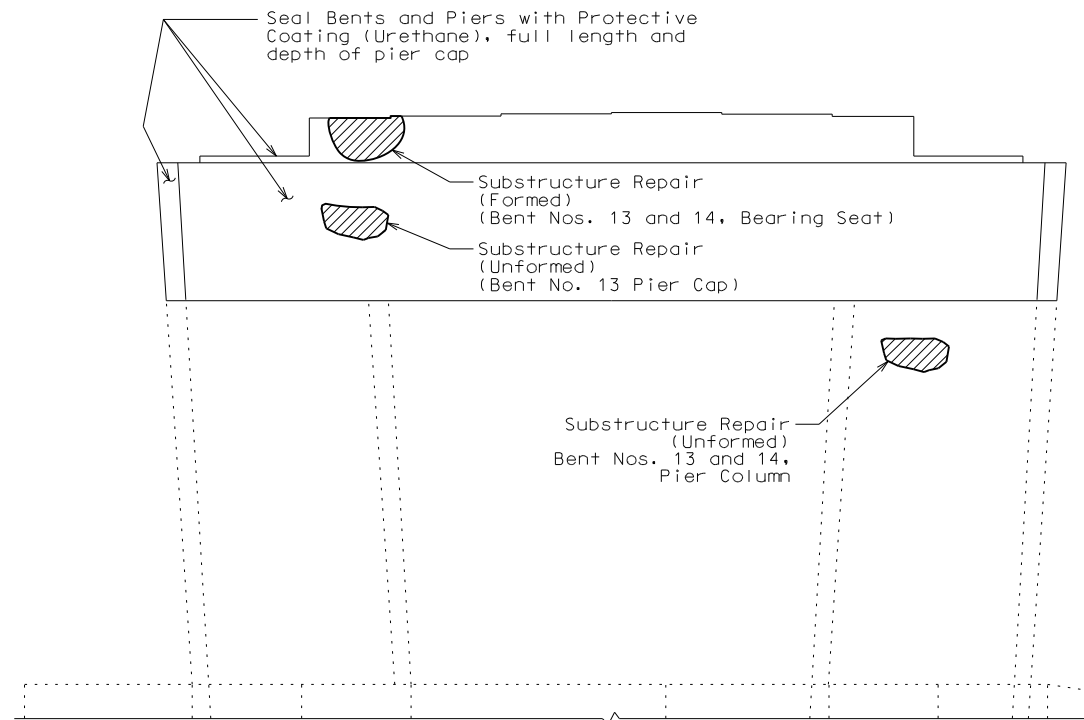
PLAN
(Bent Nos. 13 and 14)



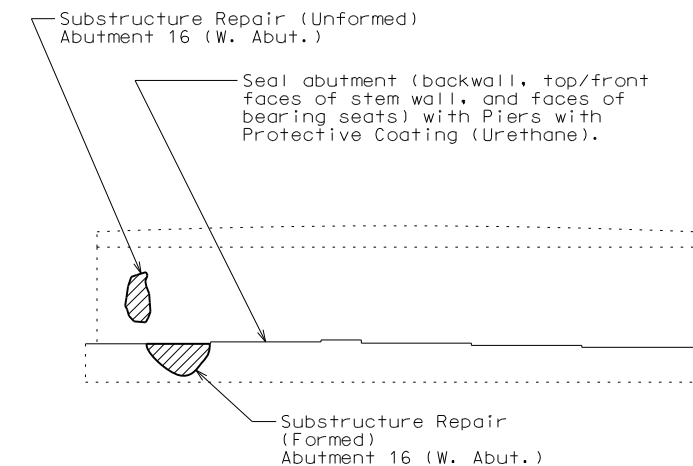
PLAN
Abutment 1 (East) shown.
Abutment 16 (West) similar.



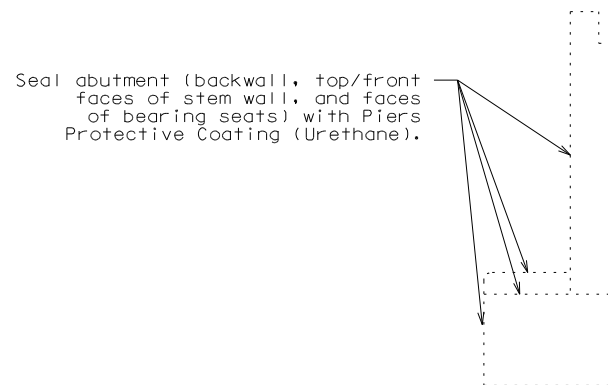
ELEVATION
(Bent Nos. 5 and 9)



ELEVATION
(Bent Nos. 13 and 14)



ELEVATION
Abutment 1 (East) shown.
Abutment 16 (West) similar.



SECTION THRU ABUTMENT
Abutment 1 (East) shown.
Abutment 16 (West) similar.

Notes:
Repair locations are shown schematically and based on the 2019 Inspection Findings. Verify all locations of distress with engineer.

Formed repairs shall utilize Class B-1 concrete, except as provided in Standard Specifications Sec 704 and Job Special Provisions for shotcrete repairs.

Unformed repairs shall use shotcrete repair method. See Job Special Provisions.

Remove existing coatings and apply new protective coating to pier caps and abutments where exposed, and as shown.

Surface preparation for protective coating shall be in accordance with the manufacturer's recommendations and include removal of any existing coating, all loose or delaminated concrete, as well as any other contaminants or latent materials.

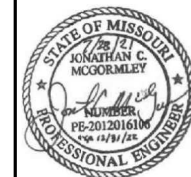
For Clearance Gauge re-coating at Bent Nos. 13 and 14, see Sheet 9.

SUBSTRUCTURE REPAIR & PROTECTIVE COATING

Designed K.H.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 8 of 49



LICENSE EXPIRES 12/31/2022

DATE PREPARED 8/3/2021

ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 8

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A18503

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

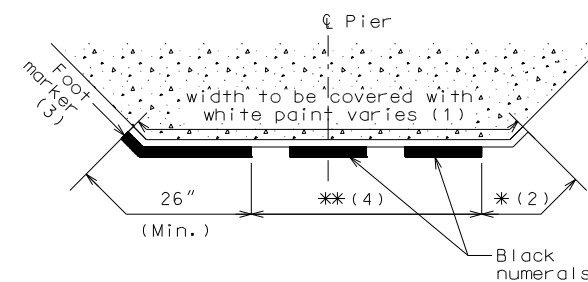
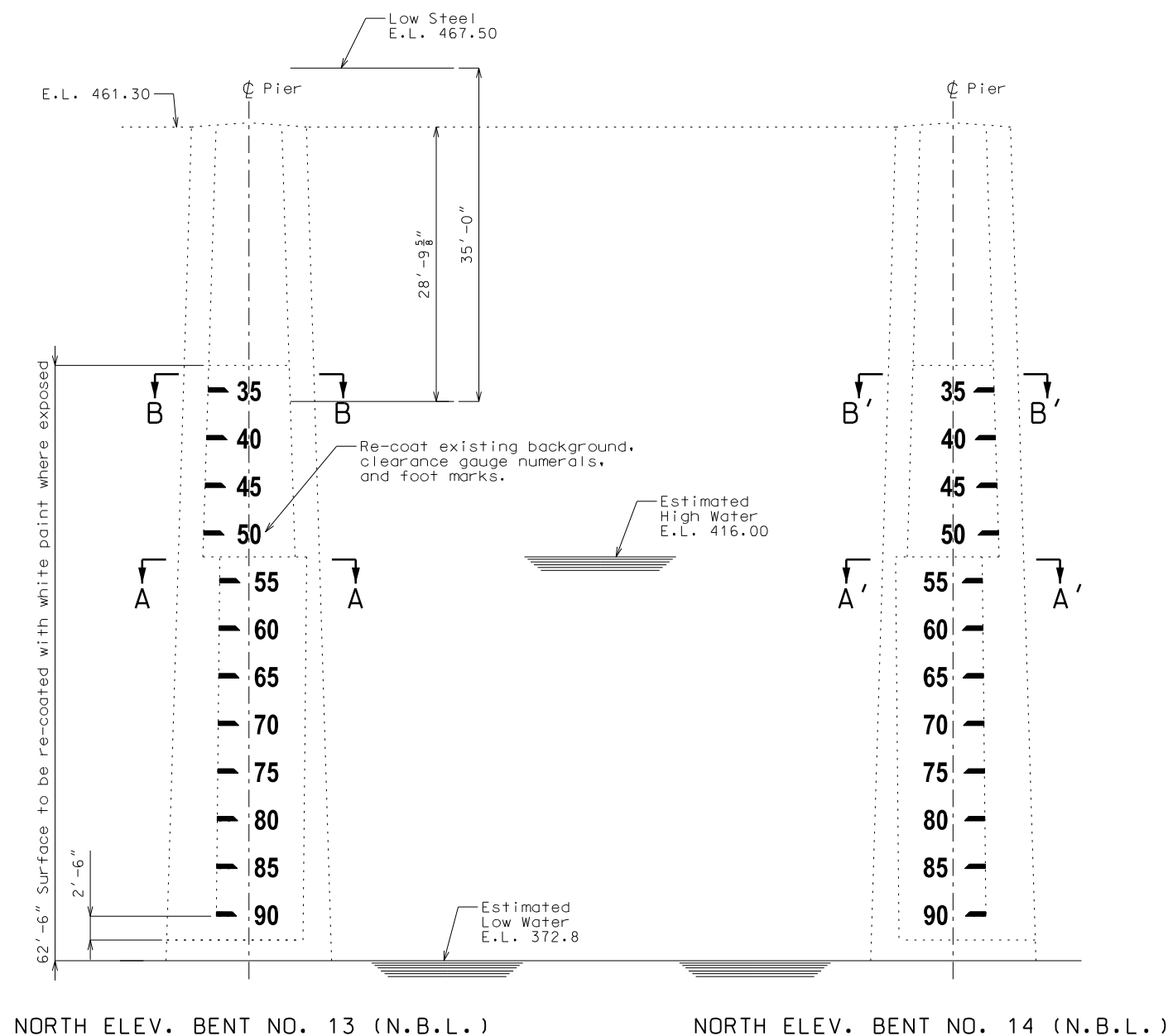
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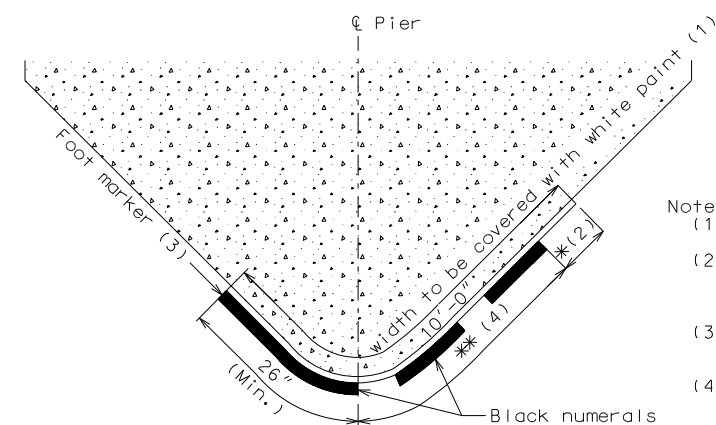
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- Notes:
- (1) Re-coat existing white background and extend around perimeter to meet requirements for Series E Type numerals.
 - (2) Provide a clearance of at least 13" between the side of the numeral and the edge of the white background.
 - (3) Foot marker to extend to edge of white background.
 - (4) Dimensions (numeral width and spacing between numerals) vary for each numeral.



- Notes:
- (1) Re-coat existing white background.
 - (2) Provide a clearance of at least 13" between the side of the numeral and the edge of the white background.
 - (3) Foot marker to extend to edge of white background.
 - (4) Dimensions (numeral width and spacing between numerals) vary for each numeral.



PRIMARY FOOT MARKER DETAIL
(Bent No. 13 shown. Bent No. 14 similar)

Designed K.H.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 9 of 49



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DATE PREPAR

ROUTE 255	STATE MO
DISTRICT BR	SHEET NO. 9

STATE	
COUNTY	

JOB NO.

CONTRACT 1

PROJECT N.

BRIDGE NO.
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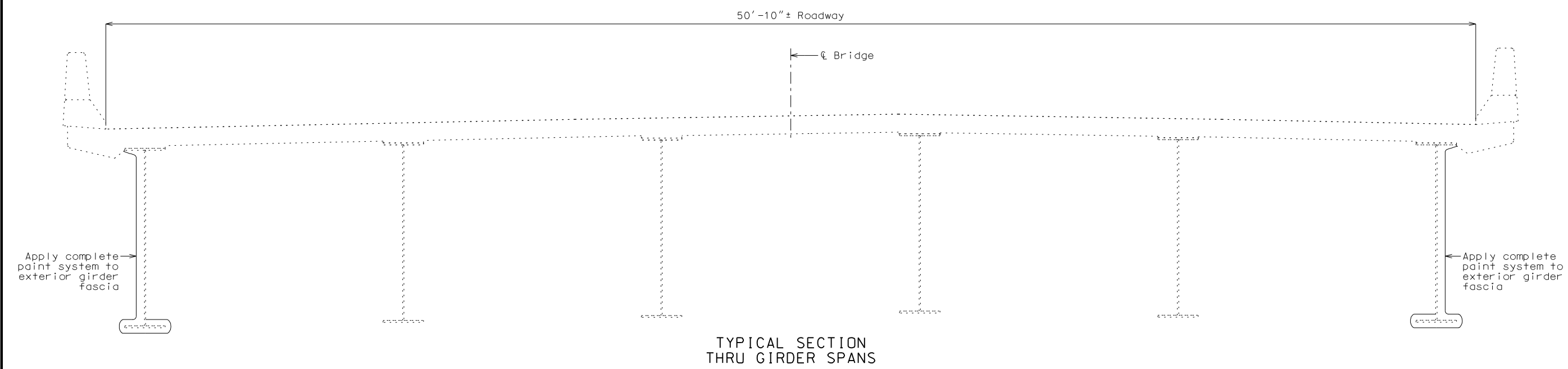
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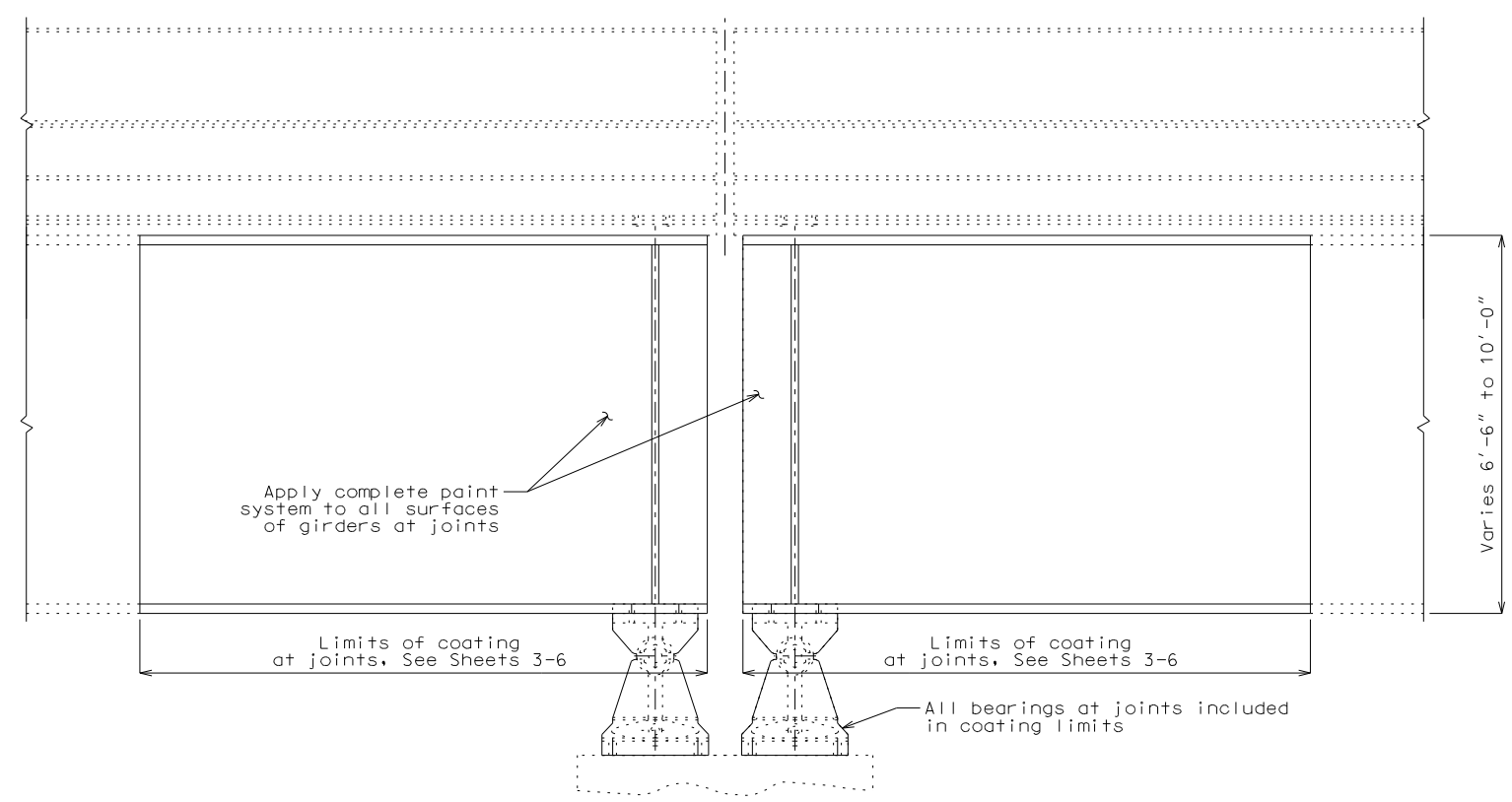
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TYPICAL SECTION THRU GIRDER SPANS


Paint Limits:
 Span 1 thru 12 and Span 14 & 15:
 Complete paint system shall be applied to the fascia girders to include all exterior girder surfaces, the underside of the top flange, and the bottom flange as shown.
 Near Expansion Devices:
 Complete paint system shall be applied to all structural steel within a distance shown on the plans for expansion joints in accordance with Sec 1080.10.3.4.2.2.



TYPICAL ELEVATION OF GIRDERS AT JOINTS

STEEL PROTECTIVE COATING LIMITS & DETAILS - APPROACH SPANS

Designed P.J.M.
 Detailed L.S.
 Checked J.C.M.



LICENSE EXPIRES
12/31/2022

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8/3/2021

ROUTE 255	STATE MO
DISTRICT BR	SHEET NO. 10

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ST. LOUIS

JOB NO.
J613413


CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A18503

DESCRIPTION	DATE

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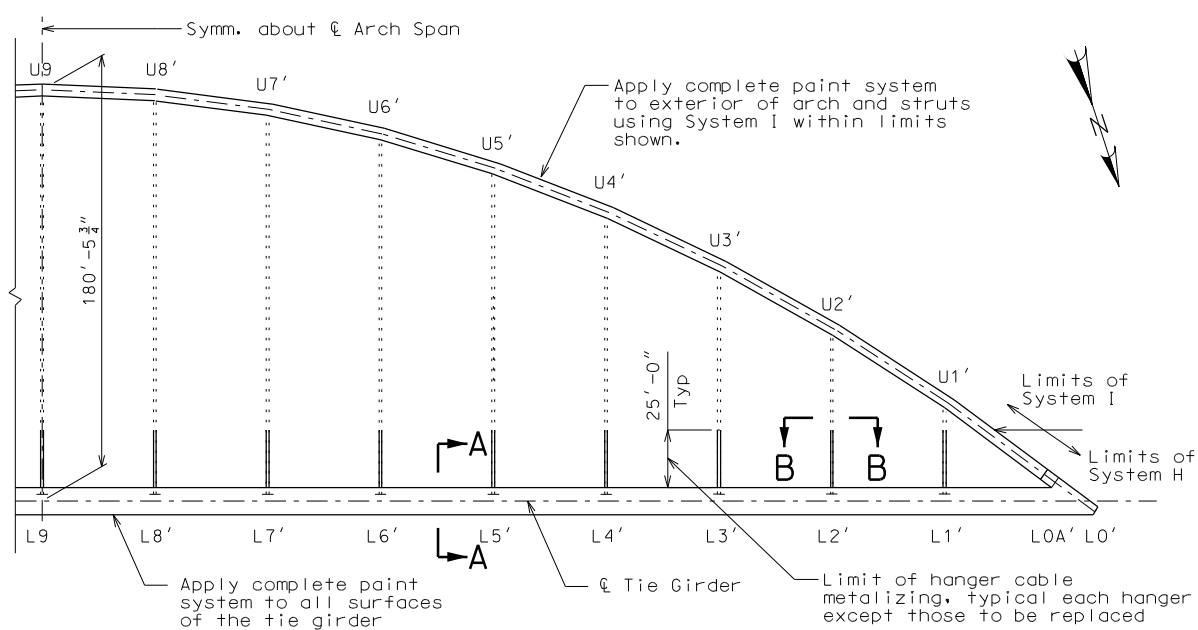
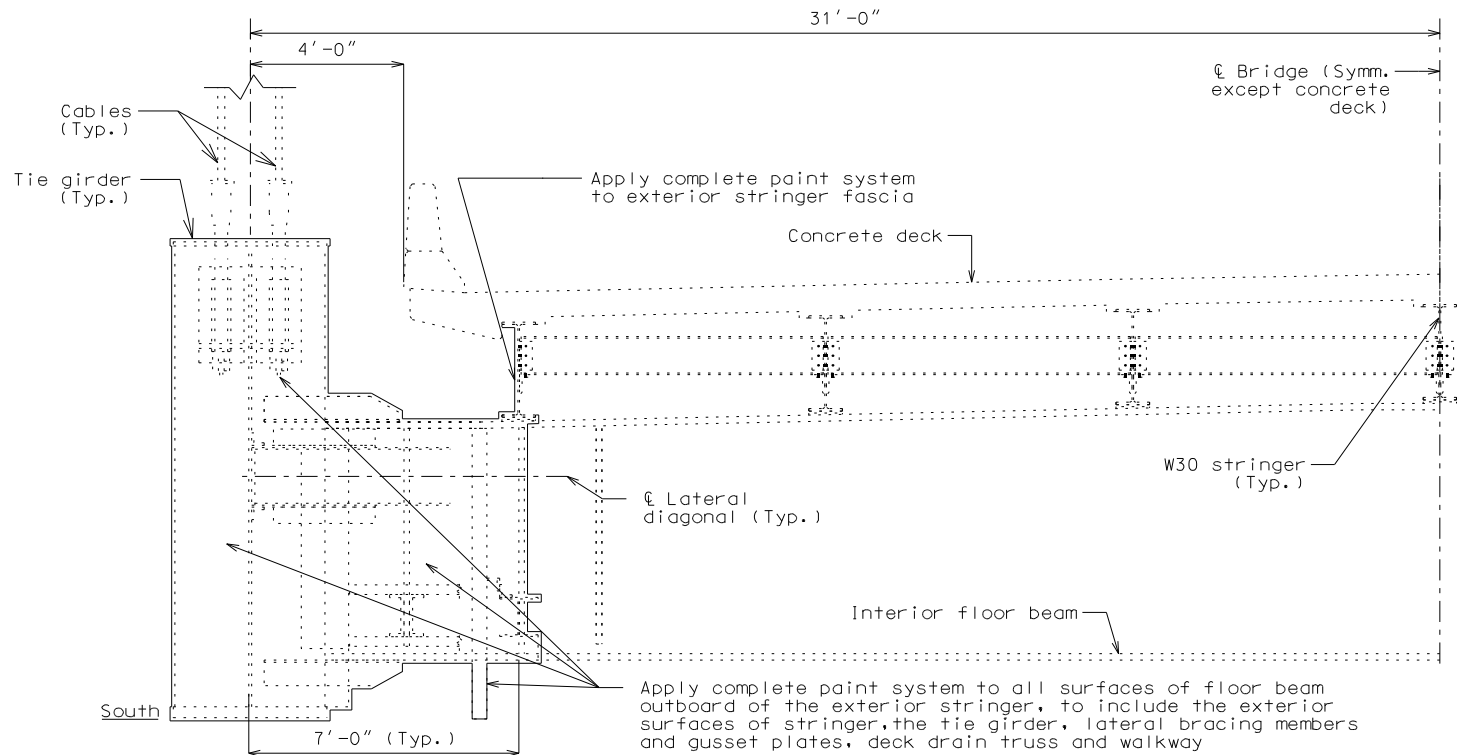


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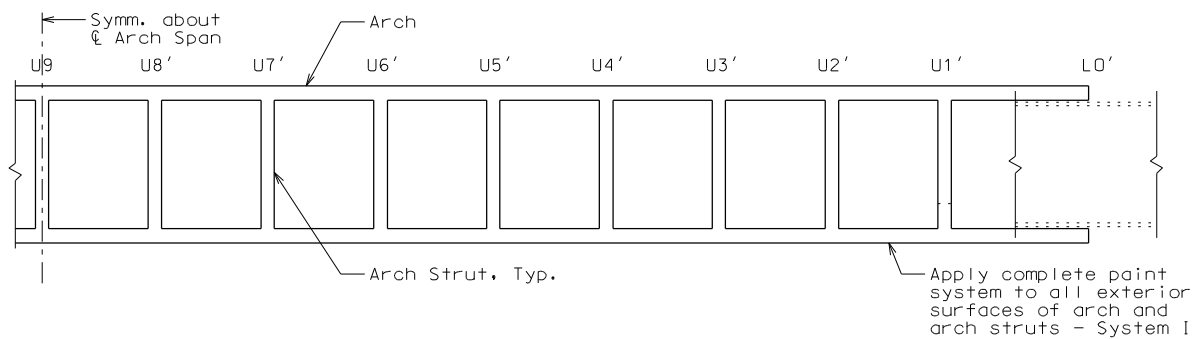
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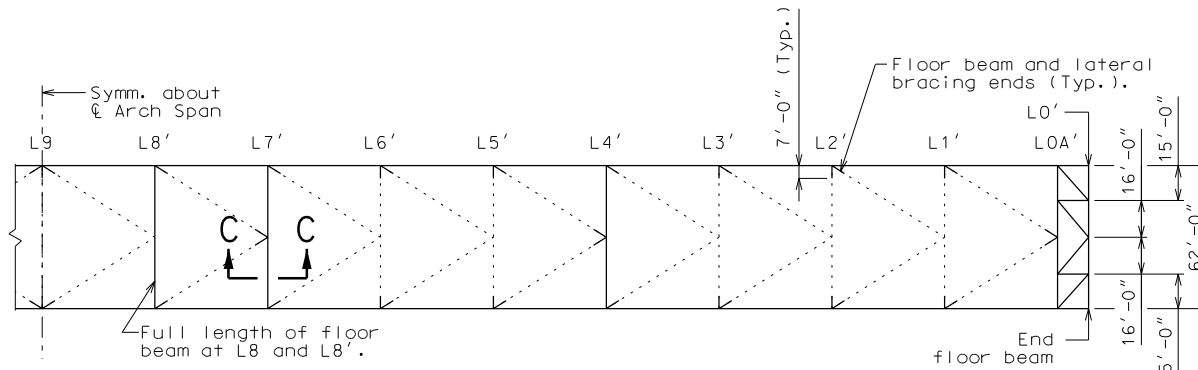


PARTIAL ELEVATION OF ARCH SPAN

Note:
Metalizing coating to be applied to lower 25' of each hanger cable, measured from the bottom strand socket. All work included with the coating of existing cables shall be covered by the contract unit price for Metalizing Hanger Cables per foot of coated cable. Note that there are four cables at each hanger (resulting in approximately 100' of coated cable at each hanger location). See Job Special Provisions.



PARTIAL UPPER ARCH SPAN PLAN



PARTIAL PLAN OF BOTTOM BRACING
(Roadway Stringers Not Shown)

Paint Limits:
Span 13 (Arch span):
Protective coating shall be System H unless noted otherwise.

Complete paint system shall be applied to the arch; arch struts; tie girder; floor beam outboard of the exterior stringer; exterior stringer fascia including the bottom of the top exterior flanges, the top of the bottom exterior flanges, the exterior webs; the exterior face of the top and bottom flanges, and the bottom of the bottom flange; the deck drain truss and walkway; and lateral bracing and lateral gusset members.

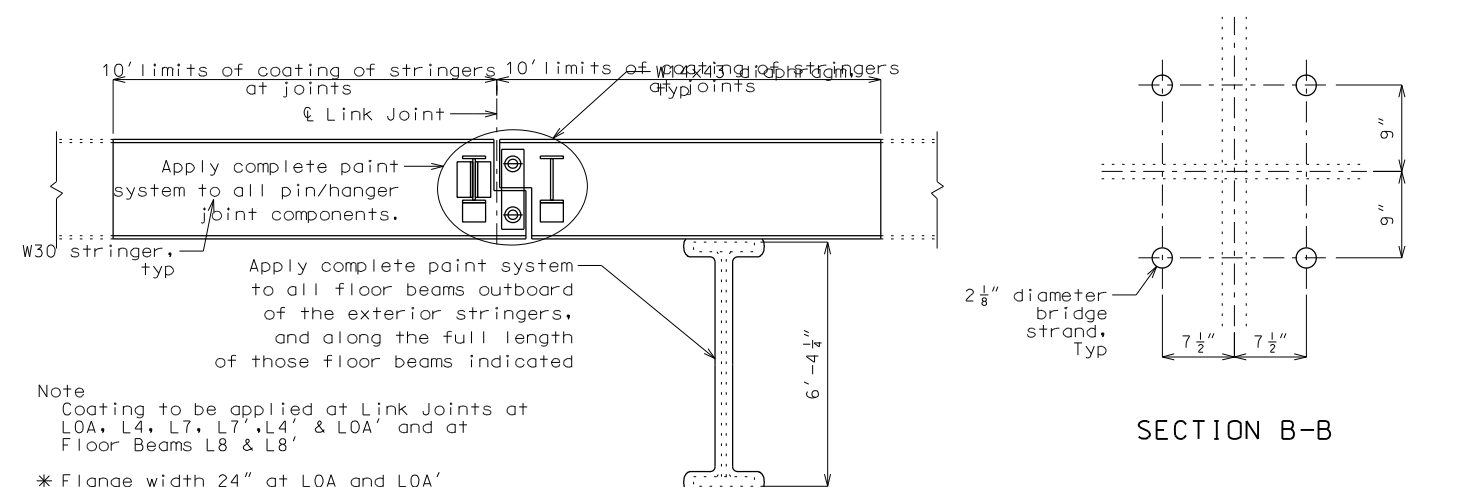
Complete paint system shall also be applied to the interior of the arch member at Panel Point 0 extending upward along the arch to the first bolted splice. See Sheet 13.

Near Expansion Devices:
Complete paint system shall be applied to all structural steel within a distance of not less than 10 feet from the centerline of all expansion joints in accordance with Sec 1080.10.3.4.2.2.

At other floor beams indicated:
Complete paint system shall be applied to all surfaces of the floor beams outside the exterior stringer and at floor beams L8 and L8', full length.

All work included with the cleaning of existing structural steel shall be covered by the contract unit price for Surface Preparation for Recoating Structural Steel per square foot of cleaned steel. All work included with the coating of existing structural steel shall be covered by the contract unit price for Field Application of Inorganic Zinc Primer, Intermediate Field Coat (System H), and Finish Field Coat (System H) or Polysiloxane Finish Field Coat (System I), for the primer, intermediate and finish coats, respectively. The quantity for coating items is based on square footage of all primary members to be coated as shown. Cleaning and coating of all secondary components, including but not limited to diaphragms, stiffener plates, connection plates, walkway components, railings, ladders, drainage truss components, and downspouts shall be considered incidental to the coating work, and shall be completely covered by the unit price(s) for coating work items.

At completion of painting, apply silicone sealant around protruding connections through roof of strut at U9 (ex: aviation lights). Costs of sealant to be completely covered by the price per sq. ft. of Finish Field Coat (System H).



PROTECTIVE COATING LIMITS & DETAILS - ARCH SPAN

Designed P.J.M.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 11 of 49



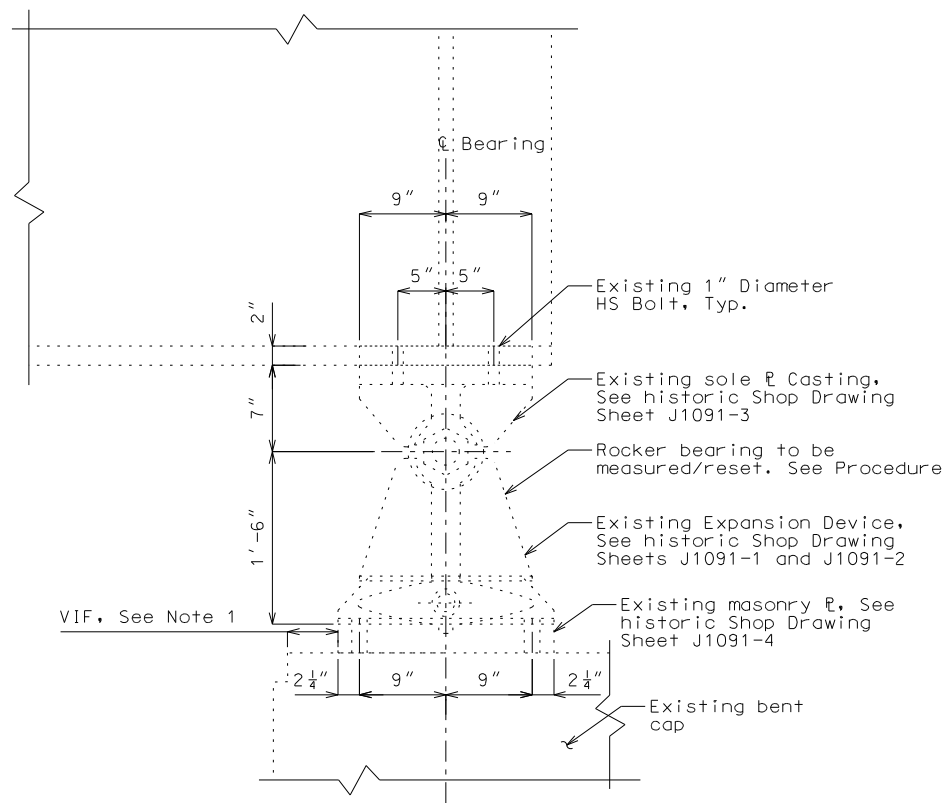
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DATE PREPARED 10/1/2021	
ROUTE 255	STATE MO
DISTRICT BR	SHEET NO. 11
COUNTY ST. LOUIS	
JOB NO. J613413	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A18503	

DATE	DESCRIPTION	VE STUDY
9/28/21		

DATE	DESCRIPTION	VE STUDY
9/28/21		

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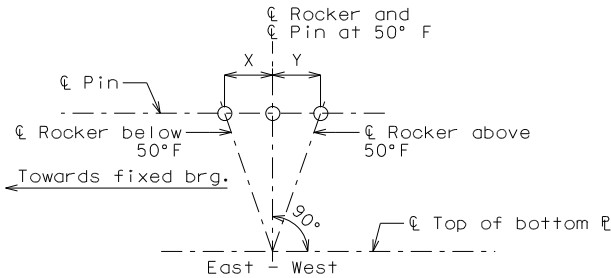
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EXPANSION BEARING AT BENT 9

Procedure for Bent 9 Bearing Work:

- MoDot to measure and record bearing tilt and offset at all 6 bearings for the Span 8 girders at Bent 9. Record measurements in the provided table on this sheet and report measurements to the engineer. Also record measurements of clear spacing between the existing masonry plate and edge of the bent cap. Contractor to provide access.
- Engineer will review measurements to determine if bearing adjustment at Bent 9 is required.
- If bearing adjustment is elected by the engineer, contractor shall submit proposed jacking plan for approval prior to proceeding with jacking of the existing girders. Procedure shall include proposed method for resetting, which could include: Fabricating and installing a new sole plate casting with holes match - drilled to the existing hole in the girder bottom flange (small bearing adjustment); re-installing the existing casting and drilling new holes in the girder bottom flange (larger adjustment), repairing broken pintles in the expansion assembly, or other means. If required, contractor can proceed with procuring materials for the number of new sole plates requested by the engineer. Sole plates shall be cast steel and shall conform to AASHTO M103. If required, new sole plates shall not be shop drilled for bolts through the girder bottom flange.
- At the direction of the engineer, jack and shore the existing girders to permit resetting of the bearing.
- Set the bearing at the appropriate offset (X or Y) per the table on this sheet. If required, align the new sole plate. Match - mark using existing holes in the girder bottom flange and drill holes in new sole plate.
- Install and set new sole plate in the rocker bearing assembly.
- Remove jacking system.
- Work to install new bearing sole plates to reset existing rocker bearings shall be paid at the contract unit price under pay item Reset Rocker Bearings. Bid quantity should assume 2 of the 6 bearings are to be reset. This work will be underrun if not required by the engineer.



ROCKER SETTING DIAGRAM

TEMPERATURE SETTINGS FOR EXP. BEARINGS							
Location	X			X OR Y	Y		
	-10°F	10°F	30°F		70°F	90°F	110°F
Bent 9-Span 8	2 7/8"	1 15/16"	15/16"	0"	15/16"	1 15/16"	2 1/8"

Notes:

- Existing pier concrete f'c = 3500 psi per original design drawings.
- Measure temperatures on the steel.

BEARING OFFSET MEASUREMENTS						
Girder (see Sheet 4)	G1	G2	G3	G4	G5	G6
Temperature						
X measurement (if < 50°F)						
Y measurement (if > 50°F)						
Tilt (degrees east or west)						

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 12 of 49

BENT 9 BEARING DETAIL



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ROUTE 255 STATE MO

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COUNTY ST. LOUIS

JOB NO. J613413

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PROJECT NO.

BRIDGE NO. A18503

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PARTIAL SECTION AT END OF
ARCH SPAN, ARCH EXTERIOR

SECTION A-A

SECTION B-B ARCH INTERIOR CHAMBER
AT TIE GIRDER WEB

SECTION I-I
(Typical Weld Profile at Arch to Tie Girder Weld)

SECTION H-H
(Typical Weld Profile at FB1 to Tie Girder Weld)

Designed P.J.M.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 13 of 49

ARCH SPAN STEEL REPAIR DETAILS 01

Note:
Work this sheet with Sheets 14 and 16.



LICENSE EXPIRES

DATE PREPARED

ROUTE	STATE
255	MO

DISTRICT	SHEET N
BR	13

COUNTY
ST. LOUIS

JOB NO.
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PROJECT NO.

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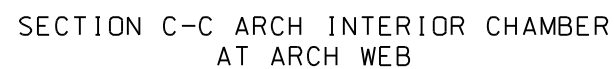
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Note:
Work this sheet with Sheets 13 and 16.

ARCH SPAN STEEL REPAIR DETAILS 02

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

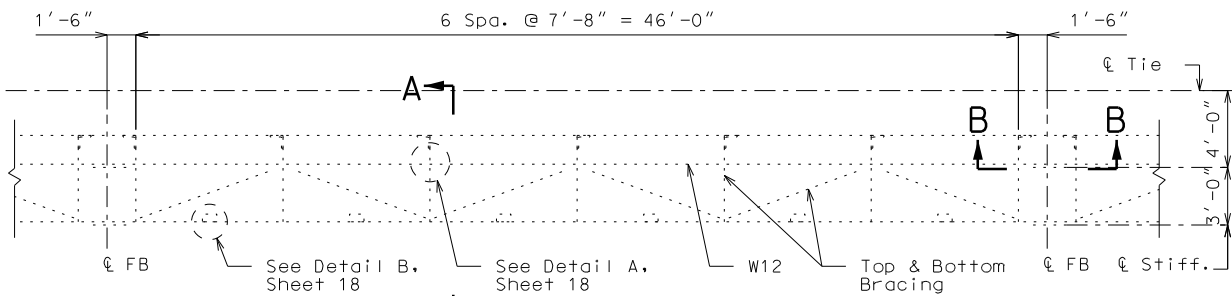
Sheet No. 14 of 49

Designed P.J.M.
Detailed L.S.
Checked J.C.M.



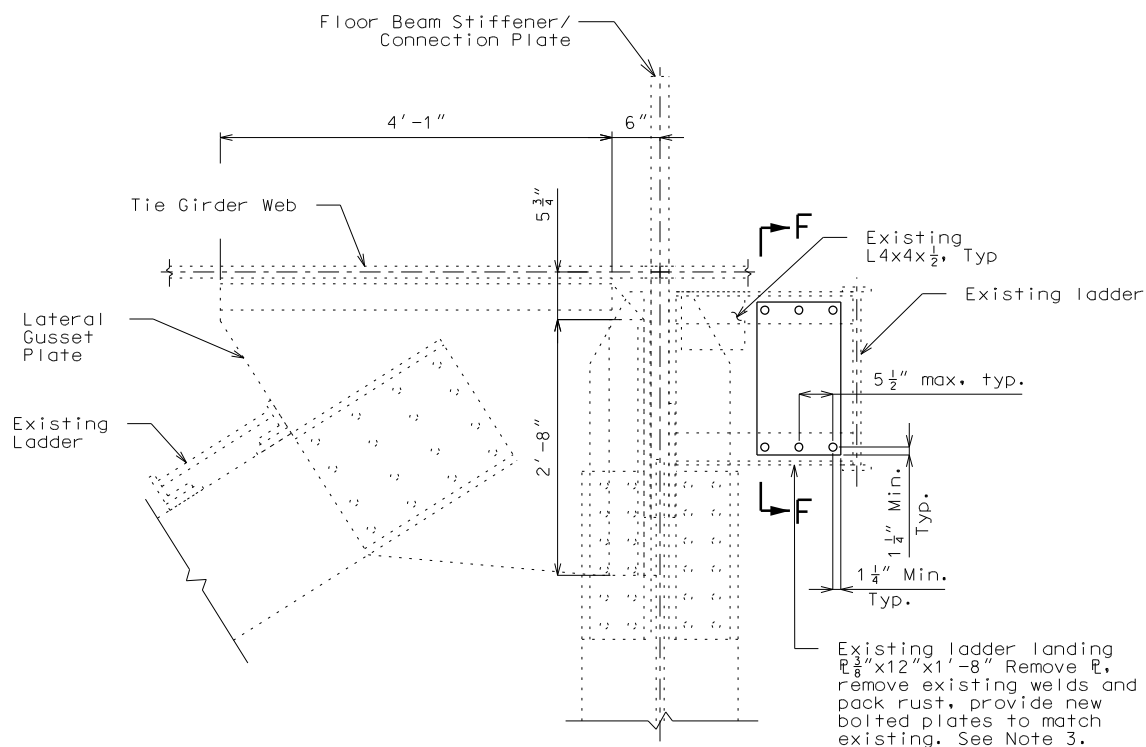
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PARTIAL FRAMING PLAN OF DRAIN & INSPECTION WALKWAY SUPPORT

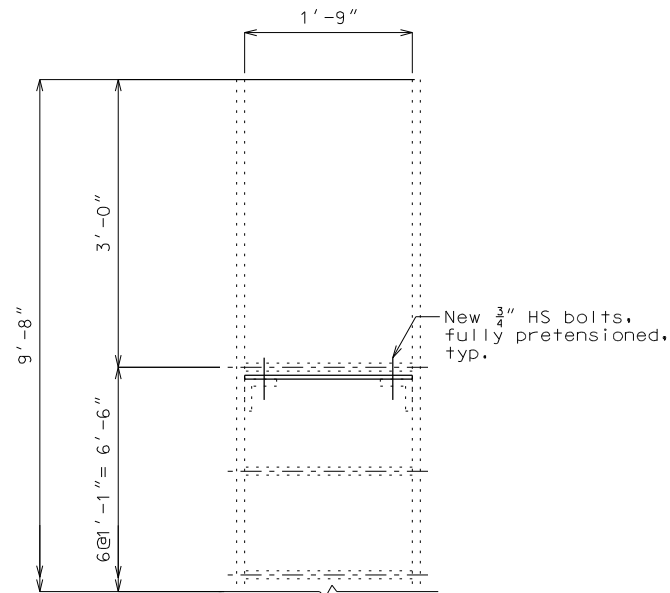
See Sheet 18 for Detail A, Detail B, Section A-A and B-B



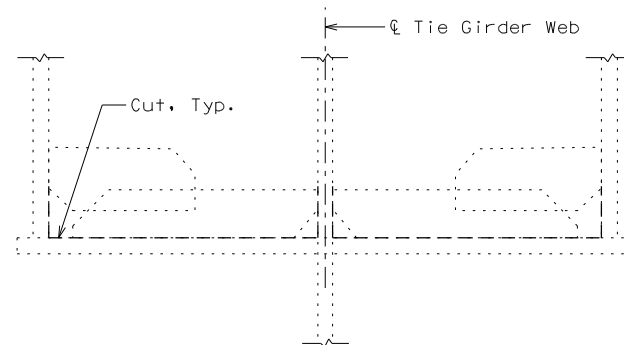
FLOOR BEAM LATERAL GUSSET PLAN

Note:

1. Typical plan at floor beam lateral gusset plates with inspection walkway ladders shown. Similar at all floor beams from L1 to L1' with the exception of L9, which has lateral gussets on both sides.
2. Repairs are required at each ladder landing (one per typical floor beam end, a total of 32 locations).
3. At the discretion of the engineer, existing landing plates may be reused provided they are not damaged and that they are properly cleaned and coated in accordance with contract coating requirements.
4. Bolts shall be installed with threads facing downward.
5. All work incidental to ladder plate repair shall be completely covered under the contract unit price for Steel Retrofits - Ladder Landing Plates.



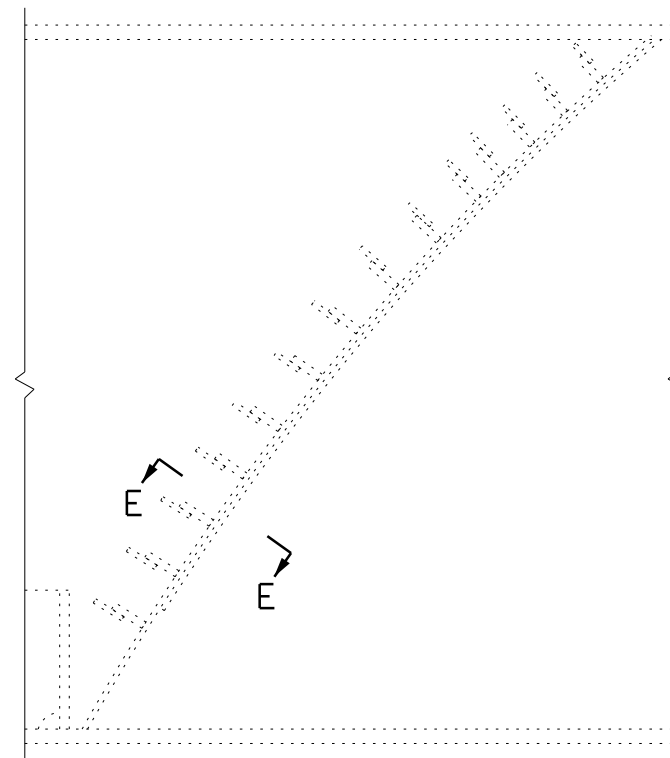
SECTION F-F



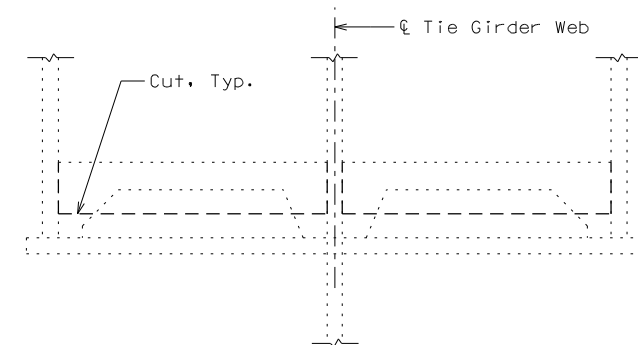
SECTION E-E THRU STEPS AT LO' CHAMBERS

Notes:

- Saw cut or grind along lines shown to remove steps.
- Grind remaining metal and weld metal smooth along structural member plate.
- Flame-cutting not permitted.
- Stair removal shall be completely covered under the contract unit price for Trimming of Steps Inside Arch/Tie Intersection Chamber.



PARTIAL SECTION AT ARCH INTERIOR WITH ACCESS STEPS



SECTION E-E THRU STEPS AT LO CHAMBERS

ARCH SPAN STEEL REPAIR DETAILS 05

Designed P.J.M.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 17 of 49



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ROUTE 255 STATE MO

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COUNTY ST. LOUIS

JOB NO. J613413

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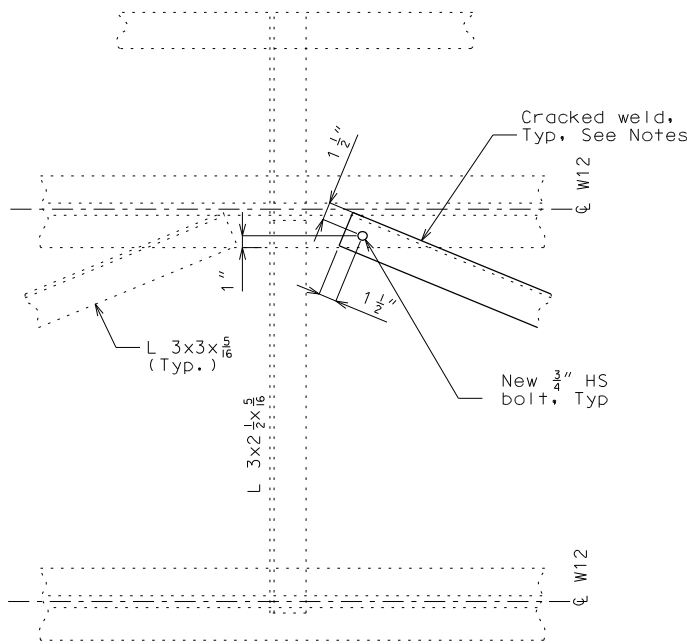
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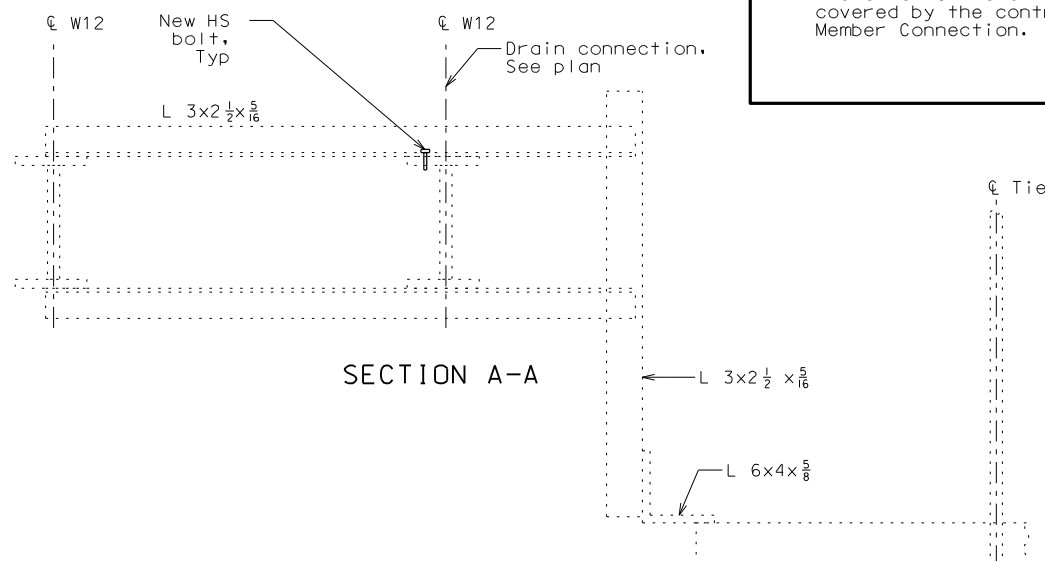
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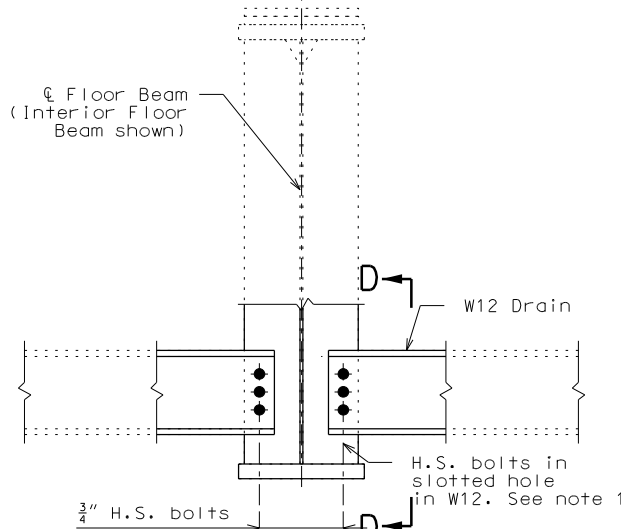


DETAIL A



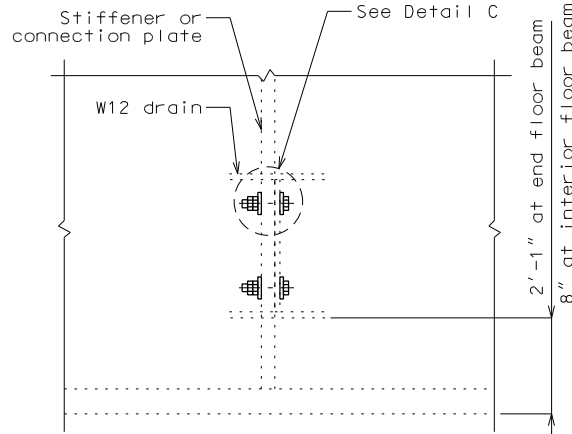
SECTION A-A

- Notes:
- At locations with cracked welds/ detached L3x3 members, remove affected welds by grinding and remove pack rust to restore fit-up at faying surfaces, then install 3/4" dia bolt as shown and pretension to 28 kips
 - Contractor shall field verify locations where connection welds between L3x3 members and W12 are cracked, and install repairs as shown. Estimated quantity of locations where weld removal and bolt installation repairs are required is 216 throughout Span 13.
 - All work included with damaged drainage truss member location identification, cracked weld and pack rust removal, and repair shall be completely covered under the contract unit price for Steel Retrofits - Walkway Truss Broken Welds.

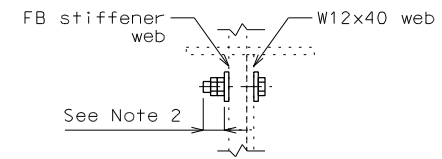


SECTION B-B

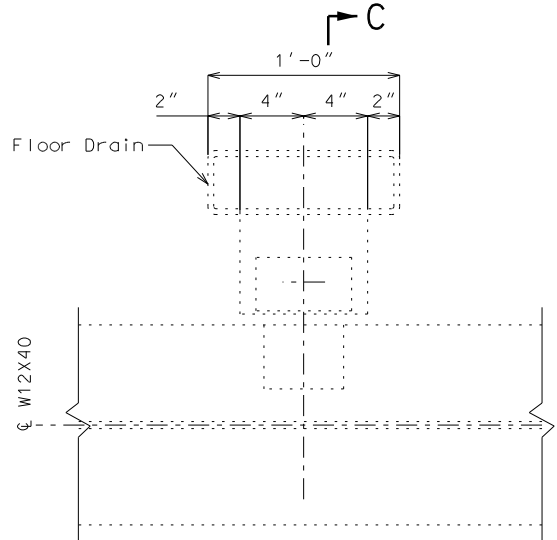
- Notes:
- Contractor shall field verify locations where bolts are damaged or broken, and install repairs as shown. Estimated quantity of locations where repairs are required is 1 in Span 13.
 - Replacement bolts shall conform to ASTM F3125 Grade325X. Bolts shall be installed with two nuts and two washers. Bolts shall be installed with the first nut finger tight and shall have double nuts. While holding the first nut, tighten the second nut using the turn-of-the-nut method. All bolts shall have washers under the bolt heads and first nut.
 - Bolts should be ordered with extended thread length. Minimum thread length to accommodate two nuts is 1 5/8". Ensure threads are excluded from the shear plane between the W12 web and the FB stiffener.
 - Where bolts are to be replaced, drainage trusses may require jacking/ hoisting to realign bolt holes. Chainfalls or similar lifting equipment may be required to lift the truss using the underside of the deck.
 - All work included with the location identification, repair bolt installation, and realignment of the drainage truss shall be completely covered by the contract unit price for Steel Retrofits - Drainage Truss Member Connection.



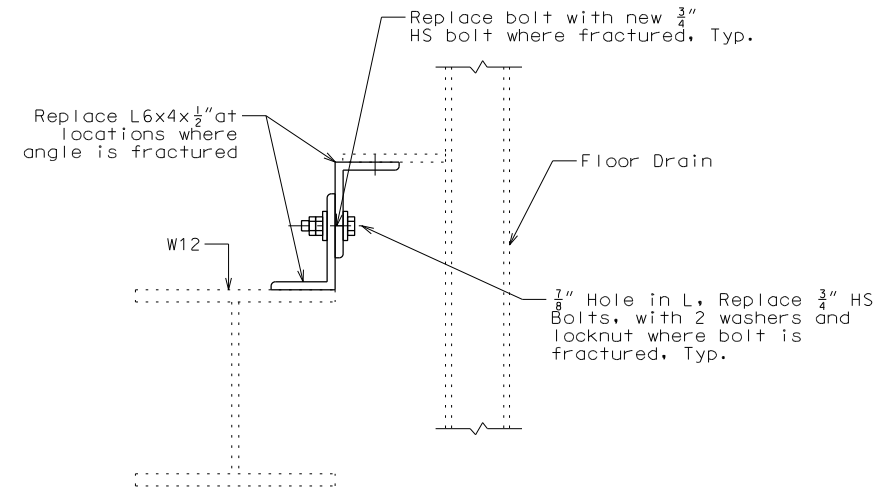
SECTION D-D



DETAIL C



DETAIL B



SECTION C-C

- Notes:
- Contractor shall field verify locations where floor drain connection angles or bolts are damaged or broken, and install repairs as shown. Estimated quantity of locations where repairs are required is 18 throughout Span 13.
 - All work included with the location identification and repair bolt installation or angle replacement shall be completely covered by the contract unit price for Steel Retrofits - Reconnect Drain Downspout Bracket

Note:
Work this sheet with Partial Framing Plan
Drain and Inspection Walkway Support on
Sheet 17.

Designed P.J.M.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 18 of 49

ARCH SPAN STEEL REPAIR DETAILS 06



LICENSE EXPIRES 12/31/2022	
DATE PREPARED 7/29/2021	
ROUTE 255	STATE MO
DISTRICT BR	SHEET NO. 18
COUNTY ST. LOUIS	
JOB NO. J613413	
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PROJECT NO.	
BRIDGE NO. A18503	

DATE	DESCRIPTION

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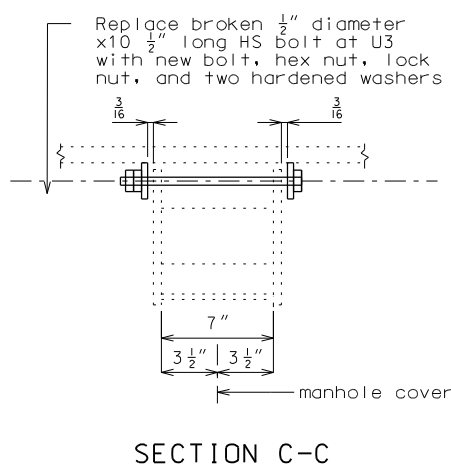
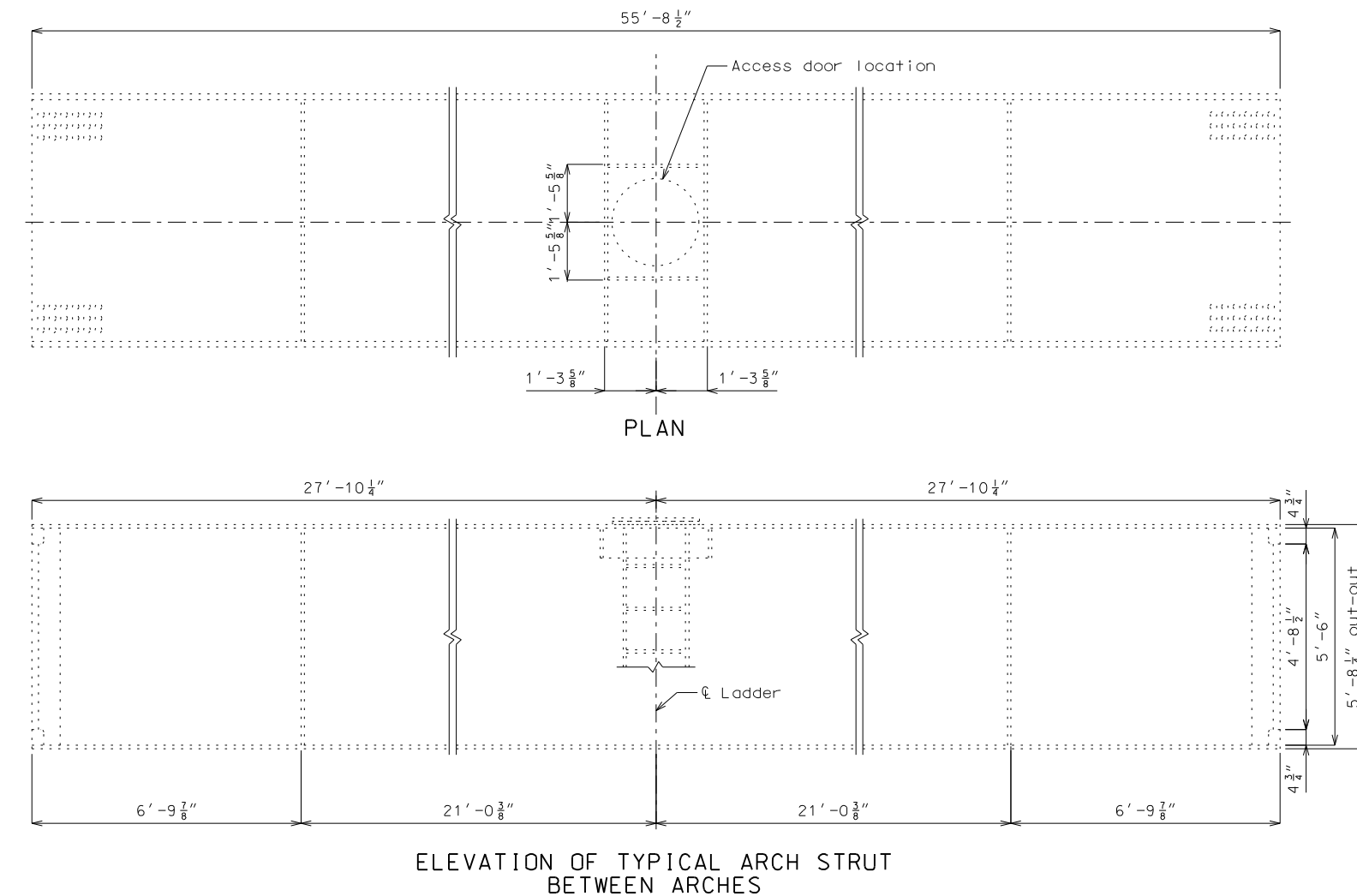
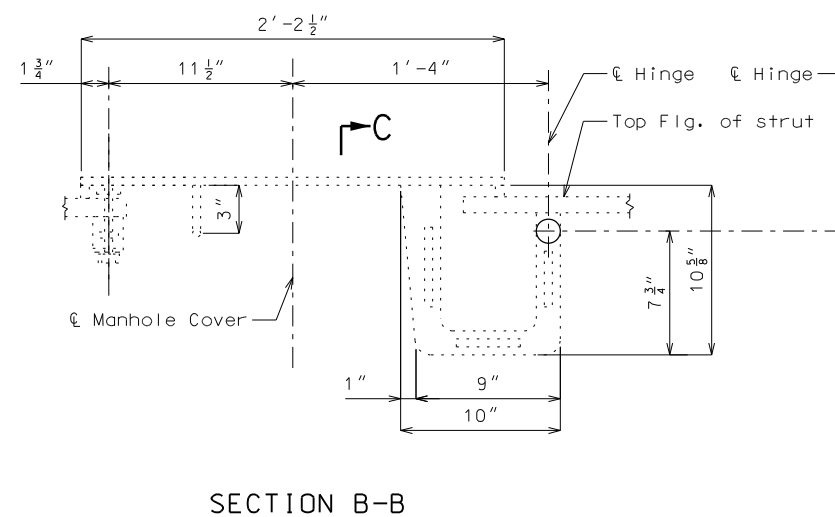
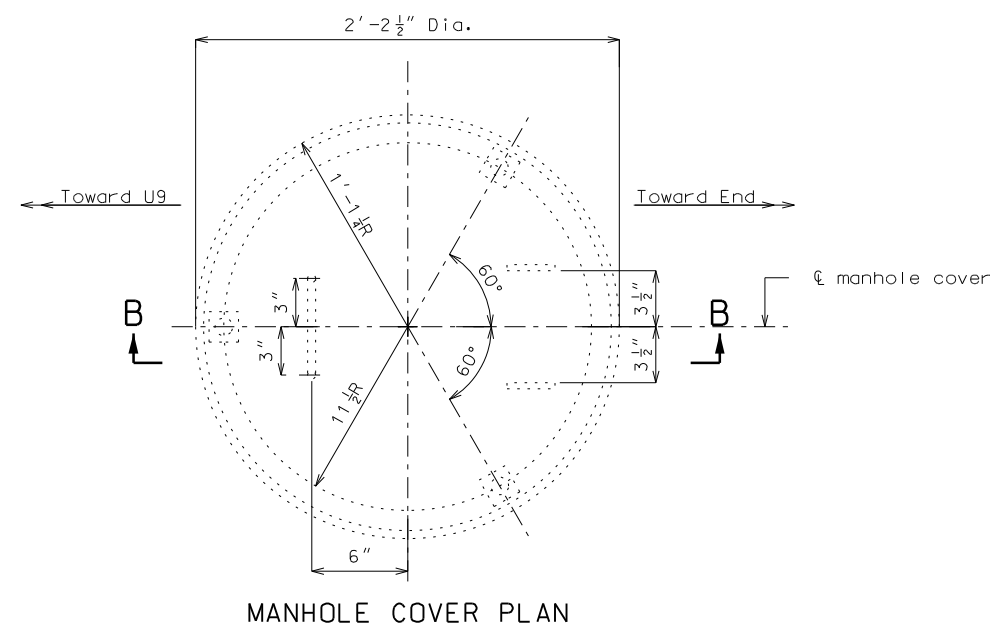
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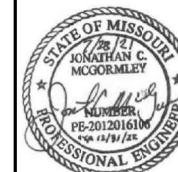
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- Notes:
1. Pin replacement required at strut U2.
 2. All work required for replacement of the strut access hatch door pin shall be completely covered by the contract unit price for Steel Retrofit - Strut Access Door Pin.



LICENSE EXPIRES
12/31/2022

DATE PREPARED
7/20/2021

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COUNTY	ST. LOUIS
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CONTRACT ID.	

PROJECT NO.

BRIDGE NO.	A18503
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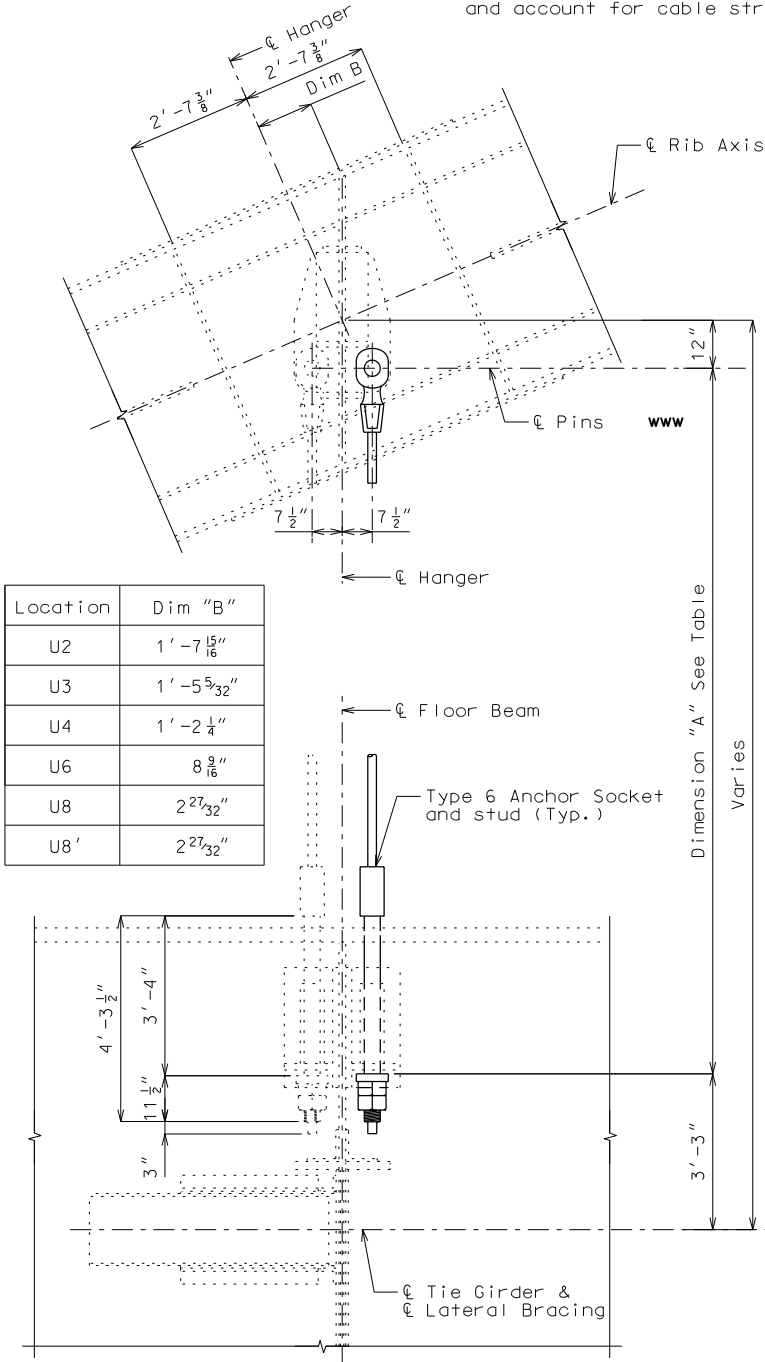
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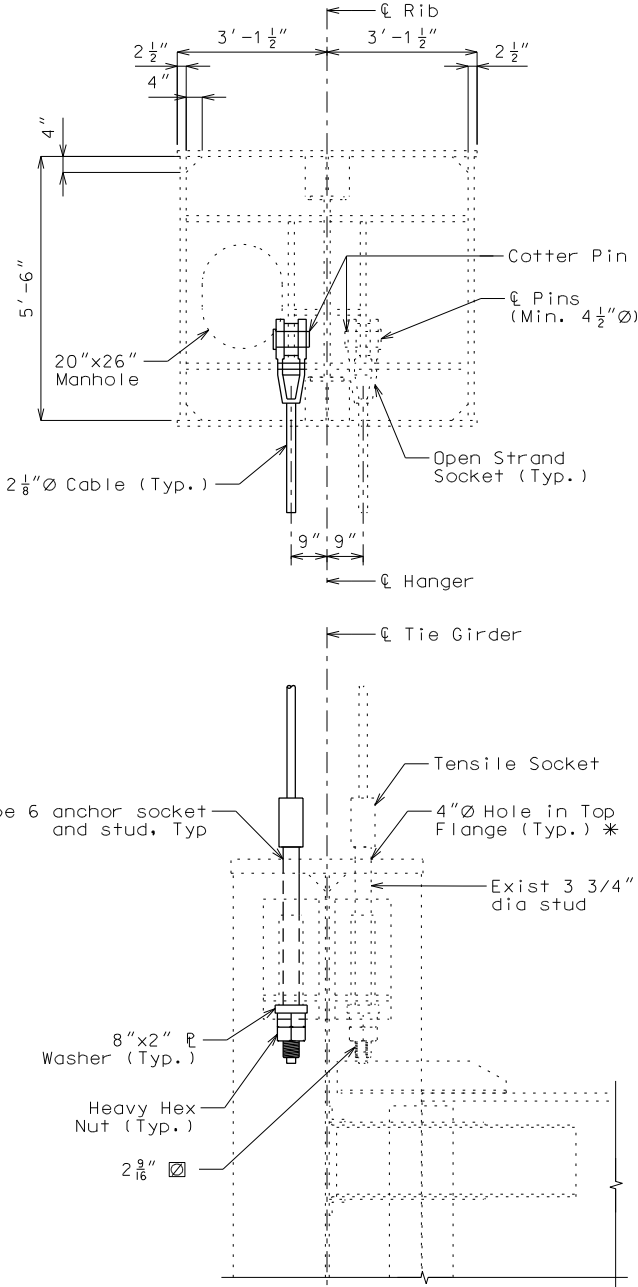
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Arch	HANGER	NUMBER OF CABLES	DIMENSION "A" HANGER LENGTH FROM C/PIN AT TOP TO FACE OF WASHER AT BOTTOM AT 50°F		
			UNSTRESSED LENGTH	LENGTH IN ASSEMBLED ARCH WITH NO LOAD	LENGTH WITH FULL DEAD LOAD EXCLUDING FUTURE WEARING SURFACE
South	U2-L2	4	73'-5 ¹⁵ / ₃₂ "	73'-5 ¹ / ₂ "	73'-6 ¹⁵ / ₃₂ "
South	U3-L3	4	100'-8 ¹ / ₈ "	100'-8 ¹ / ₈ "	100'-9 ¹ / ₃₂ "
South	U4-L4	4	125'-8 ³ / ₈ "	123'-8 ³ / ₈ "	123'-10 ¹ / ₈ "
South	U6-L6	4	157'-2 ⁵ / ₃₂ "	157'-2 ⁵ / ₃₂ "	157'-4 ⁷ / ₁₆ "
North	U8-L8	4	173'-11 ¹ / ₃₂ "	173'-11 ¹ / ₃₂ "	174'-1 ¹⁹ / ₃₂ "
North	U8'-L8'	4	173'-11 ¹ / ₃₂ "	173'-11 ¹ / ₃₂ "	174'-1 ¹⁹ / ₃₂ "

Note: Cable lengths taken from original structure design drawings and are for information only. The cable location and panel designations in those drawings are different than in this set. Contractor shall field verify existing cable lengths prior to ordering new cables and account for cable stretch/elongation when ordering each cable.



PART SIDE ELEVATION AT HANGER



PART CROSS SECTION AT HANGER

* Seal opening around threaded rod with silicone sealant.

ARCH SPAN STEEL REPAIR DETAILS 08

Cable Properties:
Specification: ASTM A586
TYPE: Multiple-wire bridge strand, zinc coated.
Zinc Coating: Class C on outer wires; Class A on inner wires.
Nominal Diameter: 2¹/₈"
Minimum Metallic Area: 2.71 sq. in.
Modulus of Elasticity After Prestressing: 23,000 kips/sq. in.
Minimum Breaking Strength (Each Cable): 538 kips
All end attachments to be proof loaded to 50% of minimum breaking strength

Sockets, pins, threaded studs, and nuts used with the cables shall be capable of developing the specified minimum strength of the cable.

Contractor shall field verify all dimensions prior to fabrication.

All work required to furnish, fabricate, and install replacement cables shall be covered under the contract unit price for Hanger Cable Replacement. Refer to the Job Special Provisions for additional notes and requirements.

Hanger Jacking and Shoring Notes

For details of shoring system, see Sheet 21

Contractor shall submit shoring procedure and sealed calculations prior to commencement of the work. Contractor may provide alternate method and equipment for cable shoring, casting removal and cable replacement, subject to engineer's approval.

Prior to any work, contractor to obtain tension measurements of all cables for the bridge using vibration or other recognized tension measuring procedures. At the conclusion of the work, the contractor shall remeasure all cable tensions and provide a report to the engineer with both sets of measurements. Adjustments to cable tensions other than locations shown in these plans using the shoring system will be conducted only at the direction of the Engineer.

Welds shall be 5/16" (min) fillet welds unless otherwise noted.

Cable shoring and removal to be conducted in conjunction with floor beam to tie girder weld inspection. See Sheet 15. Cable shoring intended to facilitate existing cable casting removal for inspection.

Work to be completed at one panel point, on one tie girder at a time and one cable at a time. As part of the work, lateral bracing and the lateral bracing gusset and the work panel point may be temporarily removed. Contractor shall include means to support the lateral bracing member as part of the shoring procedure submittal.

General Jacking and Replacement Procedure:

- Remove lateral bracing member and gusset plates if they conflict with the contractor's approved shoring system. Lateral bracing members may be removed at one panel point at one tie girder (north or south) at a time. Lateral bracing shall be fully re-attached prior to removal at a second location.
- Install the cable shoring system to support all four cables at a given panel point. Shoring system should allow for cable tension and dimensional control of all cables at the panel point. Survey the tie girder elevation prior to jacking.
- Before hydraulic jacks are engaged and during all stages of the work, live load at the work panel point and either adjacent panel point shall be limited to personnel and light equipment only. Engage the shoring system with hydraulic jacks to remove load from the existing hanger cable lower casting connection.
- With all cables supported by the shoring system, completely remove one of the four cables at the work panel point and temporarily remove the existing lower casting. While remaining cables are supported by shoring system, temporarily support the weight of the remaining castings. Monitor cable tensions of the remaining three cables in the shoring system to equilibrate load and minimize deflection of the tie girder and deck.
- Perform weld inspection and any weld repair work at the tie girder welds. Visually inspect the removed existing hanger casting for damage or defects prior to reinstallation. Any defects identified shall be reported to the Engineer.
- Install new hanger cable at the removed cable location, reattach the lower casting connection with new high strength bolts, and engage the new cable with the shoring system. Equilibrate load between the four cables via the shoring and jacking system.
- Repeat this process at the remaining three cables, one at a time, until all weld inspection is complete and all four cables at the work panel point have been replaced.
- Equilibrate load in the four new cables and slowly release load from the shoring system, transferring cable load to the permanent, reinstalled lower hanger cable casting connections. Monitor cable tension and ensure equal loading by adjusting heavy hex nuts or using shims. Return tie girder to original surveyed elevation. Differences in loads among the cables at a given panel point should be small, but at no times greater than differences measured in the initial cable inspection. A target for differences in the loads is less than 10 percent.
- Remove shoring system and jacks. Fill any open holes in the tie girder or stiffener plates with fully pretensioned bolts. Reinstall lateral bracing.
- All work involved with the installation and utilization of the shoring system shall be covered per each installation setup of the shoring system under the contract unit price for Cable Shoring, System Installation, Cable Tension Adjustment. Refer to the Job Special Provisions for additional notes and requirements.

Cable replacement is required at 6 hanger locations where the lower cable connection casting needs to be removed to facilitate the weld inspection. An additional 2 Cable Shoring, System Installation, Cable Tension Adjustment locations have been carried for bidding purposes. The total quantity may be under-run.

Note: Work this sheet with Sheet 21.

Designed P.J.M.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 20 of 49



LICENSE EXPIRES 12/31/2022

DATE PREPARED 8/3/2021

ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 20

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A18503

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

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

MoDOT

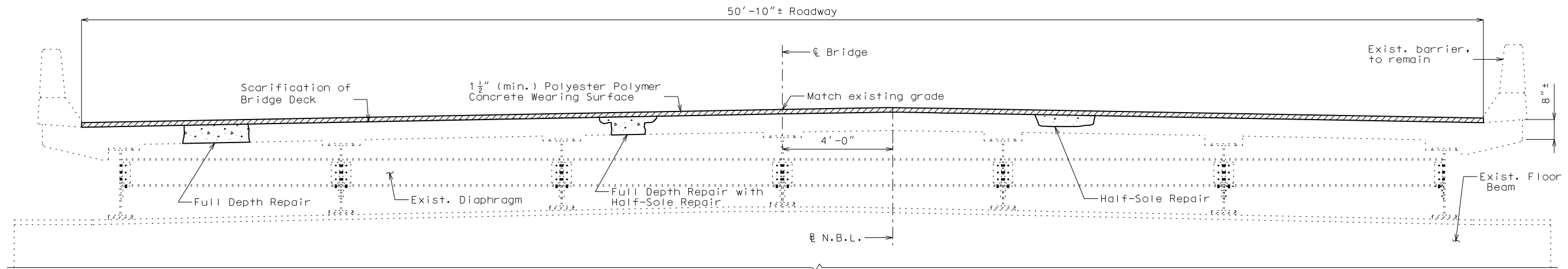
Certificate of Authority No. 001448 Exp. 12/31/22

ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

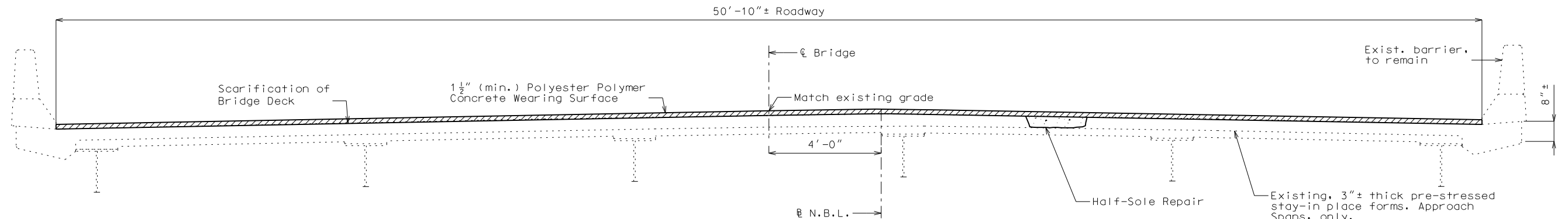
WJE

Miss. Janney, Elstner Associates, Inc. 330 Pfingsten Road Northbrook, Illinois 60062 847.272.7400 tel | 847.291.9599 fax www.wje.com

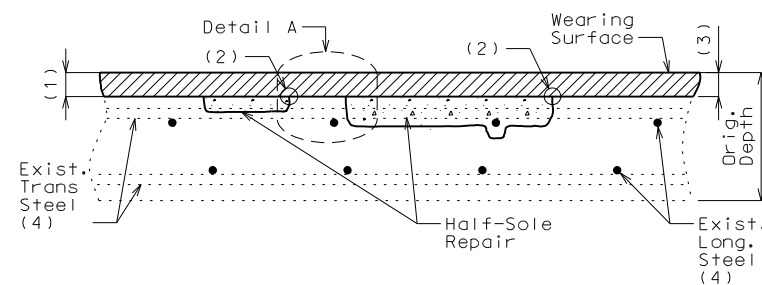
REV. RevDesc



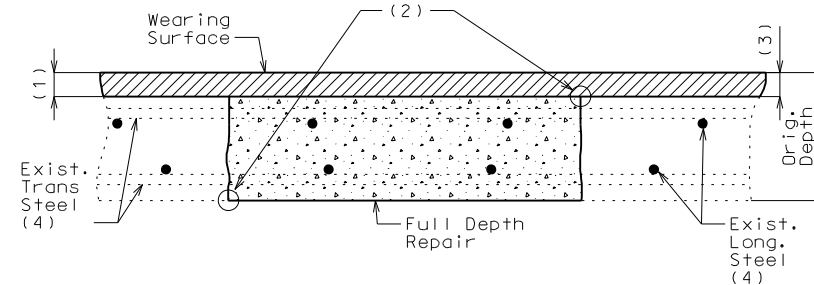
TYPICAL SECTION THRU EXISTING DECK (ARCH SPAN)
(Looking West)



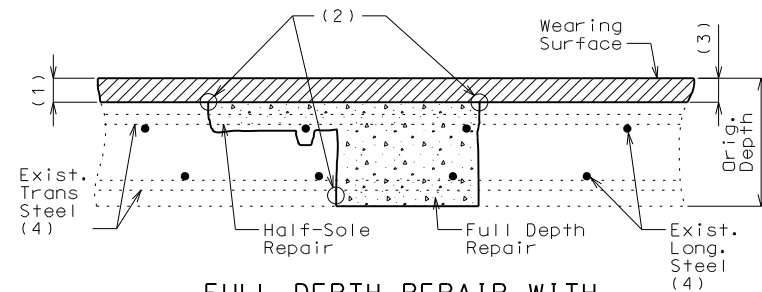
TYPICAL SECTION THRU EXISTING DECK (APPROACH SPANS)
(Looking West)



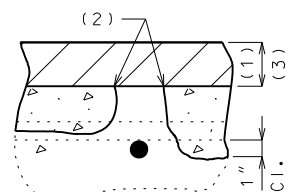
HALF-SOLE REPAIR



FULL DEPTH REPAIR



FULL DEPTH REPAIR WITH
HALF-SOLE REPAIR



DETAIL A

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

WEARING SURFACE DETAILS & TYPICAL SECTIONS POLYESTER POLYMER CONCRETE WEARING SURFACE ALTERNATE

Notes:

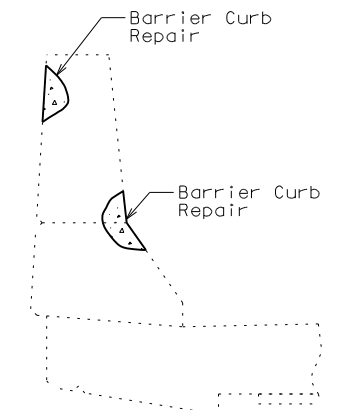
See Job Special Provisions for Polyester Polymer Concrete Wearing Surface.

Underside spalling observed during the 2019 inspection is assumed to correspond to locations of full-depth repair. Unformed superstructure repair using shotcrete repair methods (see Job Special Provision) may be used at the discretion of the Engineer. Full depth repairs are not anticipated in Approach Spans due to precast, stay-in-place forms.

- (1) 1 1/2" scarification of existing deck. See Job Special Provision Milling prior to Wearing Surface Installation.
- (2) 1" vertical side shall be established outside the deteriorated area.
- (3) 1 1/2" minimum polyester polymer concrete wearing surface.
- (4) Reinforcing steel is epoxy-coated. All areas of the epoxy coating that are damaged, either due to existing conditions or the concrete removal process, and any other areas where the coating is absent or removed shall be patched; see Standard Specifications Sec 710. The patch material will be in accordance with Sec 1036 and applied per the manufacturer's recommendations.
- (5) Polyester Polymer Concrete may be substituted for Class B-2 concrete at locations of half-sole and full-depth repairs. See Job Special Provisions. MoDOT Construction personnel will indicate the type of material used for half-sole and full depth repair:

Class B-2 concrete: ☐

Polyester Polymer Concrete: ☐



BARRIER
CURB REPAIR

Notes:

Barrier Curb Repair shall use shotcrete repair method. See Job Special Provisions.

Designed K.H.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 23 of 49



LICENSE EXPIRES
12/31/2022

DATE PREPARED
10/1/2021

ROUTE 255 STATE MO
DISTRICT BR SHEET NO. 23
COUNTY ST. LOUIS
JOB NO. J613413
CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A18503

DATE	DESCRIPTION
9/28/21	VE STUDY

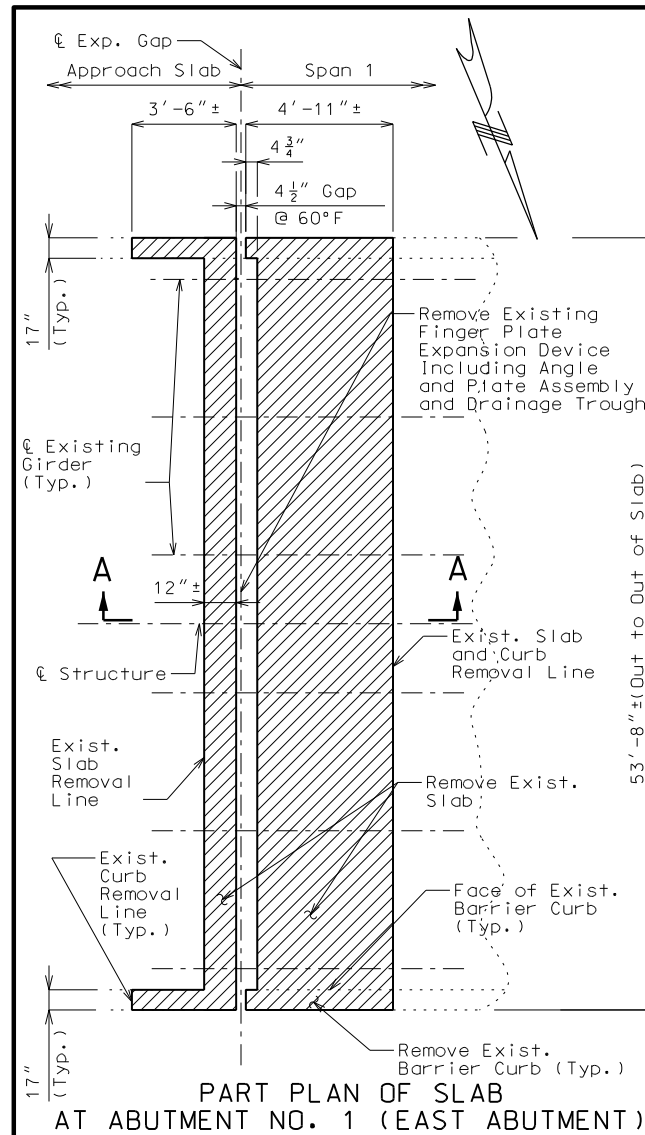
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION
MoDOT
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

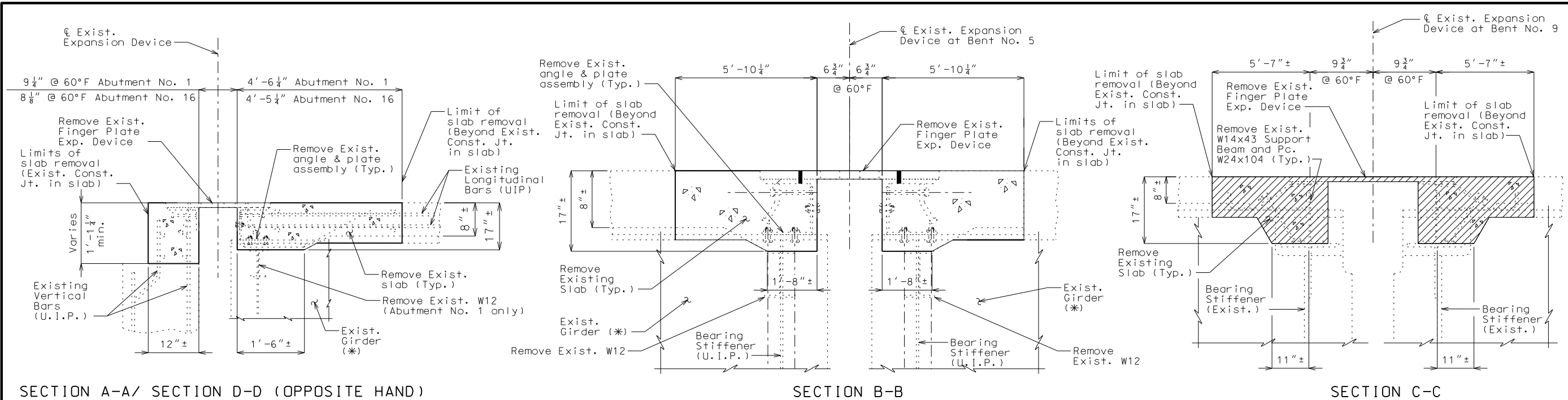
Certificate
of
Authority
No. 001448
Exp. 12/31/22

ENGINEERS
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MATERIALS SCIENTISTS
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Miss. Janney, Elstner Associates, Inc.
330 Plingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9599 fax
www.wje.com

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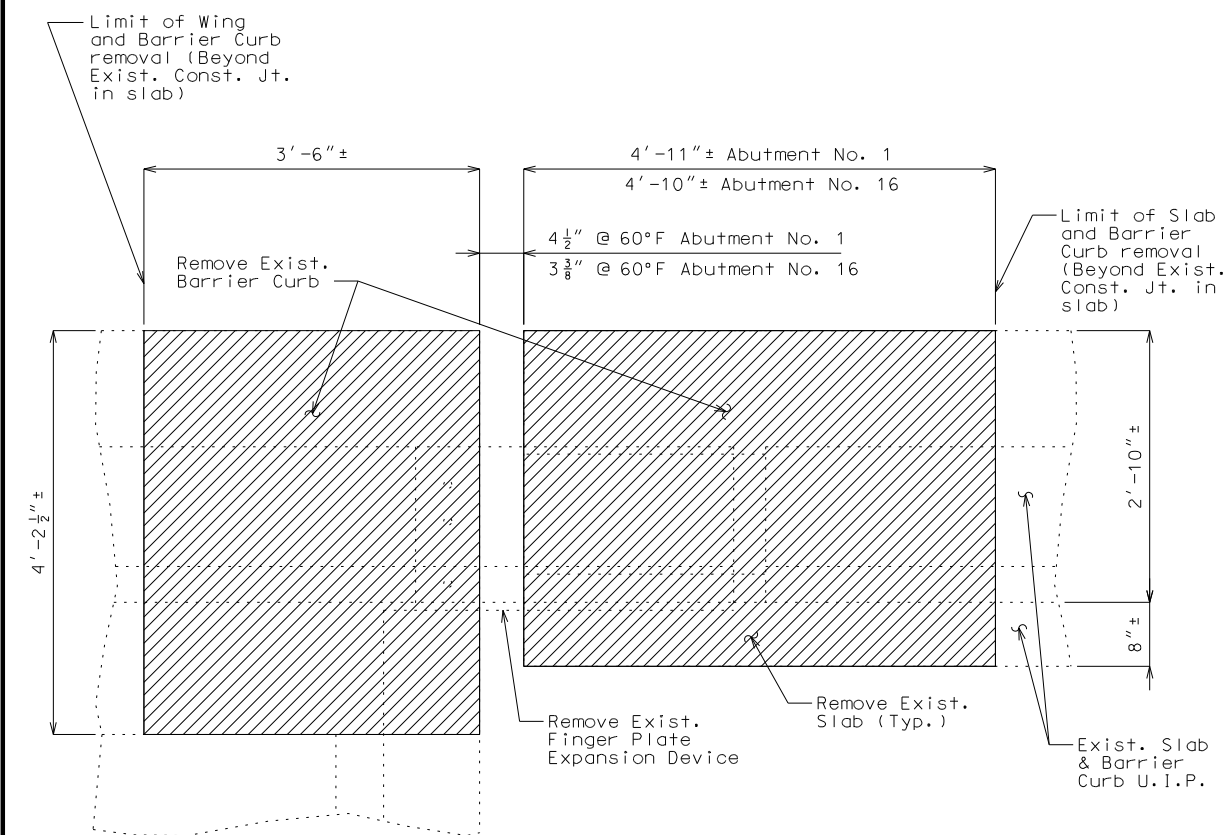
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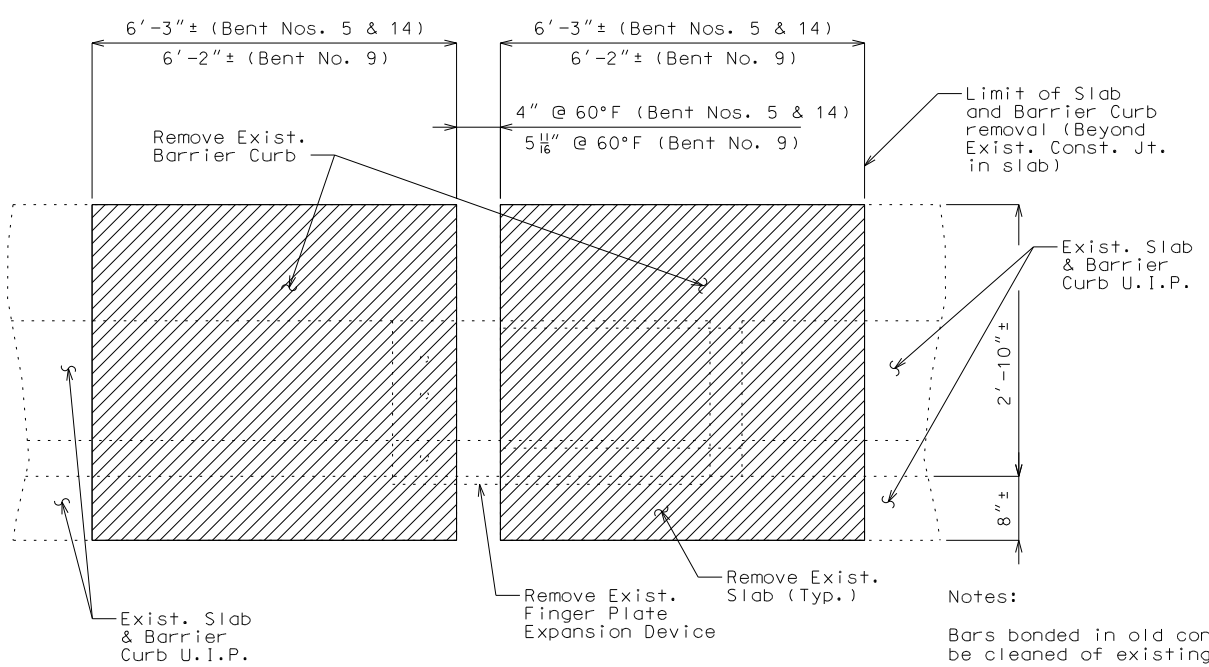


SECTION A-A/ SECTION D-D (OPPOSITE HAND)
(Section D-D similar except opposite hand and as noted)

Note:
(Abutment No.1 drainage trough, to be removed and replaced, not shown for clarity.)



PART ELEVATION OF BARRIER CURB REMOVAL AT ABUTMENTS NO. 1 AND 16
(Abutment No. 16 similar except opposite hand and as noted)



PART ELEVATION OF BARRIER CURB REMOVAL AT FINGER PLATE EXPANSION DEVICE AT BENT NOS. 5, 9 AND 14

Notes:
Bars bonded in old concrete to remain shall be cleaned of existing concrete and embedded into new concrete.
For locations of Sections, see Sheet 24.
(*) Modify existing girders and stringers as shown on Sheets 26 & 27.

APPROACH SPAN EXPANSION JOINT REMOVAL DETAILS 02

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 25 of 49

LICENSE EXPIRES 12/31/2022

DATE PREPARED 7/29/2021	
ROUTE 255	STATE MO
DISTRICT BR	SHEET NO. 25
COUNTY ST. LOUIS	
JOB NO. J613413	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A18503	

DESCRIPTION	DATE

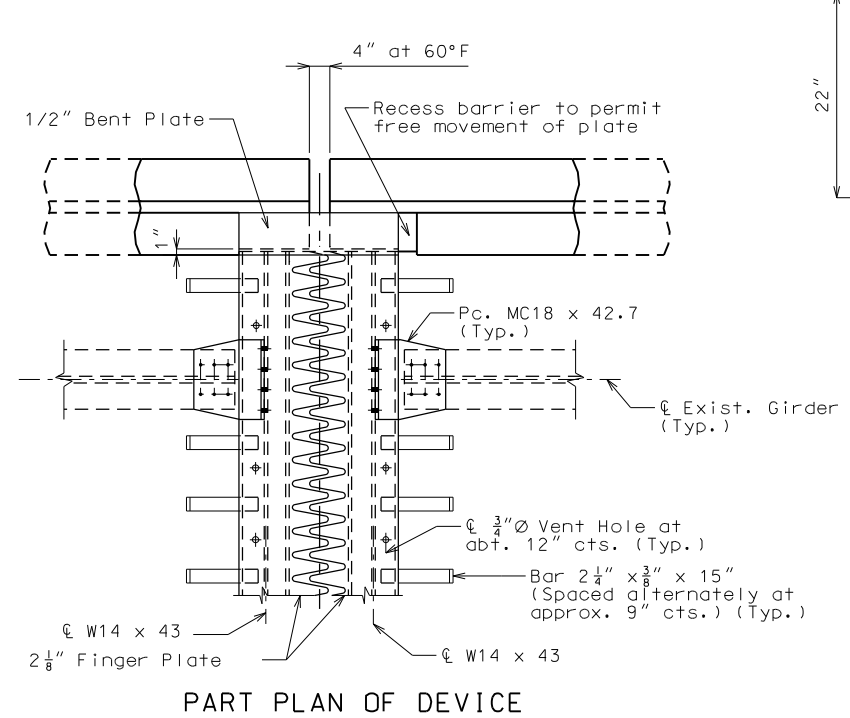
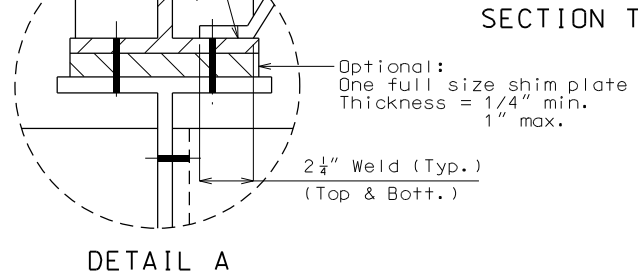
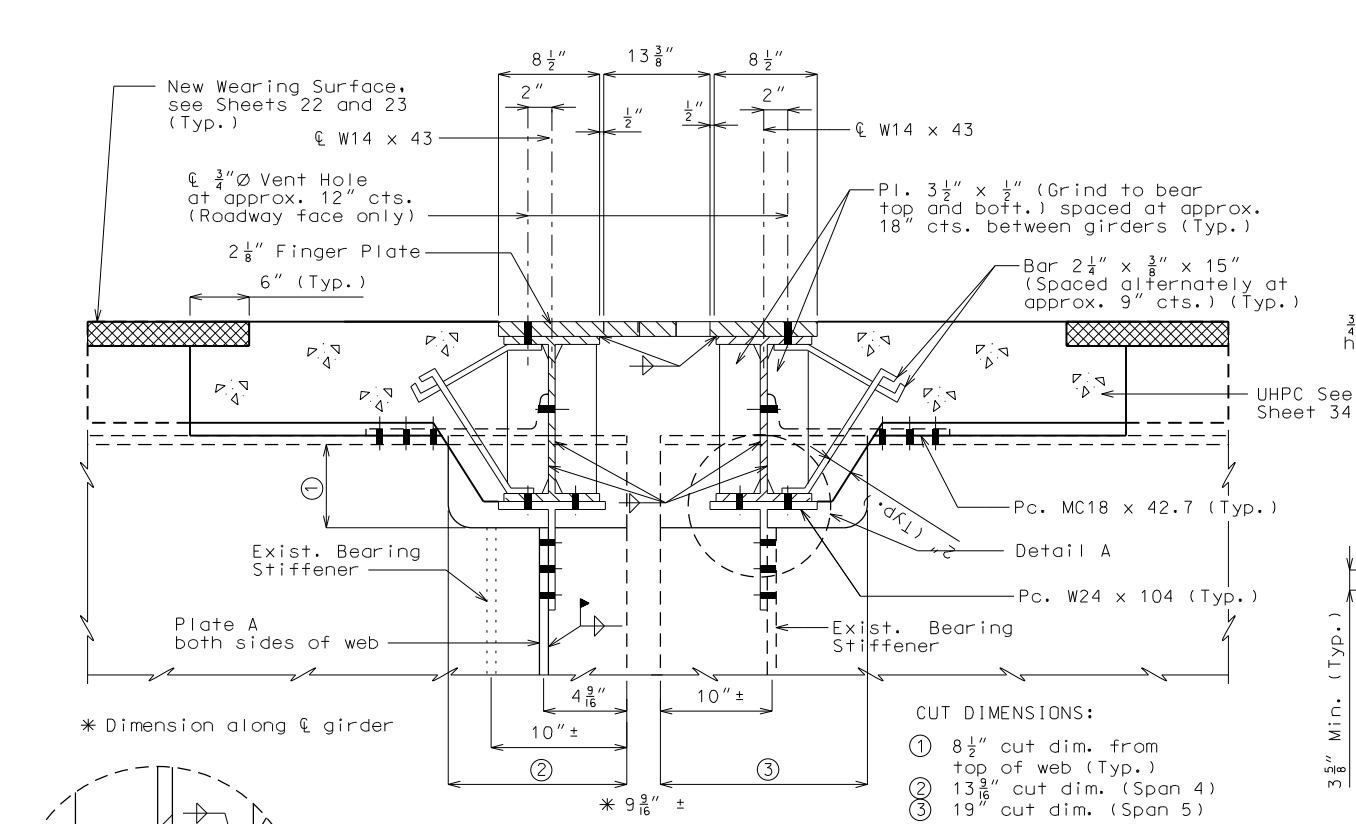
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

ENGINEERS ARCHITECTS MATERIALS SCIENTISTS
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Certificate of Authority
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Miss. Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9599 fax
www.wje.com

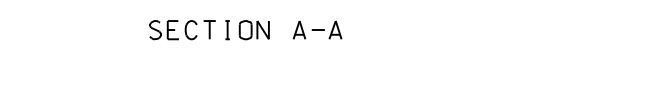
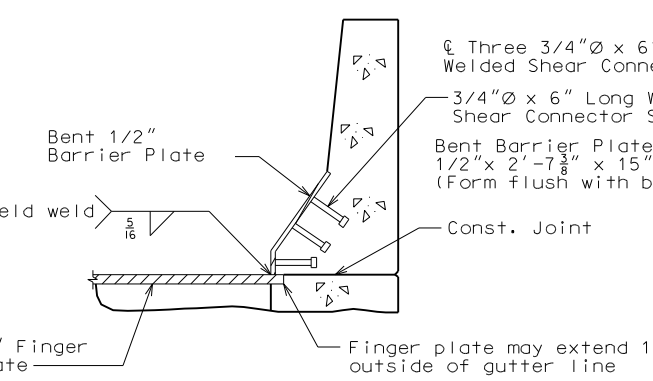
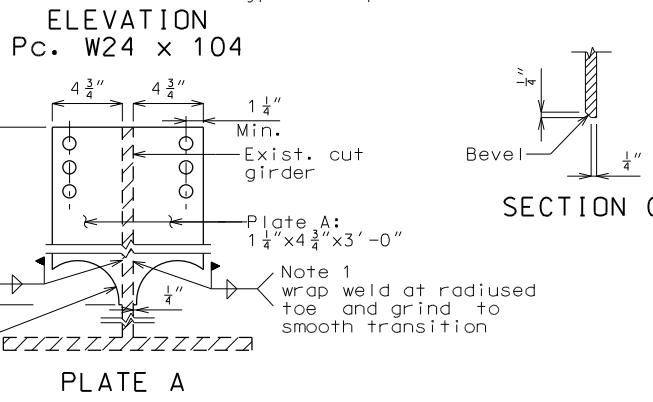
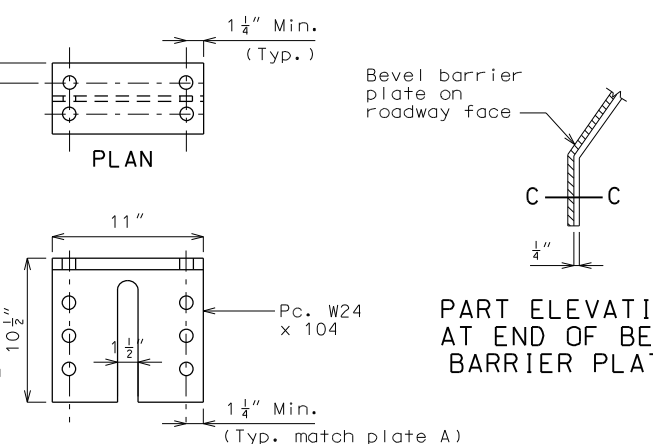
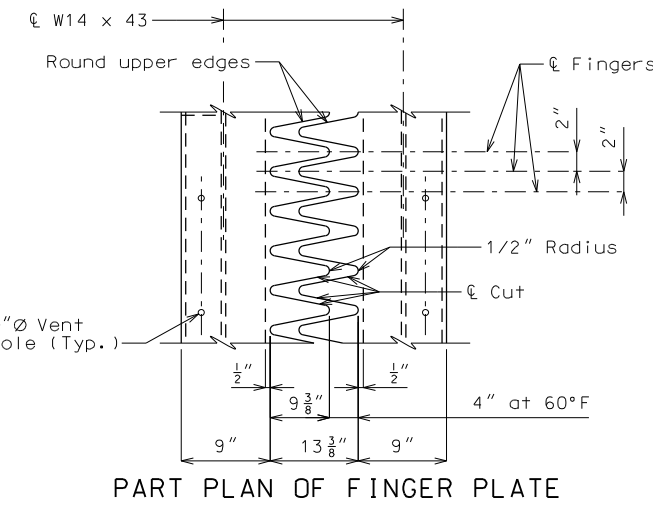
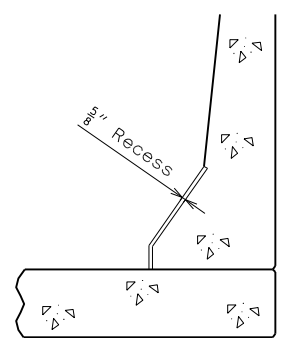
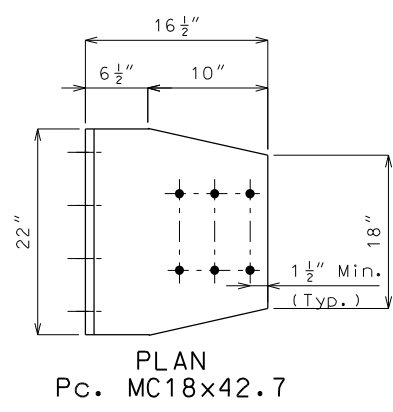
REV. RevDesc



CUT DIMENSIONS:

- ① 8 1/2" cut dim. from top of web (Typ.)
- ② 13 3/8" cut dim. (Span 4)
- ③ 19" cut dim. (Span 5)

Note: All cut girder surfaces to be ground smooth (R_A max. = 50 Microinch) Provide 2"Ø min. radius between vertical and horizontal cut transitions.



GENERAL NOTES:

Finger plate shall be machine cut from one plate. The plate from which fingers are cut may be spliced before fingers are cut. The surface of cut shall be perpendicular to the surface of the plate. The cut shall not exceed 1/8" in width. The centerline of cut shall not deviate more than 1/16" from the position of centerline of cut shown. No splicing of finger plate or finger plate assembly will be allowed after fingers are cut. The expansion device shall be fabricated and installed to the crown and grade of the roadway.

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased 7/16" for each 10° fall or rise in temperature at installation.

Material for the expansion device shall be ASTM A709 Grade 36 structural steel. Anchors for the expansion device shall be in accordance with Sec 1037.

Structural steel for the expansion device and barrier plate shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

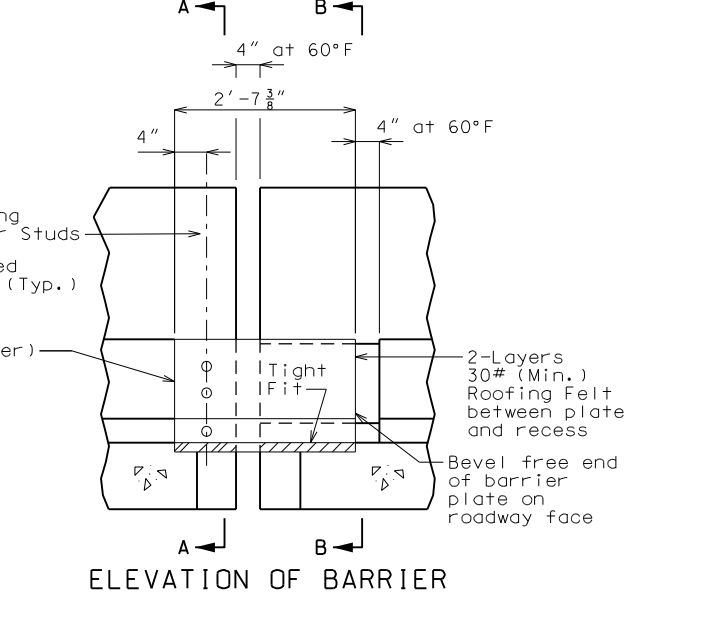
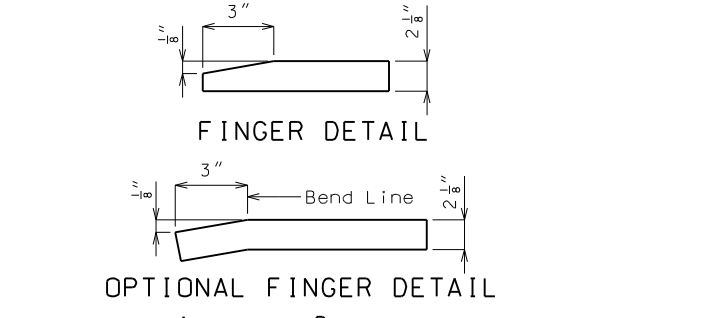
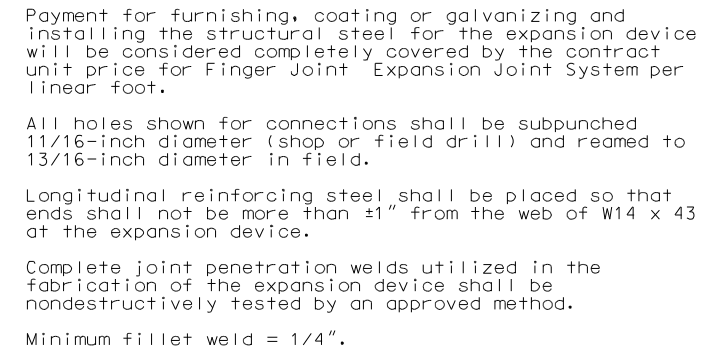
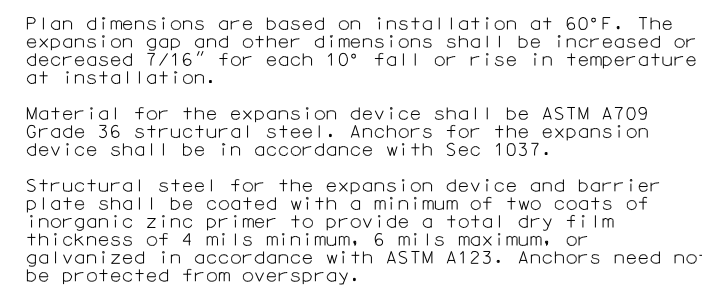
Payment for furnishing, coating or galvanizing and installing the structural steel for the expansion device will be considered completely covered by the contract unit price for Finger Joint Expansion Joint System per linear foot.

All holes shown for connections shall be subpunched 11/16-inch diameter (shop or field drill) and reamed to 13/16-inch diameter in field.

Longitudinal reinforcing steel shall be placed so that ends shall not be more than ±1" from the web of W14 x 43 at the expansion device.

Complete joint penetration welds utilized in the fabrication of the expansion device shall be nondestructively tested by an approved method.

Minimum fillet weld = 1/4".



APPROACH SPAN DETAILS OF FINGER PLATE EXPANSION DEVICE AT BENT NO. 5

Designed L.P.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 27 of 49

STATE OF MISSOURI
JONATHAN C. MCGORMLEY
LICENSE NO. 19012
EXPIRATION DATE 12/31/2022

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

WJE

Miss. Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9599 fax
www.wje.com

Certificate of Authority
No. 001448
Exp. 12/31/22

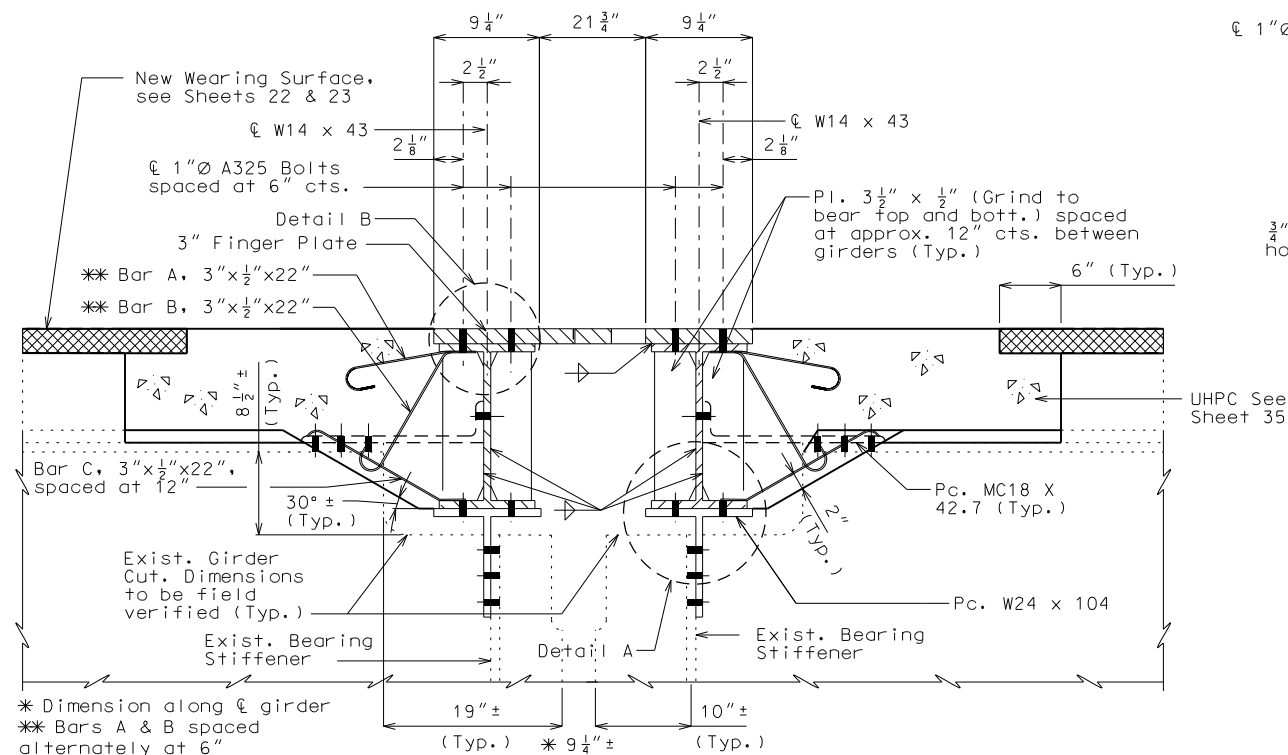
ROUTE	STATE
255	MO

DISTRICT	SHEET NO.
BR	27

COUNTY	JOB NO.	CONTRACT ID.
ST. LOUIS	J613413	

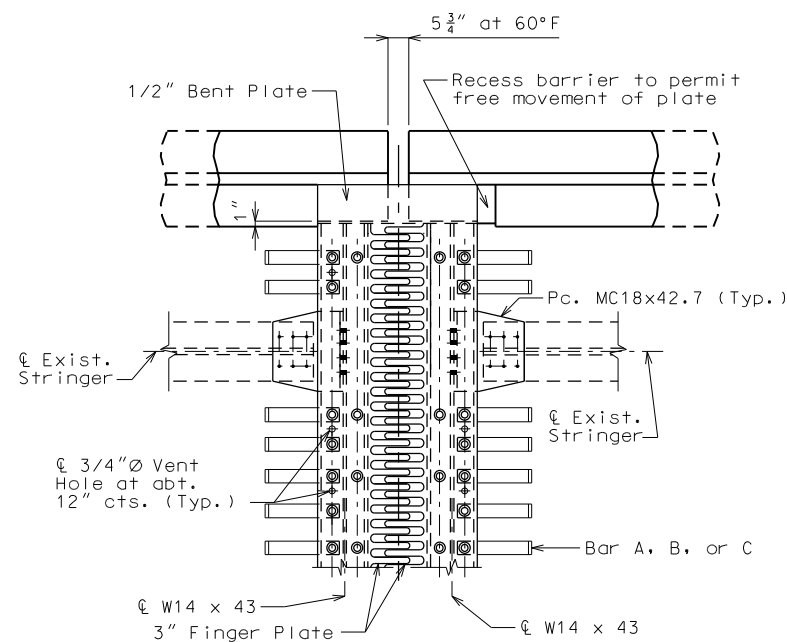
PROJECT NO.	BRIDGE NO.
	A18503

DESCRIPTION	DATE

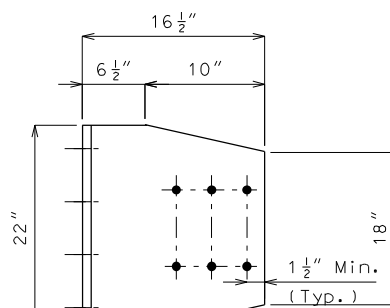


SECTION THRU DEVICE

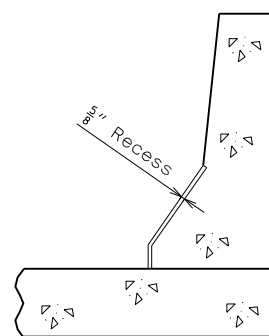
Notes:
Vent hole not shown, see part plan.
All cut girder surfaces to be ground smooth R_a max. = 50 Microinch). Provide 2"Ø min. Radius between vertical and horizontal cut transitions.



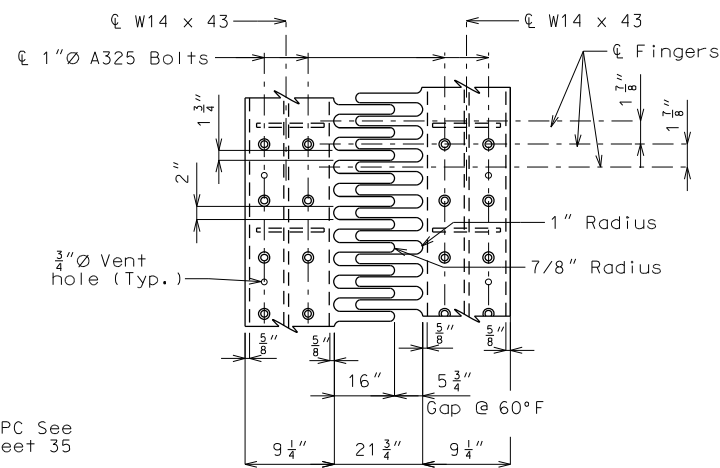
PART PLAN OF DEVICE



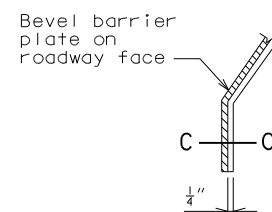
PLAN
Pc. MC18x42.7



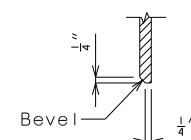
SECTION B-B



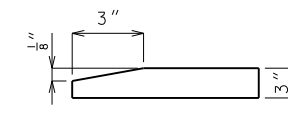
PART PLAN OF FINGER PLATE



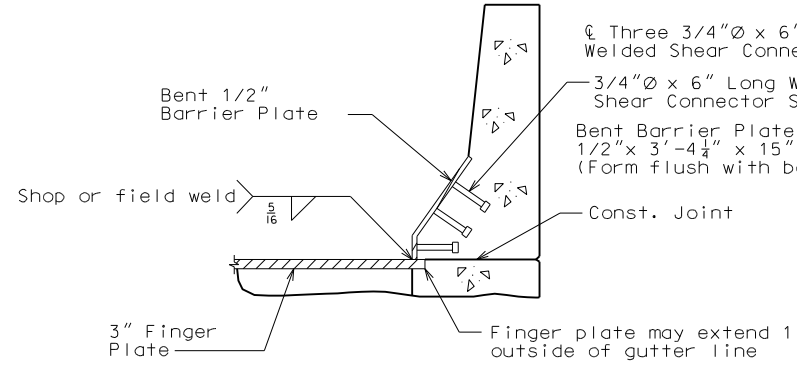
PART ELEVATION
AT END OF BENT
BARRIER PLATE



SECTION C-C



FINGER DETAIL



SECTION A-A

GENERAL NOTES:

Finger plate shall be machine cut from one plate. The plate from which fingers are cut may be spliced before fingers are cut. The surface of cut shall be perpendicular to the surface of the plate. The cut shall not exceed 1/8" in width. The centerline of cut shall not deviate more than 1/16" from the position of centerline of cut shown. No splicing of finger plate or finger plate assembly will be allowed after fingers are cut. The expansion device shall be fabricated and installed to the crown and grade of the roadway.

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased 3/4" for each 10° fall or rise in temperature at installation.

Material for the expansion device and anchor bars shall be ASTM A709 Grade 50 structural steel. Anchors for the expansion device shall be in accordance with Sec 1037.

Structural steel for the expansion device and barrier plate shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

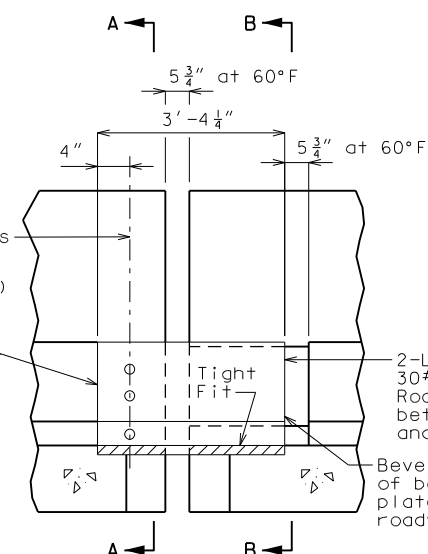
Payment for furnishing, coating or galvanizing and installing the structural steel for the expansion device will be considered completely covered by the contract unit price for Finger Joint Expansion Joint System per linear foot.

All holes shown for connections shall be subpunched 11/16-inch diameter (shop or field drill) and reamed to 13/16-inch diameter in field except that bolt holes for 1"Ø bolts shall be subpunched 15/16-inch diameter (shop or field drill) and reamed to 1-1/16-inch diameter in field.

Longitudinal reinforcing steel shall be placed so that ends shall not be more than ±1" from the web of W14 x 43 at the expansion device.

Complete joint penetration welds utilized in the fabrication of the expansion device shall be nondestructively tested by an approved method.

Work this sheet with Sheet No. 29.



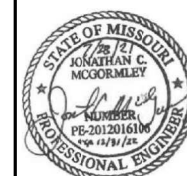
ELEVATION OF BARRIER

APPROACH SPAN DETAILS OF FINGER PLATE EXPANSION DEVICE AT BENT NO. 9

Designed L.P.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 28 of 49



LICENSE EXPIRES
12/31/2022

DATE PREPARED
8/3/2021

ROUTE
255

DISTRICT
BR

COUNTY
ST. LOUIS

JOB NO.
J613413

CONTRACT ID.
A18503

PROJECT NO.

BRIDGE NO.
A18503

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102

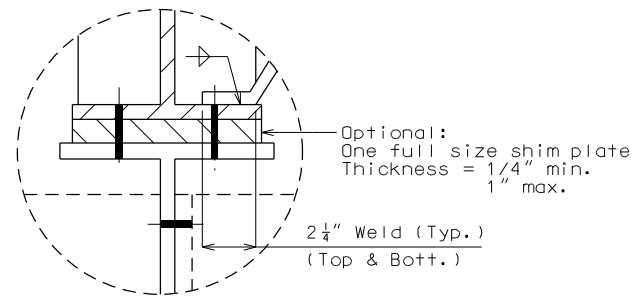
1-888-ASK-MODOT (1-888-275-6636)

Certificate
of
Authority
No. 001448
Exp. 12/31/22

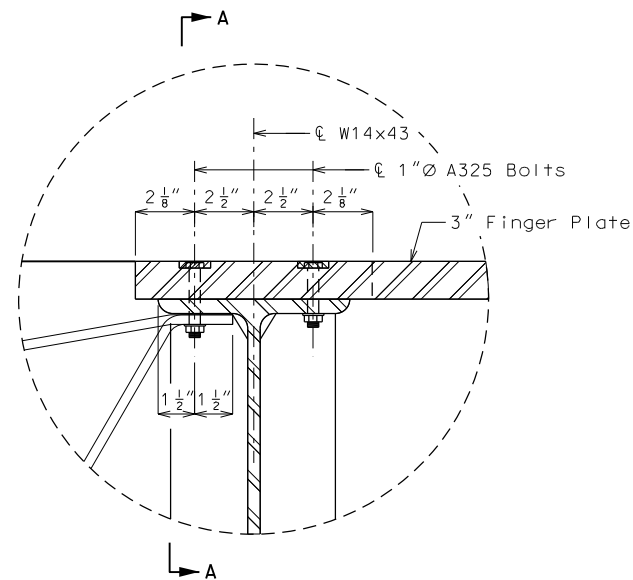
ENGINEERS
ARCHITECTS
MATERIALS SCIENTISTS

WJE

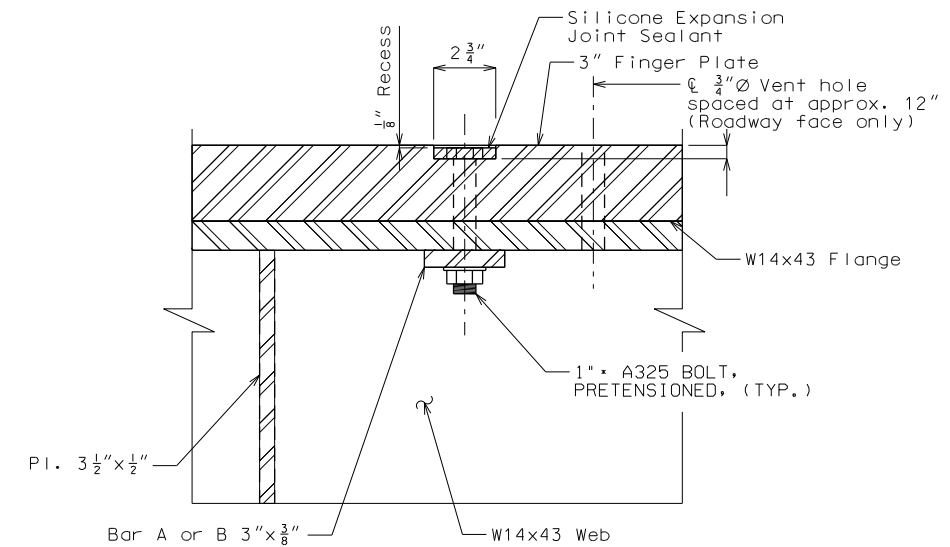
Miss. Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9599 fax
www.wje.com



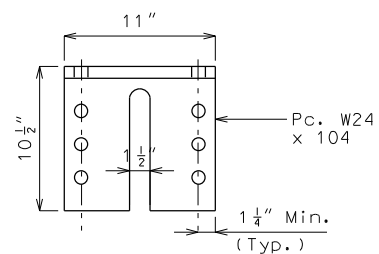
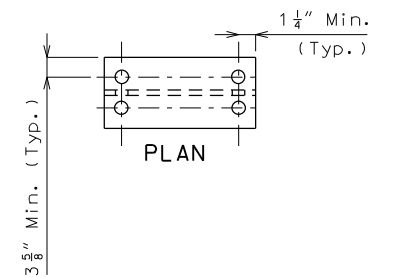
DETAIL A



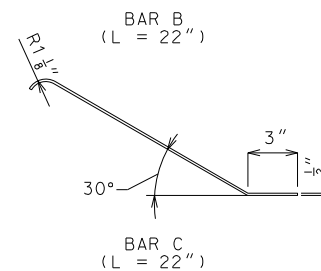
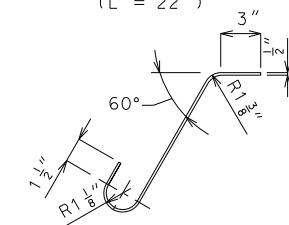
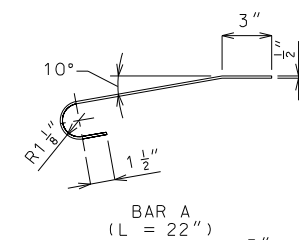
DETAIL B



PART SECTION A-A



ELEVATION
Pc. W24 x 104



ANCHOR BAR DETAILS

Note:
Work this sheet with Sheet No. 28.

Designed L.P.
Detailed L.S.
Checked J.C.M.

APPROACH SPAN DETAILS OF FINGER PLATE EXPANSION DEVICE AT BENT NO. 9

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

Sheet No. 29 of 49



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SHEET NO. 29

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JOB NO. J613413
CONTRACT ID.

PROJECT NO.

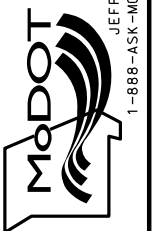
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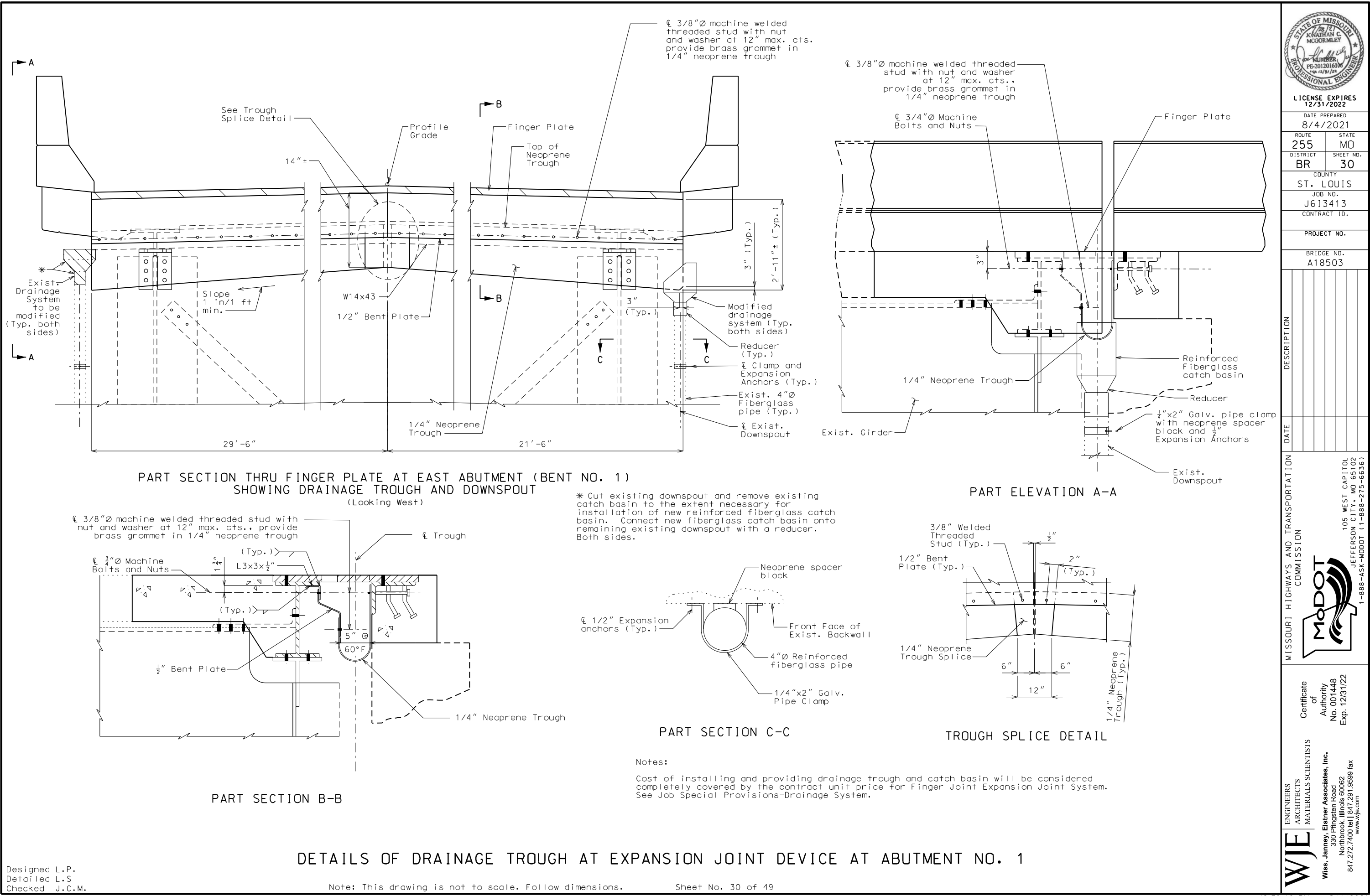
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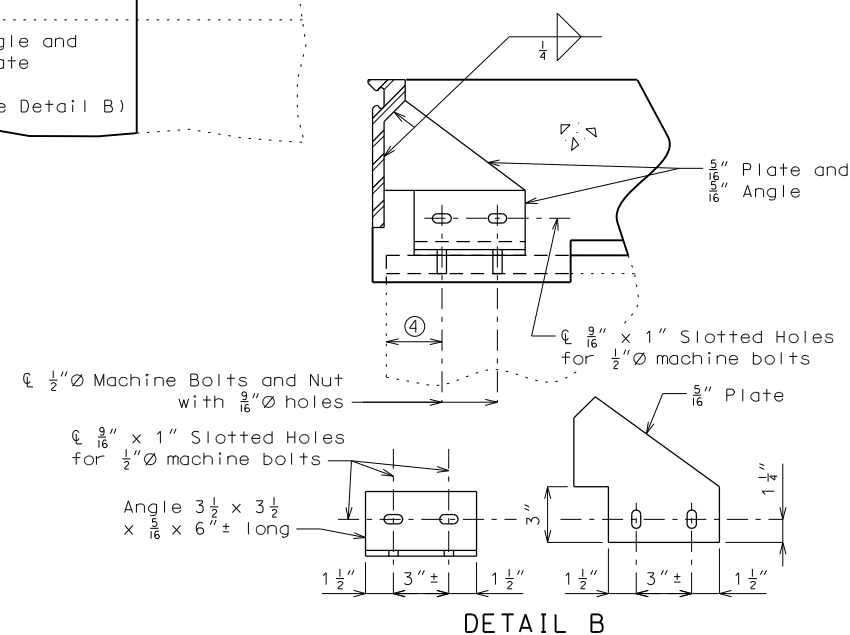
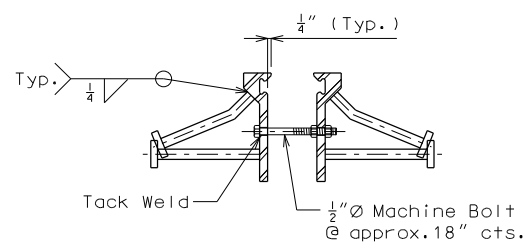
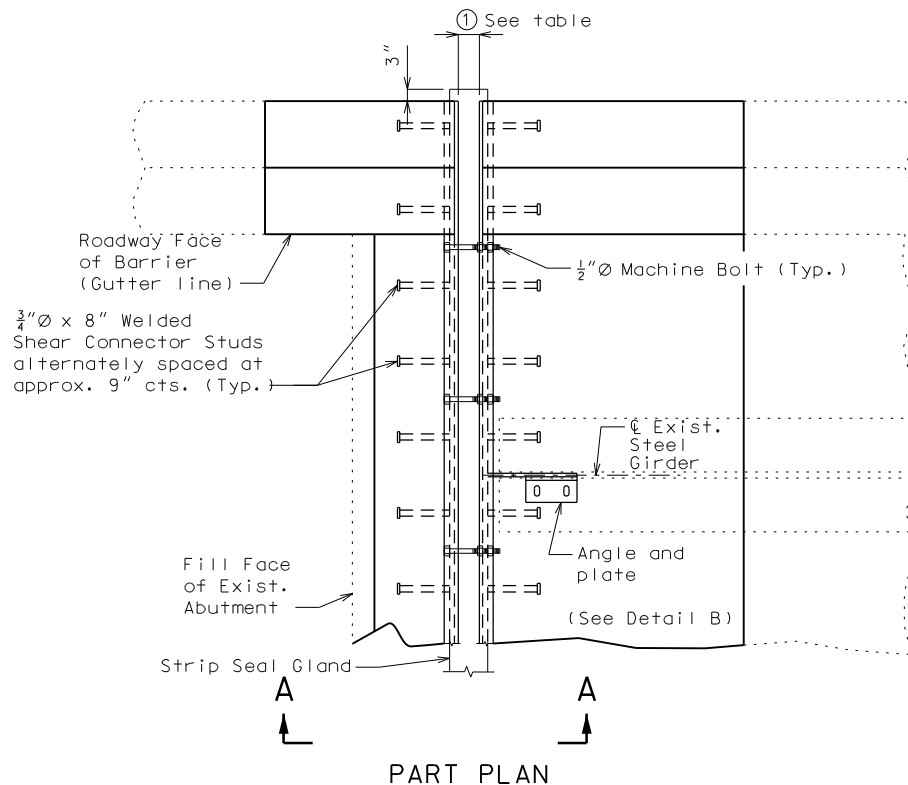
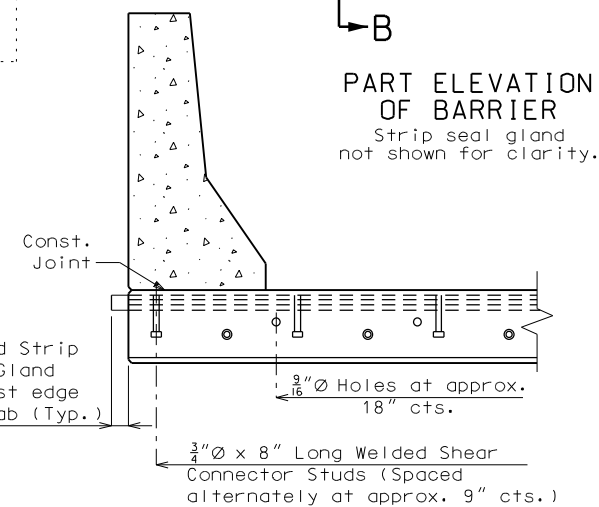
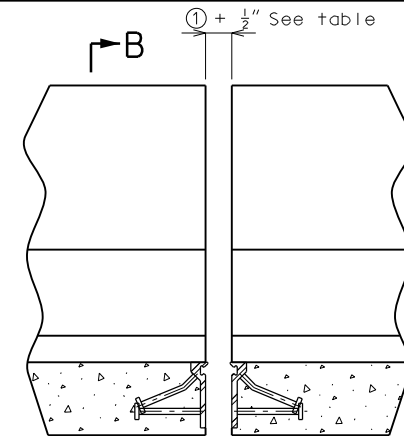
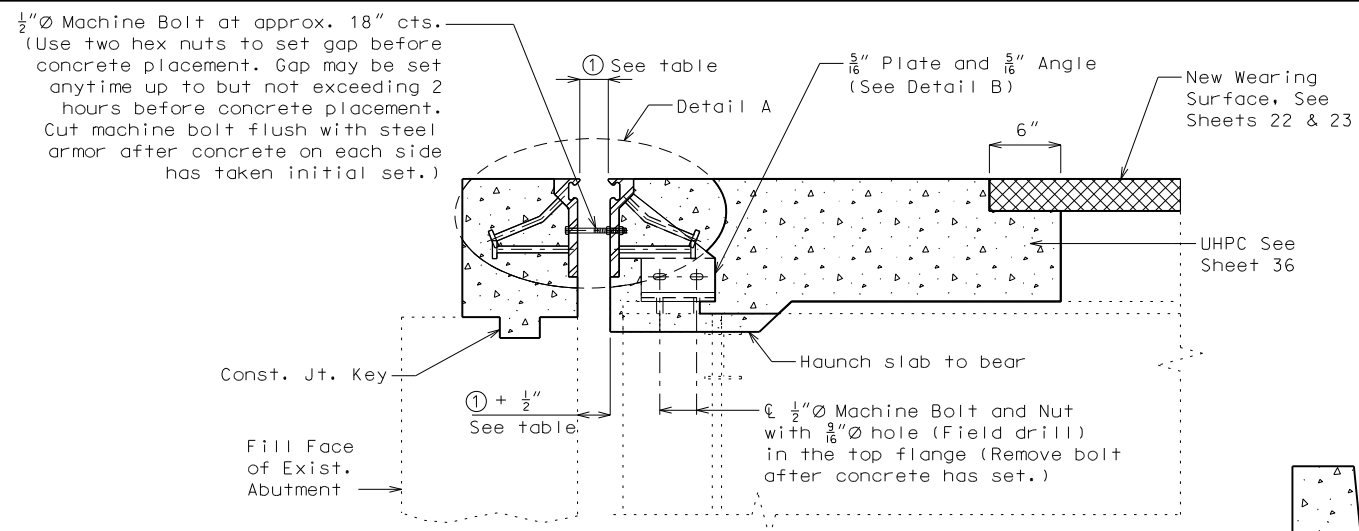
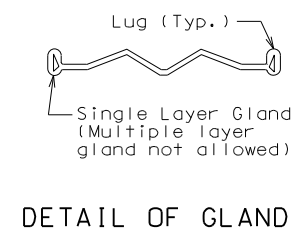
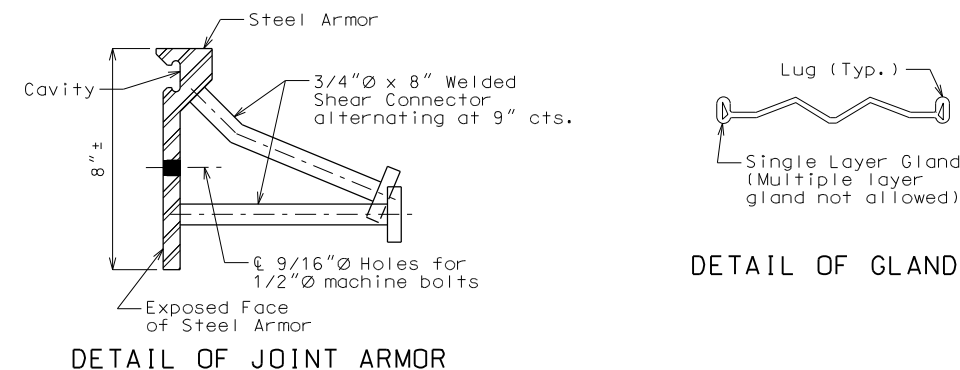


Table of Allowed Transverse Strip Seal Expansion Joint Systems									
Manufacturer	Strip Seal System (Designated Name)	Movement Parallel to RDWY	Allowed Installation Gap ① Normal to Joint at RDWY Surface @ Installation Temperature ②						③
			@ 40°F	@ 50°F	@ 60°F	@ 70°F	@ 80°F	@ 90°F	
D S Brown	Strip seal L2-400	2 $\frac{3}{16}$	2 $\frac{13}{16}$	2 $\frac{5}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{8}$	2 $\frac{3}{16}$	2 $\frac{1}{16}$	□
D S Brown	Strip seal L2-500	2 $\frac{3}{16}$	2 $\frac{13}{16}$	2 $\frac{5}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{8}$	2 $\frac{3}{16}$	2 $\frac{1}{16}$	□
Watson Bowman Acme (Wabo)	Strip seal SE-400	2 $\frac{3}{16}$	2 $\frac{13}{16}$	2 $\frac{5}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{8}$	2 $\frac{3}{16}$	2 $\frac{1}{16}$	□
Watson Bowman Acme (Wabo)	Strip seal SE-500	2 $\frac{3}{16}$	2 $\frac{13}{16}$	2 $\frac{5}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{8}$	2 $\frac{3}{16}$	2 $\frac{1}{16}$	□



GENERAL NOTES:

Expansion joint system shall be fabricated in one section. A complete joint penetration groove welded splice shall be required. Welds shall be ground flush to provide a smooth surface. The expansion joint system shall be fabricated and installed to the crown and grade of the roadway.

The strip seal gland shall be installed in joints in one continuous piece without field splices. Factory splicing will be permitted for joints in excess of 53 feet.

Structural steel for the expansion joint system shall be ASTM A709 Grade 36 except the steel armor may be ASTM A709 Grade 50W. Anchors for the expansion joint system shall be in accordance with Sec 1037. Strip seal expansion joint system shall be in accordance with Sec 717.

Structural steel for the expansion joint system shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Longitudinal reinforcing steel shall be placed so that ends shall be 1" from the vertical leg of the steel armor at the expansion joint system.

Steel armor may also be referred to as extrusion or rail.

② The installation temperature shall be taken as the actual air temperature averaged over the 24-hour period immediately preceding installation.

③ MoDOT Construction personnel will indicate the strip seal expansion joint system installed.

④ Dimension to clear Exist. Bearing Stiffener, $1\frac{1}{2}"$ Min. Contractor to verify in field.



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BR 32

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PROJECT NO.

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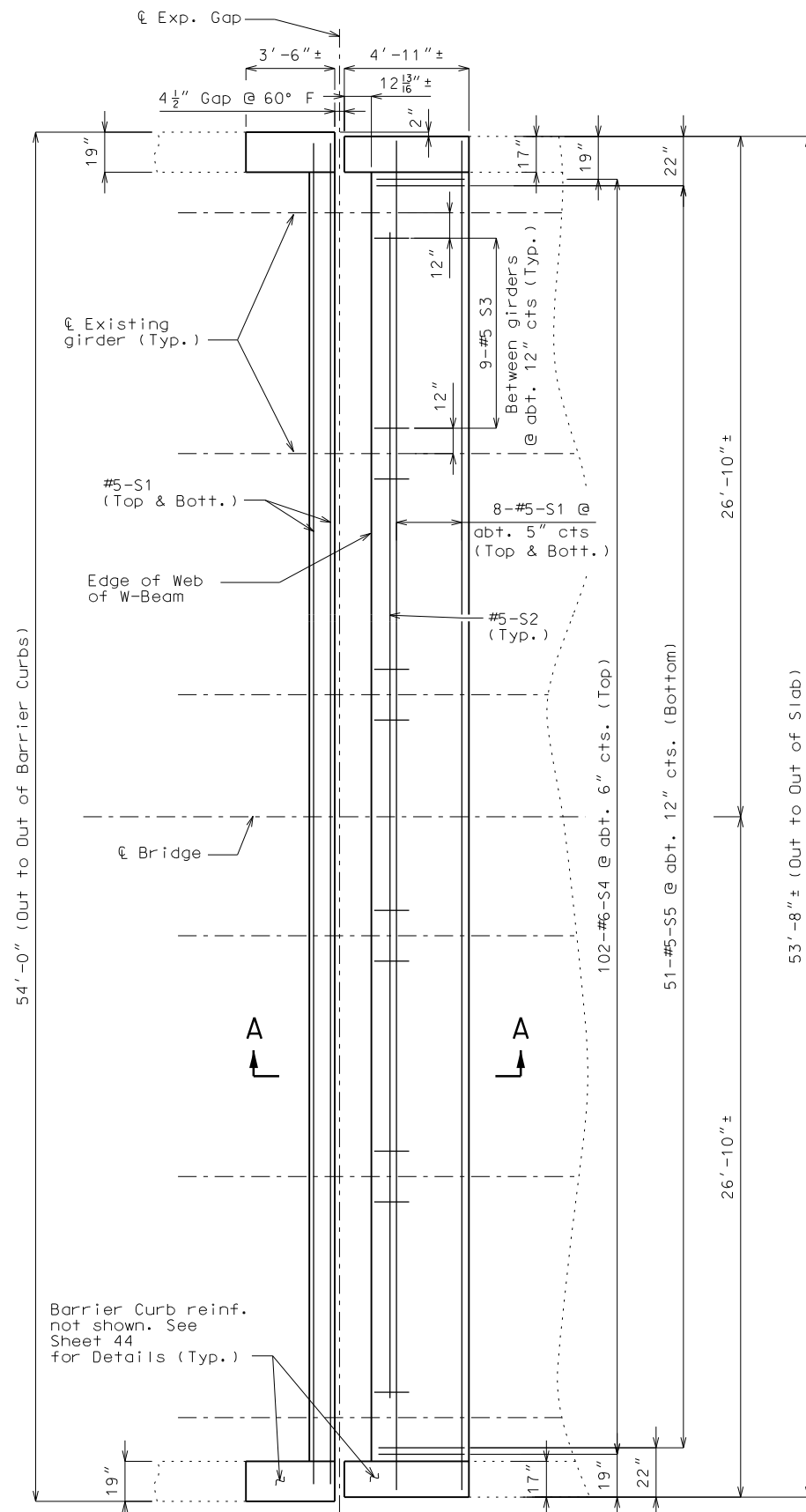
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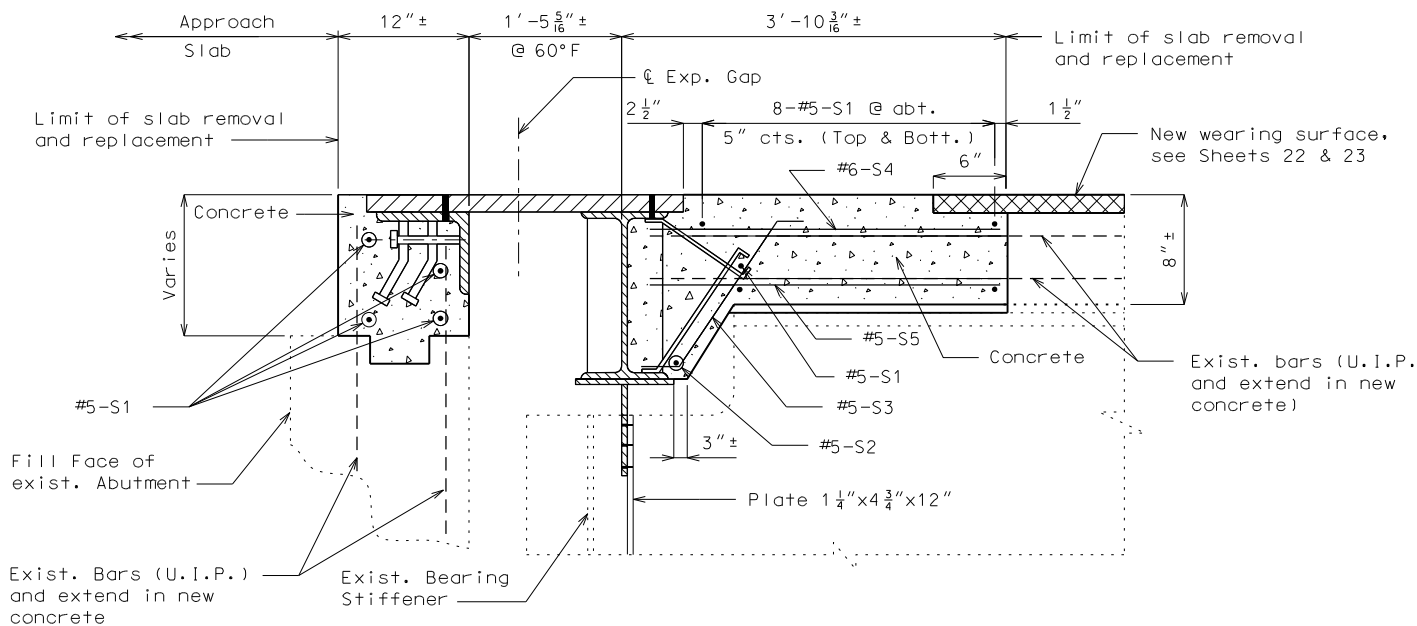
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PLAN OF SLAB ABUTMENT AT ABUTMENT 1
SHOWING TOP AND BOTTOM REINFORCEMENT
Expansion Device not Shown for Clarity



SECTION A-A

(Drainage Trough not Shown for Clarity.)

- Notes:
- For details of barrier curb replacement, see Sheet 44.
 - For details of drainage trough, see Sheet 30.
 - Concrete shall be Class UHPC.
 - All new reinforcing steel shall be epoxy coated.
 - New longitudinal reinforcing steel shall be placed so that ends shall not be more than ±1" from web of support beam at the Expansion Device.
 - Any damaged areas found on existing U.I.P. epoxy coated longitudinal bars shall be repaired in accordance with Sec 710.
 - Payment for slab concrete, complete-in-place, for expansion joint replacement will be considered completely covered by the contract unit price for Ultra-High Performance Concrete.
 - Payment for furnishing and installing slab reinforcement will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).

APPROACH SPAN DETAILS OF UHPC SLAB AT EXPANSION DEVICE AT ABUTMENT NO. 1

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 33 of 49



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ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 33

COUNTY ST. LOUIS

JOB NO. J613413

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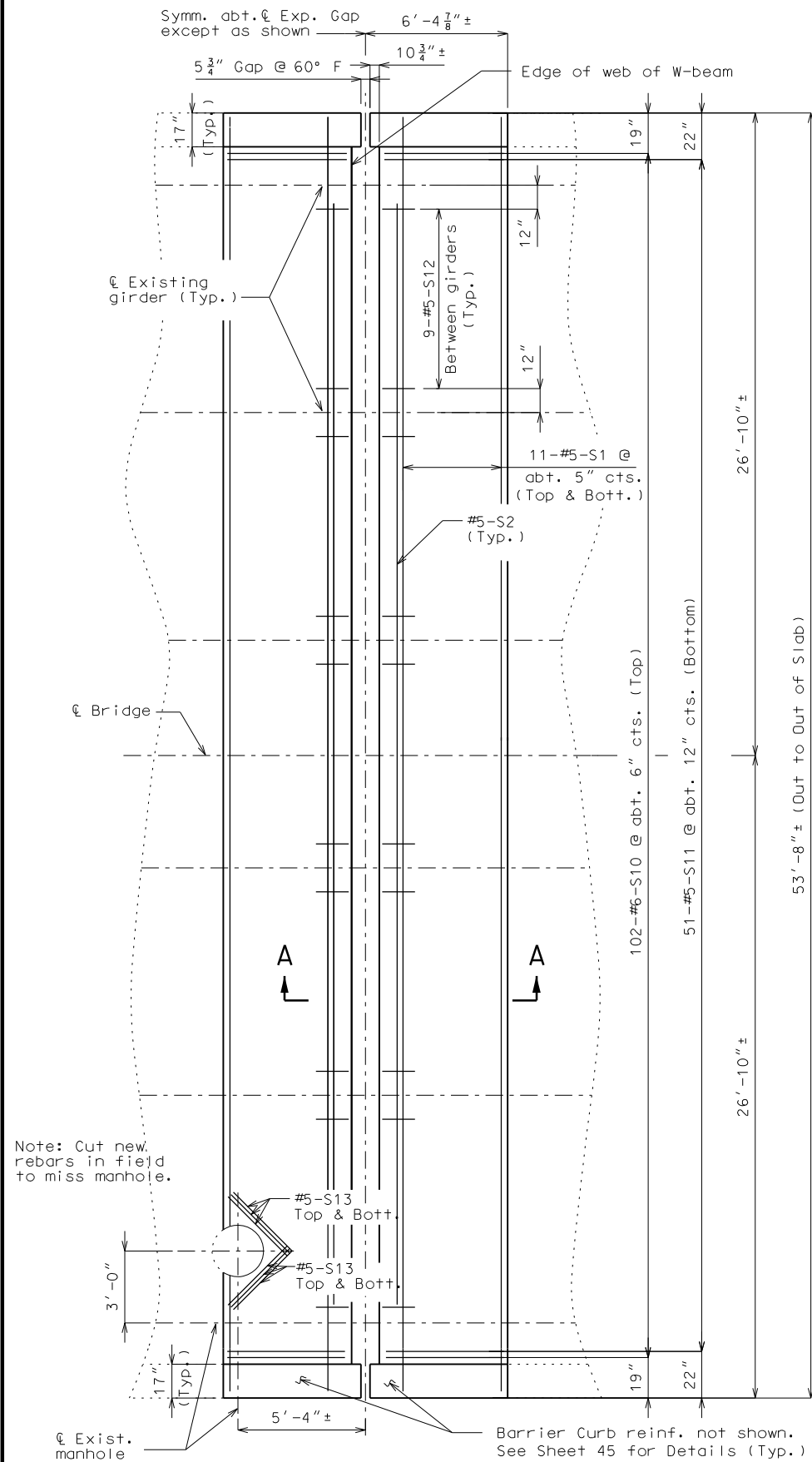
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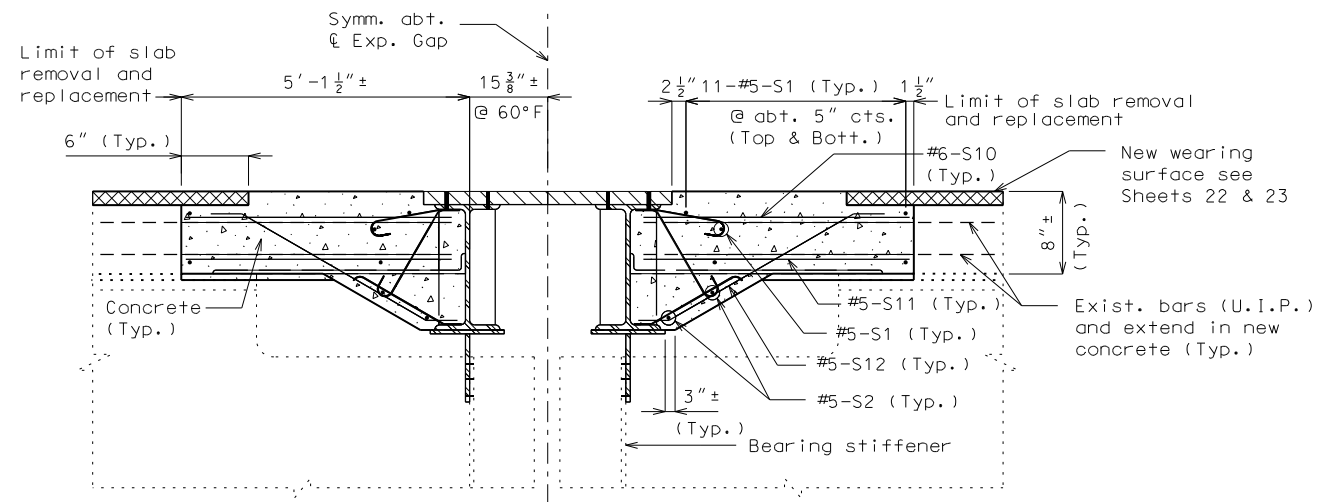
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PLAN OF SLAB AT BENT NO. 9
SHOWING TOP AND BOTTOM REINFORCEMENT
(Expansion Device not Shown for Clarity.)



SECTION A-A
(Drainage Trough not shown for clarity)

Notes:
For details of barrier curb replacement, see Sheet 45.

For details of drainage trough, see Sheet 31.

Concrete shall be Class UHPC.

All new reinforcing steel shall be epoxy coated.

New longitudinal reinforcing steel shall be placed so that ends shall not be more than ±1" from web of support beam at expansion device.

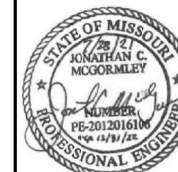
Any damaged areas found on existing U.I.P. epoxy coated longitudinal bars shall be repaired in accordance with Sec 710.

Payment for slab concrete, complete-in-place, for expansion joint replacement will be considered completely covered by the contract unit price for Ultra-High Performance Concrete.

Payment for furnishing and installing slab reinforcement will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).

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

Sheet No. 35 of 49



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ROUTE
255

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35

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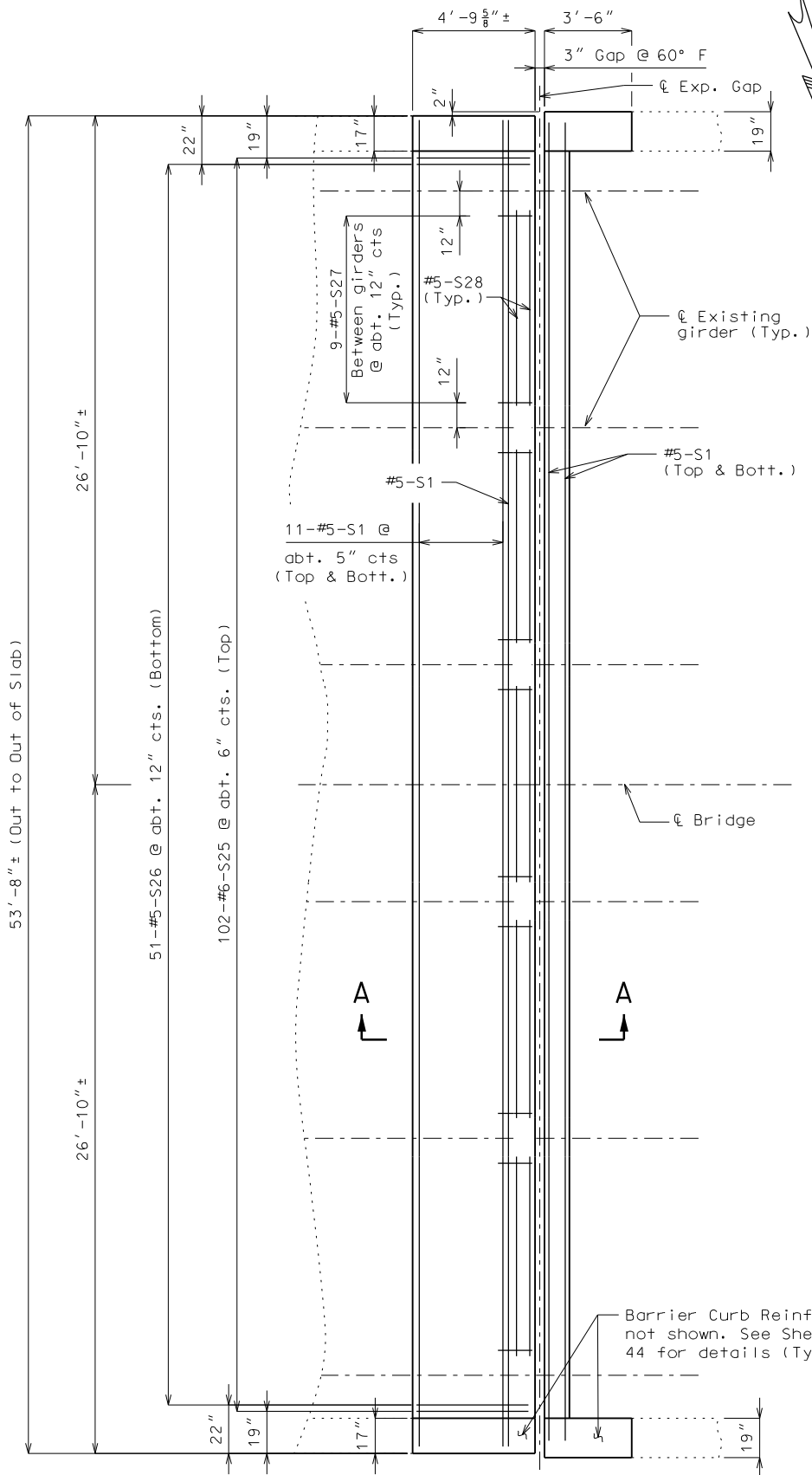
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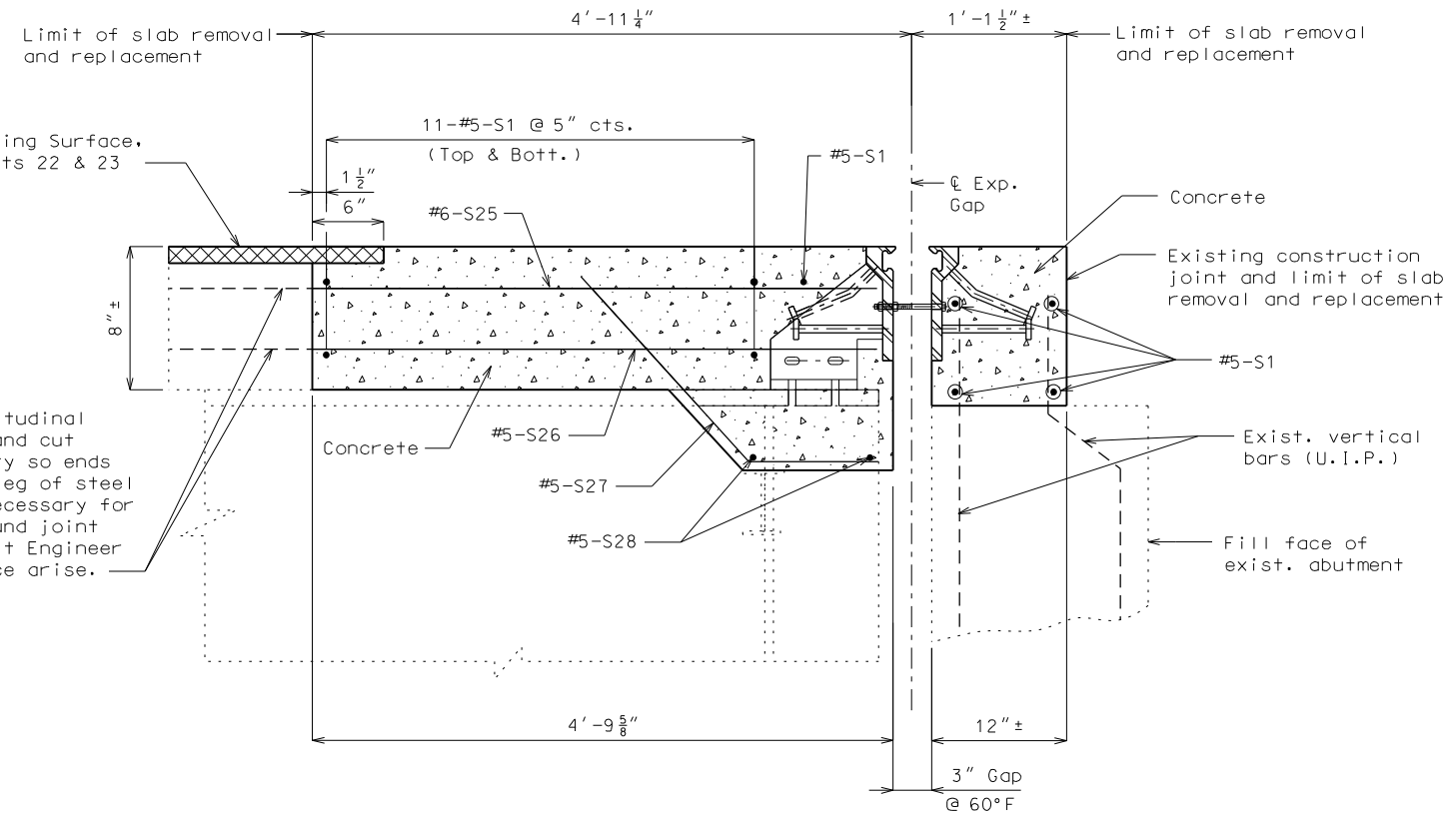
Designed S.G.
Detailed L.S.
Checked J.C.M.

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PLAN OF SLAB AT ABUTMENT 16
SHOWING TOP AND BOTTOM REINFORCEMENT
(Expansion Device not Shown for Clarity)



SECTION A-A

Notes:
For details of barrier curb replacement, see Sheet 44.

Concrete shall be Class UHPC.

All new reinforcing steel shall be epoxy coated.

New longitudinal reinforcing steel shall be placed so that ends shall not be more than ±1" from web of support beam at expansion device.

Any damaged areas found on existing U.I.P. epoxy coated longitudinal bars shall be repaired in accordance with Sec 710.

Payment for slab concrete, complete-in-place, for expansion joint replacement will be considered completely covered by the contract unit price for Ultra-High Performance Concrete.

Payment for furnishing and installing slab reinforcement will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).

APPROACH SPAN DETAILS OF UHPC SLAB AT EXPANSION DEVICE AT ABUTMENT NO. 16

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 36 of 49



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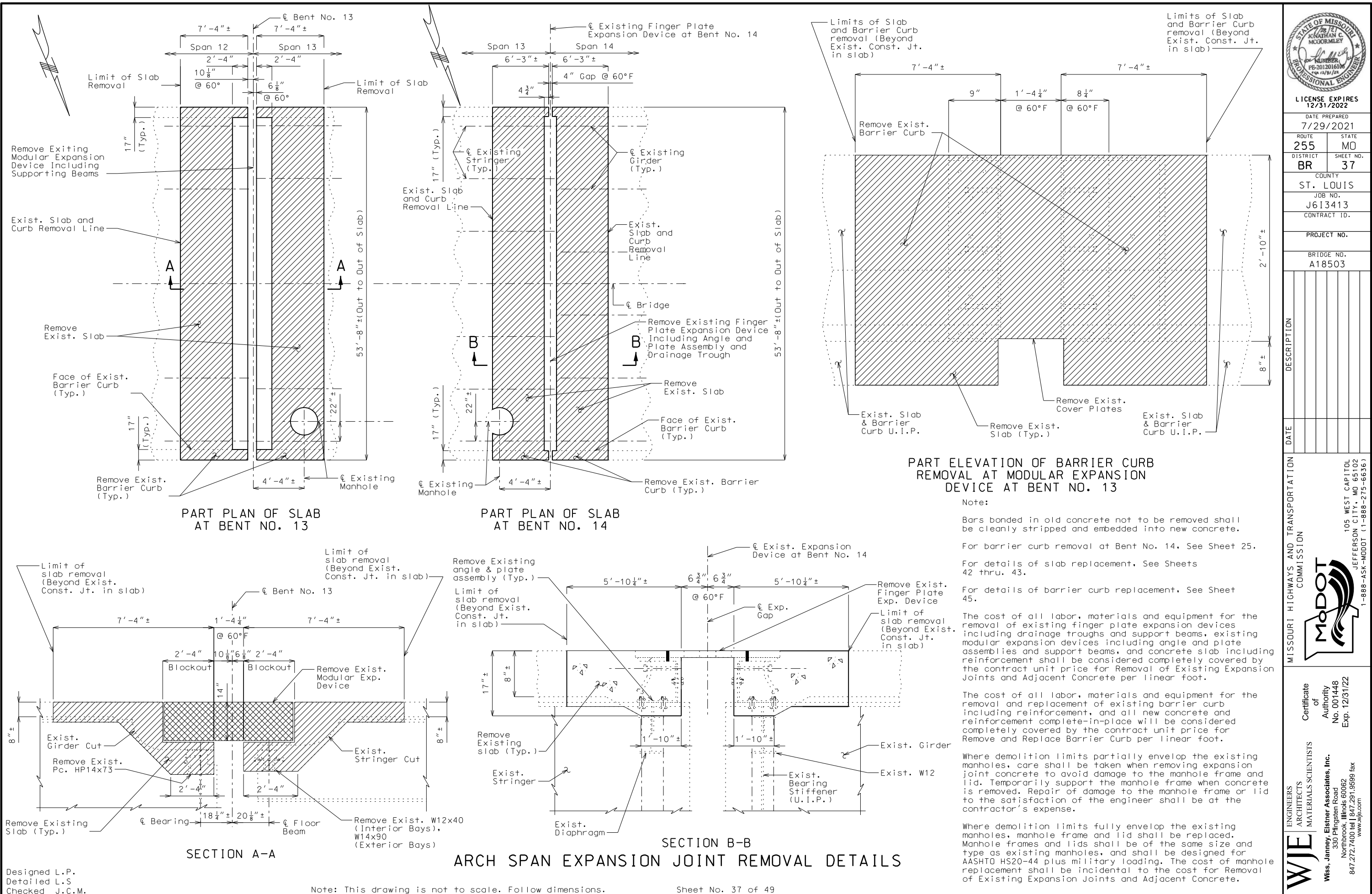
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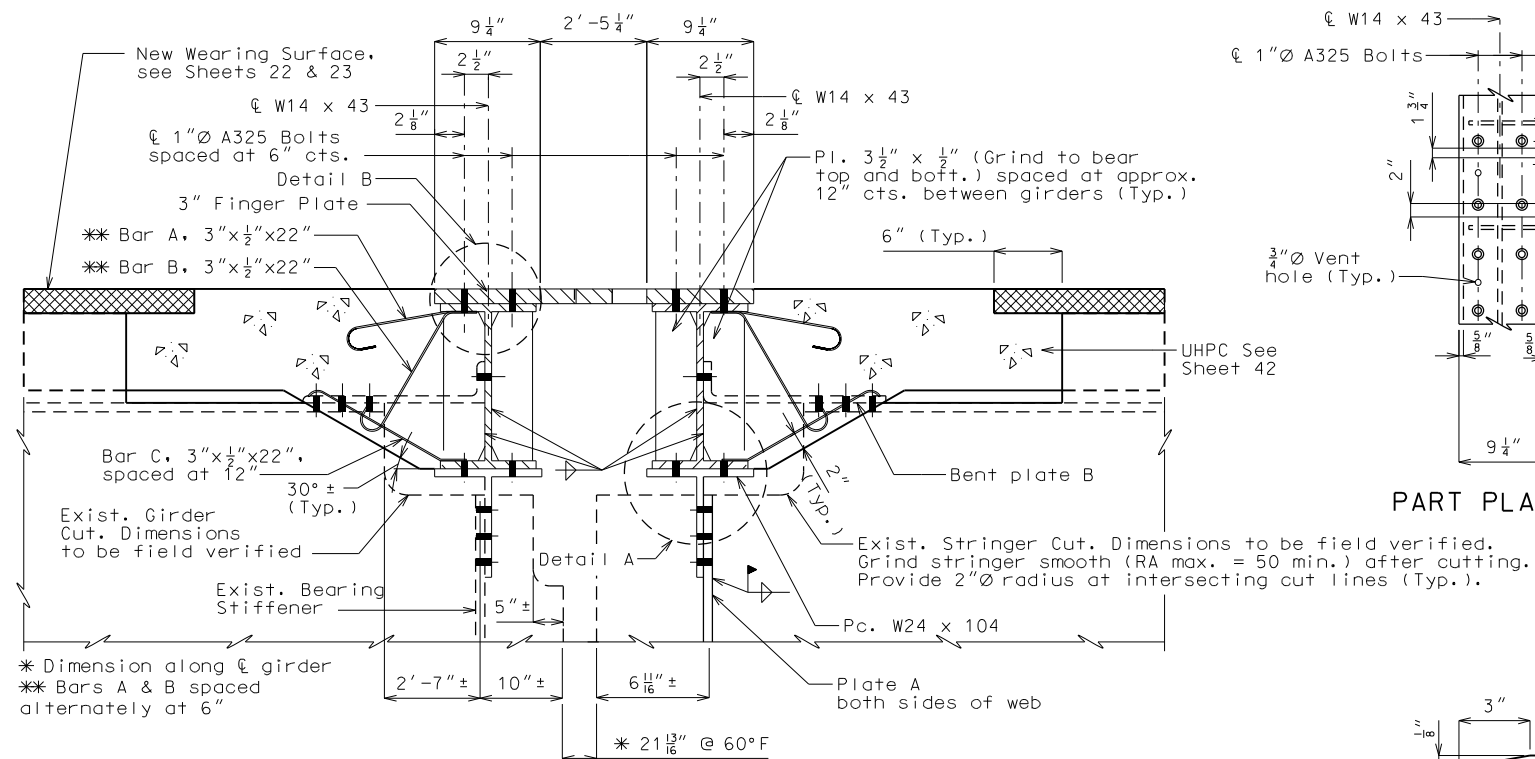
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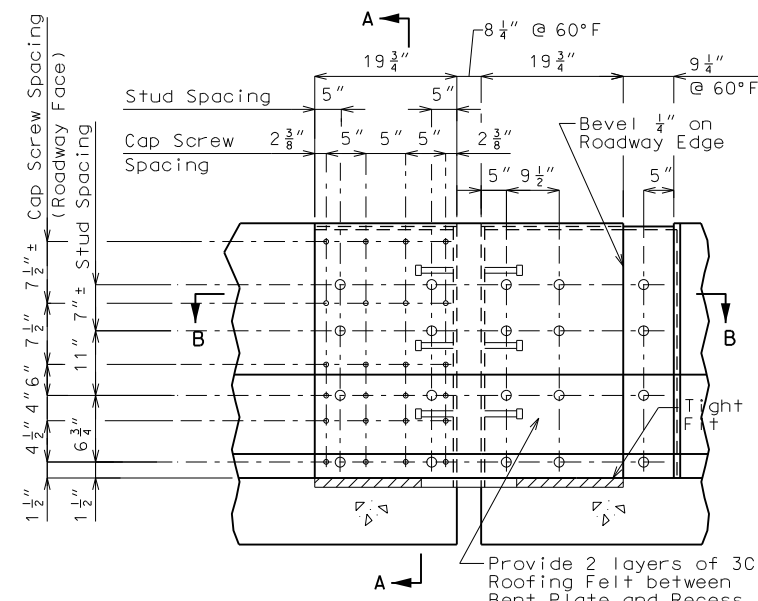
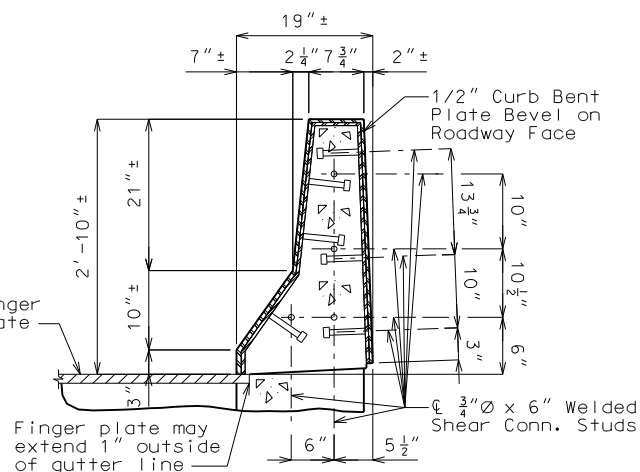
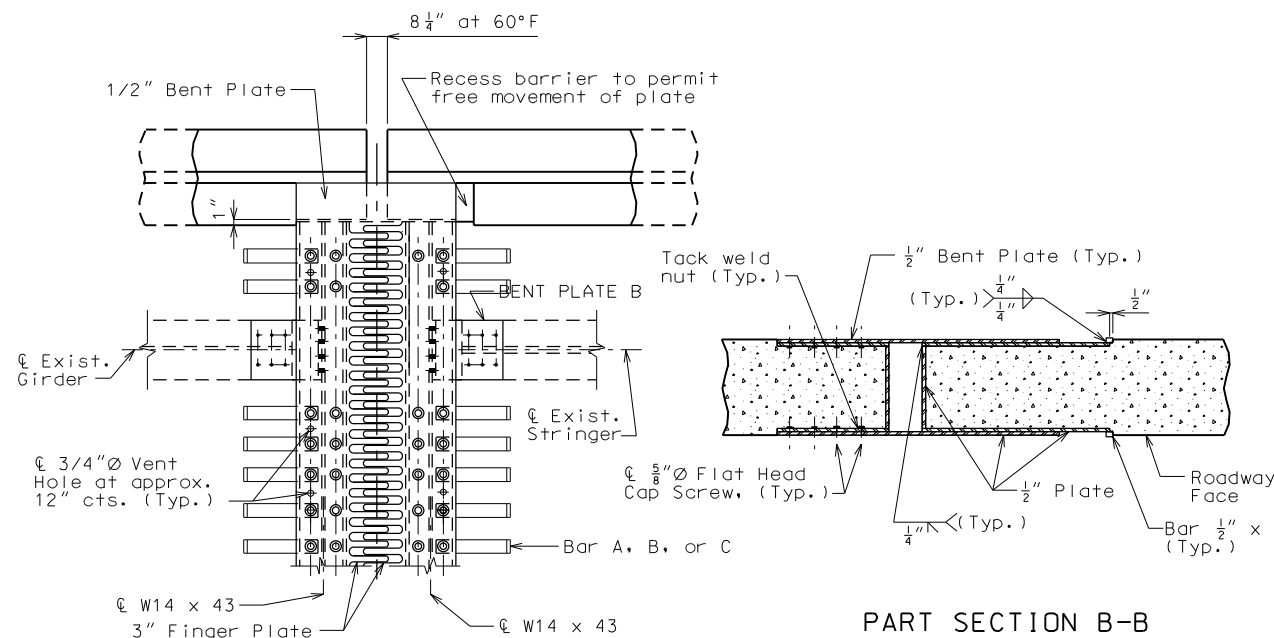
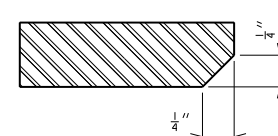
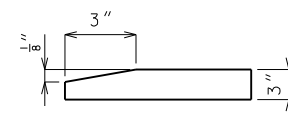
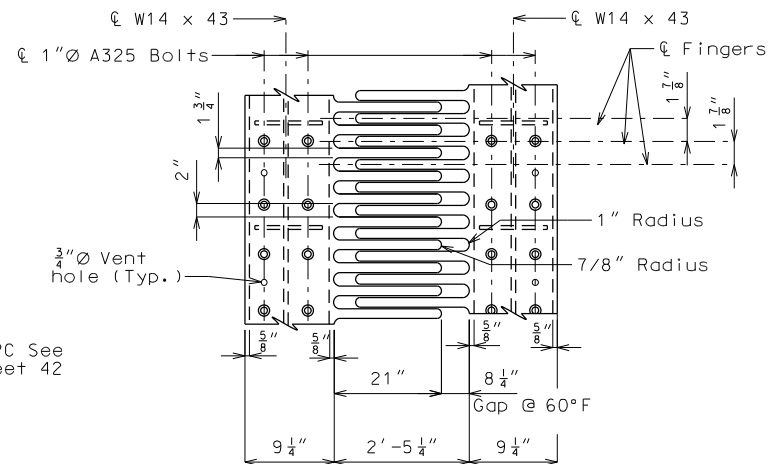
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Note:
Vent hole not shown, see part plan.



GENERAL NOTES:

Finger plate shall be machine cut from one plate. The plate from which fingers are cut may be spliced before fingers are cut. The surface of cut shall be perpendicular to the surface of the plate. The cut shall not exceed 1/8" in width. The centerline of cut shall not deviate more than 1/16" from the position of centerline of cut shown. No splicing of finger plate or finger plate assembly will be allowed after fingers are cut. The expansion device shall be fabricated and installed to the crown and grade of the roadway.

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased $1\frac{3}{16}$ " for each 10° fall or rise in temperature at installation.

Material for the expansion device and anchor bars shall be ASTM A709 Grade 50 structural steel. Anchors for the expansion device shall be in accordance with Sec 1037.

Material for curb cover plates shall be ASTM A709, Grade Steel; fabricated and installed in accordance with Sec 712 of Standard Specifications.

Structural steel for the expansion device and barrier plate shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

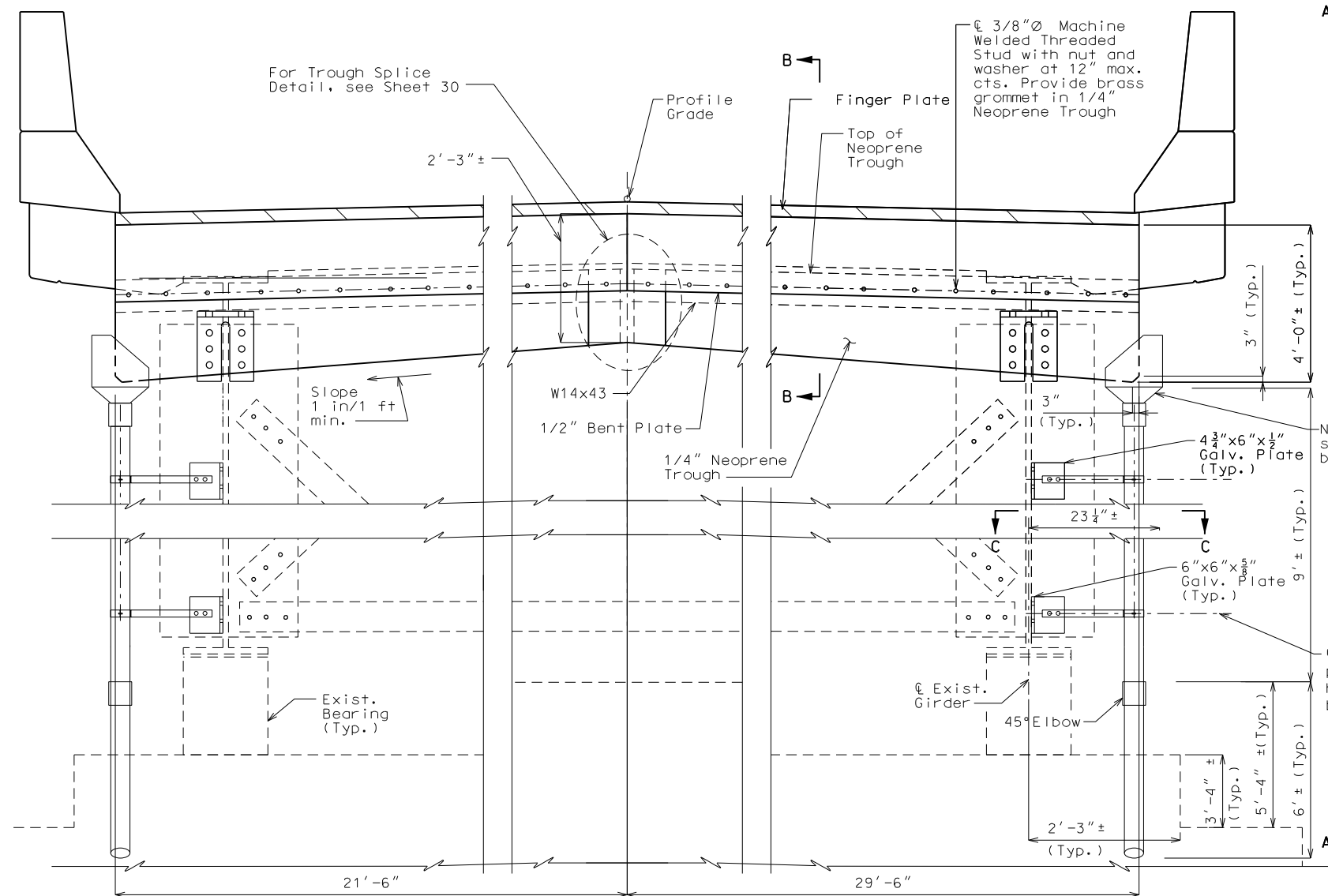
Payment for furnishing, coating or galvanizing and installing the structural steel for the expansion device including curb cover plates will be considered completely covered by the contract unit price for Finger Joint Expansion Joint System per linear foot.

All holes shown for connections shall be subpunched 11/16-inch diameter (shop or field drill) and reamed to 1-1/16-inch diameter in field except that bolt holes for 1"Ø bolts shall be subpunched 15/16-inch diameter (shop or field drill) and reamed to 1-1/16-inch diameter in field.

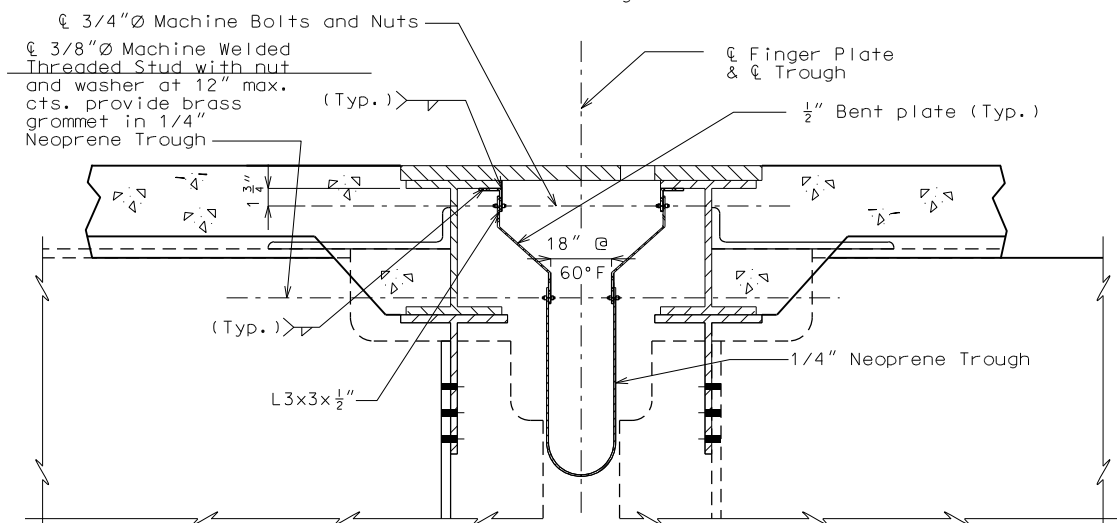
Longitudinal reinforcing steel shall be placed so that ends shall not be more than $\pm 1"$ from the web of W14 x 43 at the expansion device.

Complete joint penetration welds utilized in the fabrication of the expansion device shall be nondestructively tested by an approved method.

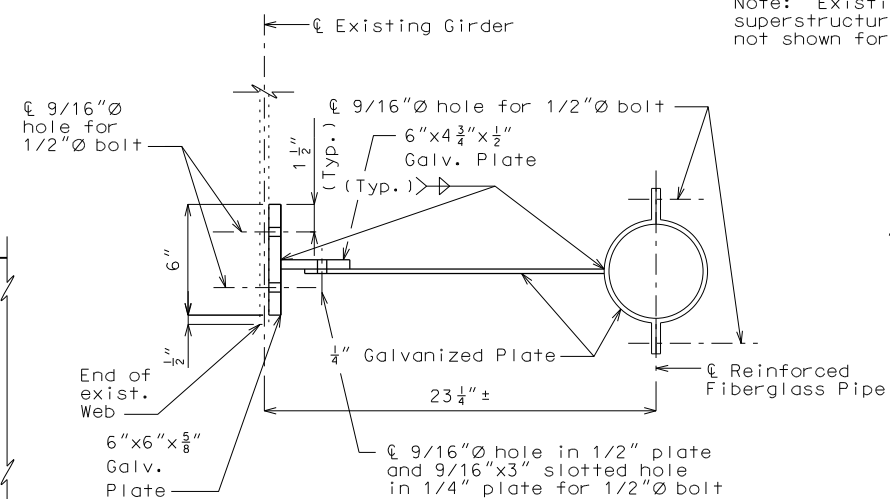
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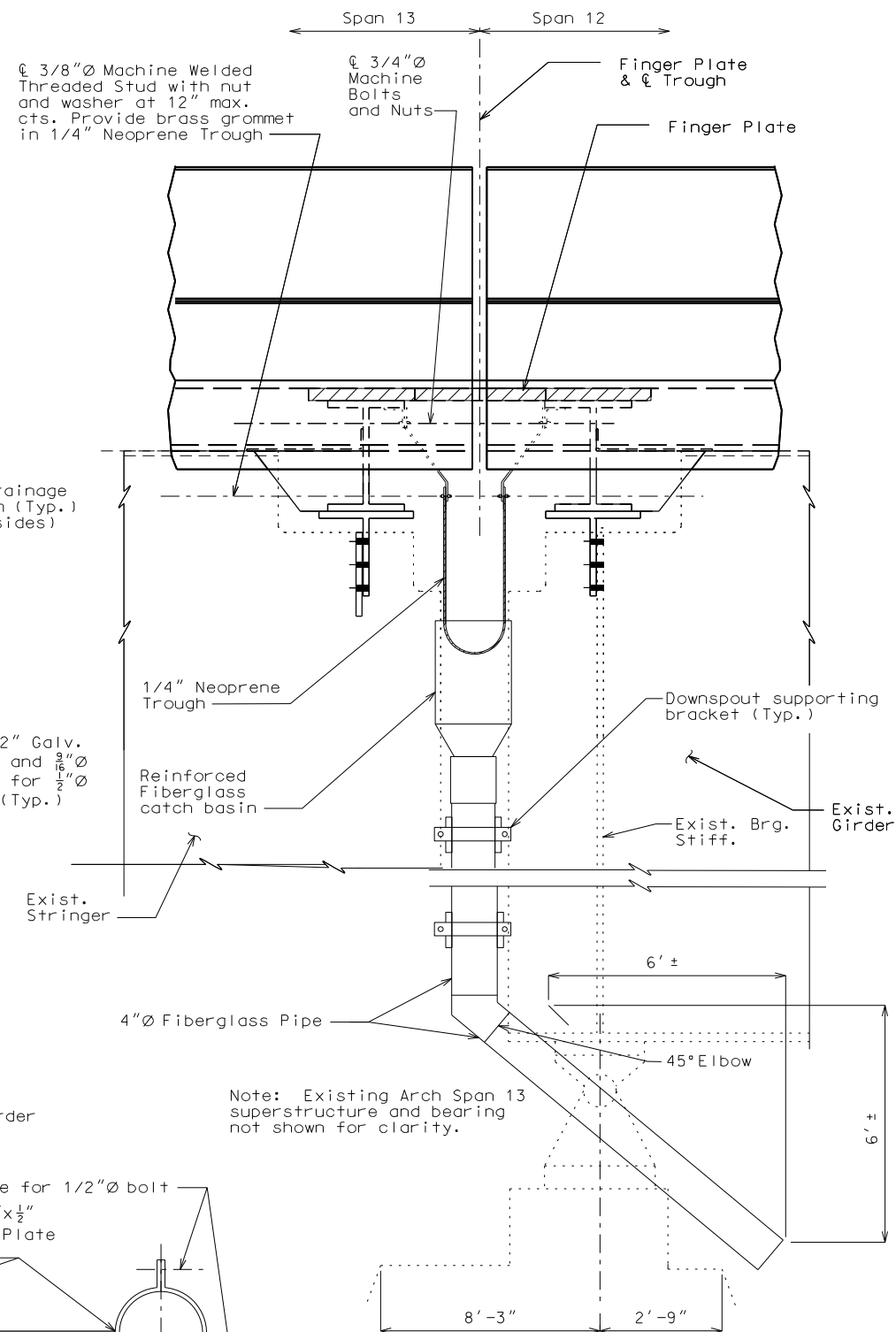
PART SECTION THRU FINGER PLATE AT BENT NO. 13
SHOWING DRAINAGE TROUGH AND DOWNSPOUT
(Looking East)



PART SECTION B-B



PART SECTION C-C SHOWING DOWNSPOUT
SUPPORTING BRACKET



PART ELEVATION A-A

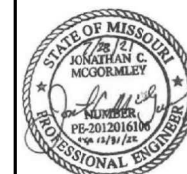
Notes:

Cost of furnishing and installing drainage trough and downspout will be considered completely covered by the contract unit price for Finger Joint Expansion Joint System. See Job Special Provisions-Drainage System.

Designed L.P.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 40 of 49



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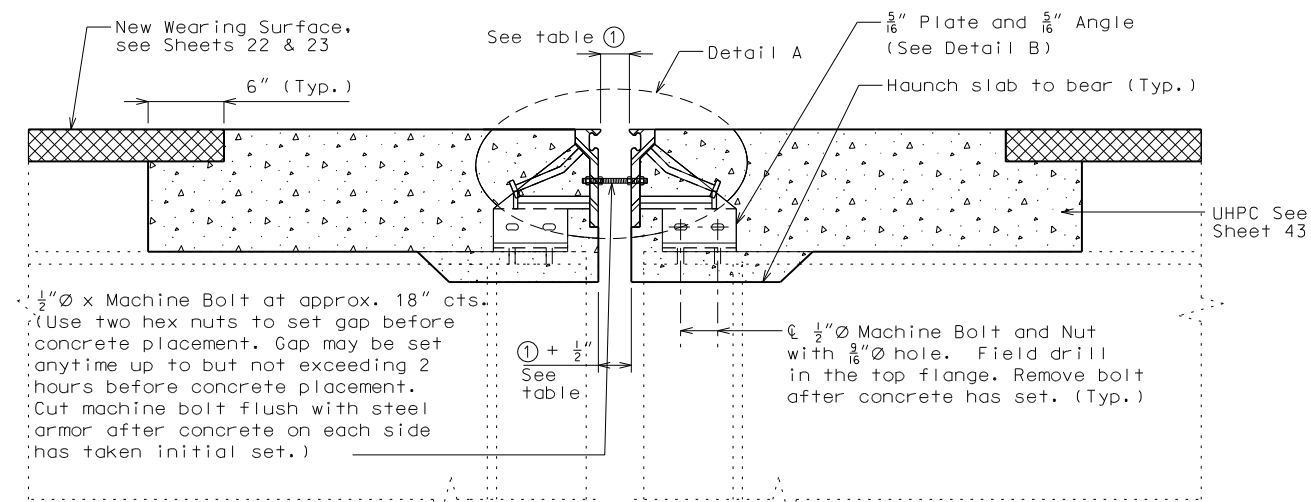
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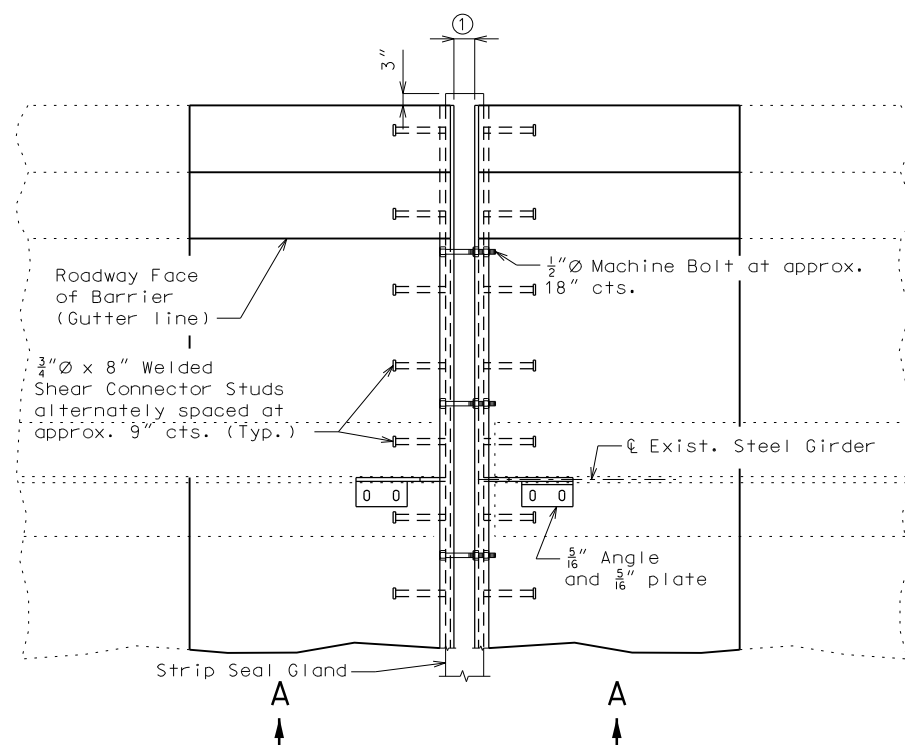
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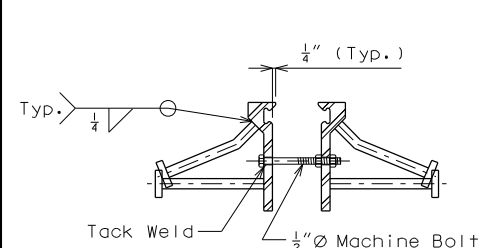


SECTION A-A

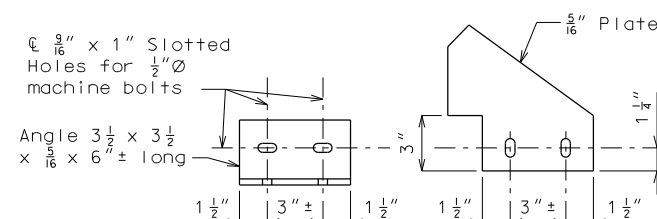
Note: Strip seal gland not shown for clarity.



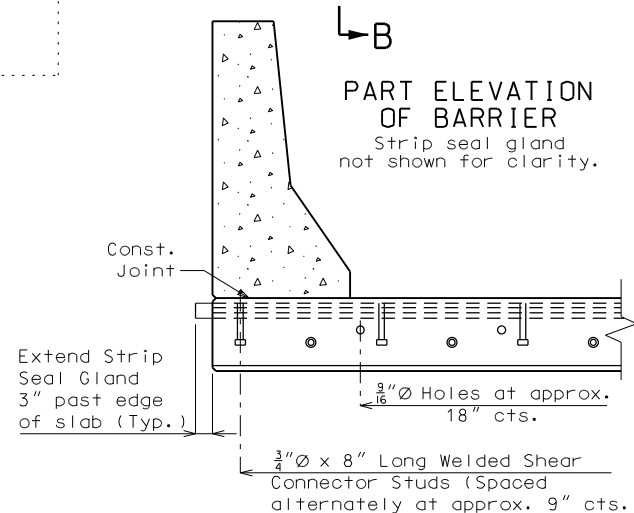
PART PLAN



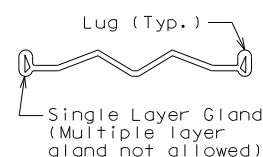
DETAIL A



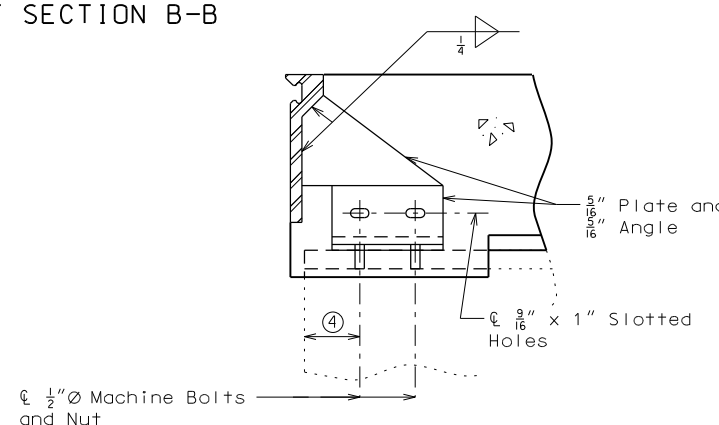
DETAIL B



PART SECTION B-B



DETAIL OF GLAND



DETAIL OF JOINT ARMOR

GENERAL NOTES:

Expansion joint system shall be fabricated in one section. A complete joint penetration groove welded splice shall be required. Welds shall be ground flush to provide a smooth surface. The expansion joint system shall be fabricated and installed to the crown and grade of the roadway.

The strip seal gland shall be installed in joints in one continuous piece without field splices. Factory splicing will be permitted for joints in excess of 53 feet.

Structural steel for the expansion joint system shall be ASTM A709 Grade 36 except the steel armor may be ASTM A709 Grade 50W. Anchors for the expansion joint system shall be in accordance with Sec 1037. Strip seal expansion joint system shall be in accordance with Sec 717.

Structural steel for the expansion joint system shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Longitudinal reinforcing steel shall be placed so that ends shall be 1" from the vertical leg of the steel armor at the expansion joint system.

Steel armor may also be referred to as extrusion or rail.

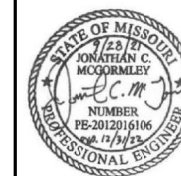
② The installation temperature shall be taken as the actual air temperature averaged over the 24-hour period immediately preceding installation.

③ MoDOT Construction personnel will indicate the strip seal expansion joint system installed.

④ Dimension to clear Exist. Bearing Stiffener, 1 1/2" Min. Contractor to verify in field.

Table of Allowed Transverse Strip Seal Expansion Joint System

Manufacturer	Strip Seal System	Movement Parallel to RDWY	① Allowed Installation Gap Normal to Joint at RDWY Surface @ Installation Temperature ②						③
			@ 40°F	@ 50°F	@ 60°F	@ 70°F	@ 80°F	@ 90°F	
D S Brown	Strip seal L2-400	2 3/8	2 13/16	2 11/16	2 1/2	2 5/16	2 3/16	2	□
D S Brown	Strip seal L2-500	2 3/8	2 13/16	2 11/16	2 1/2	2 5/16	2 3/16	2	□
Watson Bowman Acme (Wabo)	Strip seal SE-400	2 3/8	2 13/16	2 11/16	2 1/2	2 5/16	2 3/16	2	□
Watson Bowman Acme (Wabo)	Strip seal SE-500	2 3/8	2 13/16	2 11/16	2 1/2	2 5/16	2 3/16	2	□



LICENSE EXPIRES 12/31/2022

DATE PREPARED 9/28/2021

ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 41

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A18503

DESCRIPTION

VE STUDY

DATE

9/28/21

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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

MoDOT

Certificate of Authority

No. 001448

Exp. 12/31/22

ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

WJE

Miss. Janney, Elstner Associates, Inc.

330 Pfingsten Road

Northbrook, Illinois 60062

847.272.7400 tel | 847.291.9599 fax

www.wje.com

REV. RevDesc

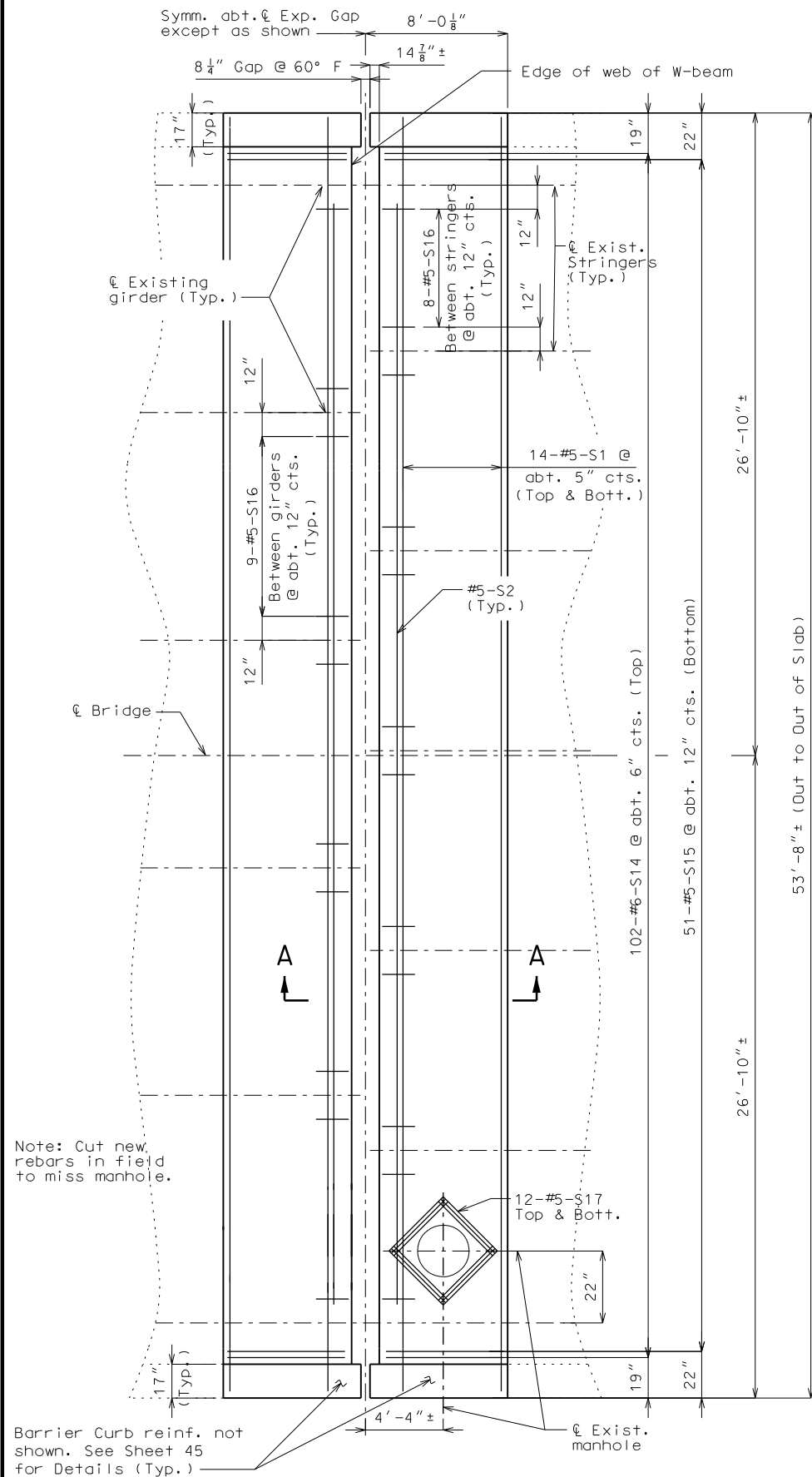
Designed L.P.
Detailed L.S.
Checked J.C.M.

ARCH SPAN STRIP SEAL EXPANSION JOINT SYSTEM AT BENT NO. 14

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

Sheet No. 41 of 49

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PLAN OF SLAB AT BENT NO. 13
SHOWING TOP AND BOTTOM REINFORCEMENT

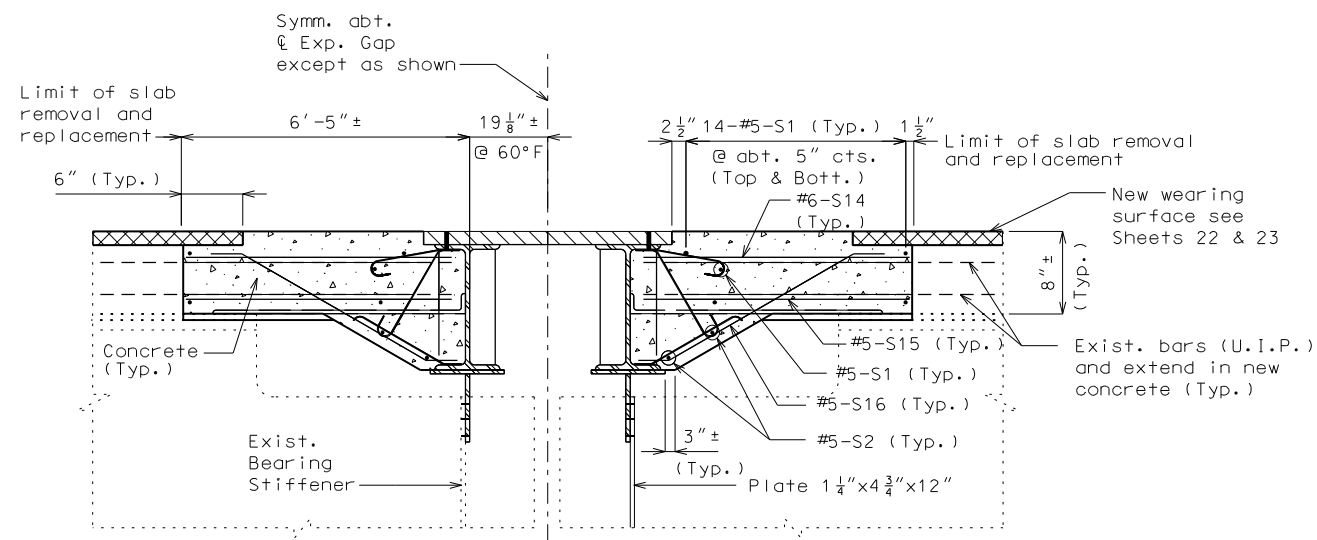
(Expansion Device not Shown for Clarity.)

ARCH SPAN DETAILS OF UHPC SLAB AT EXPANSION DEVICE AT BENT NO. 13

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 42 of 49



SECTION A-A

(Drainage Trough not shown for clarity)

Notes:

For details of barrier curb replacement, see Sheet 45.

For details of drainage trough, see Sheet 40.

Concrete shall be Class UHPC.

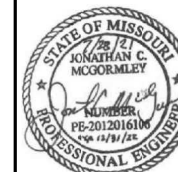
All new reinforcing steel shall be epoxy coated.

New longitudinal reinforcing steel shall be placed so that ends shall not be more than ±1" from web of support beam at expansion device.

Any damaged areas found on existing U.I.P. epoxy coated longitudinal bars shall be repaired in accordance with Sec 710.

Payment for slab concrete, complete-in-place, for expansion joint replacement will be considered completely covered by the contract unit price for Ultra-High Performance Concrete.

Payment for furnishing and installing slab reinforcement will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).



LICENSE EXPIRES
12/31/2022

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7/29/2021

ROUTE STATE
255 MO

DISTRICT SHEET NO.
BR 42

COUNTY
ST. LOUIS

JOB NO.
J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A18503

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



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

Certificate
of
Authority
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Measurement of barrier curb is to the nearest linear foot, measured along the outside top of slab.

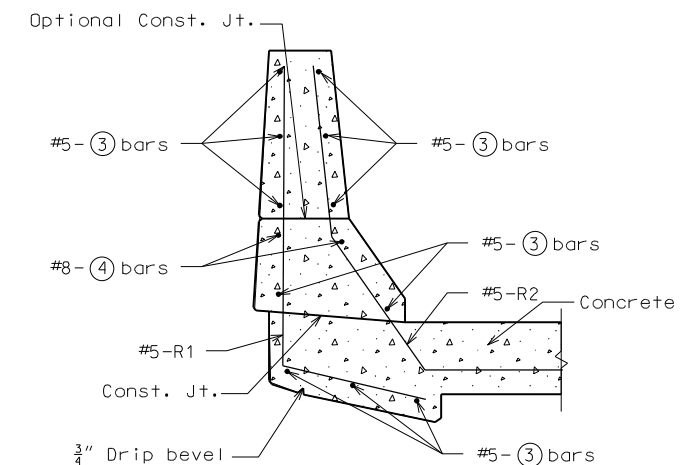
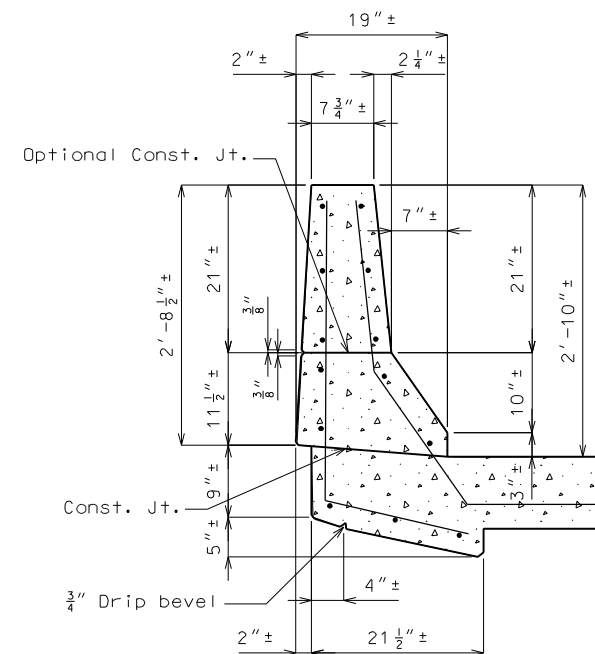
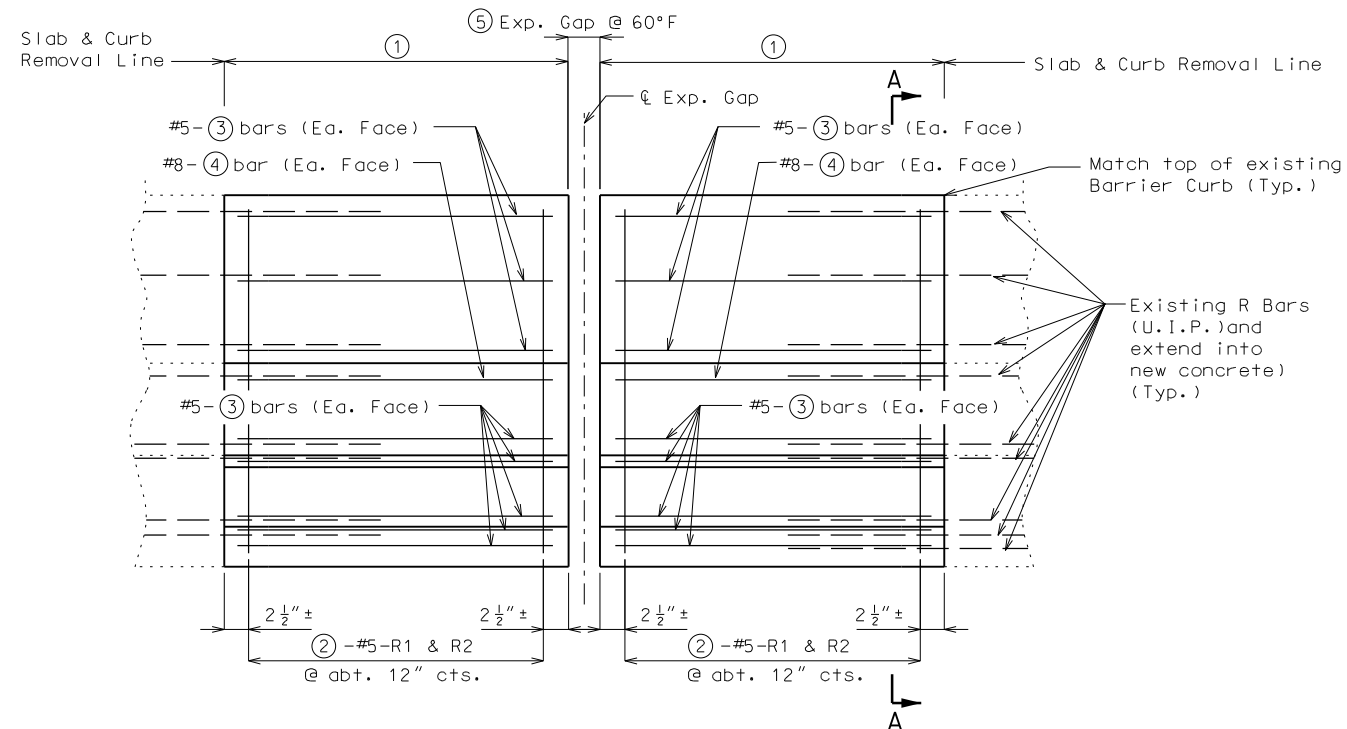


TABLE OF BARRIER CURB DIMENSIONS AND BAR MARKS					
Location	①	②	③	④	⑤
Bent No. 5	6' - 3" ±	7	R9	R10	4"
Bent No. 9	6' - 2" ±	7	R11	R12	5 ³ / ₄ "
Bent No. 13	7' - 8" ±	9	R13	R14	8 ¹ / ₄ "
Bent No. 14	6' - 3 ¹ / ₂ " ±	7	R15	R16	3"

Notes:

Match replacement curbs with existing curb dimensions and rustication if any.

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

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

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

Concrete in the barrier curb shall be Class B-1.

Measurement of barrier curb is to the nearest linear foot,
measured along the outside top of slab.



LICENSE EXPIRES
12/31/2022

DATE PREPARED
7/29/2021

ROUTE 255	STATE MO
--------------	-------------

DISTRICT	SHEET NO.
DD	15

BR	45
COUNTY	

ST. LOUIS
JOB NO.

J6 I3413

CONTRACT ID.

PROJECT NO.

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

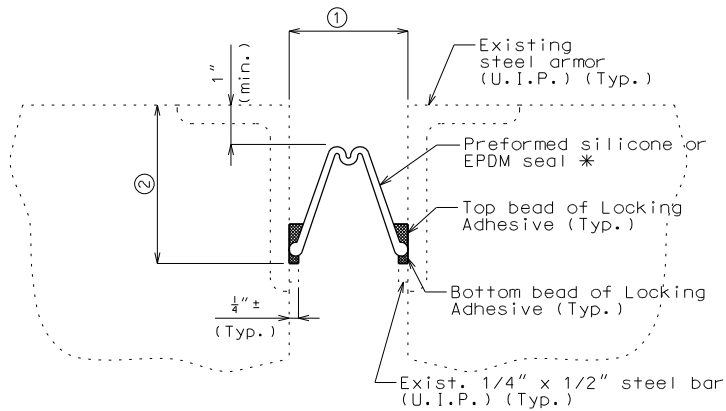
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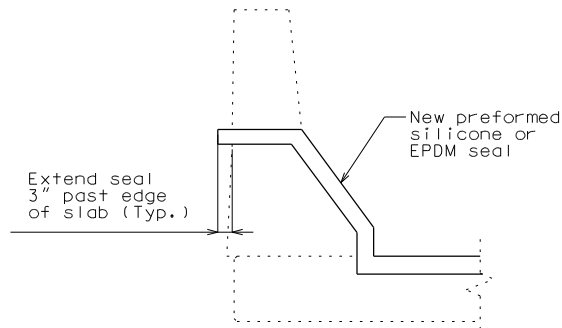
WJE
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330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9599 fax
www.wjje.com

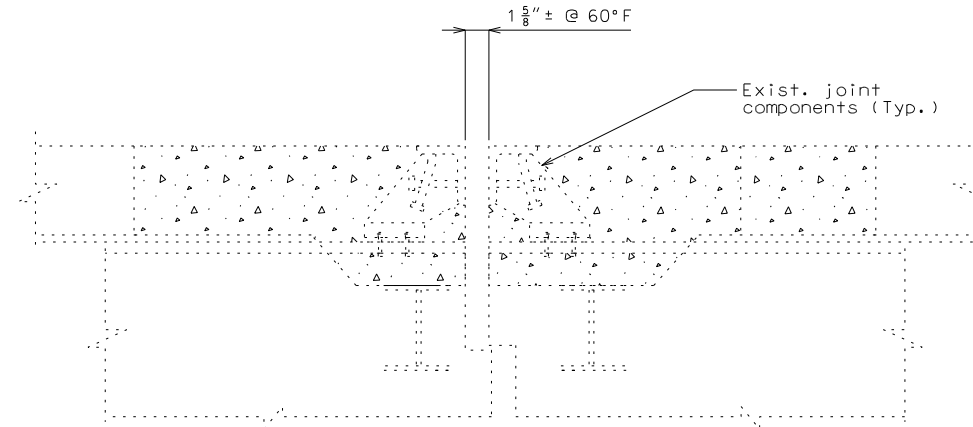
REV. RevDesc



SECTION THRU JOINT AT
LINK CONNECTIONS

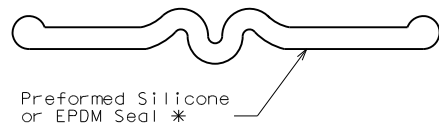


SECTION THRU EDGE OF
SLAB NEAR JOINT



SECTION THROUGH EXISTING LINK JOINT CONNECTION

Existing concrete and joint armor to remain.



DETAIL OF SEAL

* Double hump seal shown in figure. Actual shape of seal may be double or single hump as per manufacturer.

General Notes:

The seal shall be installed in joints in one continuous piece without field splices. Factory splicing will be permitted for joints in excess of 53 feet.

The installation temperature shall be taken as the actual air temperature averaged over the 24-hour period immediately preceding installation.

① Allowed installation gap (\pm) normal to joint at roadway surface (see table)

② Installation depth (\pm) per manufacturer's recommendation

Link joint movement due to thermal changes are not anticipated. Consult Engineer if joint openings vary significantly from $1\frac{5}{8}$ ".

Allowed Transverse Preformed Silicone or EPDM Joint Seals				
Manufacturer	Seal Name	Movement Parallel to Roadway	① Allowed Installation Gap Normal to Joint at Roadway Surface at Installation Temperature	Type Used (✓)
			@ 60°F	
R J Watson (Silicoflex Joint Seal)	Silicoflex SF150	0	$1\frac{5}{8}$ "	<input type="checkbox"/>
R J Watson (Silicoflex Joint Seal)	Silicoflex SF225	0	$1\frac{5}{8}$ "	<input type="checkbox"/>
Watson Bowman Acme Wabo (Preformed Silicone Joint Seal)	Wabo SPS-225	0	$1\frac{5}{8}$ "	<input type="checkbox"/>

MoDOT Construction personnel will indicate the type of seal used.

LINK JOINT SEAL REPLACEMENT

Designed L.P.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 46 of 49



LICENSE EXPIRES
12/31/2022

DATE PREPARED
7/29/2021

ROUTE 255
DISTRICT BR

STATE MO
SHEET NO. 46

COUNTY
ST. LOUIS

JOB NO.
J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A18503

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

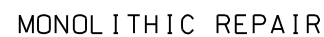
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JEFFERSON CITY, MO 65102
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No. 001448
Exp. 12/31/22



- (1) Bridge deck scarification or removal of existing asphalt wearing surface.
 - (a) $\frac{1}{4}$ " scarification at West Approach. See Job Special Provision Milling prior to Wearing Surface Installation.
 - (b) Removal of existing $\frac{3}{4}$ " \pm asphalt wearing surface plus $\frac{1}{2}$ " of existing concrete approach slab at East Approach.
- (2) $\frac{1}{2}$ " minimum total surface hydro demolition of sound concrete, measured to mortar line.
- (3) $\frac{1}{4}$ " minimum latex modified concrete wearing surface.
- (4) Reinforcing steel is epoxy-coated. All areas of the epoxy coating that are damaged, either due to existing conditions or the concrete removal process, and any other areas where the coating is absent or removed shall be patched; see Standard Specifications Sec 710. The patch material will be in accordance with Sec 1036 and applied per the manufacturer's recommendations, and in accordance with Job Special Provisions.
- (5) Original depth of approach slab, minus any previous scarification.

APPROACH SLAB REPAIRS (5)
LATEX MODIFIED CONCRETE WEARING SURFACE ALTERNATE

Sheet No. 47 of 49



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

APPROACH SLAB REPAIRS
POLYESTER POLYMER CONCRETE WEARING SURFACE ALTERNATE

(6) PPC may be substituted for Class B-2 concrete at locations of half-sole repairs. See Job Special Provisions.

BILL OF REINFORCING STEEL																									
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT	
										B		C		D		E		F		H					K
										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.
			SUPERSTR.																						
			SLAB AT																						
			ABUT. NO. 1																						
21		5 S1	SLAB	E 20						53	5.000							53	5	53	5	1170			
1		5 S2	SLAB	E 20						47	11.000							47	11	47	11	50			
45		5 S3	SLAB	E 33	S					0	5.000	0	22.000	0	7.000		0	11.00	0	19.00	2	10	2	10	133
102		6 S4	SLAB	E 20						3	6.000							3	6	3	6	536			
51		5 S5	SLAB	E 20						3	6.000							3	6	3	6	186			
			SLAB AT																						
			BENT NO. 5																						
50		5 S1	SLAB	E 20						53	5.000							53	5	53	5	2786			
2		5 S2	SLAB	E 20						47	11.000							47	11	47	11	100			
204		6 S6	SLAB	E 20	S					5	4.000							5	4	5	4	1634			
102		5 S7	SLAB	E 20						5	4.000							5	4	5	4	567			
90		5 S8	SLAB	E 33	S					0	5.000	0	22.000	0	7.000		0	11.000	0	19.000	2	10	2	10	266
12		5 S9	SLAB	E 20						4	0.000							4	0	4	0	50			
			SLAB AT																						
			BENT NO. 9																						
46		5 S1	SLAB	E 20						53	5.000							53	5	53	5	2563			
4		5 S2	SLAB	E 20						47	11.000							47	11	47	11	200			
204		6 S10	SLAB	E 15	S					4	10.500							4	11	4	11	1507			
102		5 S11	SLAB	E 20						4	10.500							4	11	4	11	523			
90		5 S12	SLAB	E 33	S					0	5.000	0	26.000	0	7.000		0	13.000	0	22.500	3	2	3	2	297
12		5 S13	SLAB	E 20						4	0.000							4	0	4	0	50			
			SLAB AT																						
			BENT NO. 13																						
58		5 S1	SLAB	E 20						53	5.000							53	5	53	5	3231			
4		5 S2	SLAB	E 20						47	11.000							47	11	47	11	200			
204		6 S14	SLAB	E 20						6	2.000							6	2	6	2	1890			
102		5 S15	SLAB	E 20						6	2.000							6	2	6	2	656			
93		5 S16	SLAB	E 33	S					0	5.000	0	26.000	0	7.000		0	13.000	0	22.500	3	2	3	2	307
24		5 S17	SLAB	E 20						4	0.000							4	0	4	0	100			
			SLAB AT																						
			BENT NO. 14																						
52		5 S1	SLAB	E 20						53	5.000							53	5	53	5	2597			
204		6 S18	SLAB	E 20						6	0.500							6	1	6	1	1864			
102		5 S19	SLAB	E 20						6	0.500							6	1	6	1	647			
48		5 S20	SLAB	E 15	S					0	14.875	0	16.000				0	10.500	0	10.500	2	7	2	7	129
12		5 S21	SLAB	E 20						7	8.000							7	8	7	8	96			
45		5 S22	SLAB	E 15	S					0	14.875	0	16.000				0	10.500	0	10.500	2	7	2	7	121
10		5 S23	SLAB	E 20						9	3.000							9	3	9	3	96			
12		5 S24	SLAB	E 20						4	0.000							4	0	4	0	50			
			SLAB AT																						
			ABUT. NO. 1																						
27		5 S1	SLAB	E 20						53	5.000							53	5	53	5	1504			
102		6 S25	SLAB	E 20						4	7.500							4	8	4	8	715			
51		5 S26	SLAB	E 20						4	7.500							4	8	4	8	248			
45		5 S27	SLAB	E 15	S					0	14.875	0	15.000				0	10.500	0	10.500	2	6	2	6	117
10		5 S28	SLAB	E 20						9	3.000							9	3	9	3	96			

6d FOR #4 AND #5,
12d FOR #6.

90° STIRRUP

135° STIRRUP

STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

NOTE: UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.

90°

180°

4d OR 2 1/2" MIN.

END HOOK DIMENSIONS				
ALL GRADES				
BAR SIZE	D (IN.)	180° HOOKS A OR G	J	90° HOOKS A OR G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9 1/2"	15"	11 3/4"	19"
#10	10 3/4"	17"	13 1/4"	22"
#11	12"	19"	14 3/4"	2'-0"
#14	18 1/4"	2'-3"	21 3/4"	2'-7"

Designed P.J.M.
Detailed L.S.
Checked J.C.M.

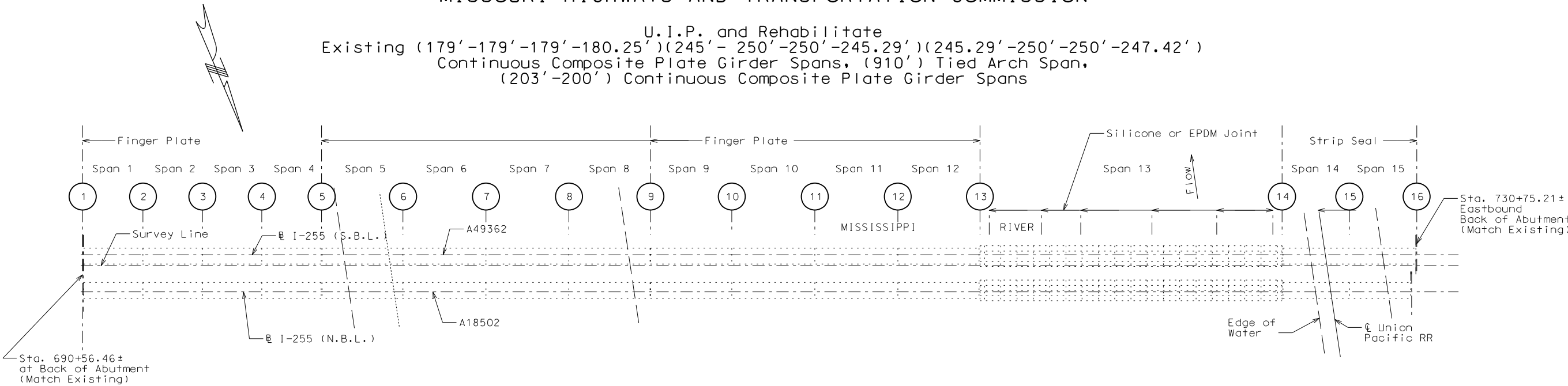
BILL OF REINFORCING STEEL																					
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT	
										B	C	D	E	F	H	K					
										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	LBS.	
			BARRIER																		
			CURB																		
144		5 R1	BARRIER	E	15	S				0	18.000	3	2.000					0	17.500	0	688
144		5 R2	BARRIER	E	15	S				0	22.125	0	20.000	0	9.000	0	8.000	0	4.000	0	626
16		6 R3	BARRIER	E	51	S				0	15.000	0	18.000	0	12.000	0	8.000	0	4.000	0	148
48		5 R4	BARRIER	E	20					3	3.000							3	3	163	
22		5 R5	BARRIER	E	20					4	8.000							4	8	107	
4		8 R6	BARRIER	E	20					4	8.000							4	8	50	
22		5 R7	BARRIER	E	20					4	6.625							4	7	105	
4		8 R8	BARRIER	E	20					4	6.625							4	7	49	
44		5 R9	BARRIER	E	20					6	0.000							6	0	275	
8		8 R10	BARRIER	E	20					6	0.000							6	0	128	
44		5 R11	BARRIER	E	20					5	11.000							5	11	272	
8		8 R12	BARRIER	E	20					5	11.000							5	11	126	
44		5 R13	BARRIER	E	20					7	5.000							7	5	340	
8		8 R14	BARRIER	E	20					7	5.000							7	5	158	
44		5 R15	BARRIER	E	20					6	0.500							6	1	279	
8		8 R16	BARRIER	E	20					6	0.500							6	1	130	
			TOTALS																		
5				E																22407	
6				E																8294	
8				E																642	
			TOTAL																	31342	
			REINFORCING																		
			STEEL																		
			(EPOXY)																		
5				E																19551	
6				E																8145	
			TOTAL																	27696	
			BARRIER																		
			CURB																		
5				E																2856	
6				E																148	
8				E																642	
			TOTAL																	3645	

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SEC/SUR 6 TWP 43N RGE 7E

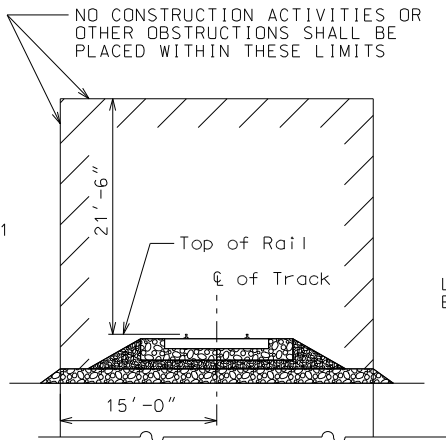
U.I.P. and Rehabilitate
Existing (179'-179'-179'-180.25')(245'-250'-250'-245.29')(245.29'-250'-250'-247.42')
Continuous Composite Plate Girder Spans, (910') Tied Arch Span,
(203'-200') Continuous Composite Plate Girder Spans



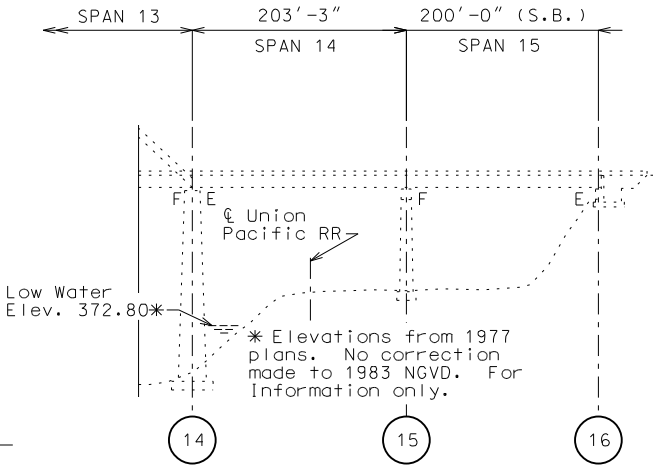
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44. Details of Barrier Curb Replacement at Abutments Nos. 1 & 16
45. Details of Barrier Curb Replacement at Bent Nos. 5, 9, 13, & 14
46. Link Joint Seal Replacement
47. Sheet Not in Use
48. Approach Pavement Repairs
49. Bill of Reinforcing Steel

LOCATION SKETCH SHOWING PIER NUMBERING AND APPROXIMATE LOCATION OF EXPANSION JOINTS



MINIMUM CONSTRUCTION
CLEARANCE ENVELOPE
(Normal to Railroad)



PARTIAL ELEVATION
AT SPAN 14
(Looking South)

RAILROAD MAINTENANCE NOTES

1. All permanent clearances shall be verified before project closing.
2. The contractor must submit a proposed method of erosion and sediment control and have the method approved by the Railroad.
3. Regardless of underlying land ownership, all shoring systems within Railroad right-of-way or that may impact the Railroad's operations and/or supports the Railroad's embankment shall be designed and constructed per current Railroad Guidelines for Temporary Shoring.
4. The contractor submit and provide sufficient safety measures to protect unattended excavations to the Railroad for approval.
5. All demolitions/removals within the Railroad's right-of-way and/or that may impact the Railroad's track or operations shall be in compliance with the current Railroad's Demolition Guidelines.
6. Railroad requirements do not allow work within 50 feet of track centerline when a train passes the work site and all personnel must clear the area within 25 feet of the track centerline and secure all equipment.
7. Call Before You Dig. Prior to excavation, disrupting, or working on the Railroad property the contractor shall locate and protect UPRR facilities by calling the UPRR "Call Before You Dig" (CBYD) phone number: 1-800-336-9193.
8. Construction activities, including falsework/formwork, are not allowed within the "Minimum Construction Clearance Envelope" as they would otherwise disrupt Railroad operations.

REPAIRS TO BRIDGE: I-255 S.B. (E.B.) OVER
MISSISSIPPI RIVER & UNION PACIFIC RAILROAD

ROUTE I-255 FROM I-55 EAST TO MISSISSIPPI RIVER

ABOUT 4.0 MILES EAST OF I-55

BEG. STA. 690+56.46± (MATCH EXISTING)

LOCATION PLAN AND SHEET LIST

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 1 of 49



LICENSE EXPIRES
12/31/2022

DATE PREPARED
7/29/2021

ROUTE
255

STATE
MO

DISTRICT
BR

SHEET NO.
1

COUNTY
ST. LOUIS

JOB NO.
J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A49364

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

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Estimated Quantities				
Item		Substr.	Superstr.	Total
Scarification of Bridge Decks	square yard		22,856	22,856
Removal of Asphalt Wearing Surface	square foot		1,226	1,226
Removal of Existing Expansion Joint & Adjacent Concrete	linear foot		306	306
Removal of Existing Expansion Joint Seal or Sealant	linear foot		306	306
Remove and Replace Barrier Curb	linear foot		118	118
* Ultra-High Performance Concrete	cubic yard		81	81
Substructure Repair (Formed)	square foot	454		454
Substructure Repair (Unformed)	square foot	454		454
Barrier Curb Repair	linear foot		22	22
Reinforcing Steel (Epoxy Coated)	lb.		22,630	22,630
Protective Coating - Concrete Bents & Piers (Urethane)	square foot		10,930	10,930
Finger Joint Expansion Joint System (Abut. 1 and Bent 5)	linear foot		102	102
Finger Joint Expansion Joint System (Bents 9 and 13)	linear foot		102	102
Surface Preparation for Recoating Structural Steel	square foot		284,000	284,000
Field Application of Inorganic Zinc Primer	square foot		284,000	284,000
Intermediate Field Coat (System H)	square foot		220,000	220,000
Finish Field Coat (System H)	square foot		220,000	220,000
Finish Field Coat (System I)	square foot		64,000	64,000
Metalizing Hanger Cables	linear foot		3,400	3,400
Bridge Washing	lump sum		1	1
Steel Retrofits - Ladder Landing Plates	each		32	32
Steel Retrofits - Walkway Truss Broken Welds	each		216	216
Steel Retrofits - Walkway Railing Splice Plate	each		1	1
Steel Retrofits - Drainage Truss Member Connection	each		4	4
Steel Retrofits - Reconnect Drain Downspout Bracket	each		36	36
Steel Retrofits - Pin and Link Plate Washer Replacement	each		11	11
Steel Retrofits - Approach Span Drain Pipe Extension	each		1	1
Steel Retrofits - Stringer Bearing Bolt Replacement	each		1	1
Weld Inspection	linear foot		4,568	4,568
Crack Removal - Grinding	linear foot		56	56
Weld Repair	linear foot		20	20
Access Door Gasket Replacement	each		4	4
Cable Tension Measurement Inspection	each		2	2
Cable Shoring System Installation, Cable Tension Adjustment	each		2	2
Strip Seal Expansion Joint System	linear foot		102	102
Preformed Silicone or EPDM Expansion Joint Seal	linear foot		306	306
Clearance Gauge	lump sum	1		1
Furnish Polyester Polymer Concrete Material	cubic yard		631	631
Place Polyester Polymer Concrete Wearing Surface	square yard		22,705	22,705
Half-Sole Repair	square foot		1,000	1,000
Full Depth Repair	square foot		100	100

* UHPC is required where specified. Value Engineering proposals will not be considered for substitutions.

General Notes:

Design Specifications:
2020 - AASHTO LRFD Bridge Design Specifications (9th Edition) for new construction.
Seismic Design Category = A.
Bridge Deck Rating - 6

Design Loading:
HS20-44 (1977) with 24,000# Military Tandem Axle

Design Unit Stresses:
Class B-1 Concrete (Barrier Curb Replacement) f'c = 4,000 psi
Class B-2 Concrete (Half Sole and Full Depth Repair) f'c = 4,000 psi
Ultra-High Performance Concrete UHPC (Slab Replacement) f'c = 17,400 psi (min)
f1 = 1,400 psi
fp = 2,000 psi
fy = 60,000 psi
fy = 36,000 psi
fy = 50,000 psi
Reinforcing Steel (Grade 60)
Structural Steel (ASTM A709 Grade 36)
Structural Steel (ASTM A709 Grade 50)

Fabricated Steel Connections:
Field connections shall be made with 3/4" diameter ASTM F3125 Grade A325 Type 1 galvanized bolts and 13/16" diameter holes, except as noted. Provide Type 3 fasteners when connecting uncoated weathering steel, except as noted.

Field Welding:
When field welding to primary structural members, the following shall apply:
- Use E7018 electrodes for SMAW with an H8 or H4 rating.
- Practice proper electrode maintenance to maintain a low-hydrogen conditions.
- Grind to white metal and completely remove moisture, oils, grease, rust, paint, etc. before welding.
- Avoid exposing or melting into original root face between the two sides of double-sided fillet welds.
- Preheat weld a distance of 10 inches transverse to the weld axis to 300 deg. F for at least one hour before welding
- Maintain 300 to 450 deg. F interpass temperature until entire length of weld has been repaired.
- Maintain 300 deg. F post-heat after completion of welding for at least 3 hours.
Contractor shall submit and have approved welding procedures for all other field welding operations. Procedures shall be prepared by an AWS Certified Welding Inspector.

Weld Inspection
All existing welds identified on the drawings for inspection shall be cleaned of existing coating prior to inspection. Any additional cleaning and surface preparation necessary to recoat the existing steel after the inspection will be considered completely covered by the contract unit price for Surface Preparation for Recoating Structural Steel.

Nondestructive Testing:
All nondestructive testing shall be performed by an ASNT certified Level II or Level III MT and UT inspector. Nondestructive testing procedures to be prepared by an ASNT certified Level III MT and UT inspector. Contractor to submit certifications prior to starting work.

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

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

Recoating Existing Weathering Steel and Coating New Weathering Steel:
Protective Coating: System H or System I in accordance with Sec 1081 and limits shown on plans. Installed coating system shall be System H unless noted otherwise.

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

Prime Coat: The cost of the prime coat will be considered completely covered by the contract price per sq. foot for Field Application of Inorganic Zinc Primer. Tint of the prime coat shall be similar to the color of the field coat to be used.

Field Coats: The color of the field coats shall be Gray (Federal Standard #26373). The cost of the intermediate field coat will be considered completely covered by the contract price per sq. foot for Intermediate Field Coat (System H). The cost of the finish field coat will be considered completely covered by the price per sq. foot for Finish Field Coat (System H or System I).

General Notes (Continued):

Coating New Steel (Non - Weathering):
Protective Coating: System G in accordance with Sec 1081.

Prime Coat: The cost of the prime coat shall be considered completely covered by the contract unit price for other items. Tint of the prime coat shall be similar to the color of the field coat to be used.

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

At the option of the contractor the intermediate field coat and finish field coat may be applied in the shop. The contractor shall exercise extreme care during all phases of loading, hauling, handling, erection and pouring of the slab to minimize damage and shall be fully responsible for all repairs and cleaning of the coating system as required by the engineer.

Cost for coating new steel to be completely covered by steel retrofit pay item.

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

Existing coatings shall be removed prior to installation of new Urethane.

Traffic Control:
Structure to be closed to traffic for the duration of the work.

Miscellaneous:
Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.
High strength bolts, nuts and washers will be sampled for quality assurance as specified in Sec 106.

All existing dimensions shown were taken from as-built drawings, shop drawings or limited field measurements.

Finish each side of the construction joints with a 1/4" radius edging tool.

All existing steel surfaces to be plated over shall be recoated with one 6-mil gray epoxy-mastic primer applied over an SS PC-SP3 surface preparation in accordance with Sec 1081.

Longitudinal dimensions are based on original design plans.

Manhole covers shall be secured prior to being subjected to temporary or permanent traffic.

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

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

Resin Anchors:
The Contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor system complete-in-place will be considered completely covered by the contract price for other items.

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

An epoxy coated Grade 60 reinforcing bar shall be substituted for the equally sized threaded rod.

Designed S.G.
Detailed L.S
Checked J.C.M.

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

Sheet No. 2 of 49

GENERAL NOTES AND SUMMARY OF QUANTITIES



LICENSE EXPIRES 12/31/2022

DATE PREPARED 10/1/2021

ROUTE 255 STATE MO
DISTRICT BR SHEET NO. 2

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A49364

DESCRIPTION	DATE	VE STUDY
	9/28/21	

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

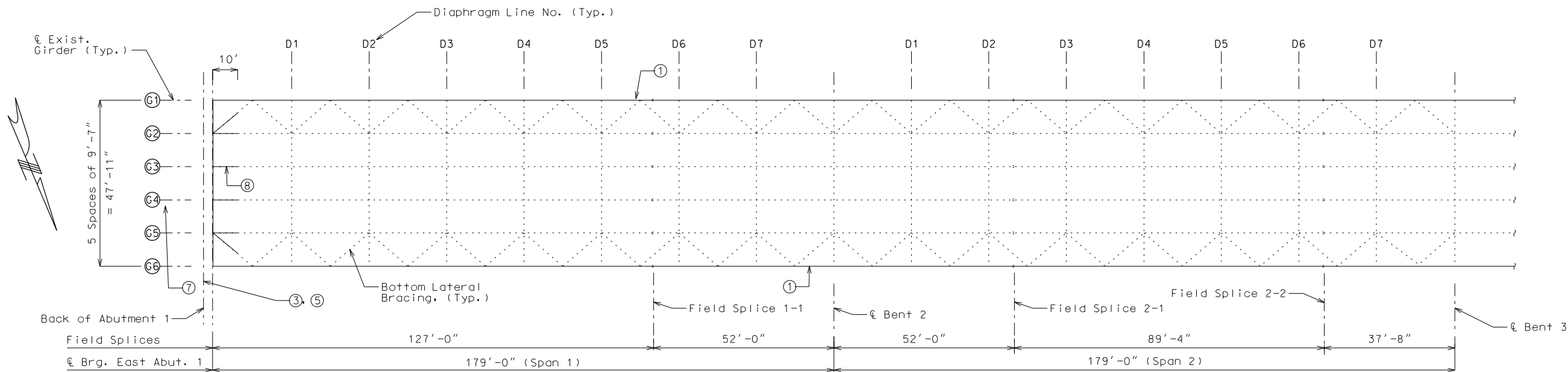


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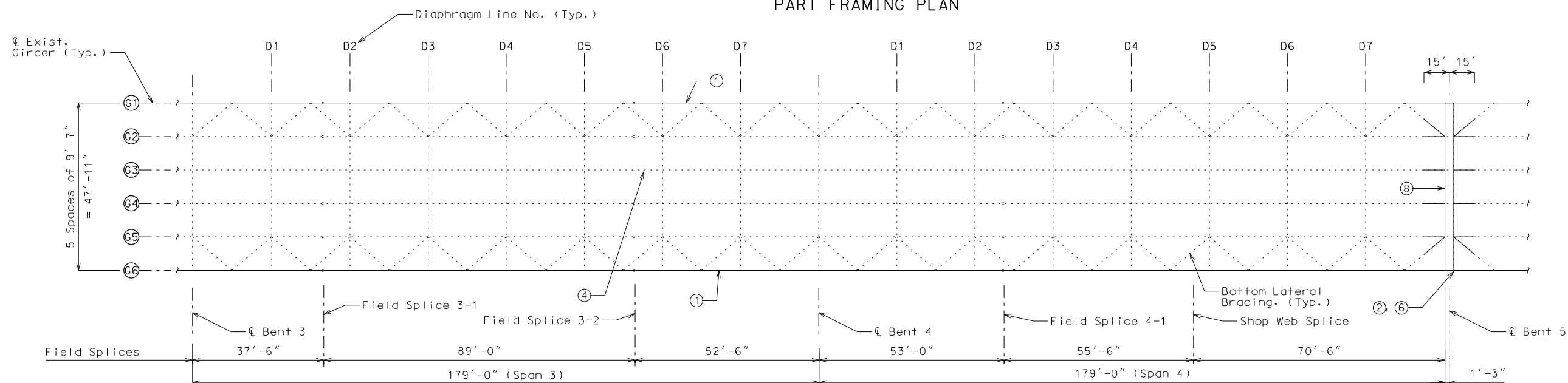
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PART FRAMING PLAN



PART FRAMING PLAN

Retrofit/Repair	General Location	Description
①	Approach span fascia girders	Clean & coat. See Sheet 10.
②	Reinforced concrete bent	Concrete repairs. See Sheet 8.
③	Reinforced concrete abutment	Concrete repairs. See Sheet 8.
④	Concrete deck and barrier curb	Concrete repairs, wearing surface and penetrating sealer installation. See Sheets 22 and 23.
⑤	Expansion joint, Abutment 1	Replace existing finger joint with new finger joint. See Sheets 24, 26, 30, 33 and 44.
⑥	Expansion joint, Bent 5	Replace existing finger joint with new finger joint. See Sheets 24, 25, 27, 31, 34 and 45.
⑦	Approach slab	Approach slab repairs, see Sheets 47 and 48.
⑧	Expansion joints	Clean and coat expansion devices and structural steel. See Sheet 10.

Notes:

⊕ Denotes location of retrofit or repair in Approach Spans.

RETROFITS, REPAIRS & COATING LIMITS - APPROACHES 01

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 3 of 49



LICENSE EXPIRES 12/31/2022

DATE PREPARED 7/29/2021

ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 3

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

PROJECT NO.

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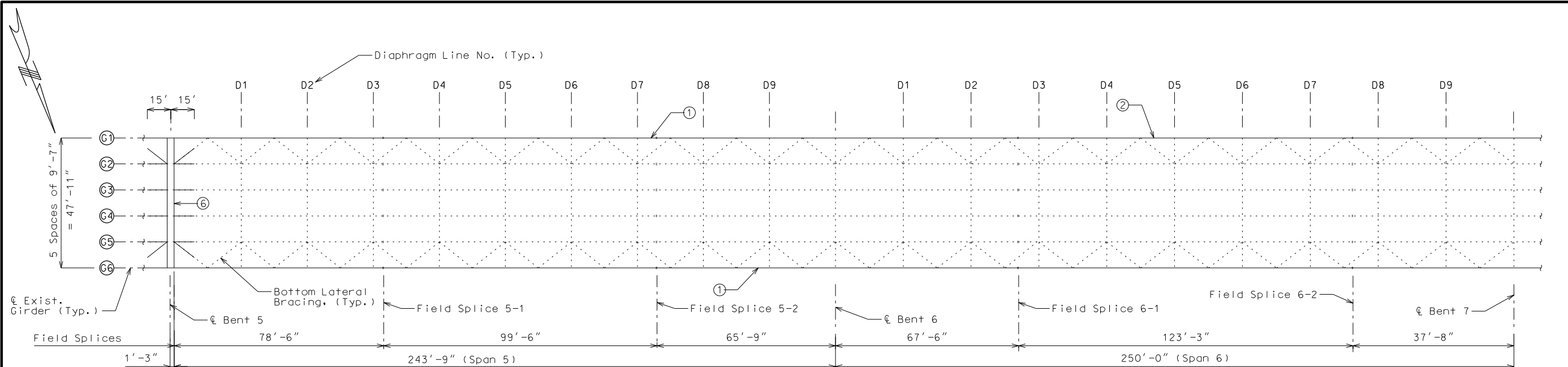
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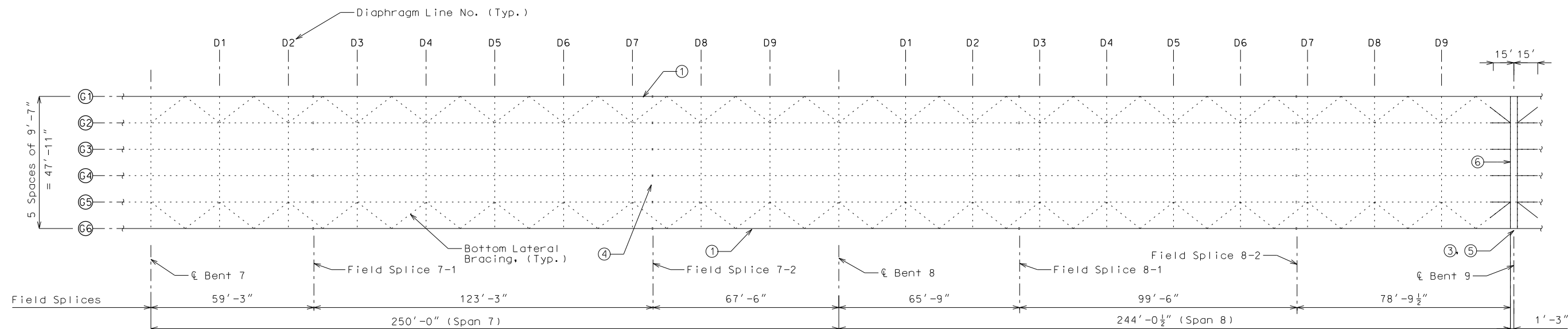


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REV. RevDesc



PART FRAMING PLAN



PART FRAMING PLAN

Retrofit/ Repair	General Location	Description
①	Approach span fascia girders	Clean & coat. See Sheet 10.
②	Drain pipe	Extend pipe below girder bottom flange. See Sheet 12.
③	Reinforced concrete bent	Concrete repairs. See Sheet 8.
④	Concrete deck and barrier curb	Concrete repairs, wearing surface and penetrating sealer installation. See Sheets 22 and 23.
⑤	Expansion joint, Bent 9	Replace existing finger joint with new finger joint. See Sheets 24-25, 28-29, 31, 35 and 45.
⑥	Expansion joints	Clean and coat expansion devices and Structural Steel. See Sheet 10.

Notes:

⊕ Denotes location of retrofit or repair in Approach Spans.

LOCATION OF RETROFITS, REPAIRS & COATING LIMITS - APPROACHES 02

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 4 of 49



LICENSE EXPIRES
12/31/2022

DATE PREPARED
7/29/2021

ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 4

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

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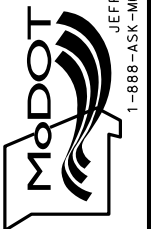
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DATE

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COMMISSION

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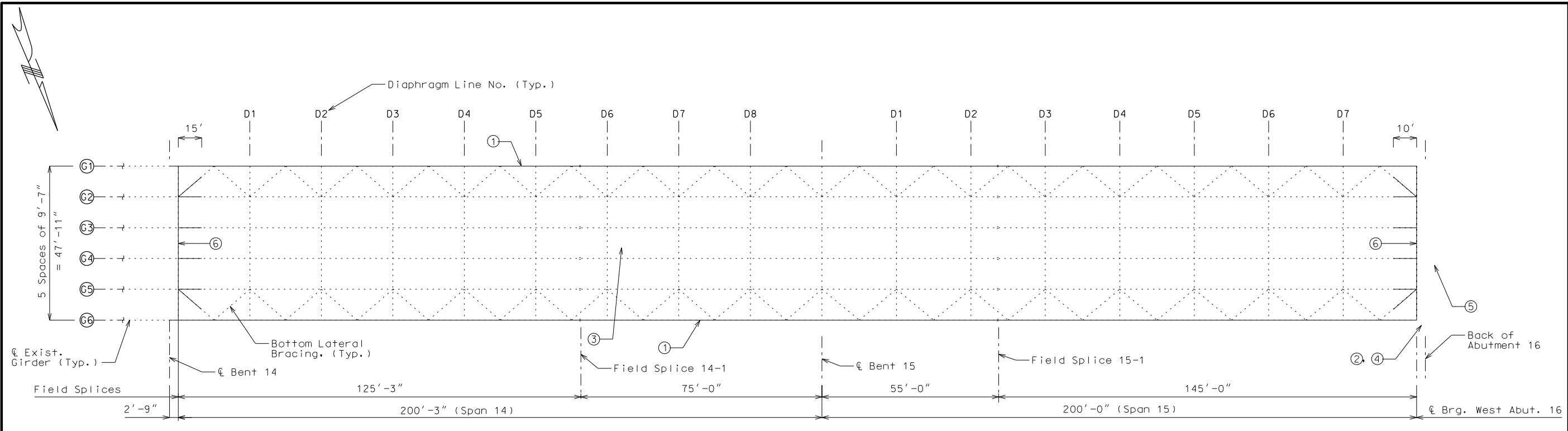


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PART FRAMING PLAN

Retrofit/ Repair	General Location	Description
①	Approach span fascia girders	Clean & coat. See Sheet 10.
②	Reinforced concrete abutment	Concrete repairs. See Sheet 8.
③	Concrete deck and barrier curb	Concrete repairs, wearing surface and penetrating sealer installation. See Sheets 22 and 23.
④	Expansion joint, Abutment 16	Replace existing finger joint with new strip seal joint. See Sheets 24,25,32,36 and 44.
⑤	Approach slab	Approach slab repairs. See Sheets 47 and 48.
⑥	Expansion joints	Clean and coat expansion devices and Structural Steel. See Sheet 10.

Notes:
② Denotes location of retrofit or repair in Approach Spans.



LICENSE EXPIRES 12/31/2022

DATE PREPARED 7/29/2021

ROUTE 255	STATE MO
DISTRICT BR	SHEET NO. 6

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A49364

DESCRIPTION	DATE

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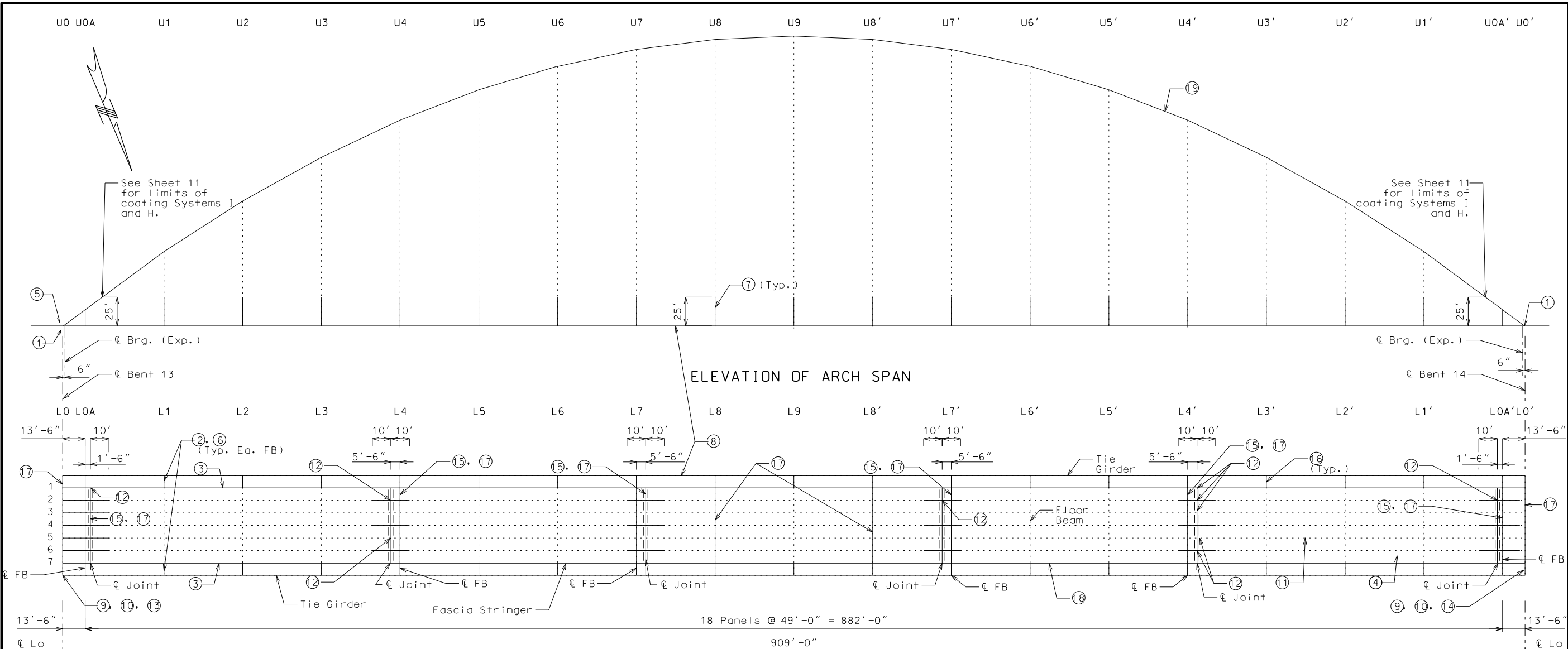
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ARCH FRAMING PLAN

Retrofit/ Repair	General Location	Description
①	Arch to tie girder connection	Weld inspection and repair at arch to tie girder connections. See Sheets 13-14 and 16.
②	Floor beam to tie girder connection	Weld inspection and repair at floor beam to tie girder connections. See Sheets 15-16.
③	Drainage truss and walkway	Repairs to misc. components. See Sheets 17 and 18.
④	Drainage truss and walkway	Fractured weld connecting all rail components. See Sheet 18.
⑤	Arch chamber door	Gasket replacement. See Sheet 16.
⑥	Walkway ladder repairs	Repair or replace ladder landing plates, each FB except L9. See Sheet 17.
⑦	Hanger cables	Metalizing of lower 25 ft. See Sheet 11.
⑧	Tie girder	Clean & coat. See Sheet 11.
⑨	Reinforced concrete bent	Concrete repairs. See Sheet 8.
⑩	Reinforced concrete bent	Clearance gauge installation. See Sheet 9.

Retrofit/ Repair	General Location	Description
⑪	Concrete deck and barrier curb	Concrete repairs, wearing surface and penetrating sealer installation. See Sheets 22 and 23.
⑫	Pin & link joint	Replace damaged bronze washers. See Sheet 19.
⑬	Expansion joint, Bent No. 13	Replace existing modular joint with new finger joint. See Sheets 37-40, 42 and 45.
⑭	Expansion joint, Bent No. 14	Replace existing finger joint with new strip seal joint. See Sheets 37, 41, 43 and 45.
⑮	Link joints	Replace existing joint seals with new preformed joint seals. See Sheet 46.
⑯	Floor beam ends	Clean & coat. See Sheet 11.
⑰	Floor beams and expansion devices	Clean & coat full length at joints and where indicated. See Sheet 11.
⑱	Stringer, exterior fascia	Clean & coat. See Sheet 11.
⑳	Arch and struts	Clean & coat - System I from 25' above tie girder, System H below 25'. See Sheet 11.

LOCATION OF RETROFITS, REPAIRS & COATING LIMITS - TIED ARCH SPAN



LICENSE EXPIRES 12/31/2022

DATE PREPARED 10/1/2021

ROUTE 255	STATE MO
DISTRICT BR	SHEET NO. 7

COUNTY ST. LOUIS

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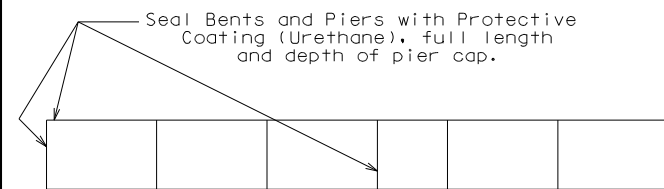
BRIDGE NO. A49364

DESCRIPTION
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DATE 9/28/21
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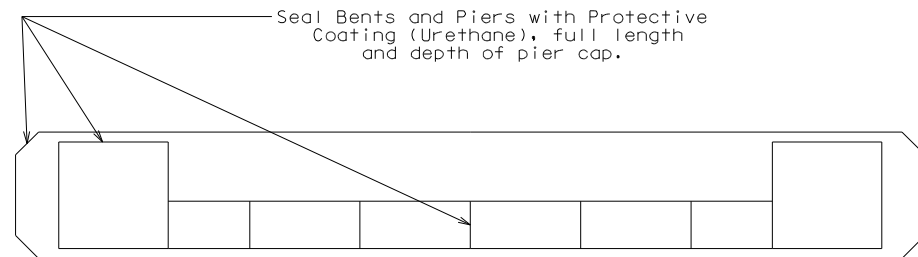


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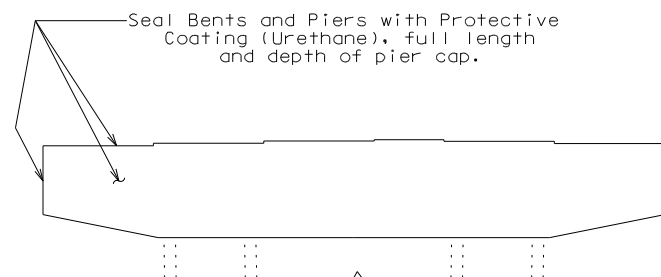
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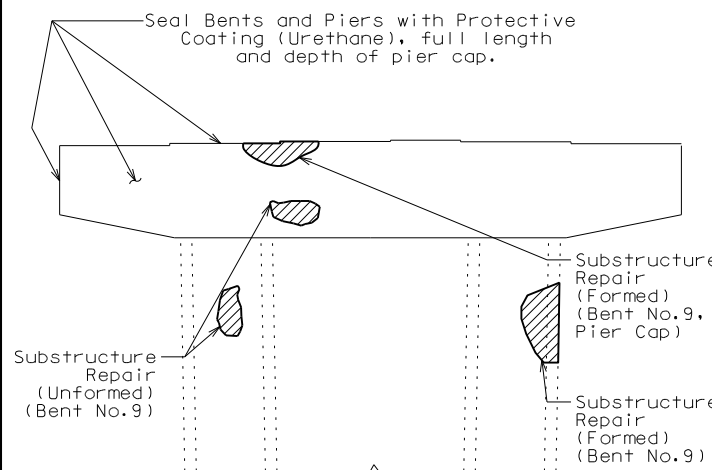
PLAN
(Bent Nos. 5 and 9)



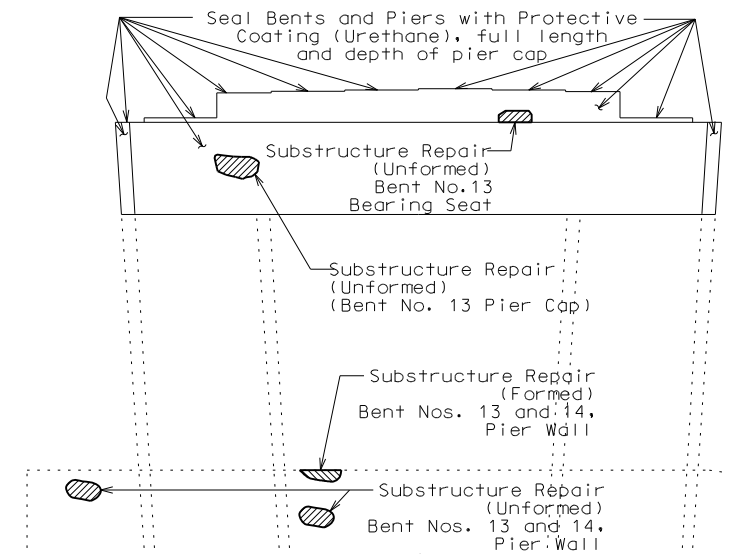
PLAN
(Bent Nos. 13 and 14)



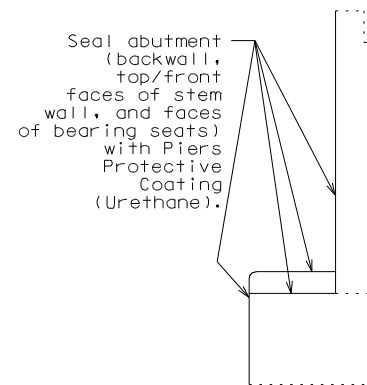
ELEVATION
(Bent No. 5)



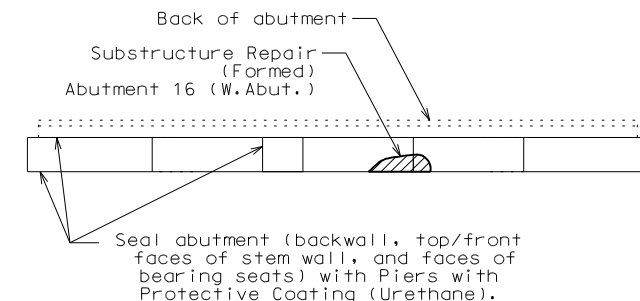
ELEVATION
(Bent No.9)



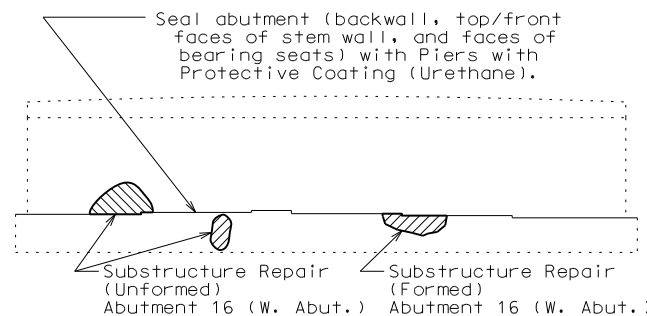
ELEVATION
(Bent Nos. 13 and 14)



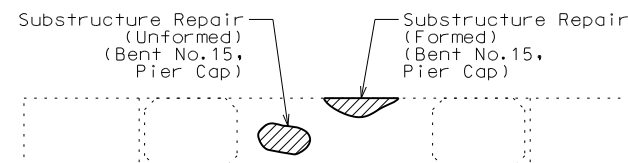
SECTION THRU ABUTMENT
Abutment 1 (East) shown.
Abutment 16 (West) similar.



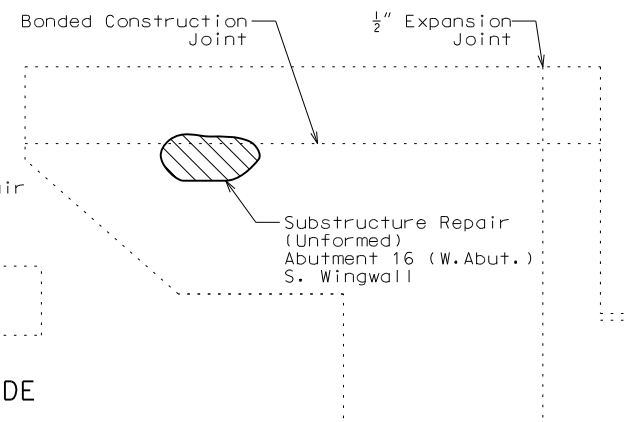
PLAN
Abutment 1 (East) shown.
Abutment 16 (West) similar.



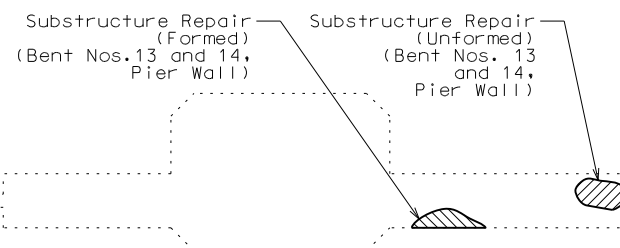
ELEVATION
Abutment 1 (East) shown.
Abutment 16 (West) similar.



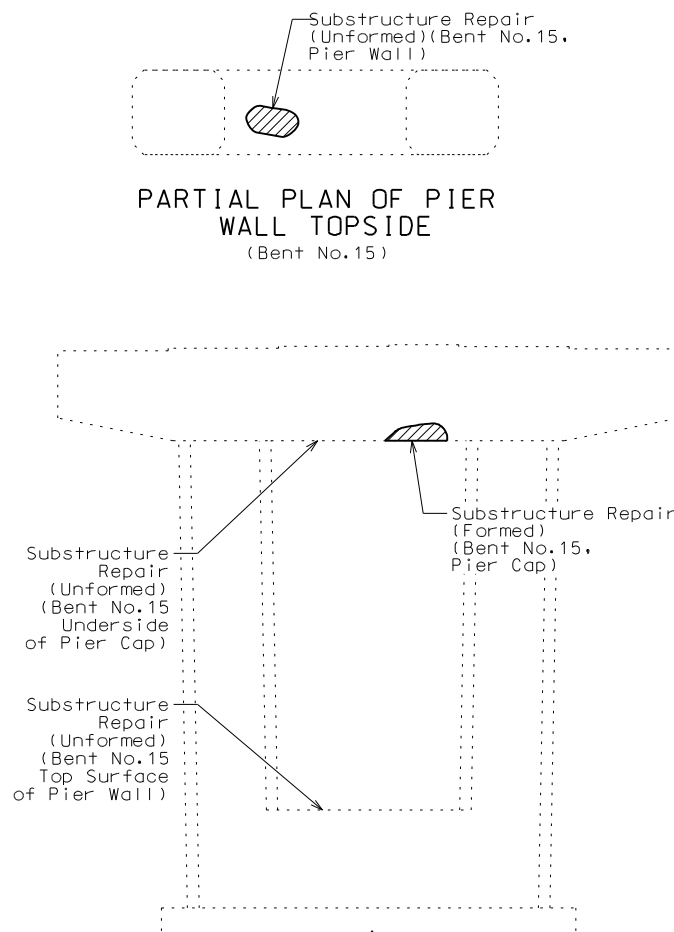
PARTIAL PLAN OF PIER CAP UNDERSIDE
(Bent No.15)



ELEVATION
(Abutment 16 (West), S. Wingwall shown Other wingwalls similar.)



PLAN OF PIER WALL TOPSIDE
(Bent Nos.13 and 14)



ELEVATION
(Bent No.15)

Notes:
Repair locations are shown schematically and based on the 2019 Inspection Findings. Verify all locations of distress with engineer.

Formed repairs shall utilize Class B-1 concrete, except as provided in Standard Specifications Sec 704 and Job Special Provisions for shotcrete repairs.

Unformed repairs shall use shotcrete repair method. See Job Special Provisions.

Remove existing coatings and apply new protective coating to pier caps and abutments where exposed, and as shown.

Surface preparation for protective coating shall be in accordance with the manufacturer's recommendations and include removal of any existing coating, all loose or delaminated concrete, as well as any other contaminants or latent materials.

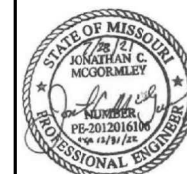
For Clearance Gauge re-coating at Bent Nos. 13 and 14, see Sheet 9.

SUBSTRUCTURE REPAIR & PROTECTIVE COATING

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

Sheet No. 8 of 49

Designed K.H.
Detailed L.S.
Checked J.C.M.



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DATE PREPARED 8/3/2021

ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 8

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

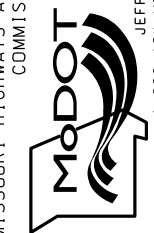
PROJECT NO.

BRIDGE NO. A49364

DESCRIPTION

DATE

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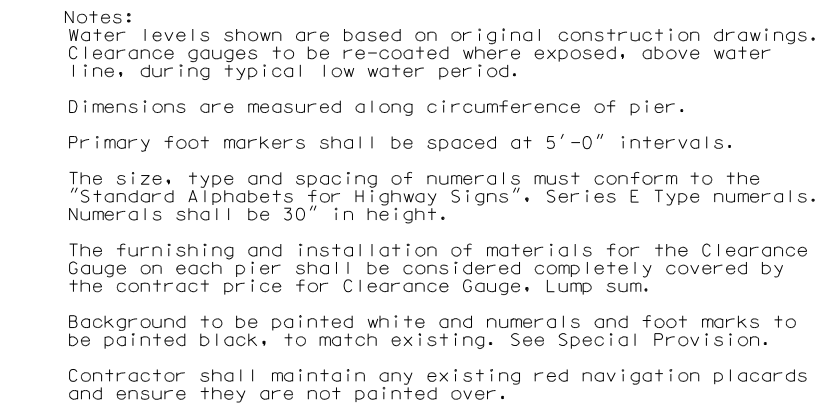


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- Notes:
- (1) Re-coat existing white background and extend around perimeter to meet requirements for Series E Type numerals.
 - (2) Provide a clearance of at least 13" between the side of the numeral and the edge of the white background.
 - (3) Foot marker to extend to edge of white background.
 - (4) Dimensions (numeral width and spacing between numerals) vary for each numeral.



- Notes:
- (1) Re-coat existing white background.
 - (2) Provide a clearance of at least 13" between the side of the numeral and the edge of the white background.
 - (3) Foot marker to extend to edge of white background.
 - (4) Dimensions (numeral width and spacing between numerals) vary for each numeral.



PRIMARY FOOT MARKER DETAIL
(Bent No. 13 shown. Bent No. 14 similar)

CLEARANCE GAUGE DETAILS



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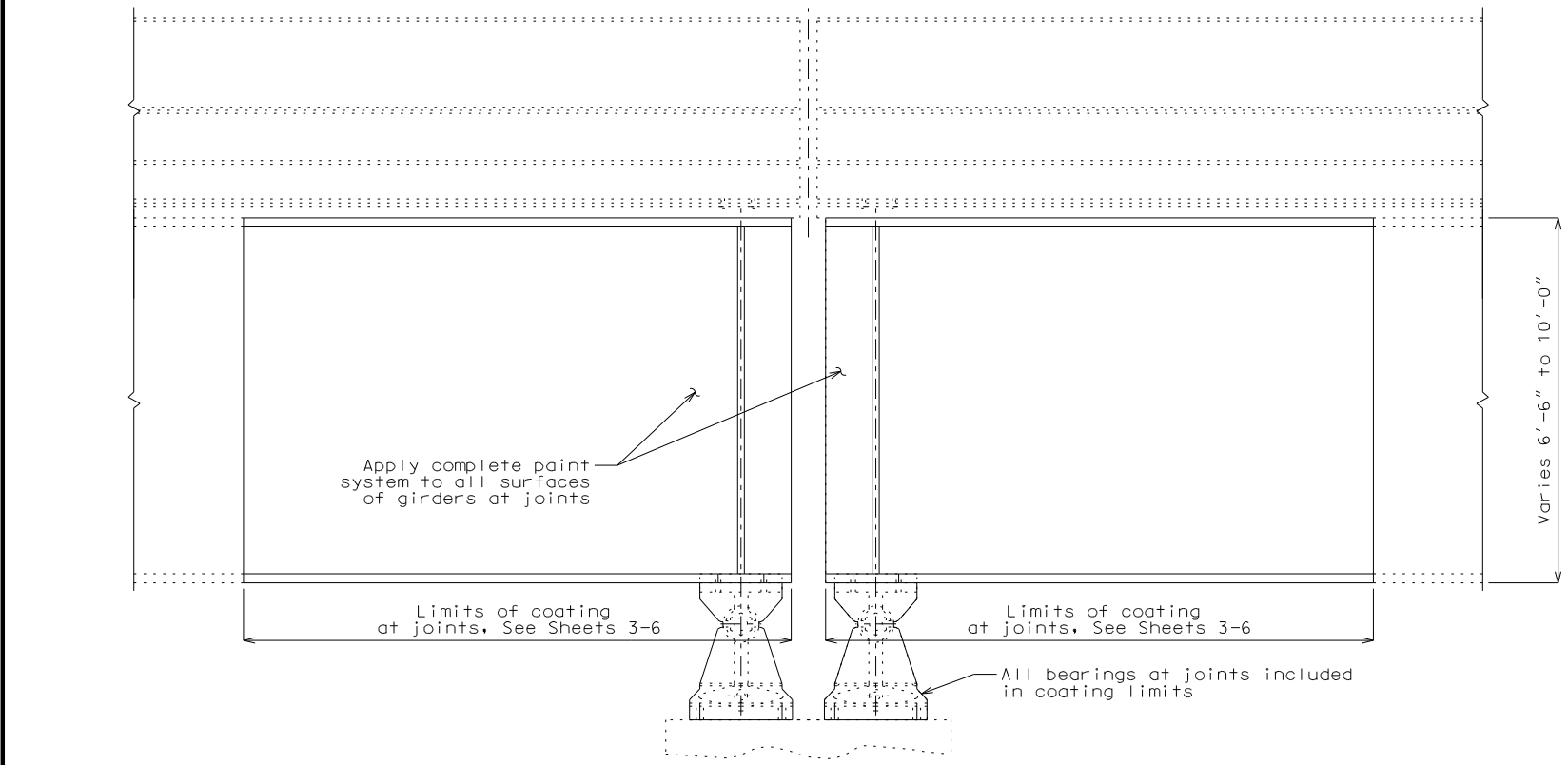
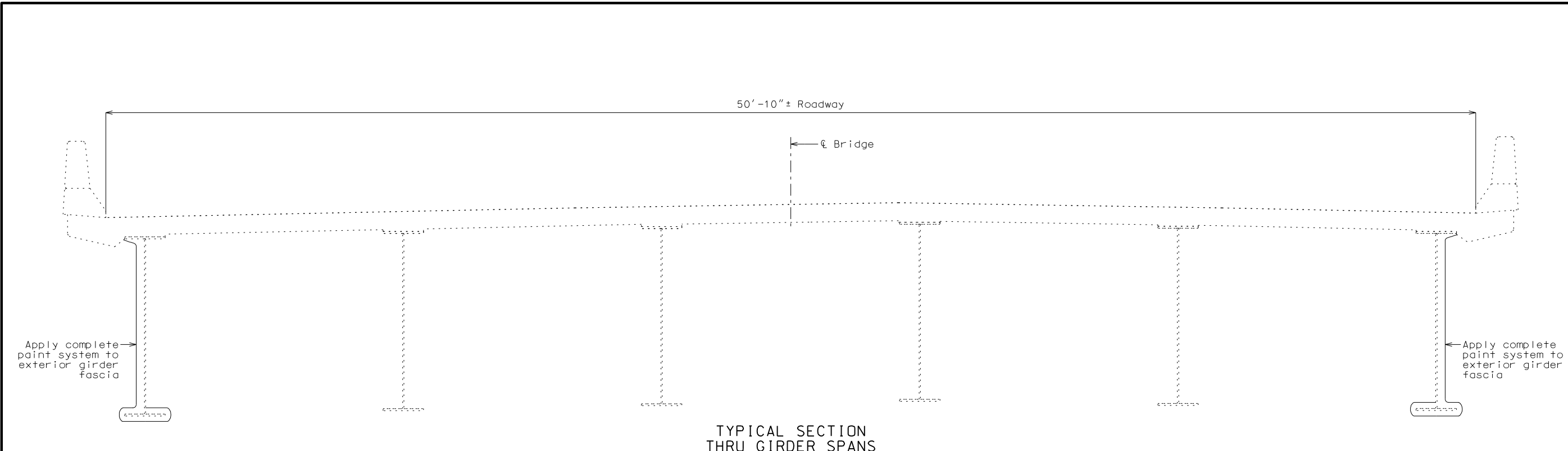
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Paint Limits:
 Span 1 thru 12 and Span 14 & 15:
 Complete paint system shall be applied to the fascia girders to include all exterior girder surfaces, the underside of the top flange, and the bottom flange as shown.

Near Expansion Devices:
 Complete paint system shall be applied to all structural steel within a distance shown on the plans for expansion joints in accordance with Sec 1080.10.3.4.2.2.

TYPICAL ELEVATION OF GIRDERS AT JOINTS

STEEL PROTECTIVE COATING LIMITS & DETAILS - APPROACH SPANS

Designed P.J.M.
 Detailed L.S.
 Checked J.C.M.

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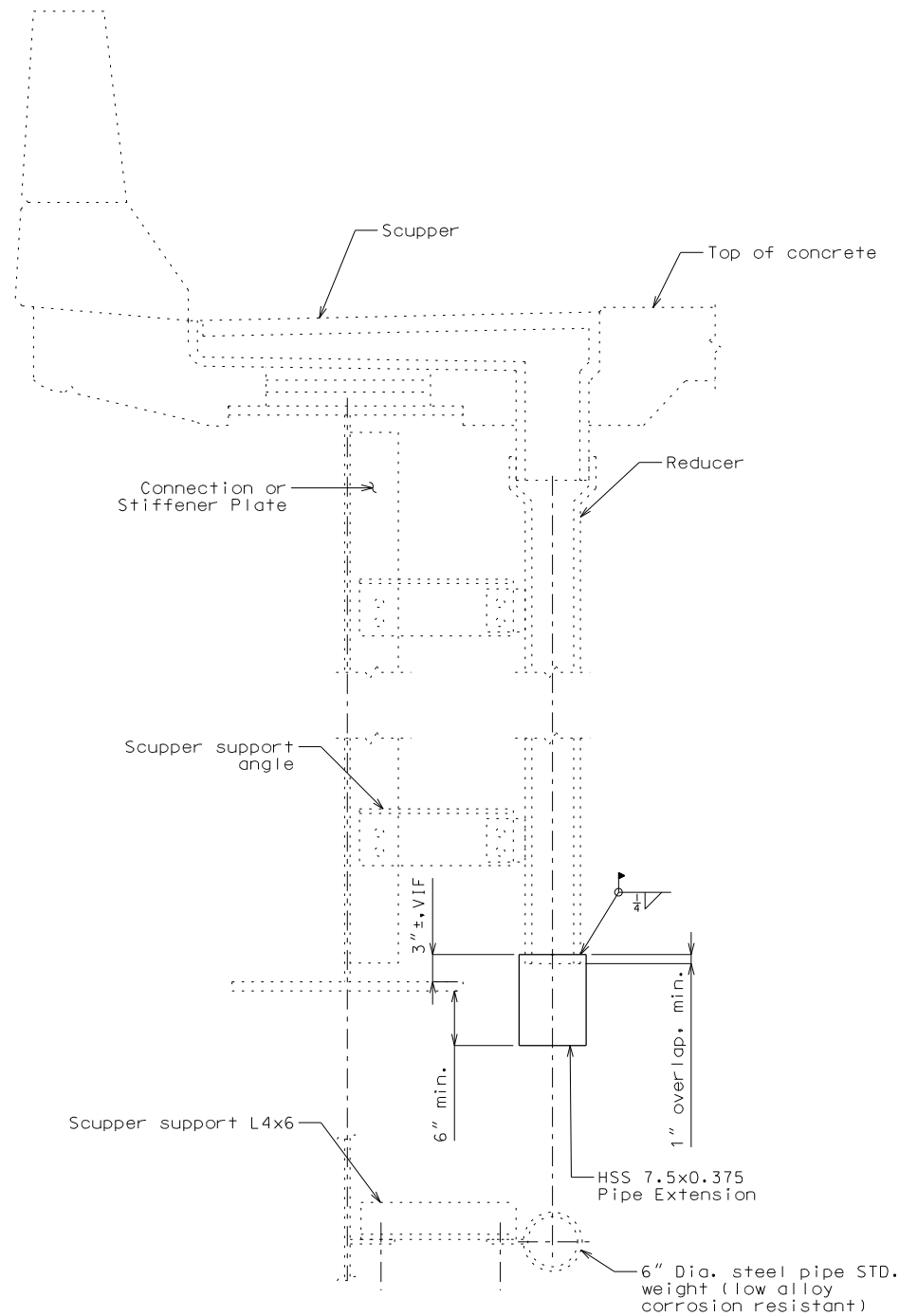
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SECTION A-A
SCUPPER DETAILS - (SPANS:1 TO 12 & 14,15)
(G1 shown looking west)

Drainage pipe extension required at Girder 1 in Span 6 near Field Splice 6-1. Submit any additional locations identified to the engineer for approval prior to executing additional repairs.

All work including with drain pipe extension shall be completely covered by the unit price bid for Approach Span Drain Extension for each location to receive the repair shown.

APPROACH SPAN DRAINAGE REPAIR DETAIL

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 12 of 49



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PROJECT NO.	
BRIDGE NO. A49364	

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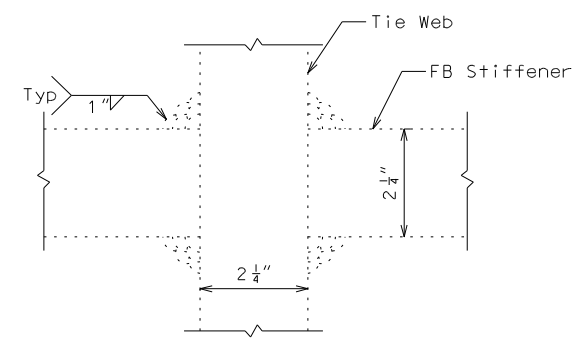
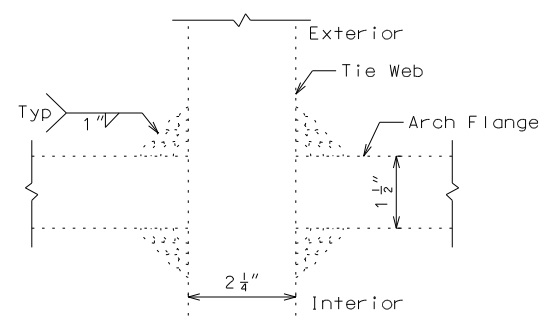
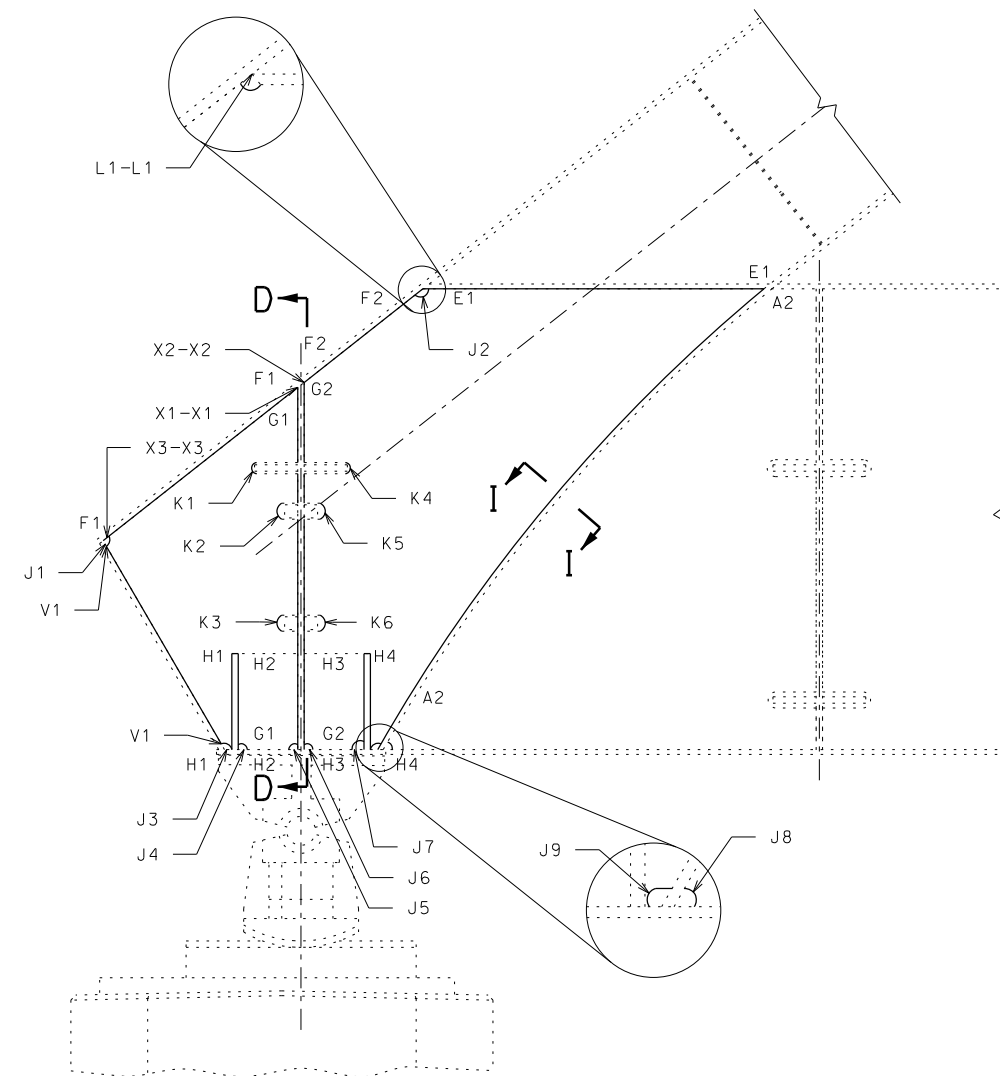
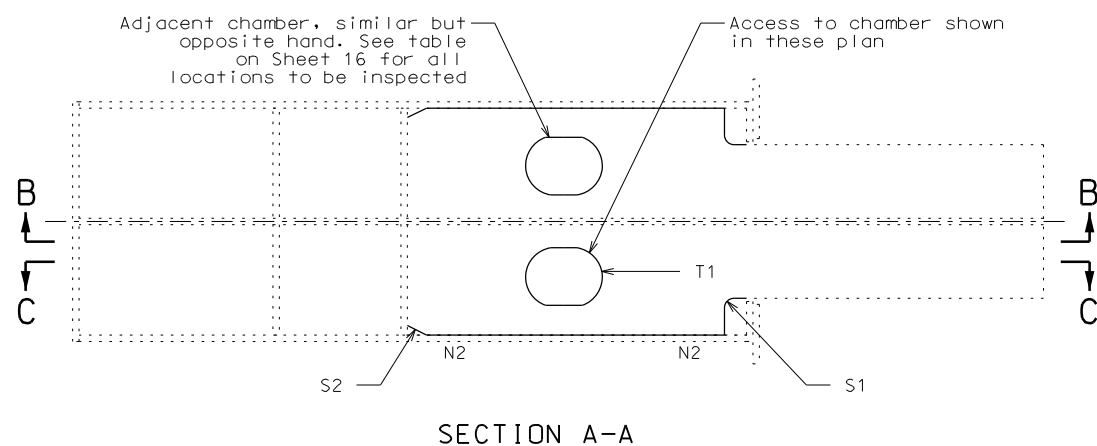
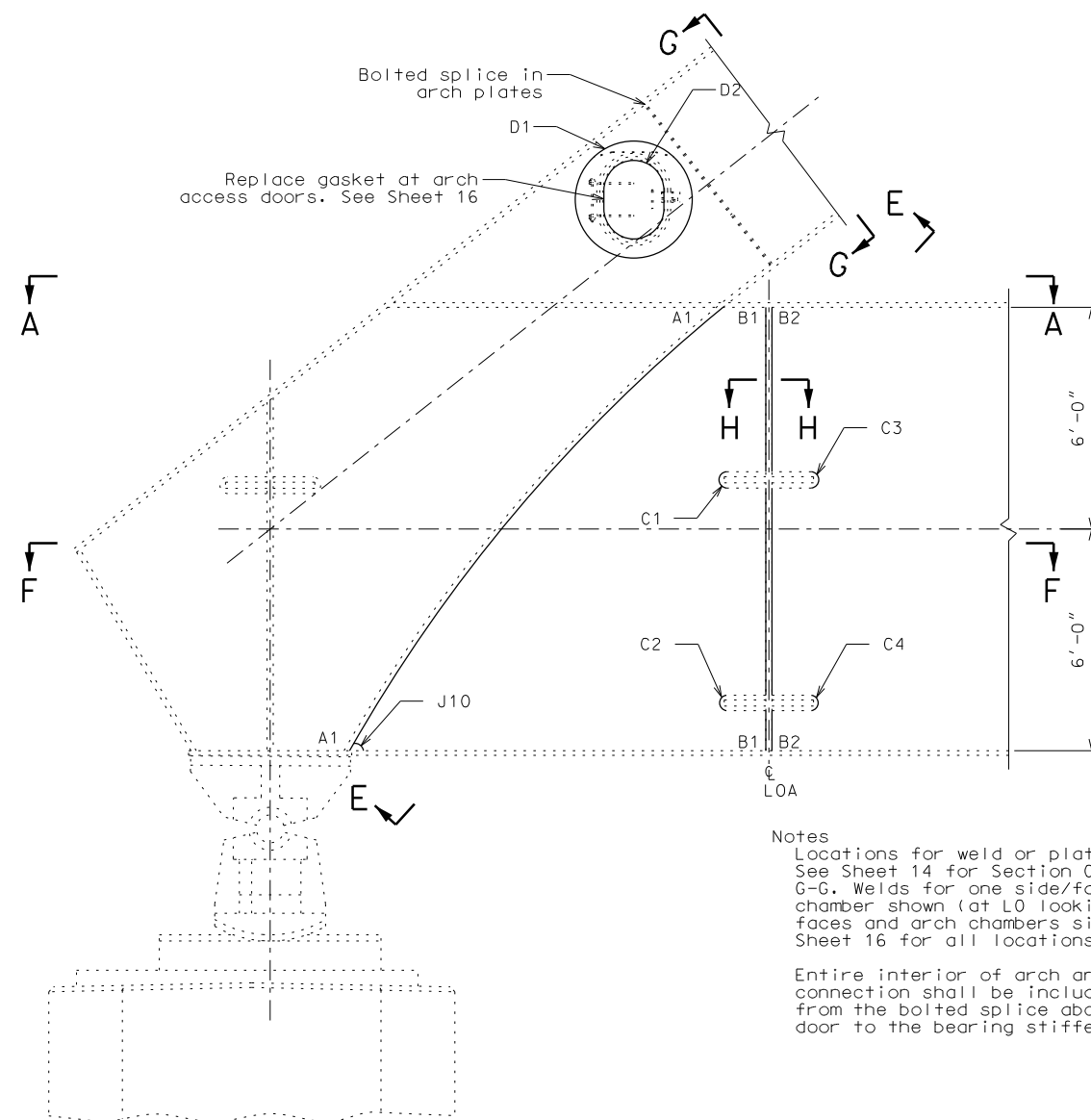
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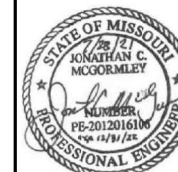


ARCH SPAN STEEL REPAIR DETAILS 01

Designed P.J.M.
Detailed L.S
Checked J.C.M.

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

Sheet No. 13 of 49



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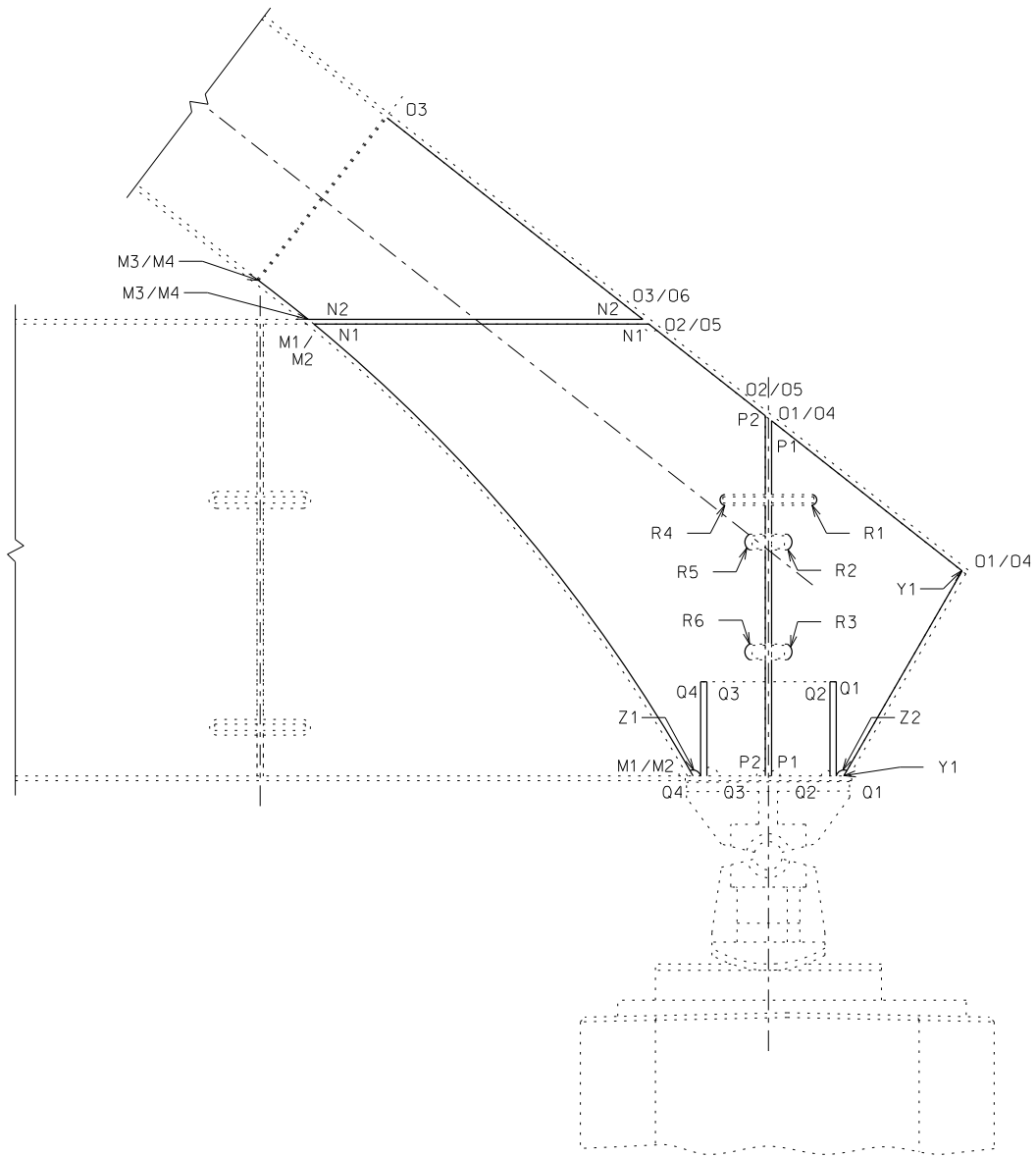
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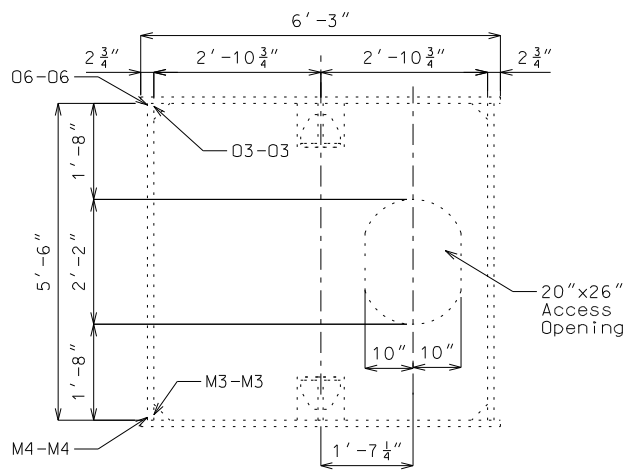
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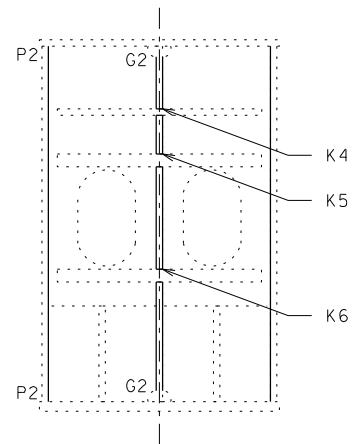
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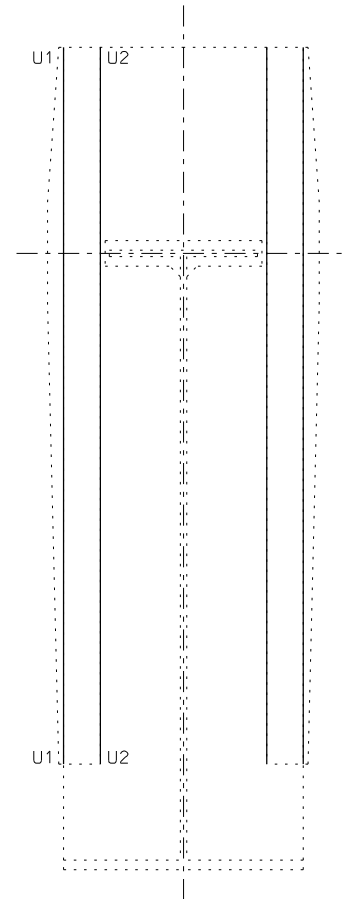
SECTION C-C ARCH INTERIOR CHAMBER
AT ARCH WEB



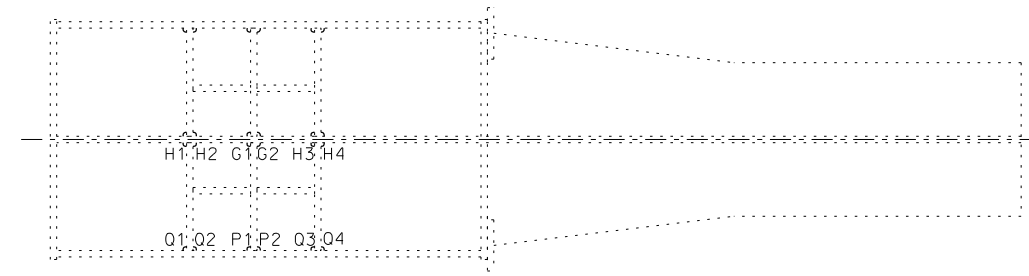
SECTION G-G
(At Arch)



SECTION D-D
(At FBO)



SECTION E-E
(At Arch Bottom
Flange Cover Plate)



SECTION F-F
(At Bearing Stiffener)

Note:
Work this sheet with Sheets 13 and 16.

Designed P.J.M.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 14 of 49

ARCH SPAN STEEL REPAIR DETAILS 02



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CONTRACT ID.

PROJECT NO.

BRIDGE NO. A49364

DESCRIPTION

DATE	DESCRIPTION

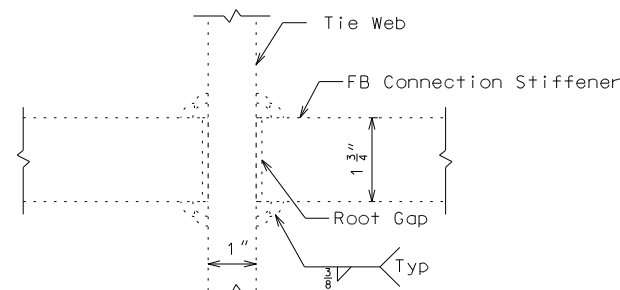
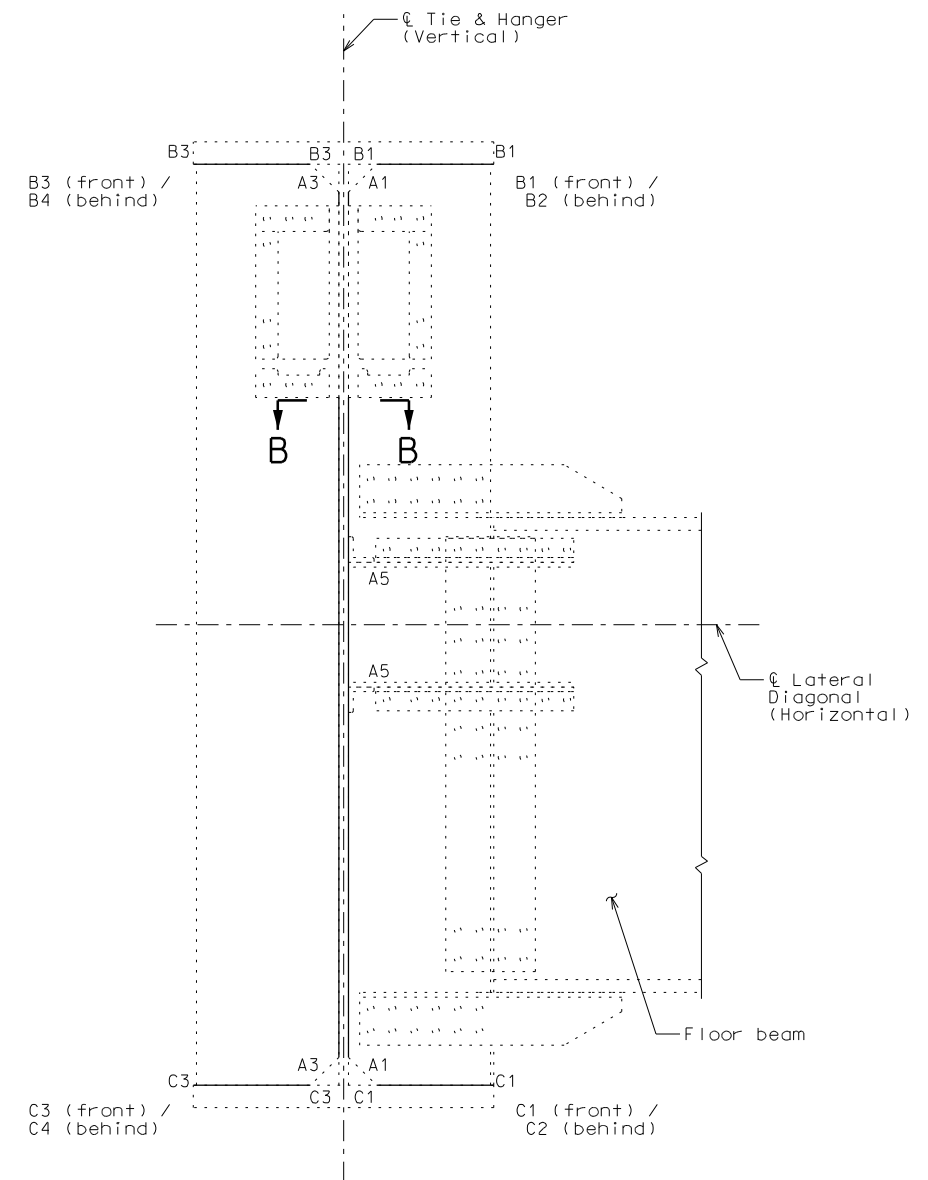
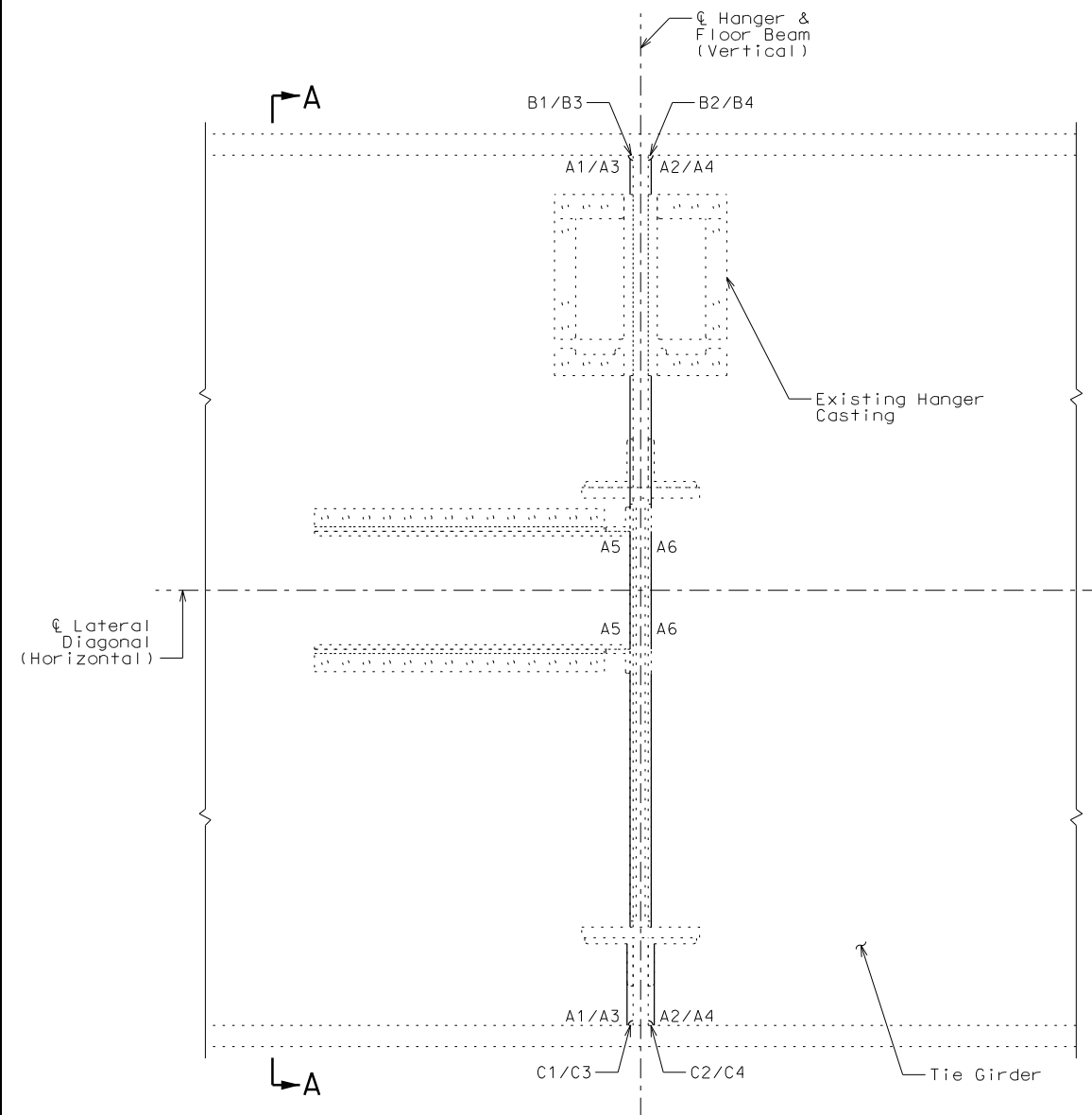
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Note: Actual defects or cracks encountered may vary.

Notes:
Work this sheet with Sheet 16.

Welds for one floor beam connection at nonprime panel point shown. Other floor beam connections similar.

Welds A6-A6 only included at L9 where lateral connections are present on both sides of the floor beam.

Welds A5-A5 and A6-A6 to be inspected via UT from the outside face due to lack of interior access. This work to be paid under Weld Inspection. See table on Sheet 16 for all locations to be inspected.

Conduit along the lower walkway railing for the navigation lights may need to be moved to facilitate inspection of welds A1-A1, A2-A2, C1-C1 and C2-C2. Navigation lights shall remain in service during all stages of construction. Any temporary re-routing of the conduit shall be considered part of the work to complete Weld Inspection.

See Sheet 20 and 21 for cable shoring and casting removal procedures required to implement weld inspection, if needed.



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ROUTE 255	STATE MO
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
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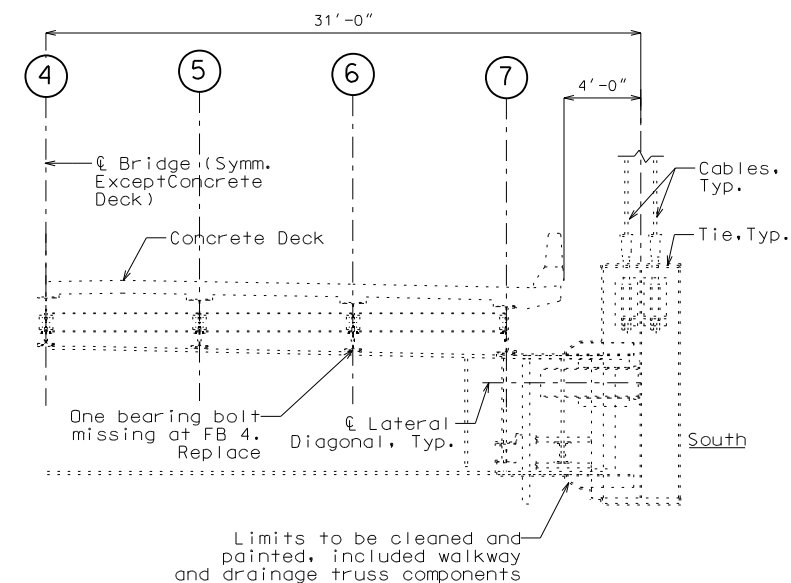
Sheet No. 15 of 49

ARCH SPAN STEEL REPAIR DETAILS 03

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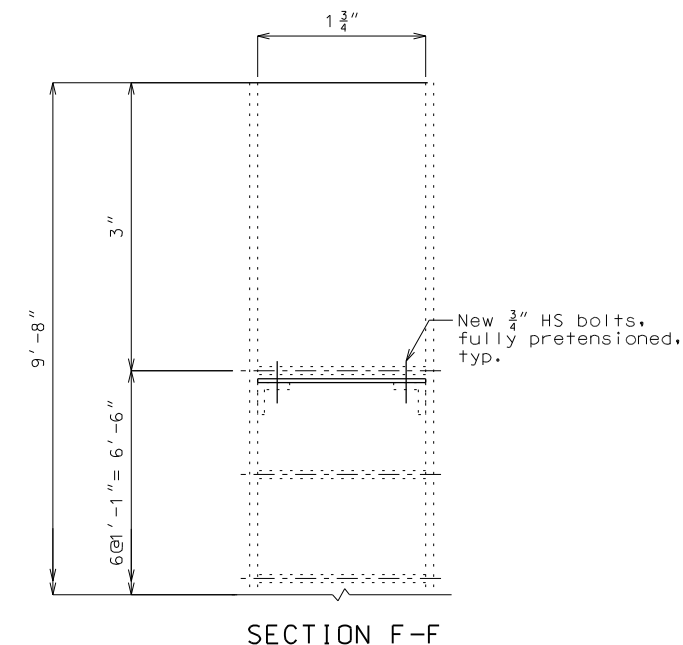
1. Typical plan at floor beam lateral gusset plates with inspection walkway ladders shown. Similar at all floor beams from L1 to L1' with the exception of L9, which has lateral gussets on both sides.
2. Repairs are required at each ladder landing (one per typical floor beam end, a total of 32 locations).
3. At the discretion of the engineer, existing landing plates may be reused provided they are not damaged and that they are properly cleaned and coated in accordance with contract coating requirements.
4. Bolts shall be installed with threads facing downward.
5. All work incidental to ladder plate repair shall be completely covered under the contract unit price for Steel Retrofits - Ladder Landing Plates.



PARTIAL SECTION

Stringer bearing bolt replacement required at the location shown where a bearing bolt is missing. Replacement bolts shall be 1" diameter H5 bolts to match existing, fully pretensioned. Contractor shall field verify required grip and bolt length.

All work involved with the missing bolt installation shall be completely covered by the contract unit price for "Steel Retrofits - Stringer Bearing Bolt Replacement".



DETAIL A

SECTION A-A

- Notes:
1. At locations with cracked welds/ detached L3x3 members, remove affected welds by grinding and remove pack rust to restore fit-up at faying surfaces, then install 3/4" dia bolt as shown and pretension to 28 kips
 2. Between FB 1' and 2' in the North tie, install the splice plate shown in Section E-E at the fractured section of plate rail
 3. All work included with damaged drain truss member cracked weld removal and repair bolt installation will be completely covered under the contract unit price for Steel Retrofits - Walkway Truss Broken Welds for each connection to be repaired.
 4. All work included with damaged railing member splice plate installation will be completely covered under the contract unit price for Steel Retrofits - Walkway Railing Splice Plate for each connection to be repaired.

SECTION B-B

SECTION E-E

SECTION D-D

- Notes:
1. Contractor shall field verify locations where bolts are damaged or broken, and install repairs as shown.
 2. Replacement bolts shall conform to ASTM F3125 Grade A325X. Bolts shall be installed with the first nut finger tight and shall have double nuts. While holding the first nut, tighten the second nut using the turn of the nut method. All bolts shall have washers under bolt heads and nuts. If additional locations are identified, consult the Engineer.
 3. Bolts should be ordered with extended thread length. Minimum thread length to accommodate double nuts is 1 5/8". Ensure threads are excluded from the shear plane between the W12 web and the FB stiffener.
 4. Bolts to be replaced at the following locations. All three bolts at a listed location to be replaced.
 - FB 7, South tie
 - FB 4, South tie
 - FB 4, North tie
 - FB 3' North tie
 5. Where bolts are to be replaced, drainage trusses may require jacking/ hoisting to realign bolt holes. Chainfalls or similar lifting equipment may be required to lift the truss using the underside of the deck.
 6. All work included with the location identification, repair bolt installation, and realignment of the drainage truss, shall be completely covered by the contract unit price for Steel Retrofits - Drainage Truss Member Connection.

DETAIL C

PLAN AT DETAIL B FLOR DRAIN

SECTION C-C

- Notes:
- SECTION C-C
1. Contractor shall field verify locations where floor drain connection angles or bolts are damaged or broken, and install repairs as shown.
 2. All work included with the location identification and repair bolt installation shall be completely covered by the contract unit price for Steel Retrofits - Reconnect Drain Downspout Bracket.

Note:
Work this sheet with Partial Framing Plan
Drain and Inspection Walkway Support on
Sheet 17.



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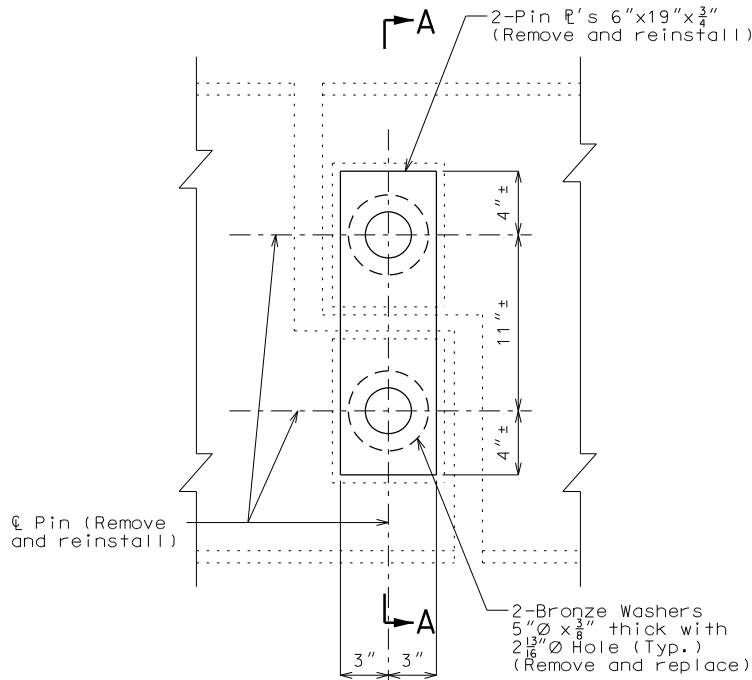
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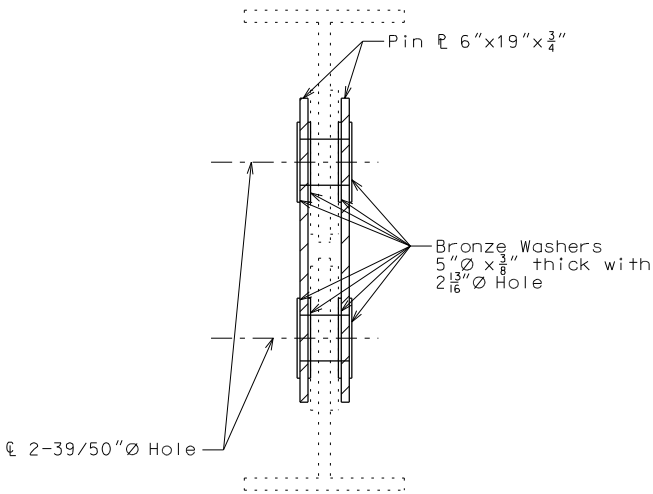
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ARCH SPAN STEEL REPAIR DETAILS 06

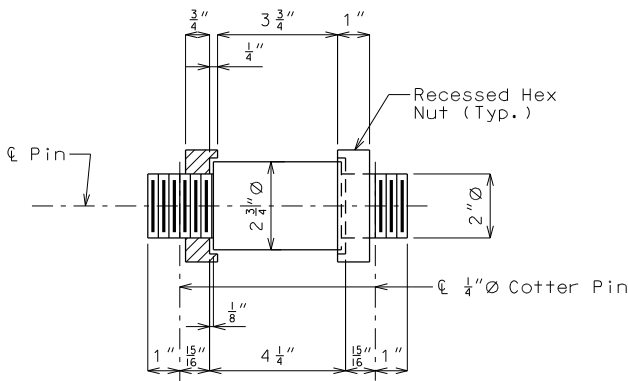
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DETAIL OF LINK CONNECTION



SECTION A-A



PIN DETAILS

Locations for Stringer Bronze Washer Replacement:	
Joint	Stringer
LOA	1
L4	2
L4	5
L4'	2
L4'	6
LO'A	2
LO'A	5
L7'	2
L4'	1
L4'	3
L4'	5

Note:
At locations listed above, the work shall include temporarily supporting the subject stringer using a needle beam or similar shoring system, removing the existing cotter pin, nut, link plate and bronze washers, replacing the bronze washers with new, and reinstalling the removed components.

Replacement washers shall conform to ASTM B22 alloy C86300

The proposed shoring system and shoring calculations shall be submitted to the engineer for approval prior to commencement of the work. Calculations shall be signed and sealed by a licensed Professional Engineer in the State of Missouri.

All work included with the shoring system development, installation, existing pin and link component removal, replacement washer furnishing and installation, and any work required to restore the pin and link joint and any components affected by the shoring system to the satisfaction of the engineer will be completely covered by the contract unit price for Steel Retrofits - Pin and Link Plate Washer Replacement. Work should be completed prior to re-coating the affected components at the joints

DETAILS OF PIN AND PIN REPLACEMENT



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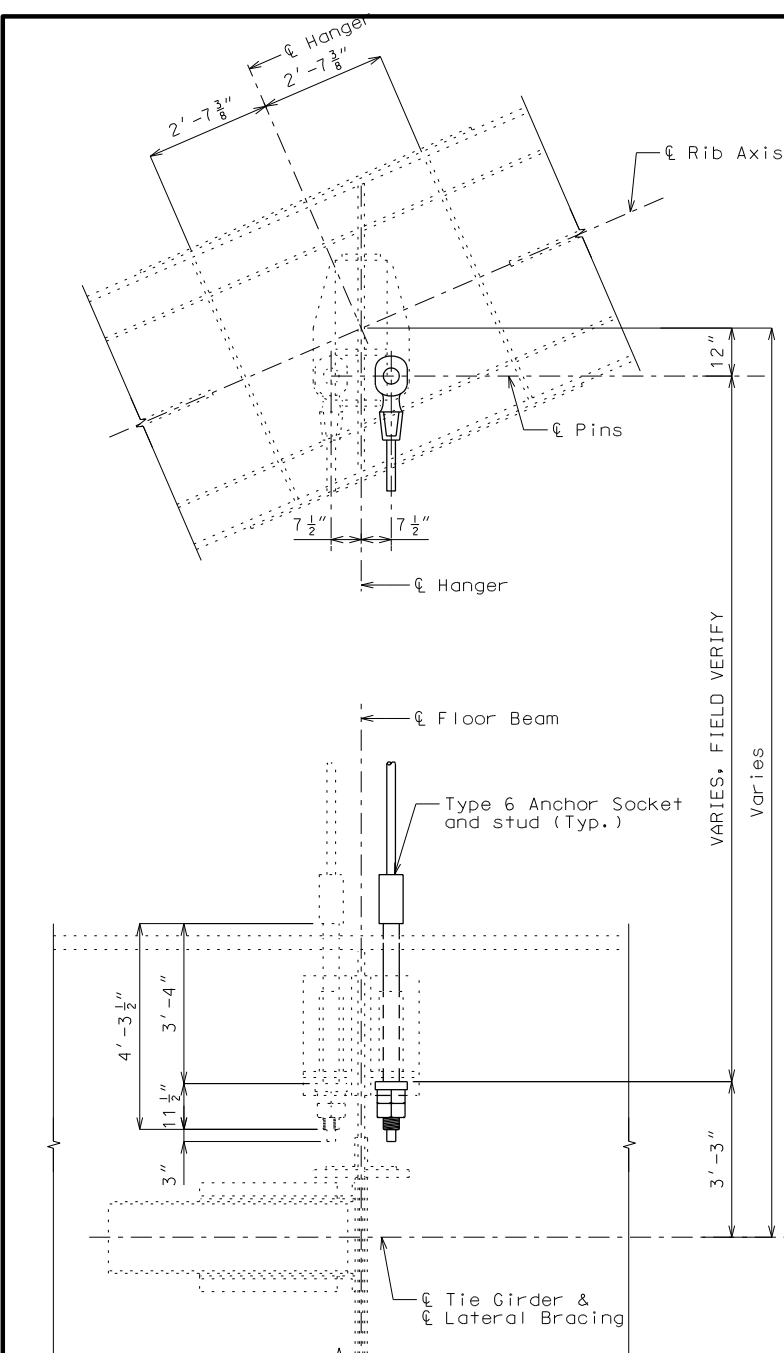
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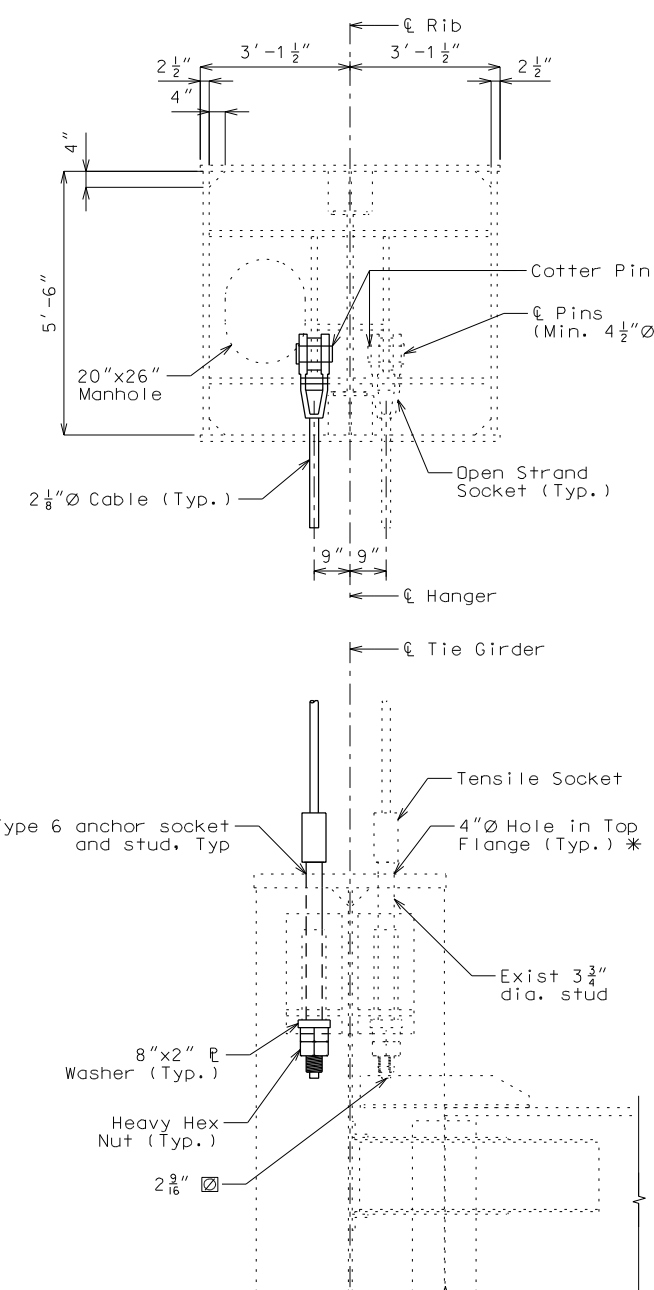
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PART SIDE ELEVATION AT HANGER

Note: The cable location and panel designations in the original drawings are different than in this set. Contractor shall field verify existing cable lengths prior to ordering new cables and account for cable stretch / elongation when ordering each cable.



PART CROSS SECTION AT HANGER

* Seal opening around threaded rod with silicone sealant.

Cable Properties:
Specification: ASTM A586
TYPE: Multiple-wire bridge strand, zinc coated.
Zinc Coating: Class C on outer wires; Class A on inner wires.
Nominal Diameter: 2 1/8"
Minimum Metallic Area: 2.71 sq. in.
Modulus of Elasticity After Prestressing: 23,000 kips/sq. in.
Minimum Breaking Strength (Each Cable): 538 kips
All end attachments to be proof loaded to 50% of minimum breaking strength

Sockets, pins, threaded studs, and nuts used with the cables shall be capable of developing the specified minimum strength of the cable.

Contractor shall field verify all dimensions prior to fabrication.

All work required to furnish, fabricate, and install replacement cables shall be covered under the contract unit price for Hanger Cable Replacement. Refer to the Job Special Provisions for additional notes and requirements.

Hanger Jacking and Shoring Notes

For details of shoring system, see Sheet 21

Contractor shall submit shoring procedure and sealed calculations prior to commencement of the work. Contractor may provide alternate method and equipment for cable shoring, casting removal and cable replacement, subject to engineer's approval.

Prior to any work, contractor to obtain tension measurements of all cables for the bridge using vibration or other recognized tension measuring procedures. At the conclusion of the work, the contractor shall remeasure all cable tensions and provide a report to the engineer with both sets of measurements. Adjustments to cable tensions other than locations shown in these plans using the shoring system will be conducted only at the direction of the Engineer.

Welds shall be 5/16" (min) fillet welds unless otherwise noted.

Cable shoring and removal to be conducted in conjunction with floor beam to tie girder weld inspection. See Sheet 15. Cable shoring intended to facilitate existing cable casting removal for inspection.

Work to be completed at one panel point, on one tie girder at a time and one cable at a time. As part of the work, lateral bracing and the lateral bracing gusset and the work panel point may be temporarily removed. Contractor shall include means to support the lateral bracing member as part of the shoring procedure submittal.

General Jacking and Replacement Procedure:

- 1.Remove lateral bracing member and gusset plates if they conflict with the contractor's approved shoring system. Lateral bracing members may be removed at one panel point at one tie girder (north or south) at a time. Lateral bracing shall be fully re-attached prior to removal at a second location.
- 2.Install the cable shoring system to support all four cables at a given panel point. Shoring system should allow for cable tension and dimensional control of all cables at the panel point. Survey the tie girder elevation prior to jacking.
- 3.Before hydraulic jacks are engaged and during all stages of the work, live load at the work panel point and either adjacent panel point shall be limited to personnel and light equipment only. Engage the shoring system with hydraulic jacks to remove load from the existing hanger cable lower casting connection.
- 4.With all cables supported by the shoring system, completely remove one of the four cables at the work panel point and temporarily remove the existing lower casting. While remaining cables are supported by shoring system, temporarily support the weight of the remaining castings. Monitor cable tensions of the remaining three cables in the shoring system to equilibrate load and minimize deflection of the tie girder and deck.
- 5.Perform weld inspection and any weld repair work at the tie girder welds. Visually inspect the removed existing hanger casting for damage or defects prior to reinstallation. Any defects identified shall be reported to the Engineer.
- 6.Install new hanger cable at the removed cable location, reattach the lower casting connection with new high strength bolts, and engage the new cable with the shoring system. Equilibrate load between the four cables via the shoring and jacking system.
- 7.Repeat this process at the remaining three cables, one at a time, until all weld inspection is complete and all four cables at the work panel point have been replaced.
- 8.Equilibrate load in the four new cables and slowly release load from the shoring system, transferring cable load to the permanent, reinstalled lower hanger cable casting connections. Monitor cable tension and ensure equal loading by adjusting heavy hex nuts or using shims. Return tie girder to original surveyed elevation. Differences in loads among the cables at a given panel point should be small, but at no times greater than differences measured in the initial cable inspection. A target for differences in the loads is less than 10 percent.
- 9.Remove shoring system and jacks. Fill any open holes in the tie girder or stiffener plates with fully pretensioned bolts. Reinstall lateral bracing.
10. All work involved with the installation and utilization of the shoring system shall be covered per each installation setup of the shoring system under the contract unit price for Cable Shoring, System Installation, Cable Tension Adjustment. Refer to the Job Special Provisions for additional notes and requirements.

Cable replacement may be required at locations where the lower cable connection casting needs to be removed to facilitate the weld inspection. No cable replacements have been identified. A quantity of 2 Cable Shoring, System Installation, Cable Tension Adjustment locations has been carried for bidding purposes. This quantity may be under-run.

Designed P.J.M.
Detailed L.S
Checked J.C.M.

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

Sheet No. 20 of 49

ARCH SPAN STEEL REPAIR DETAILS 08



LICENSE EXPIRES 12/31/2022	
DATE PREPARED 9/28/2021	
ROUTE 255	STATE MO
DISTRICT BR	SHEET NO. 20
COUNTY ST. LOUIS	
JOB NO. J613413	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A49364	

DATE	DESCRIPTION
9/28/21	VE STUDY

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

Certificate of Authority
No. 001448
Exp. 12/31/22

ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

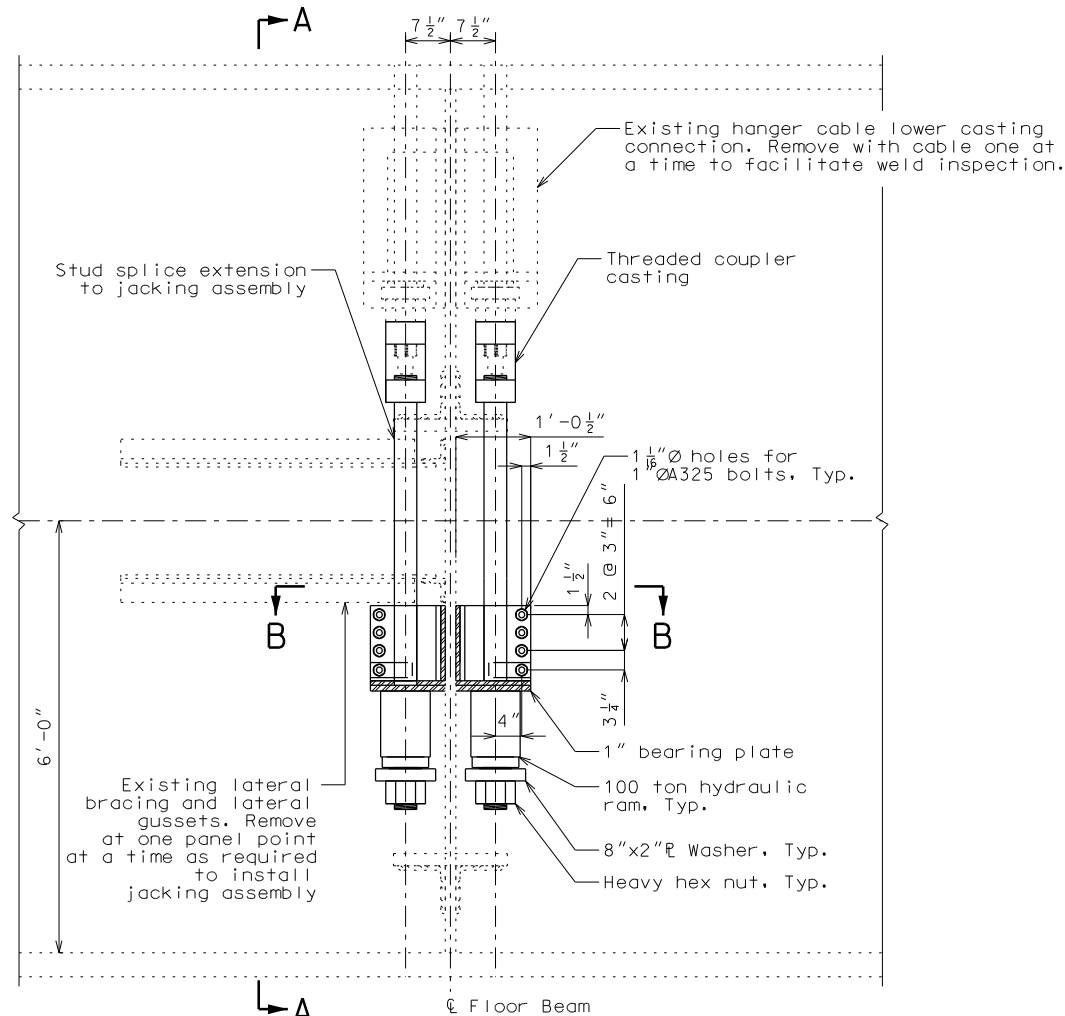
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Miss. Janney, Elstner Associates, Inc.
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847.272.7400 tel | 847.291.9599 fax
www.wje.com

REV. RevDesc

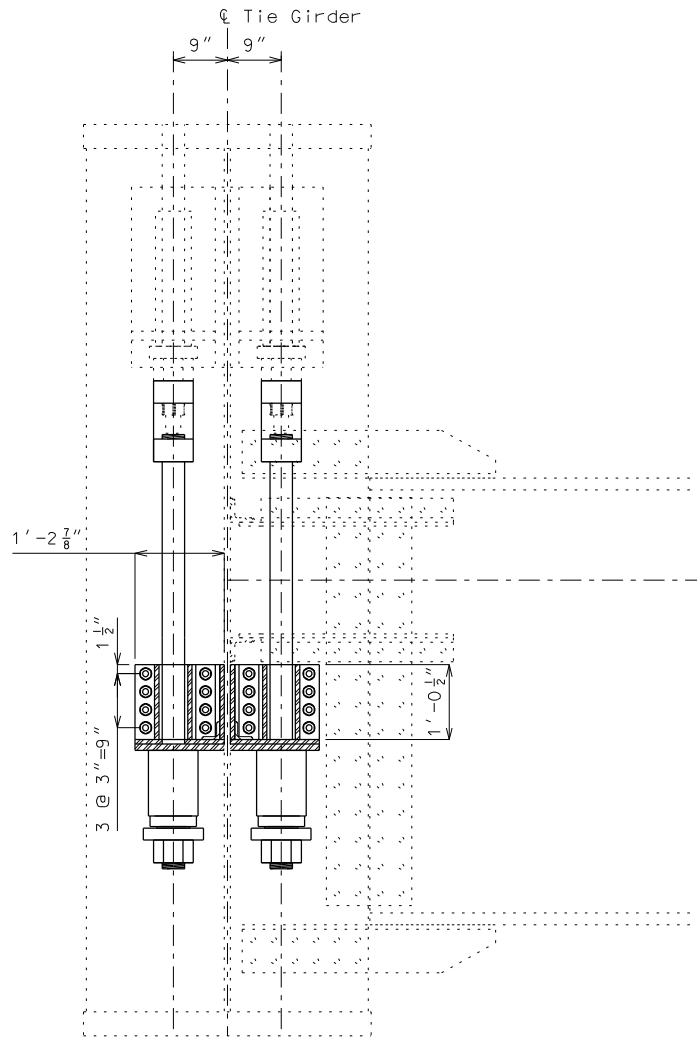
Stress Table for Hangers South Tie											
Location	Tension (kips) 1			Measured Tension, Prior to Repairs				Measured Tension, At Completion of Repairs			
	Dead Load 2	Live Load + Impact	Total	NE Cable	NW Cable	SE Cable	SW Cable	NE Cable	NW Cable	SE Cable	SW Cable
U1-L1	324	49	373								
U2-L2	336	60	396								
U3-L3	332	60	392								
U4-L4	334	60	394								
U5-L5	340	60	400								
U6-L6	342	61	403								
U7-L7	345	61	406								
U8-L8	347	61	408								
U9-L9	349	61	410								
U8'-L8'	347	61	408								
U7'-L7'	345	61	406								
U6'-L6'	342	61	403								
U5'-L5'	340	60	400								
U4'-L4'	334	60	394								
U3'-L3'	332	60	392								
U2'-L2'	336	60	396								
U1'-L1'	324	49	373								

- Notes
1. Tensions are reproduced from original design drawings and are for information purposes only. The cable location and panel designations in those drawings are different than in this set. Refer to Job Special Provisions for requirements on cable tension measurement and expected results.
 2. Dead loads shown are the full dead load from the original design including a 25 psf wearing surface. This represents approximately 33 kips per hanger. Adjust expected dead load to account for construction progress at time of measurement, either with deck milled or new wearing surface installed.
 3. All work required to measure cable tensions at 4 cables at 34 hanger locations shall be covered under the contract unit price for Cable Tension Measurement inspection. Each set of 34 hanger location measurements shall be considered one (1) measurement inspection.



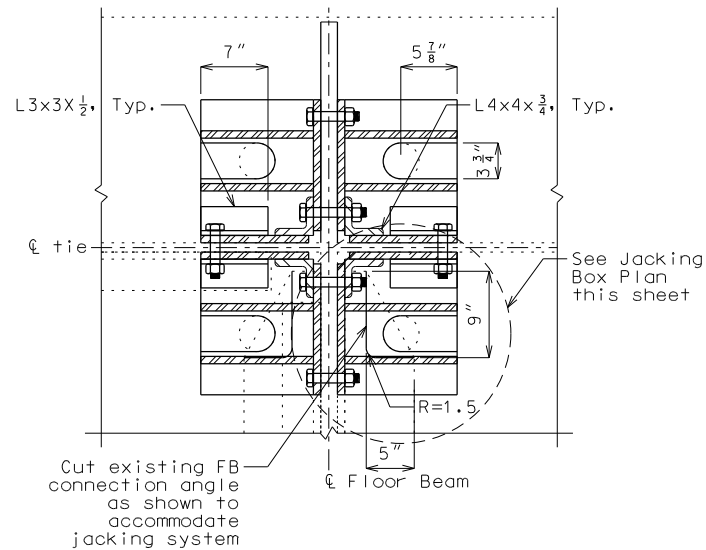
ELEVATION AT TYPICAL LOWER PANEL POINT SHOWING CABLE JACKING SYSTEM

Stress Table for Hangers North Tie											
Location	Tension (kips) 1			Measured Tension, Prior to Repairs				Measured Tension, At Completion of Repairs			
	Dead Load 2	Live Load + Impact	Total	NE Cable	NW Cable	SE Cable	SW Cable	NE Cable	NW Cable	SE Cable	SW Cable
U1-L1	324	49	373								
U2-L2	336	60	396								
U3-L3	332	60	392								
U4-L4	334	60	394								
U5-L5	340	60	400								
U6-L6	342	61	403								
U7-L7	345	61	406								
U8-L8	347	61	408								
U9-L9	349	61	410								
U8'-L8'	347	61	408								
U7'-L7'	345	61	406								
U6'-L6'	342	61	403								
U5'-L5'	340	60	400								
U4'-L4'	334	60	394								
U3'-L3'	332	60	392								
U2'-L2'	336	60	396								
U1'-L1'	324	49	373								

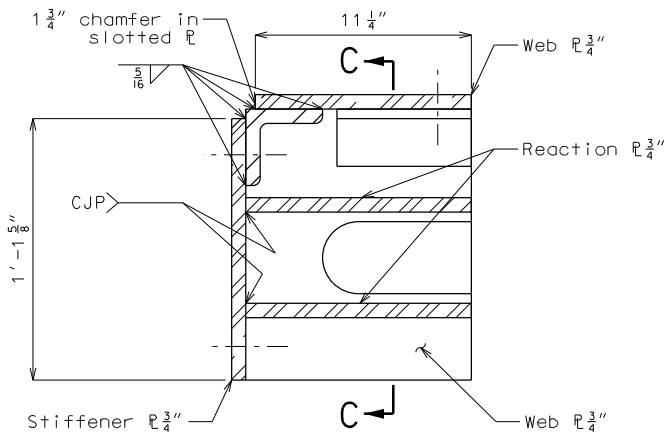


SECTION A-A

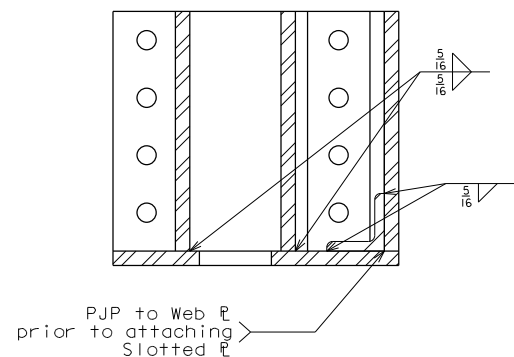
ARCH SPAN STEEL REPAIR DETAILS 09



SECTION B-B



JACKING BOX PLAN



JACKING BOX SECTION C-C

Note: Work this sheet with Sheet 20.

Designed P.J.M.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 21 of 49



LICENSE EXPIRES 12/31/2022

DATE PREPARED 9/28/2021

ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 21

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A49364

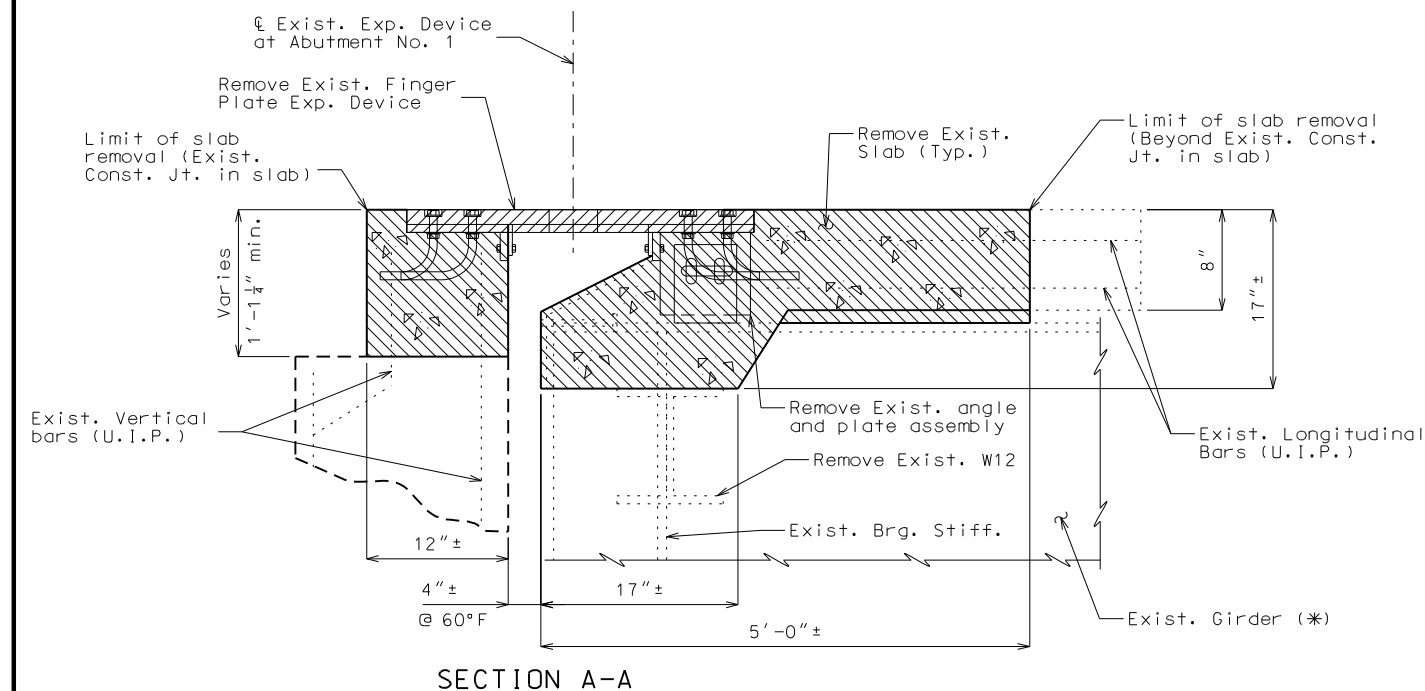
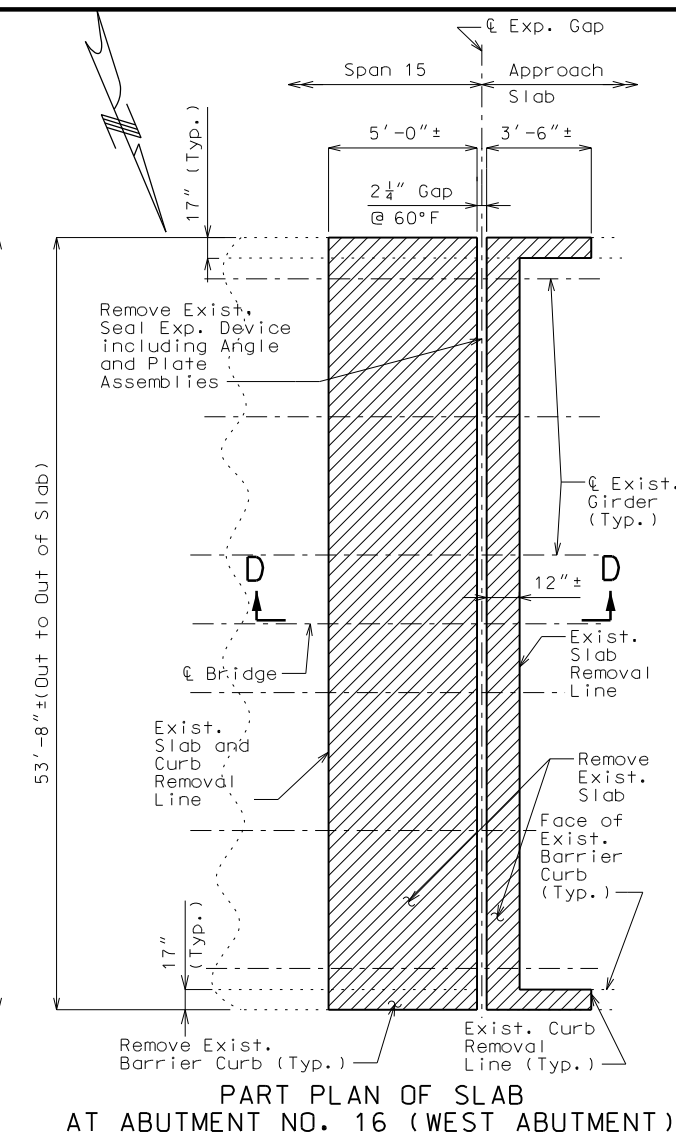
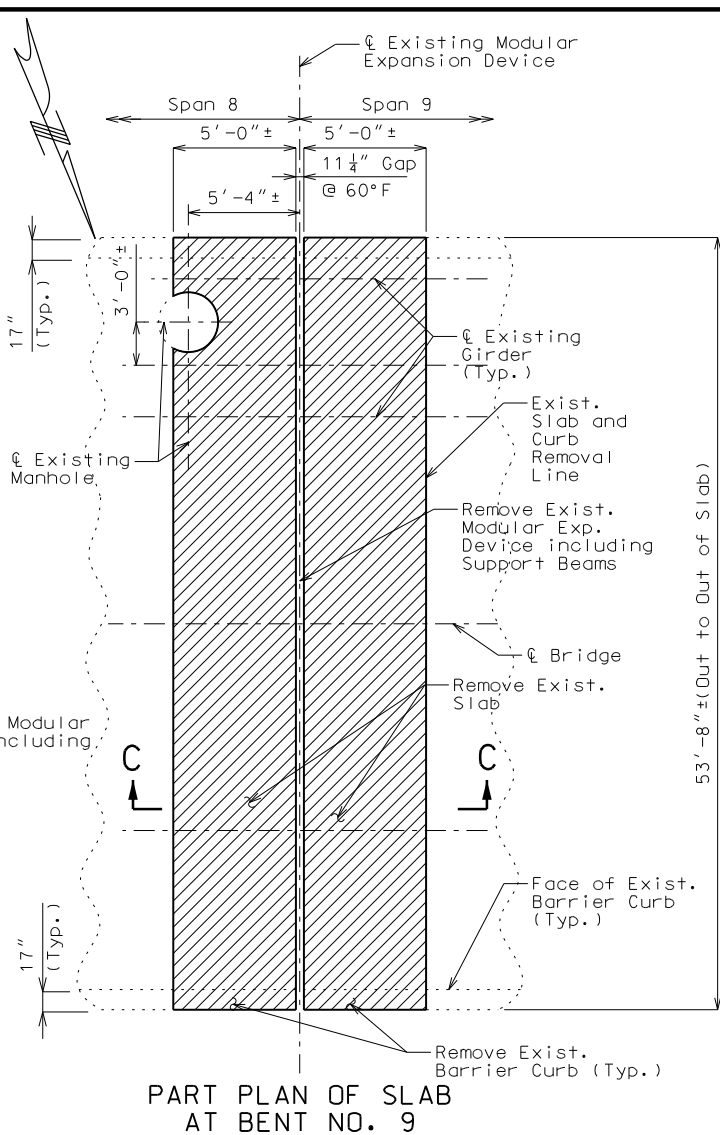
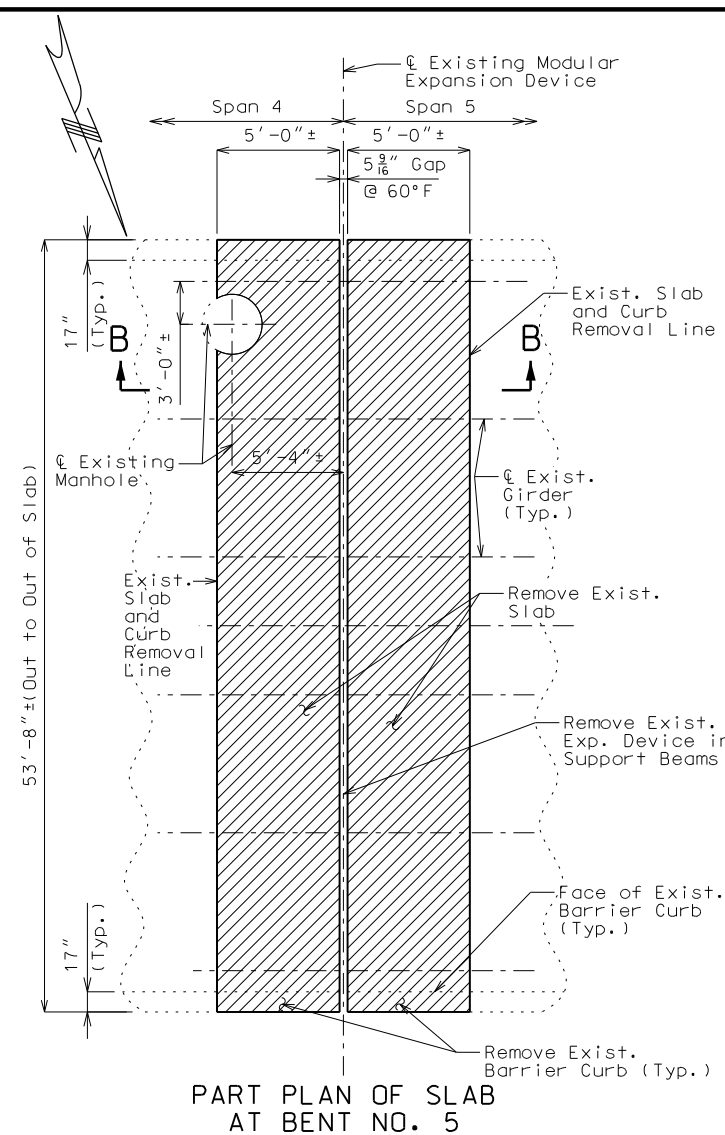
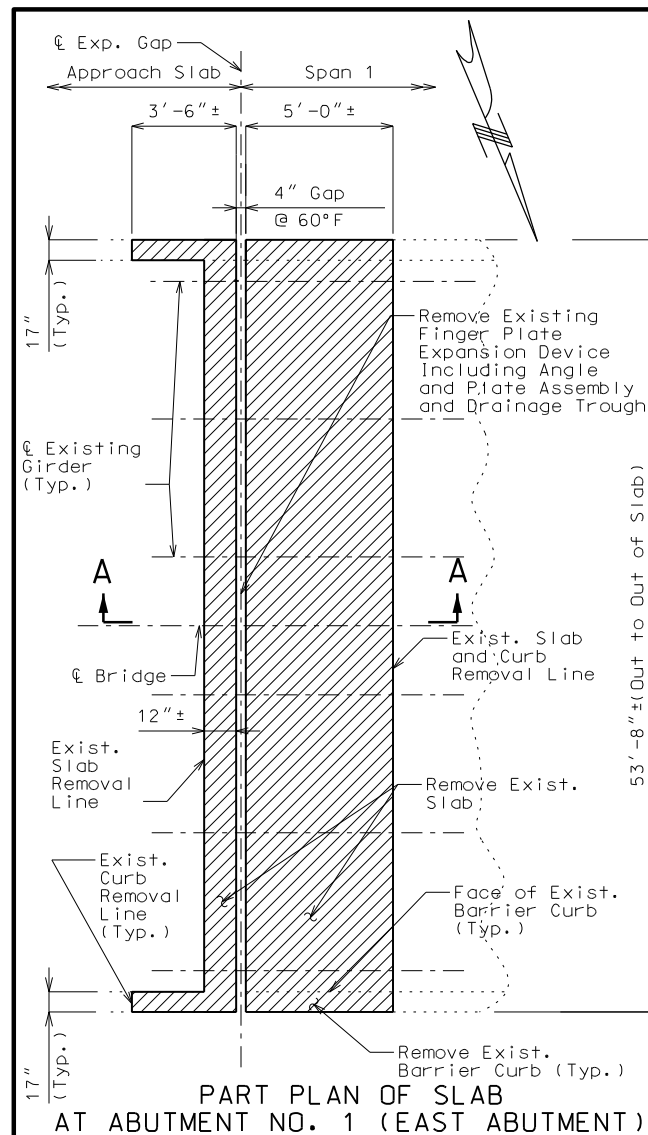


Clearance around top bar and around bottom bar at the intersection of top bar shall be required when more than half the diameter of the top bar is exposed.

Polyester Polymer Concrete: ☐



Notes:
Barrier Curb Repair shall
use shotcrete repair method.
See Job Special Provisions.



APPROACH SPAN EXPANSION JOINT REMOVAL DETAILS 01

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 24 of 49

Notes:

Bars bonded in old concrete to remain shall be cleaned of existing concrete and embedded into new concrete.

For partial elevations, see Sheet 24.

For removal sections, see Sheet 24.

For details of slab replacement, see Sheets 31 thru. 34.

For details of barrier curb replacement, see Sheets 42 & 43.

The cost of all labor, materials and equipment for the removal of existing finger plate expansion devices including drainage troughs and support beams, strip seal and modular devices including angle and plate assemblies and support beams, and concrete slab including reinforcement shall be considered completely covered by the contract unit price for Removal of Existing Expansion Joints and Adjacent Concrete per linear foot.

The cost of all labor, materials and equipment for the removal and replacement of existing barrier curb including reinforcement, and all new concrete and reinforcement complete-in-place will be considered completely covered by the contract unit price for Remove and Replace Barrier Curb per linear foot.



LICENSE EXPIRES
12/31/2022

DATE PREPARED
7/29/2021

ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 24

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A49364

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



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

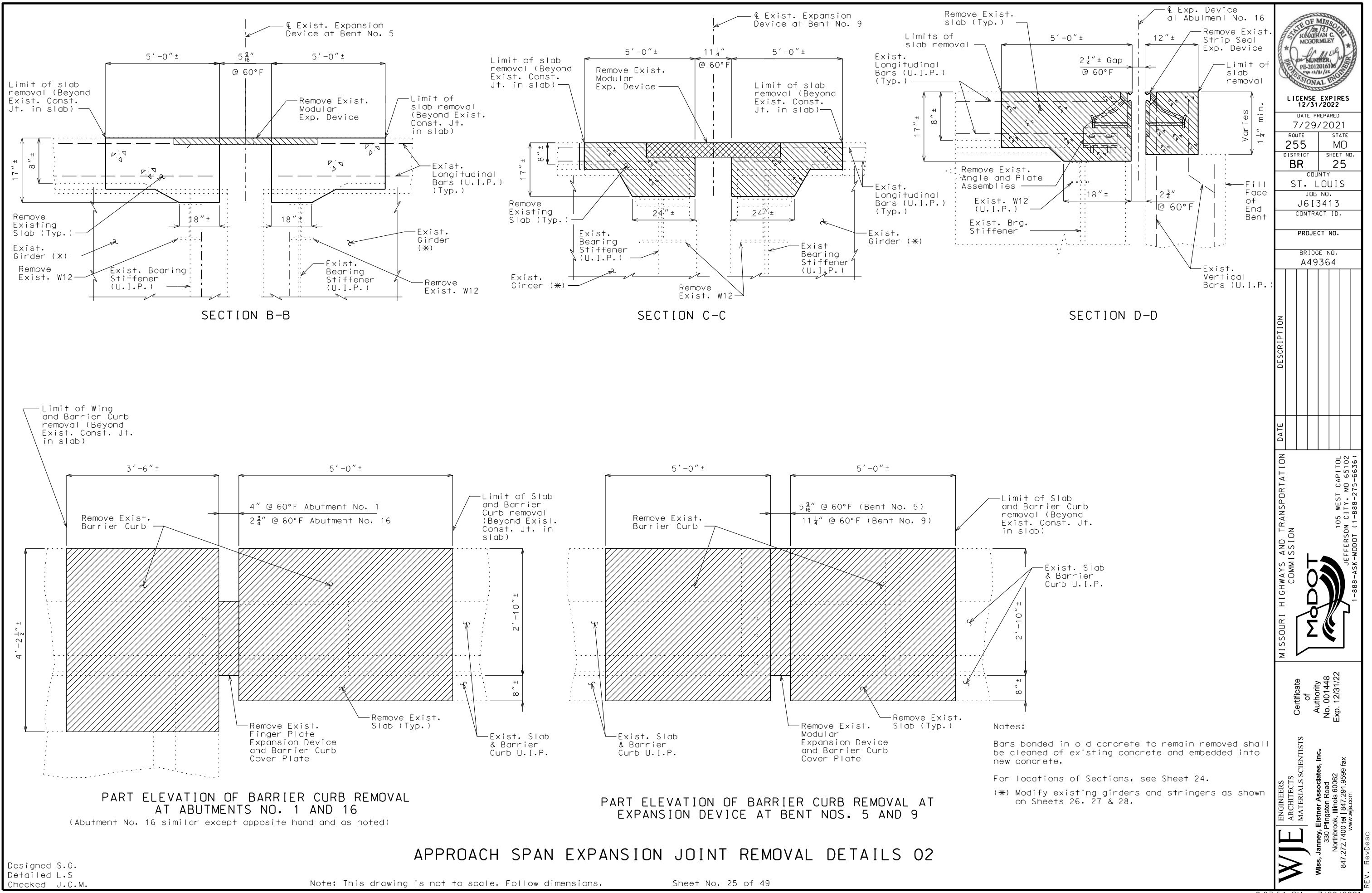
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Exp. 12/31/22

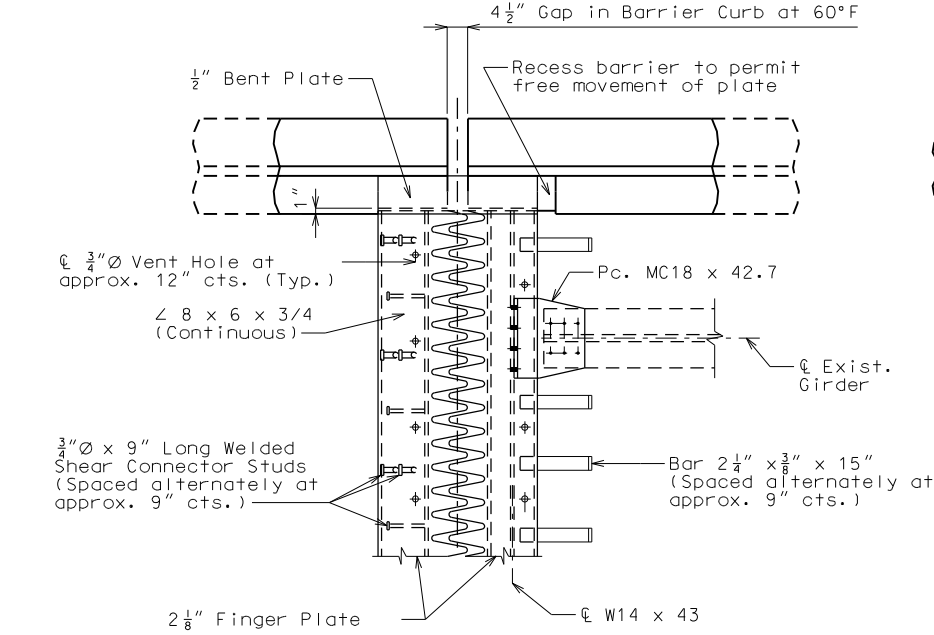
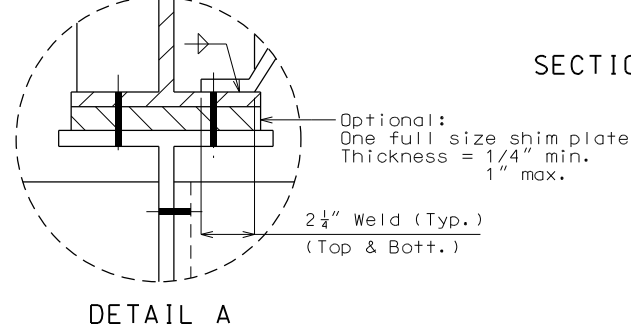
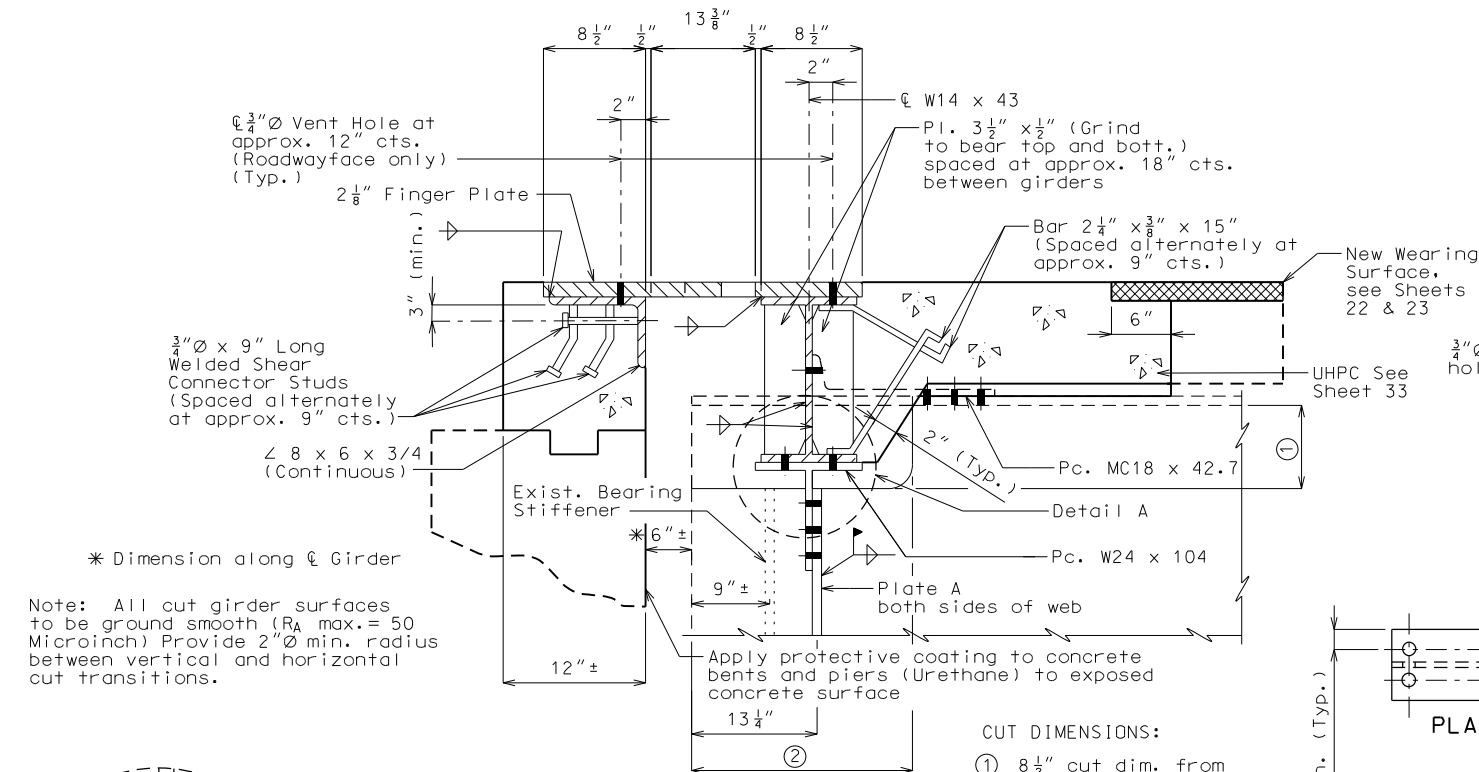
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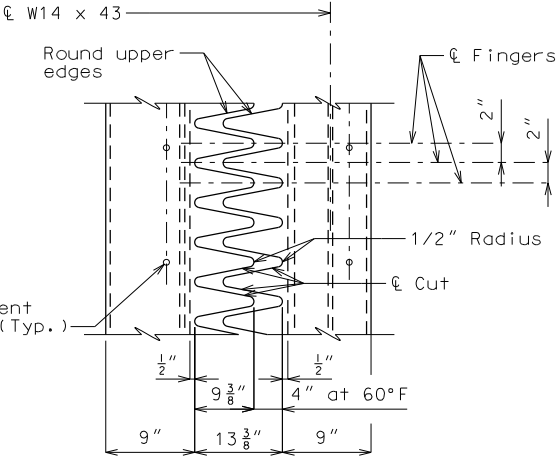
PART PLAN OF DEVICE

Designed L.P.
Detailed L.S.
Checked J.C.M.

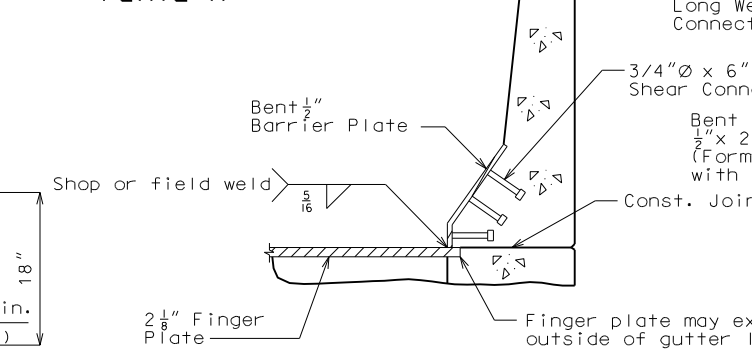
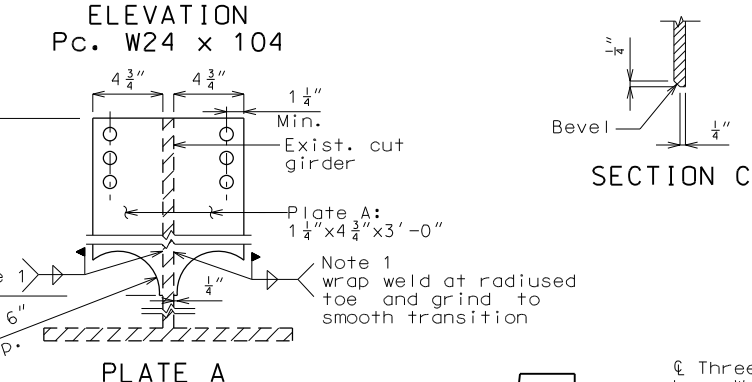
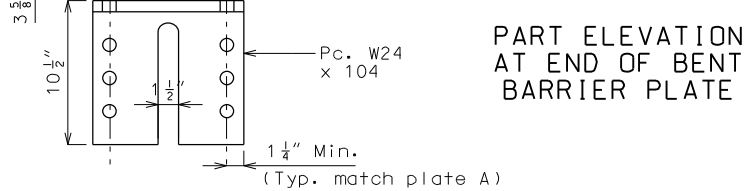
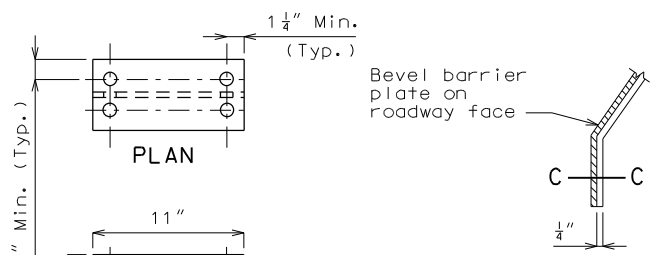
APPROACH SPAN DETAILS OF FINGER PLATE EXPANSION DEVICE AT ABUTMENT NO. 1

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

Sheet No. 26 of 49



PART PLAN OF FINGER PLATE



SECTION A-A

GENERAL NOTES:
Finger plate shall be machine cut from one plate. The plate from which fingers are cut may be spliced before fingers are cut. The surface of cut shall be perpendicular to the surface of the plate. The cut shall not exceed 1/8" in width. The centerline of cut shall not deviate more than 1/16" from the position of centerline of cut shown. No splicing of finger plate or finger plate assembly will be allowed after fingers are cut. The expansion device shall be fabricated and installed to the crown and grade of the roadway.
Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased 7/16" for each 10° fall or rise in temperature at installation.
Material for the expansion device shall be ASTM A709 Grade 36 structural steel. Anchors for the expansion device shall be in accordance with Sec 1037.
Structural steel for the expansion device and barrier plate shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.
Payment for furnishing, coating or galvanizing and installing the structural steel for the expansion device will be considered completely covered by the contract unit price for Finger Joint Expansion Joint System per linear foot.
All holes shown for connections shall be subpunched 11/16-inch diameter (shop or field drill) and reamed to 13/16-inch diameter in field.
Longitudinal reinforcing steel shall be placed so that ends shall not be more than ±1" from the web of W14 x 43 at the expansion device.
Complete joint penetration welds utilized in the fabrication of the expansion device shall be nondestructively tested by an approved method.
Minimum fillet weld = 1/4".

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased 7/16" for each 10° fall or rise in temperature at installation.

Material for the expansion device shall be ASTM A709 Grade 36 structural steel. Anchors for the expansion device shall be in accordance with Sec 1037.

Structural steel for the expansion device and barrier plate shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

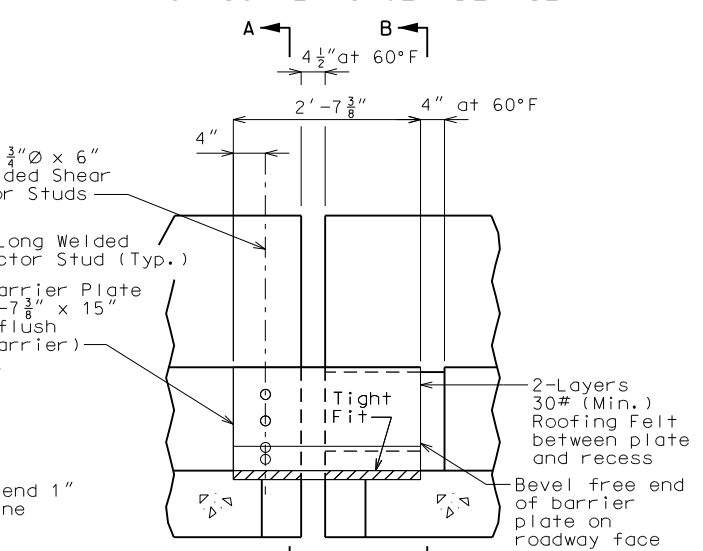
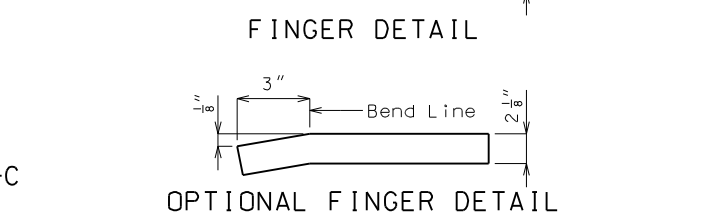
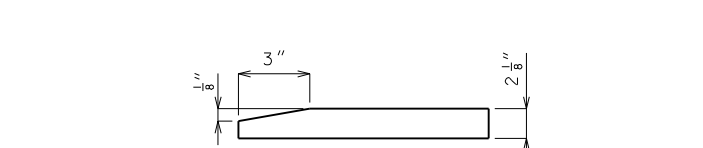
Payment for furnishing, coating or galvanizing and installing the structural steel for the expansion device will be considered completely covered by the contract unit price for Finger Joint Expansion Joint System per linear foot.

All holes shown for connections shall be subpunched 11/16-inch diameter (shop or field drill) and reamed to 13/16-inch diameter in field.

Longitudinal reinforcing steel shall be placed so that ends shall not be more than ±1" from the web of W14 x 43 at the expansion device.

Complete joint penetration welds utilized in the fabrication of the expansion device shall be nondestructively tested by an approved method.

Minimum fillet weld = 1/4".



ELEVATION OF BARRIER

STATE OF MISSOURI
JONATHAN C. MCGORMLEY
LICENSE NO. 12345
EXPIRES 12/31/2022

ROUTE 255
DISTRICT BR

STATE MO
SHEET NO. 26

COUNTY ST. LOUIS
JOB NO. J613413
CONTRACT ID.

PROJECT NO.

BRIDGE NO. A49364

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

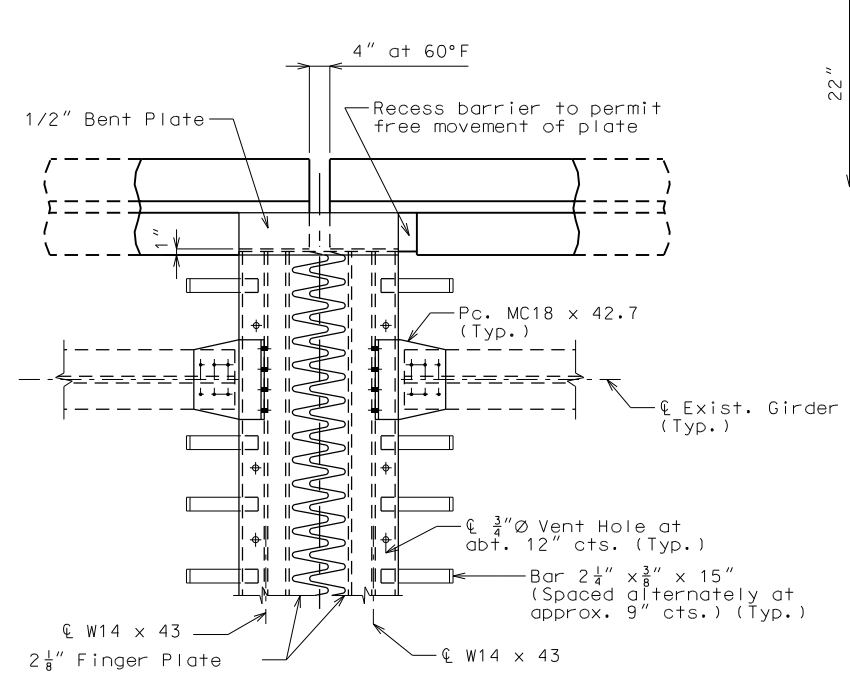
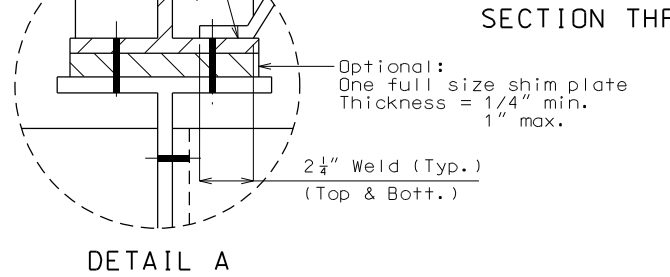
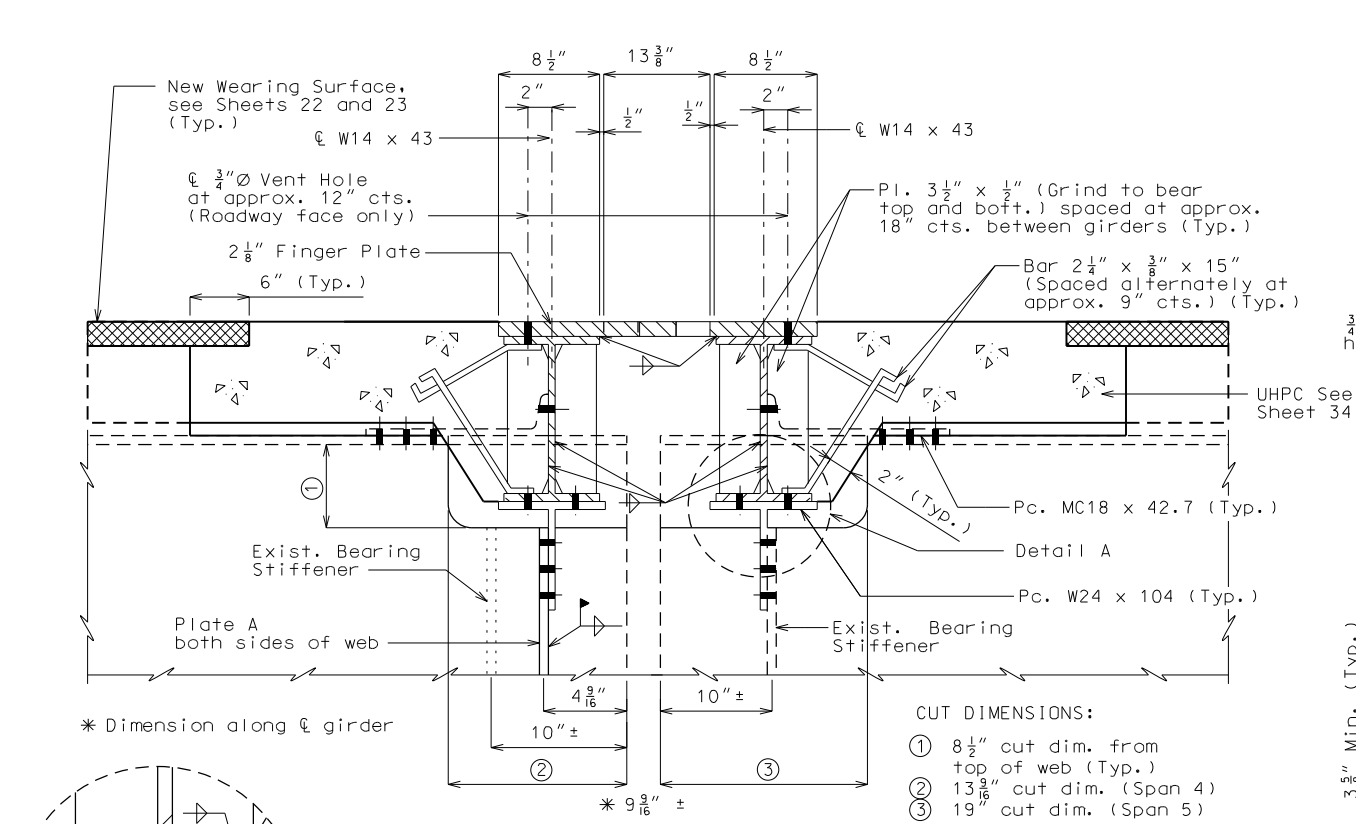
105 WEST CAPITOL
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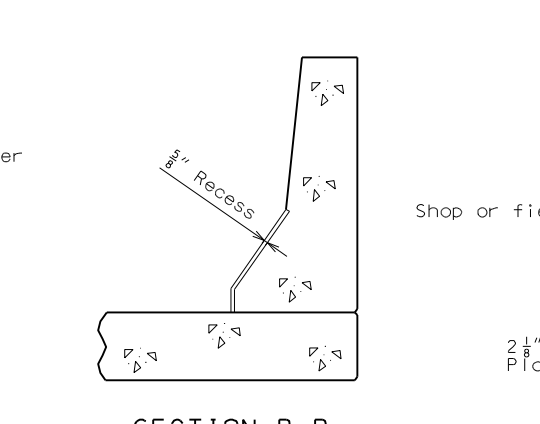
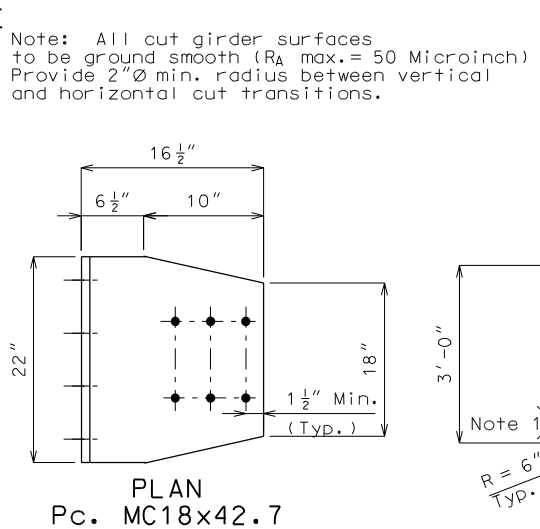
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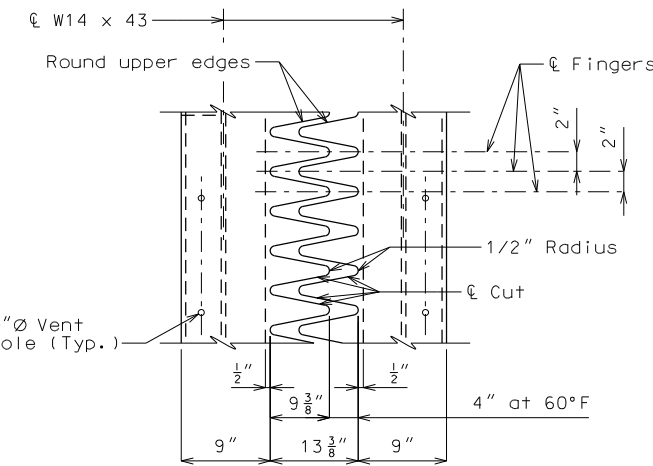
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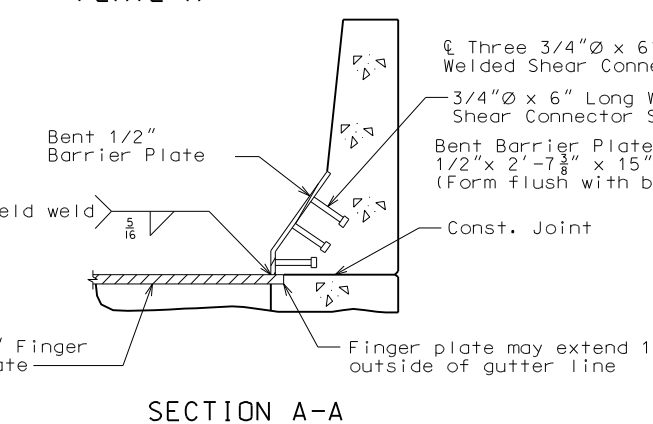
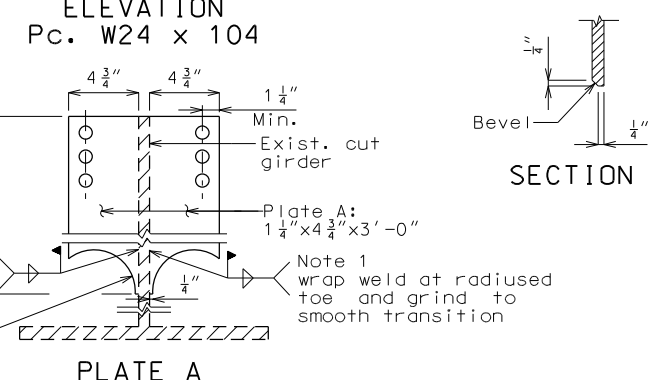
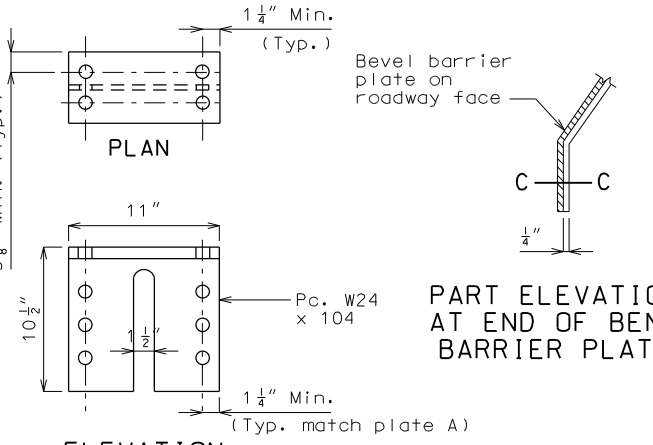
PART PLAN OF DEVICE



SECTION B-B



PART PLAN OF FINGER PLATE



SECTION A-A

GENERAL NOTES:
 Finger plate shall be machine cut from one plate. The plate from which fingers are cut may be spliced before fingers are cut. The surface of cut shall be perpendicular to the surface of the plate. The cut shall not exceed 1/8 inch in width. The centerline of cut shall not deviate more than 1/16 inch from the position of centerline of cut shown. No splicing of finger plate or finger plate assembly will be allowed after fingers are cut. The expansion device shall be fabricated and installed to the crown and grade of the roadway.

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased 7/16 inch for each 10° fall or rise in temperature at installation.

Material for the expansion device shall be ASTM A709 Grade 36 structural steel. Anchors for the expansion device shall be in accordance with Sec 1037.

Structural steel for the expansion device and barrier plate shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

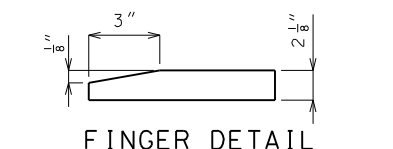
Payment for furnishing, coating or galvanizing and installing the structural steel for the expansion device will be considered completely covered by the contract unit price for Finger Joint Expansion Joint System per linear foot.

All holes shown for connections shall be subpunched 11/16 inch diameter (shop or field drill) and reamed to 13/16 inch diameter in field.

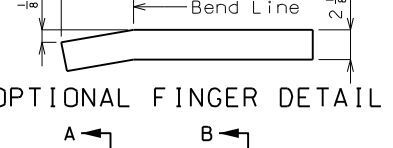
Longitudinal reinforcing steel shall be placed so that ends shall not be more than ±1 inch from the web of W14 x 43 at the expansion device.

Complete joint penetration welds utilized in the fabrication of the expansion device shall be nondestructively tested by an approved method.

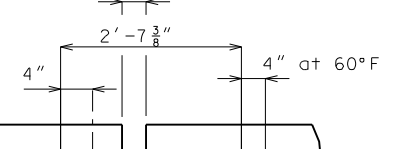
Minimum fillet weld = 1/4 inch.



FINGER DETAIL



OPTIONAL FINGER DETAIL



ELEVATION OF BARRIER

APPROACH SPAN DETAILS OF FINGER PLATE EXPANSION DEVICE AT BENT NO. 5

Designed L.P.
 Detailed L.S.
 Checked J.C.M.

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

Sheet No. 27 of 49

STATE OF MISSOURI
Jonathan C. McGormley
Professional Engineer
License Expires 12/31/2022

DATE PREPARED
8/4/2021

ROUTE
255

DISTRICT
BR

COUNTY
ST. LOUIS

JOB NO.
J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A49364

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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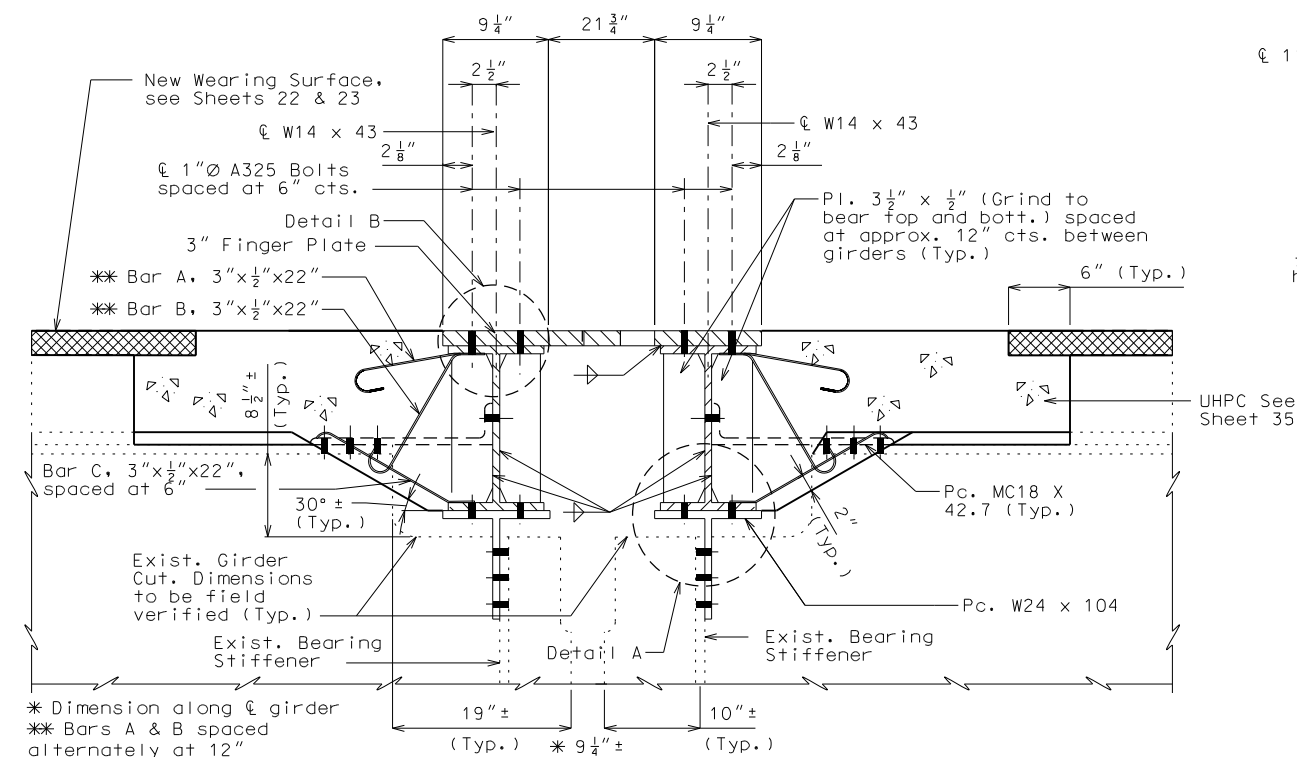
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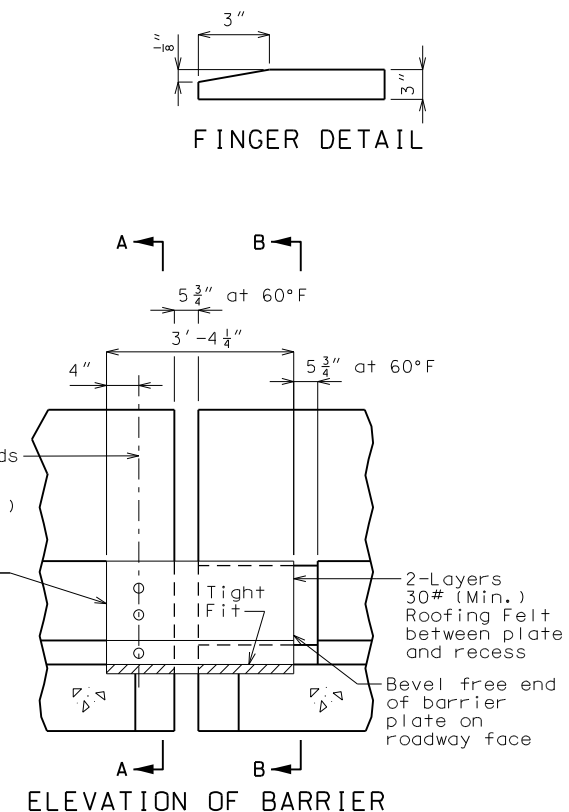
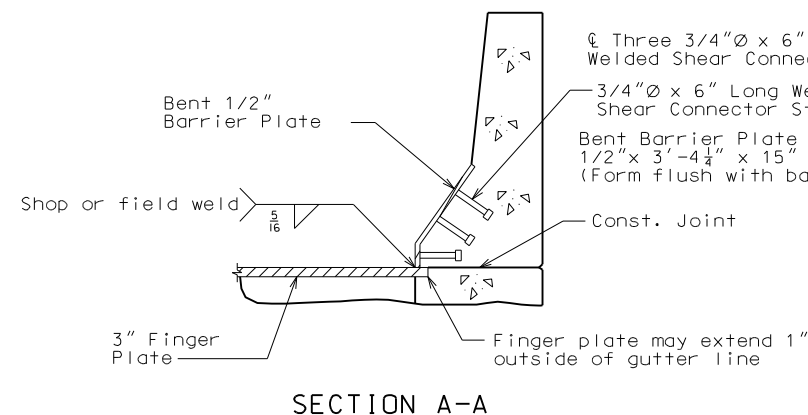
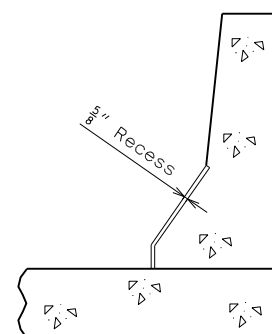
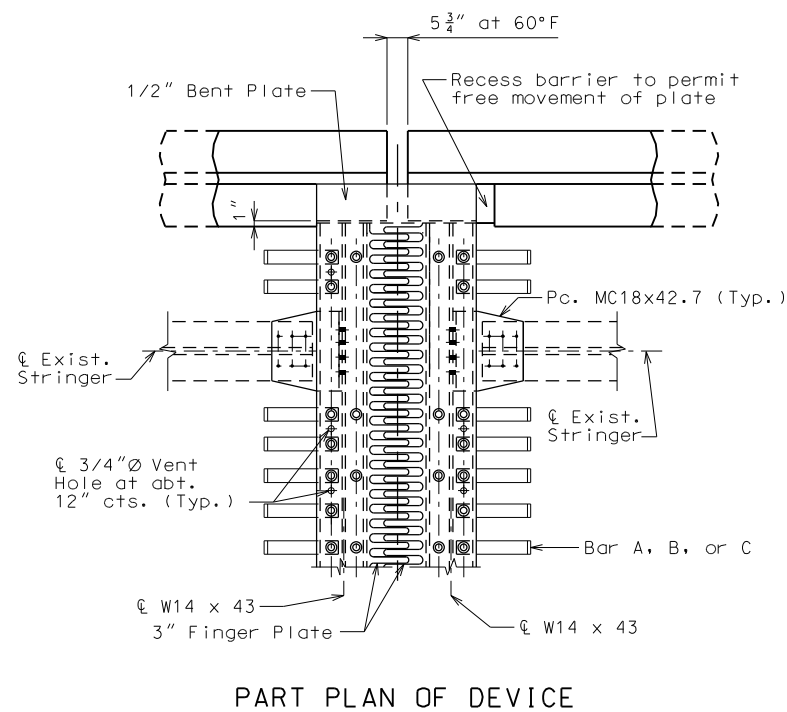
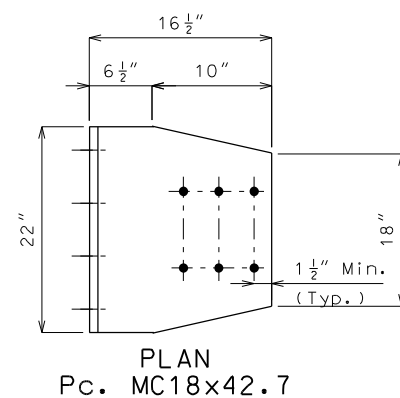
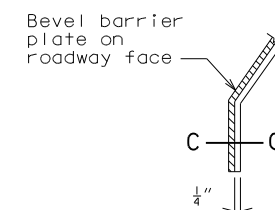
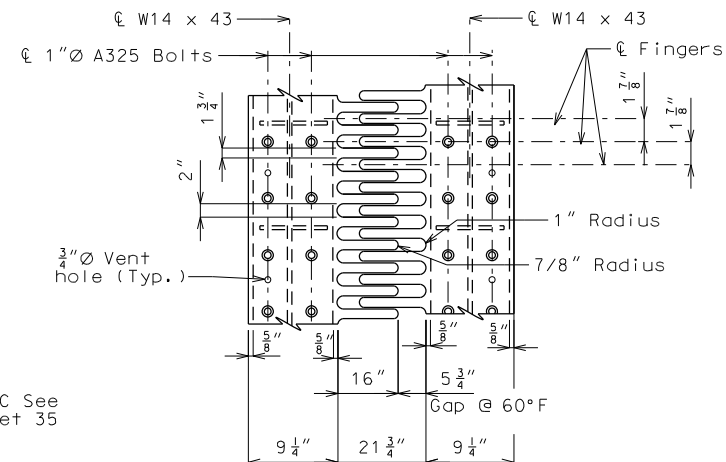
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Notes:
Vent hole not shown, see part plan.
All cut girder surfaces to be ground
smooth R_A max. = 50 Microinch). Provide
2" ϕ min. Radius between vertical
and horizontal cut transitions.



GENERAL NOTES:

Finger plate shall be machine cut from one plate. The plate from which fingers are cut may be spliced before fingers are cut. The surface of cut shall be perpendicular to the surface of the plate. The cut shall not exceed 1/8" in width. The centerline of cut shall not deviate more than 1/16" from the position of centerline of cut shown. No splicing of finger plate or finger plate assembly will be allowed after fingers are cut. The expansion device shall be fabricated and installed to the crown and grade of the roadway.

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased 3/4" for each 10° fall or rise in temperature at installation.

Material for the expansion device and anchor bars shall be ASTM A709 Grade 50 structural steel. Anchors for the expansion device shall be in accordance with Sec 1037.

Structural steel for the expansion device and barrier plate shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Payment for furnishing, coating or galvanizing and installing the structural steel for the expansion device will be considered completely covered by the contract unit price for Finger Joint Expansion Joint System per linear foot.

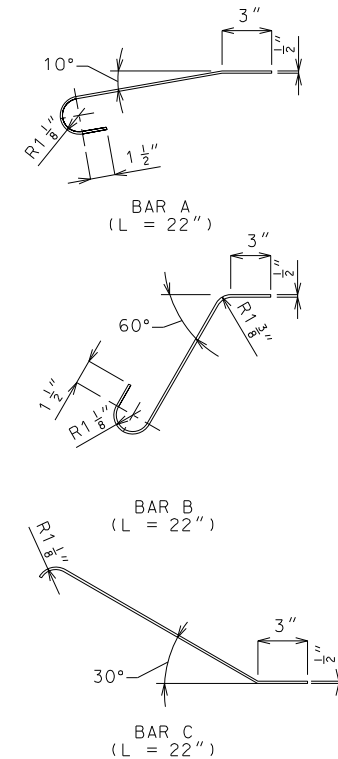
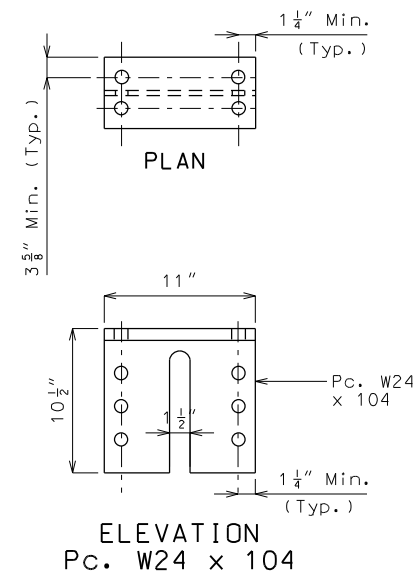
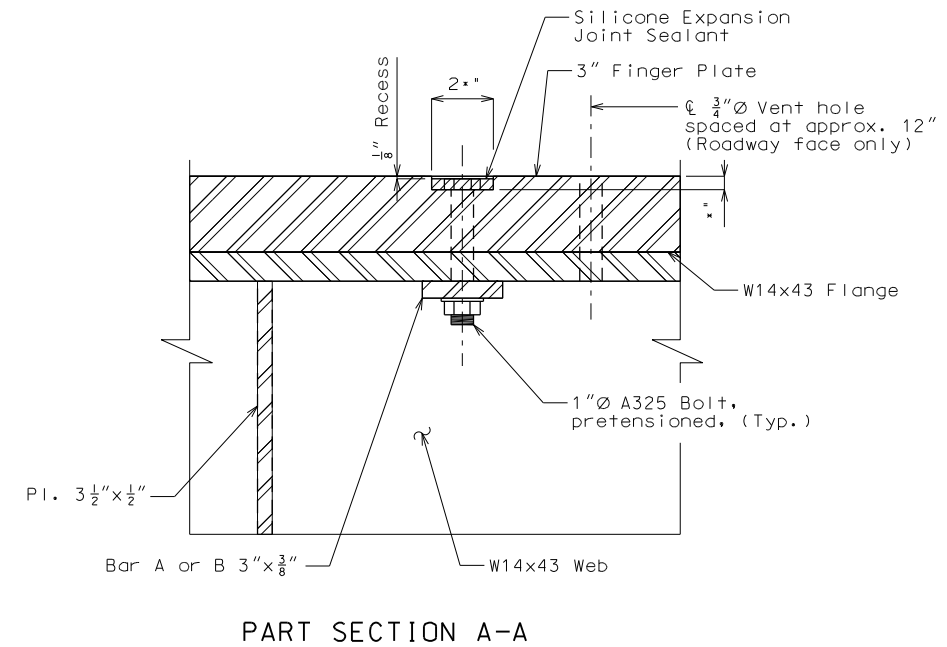
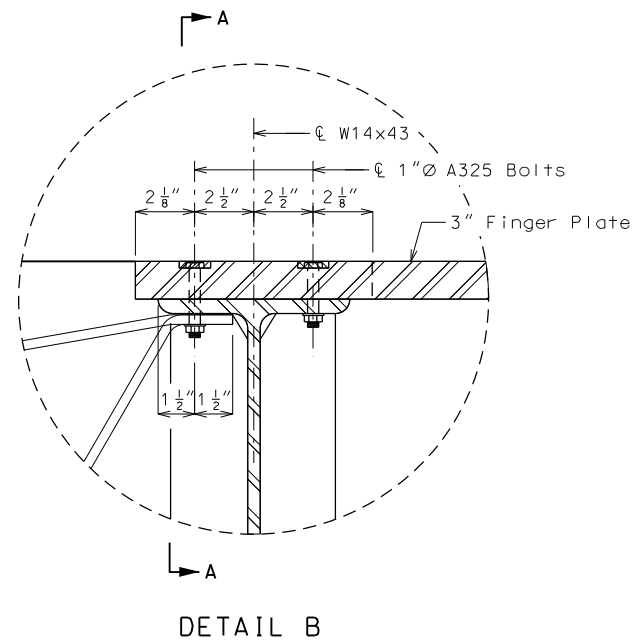
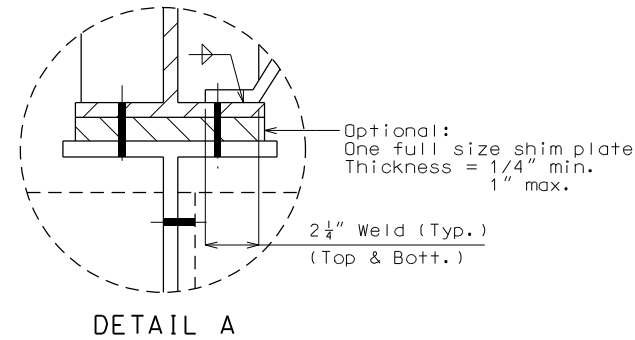
All holes shown for connections shall be subpunched 11/16-inch diameter (shop or field drill) and reamed to 13/16-inch diameter in field except that bolt holes for 1"Ø bolts shall be subpunched 15/16-inch diameter (shop or field drill) and reamed to 1-1/16-inch diameter in field.

Longitudinal reinforcing steel shall be placed so that ends shall not be more than $\pm 1"$ from the web of W14 x 43 at the expansion device.

Complete joint penetration welds utilized in the fabrication of the expansion device shall be nondestructively tested by an approved method.

N Work this sheet with Sheet No. 29.

[illegible]



Note:
Work this sheet with Sheet No. 28.

APPROACH SPAN DETAILS OF FINGER PLATE EXPANSION DEVICE AT BENT NO. 9

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

Sheet No. 29 of 49

Designed L.P.
Detailed L.S.
Checked J.C.M.



LICENSE EXPIRES
12/31/2022

DATE PREPARED
9/28/2021

ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 29

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A49364

DESCRIPTION

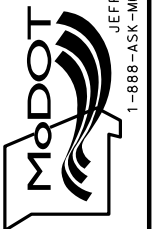
VE STUDY

DATE

9/28/21

MISSOURI HIGHWAYS AND TRANSPORTATION
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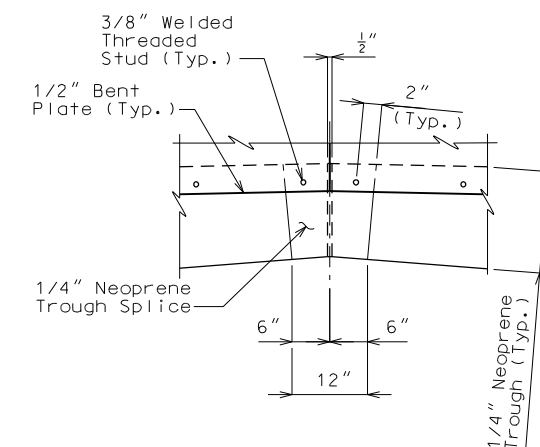
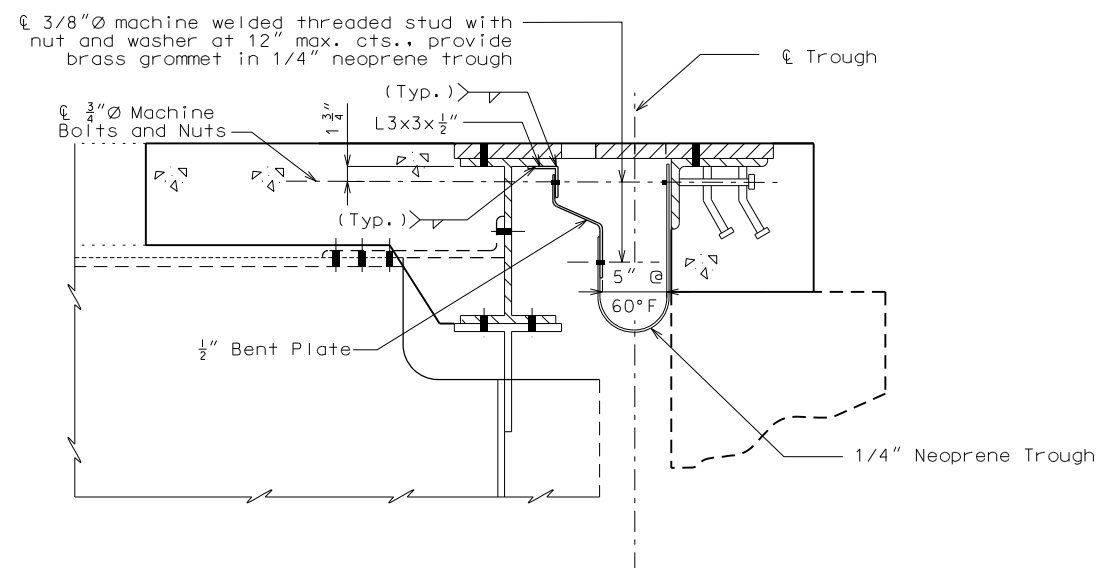
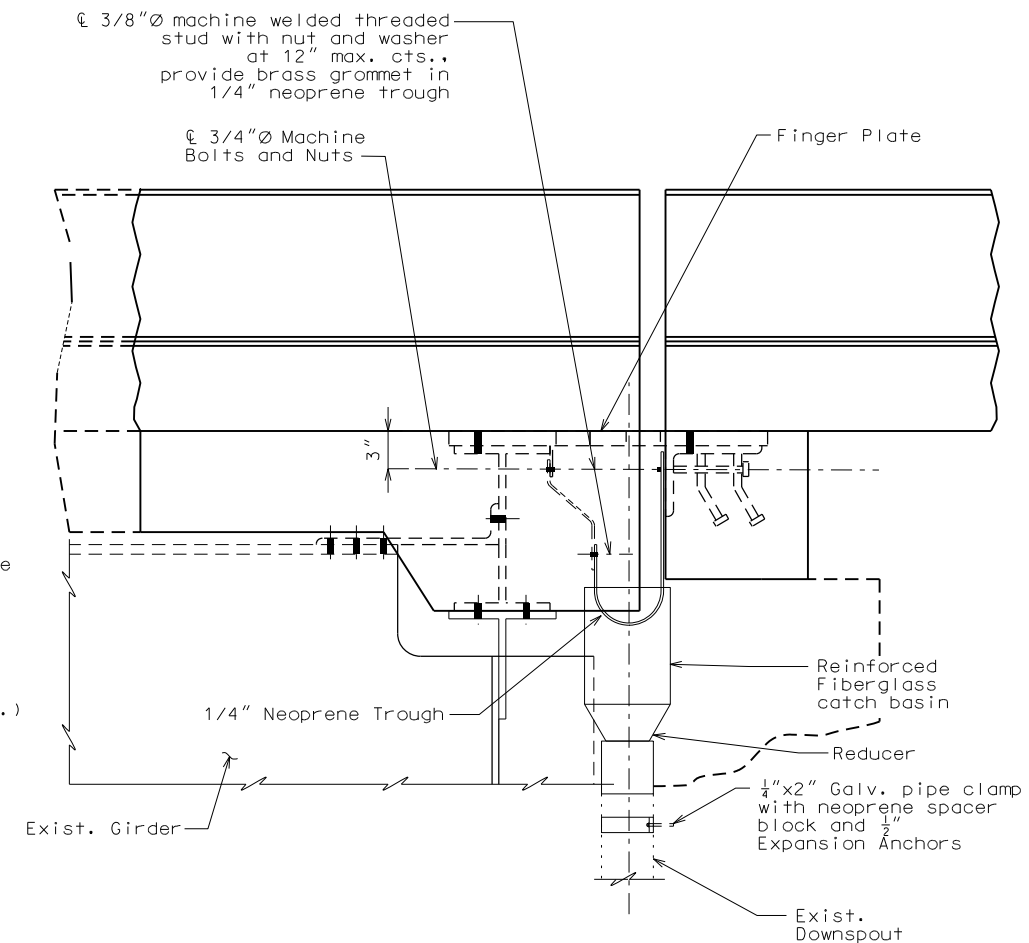
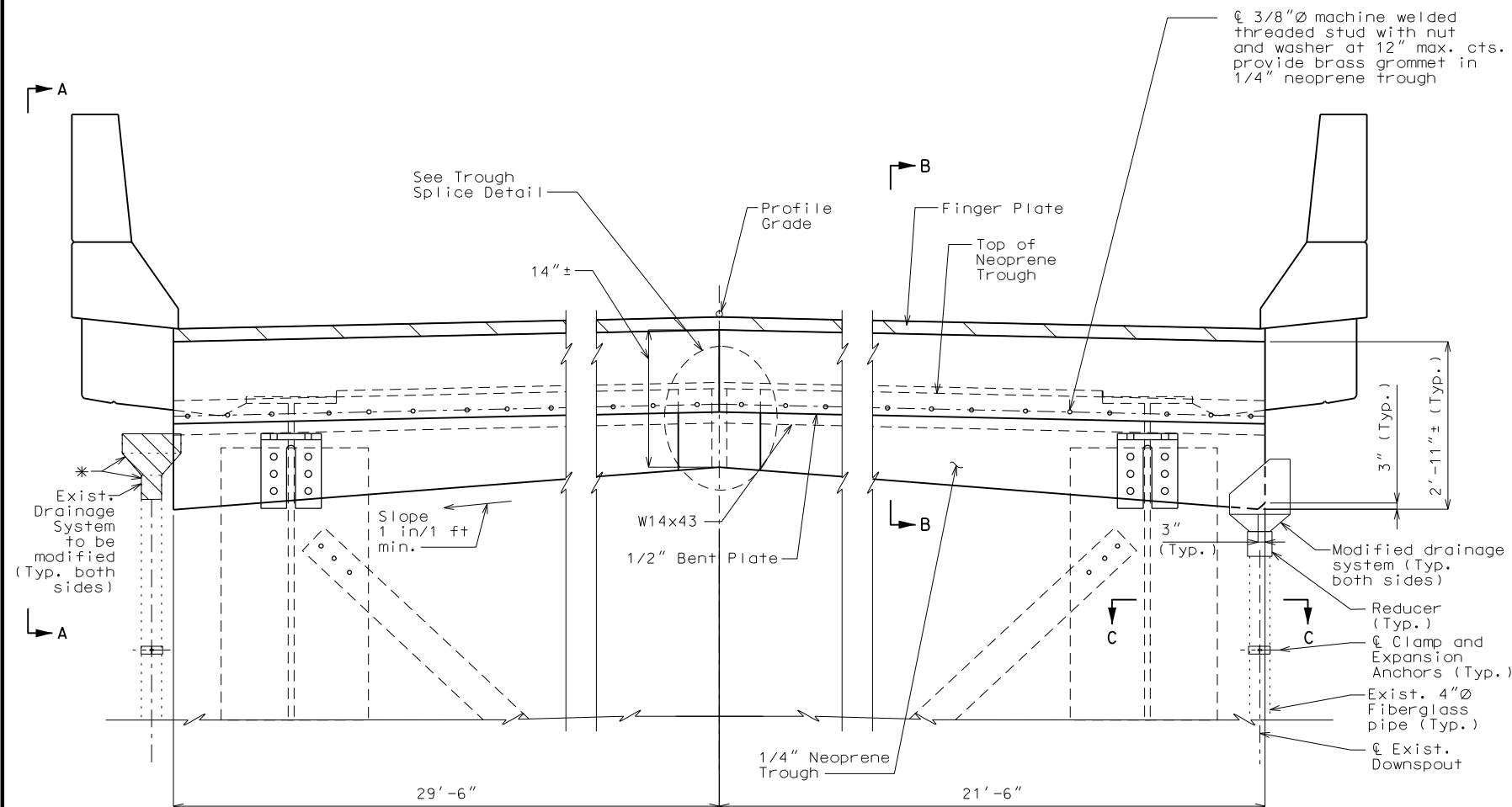
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Cost of installing and providing drainage trough will be considered completely covered by the contract unit price for Finger Joint Expansion Joint System. See Job Specail Provisions-Drainage System.



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
DATE PREPARED
8/4/2021

ROUTE 255	STATE MO
DISTRICT BR	SHEET NO. 30

COUNTY	
ST. LOUIS	
JOB NO.	
J6I3413	
CONTRACT ID.	

PROJECT NO.

BRIDGE NO.	A49364
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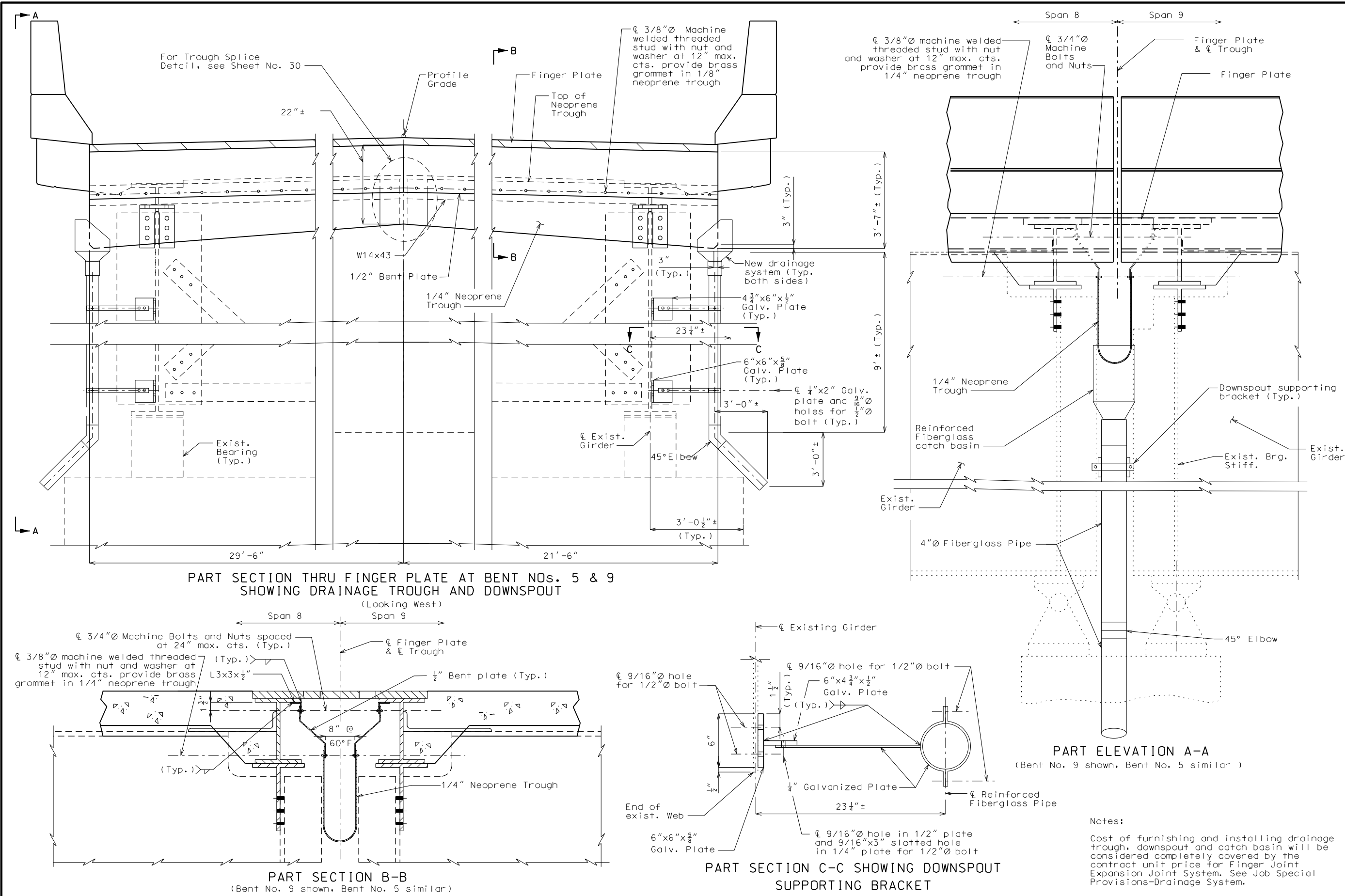
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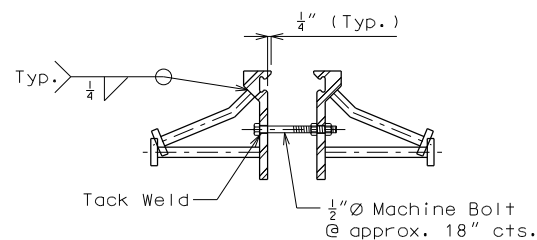
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DETAILS OF DRAINAGE TROUGH AT EXPANSION JOINT DEVICE AT BENT NOS. 5 & 9

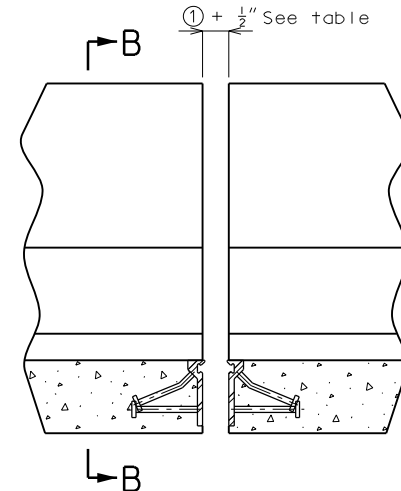
Note: Strip seal gland not shown for clarity.



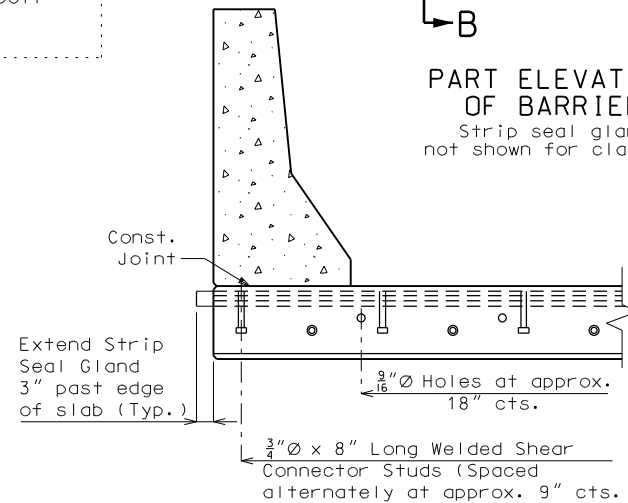
$\varnothing \frac{1}{2}$ " Machine Bolts and Nut with $\frac{9}{16}$ " \varnothing holes
 $\varnothing \frac{3}{16}$ " x 1" Slotted Holes for $\frac{1}{2}$ " \varnothing machine bolts
 Angle $3\frac{1}{2}$ " x $3\frac{1}{2}$ " x $\frac{5}{16}$ " x 6" \pm long
 $\frac{5}{16}$ " Plate
 1"

1 1/2" 3" \pm 1 1/2" 1 1/2" 3" \pm 1 1/2"

DETAIL B



Strip seal gland
not shown for clarity.



Steel Armor

Cavity

8" ±

3/4" \varnothing x 8" Welded Shear Connector alternating at 9" cts.

9/16" \varnothing Holes for 1/2" \varnothing machine bolts

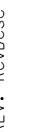
Exposed Face of Steel Armor

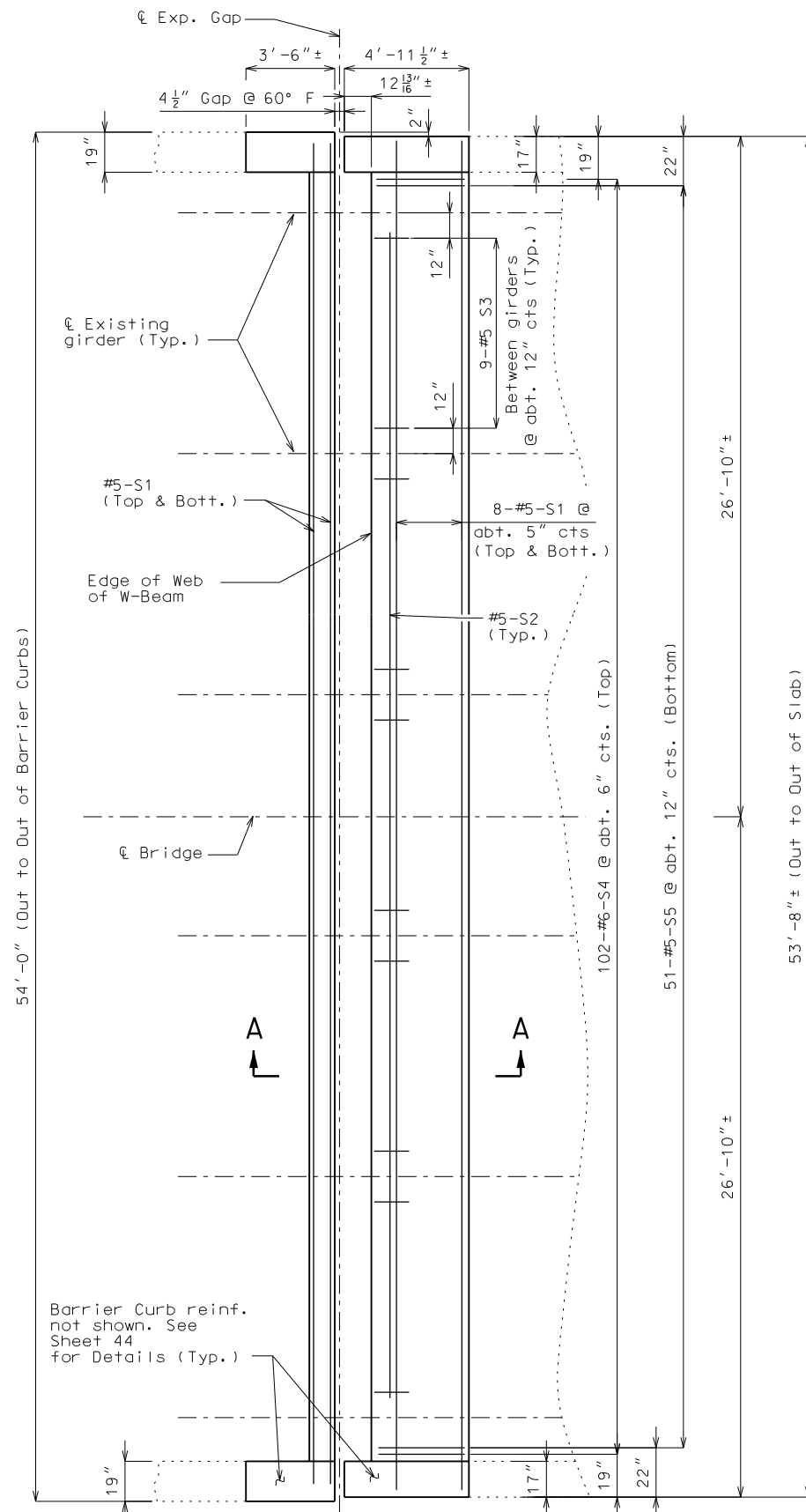
Lug (Typ.)

Single Layer Gland
(Multiple layer
gland not allowed)

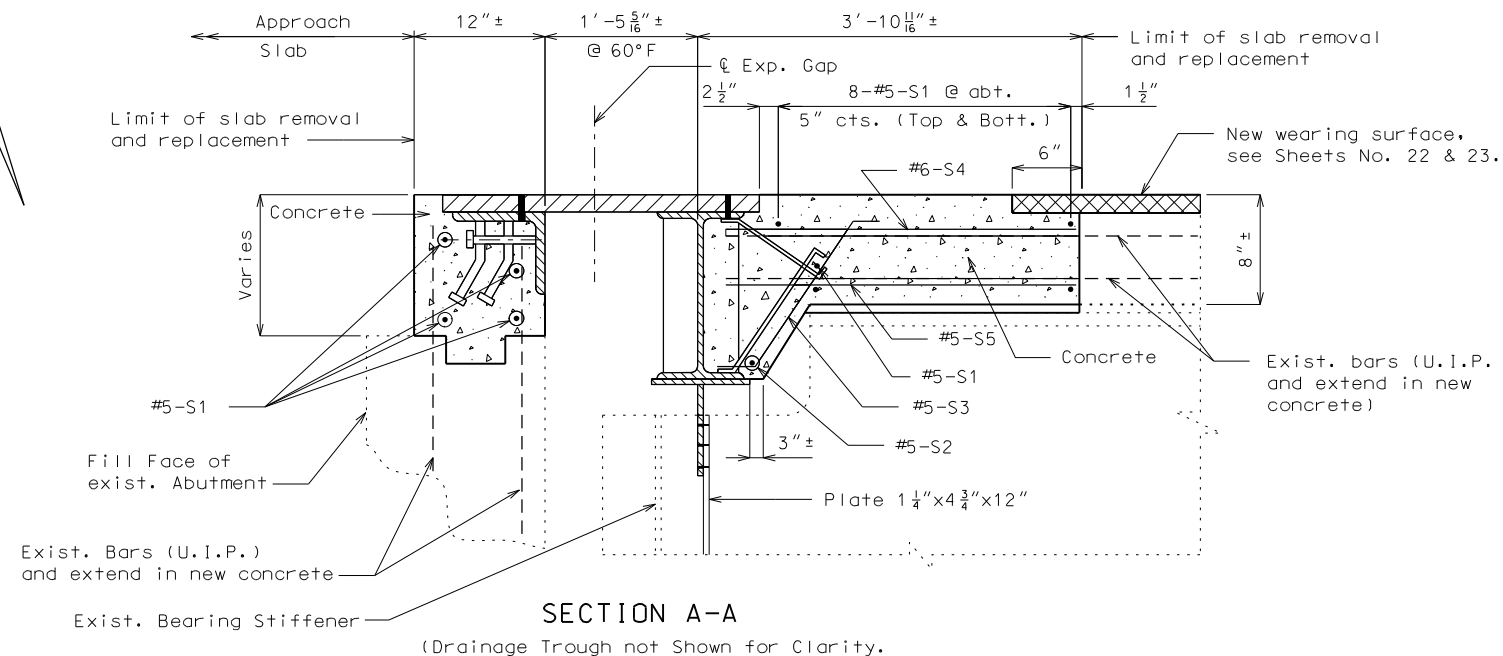
Manufacturer	Strip Seal System (Designated Name)	Movement Parallel to RDWY	Allowed Installation Gap ① Normal to Joint at RDWY Surface @ Installation Temperature ②						③
			@ 40°F	@ 50°F	@ 60°F	@ 70°F	@ 80°F	@ 90°F	
D S Brown	Strip seal L2-400	2 $\frac{3}{16}$	2 $\frac{13}{16}$	2 $\frac{5}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{8}$	2 $\frac{3}{16}$	2 $\frac{1}{16}$	□
D S Brown	Strip seal L2-500	2 $\frac{3}{16}$	2 $\frac{13}{16}$	2 $\frac{5}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{8}$	2 $\frac{3}{16}$	2 $\frac{1}{16}$	□
Watson Bowman Acme (Wabo)	Strip seal SE-400	2 $\frac{3}{16}$	2 $\frac{13}{16}$	2 $\frac{5}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{8}$	2 $\frac{3}{16}$	2 $\frac{1}{16}$	□
Watson Bowman Acme (Wabo)	Strip seal SE-500	2 $\frac{3}{16}$	2 $\frac{13}{16}$	2 $\frac{5}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{8}$	2 $\frac{3}{16}$	2 $\frac{1}{16}$	□

④ Dimension to clear Exist. Bearing Stiffener, $1\frac{1}{2}"$ Min. Contractor to verify in field.





PLAN OF SLAB ABUTMENT AT ABUTMENT 1
SHOWING TOP AND BOTTOM REINFORCEMENT
Expansion Device not Shown for Clarity



Notes:
For details of barrier curb replacement, see Sheet 44.
For details of drainage trough, see Sheet 30.
Concrete shall be Class UHPC.
All new reinforcing steel shall be epoxy coated.
New longitudinal reinforcing steel shall be placed so that ends shall not be more than $\pm 1''$ from web of support beam at the Expansion Device.
Any damaged areas found on existing U.I.P. epoxy coated longitudinal bars shall be repaired in accordance with Sec 710.
Payment for slab concrete, complete-in-place, for expansion joint replacement will be considered completely covered by the contract unit price for Ultra-High Performance Concrete.
Payment for furnishing and installing slab reinforcement will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).

APPROACH SPAN DETAILS OF UHPC SLAB AT EXPANSION DEVICE AT ABUTMENT NO. 1



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12/31/2022

DATE PREPARED
7/29/2021

ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 33

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A49364

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

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

Certificate of Authority

No. 001448

Exp. 12/31/22

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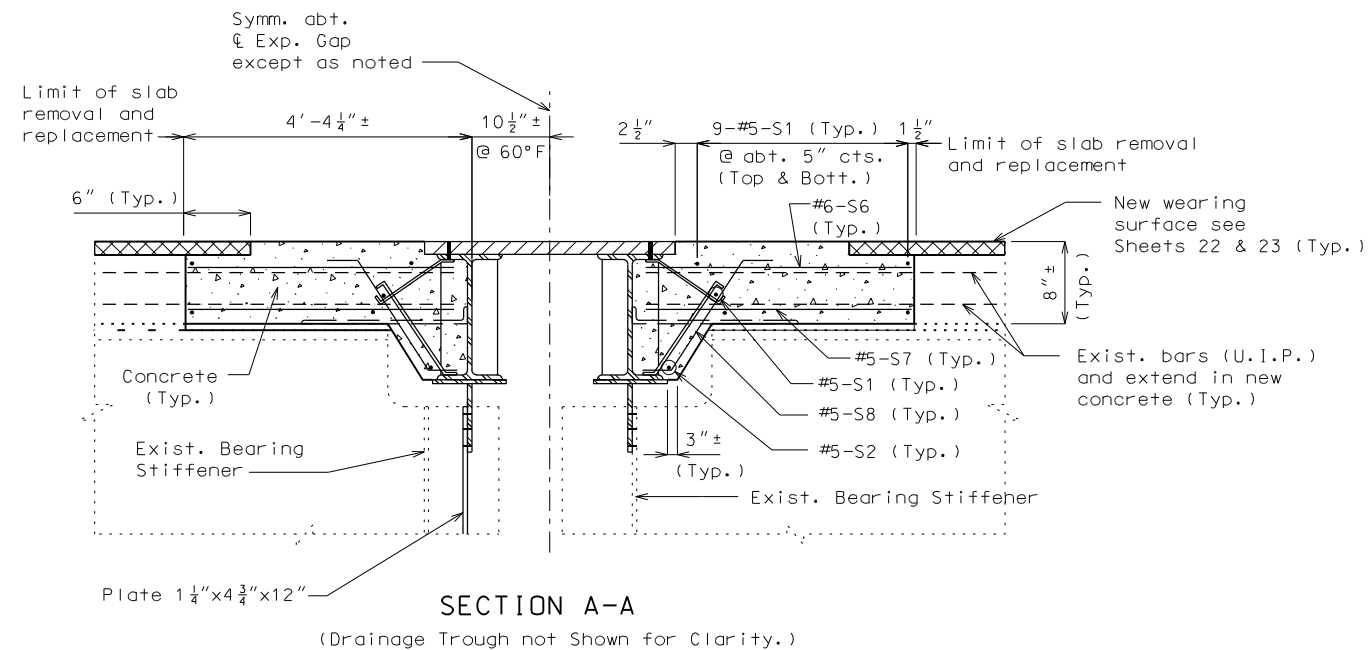
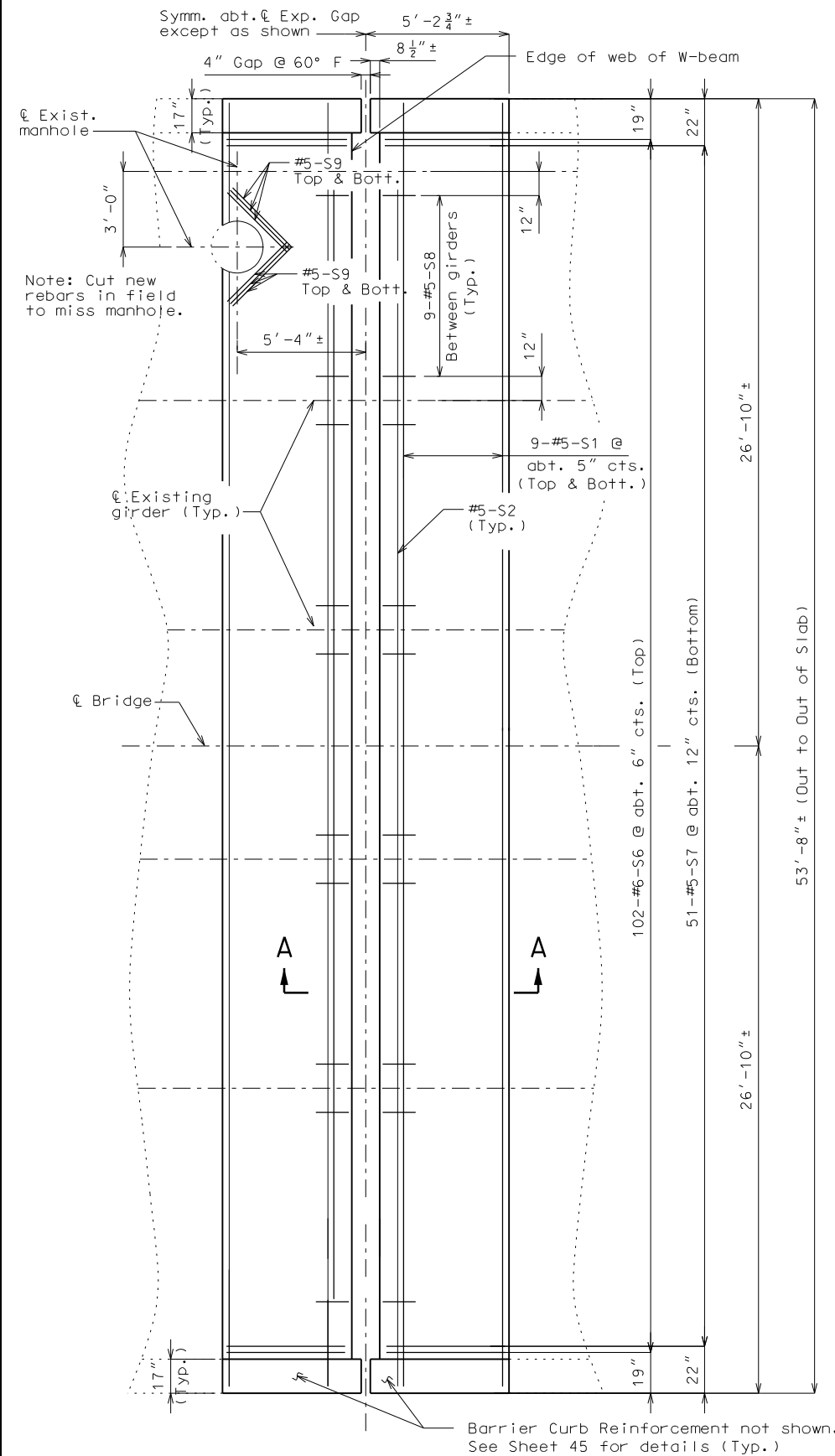
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REV. RevDesc



Notes:
For details of barrier curb replacement, see Sheet 45.

For details of drainage trough, see Sheet 31.

Concrete shall be Class UHPC.

All new reinforcing steel shall be epoxy coated.

New longitudinal reinforcing steel shall be placed so that ends shall not be more than $\pm 1"$ from web of support beam at expansion device.

Any damaged areas found on existing U.I.P. epoxy coated longitudinal bars shall be repaired in accordance with Sec 710.

Payment for slab concrete, complete-in-place, for expansion joint replacement will be considered completely covered by the contract unit price for Ultra-High Performance Concrete.

Payment for furnishing and installing slab reinforcement will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).

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

Sheet No. 34 of 49



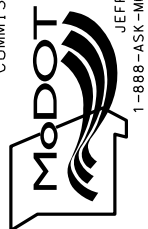
LICENSE EXPIRES
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DATE PREPARED
7/29/2021

ROUTE 255	STATE MO
DISTRICT BR	SHEET NO. 34

COUNTY	ST. LOUIS
JOB NO.	J6I3413
CONTRACT ID.	

PROJECT NO.

BRIDGE NO.
A49364[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

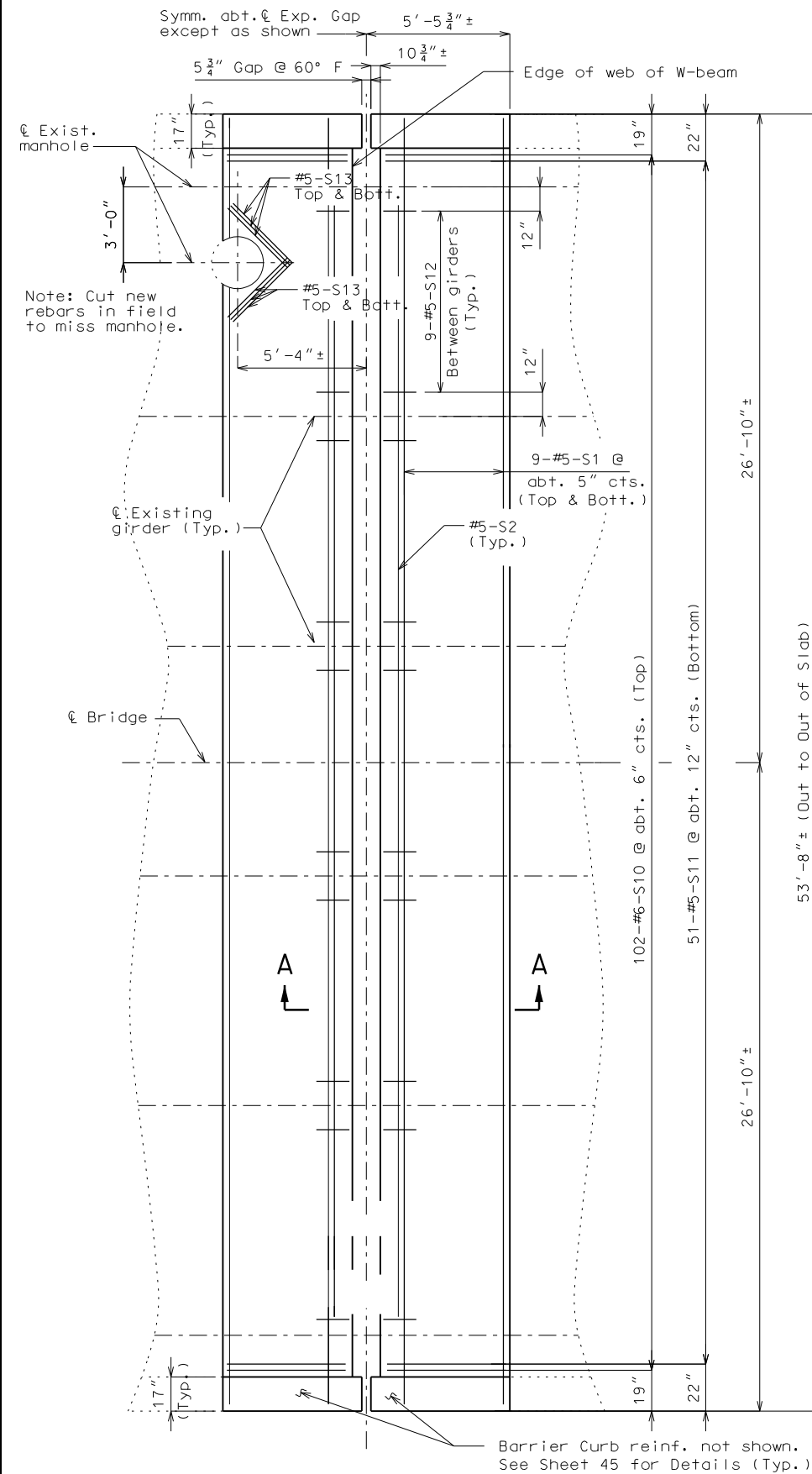
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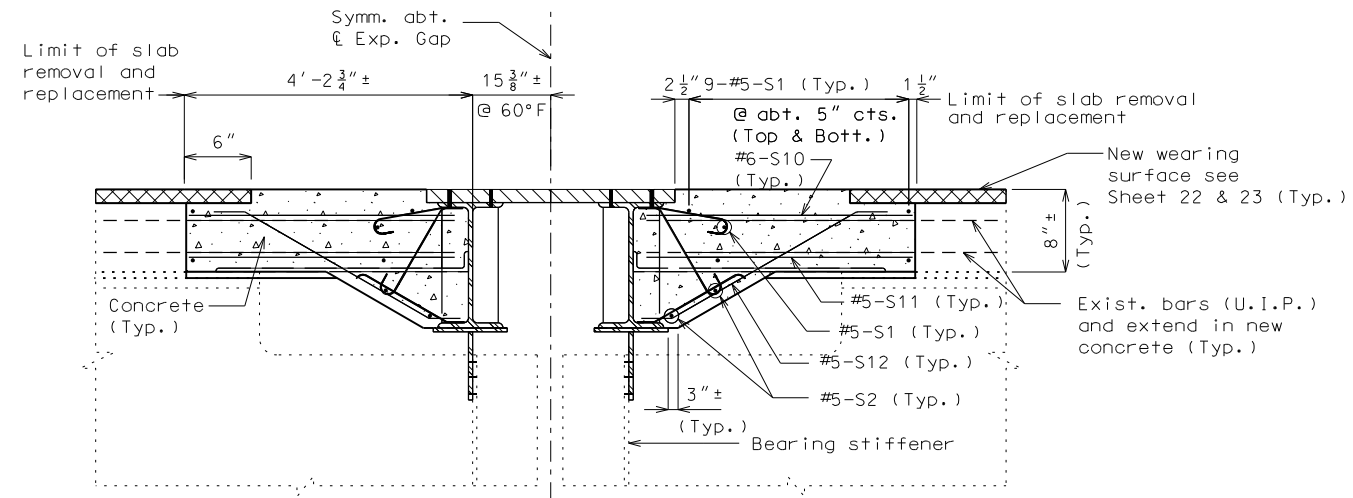
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847.272.7400 tel | 847.291.9599 fax
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PLAN OF SLAB AT BENT NO. 9
SHOWING TOP AND BOTTOM REINFORCEMENT
(Expansion Device not Shown for Clarity.)



SECTION A-A
(Drainage Trough not shown for clarity)

Notes:

For details of barrier curb replacement, see Sheet 45.

For details of drainage trough, see Sheet 31.

Concrete shall be Class UHPC.

All new reinforcing steel shall be epoxy coated.

New longitudinal reinforcing steel shall be placed so that ends shall not be more than $\pm 1"$ from web of support beam at expansion device.

Any damaged areas found on existing U.I.P. epoxy coated longitudinal bars shall be repaired in accordance with Sec 710.

Payment for slab concrete, complete-in-place, for expansion joint replacement will be considered completely covered by the contract unit price for Ultra-High Performance Concrete.

Payment for furnishing and installing slab reinforcement will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).

- Barrier Curb reinf. not shown.
See Sheet 45 for Details (Typ.)

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

Sheet No. 35 of 49



LICENSE EXPIRES
12/31/2022

DATE PREPARED

ROUTE	STATE
-------	-------

DISTRICT	SHEET NO.
----------	-----------

COUNTY

JOB NO.

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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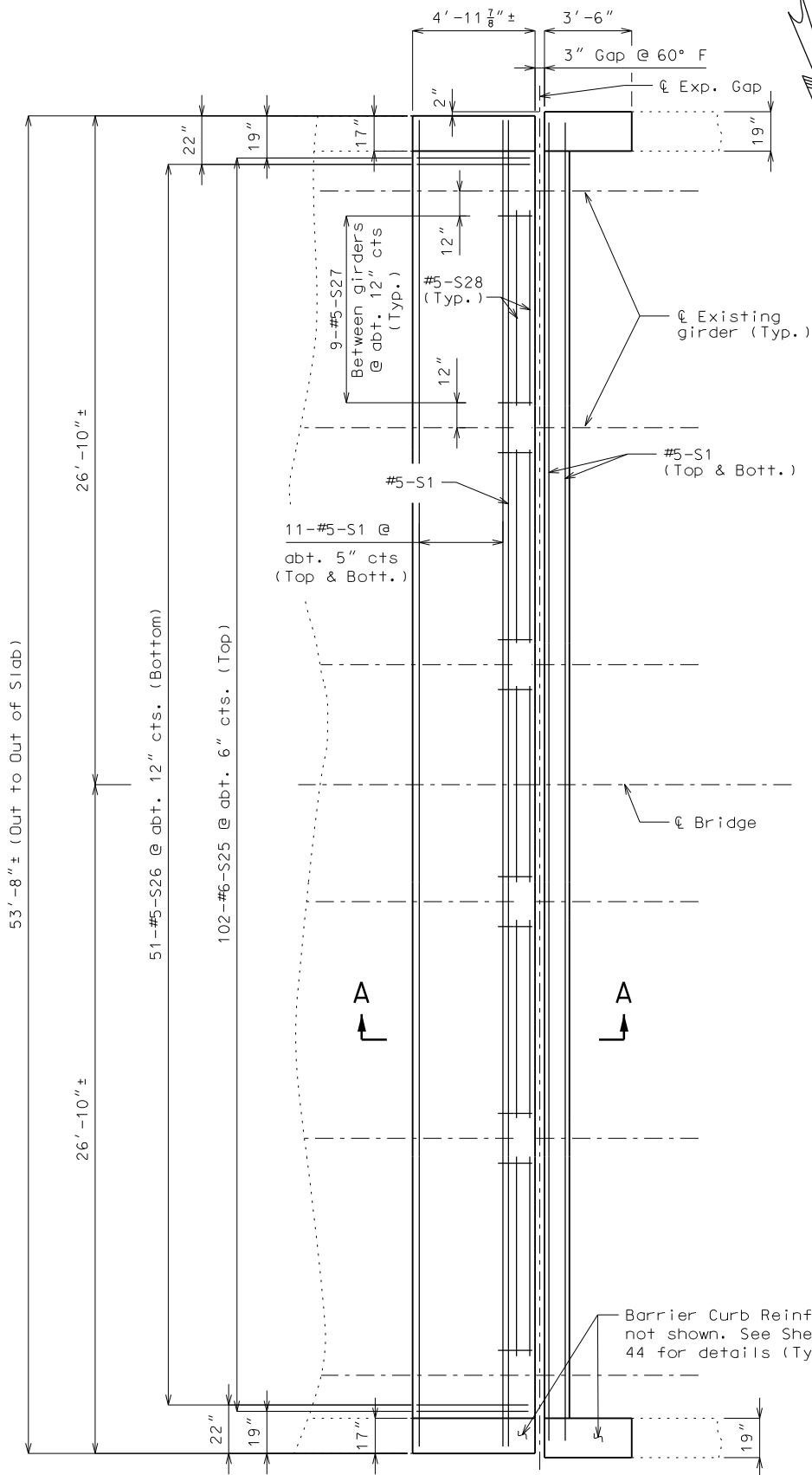
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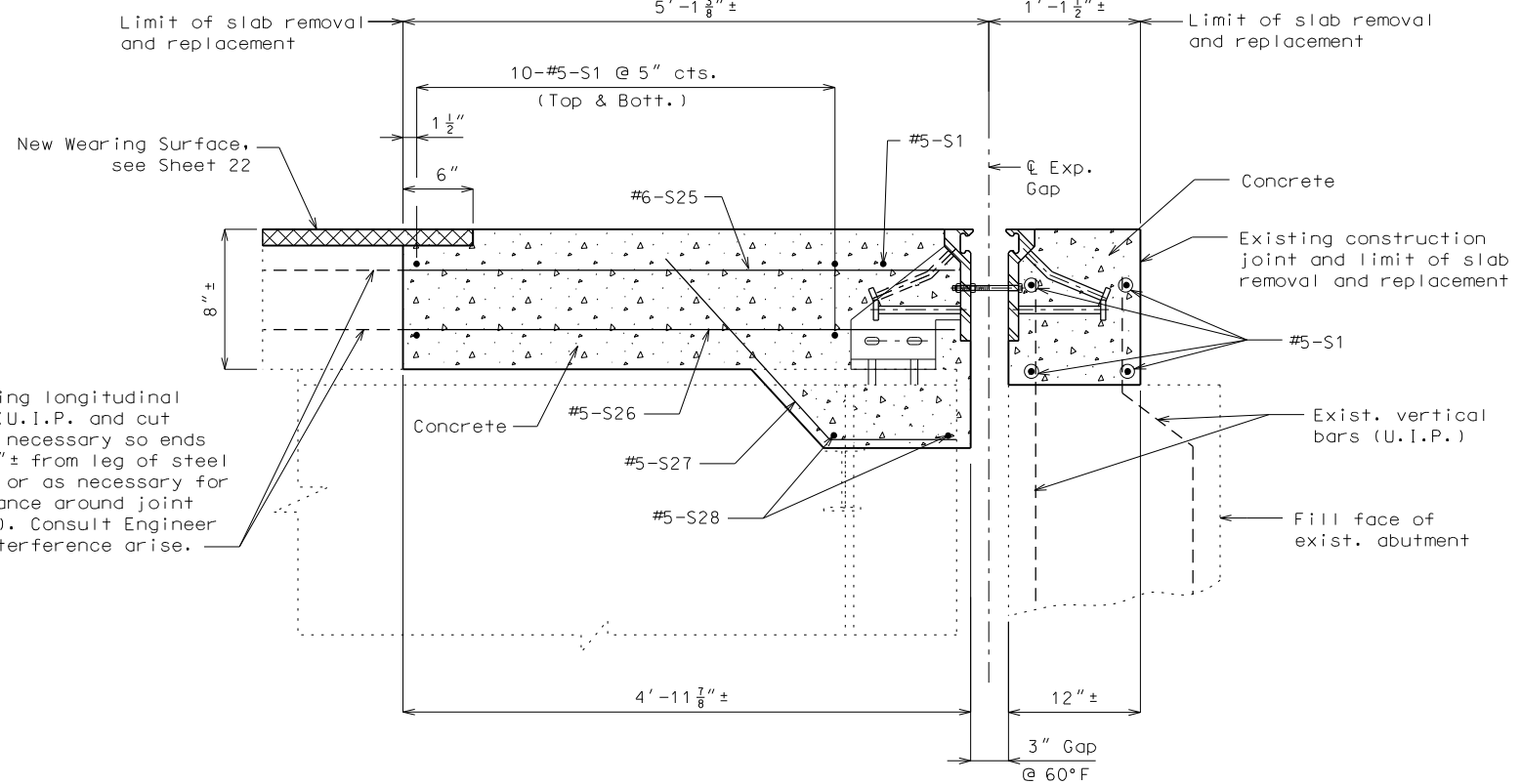
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REV. RevDesc

9:29:16 PM 7/29/2021



PLAN OF SLAB AT ABUTMENT 16
SHOWING TOP AND BOTTOM REINFORCEMENT
(Expansion Device not Shown for Clarity)



SECTION A-A

Notes:
For details of barrier curb replacement, see Sheet 44.

Concrete shall be Class UHPC.

All new reinforcing steel shall be epoxy coated.

New longitudinal reinforcing steel shall be placed so that ends shall not be more than ±1" from web of support beam at expansion device.

Any damaged areas found on existing U.I.P. epoxy coated longitudinal bars shall be repaired in accordance with Sec 710.

Payment for slab concrete, complete-in-place, for expansion joint replacement will be considered completely covered by the contract unit price for Ultra-High Performance Concrete.

Payment for furnishing and installing slab reinforcement will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).

APPROACH SPAN DETAILS OF UHPC SLAB AT EXPANSION DEVICE AT ABUTMENT NO. 16

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 36 of 49



LICENSE EXPIRES
12/31/2022

DATE PREPARED
7/29/2021

ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 36

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A49364

DESCRIPTION

DATE

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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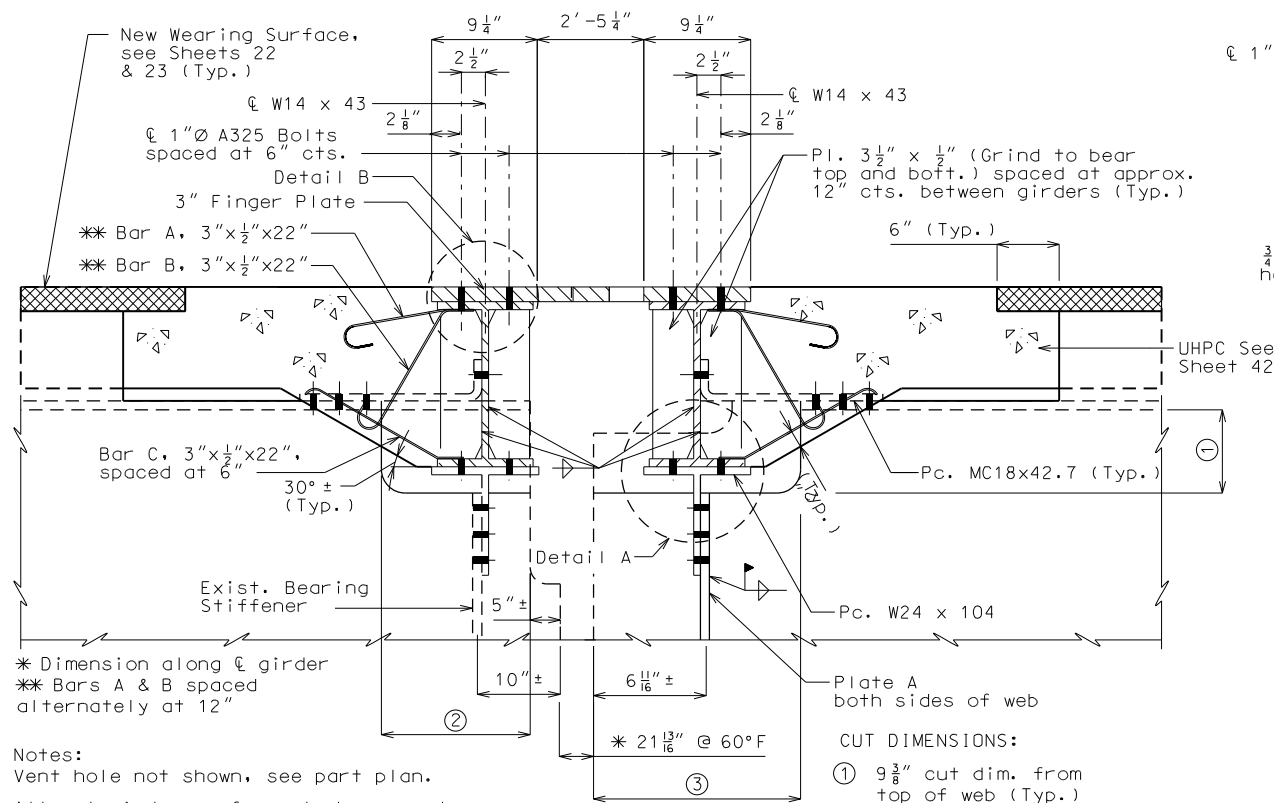
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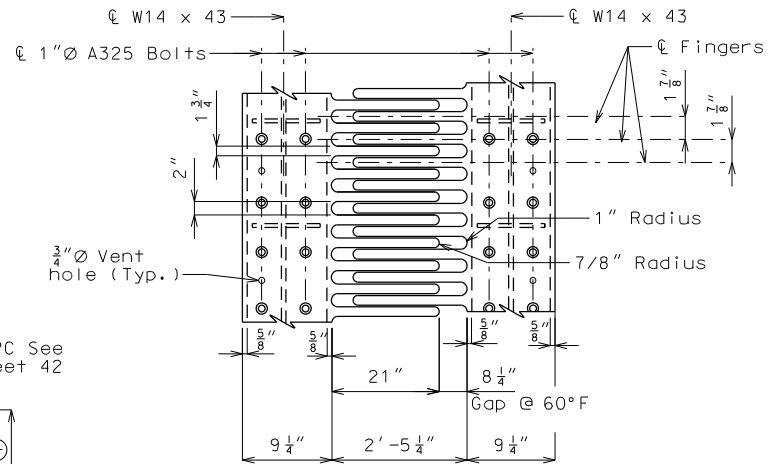
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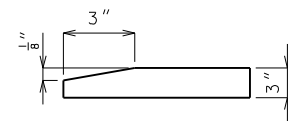
9:29:21 PM 7/29/2021



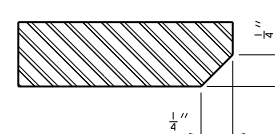
SECTION THRU DEVICE



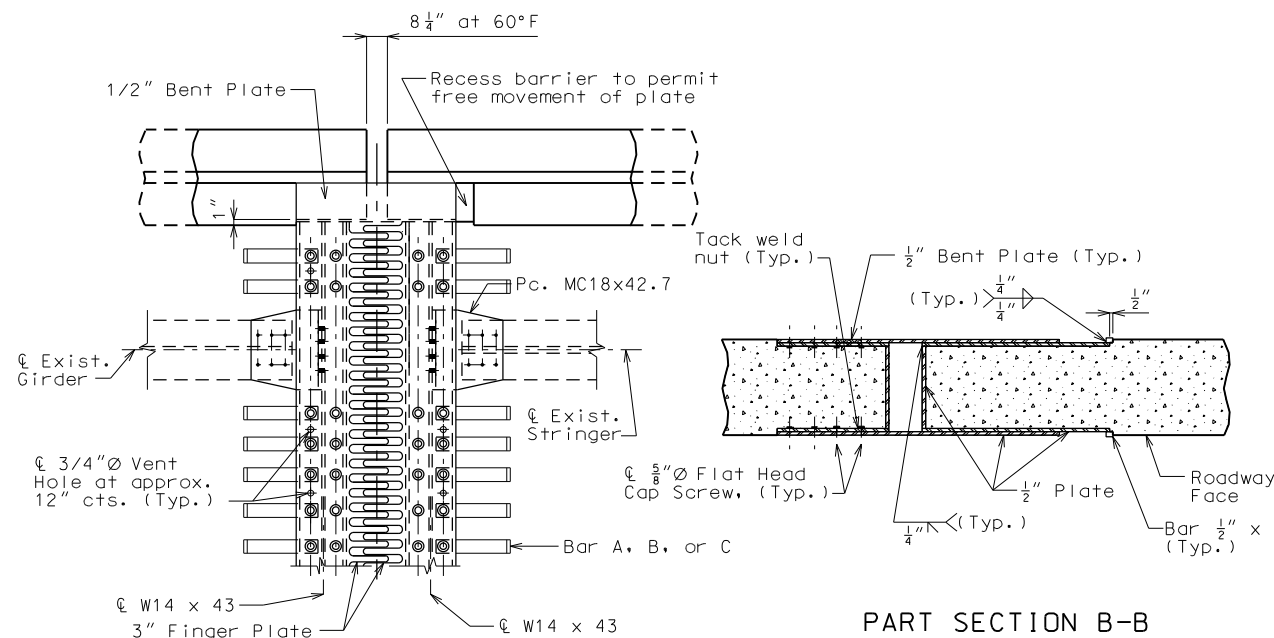
PART PLAN OF FINGER PLATE



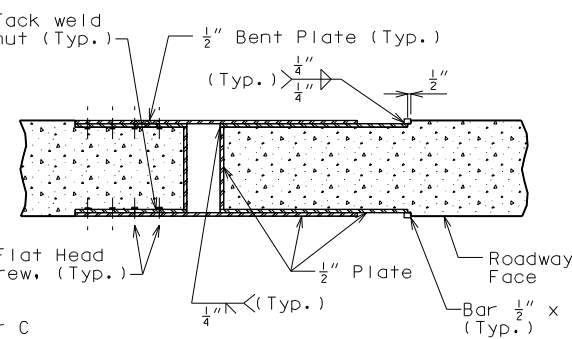
FINGER DETAIL



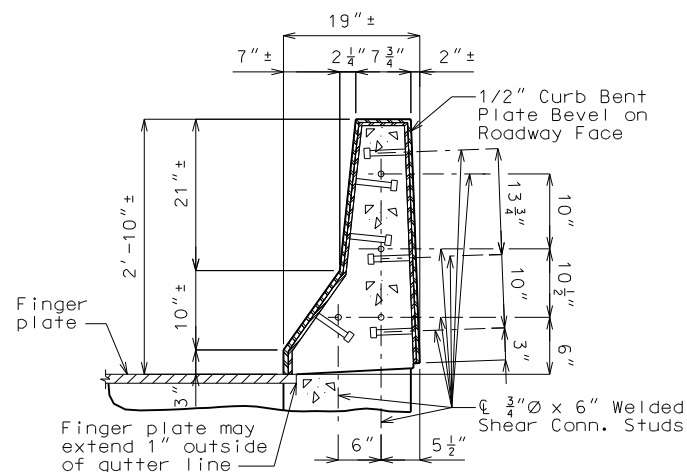
PART SECTION AT END BEVELED CURB BENT PLATE



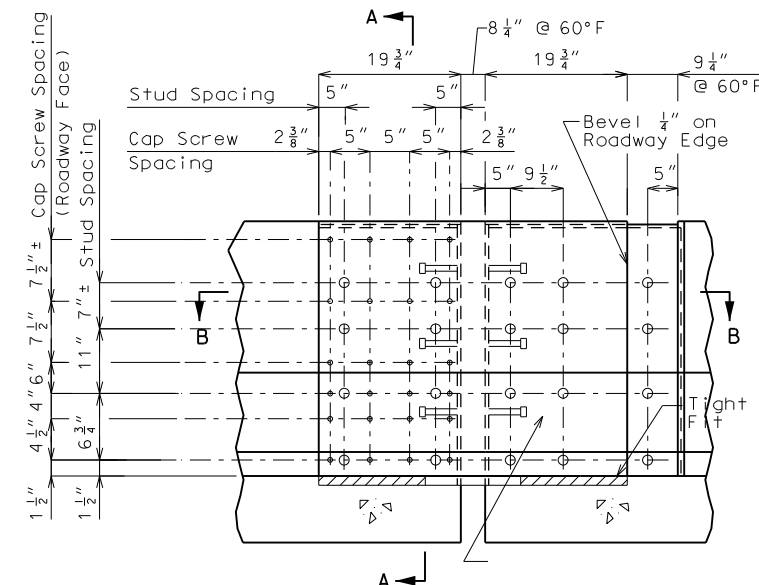
PART PLAN OF DEVICE



PART SECTION B-B
(Studs not shown for clarity)



PART SECTION A-A



BARRIER CURB ELEVATION SHOWING COVER PLATES
(Left Barrier Curb shown. Right Barrier Curb similar.)

GENERAL NOTES:

Finger plate shall be machine cut from one plate. The plate from which fingers are cut may be spliced before fingers are cut. The surface of cut shall be perpendicular to the surface of the plate. The cut shall not exceed 1/8" in width. The centerline of cut shall not deviate more than 1/16" from the position of centerline of cut shown. No splicing of finger plate or finger plate assembly will be allowed after fingers are cut. The expansion device shall be fabricated and installed to the crown and grade of the roadway.

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased 1 3/16" for each 10° fall or rise in temperature at installation.

Material for the expansion device and anchor bars shall be ASTM A709 Grade 50 structural steel. Anchors for the expansion device shall be in accordance with Sec 1037.

Material for curb cover plates shall be ASTM A709, Grade Steel; fabricated and installed in accordance with Sec 712 of Standard Specifications.

Structural steel for the expansion device and barrier plate shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Payment for furnishing, coating or galvanizing and installing the structural steel for the expansion device including curb cover plates will be considered completely covered by the contract unit price for Finger Joint Expansion Joint System per linear foot.

All holes shown for connections shall be subpunched 11/16-inch diameter (shop or field drill) and reamed to 13/16-inch diameter in field except that bolt holes for 1" ϕ bolts shall be subpunched 15/16-inch diameter (shop or field drill) and reamed to 1-1/16-inch diameter in field.

Longitudinal reinforcing steel shall be placed so that ends shall not be more than ± 1 " from the web of W14 x 43 at the expansion device.

Complete joint penetration welds utilized in the fabrication of the expansion device shall be nondestructively tested by an approved method.

Work this sheet with Sheet 39.

ARCH SPAN DETAILS OF FINGER PLATE EXPANSION DEVICE AT BENT NO. 13

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

Sheet No. 38 of 49

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DATE PREPARED: 8/3/2021

ROUTE: 255 STATE: MO
DISTRICT: BR SHEET NO.: 38
COUNTY: ST. LOUIS
JOB NO.: J613413
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A49364

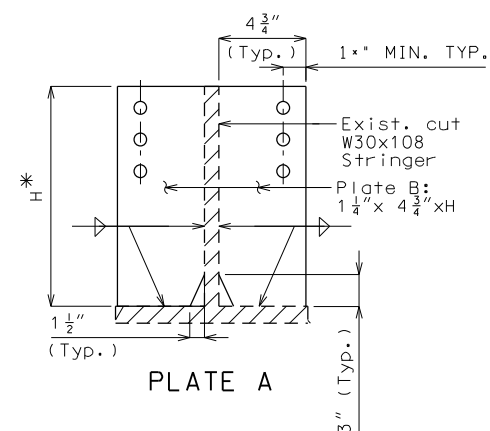
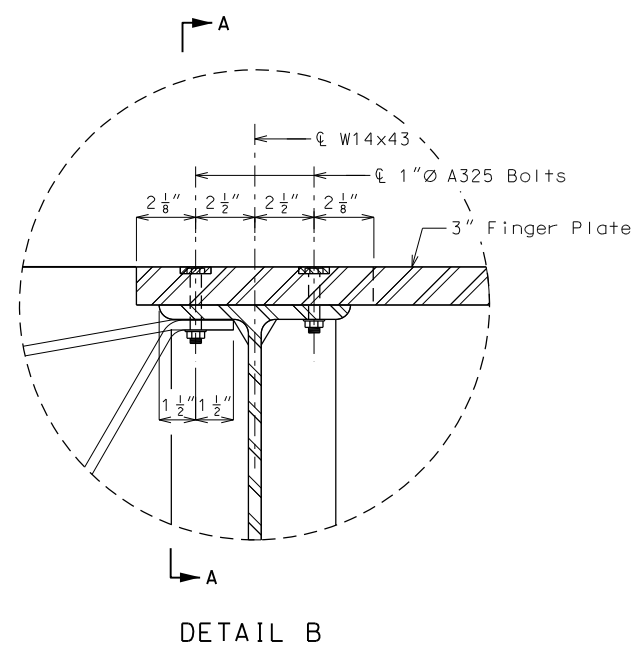
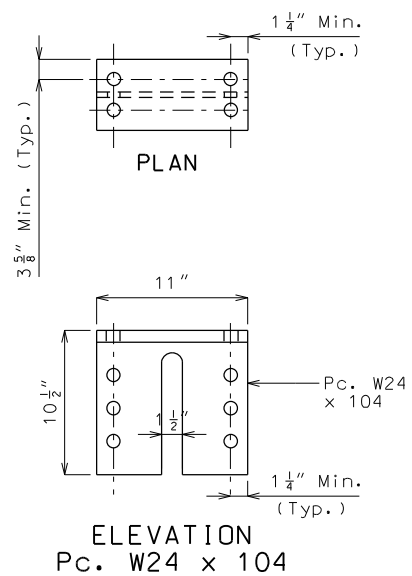
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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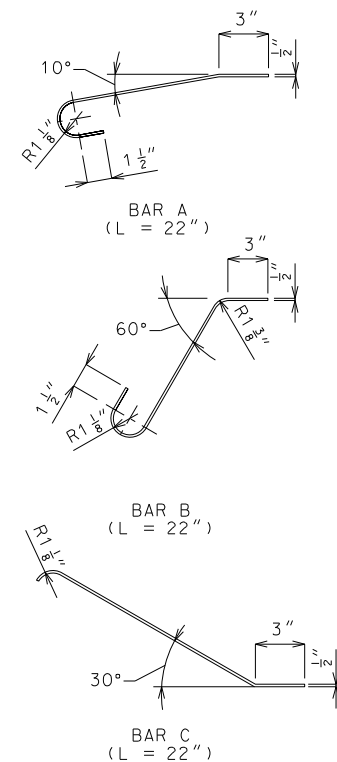
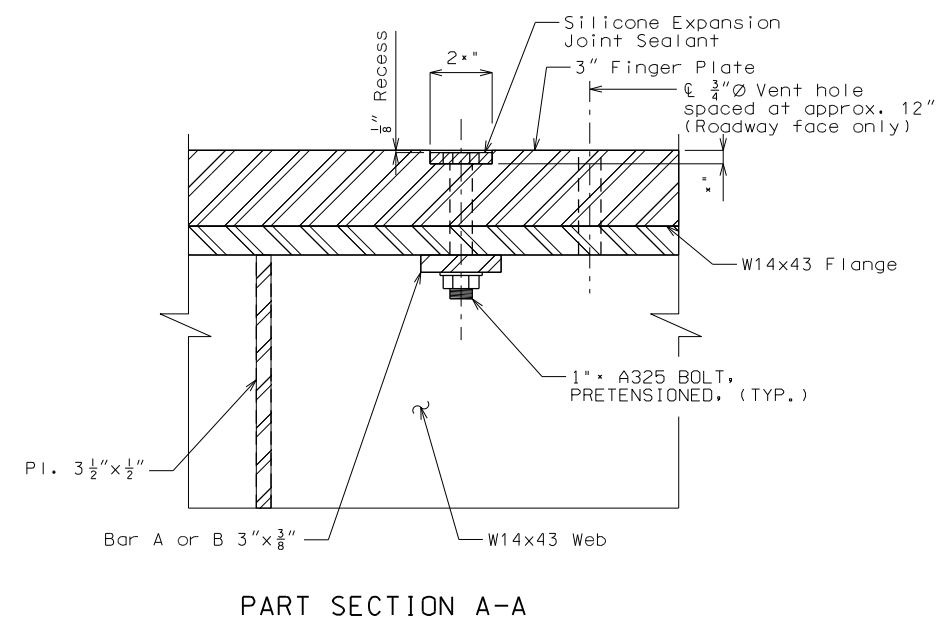
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* Existing cut stringer dimension
to verify in field



ANCHOR BAR DETAILS

Note:

Work this sheet with Sheet 38.



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8/4/2021

ROUTE 255	STATE MO
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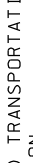
COUNTY
ST. LOUIS

JOB NO.
J6I3413

CONTRACT ID.

PROJECT NO.

BRIDGE NO.	A49364
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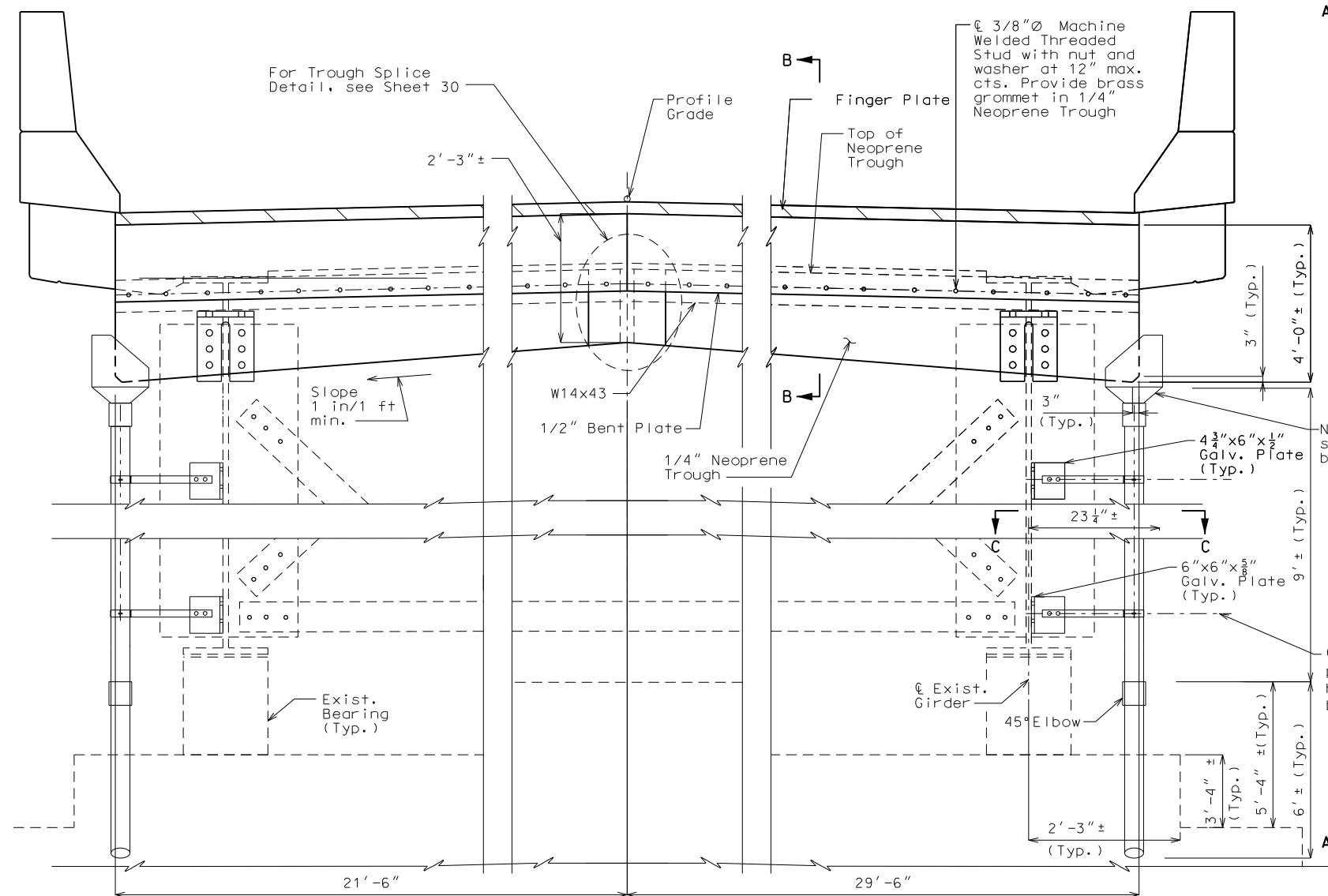
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JEFFERSON CITY, MO 65102
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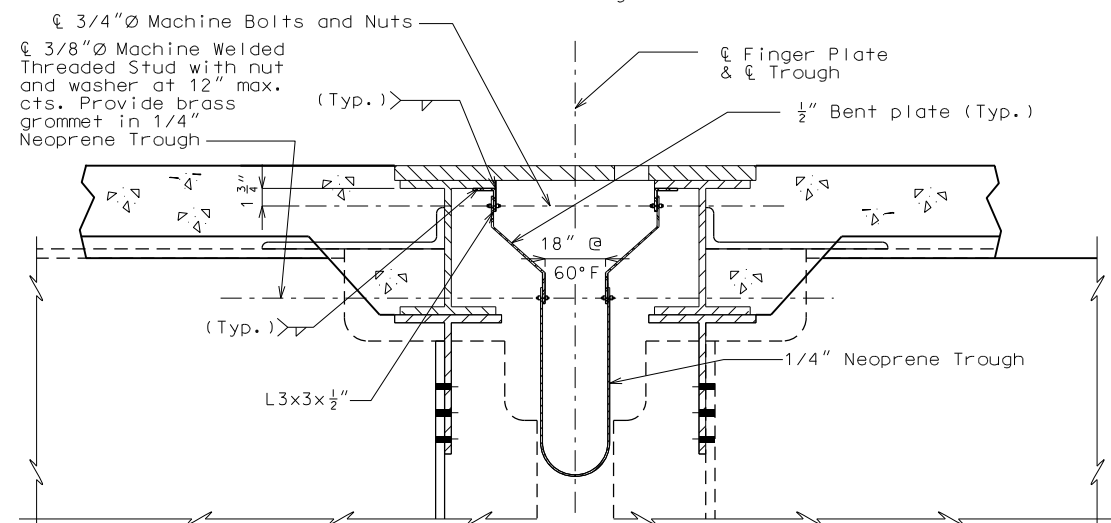
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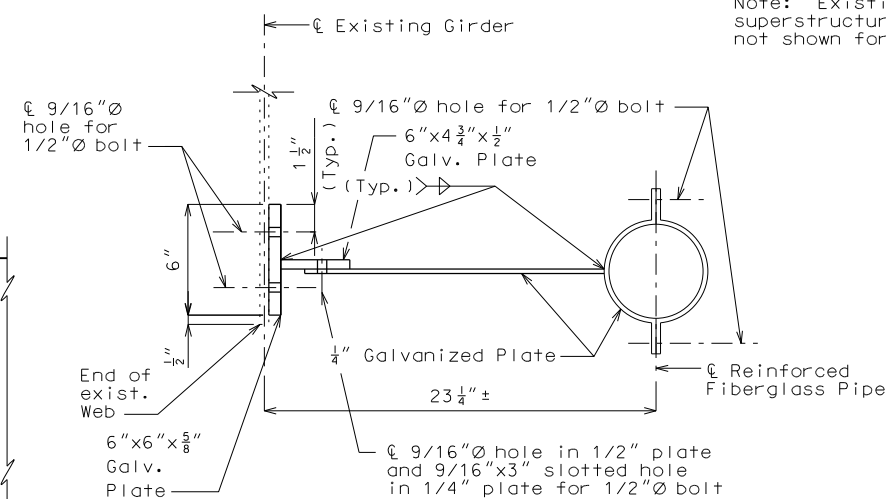
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Authority
No. 001448
Exp. 12/31/22



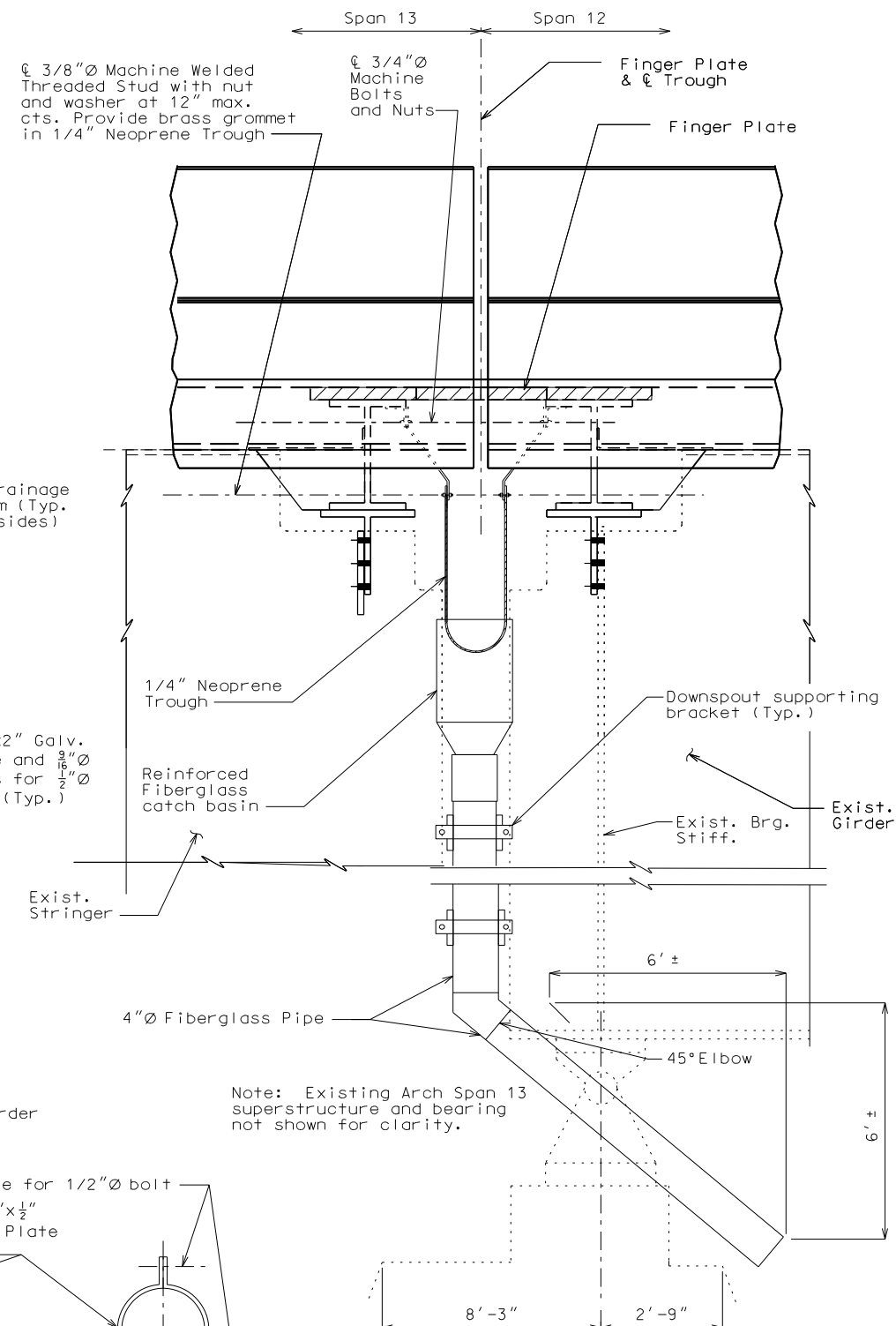
PART SECTION THRU FINGER PLATE AT BENT NO. 13
SHOWING DRAINAGE TROUGH AND DOWNSPOUT
(Looking East)



PART SECTION B-B



PART SECTION C-C SHOWING DOWNSPOUT
SUPPORTING BRACKET



PART ELEVATION A-A

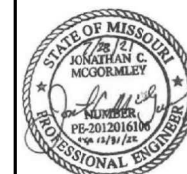
Notes:

Cost of furnishing and installing drainage trough and downspout will be considered completely covered by the contract unit price for Finger Joint Expansion Joint System. See Job Special Provisions-Drainage System.

Designed L.P.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 40 of 49



LICENSE EXPIRES
12/31/2022

DATE PREPARED
8/4/2021

ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 40

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A49364

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



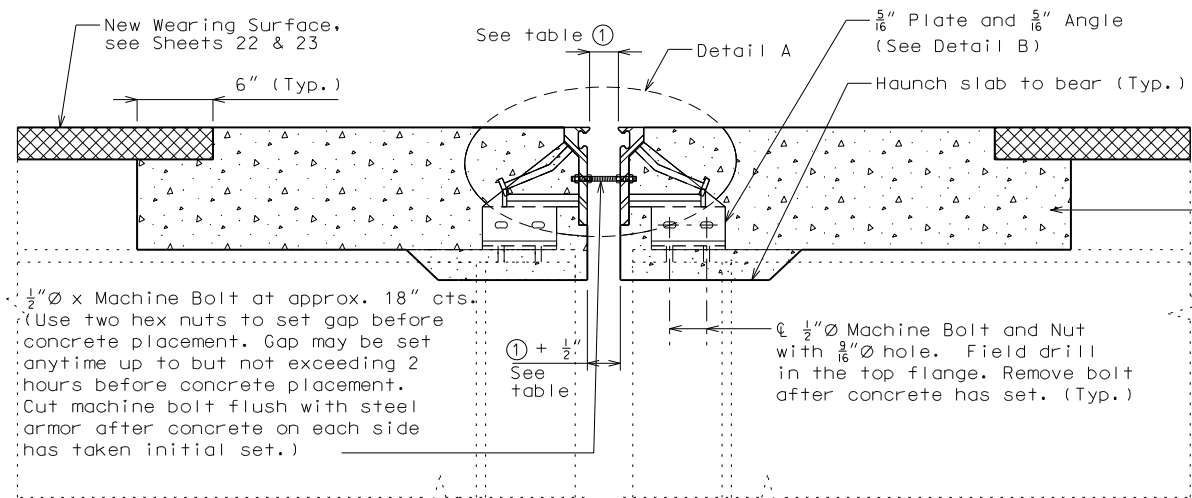
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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of
Authority
No. 001448
Exp. 12/31/22

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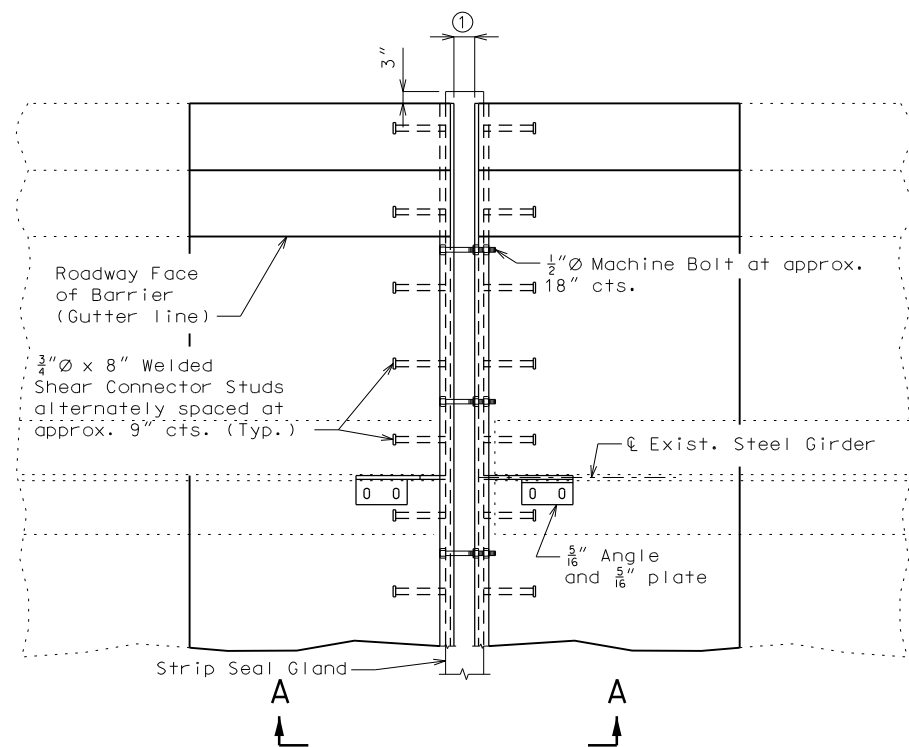
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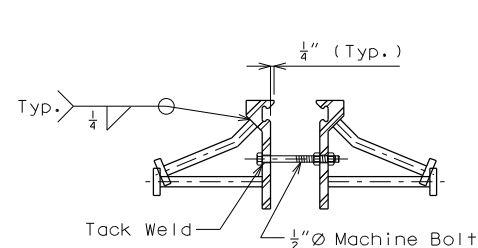


SECTION A-A

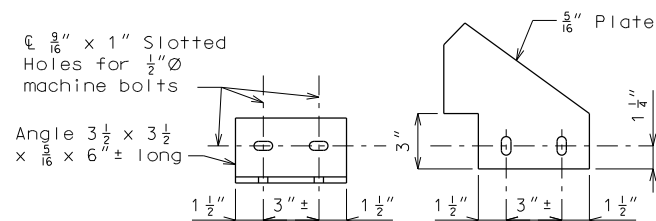
Note: Strip seal gland not shown for clarity.



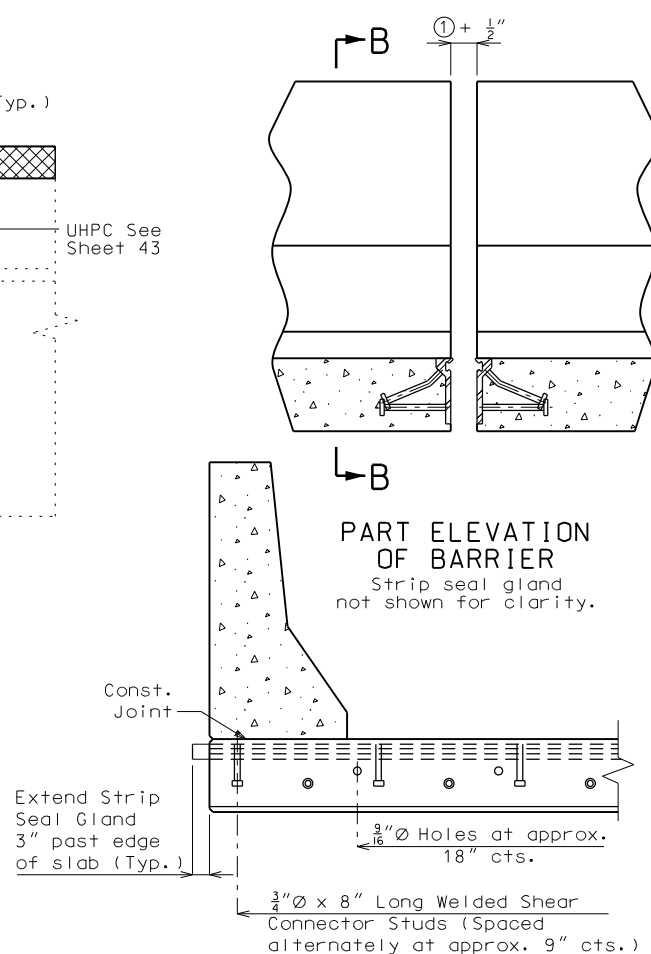
PART PLAN



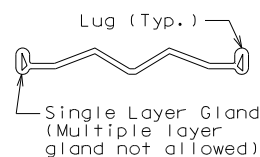
DETAIL A



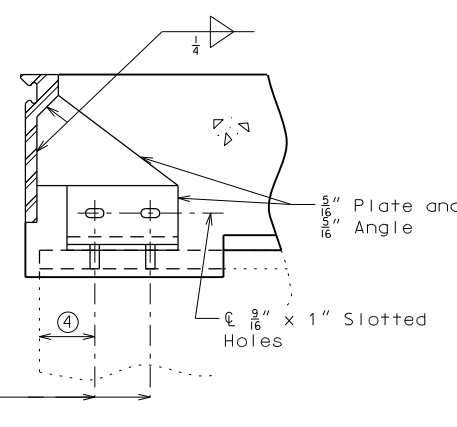
DETAIL B



PART SECTION B-B



DETAIL OF GLAND



DETAIL OF JOINT ARMOR

GENERAL NOTES:

Expansion joint system shall be fabricated in one section. A complete joint penetration groove welded splice shall be required. Welds shall be ground flush to provide a smooth surface. The expansion joint system shall be fabricated and installed to the crown and grade of the roadway.

The strip seal gland shall be installed in joints in one continuous piece without field splices. Factory splicing will be permitted for joints in excess of 53 feet.

Structural steel for the expansion joint system shall be ASTM A709 Grade 36 except the steel armor may be ASTM A709 Grade 50W. Anchors for the expansion joint system shall be in accordance with Sec 1037. Strip seal expansion joint system shall be in accordance with Sec 717.

Structural steel for the expansion joint system shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Longitudinal reinforcing steel shall be placed so that ends shall be 1" from the vertical leg of the steel armor at the expansion joint system.

Steel armor may also be referred to as extrusion or rail.

② The installation temperature shall be taken as the actual air temperature averaged over the 24-hour period immediately preceding installation.

③ MoDOT Construction personnel will indicate the strip seal expansion joint system installed.

④ Dimension to clear Exist. Bearing Stiffener, 1 1/2" Min. Contractor to verify in field.

Table of Allowed Transverse Strip Seal Expansion Joint System

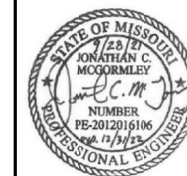
Manufacturer	Strip Seal System	Movement Parallel to RDWY	① Allowed Installation Gap Normal to Joint at RDWY Surface @ Installation Temperature ②						③
			@ 40°F	@ 50°F	@ 60°F	@ 70°F	@ 80°F	@ 90°F	
D S Brown	Strip seal L2-400	2 3/8	2 13/16	2 11/16	2 1/2	2 5/16	2 3/16	2	□
D S Brown	Strip seal L2-500	2 3/8	2 13/16	2 11/16	2 1/2	2 5/16	2 3/16	2	□
Watson Bowman Acme (Wabo)	Strip seal SE-400	2 3/8	2 13/16	2 11/16	2 1/2	2 5/16	2 3/16	2	□
Watson Bowman Acme (Wabo)	Strip seal SE-500	2 3/8	2 13/16	2 11/16	2 1/2	2 5/16	2 3/16	2	□

Designed L.P.
Detailed L.S.
Checked J.C.M.

ARCH SPAN STRIP SEAL EXPANSION JOINT SYSTEM AT BENT NO. 14

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

Sheet No. 41 of 49



LICENSE EXPIRES 12/31/2022

DATE PREPARED 9/28/2021

ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 41

COUNTY ST. LOUIS

JOB NO. J613413

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A49364

DESCRIPTION

VE STUDY

DATE 9/28/21

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



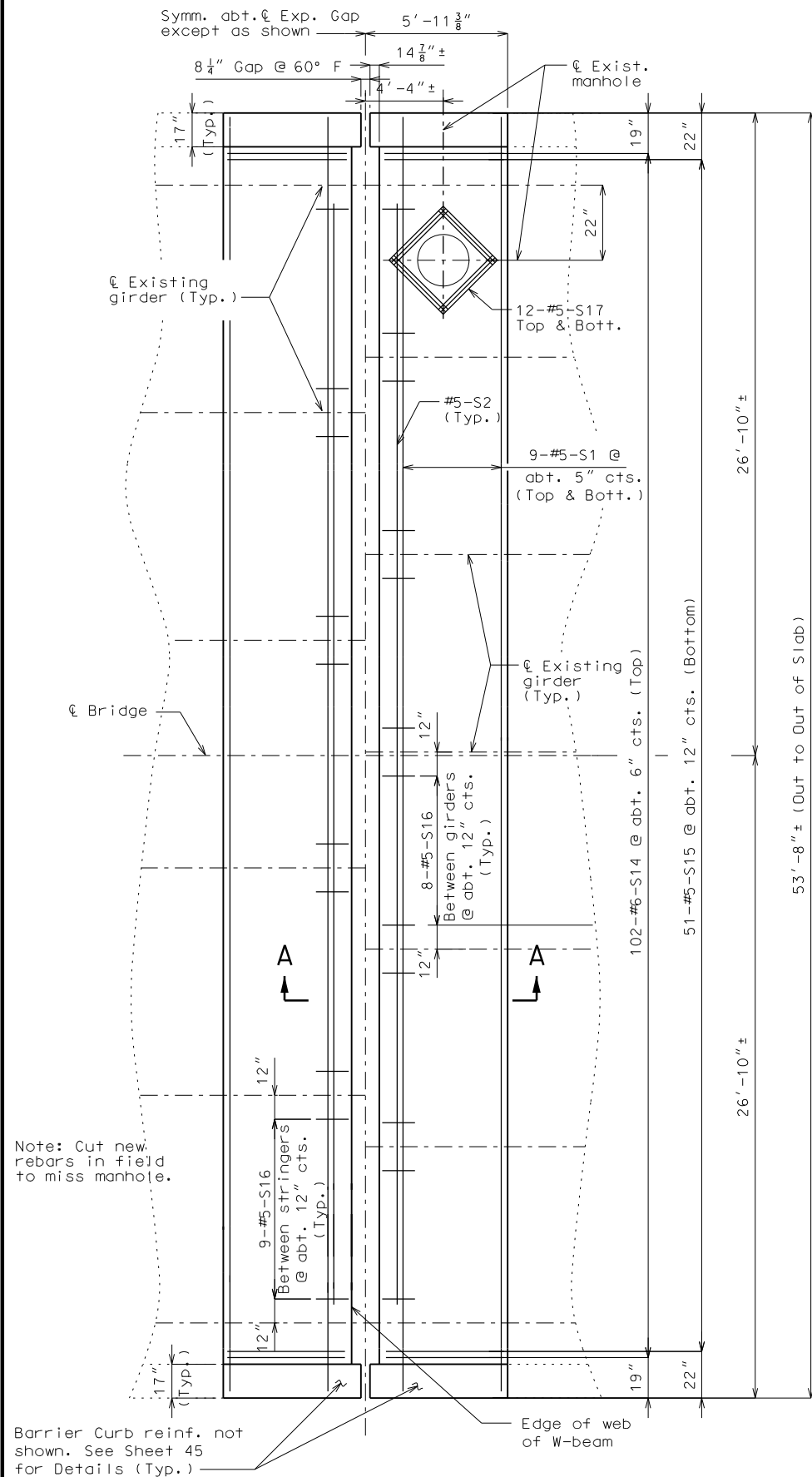
Certificate of Authority No. 001448 Exp. 12/31/22

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Northbrook, Illinois 60062
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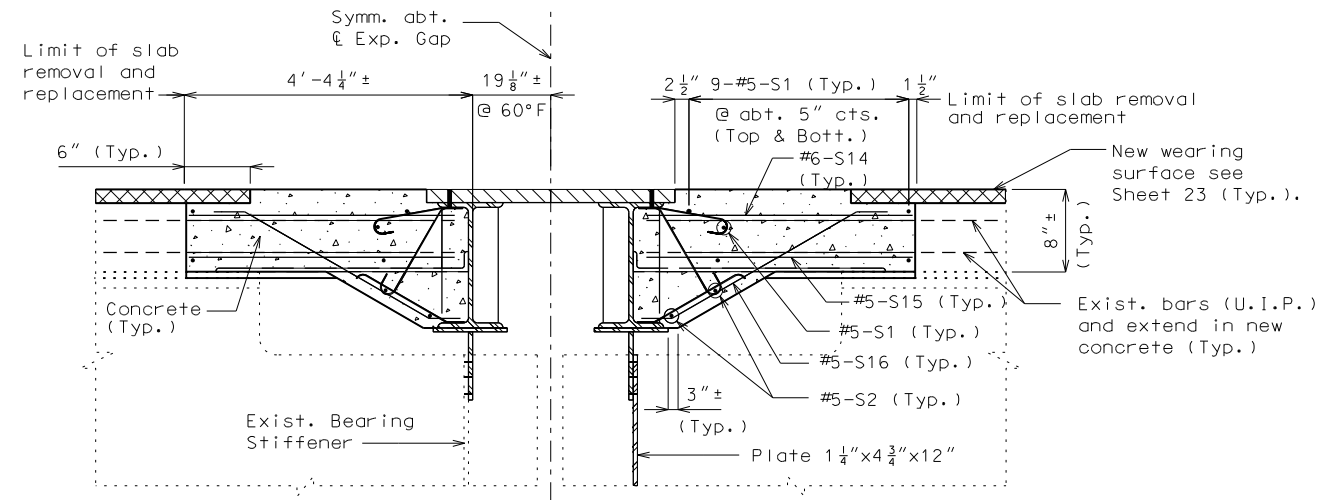
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PLAN OF SLAB AT BENT NO. 13
SHOWING TOP AND BOTTOM REINFORCEMENT

(Expansion Device not Shown for Clarity.)



SECTION A-A
(Drainage Trough not shown for clarity)

Notes:
For details of barrier curb replacement, see Sheet 45.

For details of drainage trough, see Sheet 40.

Concrete shall be Class UHPC.

All new reinforcing steel shall be epoxy coated.

New longitudinal reinforcing steel shall be placed so that ends shall not be more than $\pm 1"$ from web of support beam at expansion device.

Any damaged areas found on existing U.L.P. epoxy coated longitudinal bars shall be repaired in accordance with Sec 710.

Payment for slab concrete, complete-in-place, for expansion joint replacement will be considered completely covered by the contract unit price for Ultra-High Performance Concrete.

Payment for furnishing and installing slab reinforcement will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).

ARCH SPAN DETAILS OF UHPC SLAB AT EXPANSION DEVICE AT BENT NO. 13

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 42 of 49



LICENSE EXPIRES
12/31/2022

DATE PREPARED
7/29/2021

ROUTE	STATE
255	MO

DISTRICT	SHEET NO.
BB	42

COUNTY
ST. LOUIS

JOB NO.
1613413

5815413
CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A 40364[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

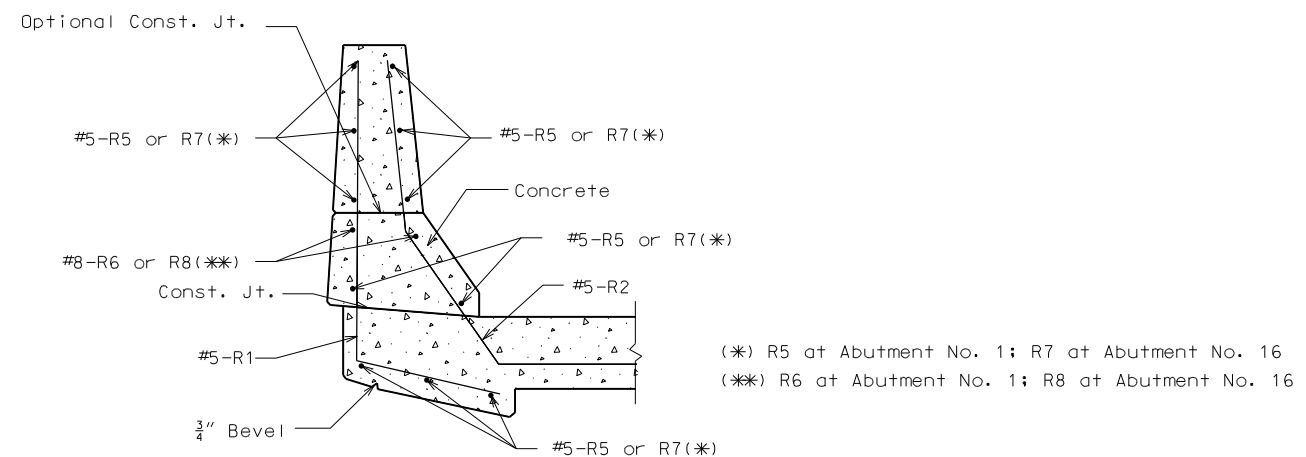
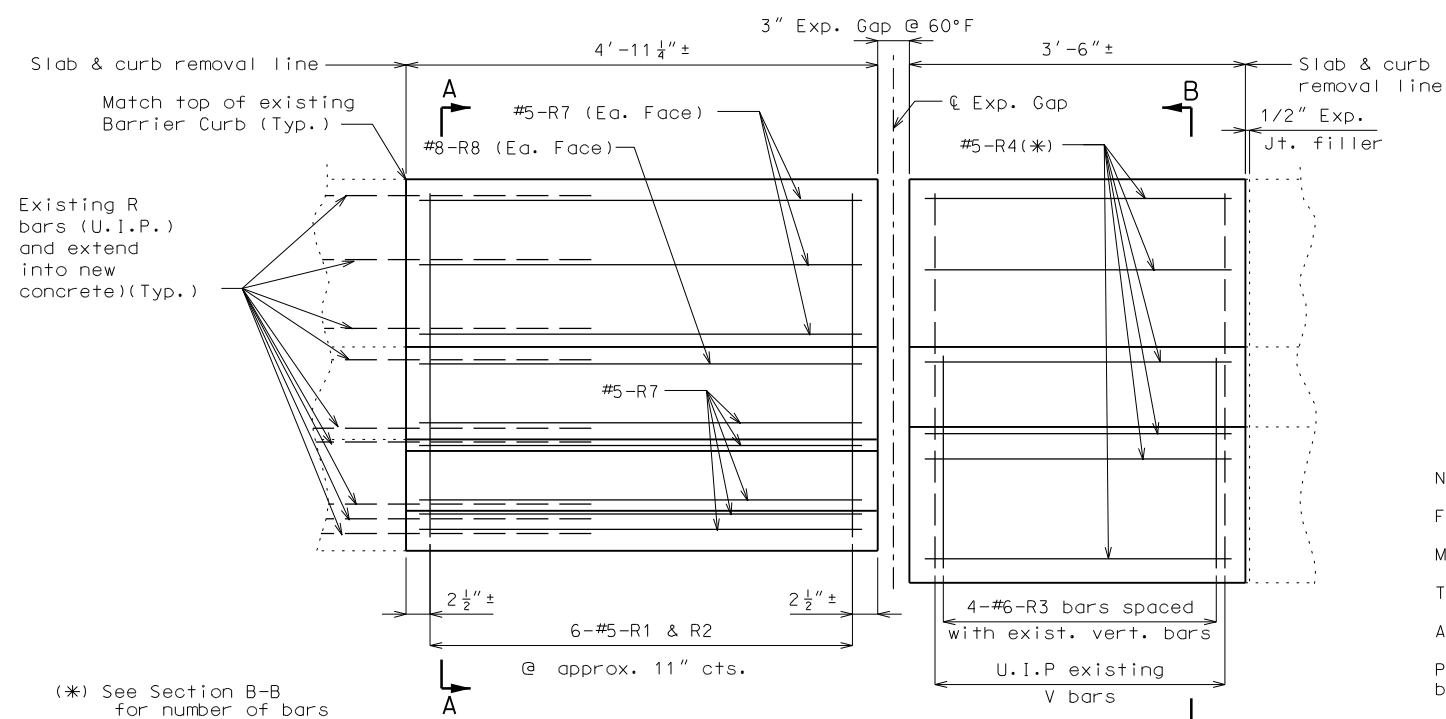
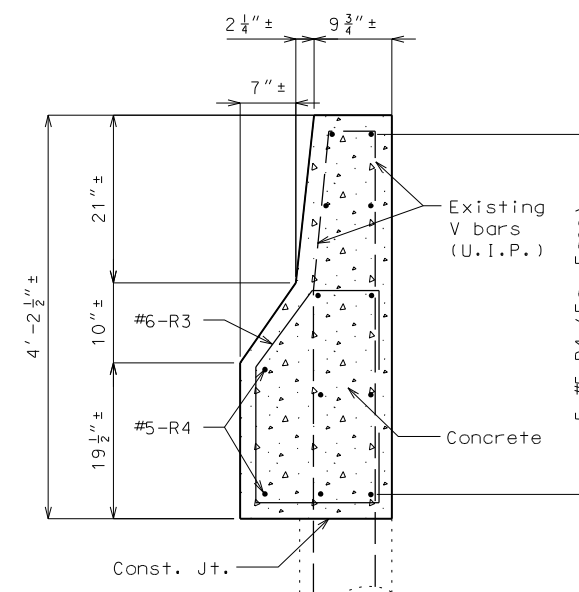
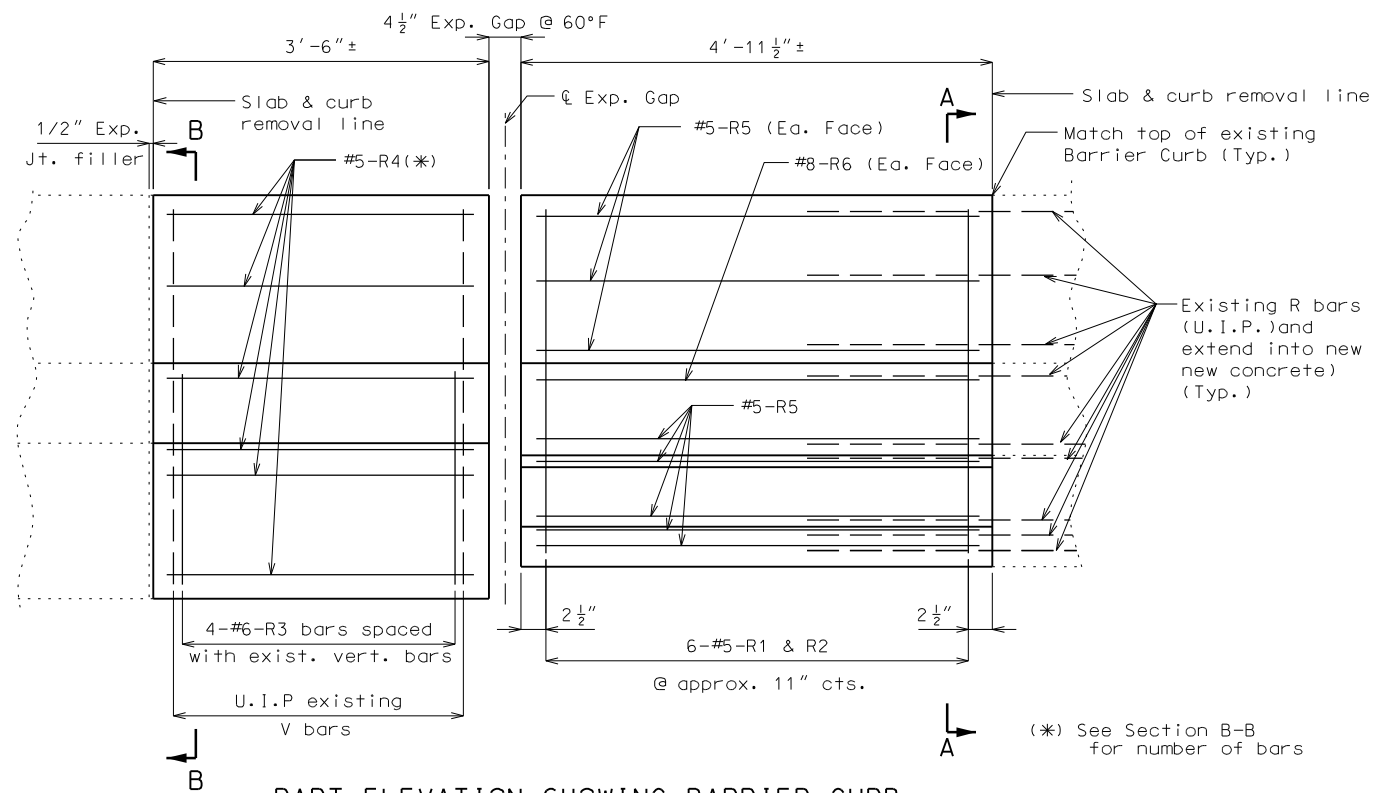
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Notes:

For Typical Section Through Barrier Curb see Sheet 45.

Match replacement curbs with existing curb dimensions and rustication if any.

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

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

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

Concrete in the barrier curb shall be Class B-1.

Measurement of barrier curb is to the nearest linear foot, measured along the outside top of slab.

DETAILS OF BARRIER CURB REPLACEMENT AT ABUTMENTS NOS. 1 & 16

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 44 of 49



LICENSE EXPIRES
12/31/2022

DATE PREPARED

ROUTE	STATE
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DISTRICT	SHEET NO.
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STATE	COUNTY
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JOB NO.

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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JEFFERSON CITY, MO 65102
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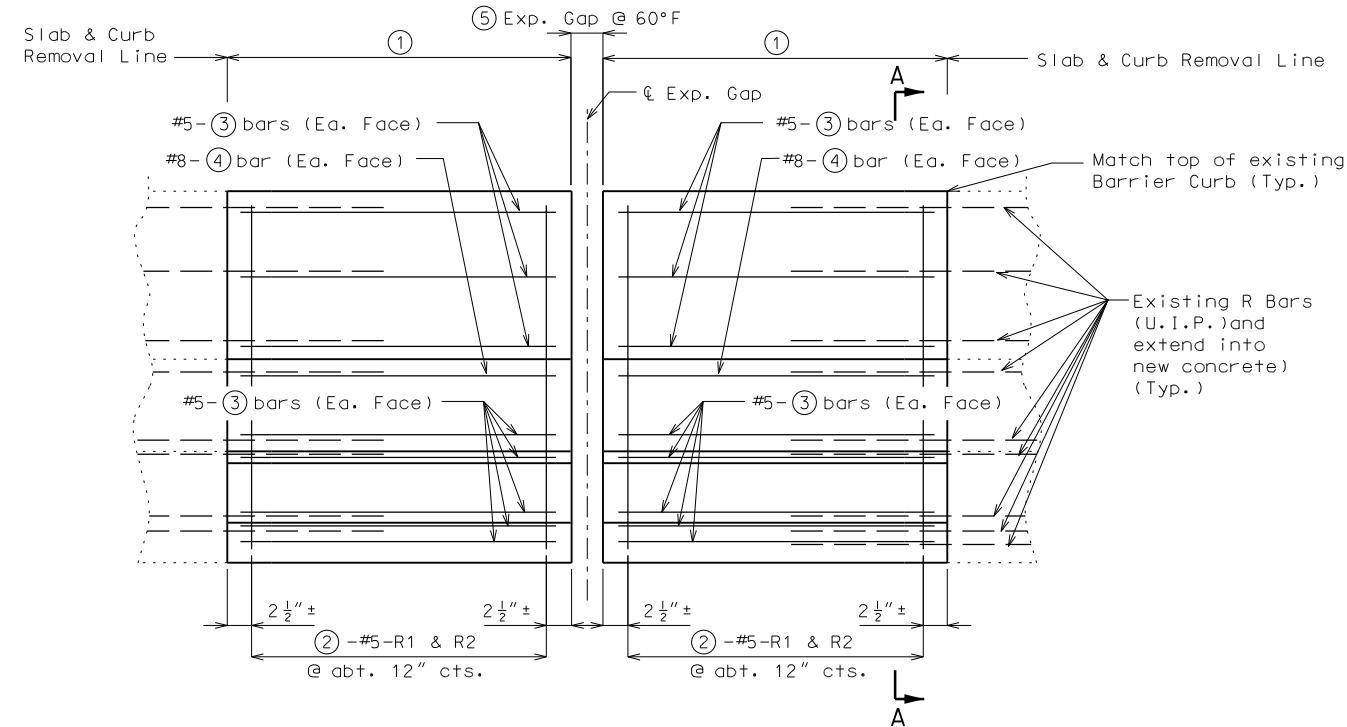
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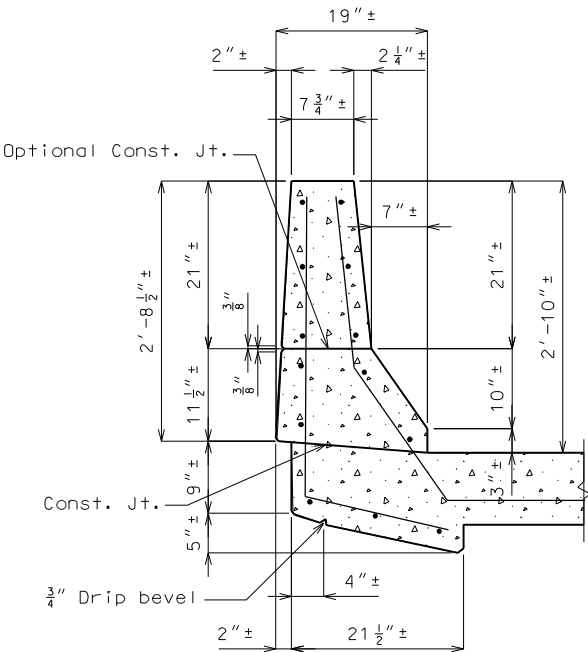
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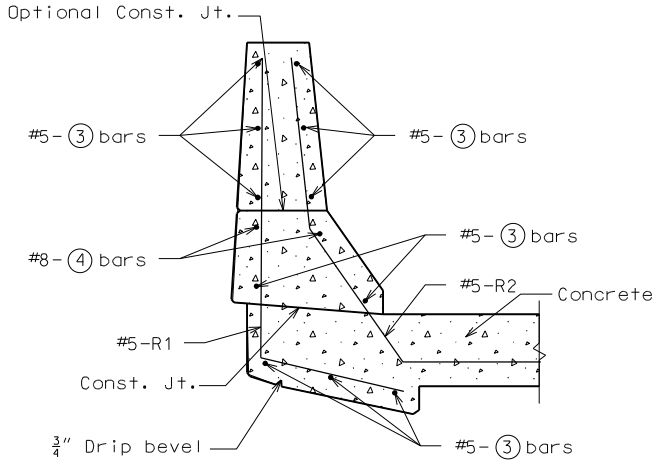


TYPICAL PART ELEVATION SHOWING BARRIER CURB REINFORCEMENT
(Left Safety Barrier Curb Shown, Right Safety Barrier Similar)

TABLE OF BARRIER CURB DIMENSIONS AND BAR MARKS					
Location	①	②	③	④	⑤
Bent No. 5	5'-0 3/4" ±	6	R9	R10	4"
Bent No. 9	5'-2 3/4" ±	6	R11	R12	5 3/4"
Bent No. 13	5'-7 1/4" ±	7	R13	R14	8 1/4"
Bent No. 14	5'-0 3/8" ±	6	R15	R16	3"



TYPICAL SECTION THROUGH SAFETY BARRIER CURB



PART SECTION A-A

Notes:

Match replacement curbs with existing curb dimensions and rustication if any.

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

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

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

Concrete in the barrier curb shall be Class B-1.

Measurement of barrier curb is to the nearest linear foot, measured along the outside top of slab.

Designed S.G.
Detailed L.S.
Checked J.C.M.

DETAILS OF BARRIER CURB REPLACEMENT AT BENT NOS. 5, 9, 13 & 14



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COUNTY ST. LOUIS	
JOB NO. J613413	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A49364	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

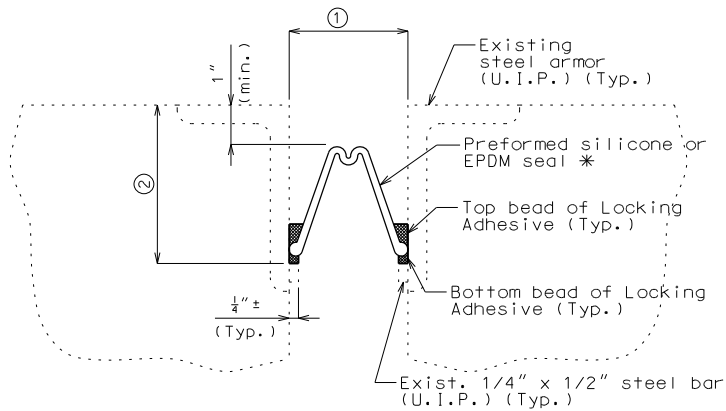
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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No. 001448
Exp. 12/31/22

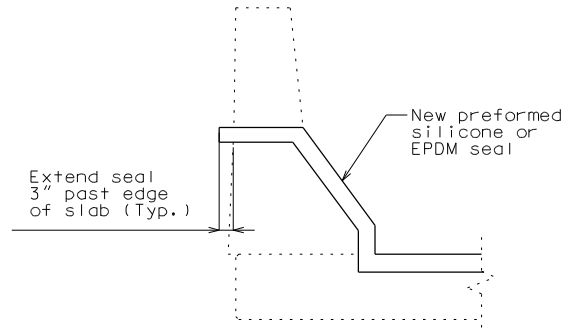
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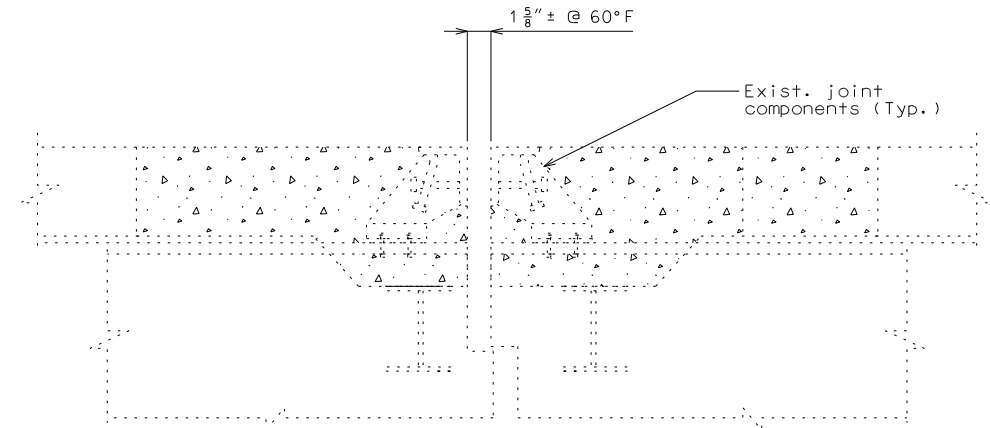
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SECTION THRU JOINT AT
LINK CONNECTIONS



SECTION THRU EDGE OF
SLAB NEAR JOINT



SECTION THROUGH EXISTING LINK JOINT CONNECTION

Existing concrete and joint armor to remain.



DETAIL OF SEAL

* Double hump seal shown in figure. Actual shape of seal may be double or single hump as per manufacturer.

General Notes:

The seal shall be installed in joints in one continuous piece without field splices. Factory splicing will be permitted for joints in excess of 53 feet.

The installation temperature shall be taken as the actual air temperature averaged over the 24-hour period immediately preceding installation.

① Allowed installation gap (\pm) normal to joint at roadway surface (see table)

② Installation depth (\pm) per manufacturer's recommendation

Link joint movement due to thermal changes are not anticipated. Consult Engineer if joint openings vary significantly from $1\frac{5}{8}$ ".

Allowed Transverse Preformed Silicone or EPDM Joint Seals				
Manufacturer	Seal Name	Movement Parallel to Roadway	① Allowed Installation Gap Normal to Joint at Roadway Surface at Installation Temperature	Type Used (✓)
			@ 60°F	
R J Watson (Silicoflex Joint Seal)	Silicoflex SF150	0	$1\frac{1}{8}$ "	<input type="checkbox"/>
R J Watson (Silicoflex Joint Seal)	Silicoflex SF225	0	$1\frac{1}{8}$ "	<input type="checkbox"/>
Watson Bowman Acme Wabo (Preformed Silicone Joint Seal)	Wabo SPS-225	0	$1\frac{5}{8}$ "	<input type="checkbox"/>

MoDOT Construction personnel will indicate the type of seal used.

LINK JOINT SEAL REPLACEMENT

Designed L.P.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 46 of 49



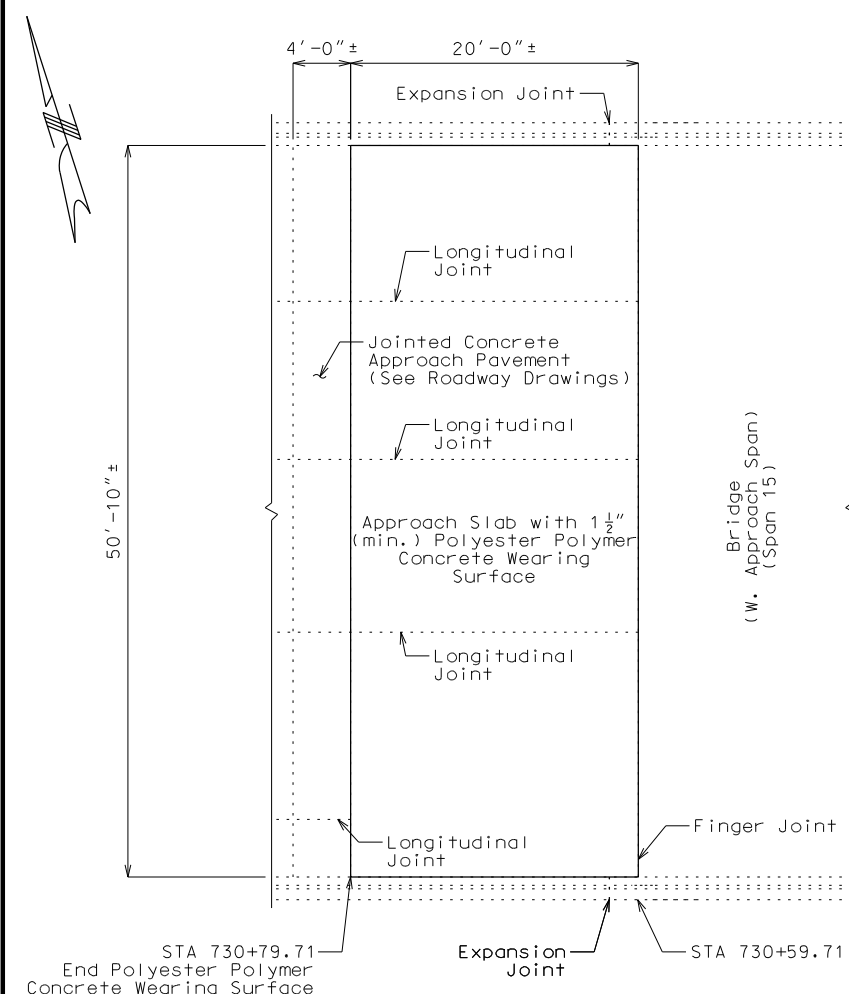
LICENSE EXPIRES
12/31/2022
DATE PREPARED
7/29/2021
ROUTE
255
DISTRICT
BR
STATE
MO
SHEET NO.
46
COUNTY
ST. LOUIS
JOB NO.
J613413
CONTRACT ID.
PROJECT NO.
BRIDGE NO.
A49364

DESCRIPTION	DATE

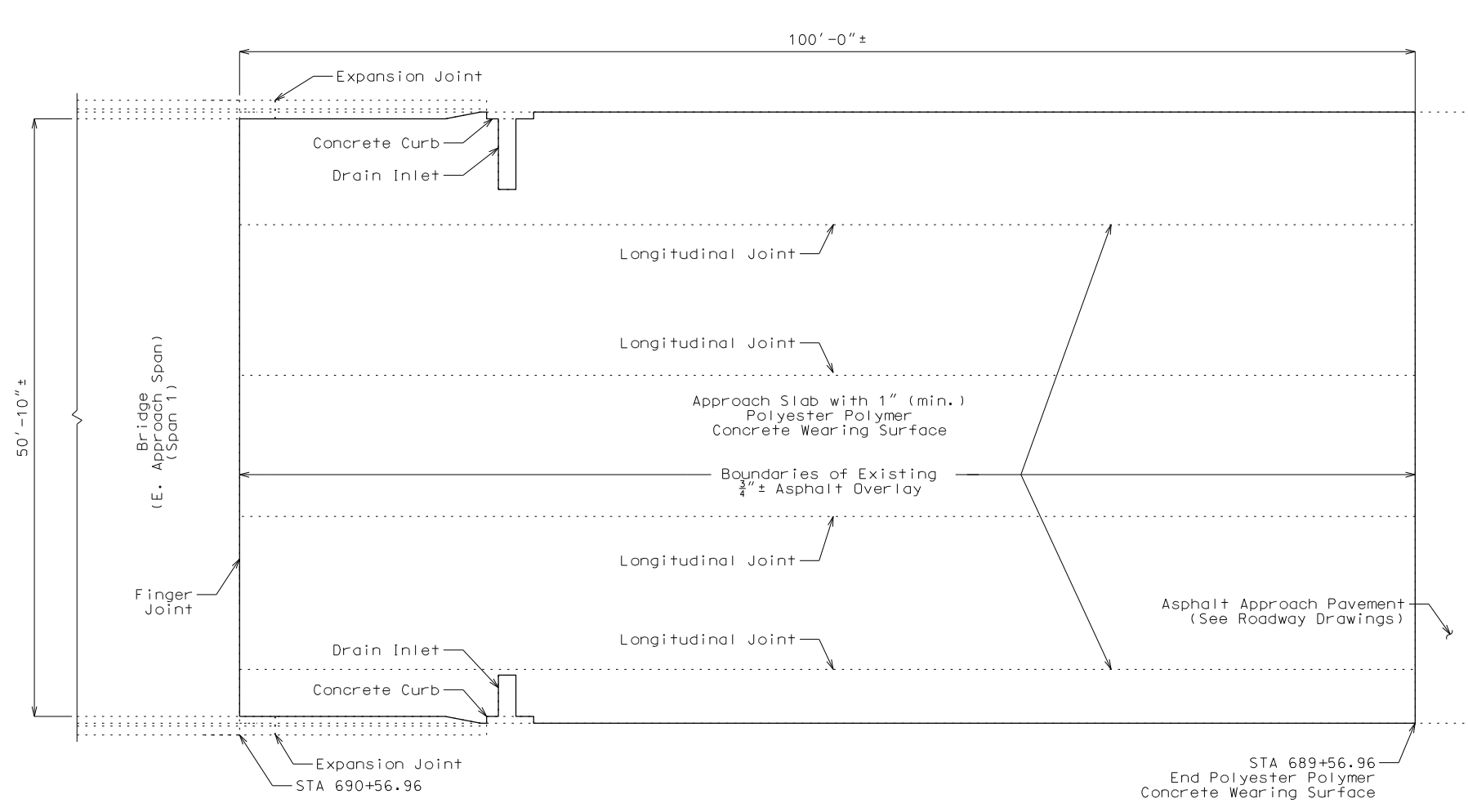
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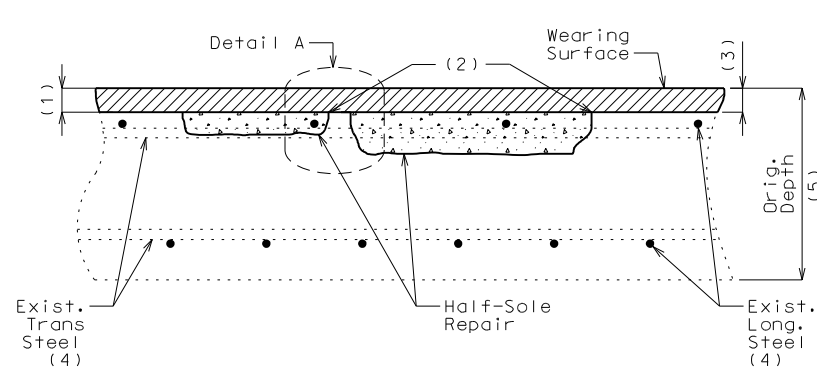
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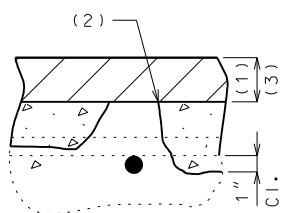
PLAN
(WEST APPROACH)



PLAN
(EAST APPROACH)



MONOLITHIC AND HALF-SOLE REPAIR



DETAIL A

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

- Notes:
- Based on information provided from IDOT, the existing asphalt overlay in the East Approach is 3/4 inch. Existing mudjacking holes to be removed during scarification operations and fully plugged with mortar during repairs.
 - Bridge deck scarification and removal of existing asphalt wearing surface.
 - 1 1/2" scarification at west approach. See Job Special Provision Milling prior to Wearing Surface Installation.
 - Removal of existing 3/4" asphalt wearing surface plus 1/4" minimum of existing concrete approach slab in riding lanes of east approach.
 - 1" vertical side shall be established outside the deteriorated area.
 - 1 1/2" minimum polyester polymer concrete wearing surface on West Approach. 1" minimum polyester polymer concrete wearing surface on East Approach.
 - Reinforcing steel is epoxy-coated. All areas of the epoxy coating that are damaged, either due to existing conditions or the concrete removal process, and any other areas where the coating is absent or removed shall be patched; see Standard Specifications Sec 710. The patch material will be in accordance with Sec 1036 and applied per the manufacturer's recommendations, and in accordance with Job Special Provisions.
 - Original depth of approach slab, minus any previous scarification.
 - PPC may be substituted for Class B-2 concrete at locations of half-sole repairs. See Job Special Provisions.

Designed K.H.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 48 of 49

APPROACH SLAB REPAIRS

LICENSE EXPIRES
12/31/2022

DATE PREPARED
8/4/2021

ROUTE 255 STATE MO
DISTRICT BR SHEET NO. 48

COUNTY
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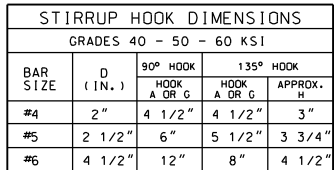
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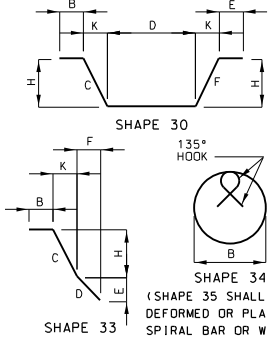
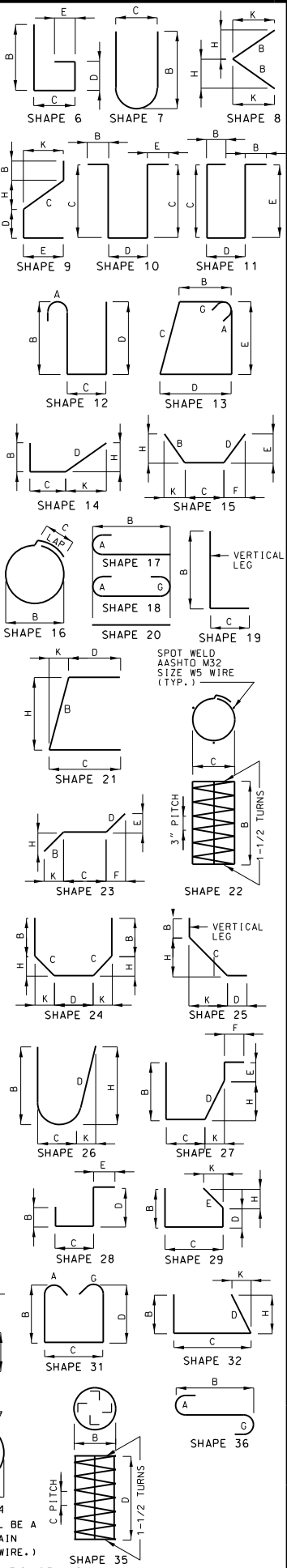
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BILL OF REINFORCING STEEL																									
NO.	REQ'D. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO. (S)	STIRUP (X)	SUBSTR. (V)	VARIES (W)	NO. EACH	DIMENSIONS								NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.					
										B	C	D	E	F	H	K									
										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.	FT.	IN.	
			SUPERSTR.																						
			SLAB AT																						
			ABUT. NO. 1																						
21	5 S1		SLAB	E 20					53	5.000							53	5	53	5	1170				
1	5 S2		SLAB	E 20					47	11.000							47	11	47	11	50				
45	5 S3		SLAB	E 33	S				0	5.000	0	22.000	0	7.000			0	11.00	0	19.00	2	10	2	10	133
102	6 S4		SLAB	E 20					3	7.875							3	8	3	8					562
51	5 S5		SLAB	E 20					3	7.875							3	8	3	8					195
			SLAB AT																						
			BENT NO. 5																						
38	5 S1		SLAB	E 20					53	5.000								53	5	53	5				2117
2	5 S2		SLAB	E 20					47	11.000								47	11	47	11				100
204	6 S6		SLAB	E 20					4	1.500								5	2	5	2				1277
102	5 S7		SLAB	E 20					4	1.500								4	2	4	2				443
90	5 S8		SLAB	E 33	S				0	5.000	0	22.000	0	7.000			0	11.000	0	19.000	2	10	2	10	266
12	5 S9		SLAB	E 20					4	0.000								4	0	4	0				50
			SLAB AT																						
			BENT NO. 9																						
38	5 S1		SLAB	E 20					53	5.000								53	5	53	5				2117
4	5 S2		SLAB	E 20					47	11.000								47	11	47	11				200
204	6 S10		SLAB	E 20					4	0.000								4	0	4	0				1226
102	5 S11		SLAB	E 20					4	0.000								4	0	4	0				426
90	5 S12		SLAB	E 33	S				0	5.000	0	26.000	0	7.000			0	13.000	0	22.500	3	2	3	2	297
12	5 S13		SLAB	E 20					4	0.000								4	0	4	0				5



END HOOK DIMENSIONS					
BAR SIZE	D. (IN.)	ALL GRADES			
		180° HOOKS		90° HOOKS	
		A OR G	J	A OR G	G
#3	2 1/4"	5"	3"		
#4	3"	6"	4"	8"	
#5	3 3/4"	7"	5"	10"	
#6	4 1/2"	8"	6"	12"	
#7	5 1/4"	10"	7"	14"	
#8	6"	11"	8"	16"	
#9	9 1/2"	15"	11 3/4"	19"	
#10	10 3/4"	17"	13 1/4"	22"	
#11	12"	19"	14 3/4"	2'-0"	
#14	18 1/4"	2'-3"	21 3/4"	2'-7"	

[illegible]

9:30:38 PM 7/29/2021

U.I.P. (31'-55'-59'-42') EXISTING CONTINUOUS CONCRETE VOIDED SLAB SUPERSTRUCTURE (SKEW: VARIES)

General Notes:

Design Specifications:

2002 AASHTO For Highway Bridges (17th ed.) Standard Specifications
Bridge Deck Rating = 5.

Design Loading:

HS20-44 Modified (1979) and Military 24,000 lb Tandem Axle (1979)

Design Unit Stresses:

Class B-1 Concrete (Half-Sole Repair, Full Depth Repair with Void Tube Replacement, and Barrier Curb Replacement) f'c = 4,000 psi

Wearing Surface Rehabilitation:

Either Latex Modified Concrete or Polyester Polymer Concrete can be used as materials for the wearing surface replacement per the details shown in the Plans.

If PPC is selected for the Bridge Deck, PPC shall also be used on the Approach Slabs.

Plans show a decrease in final grade of 1 inch for the Latex Modified Concrete Wearing Surface Alternate, and 1½ inch for the Polyester Polymer Concrete Wearing Surface Alternate. Actual grade adjustment may vary across the structure. Thickness of the existing asphalt wearing surface and concrete substrate are know to vary based on a limited number of inspection openings made in 2019. Information is available upon request.

Hydor-demolition shall take place after the removal of the existing 20-inch wide barrier curb in order to prepare surface for new overlay.

New Type D curbs shall be placed before placement of the new wearing surface.

Hydro-demolition shall not be used with Polyester Polymer Concrete Wearing Surface Alternate.

Final grade of the approach slab surface shall match adjacent roadway and final grade of adjacent bridge deck. See Sheet 9 for taper details.

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

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

For Latex Modified Concrete Wearing Surface, half-sole repairs shall only be used in special repair zones. Outside special repair zones, monolithic deck repair shall be used.

For Polyester Polymer Concrete Wearing Surface Alternate, half-sole repairs shall be used everywhere.

Roadway surfacing adjacent to bridge ends and approach slabs shall match new bridge wearing surface (roadway item).

Barrier Curb Replacement:

Removal of existing barrier curbs will be considered completely covered by the contract unit price for Curb Removal.

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 Type D Barrier Curb.

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 8 inch.

Anchors shall be epoxy coated #5 Grade 60 reinforcing bars as shown on Sheets 5 and 6.

Miscellaneous:

Outline of old work is indicated by light dashed lines. Heavy lines indicate new work. Contractor shall verify all dimensions if field before ordering new material.

Traffic Handling:

Structure to be closed during construction. One direction to be closed at a time. Traffic to be maintained on adjacent structure during construction. See roadway plans for traffic control. Coordinate closures with Job No. J613413.

Layout:

Direction of travel is westbound away from the Mississippi River, starting from Bent No. 5 to No. 1, Spans 4-5, 2-3, 3-4, and 1-2 sequentially. Right refers to the north edge of the bridge, and left refers to the south edge (median).

INDEX OF SHEETS

- General Notes, Summary of Quantities, and Sheet List
- Slab Sections, Seal Details, and Substructure Repair
- Wearing Surface and Deck Repair Details (Latex Modified Concrete Wearing Surface Alternate)
- Wearing Surface and Deck Repair Details (Polyester Polymer Concrete Wearing Surface Alternate)
- Barrier Curb Replacement
- Details of Right Barrier Curb at End Bents
- Bridge Approach Slab Repairs (Latex Modified Concrete Wearing Surface)
- Bridge Approach Slab Repairs (Polyester Polymer Concrete Wearing Surface Alternate)
- Wearing Surface Taper Details at End Bents
- Bar Bill

Estimated Quantities		
Item		Total
Removal of Asphalt Wearing Surface	sq. foot	11308
Scarification of Bridge Deck	sq. yard	438
Slab Edge Repair (Bridges)	linear foot	60
Substructure Repair (Unformed)	sq. foot	5
Full Depth Repair	sq. foot	150
Deck Repair with Void Tube Replacement	sq. foot	1150
Cleaning and Epoxy Coating	sq. foot	15
Curb Removal	linear foot	382
Type D Barrier	linear foot	382
Silicone Expansion Joint Sealant	linear foot	144

Latex Modified Concrete Wearing Surface Alternate

Item		Total
Removal of Existing Deck Repair	sq. foot	500
Latex Modified Concrete Wearing Surface	sq. yard	1695
Diamond Grinding	sq. yard	1695
*Half-Sole Repair	sq. foot	1550
Total Surface Hydro Demolition	sq. yard	1695
*Supplementary Wearing Surface Material	cu. yard	25

Polyester Polymer Concrete (PCC) Wearing Surface Alternate		
Item		Total
Half-Sole Repair	sq. foot	3700
Furnish PPC Material	cu. yard	74
Place PPC Overlay	sq. yard	1695

- * Supplementary wearing surface material will be paid for at the fixed unit price in accordance with Sec 109.
- ** In special repair zones, assume Repairing Concrete Deck (Half-Soling) to be completed prior to hydro demolition.

REPAIRS TO BRIDGE: ROUTE I-255 NB
OVER KOCH ROAD

ROUTE 1-255 FROM TELEGRAPH TO MISSISSIPPI RIVER

ABOUT 3.0 MILES E. OF MEHLVILLE

BEG. STA. 133+24.54± (MATCH EXISTING)

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 1 of 10

GENERAL NOTES, SUMMARY OF QUANTITIES, AND SHEET LIST



LICENSE EXPIRES
12/31/2022

DATE PREPARED

8/10/2021

ROUTE 255 STATE MO

DISTRICT BR SHEET NO. 1

COUNTY ST. LOUIS

JOB NO. J613500

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A25902

DESCRIPTION	DATE								

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

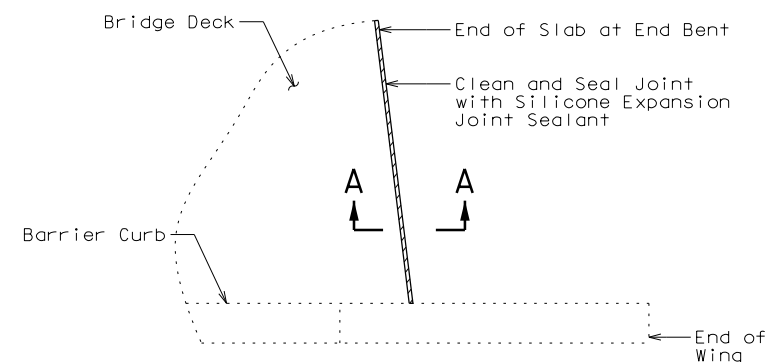
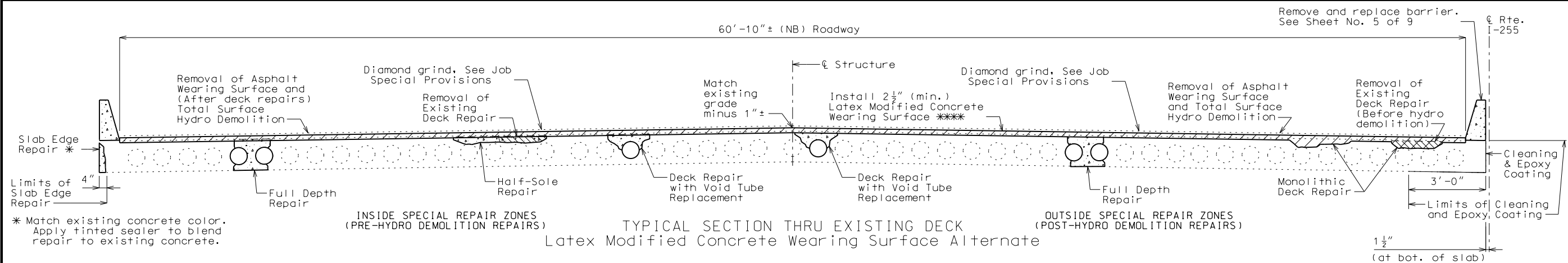
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

WJE

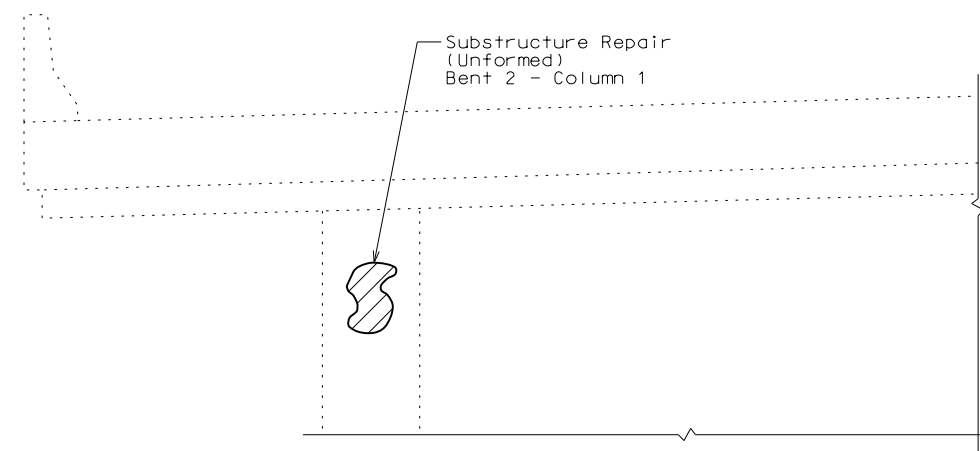
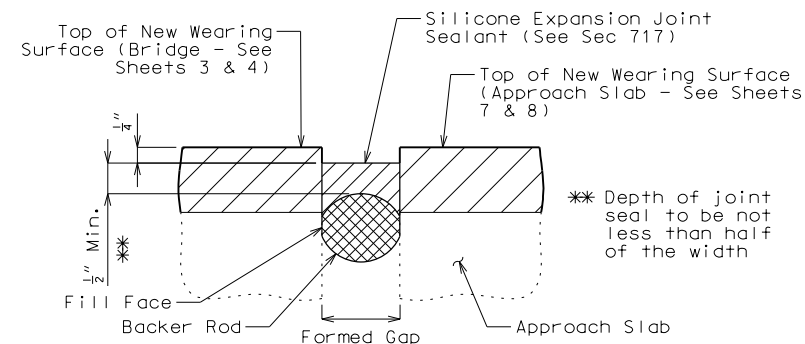
Miss. Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9599 fax
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CLEAN AND SEAL JOINT AT END BENTS

Right side shown. (No wing wall on left side)



SUBSTRUCTURE REPAIR

(Bent No. 2)

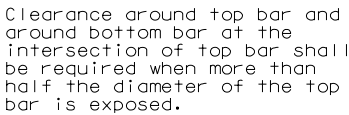
Note:
Unformed repairs shall utilize shotcrete repair method.
See Job Special Provisions.

Location and repair perimeter shown is approximate.

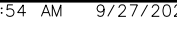


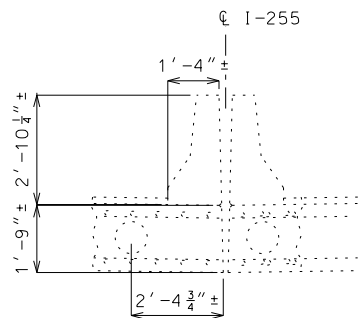


One 3/4"Ø weep hole shall be provided at 2 inches from each end of each new void.

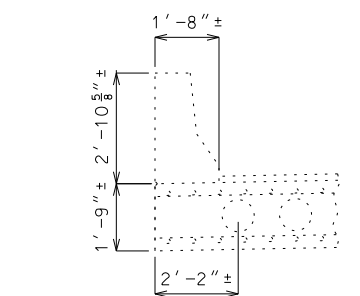


PPC repairs shall be placed at least one hour prior to placement of PPC wearing surface.

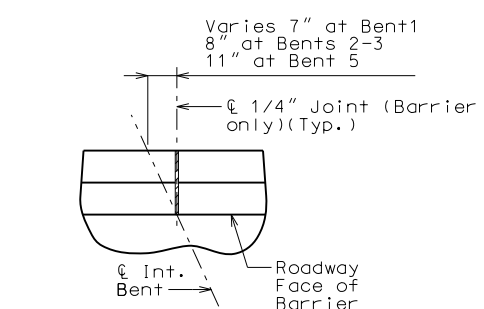




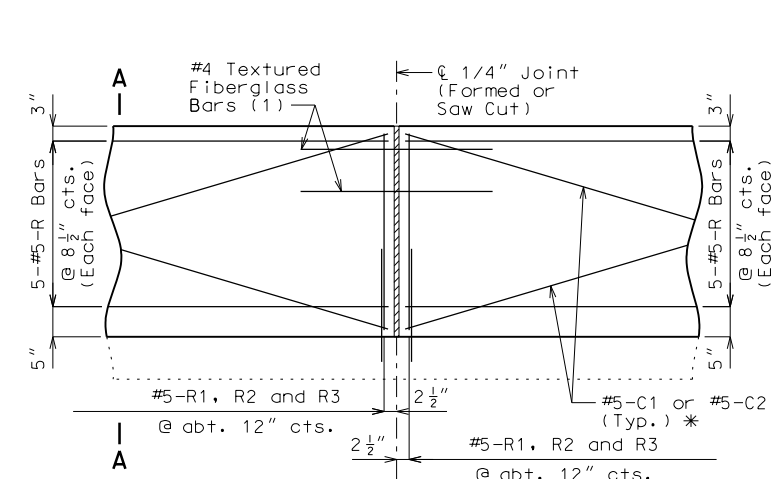
SECTION THROUGH EXISTING BARRIER TO BE REMOVED AT MEDIAN (Left Curb)



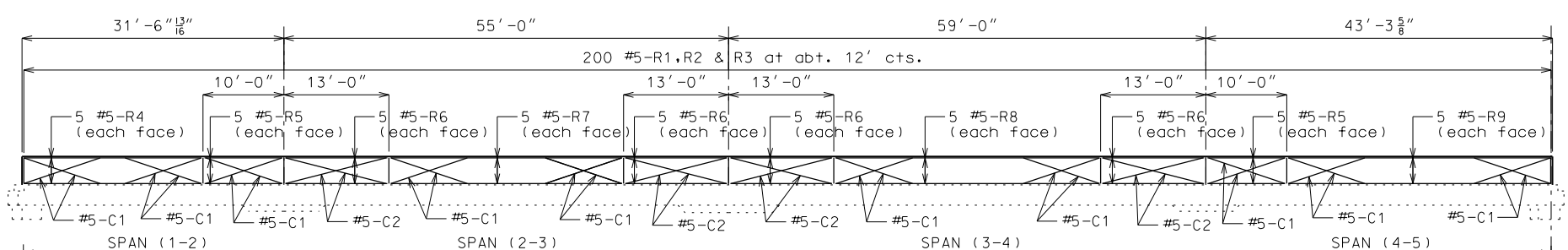
SECTION THROUGH EXISTING BARRIER TO BE REMOVED AT EDGE (Right Curb)



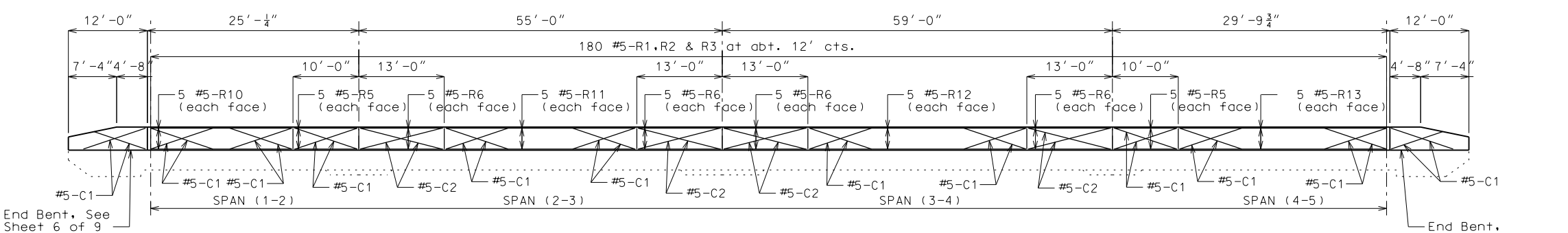
PART PLAN SHOWING JOINT LOCATION



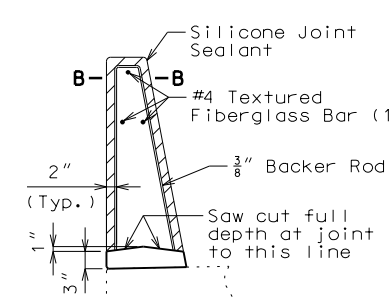
PART ELEVATION OF BARRIER (1) Four feet long, centered on joint, slip-formed option only



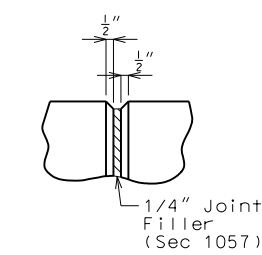
SECTION NEAR LEFT CURB (Note: Existing roadway median barrier not shown)



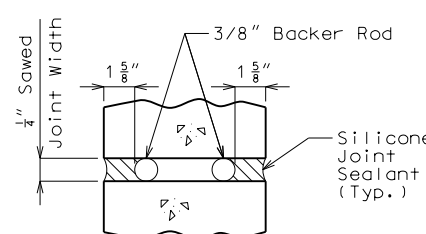
ELEVATION OF RIGHT CURB



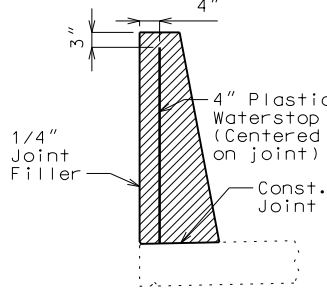
SECTION THRU SAW CUT JOINT



PART ELEVATION AT FORMED JOINT



SECTION B-B

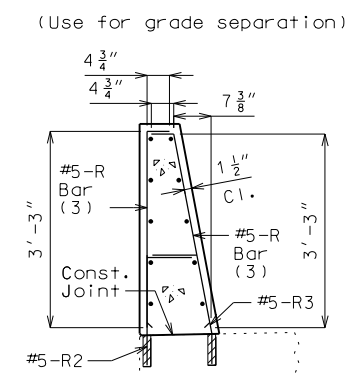


WATERSTOP DETAIL

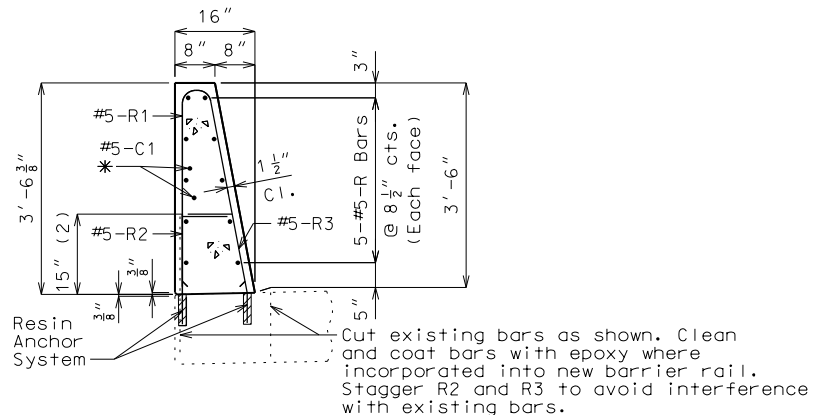
Plastic waterstop shall be placed in all formed joints, except structures with superelevation, use on lower joints only.

Cost of plastic waterstop, complete in place, will be considered completely covered by the contract unit price for Type D Barrier.

(Use for grade separation)



R-BAR PERMISSIBLE ALTERNATE SHAPE

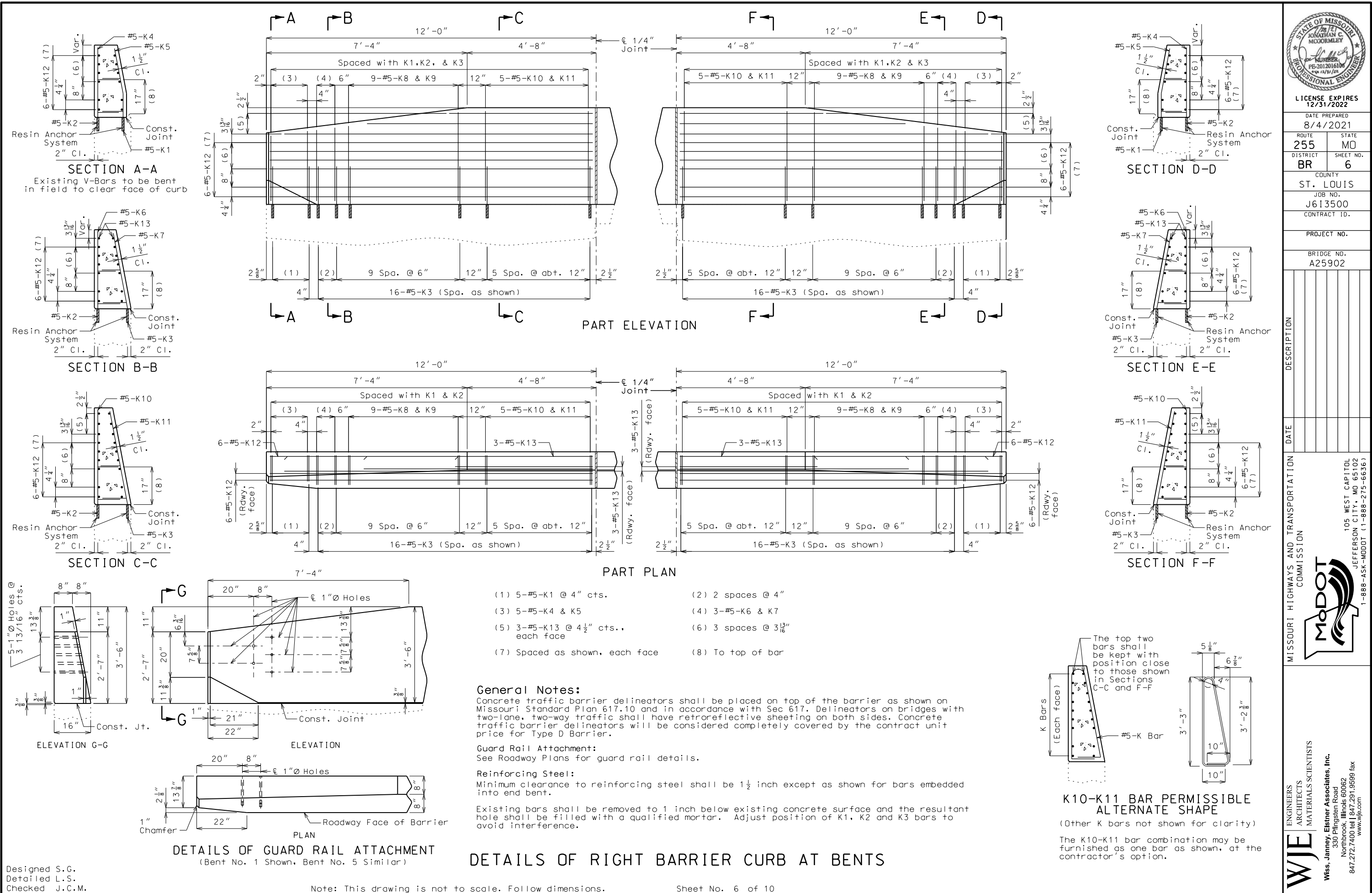


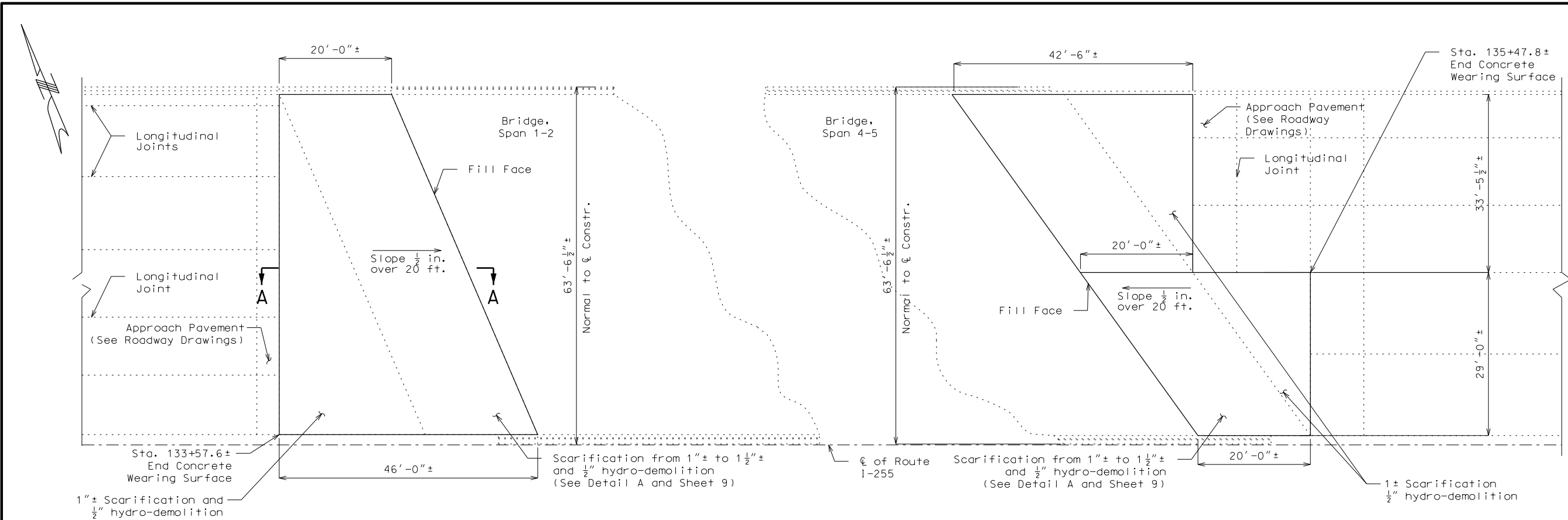
SECTION A-A Use a minimum lap of 3'-1" for #5 horizontal barrier bars. The cross-sectional area above the slab is 3.52 square feet. (2) To top of bar

BARRIER CURB REPLACEMENT

General Notes:

- * Slip-formed option only.
- Removal of existing barrier curbs will be considered completely covered by the contract unit price for Curb Removal.
- Cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for Type D Barrier Curb.
- Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.
- Unless otherwise noted, existing reinforcement not shown for clarity.
- 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 wing to end of wing.
- Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.
- Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.
- For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.
- Plastic waterstop shall not be used with saw cut joints.
- Minimum 8 inch embedment of R2 and R3, in resin anchor system (Sec 1039).

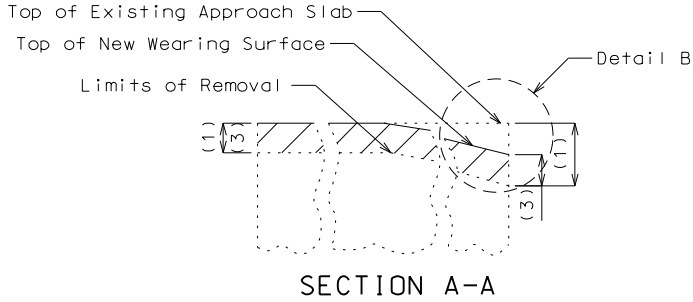




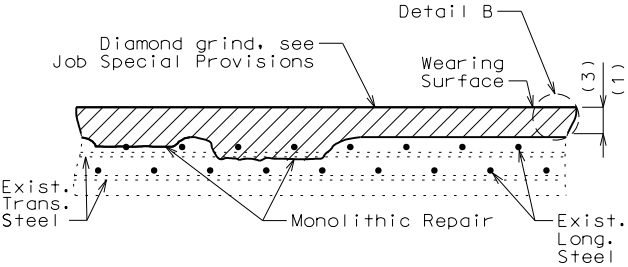
CONCRETE APPROACH SLAB (WEST)

CONCRETE APPROACH SLAB (EAST)

APPROACH SLAB PARTIAL PLAN VIEW (I-255 (NB))

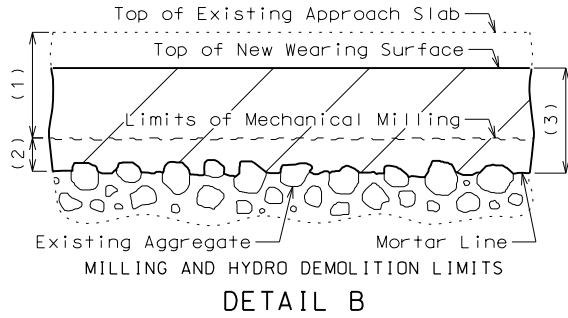


SECTION A-A



MONOLITHIC DECK REPAIR

- Notes:
See Sheet 9 for taper details.
- (1) Scarification of existing Approach Slab: varies 1" to 1 1/2"
 - (2) Total surface hydro demolition of sound concrete, measured to mortar line: 1/2" typical
 - (3) Latex modified concrete wearing surface: 1 1/2" minimum typical



DETAIL B

Note:

For Approach Pavement details, see Roadway Plans.

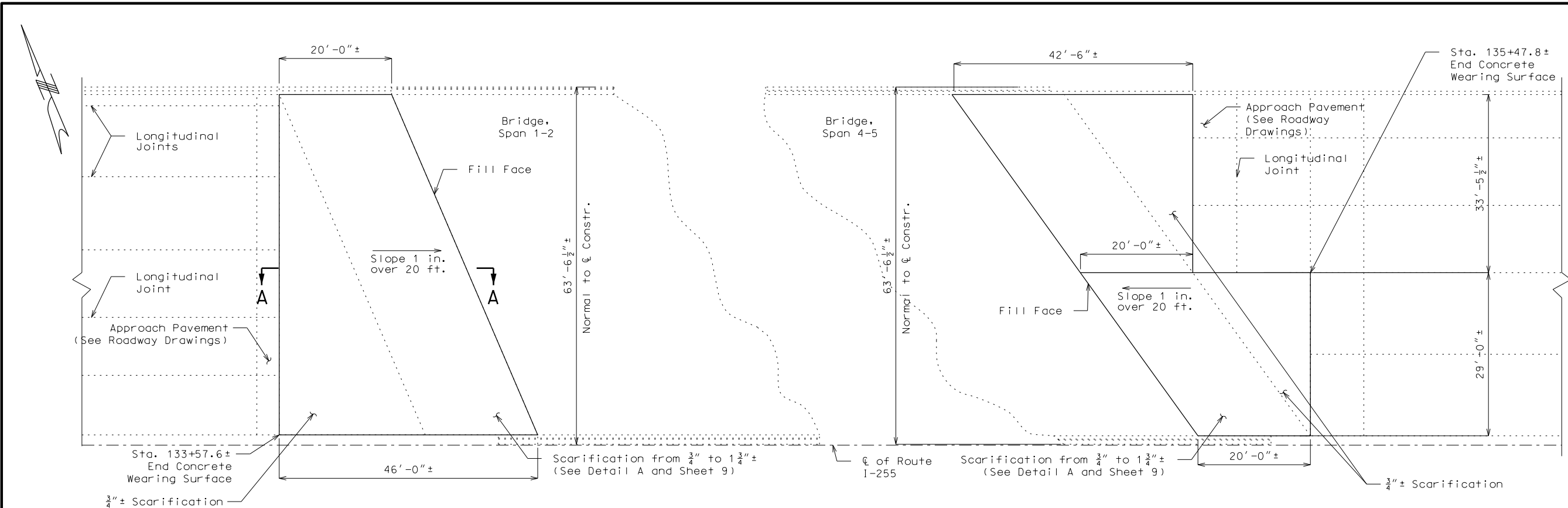
Final grade of approach slab wearing surface shall match adjacent roadway and final grade of bridge deck wearing surface. Refer to Sheet 9 for taper details.

Extents of reinforced concrete Approach Slabs as shown are approximate.

Scarify existing Approach Slabs and provide new Latex Modified Concrete Wearing Surface with Half-Sole Repairs. Half-Sole Repairs shall be made with Class B-1 Concrete.

Multiple passes of milling shall be performed per Job Special Provisions.

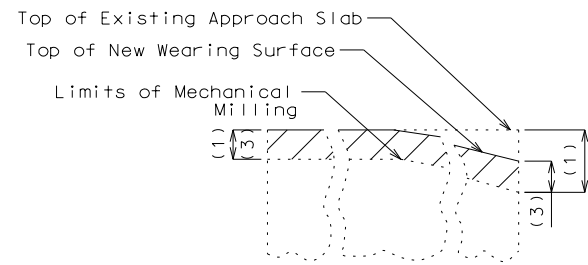
BRIDGE APPROACH SLAB REPAIRS (LATEX MODIFIED CONCRETE WEARING SURFACE ALTERNATE)



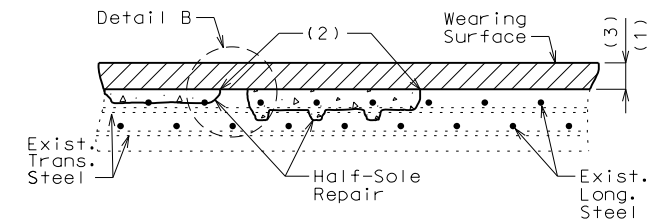
CONCRETE APPROACH SLAB (WEST)

CONCRETE APPROACH SLAB (EAST)

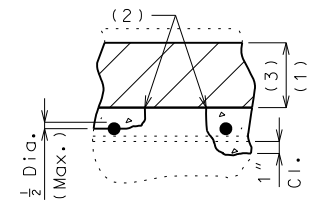
APPROACH SLAB PARTIAL PLAN VIEW (I-255 (NB))



SECTION A-A



HALF-SOLE REPAIR



DETAIL B

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

- Notes:
See Sheet 9 for taper details.
- (1) Scarification of existing Approach Slab: varies 3/4" to 1 3/4"
 - (2) 1" vertical side shall be established outside the deteriorated area
 - (3) Polyester Polymer Concrete Wearing Surface: 3/4" minimum typical

Note:
For Approach Pavement details, see Roadway Plans.

Final grade of approach slab wearing surface shall match adjacent roadway and final grade of bridge deck wearing surface. Refer to Sheet 9 for taper details.

Extents of reinforced concrete Approach Slabs as shown are approximate.

Scarify existing Approach Slabs and provide new Polyester Polymer Concrete Wearing Surface with Half-Sole Repairs. Half-Sole Repairs shall be made with Class B-1 Concrete.

Multiple passes of milling shall be performed per Job Special Provisions.

Hydro-demolition shall not be used with Polyester Polymer Concrete Wearing Surface.

BRIDGE APPROACH SLAB REPAIRS (POLYESTER POLYMER CONCRETE WEARING SURFACE ALTERNATE)

Designed S.G.
Detailed L.S.
Checked J.C.M.

Note: This drawing is not to scale. Follow dimensions. Sheet No. 8 of 10



LICENSE EXPIRES 12/31/2022	
DATE PREPARED 8/4/2021	
ROUTE 255	STATE MO
DISTRICT BR	SHEET NO. 8
COUNTY ST. LOUIS	
JOB NO. J613500	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A25902	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

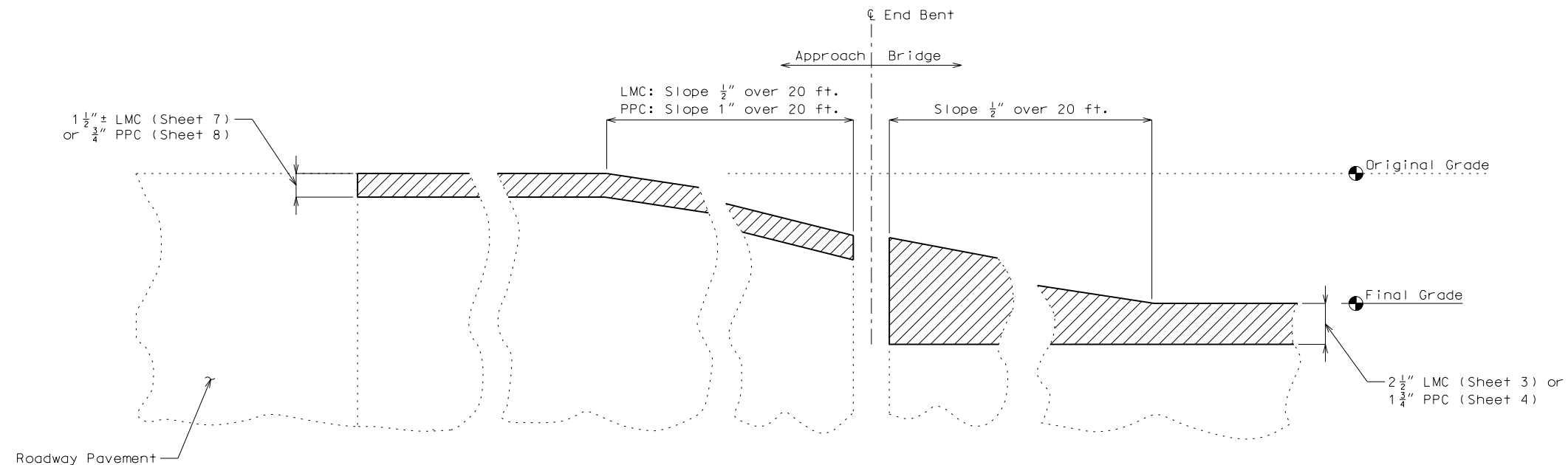
105 WEST CAPITOL
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REV. RevDesc



SCHMATIC OF WEARING SURFACE TAPER AT END BENT
(Similar Detail for Bent No. 1 and Bent No. 5)

Notes

Refer to Sheets 2, 3, and 4 for Slab Sections and Bridge Deck wearing surface repair details.

Final grade reduction is:

- a) 1" ± for Latex Modified Concrete (LMC) Wearing Surface Alternate
b) 1 1/2" ± for Polyester Polymer Concrete (PPC) Wearing Surface Alternate)

Refer to Sheets 7 and 8 for Approach Slab wearing surface repair details. Final grade of Approach Slabs shall match adjacent roadway pavements and final grade of bridge deck wearing surface.

Bridge Deck Wearing Surface at either end bent shall increase in thickness from plan grade, along the direction parallel to the roadway, towards either end bent.

Maintain minimum of 2% grade parallel to roadway from Bent No. 5 to Bent No. 1.

Maintain minimum of 1.5% grade normal to roadway, away from crown towards shoulders.

Maximum thickness of wearing surface at end bent:

- a) 3" for Latex Modified Concrete
b) 2 1/4" for Polyester Polymer Concrete

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

Cost for furnishing additional wearing surface material to achieve uniform final grade between approach slab and bridge deck at end bents is considered incidental to furnishing new wearing surfaces.

WEARING SURFACE TAPER DETAIL AT END BENTS

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 9 of 10

P:\2019\2019.7xxx\2019.7951.0 - REHAB DESIGN FOR KOCH RD BRIDGES (SMC)\09 Drawings\2. NB-WB A25902\B-A25902-009-J613500-EB-Bridge Approach Repairs_Wearing Surface Taper Details at End Bents.dgn 11:32:54 AM 8/4/2021



LICENSE EXPIRES
12/31/2022

DATE PREPARED
8/4/2021

ROUTE 255
DISTRICT BR
STATE MO
SHEET NO. 9

COUNTY
ST. LOUIS

JOB NO.
J613500

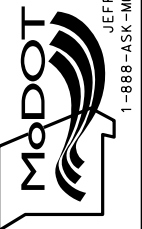
CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A25902

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



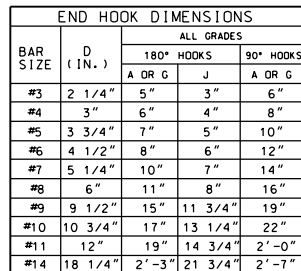
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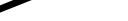
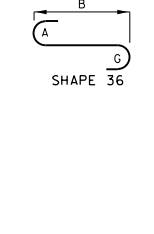
REV. RevDesc

NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT							
										B		C		D		E					F		H		K		
										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.	FT.	IN.	FT.	IN.	
			BARRIER CURB (TYPE D)																								
44	5	C1	BARRIER	E	20					10	4.750							10	5	10	5	478					
16	5	C2	BARRIER	E	20					13	3.750							13	4	13	4	223					
10	5	K1	BARRIER	E	27	S					0	9.125	0	5.750	1	7.375		0	5.625	0	1.000	2	11	2	10	30	
42	5	K2	BARRIER	E	19	S				2	1.000	0	9.250									3	0	2	10	124	
32	5	K3	BARRIER	E	27	S					0	9.125	1	5.250	0	8.000		1	5.000	0	3.250	2	11	2	10	95	
10	5	K4	BARRIER	E	19	S		V	2	2	4.250	0	10.000									3	2	3	1	33	
										2	6.250	0	10.000									3	4	3	3		
10	5	K5	BARRIER	E	14	S		V	2	0	8.375	0	9.625	1	6.500		0	4.000	1	6.000	3	1	2	11		32	
										0	8.375	0	1.000	2	5.375		0	6.375	2	4.625	3	4	3	3			
6	5	K6	BARRIER	E	19	S		V	2	2	6.750	0	10.000									3	5	3	3	21	
										2	7.750	0	10.000									3	6	3	4		
6	5	K7	BARRIER	E	21	S		V	2	2	6.750	0	10.000				2	6.125	0	6.250	3	5	3	2		20	
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18	5	K8	BARRIER	E	19	S		V	2	2	8.500	0	10.000									3	6	3	5		69
										3	2.500	0	10.000									4	0	3	11		
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10	5	K11	BARRIER	E	21	S				3	3.125	0	10.000				3	2.375	0	7.875	4	1	3	11		41	
24	5	K12	BARRIER	E	20					11	9.000											11	9	11	9		294
12	5	K13	BARRIER	E	20			V	2	4	10.000											4	10	4	10		99
										11	0.000											11	0	11	0		
411	5	R1	BARRIER	E	26	S				3	3.625	0	5.125	3	3.625		3	3.000	0	7.000	7	0	6	10		2929	
411	5	R2	BARRIER	E	19					1																	



REINFORCING STEEL (GRADE 60) $F_Y = 60,000$ PSI.

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

[illegible]

Designed S.G.
Detailed L.S.
Checked J.C.M.

RevDesc

847.272.7400
W

V. RevDesc

U.I.P. (31'-55'-59'-42') EXISTING CONTINUOUS CONCRETE VOIDED SLAB SUPERSTRUCTURE (SKEW: VARIES)

General Notes:

Design Specifications:

2002 AASHTO For Highway Bridges (17th ed.) Standard Specifications
Bridge Deck Rating = 5.

Design Loading:

HS20-44 Modified (1979) and Military 24,000 lb Tandem Axle (1979)

Design Unit Stresses:

Class B-1 Concrete (Half-Sole Repair, Full Depth Repair with Void Tube Replacement, and Barrier Curb Replacement) f'c = 4,000 psi

Wearing Surface Rehabilitation:

Either Latex Modified Concrete or Polyester Polymer Concrete can be used as materials for the wearing surface replacement per the details shown in the Plans.

If PPC is selected for the Bridge Deck, PPC shall also be used on the Approach Slabs.

Plans show a decrease in final grade of 1 inch for the Latex Modified Concrete Wearing Surface Alternate, and 1½ inch for the Polyester Polymer Concrete Wearing Surface Alternate. Actual grade adjustment may vary across the structure. Thickness of the existing asphalt wearing surface and concrete substrate are know to vary based on a limited number of inspection openings made in 2019. Information is available upon request.

Hydro-demolition shall take place after the removal of the existing 20-inch wide barrier curb in order to prepare surface for new overlay.

New Type D curbs shall be placed before placement of the new wearing surface.

Hydro-demolition shall not be used with Polyester Polymer Concrete Wearing Surface Alternate.

Final grade of the approach slab surface shall match adjacent roadway and final grade of adjacent bridge deck. See Sheet 9 for taper details.

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

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

For Latex Modified Concrete Wearing Surface, half-sole repairs shall only be used in special repair zones. Outside special repair zones, monolithic deck repair shall be used.

For Polyester Polymer Concrete Wearing Surface Alternate, half-sole repairs shall be used everywhere.

Roadway surfacing adjacent to bridge ends and approach slabs shall match new bridge wearing surface (roadway item).

Barrier Curb Replacement:

Removal of existing barrier curbs will be considered completely covered by the contract unit price for Curb Removal.

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 Type D Barrier Curb.

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 8 inch.

Anchors shall be epoxy coated #5 Grade 60 reinforcing bars as shown on Sheets 5 and 6.

Miscellaneous:

Outline of old work is indicated by light dashed lines. Heavy lines indicate new work. Contractor shall verify all dimensions if field before ordering new material.

Traffic Handling:

Structure to be closed during construction. One direction to be closed at a time. Traffic to be maintained on adjacent structure during construction. See roadway plans for traffic control. Coordinate closures with Job No. J613413.

Layout:

Direction of travel is eastbound towards the Mississippi River, starting from Bent No. 1 to No. 5, Spans 1-2, 2-3, 3-4, and 4-5 sequentially. Right refers to the south edge of the bridge, and left refers to the north edge (median).

INDEX OF SHEETS

- General Notes, Summary of Quantities, and Sheet List
- Slab Sections and Seal Details
- Wearing Surface and Deck Repair Details (Latex Modified Concrete Wearing Surface Alternate)
- Wearing Surface and Deck Repair Details (Polyester Polymer Concrete Wearing Surface Alternate)
- Barrier Curb Replacement
- Details of Right Barrier Curb at End Bents
- Bridge Approach Slab Repairs (Latex Modified Concrete Wearing Surface Alternate)
- Bridge Approach Slab Repairs (Polyester Polymer Concrete Wearing Surface Alternate)
- Wearing Surface Taper Details at End Bents
- Bar Bill

Estimated Quantities		
Item		Total
Removal of Asphalt Wearing Surface	sq. foot	14393
Scarification of Bridge Deck	sq. yard	534
Slab Edge Repair (Bridges)	linear foot	60
Full Depth Repair	sq. foot	150
Deck Repair with Void Tube Replacement	sq. foot	1150
Cleaning and Epoxy Coating	linear foot	15
Curb Removal	linear foot	411
Type D Barrier	linear foot	411
Silicone Expansion Joint Sealant	linear foot	165
Open Cell Foam Joint Seal	linear foot	190
Latex Modified Concrete Wearing Surface Alternate		
Item		Total
Removal of Existing Deck Repair	sq. foot	500
Latex Modified Concrete Wearing Surface	sq. yard	2134
Diamond Grinding	sq. yard	2134
Half-Sole Repair	sq. foot	1550
Total Surface Hydro Demolition	sq. yard	2134
Supplementary Wearing Surface Material (LMC)	cu. yard	26
Polyester Polymer Concrete (PCC) Wearing Surface Alternate		
Item		Total
Half-Sole Repair	sq. foot	3700
Furnish PPC Material	cu. yard	93
Place PPC Overlay	sq. yard	2134

- * Supplementary wearing surface material will be paid for at the fixed unit price in accordance with Sec 109.
- ** In special repair zones, assume Repairing Concrete Deck (Half-Soling) to be completed prior to hydro demolition.

REPAIRS TO BRIDGE: ROUTE I-255 SB
OVER KOCH ROAD

ROUTE 1-255 FROM TELEGRAPH TO MISSISSIPPI RIVER

ABOUT 3.0 MILES E. OF MEHLVILLE

BEG. STA. 133+56.19± (MATCH EXISTING)

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 1 of 10



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12/31/2022

DATE PREPARED
8/10/2021

ROUTE 255
DISTRICT BR
STATE MO
SHEET NO. 1

COUNTY
ST. LOUIS

JOB NO.
J613500

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A25903

DESCRIPTION	DATE					

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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SECTION THROUGH
EXISTING BARRIER TO
BE REMOVED AT MEDIAN
(Left Curb)

SECTION THROUGH
EXISTING BARRIER TO
BE REMOVED AT EDGE
(Right Curb)

Varies 7" at Bent 1
8" at Bent 2
11" at Bent 5

1/4" Joint (Barrier only) (Typ.)

Int. Bent

Roadway Face of Barrier

PART PLAN SHOWING
JOINT LOCATION

5'-0" (Total width)

5-#5-R Bars @ 8 1/2" cts. (Each face)

3"

#4 Textured Fiberglass Bars (1)

1/4" Joint (Formed or Saw Cut)

3"

5-#5-R Bars @ 8 1/2" cts. (Each face)

5'-0" (Total width)

#5-R1, R2 and R3 @ abt. 12" cts.

2 1/2"

#5-C1 or #5-C2 (Typ.) *

#5-R1, R2 and R3 @ abt. 12" cts.

PART ELEVATION OF BARRIER
(1) Four feet long, centered on joint,
slip-formed option only

Structural drawing of a bridge deck showing spans, reinforcement bars, and dimensions. The drawing is divided into four spans: SPAN (1-2), SPAN (2-3), SPAN (3-4), and SPAN (4-5). Dimensions are given in feet and inches. Reinforcement bars are labeled #5-R1 through #5-R9 and #5-C1 through #5-C2. The drawing also shows the location of the centerline (Cts.) and the center of gravity (Gts.).

Dimensions (feet and inches):

- Span (1-2): 32'-4 ⁵/₁₆"
- Span (2-3): 55'-0"
- Span (3-4): 59'-0"
- Span (4-5): 42'-10 ⁵/₁₆"

Reinforcement bars (each face):

- Span (1-2): 5 #5-R4, 5 #5-R5, 5 #5-R6, 5 #5-R7, 5 #5-R8, 5 #5-R9
- Span (2-3): 5 #5-R1, 5 #5-R2, 5 #5-R3, 5 #5-R4, 5 #5-R5, 5 #5-R6, 5 #5-R7, 5 #5-R8, 5 #5-R9
- Span (3-4): 5 #5-R1, 5 #5-R2, 5 #5-R3, 5 #5-R4, 5 #5-R5, 5 #5-R6, 5 #5-R7, 5 #5-R8, 5 #5-R9
- Span (4-5): 5 #5-R1, 5 #5-R2, 5 #5-R3, 5 #5-R4, 5 #5-R5, 5 #5-R6, 5 #5-R7, 5 #5-R8, 5 #5-R9

Centerline (Cts.) and Center of Gravity (Gts.) are indicated by dashed lines.

ELEVATION OF RIGHT CURB

Dimensions and Reinforcement Details:

- Overall Length: 12'-0" + 32'-1 1/2" + 55'-3 5/16" + 59'-3 5/16" + 51'-1 9/16" + 12'-0" = 212'-11 1/2"
- Reinforcement Bars:
 - Top: 200 #5-R1, R2 & R3 at abt. 12' cts.
 - Bottom: #5-C1, #5-C2
 - Vertical: #5-R5, #5-R6, #5-R11, #5-R12, #5-R13 (each face)
- Span Labels: SPAN (1-2), SPAN (2-3), SPAN (3-4), SPAN (4-5)
- End Bents: See Sheet 6 of 9

Diagram illustrating the repair joint construction:

- Silicone Joint Sealant
- #4 Textured Fiberglass Bar (1)
- $\frac{3}{8}$ " Backer Rod
- Saw cut full depth at joint to this line
- 2" (Typ.)
- 1"
- 3"

Diagram illustrating a butt joint with 1/4" joint filler (Sec 1057). The diagram shows two plates being joined, with a central gap filled with joint filler. The filler is labeled as 1/4" Joint Filler (Sec 1057). The gap width is indicated as 1/2" on both sides of the filler.

Diagram illustrating the cross-section of a joint repair. The joint width is labeled as 1 5/8" Sawn. The repair includes a 3/8" Backer Rod and Silicone Joint Sealant (Typ.) applied in the joint.

A cross-sectional diagram of a tapered joint filler. The filler is a trapezoidal shape with a top width of 4 inches and a height of 3 inches. It is labeled "4\" Plastic Waterstop (Centered on joint)" and "Const. Joint". A dashed line indicates the joint line. The filler is shown in a cross-section with diagonal hatching. Labels include "1/4\" Joint Filler" pointing to the filler material, "4\" Plastic Waterstop (Centered on joint)" pointing to the top edge, and "Const. Joint" pointing to the bottom edge.

Technical drawing of a bridge deck cross-section showing reinforcement details. The drawing includes dimensions for the deck width (16 inches), height (3 feet 6 3/8 inches), and reinforcement bar placement. Reinforcement bars are labeled #5-R1, #5-C1, #5-R2, #5-R3, and 5-#5-R Bars. A "Resin Anchor System" is indicated for the bars. A note states: "Cut existing bars as shown. Clean and coat bars with epoxy where incorporated into new barrier rail. Stagger R2 and R3 to avoid interference with existing bars."

BARRIER CURB REPLACEMENT

General Notes:

* Slip-formed option only.

Removal of existing barrier curbs will be considered completely covered by the contract unit price for Curb Removal.

Cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for Type D Barrier Curb.

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

Unless otherwise noted, existing reinforcement not shown for clarity.

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 wing to end of wing.

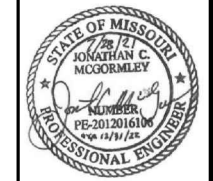
Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered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

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

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

Plastic waterstop shall not be used with saw cut joints.

Minimum 8 inch embedment of R2 and R3, in resin anchor system (Sec 1039).



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ROUTE	STATE
355	MO

235	MU
DISTRICT	SHEET NO.
RR	5

BR	5
COUNTY	
ST	LOUIS


ST. LOUIS
JOB NO.
1613500

J613500
CONTRACT ID.

PROJECT NO.

BRIDGE NO.
105007[illegible]

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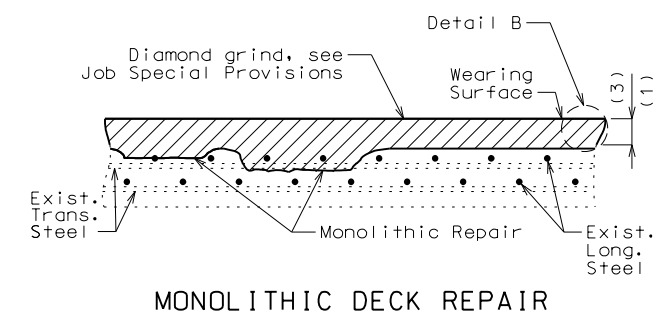
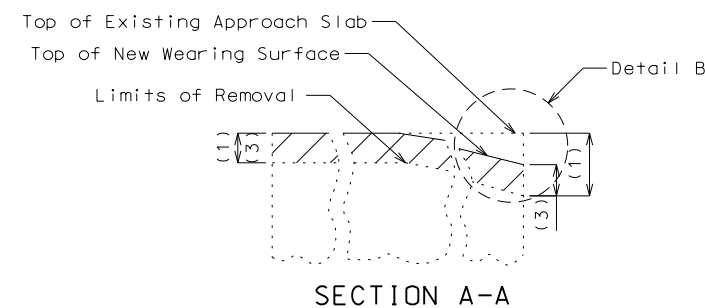
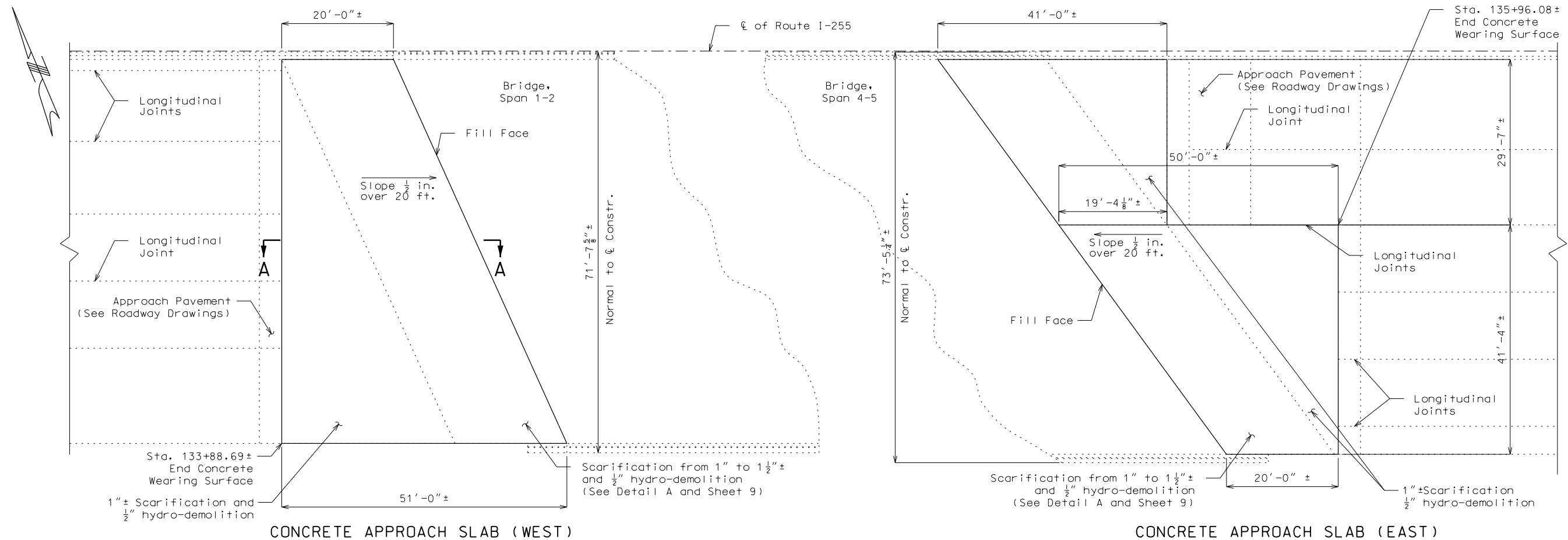
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Note:

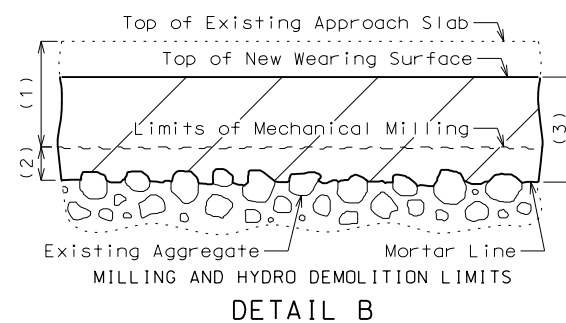
For Approach Pavement details, see Roadway Plans.

Final grade of approach slab wearing surface shall match adjacent roadway and final grade of bridge deck wearing surface. Refer to Sheet 9 for taper details.

Extents of reinforced concrete Approach Slabs as shown are approximate.

Scarify existing Approach Slabs and provide new Latex Modified Concrete Wearing Surface with Half-Sole Repairs. Half-Sole Repairs shall be made with Class B-1 Concrete.

Multiple passes of milling shall be performed per Job Special Provisions.



Notes:

See Sheet 9 for taper details.

(1) Scarification of existing Approach Slab:
varies 1" to 1½"

(2) Total surface hydro demolition of sound concrete, measured to mortar line:
 $\frac{1}{2}$ " typical

(3) Latex modified concrete wearing surface:
1½" minimum typical

BRIDGE APPROACH SLAB REPAIRS (LATEX MODIFIED CONCRETE WEARING SURFACE ALTERNATE)

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 7 of 10

P:\2019\2019.7xxx\2019.7951.0 - REHAB DESIGN FOR KOCH RD BRIDGES (SMG)\09 Drawings\1_SB_EB_A25903\B_A25903_007_J613500_EB_Bridge Approach Repairs.dgn 6:01:25 PM 8/4/2021



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12/31/2022

DATE PREPARED
8/4/2021

ROUTE 255	STATE MO
DISTRICT BR	SHEET NO. 7

COUNTY
ST. LOUIS

JOB NO.
J613500

CONTRACT ID.

PROJECT NO.

BRIDGE NO.	A25903
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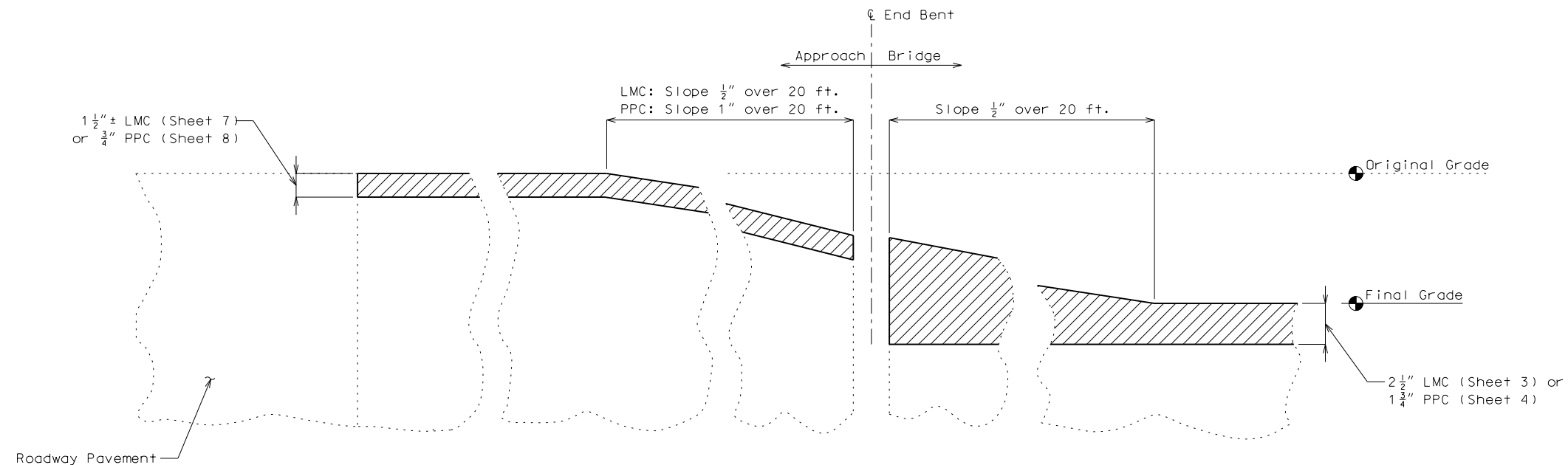
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SCHEMATIC OF WEARING SURFACE TAPER AT END BENT
(Similar Detail for Bent No. 1 and Bent No. 5)

Notes

Refer to Sheets 2, 3, and 4 for Slab Sections and Bridge Deck wearing surface repair details.
Final grade reduction is:
a) 1" ± for Latex Modified Concrete (LMC) Wearing Surface Alternate
b) 1 1/2" ± for Polyester Polymer Concrete (PPC) Wearing Surface Alternate)

Refer to Sheets 7 and 8 for Approach Slab wearing surface repair details. Final grade of Approach Slabs shall match adjacent roadway pavements and final grade of bridge deck wearing surface.

Bridge Deck Wearing Surface at either end bent shall increase in thickness from plan grade, along the direction parallel to the roadway, towards either end bent.

Maintain minimum of 2% grade parallel to roadway from Bent No. 5 to Bent No. 1.

Maintain minimum of 1.5% grade normal to roadway, away from crown towards shoulders.

Maximum thickness of wearing surface at end bent:
a) 3" for Latex Modified Concrete
b) 2 1/4" for Polyester Polymer Concrete

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

WEARING SURFACE TAPER DETAIL AT END BENTS

Designed S.G.
Detailed L.S.
Checked J.C.M.

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

Sheet No. 9 of 10

P:\2019\2019.7xxx\2019.7951.0 - REHAB DESIGN FOR KOCH RD BRIDGES (SMG)\09 Drawings\1. SB_EB A25903\B_A25903_009_J613500_EB_Bridge Approach Repairs_Wearing Surface Taper Details at End Bents.dgn 11:09:34 AM 8/4/2021



LICENSE EXPIRES
12/31/2022

DATE PREPARED
8/4/2021

ROUTE 255
DISTRICT BR
STATE MO
SHEET NO. 9

COUNTY
ST. LOUIS

JOB NO.
J613500

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A25903

DESCRIPTION	DATE

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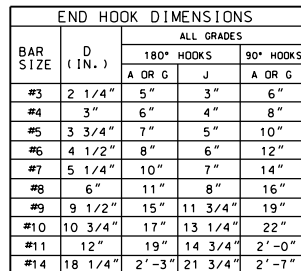
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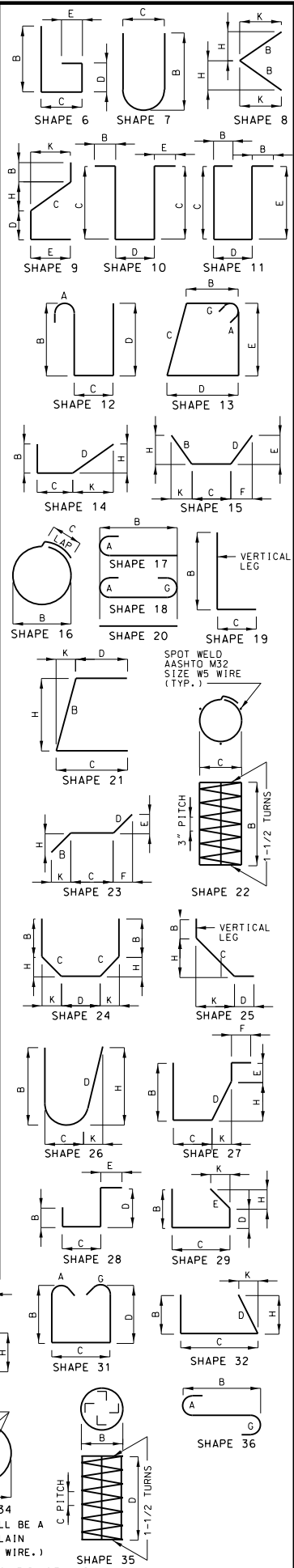
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NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIABLES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT							
										B		C		D		E					F		H		K		
										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.	FT.	IN.	FT.	IN.	FT.
			BARRIER CURB (TYPE D)																								
44		5 C1	BARRIER	E 20						10	4.750							10	5	10	5	478					
16		5 C2	BARRIER	E 20						13	3.750							13	4	13	4	223					
10		5 K1	BARRIER	E 27	S						0	9.125	0	5.750	1	7.375		0	5.625	0	1.000	2	11	2	10	30	
42		5 K2	BARRIER	E 19	S					2	1.000	0	9.250									3	0	2	10	124	
32		5 K3	BARRIER	E 27	S						0	9.125	1	5.250	0	8.000		1	5.000	0	3.250	2	11	2	10	95	
10		5 K4	BARRIER	E 19	S			V 2	2	2	4.250	0	10.000									3	2	3	1	33	
										2	6.250	0	10.000									3	4	3	3		
10		5 K5	BARRIER	E 14	S			V 2	0	0	8.375	0	9.625	1	6.500			0	4.000	1	6.000	3	1	2	11	32	
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6		5 K6	BARRIER	E 19	S			V 2	2	2	6.750	0	10.000									3	5	3	3	21	
										2	7.750	0	10.000									3	6	3	4		
6		5 K7	BARRIER	E 21	S			V 2	2	2	6.750	0	10.000				2	6.125	0	6.250		3	5	3	2	20	
										2	7.750	0	10.000				2	7.125	0	6.500		3	6	3	3		
18		5 K8	BARRIER	E 19	S			V 2	2	2	8.500	0	10.000									3	6	3	5	69	
										3	2.500	0	10.000									4	0	3	11		
18		5 K9	BARRIER	E 21	S			V 2	2	2	8.500	0	10.000				2	7.875	0	6.375		3	6	3	4	67	
										3	2.625	0	10.000									4	1	3	10		
10		5 K10	BARRIER	E 19	S					3	3.000	0	10.000									4	1	3	11	41	
10		5 K11	BARRIER	E 21	S					3	3.125	0	10.000				3	2.375	0	7.875		4	1	3	11	41	
24		5 K12	BARRIER	E 20						11	9.000											11	9	11	9	294	
12		5 K13	BARRIER	E 20				V 2	4	4	10.000											4	10	4	10	99	
										11	0.000											11	0	11	0		
380		5 R1	BARRIER	E 26	S					3	3.625	0	5.125	3	3.625			3	3.000	0	7.000		7	0	6	10	2708
380		5 R2	BARRIER	E 19																							



REINFORCING STEEL (GRADE 60) $F_y = 60,000$ PSI.

BENDING DIAGRAMS

[illegible]

BENDING DIAGRAMS