DESIGN DESIGNATION

A.A.D.T. - 2026 = 118
A.A.D.T. - 2046 = 120
D.H.V. = 6%
T = 28%
V = 55 M.P.H.
D = 50%

FUNCTIONAL CLASSIFICATION - MINOR COLLECTOR

NORMAL RIGHT OF WAY WILL BE ACQUIRED WITH THIS PROJECT.

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CONVENTIONAL SYMBOLS

(USED IN PLANS)

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

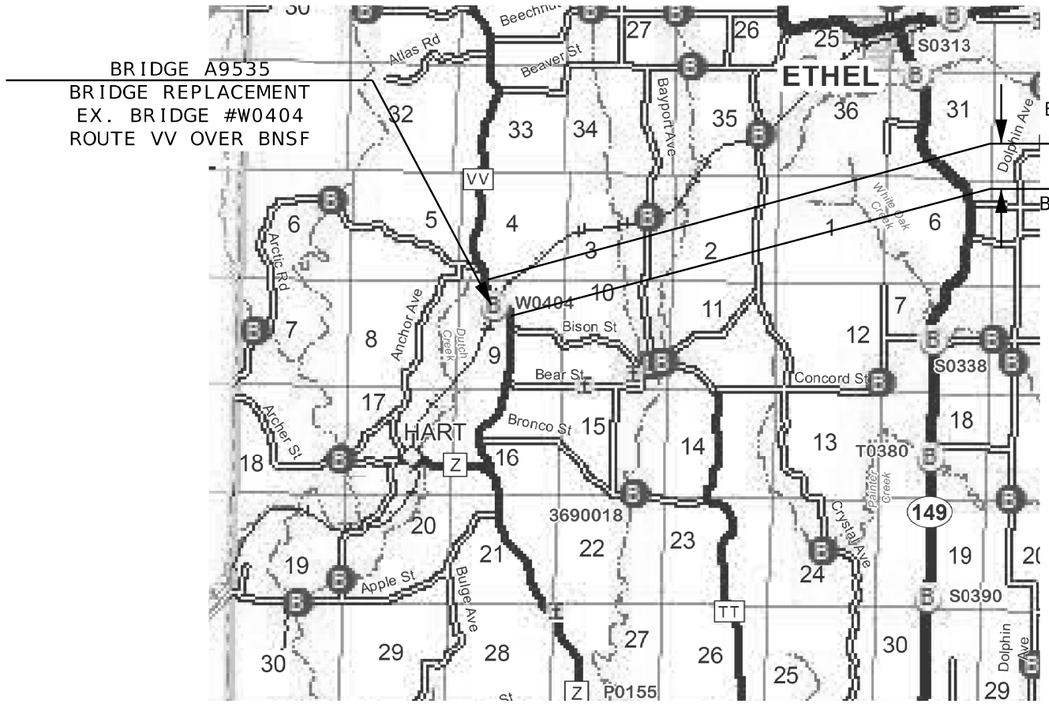
NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED STATE HIGHWAY

MACON COUNTY - ROUTE VV

SECTION 9, TOWNSHIP 58 NORTH, RANGE 17 WEST



NOT TO SCALE

KEY MAP
LOCATION OF MACON COUNTY

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

INDEX OF SHEETS

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA. 85+43.37
END OF PROJECT	STA. 102+10.82
APPARENT LENGTH	1667.45 FEET
EQUATIONS AND EXCEPTIONS:	
TOTAL CORRECTIONS	0.0 FEET
NET LENGTH OF PROJECT	1667.45 FEET
STATE LENGTH	0.316 MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES	4.47 ACRES

STATE OF MISSOURI
EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER
Emily S. Burkart
10/27/2025 3:24:43 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED: 10/27/2025
ROUTE: VV | STATE: MO
DISTRICT: NE | SHEET NO.: 1
COUNTY: MACON
JOB NO.: JNE0139
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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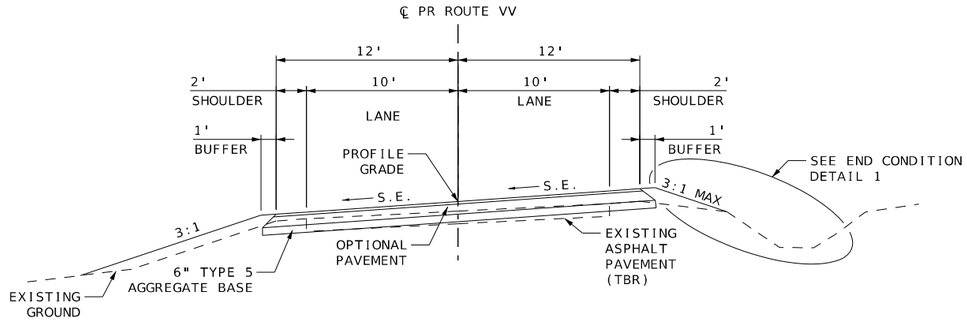
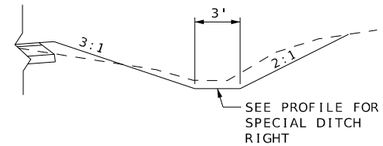


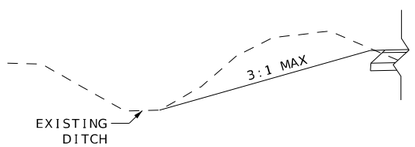
TYPICAL SECTION 1 - ROUTE VV

STA. 85+43.37 TO STA. 87+10.31



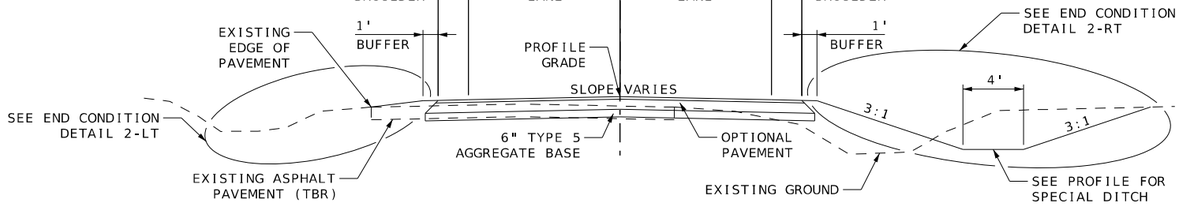
STA. 85+67.99 TO STA. 87+10.31

END CONDITION DETAIL 1



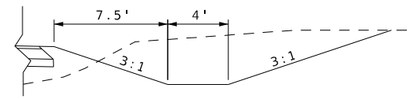
STA. 91+00.00 TO STA. 91+99.70

END CONDITION DETAIL 2-LT

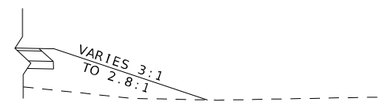


TYPICAL SECTION 2 - ROUTE VV

STA. 87+10.31 TO STA. 91+99.70

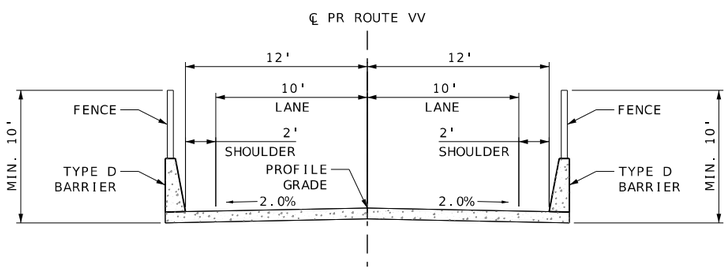


STA. 88+40.00 TO STA. 91+00.00



STA. 91+00.00 TO STA. 91+99.70

END CONDITION DETAIL 2-RT



TYPICAL SECTION 3 - ROUTE VV
PROPOSED BRIDGE A9535

STA. 92+19.70 TO STA. 94+12.04

BRIDGE APPROCH SLAB (MINOR):
STA. 91+99.70 TO STA. 92+19.70
STA. 94+12.04 TO STA. 94+32.04

NOTE:
DO NOT SCALE DRAWING.
FOLLOW DIMENSIONS SHOWN.

TYPICAL SECTIONS
(SHEET 1 OF 3)

STATE OF MISSOURI
EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER
Emily S. Burkart
10/27/2025 3:26:35 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED
10/27/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	2

COUNTY
MACON

JOB NO.
JNE0139

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DESCRIPTION	DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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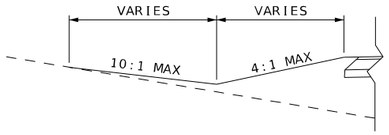
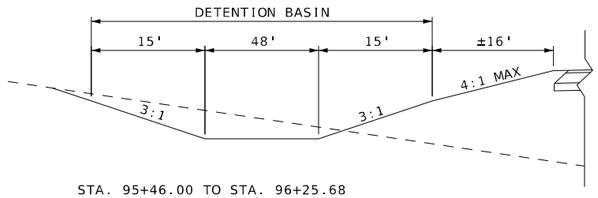
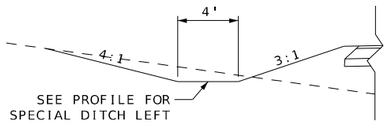


STA. 94+92.50 TO STA. 95+46.00
SEE GRADING DETAILS



STA. 95+46.00 TO STA. 96+25.68
SEE GRADING DETAILS



STA. 96+25.68 TO STA. 98+16.38

END CONDITION DETAIL 4-LT

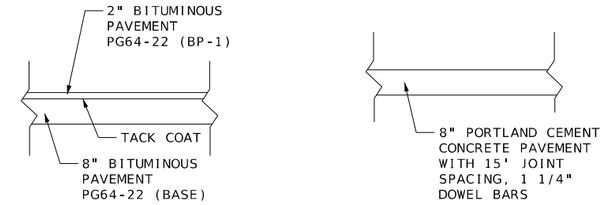
APPLICATION RATES:

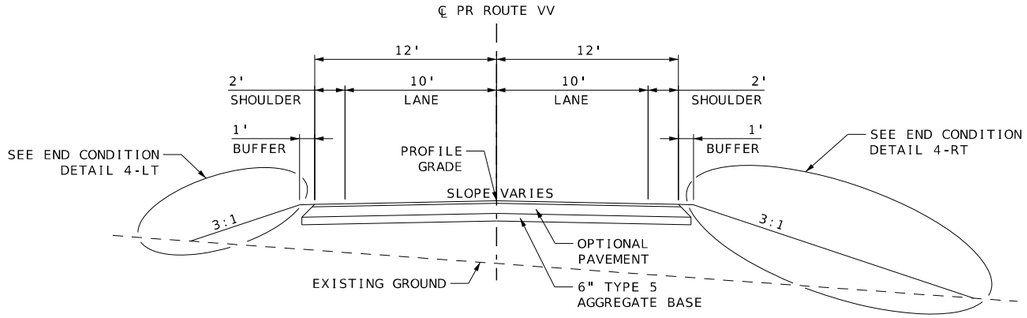
PLANT MIX BITUMINOUS BASE COURSE:
PG64-22 (BASE): 1.943 TONS/CY

PLANT MIX BITUMINOUS ASPHALT:
PG64-22 (BP-1): 1.948 TONS/CY

TACK COAT:
0.08 GAL/SY

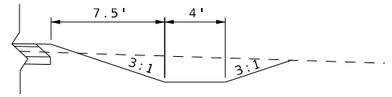
OPTIONAL PAVEMENT





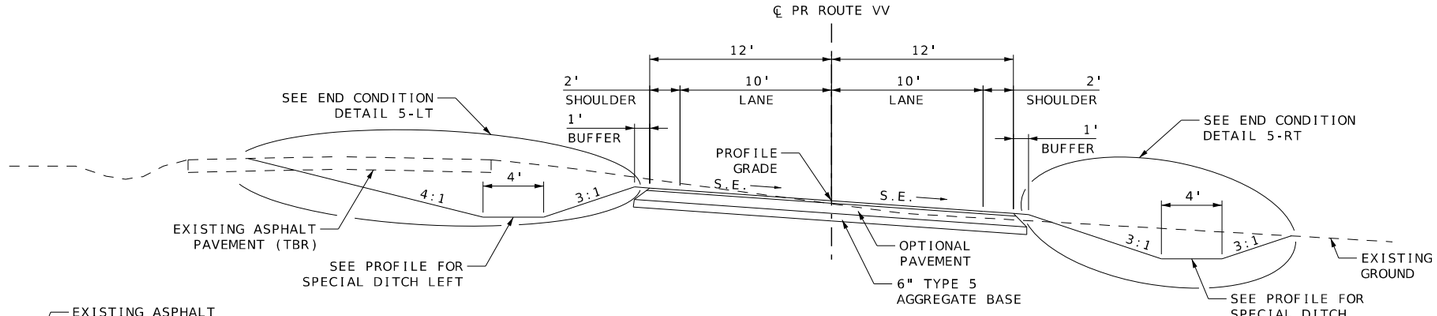
TYPICAL SECTION 4 - ROUTE VV

STA. 94+32.04 TO STA. 98+16.38



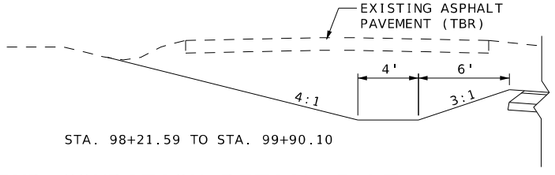
STA. 96+16.38 TO STA. 97+12.00

END CONDITION DETAIL 4-RT



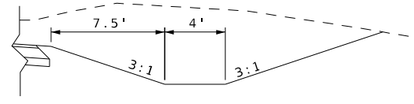
TYPICAL SECTION 5 - ROUTE VV

STA. 98+16.38 TO STA. 99+90.10



STA. 98+21.59 TO STA. 99+90.10

END CONDITION DETAIL 5-LT



STA. 99+16.26 TO STA. 99+90.10

END CONDITION DETAIL 5-RT

NOTE:
DO NOT SCALE DRAWING.
FOLLOW DIMENSIONS SHOWN.

TYPICAL SECTIONS
(SHEET 2 OF 3)

STATE OF MISSOURI
EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER
10/27/2025 3:27:15 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED: 10/27/2025
ROUTE: VV | STATE: MO
DISTRICT: NE | SHEET NO.: 2
COUNTY: MACON
JOB NO.: JNE0139
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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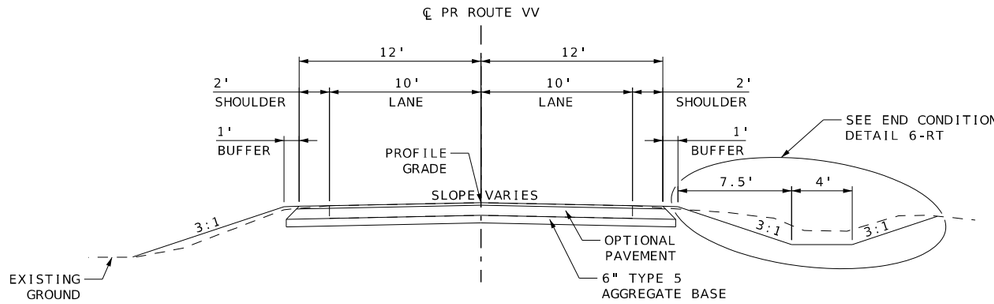
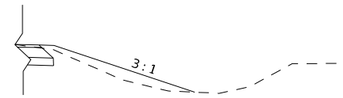


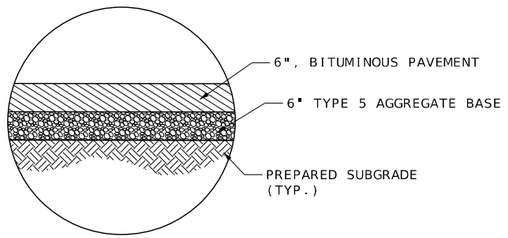
TYPICAL SECTION 6 - ROUTE VV

STA. 99+90.10 TO STA. 102+10.82

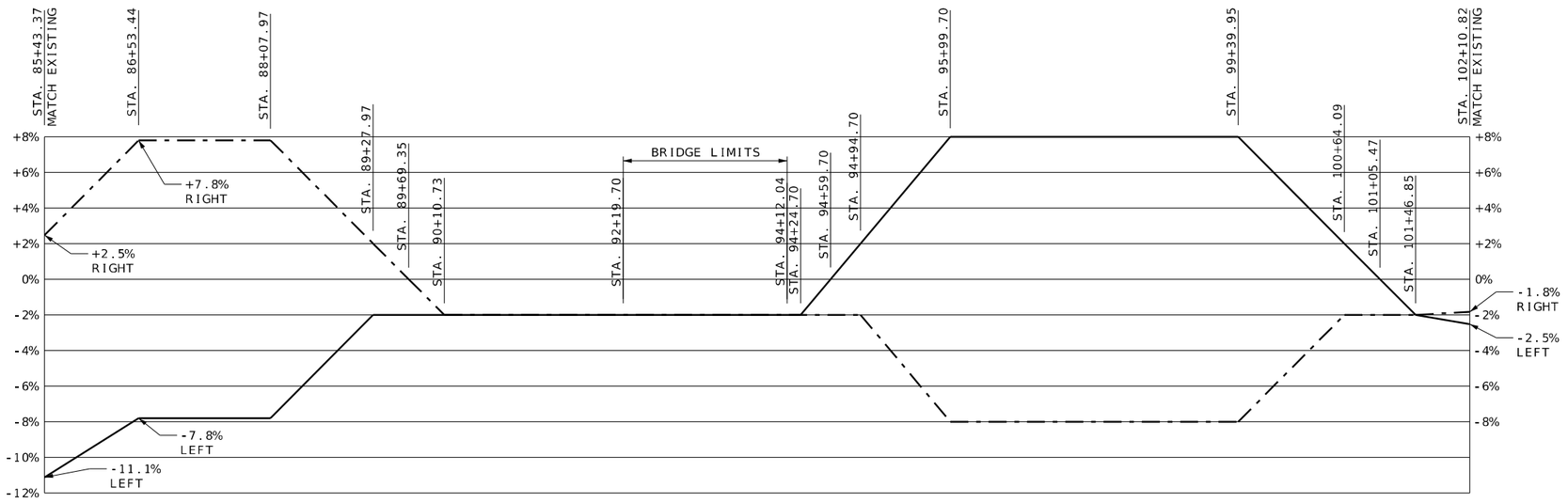


STA. 100+94.00 TO STA. 102+10.82

END CONDITION DETAIL 6-RT



ASPHALT DRIVEWAY



SUPERELEVATION TRANSITION DETAIL

NOT TO SCALE

NOTE:
DO NOT SCALE DRAWING.
FOLLOW DIMENSIONS SHOWN.

TYPICAL SECTIONS
(SHEET 3 OF 3)

STATE OF MISSOURI
EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER
Emily S Burkart
10/27/2025 3:27:51 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED
10/27/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	2

COUNTY
MACON

JOB NO.
JNE0139

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

CLEARING AND GRUBBING

APPROX. STATION FROM	APPROX. STATION TO	ROUTE	LOCATION	CLEARING AND GRUBBING (ACRE)	REMARKS
87+30.00	91+25.00	ROUTE VV	RT	0.11	ALONG R/W LINE
91+75.00	92+75.00	ROUTE VV	BOTH	0.33	
93+20.00	94+70.00	ROUTE VV	BOTH	0.57	
95+50.00	96+00.00	ROUTE VV	LT	0.01	STAND OF TREES
			SUBTOTAL =	1.02	
			PAY TOTAL =	1	

REMOVAL OF IMPROVEMENTS

APPROX. STATION FROM	APPROX. STATION TO	ROUTE	LOCATION	LENGTH (FT)	QTY (EA)	DESCRIPTION	REMARKS
83+67		ROUTE VV	RT		1	1 SIGN AND 1 POST	ONE-DIRECTION LARGE ARROW
85+43		ROUTE VV	BOTH	21		SAWCUT	FULL DEPTH SAWCUT ACROSS ROUTE VV
85+67		ROUTE VV	BOTH	60		CMP	15" CMP - ROUTE VV CULVERT
86+70	87+03	ROUTE VV	LT	32		PLASTIC PIPE	15" PLASTIC PIPE - ENTRANCE CULVERT
86+78	87+28	ROUTE VV	RT	53		PLASTIC PIPE	12" PLASTIC PIPE - ENTRANCE CULVERT
87+20	91+57	ROUTE VV	RT	490		FENCE	4' BARBED WIRE
88+80		ROUTE VV	RT		1	1 SIGN AND 1 POST	WEIGHT LIMIT
89+69		ROUTE VV	RT		1	1 SIGN AND 1 POST	ONE-DIRECTION LARGE ARROW
91+26	91+40	ROUTE VV	LT		1	GATE	FOR FIELD ENTRANCE
91+41	91+89	ROUTE VV	LT	87		FENCE	WOVEN WIRE APPROACHING BRIDGE
91+42		ROUTE VV	LT		1	1 SIGN AND 1 POST	OBJECT MARKER
91+52		ROUTE VV	LT		1	1 SIGN AND 1 POST	OBJECT MARKER
91+62		ROUTE VV	LT		1	1 SIGN AND 1 POST	GAS LINE WARNING POST
91+62		ROUTE VV	LT		1	1 SIGN AND 1 POST	OBJECT MARKER
91+68		ROUTE VV	RT		1	1 SIGN AND 1 POST	GAS LINE WARNING POST
91+70		ROUTE VV	LT		1	1 SIGN AND 1 POST	OBJECT MARKER
91+79		ROUTE VV	LT		1	1 SIGN AND 1 POST	OBJECT MARKER
91+88		ROUTE VV	LT		1	1 SIGN AND 1 POST	OBJECT MARKER
93+70		ROUTE VV	LT		1	1 SIGN AND 1 POST	OBJECT MARKER
93+75	94+43	ROUTE VV	BOTH	71		FENCE	WOVEN WIRE APPROACHING BRIDGE
93+78		ROUTE VV	LT		1	1 SIGN AND 1 POST	OBJECT MARKER
93+90		ROUTE VV	LT		1	1 SIGN AND 1 POST	OBJECT MARKER
94+06		ROUTE VV	LT		1	1 SIGN AND 1 POST	OBJECT MARKER
94+16		ROUTE VV	LT		1	1 SIGN AND 1 POST	OBJECT MARKER
94+43	99+95	ROUTE VV	BOTH	615		FENCE	5' BARBED WIRE
94+57		ROUTE VV	BOTH	225		FENCE	5' BARBED WIRE
95+08		ROUTE VV	LT		1	1 SIGN AND 1 POST	ONE-DIRECTION LARGE ARROW
95+22		ROUTE VV	LT	21		SAWCUT	FULL DEPTH SAWCUT ACROSS EXISTING ROUTE VV
96+17		ROUTE VV	LT		1	1 SIGN AND 1 POST	ONE-DIRECTION LARGE ARROW
96+86		ROUTE VV	LT		1	1 SIGN AND 1 POST	WEIGHT LIMIT
97+45		ROUTE VV	LT	21		SAWCUT	FULL DEPTH SAWCUT ACROSS EXISTING ROUTE VV
98+75		ROUTE VV	LT		1	2 SIGNS AND 1 POST	REVERSE CURVE AND 25 MPH
102+11		ROUTE VV	BOTH	21		SAWCUT	FULL DEPTH SAWCUT ACROSS ROUTE VV
			PAY TOTAL =	1 LUMP SUM			

EARTHWORK

APPROX. STATION FROM	APPROX. STATION TO	ROUTE	CLASS A EXCAVATION (CY)	COMPACTING EMBANKMENT (CY)	COMPACTING IN CUT (STA)	REMARKS
85+43.37	92+19.20	ROUTE VV	1501	664		EAST OF BRIDGE
86+98.00	91+85.00	ROUTE VV	209	209		FOR EXISTING PAVEMENT REMOVAL AND BACKFILL (NOT SHOWN IN CROSS SECTIONS)*
88+50.00	89+50.00	ROUTE VV			1.00	
90+00.00	90+75.00	ROUTE VV			0.75	
91+75.00	92+00.00	ROUTE VV			0.25	
92+19.20	92+75.00	ROUTE VV		390		EAST BRIDGE GRADING (NOT SHOWN IN CROSS SECTIONS)
93+19.00	94+12.54	ROUTE VV	2203	10		WEST BRIDGE GRADING (NOT SHOWN IN CROSS SECTIONS)
93+70.00	95+21.65	ROUTE VV	101	101		FOR EXISTING PAVEMENT REMOVAL AND BACKFILL (NOT SHOWN IN CROSS SECTIONS)*
94+12.54	102+10.82	ROUTE VV	3159	3555		WEST OF BRIDGE
96+25.00	97+25.00	ROUTE VV			1.00	
97+45.41	98+16.00	ROUTE VV	41	41		FOR EXISTING PAVEMENT REMOVAL AND BACKFILL (NOT SHOWN IN CROSS SECTIONS)*
98+00.00	100+75.00	ROUTE VV			2.75	
86+85.40	98+43.88	ROUTE VV	30	122		ENTRANCES (ADD YARDAGES)
		SUBTOTAL =	7244	5092	5.75	
		PAY TOTAL =	7244	5092	5.8	

* AREAS HATCHED ON PLAN SHEETS. AREA OF REMOVAL IS MULTIPLIED BY 1' THICK.

SUMMARY OF QUANTITIES
(SHEET 1 OF 5)

STATE OF MISSOURI
EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER

Emily S Burkart

10/27/2025 3:28:28 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED
10/27/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	3

COUNTY
MACON

JOB NO.
JNE0139

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

AGGREGATE FOR BASE

APPROX. STATION FROM	APPROX. STATION TO	ROUTE	AREA (SF)	TYPE 5 AGGREGATE FOR BASE (6 IN. THICK) (SY)	REMARKS
85+43.37	91+99.70	ROUTE VV	15752.0	1750.2	ROUTE VV EAST OF BRIDGE
94+32.04	102+10.82	ROUTE VV	18690.8	2076.8	ROUTE VV WEST OF BRIDGE
97+08.79		ROUTE VV	1717.3	190.8	UNDER ASPH. ENTRANCE
			SUBTOTAL =	4017.8	
			PAY TOTAL =	4018	

GRAVEL OR CRUSHED STONE

APPROX. STATION	ROUTE	LOCATION	AREA (SF)	GRAVEL (A) OR CRUSHED STONE (B) (3 IN. THICK) (TONS)	REMARKS
86+85.40	ROUTE VV	LT	587.2	7.6	FIELD ENTRANCE
87+04.02	ROUTE VV	RT	638.5	8.3	FIELD ENTRANCE
91+22.21	ROUTE VV	LT	2367.6	30.7	FIELD ENTRANCE
91+22.21	ROUTE VV	RT	596.6	7.7	FIELD ENTRANCE
98+43.88	ROUTE VV	RT	596.3	7.7	FIELD ENTRANCE
			SUBTOTAL =	62.0	
			PAY TOTAL =	62	

NOTE: ESTIMATE FACTOR IS 1.4 TONS/CY OF LOOSE AGGREGATE.

ASPHALT

APPROX. STATION	ROUTE	AREA (SF)	6 INCHES, BITUMINOUS PAVEMENT (SY)	REMARKS
97+08.79	ROUTE VV	1717.3	190.8	ASPH. ENTRANCE
		SUBTOTAL =	190.8	
		PAY TOTAL =	190.8	

OPTIONAL PAVEMENT - 10" HMA VS. 8" PCC

APPROX. STATION FROM	APPROX. STATION TO	ROUTE	AREA (SF)	OPTIONAL PAVEMENT (SY)	REMARKS
85+43.37	91+99.70	ROUTE VV	15752.0	1750.2	ROUTE VV EAST OF BRIDGE
94+32.04	102+10.82	ROUTE VV	18690.8	2076.8	ROUTE VV WEST OF BRIDGE
			SUBTOTAL =	3827.0	
			PAY TOTAL =	3827.0	

SUMMARY OF QUANTITIES
(SHEET 2 OF 5)

STATE OF MISSOURI
EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER
Emily S. Burkart
10/27/2025 3:29:09 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED
10/27/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	3

COUNTY
MACON

JOB NO.
JNE0139

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

ROCK

APPROX. STATION FROM	APPROX. STATION TO	ROUTE	LOCATION	FURNISHING TYPE 4 ROCK DITCH LINER (CY)*	PLACING TYPE 4 ROCK DITCH LINER (CY)*	BEDDING MATERIAL FOR ROCK DITCH LINER (CY)**	ROCK LINING (CY)	FURNISHING TYPE 2 ROCK BLANKET (CY)***	PLACING TYPE 2 ROCK BLANKET (CY)***	PERMANENT EROSION CONTROL GEOTEXTILE (SY)	REMARKS
91+99.70	98+83.03	ROUTE VV	BOTH					455	455	762	EAST BRIDGE GRADING
93+08.63	93+23.80	ROUTE VV	LT				5				EX. 15" PLASTIC PIPE OUTLET
93+20.37	94+32.04	ROUTE VV	BOTH					518	518	876	WEST BRIDGE GRADING
95+06.71	95+15.51	ROUTE VV	RT				2				FES OUTLET
95+46.16	96+30.55	ROUTE VV	LT	148	148	59				380	DETENTION POND
85+63.20	85+69.84	ROUTE VV	LT				4				FES OUTLET
			SUBTOTAL =	148	148	59	11	973	973	2018	
			PAY TOTAL =	148	148	59	11	973	973	2018	

* 30" THICK
** 1' THICK
*** 2' THICK

MOBILIZATION
1 LUMP SUM

RAILROAD PLAN SUBMITTAL
1 LUMP SUM

CONTRACTOR FURNISHED SURVEYING AND STAKING
1 LUMP SUM

PERMANENT PAVEMENT MARKING

APPROX. STATION FROM	APPROX. STATION TO	ROUTE	4 IN. WHITE CLASS 1 PAVEMENT MARKING PAINT (18-MIL, TYPE P BEADS) (LF)	4 IN. YELLOW CLASS 1 PAVEMENT MARKING PAINT (18-MIL, TYPE P BEADS) (LF)	REMARKS
85+43.37	102+10.82	ROUTE VV	3335		EDGE LINES
85+43.37	102+10.82	ROUTE VV		3335	DOUBLE SOLID CENTERLINE
		SUBTOTAL =	3335	3335	
		PAY TOTAL =	3335	3335	

DRAINAGE STRUCTURES

APPROX. STATION FROM	APPROX. STATION TO	ROUTE	LOCATION	CLASS 3 EXCAVATION (CY)	GRATE AND BEARING PLATE (5 FT. X 3 FT.) (EA)	15 IN. PIPE GROUP C (LF)	18 IN. PIPE GROUP B (LF)	24 IN. PIPE GROUP B (LF)	PRECAST CONCRETE DROP INLET 5 FT X 3 FT (FT)	15 IN. GROUP C FLARED END SECTION (EA)	18 IN. GROUP B FLARED END SECTION (EA)	24 IN. GROUP B FLARED END SECTION (EA)	REMARKS
85+66.52		ROUTE VV	BOTH	128				60				2	ROUTE VV CULVERT, 1-2 TO 1-1
86+70.47	87+03.79	ROUTE VV	LT			32				2			ENTRANCE CULVERT
86+87.16	87+21.53	ROUTE VV	RT			36				2			ENTRANCE CULVERT
95+16.23	95+56.24	ROUTE VV	BOTH	2			93				1		ROUTE VV CULVERT, 2-2 TO 2-1
95+56.24		ROUTE VV	LT	3	1				5				BASIN INLET
96+93.14	97+27.44	ROUTE VV	LT			36				2			ENTRANCE CULVERT
98+26.51	98+60.50	ROUTE VV	RT			32				2			ENTRANCE CULVERT
			SUBTOTAL =	133	1	136	93	60	5	8	1	2	
			PAY TOTAL =	133	1	136	93	60	5	8	1	2	

SUMMARY OF QUANTITIES
(SHEET 3 OF 5)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

STATE OF MISSOURI
PROFESSIONAL ENGINEER
ANDREA S. DAVIS
PE-2018021250
12/18/2025 1:44:41 PM
Andrea S. Davis - Civil
MO PE-2018021250

DATE PREPARED: 11/7/2025
ROUTE: VV | STATE: MO
DISTRICT: NE | SHEET NO.: 3
COUNTY: MACON
JOB NO.: JNE0139
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)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

MULCHING AND SEEDING

APPROX. STATION FROM	TO	ROUTE	ADDITIONAL MOBILIZATION FOR SEEDING (EA)	MULCHING (ACRE)	SEEDING-COOL SEASON GRASSES (ACRE)	TEMPORARY SEEDING (ACRE)	REMARKS
85+43.37	102+10.82	ROUTE VV	1				
85+43.37	91+99.70	ROUTE VV		1.56	0.78	0.78	EAST OF RAILROAD
94+32.04	102+10.82	ROUTE VV		2.56	1.28	1.28	WEST OF RAILROAD
		SUBTOTAL =	1	4.12	2.06	2.06	
		PAY TOTAL =	1	4.2	2.1	2.1	

EROSION CONTROL

APPROX. STATION FROM	TO	ROUTE	LOCATION	SEDIMENT TRAP EXCAVATION (CY) *	SEDIMENT TRAP ROCK (CY) *	ROCK DITCH CHECK (LF)	SEDIMENT REMOVAL (CY) **	SILT FENCE (FT)	TYPE 1C EROSION CONTROL BLANKET (SY)	REMARKS
85+58.00		ROUTE VV	RT			5	1.0			
85+66.00		ROUTE VV	LT	2.7	2.7		10.0			6' WIDE
85+74.00		ROUTE VV	RT			3	1.0			
85+96.00	86+58.00	ROUTE VV	LT			15	3.0			3 SPACED AT 30'
87+42.00		ROUTE VV	RT			4	1.0			
88+20.00		ROUTE VV	LT			5	1.0			
89+10.00		ROUTE VV	RT			4	1.0			
89+70.00		ROUTE VV	LT			5	1.0			
91+34.47	91+99.62	ROUTE VV	RT				0.7	66		
91+40.23	91+89.08	ROUTE VV	LT				0.6	55		
91+47.11	91+78.71	ROUTE VV	LT				0.5	45		
91+76.00	91+86.00	ROUTE VV	LT			6	2.0			2 SPACED AT 10'
91+95.00		ROUTE VV	LT	1.4	1.4		10.0			3' WIDE
92+35.39	92+71.91		LT				0.4	37		
92+80.00			RT	2.3	2.3		10.0			5' WIDE
93+30.00			RT	2.3	2.3		10.0			5' WIDE
93+65.22	95+22.07	ROUTE VV	LT				1.6	164		
93+76.29	95+21.26	ROUTE VV	LT				1.5	151		
94+21.42	94+33.86		LT				0.2	19		
94+32.12	95+81.22	ROUTE VV	RT						728	
94+32.12	96+10.81	ROUTE VV	RT				1.8	176		
94+46.00			LT			6	1.0			
95+10.00		ROUTE VV	RT	1.8	1.8		10.0			4' WIDE
95+38.00			LT			6	1.0			
95+40.38	96+42.86		LT				2.0	203		
95+43.76	96+30.93		LT				1.0	96		
96+16.00		ROUTE VV	RT	1.8	1.8		10.0			4' WIDE
96+37.00	96+62.00	ROUTE VV	LT			8	2.0			2 SPACED AT 27'
96+63.00		ROUTE VV	RT			4	1.0			
97+12.05	98+10.40	ROUTE VV	RT				0.9	93		
97+38.00	98+83.00	ROUTE VV	LT			20	5.0			5 SPACED AT 38'
97+52.29	98+37.18	ROUTE VV	LT				1.1	109		
98+15.00		ROUTE VV	RT	1.8	1.8		10.0			4' WIDE
98+74.00		ROUTE VV	RT			4	1.0			
99+01.00		ROUTE VV	RT			4	1.0			
99+40.00		ROUTE VV	LT			4	1.0			
99+41.00	100+64.00	ROUTE VV	RT			12	3.0			3 SPACED AT 60'
99+97.41	102+11.06	ROUTE VV	LT				2.1	214		
101+39.00		ROUTE VV	RT			4	1.0			
102+14.00		ROUTE VV	RT	1.8	1.8		10.0			4' WIDE
		SUBTOTAL =		15.9	15.9	119	122.4	1428	728	
		PAY TOTAL =		15.9	15.9	119	147	1714	728	

* ESTIMATED AT 0.45 CY/LF. SEE REMARKS.

** ESTIMATED AT 1 CY PER DITCH CHECK, 1 CY PER 100 LF OF SILT FENCE, AND 10 CY PER SEDIMENT TRAP

NOTE: 20% CONTINGENCY ADDED TO SILT FENCE AND SEDIMENT REMOVAL.

SUMMARY OF QUANTITIES
(SHEET 4 OF 5)

STATE OF MISSOURI
EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER
Emily S. Burkart
10/27/2025 3:30:19 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED
10/27/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	3

COUNTY
MACON

JOB NO.
JNE0139

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NO.	DESCRIPTION
WARNING SIGNS								
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT)
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT)
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT)
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT)
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT)
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
WO1-8	18X24	3.00						CHEVRON (SYMBOL)
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
WO3-4	48X48	16.00						BE PREPARED TO STOP
WO3-5	48X48	16.00						SPEED LIMIT AHEAD
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)
WO4-1aL	48X48	16.00						MERGE (LEFT)
WO4-1aR	48X48	16.00						MERGE (RIGHT)
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS
WO5-3	48X48	16.00						ONE LANE BRIDGE
WO5-5	48X48	16.00						NARROW LANES
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)
WO6-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)
WO7-3a	30X24	5.00						NEXT XX MILES (PLAQUE)
WO8-1	48X48	16.00						BUMP
WO8-2	48X48	16.00						DIP
WO8-3	48X48	16.00						PAVEMENT ENDS
WO8-4	48X48	16.00						SOFT SHOULDER
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)
WO8-6	48X48	16.00						TRUCK CROSSING
WO8-6c	48X48	16.00						TRUCK ENTRANCE
WO8-7	36X36	9.00						LOOSE GRAVEL
WO8-7a	36X36	9.00						FRESH OIL / LOOSE GRAVEL
WO8-9	48X48	16.00						LOW SHOULDER
WO8-11	48X48	16.00						UNEVEN LANES
WO8-12	48X48	16.00						NO CENTER LINE
WO8-15	48X48	16.00						GROOVED PAVEMENT
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)
WO8-17L	48X48	16.00						SHOULDER DROP-OFF (SYMBOL LEFT)
WO8-17R	48X48	16.00						SHOULDER DROP-OFF (SYMBOL RIGHT)
WO8-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)
W10-1	42RND.	9.62						RAILROAD CROSSING
WO12-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)
WO12-2x	24X18	3.00						LOW CLEARANCE (PLAQUE)
WO12-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)
WO12-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD
WO12-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD
WO13-1	30X30	6.25						ADVISORY SPEED (PLAQUE)
WO16-2	30X24	5.00						XXX FEET (PLAQUE)
WO16-3	30X24	5.00						X MILE (PLAQUE)
WO20-1	48X48	16.00						ROAD/BRIDGE/RAMP WORK AHEAD
WO20-2	48X48	16.00						DETOUR AHEAD
WO20-3	48X48	16.00	4	64.00			20X	ROAD CLOSED AHEAD (SEE NOTE 1)
WO20-4	48X48	16.00						ONE LANE ROAD AHEAD
WO20-5	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED AHEAD
WO20-5a	48X48	16.00						2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
WO20-6a	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED
WO20-7a	48X48	16.00						FLAGGER (SYMBOL)
WO21-2	36X36	9.00						FRESH OIL
WO21-5	48X48	16.00						SHOULDER WORK / SHOULDER WORK AHEAD
WO22-1	48X48	16.00						BLASTING ZONE AHEAD
WO22-2	42X36	10.50						TURN OFF 2-WAY RADIO AND PHONE
WO22-3	42X36	10.50						END BLASTING ZONE
GO22-1	21X15	2.19						WET PAINT (ARROW PIVOTS)

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NO.	DESCRIPTION
GUIDE SIGNS								
E05-1	36X48	12.00						GORE EXIT
E05-2	48X36	12.00						EXIT OPEN
E05-2a	48X36	12.00						EXIT CLOSED
GO20-1	60X24	10.00						ROAD WORK NEXT XX MILES
GO20-2	48X24	8.00						END ROAD WORK
GO20-4	36X18	4.50						PILOT CAR FOLLOW ME
GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW
GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW
GO20-5aP	36X24	6.00						WORK ZONE (PLAQUE)
MO4-8a	24X18	3.00						END DETOUR
MO4-9L	48X36	12.00						DETOUR (LEFT)
MO4-9R	48X36	12.00						DETOUR (RIGHT)
MO4-9P	48X12	4.00						STREET NAME (PLAQUE)
MO4-10L	48X18	6.00						DETOUR ARROW (LEFT)
MO4-10R	48X18	6.00						DETOUR ARROW (RIGHT)
REGULATORY SIGNS								
R1-1	48X48	13.25						STOP
R1-2	48TRI.	6.93						YIELD
R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)
R1-3P	30X12	2.50						ALL WAY (PLAQUE)
R2-1	36X48	12.00						SPEED LIMIT XX
R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00						NO TURNS
R3-4	48X48	16.00						NO U-TURN (SYMBOL)
R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00						DO NOT PASS
R4-2	36X48	12.00						PASS WITH CARE
R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)
R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)
R5-1	30X30	6.25						DO NOT ENTER
R5-1a	36X24	6.00						WRONG WAY
R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)
R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)
R6-2L	24X30	5.00						ONE WAY (LEFT)
R6-2R	24X30	5.00						ONE WAY (RIGHT)
R9-9	24X12	2.00						SIDEWALK CLOSED
R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE
R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE
R10-6	24X36	6.00						STOP HERE ON RED (45^ ARROW)
R11-2	48X30	10.00	4	40.00			29	ROAD CLOSED
R11-3a	60X30	12.50						ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60X30	12.50						ROAD CLOSED TO THRU TRAFFIC
CONST-3A	60X48	20.00						FINE SIGN
CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)
MISCELLANEOUS SIGNS								
CONST-5	48X36	12.00						POINT OF PRESENCE
CONST-5	96X48	32.00						POINT OF PRESENCE
CONST-8	48X36	12.00						WORK ZONE NO PHONE ZONE

616-10.05 CONSTRUCTION SIGNS	TOTAL	
	104	

616-10.10 RELOCATED SIGNS	TOTAL

EFFECTIVE: 07-01-2025

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

NOTES:

1. WO20-3 QUANTITY CONSISTS OF 2-"ROAD CLOSED AHEAD" SIGNS (#20A) AND 2-"ROAD CLOSED 500 FT" SIGNS (#20B).
2. SIGN AND DEVICE LOCATIONS WILL BE FIELD VERIFIED AND APPROVED BY THE ENGINEER.
3. THESE QUANTITIES ARE ONLY AN ESTIMATE AND ARE SUBJECT TO CHANGE BASED UPON FIELD CONDITIONS.

SUMMARY OF QUANTITIES
(SHEET 5 OF 5)

STATE OF MISSOURI
EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER

Emily S. Burkart

10/27/2025 3:30:55 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED
10/27/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	3

COUNTY
MACON

JOB NO.
JNE0139

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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EQUATION:
STA 81+86.90 0.00'PR ROUTE VV =
STA 81+86.90 EX ROUTE VV

EXROUTEVV_2	
PI	87+86.61
PC	82+09.30
PT	91+13.63
Δ	90°25'58.6" (LT)
D	9°59'59.9"
L	904.33' (ARC)
T	577.31'
R	572.96'

PRROUTEVV_2	
PI	83+61.46
PC	81+86.90
PT	85+27.26
Δ	31°21'53.4" (LT)
D	9°12'54.4"
L	340.36' (ARC)
T	174.56'
R	621.76'

PRROUTEVV_3	
PI	86+99.40
PC	85+27.26
PT	88+61.76
Δ	33°19'52.3" (LT)
D	9°57'52.1"
L	334.50' (ARC)
T	172.13'
R	575.00'

* SUBSTRUCTURES SHALL BE REMOVED TO AT LEAST 3 FEET BELOW THE FINAL FINISHED GRADE OR AT LEAST 3 FEET BELOW BASE OF RAIL, WHICHEVER IS LOWER, UNLESS OTHERWISE SPECIFIED BY BNSF.

SCALE
0 50 100 150

BEGIN PROJECT
STA 85+43.37 4.13' LT PR ROUTE VV =
STA 85+45.45 EX ROUTE VV

(1-1) 24" GR. B FES
STA 85+66.52, 35.4' LT

(1-2) 24" GR. B FES
STA 85+66.52, 24.6' RT

(2-1) 18" GR. B FES
STA 95+16.23, 52.0' RT

NOTES:
ALL STATIONS GIVEN ALONG PROPOSED ROUTE VV BASELINE UNLESS OTHERWISE NOTED.

SEE REFERENCE TIES AND CONTROL POINTS SHEET FOR ALIGNMENT INFORMATION.

FOR MAILBOX RELOCATION, SEE SECTION 104.10.1, MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

RIGHT OF WAY LIMITS FOR THIS PROJECT EXTEND FROM ROUTE VV STA. 87+05.41 TO STA. 99+95.12, A DISTANCE OF 0.244 MILES.

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

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

PC STA 81+86.90
EX PC STA 82+09.30
PRROUTEVV_2
PCC STA 85+27.26
PT STA 88+61.76
EX PT STA 91+13.63
EXROUTEVV_2
PRROUTEVV_3
EX. ROUTE VV
PROP. ROUTE VV
℄ EXROUTEVV
℄ PRROUTEVV
EX. PERM. DRAINAGE ESMT
TYPE I FIELD ENT. GRAVEL 86+85.40 20' W. PR GR. 3.0%, EX GR. 8.4% 15" x 32' GR. C PIPE
TYPE I FIELD ENT. GRAVEL 91+22.21 20' W. PR GR. 4.5%, EX GR. 16.7%
FIELD ENT. GATE (DND)
FIELD ENT. GATE (UIP)
FENCE (UIP)
FULL DEPTH SAWCUT
CONST. LIMITS
EX. R/W
NEW R/W
EX. 12" PLASTIC (RISER UIP) PIPE (TBR)
24" x 60' GR. B PIPE
15" EX PLASTIC PIPE (TBR)
CMP (TBR)
FENCE (TBR)
N62°49'23"W
N88°33'36"W
DDJ PROPERTIES LLC DOC. B1049-084
CDJ PROPERTIES LLC DOC. B1049-085
BNSF RAILWAY
BNSF RAILROAD
EX. RR R/W
T58N, R17W
SE ¼ NW ¼ SEC. 9
SW ¼ NE ¼ SEC. 9
SE ¼ NW ¼ SEC. 9
NE ¼ NW ¼ SEC. 9
NW ¼ NE ¼ SEC. 9
¼ SECTION LINE
TYPE I FIELD ENT. GRAVEL 87+04.02 20' W. PR GR. 4.8%, EX GR. 6.2% 15" x 36' GR. C PIPE
SE CORNER, NE QUARTER, NW QUARTER OF SEC. 9 FOUND 5/8" REBAR W/ALUM. CAP DOC# B1049-085, 11/13/2018 KEVIN FLOOD, PLS #002697
SAID CORNER LIES N23°37'09"E, 277.36' FROM PROPOSED ROUTE VV CENTERLINE STA. 85+43.37 BEGIN PROJECT LIMIT
TYPE I FIELD ENT. GRAVEL 91+22.21 20' W. PR GR. 13.6%, EX GR. 3.4%
CDJ PROPERTIES LLC DOC. B1049-085
TEMPORARY CONST. ESMT
EXISTING BRIDGE W0404 (TBR)*
FULL DEPTH SAWCUT STA 95+21.65 OFF 223.95' LT.
PERM. EASEMENT
12" CMP (UIP)
BARBED WIRE FENCE (TBR)
PROPOSED BRIDGE A9535 190' COMPOSITE PLATE GIRDER SPAN STA 93+07.08 AT ℄ BNSF MAIN 1
15" PLASTIC PIPE (UIP)
BRIDGE APPROACH SLAB (MINOR) 18" x 93' GR. B PIPE
NEW R/W
℄ BNSF MAIN 1
BRIDGE APPROACH SLAB (MINOR)
TYPE 3 OBJECT MARKERS (SEE SIGNING SHEETS)
TYPE 3 OBJECT MARKERS (SEE SIGNING SHEETS)
SEE EROSION CONTROL SHEETS FOR ROCK BLANKET LIMITS
CLEARING AND GRUBBING WITHIN R/W
SEE EROSION CONTROL SHEETS FOR ROCK BLANKET LIMITS
CDJ PROPERTIES LLC DOC. B1049-085
MATCHLINE STA. 95+50.00

1 BEGIN BRIDGE APPROACH SLAB STA. 91+99.70
2 END BRIDGE APPROACH SLAB / BEGIN BRIDGE A9535 STA. 92+19.70
3 END BRIDGE APPROACH SLAB / BEGIN BRIDGE APPROACH SLAB STA. 94+12.04
4 END BRIDGE APPROACH SLAB STA. 94+32.04

LEGEND
PAVEMENT REMOVAL

NOTES:
(A) USE EXISTING PAVEMENT IN PLACE

PLAN SHEETS
(SHEET 1 OF 2)

ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER
STATE OF MISSOURI
Andrea S Davis
12/18/2025 1:44:41 PM
Andrea S. Davis - Civil
MO PE-2018021250

DATE PREPARED
11/7/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	4

COUNTY
MACON
JOB NO.
JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

\\hrgreen.com\hrg\Data\2023\2303992\CAD\Roadway\Plan_Sheets\004_PL_01_NE0139_150.dgn 5:11:25 PM 11/7/2025

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NOTES:
(A) USE EXISTING PAVEMENT IN PLACE

LEGEND
PAVEMENT REMOVAL

SCALE
0 50 100 150

EXROUTEVV_4
PI 96+64.98
PC 94+87.21
PT 97+79.95
Δ 81°57'58.6" (RT)
D 27°59'58.9"
L 292.74' (ARC)
T 177.78'
R 204.63'

T58N, R17W
NW ¼ NW ¼
SEC. 9
(3)
CDJ PROPERTIES LLC
DOC. B1049-085

SE ¼ NW ¼ SEC. 9
NE ¼ NW ¼ SEC. 9
¼ ¼ SECTION LINE
TYPE I FIELD ENT. ASPH
97+08.79 20' W.
PR GR. 10.3%
15" x 36' GR. C PIPE
AGG ENT. (UIP)
℄ EXROUTEVV
15" CMP (UIP) EXROUTEVV 4
(A)
EX. ROUTE VV
FIELD ENT. (UIP)
FIELD ENT. GATE (UIP)
PERM. EASEMENT
NEW R/W
EX PT STA 97+79.95
PRROUTEVV 5
PROP. ROUTE VV
BARBED WIRE FENCE
FULL DEPTH SAWCUT STA 97+45.41 OFF 82.37' LT.
CONST. LIMITS
FENCE (UIP)
PT STA 99+95.12
N06°35'37"W
EX. R/W
FULL DEPTH SAWCUT
EX END STA 105+00.00
END STA 105+00.00 R2
EQUATION:
STA 102+97.56 BK =
STA 105+00.00 AH
MATCHLINE STA. 95+50.00
PC STA 95+53.50
(2-2)
DETENTION POND BOTTOM EL = 935'
18" x 93' GR. B PIPE
POND
TYPE I FIELD ENT. GRAVEL
98+43.88 20' W.
PR GR. 8.9%, 4.5%
15" x 32' GR. C PIPE
CONST. LIMITS
℄ PRROUTEVV
NEW R/W
EX. R/W
(UIP)
(TBR)
10
24

END PROJECT
STA 102+10.82 2.12' RT PR ROUTE VV =
STA 104+13.27 EX ROUTE VV

NE ¼ NW ¼
SEC. 9
(3)
CDJ PROPERTIES LLC
DOC. B1049-085

SE CORNER, NE QUARTER,
NW QUARTER OF SEC. 9
FOUND 5/8" REBAR W/ALUM. CAP
DOC# B1049-085, 11/13/2018
KEVIN FLOOD, PLS #002697
SAID CORNER LIES S55°31'45"E,
1482.86' FROM PROPOSED ROUTE VV
CENTERLINE STA. 102+10.82
END PROJECT LIMIT

(2-2) PRECAST DROP INLET TYPE S-2 5x3
STA 95+56.24, 31.7' LT

PRROUTEVV_5
PI 97+93.92
PC 95+53.50
PT 99+95.12
Δ 56°13'45.7" (RT)
D 12°43'56.6"
L 441.62' (ARC)
T 240.43'
R 450.00'

NOTES:
ALL STATIONS GIVEN ALONG PROPOSED ROUTE VV BASELINE UNLESS OTHERWISE NOTED.

SEE REFERENCE TIES AND CONTROL POINTS SHEET FOR ALIGNMENT INFORMATION.

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PLAN SHEETS
(SHEET 2 OF 2)

STATE OF MISSOURI
PROFESSIONAL ENGINEER
ANDREA S. DAVIS
PE-2018021250
Andrea S Davis
12/18/2025 1:44:41 PM
Andrea S. Davis - Civil
MO PE-2018021250

DATE PREPARED
11/7/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	5

COUNTY
MACON

JOB NO.
JNE0139

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

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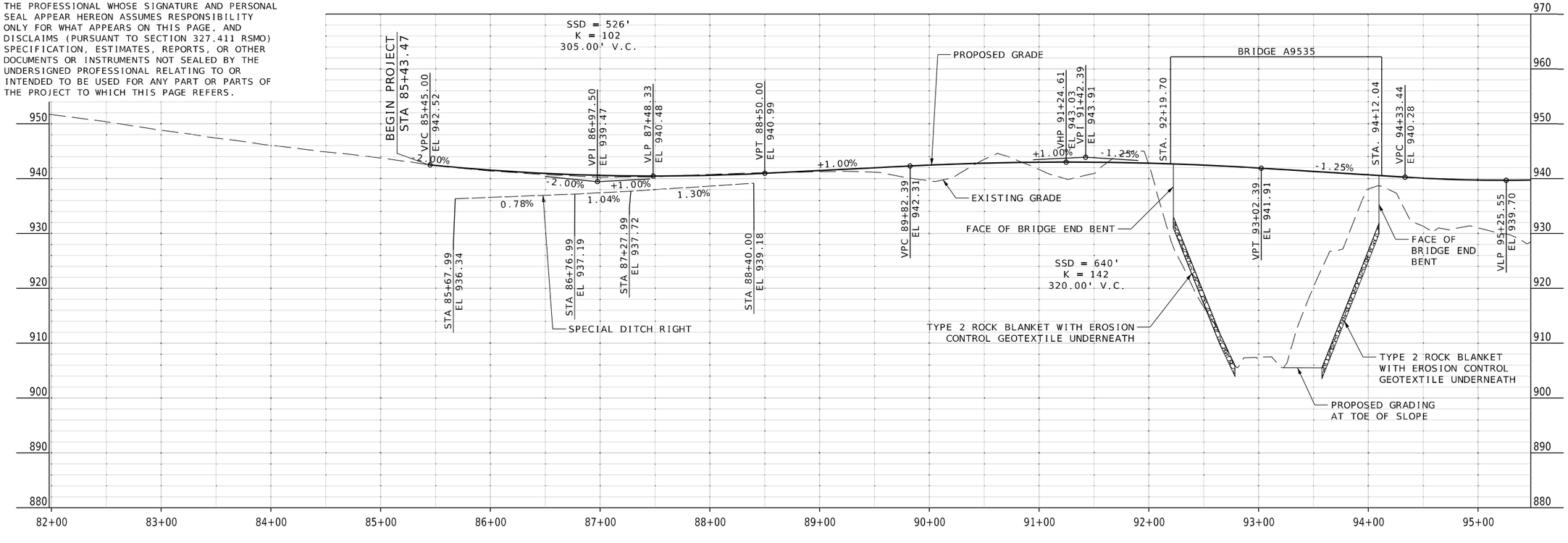

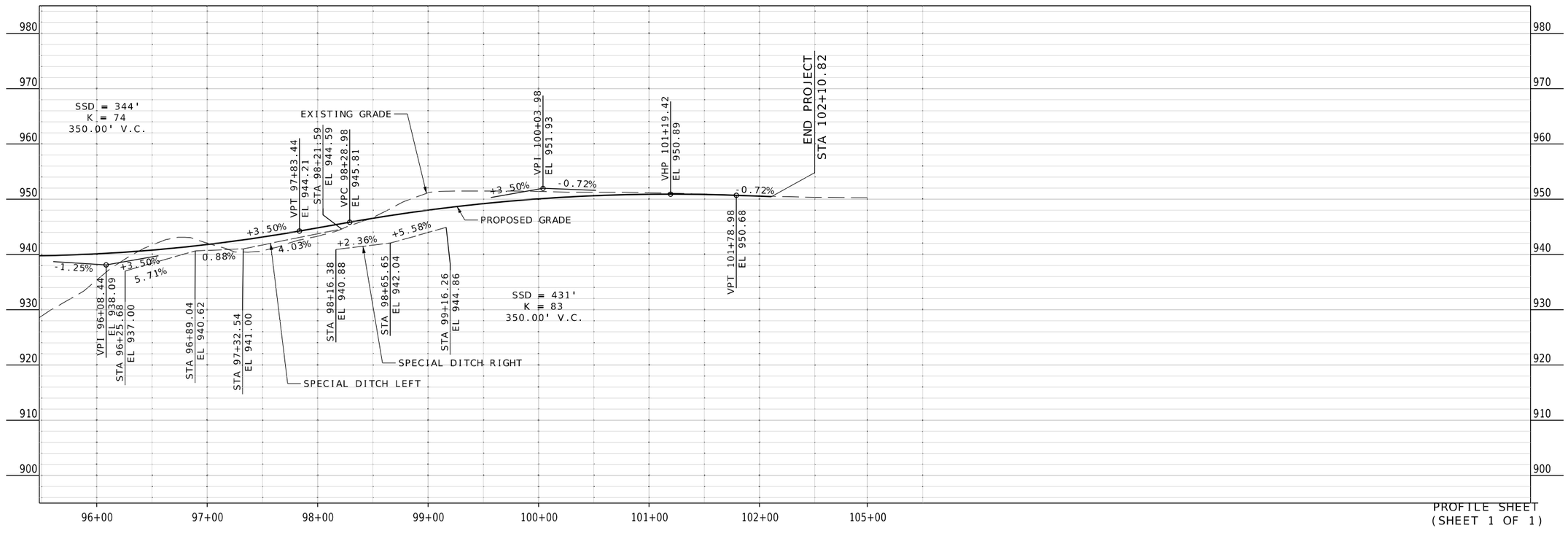

PROFILE SHEET
(SHEET 1 OF 1)

STATE OF MISSOURI
EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER
Emily S. Burkart
10/27/2025 3:33:03 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED
10/27/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	6

COUNTY
MACON

JOB NO.
JNE0139

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

HR GREEN, INC.
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PHONE: (636) 519-0990
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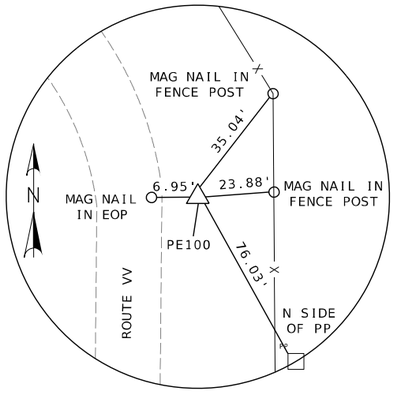
SURVEY NOTES:
1.HORIZONTAL CONTROL STATEMENT: STATE PLANE COORDINATES ON THIS PROJECT WERE ESTABLISHED UTILIZING THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION SATELLITE REAL TIME NETWORK FOR CONTINUOUSLY OPERATING REFERENCE STATIONS DURING JANUARY 2022, AND ARE BASED ON A MODIFIED MISSOURI COORDINATE SYSTEM OF 1983, CENTRAL ZONE. GF=0.9999466250

2.VERTICAL DATUM IS NAVD 88. ELEVATION FOR CONTROL POINT 102 WAS BASED ON THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION SATELLITE REAL TIME NETWORK FOR CONTINUOUS OPERATING REFERENCE STATIONS.

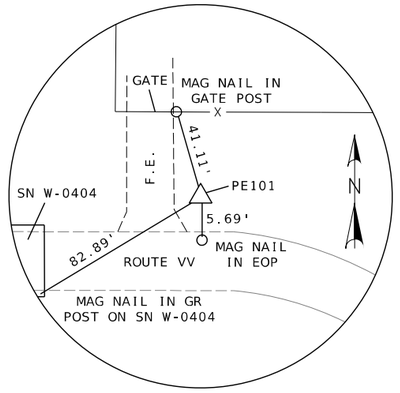
PROJECT BENCHMARK: BM2-SET CUT SQUARE ON WEST END OF CONC CURB ON NORTH SIDE OF SN. W-0404 EL=940.74

3.THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM UTILITY LOCATIONS AS MARKED IN THE FIELD. TICKET NUMBER: 222931082

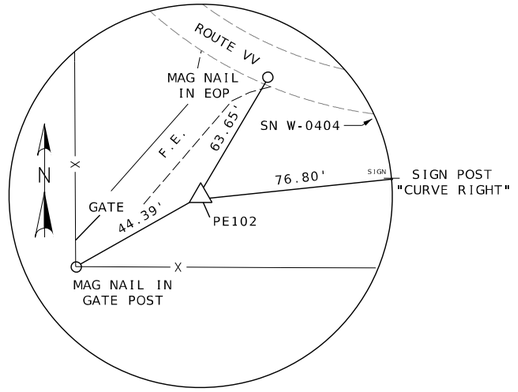
THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOW, AND SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.



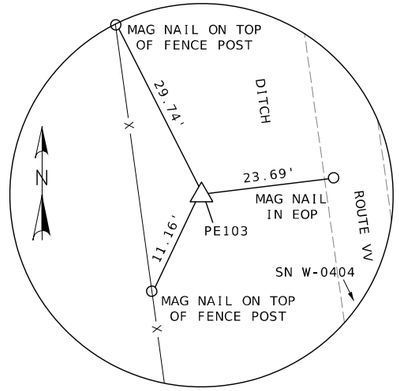
CONTROL POINT PE100
SET 5/8" REBAR W CAP
N: 1464823.443
E: 1554645.975
EL: 948.85



CONTROL POINT PE101
SET 5/8" REBAR W CAP
N: 1465353.673
E: 1554062.889
EL: 940.27



CONTROL POINT PE102
SET 5/8" REBAR W CAP
N: 1465346.224
E: 1553554.270
EL: 949.15



CONTROL POINT PE103
SET 5/8" REBAR W CAP
N: 1465932.480
E: 1553425.443
EL: 949.04

ALIGNMENT INFORMATION FOR EXISTING ROUTE VV

ELEMENT	POINT TYPE	STATION	MODIFIED STATE PLANE COORDINATES NORTHING	MODIFIED STATE PLANE COORDINATES EASTING	RADIUS	LENGTH	DELTA / THETA
TANGENT	START	77+75.00 R1	1464315.5208	1554619.9875			
TANGENT	PC	82+09.30 R1	1464749.5888	1554634.1827			
ARC	PC	82+09.30 R1	1464749.5888	1554634.1827			
ARC	HPI	87+86.61 R1	1465326.5863	1554653.0520	572.9600	904.3330	90°25'58.6317" (LT)
ARC	CC		1464768.3161	1554061.5288			
ARC	PT	91+13.63 R1	1465341.0951	1554075.9283			
TANGENT	PT	91+13.63 R1	1465341.0951	1554075.9283			
TANGENT	PC	94+87.21 R1	1465350.4837	1553702.4741			
ARC	PC	94+87.21 R1	1465350.4837	1553702.4741			
ARC	HPI	96+64.98 R1	1465354.9515	1553524.7537	204.6300	292.7399	81°57'58.6317" (RT)
ARC	CC		1465555.0490	1553707.6168			
ARC	PT	97+79.95 R1	1465531.5521	1553504.3403			
TANGENT	PT	97+79.95 R1	1465531.5521	1553504.3403			
TANGENT	END	105+00.00 R1	1466246.8442	1553421.6590			

ALIGNMENT INFORMATION FOR PROPOSED ROUTE VV

ELEMENT	POINT TYPE	STATION	MODIFIED STATE PLANE COORDINATES NORTHING	MODIFIED STATE PLANE COORDINATES EASTING	RADIUS	LENGTH	DELTA / THETA
TANGENT	START	77+75.00 R1	1464315.5208	1554619.9875			
TANGENT	PC	81+86.90 R1	1464727.2015	1554633.4505			
ARC	PC	81+86.90 R1	1464727.2015	1554633.4505			
ARC	HPI	83+61.46 R1	1464901.6712	1554639.1561	621.7596	340.3635	31°21'53.43" (LT)
ARC	CC		1464747.5238	1554012.0231			
ARC	PT	85+27.26 R1	1465053.6153	1554553.2190			
ARC	PCC	85+27.26 R1	1465053.6153	1554553.2190			
ARC	HPI	86+99.40 R1	1465203.4435	1554468.4786	575.0000	334.5000	33°19'52.29" (LT)
ARC	CC		1464770.5435	1554052.7239			
ARC	PT	88+61.76 R1	1465282.0633	1554315.3501			
TANGENT	PT	88+61.76 R1	1465282.0633	1554315.3501			
TANGENT	PC	95+53.50 R1	1465598.0056	1553699.9858			
ARC	PC	95+53.50 R1	1465598.0056	1553699.9858			
ARC	HPI	97+93.92 R1	1465707.8180	1553486.1031	450.0000	441.6244	56°13'45.73" (RT)
ARC	CC		1465998.3255	1553905.5193			
ARC	PT	99+95.12 R1	1465946.6536	1553458.4958			
TANGENT	PT	99+95.12 R1	1465946.6536	1553458.4958			
BACK STATION		102+97.56 R1	1466247.0880	1553423.7683			
AHEAD STATION		105+00.00 R2					
TANGENT	END	105+00.00 R2	1466247.0880	1553423.7683			

REFERENCE TIES AND CONTROL POINTS (SHEET 1 OF 1)

STATE OF MISSOURI
EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER
10/27/2025 3:33:51 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED: 10/27/2025
ROUTE: VV | STATE: MO
DISTRICT: NE | SHEET NO.: 7
COUNTY: MACON
JOB NO.: JNE0139
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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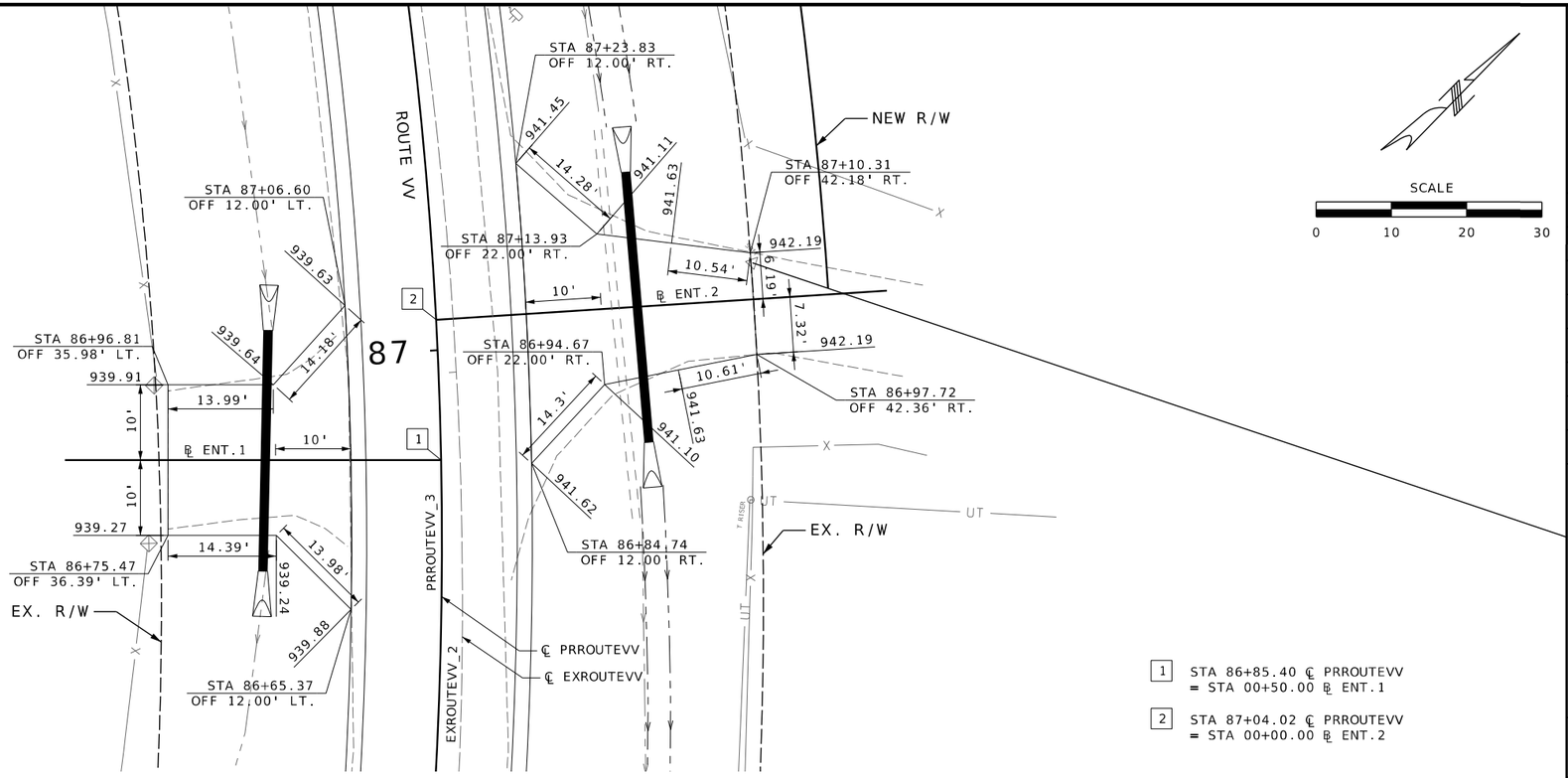

SCALE

0 10 20 30

1 STA 86+85.40 ℄ PRROUTEVV = STA 00+50.00 ℄ ENT.1

2 STA 87+04.02 ℄ PRROUTEVV = STA 00+00.00 ℄ ENT.2

PLAN - ENTRANCES 1 AND 2

NOTES:

1. ALL PLAN VIEW STATIONS GIVEN ALONG PROPOSED ROUTE VV BASELINE UNLESS OTHERWISE NOTED.
2. PLAN VIEW STATIONS, ELEVATIONS, AND RADII ARE AT THE EDGE OF PAVEMENT (EOP) UNLESS OTHERWISE NOTED.
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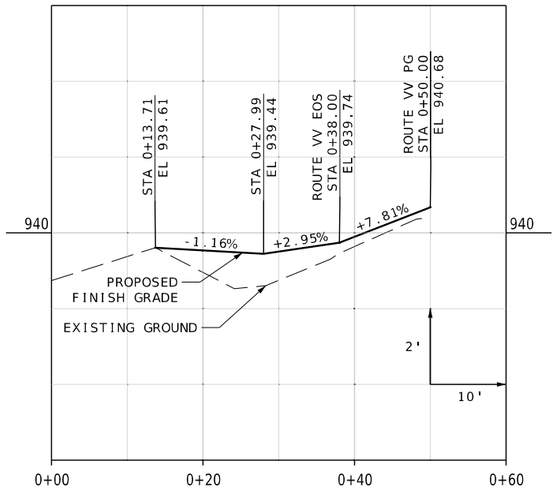
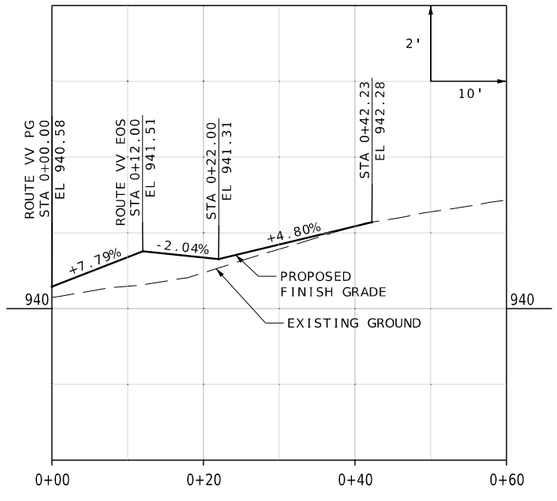


PROFILE - ℄ ENT.1



PROFILE - ℄ ENT.2

SPECIAL SHEETS
ENTRANCE DETAILS
(SHEET 1 OF 4)

STATE OF MISSOURI
EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER

10/27/2025 3:34:36 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED
10/27/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	8

COUNTY
MACON

JOB NO.
JNE0139

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

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1. ALL PLAN VIEW STATIONS GIVEN ALONG PROPOSED ROUTE VV BASELINE UNLESS OTHERWISE NOTED.
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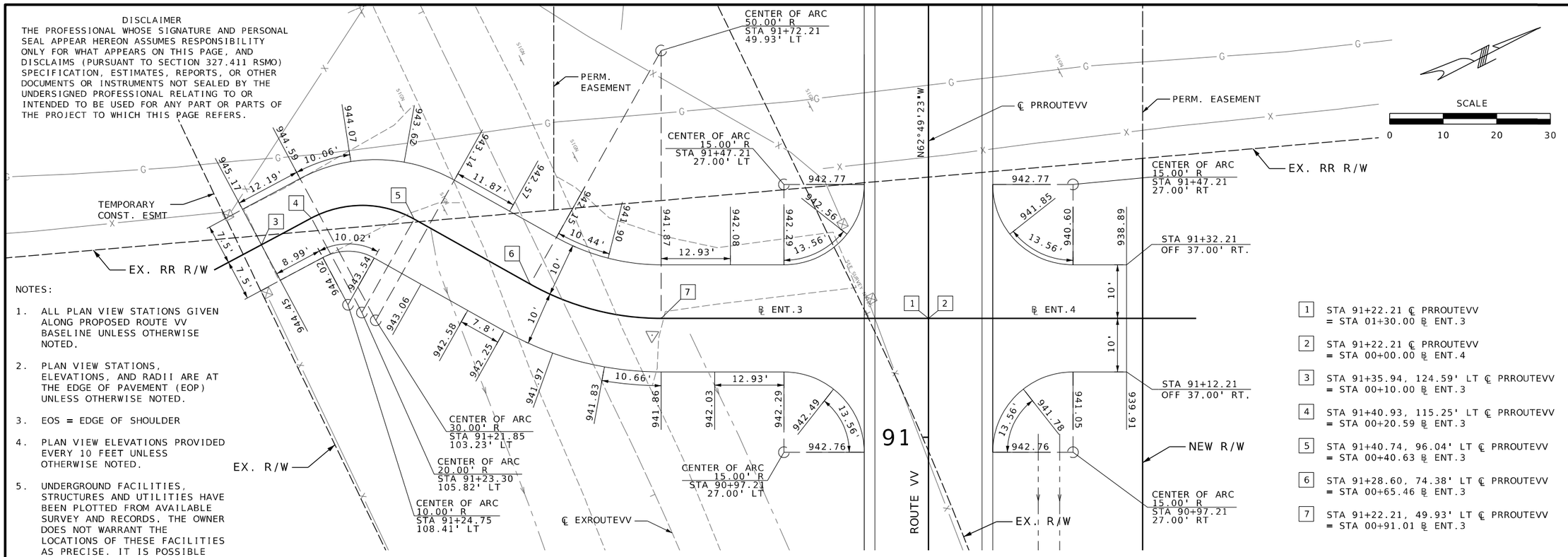
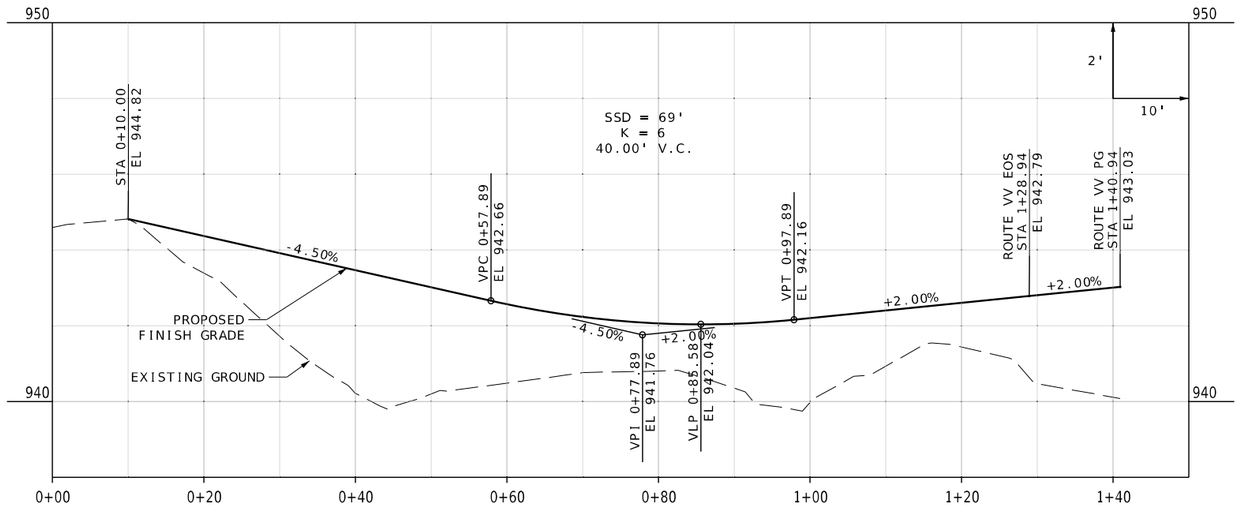
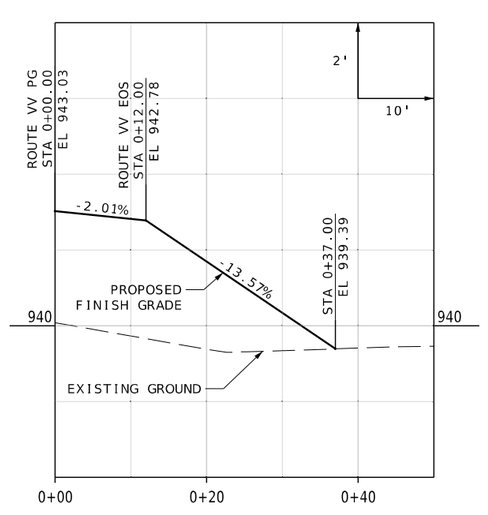


PLAN - ENTRANCES 3 AND 4

1. STA 91+22.21 ℄ PRROUTEVV = STA 01+30.00 ℄ ENT.3
2. STA 91+22.21 ℄ PRROUTEVV = STA 00+00.00 ℄ ENT.4
3. STA 91+35.94, 124.59' LT ℄ PRROUTEVV = STA 00+10.00 ℄ ENT.3
4. STA 91+40.93, 115.25' LT ℄ PRROUTEVV = STA 00+20.59 ℄ ENT.3
5. STA 91+40.74, 96.04' LT ℄ PRROUTEVV = STA 00+40.63 ℄ ENT.3
6. STA 91+28.60, 74.38' LT ℄ PRROUTEVV = STA 00+65.46 ℄ ENT.3
7. STA 91+22.21, 49.93' LT ℄ PRROUTEVV = STA 00+91.01 ℄ ENT.3



PROFILE - ℄ ENT.3



PROFILE - ℄ ENT.4

SPECIAL SHEETS
ENTRANCE DETAILS
(SHEET 2 OF 4)

STATE OF MISSOURI
EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER
Emily S Burkart
10/27/2025 3:35:08 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED
10/27/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	9

COUNTY
MACON

JOB NO.
JNE0139

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
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ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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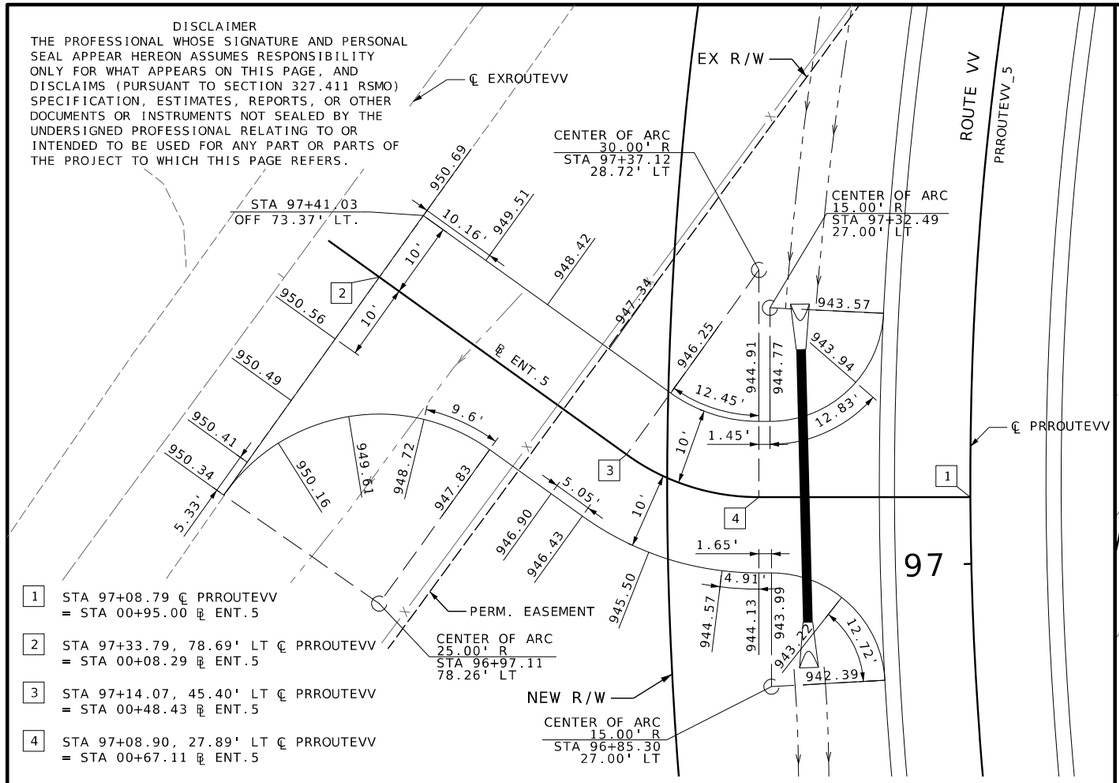


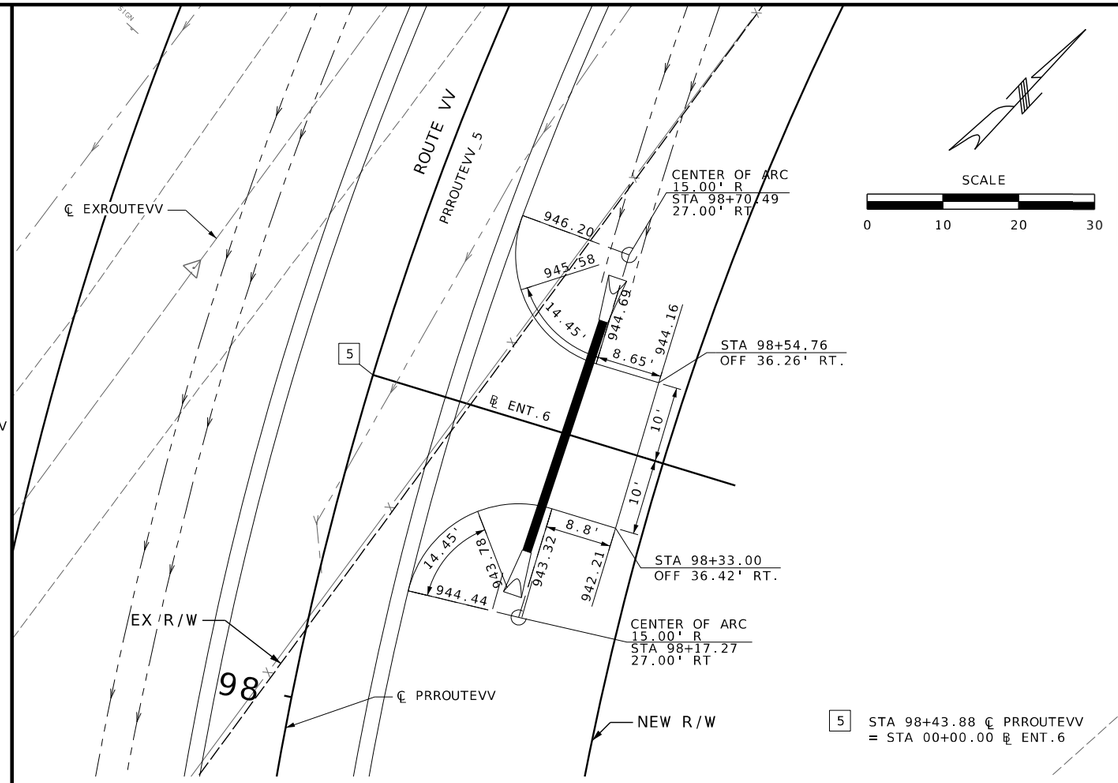
1 STA 97+08.79 ℄ PRROUTEVV = STA 00+95.00 ℄ ENT.5

2 STA 97+33.79, 78.69' LT ℄ PRROUTEVV = STA 00+08.29 ℄ ENT.5

3 STA 97+14.07, 45.40' LT ℄ PRROUTEVV = STA 00+48.43 ℄ ENT.5

4 STA 97+08.90, 27.89' LT ℄ PRROUTEVV = STA 00+67.11 ℄ ENT.5

PLAN - ENTRANCE 5



5 STA 98+43.88 ℄ PRROUTEVV = STA 00+00.00 ℄ ENT.6

PLAN - ENTRANCE 6

NOTES:

1. ALL PLAN VIEW STATIONS GIVEN ALONG PROPOSED ROUTE VV BASELINE UNLESS OTHERWISE NOTED.
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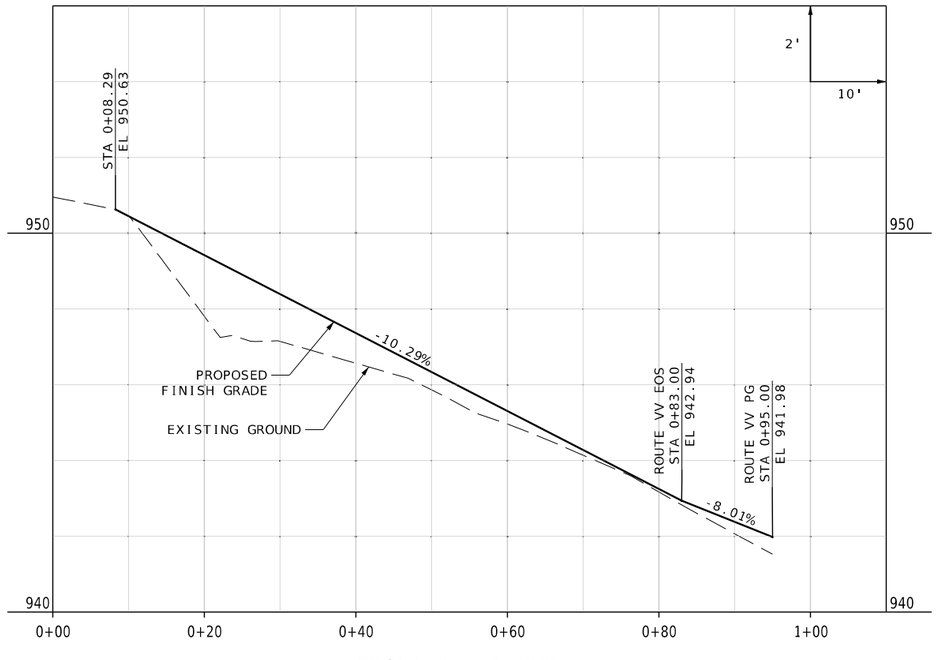
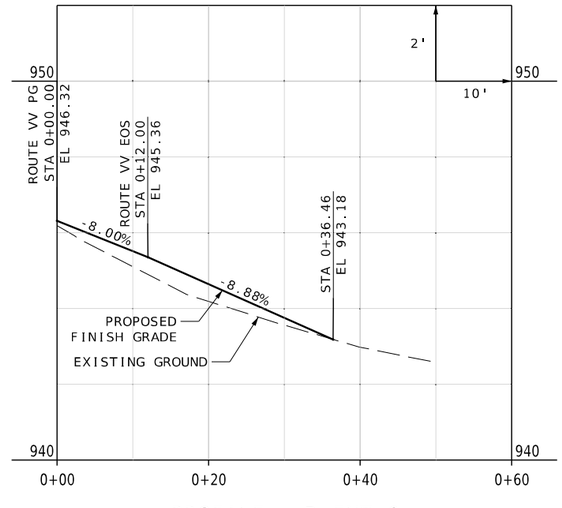


PROFILE - ℄ ENT.5



PROFILE - ℄ ENT.6

SPECIAL SHEETS
ENTRANCE DETAILS
(SHEET 3 OF 4)

ANDREA S. DAVIS
PE-2018021250
NOTIONAL ENGINEER
STATE OF MISSOURI
12/18/2025 1:44:41 PM
Andrea S. Davis - Civil
MO PE-2018021250

DATE PREPARED
11/7/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	10

COUNTY
MACON

JOB NO.
JNE0139

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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TEMPORARY CONST. ESMT
℄ EXROUTEVV
CONST. LIMITS
EX. ROUTE VV
95
EX. R/W
N88°38'36"W
PERM. EASEMENT
DETENTION POND
BOTTOM ELEVATION = 935.00
STA 95+57.72 OFF 81.46' LT.
GRADING LIMITS
STA 96+20.50 OFF 80.63' LT.
STA 95+54.13 OFF 40.28' LT.
80.5'
48'
STA 96+22.50 OFF 39.37' LT.
℄ BNSF MAIN 1
PROPOSED BRIDGE A9535 190' COMPOSITE PLATE GIRDER SPAN STA 93+07.08 AT ℄ BNSF MAIN 1
NEW R/W
N62°49'23"W
℄ PRROUTEVV
PROP. ROUTE VV
GRADING AND CONST. LIMITS
NEW R/W
EX. RR R/W
GRADING AND CONST. LIMITS
PERM. EASEMENT
NEW R/W
EX. RR R/W
EX POND

SCALE
0 20 40 60

SPECIAL SHEETS
GRADING DETAILS
(SHEET 4 OF 4)

ALL STATIONS GIVEN ALONG PROPOSED ROUTE VV BASELINE UNLESS OTHERWISE NOTED.

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

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER
Andrea S Davis
12/18/2025 1:44:41 PM
Andrea S. Davis - Civil
MO PE-2018021250

DATE PREPARED
11/7/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	11

COUNTY
MACON
JOB NO.
JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

J:\2023\2303992\CAD\Roadway\Plan_Sheets\011_SS_04_NE0139_I20.dgn 5:02:35 PM 11/7/2025

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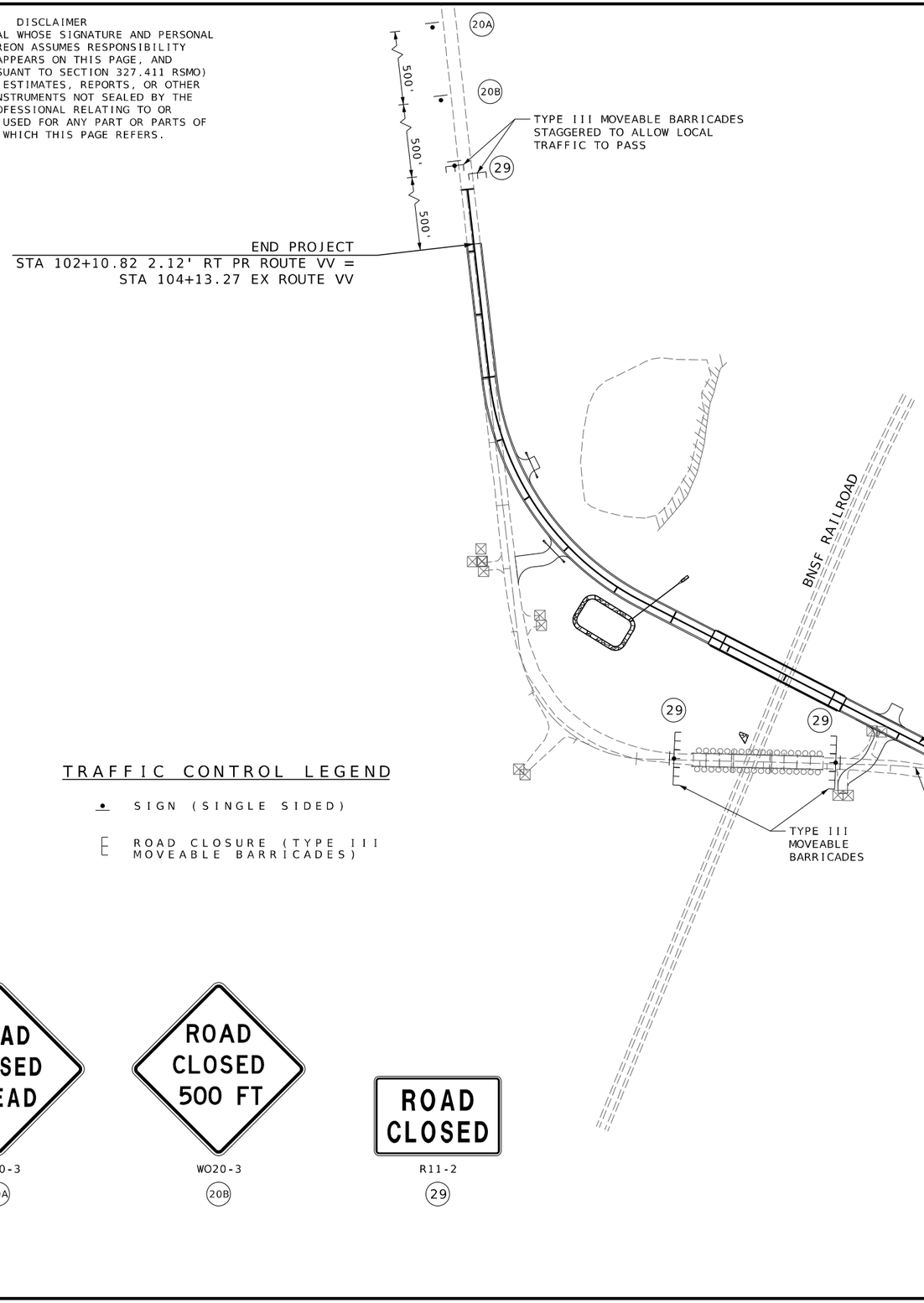

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- ROAD CLOSURE (TYPE III MOVEABLE BARRICADES)

WO20-3

20A

WO20-3

20B

R11-2

29

TRAFFIC CONTROL NOTES

THIS TRAFFIC CONTROL PLAN WILL COVER A MAJOR PORTION OF THE WORK INVOLVED ON THIS PROJECT. WORK SITUATIONS NOT SPECIFICALLY COVERED BY THE TRAFFIC CONTROL PLANS SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD PLANS, AND AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL REVIEW ALL PROPOSED TRAFFIC CONTROL LAYOUTS WITH THE ENGINEER IN CHARGE OF CONSTRUCTION PRIOR TO IMPLEMENTATION.

ALL SIGNS, BARRICADES, CHANNELIZERS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION, AS WELL AS SPECIFICATIONS OF THE MISSOURI DEPARTMENT OF TRANSPORTATION (MODOT). FOR DEVICE DETAILS AND DIMENSIONS, SEE MODOT STANDARD SHEETS 616.10.

TYPE III (MOVEABLE) BARRICADES SHOWN FOR ROADWAY CLOSURES SHALL BE USED TO COMPLETELY CLOSE ACCESS TO THE ROADWAY AND SHOULDERS AT THESE POINTS. THE CONTRACTOR SHALL SECURE THE BARRICADES IN SUCH A MANNER THAT THESE DEVICES CANNOT BE EASILY MOVED BY THE PUBLIC.

TRAFFIC CONTROL DEVICES NOT IN USE OR NOT APPLICABLE SHALL EITHER BE COVERED OR REMOVED FROM THE WORK AREA.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ALL TRAFFIC LANES FREE OF MUD AND OTHER CONSTRUCTION DEBRIS.

ANY EXISTING WARNING OR REGULATORY SIGNS (NOT SHOWN) THAT INTERFERE WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED, NO DIRECT PAY.

ALL TRAFFIC CONTROL SIGNS ARE TO BE NON-PORTABLE UNLESS OTHERWISE NOTED.

TEMPORARY TRAFFIC CONTROL SIGN AND DEVICE LOCATIONS MAY BE ADJUSTED UPON APPROVAL OF THE ENGINEER.

ANY RELOCATION OF SIGNS AND DEVICES FOR TRAFFIC CONTROL DEVICES OR SIGNS SHALL BE CONSIDERED INCIDENTAL. NO DIRECT PAY.

FOR THE R11-2 SIGNS ASSOCIATED WITH THE TYPE III MOVEABLE BARRICADES, USE LIGHTWEIGHT SIGN PLACED ON THE CENTER BARRICADE OR PLACE RIGID SIGN 7 TO 10 FEET BEHIND THE BARRICADES AT THE SIGN HEIGHT APPROPRIATE FOR THE ROADWAY TYPE.

ALL WARNING SIGNS SHALL HAVE FLUORESCENT SHEETING.

CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES THROUGHOUT CONSTRUCTION. CONTRACTOR SHALL COORDINATE ENTRANCE CONSTRUCTION WITH PROPERTY OWNERS.

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

12/18/2025 1:44:41 PM
Andrea S. Davis - Civil
MO PE-2018021250

DATE PREPARED
11/7/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	12

COUNTY
MACON

JOB NO.
JNE0139

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
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HRGreen

TRAFFIC CONTROL
(SHEET 1 OF 1)

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SCALE
0 50 100 150

EQUATION:
STA 81+86.90 0.00'PR ROUTE VV =
STA 81+86.90 EX ROUTE VV

EXROUTEVV_2
PI 87+86.61
PC 82+09.30
PT 91+13.63
Δ 90°25'58.6" (LT)
D 9°59'59.9"
L 904.33' (ARC)
T 577.31'
R 572.96'

PRROUTEVV_2
PI 83+61.46
PC 81+86.90
PT 85+27.26
Δ 31°21'53.4" (LT)
D 9°12'54.4"
L 340.36' (ARC)
T 174.56'
R 621.76'

PRROUTEVV_3
PI 86+99.40
PC 85+27.26
PT 88+61.76
Δ 33°19'52.3" (LT)
D 9°57'52.1"
L 334.50' (ARC)
T 172.13'
R 575.00'

PC STA 81+86.90
EX. PC STA 82+09.30
PRROUTEVV_2
PCC STA 85+27.26
EX. PERM. DRAINAGE ESMT
STA. 85+66 SEDIMENT TRAP
ROCK LINING
3 ROCK DITCH CHECKS SPACED AT 30'
STA. 85+96
STA. 86+58
STA. 88+20 ROCK DITCH CHECK
PT STA 88+61.76
PRROUTEVV_3
EXROUTEVV_2
STA. 85+58 ROCK DITCH CHECK
STA. 85+74 ROCK DITCH CHECK
CONST. LIMITS
NEW R/W
STA. 87+42 ROCK DITCH CHECK
EX. R/W
STA. 89+10 ROCK DITCH CHECK
℄ PRROUTEVV
+34.47
NEW R/W
PROP. ROUTE VV N62°49'23"W
℄ EXROUTEVV
EX. R/W
CONST. LIMITS
STA. 89+70 ROCK DITCH CHECK
+99.62
SILT FENCE 66'
TYPE 2 ROCK BLANKET AND EROSION CONTROL GEOTEXTILE
EX. RR R/W
BNSF RAILROAD

1' DEEP ROCK LINING
17'
4'
14'
14'
ROCK LINING DETAIL - OUTLET OF EX. 15" PLASTIC PIPE

DDJ PROPERTIES LLC
DOC. B1049-084

DDJ PROPERTIES LLC
DOC. B1049-084

(2) BNSF RAILWAY

BNSF RAILROAD

(3) CDJ PROPERTIES LLC
DOC. B1049-085

ROCK LINING AT EX. OUTLET
(SEE ROCK LINING DETAIL FOR DIMENSIONS)
2 ROCK DITCH CHECKS SPACED AT 10'
TEMPORARY CONST. ESMT
EX PC STA 94+87.21
+22.07
SILT FENCE 164'
+78.71
SILT FENCE 45'
+47.11
SILT FENCE 55'
+40.23
STA. 91+76
STA. 91+86
STA 91+13.63
+89.08
EX. ROUTE VV
N88°33'36"W
+65.22
SILT FENCE 151'
+21.26
+76.29
EX. R/W AND PERM. EASEMENT BOUNDARY
STA. 91+95 SEDIMENT TRAP
+35.39
SILT FENCE 37'
PERM. EASEMENT
SILT FENCE 19'
+71.91
+21.42
SILT FENCE 47' THIS SHEET
+40.38
+33.86
NEW R/W
+32.12
+32.12
SILT FENCE 111' THIS SHEET
PERM. EASEMENT
NEW R/W
ROCK LINING
STA. 95+10 SEDIMENT TRAP
TYPE 1C EROSION CONTROL BLANKET
MATCHLINE STA. 95+50.00

(1) CDJ PROPERTIES LLC
DOC. B1049-085

(3) CDJ PROPERTIES LLC
DOC. B1049-085

EX. RR R/W
BNSF RAILROAD

EROSION CONTROL LEGEND
ROCK DITCH CHECK
SEDIMENT TRAP
SILT FENCE
TYPE 1C EROSION CONTROL BLANKET
TYPE 2 ROCK BLANKET (2' THICK) AND PERMANENT EROSION CONTROL GEOTEXTILE
TYPE 4 ROCK DITCH LINER AND EROSION CONTROL GEOTEXTILE
ROCK LINING

1 STA. 92+80 SEDIMENT TRAP
2 STA. 93+30 SEDIMENT TRAP
3 STA. 94+46 ROCK DITCH CHECK
4 STA. 95+38 ROCK DITCH CHECK
5 SILT FENCE 9' THIS SHEET (BEGIN AT +43.76)

NOTES:
ALL STATIONS GIVEN ALONG PROPOSED ROUTE VV BASELINE UNLESS OTHERWISE NOTED.

SEE REFERENCE TIES AND CONTROL POINTS SHEET FOR ALIGNMENT INFORMATION.

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

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

EROSION CONTROL
(SHEET 1 OF 2)

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER
12/18/2025 2:21:47 PM
Andrea S. Davis - Civil
MO PE-2018021250

DATE PREPARED
12/18/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	13

COUNTY
MACON
JOB NO.
JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

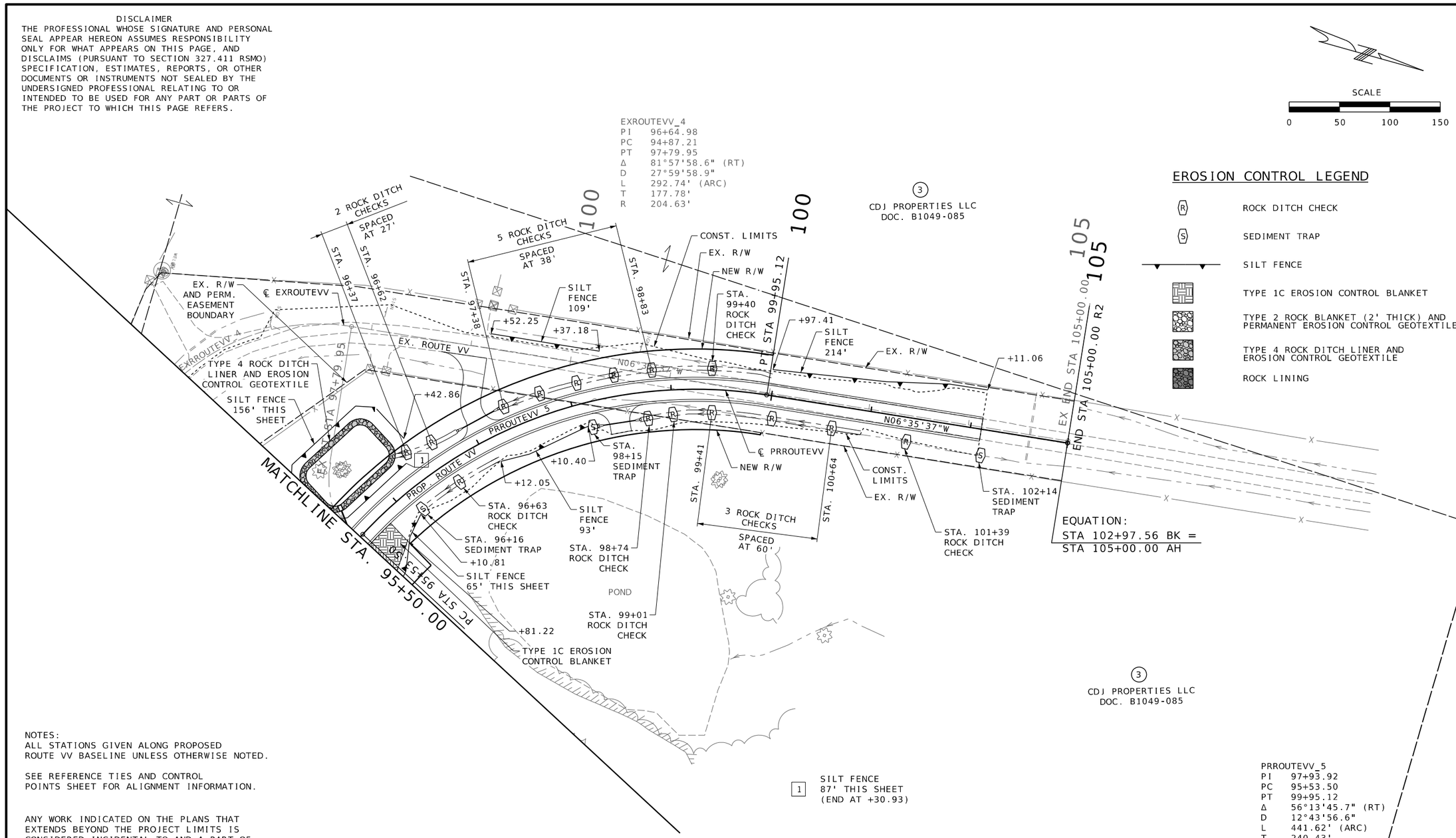
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

\\hrgreen.com\hrg\Data\2023\2303992\CAD\Roadway\Plan_Sheets\013_EC_01_NE0139_150.dgn 2:10:22 PM 12/18/2025

DISCLAIMER
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.



SCALE
0 50 100 150

EROSION CONTROL LEGEND

- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- SILT FENCE
- TYPE 1C EROSION CONTROL BLANKET
- TYPE 2 ROCK BLANKET (2' THICK) AND PERMANENT EROSION CONTROL GEOTEXTILE
- TYPE 4 ROCK DITCH LINER AND EROSION CONTROL GEOTEXTILE
- ROCK LINING

NOTES:
ALL STATIONS GIVEN ALONG PROPOSED ROUTE VV BASELINE UNLESS OTHERWISE NOTED.

SEE REFERENCE TIES AND CONTROL POINTS SHEET FOR ALIGNMENT INFORMATION.

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

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

EROSION CONTROL
(SHEET 2 OF 2)

ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER
STATE OF MISSOURI
12/18/2025 2:21:59 PM
Andrea S. Davis - Civil
MO PE-2018021250

DATE PREPARED
12/18/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	14

COUNTY
MACON

JOB NO.
JNE0139

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

DISCLAIMER
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

SCALE
0 50 100 150

EQUATION:
STA 81+86.90 0.00'PR ROUTE VV =
STA 81+86.90 EX ROUTE VV

EXROUTEVV_2	
PI	87+86.61
PC	82+09.30
PT	91+13.63
Δ	90°25'58.6" (LT)
D	9°59'59.9"
L	904.33' (ARC)
T	577.31'
R	572.96'

PRROUTEVV_2	
PI	83+61.46
PC	81+86.90
PT	85+27.26
Δ	31°21'53.4" (LT)
D	9°12'54.4"
L	340.36' (ARC)
T	174.56'
R	621.76'

PRROUTEVV_3	
PI	86+99.40
PC	85+27.26
PT	88+61.76
Δ	33°19'52.3" (LT)
D	9°57'52.1"
L	334.50' (ARC)
T	172.13'
R	575.00'

STA. 80+62
PC STA 81+86.90
EX PC STA 82+09.30
EX. FIBER OPTIC "T" POST (UIP)
PRROUTEVV_2
STA. 83+60
EX. ONE-DIRECTION LARGE ARROW (W1-6L) (TBR)
PCC STA 85+27.26
4" DOUBLE SOLID YELLOW
4" SOLID WHITE
BEGIN ℄ D.Y. STA. 85+43.37 10' RT., 10' LT.
BEGIN EOP S.W.
EXROUTEVV_2
PT STA 88+61.76
STA. 87+45
EX. "WEIGHT LIMIT 20 TONS" SIGN (R12-1) (TBR)
PROP. ROUTE VV N62°49'23"W
℄ PRROUTEVV
EX. ONE-DIRECTION LARGE ARROW (W1-6R) (TBR)
BNSF RAILROAD
EX PT STA 91+13.63
℄ EXROUTEVV
STA. 89+87
EX. OBJECT MARKERS (TYPE 3) (TBR)
STA. 91+60
STA. 91+80
STA. 92+00
EX. ROUTE VV N88°33'36"W
EX. OBJECT MARKERS (TYPE 3) (TBR)
EX. WARNING POST "GAS LINE" (TBR)
STA. 91+50
EX. WARNING POST "GAS LINE" (TBR)
EX. "GAS PIPELINE HOLLY ENERGY" UTIL. SIGN (UIP)
EX PC STA 94+87.21
EX. ONE-DIRECTION LARGE ARROW (W1-6R) (TBR)
EX. OBJECT MARKERS (TYPE 3) (TBR)
STA. 94+32
STA. 94+52
STA. 94+72
MATCHLINE STA. 95+50.00

STRIPING LEGEND
4" SOLID WHITE (S.W)
CLASS 1 PAVEMENT MARKING
PAINT (18-MIL, TYPE P BEADS)

4" DOUBLE SOLID (D.Y.)
CLASS 1 PAVEMENT MARKING
PAINT (18-MIL, TYPE P BEADS)

NOTES:
ALL STATIONS GIVEN ALONG PROPOSED ROUTE VV BASELINE UNLESS OTHERWISE NOTED.

SEE REFERENCE TIES AND CONTROL POINTS SHEET FOR ALIGNMENT INFORMATION.

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W1-2L (1) — 40 M.P.H. W13-1P (1)
W1-2R (2) — 40 M.P.H. W13-1P (2)
W1-6L (3)
W1-6R (4)
OM3-L (5)
OM3-R (6)

SIGNING AND STRIPING (SHEET 1 OF 4)

STATE OF MISSOURI
EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER
Emily S. Burkart
10/27/2025 3:38:57 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED
10/27/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	15

COUNTY
MACON
JOB NO.
JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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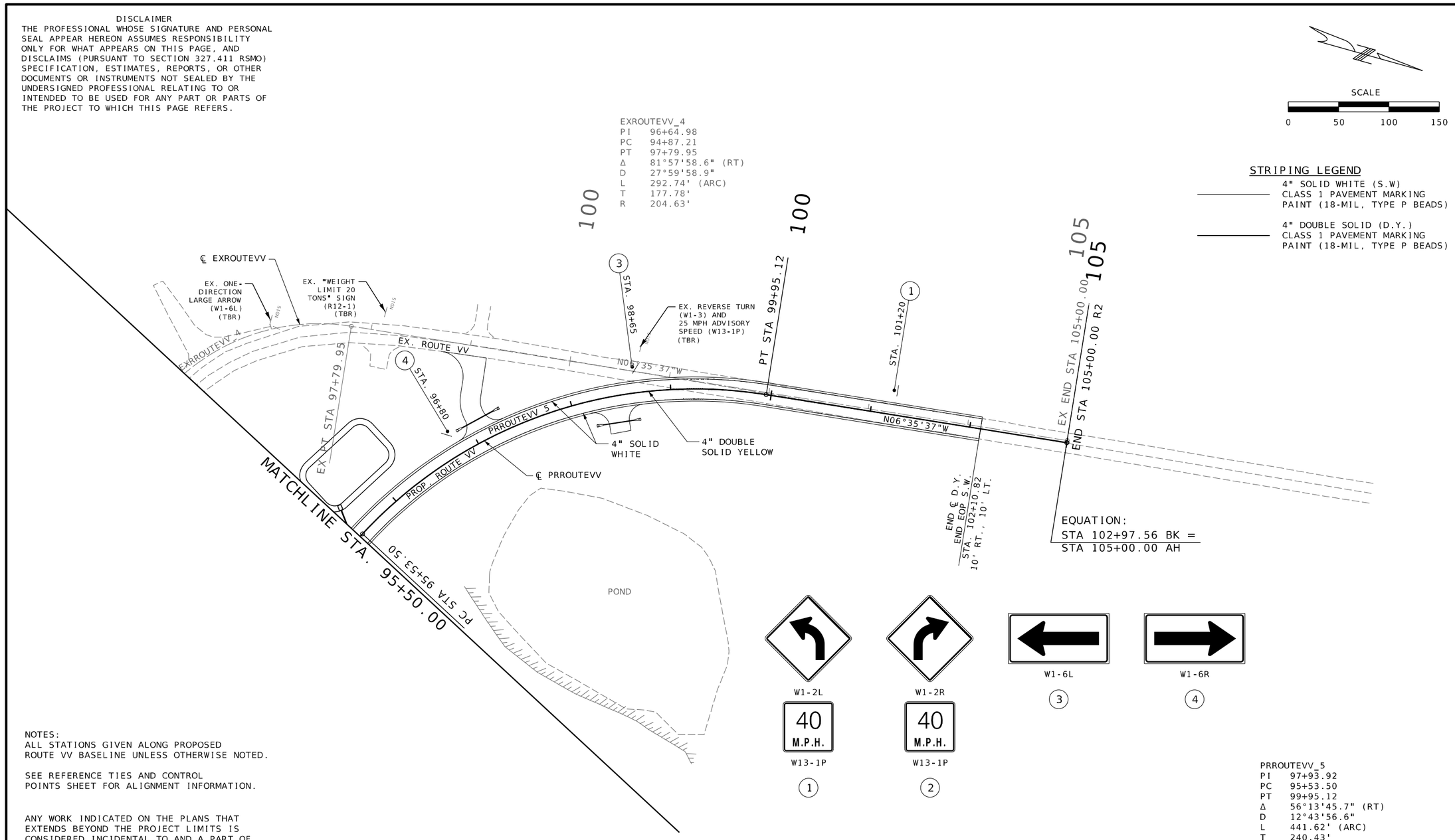

SCALE
0 50 100 150

STRIPING LEGEND
4" SOLID WHITE (S.W)
CLASS 1 PAVEMENT MARKING
PAINT (18-MIL, TYPE P BEADS)

4" DOUBLE SOLID (D.Y.)
CLASS 1 PAVEMENT MARKING
PAINT (18-MIL, TYPE P BEADS)

EQUATION:
STA 102+97.56 BK =
STA 105+00.00 AH

PRROUTEVV_5
PI 97+93.92
PC 95+53.50
PT 99+95.12
Δ 56°13'45.7" (RT)
D 12°43'56.6"
L 441.62' (ARC)
T 240.43'
R 450.00'

NOTES:
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SIGNING AND STRIPING (SHEET 2 OF 4)

STATE OF MISSOURI
EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER
Emily S Burkart
10/27/2025 3:39:31 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED
10/27/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	16

COUNTY
MACON

JOB NO.
JNE0139

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

\\hrgreen.com\hrg\Data\2023\2303992\CAD\Roadway\Plan_Sheets\016_SP_02_NE0139_I50.dgn 3:11:31 PM 10/27/2025

SIGNS (902 SIGNAL SIGNS TABULATED ON D-37A SHEET)						CONCRETE FOOTINGS EMBEDDED	STRUCTURAL STEEL POSTS*						PIPE POSTS*					BACKING BARS**				U-CHANNEL POST	PERFORATED SQUARE STEEL TUBE											BREAK-AWAY ASSEMBLY	REMARKS AND OTHER REQUIRED ITEMS
																							2-INCH POST						2.5-INCH POST						
																										ANCHORS						ANCHORS		
SIGN NO.	SIGN SIZE	STATION OR LOG MILE	HORIZ CLEAR IF NOT STD	LOCATION	SIGN DTL SHT NO.	ITEM NO. 9031010	POST DES NO.	POST NO. 1	POST NO. 2	POST NO. 3	LBS PER FT	TOTAL ITEM NO. 9031210	PIPE SIZE	POST NO. 1	POST NO. 2	LBS PER FT	TOTAL ITEM NO. 9031220	2" X 3/8" BARS AT 2.55 LBS/FT NO.	LGTH	TOTAL	TOTAL	ITEM NO. 9031250A	POST NO. 1	POST NO. 2	TOTAL ITEM NO. 9031270A	DRIVEN 12 GA. ITEM NO. 9031271A	DRIVEN 7 GA. ITEM NO. 9031273A	CONCRETE 7 GA. ITEM NO. 9031274	POST NO. 1	POST NO. 2	TOTAL ITEM NO. 9031280	2.25" INSERT (6 FT) ITEM NO. 9031272A	DRIVEN 7 GA. ITEM NO. 9031281A	CONCRETE 7 GA. ITEM NO. 9031285	ITEM NO. 9031241	
						CY		LF	LF	LF		LBS	IN	LF	LF		LBS	EACH	IN.	LF	LBS	LF	LF	LF		EACH	EACH	EACH				EACH	EACH	EACH	EACH	
1	ASSY	80+62		RIGHT																									16		16		1			
1	ASSY	101+20		LEFT																									15		15		1			
2	ASSY	89+87		LEFT																									12.5		13		1			
2	ASSY	91+50		RIGHT																									15		15		1			
3	48"x24"	83+60		RIGHT																			12	11	23	2										
3	48"x24"	98+65		LEFT																			10.5	8.5	19	2										
4	48"x24"	87+45		RIGHT																			12	10	22	2										
4	48"x24"	96+80		LEFT																			11	9	20	2										
5	12"x36"	91+60	6'	LEFT																		12														
5	12"x36"	91+80	5'	LEFT																		10														1/2 STANDARD MOUNTING HT.
5	12"x36"	92+00	2'	LEFT																		9														GROUND LEVEL MOUNTING HT.
5	12"x36"	94+32	2'	RIGHT																		8														GROUND LEVEL MOUNTING HT.
5	12"x36"	94+52	4'	RIGHT																		10														1/2 STANDARD MOUNTING HT.
5	12"x36"	94+72	6'	RIGHT																		14														
6	12"x36"	91+60	6'	RIGHT																		14														
6	12"x36"	91+80	4'	RIGHT																		11														1/2 STANDARD MOUNTING HT.
6	12"x36"	92+00	2'	RIGHT																		8														GROUND LEVEL MOUNTING HT.
6	12"x36"	94+32	2'	LEFT																		8														GROUND LEVEL MOUNTING HT.
6	12"x36"	94+52	4'	LEFT																		10														1/2 STANDARD MOUNTING HT.
6	12"x36"	94+72	6'	LEFT																		13														
				SUBTOTAL																		127			84	8					59		4			
				TOTAL																	**	127			84	8					59		4			

*BREAKAWAY ASSEMBLY IS INCIDENTAL FOR STRUCTURAL STEEL AND PIPE POSTS.
**BACKING BARS ARE TOTALED WITH STRUCTURAL STEEL OR PIPE POSTS.

ROUND PIPE POST AND FOOTING DATA TABLE

NOM. SIZE (IN.)	WEIGHT LBS/FT	WEIGHT LBS/IN	STUB LENGTH	FOOTING DIA.	FOOTING DEPTH	CONCRETE C.Y.
2½	5.79	0.48	4'- 3½"	12"	4~6"	0.13
3	7.58	0.63	4'- 3½"	12"	4~6"	0.13
4	10.79	0.90	5'- 3½"	18"	5~6"	0.36

STRUCTURAL STEEL POST AND FOOTING DATA TABLE

POST DES. NO.	NOM. SIZE	POST WEIGHT LBS/FT	POST WEIGHT LBS/IN	STUB LENGTH	DIA.	FOOTING LEVEL GROUND DEPTH	FOOTING LEVEL GROUND C.Y.	FOOTING 6:1 GRADE DEPTH	FOOTING 6:1 GRADE C.Y.	FOOTING 4:1 GRADE DEPTH	FOOTING 4:1 GRADE C.Y.	FOOTING 3:1 OR 2:1 GRADE DEPTH	FOOTING 3:1 OR 2:1 GRADE C.Y.
1	W6	9.0	0.75	3'-0"	15"	3'-0"	0.14	3'-2"	0.15	3'-3"	0.16	3'-6"	0.17
2	W6	15.0	1.25	4'-0"	24"	4'-0"	0.47	4'-2"	0.50	4'-3"	0.51	4'-6"	0.54
3	W8	18.0	1.50	4'-6"	28"	4'-6"	0.71	4'-8"	0.73	4'-9"	0.74	5'-0"	0.78
4	W10	22.0	1.83	5'-0"	36"	5'-0"	1.31	5'-2"	1.36	5'-3"	1.39	5'-6"	1.45
5	W10	26.0	2.17	5'-0"	36"	5'-0"	1.31	5'-3"	1.37	5'-5"	1.43	5'-9"	1.52
6	W12	35.0	2.92	5'-6"	36"	5'-6"	1.44	5'-9"	1.52	5'-11"	1.56	6'-3"	1.65

SIGNING AND STRIPING (SHEET 3 OF 4)

D-29

EFFECTIVE: 07-01-2024

STATE OF MISSOURI
EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER
Emily S. Burkart
10/27/2025 3:40:07 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED: 10/27/2025
ROUTE: VV | STATE: MO
DISTRICT: NE | SHEET NO.: 17
COUNTY: MACON
JOB NO.: JNE0139
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

STANDARD SIGN ASSEMBLIES

SIGN NO.	STATION OR LOG MILE	LOCATION	SIGN, TYPE, DESIGNATION, SIZE & NUMBER OF EACH																			
			 SHF OM3-L 12 x 36	 SHF OM3-R 12 x 36	 SHF W1-2L 36 x 36	 SHF W1-2R 36 x 36	 SHF W1-6L 48 x 24	 SHF W1-6R 48 x 24	 SHF W13-1P 24 x 24												
1	80+62	RIGHT			1				1													
1	101+20	LEFT			1				1													
2	89+87	LEFT				1			1													
2	91+50	RIGHT				1			1													
3	83+60	RIGHT					1															
3	98+65	LEFT					1															
4	87+45	RIGHT						1														
4	96+80	LEFT						1														
5	91+60	LEFT	1																			
5	91+80	LEFT	1																			
5	92+00	LEFT	1																			
5	94+32	RIGHT	1																			
5	94+52	RIGHT	1																			
5	94+72	RIGHT	1																			
6	91+60	RIGHT		1																		
6	91+80	RIGHT		1																		
6	92+00	RIGHT		1																		
6	94+32	LEFT		1																		
6	94+52	LEFT		1																		
6	94+72	LEFT		1																		
		TOTALS	6	6	2	2	2	2	4													

SIGN SUMMARY

EFFECTIVE: 10-01-2016

STANDARD OR SPECIAL SIGN DESIGNATION	SIGN DTL. SHT. NO.	NO. EACH	SIGN SIZE	TYPE & SQUARE FEET			
				FLAT SHEET SH ITEM NO. 9035004A	FLAT SHEET FLUORESCENT SHF* ITEM NO. 9035069A	STRUCTURAL ST ITEM NO. 9035011A	STRUCTURAL FLUORESCENT STF* ITEM NO. 9035071A
OM3-L		6	12 x 36		18.00		
OM3-R		6	12 x 36		18.00		
W1-2L		2	36 x 36		18.00		
W1-2R		2	36 x 36		18.00		
W1-6L		2	48 x 24		16.00		
W1-6R		2	48 x 24		16.00		
W13-1P (40 M.P.H.)		4	24 x 24		16.00		
TOTALS					120		

*ORANGE, YELLOW AND YELLOW-GREEN

SIGNING
AND STRIPING
(SHEET 4 OF 4)

D-30

STATE OF MISSOURI
EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER

Emily S. Burkart
10/27/2025 3:40:40 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED
10/27/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	18

COUNTY
MACON

JOB NO.
JNE0139

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

DISCLAIMER
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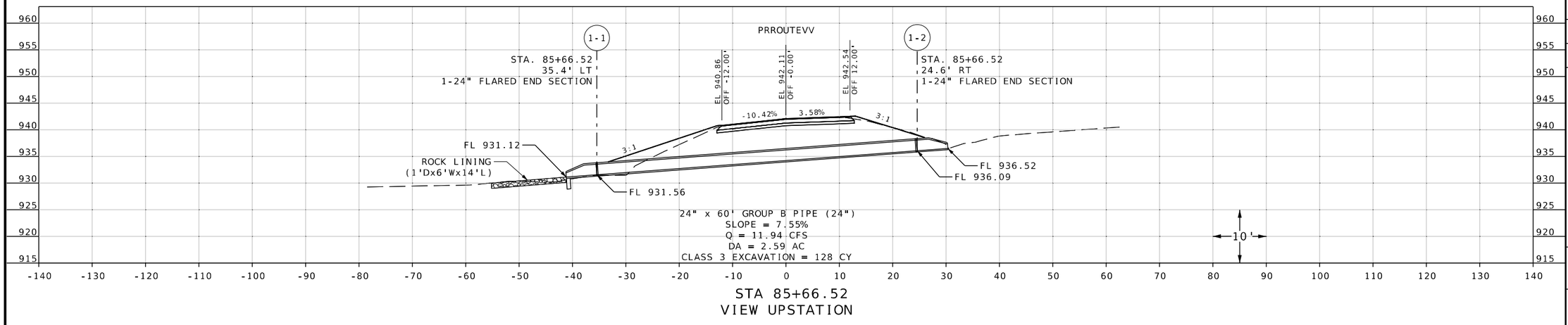
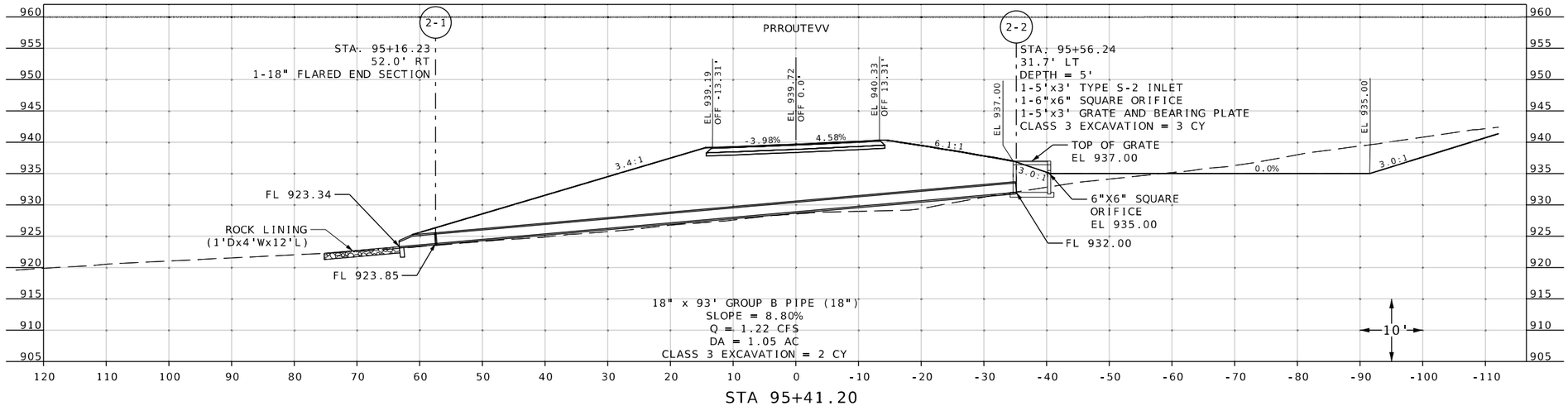


STA 85+66.52
VIEW UPSTATION



STA 95+41.20
SKEW 25°39'51" LT ADV
VIEW DOWNSTATION

CULVERT SECTIONS
(SHEET 1 OF 1)

EMILY S. BURKART
PE-2011015708
PROFESSIONAL ENGINEER
STATE OF MISSOURI

10/27/2025 3:41:12 PM
Emily S. Burkart - Civil
MO PE-2011015708

DATE PREPARED
10/27/2025

ROUTE	STATE
VV	MO
DISTRICT	SHEET NO.
NE	19

COUNTY
MACON

JOB NO.
JNE0139

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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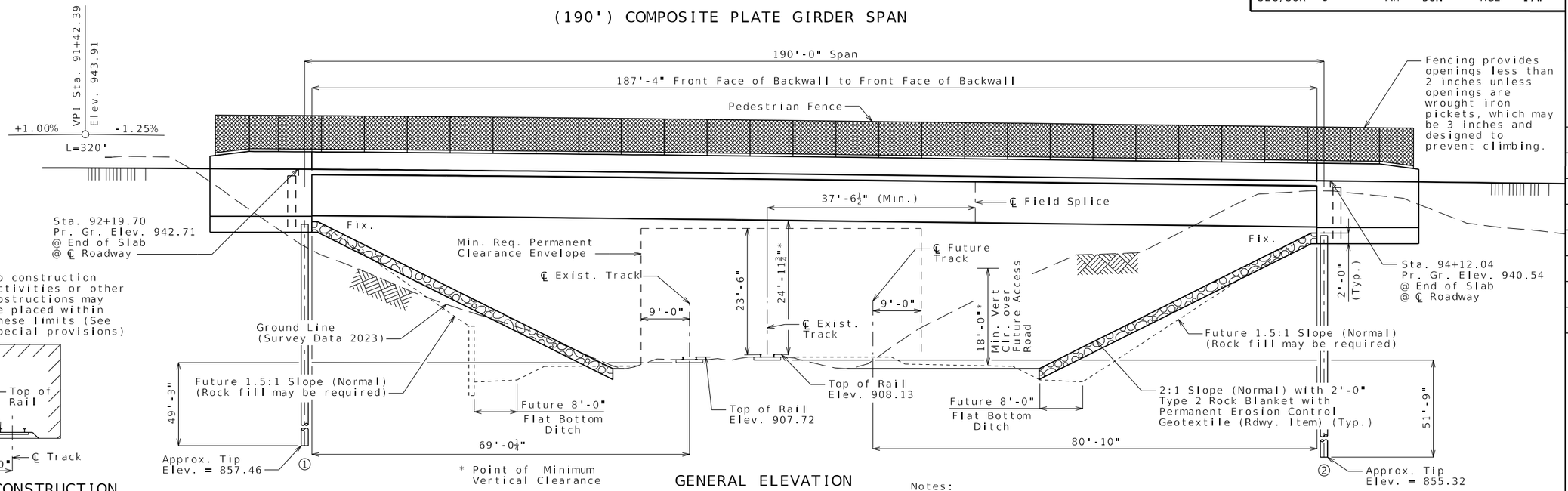
SEC/SUR 9 TWP 58N RGE 17W

(190') COMPOSITE PLATE GIRDER SPAN



MINIMUM CONSTRUCTION CLEARANCES

(Normal to railroad)
(Not to scale)

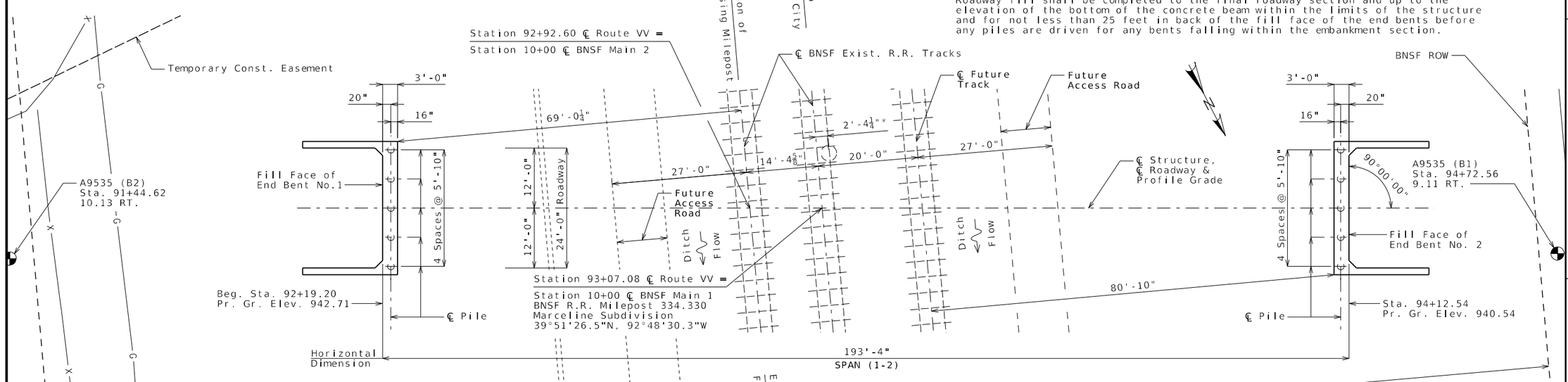
GENERAL ELEVATION

Notes:

For Existing Bridge Demolition note, see Sheet 3.

For General Notes, Estimated Quantities and Foundation Data, see Sheet No. 2.

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



PLAN

Indicates location of borings

Notice and Disclaimer Regarding Boring Log Data
The locations of all subsurface borings for this structure are shown on the plan sheet for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheets No. 22 & 23 and may be included in the Electronic Bridge Deliverables. They will also be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

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

B.M. 2 = SET CUT SQUARE ON WEST END OF CONC CURB ON NORTH SIDE OF SN. W-0404, ELEV = 949.15'

BRIDGE: ROUTE VV OVER BNSF RR

ROUTE VV FROM ROUTE Z
ABOUT 1.8 MILES NORTH OF ROUTE Z
BEGINNING STATION 92+19.20
BNSF RAILROAD MILEPOST 334.330
MARCELINE SUBDIVISION, MACON COUNTY, MO
39°51'26.5"N, 92°48'30.3"W

Designed Aug. 2024
Detailed Sept. 2024
Checked July 2025

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

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER
10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 1
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

Estimated Quantities

Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	75		75
Removal of Bridges (W0404)	lump sum			1
Bridge Approach Slab (Minor)	sq. yard		108	108
(120 In.) Pedestrian Fence (Structures)	linear foot		456	456
Galvanized Cast-In-Place Concrete Piles (16 in.)	linear foot	750		750
Dynamic Pile Testing	each	2		2
Dynamic Pile Restrike Testing	each	2		2
Pile Point Reinforcement	each	10		10
Class B Concrete (Substructure)	cu. yard	28.0		28.0
Slab on Steel	sq. yard		570	570
Type D Barrier	linear foot		451	451
Temporary Coating - Concrete Bents and Piers (Weathering Steel)	lump sum	1		1
Fabricated Structural Low Alloy Steel (Plate Girder) A709, Grade 50W	pound		261,060	261,060
Vertical Drain at End Bents	each	2		2
Plain Neoprene Bearing Pad	each		6	6

All concrete between the upper and lower construction joints in the end bents is included in the Estimated Quantities for Slab on Steel.

All reinforcement in the end bents and all reinforcement in cast-in-place pile at end bents is included in the Estimated Quantities for Slab on Steel.

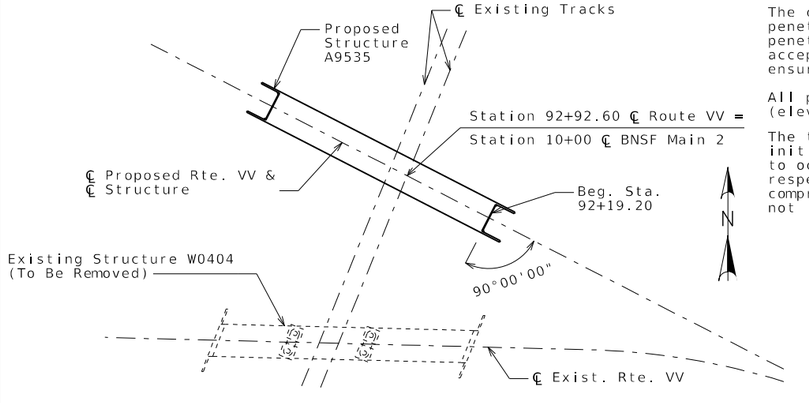
Estimated Quantities for Slab on Steel

Item		Total
Class B-2 Concrete	cu. yard	211
Reinforcing Steel (Epoxy Coated)	pound	54,380

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

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

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



LOCATION SKETCH

Foundation Data

Type	Design Data		Bent Number 1	Bent Number 2
Load Bearing Pile	Pile Type and Size		CECIP 16"	CECIP 16"
	Number	ea	5	5
	Approximate Length Per Each	ft	75	75
	Pile Point Reinforcement	ea	All	All
	Min. Galvanized Penetration (Elev.)	ft	Full Length	Full Length
	Minimum Tip Penetration (Elev.)	ft	915	913
	Criteria for Min. Tip Penetration		Min. Embed.	Min. Embed.
	Pile Driving Verification Method		DT	DT
	Resistance Factor		0.65	0.65
	Minimum Nominal Axial Compressive Resistance (MNACR)	kip	486	486
	Portion of MNACR Required at End of Initial Drive	kip	340 (70%)	340 (70%)

DT = Dynamic Testing

CECIP = Closed Ended Cast-In-Place concrete piles

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

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

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

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

The test piles at End Bents No. 1 and 2 shall be driven to an end-of-initial drive resistance of approximately 340 kips, which is estimated to occur at a pile tip elevation of approximately 880 and 878 respectively. Subsequently, pile setups and the minimum nominal axial compressive resistance shall be confirmed by a restrike test performed not less than 24 hours after end of initial drive.

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
2011 AASHTO Guide Specifications for LRFD Seismic Bridge Design (2nd Ed.) and 2014 Interim Revisions (Seismic Details)
Seismic Design Category = A
Design earthquake response spectral acceleration coefficient at 1.0 second period, S_{D1} = 0.095
Acceleration Coefficient (effective peak ground acceleration coefficient), A_S = 0.053

Design Loading:

Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf (Min.)

Design Unit Stresses:

Class B Concrete (Substructure)	f'c = 3,000 psi
Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Class B-2 Concrete (Superstructure, except Barrier)	f'c = 4,000 psi
Reinforcing Steel (ASTM A615 Grade 60)	fy = 60,000 psi
Structural Steel (ASTM A709 Grade 50W)	fy = 50,000 psi
Welded or Seamless steel shell (pipe) for CIP pile (ASTM A252 Modified Grade 3)	fy = 50,000 psi

Neoprene Pads:

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

Joint Filler:

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

Reinforcing Steel:

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

Fabricated Steel Connections:

Field connections shall be made with 3/4-inch diameter ASTM F3125 Grade A325 Type 3 bolts and 13/16-inch diameter holes, except as noted.

Traffic Handling:

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

Structural Steel Protective Coatings:

Protective Coating: System G in accordance with Sec 1080. Applied to exterior face and bottom flange of fascia girders only.

Prime Coat: The cost of the inorganic zinc prime coat will be considered completely covered by the contract unit price for the fabricated structural steel.

Field Coats: The color of the field coats shall be Brown (Federal Standard #30045). The cost of the intermediate and finish field coats will be considered completely covered by the contract unit price for the fabricated structural steel.

At the option of the contractor, the intermediate and finish field coats 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 systems as required by the engineer.

Concrete Protective Coatings:

Temporary coating for concrete bents and piers (weathering steel) shall be applied on all concrete surfaces above the ground line elevation on all abutments in accordance with Sec 711.

Miscellaneous:

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

STATE OF MISSOURI
KEVIN J. BREHM
PE-2010024490
PROFESSIONAL ENGINEER
12/17/2025

DATE PREPARED 11/5/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 2
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

GENERAL NOTES AND QUANTITIES

Sta. 0+00.00	Sta. 1+00.00	Sta. 2+00.00	Sta. 3+00.00	Sta. 4+00.00	Sta. 5+00.00	Sta. 6+00.00	Sta. 7+00.00	Sta. 8+00.00	Sta. 9+00.00	Sta. 10+00.00	Sta. 11+00.00	Sta. 12+00.00	Sta. 13+00.00	Sta. 14+00.00	Sta. 15+00.00	Sta. 16+00.00	Sta. 17+00.00	Sta. 18+00.00	Sta. 19+00.00	Sta. 20+00.00
Elev. 905.04	Elev. 905.87	Elev. 906.67	Elev. 907.29	Elev. 907.93	Elev. 908.39	Elev. 908.64	Elev. 908.71	Elev. 908.67	Elev. 908.50	Elev. 908.13	Elev. 907.68	Elev. 907.19	Elev. 906.74	Elev. 906.27	Elev. 905.81	Elev. 905.12	Elev. 904.36	Elev. 903.65	Elev. 902.94	Elev. 902.23
0.83 %	0.79 %	0.62 %	0.64 %	0.47 %	0.25 %	0.07 %	0.05 %	0.17 %	0.37 %	0.45 %	0.50 %	0.44 %	0.48 %	0.46 %	0.69 %	0.76 %	0.71 %	0.71 %	0.71 %	

TOP OF BNSF MAIN 1 RAIL TO KANSAS CITY ELEVATION

(Stationing increases in the direction of Fort Madison)

Sta. 0+00.00	Sta. 1+00.00	Sta. 2+00.00	Sta. 3+00.00	Sta. 4+00.00	Sta. 5+00.00	Sta. 6+00.00	Sta. 7+00.00	Sta. 8+00.00	Sta. 9+00.00	Sta. 10+00.00	Sta. 11+00.00	Sta. 12+00.00	Sta. 13+00.00	Sta. 14+00.00	Sta. 15+00.00	Sta. 16+00.00	Sta. 17+00.00	Sta. 18+00.00	Sta. 19+00.00	Sta. 20+00.00
Elev. 905.26	Elev. 906.09	Elev. 906.81	Elev. 907.32	Elev. 907.84	Elev. 908.17	Elev. 908.37	Elev. 908.38	Elev. 908.25	Elev. 908.06	Elev. 907.72	Elev. 907.35	Elev. 906.89	Elev. 906.38	Elev. 905.77	Elev. 905.17	Elev. 904.48	Elev. 903.67	Elev. 902.93	Elev. 902.19	Elev. 901.41
0.83 %	0.72 %	0.50 %	0.52 %	0.34 %	0.20 %	0.01 %	0.13 %	0.19 %	0.34 %	0.37 %	0.46 %	0.52 %	0.61 %	0.60 %	0.69 %	0.81 %	0.74 %	0.74 %	0.78 %	

TOP OF BNSF MAIN 2 RAIL TO FORT MADISON ELEVATION

(Stationing increases in the direction of Fort Madison)

BNSF Railroad General Notes:

BNSF Website: www.bnsf.com

For BNSF Signal/Telecommunication Engineering, "Call Before you Dig", call 1-800-533-2891.

For BNSF Grade Crossings, call 1-800-832-5452.

Please refer to BNSF website for utility review and approval process and application.

A flagman is required when any work is performed within 25 feet of track centerline. If the Railroad provides flagging or other services, the Contractor shall not be relieved of any responsibilities or liabilities as set forth in any document authorizing the work. No work is allowed within 50 feet of track centerline when a train passes the work site, and all personnel must clear the area within 25 feet of track centerline and secure all equipment when trains are present.

All demolition within the Railroad right-of-way and/or demolition that may impact the Railroad tracks or operations shall comply with the Railroad demolition requirements. All substructures shall be removed to at least 3 feet below the final finished grade or at least 3 feet below base of rail, whichever is lower, unless otherwise specified by BNSF.

Erection over the Railroad right-of-way shall be designed to cause no interruption to all Railroad operations. Railroad to be contacted to determine operational requirements.

The elevation of the existing top-of-rail profile shall be verified before beginning construction. All discrepancies shall be brought to the attention of the Railroad prior to construction.

The proposed grade separation project shall not change the quantity and/or characteristics of the flow in the Railroad ditches and/or drainage structures. Existing ditches to be maintained open at all times during construction.

The contractor must submit a proposed method of erosion and sediment control and have the method approved by the Railroad prior to beginning any grading on the project site.

For Railroad coordination please refer to the Railroad's Coordination Requirements as part of the Job Special Provisions (JSPs) of the project.

Temporary Construction Clearances, including falsework clearances, shall comply with Minimum Construction Clearances Envelope. See Sheet No. 1 for Temporary Construction Clearances.

All permanent clearances shall be verified before project closeout.

Vegetation on or adjacent to ROW shall not become a fire hazard or obstruction to inspection.

Existing Bridge Demolition:

The existing bridge carrying Route VV over BNSF will be demolished as part of this project. Bridge Demolition Plan and Temporary Shoring Plan submittals are required and must meet the requirements of the UP Railroad - BNSF Railway Guidelines for Railroad Grade Separation Projects, BNSF Guidelines for Preparation of Bridge Demolition & Removal Plan, and the BNSF-UPRR Guidelines for Temporary Shoring. See Job Special Provision titled "Protection of BNSF Railway Company Interests" for more information.

BNSF RAILROAD REQUIREMENTS

Designed Dec. 2024
Detailed Dec. 2024

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

STATE OF MISSOURI
KEVIN J. BREHM
PE-2010024490
PROFESSIONAL ENGINEER
10/29/2025

DATE PREPARED: 10/27/2025
ROUTE: VV
STATE: MO
DISTRICT: BR
SHEET NO.: 3
COUNTY: MACON
JOB NO.: JNE0139
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9535

DESCRIPTION	DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
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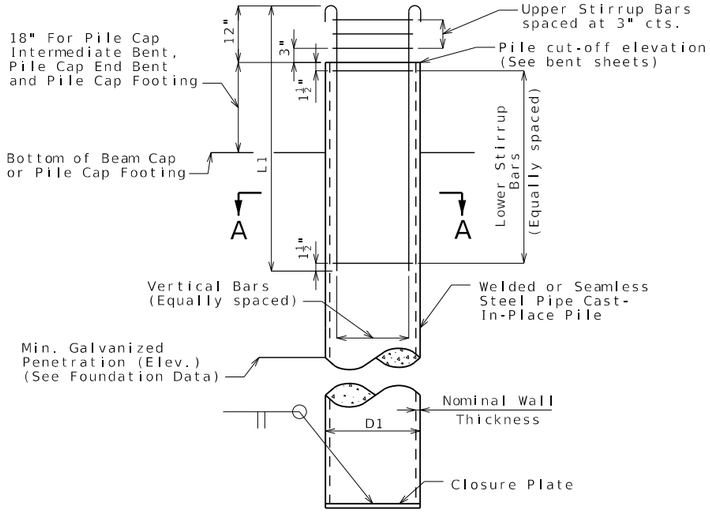
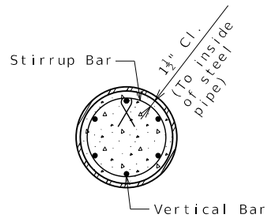
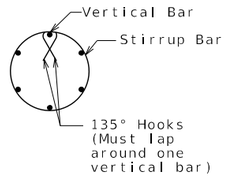
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608



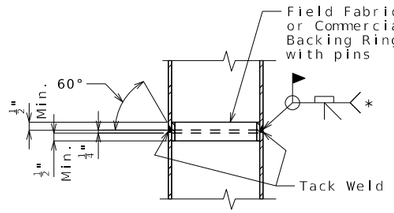
GALVANIZED CLOSED ENDED CAST-IN-PLACE (CECIP) CONCRETE PILE
WITHOUT PILE POINT REINFORCEMENT



SECTION A-A



DETAIL OF SEISMIC STIRRUP BAR



STEEL PIPE PILE SPLICE

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

Cruciform Pile Point Reinforcement Data	
D1, CECIP Pile (O.D.)	16"
B1	16"
B2	7"
B3	6 7/8"
B4	7 5/8"
B5	2"
B6	3/4"
H1	10 1/2"
H2	9 1/2"
H3	9 3/4"
T1 and T2 Plate Thickness	3/4"

Galvanized Closed Ended Cast-In-Place (CECIP) Concrete Pile Data	
D1, CECIP Pile (O.D.)	16"
Min. Nominal Wall Thickness	1/2"
Closure Plate Thickness	3/4"
Pile Point Reinforcement	Cruciform
Vertical Bars	6-#6-V14
L1, Length of Vertical Bars	5'-3"
Upper Stirrup Bars	3-#4-P10
Lower Stirrup Bars	5-#4-P10

Notes:

Welded or seamless steel shell (pipe) shall be ASTM A252 Modified Grade 3 (fy = 50,000 psi) with physical and chemical requirements that meet ASTM A572 Grade 50. Pipe certification and source material certification shall be required.

Concrete for cast-in-place pile shall be Class B-1.

Steel for closure plate shall be ASTM A709 Grade 50.

The minimum wall thickness of any spot or local area of any type shall not be more than 12.5% under the specified nominal wall thickness.

The contractor shall determine the pile wall thickness required to avoid damage from all driving activities, but wall thickness shall not be less than the minimum specified. No additional payment will be made for furnishing a thicker pile wall than specified on the plans.

Closure plate shall not project beyond the outside diameter of the pipe pile. Satisfactory weldments may be made by beveling tip end of pipe or by use of inside backing rings. In either case, proper gaps shall be used to obtain weld penetration full thickness of pipe. Payment for furnishing and installing closure plate will be considered completely covered by the contract unit price for Galvanized Cast-In-Place Concrete Piles.

Splices of pipe for cast-in-place concrete pile shall be made watertight and to the full strength of the pipe above and below the splice to permit hard driving without damage. Pipe damaged during driving shall be replaced without cost to the state. Pipe sections used for splicing shall be at least 5 feet in length.

At the contractor's option, the hooks of vertical bars embedded in the beam cap may be oriented inward or outward.

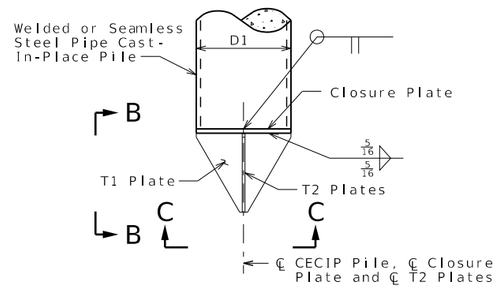
The hook of vertical bars embedded in the pile cap footing should be oriented outward for all seismic categories.

Closure plate need not be galvanized.

Reinforcing steel for cast-in-place piles is included in the Bill of Reinforcing Steel.

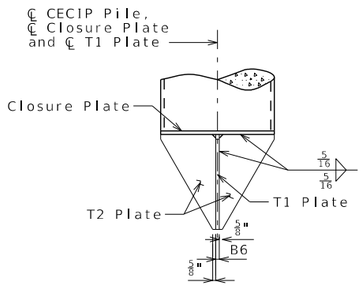
All reinforcement for cast-in-place pile at end bents is included in the Estimated Quantities for Slab on Steel.

For Foundation Data table, see Sheet No. 2.

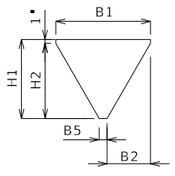


CRUCIFORM PILE POINT

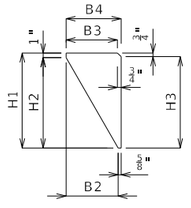
Note: Cost of closure plate is included with cast-in-place concrete pile.



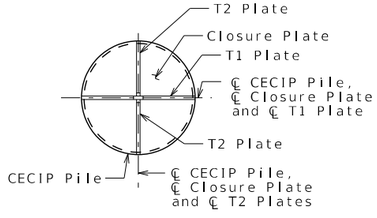
ELEVATION B-B



T1 PLATE DETAILS



T2 PLATE DETAILS (2 REQUIRED)



SECTION C-C

CRUCIFORM PILE POINT REINFORCEMENT

GALVANIZED CLOSED ENDED CAST-IN-PLACE (CECIP) CONCRETE PILE

Detailed July 2025
Checked July 2025

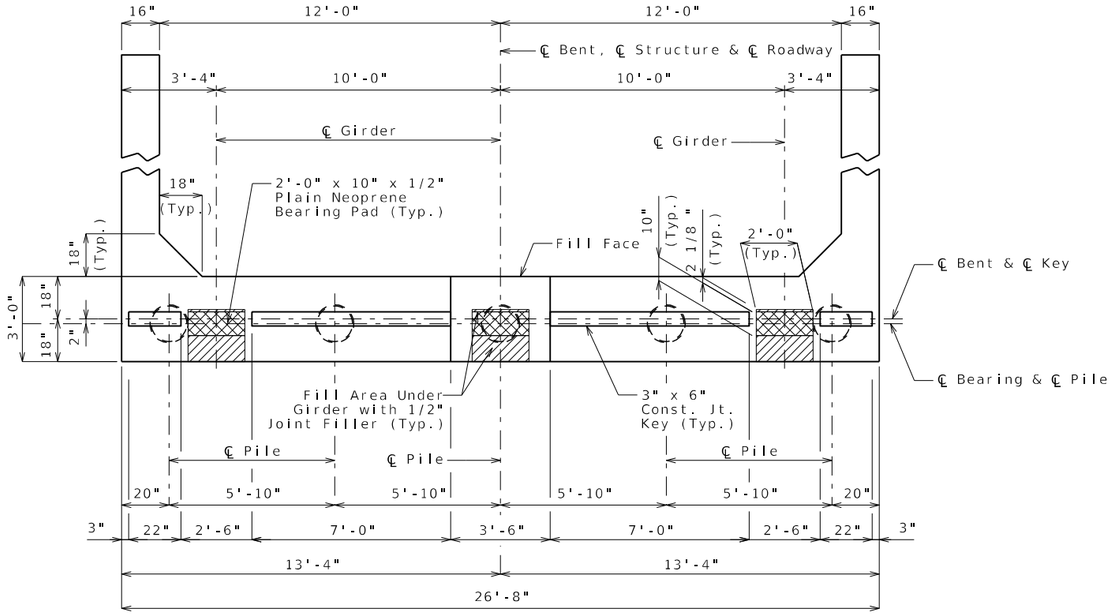
Note: This drawing is not to scale. Follow dimensions.

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER
10/27/2025

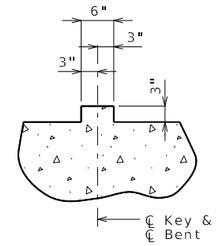
DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 4
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen



PLAN OF BEAM

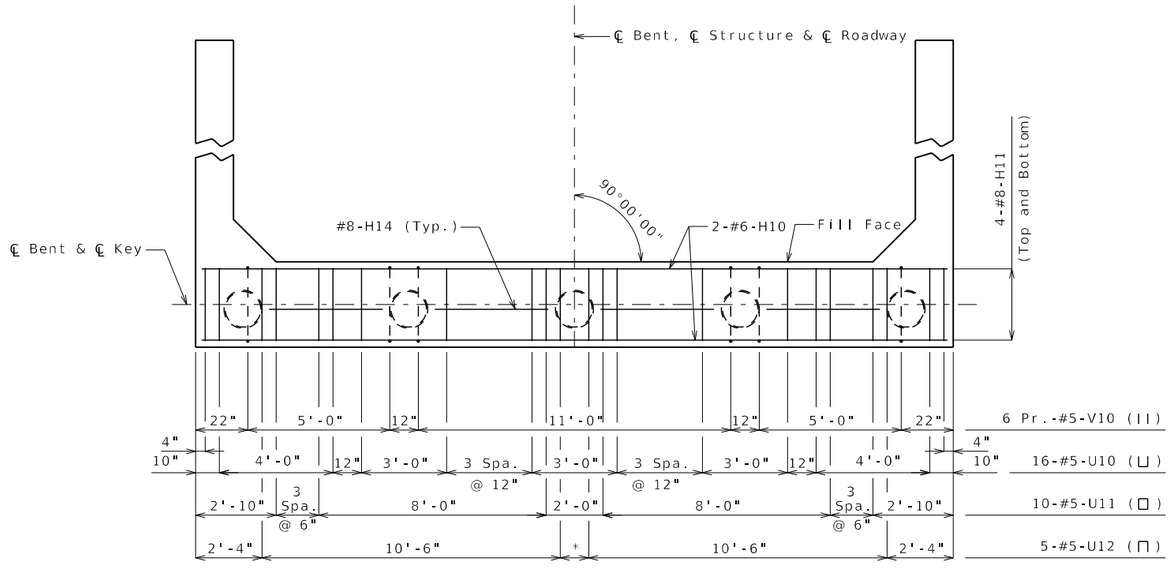


SECTION THRU KEY

General Notes:

Work this sheet with Sheets No. 6 & 7.

Reinforcing steel shall be shifted to clear piles.
U bars shall clear piles by at least 1½ inches.



PLAN OF BEAM SHOWING REINFORCEMENT

Keys not shown for clarity.

* 2 Spa. @ 6"

Substructure Quantity Table For Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	25
Galvanized Cast-In-Place Concrete Piles (16 in.)	linear foot	375
Dynamic Pile Testing	each	1
Dynamic Pile Restrike Testing	each	1
Pile Point Reinforcement	each	5
Class B Concrete (Substructure)	cu. yard	14.0

Substructure Quantity Table For Bent No. 2		
Item		Quantity
Class 1 Excavation	cu. yard	50
Galvanized Cast-In-Place Concrete Piles (16 in.)	linear foot	375
Dynamic Pile Testing	each	1
Dynamic Pile Restrike Testing	each	1
Pile Point Reinforcement	each	5
Class B Concrete (Substructure)	cu. yard	14.0

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

DETAILS OF END BENTS NO. 1 & 2

Detailed Oct. 2024
Checked July 2025

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

KEVIN J. BREHM
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STATE OF MISSOURI
PROFESSIONAL ENGINEER
12/17/2025

DATE PREPARED 11/5/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 5
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
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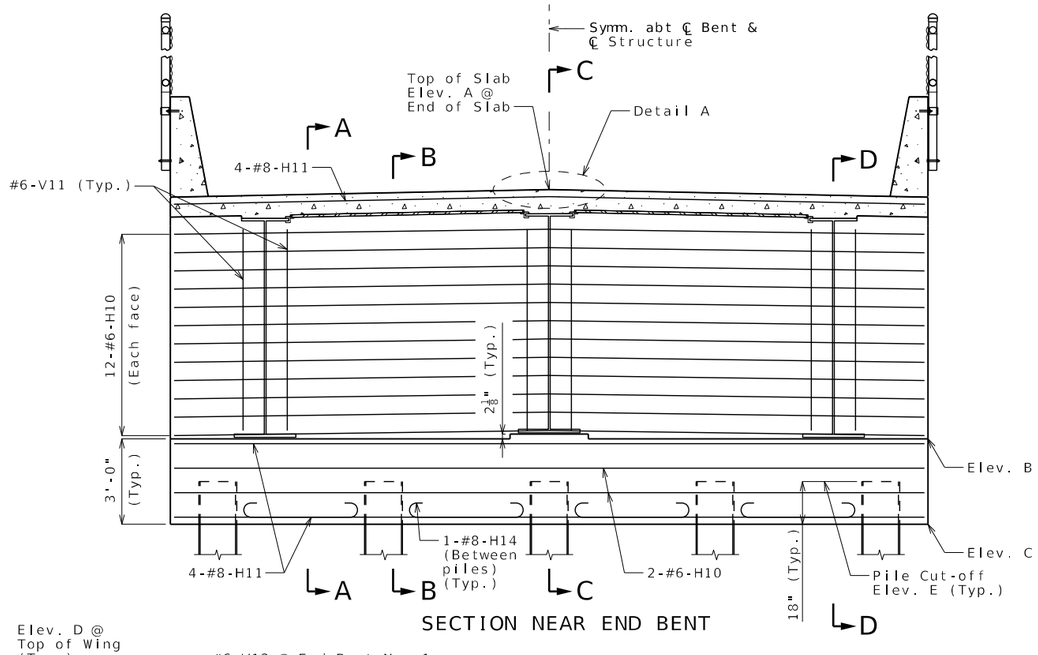
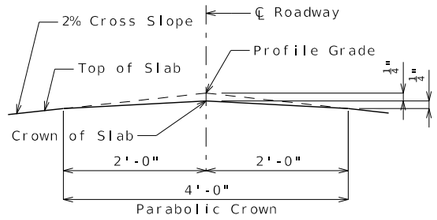
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

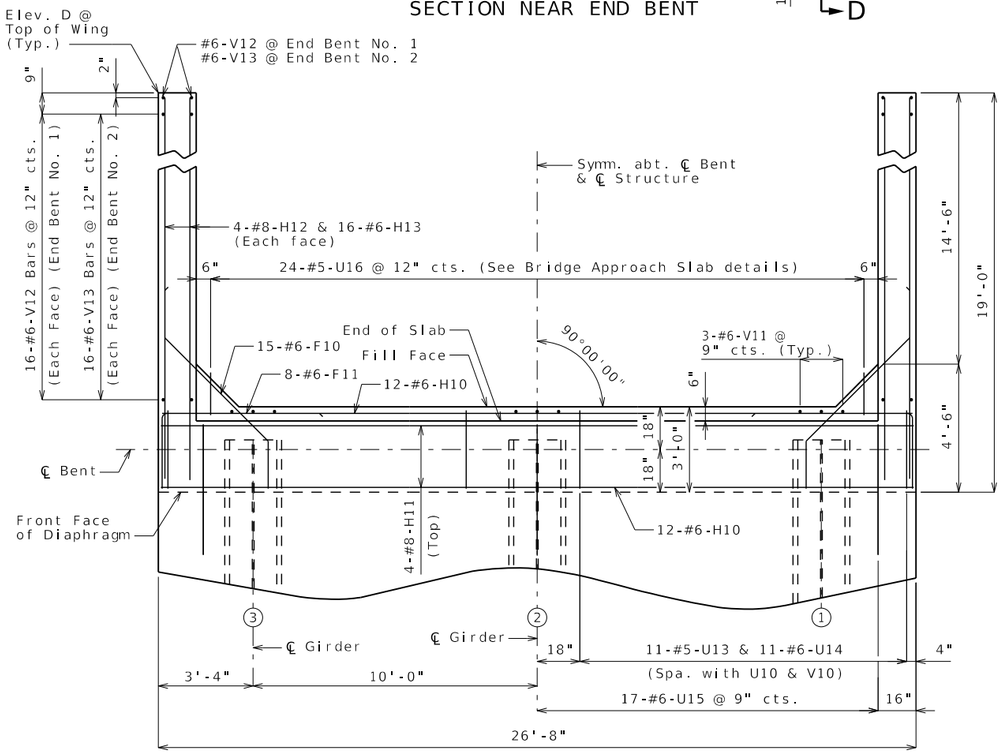


SECTION NEAR END BENT



DETAIL A

Elevations					
Location	A	B	C	D	E
End Bent No. 1	942.69	933.96	930.96	942.52	932.46
End Bent No. 2	940.52	931.82	928.82	940.07	930.32



PART PLAN

Bent No. 1 shown, Bent No. 2 similar

General Notes:

Work this sheet with Sheets No. 5 & 7.

For Sections A-A, B-B, C-C & D-D, see Sheet No. 7.

The #6-F10 bars shall be bent in the field to clear girders.

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

For details of cast-in-place concrete piles, see Sheet No. 4.

For details of vertical drain at end bents, see Sheet No. 8.

For details of bridge approach slab, see Sheet No. 18.

DETAILS OF END BENTS NO. 1 & 2

Detailed Aug. 2024
Checked Aug. 2024

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

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER
10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 6
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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520 MARYVILLE CENTRE DRIVE,
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ST. LOUIS, MISSOURI 63141
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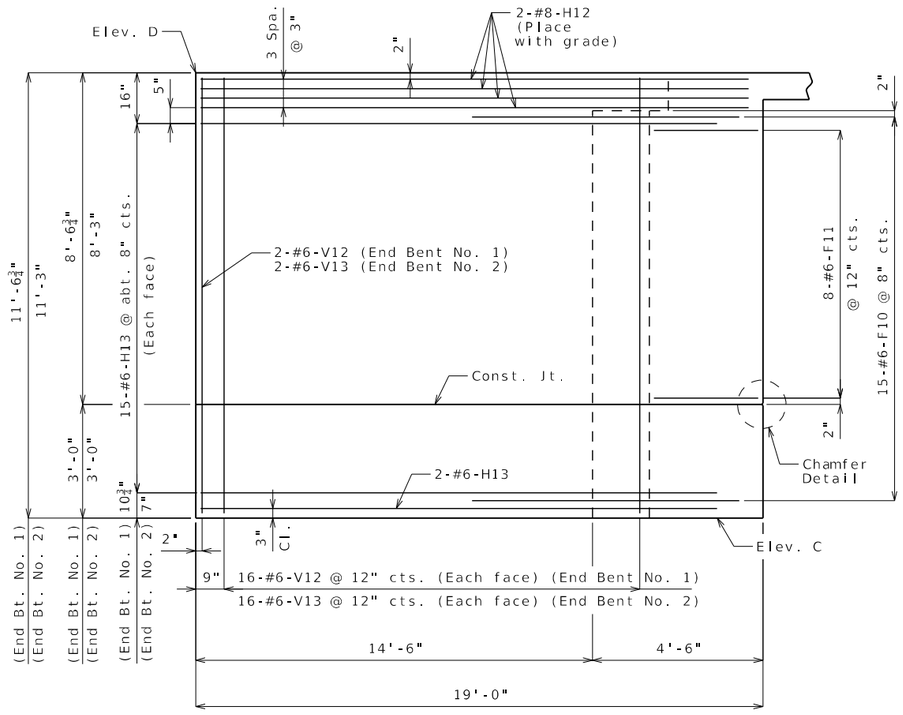
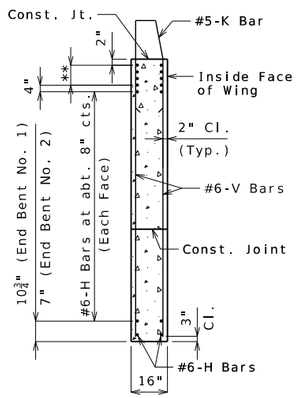
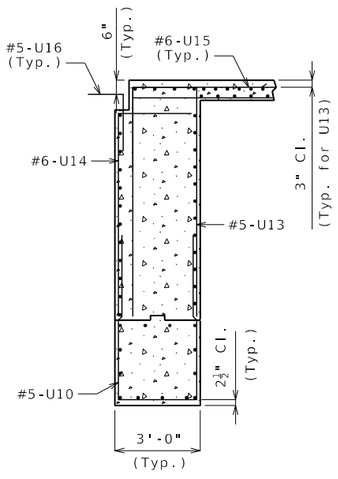


TYPICAL ELEVATION OF WING

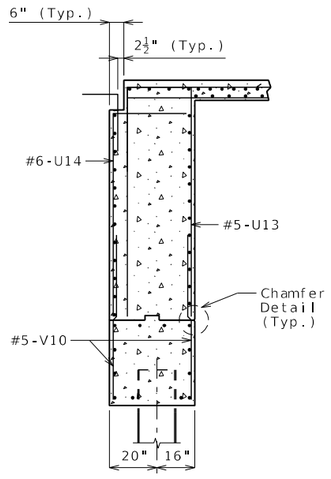


TYPICAL SECTION THRU WING

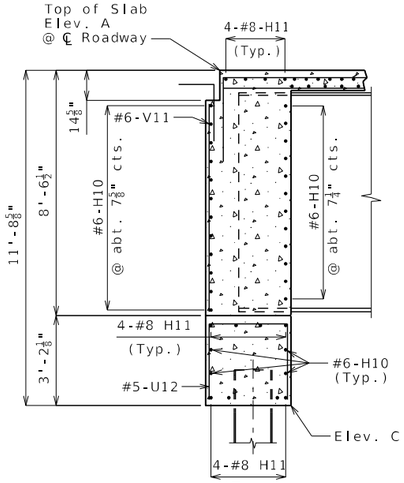
** #8-H Bars at 3" cts. (Each face)(Place with grade)



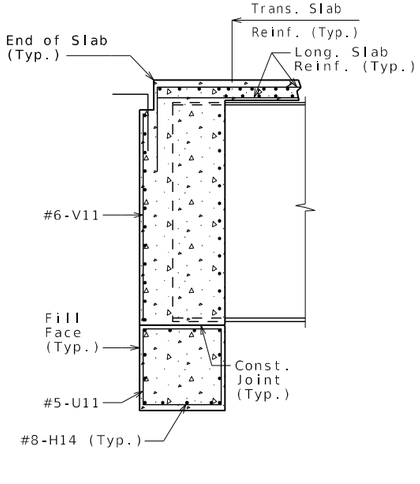
SECTION A-A



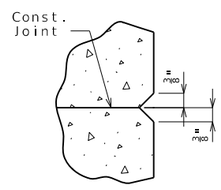
SECTION B-B



SECTION C-C



SECTION D-D



CHAMFER DETAIL

General Notes:

Work this sheet with Sheets No. 5 & 6.

For reinforcement of the barrier, see Sheet No. 16.

DETAILS OF END BENTS NO. 1 & 2

Detailed Aug. 2024
Checked Aug. 2024

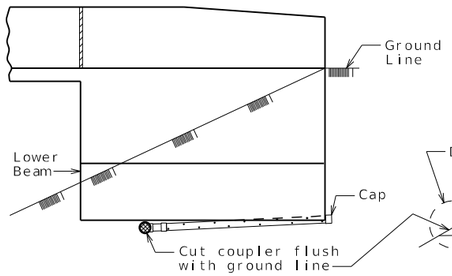
Note: This drawing is not to scale. Follow dimensions.

KEVIN J. BREHM PE-2010024490 STATE OF MISSOURI PROFESSIONAL ENGINEER
10/29/2025

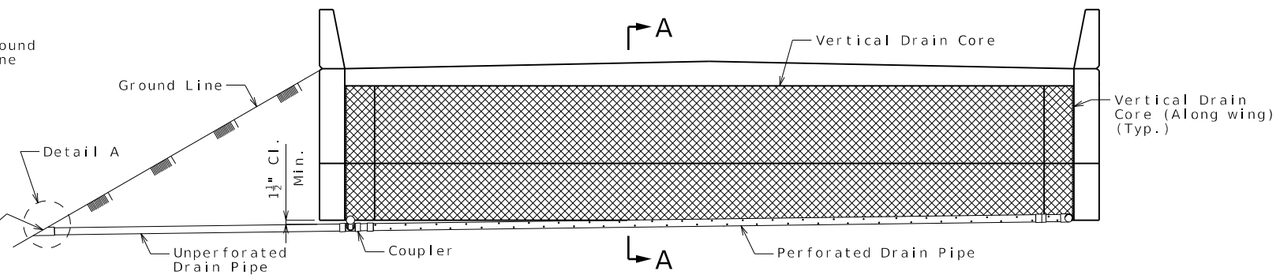
DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 7
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE

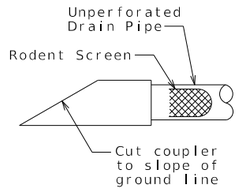
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen



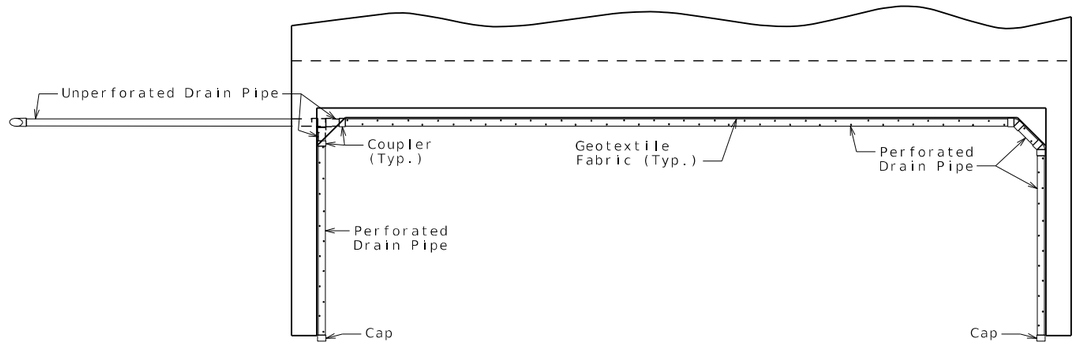
ELEVATION OF WING



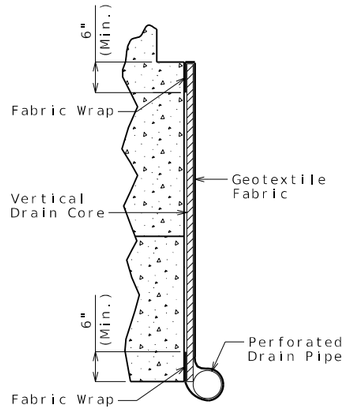
ELEVATION OF END BENT



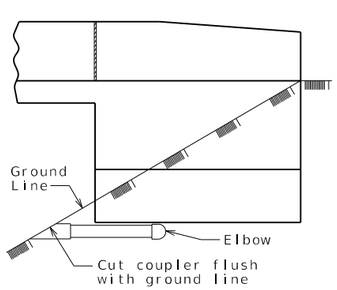
DETAIL A



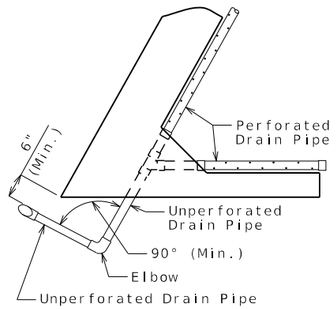
PLAN OF END BENT



PART SECTION A-A
(Section thru wing similar)



ELEVATION OF WING



PART PLAN

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

General Notes:

All drain pipe shall be sloped 1 to 2 percent.

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

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

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

VERTICAL DRAIN AT END BENTS

(Squared end bent shown, skewed end bent similar)

STATE OF MISSOURI
KEVIN J. BREHM
PE-2010024490
PROFESSIONAL ENGINEER
10/29/2025

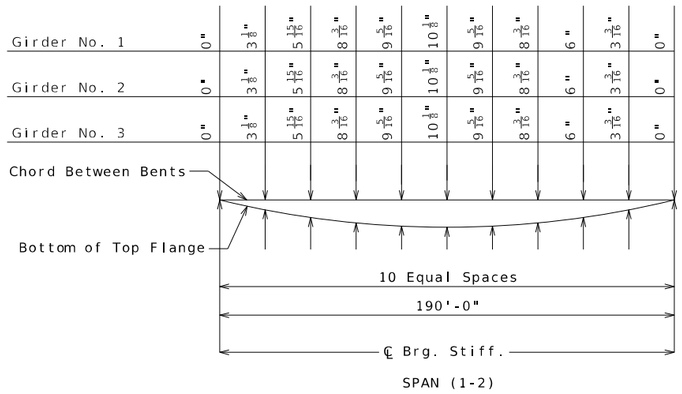
DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 8
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

Detailed Aug. 2024
Checked Aug. 2024

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



DEAD LOAD DEFLECTION

31% of dead load deflection is due to the weight of structural steel.

Dead load deflection includes weight of structural steel, concrete slab, and barrier.

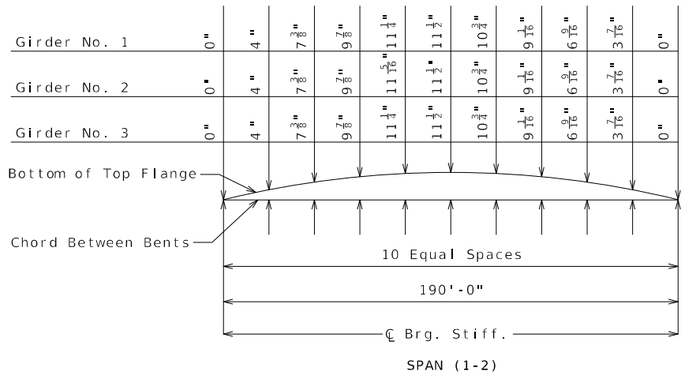


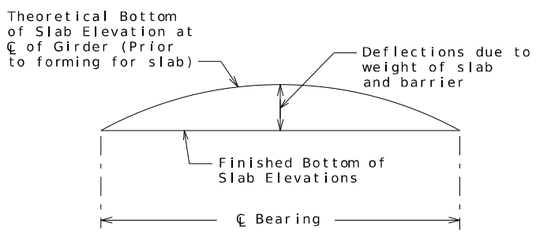
PLATE GIRDER CAMBER DIAGRAM

Camber includes allowance for vertical curve and dead load deflection due to concrete slab, barrier, and structural steel.

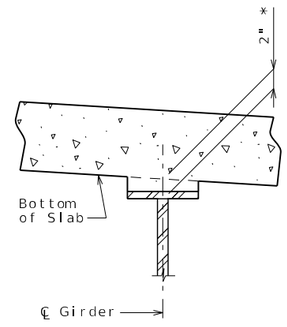
Theoretical Bottom of Slab Elevations at Centerline of Girder (Prior to forming for slab) **

Girder Number	Span (1-2) (190'-0" ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ Brg.
1	941.79	941.83	941.84	941.78	941.65	941.44	941.17	940.85	940.48	940.07	939.65
2	941.97	942.01	942.02	941.96	941.83	941.62	941.35	941.03	940.66	940.25	939.83
3	941.79	941.83	941.84	941.78	941.65	941.44	941.17	940.85	940.48	940.07	939.65

** Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab and barrier.



TYPICAL SLAB ELEVATIONS DIAGRAM



THEORETICAL SLAB HAUNCH

* Dimension (bottom of slab to top of web) may vary if girder camber after erection differs from plan camber by more than the % of Dead Load Deflection due to weight of structural steel. No payment will be made for any adjustment in forming or additional concrete required for variation in haunching.

STEEL PLATE GIRDER DETAILS

Detailed Aug. 2024
Checked Aug. 2024

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

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER
10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 9
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

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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520 MARYVILLE CENTRE DRIVE,
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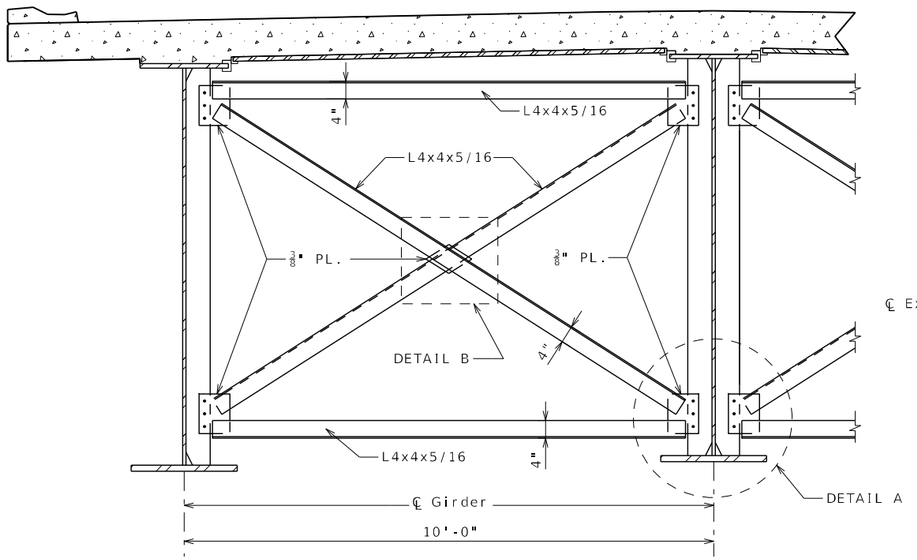
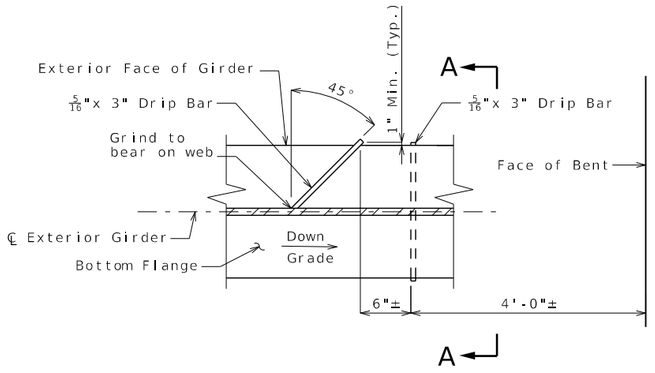
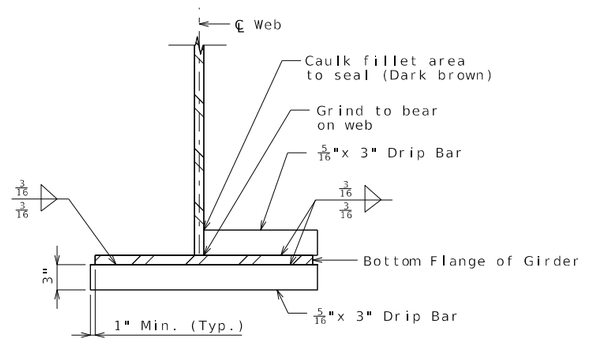


TYPICAL PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS

At the contractor's option, holes in the diaphragm plate of non slab bearing diaphragms may be made 3/16" larger than the nominal diameter of the bolt. A hardened washer shall be used under the bolt head and nut when this option is used. Holes in the girder diaphragm connection plate or transverse web stiffener shall be standard size.

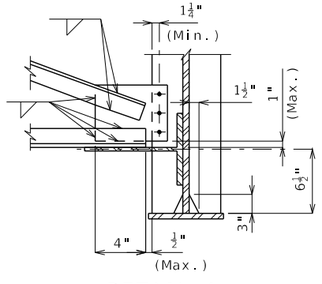


DRIP BAR DETAIL NEAR BENTS



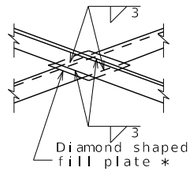
SECTION A-A

Note:
Steel for drip bars shall be same grade as bottom flange.

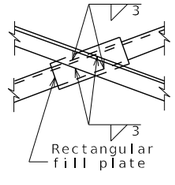


DETAIL A

(Bottom flange shown, top flange similar.)

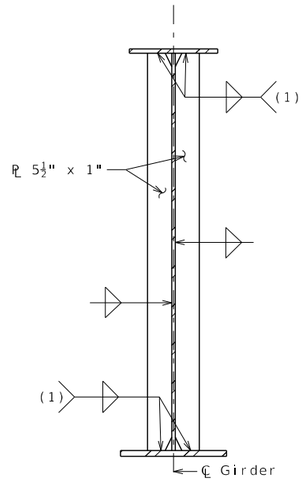


DETAIL B

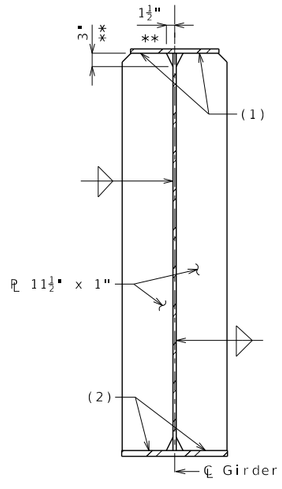


OPTIONAL DETAIL B

* At the contractor's option, rectangular fill plates may be used in lieu of diamond fill plates as shown in Optional Detail B.



INTERMEDIATE DIAPHRAGM CONNECTION PLATE



BEARING STIFFENER (NO ATTACHMENTS)

WELDING DETAILS

(1) Tight fit

(2) Grind or mill to bear.

** Typical for all intermediate diaphragm connection plates and bearing stiffeners.

STEEL DIAPHRAGMS

Detailed Aug. 2024
Checked Aug. 2024

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

STATE OF MISSOURI
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PE-2010024490
PROFESSIONAL ENGINEER
10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 10
COUNTY MACON
JOB NO. JNE0139
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105 WEST CAPITOL
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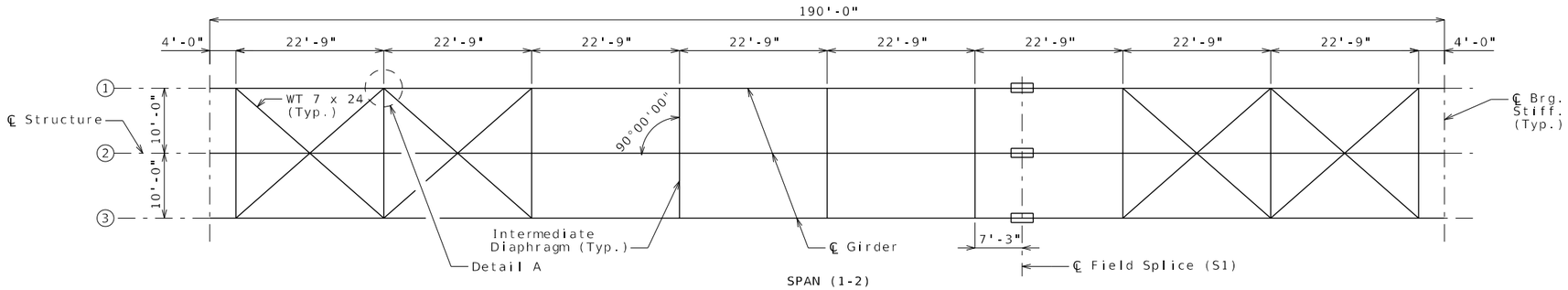
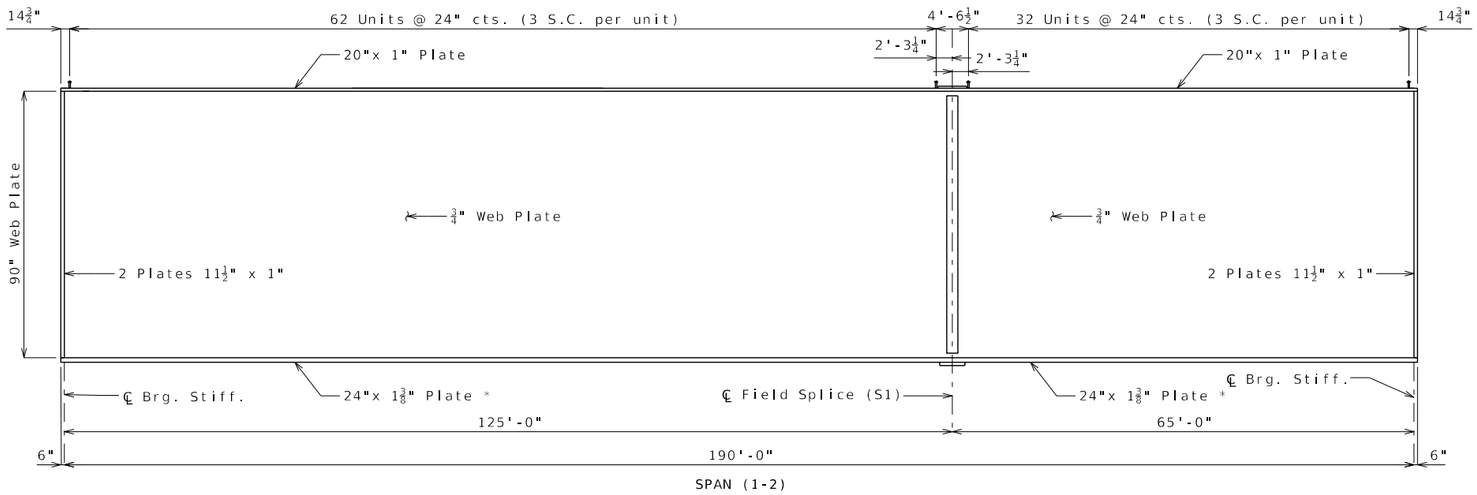
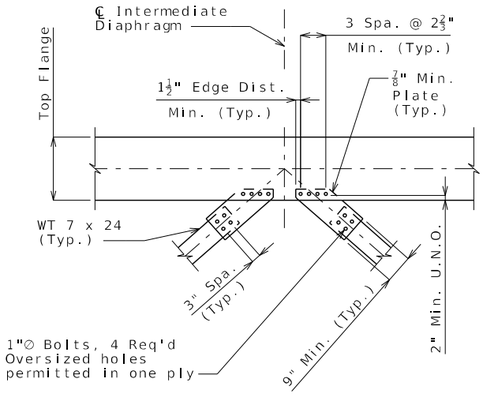


PLAN OF STRUCTURAL STEEL

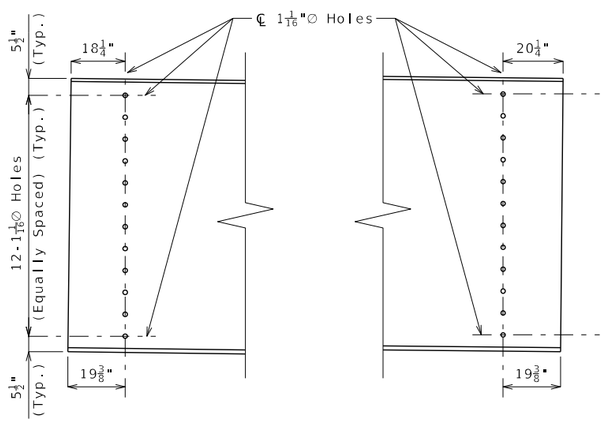
Longitudinal dimensions are horizontal



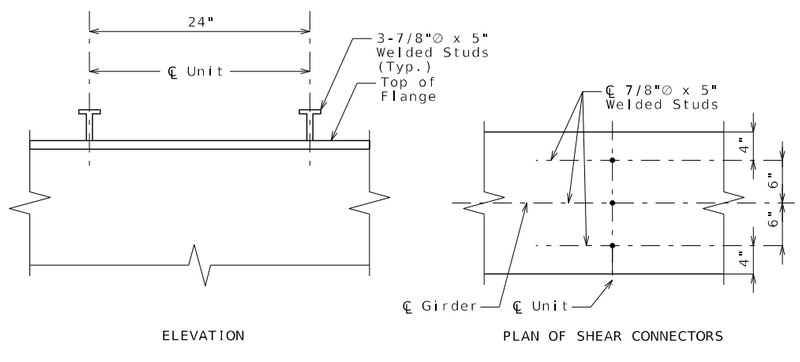
ELEVATION OF GIRDER



DETAIL A



DETAIL OF WEB HOLES AT END BENTS



DETAILS OF SHEAR CONNECTOR UNITS

(3 Studs Per Unit)

Notes:

* Indicates flange plate subject to notch toughness requirements
All web plates shall be subject to notch toughness requirements.

Weight of 830 pounds of shear connectors is included in the weight of Fabricated Structural Low Alloy Steel (Plate Girder) A709, Grade 50W.

Shear connectors shall be in accordance with Se 712, 1037 & 1080.

Plate girders shall be fabricated in accordance with the camber diagram shown on Sheet No. 9.

For details of bolted field splices and Part Longitudinal Section, see Sheet No. 12.

For details of intermediate diaphragms, bearing stiffeners, and intermediate diaphragm connection plates, see Sheet No. 10.

Fabricated structural steel shall be ASTM A709, Grade 50W.

Longitudinal dimensions are horizontal from ℄ bearing to ℄ bearing. See Part-Longitudinal Section on Sheet No. 12.

STEEL PLATE GIRDER DETAILS

Detailed Aug. 2025
Checked Aug. 2025

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

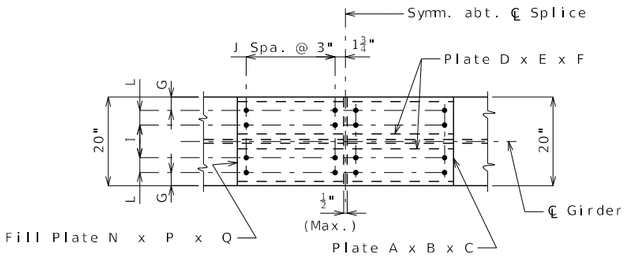
KEVIN J. BREHM PE-2010024490 STATE OF MISSOURI PROFESSIONAL ENGINEER
10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 11
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

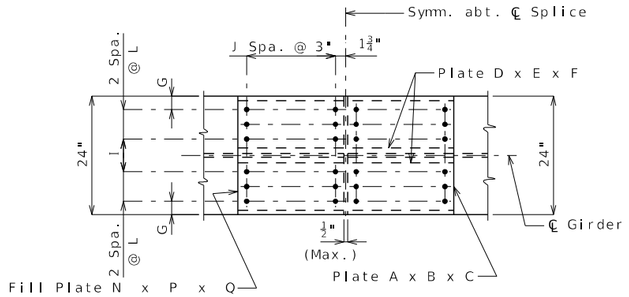
DESCRIPTION | DATE

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

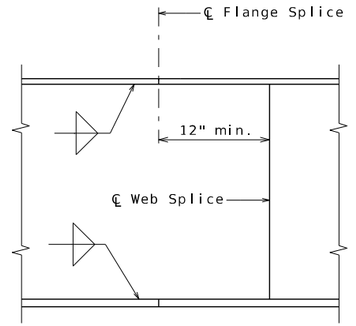
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608



PLAN OF FLANGE
S1 (TOP)



PLAN OF FLANGE
S1 (BOTTOM)

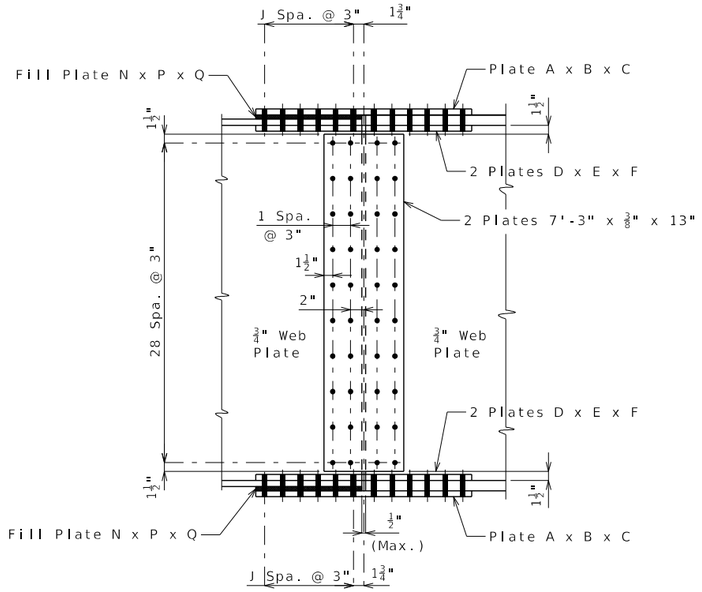


ELEVATION

WELDED SHOP WEB AND FLANGE SPLICE

Welded shop web and flange splices may be permitted when detailed on the shop drawings and approved by the engineer. No additional payment will be made for optional welded shop web and flange splices.

For location of S1 field splice, see Elevation of Girder on Sheet No. 11.

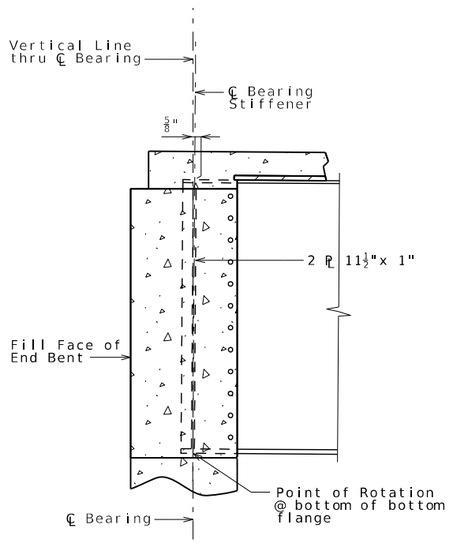


DETAIL OF BOLTED FIELD SPLICE

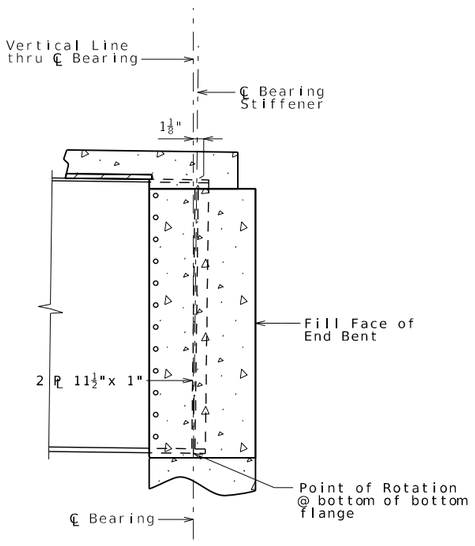
Bolts shall be 7/8-inch diameter ASTM F3125 Grade A325 Type 3 in 15/16-inch diameter holes.

Contact surfaces shall be in accordance with Sec 1081 for surface preparation.

All flange and web splice plates shall be subject to notch toughness requirements.



END BENT NO. 1



END BENT NO. 2

PART LONGITUDINAL SECTION

TABLE OF DIMENSIONS - FIELD SPLICE													
LOCATION	A	B	C	D	E	F	G	I	J	L	N	P	Q
S1 (Top)	20"	¾"	4'-½"	9"	⅞"	4'-½"	2½"	7"	7	4"	0	0	0
S1 (Bottom)	24"	¾"	3'-6½"	11"	⅞"	3'-6½"	2½"	7"	6	3"	0	0	0

STEEL PLATE GIRDER DETAILS

Detailed Aug. 2024
Checked Aug. 2024

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

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER
10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 12
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
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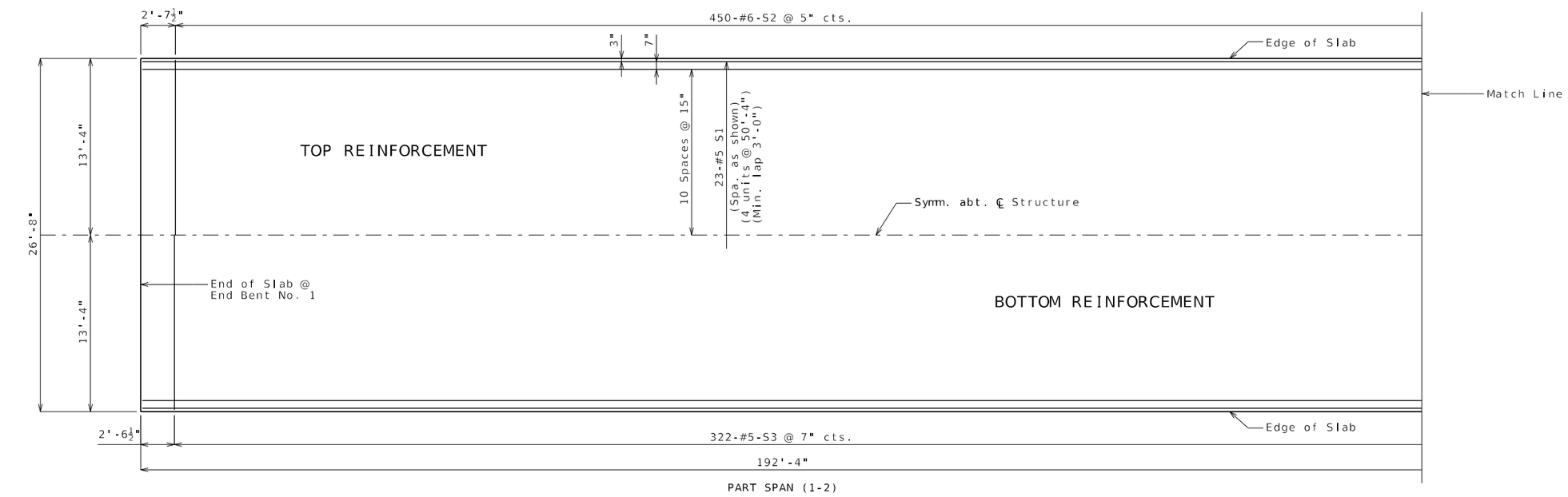
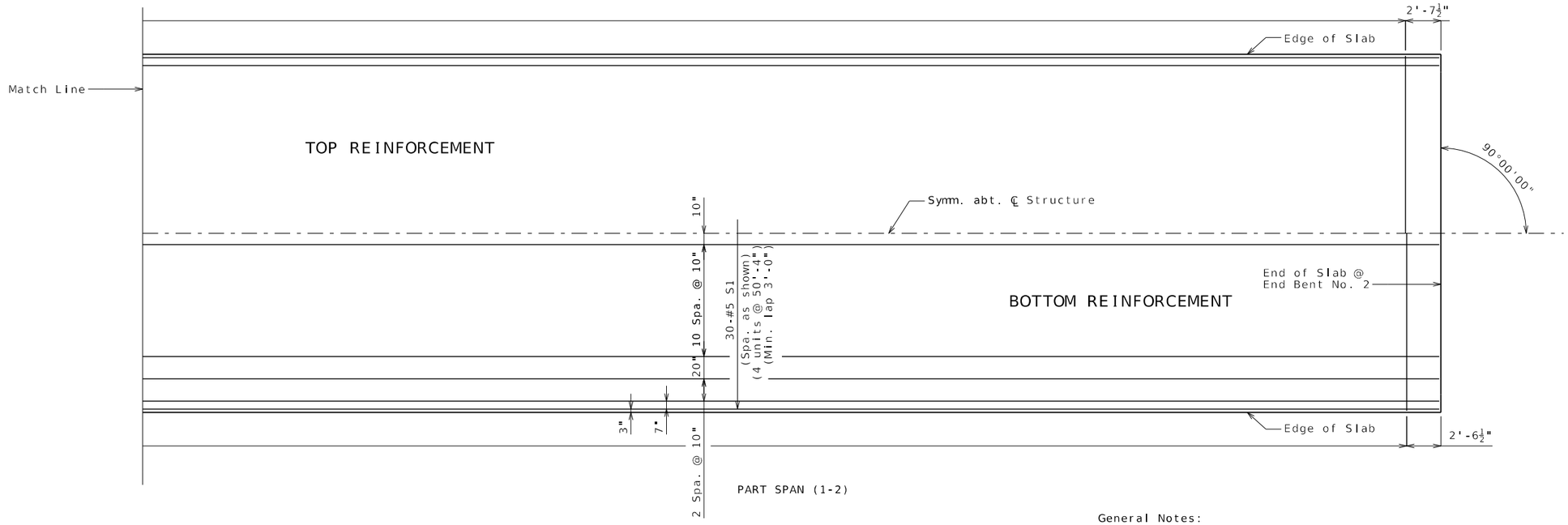


PART SPAN (1-2)



PART SPAN (1-2)

General Notes:

Longitudinal slab dimensions are measured horizontally.

For details and reinforcement of barrier not shown, see Sheets No. 15 & 16.

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 9.

For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 14.

PLAN OF SLAB SHOWING REINFORCEMENT

Detailed Aug. 2024
Checked Aug. 2024

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

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER
10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 13
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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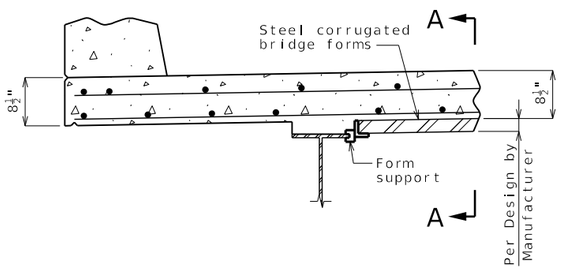
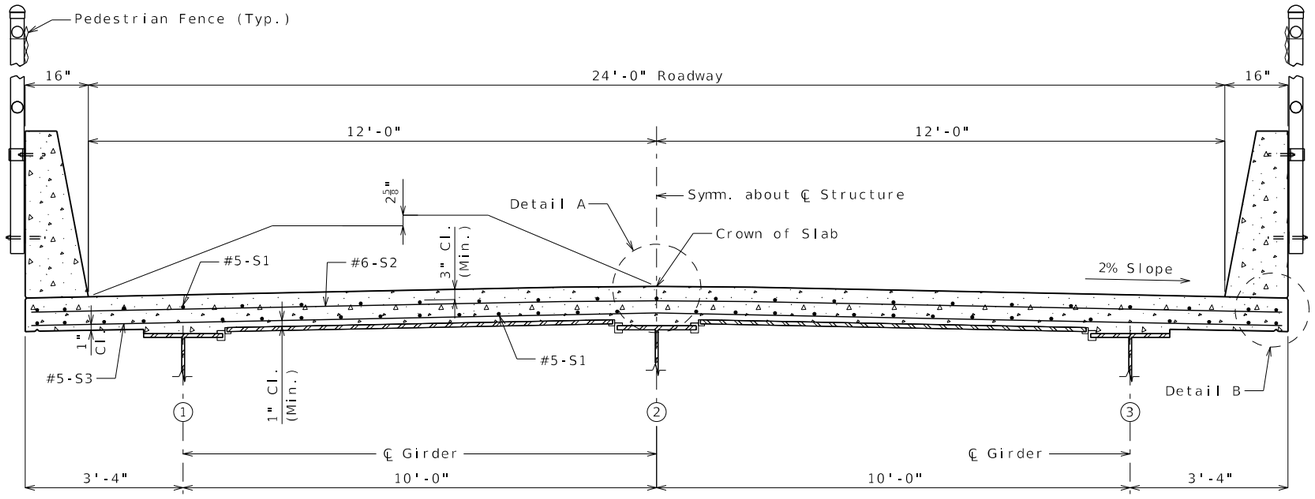
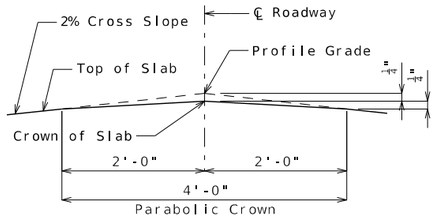
HRGreen



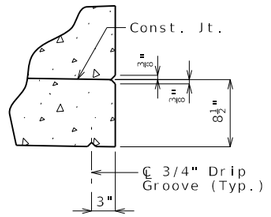
OPTIONAL STAY-IN-PLACE FORM DETAILS



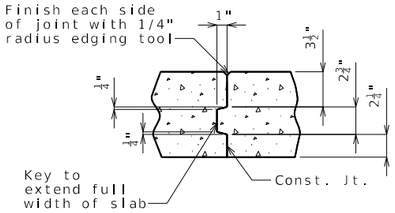
SECTION THRU SLAB



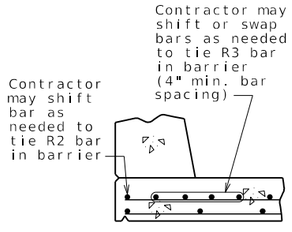
DETAIL A



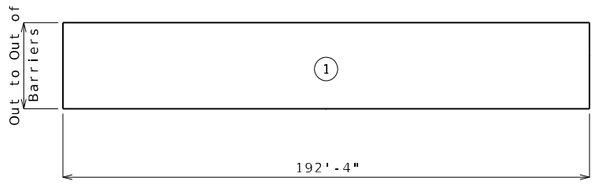
DETAIL B



SLAB CONSTRUCTION JOINT



OPTIONAL SHIFTING TOP BARS AT BARRIER



SPAN (1-2)

	Sequence of Pours	Min. Rate of Pour Cu. Yds./Hr.
	Direction	With Retarder
Basic Sequence	1 Either Direction	40
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.		

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

The concrete diaphragm at the integral end bents shall be poured monolithic with the slab.

SLAB POURING SEQUENCE

Notes:

For reinforcement of barrier not shown, see Sheet No. 15.

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 9.

For Plan of Slab Showing Reinforcement, see Sheet No. 13.

Stay-in-Place Corrugated Steel Forms:

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

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

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

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

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

SLAB DETAILS

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STATE OF MISSOURI
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10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 14
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
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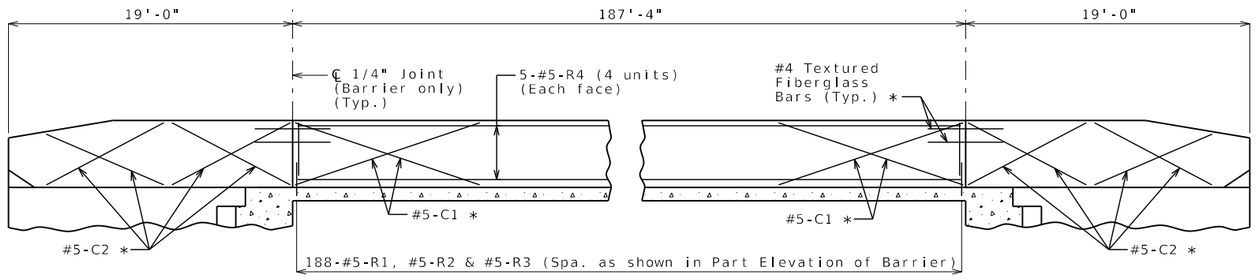
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

Detailed Aug. 2024
Checked Aug. 2024

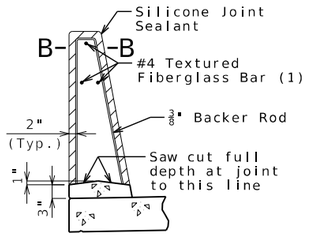
Note: This drawing is not to scale. Follow dimensions.



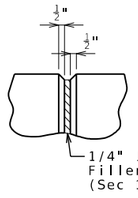
(Span 1-2)

ELEVATION OF BARRIER

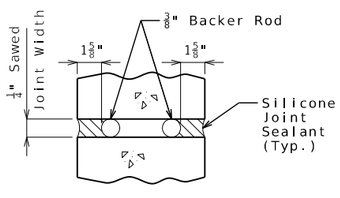
(Left barrier shown, right barrier similar)
Longitudinal dimensions are horizontal.
Chain-link fence not shown for clarity.



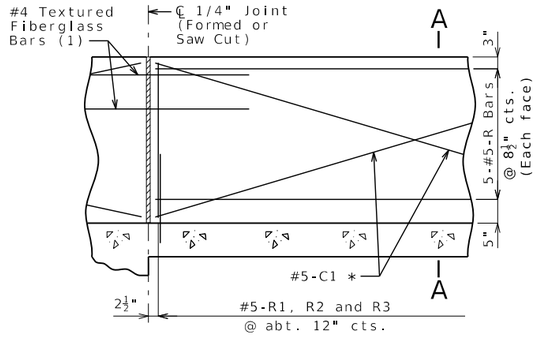
SECTION THRU SAW CUT JOINT



PART ELEVATION AT FORMED JOINT

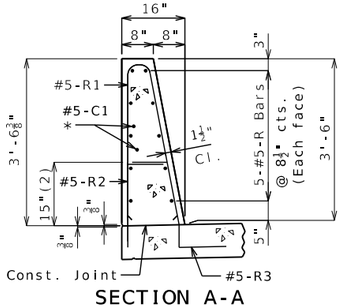


SECTION B-B



PART ELEVATION OF BARRIER

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

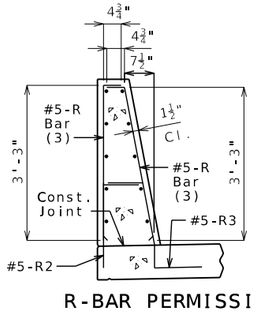


SECTION A-A

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

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

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

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

General Notes:

* Slip-formed option only.

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

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

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

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

Concrete in barrier shall be Class B-1.

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

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

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

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

For details of pedestrian chain link fence, see Sheet No. 17.

Reinforcing steel shall be shifted in the field to clear anchors for chain link fence.

TYPE D BARRIER

Detailed Aug. 2024
Checked Sept. 2024

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

STATE OF MISSOURI
KEVIN J. BREHM
PE-2010024490
PROFESSIONAL ENGINEER
10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 15
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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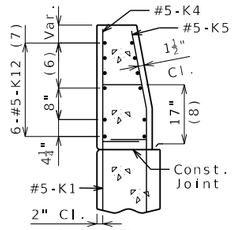
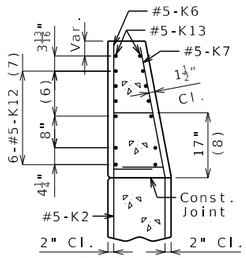
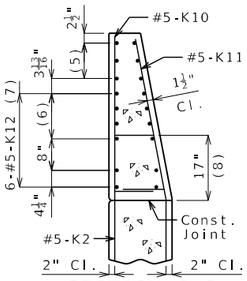


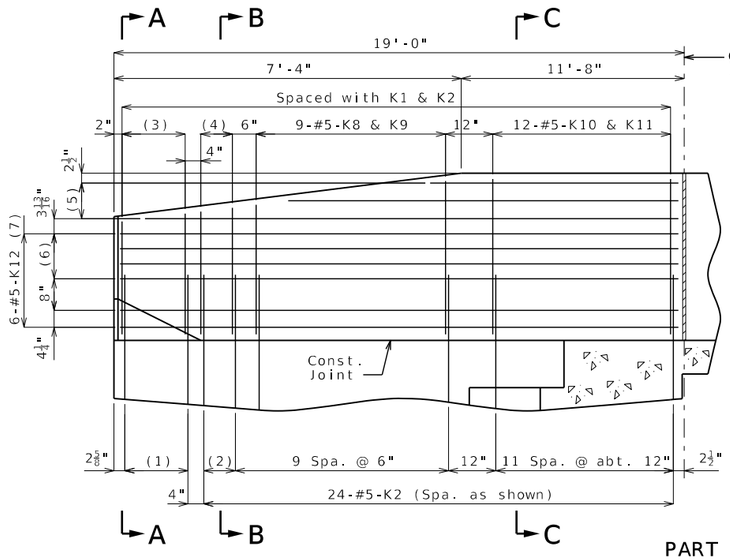
SECTION A-A

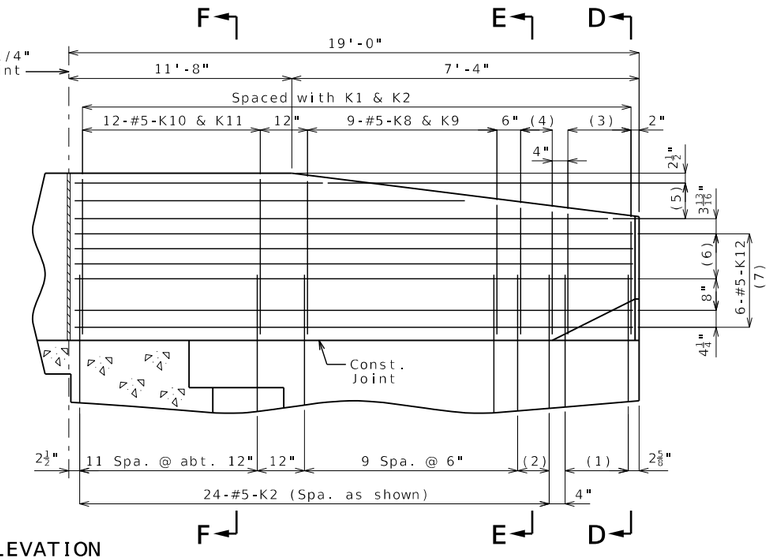


SECTION B-B

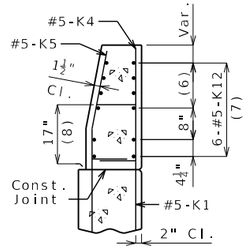


SECTION C-C

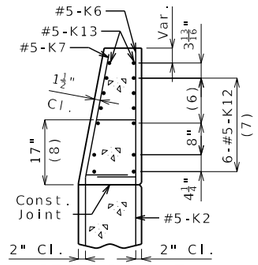




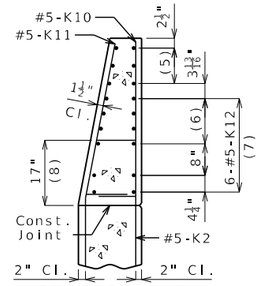
PART ELEVATION



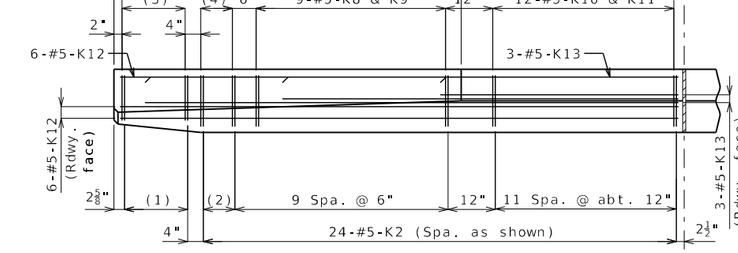
SECTION D-D

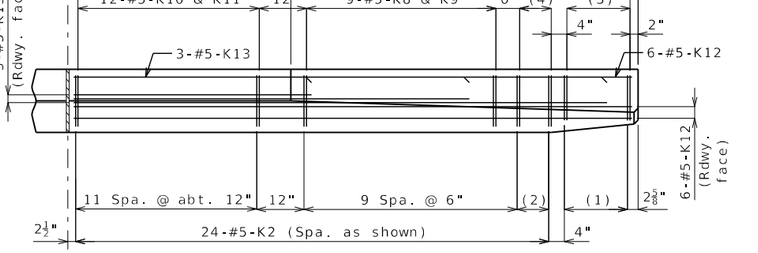


SECTION E-E

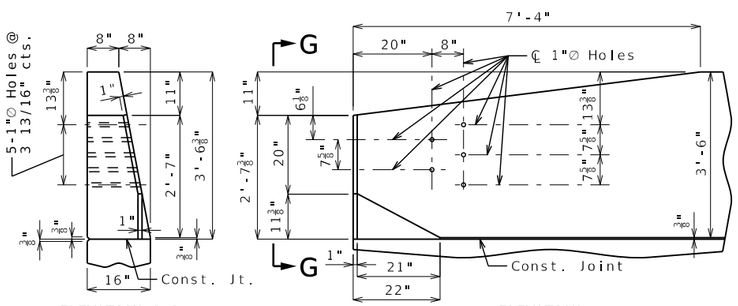


SECTION F-F

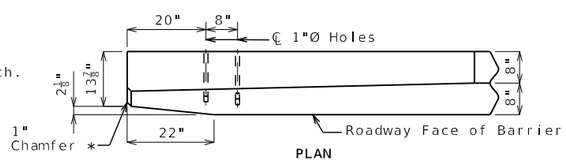




PART PLAN



ELEVATION G-G ELEVATION



PLAN

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

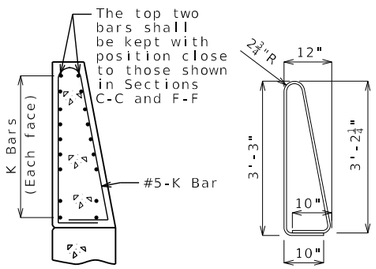
DETAILS OF GUARD RAIL ATTACHMENT

(1) 5-#5-K1 @ 4" cts.
(2) 2 spaces @ 4"
(3) 5-#5-K4 & K5
(4) 3-#5-K6 & K7
(5) 3-#5-K13 @ 4½" cts., each face
(6) 3 spaces @ 3 13/16"
(7) Spaced as shown, each face
(8) To top of bar

General Notes:

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

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



K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

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

All dimensions are out to out.

TYPE D BARRIER AT END BENTS

(Left barrier shown, right barrier similar)

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

Detailed Aug. 2024
Checked Sept. 2024

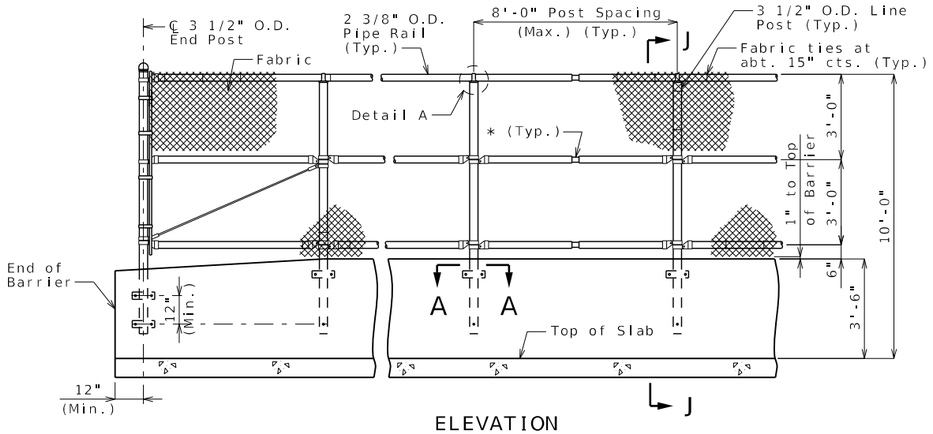
KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER
10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 16
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE

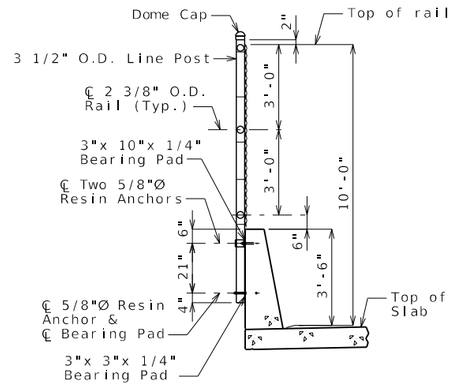
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

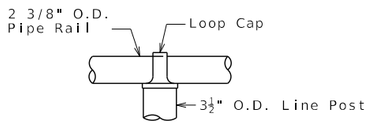


ELEVATION

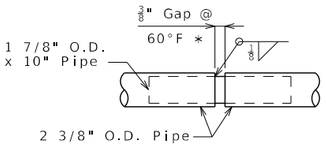
* 3/8" Gap for splice at about 30'-0" centers with at least one splice gap between pull or end posts.



SECTION J-J
(TYPE D BARRIER)

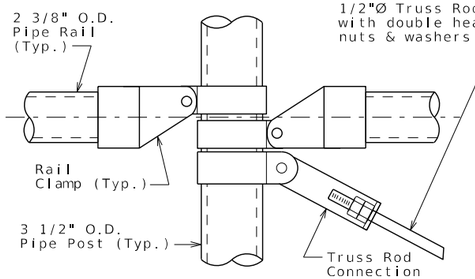


DETAIL A

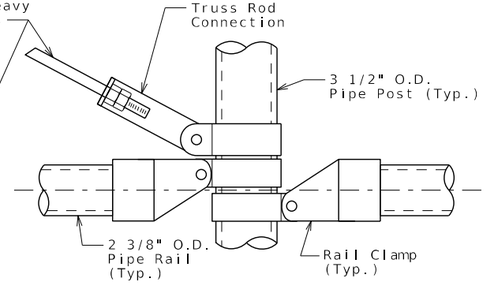


TYPICAL RAIL DETAIL
AT SPLICE GAP

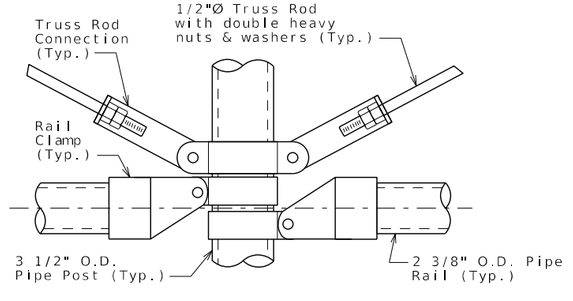
Note: At the contractor's option, manufacturer-approved expansion coupling may be used in lieu of detail shown. No additional payment will be made for this substitution.



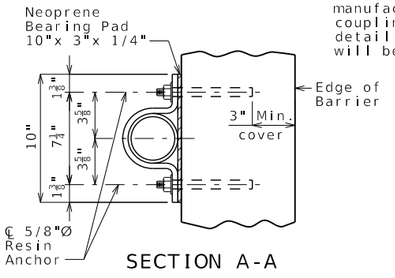
UPPER TRUSS ROD
CONNECTION DETAIL



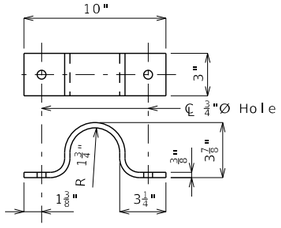
LOWER TRUSS ROD
CONNECTION DETAIL



DUAL LOWER TRUSS ROD
CONNECTION DETAIL



SECTION A-A



STRAP DETAIL

GENERAL NOTES:

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

All posts shall be vertical.

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

Dimensions of pedestrian chain link fence are measured horizontally.

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

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

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

Steel for truss rods shall be ASTM A709 Grade 36. Steel for post straps shall be ASTM A709 Grade 50. Neoprene bearing pads shall be 50 durometer and shall be in accordance with Sec 716.

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

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

Anchors shall be ASTM F1554 Grade 36.

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

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

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

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

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

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

For details of barrier, see Sheet No. 15 & 16.

PEDESTRIAN CHAIN LINK FENCE

Detailed Aug. 2024
Checked Aug. 2024

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

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PE-2010024490
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STATE OF MISSOURI
10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 17
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
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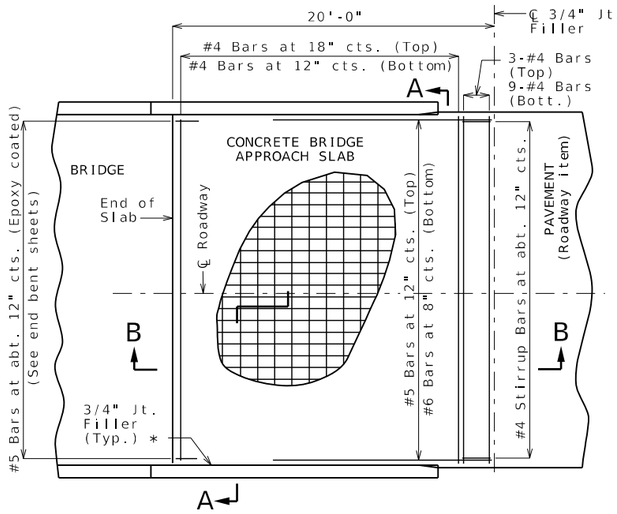
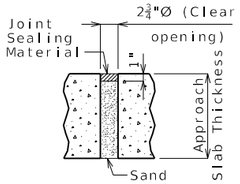
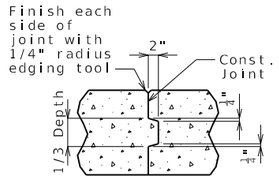
CORPORATE LICENSE #2002006608
HRGreen



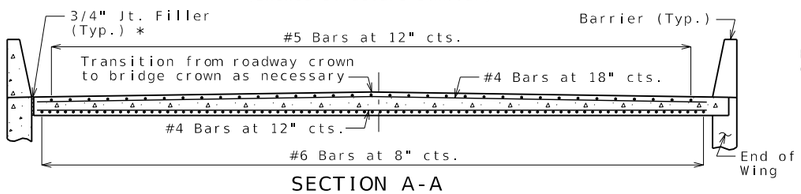
PART PLAN OF SQUARED STRUCTURE
(Skewed structure similar)



UNDERSEAL ACCESS HOLE DETAIL
(If required)

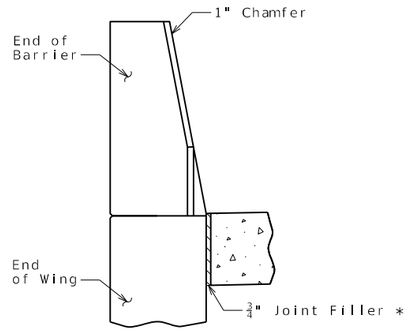


CONSTRUCTION JOINT DETAIL

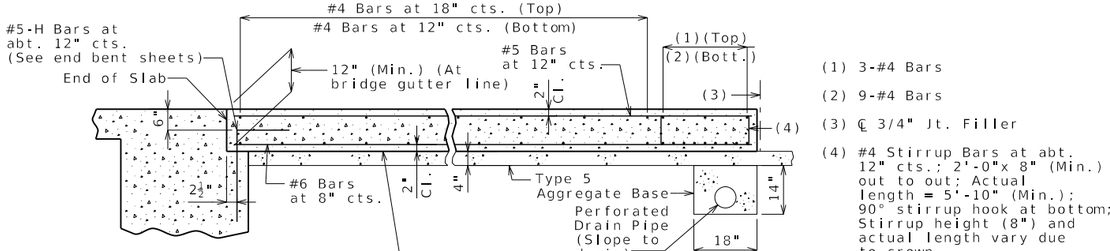


SECTION A-A

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

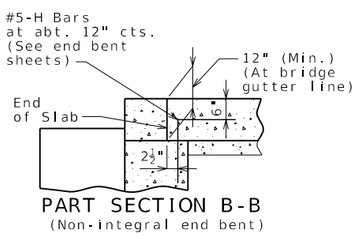


BARRIER SECTION

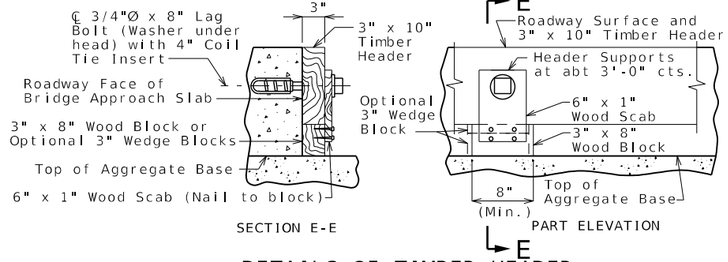


(1) 3-#4 Bars
(2) 9-#4 Bars
(3) ℄ 3/4" Jt. Filler
(4) #4 Stirrup Bars at abt. 12" cts.; 2'-0"x 8" (Min.) out to out; Actual length = 5'-10" (Min.); 90° stirrup hook at bottom; Stirrup height (8") and actual length vary due to crown.

SECTION B-B
(Integral end bent)



PART SECTION B-B
(Non-integral end bent)



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

OPTIONAL CONCRETE SLAB

Notes For Concrete Slab Only:

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

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

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

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

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 2'-2" inches for #4 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710.

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

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

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

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

General Notes:

Contractor shall have the option to construct either slab except as noted.

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

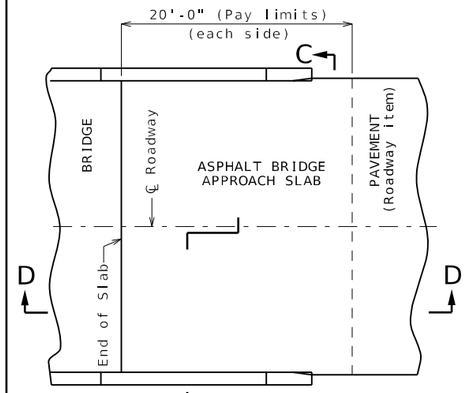
MoDOT Construction personnel will indicate the bridge approach slab used for this structure:

☐ Concrete Bridge Approach Slab
☐ Asphalt Bridge Approach Slab

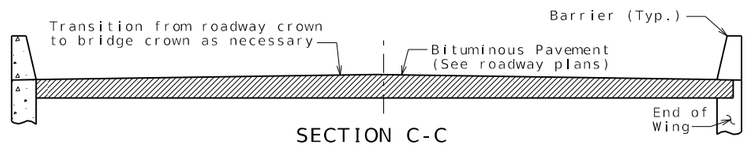
Notes For Asphalt Slab Only:

Payment for furnishing all materials, labor and excavation necessary to construct the asphalt bridge approach slab, including tack, and Type 5 aggregate base within the pay limits shown, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor) per square yard.

Application of tack is required between lifts per Sec 403.

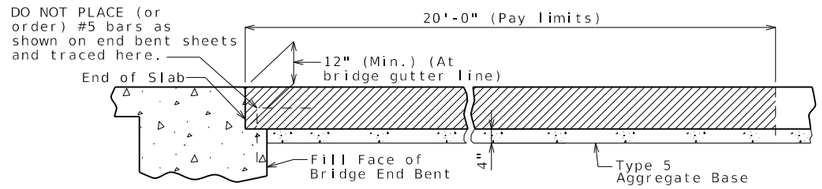


PART PLAN
(Squared structure shown, skewed structure similar)



SECTION C-C

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



SECTION D-D

OPTIONAL ASPHALT SLAB (NOT ALLOWED WITH CONCRETE PAVEMENT)

KEVIN J. BREHM PE-2010024490 STATE OF MISSOURI PROFESSIONAL ENGINEER
10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 18
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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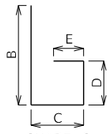
CORPORATE LICENSE #2002006608

HRGreen

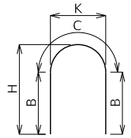
BRIDGE APPROACH SLAB (MINOR)

Detailed Aug. 2024
Checked Aug. 2024

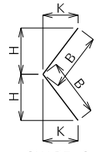
Note: This drawing is not to scale. Follow dimensions.



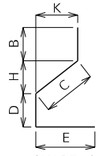
SHAPE 6
or 6S



SHAPE 7



SHAPE 8
or 8S



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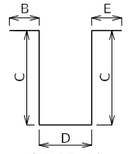

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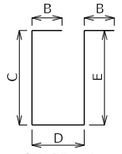

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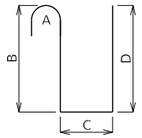
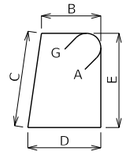
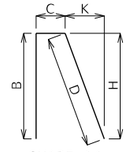
or 11S



SHAPE 12



SHAPE 13S



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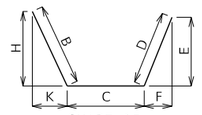
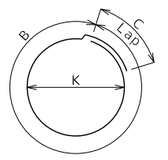
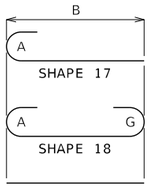


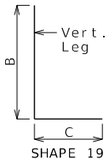
SHAPE 15
or 15S



SHAPE 16



SHAPE 17
SHAPE 18
SHAPE 20



SHAPE 19
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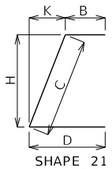

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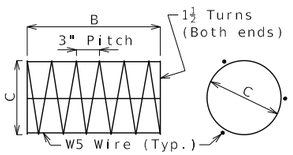

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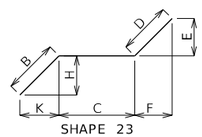

SHAPE 23
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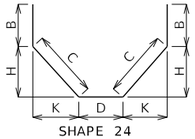

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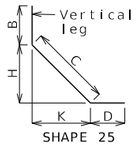

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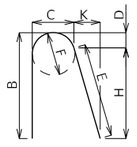
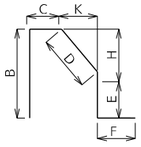
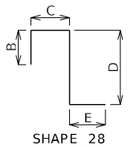


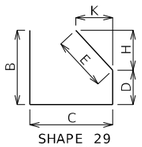
SHAPE 26



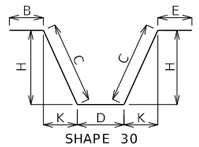
SHAPE 27S



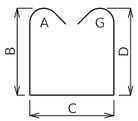
SHAPE 28
or 28S



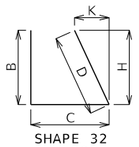
SHAPE 29
or 29S



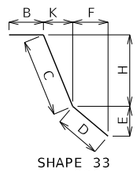
SHAPE 30
or 30S



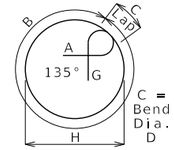
SHAPE 31S



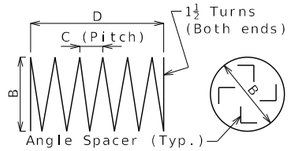
SHAPE 32
or 32S



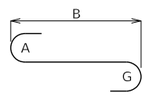
SHAPE 33
or 33S



SHAPE 34S



SHAPE 35 (1)

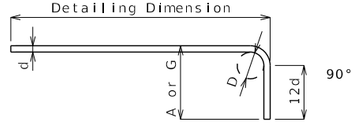


SHAPE 36

Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes

Size	Case	D	A or G		J
			90°	180°	180°
#4	1	3"	8"	6"	4"
#5	1	3¾"	10"	7"	5"
#6	1	4½"	12"	8¼"	6"
#7	2	5¼"	14"	9⅜"	7"
	3	7"	15"	11½"	8¾"
#8	2	6"	16"	11"	8"
	3	8"	17"	13¼"	10"
#9	1	9½"	19½"	15½"	11¾"
#10	1	10¾"	22"	17½"	13⅛"
#11	1	12"	24½"	19½"	14⅞"
#14	1	18¼"	31¼"	27½"	21⅝"
#18	1	24"	41½"	36¾"	28½"

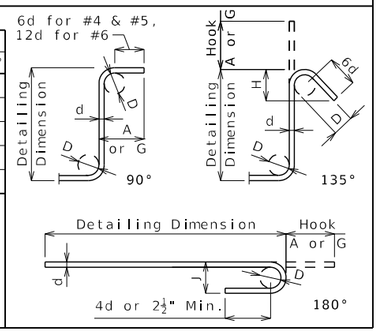


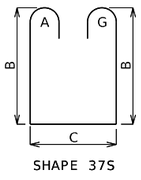
Stirrup Pin Bend Shapes (S)

Size	Case	D	A or G			H	J
			90°	135°	180°	135°	180°
#4	2	2"	4½"	4½"	5"	2⅝"	3"
	3	3"	5"	5¼"	6"	3"	4"
#5	2	2½"	5¾"	5¾"	5¾"	3⅝"	3¾"
	3	3¾"	6¼"	6½"	7"	3⅝"	5"
#6	1	4½"	12"	7¾"	8¼"	4⅝"	6"

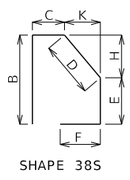
Applicable for all grades of steel.

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





SHAPE 37S



SHAPE 38S

BENDING DIAGRAMS

All dimensions are out to out.

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

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

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

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

Reinforcing Steel Totals (Pounds)

	Size	Superstructure: Slab Epoxy	Superstructure: Barrier	Superstructure: Slip Form	Entire Bridge Epoxy
By Size	4	223	0	0	223
	5	21,973	12,142	234	34,349
	6	28,785	0	0	28,785
	8	3,399	0	0	3,399
By Type		54,380	12,142	234	66,756

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

KEVIN J. BREHM PE-2010024490 PROFESSIONAL ENGINEER STATE OF MISSOURI
10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 19
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B	C	D	E	F	H	K	Nom. Length	Actual Length	Weight lb
		Superstructure													
		End Bents													
		No. 1 & 2													
60	6 F10	WING	E	9S		20.00	5 1.75	20.00			3 7.50	3 7.50	8 6	8 5	759
32	6 F11	DIAPHRAGM	E	6S		4 8.50	2 9.00						7 6	7 4	352
56	6 H10	BM & DIAPH	E	20		26 5.00							26 5	26 5	2,222
24	8 H11	BM & DIAPH	E	20		26 5.00							26 5	26 5	1,693
32	8 H12	WING	E	20		18 6.00							18 6	18 6	1,581
128	6 H13	WING	E	20		17 1.00							17 1	17 1	3,284
8	8 H14	BEAM	E	18		4 0.00							5 10	5 10	125
80	4 P10	CIP PILE	E	34S		3 1.75	3.00				12.00		4 2	4 2	223
32	5 U10	BEAM	E	10S			6 1.00	2 9.00					14 11	14 9	492
20	5 U11	BEAM	E	13S		2 9.00	2 8.00	2 9.00	2 8.00				11 10	11 6	240
10	5 U12	BEAM	E	10S			2 8.00	2 9.00					8 1	7 11	83
44	5 U13	DIAPHRAGM	E	10S			8 2.00	2 3.00					18 7	18 5	845
44	6 U14	DIAPHRAGM	E	19S		7 0.00	2 9.00						9 9	9 7	633
66	6 U15	DIAPHRAGM	E	19S		2 10.50	4 2.50						7 1	6 11	686
48	5 U16	DIAPHRAGM	E	19S		2 0.00	1 3.00						3 3	3 2	159
24	5 V10	BEAM	E	20		6 1.00							6 1	6 1	152
18	6 V11	DIAPHRAGM	E	20		7 0.00							7 0	7 0	189
68	6 V12	WING	E	20		11 3.00							11 3	11 3	1,149
68	6 V13	WING	E	20		11 0.00							11 0	11 0	1,123
60	6 V14	CIP PILE	E	17		5 3.00							5 11	5 11	533
		Slab													
212	5 S1	SLAB	E	20		50 4.00							50 4	50 4	11,130
450	6 S2	SLAB	E	20		26 5.00							26 5	26 5	17,855
322	5 S3	SLAB	E	20		26 5.00							26 5	26 5	8,872
		Barrier													
		Type D													
20	5 K1	BARRIER	E	27S		3 5.00	9.25	5.25	2 11.75		5.25	1.00	7 7	7 5	155
96	5 K2	BARRIER	E	27S		3 5.00	9.25	14.50	2 2.75		14.25	2.75	7 8	7 6	751
20	5 K4	BARRIER	E	19S	4	2 4.25	10.00						3 2	3 1	
		INCREMENT =				2 6.25	10.00						3 4	3 3	66
		0.500 INCH													
20	5 K5	BARRIER	E	38S	4			18.50	9.50	8.25	18.00	4.00	3 0	2 10	
		INCREMENT =						20.50	9.50	8.25	20.00	4.50	3 2	3 0	61
		0.125 INCH													
12	5 K6	BARRIER	E	19S		2 6.75	10.00						3 5	3 4	42
12	5 K7	BARRIER	E	21S			2 6.50	10.00			2 6.00	6.25	3 5	3 3	41
36	5 K8	BARRIER	E	19S	4	2 8.50	10.00						3 7	3 6	
		INCREMENT =				3 2.50	10.00						4 1	4 0	141
		0.750 INCH													
36	5 K9	BARRIER	E	21S	4		2 8.50	10.00			2 7.75	6.75	3 7	3 5	
		INCREMENT =					3 2.50	10.00			3 1.75	7.75	4 1	3 11	138
		0.750 INCH													
48	5 K10	BARRIER	E	19S		3 3.00	10.00						4 1	4 0	200
48	5 K11	BARRIER	E	21S			3 3.00	10.00			3 2.25	7.75	4 1	3 11	196
48	5 K12	BARRIER	E	20		18 9.00							18 9	18 9	939
24	5 K13	BARRIER	E	20	8	12 0.00							12 0	12 0	
		INCREMENT =				18 0.00							18 0	18 0	375
		36.000 INCH													
376	5 R1	BARRIER	E	26		3 3.00	5.50	2.25	3 1.25	5.50	3 0.75	6.75	6 11	6 10	2,680
376	5 R2	BARRIER	E	19S		20.50	9.50						2 6	2 5	948
376	5 R3	BARRIER	E	27S			9.50	15.25	5.00	12.00	15.00	3.00	3 6	3 4	1,307
80	5 R4	BARRIER	E	20		49 2.00							49 2	49 2	4,102
		Slip Form													
8	5 C1	SLIP FORM	E	20		12 0.00							12 0	12 0	100
16	5 C2	SLIP FORM	E	20		8 0.00							8 0	8 0	134

Bill of Reinforcing Steel

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

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

For bending diagrams and steel reinforcing totals, see Sheet No. 19.

All bars shall be ASTM A615 Grade 60.

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

SH = Required shape, see bending diagrams.

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

Detailed Aug. 2024
Checked Aug. 2024

BILL OF REINFORCING STEEL

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

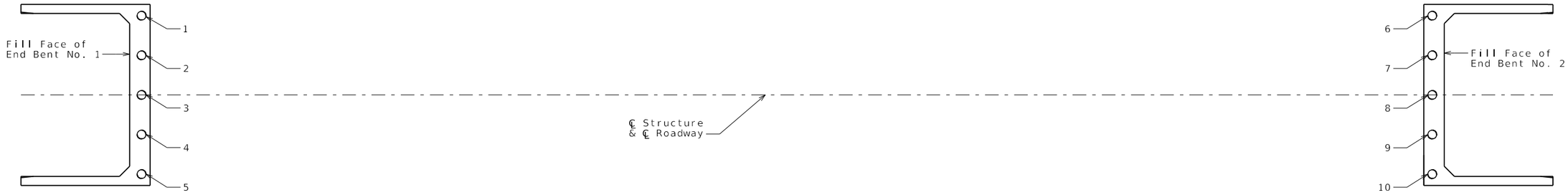
STATE OF MISSOURI
KEVIN J. BREHM
PE-2010024490
PROFESSIONAL ENGINEER
10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 20
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen



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

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
					End Bent No.1
1					
2					
3					
4					
5					
					End Bent No.2
6					
7					
8					
9					
10					

Note:
Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal
D. PDA test pile
E. Minimum tip elevation controlled
(Use when actual blow count is less than PDA blow count due to minimum tip elevation requirement. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating actual value is higher than PDA value.)

This sheet to be completed by MoDOT construction personnel.

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER
10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 21
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

Missouri Department of Transportation
Construction and Materials

BORING NO. B-1
Page 1 of 2

Job No.: NE 0139 **County:** Macon **Route:** Route VV
Design: A9535 **Skew:** - **Location:** Over BNSF
Bent: 2 **Logged By:** RFW (UES) **Operator:** NG (UES)
Station: - **Northing:** 1465490.374 **Date of Work:** 07/09/24-07/09/24
Offset: - **Easting:** 1553693.48 **Depth to Water:**
Elevation: 938.7 **Requested Northing:** - **Depth Hole Open:**
Requested Station: - **Requested Easting:** **Time Change:**
Requested Offset: - **Equipment:** CME 550X ,Shelby Tube, Split-Spoon Sampler
Requested Elevation: **Location Note:** West of BNSF RR
Drill No.: S/N 343063 **Hammer Efficiency:** 91% **Drilling Method:** Hollow Stem Auger and Mud Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0		0.0-67.0' Very stiff to hard, brown, LEAN CLAY, trace to little sand, little gravel - CL (Glacial Till)							
					83	3-4-6 (15)		PP = 2.25 tsf	MC = 15.4%
					96		Qu Test Results UCS = 4.88 ksf MC = 16.2% γ_{moist} = 135 pcf	PP = 2.25 tsf	LL = 42 PL = 16
10			930		100	3-4-5 (14)		PP = 2.25 tsf	MC = 16.4%
					100	4-5-8 (20)		PP = 3.25 tsf	MC = 15.7%
					100			PP = 2.25 tsf	LL = 39 PL = 16 MC = 15.4%
20			920		100	4-5-9 (21)		PP = 2.50 tsf	MC = 12.1%
					100	3-5-8 (20)		PP = 2.50 tsf	MC = 15.3%
					100		Qu Test Results UCS = 8.42 ksf MC = 15.4% γ_{moist} = 135 pcf	PP = 2.50 tsf	LL = 40 PL = 17
30			910		100	7-8-10 (27)		PP = 3.75 tsf	MC = 16.7%
					100	4-4-6 (15)		PP = 2.00 tsf	MC = 18.1%
					100		Qu Test Results UCS = 6.90 ksf MC = 18% γ_{moist} = 131 pcf	PP = 2.50 tsf	LL = 44 PL = 19
40			900		100	4-5-6 (17)		PP = 1.75 tsf	MC = 19.5%
					100	5-7-9 (24)		PP = 2.75 tsf	MC = 22.8%
50			890		100	4-5-6 (17)		PP = 2.50 tsf	MC = 21.7%

N_{60} = (Em/60)Nm N_{60} - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value; (1) = Assumed, (2) = Actual

Coordinate System: U.S. State Plane 1983 **Coordinate Zone:** Missouri Central **Coordinate Proj. Factor:** -
Coordinate Datum: NAD 83 (CONUS) **Coordinate Units:** U.S. Survey Feet

* Persons using this information are cautioned that the materials shown are determined by the equipment noted and accuracy of the "log of materials" is limited thereby and by judgement of the operator. THIS INFORMATION IS FOR DESIGN PURPOSES ONLY.

(Continued Next Page)

Missouri Department of Transportation
Construction and Materials

BORING NO. B-1
Page 2 of 2

Job No.: NE 0139 **County:** Macon **Route:** Route VV
Design: A9535 **Skew:** - **Location:** Over BNSF
Bent: 2 **Logged By:** RFW (UES) **Operator:** NG (UES)
Station: - **Northing:** 1465490.374 **Date of Work:** 07/09/24-07/09/24
Offset: - **Easting:** 1553693.48 **Depth to Water:**
Elevation: 938.7 **Requested Northing:** - **Depth Hole Open:**
Requested Station: - **Requested Easting:** **Time Change:**
Requested Offset: - **Equipment:** CME 550X ,Shelby Tube, Split-Spoon Sampler
Requested Elevation: **Location Note:** West of BNSF RR
Drill No.: S/N 343063 **Hammer Efficiency:** 91% **Drilling Method:** Hollow Stem Auger and Mud Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
		0.0-67.0' Very stiff to hard, brown, LEAN CLAY, trace to little sand, little gravel - CL (Glacial Till) *(continued)*			100	4-6-8 (21)		PP = 3.00 tsf	MC = 22.3%
60			880		100	5-7-10 (26)		PP = 3.25 tsf	MC = 21.5%
					100	5-7-9 (24)		PP = 2.75 tsf	MC = 23.2%
70		67.0-92.0' Very stiff to hard, brown and gray, LEAN CLAY, little sand, little gravel - CL (Glacial Till)	870		100	5-7-8 (23)		PP = 2.75 tsf	MC = 21.8%
					100	5-7-10 (26)		PP = 3.00 tsf	MC = 21.3%
80			860		100	7-9-12 (32)		PP = 3.25 tsf	MC = 21.7%
					100	7-8-15 (35)		PP = 2.75 tsf	MC = 22.1%
90			850		100	6-7-9 (24)		PP = 2.75 tsf	MC = 22.2%
		92.0-97.0' Dense, gray, POORLY-GRADED SAND, some clay, trace gravel - SP (Glacial Till)			100	10-13-17 (46)			MC = 18.4%
100		97.0-100.0' Hard, gray , LEAN CLAY, little sand, little gravel - CL (Glacial Till)	840		78	7-10-11 (32)		PP = 3.00 tsf	MC = 22.1%
		Bottom of borehole at 100.0 feet.							

N_{60} = (Em/60)Nm N_{60} - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value; (1) = Assumed, (2) = Actual

Coordinate System: U.S. State Plane 1983 **Coordinate Zone:** Missouri Central **Coordinate Proj. Factor:** -
Coordinate Datum: NAD 83 (CONUS) **Coordinate Units:** U.S. Survey Feet

* Persons using this information are cautioned that the materials shown are determined by the equipment noted and accuracy of the "log of materials" is limited thereby and by judgement of the operator. THIS INFORMATION IS FOR DESIGN PURPOSES ONLY.

LETTER BOREHOLE -MODOT 20151118.GDT - 8/22/24 13:34 - \\192.168.19.210\STLIDATA\PROJECTS\U045\U045060.01 ROUTE VV OVER BNSF\DATA\U045060.01 ROUTE VV OVER BNSF.GPJ

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER
10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 22
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE | ELEVATION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

BORING DATA

Note: For locations of borings, see Sheet No. 1.

Detailed July 2025
Checked July 2025

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

Missouri Department of Transportation
Construction and Materials

BORING NO. B-2
Page 1 of 2

Job No.: NE 0139 **County:** Macon **Route:** Route VV
Design: A9535 **Skew:** - **Location:** Over BNSF
Bent: 1 **Logged By:** RFW (UES) **Operator:** NG (UES)
Station: - **Northing:** 1465342.573 **Date of Work:** 07/08/24-07/09/24
Offset: - **Easting:** 1553984.93 **Depth to Water:**
Elevation: 946.4 **Requested Northing:** - **Depth Hole Open:**
Requested Station: - **Requested Easting:** **Time Change:**
Requested Offset: - **Equipment:** CME 550X ,Shelby Tube, Split-Spoon Sampler
Requested Elevation: **Location Note:** East of BNSF RR
Drill No.: S/N 343063 **Hammer Efficiency:** 91% **Drilling Method:** Hollow Stem Auger and Mud Rotary

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0	0.0-5.5' Stiff, brown, LEAN CLAY - CL							
				100	2-3-4 (11)		PP = 2.00 tsf	MC = 26.0%
	5.5-77.0' Very stiff to hard, brown, LEAN CLAY, trace to little sand, little gravel - CL (Glacial Till)	940						
				92		Qu Test Results UCS = 5.98 ksf MC = 14.5% γ_{moist} = 136 pcf	PP = 3.50 tsf	LL = 41 PL = 17
10				83	4-6-9 (23)		PP = 3.50 tsf	MC = 13.8%
				100	4-6-9 (23)		PP = 3.50 tsf	MC = 14.2%
		930		100		Qu Test Results UCS = 7.46 ksf MC = 15% γ_{moist} = 135 pcf	PP = 4.00 tsf	LL = 36 PL = 16
20				100	4-6-9 (23)		PP = 4.00 tsf	MC = 14.8%
		920		83	5-5-7 (18)		PP = 2.75 tsf	MC = 15.9%
30				83	4-6-8 (21)		PP = 3.00 tsf	MC = 15.6%
		910		100	4-5-7 (18)		PP = 3.00 tsf	MC = 15.6%
40				100	4-5-6 (17)		PP = 2.25 tsf	MC = 17.0%
		900		100	5-7-10 (26)		PP = 4.00 tsf	MC = 16.3%
50				100	5-6-9 (23)		PP = 4.00 tsf	MC = 17.8%

N_{60} = (Em/60)Nm N_{60} - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value; (1) = Assumed, (2) = Actual

Coordinate System: U.S. State Plane 1983 **Coordinate Zone:** Missouri Central **Coordinate Proj. Factor:** -
Coordinate Datum: NAD 83 (CONUS) **Coordinate Units:** U.S. Survey Feet

* Persons using this information are cautioned that the materials shown are determined by the equipment noted and accuracy of the "log of materials" is limited thereby and by judgement of the operator. THIS INFORMATION IS FOR DESIGN PURPOSES ONLY.

(Continued Next Page)

Missouri Department of Transportation
Construction and Materials

BORING NO. B-2
Page 2 of 2

Job No.: NE 0139 **County:** Macon **Route:** Route VV
Design: A9535 **Skew:** - **Location:** Over BNSF
Bent: 1 **Logged By:** RFW (UES) **Operator:** NG (UES)
Station: - **Northing:** 1465342.573 **Date of Work:** 07/08/24-07/09/24
Offset: - **Easting:** 1553984.93 **Depth to Water:**
Elevation: 946.4 **Requested Northing:** - **Depth Hole Open:**
Requested Station: - **Requested Easting:** **Time Change:**
Requested Offset: - **Equipment:** CME 550X ,Shelby Tube, Split-Spoon Sampler
Requested Elevation: **Location Note:** East of BNSF RR
Drill No.: S/N 343063 **Hammer Efficiency:** 91% **Drilling Method:** Hollow Stem Auger and Mud Rotary

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
	5.5-77.0' Very stiff to hard, brown, LEAN CLAY, trace to little sand, little gravel - CL (Glacial Till) *(continued)*							
		890		100	6-9-10 (29)		PP = 3.50 tsf	MC = 18.0%
60				100	6-7-12 (29)		PP = 3.50 tsf	MC = 18.9%
		880		100	4-5-6 (17)		PP = 2.50 tsf	MC = 22.4%
70				100	4-5-7 (18)		PP = 2.50 tsf	MC = 22.0%
		870		100	4-5-8 (20)		PP = 2.50 tsf	MC = 22.7%
	77.0-87.0' Very stiff, brown and gray, LEAN CLAY, little sand, little gravel - CL (Glacial Till)							
80				100	5-7-9 (24)		PP = 3.00 tsf	MC = 21.9%
		860		100	4-7-9 (24)		PP = 3.25 tsf	MC = 20.9%
	87.0-92.0' Very dense, gray and brown, POORLY-GRADED SAND and clay, trace gravel - SP (Glacial Till)							
90				83	6-13-30 (65)		PP = 3.50 tsf	MC = 39.9%
	92.0-100.0' Very stiff, gray, LEAN CLAY, some to little sand, little gravel - CL (Glacial Till)	850		100	6-7-10 (26)		PP = 3.50 tsf	MC = 22.3%
100				100	5-7-9 (24)		PP = 3.50 tsf	MC = 20.5%
	Bottom of borehole at 100.0 feet.							

N_{60} = (Em/60)Nm N_{60} - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value; (1) = Assumed, (2) = Actual

Coordinate System: U.S. State Plane 1983 **Coordinate Zone:** Missouri Central **Coordinate Proj. Factor:** -
Coordinate Datum: NAD 83 (CONUS) **Coordinate Units:** U.S. Survey Feet

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LETTER BOREHOLE - MODOT_20151118.GDT - 8/22/24 13:34 - \\192.168.19.210\STL\DATA\PROJECTS\U045\U045060.01-ROUTE VV OVER BNSF\DATA\U045060.01 ROUTE VV OVER BNSF.GPJ

KEVIN J. BREHM
PE-2010024490
NOTARIAL ENTERPRISE
STATE OF MISSOURI
10/29/2025

DATE PREPARED 10/27/2025
ROUTE VV | STATE MO
DISTRICT BR | SHEET NO. 23
COUNTY MACON
JOB NO. JNE0139
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9535

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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BORING DATA

Note: For locations of borings, see Sheet No. 1.

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