DESIGN DESIGNATION

A.A.D.T. - 2027 = 404
A.A.D.T. - 2047 = 492
D.H.V. = 9.57%
T = 14.94%
V = 55 M.P.H.
D = 50.0% NB / 50.0% SB
FUNCTIONAL CLASSIFICATION- RURAL MAJOR COLLECTOR

NORMAL RIGHT OF WAY

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	D	
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

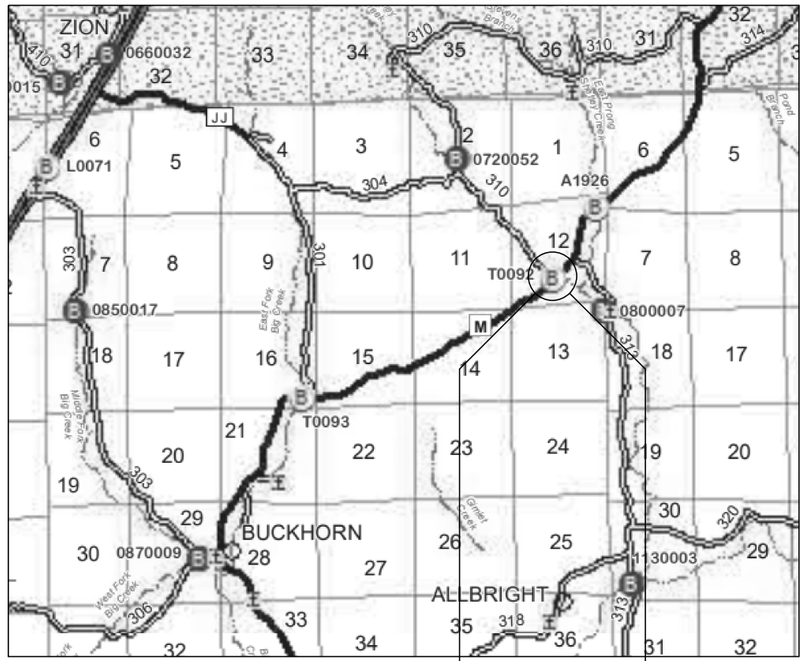
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
STATE ROUTE M
MADISON COUNTY



KEY MAP
SHOWN LOCATION OF COUNTY

NOT TO SCALE

S12 T31N R7E



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

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
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QUANTITIES (QU) (3 SHEETS)	3
PLAN PROFILE (PP)	4-5
RIGHT OF WAY (RW)	6
ALIGNMENT SHEET	7
REFERENCE POINTS (RP)	8
COORDINATE POINTS (CP)	9
SPECIAL SHEETS (SS)	10
TRAFFIC CONTROL (TC)	11-12
EROSION CONTROL (EC)	13
BRIDGE DRAWINGS (B)	
A9728	1-32
CROSS SECTIONS (XS)	1-6

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA. 259 + 70.00	
END OF PROJECT	STA. 268 + 90.00	
APPARENT LENGTH	920.00	FEET
EQUATIONS AND EXCEPTIONS:		
TOTAL CORRECTIONS	0.00	FEET
NET LENGTH OF PROJECT	920.00	FEET
STATE LENGTH	0.174	MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES	1.40	ACRES

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/24/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	1

COUNTY
MADISON

JOB NO.
JSE0036

CONTRACT ID.
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PROJECT NO.
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BRIDGE NO.
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DESCRIPTION	DATE
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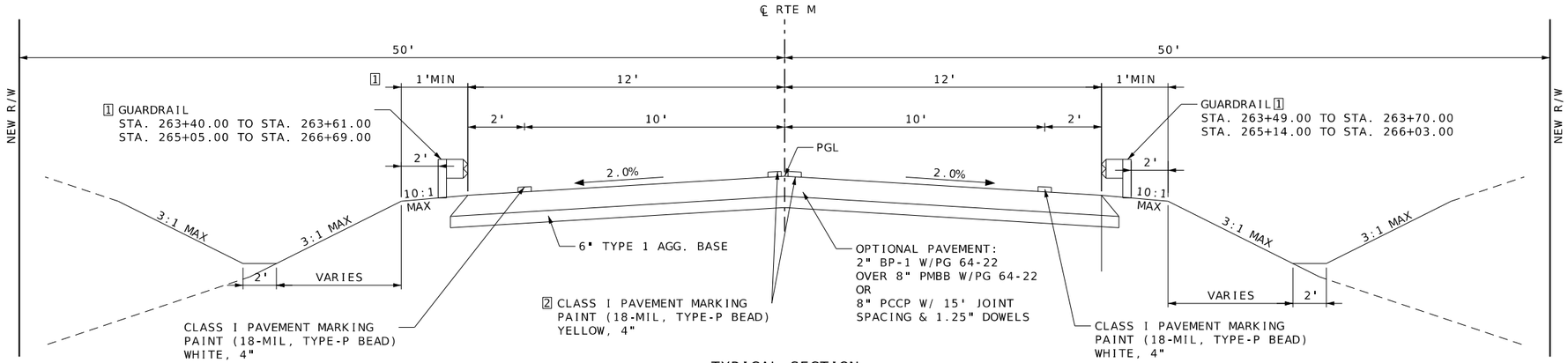
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

OATES ASSOCIATES
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MISSOURI DESIGN FIRM PE-001166

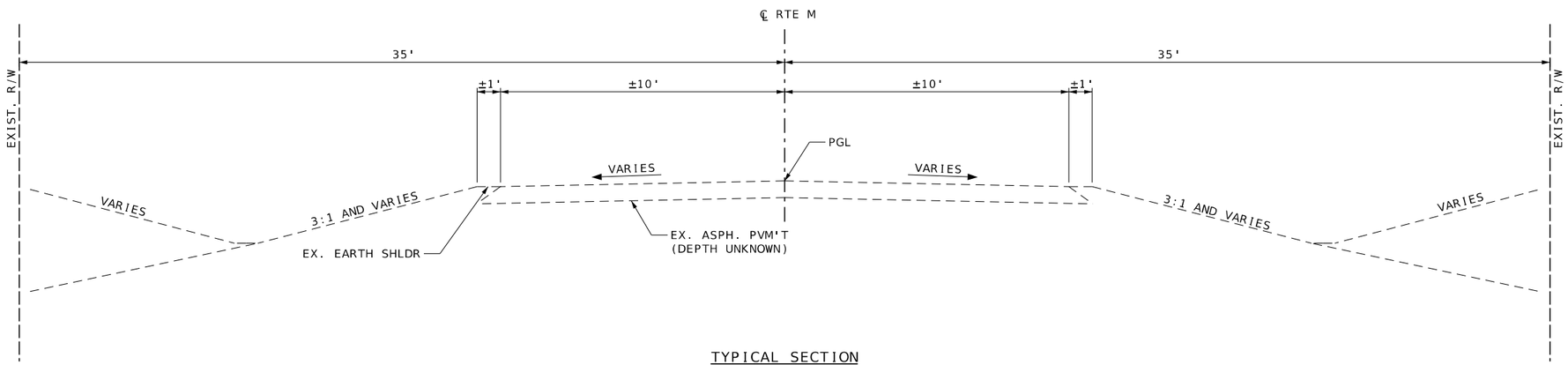
[1] 1.0' EARTH SHOULDER MINIMUM. GUARDRAIL END TERMINAL TRANSITIONS IN ACCORDANCE WITH MODOT STANDARD PLAN 606.81B

[2] EXTENDS BEYOND PROJECT LIMITS TO STA 261+11. MATCH EXISTING PAVEMENT MARKINGS



TYPICAL SECTION

PROPOSED ROUTE M
STA. 259+70.00 TO STA. 268+90.00
(BRIDGE OMISSION STA. 263+45.17 TO STA. 265+21.83)



TYPICAL SECTION

EXISTING ROUTE M
STA. 259+70.00 TO STA. 268+90.00
(BRIDGE OMISSION STA. 263±70.00 TO STA. 264±97.00)

TYPICAL SECTION SHEET
SHEET 1 OF 2

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/24/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	2

COUNTY
MADISON

JOB NO.
JSE0036

CONTRACT ID.
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PROJECT NO.
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BRIDGE NO.
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DESCRIPTION	DATE
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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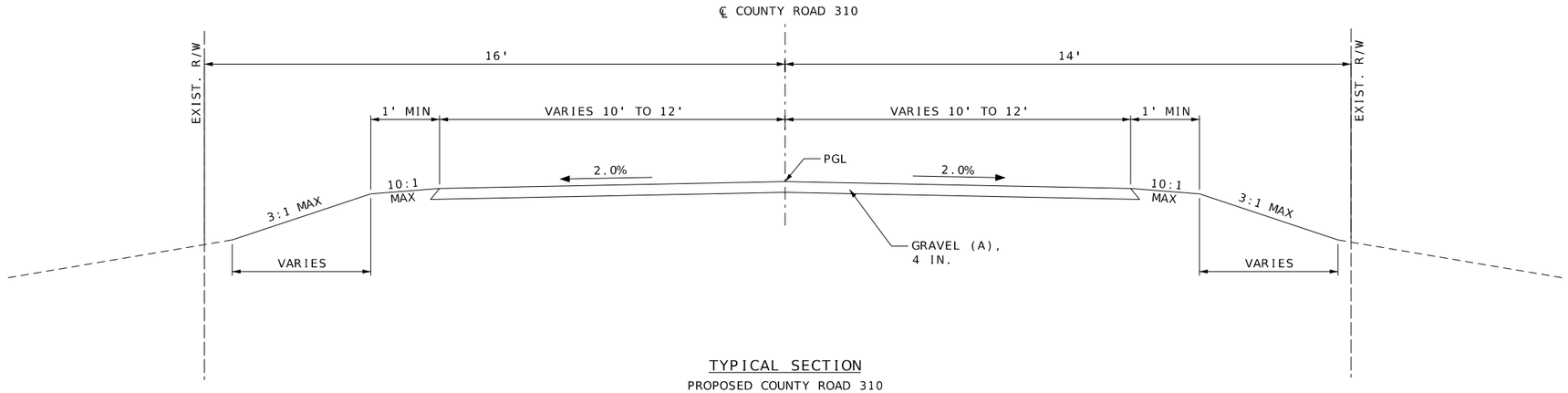
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St. Louis
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St. Louis, MO 63146
314.588.8381

Belleville
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Belleville, IL 62220
618.416.4666
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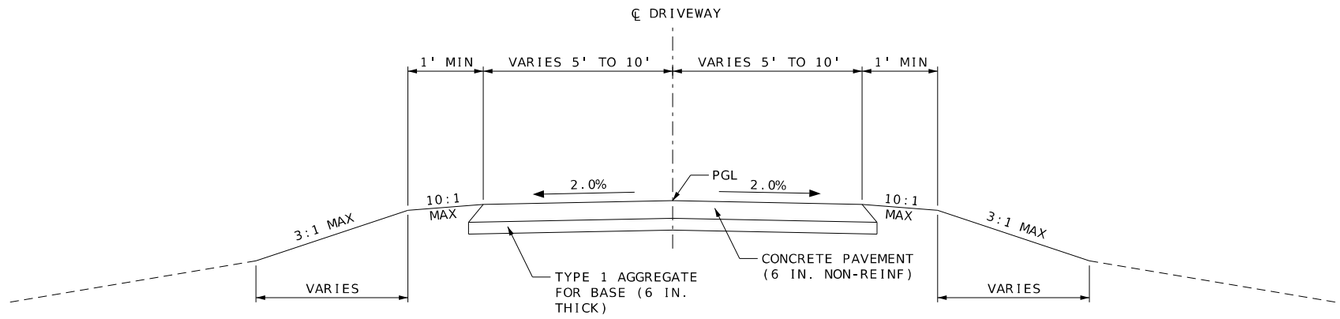
St. Charles
820 South Main, Suite 399
St. Charles, MO 63301
636.493.5077

MISSOURI DESIGN FIRM PE-001166



TYPICAL SECTION

PROPOSED COUNTY ROAD 310
STA. 20+10.00 TO STA. 21+60.00



TYPICAL SECTION

PROPOSED DRIVEWAY
STA. 10+10.00 TO STA. 11+17.38

TYPICAL SECTION SHEET
SHEET 2 OF 2

$FILE$ $TIME$ $DATE$

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/24/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	2

COUNTY
MADISON

JOB NO.
JSE0036

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)

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MISSOURI DESIGN FIRM PE-001166

PAVEMENT

STATION	STATION	OFFSET	TYPE 1 AGGREGATE FOR BASE (6IN. THICK) (SY)	GRAVEL (A) (SY)	OPTIONAL PAVEMENT (SY)	CONCRETE PAVEMENT (6 IN. (NON-REINF) (SY)	PAVED APPROACH, 7IN. (SY)	REMARKS
259+70	263+45	LT/RT	1026		1026.1			
261+83	262+73	LT	197			197.1		DRIVEWAY
262+19	263+22	RT	138	314			137.7	MADISON 310
265+22	269+05	LT/RT	1043		1042.9			
267+67	268+15	RT		64				GRAVEL ENTRANCE
		TOTAL	2404	378	2069	197.1	137.7	
		PAY TOTAL	2404	378	2069	197.1	137.7	

CONTRACTOR FURNISHED SURVEYING AND STAKING

PAY TOTAL = 1 LUMP SUM

MOBILIZATION

PAY TOTAL = 1 LUMP SUM

CLEARING AND GRUBBING

PAY TOTAL = 1 ACRE

PAVEMENT MARKING (LINEAR)

STATION	STATION	OFFSET	4 IN. WHITE CLASS 1 PAVEMENT MARKING PAINT (18MIL, TYPE P BEADS) (LF)	4 IN. YELLOW CLASS 1 PAVEMENT MARKING PAINT (18MIL, TYPE P BEADS) (LF)	REMARKS
259+70	269+05	LT	935		
259+70	269+05	RT	935		
259+70	269+11	CL		1882	DOUBLE YELLOW CL, EXTENDS BEYON PROJECT LIMITS TO MATCH EX MARKINGS
		TOTAL	1870	1882	
		PAY TOTAL	1870	1882	

SEEDING AND MULCHING

STATION	STATION	OFFSET	MULCHING (ACRE)	SEEDING - COOL SEASON GRASSES (ACRE)	TEMPORARY SEEDING (ACRE)
259+70	263+66	LT/RT	0.4	0.4	0.4
265+08	269+05	LT/RT	0.2	0.2	0.2
		TOTAL	0.6	0.6	0.6
		PAY TOTAL	1 LUMP SUM		

GUARDRAIL

STATION	STATION	OFFSET	MGS GUARDRAIL (LF)	MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR/NO CURB) (EA)	TYPE A CRASHWORTHY END TERMINAL (MASH) (EA)	TYPE C CRASHWORTHY END TERMINAL (MASH) (EA)	REMARKS
263+39	263+61	LT				1	SE CORNER BRIDGE T0062
263+48	263+70	RT				1	SW CORNER BRIDGE T0062
265+06	266+69	LT	87.5	1	1		NE CORNER BRIDGE T0062
265+14	266+02	RT	12.5	1	1		NW CORNER BRIDGE T0062
		TOTAL	100	2	2	2	
		PAY TOTAL	100	2	2	2	

POROUS BACKFILL

STATION	STATION	OFFSET	POROUS BACKFILL (CU YD)
263+60	263+65	LT/RT	24
265+02	265+07	LT/RT	19
		TOTAL	43
		PAY TOTAL	43

ROCK BLANKET

STATION	STATION	OFFSET	FURNISHING TYPE 2 ROCK BLANKET (CUYD)	PLACING TYPE 2 (CUYD)	PERMANENT EROSION CONTROL GEOTEXTILE (SQ YD)	REMARKS
263+33	263+99	LT/RT	267	267	401	EAST BRIDGE CONE
264+79	265+35	LT/RT	204	204	306	WEST BRIDGE CONE
		TOTAL	471	471	707	
		PAY TOTAL	471	471	707	

QUANTITIES SHEETS
SHEET 1 OF 3

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/30/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	3

COUNTY
MADISON

JOB NO.
JSE0036

CONTRACT ID.
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PROJECT NO.
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BRIDGE NO.
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DATE	DESCRIPTION
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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MISSOURI DESIGN FIRM PE-001166

EARTHWORK

STATION	STATION	OFFSET	CUT	FILL	CLASS A EXCAVATION (CY)	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE (NOTE 3) (CY)	EMBANKMENT IN PLACE (CY)	COMPACTING EMBANKMENT (CY)	CLASS 3 EXCAVATION (CY)	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) NOTE (3) (CY)
259+70	269+05	LT/RT	200	1707	405	304	1263	304		-1263
262+20	262+68	LT							15	
262+36	263+15	RT							45	
267+80	268+10	LT							7	
				TOTAL	405	304	1263	304	67	-1263
				PAY TOTAL	405	-	1263	304	67	-

EARTHWORK NOTES:
1. ESTIMATED SHRINKAGE FACTOR = 25%.
2. BRIDGE OMISSION STA. 263+45.17 TO STA. 265+21.83
3. QUANTITY SHOWN FOR INFORMATION ONLY

SIGNING

STATION	OFFSET	SH-FLAT SHEET (SF)	2 IN. PSST POST -12 GA. (LF)	DRIVEN POST ANCHOR FOR 2 IN. PSST - 7 GA. (EACH)	SIGN TYPE	SIZE	REMARKS
259+70	LT	6.25	9.5	1	R1-1	30x30	STOP
261+83	LT	4.0	9.0	1	M1-6	24x24	COUNTY ROUTE (MADISON 310)
	TOTAL	10.25	18.5	2			
	PAY TOTAL	10	19	2			

EROSION CONTROL

STATION	STATION	OFFSET	ROCK DITCH CHECK (LF)	SEDIMENT REMOVAL (CUYD)	SILT FENCE (LF)	TYPE C BERM (LF)
259+70	261+82	LT		3	313	
259+70	263+08	RT		4	407	
261+89	263+42	LT		2	173	
263+29	263+79	RT		1	149	
263+42	263+79	LT/RT				158
263+57		RT	8	1		
264+99	269+05	LT		4	410	
264+99	265+09	LT/RT				115
265+04		LT	7	1		
265+09	267+89	RT		3	285	
265+38		RT	9	1		
268+14	269+05	RT		1	101	
		TOTAL	24	21	1838	273
		PAY TOTAL	24	21	1838	273

REMOVAL OF IMPROVEMENTS

STATION	STATION	OFFSET	AREA (SQYD)	EACH (EA)	REMARKS
258+96		RT		1	SIGN (WEIGHT LIMIT)
259+70	263+72	RT/LT	866		PAVEMENT
261+83	262+73	LT	149		PAVED DRIVEWAY
262+29	262+60	LT		1	18" CMP PIPE
262+62	262+96	RT/LT		2	24" CMP PIPES
262+92		RT		1	SIGN (STOP)
262+92		RT		1	SIGN (COUNTY ROAD ROUTE)
263+10		RT		1	SIGN (YIELD)
263+65		LT		3	SIGN (OBJECT MARKER)
263+72		RT		3	SIGN (OBJECT MARKER)
264+94		LT		3	SIGN (OBJECT MARKER)
264+97	269+05	LT/RT	873		PAVEMENT
265+02		RT		3	SIGN (OBJECT MARKER)
267+19		LT		1	SIGN (YIELD)
267+84	268+08	RT		1	15" CMP PIPE
268+96		LT		1	SIGN (WEIGHT LIMIT)
		PAY TOAL	1 LUMP SUM		

DRAINAGE (PIPES)

STATION	STATION	OFFSET	15 IN. PIPE GROUP B (LF)	18 IN. PIPE GROUP B (LF)	24 IN. PIPE GROUP B (LF)	15 IN. OR ALLOWED SUBSTITUTE GROUP B FLARED END SECTION (EA)	18 IN. OR ALLOWED SUBSTITUTE GROUP B FLARED END SECTION (EA)	24 IN. OR ALLOWED SUBSTITUTE GROUP B FLARED END SECTION (EA)	REMARKS
262+20	262+68	LT		48			2		ENTRANCE CULVERT
262+36	263+15	RT			158			4	2 24IN. PIPE CULVERT, MADISON 310
267+80	268+10	RT	30			2			ENTRANCE CULVERT
		TOTAL	30	48	158	2	2	4	
		PAY TOTAL	30	48	158	2	2	4	

QUANTITIES SHEETS
SHEET 2 OF 3

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/24/2026
ROUTE M | STATE MO
DISTRICT SE | SHEET NO. 3
COUNTY MADISON
JOB NO. JSE0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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MISSOURI DESIGN FIRM PE-001166

OATES ASSOCIATES

$FILE$ $TIME$ $DATE$

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	2	32.00			18	DETOUR AHEAD
WO20-3	48X48	16.00	5	80.00			20	ROAD CLOSED AHEAD (500 FT-2, AHEAD-2)
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	2	6.00			52	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	3	30.00			29	ROAD CLOSED
R11-3a	60X30	12.50						ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60X30	12.50	2	25.00			29A	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
SPECIAL	96X48	32.00	2	64.00			56	RTE M CLOSED 1.5 MILES AHEAD
SPECIAL	96X48	32.00	1	32.00			56A	RTE M CLOSED 5.0 MILES AHEAD
SPECIAL	96X48	32.00	1	32.00			56B	RTE M CLOSED 15.5 MILES AHEAD
M1-5A	24X12	2.00	10	20.00			17	RTE M
MO4-8	24X12	2.00	10	20.00			17	DETOUR
M5-1R	21X15	2.20	1	2.20			17A	ADVANCE TURN ARROW (90° RIGHT)
M5-1L	21X15	2.20	3	4.40			17B	ADVANCE TURN ARROW (90° LEFT)
M6-1R	21X15	2.20	1	2.20			17C	RIGHT TURN ARROW
M6-1L	21X15	2.20	1	2.20			17D	LEFT TURN ARROW
M5-1	21X15	2.20	2	4.40			17E	STRAIGHT ARROW
616-10.05 CONSTRUCTION SIGNS				TOTAL 360.80				
616-10.10 RELOCATED SIGNS						TOTAL		

ITEM NUMBER	TOTAL QTY	EFFECTIVE: 07-01-2025 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	13	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	2	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

QUANTITIES SHEETS
SHEET 3 OF 3

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/24/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	3

COUNTY
MADISON

JOB NO.
JSE0036

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

St. Louis
3675 Arnold Ave. Suite 200
St. Louis, MO 63101
314.588.8381

St. Charles
820 South Main, Suite 309
St. Charles, MO 63301
636.493.1077

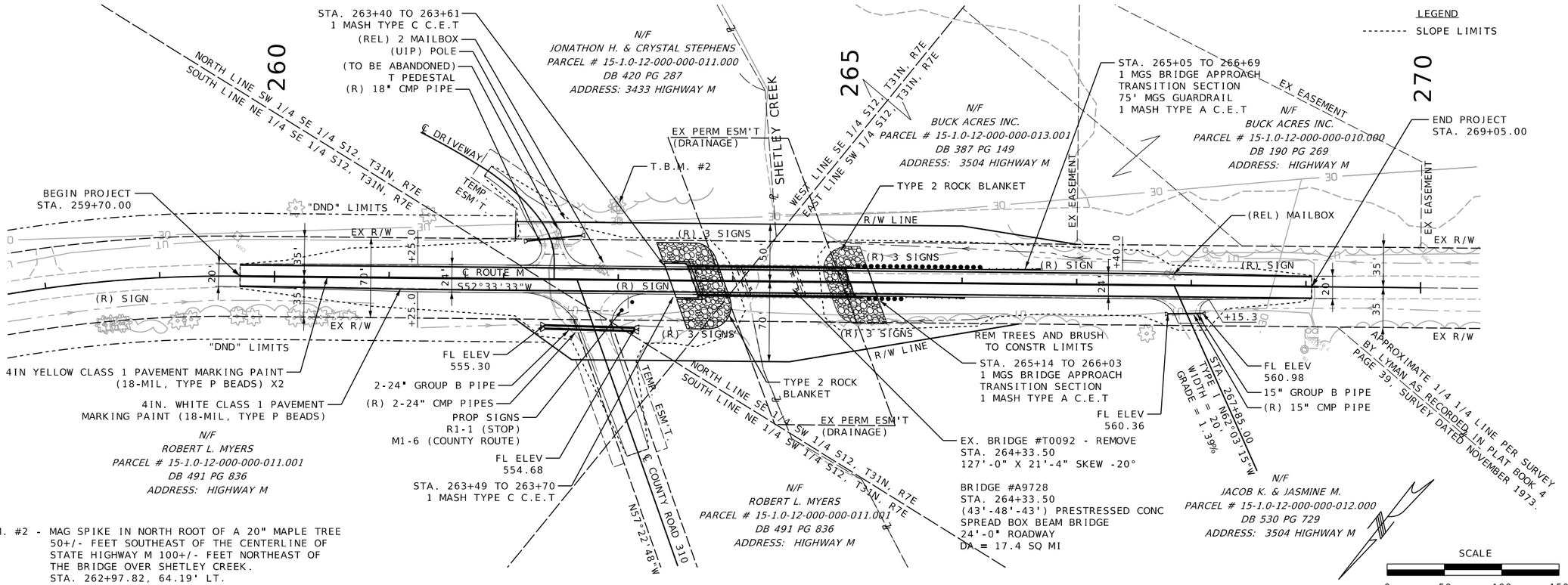
Collinsville
10 Collinsville Centre, Suite 1
Collinsville, IL 62234
618.345.2200

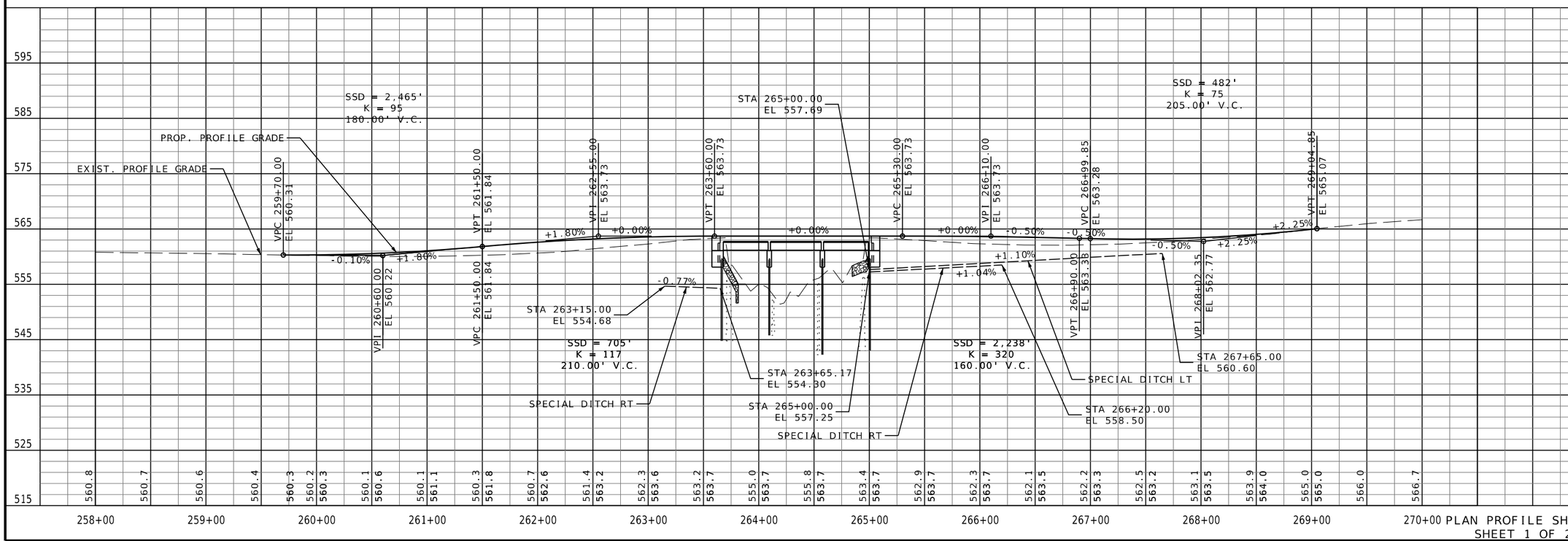
Belleville
1 South Church, Suite 200
Belleville, IL 62220
618.416.4466

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MISSOURI DESIGN FIRM PE-001166

OATES ASSOCIATES





PLAN PROFILE SHEETS
SHEET 1 OF 2

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/25/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	4

COUNTY: MADISON
JOB NO.: JSE0036
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)

St. Louis
2200 West Port Plaza Dr. Suite 700
St. Louis, MO 63146
314.588.8381

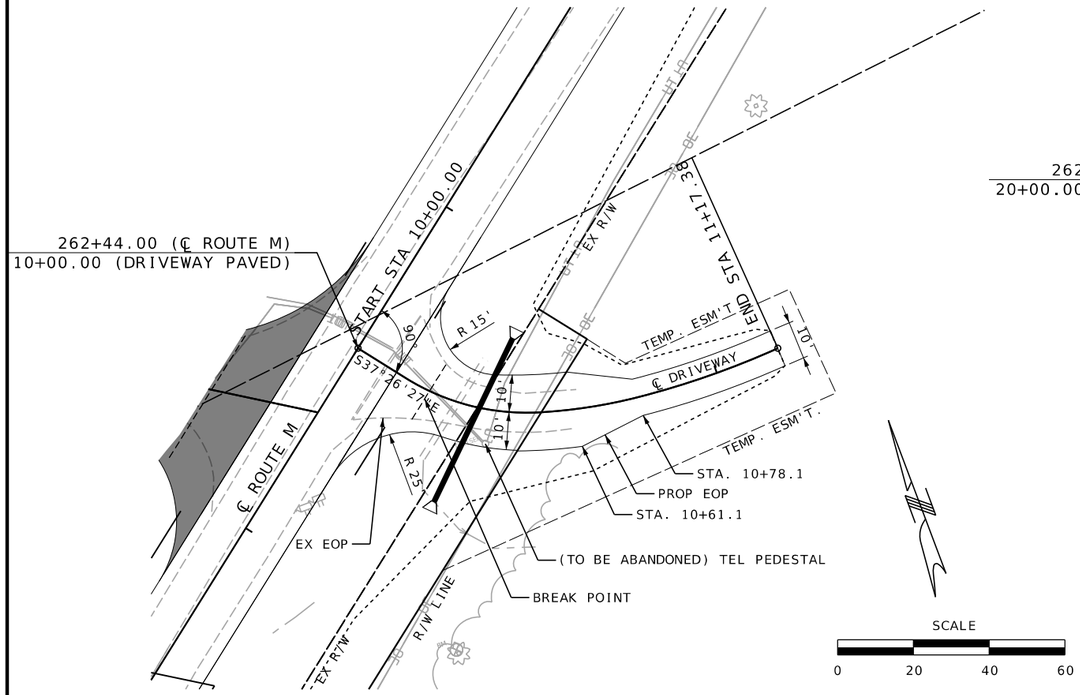
St. Charles
820 South Main, Suite 399
St. Charles, MO 63301
636.493.5077

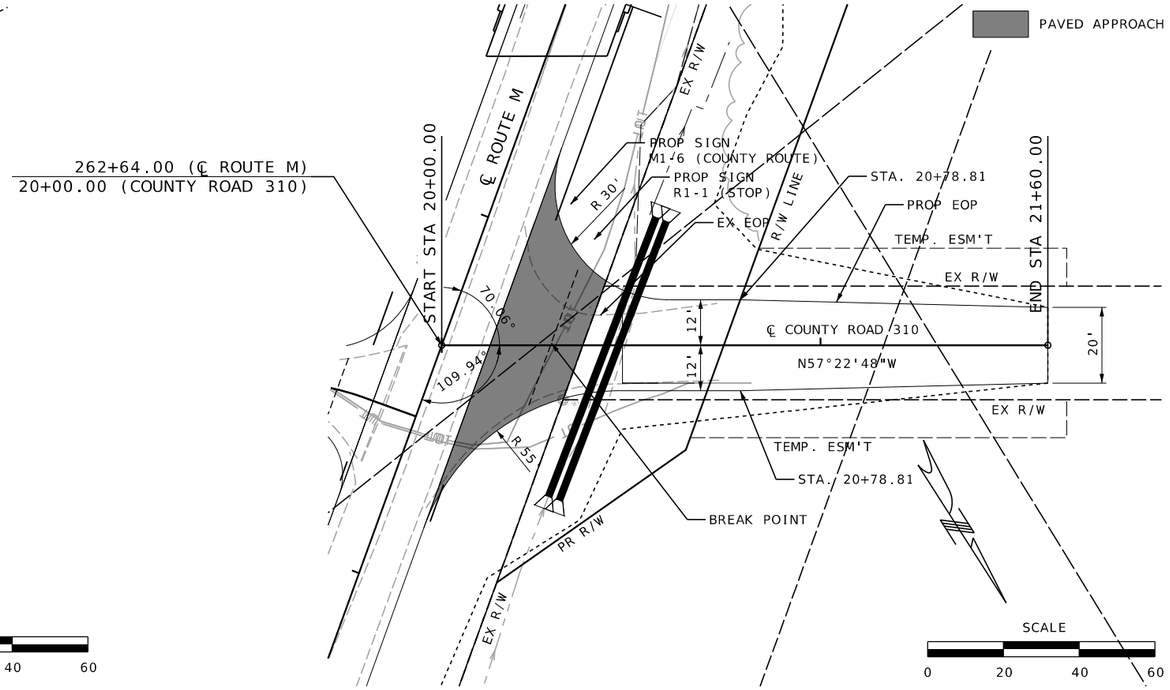
Collinsville
10 Collinsville Cr. Suite 1
Collinsville, IL 62234
618.345.2200

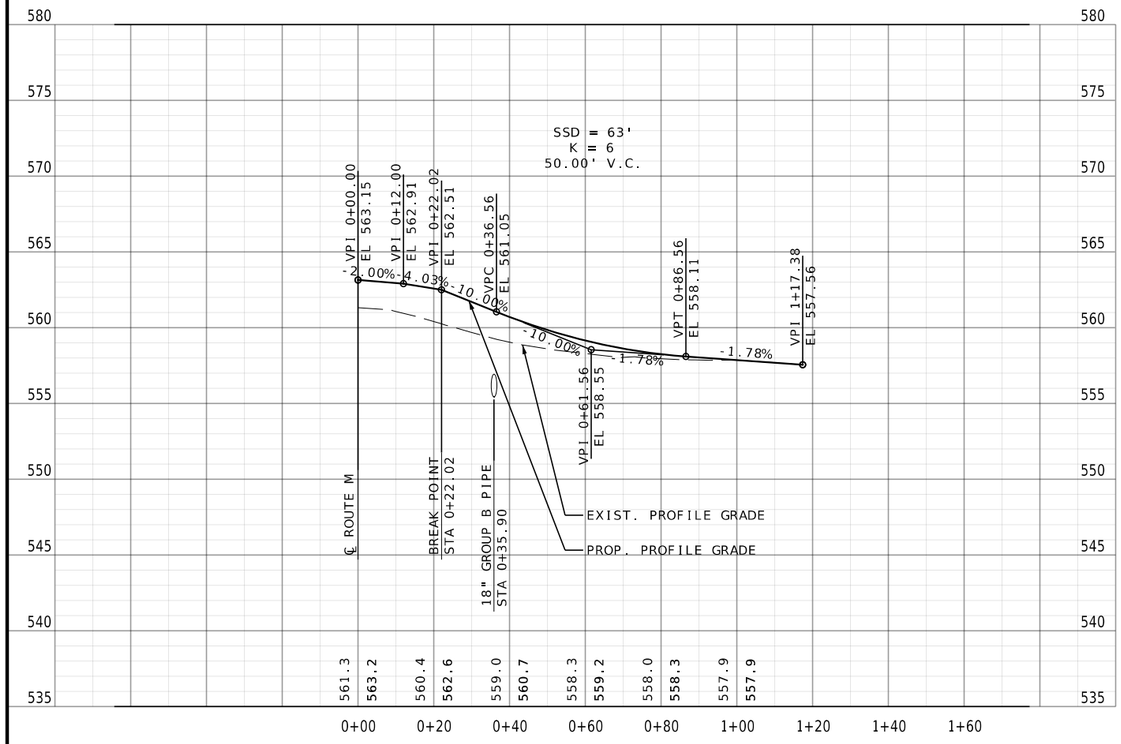
Belleville
1 South Church, Suite 200
Belleville, IL 62220
618.416.4888

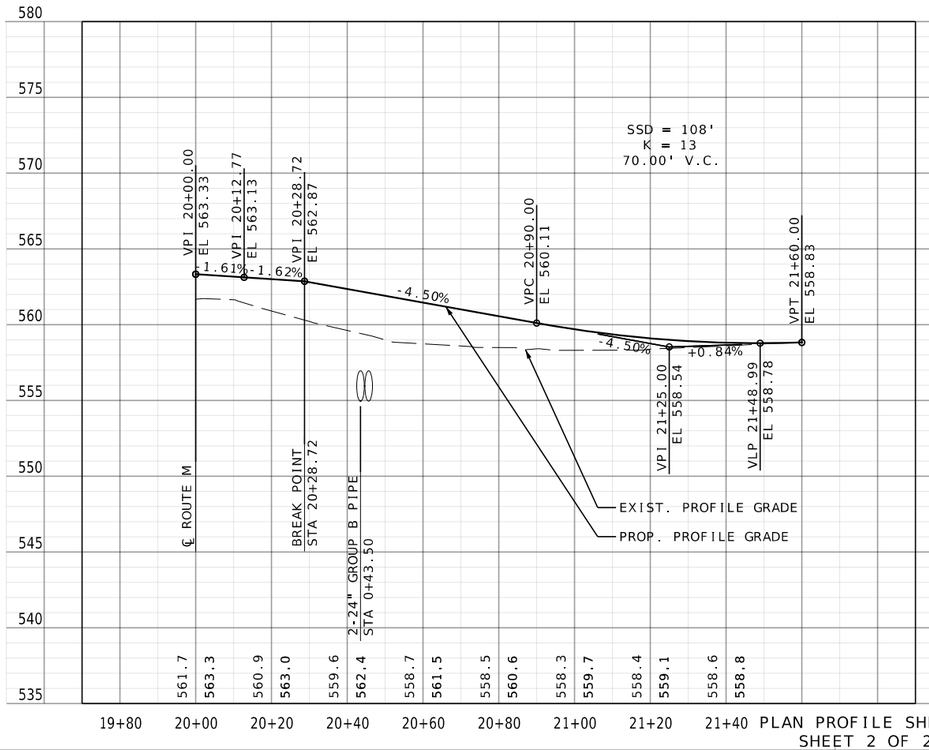
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PLAN PROFILE SHEETS
SHEET 2 OF 2

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/25/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	5

COUNTY
MADISON

JOB NO.
JSE0036

CONTRACT ID.
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PROJECT NO.
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BRIDGE NO.
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DESCRIPTION	DATE
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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JEFFERSON CITY, MO 65102
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St. Charles
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St. Charles, MO 63301
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MISSOURI DESIGN FIRM PE-001166

PARCEL 1 - NEW R/W		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
1 TO 2	15.00'	S37°26'27"E
2 TO 3	226.58'	S52°33'33"W
3 TO 7	10.86'	N42°22'34"W
7 TO 6	4.55'	N14°03'51"W
6 TO 1	225.71'	N52°33'33"E

PARCEL 2 - NEW R/W		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
3 TO 4	163.42'	S52°33'33"W
4 TO 5	101.12'	S61°05'23"W
5 TO 6	264.29'	N52°33'33"E
6 TO 7	4.55'	S14°03'51"E
7 TO 3	10.86'	S42°22'34"E

PARCEL 3A - NEW R/W		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
12 TO 13	61.03'	S87°33'04"W
13 TO 23	14.06'	S52°33'33"W
23 TO 19	37.23'	S57°22'48"E
19 TO 12	51.36'	N52°33'33"E

PARCEL 3B - NEW R/W		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
24 TO 14	119.84'	S52°33'33"W
14 TO 17	35.78'	S49°27'34"E
17 TO 18	125.09'	N52°33'33"E
18 TO 24	37.23'	N57°22'48"W

PARCEL 4 - NEW R/W		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
14 TO 15	24.19'	S52°33'33"W
15 TO 16	203.04'	S42°37'58"W
16 TO 17	231.64'	N52°33'33"E
17 TO 14	35.78'	N49°27'34"W

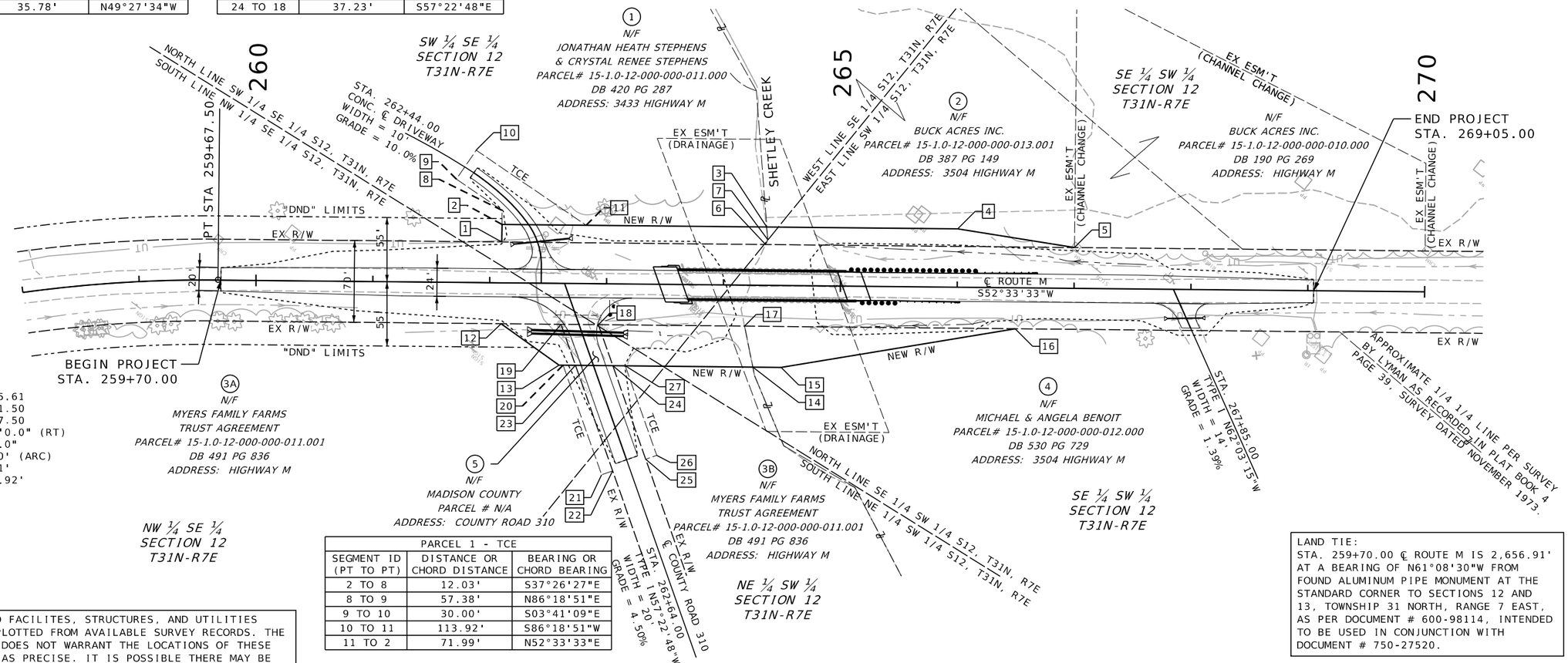
PARCEL 5 - NEW R/W		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
18 TO 19	31.91'	N52°33'33"E
19 TO 23	37.23'	N57°22'48"W
23 TO 24	31.91'	S52°33'33"W
24 TO 18	37.23'	S57°22'48"E

SCALE

0 50 100 150

LEGEND

------ SLOPE LIMITS



PI 258+05.61
PC 256+41.50
PT 259+67.50
Δ 16°18'0.0" (RT)
D 5°0'0.0"
L 326.00' (ARC)
T 164.11'
R 1,145.92'

PARCEL 1 - TCE		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
2 TO 8	12.03'	S37°26'27"E
8 TO 9	57.38'	N86°18'51"E
9 TO 10	30.00'	S03°41'09"E
10 TO 11	113.92'	S86°18'51"W
11 TO 2	71.99'	N52°33'33"E

PARCEL 3A - TCE		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
20 TO 21	99.39'	N57°22'48"W
21 TO 22	10.00'	S32°37'12"W
22 TO 23	95.77'	S57°22'48"E
23 TO 21	10.64'	N52°33'33"E

PARCEL 3B - TCE		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
24 TO 25	84.88'	N57°22'48"W
25 TO 26	10.00'	S32°37'12"W
26 TO 27	81.26'	S57°22'48"E
27 TO 24	10.64'	N52°33'33"E

PARCEL #	OWNERS	NORMAL R/W (ACRES)	PERM. ESMT. (ACRES)	TEMP. ESMT. (ACRES)	BEFORE (ACRES)	REMAINING (ACRES)
1	JONATHAN HEATH STEPHENS & CRYSTAL RENEE STEPHENS	0.10	0.00	0.08	5.69	5.59
2	BUCK ACRES INC.	0.07	0.00	0.00	38.50*	38.43*
3A	MYERS FAMILY FARMS TRUST AGREEMENT	0.05	0.00	0.02	68.71	68.66
3B	MYERS FAMILY FARMS TRUST AGREEMENT	0.10	0.00	0.02	2.45	2.35
4	MICHAEL & ANGELA BENOIT	0.10	0.00	0.00	4.96	4.86
5	MADISON COUNTY	0.03	0.00	0.00	0.03	0.00

* ACRES FROM PARCEL VIEWER

1. UNDERGROUND FACILITES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEY RECORDS. THE COMMISSION DOES NOT WARRANT THE LOCATIONS OF THESE FACILITIES AS PRECISE. IT IS POSSIBLE THERE MAY BE OTHERS. THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXISTENCE AND PRECISE LOCATION OF ALL FACILITIES AND TO AVOID DAMAGE. SEE THE JOB SPECIAL PROVISIONS FOR A LIST OF UTILITY COMPANIES ON OR WITHIN THE VICINITY OF THE PROJECT LIMITS.
2. ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND PART OF THE CONSTRUCTION OF THIS PROJECT.
3. RIGHT OF WAY LIMITS FOR THIS PROJECT EXTEND FROM STA. 261+00 TO STA. 267+00, A DISTANCE OF 0.11 MILES.
4. ALL BEARINGS BASED ON GRID NORTH, 1983 STATE PLANE COORDINATE SYSTEM, EAST ZONE.
5. PROPERTY LINE LOCATIONS ARE APPROXIMATE ONLY.
6. PRIMARY RECEIVING WATERS: SHETLEY CREEK

LAND TIE:
STA. 259+70.00 ℄ ROUTE M IS 2,656.91' AT A BEARING OF N61°08'30"W FROM FOUND ALUMINUM PIPE MONUMENT AT THE STANDARD CORNER TO SECTIONS 12 AND 13, TOWNSHIP 31 NORTH, RANGE 7 EAST, AS PER DOCUMENT # 600-98114, INTENDED TO BE USED IN CONJUNCTION WITH DOCUMENT # 750-27520.

R/W POINTS STA./OFFSETS					
POINTS	STATION	OFFSET	POINTS	STATION	OFFSET
1	+10.00	35.00' LT	15	+50.00	70.00' RT
2	+10.00	50.00' LT	16	+50.00	35.00' RT
3	+36.58	50.00' LT	17	+18.36	35.00' RT
4	+00.00	50.00' LT	18	+93.27	35.00' RT
5	+00.00	35.00' LT	19	+61.36	35.00' RT
6	+35.71	35.00' LT	20	+63.42	70.00' RT
7	+37.52	39.18' LT	21	+97.32	163.44' RT
8	+10.00	62.03' LT	22	+06.72	160.03' RT
9	+70.61	88.35' LT	23	+74.06	70.00' RT
10	+87.28	113.30' LT	24	+05.97	70.00' RT
11	+81.99	50.00' LT	25	+34.92	149.80' RT
12	+10.00	35.00' RT	26	+44.32	146.39' RT
13	+60.00	70.00' RT	27	+16.61	70.00' RT
14	+25.81	70.00' RT			

RIGHT OF WAY SHEET
SHEET 1 OF 1

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/24/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	6

COUNTY MADISON
JOB NO. JSE0036
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. .

DATE	DESCRIPTION
.	.

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

OATES ASSOCIATES

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St. Charles
820 South Main, Suite 309
St. Charles, MO 63301
636.493.4277

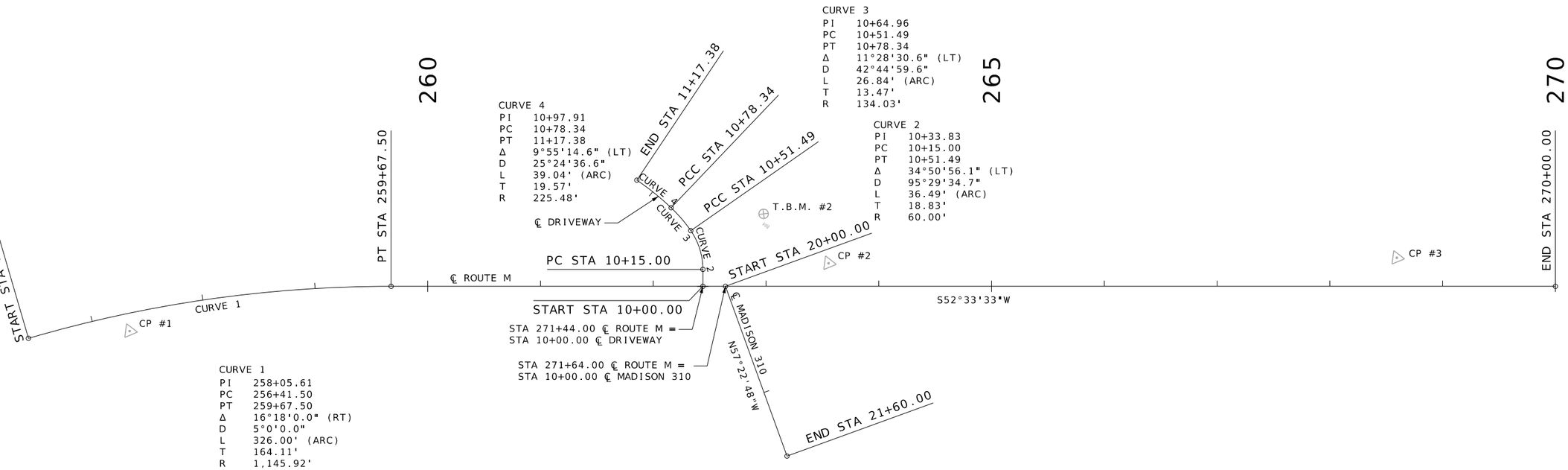
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Belleville, IL 62220
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MISSOURI DESIGN FIRM PE-001166

REV.

H:\P\224097 - Madison County Bridge Package\002-JSE0036-T0092\CADD\Microstation\CADD Drawings\006_RW_JSE0036_I50.dgn 11:17:53 AM 9/24/2026



ALIGNMENT SHEET
SHEET 1 OF 1

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

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DATE PREPARED
9/24/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	7

COUNTY
MADISON

JOB NO.
JSE0036

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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St. Louis, MO 63131
314.588.8381

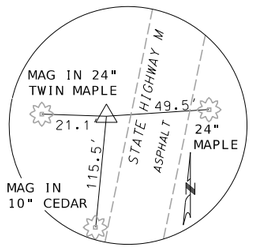
Belleville
1 South Church, Suite 200
Belleville, IL 62220
618.416.4656

St. Charles
820 South Main, Suite 399
St. Charles, MO 63301
636.493.5077

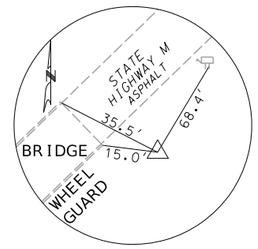
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MISSOURI DESIGN FIRM PE-001166

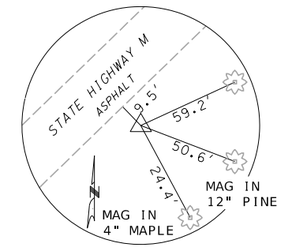
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CONTROL POINT NO. 1
SET IRON ROD W/CAP
N: 563053.797
E: 900254.505
ELEV: 560.00
STA. 257+30.75
15.65' RT. STATE HIGHWAY M



CONTROL POINT NO. 2
SET IRON ROD W/CAP
N: 562629.275
E: 899798.940
ELEV: 563.02
STA. 263+55.43
20.42' LT. STATE HIGHWAY M



CONTROL POINT NO. 3
SET IRON ROD W/CAP
N: 561995.889
E: 898968.759
ELEV: 571.04
STA. 273+99.64
18.61' LT. STATE HIGHWAY M

REFERENCE POINTS SHEET
SHEET 1 OF 1

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/24/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	8

COUNTY
MADISON

JOB NO.
JSE0036

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)

OATES ASSOCIATES

Collinsville
Gateway Corporate Center, Suite 1
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St. Louis
222 Oakley, Suite 700
St. Louis, MO 63101
314.588.8381

Belleville
1 South Church, Suite 200
Belleville, IL 62220
618.416.4666

St. Charles
820 South Main, Suite 309
St. Charles, MO 63301
636.493.0277

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MISSOURI DESIGN FIRM PE-001166

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

PROJECT COORDINATE INFORMATION	
COORDINATE SYSTEM	MOD. MO STATE PLANE (GROUND)
HORIZONTAL DATUM	NAD-83
VERTICAL DATUM	NAVD-88
GEOID MODEL	GEOID 18
ELEVATIONS DETERMINED BY	GPS AND DIFFERENTIAL LEVELING
PROJECT PROJECTION FACTOR	1.0000814052

REFERENCE CONTROL INFORMATION	
COORDINATE SYSTEM	COORDINATE SYSTEM OF 1983
CONTROL STATION	MODOT VRS
DESIGNATION	MD-502
CORS_ID	
PID	123503
LATITUDE	N37°25'35.70690"
LONGITUDE	W90°18'05.26175"
NORTHING (M)	176811.063
EASTING (M)	267571.858
ZONE	2401 (MO-EAST)
PROJECT AVERAGE GRID FACTOR	0.9999186014

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

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

EXAMPLE: CONTROL POINT #20
N 563210.530 X 0.9999130091 = N 563161.536
E 819858.219 X 0.9999130091 = E 819786.899

LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND) NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)	DESCRIPTION	GPK POINT ID
PROJECT CONTROL POINTS								
	257+30.75	RTE M	15.65 RT	563053.797	900254.505	560.00	SET IRON ROD WITH ALUMINUM CAP	CP#1
	263+55.43	RTE M	20.42 LT	562629.275	899798.940	563.02	SET IRON ROD WITH ALUMINUM CAP	CP#2
	273+99.64	RTE M	18.61 LT	561995.889	898968.759	571.04	SET IRON ROD WITH ALUMINUM CAP	CP#3
ALIGNMENTS								
℄ ROUTE M								
	256+41.50	RTE M	CL	563113.428	900321.895		START/PC	
	259+67.50	RTE M	CL	562881.330	900094.536		PT	
	270+00.00	RTE M	CL	562253.629	899274.752		END	
℄ MADISON 310								
	20+00.00	MAD 310	CL	562701.075	899859.121		START	
	21+60.00	MAD 310	CL	562787.325	899724.359		END	
℄ DRIVEWAY								
	10+00.00	DRIVEWAY	CL	562713.234	899875.001		START	
	10+15.00	DRIVEWAY	CL	562701.324	899884.120		PC	
	10+51.49	DRIVEWAY	CL	562680.644	899913.507		PCC	
	10+78.34	DRIVEWAY	CL	562675.085	899939.722		PCC	
	11+17.38	DRIVEWAY	CL	562674.218	899978.705		PT/END	

CONTROL POINTS SHEET
SHEET 1 OF 1

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 8/3/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	9

COUNTY: MADISON
JOB NO.: JSE0035
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)

St. Louis
2710 Olive, Ste 700
St. Louis, MO 63101
314.588.8381

St. Charles
820 South Main, Suite 309
St. Charles, MO 63301
636.493.0277

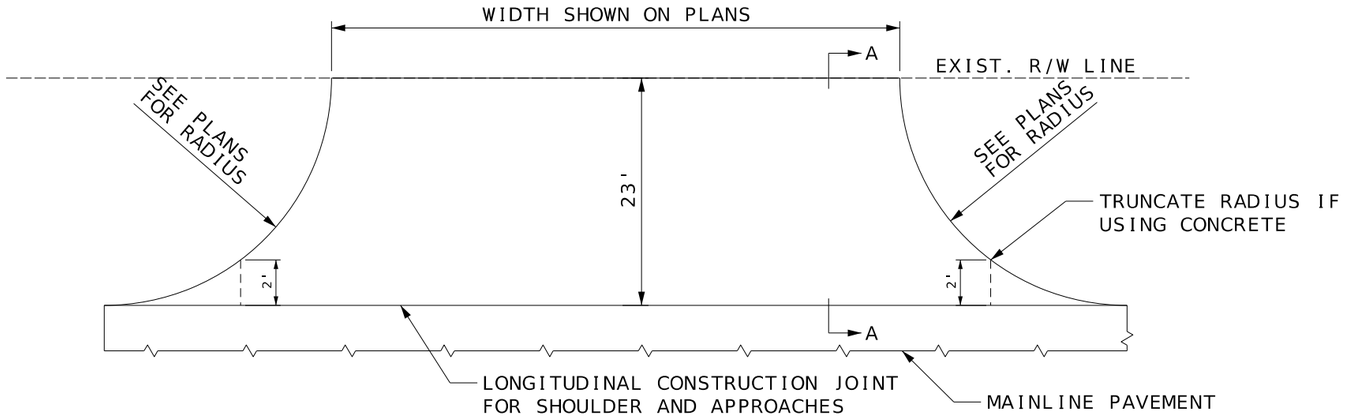
Collinsville
10 Collinsville Court, Suite 1
Collinsville, IL 62234
618.345.2200

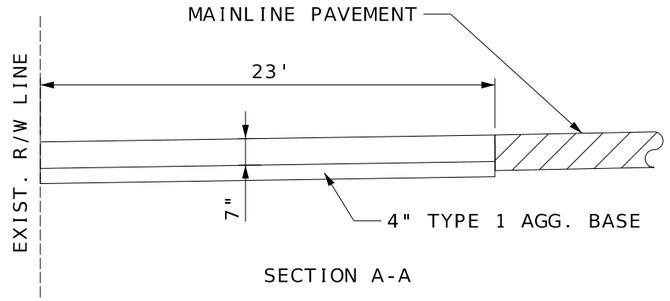
Belleville
1 South Church, Suite 200
Belleville, IL 62220
618.416.4666

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MISSOURI DESIGN FIRM PE-001166

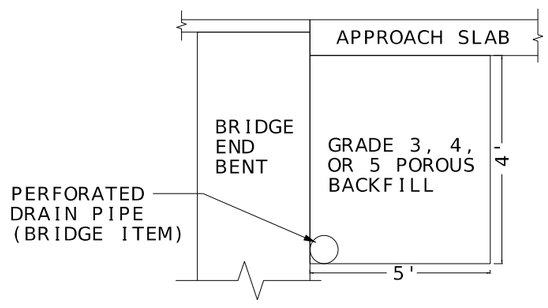
OATES ASSOCIATES





SECTION A-A

PAVED APPROACH DETAIL



POROUS BACKFILL

SPECIAL SHEET
SHEET 1 OF 1

$FILE$ $TIME$ $DATE$

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/24/2026

ROUTE	STATE
M	MO

DISTRICT	SHEET NO.
SE	10

COUNTY
MADISON

JOB NO.
JSE0036

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

OATES ASSOCIATES

Collinsville
Vandalia Square Plaza, Suite 1
Collinsville, IL 62234
618.345.2200

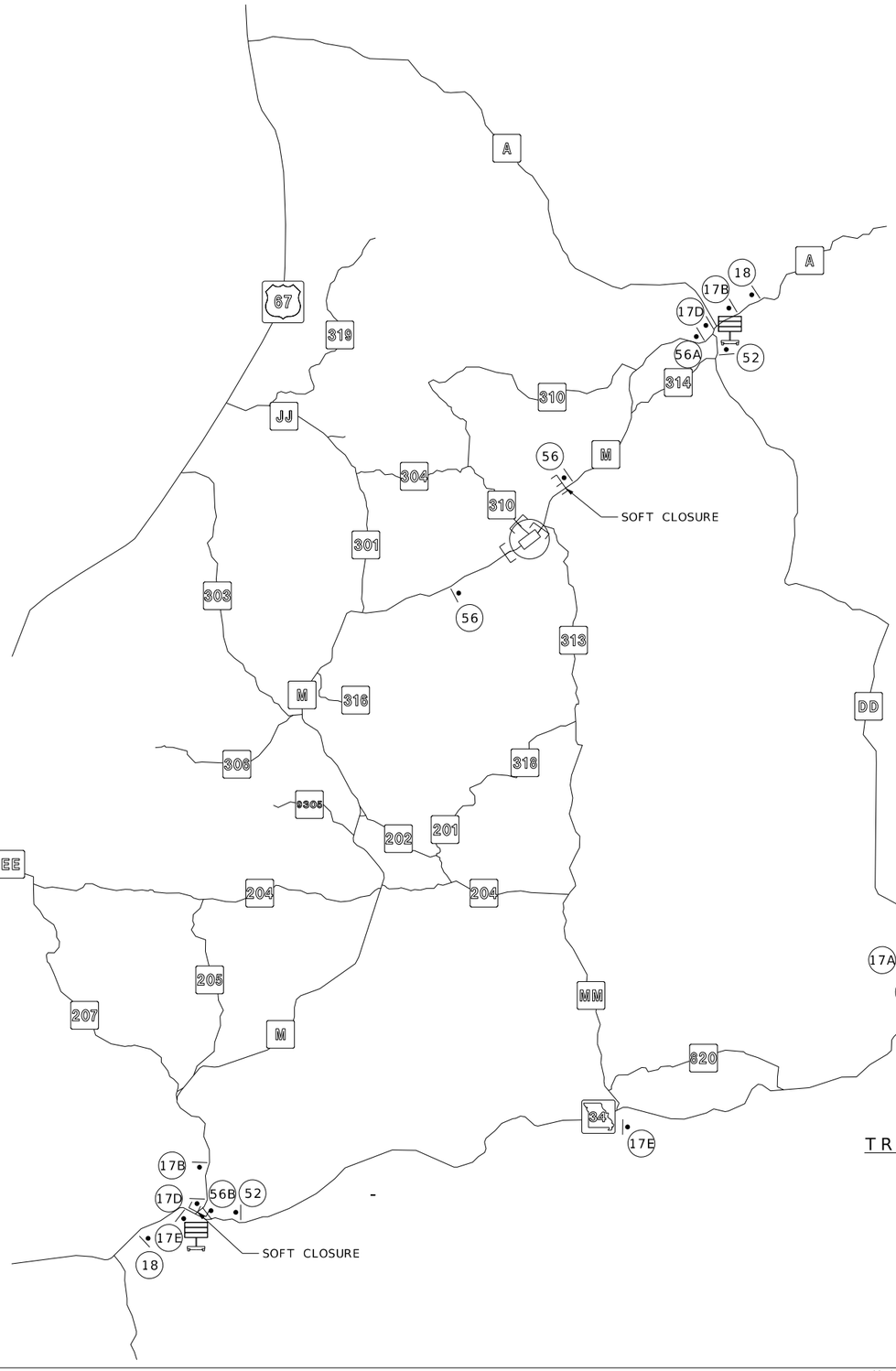
St. Louis
2700 Rider Trail, Suite 200
St. Louis, MO 63131
314.588.8381

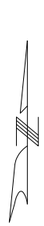
Belleville
1 South Church, Suite 200
Belleville, IL 62220
618.416.4656

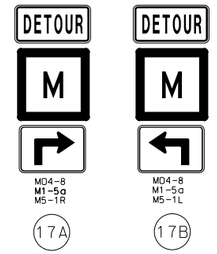
St. Charles
820 South Main, Suite 399
St. Charles, MO 63301
636.493.5277

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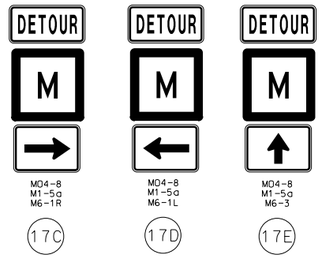
MISSOURI DESIGN FIRM PE-001166

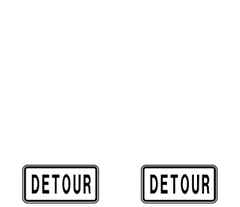












TRAFFIC CONTROL LEGEND

SIGN (SINGLE SIDED)

TYPE III MOVEABLE BARRICADE

CHANGEABLE MESSAGE BOARD

SHEET
SHEET 1 OF 2

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/24/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	11

COUNTY
MADISON

JOB NO.
JSE0036

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)

St. Louis
7710 Carondelet, Suite 200
St. Louis, MO 63105
314.588.8381

St. Charles
820 South Main, Suite 399
St. Charles, MO 63301
636.493.5077

Collinsville
10 Collinsville Centre, Suite 1
Collinsville, IL 62234
618.345.2200

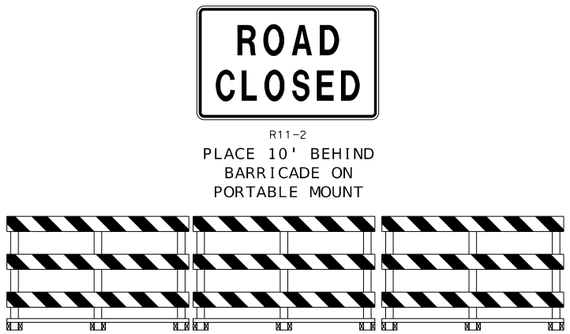
Belleville
1 South Church, Suite 200
Belleville, IL 62220
618.464.4666

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MISSOURI DESIGN FIRM PE-001166

OATES ASSOCIATES

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R11-2

PLACE 10' BEHIND BARRICADE ON PORTABLE MOUNT

29



W020-3

20



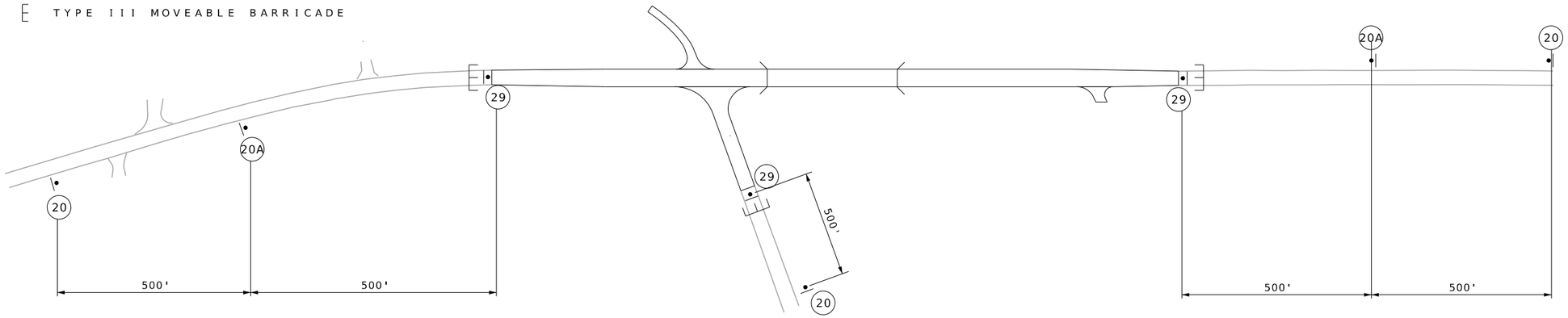
W020-3

20A

LEGEND

SIGN (SINGLE SIDED)

TYPE III MOVEABLE BARRICADE



ROAD CLOSURE



SOFT CLOSURE



R11-4

29A

NOTES;

ALL SPACING AND DISTANCES OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE. THEY SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER TO FIT FIELD CONDITIONS.

ANY EXISTING SIGNS THAT CONFLICT WITH THIS TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED.

NO DIRECT PAYMENT SHALL BE MADE FOR FLAGS ON SIGNS ENHANCED WITH AWRS ON MAINLINE.

SIGN SPACING IS 500'.

TRAFFIC CONTROL SHEET
SHEET 2 OF 2

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/24/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	12

COUNTY
MADISON

JOB NO.
JSE0036

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

OATES ASSOCIATES

Collinsville
Gateway Corp. Center, Suite 1
Collinsville, IL 62234
618.345.2200

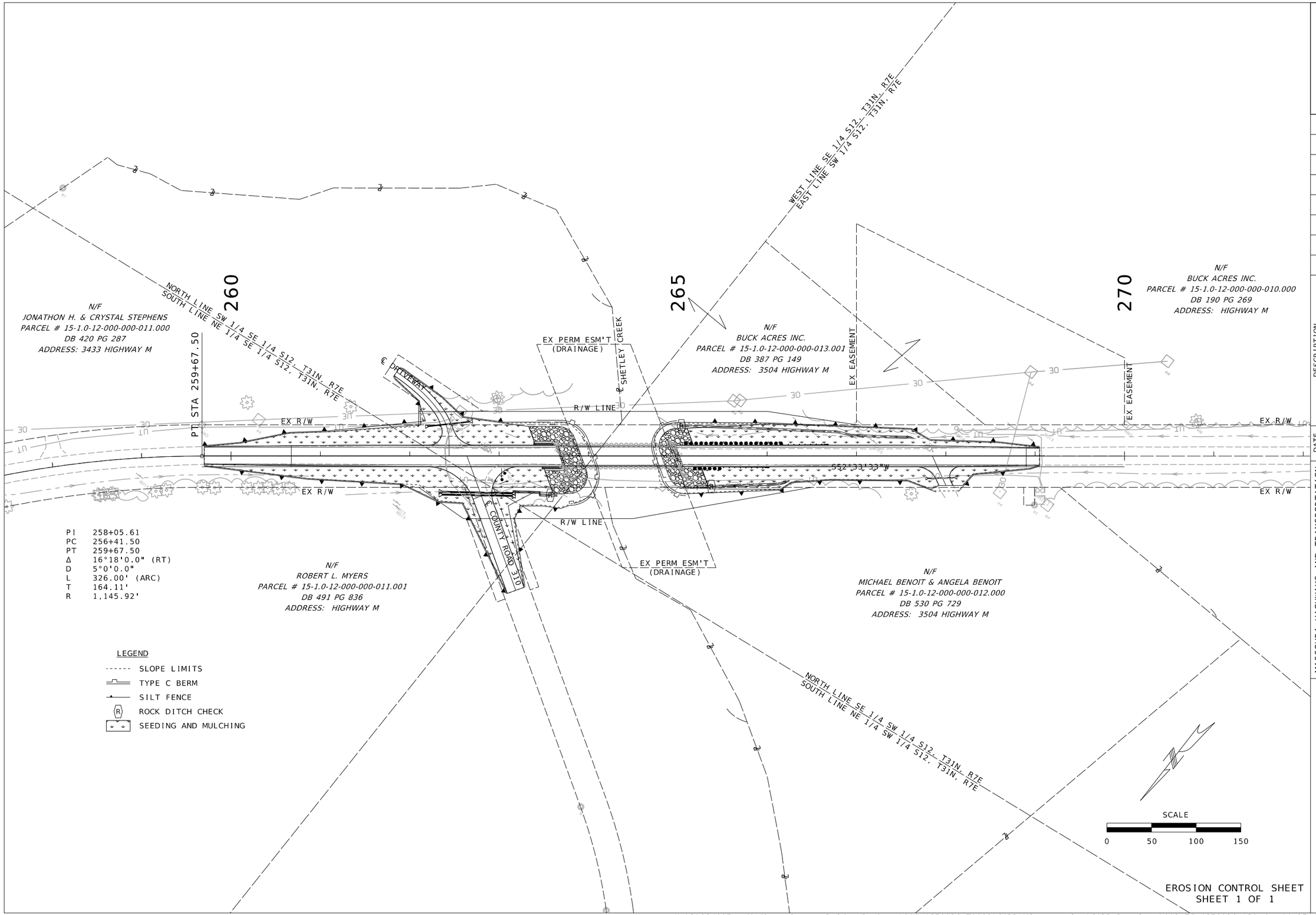
St. Louis
720 Olive, Suite 750
St. Louis, MO 63101
314.588.8381

Belleville
1 South Church, Suite 200
Belleville, IL 62220
618.416.6666

St. Charles
820 South Main, Suite 309
St. Charles, MO 63301
636.493.6677

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MISSOURI DESIGN FIRM PE-001166



EROSION CONTROL SHEET
SHEET 1 OF 1

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/24/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	13

COUNTY
MADISON

JOB NO.
JSE0036

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
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St. Louis
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Belleville
1 South Church, Suite 200
Belleville, IL 62220
618.416.4660
www.oatesassociates.com

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820 South Main, Suite 309
St. Charles, MO 63301
636.493.1677

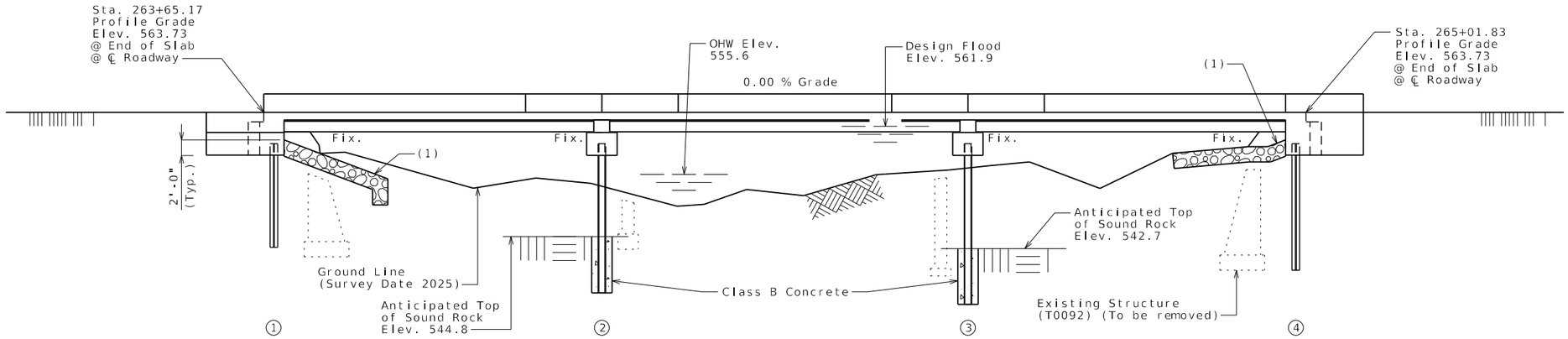
MISSOURI DESIGN FIRM PE-001166

OATES ASSOCIATES

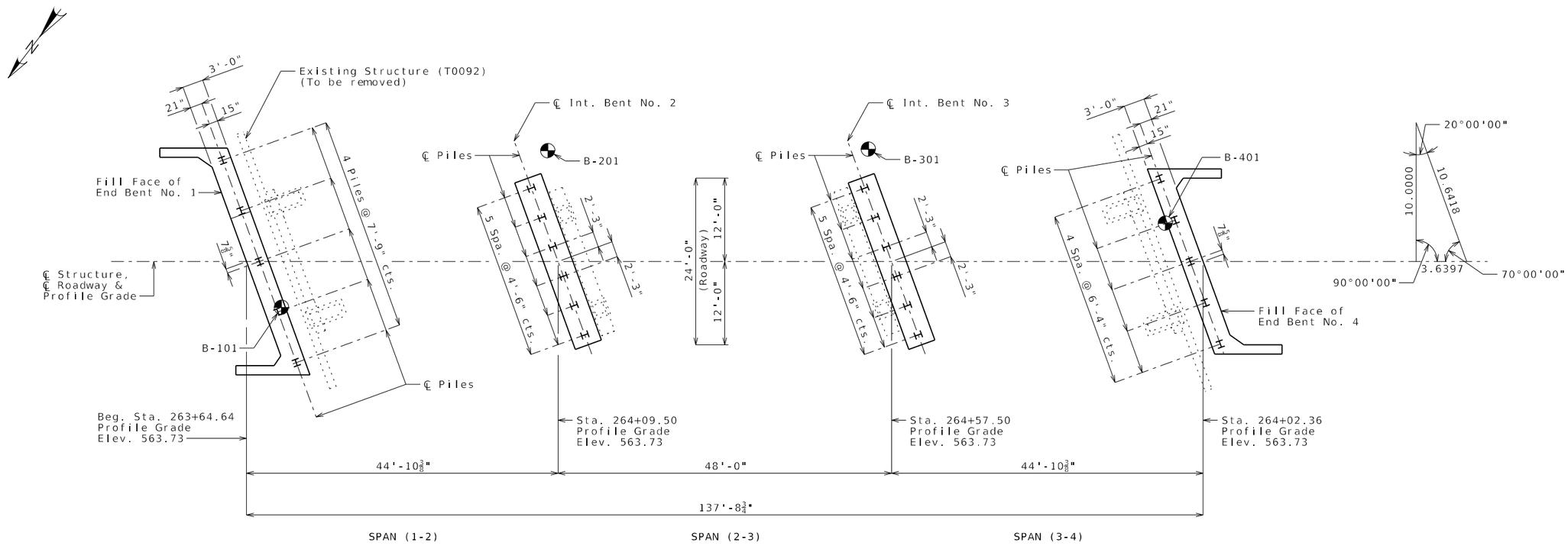
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(43'-48'-43') PRESTRESSED CONCRETE BOX BEAM SPANS

SEC/SUR 12 TWP 31N RGE 7E



GENERAL ELEVATION



PLAN

℄ Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on this sheet. The boring data for all location 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. 27-32 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 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 process, 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.

Reference Notes:
(1) 2.5:1 Slope (Normal) with 2'-0" thick Type 2 Rock Blanket with Permanent Erosion Control Geotextile (Roadway Item)

B.M. #2 - MAG SPIKE IN NORTH ROOT OF 20" MAPLE TREE
STA. 262+97.82, 64.19' LT.
ELEV. 556.89

BRIDGE: ROUTE M OVER SHETLEY CREEK

ROUTE M FROM ROUTE DD TO ROUTE 34
ABOUT 4.8 MILES SOUTH OF ROUTE DD
BEGINNING STATION 263+64.64

Detailed Feb. 2026
Checked Feb. 2026

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

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/17/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	1

COUNTY: MADISON
JOB NO.: JSE0036
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9728

DESCRIPTION | DATE

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

OATES ASSOCIATES
MISSOURI DESIGN FIRM PE-001166

St. Louis: 720 Olive Street, Suite 700, St. Louis, MO 63101, 314.588.8381
St. Charles: 820 South Main, Suite 309, St. Charles, MO 63301, 636.493.8277
Collinsville: 100 Lamer Court, Suite 1, Collinsville, IL 62234, 618.345.2200
Belleville: 100 West Main Street, 2nd Floor, Belleville, IL 62220, 618.416.4488
www.oatesassociates.com

Estimated Quantities

Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	95		95
Removal of Bridges (T0092)	lump sum			1
Bridge Approach Slab (Minor)	sq. yard		122	122
Galvanized Structural Steel Piles (12 in)	linear foot	512		512
Pre-Bore for Piling	linear foot	356		356
Pile Point Reinforcement	each	22		22
Class B Concrete (Substructure)	cu. yard	49.0		49.0
Type H Barrier	linear foot		288	288
Slab on Concrete Beam	sq. yard		405	405
17 in., Prestressed Concrete Spread Box Beam	linear foot		400	400
Reinforcing Steel (Bridges)	pound	2,760		2,760
Slab Drain	each		24	24
Vertical Drain at End Bents	each	2		2
Plain Neoprene Bearing Pad	each		6	6
Laminated Neoprene Bearing Pad	each		12	12

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

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Concrete Beam.

All reinforcement in the intermediate bent concrete diaphragm except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete Beam.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete Beam.

Cost of L4x4 ASTM A709 Grade 36 HP Pile anchors and 3/4-inch diameter ASTM F3125 Grade A325 Type 1 bolts, complete in place, will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (12 in).

Estimated Quantities for Slab on Concrete Beam

Item		Total
Class B-2 Concrete	cu. yard	111
Reinforcing Steel (Epoxy Coated)	pound	35,900

The table of Estimated Quantities for Slab on Concrete Beam 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 prestressed panels, 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.

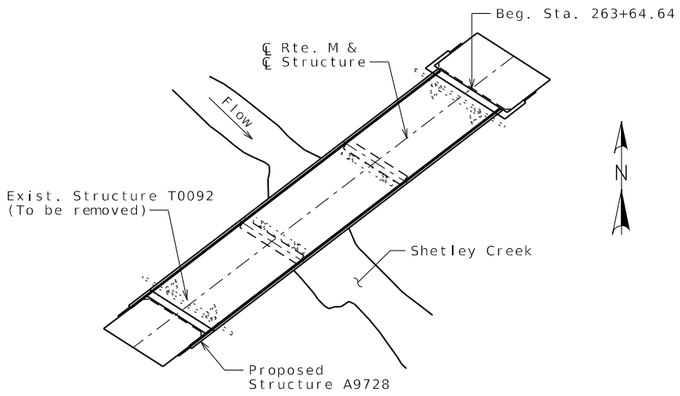
Method of forming the slab shall be as shown on the plans and in accordance with Sec. 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

Class B-2 Concrete quantity is based on minimum top flange thickness and minimum joint material thickness.

The prestressed panel quantities are not included in the table of Estimated Quantities of Slab on Concrete Beam.

Hydrologic Data

Drainage Area = 17.4 mi²
Design Flood Frequency = 50 years
Design Flood Discharge = 8,370 cfs
Design Flood (D.F.) Elevation = 561.9
Base Flood (100-year)
Base Flood Elevation = 562.3
Base Flood Discharge = 9,880 cfs
Estimated Backwater = 0.2 ft
Average Velocity thru Opening = 5.7 ft/s
Freeboard (50-year)
Freeboard = -0.7 ft
Roadway Overtopping
Overtopping Flood Discharge > 13,500 cfs
Overtopping Flood Frequency > 500 years
500-Year Flood Elevation = 562.9



LOCATION SKETCH

Foundation Data

Type	Design Data		Bent Number 1	2	3	4
Load Bearing Pile	Pile Type and Size		HP 12x53	HP 12x53	HP 12x53	HP 12x53
	Number	ea	5	6	6	5
	Approximate Length Per Each	ft	18	25	27	22
	Pile Point Reinforcement	ea	All	All	All	All
	Min. Galvanized Penetration (Elev.)	ft	Full Length	Full Length	Full Length	Full Length
	Pile Driving Verification Method		DF	**	**	DF
	Resistance Factor		0.40	0.40	0.40	0.40
	Minimum Nominal Axial Compressive Resistance	kip	327	415	415	309

DF = FHWA-modified Gates Dynamic Pile Formula

Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor

** All piles shall bear on rocks. Piles shall be placed in predrilled holes. Ensure the piles are seated on bedrock and not rubble in the bottom of the hole. The annular space around the piles shall be filled with Class B concrete as shown. Concrete below the water line should be placed with a tremie. Verification of pile driving is not required. Cost of Class B Concrete and all labor and materials required to place Class B Concrete will be completely covered by the contract unit price for Pre-Bore for Piling.

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

HP piles are anticipated to be driven to refusal on rock. Review all borings for depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702.

Prebore of piles at Bents No. 2, 3 & 4 to elevations 535, 533, and 538, respectively.

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
2023 AASHTO Guide Specifications for LRFD Seismic Bridge Design (3rd Ed.)
Seismic Design Category = B (Seismic Details)
Design earthquake response spectral accerleration coefficient at 1.0 second period, SD1 = 0.185g
Acceleration Coefficient (effective peak ground acceleration coefficient), As = 0.380g

Design Loading:

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

Design Unit Stresses:

Class B Concrete (Substructure)	f'c = 3,000 psi
Class B-2 Concrete (Superstructure, except Prestressed Beams and Barrier)	f'c = 4,000 psi
Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Reinforcing Steel (ASTM A706 Grade 60)	fy = 60,000 psi
Structural Steel HP Pile (ASTM 709 Grade 50)	fy = 50,000 psi

For precast prestressed panel stresses, see Sheet No. 15.
For prestressed beam stresses, see Sheets No. 12 & 13.

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.

Minimum clearance between galvanized piles and uncoated (plain) reinforcing steel including bar supports shall be 1 1/2". Nylon, PVC, or polyethylene spacers shall be used to maintain clearance. Nylon cable ties shall be used to bind the spacers to the reinforcement.

Traffic Handling:

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

Miscellaneous:

MoDOT Construction personnel will indicate the type of joint filler option used under the precast panels for this structure:

☐ Constant Joint Filler
☐ Variable Joint Filler

GENERAL NOTES & QUANTITIES

Detailed Feb. 2026
Checked Feb. 2026

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

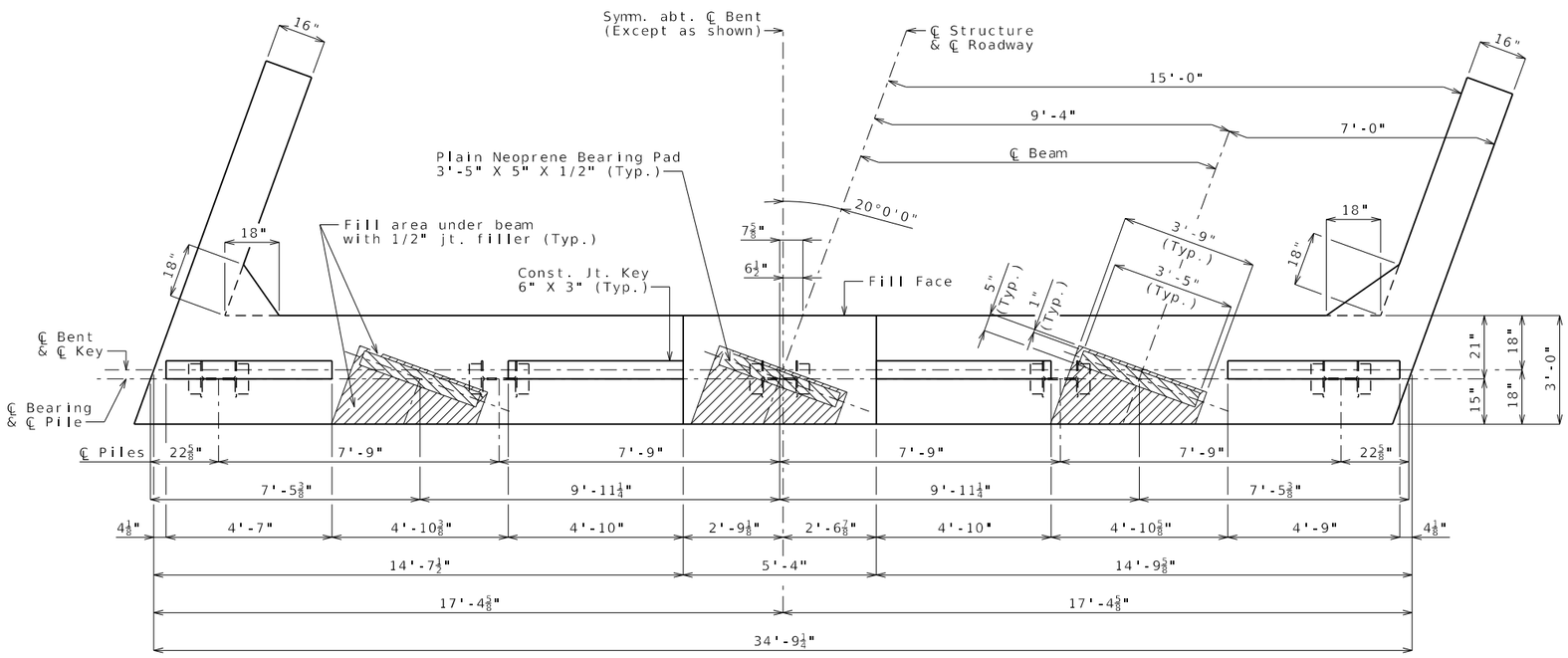
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JASON A. DREYER
NUMBER PE-2013038971
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DATE PREPARED 9/21/2026
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DISTRICT BR | SHEET NO. 2
COUNTY MADISON
JOB NO. JSE0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9728

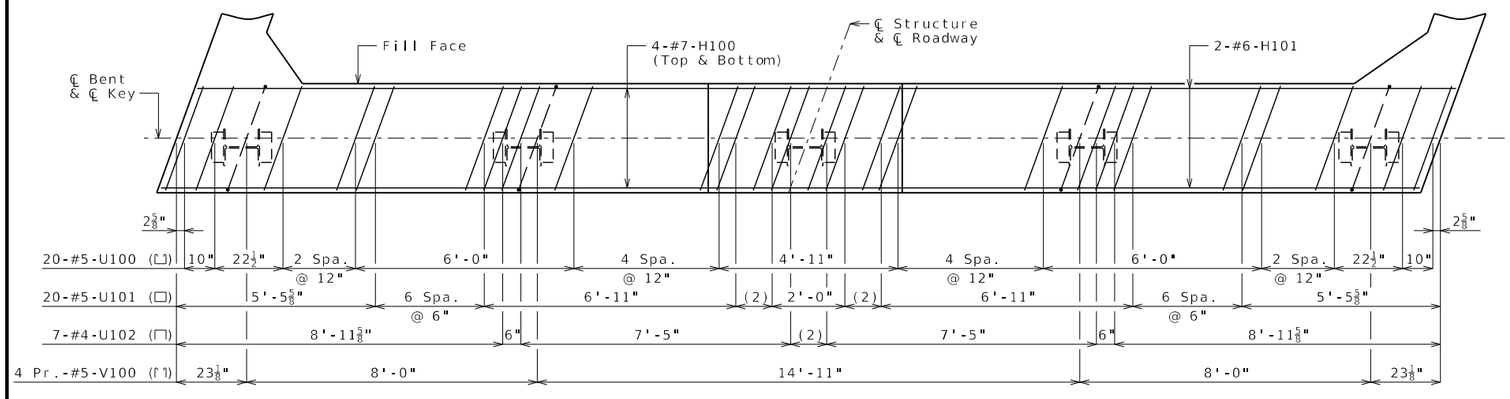
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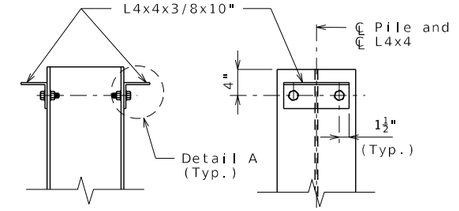


PLAN OF BEAM

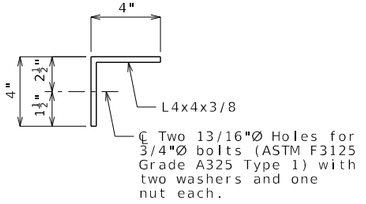


PLAN OF BEAM SHOWING REINFORCEMENT

(Keys not shown for clarity)

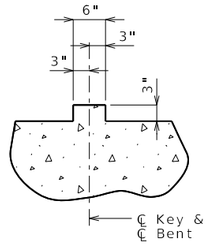


DETAILS OF HP PILE ANCHORS

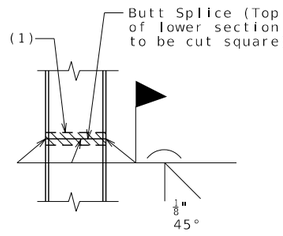


DETAIL A

Angles shall be coated with a minimum of two coats of non-aluminum epoxy mastic primer to provide a dry film thickness of 4 mils minimum, 8 mils maximum, or galvanized in accordance with Sec 1081. Bolts, washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.



SECTION THRU KEY



STEEL PILE SPLICE

(If required)

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	50
Galvanized Structural Steel Piles (12 in)	linear foot	90
Pile Point Reinforcement	each	5
Class B Concrete (Substructure)	cu. yard	14.1

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

Reference Notes:
(1) Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.
(2) 2 Spa. @ 6"

General Notes:
For details of End Bent No. 1 not shown, see Sheets No. 4 & 5.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inches.

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

DETAILS OF END BENT NO. 1

Detailed Mar. 2026
Checked Apr. 2026

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

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JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

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ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	3

COUNTY MADISON

JOB NO. JSE0036

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9728

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
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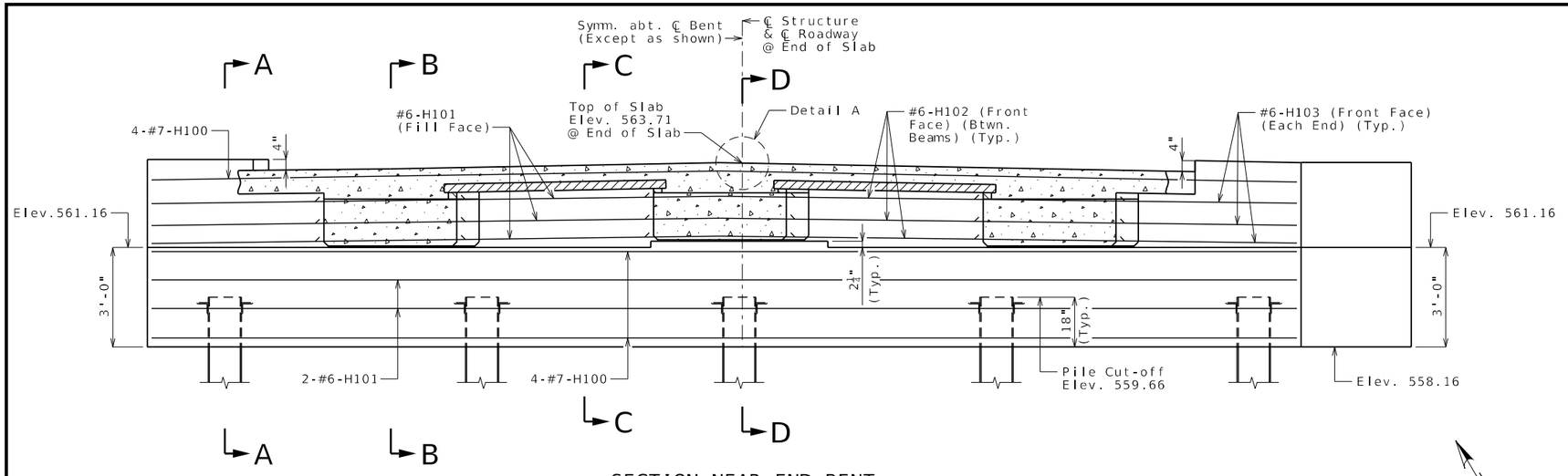
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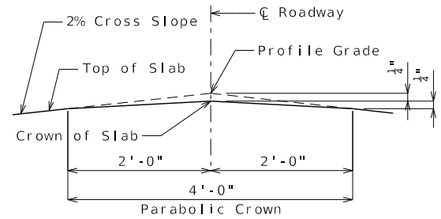
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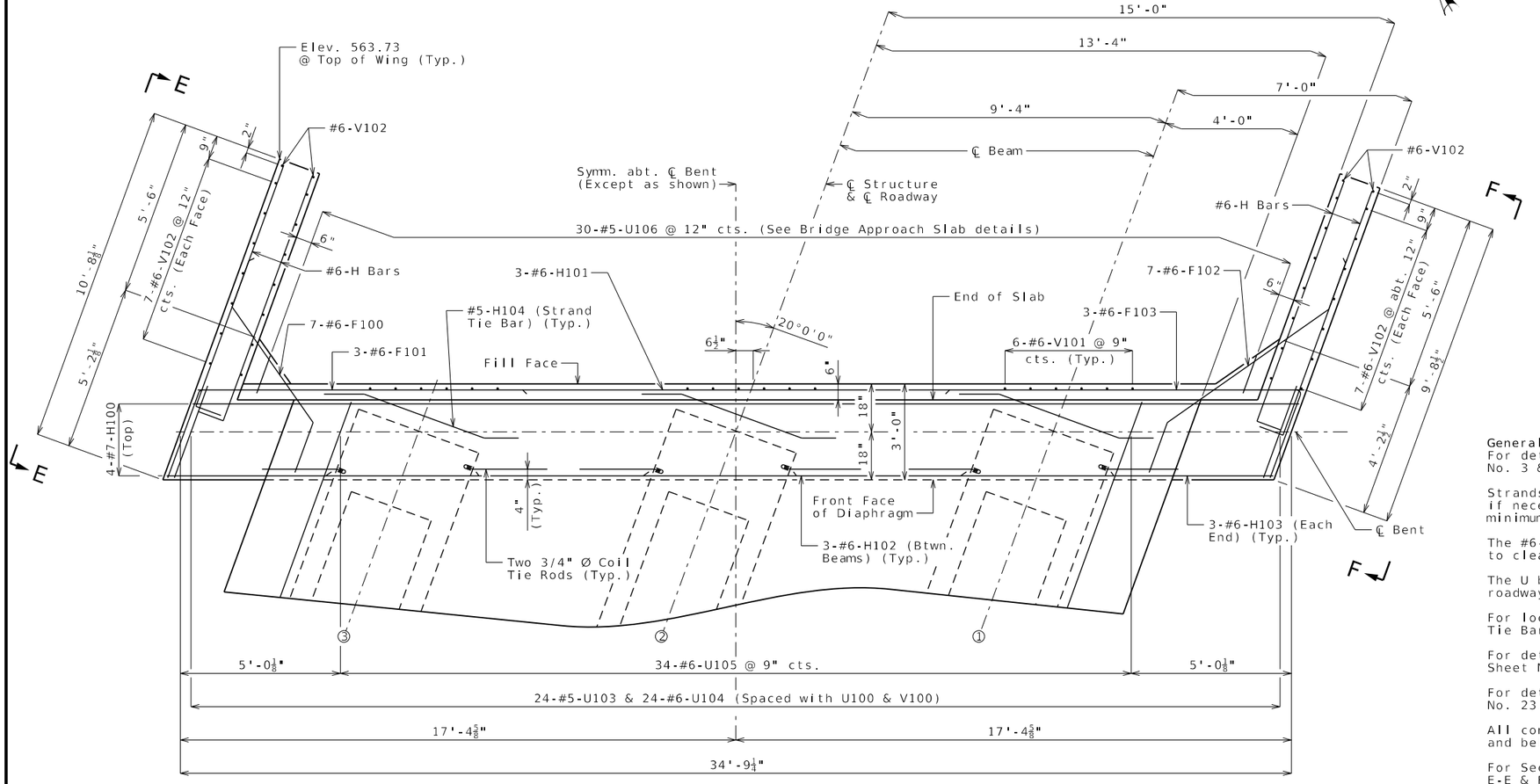
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SECTION NEAR END BENT



DETAIL A



PART PLAN

General Notes:
For details of End Bent No. 1 not shown, see Sheets No. 3 & 5.

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

The #6-F100 and #6-F102 bars shall be bent in the field to clear beams.

The U bars shall be placed parallel to centerline of roadway.

For location of Coil Tie Rods and #5-H104 (Strand Tie Bar), see Sheet No. 12.

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

For details of Bridge Approach Slab, see Sheet No. 23.

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

For Sections A-A, B-B, C-C & D-D and Elevations E-E & F-F, see Sheet No. 5.

DETAILS OF END BENT NO. 1

Detailed Mar. 2026
Checked Apr. 2026

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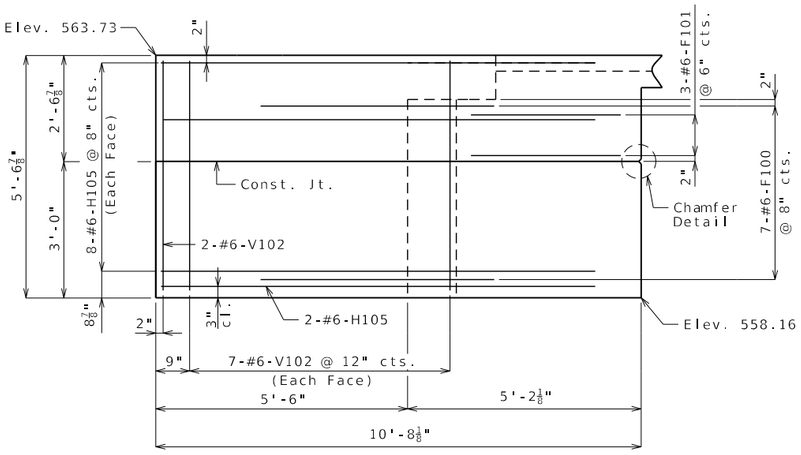
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DISTRICT: BR | SHEET NO.: 4
COUNTY: MADISON
JOB NO.: JSE0036
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9728

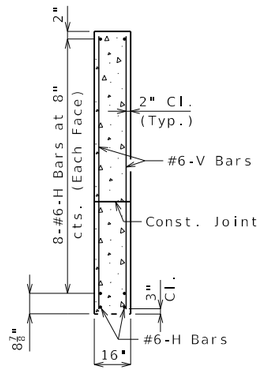
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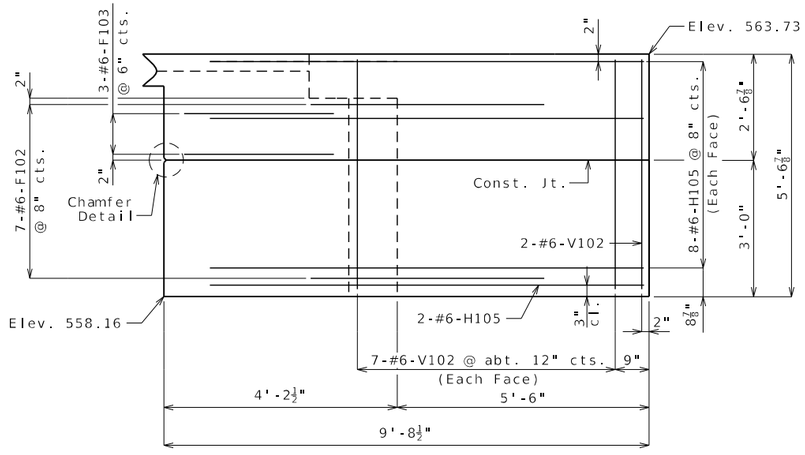
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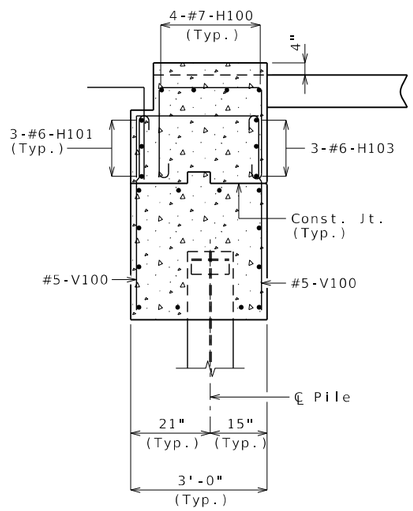
ELEVATION E-E



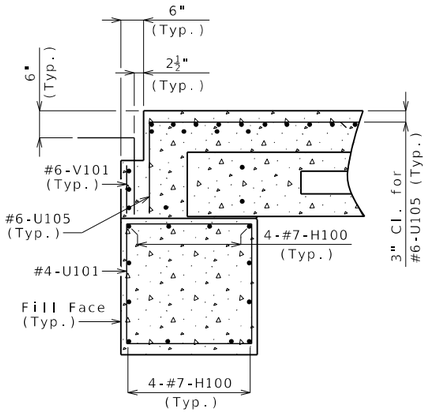
TYPICAL SECTION
THRU WING



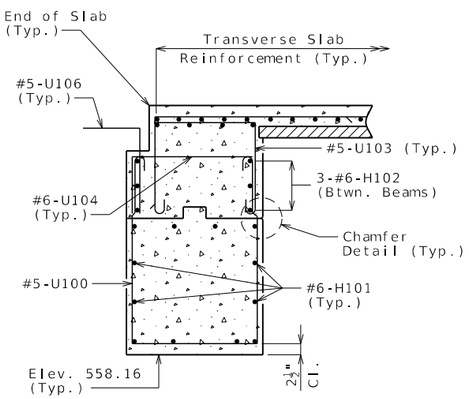
ELEVATION F-F



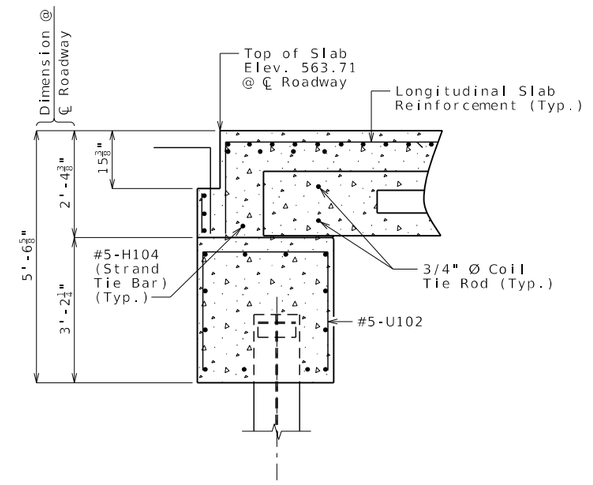
SECTION A-A



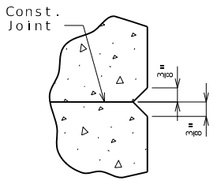
SECTION B-B



SECTION C-C



SECTION D-D



CHAMFER DETAIL

General Notes:
For details of End Bent No. 1 not shown, see Sheets No. 3 & 4.

For locations of Sections A-A, B-B, C-C & D-D and Elevations E-E & F-F see Sheet No. 4.

For reinforcement of the barrier, see Sheets No. 20-22.

DETAILS OF END BENT NO. 1

Detailed Mar. 2026
Checked Apr. 2026

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BR	5

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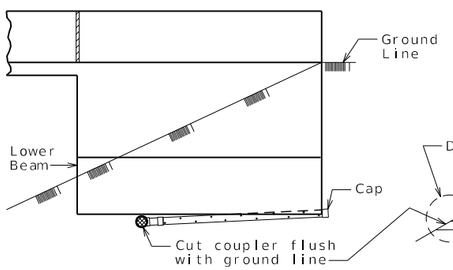
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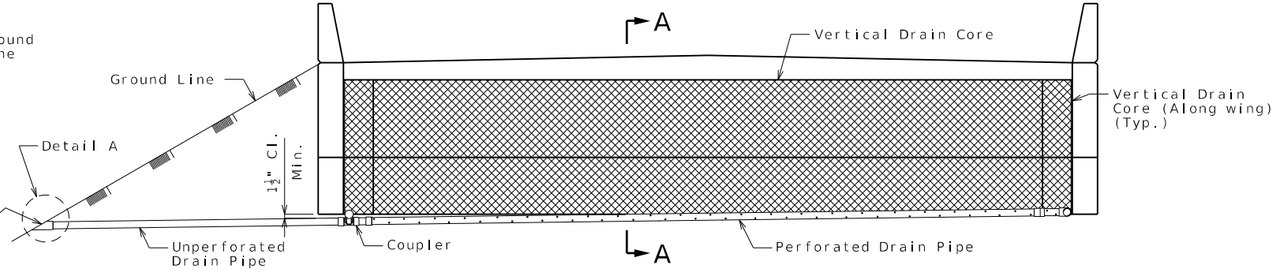
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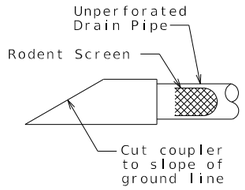
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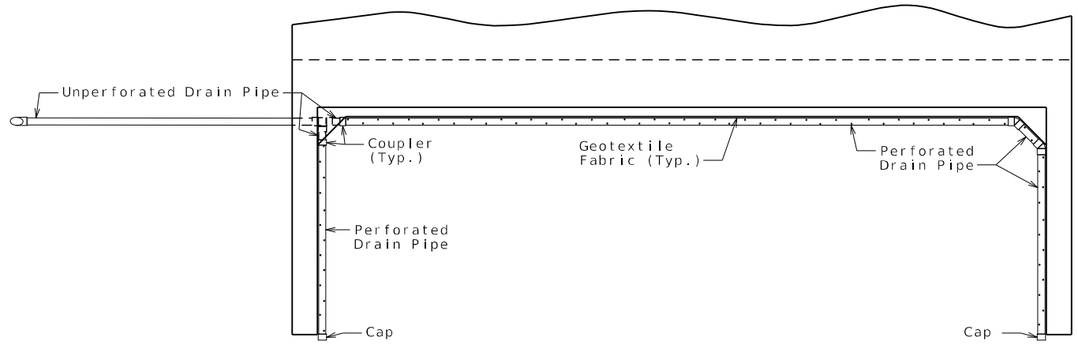
ELEVATION OF WING



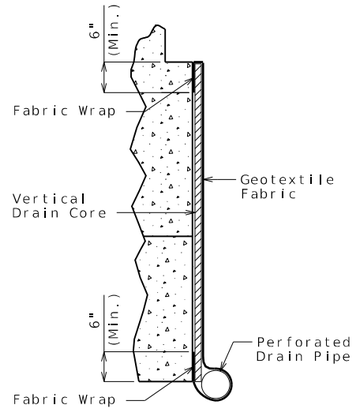
ELEVATION OF END BENT



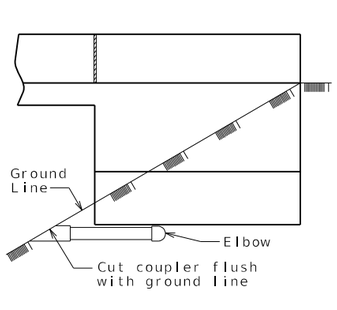
DETAIL A



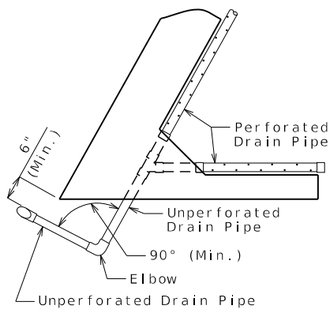
PLAN OF END BENT



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)

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DISTRICT	SHEET NO.
BR	6

COUNTY: MADISON
JOB NO.: JSE0036
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9728

DESCRIPTION | DATE

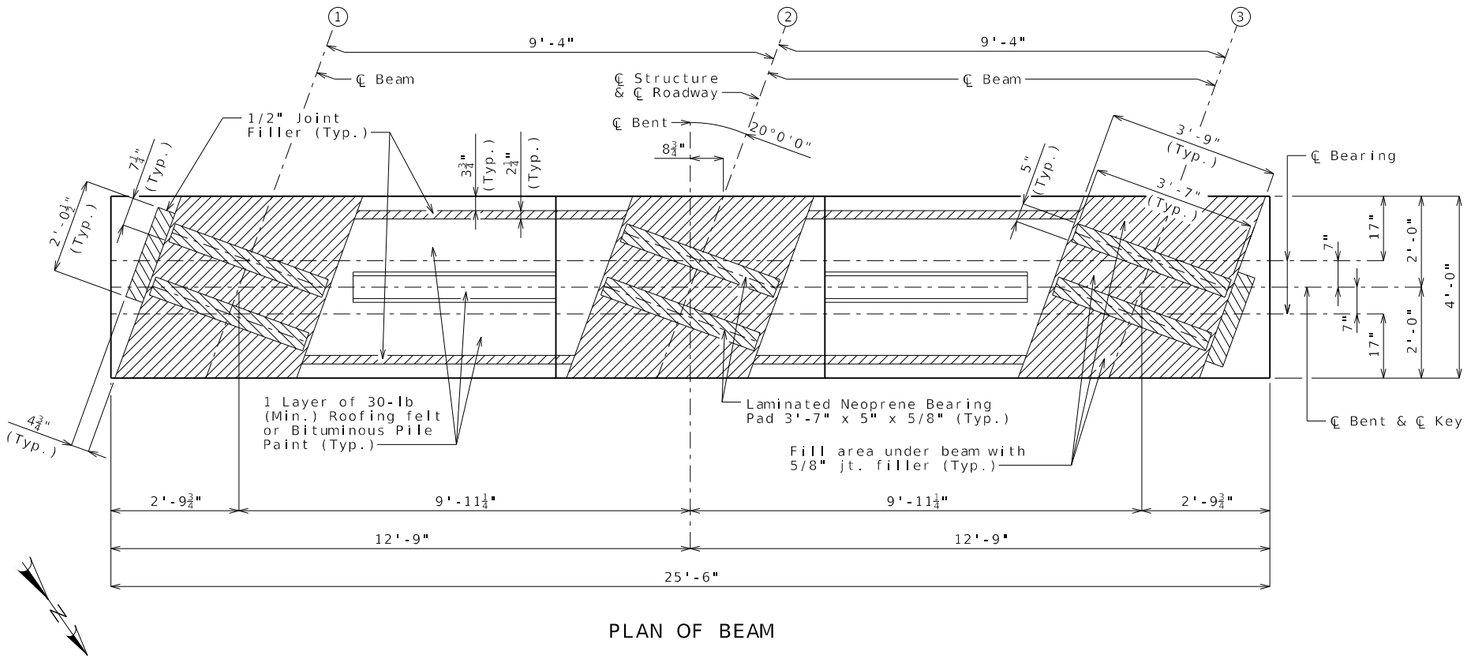
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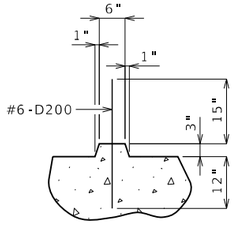
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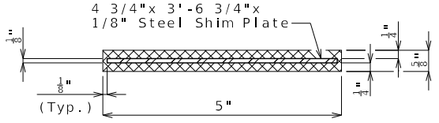
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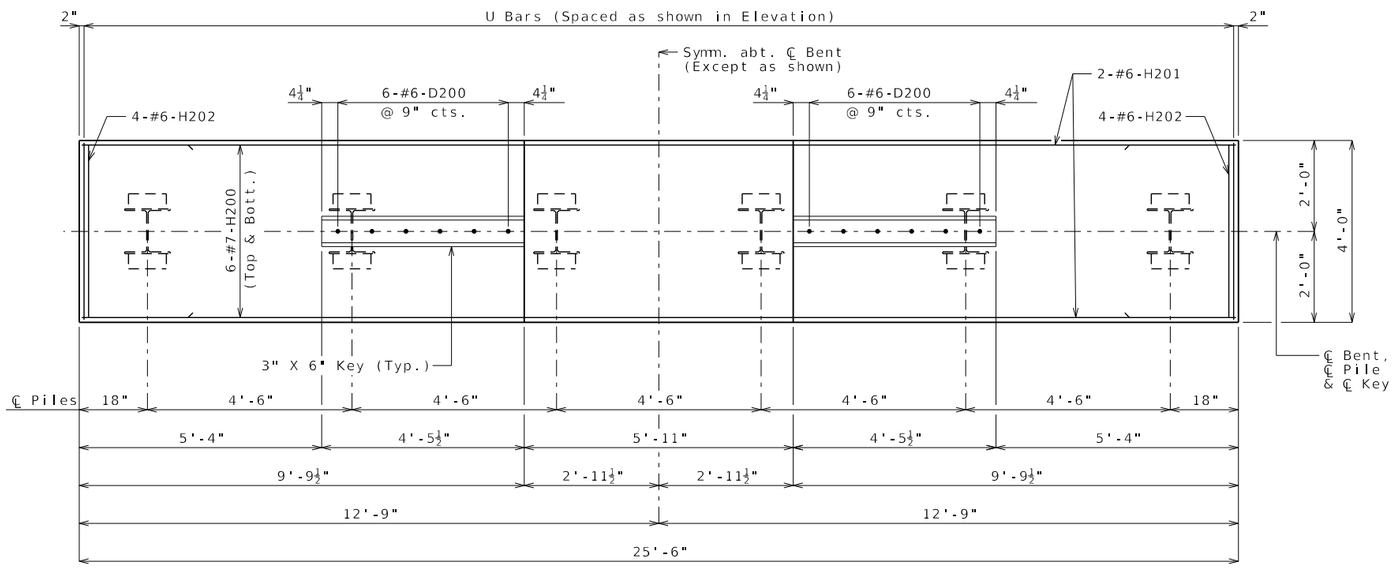
PLAN OF BEAM



SECTION THRU KEY



SECTION THRU LAMINATED
NEOPRENE BEARING PAD



PLAN OF BEAM SHOWING REINFORCEMENT

Substructure Quantity Table for Bent No. 2		
Item		Quantity
Galvanized Structural Steel Piles (12 in)	linear foot	150
Pre-Bore for Piling	linear foot	113
Pile Point Reinforcement	each	6
Class B Concrete (Substructure)	cu. yard	11.5
Reinforcing Steel (Bridges)	pound	1,380

Substructure Quantity Table for Bent No. 3		
Item		Quantity
Galvanized Structural Steel Piles (12 in)	linear foot	162
Pre-Bore for Piling	linear foot	142
Pile Point Reinforcement	each	6
Class B Concrete (Substructure)	cu. yard	11.5
Reinforcing Steel (Bridges)	pound	1,380

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

General Notes:
For details of Intermediate Bents No. 2 & 3 not shown, see Sheet No. 8.

For steps 2 inches or more, us 2 1/4 x 1/2 inch joint filler up vertical face.

DETAILS OF INTERMEDIATE BENTS NO. 2 & 3

Detailed Mar. 2026
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JSE0036

CONTRACT ID.

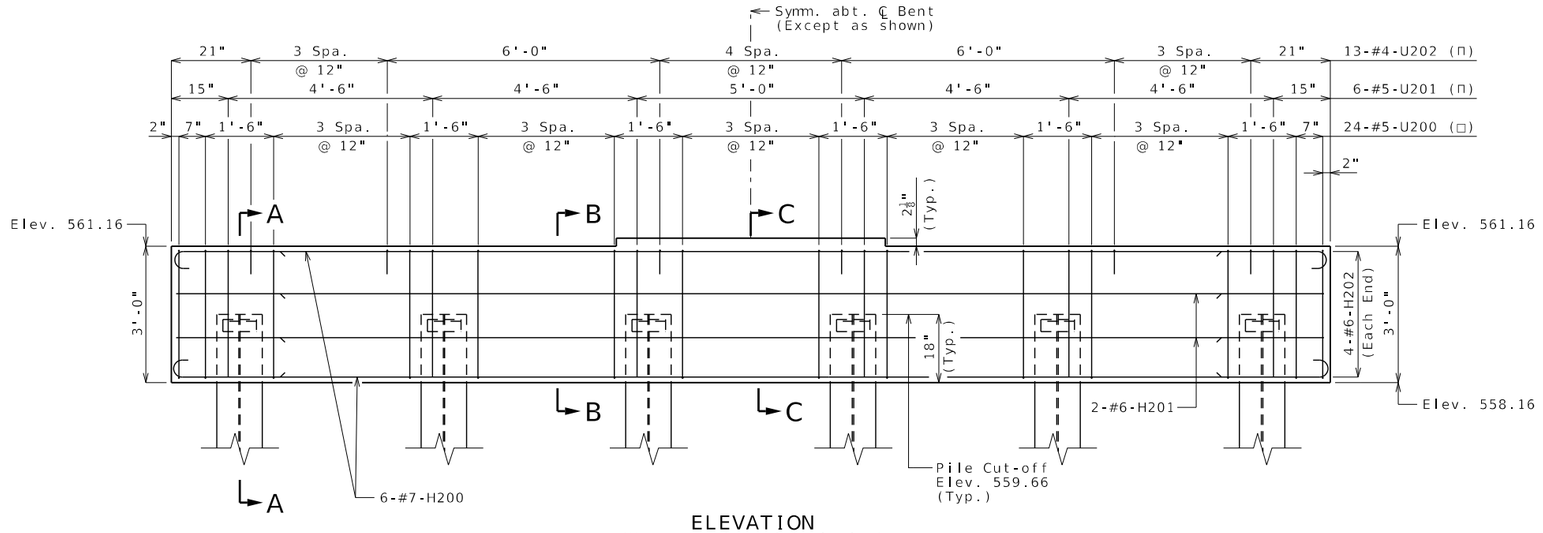
PROJECT NO.

BRIDGE NO.
A9728

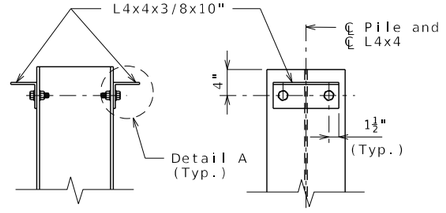
DESCRIPTION	DATE

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

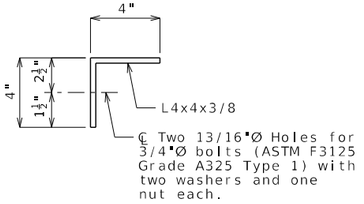
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ELEVATION
(Keys not shown for clarity)

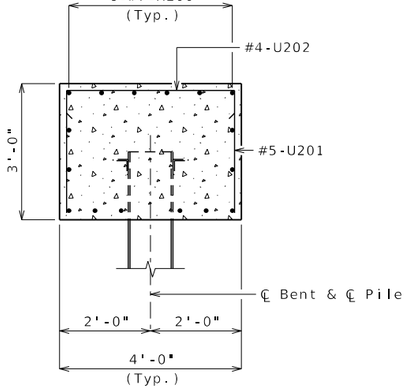


DETAILS OF HP PILE ANCHORS

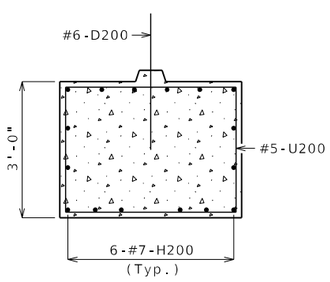


DETAIL A

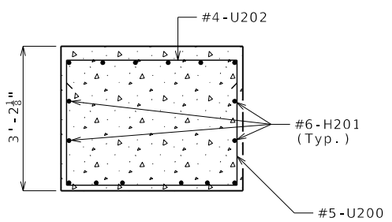
Angles shall be coated with a minimum of two coats of non-aluminum epoxy mastic primer to provide a dry film thickness of 4 mils minimum, 8 mils maximum, or galvanized in accordance with Sec 1081. Bolts, washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.



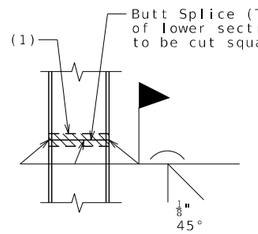
SECTION A-A



SECTION B-B



SECTION C-C



STEEL PILE SPLICE
(If required)

Reference Notes:
(1) Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

General Notes:
For details of Intermediate Bents No. 2 & 3 not shown, see Sheet No. 7.

DETAILS OF INTERMEDIATE BENTS NO. 2 & 3

Detailed Mar. 2026
Checked Apr. 2026

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

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

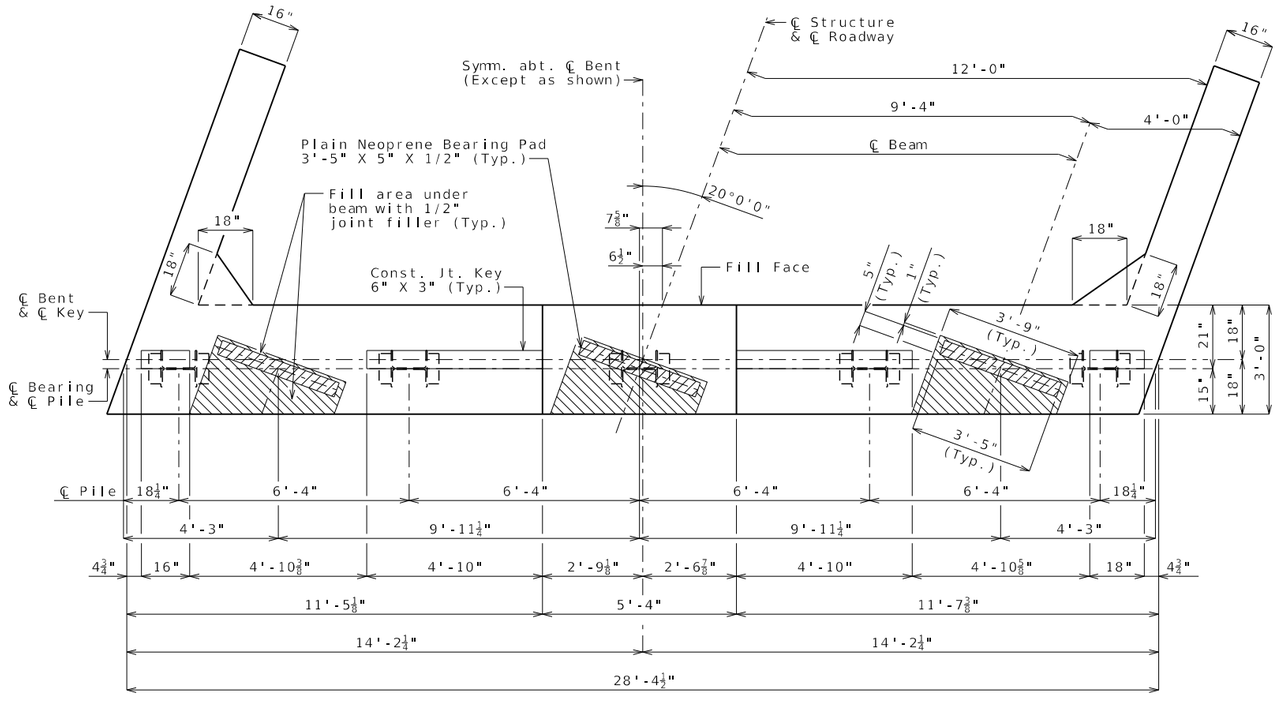
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/17/2026
ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 8
COUNTY MADISON
JOB NO. JSE0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9728

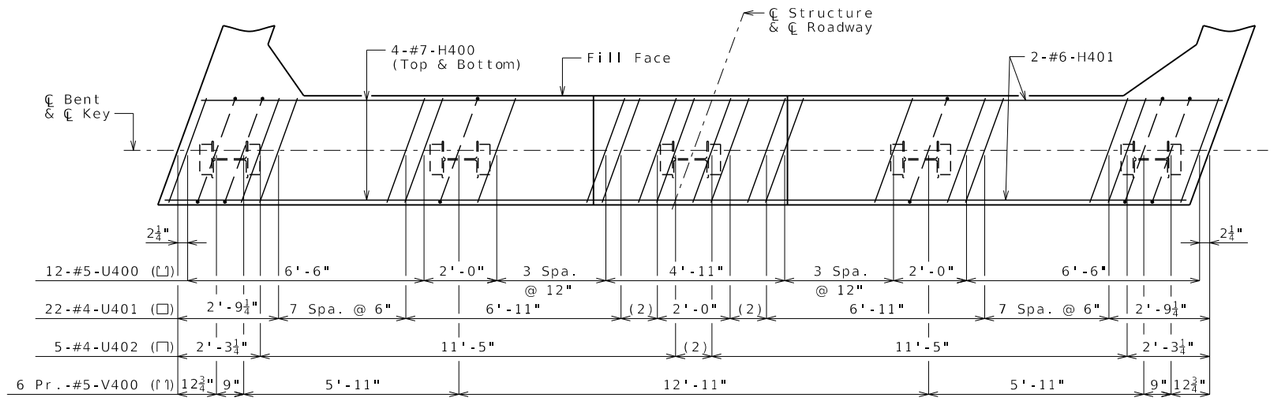
DESCRIPTION | DATE

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

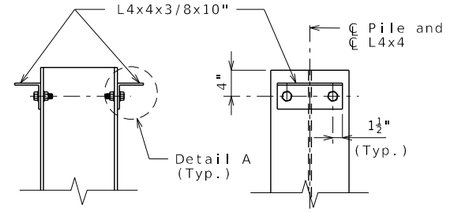
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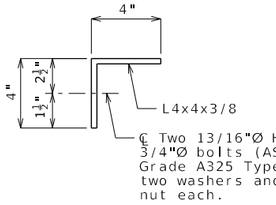
PLAN OF BEAM



PLAN OF BEAM SHOWING REINFORCEMENT
(Keys not shown for clarity)

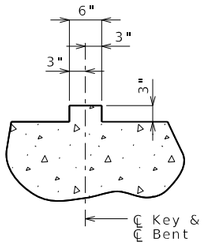


DETAILS OF HP PILE ANCHORS

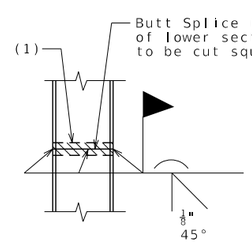


DETAIL A

Angles shall be coated with a minimum of two coats of non-aluminum epoxy mastic primer to provide a dry film thickness of 4 mils minimum, 8 mils maximum, or galvanized in accordance with Sec 1081. Bolts, washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.



SECTION THRU KEY



STEEL PILE SPLICE
(If required)

Substructure Quantity Table for Bent No. 4		
Item		Quantity
Class 1 Excavation	cu. yard	45
Galvanized Structural Steel Piles (12 in)	linear foot	110
Pre-Bore for Piling	linear foot	101
Pile Point Reinforcement	each	5
Class B Concrete (Substructure)	cu. yard	11.9

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

Reference Notes:
(1) Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.
(2) 2 Spa. @ 6"

General Notes:
For details of End Bent No. 4 not shown, see Sheets No. 10 & 11.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inches.

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

DETAILS OF END BENT NO. 4

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

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DATE PREPARED 9/17/2026
ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 9
COUNTY MADISON
JOB NO. JSE0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9728

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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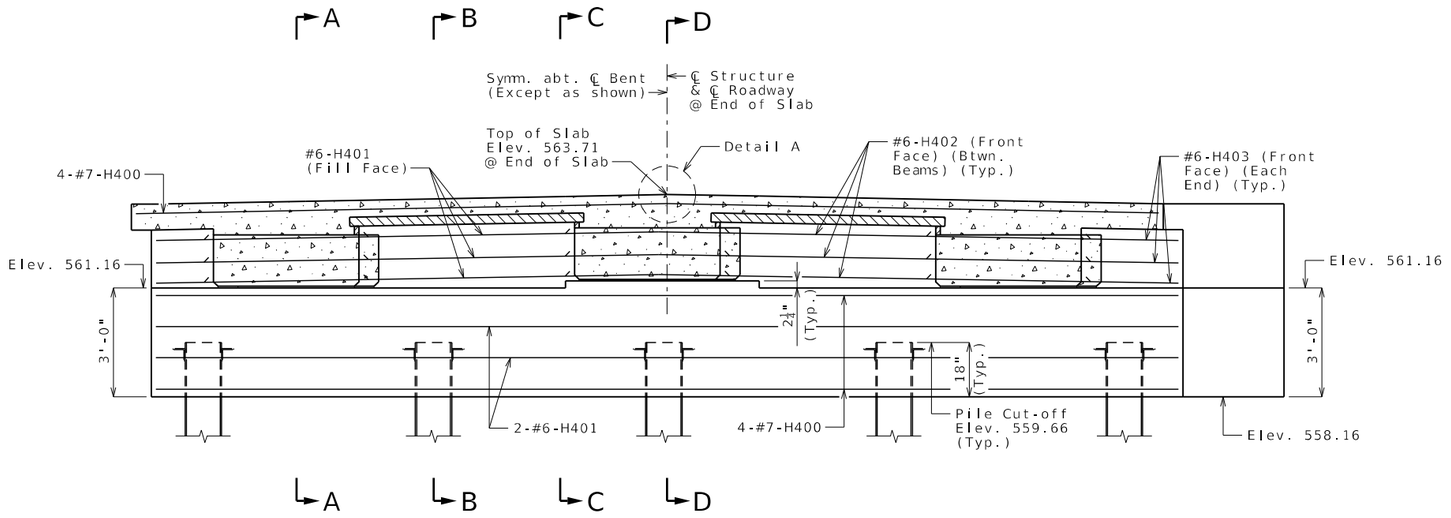
MISSOURI DESIGN FIRM PE-001166

OATES ASSOCIATES

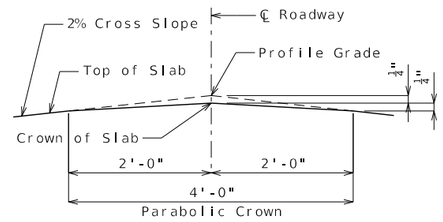
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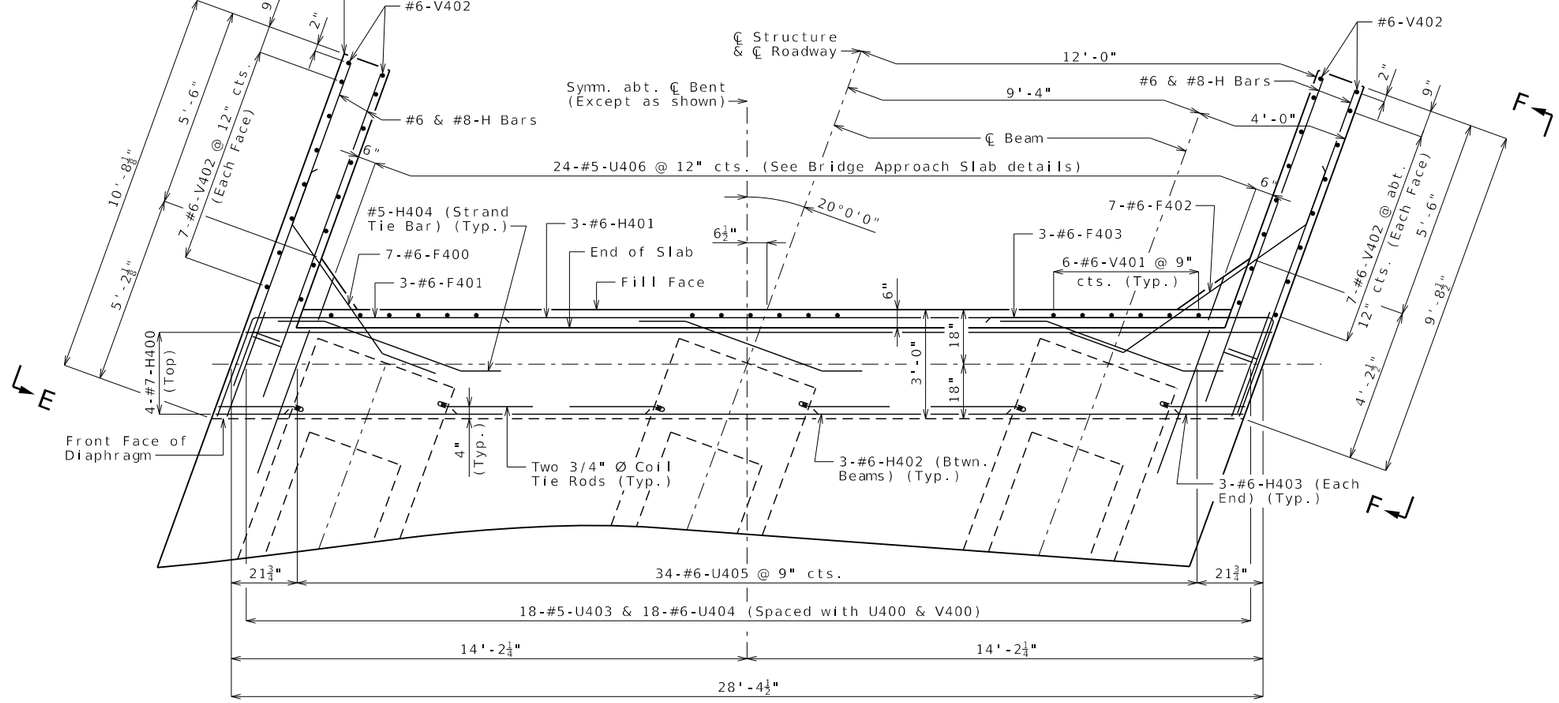
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SECTION NEAR END BENT



DETAIL A



PART PLAN

General Notes:
For details of End Bent No. 4 not shown, see Sheets No. 9 & 11.

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

The #6-F400 and #6-F402 bars shall be bent in the field to clear beams.

The U bars shall be placed parallel to centerline of roadway.

For location of Coil Tie Rods and #5-H404 (Strand Tie Bar), see Sheet No. 12.

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

For details of Bridge Approach Slab, see Sheet No. 23.

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

For Sections A-A, B-B, C-C & D-D and Elevations E-E & F-F, see Sheet No. 11.

DETAILS OF END BENT NO. 4

Detailed Mar. 2026
Checked Apr. 2026

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

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

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DATE PREPARED 9/17/2026

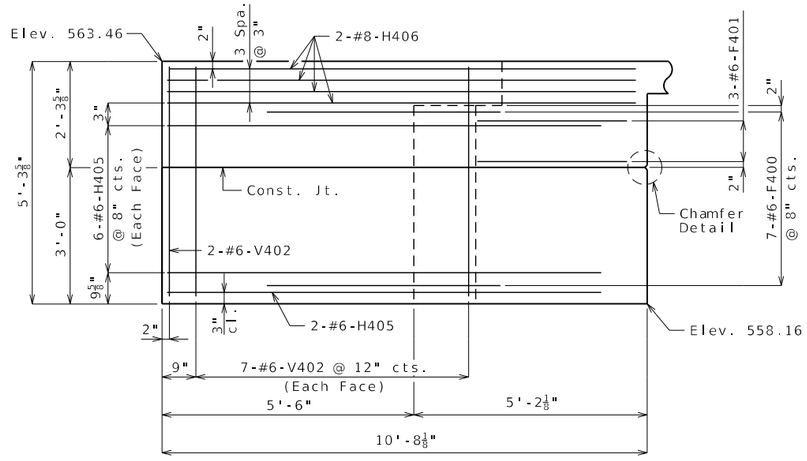
ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	10

COUNTY MADISON
JOB NO. JSE0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9728

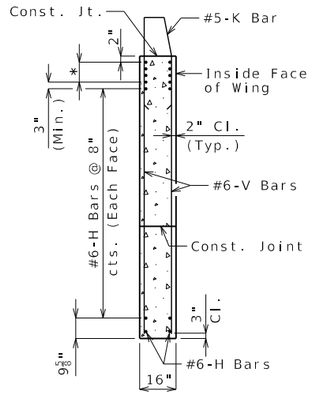
DESCRIPTION | DATE

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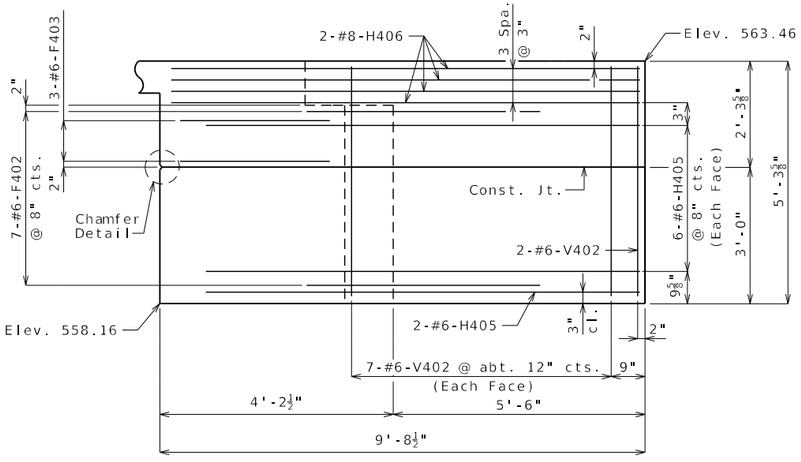


ELEVATION E-E

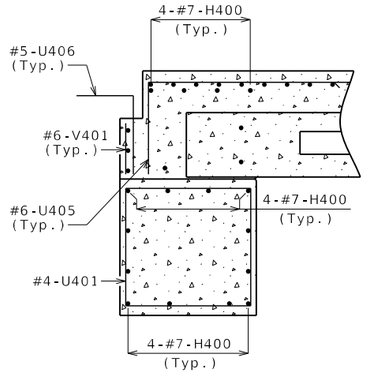


TYPICAL SECTION THRU WING

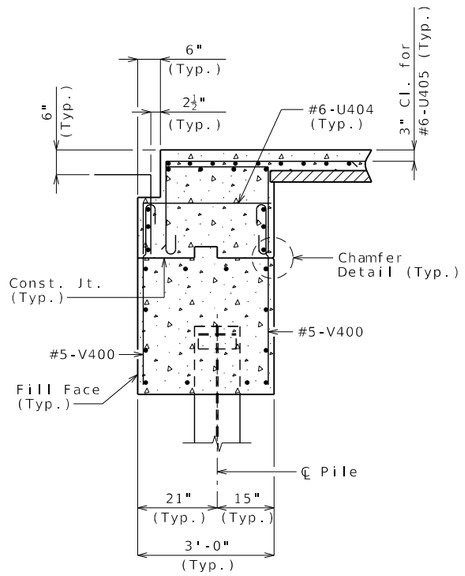
* #8-H Bars at 3" cts. (Each face)(Place with grade)



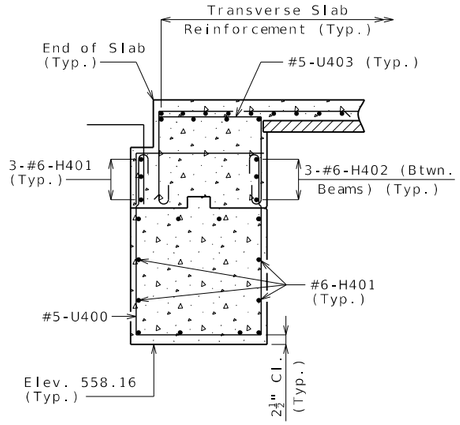
ELEVATION F-F



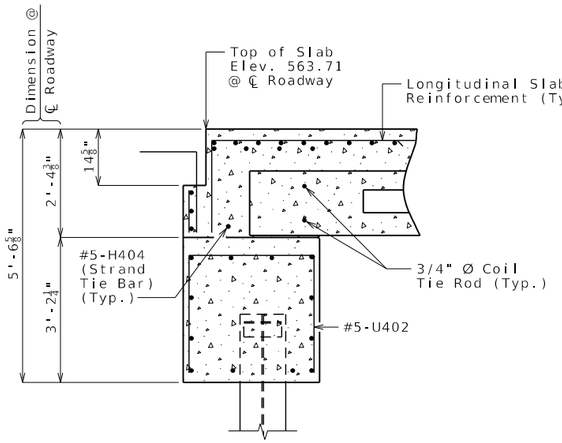
SECTION A-A



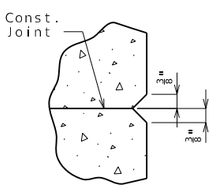
SECTION B-B



SECTION C-C



SECTION D-D



CHAMFER DETAILS

General Notes:
For details of End Bent No. 4 not shown, see Sheets No. 9 & 10.

For locations of Sections A-A, B-B, C-C & D-D and Elevations E-E & F-F, see Sheet No. 10.

For reinforcement of the barrier, see Sheets No. 20-22.

DETAILS OF END BENT NO. 4

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
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DATE PREPARED 9/17/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	11

COUNTY: MADISON
JOB NO.: JSE0036
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9728

DESCRIPTION | DATE

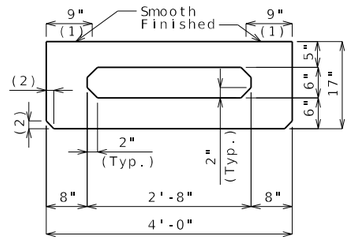
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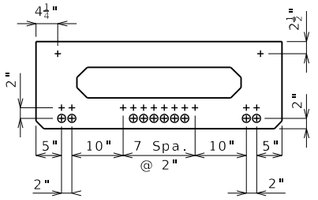
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DIMENSIONS

(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied

(2) $1\frac{1}{2}$" (Typ.) ($\frac{3}{4}$" Optional)

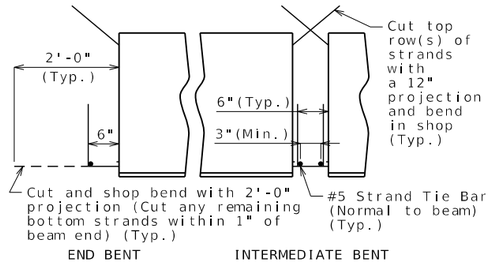


STRAND ARRANGEMENT

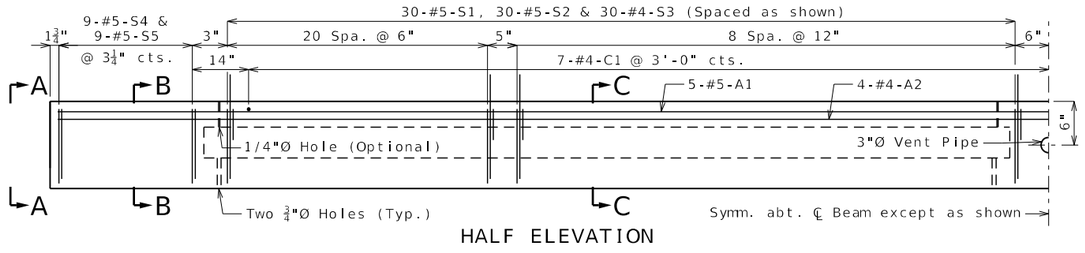
All strands are fully bonded unless otherwise noted.

+ Indicates prestressing strand.

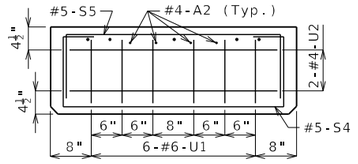
O Indicates cut and shop bend with 2'-0" projection



STRANDS AT BEAM ENDS

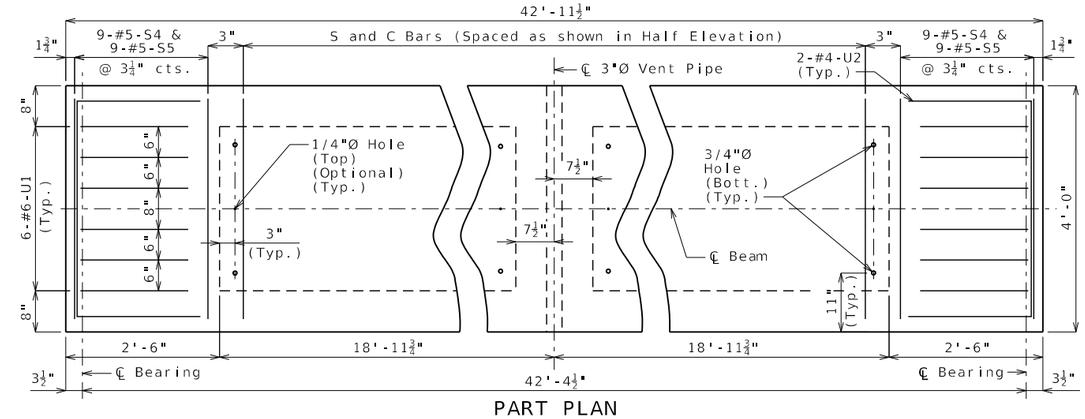


HALF ELEVATION

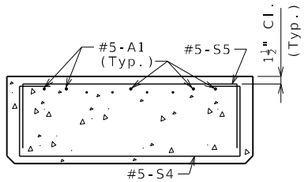


ELEVATION A-A

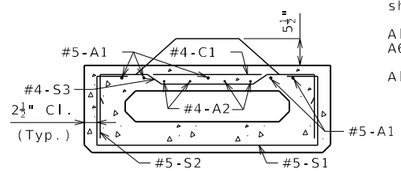
Strands not shown for clarity.



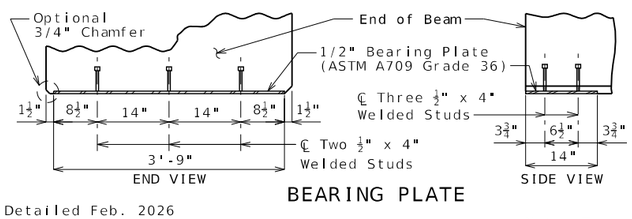
PART PLAN



SECTION B-B

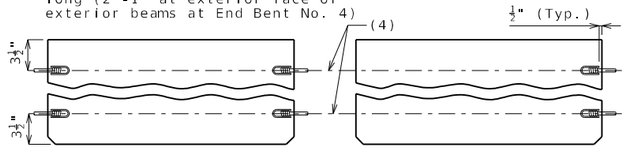


SECTION C-C



BEARING PLATE

(4) ℄ 3/4"Ø (Min.) Coil Tie Rods 2'-6" long (2'-1" at exterior face of exterior beams at End Bent No. 4)



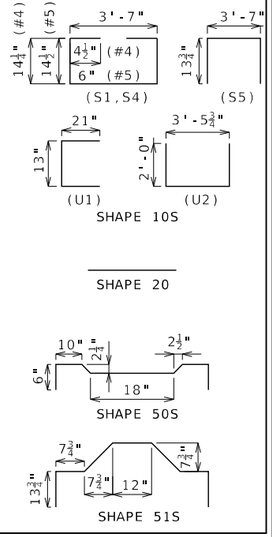
EXTERIOR BEAMS AT END BENTS
INTERIOR BEAMS AT ALL BENTS

EXTERIOR BEAMS AT INTERMEDIATE BENTS

COIL TIES

BILL OF REINFORCING STEEL - EACH BEAM

NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
5	5 A1	42'-8"	20	
4	4 A2	42'-8"	20	
13	4 C1	3'-7"	20	
60	5 S1	6'-7"	10S	
60	5 S2	6'-1"	51S	
60	4 S3	4'-6"	50S	
18	5 S4	6'-7"	10S	
18	5 S5	5'-8"	10S	
12	6 U1	4'-3"	10S	
4	4 U2	7'-4"	10S	



All dimensions are out to out. Use symmetry for dimensions not shown.

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

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

Minimum clearance to reinforcing shall be one inch, unless otherwise shown.

All reinforcement shall be ASTM A615 or A706 Grade 60.

All S2 bars shall be epoxy coated.

General Notes:

Concrete for prestressed beams shall be Class A-1 with f'c = 8,000 psi and f'ci = 6,500 psi.

Use 24 strands, 0.6"Ø Grade 270, with an initial prestress force of 1,055 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

Exterior and interior beams are the same except: coil ties, application of bond breaker, coil inserts for slab drains.

For Beam Camber Diagram, see Sheet No. 17.

For location of coil inserts at slab drains, see Sheet No. 16.

For location of coil ties at concrete bent diaphragms, see Sheets No. 4, 10 and 14.

SPREAD BOX BEAMS - SPANS (1-2) AND (3-4)

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/17/2026

ROUTE M | STATE MO

DISTRICT BR | SHEET NO. 12

COUNTY MADISON

JOB NO. JSE0036

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9728

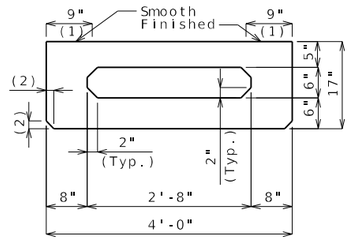
DESCRIPTION | DATE

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

OATES ASSOCIATES
St. Louis 720 Olive Street, Suite 700 St. Louis, MO 63101 314.588.8381
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Detailed Feb. 2026
Checked Feb. 2026

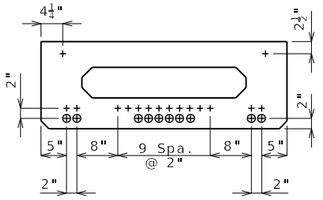
Note: This drawing is not to scale. Follow dimensions.



DIMENSIONS

(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.

(2) $1\frac{1}{2}$" (Typ.) ($\frac{3}{4}$" Optional)

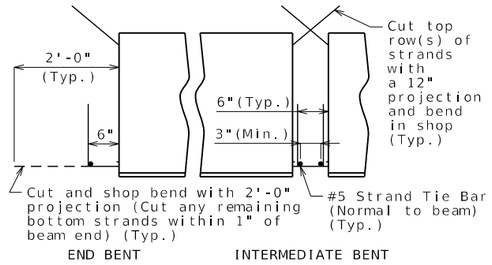


STRAND ARRANGEMENT

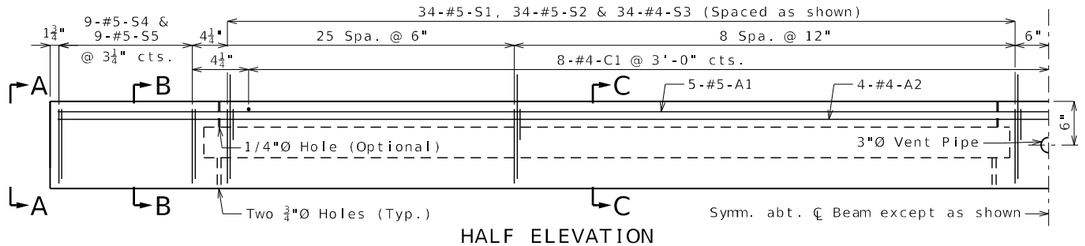
All strands are fully bonded unless otherwise noted.

+ Indicates prestressing strand.

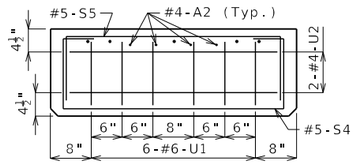
○ Indicates cut and shop bend with 2'-0" projection.



STRANDS AT BEAM ENDS

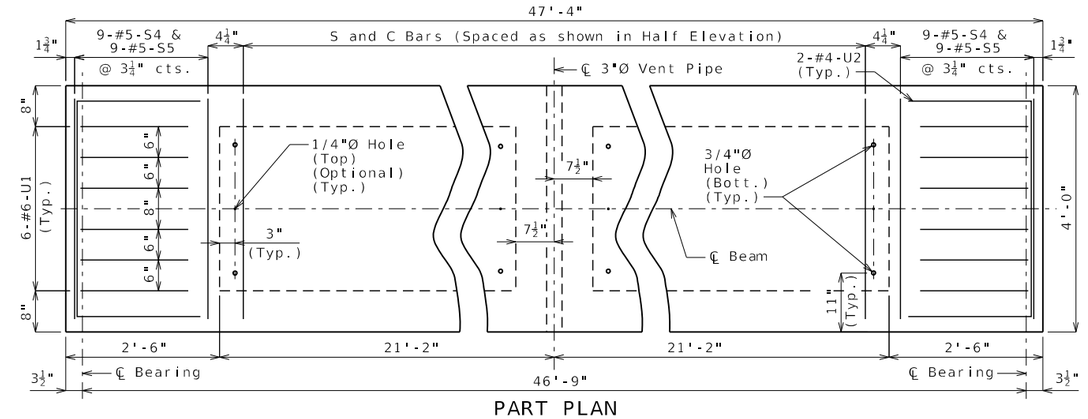


HALF ELEVATION

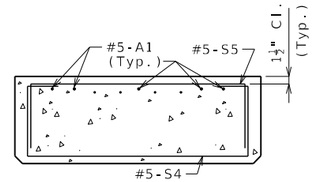


ELEVATION A-A

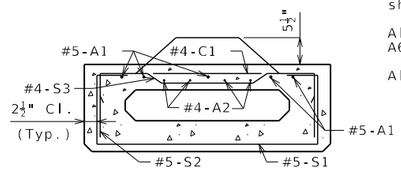
Strands not shown for clarity.



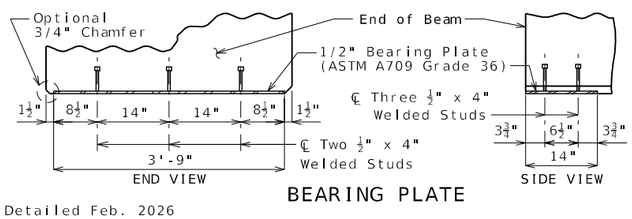
PART PLAN



SECTION B-B

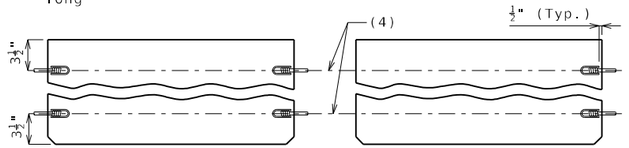


SECTION C-C



BEARING PLATE

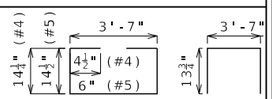
(4) ℄ 3/4"Ø (Min.) Coil Tie Rods 2'-6" long

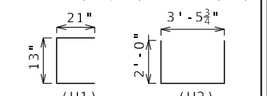


COIL TIES

BILL OF REINFORCING STEEL - EACH BEAM

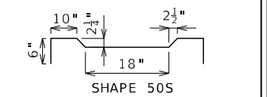
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
5	5 A1	47'-1"	20	
4	4 A2	47'-1"	20	
15	4 C1	3'-7"	20	
68	5 S1	6'-7"	10S	
68	5 S2	6'-1"	51S	
68	4 S3	4'-6"	50S	
18	5 S4	6'-7"	10S	
18	5 S5	5'-8"	10S	
12	6 U1	4'-3"	10S	
4	4 U2	7'-4"	10S	



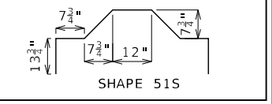


SHAPE 10S

SHAPE 20



SHAPE 50S



SHAPE 51S

All dimensions are out to out. Use symmetry for dimensions not shown.

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

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

Minimum clearance to reinforcing shall be one inch, unless otherwise shown.

All reinforcement shall be ASTM A615 or A706 Grade 60.

All S2 bars shall be epoxy coated.

General Notes:

Concrete for prestressed beams shall be Class A-1 with f'c = 8,000 psi and f'ci = 6,500 psi.

Use 26 strands, 0.6"Ø Grade 270, with an initial prestress force of 1,143 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

Exterior and interior beams are the same except: coil ties, application of bond breaker, coil inserts for slab drains.

For Beam Camber Diagram, see Sheet No. 17.

For location of coil inserts at slab drains, see Sheet No. 16.

For location of coil ties at concrete bent diaphragms, see Sheet No. 14.

SPREAD BOX BEAMS - SPAN (2-3)

Detailed Feb. 2026
Checked Feb. 2026

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

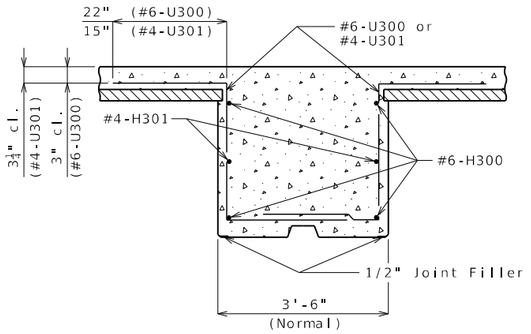
STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/17/2026
ROUTE M
STATE MO
DISTRICT BR
SHEET NO. 13
COUNTY MADISON
JOB NO. JSE0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9728

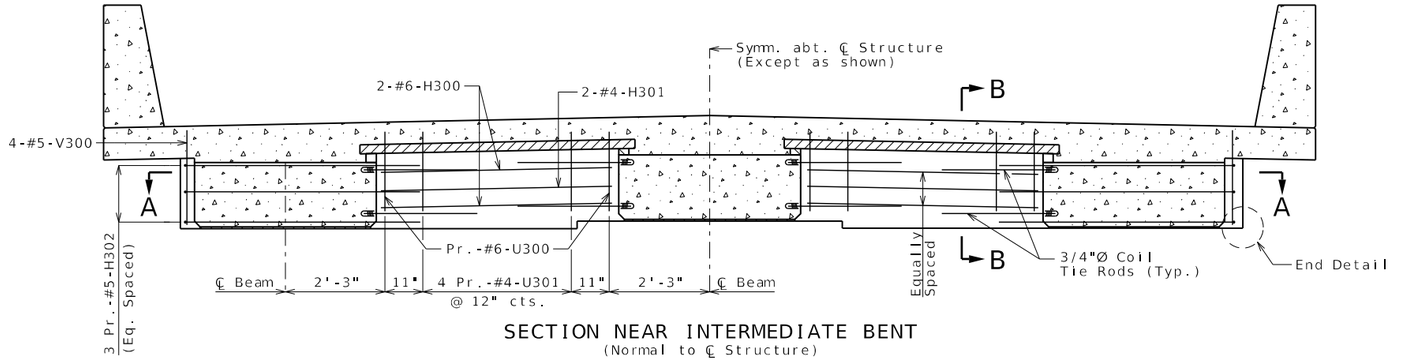
DESCRIPTION
DATE

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105 WEST CAPITOL
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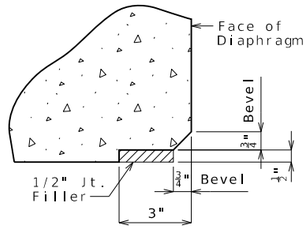
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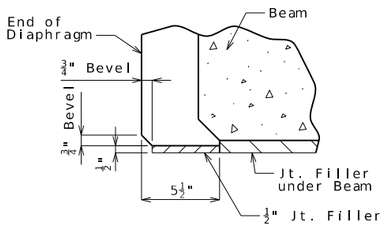
SECTION B-B



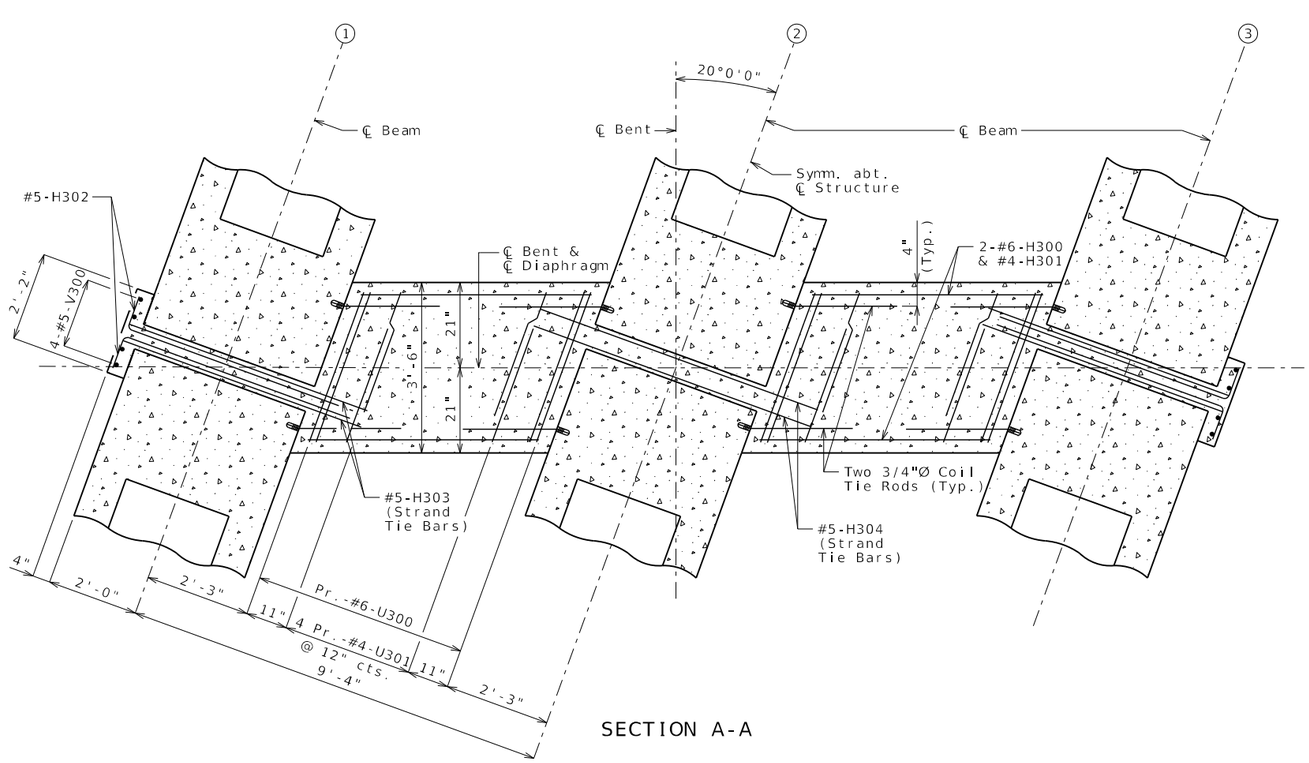
SECTION NEAR INTERMEDIATE BENT
(Normal to ℄ Structure)



EDGE DETAIL



END DETAIL



SECTION A-A

General Notes:
For locations of Strand Tie Bars and Coil Tie Rods, see Sheets No. 12 & 13.

Diaphragms at intermediate bents shall be built vertical.

All U-bars in diaphragms are to placed parallel to ℄ Roadway.

DETAILS OF CONCRETE DIAPHRAGMS AT INTERMEDIATE BENTS NO. 2 & 3

Detailed Mar. 2026
Checked Apr. 2026

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

H:\P\224097 - Madison County Bridge Package\002-JSE0036-T0092\Bridge\Final Bridge\Microstation\B_A9728_014_JSE0036_Details of Concrete Diaphragms at Intermediate Bents No. 2 & 3.dgn 11:28:23 PM 9/17/2026

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/17/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	14

COUNTY
MADISON

JOB NO.
JSE0036

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9728

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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MISSOURI DESIGN FIRM PE-001166

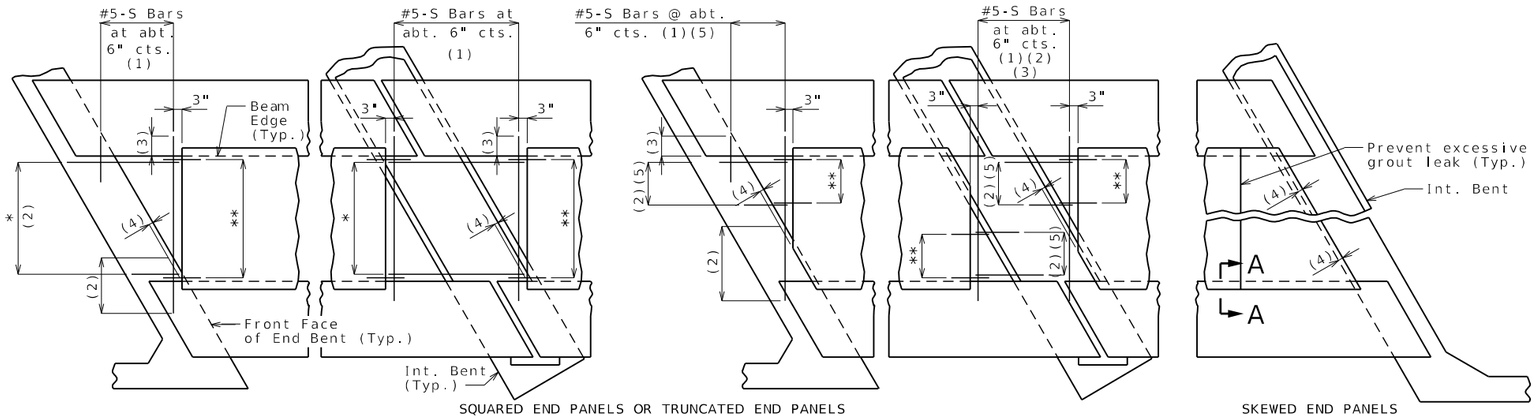
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720 Olive Street, Suite 700
St. Louis, MO 63101
314.588.8381

St. Charles
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St. Charles, MO 63301
636.493.6277

Collinsville
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618.345.2200

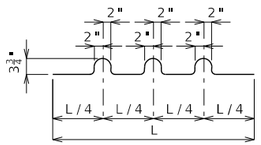
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100 West Main Street, 2nd Floor
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618.416.4488

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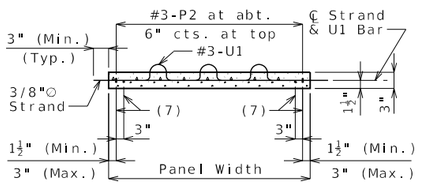
SQUARED END PANELS OR TRUNCATED END PANELS

SKEWED END PANELS



BENDING DIAGRAM FOR U1 BAR

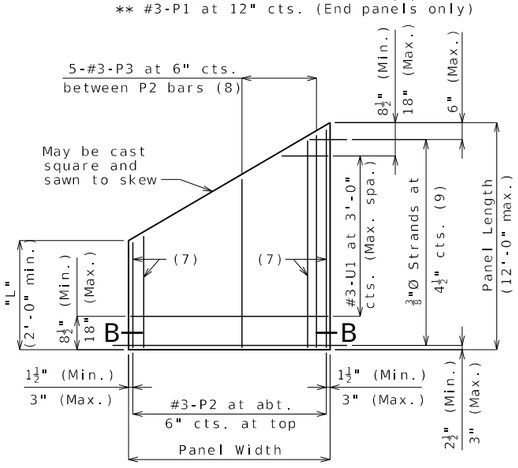
U1 Bars may be oriented at right angles to location and spacing shown. U1 Bars shall be placed between P1 bars.



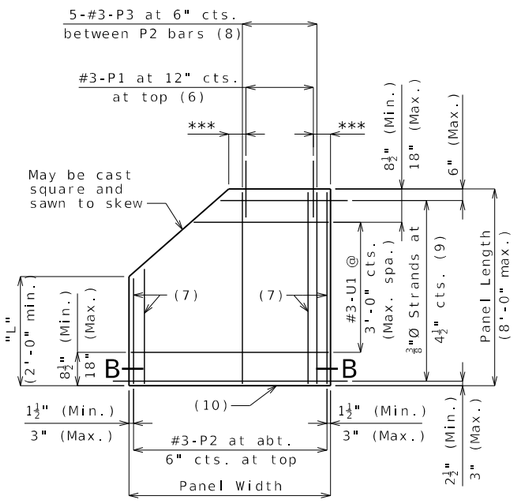
SECTION B-B

PLAN SHOWING PANEL PLACEMENT

* #5-S Bars at abt. 9" cts. (1)
** #3-P1 at 12" cts. (End panels only)

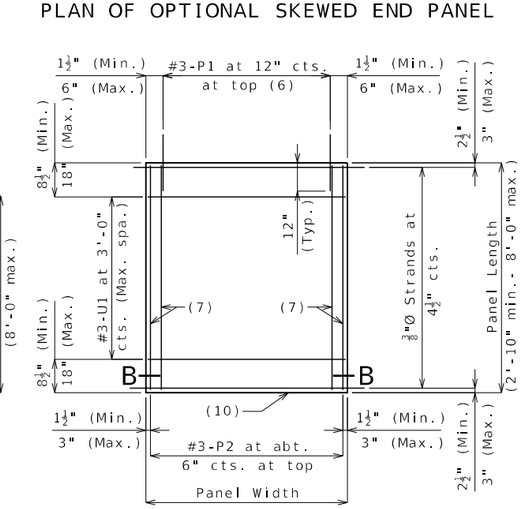


PLAN OF OPTIONAL SKEWED END PANEL

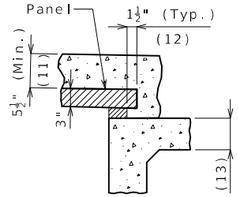


PLAN OF OPTIONAL TRUNCATED END PANEL

*** 3" (Min.), 6" (Max.)



PLAN OF SQUARED PANEL



SECTION A-A

Joint Filler Dimensions		
Width	Height	
	Min.	Max.
3"	1"	4"

Reference Notes:

Plan of Panel Placement:
(1) S-bars shown are bottom steel in slab between panels and used with squared and truncated end panels only.

(2) Extend S-bars 18 inches beyond the front face of end bents and int. bents for squared and truncated end panels only.

(3) Extend S-bars 9 inches beyond edge of beam (Typ.).

(4) End panels shall be dimensioned 1/2" min. to 1 1/2" max. from the inside face of diaphragm.

(5) For truncated end panels, use a min. of #5-S bars at 6" crossings in openings, or min. 4x4-W7xW7.

Plans of Panels:
(6) For end panels only, P1 bars shall be 2'-0" in length and embedded 12". P1 bars will not be required for panels at squared integral end bents.

(7) #3-P2 bars near edge of panel at bottom (under strands).

(8) Use #3-P3 bars if panel is skewed 45° or greater.

(9) Any strand 2'-0" or shorter shall have a #4 reinforcing bar on each side of it, centered between strands. Strands 2'-0" or shorter may then be debonded at the fabricator's option.

(10) Optional 1/2" x 45° Chamfer one or both sides at bottom.

Section A-A:
(11) Slab thickness over prestressed panels varies due to beam camber. In order to maintain minimum slab thickness, it may be necessary to raise the grade uniformly throughout the structure. No payment will be made for additional labor or materials required for necessary grade adjustment.

(12) Contractor shall ensure proper consolidation under and between panels.

(13) At the contractor's option, the variation in slab thickness over prestressed panels may be eliminated or reduced by increasing and varying the beam top flange thickness. Dimensions shall be shown on the shop drawings.

General Notes:

Prestressed Panels:
Concrete for prestressed panels shall be Class A-1 with f'c = 6,000 psi, f'ci = 4,000 psi.

The top surface of all panels shall receive a scored finish with a depth of scoring of 1/8" perpendicular to the prestressing strands in the panels.

Prestressing tendons shall be high-tensile strength, uncoated, seven-wire, low-relaxation strands for prestressed concrete in accordance with AASHTO M 203 Grade 270, with nominal diameter of strand = 3/8" and nominal area = 0.085 sq.in. and minimum ultimate strength = 22.95 kips (270 ksi). Larger strands may be used with the same spacing and initial tension.

Initial prestressing force = 17.2 kips/strand.

The method and sequence of releasing the strands shall be shown on the shop drawings.

Suitable anchorage devices for lifting panels may be cast in panels, provided the devices are shown on the shop drawings and approved by the engineer. Panel lengths shall be determined by the contractor and shown on the shop drawings.

When squared end panels are used at skewed bents, the skewed portion shall be cast full depth. No separate payment will be made for additional concrete and reinforcing required.

Support from diaphragm forms is required under the optional skewed end until cast-in-place concrete has reached 3,000 psi compressive strength.

Prestressed panels shall be brought to saturated surface-dry (SSD) condition just prior to the deck pour. There shall be no free standing water on the panels or in the area to be cast.

The prestressed panel quantities are not included in the table of estimated quantities for the slab.

Reinforcing Steel:
All dimensions are out to out.

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

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

If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.

Deformed welded wire reinforcement (WWR) providing a minimum area of reinforcing perpendicular to strands of 0.22 sq in./ft, with spacing parallel to strands sufficient to ensure proper handling, may be used in lieu of the #3-P2 bars shown. Wire diameter shall not be larger than 0.375 inch. The above alternative reinforcement criteria may be used in lieu of the #3-P3 bars, when required, and placed over a width not less than 2 feet.

The following reinforcing steel shall be tied securely to the strands with the following maximum spacing in each direction:
#3-P2 bars at 16 inches.
WWR at 24 inches.

The #3-U1 bars shall be tied securely to #3-P2 bars, to WWR or to strands (when placed between P1 bars) at about 3-foot centers.

Minimum reinforcement steel length shall be 2'-0".

All reinforcement other than prestressing strands shall be epoxy coated.

Precast panels may be in contact with stirrup reinforcing in diaphragms.

S-bars are not listed in the bill of reinforcing.

Cost of S-bars will be considered completely covered by the contract unit price for the slab.

Joint Filler:
Joint filler shall be preformed fiber expansion joint material in accordance with Sec 1057 or expanded or extruded polystyrene bedding material in accordance with Sec 1073.

Use Slab Haunching Diagram on Sheet No. 17 for determining thickness of joint filler within the limits noted in the table of Joint Filler Dimensions.

Thicker material may be used on one or both sides of the beam to reduce cast-in-place concrete thickness to within tolerances.

The same thickness of preformed fiber expansion joint material shall be used under any one edge of any panel except at locations where top flange thickness may be stepped. The maximum change in thickness between adjacent panels shall be 1/2 inch. The polystyrene bedding material may be cut with a transition to match haunch height above top of flange.

Joint filler shall be glued to the beam. When thickness exceeds 1 1/2 inches, the joint filler shall be glued top and bottom. The glue used shall be the type recommended by the joint filler manufacturer.

Edges of panels shall be uniformly seated on the joint filler before slab reinforcement is placed.

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
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DATE PREPARED 9/17/2026
ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 15
COUNTY MADISON
JOB NO. JSE0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9728

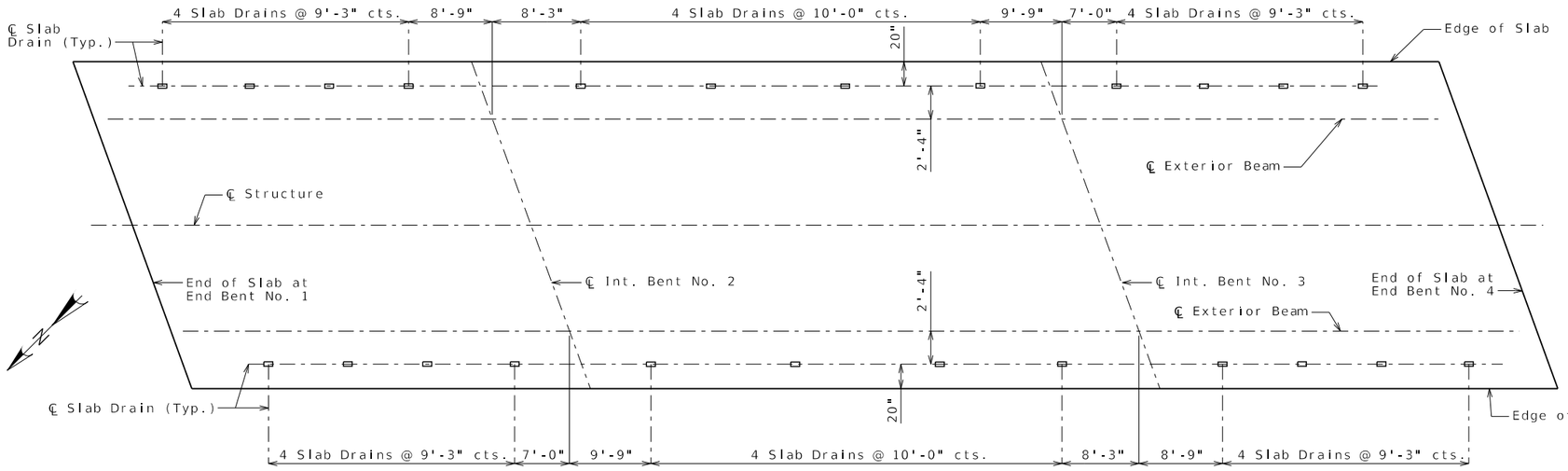
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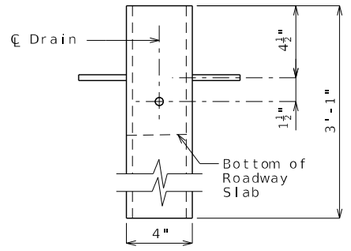
PRESTRESSED PANELS

Detailed Feb. 2026
Checked Mar. 2026

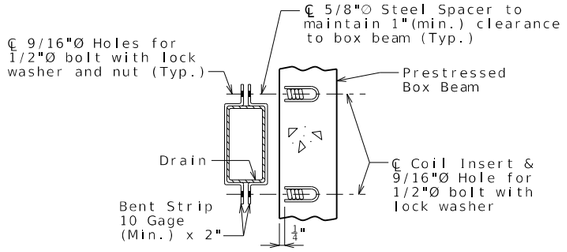
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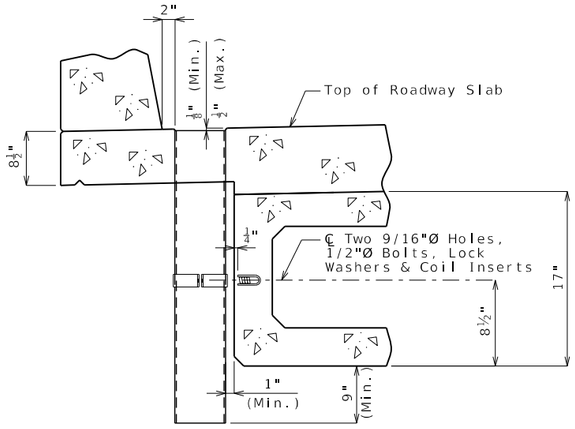
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



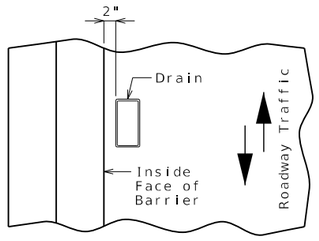
ELEVATION OF DRAIN



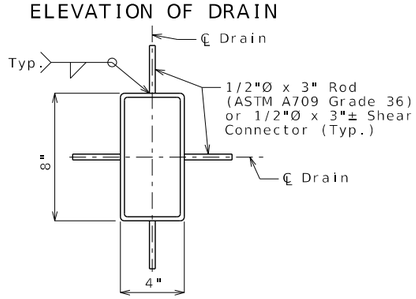
PART SECTION SHOWING BRACKET ASSEMBLY



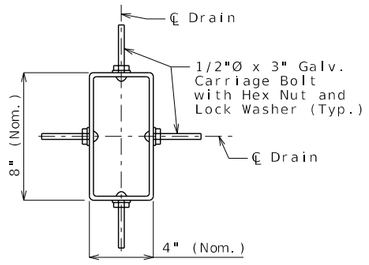
PART SECTION NEAR DRAIN



PART PLAN OF SLAB AT DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

General Notes:

Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of same type.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Reinforcing steel shall be shifted to clear drains.

The coil inserts and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM F2329.

All 1/2"Ø bolts shall be ASTM A307.

Shop drawings will not be required for the slab drains and the bracket assembly.

The coil inserts required for the bracket assembly attachment shall be located on the prestressed beam shop drawings.

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The bolts required to attach the slab drain bracket assembly to the prestressed beam shall be supplied by the prestressed beam fabricator.

Notes for Steel Drain:

Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:

Shape of drains shall be rectangular with outside nominal dimensions of 8" x 4".

Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

The color of the slab drain shall be gray (Federal Standard #26373). The color shall be uniform throughout the resin and any coating used.

The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall furnish the results of the required ultraviolet testing prior to acceptance of the slab drains.

At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be as recommended by the manufacturer to ensure a smooth, chip free cut.

SLAB DRAINS

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
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COUNTY MADISON
JOB NO. JSE0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9728

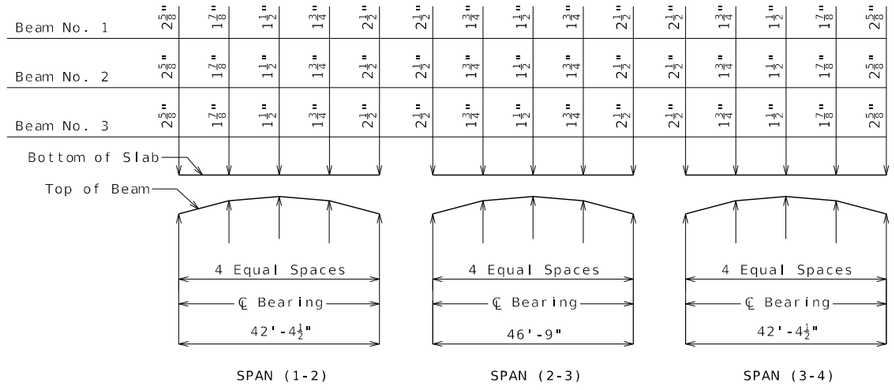
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Checked Feb. 2026

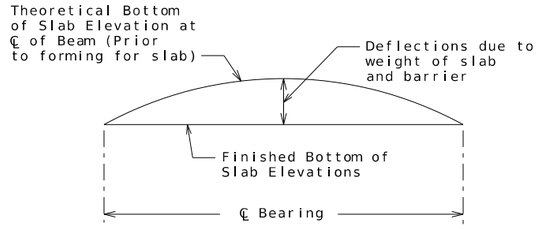
Note: This drawing is not to scale. Follow dimensions.



THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

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

Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete Beam.

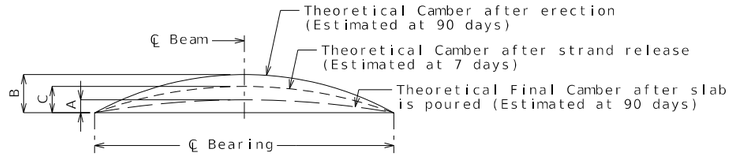


TYPICAL SLAB ELEVATIONS DIAGRAM

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

Beam Number	Span (1-2) (42'-4½" ℄ Brg. - ℄ Brg.)					Span (2-3) (46'-9" ℄ Brg. - ℄ Brg.)					Span (3-4) (42'-4½" ℄ Brg. - ℄ Brg.)				
	℄ Brg.	.25	.50	.75	℄ Brg.	℄ Brg.	.25	.50	.75	℄ Brg.	℄ Brg.	.25	.50	.75	℄ Brg.
1	562.83	562.88	562.89	562.88	562.83	562.83	562.90	562.92	562.90	562.83	562.83	562.88	562.89	562.88	562.83
2	563.02	563.07	563.08	563.07	563.02	563.02	563.09	563.11	563.09	563.02	563.02	563.07	563.08	563.07	563.02
3	562.83	562.88	562.89	562.88	562.83	562.83	562.90	562.92	562.90	562.83	562.83	562.88	562.89	562.88	562.83

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 (including precast panel) and barrier.



Beam	Span (1-2)			Span (2-3)			Span (3-4)		
	A	B	C	A	B	C	A	B	C
Exterior	1"	1¾"	1⅛"	1⅛"	2⅛"	1¼"	1"	1¾"	1⅛"
Interior	1"			1"			1"		

BEAM CAMBER DIAGRAM

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

0.25 pt. = 0.7125 x 0.5 pt.

SLAB ELEVATIONS, HAUNCHING & CAMBER

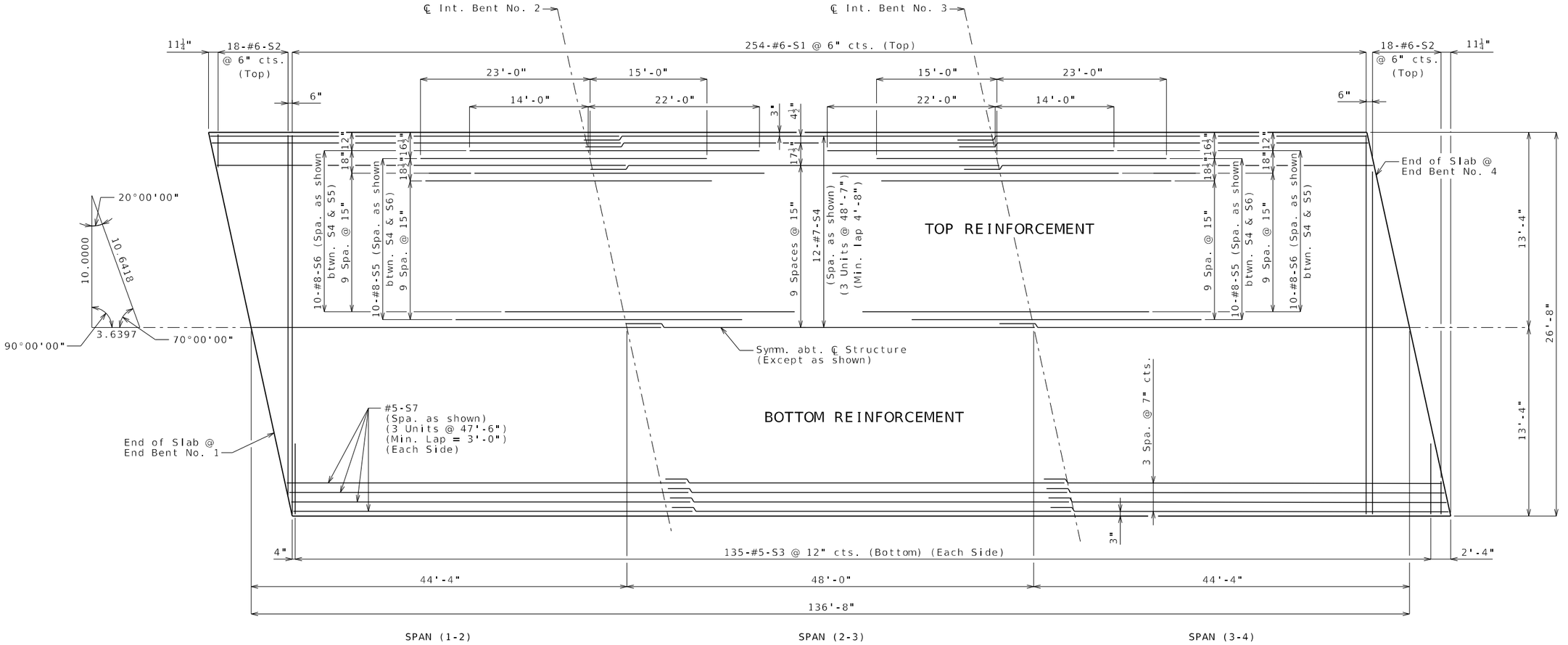
JASON A. DREYER
NUMBER PE-2013038971
STATE OF MISSOURI
PROFESSIONAL ENGINEER
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ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 17
COUNTY MADISON
JOB NO. JSE0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9728

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General Notes:

Longitudinal slab dimensions are measured horizontally.

For Section Thru Slab, Slab Pouring Sequence, and additional details, see Sheet No. 19.

For details and reinforcement of barrier not shown, see Sheets No. 20-22.

For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, see Sheet No. 17.

For Details of Prestressed Panels, see Sheet No. 15.

For details and locations of Slab Drains, see Sheet No. 16.

PLAN OF SLAB SHOWING REINFORCEMENT

Detailed Feb. 2026
Checked Feb. 2026

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

H:\P\224097 - Madison County Bridge Package\002-JSE0036-T0092\Bridge\Final Bridge\Microstation\B_A9728_018_JSE0036_Plan of Slab Showing Reinforcement.dgn 3:11:34 PM 9/18/2026

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

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COUNTY: MADISON
JOB NO.: JSE0036
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9728

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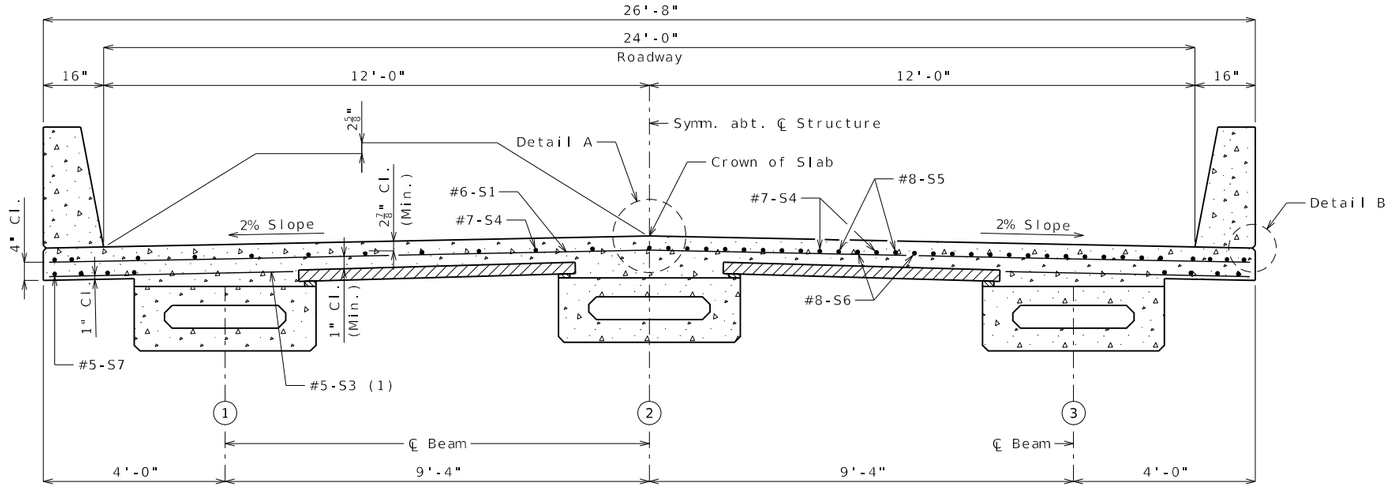
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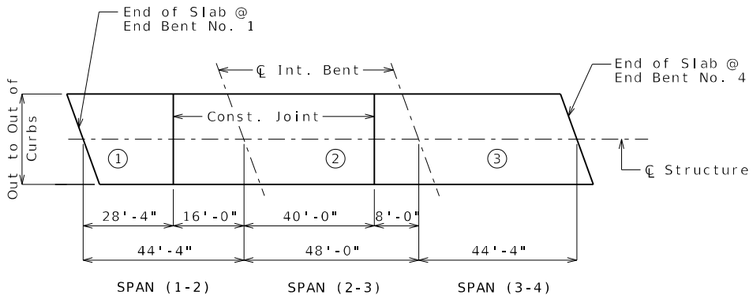
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HALF SECTION NEAR BENT HALF SECTION NEAR INTERMEDIATE BENT

SECTION THRU SLAB

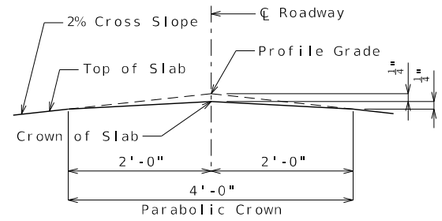


	Sequence of Pours			Min. Rate of Pour Cu. Yds./Hr.
	Direction			With Retarder
Basic Sequence	1 End to 2	2 1 to 3	3 2 to End	25
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.				
Alternate A Pours	1 + 2 End to 3		3 2 to End	25
Alternate B Pours	1 + 2 + 3 End to End			25

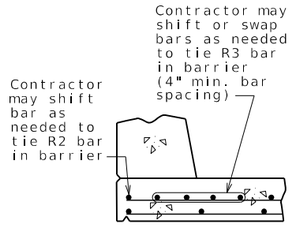
The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

The concrete diaphragm at the intermediate bents and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

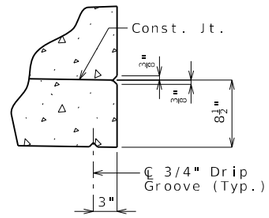
SLAB POURING SEQUENCE



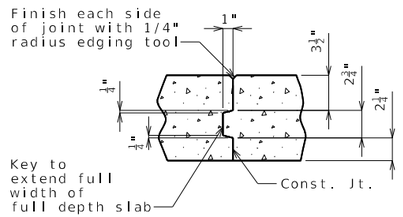
DETAIL A



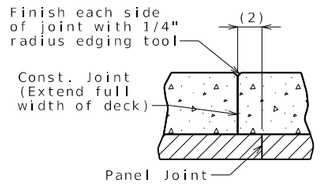
OPTIONAL SHIFTING TOP BARS AT BARRIER



DETAIL B



FULL DEPTH SLAB



SLAB ON PANELS

SLAB CONSTRUCTION JOINT

Reference Notes:
(1) Alternate bar shape available, see barrier sheet.
(2) Adjust the construction joint to a clearance of 6 inches minimum from the panel joint.

General Notes:
For details of Prestressed Panels, see Sheet No. 15.

For reinforcement of barrier not shown, see Sheets No. 20-22.

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 17.

For Plan of Slab Showing Reinforcement, see Sheet No. 18.

SLAB DETAILS

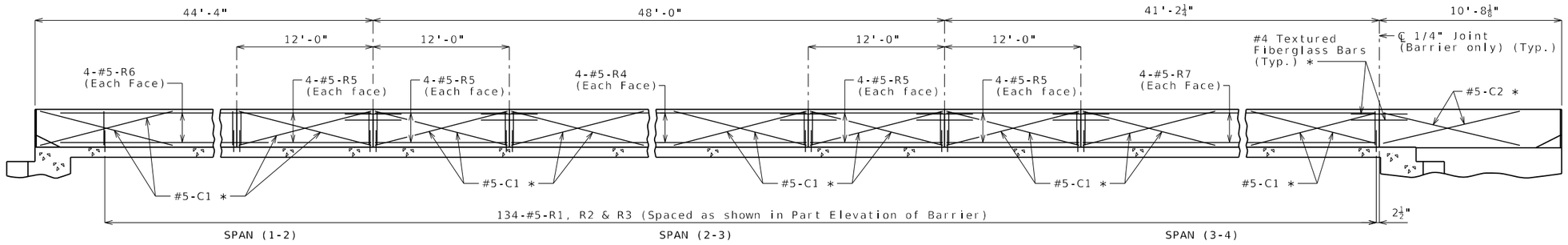
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JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
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JOB NO. JSE0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9728

DESCRIPTION | DATE

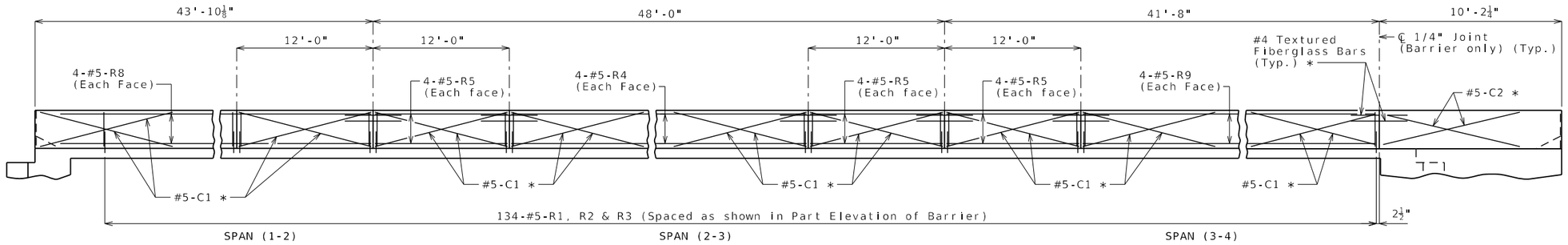
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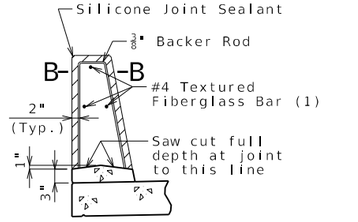
ELEVATION OF LEFT BARRIER

Longitudinal dimensions are horizontal.

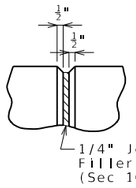


ELEVATION OF RIGHT BARRIER

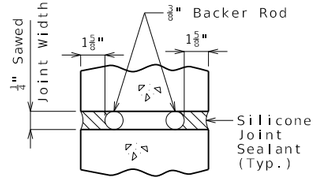
Longitudinal dimensions are horizontal.



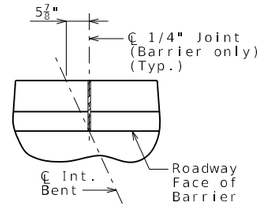
SECTION THRU SAW CUT JOINT



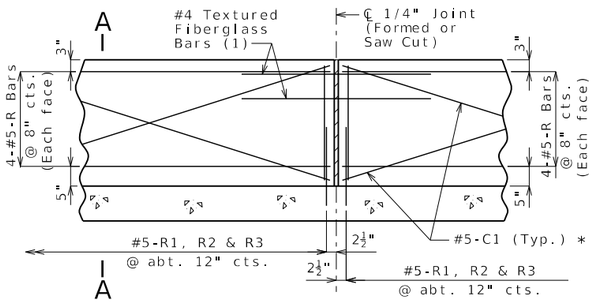
PART ELEVATION AT FORMED JOINT



SECTION B-B

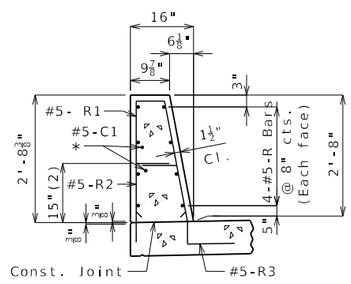


PART PLAN SHOWING JOINT LOCATION



PART ELEVATION OF BARRIER

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

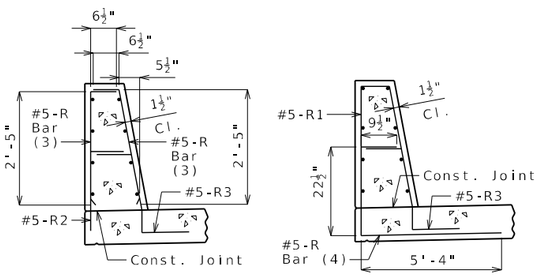


SECTION A-A

Use a minimum lap of 2'-6" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 2.89 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.)

(4) The R2 bar and #5 bottom transverse slab bar in cantilever (prestressed panels only) combination may be furnished as one bar as shown, at the contractor's option.

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 H Barrier per linear foot.

Concrete in barrier shall be Class B-1.

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

TYPE H BARRIER

Detailed Feb. 2026
Checked Mar. 2026

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

STATE OF MISSOURI — JASON A. DREYER — NUMBER PE-2013038971 — PROFESSIONAL ENGINEER

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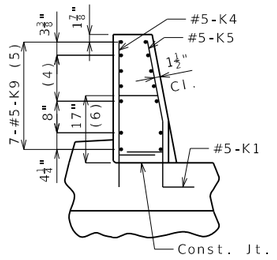
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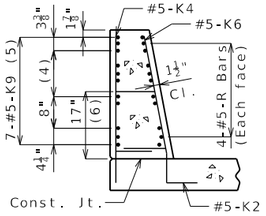
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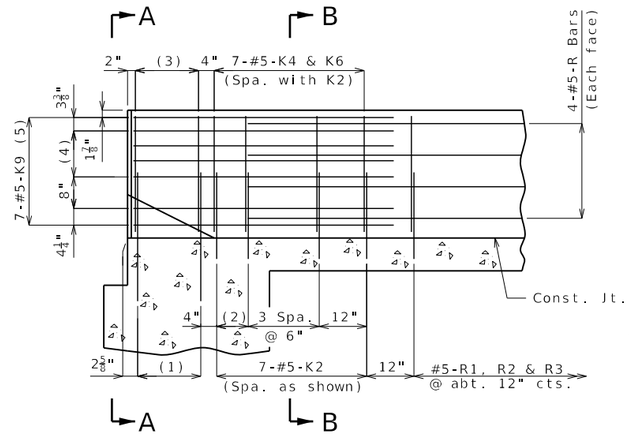
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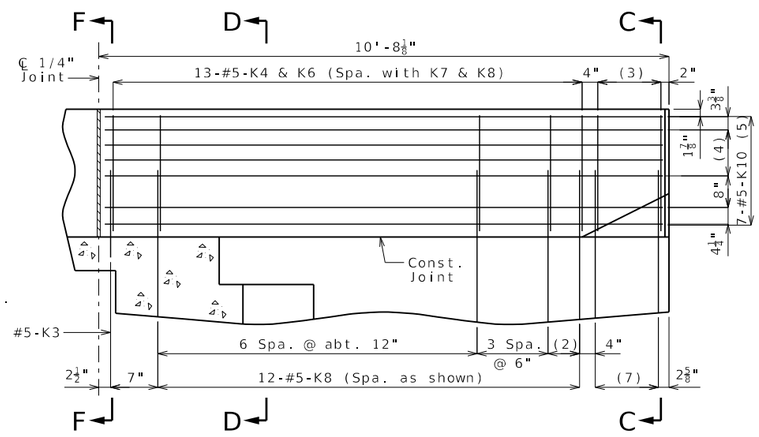


ELEVATION A-A

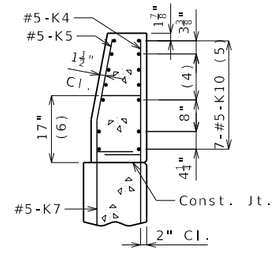


SECTION B-B





PART ELEVATION



SECTION C-C

(1) 5-#5-K1 @ 4" cts.

(2) 2 Spaces @ 4"

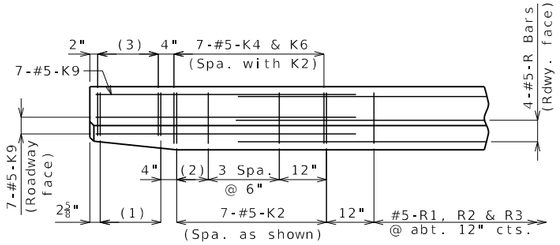
(3) 5-#5-K4 and 5-#5-K5, spaced with K1 or K7

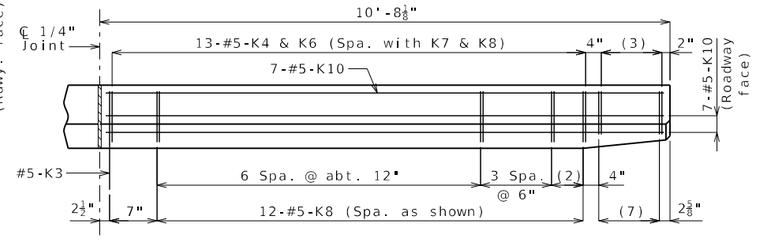
(4) 3 Spaces @ $3\frac{13}{16}$"

(5) Spaced as shown, each face

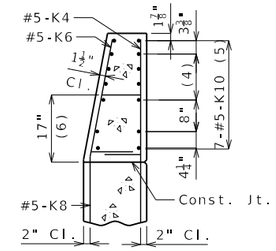
(6) To top of bar

(7) 5-#5-K7 @ 4" cts.

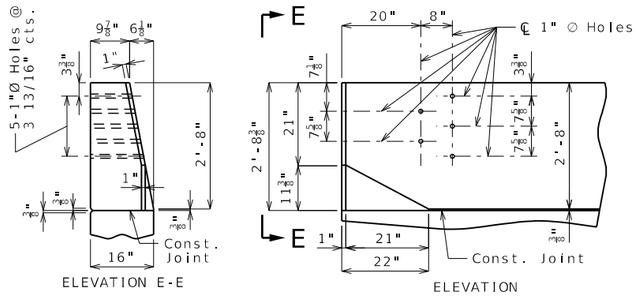




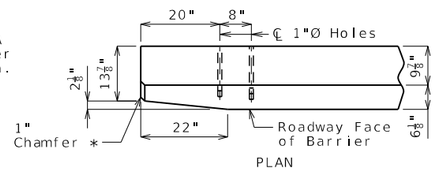
PART PLAN

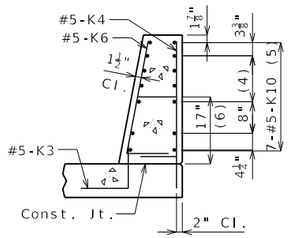


SECTION D-D

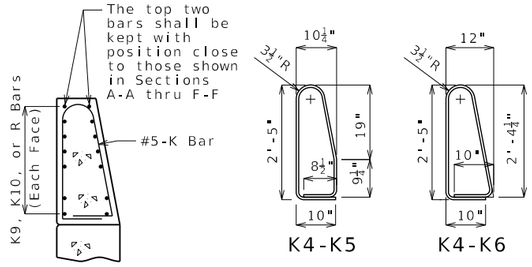


DETAILS OF GUARD RAIL ATTACHMENT





SECTION F-F



PERMISSIBLE ALTERNATE SHAPES

(Other K bars not shown for clarity)

The K4-K5 and K4-K6 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

General Notes:

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

Reinforcing Steel:

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

Use a minimum lap of 2'-6" between K9 bars and R bars.

TYPE H BARRIER AT END BENTS (LEFT)

Detailed Feb. 2026
Checked Mar. 2026

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

H:\P\224097 - Madison County Bridge Package\002-JSE0036-T0092\Bridge\Final Bridge\Microstation\B_A9728_021_JSE0036_Type H Barrier at End Bents (Left).dgn 11:28:33 PM 9/17/2026

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/17/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	21

COUNTY: MADISON

JOB NO.: JSE0036

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.: A9728

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

OATES ASSOCIATES

Collinsville
101 Lamar Court, Suite 1
Collinsville, IL 62234
618.345.4200

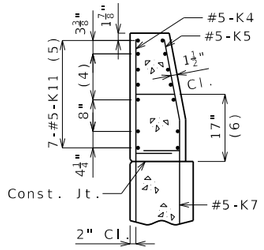
Belleville
100 West Main Street, 2nd Floor
Belleville, IL 62220
618.416.4688

St. Louis
720 Olive Street, Suite 700
St. Louis, MO 63101
314.588.8381

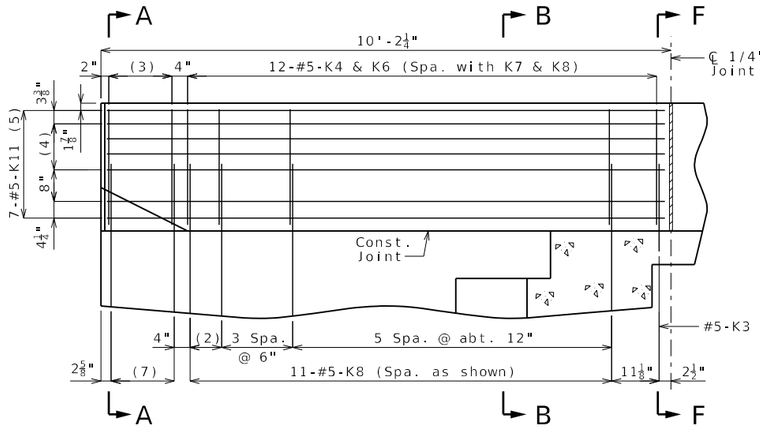
St. Charles
820 South Main, Suite 309
St. Charles, MO 63301
636.493.0277

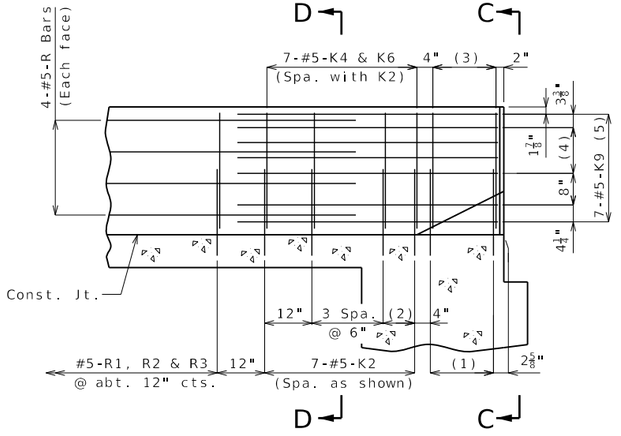
www.oatesassociates.com

MISSOURI DESIGN FIRM PE-001166

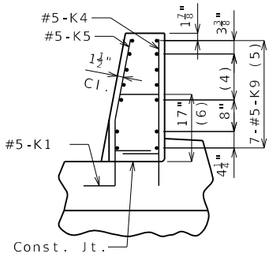


SECTION A-A

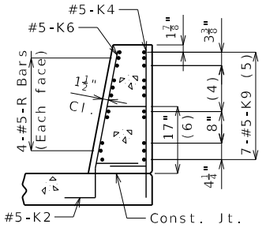




PART ELEVATION



ELEVATION C-C



SECTION D-D

(1) 5-#5-K1 @ 4" cts.

(2) 2 Spaces @ 4"

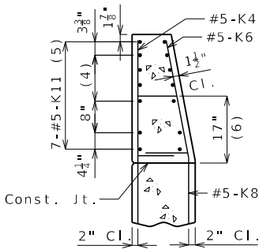
(3) 5-#5-K4 and 5-#5-K5, spaced with K1 or K7

(4) 3 Spaces @ 3 13/16"

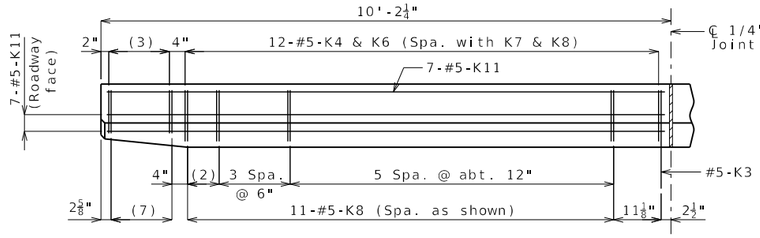
(5) Spaced as shown, each face

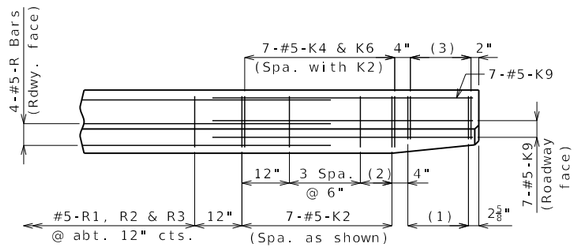
(6) To top of bar

(7) 5-#5-K7 @ 4" cts.

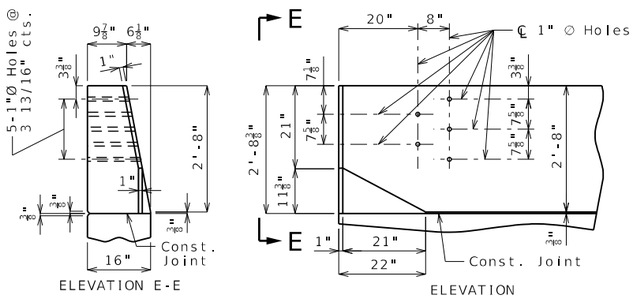


SECTION B-B



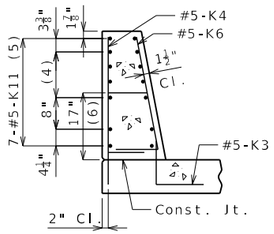


PART PLAN

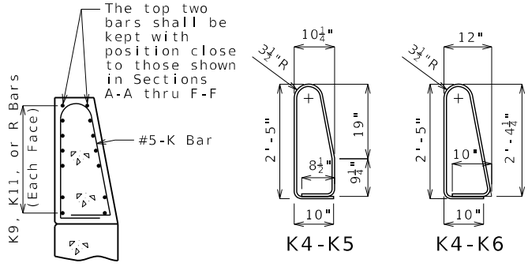


ELEVATION E-E

ELEVATION



SECTION F-F



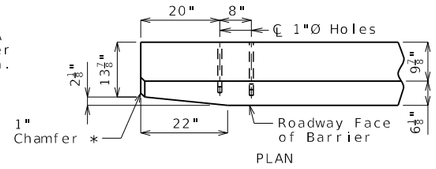
PERMISSIBLE ALTERNATE SHAPES

(Other K bars not shown for clarity)

The K4-K5 and K4-K6 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

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



DETAILS OF GUARD RAIL ATTACHMENT

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 H Barrier.

Reinforcing Steel:

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

Use a minimum lap of 2'-6" between K9 bars and R bars.

TYPE H BARRIER AT END BENTS (RIGHT)

Detailed Jul. 2026
Checked Jul. 2026

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

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/17/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	22

COUNTY MADISON

JOB NO. JSE0036

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9728

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

OATES ASSOCIATES

Collinsville
100 Lamter Court, Suite 1
Collinsville, IL 62234
618.345.2200

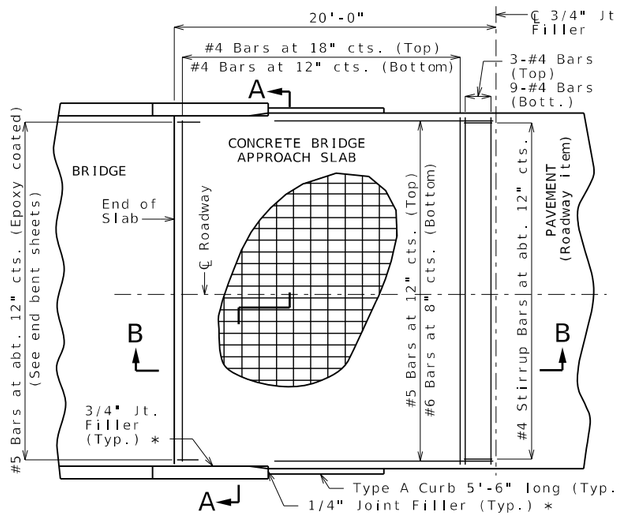
St. Louis
720 Olive Street, Suite 700
St. Louis, MO 63101
314.588.8381

Belleville
100 West Main Street, 2nd Floor
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618.416.4488

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St. Charles, MO 63301
636.493.6079

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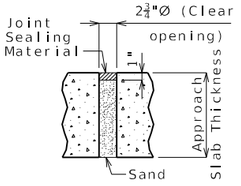
MISSOURI DESIGN FIRM PE-001166



PART PLAN OF SQUARED STRUCTURE

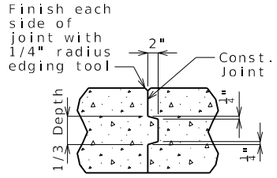
(Skewed structure similar)

(Details of End Bent No. 4 shown)

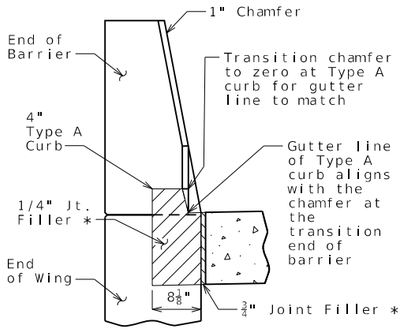


UNDERSEAL ACCESS HOLE DETAIL

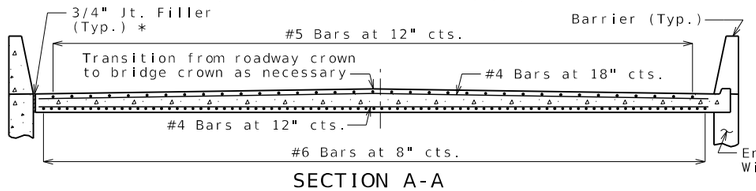
(If required)



CONSTRUCTION JOINT DETAIL

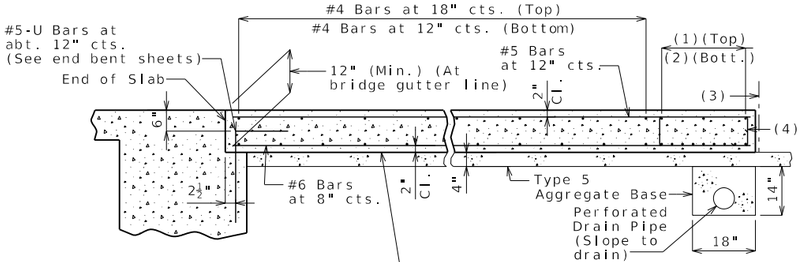


SECTION BETWEEN CURB AND BARRIER



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.



(1) 3-#4 Bars

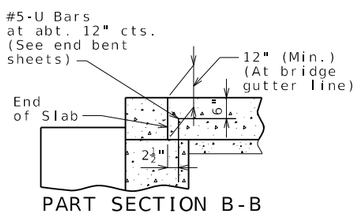
(2) 9-#4 Bars

(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.

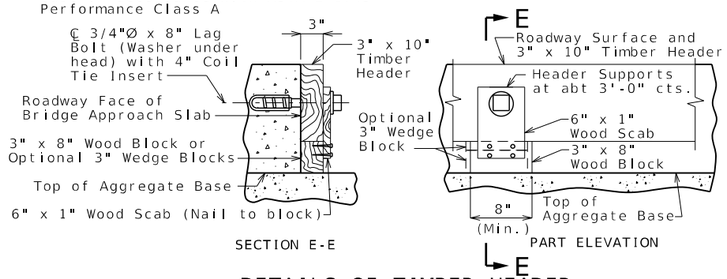
SECTION B-B

(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 26 inches for #4 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710.

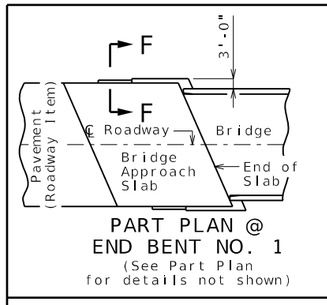
All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

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.

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

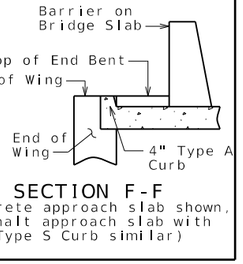
Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

* 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.



PART PLAN @ END BENT NO. 1

(See Part Plan for details not shown)



SECTION F-F

(Concrete approach slab shown, Asphalt approach slab with Type S Curb similar)

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.

Approach slab and curb at End Bent No. 1 may need to be modified due to crash cushion foundation. Crash cushion foundation per crash cushion supplier. Crash cushion may be mounted to concrete approach slab. See roadway plans for locations of crash cushions. See Part Plan @ End Bent No. 1 for modified slab geometry.

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

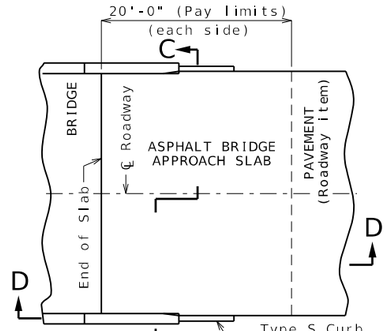
☐ Concrete Bridge Approach Slab

☐ 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, curb, 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.

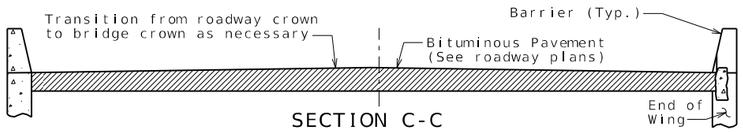
Application of tack is required between lifts per Sec 403.



PART PLAN

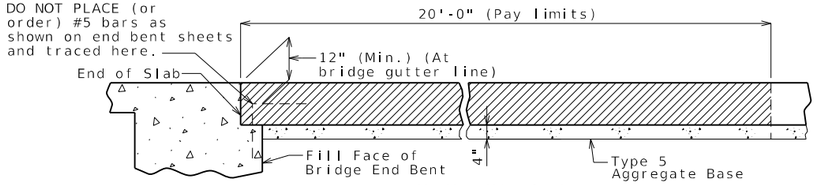
(Squared structure shown, skewed structure similar)

(Details of End Bent No. 4 shown)

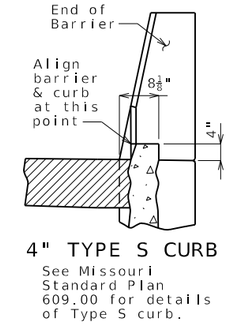


SECTION C-C

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



4" TYPE S CURB

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

OPTIONAL ASPHALT SLAB (NOT ALLOWED WITH CONCRETE PAVEMENT)

BRIDGE APPROACH SLAB (MINOR)

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

JASON A. DREYER NUMBER PE-2013038971 PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/17/2026

ROUTE M | STATE MO

DISTRICT BR | SHEET NO. 23

COUNTY MADISON

JOB NO. JSE0036

CONTRACT ID.

PROJECT NO.

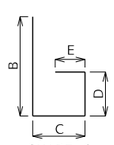
BRIDGE NO. A9728

DESCRIPTION | DATE

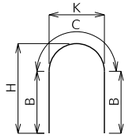
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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Collinsville 101 Lumber Court, Suite 1 Collinsville, IL 62234 618.345.4200
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Belleville 100 West Main Street, 2nd Floor Belleville, IL 62220 618.416.4488
www.oatesassociates.com

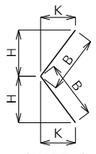
MISSOURI DESIGN FIRM PE-001166



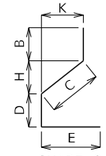
SHAPE 6
or 6S



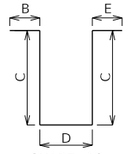
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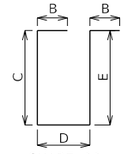
SHAPE 8
or 8S



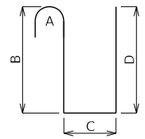
SHAPE 9
or 9S



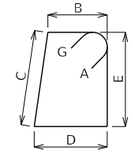
SHAPE 10
or 10S



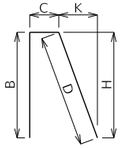
SHAPE 11
or 11S



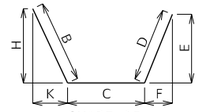
SHAPE 12



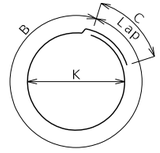
SHAPE 13S



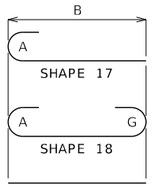
SHAPE 14
or 14S



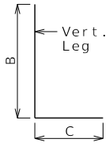
SHAPE 15
or 15S



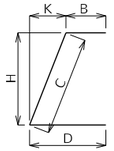
SHAPE 16



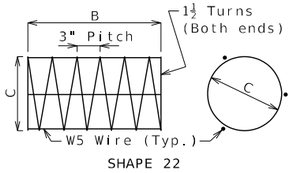
SHAPE 17
SHAPE 18
SHAPE 20



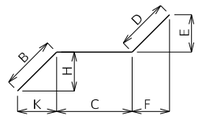
SHAPE 19
or 19S



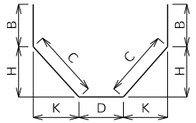
SHAPE 21
or 21S



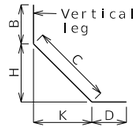
SHAPE 22



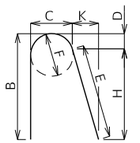
SHAPE 23
or 23S



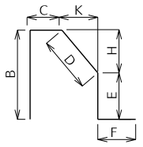
SHAPE 24
or 24S



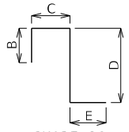
SHAPE 25
or 25S



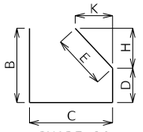
SHAPE 26



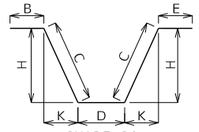
SHAPE 27S



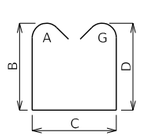
SHAPE 28
or 28S



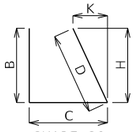
SHAPE 29
or 29S



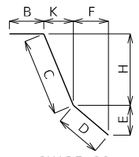
SHAPE 30
or 30S



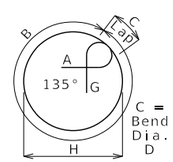
SHAPE 31S



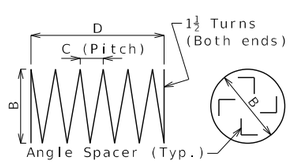
SHAPE 32
or 32S



SHAPE 33
or 33S



SHAPE 34S



SHAPE 35 (1)

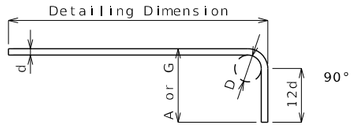


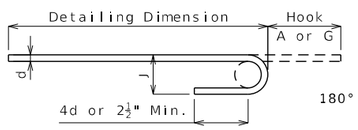
SHAPE 36

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"	9¾"	7"
	3	7"	15"	11½"	8¾"
#8	2	6"	16"	11"	8"
	3	8"	17"	13¾"	10"
#9	1	9½"	19½"	15½"	11¾"
#10	1	10¾"	22"	17½"	13¼"
#11	1	12"	24½"	19½"	14⅞"
#14	1	18¼"	31¼"	27½"	21⅝"
#18	1	24"	41½"	36¼"	28½"



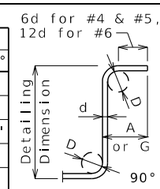


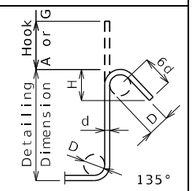
Stirrup Pin Bend Shapes (S)

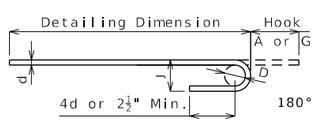
Size	Case	D	A or G			H	J
			90°	135°	180°	135°	180°
#4	2	2"	4½"	4½"	5"	2⅝"	3"
	3	3"	5"	5¼"	6"	3"	4"
#5	2	2½"	5⅝"	5⅝"	5⅝"	3⅝"	3¾"
	3	3¾"	6¼"	6½"	7"	3⅞"	5"
#6	1	4½"	12"	7¾"	8¼"	4⅝"	6"

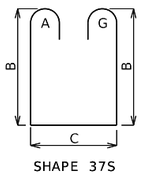
Applicable for all grades of steel.

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

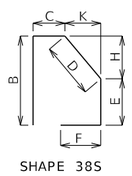








SHAPE 37S



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	Substructure		Superstructure			Entire Bridge	
		Plain	Epoxy	Slab	Barrier	Slip Form	Plain	Epoxy
By Size	4	80	0	537	0	0	80	537
	5	797	0	3,924	6,506	533	797	10,963
	6	561	0	14,746	0	0	561	14,746
	7	1,320	0	8,387	0	0	1,320	8,387
	8	0	0	8,309	0	0	0	8,309
By Type		2,758	0	35,903	6,506	533	2,758	42,942

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

All bars shall be ASTM A706 Grade 60.

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/17/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	24

COUNTY: MADISON

JOB NO.: JSE0036

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.: A9728

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

OATES ASSOCIATES
MISSOURI DESIGN FIRM PE-001166
St. Louis
720 Olive Street, Suite 700
St. Louis, MO 63101
314.588.8381
St. Charles
820 South Main, Suite 309
St. Charles, MO 63301
636.493.0277
Collinsville
1101 Lenor Court, Suite 1
Collinsville, IL 62234
618.345.4200
Belleville
100 West Main Street, 2nd Floor
Belleville, IL 62220
618.416.4488
www.oatesassociates.com

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
		SUBSTRUCTURE													
		INT. BENTS 2 & 3													
24	6 D200	BEAM		20		2 6.000							2 6	2 6	90
24	7 H200	BEAM		18		25 3.000							26 11	26 11	1320
8	6 H201	BEAM		20		25 3.000							25 3	25 3	303
16	6 H202	BEAM		10S			22.000	3 7.750					7 4	7 0	168
48	5 U200	BEAM		13S		3 9.000	2 9.000	3 9.000	2 9.000				14 0	13 8	684
12	5 U201	BEAM		10S			2 9.000	3 9.000					9 3	9 0	113
26	4 U202	BEAM		10S			6.000	3 9.000					4 9	4 7	80
		SUPERSTRUCTURE													
		END BENT 1													
7	6 F100	WING BRACE	E	23		20.000	4 5.000	20.000	16.375	11.500	16.375	11.500	7 9	7 8	81
3	6 F101	DIAPHRAGM	E	21		10 3.000	2 9.000				2 7.000	11.250	13 0	12 11	58
7	6 F102	WING BRACE	E	23		20.000	6 2.000	20.000	11.500	16.375	11.500	16.375	9 6	9 5	99
3	6 F103	DIAPHRAGM	E	21			2 9.000	11 2.000			2 7.000	11.250	13 11	13 8	62
12	7 H100	BEAM	E	20		34 6.000							34 6	34 6	846
7	6 H101	BEAM/DIAPHRAGM	E	20		34 6.000							34 6	34 6	363
6	6 H102	DIAPHRAGM	E	20		5 4.000							5 4	5 4	48
6	6 H103	DIAPHRAGM	E	20		5 0.000							5 0	5 0	45
3	5 H104	STRAND TIE	E	23		15.000	4 0.000	15.000	5.125	14.125	5.125	14.125	6 6	6 6	20
36	6 H105	WINGWALL	E	6S		8 0.000	12.000						9 0	8 10	478
20	5 U100	BEAM	E	37S		3 11.000	2 11.000						11 9	11 6	240
20	4 U101	BEAM	E	13S		2 11.000	2 8.000	2 11.000	2 8.000				11 11	11 8	156
7	4 U102	BEAM	E	10S			2 8.000	2 11.000					8 3	8 1	38
24	5 U103	DIAPHRAGM	E	37S		22.000	2 5.000						7 1	6 10	171
24	6 U104	DIAPHRAGM	E	19S		10.000	2 11.000						3 9	3 7	129
34	6 U105	DIAPHRAGM	E	19S		23.000	4 5.000						6 4	6 2	315
30	5 U106	DIAPHRAGM	E	19S		20.000	15.000						2 11	2 10	89
8	5 V100	BEAM	E	17		3 11.000							4 6	4 6	38
18	6 V101	DIAPHRAGM	E	20		10.000							10	10	23
32	6 V102	WINGWALL	E	20		5 4.000							5 4	5 4	256
		END BENT 4													
7	6 F400	WING BRACE	E	15		20.000	4 5.000	20.000	16.375	11.500	11.500	16.375	7 9	7 8	81
3	6 F401	DIAPHRAGM	E	21		7 1.000	2 9.000				2 7.000	11.250	9 10	9 9	44
7	6 F402	WING BRACE	E	15		20.000	6 3.000	20.000	11.500	16.375	16.375	11.500	9 7	9 6	100
3	6 F403	DIAPHRAGM	E	21			2 9.000	8 0.000			2 7.000	11.250	10 9	10 6	47
12	7 H400	BEAM	E	20		28 1.000							28 1	28 1	689
7	6 H401	BEAM / DIAPHRAGM	E	20		28 1.000							28 1	28 1	295
6	6 H402	DIAPHRAGM	E	20		5 4.000							5 4	5 4	48
6	6 H403	DIAPHRAGM	E	20		22.000							22	22	17
3	5 H404	STRAND TIE	E	23		15.000	4 0.000	15.000	5.125	14.125	5.125	14.125	6 6	6 6	20
28	6 H405	WINGWALL	E	6S		8 0.000	12.000						9 0	8 10	371
16	8 H406	WINGWALL	E	20		9 6.000							9 6	9 6	406
12	5 U400	BEAM	E	37S		4 0.000	2 11.000						11 11	11 8	146
22	4 U401	BEAM	E	13S		2 11.000	2 8.000	2 11.000	2 8.000				11 11	11 8	171
5	4 U402	BEAM	E	10S			2 8.000	2 11.000					8 3	8 1	27
18	5 U403	DIAPHRAGM	E	37S		22.000	2 5.000						7 1	6 10	128
18	6 U404	DIAPHRAGM	E	19S		11.000	2 11.000						3 10	3 8	99
34	6 U405	DIAPHRAGM	E	37S		23.000	4 5.000						6 4	6 2	315
24	5 U406	DIAPHRAGM	E	19S		20.000	15.000						2 11	2 10	71
12	5 V400	BEAM	E	17		4 0.000							4 7	4 7	57
18	6 V401	DIAPHRAGM	E	20		11.000							11	11	25
32	6 V402	WINGWALL	E	20		5 0.000							5 0	5 0	240

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
		INT. BENT 2 & 3													
		DIAPHRAGMS													
16	6 H300	DIAPHRAGM	E	20		5 5.000							5 5	5 5	130
8	4 H301	DIAPHRAGM	E	20		5 5.000							5 5	5 5	29
24	5 H302	DIAPHRAGM	E	6S		5 3.000	9.000						6 0	5 11	148
8	5 H303	STRAND TIE	E	20		5 5.000							5 5	5 5	45
4	5 H304	STRAND TIE	E	20		6 6.000							6 6	6 6	27
16	6 U300	DIAPHRAGM	E	28S			22.000	21.000	3 5.000				7 0	6 8	160
32	4 U301	DIAPHRAGM	E	28S			15.000	21.000	2 7.000				5 7	5 5	116
16	5 V300	DIAPHRAGM	E	20		2 0.000							2 0	2 0	33
		SLAB													
254	6 S1	SLAB	E	20		26 5.000							26 5	26 5	10078
36	6 S2	SLAB	E	20	2	2 0.000							2 0	2 0	739
		INCREMENT =				25 4.000							25 4	25 4	
		16.500 INCH													
270	5 S3	SLAB	E	20		5 4.000							5 4	5 4	1502
69	7 S4	SLAB	E	20		48 7.000							48 7	48 7	6852
40	8 S5	SLAB	E	20		38 0.000							38 0	38 0	4058
40	8 S6	SLAB	E	20		36 0.000							36 0	36 0	3845
24	5 S7	SLAB	E	20		47 6.000							47 6	47 6	1189
		TYPE H BARRIER													
10	5 K1	BARRIER	E	27S			22.500	9.250	5.375	16.750	12.000	5.250	1.000	5 6	5 2	54
14	5 K2	BARRIER	E	27S			22.500	9.250	17.250	5.000	12.000	17.000	3.250	5 6	5 3	77
2	5 K3	BARRIER	E	27S			22.500	9.250	14.500	7.750	12.000	14.250	2.750	5 6	5 3	11
59	5 K4	BARRIER	E	19S		2 5.000	10.000							3 3	3 2	195
20	5 K5	BARRIER	E	38S				19.250	9.500	8.250	18.750	4.250	3 1	3 0	63
39	5 K6	BARRIER	E	21S			2 4.875	10.000			2 4.250	6.000	3 3	3 1	125
10	5 K7	BARRIER	E	27S		3 5.000	9.250	5.375	2 11.750		5.250	1.000	7 7	7 5	77
23	5 K8	BARRIER	E	27S		3 5.000	9.250	14.500	2 2.750		14.250	2.750	7 8	7 5	178
28	5 K9	BARRIER	E	20		5 6.000							5 6	5 6	161
14	5 K10	BARRIER	E	20		9 11.000							9 11	9 11	145
14	5 K11	BARRIER	E	20		10 5.000							10 5	10 5	152
268	5 R1	BARRIER	E	14S		2 5.000	6.500	2 5.500			2 5.000	5.500	5 5	5 3	1468
268	5 R2	BARRIER	E	19S		20.500	9.500						2 6	2 5	676
268	5 R3	BARRIER	E	27S			9.500	15.250	5.000	12.000	15.000	3.000	3 6	3 4	932
16	5 R4	BARRIER	E	20		23 8.000							23 8	23 8	395
64	5 R5	BARRIER	E	20		11 8.000							11 8	11 8	779
8	5 R6	BARRIER	E	20		32 1.000							32 1	32 1	268
8	5 R7	BARRIER	E	20		28 11.000							28 11	28 11	241
8	5 R8	BARRIER	E	20		31 7.000							31 7	31 7	264
8	5 R9	BARRIER	E	20		29 5.000							29 5	29 5	245
		SLIP FORM BARRIER													
40	5 C1	BARRIER	E	20		12 0.000							12 0	12 0	501
4	5 C2	BARRIER	E	20		7 9.000							7 9	7 9	32

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. 24.

Detailed Apr. 2026
Checked Apr. 2026

Reinforcing steel (ASTM A706 Grade 60) fy = 60,000 psi

BILL OF REINFORCING STEEL

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

Sheet No. 25 of 32

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.

STATE OF MISSOURI — JASON A. DREYER — NUMBER PE-2013038971 — PROFESSIONAL ENGINEER

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DATE PREPARED 9/17/2026

ROUTE M | STATE MO

DISTRICT BR | SHEET NO. 25

COUNTY MADISON

JOB NO. JSE0036

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9728

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
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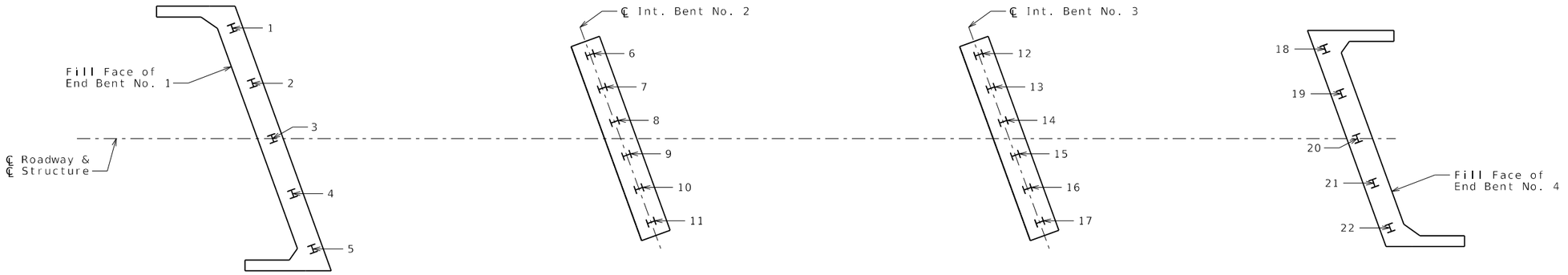
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MISSOURI DESIGN FIRM PE-001166



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

As-Built Pile Data

Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks	Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 1				Intermediate Bent No. 3
1				12			
2				13			
3				14			
4				15			
5				16			
				17			
			Intermediate Bent No. 2				
6							
							End Bent No. 4
7				18			
8				19			
9				20			
10				21			
11				22			

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

This sheet to be completed by MoDOT construction personnel.

AS-BUILT PILE DATA

Detailed Mar. 2026
Checked Apr. 2026

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

H:\P\224097 - Madison County Bridge Package\002-JSE0036-T0092\Bridge\Final Bridge\Microstation\B_A9728_026_JSE0036_As-Built Pile Data.dgn 11:28:40 PM 9/17/2026

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/17/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	26

COUNTY
MADISON

JOB NO.
JSE0036

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9728

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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BORING LOG LEGEND AND NOMENCLATURE

Depth is in feet below ground surface. **Elevation** is in feet in reference to sea level, site datum, or as otherwise noted.

Sample Type

- **SS** Split-spoon sample, disturbed, obtained by driving a 2-inch-O.D. split-spoon sampler (ASTM D 1586).
- **NX** Diamond core bit, nominal 2-inch-diameter rock sample (ASTM D 2113).
- **NQ** Diamond core bit, nominal 1 7/8-inch diameter rock sample
- **ST** Thin-walled (Shelby) tube sample, relatively undisturbed, obtained by pushing a 3-inch-diameter, tube (ASTM D 1587).
- **CS** Continuous sample tube system, relatively undisturbed, obtained by split-barrel sampler in conjunction with auger advancement.
- **SV** Shear vane, field test to determine strength of cohesive soil by pushing or driving a 2-inch-diameter vane, and then shearing by torquing soil in existing and remolded states (ASTM D 2573).
- **BS** Bag sample, disturbed, obtained from cuttings.
- **MC** Modified California Sampler, disturbed, obtained by driving a 2.5-inch O.D. ring-lined split-barrel sampler (ASTM D 3550).

Recovery is expressed as the sample length recovered / the total length pushed, driven, or cored.

Blows Numbers indicate blows per 6 inches of split-spoon sampler penetration when driven with a 140-pound hammer falling freely 30 inches. The number of total blows obtained for the second and third 6-inch increments is the N value (Standard Penetration Test or SPT) in blows per foot (ASTM D 1586). Practical refusal is considered to be 50 or more blows without achieving 6 inches of penetration and is expressed as a ratio of 50 to actual penetration, e.g., 50/2 (50 blows for 2 inches).

For analysis, the N value is used when obtained by a cathead and rope system. When obtained by an automatic hammer, the N value may be increased by a factor of 1.3.

Vane Shear Strength is expressed as the peak strength (existing state) / the residual strength (remolded state).

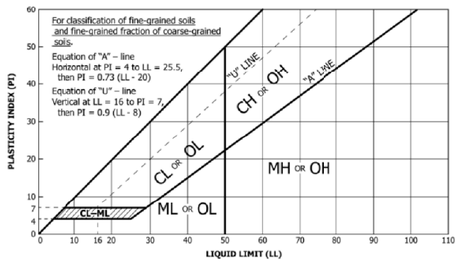
Description indicates soil constituents and other classification characteristics (ASTM D 2488) and the Unified Soil Classification (ASTM D 2487).

SOIL GRAIN SIZE

Soil Component	Particle Size Range
Boulders	> 12 in.
Cobbles	12 in. -3 in.
Gravel	3 in. - #4 sieve (4.75 mm)
Coarse Gravel	3 in. - ¾ in.
Fine Gravel	¾ in. - #4 sieve (4.75 mm)
Sand	#4 sieve (4.75 mm) - #200 sieve (0.075 mm)
Coarse Sand	#4 sieve (4.75 mm) - #10 sieve (2 mm)
Medium Sand	#10 sieve (2 mm) - #40 sieve (0.425 mm)
Fine Sand	#40 sieve (0.425 mm) - #200 sieve (0.075 mm)
Fines (Silt & Clay)	< #200 sieve (0.075 mm)

in – inches
mm – millimeters

PLASTICITY CHART



BORING LOG LEGEND AND NOMENCLATURE

Strength of Cohesive Soils			Density of Granular Soils	
Consistency	*N-Value*	*Unconfined Comp. Strength (ksf)*	*Descriptive Term*	*N-Value*
Very Soft	0 – 2	< 0.50	Very Loose	0 – 4
Soft	3 – 4	0.50 – 1.00	Loose	5 – 10
Medium Stiff	5 – 8	1.0 – 2.0	Medium Dense	11 – 29
Stiff	9 – 15	2.0 – 4.0	Dense	30 – 49
Very Stiff	16 – 30	4.0 – 6.0	Very Dense	Over 50
Hard	Over 30	> 8.0		

ksf – kips per square foot

USCS SOIL CLASSIFICATION

		Major Divisions		Group Symbol	Typical Names
Coarse-Grained Soils (Less than 50% Passing the #200 Sieve)	Gravels	Clean Gravels		GW	Well graded gavels, gravel-sand mixture
				GP	Poorly graded gravels, gravel-sand mixture
		Gravels with fines	Limits plot below "A" line on plasticity chart	GM	Silty gravels, gravel-sand-silt mixture
			Limits plot above "A" line on plasticity chart	GC	Clayey gravels, gravel-sand-clay mixture
	Sands	Clean Sands		SW	Well graded sands, gravelly sands
				SP	Poorly graded sands, gravelly sands
		Sands with fines	Limits plot below "A" line on plasticity chart	SM	Silty sands, sand-silt mixture
			Limits plot above "A" line on plasticity chart	SC	Clayey sands, sand-clay mixture
Fine-Grained Soils (50% or More Passing #200 Sieve)	Silts	Silts of low plasticity (LL<50)		ML	Inorganic silts, clayey silts
		Silts of high plasticity (LL≥50)		MH	Inorganic silts, elastic silts
	Clays	Clays of low plasticity (LL<50)		CL	Inorganic lean clays, sandy and silty clays
		Clays of high plasticity (LL≥50)		CH	Inorganic fat clays, sandy clays
	Organic Silts and Clays	Organic silts and clays of low plasticity (LL<50)		OL	Organic silts and lean clays
		Organic silts and clays of high plasticity (LL≥50)		OH	Organic silts and fat clays
Organic Soils		Primarily organic matter		PT	Peat

*Table per Unified Soil Classification System (USCS)

JASON A. DREYER
NUMBER PE-2013038971
STATE OF MISSOURI
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/17/2026
ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 27
COUNTY MADISON
JOB NO. JSE0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9728

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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BORING DATA
Note: For locations of borings, see Sheet No. 1.

Detailed Apr. 2026
Checked Apr. 2026
Note: This drawing is not to scale. Follow dimensions.

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BORING LOG LEGEND AND NOMENCLATURE

SECONDARY SOIL CONSTITUENT RELATIVE COMPOSITION

If Primary Soil Constituent is	Clay or Silt		Sand or Gravel	
	Trace	0-5%	Trace	0-5%
	Few	6-15%	With	6-12%
	With	>15%	Silty/Clayey/Gravelly/Sandy	>12%
	Sandy/Gravelly	>30%		

Stratigraphic Breaks may be observed or interpreted and are indicated by a dashed line (inferred) or solid line (observed). Transition between described materials may be gradual.

Laboratory Test Results

- Natural moisture content (ASTM D 2216) in percent.
- Dry density in pounds per cubic foot (pcf).
- Hand penetrometer value of apparently intact cohesive sample in kips per square foot (ksf).
- Unconfined compressive strength (ASTM D 2166) in ksf.
- Liquid and Plastic Limits (ASTM D 4318) in percent.

Rock Quality Designation (RQD) is the ratio between the total length of core segments 4 inches or more and the total length of core drilled. RQD indicates in-situ rock quality as follows:

Excellent	90 - 100%
Good	75 – 90%
Fair	50 – 75%
Poor	25 – 50%
Very Poor	0 – 25%

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ROCK CORE DESCRIPTIONS

Hardness	
Very weak	Easily indented with the thumb
Weak	Broken by hand into pieces
Moderate	Easily scratched with a knife
Strong	Difficult to scratch with a knife
Very Strong	Cannot be scratched with a knife

Voids	
Dense	Usually not discernible with naked eye
Pit (pitted)	Discernible to 1/4 in.
Vug (vuggy)	1/4 in. to diameter of the core
Cavity	Larger than 6 in. in diameter

in. – inch

Mass Bedding	
Parting	Thinner than 0.02 ft (< 0.60 cm)
Band	0.02 ft - 0.2 ft (0.60 - 6.1 cm)
Thin Bed	0.2 ft - 0.5 ft (6.1 - 15.2 cm)
Medium Bed	0.5 ft - 1.0 ft (15.2 - 30.5 cm)
Thick Bed	1.0 ft - 2.0 ft (30.5 - 61.0 cm)
Massive	Thicker than 2.0 ft (> 61.0 cm)

ft – feet
cm – centimeter

Weathering	
Fresh	No visible signs of decompositions or discoloration
Slightly Weathered	Slight discoloration inward from open fractures
Moderately Weathered	Discoloration throughout, some loss of strength, texture intact
Highly Weathered	Specimens easily broken by hand, texture intact

Crystallinity*	
Aphanitic – Igneous Micritic – Carbonates	Crystals cannot be distinguished with naked eye
Very Finely Crystalline	Crystals are barely discernible with naked eye
Finely Crystalline	Crystals are easily discernible with naked eye
Medium Crystalline	Crystals are medium size; up to 1/8 in. in diameter
Coarsely Crystalline	Crystals are 1/8 in. to 1/4 in. in diameter
Very Coarsely Crystalline	Crystals are larger than 1/4 in. in diameter

*Use grain size for Sandstones
in. – inch

Geologic Definitions

Argillaceous – A term applied to all rocks or substances composed of clay minerals or having a notable clay portion (> 30%) in composition.

Fissile– A property of splitting along closely spaced parallel planes.

Calcareous – A term applied to rocks containing calcium carbonate.

Fossiliferous – A rock that contains noticeable quantities of fossils.

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/17/2026
ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 28
COUNTY MADISON
JOB NO. JSE0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9728

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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BORING DATA
Note: For locations of borings, see Sheet No. 1.

Detailed Apr. 2026
Checked Apr. 2026
Note: This drawing is not to scale. Follow dimensions.

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Missouri Department of Transportation
Construction and Materials

BORING NO. B-101
Page 1 of 1

Job No.: JSE0036 (SCI No. 2024-1686.11)
County: Madison
Route: M
Design: A9728
Skew: 20 degrees
Location: Madison County
Bent: Northeast Abutment
Logged By: Caleb Harms
Operator: Midwest Drilling, Inc.
Station: 263+69.68
Northing: 562642.07
Date of Work: 07/11/25
Offset: 6.60 feet RT
Easting: 899771.2
Depth to Water: 9.5
Elevation: 563.2
Requested Northing: N/A
Depth Hole Open: 30.5
Requested Station: N/A
Requested Easting: N/A
Time Change: 0
Requested Offset: N/A
Equipment: CME 550 ,Split-Spoon Sampler, Shelby Tube, NQ
Requested Elevation:
Location Note: Approximately 4.7 miles southwest of Marquand, Missouri
Drill No.: 172763
Hammer Efficiency: 83%
Drilling Method: CFA and mud rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0		0.0-0.4' 5" ASPHALTIC CONCRETE 0.4-0.8' 4" CRUSHED ROCK 0.8-3.0' (FILL) Brown, LEAN CLAY, trace iron nodules	560		83	6-6-5 (15)			MC = 16.6%
5		3.0-5.5' (CL-ML) Brown, SILTY CLAY			79		Qu Test Results UCS = 1.40 ksf MC = 22.5% γ_{most} = 124.7 pcf		LL = 27 PL = 21
		5.5-8.0' (CL) Brown, SANDY LEAN CLAY, trace fine gravel, sand is fine- to coarse-grained	555		28	4-4-3 (10)			MC = 13.2% Sieve Analysis Sieve # % Passing 3/8-inch 100.0 #4 96.8 #10 91.3 #20 86.8 #40 80.5 #60 72.3 #100 63.7 #140 58.0 #200 54.3
10		8.0-12.0' (SC) Brown, CLAYEY SAND, fine- to coarse-grained, clay is lean 9.3' *Percent passing the number 200 sieve: 14.5%*			44	4-4-5 (12)			
		12.0-19.5' (GP) Brown, POORLY GRADED GRAVEL, fine to coarse, trace fine- to coarse-grained sand	550		50	9-11-14 (35)			
15		15.0' *Advanced casing and switched to mud rotary*							
			545		64	12-31-50/0.2'			
20		19.5-20.5' WEAK ROCK, dolomite							
		20.5-30.5' DOLOMITE: Gray, hard, weak, micritic, medium bedding, highly weathered, fractured	540		57 (0)				
25					95 (5)		Qu Test Results UCS = 848 ksf MC = 0% γ_{most} = 169.6 pcf		
			535		100 (0)				
30		Refusal at 20.5 feet. Bottom of borehole at 30.5 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: Modified State Pane
Coordinate Zone: Missouri East
Coordinate Proj. Factor: 1.0000814052
Coordinate Datum: NAD 1983
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 20150728.GDT - 4/6/25 11:43 - N:\LABORATORY\ACTIVE GINT PROJECTS\2024-1686.11 ROUTE M OVER SHETLEY CREEK.GPJ

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

JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
STATE OF MISSOURI
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/17/2026
ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 29
COUNTY MADISON
JOB NO. JSE0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9728
DESCRIPTION
DATE

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Detailed Apr. 2026
Checked Apr. 2026
Note: This drawing is not to scale. Follow dimensions.

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Missouri Department of Transportation
Construction and Materials

BORING NO. B-201
Page 1 of 1

Job No.: JSE0036 (SCI No. 2024-1688.11)
County: Madison
Route: M
Design: A9728
Skew: 20 degrees
Location: Madison County
Bent: Interior Bent #2
Logged By: Caleb Harms
Operator: Midwest Drilling, Inc.
Station: 264+08.02
Northing: 562600.83
Date of Work: 07/14/25-07/15/25
Offset: 15.97 feet LT
Easting: 899754.48
Depth to Water: 0.0
Elevation: 555.3
Requested Northing: N/A
Depth Hole Open: 25.5
Requested Station: N/A
Requested Easting: N/A
Time Change: 0
Requested Offset: N/A
Equipment: CME 550 ,Split-Spoon Sampler, NQ
Requested Elevation:
Location Note: Approximately 4.7 miles southwest of Marquand, Missouri
Drill No.: 172763
Hammer Efficiency: 83%
Drilling Method: Mud Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0		0.0-10.5' (GP) Brown, POORLY GRADED GRAVEL, fine to coarse, trace fine- to coarse-grained sand	555						
					33	3-4-6 (14)			
5			550		50	16-12-14 (30)			
					33	9-9-14 (32)			
10			545		39	8-8-50 (80)			
		10.5-25.5' DOLOMITE Gray, hard, micritic, medium bedding, moderately weathered, fractured			80 (17)				
15			540		80 (0)				
20			535		80 (0)				
					50 (7)				
25		Refusal at 10.5 feet. Bottom of borehole at 25.5 feet.	530						

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: Modified State Plane **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:** 1.0000814052

Coordinate Datum: NAD 1983 **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 20150723.GDT - 12/3/25 10:20 - N:\LABORATORY\ACTIVE GINT PROJECTS\2024-1688.11 ROUTE M OVER SHETLEY CREEK.GPJ

BORING DATA

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

Detailed Apr. 2026
Checked Apr. 2026

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

Sheet No. 30 of 32

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/17/2026
ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 30
COUNTY MADISON
JOB NO. JSE0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9728

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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St. Charles: 820 South Hwy. Suite 309, St. Charles, MO 63301, 636.493.8277
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H:\P\224097 - Madison County Bridge Package\002-JSE0036-T0092\Bridge\Final Bridge\Microstation\B_A9728_030_JSE0036_Boring Data.dgn 11:30:40 PM 9/17/2026

Missouri Department of Transportation
Construction and Materials

BORING NO. B-301
Page 1 of 1

Job No.: JSE0036 (SCI No. 2024-1688.11)
County: Madison
Route: M
Design: A9728
Skew: 20 degrees
Location: Madison County
Bent: Interior Bent #3
Logged By: Caleb Harms
Operator: Midwest Drilling, Inc.
Station: 264+54.17
Northing: 562572.62
Date of Work: 07/15/25-07/16/25
Offset: 16.18 feet LT
Easting: 899717.97
Depth to Water: 5.0
Elevation: 556.2
Requested Northing: N/A
Depth Hole Open: 28.5
Requested Station: N/A
Requested Easting: N/A
Time Change: 0
Requested Offset: N/A
Equipment: CME 550 ,Split-Spoon Sampler, NQ
Requested Elevation:
Location Note: Approximately 4.7 miles southwest of Marquand, Missouri
Drill No.: 172763
Hammer Efficiency: 83%
Drilling Method: CFA and mud rotary

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0	0.0-0.5' 6" TOPSOIL	555						
	0.5-3.0' (SP-SC) Brown, POORLY GRADED SAND WITH CLAY AND GRAVEL, fine- to coarse-grained, gravel is fine to coarse, clay is lean			39	2-4-7 (15)			Sieve Analysis Sieve # % Passing 1-inch 100.0 3/4-inch 84.8 1/2-inch 76.9 3/8-inch 71.0 #4 56.6 #10 42.4 #20 31.4 #40 21.9 #60 13.9 #100 9.1 #140 6.9 #200 5.5
	3.0-13.5' (GP) Brown, POORLY GRADED GRAVEL, fine to coarse, trace fine- to coarse-grained sand			56	6-7-9 (22)			
5		550		56	5-11-13 (33)			
	7.0' *Advanced casing and switched to mud rotary*			28	5-2-1 (4)			
10		545						
	13.5-28.5' DOLOMITE: Gray, hard, micritic, medium bedding, highly weathered, fractured							
15		540		29 (0)				
20		535		19 (0)				
25		530		100 (25)			Qu Test Results UCS = 213 ksf MC = 0% γ_{moist} = 166.3 pcf	
	Refusal at 13.5 feet. Bottom of borehole at 28.5 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: Modified State Plane
Coordinate Zone: Missouri East
Coordinate Proj. Factor: 1.0000814052
Coordinate Datum: NAD 1983
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 20150723.GDT - 12/3/25 10:20 - N:\LABORATORY\ACTIVE GINT PROJECTS\2024-1686.11 ROUTE M OVER SHETLEY CREEK.GPJ

JASON A. DREYER
NUMBER PE-2013038971
STATE OF MISSOURI
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 9/17/2026
ROUTE: M | STATE: MO
DISTRICT: BR | SHEET NO.: 31
COUNTY: MADISON
JOB NO.: JSE0036
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9728
DESCRIPTION:
DATE:

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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Detailed Apr. 2026
Checked Apr. 2026

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

Sheet No. 31 of 32

BORING DATA

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

H:\P\224097 - Madison County Bridge Package\002-JSE0036-T0092\Bridge\Final Bridge\Microstation\B_A9728_031_JSE0036_Boring Data.dgn 11:30:59 PM 9/17/2026

Missouri Department of Transportation
Construction and Materials

BORING NO. B-401
Page 1 of 2

Job No.: JSE0036 (SCI No. 2024-1686.11) **County:** Madison **Route:** M
Design: A9728 **Skew:** 20 degrees **Location:** Madison County
Bent: Southwest Abutment **Logged By:** Caleb Harms **Operator:** Midwest Drilling, Inc.
Station: 264+96.92 **Northing:** 562555.09 **Date of Work:** 07/10/25
Offset: 5.52 feet LT **Easting:** 899677.54 **Depth to Water:** 10.0
Elevation: 563.4 **Requested Northing:** N/A **Depth Hole Open:** 35.5
Requested Station: N/A **Requested Easting:** N/A **Time Change:** 0
Requested Offset: N/A **Equipment:** CME 550 ,Split-Spoon Sampler, NQ
Requested Elevation: **Location Note:** Approximately 4.7 miles southwest of Marquand, Missouri
Drill No.: 172763 **Hammer Efficiency:** 83% **Drilling Method:** CFA and mud rotary

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0	0.0-0.3' 3" ASPHALTIC CONCRETE 0.3-0.5' 3" CRUSHED ROCK 0.5-3.0' (FILL) Brown, SILTY CLAY, trace fine-grained sand, trace fine gravel	560		39	3-5-3 (11)			LL = 26 PL = 20 MC = 11.4%
5	3.0-5.5' (FILL) Brown, CLAYEY SAND WITH GRAVEL, fine- to coarse-grained, gravel is fine to coarse, clay is lean			50	2-2-2 (6)			Sieve Analysis Sieve # % Passing 3/4-inch 100.0 1/2-inch 92.9 3/8-inch 87.9 #4 77.9 #10 66.7 #20 57.0 #40 47.2 #60 39.3 #100 34.6 #140 32.5 #200 31.3
	5.5-12.0' (GC) Brown, CLAYEY GRAVEL, fine to cobble size, trace fine- to coarse-grained sand, clay is lean	555		28	3-4-3 (10)			
10	9.3' *Percent passing the number 200 sieve: 14.8%*			28	2-4-4 (11)			
	12.0-19.5' (GP) Brown, POORLY GRADED GRAVEL, fine to coarse, trace fine- to coarse-grained sand	550		33	9-14-11 (35)			
15		545		59	6-12-50/0.4'			
20	19.5-22.0' WEAK ROCK, dolomite							
	22.0-25.5' (SP) Gray, POORLY GRADED SAND, fine- to coarse-grained, with weathered rock, trace clay	540		89	12-50/0.3'			
25	25.5-35.5' DOLOMITE: Gray, hard, micritic, medium bedding, highly weathered, cavities present			93 (0)				
		535		92 (32)				
30								
		530		100 (33)		Qu Test Results UCS = 798 ksf MC = 0%		
35								

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: Modified State Plane **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:** 1.0000814052
Coordinate Datum: NAD 1983 **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 20150728.GDT - 4/6/23 11:43 - N:\LABORATORY\ACTIVE GINT PROJECTS\2024-1686.11 ROUTE M OVER SHETLEY CREEK.GPJ

Missouri Department of Transportation
Construction and Materials

BORING NO. B-401
Page 2 of 2

Job No.: JSE0036 (SCI No. 2024-1686.11) **County:** Madison **Route:** M
Design: A9728 **Skew:** 20 degrees **Location:** Madison County
Bent: Southwest Abutment **Logged By:** Caleb Harms **Operator:** Midwest Drilling, Inc.
Station: 264+96.92 **Northing:** 562555.09 **Date of Work:** 07/10/25
Offset: 5.52 feet LT **Easting:** 899677.54 **Depth to Water:** 10.0
Elevation: 563.4 **Requested Northing:** N/A **Depth Hole Open:** 35.5
Requested Station: N/A **Requested Easting:** N/A **Time Change:** 0
Requested Offset: N/A **Equipment:** CME 550 ,Split-Spoon Sampler, NQ
Requested Elevation: **Location Note:** Approximately 4.7 miles southwest of Marquand, Missouri
Drill No.: 172763 **Hammer Efficiency:** 83% **Drilling Method:** CFA and mud rotary

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
35	Refusal at 25.5 feet. Bottom of borehole at 35.5 feet.					γ_{moist} = 169.3 pcf		

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: Modified State Plane **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:** 1.0000814052
Coordinate Datum: NAD 1983 **Coordinate Units:** U.S. Survey Feet

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LETTER BOREHOLE - MODOT 20150723.GDT - 4/6/23 11:43 - N:\LABORATORY\ACTIVE GINT PROJECTS\2024-1686.11 ROUTE M OVER SHETLEY CREEK.GPJ

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/17/2026
ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 32
COUNTY MADISON
JOB NO. JSE0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9728
DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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JEFFERSON CITY, MO 65102
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Detailed Apr. 2026
Checked Apr. 2026

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

Sheet No. 32 of 32

BORING DATA

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

H:\P\224097 - Madison County Bridge Package\002-JSE0036-T0092\Bridge\Final Bridge\Microstation\B_A9728_032_JSE0036_Boring Data.dgn 11:31:17 PM 9/17/2026

DESIGN DESIGNATION

A.A.D.T. - 2027 = 404
A.A.D.T. - 2047 = 492
D.H.V. = 9.57%
T = 14.94%
V = 55 M.P.H.
D = 50.0% EB/ 50.0% WB

FUNCTIONAL CLASSIFICATION- RURAL MAJOR COLLECTOR

NORMAL RIGHT OF WAY

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	D	
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
RIGHT OF WAY PLANS FOR PROPOSED
STATE ROUTE M

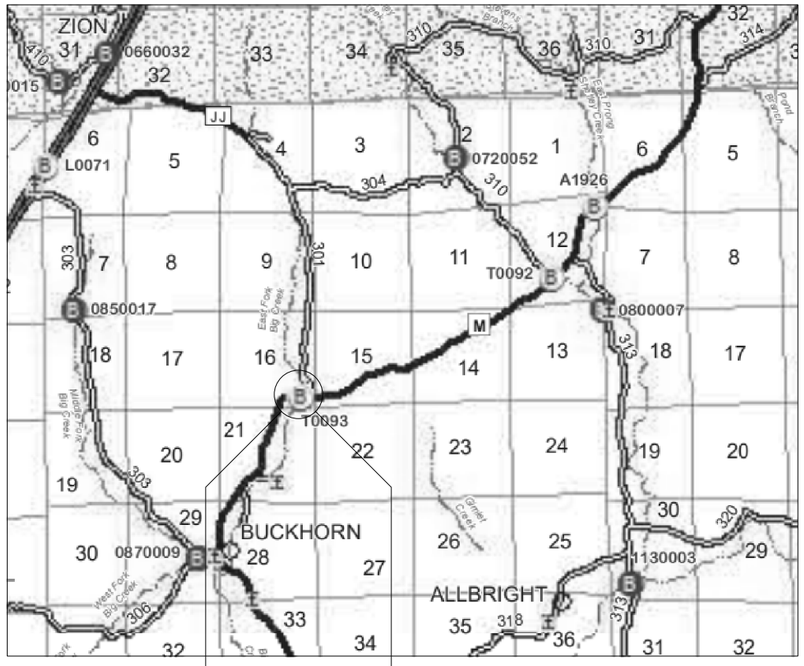
MADISON COUNTY



KEY MAP
SHOWING LOCATION OF COUNTY

NOT TO SCALE

S16 T31N R7E



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

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
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QUANTITIES (QU) (3 SHEETS)	3
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RIGHT OF WAY (RW)	6
ALIGNMENT (AL)	7
REFERENCE POINTS (RP)	8
CONTROL POINTS (CP)	9
SPECIAL SHEETS(SS)	10
TRAFFIC CONTROL SHEETS (TC)	11-12
EROSION CONTROL SHEETS (TC)	13
BRIDGE DRAWINGS (B)	
A9729	1-30
CROSS SECTIONS (XS)	1-8

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA. 417 + 70.00	
END OF PROJECT	STA. 428 + 40.00	
APPARENT LENGTH	1070.00	FEET
EQUATIONS AND EXCEPTIONS:		
TOTAL CORRECTIONS	0.00	FEET
NET LENGTH OF PROJECT	1070.00	FEET
STATE LENGTH	0.203	MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES	1.7	ACRES

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/25/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	1

COUNTY
MADISON

JOB NO.
JSE0037

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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Belleville, IL 62220
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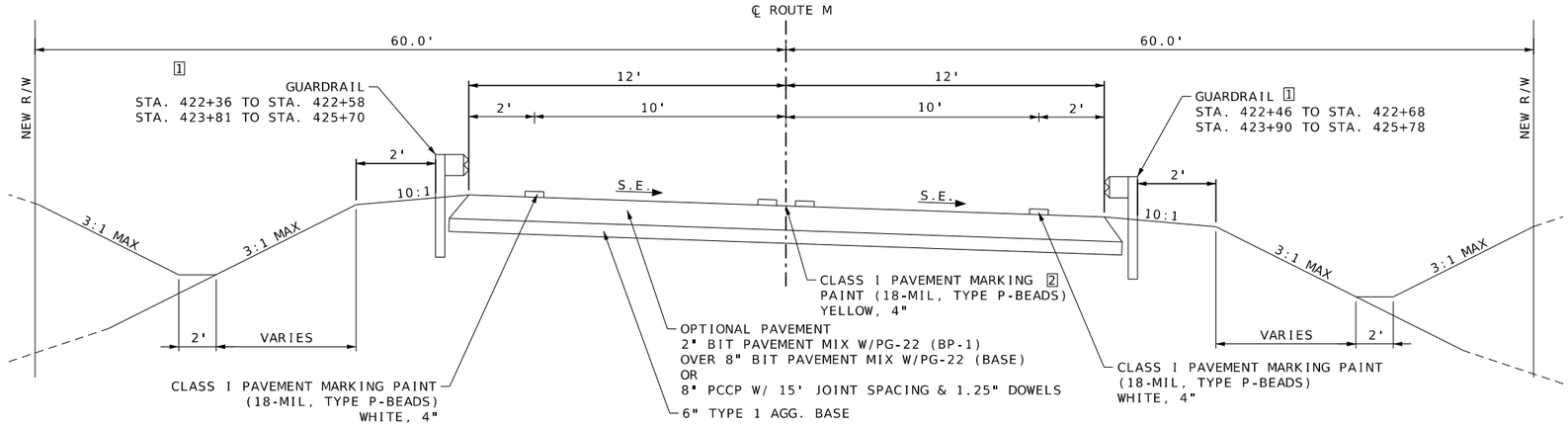
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MISSOURI DESIGN FIRM PE-001166

1 1.0' EARTH SHOULDER MINIMUM. GUARDRAIL END TERMINAL TRANSITIONS IN ACCORDANCE WITH MODOT STANDARD PLAN 606.81B.

2 EXTENDS BEYOND PROJECT LIMITS TO STA 428+65, MATCH EXISTING PAVEMENT MARKINGS



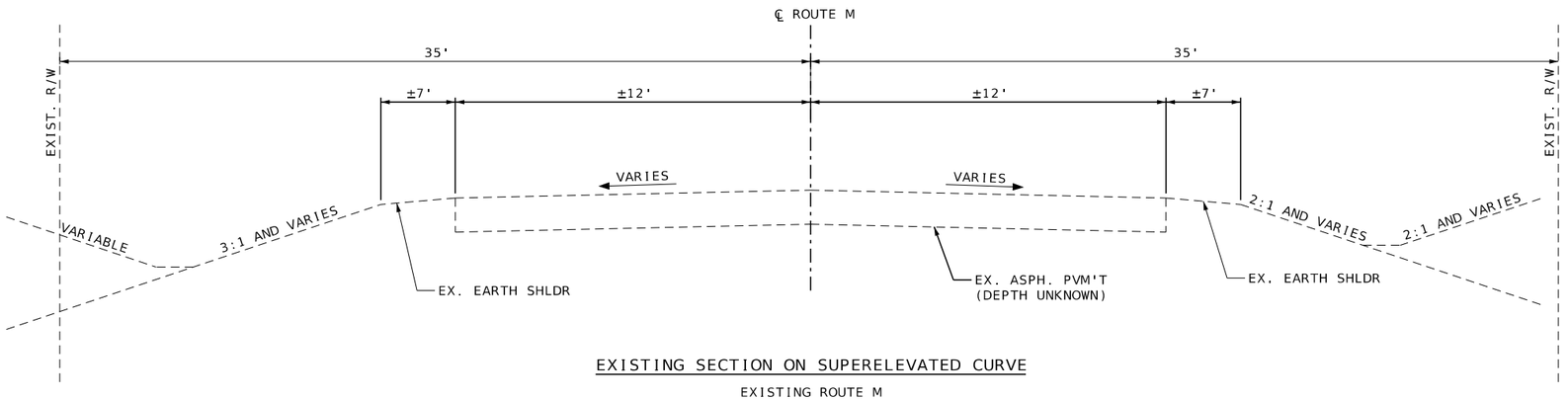
PROPOSED SECTION ON SUPERELEVATED CURVE

PROPOSED ROUTE M
STA. 417+70.00 TO STA. 421+45.50
(BRIDGE OMISSION STA. 422+42.67 TO STA. 423+95.33)

S.E. TABLE

EAST OF PROPOSED BRIDGE

STATION	DESCRIPTION	X-SLOPE RT	X-SLOPE LT
417+70.00	MATCH EX	-2.06%	-6.49%
419+19.00	BEGIN SE	+7.20%	-7.20%
421+45.50	END SE	+7.20%	-7.20%
422+41.50	NORMAL CROWN	-2.0%	-2.0%



EXISTING SECTION ON SUPERELEVATED CURVE

EXISTING ROUTE M
STA. 417+70.00 TO STA. 428+40.00
(BRIDGE OMISSION STA. ± 422+65 TO STA. ± 423+67)

TYPICAL SECTION SHEET
SHEET 1 OF 3

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/25/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	2

COUNTY
MADISON

JOB NO.
JSE0037

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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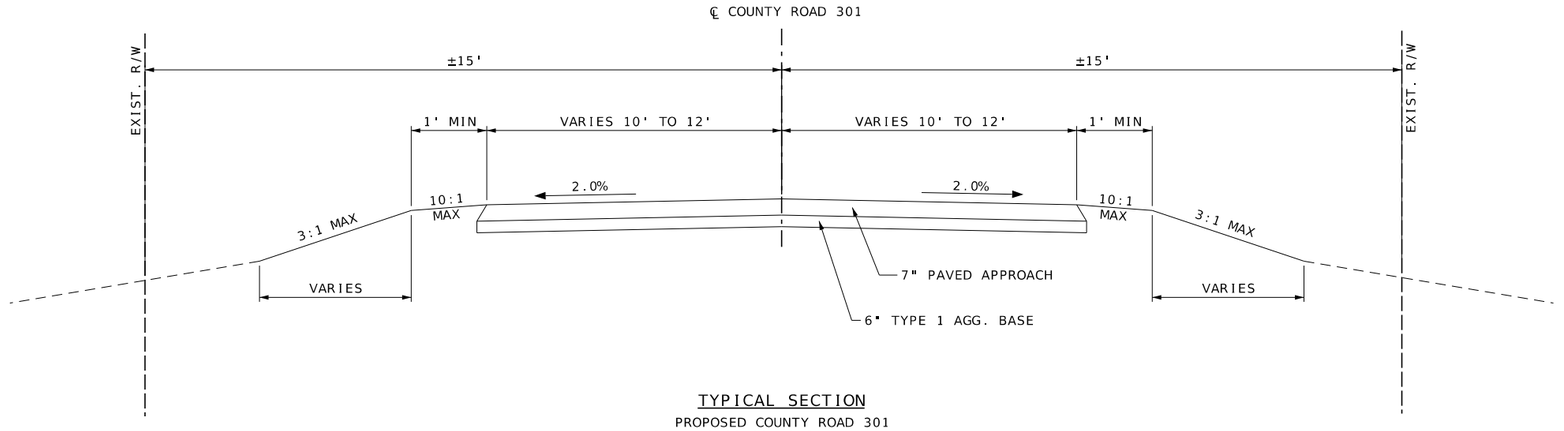
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REV.

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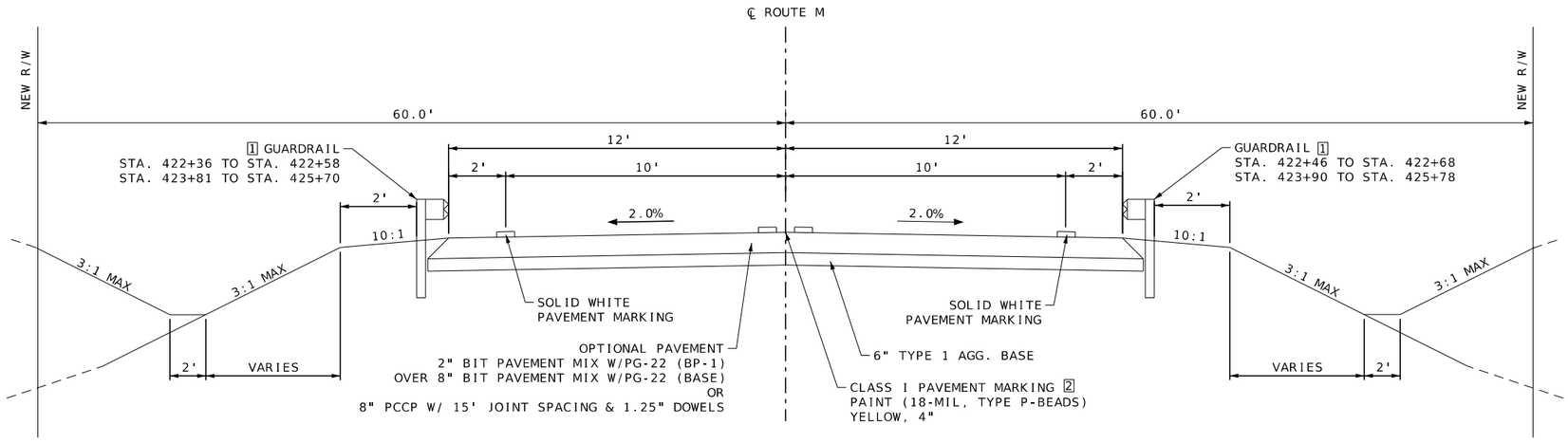
1 1.0' EARTH SHOULDER MINIMUM. GUARDRAIL END TERMINAL TRANSITIONS IN ACCORDANCE WITH MODOT STANDARD PLAN 606.81B.

2 EXTENDS BEYOND PROJECT LIMITS TO STA 428+65, MATCH EXISTING PAVEMENT MARKINGS



TYPICAL SECTION

PROPOSED COUNTY ROAD 301
STA. 10+00.00 TO STA 11+14.15



PROPOSED SECTION ON NORMAL CROWN

PROPOSED ROUTE M
STA. 422+41.50 TO STA. 428+40.00
(BRIDGE OMISSION STA. 422+42.67 TO STA. 423+95.33)

TYPICAL SECTIONS SHEET
SHEET 2 OF 3

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

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DATE PREPARED
11/5/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	2

COUNTY
MADISON

JOB NO.
JSE0037

CONTRACT ID.
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PROJECT NO.
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BRIDGE NO.
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DESCRIPTION	DATE
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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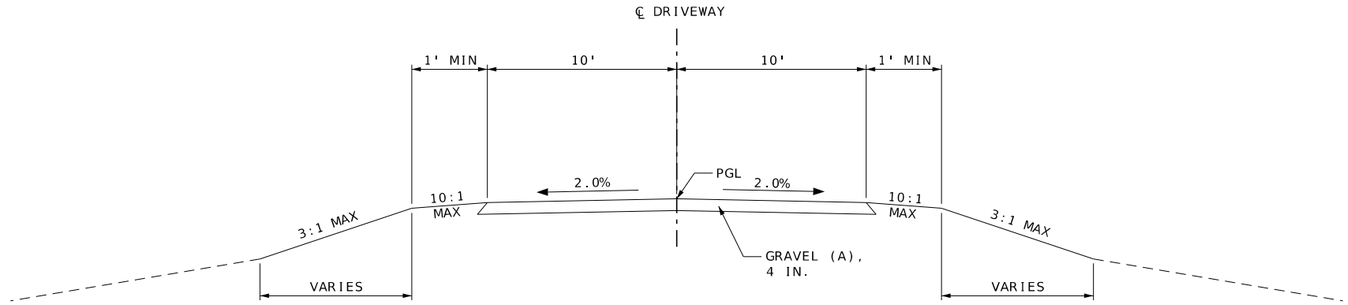
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MISSOURI DESIGN FIRM PE-001166



TYPICAL SECTION
PROPOSED DRIVEWAYS
STA. 419+03.00
STA. 422+14.00
STA. 428+11.00

TYPICAL SECTION SHEET
SHEET 3 OF 3

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/5/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	2

COUNTY
MADISON

JOB NO.
JSE0037

CONTRACT ID.
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PROJECT NO.
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BRIDGE NO.
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DESCRIPTION	DATE
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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St. Charles
820 South Main, Suite 399
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MISSOURI DESIGN FIRM PE-001166

REMOVAL OF IMPROVEMENTS

STATION	STATION	OFFSET	LENGTH (LF)	AREA (SY)	EACH (EA)	REMARKS
414+63					1	SIGN (WEIGHT LIMIT)
417+70		LT/RT	20			SAWCUT
417+70	422+43	LT/RT		1269		PAVEMENT
422+20		RT			1	SIGN (STOP)
422+20		RT			1	SIGN (COUNTY ROUTE)
422+43		RT			1	SIGN (YIELD)
422+58		LT			3	SIGN (OBJCT MARKERS)
422+66		RT			3	SIGN (OBJCT MARKERS)
423+63		LT			3	SIGN (OBJCT MARKERS)
423+72		RT			3	SIGN (OBJCT MARKERS)
423+95	428+40	LT/RT		923		PAVEMENT
426+28		LT			1	SIGN (YIELD)
428+40		LT/RT	20			SAWCUT
432+70		LT			1	SIGN (WEIGHT LIMIT)
		TOTAL	40	2192	17	
		PAY TOTAL	1 LUMP SUM			

NOTES:
1. FOR INFORMATION ONLY, PAID FOR AS REMOVAL OF IMPROVEMENTS

EROSION CONTROL

STATION	STATION	OFFSET	SEDIMENT REMOVAL (CY)	SILT FENCE (LF)	TYPE C BERM (LF)
417+70	418+96	LT	1	140	
419+10	422+04	LT	3	346	
422+24	422+28	LT	0	40	
417+70	421+79	RT	5	499	
421+99	422+57	RT	1	129	
422+28	422+57	LT/RT			164
423+34	424+09	LT/RT			176
423+82	428+40	LT	5	459	
424+07	428+01	RT	4	399	
428+21	428+40	RT	0	25	
		TOTAL	19	2037	340
		PAY TOTAL	19	2037	340

PAVEMENT

STATION	STATION	OFFSET	TYPE 1 AGGREGATE FOR BASE (6 IN. THICK) (SY)	GRAVEL (A) OR CRUSHED STONE (B) (SY)	OPTIONAL PAVEMENT (SY)	PAVED APPROACH, (7 IN.)	REMARKS
417+70	422+43	LT/RT	1279		1254.7		ROUTE M
419+03		LT	26	32			ENTRANCE
422+07		RT	387			387.2	MADISON 301
422+14		LT	35	152		36.7	DRIVEWAY
423+95	428+40	LT/RT	1198		1178.4		ROUTE M
428+11		RT	28	23			ENTRANCE
		TOTAL	2953	207	2433.1	423.9	
		PAY TOTAL	2953	207	2433.1	423.9	

EARTHWORK

STATION	STATION	CUT	FILL	CLASS A EXCAVATION (CY)	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE (NOTE 2) (CY)	EMBANKMENT IN PLACE (CY)	COMPACTING EMBANKMENT (CY)	CLASS 3 EXCAVATION (CY)	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) (NOTE 2) (CY)
417+69	422+43	241	2239	241	181	2059	181		-2059
418+84	419+19							9	
421+60	422+41							60	
421+86	422+42							27	
423+95	428+40	223	573	223	167	406	167		-406
			TOTAL	464	348	2465	348	96	-2465
			PAY TOTAL	464	-	2465	348	96	-

EARTHWORK NOTES:
1. ESTIMATED SHRINKAGE FACTOR = 25%.
2. QUANTITY SHOWN FOR INFORMATION ONLY

CULVERT CLEANOUT

STATION	OFFSET	CULVERT CLEANOUT (EACH)
427+85	LT/RT	1
	TOTAL	1
	PAY TOTAL	1

SEEDING & MULCHING

STATION	STATION	OFFSET	MULCHING (ACRE)	SEEDING - COOL SEASON GRASSES (ACRE)	TEMPORARY SEEDING (ACRE)
417+70	422+57	LT/RT	0.5	0.5	0.5
423+82	428+40	LT/RT	0.4	0.4	0.4
		TOTAL	0.9	0.9	0.9
		PAY TOTAL	1 LUMP SUM		

POROUS BACKFILL

STATION	STATION	OFFSET	POROUS BACKFILL (CU YD)
422+58	422+63	LT/RT	31
423+75	423+80	LT/RT	25
		TOTAL	56
		PAY TOTAL	56

SUMMARY OF QUANTITIES
SHEET 1 OF 3

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/30/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	3

COUNTY
MADISON

JOB NO.
JSE0037

CONTRACT ID.
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PROJECT NO.
.

BRIDGE NO.
.

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

OATES ASSOCIATES

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GUARDRAIL

STATION	STATION	OFFSET	MGS GUARDRAIL (LF)	MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR/ NO CURB) (EA)	TYPE A CRASHWORTHY END TERMINAL (MASH) (EA)	TYPE C CRASHWORTHY END TERMINAL (MASH) (EA)
422+36		LT				1
422+43		RT				1
423+81		LT		1		
423+90		RT		1		
424+19	424+53	LT	88			
424+28	424+90	RT	25			
424+90		RT			1	
425+19		LT			1	
		TOTAL	113	2	2	2
		PAY TOTAL	113	2	2	2

PAVEMENT MARKING

STATION	STATION	OFFSET	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
417+70	428+40	LT	1070		SOLID EDGE LINE
417+70	428+40	RT	1070		SOLID EDGE LINE
417+70	428+65	CL		2190	DOUBLE SOLID CENTERLINE
		TOTAL	2140	2190	
		PAY TOTAL	2140	2190	

DRAINAGE (STRUCTURES)

STATION	STATION	OFFSET	18 IN. PIPE GROUP B (LF)	18 IN. OR ALLOWED SUBSTITUTE GROUP B FLARED END SECTION (EA)
418+84	419+19	LT	36	2
421+60	422+41	RT	81	2
421+86	422+42	LT	55	2
		TOTAL	172	6
		PAY TOTAL	172	6

ROCK BLANKET

STATION	STATION	OFFSET	FURNISHING TYPE 2 ROCK BLANKET (CY)	PLACING TYPE 2 ROCK BLANKET (CY)	FURNISHING TYPE 2 ROCK DITCH LINER (CY)	PLACING TYPE 2 ROCK DITCH LINER (CY)	PERMANENT EROSION CONTROL GEOTEXTILE (SY)	REMARKS
419+70	421+61	RT			125	125	177	SPECIAL DITCH
422+28	422+87	LT/RT	181	181			255	EAST SIDE OF BRIDGE
423+41	424+09	LT/RT	236	236			334	WEST SIDE OF BRIDGE
		TOTAL	417	417	125	125	766	
		PAY TOTAL	417	417	125	125	766	

SIGNING

STATION	OFFSET	SH-FLAT SHEET (SF)	2 IN. PSST POST -12 GA. (LF)	DRIVEN POST ANCHOR FOR 2 IN. PSST - 7 GA. (EACH)	SIGN TYPE	SIZE	REMARKS
422+20	RT	6.25	9.5	1	R1-1	30x30	STOP
422+20	LT	4.0	9.0	1	M1-6	24x24	COUNTY ROUTE (MADISON 301)
	TOTAL	10.25	18.5	2			
	PAY TOTAL	10	19	2			

MISCELLANEOUS

STATION	STATION	OFFSET	CLEARING AND GRUBBING (LS)	REMOVAL OF IMPROVEMENTS (LS)	MOBILIZATION (LS)	CONTRACTOR FURNISHED SURVEYING AND STAKING (LS)
417+69	428+40	LT/RT	1	1	1	1
		TOTAL	1	1	1	1
		PAY TOTAL	1	1	1	1

SUMMARY OF QUANTITIES
SHEET 2 OF 3

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

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DATE PREPARED
9/25/2026

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M	MO
DISTRICT	SHEET NO.
SE	3

COUNTY
MADISON

JOB NO.
JSE0037

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

OATES ASSOCIATES

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MISSOURI DESIGN FIRM PE-001166

WARNING SIGNS

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
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	2	32.00			18	DETOUR AHEAD
WO20-3	48X48	16.00	5	60.00			20	ROAD CLOSED AHEAD (AHEAD-16, 500 FT-2)
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)

GUIDE SIGNS

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
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	2	6.00			52	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

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
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	5	50.00			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

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
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
SPECIAL	96X48	32.00	2	64.00			56	ROUTE M CLOSED 1 MILES AHEAD
SPECIAL	96X48	32.00	1	32.00			56A	ROUTE M CLOSED 12 MILES AHEAD
SPECIAL	96X48	32.00	1	32.00			56B	ROUTE M CLOSED 7 MILES AHEAD
M1-5A	24X12	2.00	6	12.00			17	ROUTE M
MO4-8	24X12	2.00	6	12.00			17	DETOUR
M5-1R	21X15	2.20					17A	ADVANCE TURN ARROW (90° RIGHT)
M5-1L	21X15	2.20	1	2.20			17B	ADVANCE TURN ARROW (90° LEFT)
M6-1R	21X15	2.20	1	2.20			17C	RIGHT TURN ARROW
M6-1L	21X15	2.20	2	4.40			17D	LEFT TURN ARROW
M5-1	21X15	2.20	2	4.40			17	STRAIGHT ARROW

616-10.05 CONSTRUCTION SIGNS	TOTAL
	313.20

616-10.10 RELOCATED SIGNS	TOTAL
	0

EFFECTIVE: 07-01-2024

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)
6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)
6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)
6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
6122020		REPLACEMENT SAND BARREL
6122030		IMPACT ATTENUATOR (RELOCATION)
6123001		TRUCK MOUNTED ATTENUATOR (TMA)
6161008		ADVANCED WARNING RAIL SYSTEM
6161012		BUOYS (BOATS KEEP OUT)
6161013		BUOYS (NO WAKE)
6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
6161025		CHANNELIZER (TRIM LINE)
6161030	13	TYPE III MOVEABLE BARRICADE
6161033		DIRECTION INDICATOR BARRICADE
6161040		FLASHING ARROW PANEL
6161047		TYPE III OBJECT MARKER
6161055		SEQUENTIAL FLASHING WARNING LIGHT
6161070		TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A	2	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
6173602B		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/COMMISSION RETAINED
6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION
6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER
6176000B		TEMPORARY TRAFFIC BARRIER COMMISSION FURNISHED/RETAINED
6177000B		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION COMMISSION FURNISHED/RETAINED
6208064A		TEMPORARY RAISED PAVEMENT MARKER
9029400		TEMPORARY TRAFFIC SIGNALS
9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

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M	MO
DISTRICT	SHEET NO.
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DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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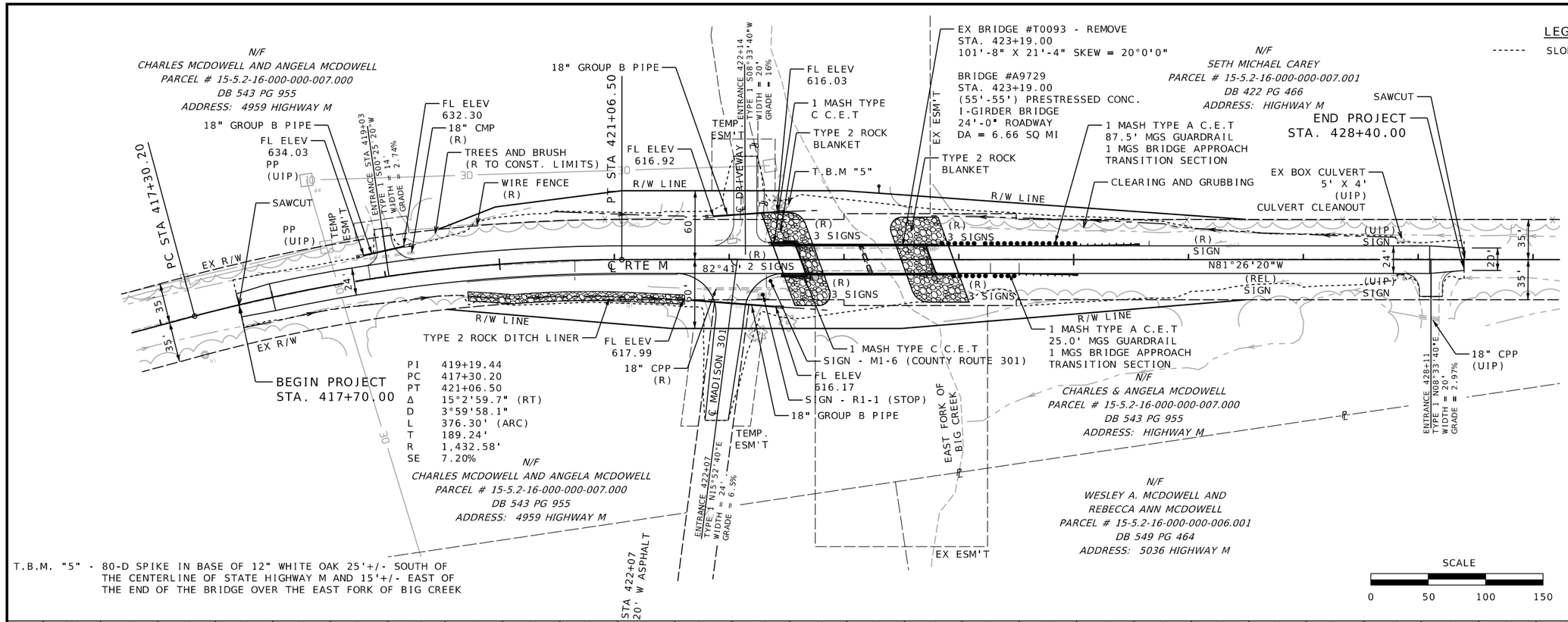
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MISSOURI DESIGN FIRM PE-001166

OATES ASSOCIATES

SUMMARY OF QUANTITIES
SHEET 3 OF 3



PLAN/PROFILE SHEET
SHEET 1 OF 2

H:\P\224097 - Madison County Bridge Package\003-JSE0037-T0093\CADD\Microstation\CADD Drawings\CADD Sheets\004_PP_JSE0037_I50.dgn 11:15:48 AM 9/25/2026

STATE OF MISSOURI
MATTHEW B. FIELDS
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PROFESSIONAL ENGINEER
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DISTRICT	SHEET NO.
SE	4

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Collinsville Corporate Center, Suite 1
Collinsville, IL 62234
618.345.2200

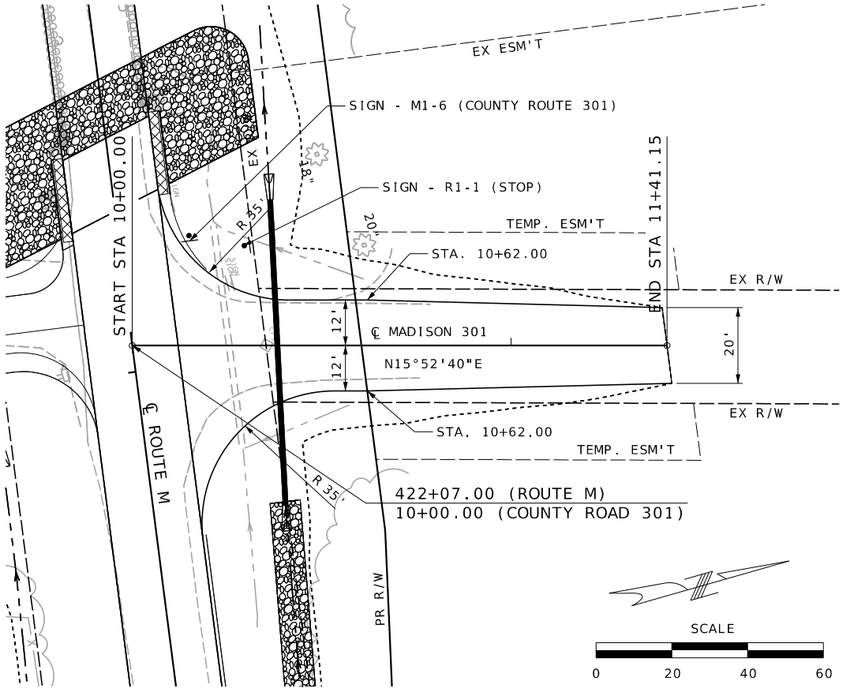
St. Louis
701 Dallas, Suite 700
St. Louis, MO 63101
314.588.8381

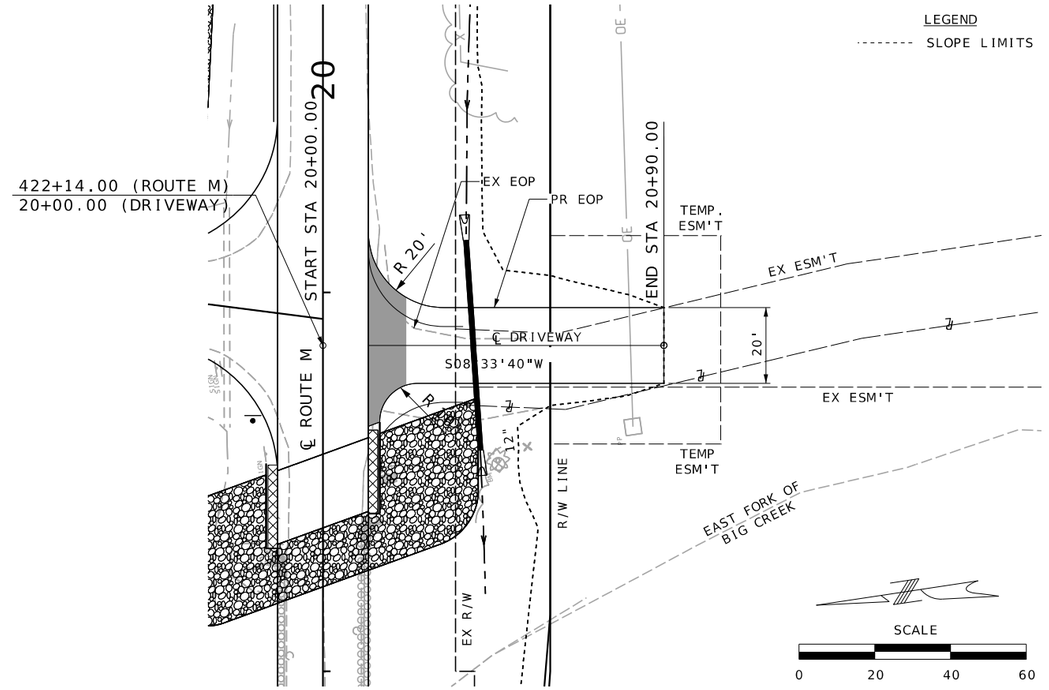
Belleville
1 South Church, Suite 200
Belleville, IL 62220
618.416.4666

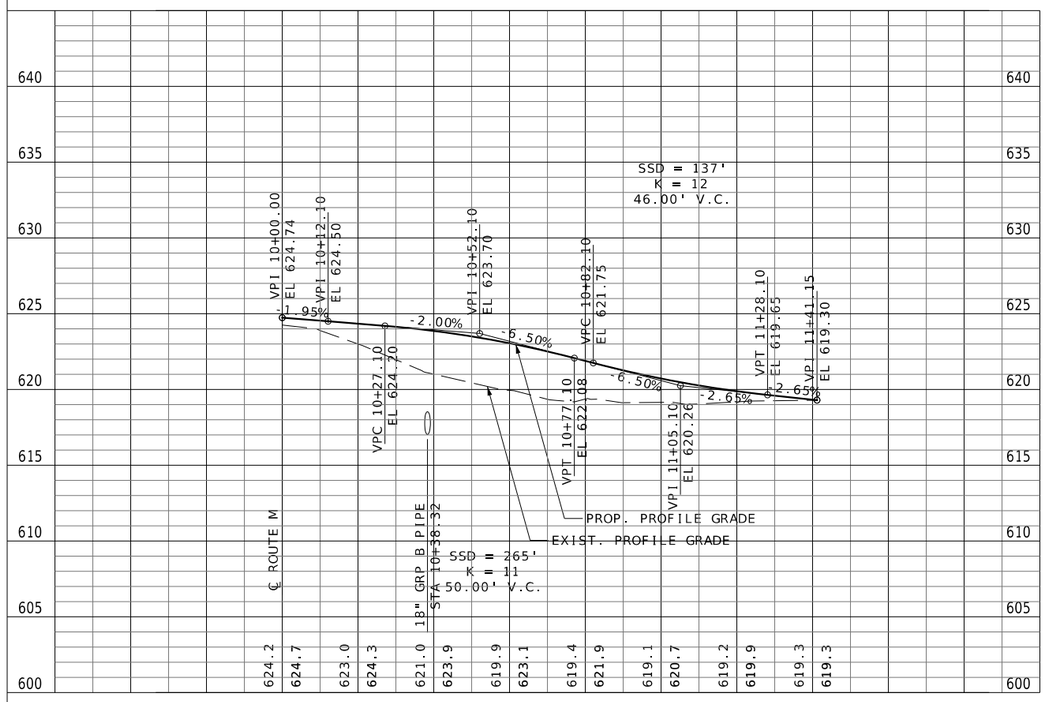
St. Charles
820 South Main, Suite 309
St. Charles, MO 63301
636.993.0277

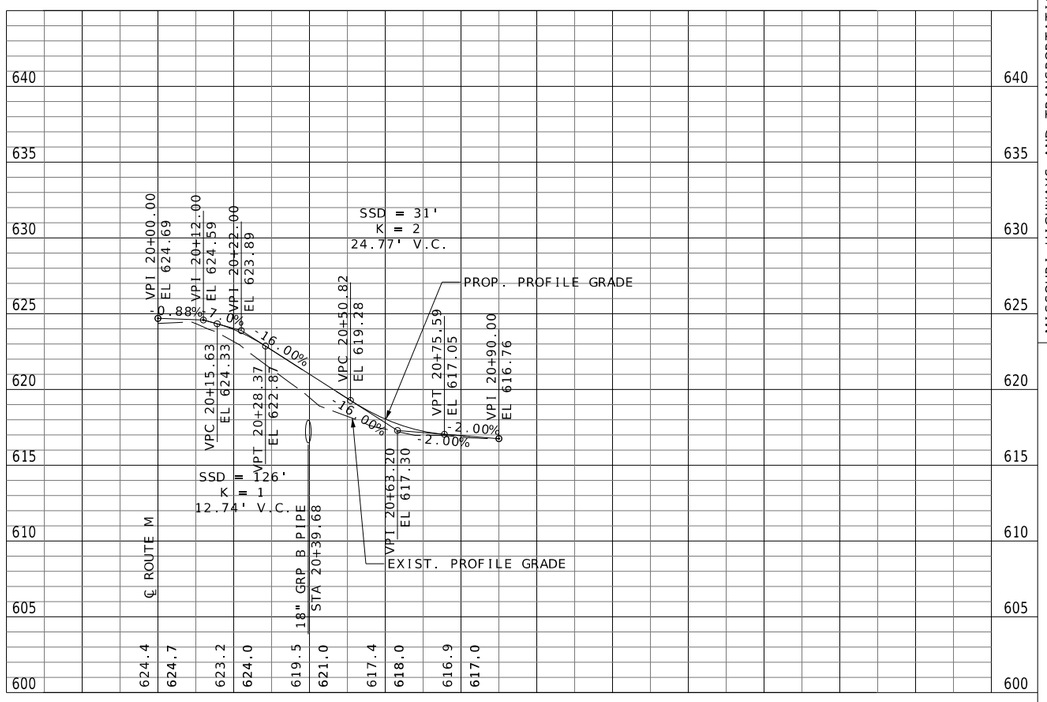
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MISSOURI DESIGN FIRM PE-001166









PLAN-PROFILE SHEET
SHEET 2 OF 2

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/25/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	5

COUNTY
MADISON

JOB NO.
JSE0037

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)

OATES ASSOCIATES

St. Louis
2200 West Port Plaza, Suite 700
St. Louis, MO 63146
314.588.8381

St. Charles
820 South Main, Suite 399
St. Charles, MO 63301
636.493.5077

Collinsville
10 Collinsville Crossing, Suite 1
Collinsville, IL 62234
618.345.2200

Belleville
1 South Church, Suite 200
Belleville, IL 62220
618.416.4686

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MISSOURI DESIGN FIRM PE-001166

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R/W POINTS STA./OFFSETS					
POINTS	STATION	OFFSET	POINTS	STATION	OFFSET
1	+50.00	35.00' LT	22	+30.87	64.06' LT
2	+00.00	50.00' LT	23	+50.00	35.00' RT
3	+06.50	60.00' LT	24	+50.00	60.00' RT
4	+00.00	60.00' LT	25	+50.00	60.00' RT
5	+50.00	35.00' LT	26	+50.00	35.00' RT
6	+50.00	35.00' LT	27	+50.00	35.00' RT
7	+50.00	40.00' LT	28	+50.00	40.00' RT
8	+00.00	40.00' LT	29	+00.00	40.00' RT
9	+00.00	35.00' LT	30	+00.00	35.00' RT
10	+29.63	35.00' LT	31	+17.71	35.00' RT
11	+06.50	35.00' LT	32	+87.45	35.00' RT
12	+80.00	35.00' LT	33	+06.50	35.00' RT
13	+80.00	50.00' LT	34	+69.03	60.00' RT
14	+25.00	50.00' LT	35	+57.84	145.00' RT
15	+25.00	35.00' LT	36	+72.97	145.00' RT
16	+85.00	60.00' LT	37	+84.16	60.00' RT
17	+85.00	105.00' LT	38	+14.42	60.00' RT
18	+21.03	105.00' LT	39	+03.23	145.00' RT
19	+40.00	105.00' LT	40	+18.36	145.00' RT
20	+40.00	60.00' LT	41	+29.55	60.00' RT
21	+30.70	60.00' LT			

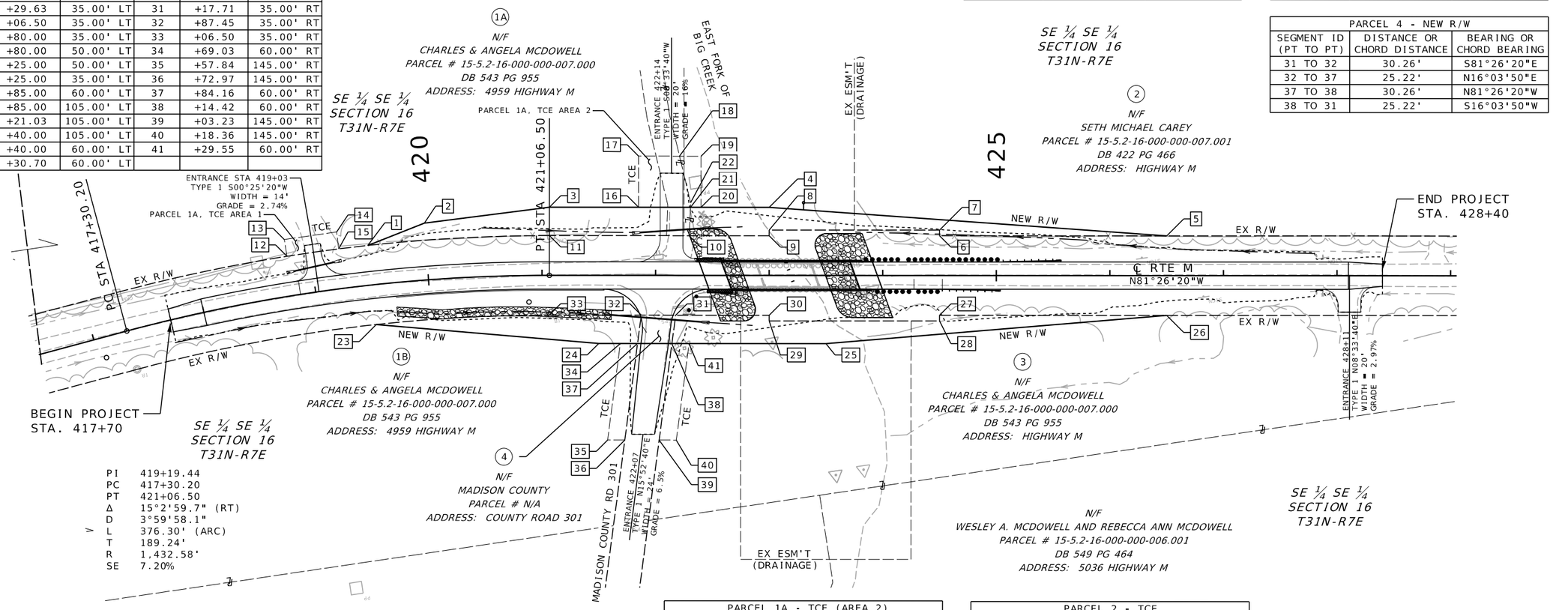
PARCEL 1A - NEW R/W		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
1 TO 2	53.62'	S77°03'34"W
2 TO 3	111.01'	N82°10'07"W
3 TO 21	124.20'	N81°26'20"W
21 TO 10	25.02'	N11°00'08"E
10 TO 11	123.13'	S81°26'20"E
11 TO 1	R = 1467.59' L = 160.32' CD = 160.24'	S84°34'06"E

PARCEL 1B - NEW R/W		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
23 TO 24	196.58'	N76°34'29"W
24 TO 37	34.16	N81°26'20"W
37 TO 32	25.22'	S16°03'50"W
32 TO 33	80.95'	S81°26'20"E
33 TO 23	R = 1397.59' L = 152.68' CD = 152.60'	S84°34'06"E

PARCEL 2 - NEW R/W		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
21 TO 4	69.30'	N81°26'20"W
4 TO 5	350.89'	N77°21'11"W
5 TO 6	200.00'	S81°26'20"E
6 TO 7	5.00'	S08°33'40"W
7 TO 8	150.00'	S81°26'20"E
8 TO 9	5.00'	N08°33'40"E
9 TO 10	70.37'	S81°26'20"E
10 TO 21	25.02'	S11°00'08"W

PARCEL 3 - NEW R/W		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
38 TO 25	135.58'	N81°26'20"W
25 TO 26	301.04	N86°12'08"W
26 TO 27	200.00'	S81°26'20"E
27 TO 28	5.00'	N08°33'40"E
28 TO 29	150.00'	S81°26'20"E
29 TO 30	5.00'	S08°33'40"W
30 TO 31	82.29'	S81°26'20"E
31 TO 38	25.22'	N16°03'50"E

PARCEL 4 - NEW R/W		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
31 TO 32	30.26'	S81°26'20"E
32 TO 37	25.22'	N16°03'50"E
37 TO 38	30.26'	N81°26'20"W
38 TO 31	25.22'	S16°03'50"W



PI 419+19.44
PC 417+30.20
PT 421+06.50
Δ 15°2'59.7" (RT)
D 3°59'58.1"
L 376.30' (ARC)
T 189.24'
R 1,432.58'
SE 7.20%

1. UNDERGROUND FACILITES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEY RECORDS. THE COMMISSION DOES NOT WARRANT THE LOCATIONS OF THESE FACILITIES AS PRECISE. IT IS POSSIBLE THERE MAY BE OTHERS. THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXISTENCE AND PRECISE LOCATION OF ALL FACILITIES AND TO AVOID DAMAGE. SEE THE JOB SPECIAL PROVISIONS FOR A LIST OF UTILITY COMPANIES ON OR WITHIN THE VICINITY OF THE PROJECT LIMITS.
2. ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND PART OF THE CONSTRUCTION OF THIS PROJECT.
3. RIGHT OF WAY LIMITS FOR THIS PROJECT EXTEND FROM STA. 419+50 TO STA. 426+50, A DISTANCE OF 0.13 MILES.
4. ALL BEARINGS BASED ON GRID NORTH, 1983 STATE PLANE COORDINATE SYSTEM, EAST ZONE.
5. PROPERTY LINE LOCATIONS ARE APPROXIMATE ONLY.
6. PRIMARY RECEIVING WATERS: EAST FORK OF BIG CREEK

PARCEL 1A - TCE (AREA 1)		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
12 TO 13	15.00'	S00°29'51"E
13 TO 14	46.57'	N89°35'52"W
14 TO 15	15.00'	N01°18'08"E
15 TO 12	R = 1467.59' L = 46.10' CD = 46.10'	S89°35'52"E

PARCEL 1A - TCE (AREA 2)		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
16 TO 17	45.00'	S08°33'40"W
17 TO 18	36.03'	N81°26'20"W
18 TO 22	42.10'	N04°57'29"W
22 TO 21	4.07'	N11°00'08"E
21 TO 16	45.70'	S81°26'20"E

PARCEL 1B - TCE		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
34 TO 35	85.73'	N16°03'50"E
35 TO 36	15.13'	N81°26'20"W
36 TO 37	85.73'	S16°03'50"W
37 TO 34	15.13'	S81°26'20"E

PARCEL 2 - TCE		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
21 TO 22	4.07'	S11°00'08"W
22 TO 18	42.10'	S04°57'29"E
18 TO 19	18.97'	N81°26'20"W
19 TO 20	45.00'	N08°33'40"E
20 TO 21	9.30'	S81°26'20"E

PARCEL 3 - TCE		
SEGMENT ID (PT TO PT)	DISTANCE OR CHORD DISTANCE	BEARING OR CHORD BEARING
38 TO 39	85.73'	N16°03'50"E
39 TO 40	15.13'	N81°26'20"W
40 TO 41	85.73'	S16°03'50"W
41 TO 38	15.13'	S81°26'20"E

LAND TIE:
STA. 421+06.50 ℄ ROUTE M IS 636.30' AT A BEARING OF N43°54'45"W FROM FOUND STONE AT THE SOUTHWEST CORNER OF THE SOUTHWEST QUARTER OF SECTION 15 TOWNSHIP 31 NORTH, RANGE 7 EAST, PER CABINET A-534B.

PARCEL #	OWNERS	NORMAL R/W (ACRES)	PERM. ESMT. (ACRES)	TEMP. ESMT. (ACRES)	BEFORE (ACRES)	REMAINING (ACRES)
1A	CHARLES & ANGELA MCDOWELL	0.13	0.00	0.02 (AREA 1) 0.04 (AREA 2)	5.79	5.66
1B	CHARLES & ANGELA MCDOWELL	0.09	0.00	0.03	2.32	2.23
2	SETH MICHAEL CAREY	0.12	0.00	0.01	8.25	8.13
3	CHARLES & ANGELA MCDOWELL	0.15	0.00	0.03	2.16	2.01
4	MADISON COUNTY	0.02	0.00	0.00	0.02	0.00

SCALE
0 50 100 150

RIGHT OF WAY SHEET
SHEET 1 OF 1

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/25/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	6

COUNTY
MADISON

JOB NO.
JSE0037

CONTRACT ID.
.

PROJECT NO.
.

BRIDGE NO.
.

DESCRIPTION	DATE
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

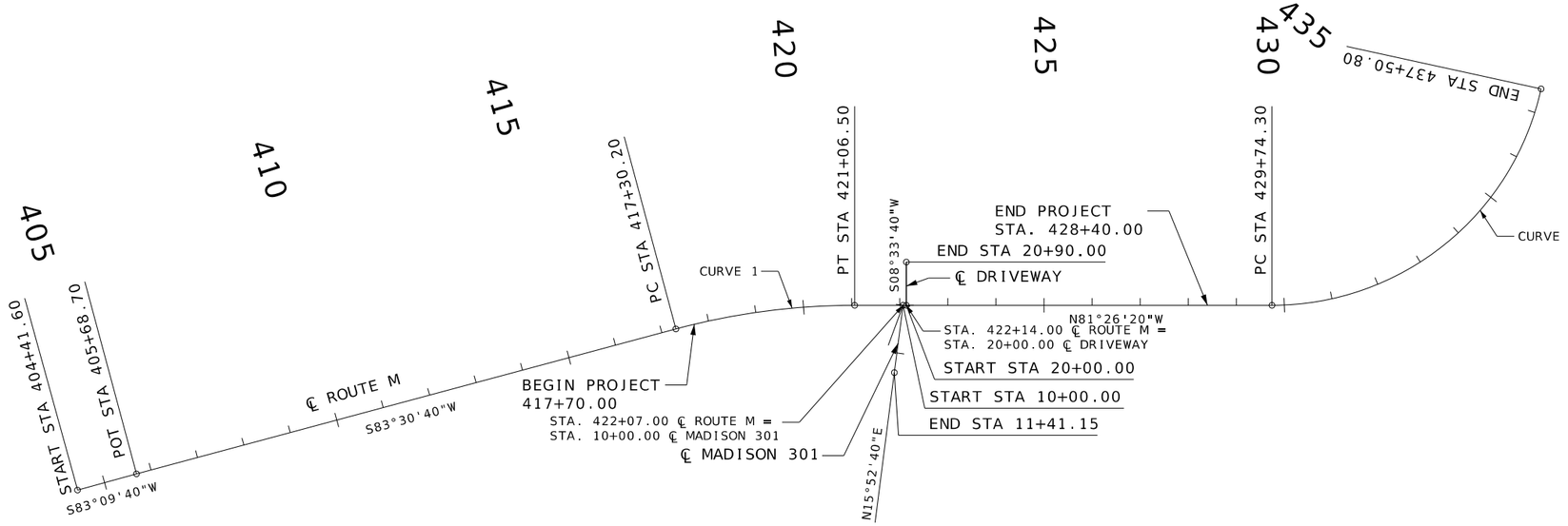
OATES ASSOCIATES

Collinsville	St. Louis	St. Charles	Belleville
10 Community Square, Suite 1 Collinsville, IL 62234 618.345.2200	2200 West Port Plaza Drive, Suite 700 St. Louis, MO 63101 314.588.8381	820 South Main, Suite 309 St. Charles, MO 63301 636.493.1477	1 South Church, Suite 200 Belleville, IL 62220 618.416.4660

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REV.

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CURVE 1:
PI 419+19.44
PC 417+30.20
PT 421+06.50
Δ 15°2'59.7" (RT)
D 3°59'58.1"
L 376.30' (ARC)
T 189.24'
R 1,432.58'

CURVE 2:
PI 434+35.38
PC 429+74.30
PT 437+50.80
Δ 77°38'58.6" (LT)
D 9°59'59.9"
L 776.50' (ARC)
T 461.08'
R 572.96'

SCALE
0 150 300 450 600 750

ALIGNMENT SHEET
SHEET 1 OF 1

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/25/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	7

COUNTY
MADISON

JOB NO.
JSE0037

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

Collinsville
Collinsville Corp. Center, Suite 1
Collinsville, IL 62234
618.345.2200

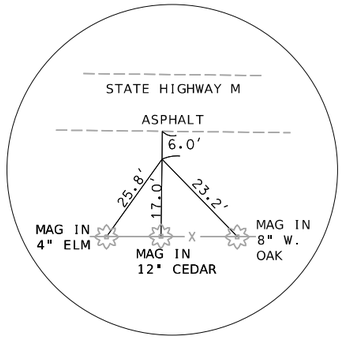
St. Louis
2700 Clarke Ave. Ste 700
St. Louis, MO 63101
314.588.8381

Belleville
1 South Church, Suite 200
Belleville, IL 62220
618.416.4466

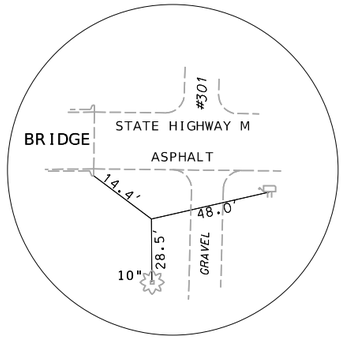
St. Charles
820 South Main, Suite 309
St. Charles, MO 63301
636.493.1577

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MISSOURI DESIGN FIRM PE-001166

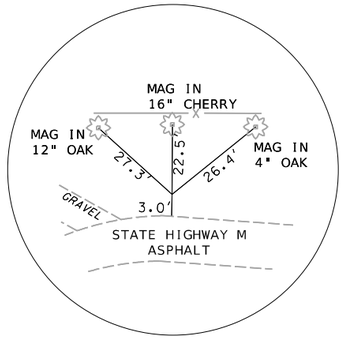
OATES ASSOCIATES



CONTROL POINT NO. 10
SET IRON ROD W/ALUMINUM CAP
N: 556343.029
E: 886332.113
ELEV: 657.95
STA. 415+82.72
19.25' LT. STATE HIGHWAY M



CONTROL POINT NO. 11
SET IRON ROD W/ALUMINUM CAP
N: 556356.515
E: 885665.720
ELEV: 623.67
STA. 422+48.07
17.03' LT. STATE HIGHWAY M



CONTROL POINT NO. 12
SET IRON ROD W/ALUMINUM CAP
N: 556489.570
E: 884763.767
ELEV: 633.16
STA. 431+59.64
10.54' RT. STATE HIGHWAY M

REFERENCE POINTS SHEET
SHEET 1 OF 1

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/25/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	8

COUNTY
MADISON

JOB NO.
JSE0037

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

OATES ASSOCIATES

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100 Clocktower Plaza, Suite 1
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618.345.2200

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1 South Church, Suite 200
Belleville, IL 62220
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St. Louis, MO 63101
314.588.8381

St. Charles
820 South Main, Suite 399
St. Charles, MO 63301
636.493.6277

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MISSOURI DESIGN FIRM PE-001166

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

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	MOD. MO STATE PLANE (GROUND)
HORIZONTAL DATUM	NAD 83
VERTICAL DATUM	NAVD 88
GEOID MODEL	GEOID 18
ELEVATIONS DETERMINED BY	GPS AND DIFFERENTIAL LEVELING
PROJECT PROJECTION FACTOR	1.0000814052

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	COORDINATE SYSTEM OF 1983
CONTROL STATION	XX
DESIGNATION	MD-502
CORS_ID	
PID	123502
LATITUDE	N37°25'35.70690"
LONGITUDE	W90°18'05.26175"
NORTHING (M)	176811.063
EASTING (M)	267571.858
ZONE	2401 (MO-EAST)
PROJECT AVERAGE GRID FACTOR	0.9999186014

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

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

EXAMPLE: CONTROL POINT #10
N 556388.318 X 0.9999186014 = N 556343.029
E 886404.265 X 0.9999186014 = E 886332.113

LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND) NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)	DESCRIPTION	GPK POINT ID
PROJECT CONTROL POINTS								
5	415+82.72	RTE M	19.25 LT	556343.029	886332.113	657.95	SET IRON BAR WITH ALUMINUM CAP	CP#10
5	422+48.07	RTE M	17.02 LT	556356.515	885665.720	623.67	SET IRON BAR WITH ALUMINUM CAP	CP#11
5	431+59.64	RTE M	10.53 RT	556489.570	884763.767	633.16	SET IRON BAR WITH ALUMINUM CAP	CP#12
ALIGNMENTS								
℄ ROUTE M								
	404+41.60	RTE M	CL	556491.887	887463.659		START	
	405+68.70	RTE M	CL	556476.753	887337.463		POT	
	417+30.20	RTE M	CL	556345.493	886183.401		PC	
	421+06.50	RTE M	CL	556352.279	885808.247		PT	
	429+74.30	RTE M	CL	556481.464	884950.116		PC	
	437+50.80	RTE M	CL	556119.391	884329.601		PT/END	
℄ MADISON 301								
	10+00.00	MAD 301	CL	556367.240	885708.865		START	
	11+41.15	MAD 301	CL	556503.004	885747.482		END	
℄ DRIVEWAY								
	20+00.00	DRIVEWAY	CL	556368.282	885701.943		START	
	20+90.00	DRIVEWAY	CL	556279.285	885688.546		END	

COORDINATE POINTS SHEET
SHEET 1 OF 1

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 9/25/2026
ROUTE: M | STATE: MO
DISTRICT: SE | SHEET NO.: 9
COUNTY: MADISON
JOB NO.: JSE0037
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)

OATES ASSOCIATES
MISSOURI DESIGN FIRM PE-001166

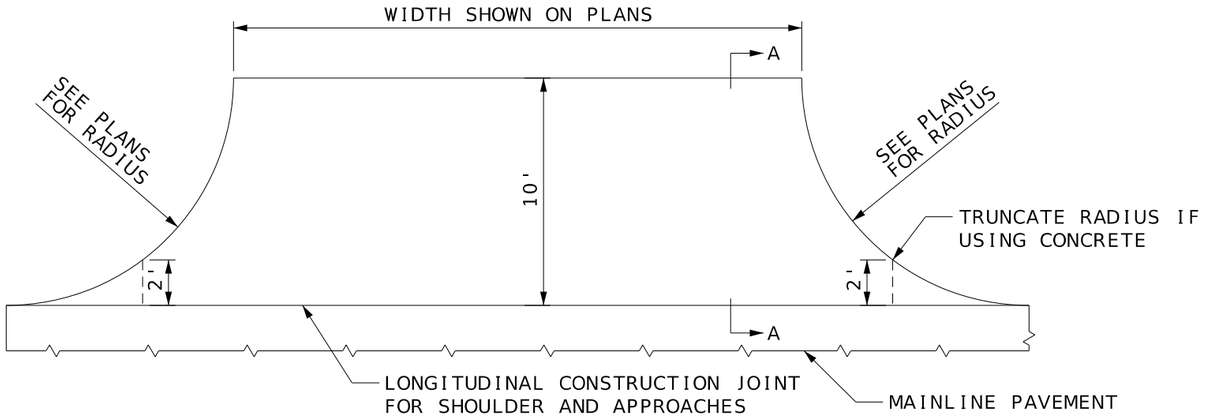
Collinsville
10 Gateway Blvd., Suite 1
Collinsville, IL 62234
618.345.2200

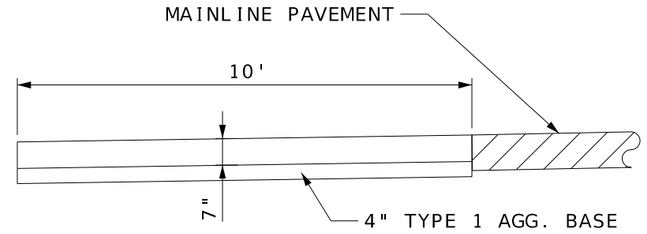
St. Louis
720 Olive, Suite 710
St. Louis, MO 63101
314.588.8381

Belleville
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Belleville, IL 62220
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St. Charles
820 South Main, Suite 399
St. Charles, MO 63301
636.493.5677

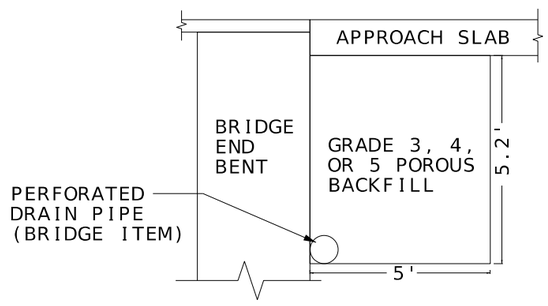
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SECTION A-A

PAVED APPROACH DETAIL



POROUS BACKFILL

SPECIAL SHEET
SHEET 1 OF 1

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/25/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	10

COUNTY
MADISON

JOB NO.
JSE0037

CONTRACT ID.

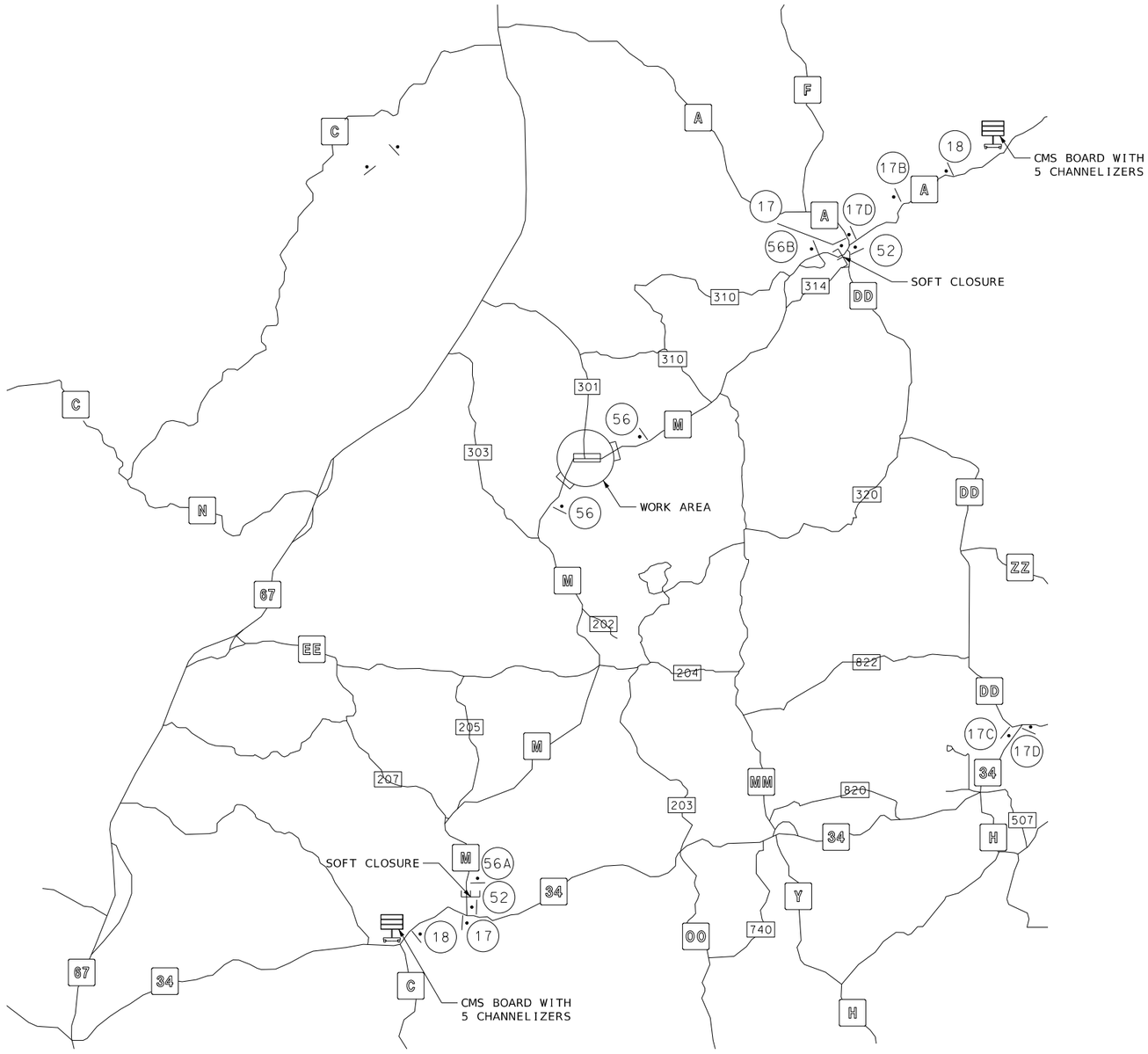
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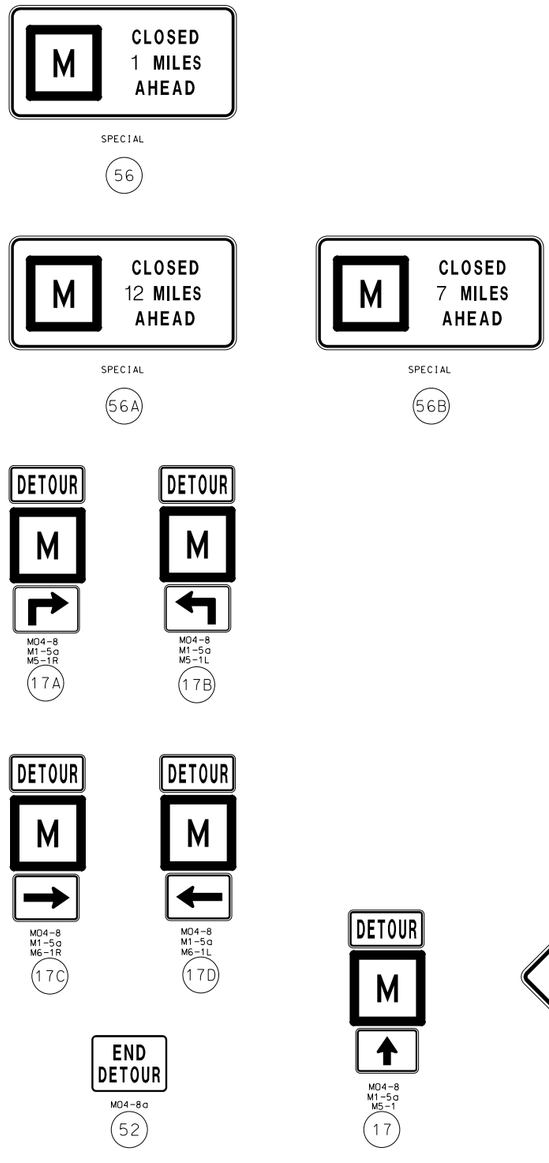
BRIDGE NO.

DESCRIPTION	DATE

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

OATES ASSOCIATES
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MISSOURI DESIGN FIRM PE-001166





TRAFFIC CONTROL LEGEND

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

NOTES:

ALL SPACING AND DISTANCES OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE. THEY SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER TO FIT FIELD CONDITIONS.

ANY EXISTING SIGNS THAT CONFLICT WITH THIS TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED.

DRAWING NOT TO SCALE

TRAFFIC CONTROL SHEETS
SHEET 1 OF 2

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/25/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	11

COUNTY
MADISON

JOB NO.
JSE0037

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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MISSOURI DESIGN FIRM PE-001166

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29



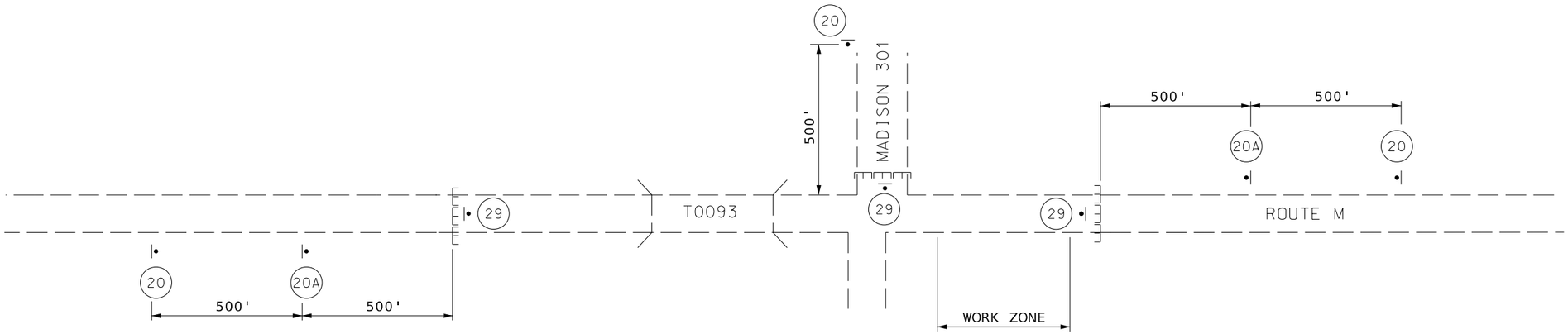
W020-3

20



W020-3

20A



ROAD CLOSURE



SOFT CLOSURE



R11-4

29A

LEGEND

- SIGN (SINGLE SIDED)
- TYPE III MOVEABLE BARRICADE

NOTES:

ALL SPACING AND DISTANCES OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE. THEY SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER TO FIT FIELD CONDITIONS.

ANY EXISTING SIGNS THAT CONFLICT WITH THIS TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED.

NO DIRECT PAYMENT SHALL BE MADE FOR FLAGS ON SIGNS ENHANCED WITH AWRS ON MAINLINE.

SIGN SPACING IS 500'.

CONTRACTOR TO PROVIDE ACCESS TO DRIVEWAYS AND MADISON 301.

DRAWING NOT TO SCALE

TRAFFIC CONTROL SHEETS
SHEET 2 OF 2

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/25/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	12

COUNTY
MADISON

JOB NO.
JSE0037

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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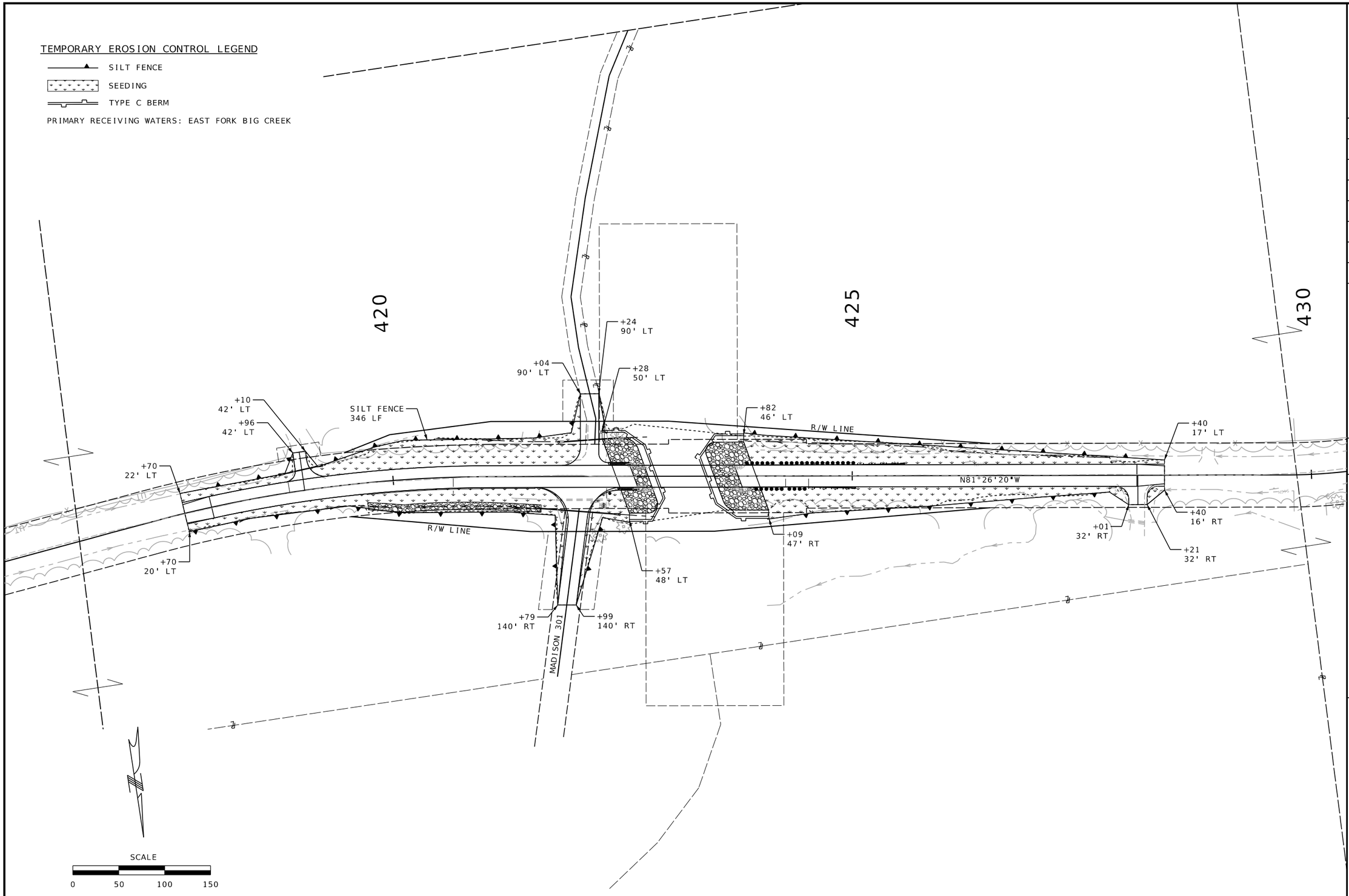
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TEMPORARY EROSION CONTROL LEGEND

- SILT FENCE
- SEEDING
- TYPE C BERM

PRIMARY RECEIVING WATERS: EAST FORK BIG CREEK



EROSION CONTROL PLAN
SHEET 1 OF 1

STATE OF MISSOURI
MATTHEW B. FIELDS
NUMBER PE-2024005189
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/25/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
SE	13

COUNTY
MADISON

JOB NO.
JSE0037

CONTRACT ID.
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PROJECT NO.
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BRIDGE NO.
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DESCRIPTION	DATE
.	.

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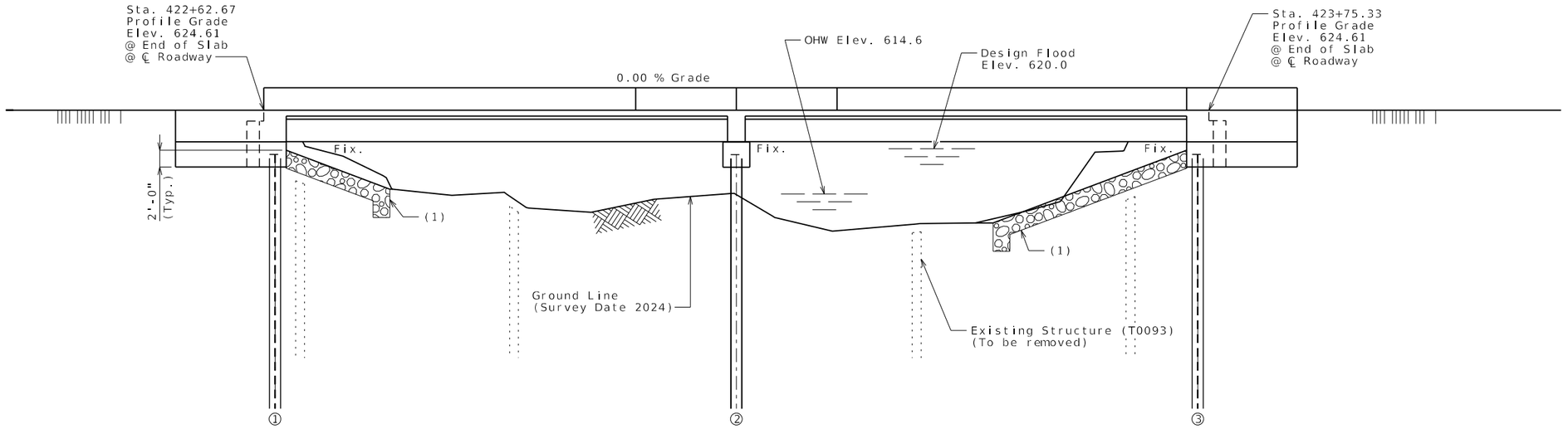
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MISSOURI DESIGN FIRM PE-001166

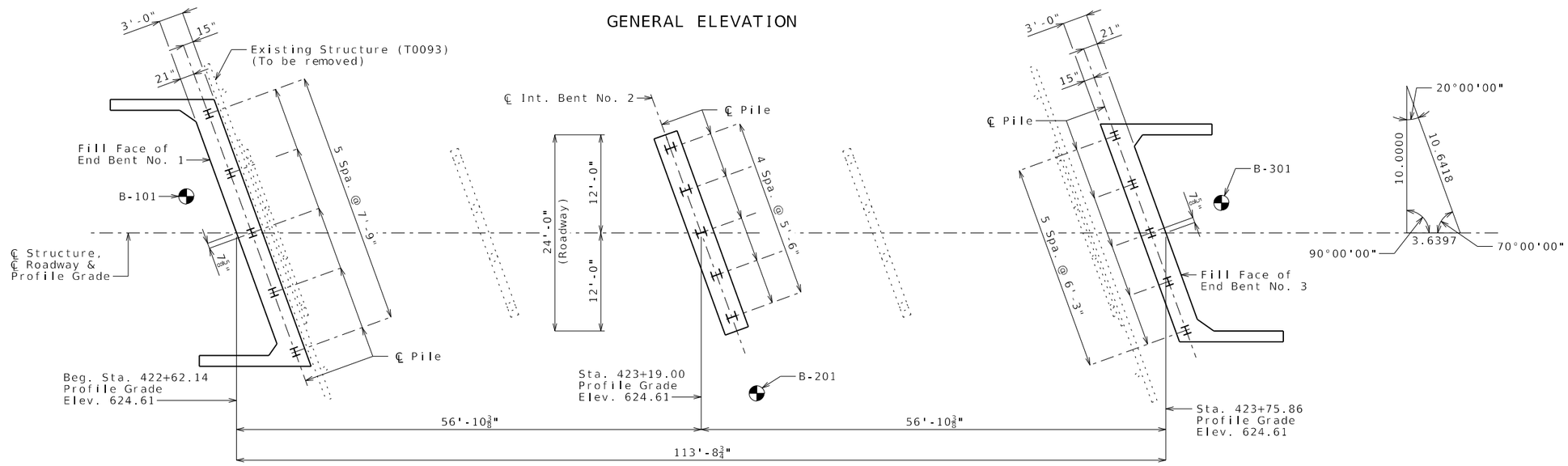
OATES ASSOCIATES

SEC/SUR 16 TWP 31N RGE 7E

(55'-55') PRESTRESSED CONCRETE I-GIRDER SPANS



GENERAL ELEVATION



PLAN

Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on this sheet. 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. 26-30 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.

Reference Notes:
(1) 2.5:1 Slope (Normal) with 2'-0" thick Type 2 Rock Blanket with Permanent Erosion Control Geotextile (Roadway Item)

B.M. #5 - 80-D SPIKE IN BASE OF 12" WHITE OAK
STA. 422+45.27, 46.29' LT.
ELEV. 619.93

BRIDGE: ROUTE M OVER BIG CREEK

ROUTE M FROM ROUTE DD TO ROUTE 34
ABOUT 7.9 MILES SOUTH OF ROUTE DD
BEGINNING STATION 422+62.14

Designed May 2025
Detailed May 2025
Checked May 2026

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

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/24/2026
ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 1
COUNTY MADISON
JOB NO. JSE0037
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9729

DESCRIPTION | DATE

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

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Estimated Quantities

Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	135		135
Removal of Bridges (T0093)	lump sum			1
Bridge Approach Slab (Minor)	sq. yard		122	122
Galvanized Structural Steel Piles (12 in)	linear foot	375		375
Galvanized Structural Steel Piles (14 in)	linear foot	350		350
Pre-Bore for Piling	linear foot	228		228
Pile Point Reinforcement	each	15		15
Class B Concrete (Substructure)	cu. yard	36.7		36.7
Slab on Concrete I-Girder	sq. yard		334	334
Type H Barrier	linear foot		246	246
Type 2 (32 in.), Prestressed Concrete I-Girder	linear foot		441	441
Reinforcing Steel (Bridges)	pound	1,280		1,280
Steel Intermediate Diaphragm for P/S Concrete Girders	each		6	6
Slab Drain	each		20	20
Vertical Drain at End Bents	each	2		2
Plain Neoprene Bearing Pad	each		8	8
Laminated Neoprene Bearing Pad	each		8	8

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

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

All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete I-Girder.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete I-Girder.

Cost of ∠4x4 ASTM A709 Grade 36 HP pile anchor and 3/4-inch diameter ASTM F3125 Grade A325 Type 1 bolts, complete in place, will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (12 in) and Galvanized Structural Steel Piles (14 in).

Estimated Quantities for Slab on Concrete I-Girder

Item		Total
Class B-2 Concrete	cu. yard	94
Reinforcing Steel (Epoxy Coated)	pound	28,770

The table of Estimated Quantities for Slab on Concrete I-Girder represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for prestressed panels, 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.

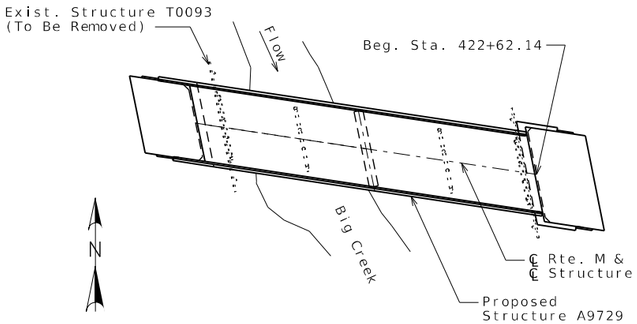
Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

Class B-2 Concrete quantity is based on minimum top of flange thickness and minimum joint material thickness.

The prestressed panel quantities are not included in the table of Estimated Quantities of Slab on Concrete I-Girder.

Hydrologic Data

Drainage Area = 6.7 mi²
Design Flood Frequency = 50 years
Design Flood Discharge = 4,050 cfs
Design Flood (D.F.) Elevation = 620.0
Base Flood (100-year)
Base Flood Elevation = 620.6
Base Flood Discharge = 4,790 cfs
Estimated Backwater = 0.3 ft
Average Velocity thru Opening = 8.3 ft/s
Freeboard (50-year)
Freeboard = 1.4 ft
Roadway Overtopping
Overtopping Flood Discharge > 6,510 cfs
Overtopping Flood Frequency > 500 years
500-Year Flood Elevation = 621.9



LOCATION SKETCH

Foundation Data

Type	Design Data		Bent Number 1	Bent Number 2	Bent Number 3
Load Bearing Pile	Pile Type and Size		HP12x53	HP14x73	HP12x53
	Number	ea	5	5	5
	Approximate Length Per Each	ft	36	70	39
	Pile Point Reinforcement	ea	All	All	All
	Min. Galvanized Penetration (Elev.)	ft	Full Length	593	Full Length
	Pile Driving Verification Method		DF	DF	DF
	Resistance Factor		0.4	0.4	0.4
	Minimum Nominal Axial Compressive Resistance	kip	365	500	344

DF = FHWA-Modified Gates Dynamic Pile Formula

Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor

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

HP Piles are anticipated to be drived to refusal on rock. Review all boring depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702. When pile refusal on rock occurs, as approved by the engineer, the minimum nominal axial compressive resistance is verified and no additional pile driving verification method is required.

Prebore for piles at Bents No. 2 & 3 to elevation 593.

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
2023 AASHTO Guide Specifications for LRFD Seismic Bridge Design (3rd Ed.)
Seismic Design Category = C (Seismic Details)
Design earthquake response spectral acceleration coefficient at 1.0 second period, SD1 = 0.327g
Acceleration Coefficient (effective peak ground acceleration coefficient), As = 0.350g

Design Loading:

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

Design Unit Stresses:

Class B Concrete (Substructure)	f'c = 3,000 psi
Class B-2 Concrete (Superstructure, except Prestressed Girders and Barrier)	f'c = 4,000 psi
Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Reinforcing Steel (ASTM A706 Grade 60)	fy = 60,000 psi
Structural Steel HP Pile (ASTM A709 Grade 50)	fy = 50,000 psi

For precast prestressed panel stresses, see Sheet No. 15.
For prestressed girder stresses, see Sheet No. 12.

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.

Minimum clearance between galvanized piles and uncoated (plain) reinforcing steel including bar supports shall be 1 1/2". Nylon, PVC, or polyethylene spacers shall be used to maintain clearance. Nylon cable ties shall be used to bind the spacers to the reinforcement.

Traffic Handling:

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

Miscellaneous:

MoDOT Construction personnel will indicate the type of joint filler option used under the precast panels for this structure:

☐ Constant Joint Filler
☐ Variable Joint Filler

GENERAL NOTES & QUANTITIES

Detailed May 2025
Checked May 2026

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

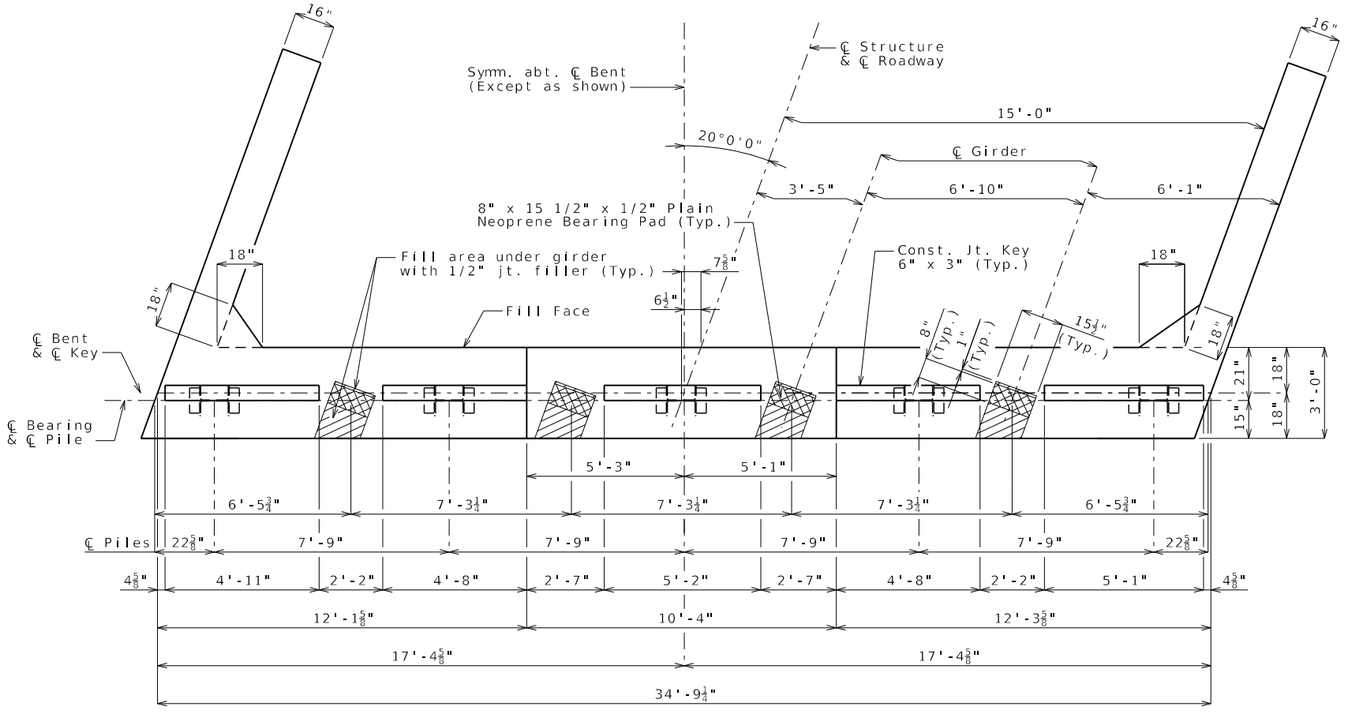
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JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/8/2026
ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 2
COUNTY MADISON
JOB NO. JSE0037
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9729

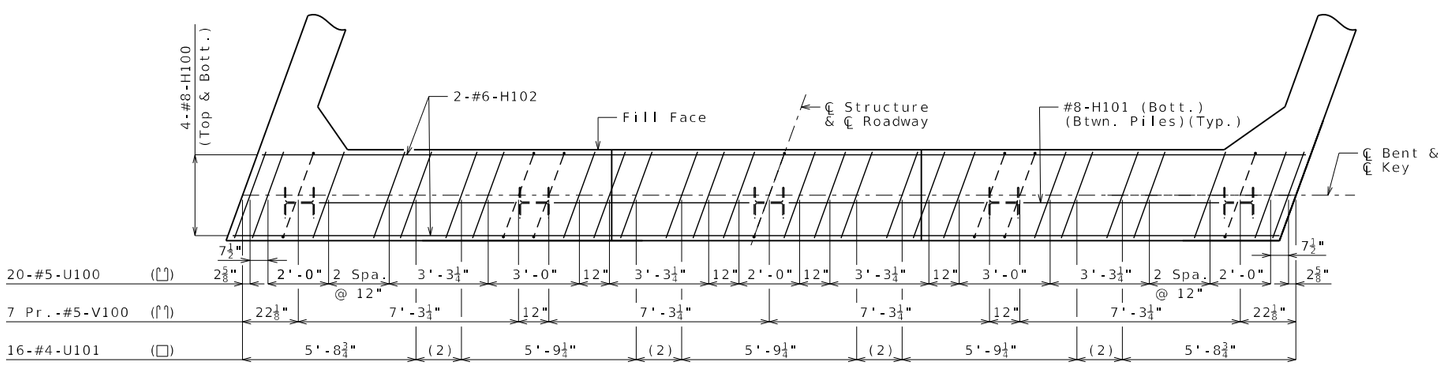
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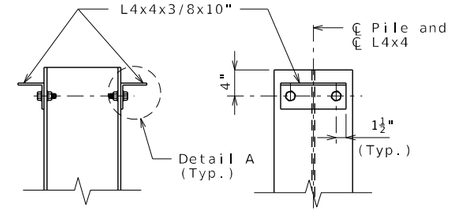
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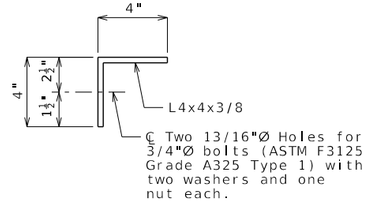
PLAN OF BEAM



PLAN OF BEAM SHOWING REINFORCEMENT
(Keys not shown for clarity)

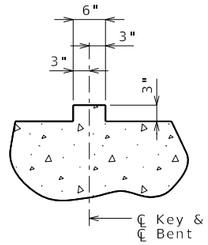


DETAILS OF HP PILE ANCHORS

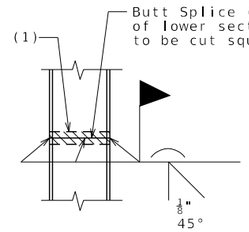


DETAIL A

Angles shall be coated with a minimum of two coats of non-aluminum epoxy mastic primer to provide a dry film thickness of 4 mils minimum, 8 mils maximum, or galvanized in accordance with Sec 1081. Bolts, washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.



SECTION THRU KEY



STEEL PILE SPLICE
(If required)

Reference Notes:
(1) Galvanized material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.
(2) 3 Spaces at 6"

General Notes:
For details of End Bent No. 1 not shown, see Sheets No. 4 & 5.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inches.

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

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	72
Galvanized Structural Steel Piles (12 in)	linear foot	180
Pile Point Reinforcement	each	5
Class B Concrete (Substructure)	cu. yard	15.1

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

DETAILS OF END BENT NO. 1

Detailed Jun. 2025
Checked Jan. 2026

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

Sheet No. 3 of 30

STATE OF MISSOURI — JASON A. DREYER — NUMBER PE-2013038971 — PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/24/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	3

COUNTY MADISON

JOB NO. JSE0037

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9729

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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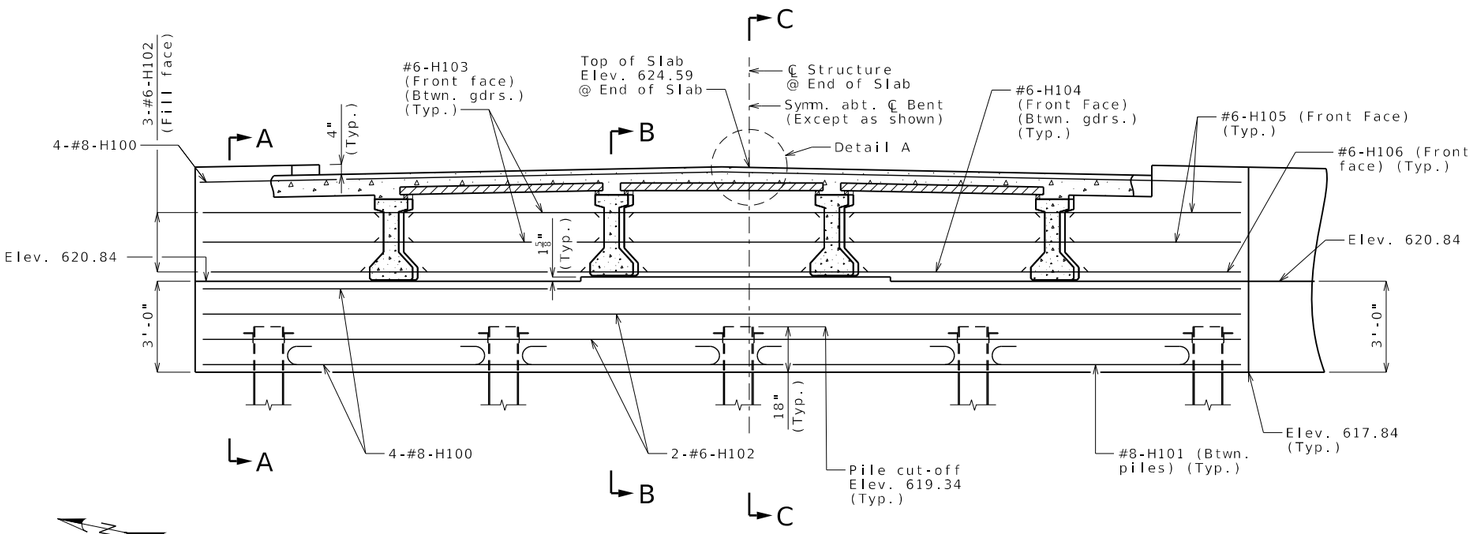
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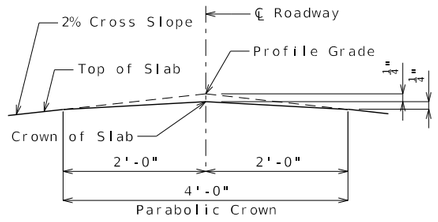
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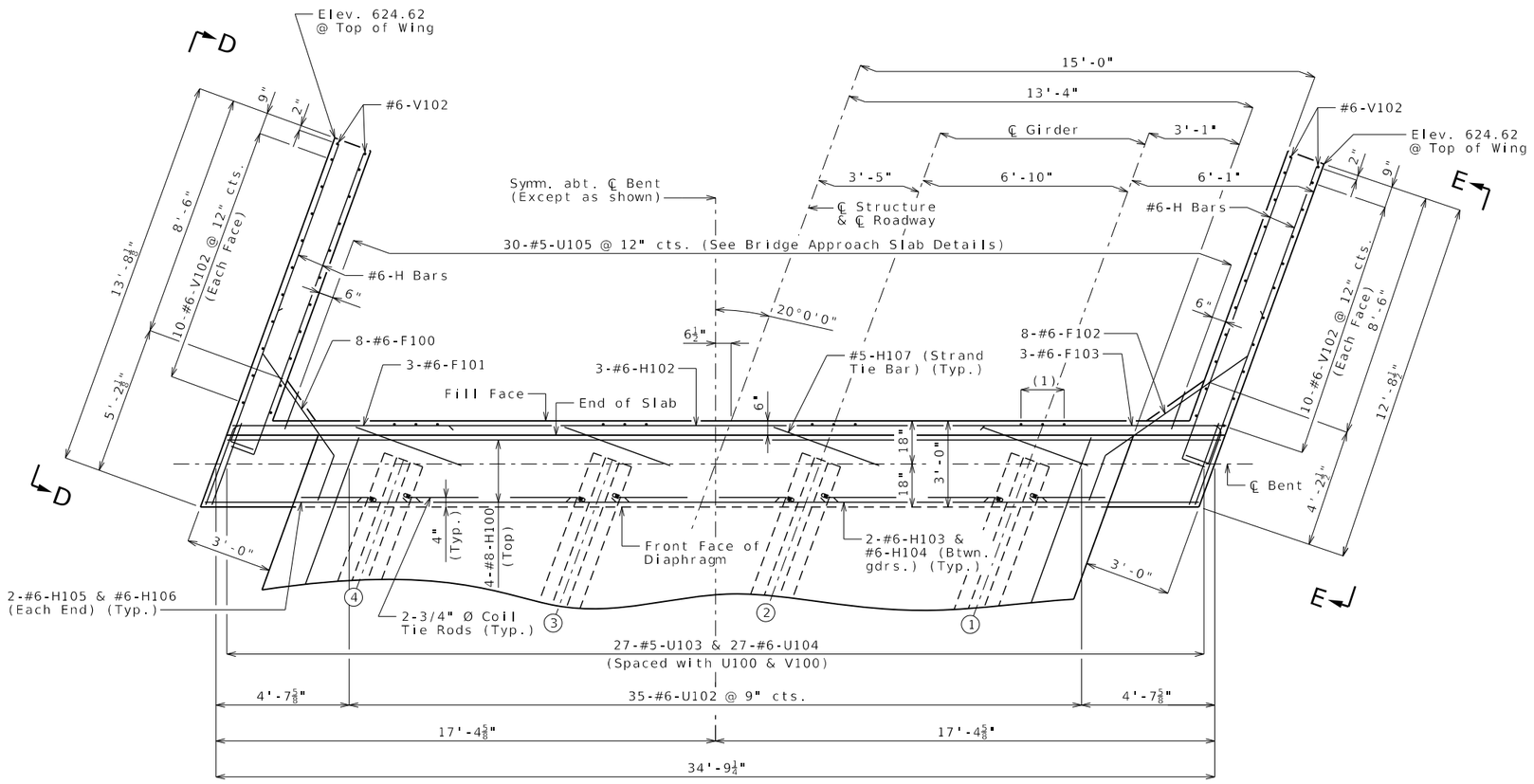
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SECTION NEAR END BENT



DETAIL A



PART PLAN

Reference Notes:
(1) 3-#6-V101 @ 9" cts. (Typ.)

General Notes:
For details of End Bent No. 1 not shown, see Sheets No. 3 & 5.

For Sections A-A, B-B & C-C and Elevations D-D & E-E, see Sheet No. 5.

The #6-F100 and #6-F102 bars shall be bent in the field to clear girders.

The U bars shall be placed parallel to centerline of roadway.

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

For location of coil tie rods and #5-H107 (Strand tie bar), see Sheet No. 12.

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

For details of Bridge Approach Slab, see Sheet No. 22.

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

DETAILS OF END BENT NO. 1

Detailed Jun. 2025
Checked Jan. 2026

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

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

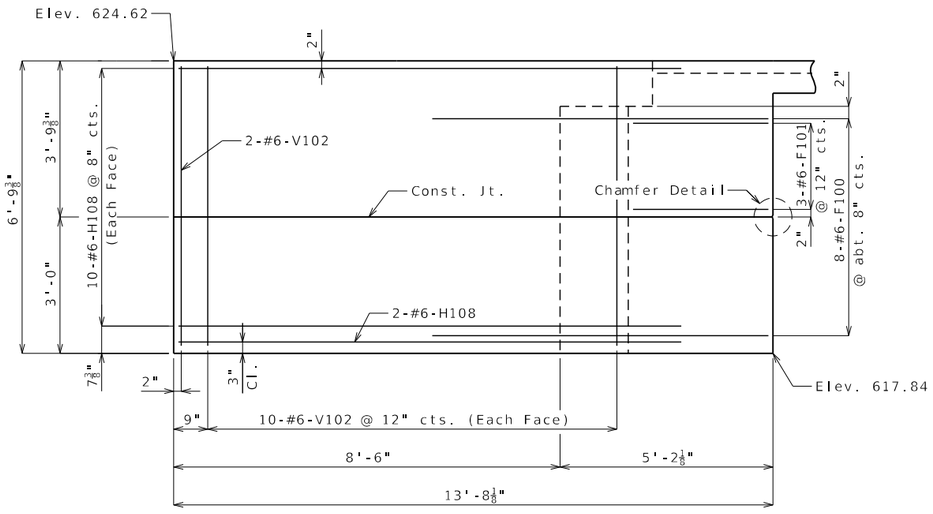
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DATE PREPARED: 9/24/2026
ROUTE: M
STATE: MO
DISTRICT: BR
SHEET NO.: 4
COUNTY: MADISON
JOB NO.: JSE0037
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9729

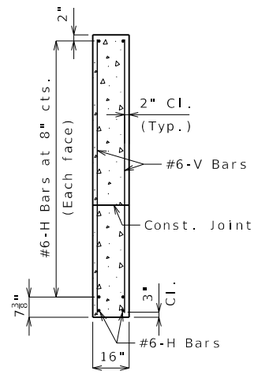
DESCRIPTION | DATE

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

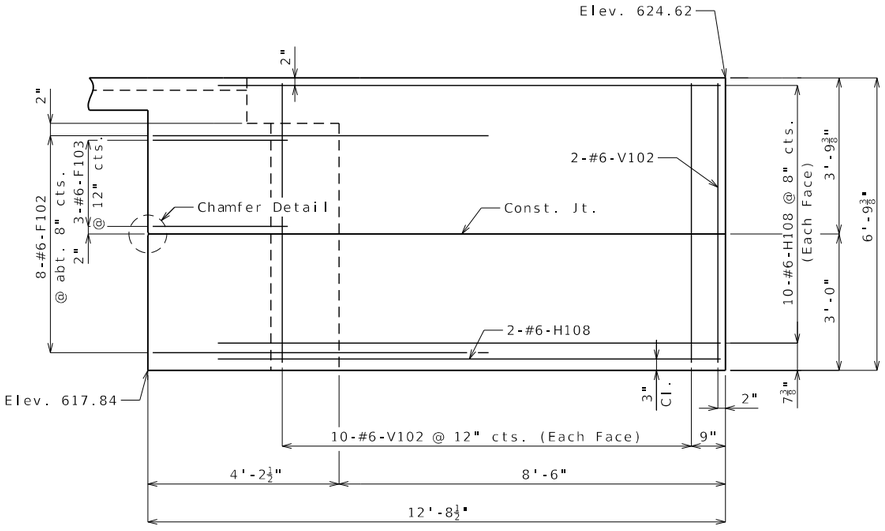
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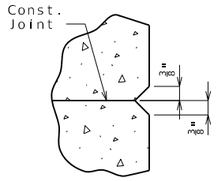
ELEVATION D-D



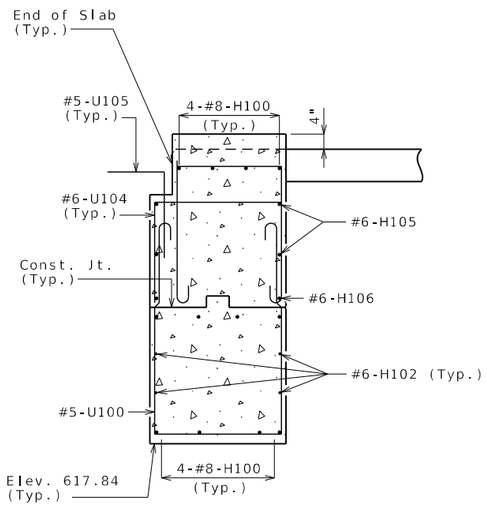
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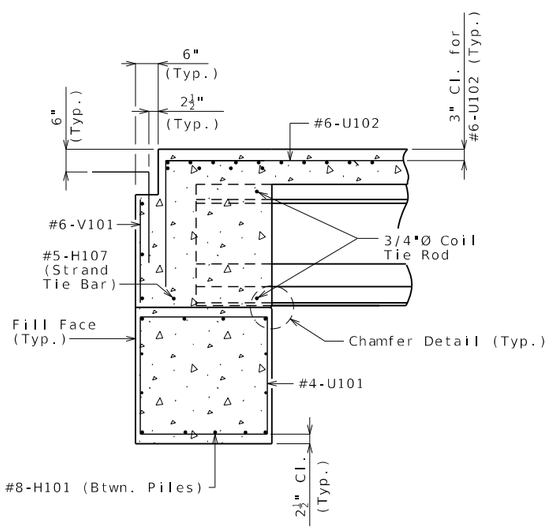
ELEVATION E-E



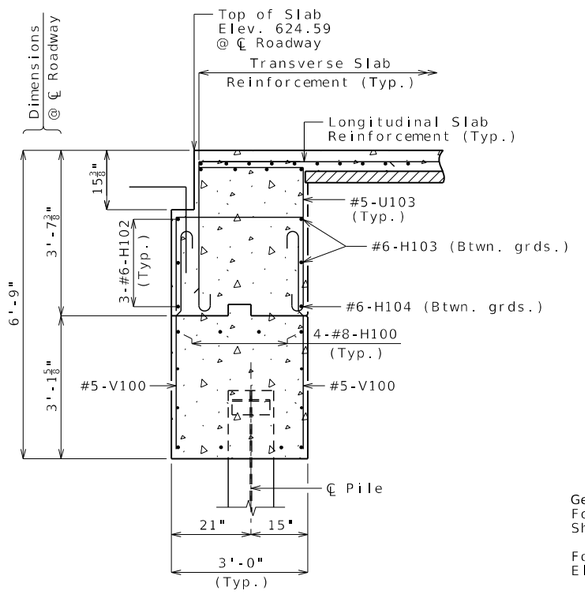
CHAMFER DETAIL



SECTION A-A



SECTION B-B



SECTION C-C

General Notes:
For details of End Bent No. 1 not shown, see Sheets No. 3 & 4.

For locations of Sections A-A, B-B & C-C and Elevations D-D & E-E, see Sheet No. 4.

For reinforcement of the barrier, see Sheets No. 19 & 20.

DETAILS OF END BENT NO. 1

Detailed Jun. 2025
Checked Jan. 2026

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

H:\P\224097 - Madison County Bridge Package\003-JSE0037-T0093\Bridge\Final Bridge\Microstation\B_A9729_005_JSE0037_Details of End Bent No. 1.dgn 9:37:42 AM 9/24/2026

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/24/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	5

COUNTY
MADISON

JOB NO.
JSE0037

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9729

DESCRIPTION	DATE

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

OATES ASSOCIATES

Collinsville
130 Lumber Court, Suite I
Collinsville, IL 62234
618.345.2300

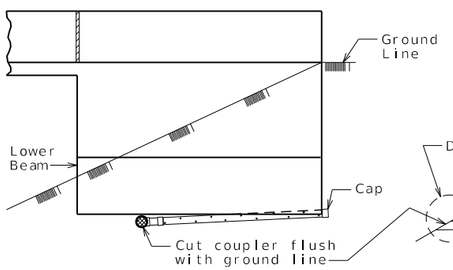
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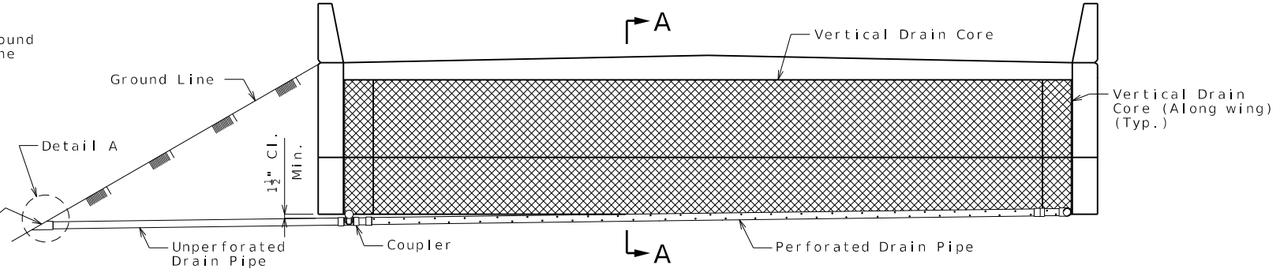
St. Charles
820 South Main, Suite 309
St. Charles, MO 63301
636.493.6277

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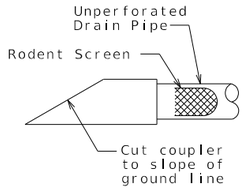
MISSOURI DESIGN FIRM PE-001166



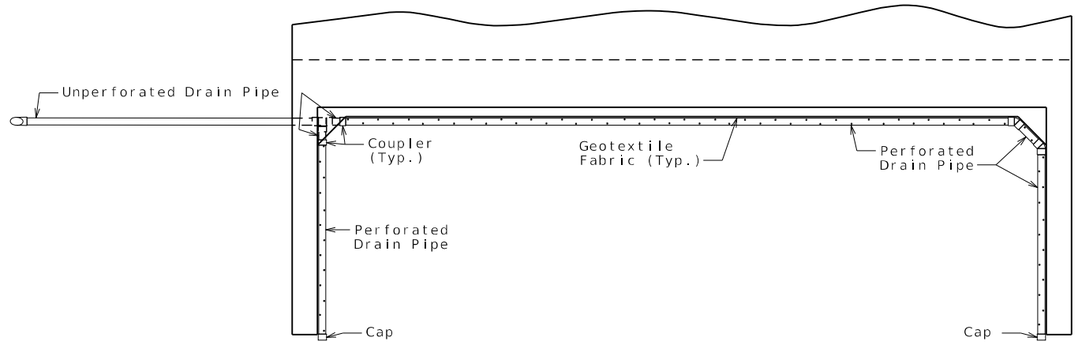
ELEVATION OF WING



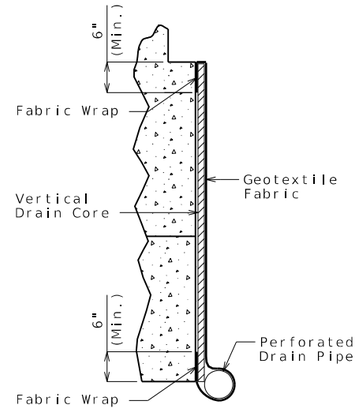
ELEVATION OF END BENT



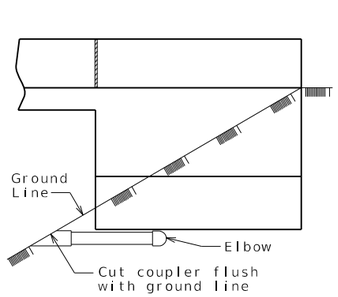
DETAIL A



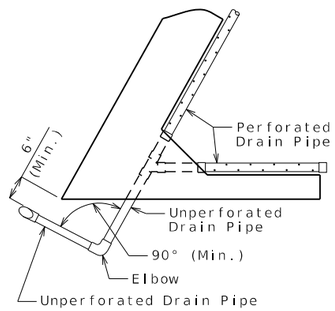
PLAN OF END BENT



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
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

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DATE PREPARED: 9/24/2026
ROUTE: M | STATE: MO
DISTRICT: BR | SHEET NO.: 6
COUNTY: MADISON
JOB NO.: JSE0037
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9729

DESCRIPTION | DATE

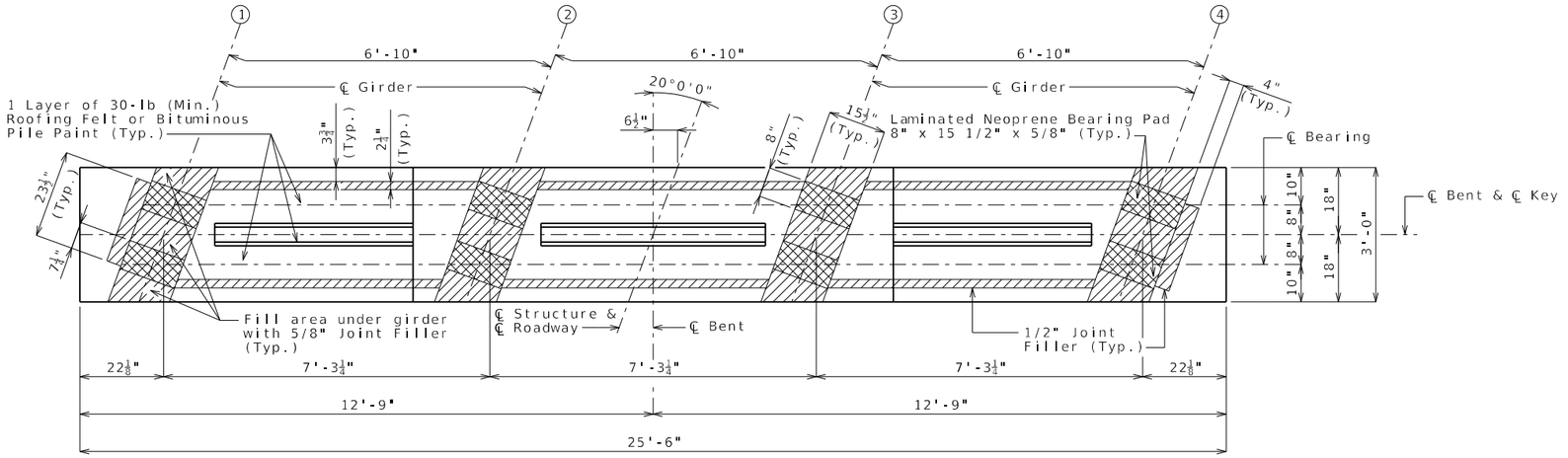
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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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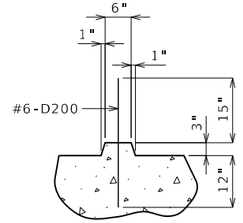
Detailed May 2025
Checked Jan. 2026

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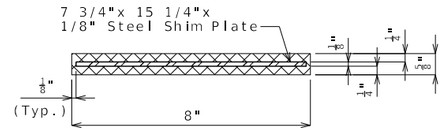
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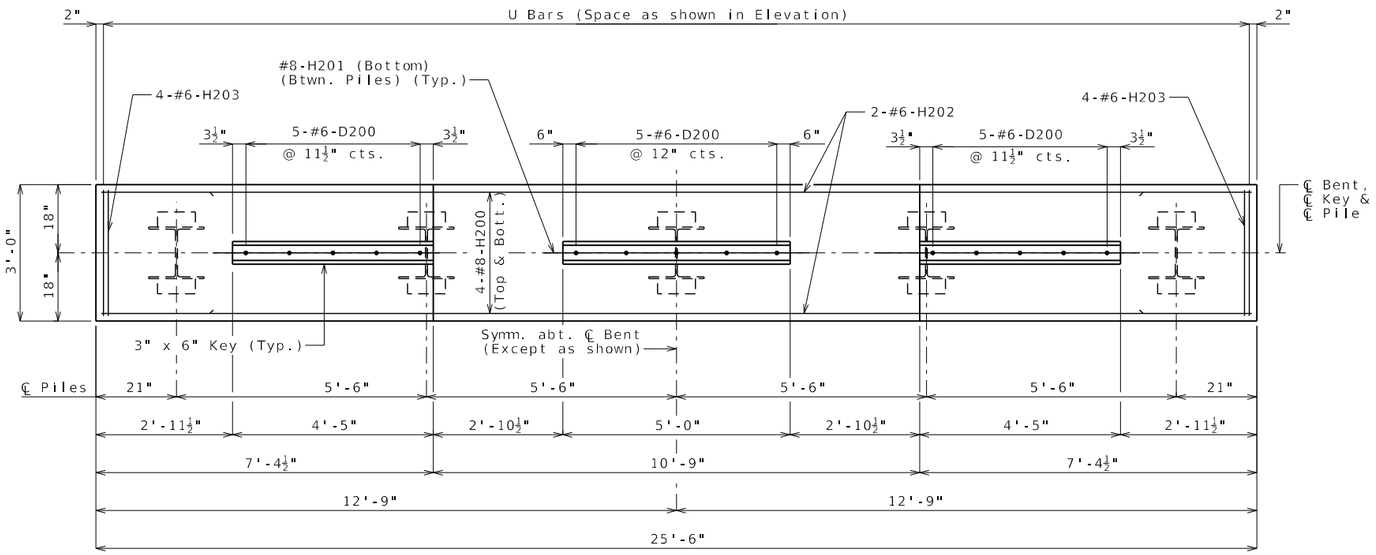
PLAN OF BEAM



SECTION THRU KEY



SECTION THRU LAMINATED NEOPRENE BEARING PAD



PLAN OF BEAM SHOWING REINFORCEMENT

Substructure Quantity Table for Bent No. 2		
Item		Quantity
Galvanized Structural Steel Piles (14 in)	linear foot	375
Pre-Bore for Piling	linear foot	104
Pile Point Reinforcement	each	5
Class B Concrete (Substructure)	cu. yard	8.7
Reinforcing Steel (Bridges)	pound	1,280

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

General Notes:
For details of Intermediate Bent No. 2 not shown, see Sheet No. 8.

DETAILS OF INTERMEDIATE BENT NO. 2

Detailed Oct. 2025
Checked Jan. 2026

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

Sheet No. 7 of 30

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2010038971
PROFESSIONAL ENGINEER

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DATE PREPARED 9/24/2026

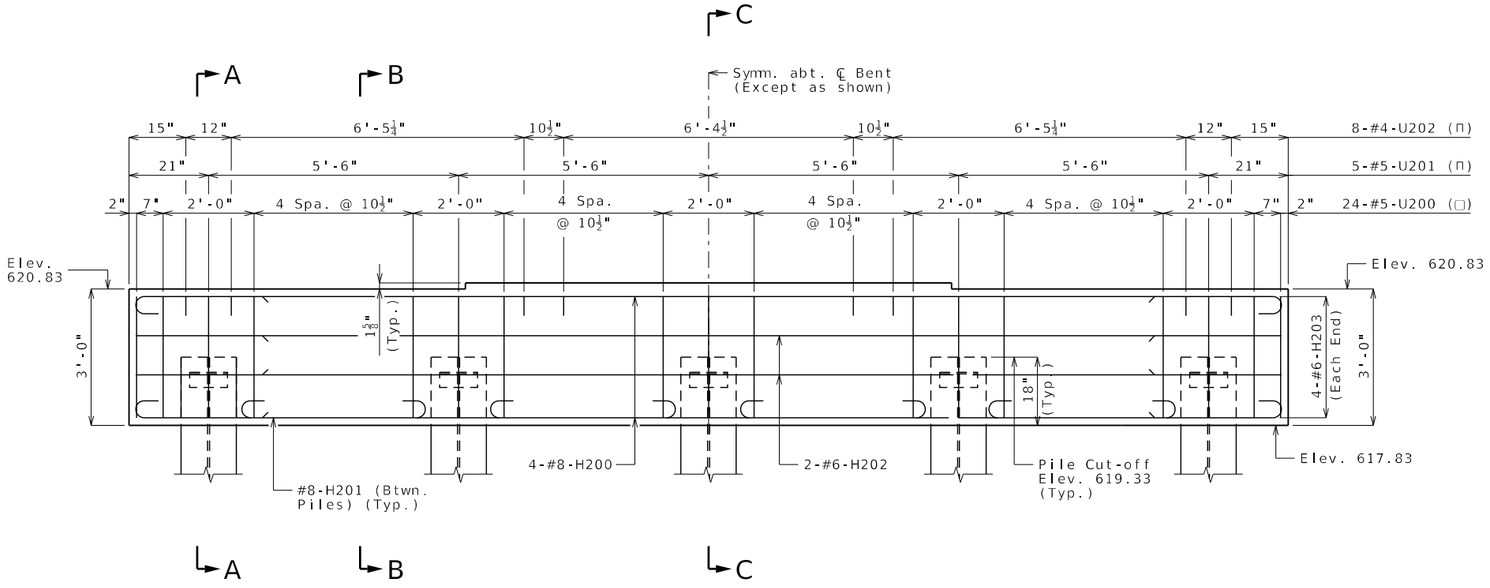
ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	7

COUNTY: MADISON
JOB NO.: JSE0037
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9729

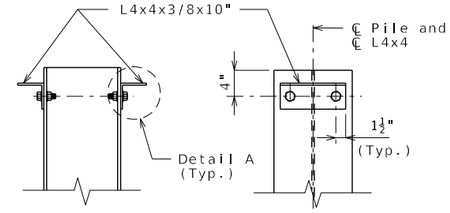
DESCRIPTION | DATE

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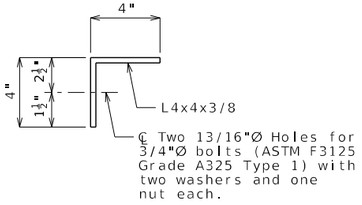
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OATES ASSOCIATES



ELEVATION
(Keys not shown for clarity)

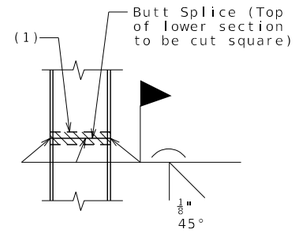


DETAILS OF HP PILE ANCHORS

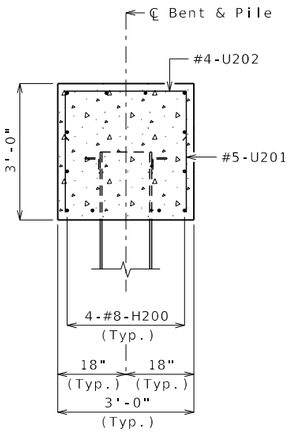


DETAIL A

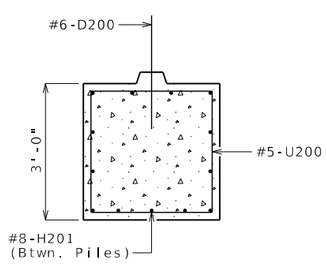
Angles shall be coated with a minimum of two coats of non-aluminum epoxy mastic primer to provide a dry film thickness of 4 mils minimum, 8 mils maximum, or galvanized in accordance with Sec 1081. Bolts, washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.



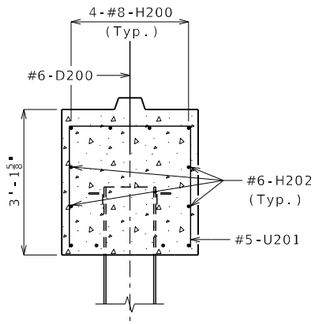
STEEL PILE SPLICE
(If required)



SECTION A-A



SECTION B-B



SECTION C-C

Reference Notes:
(1) Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec. 702.

General Notes:
For details of Intermediate Bent No. 2 not shown, see Sheet No. 7.

DETAILS OF INTERMEDIATE BENT NO. 2

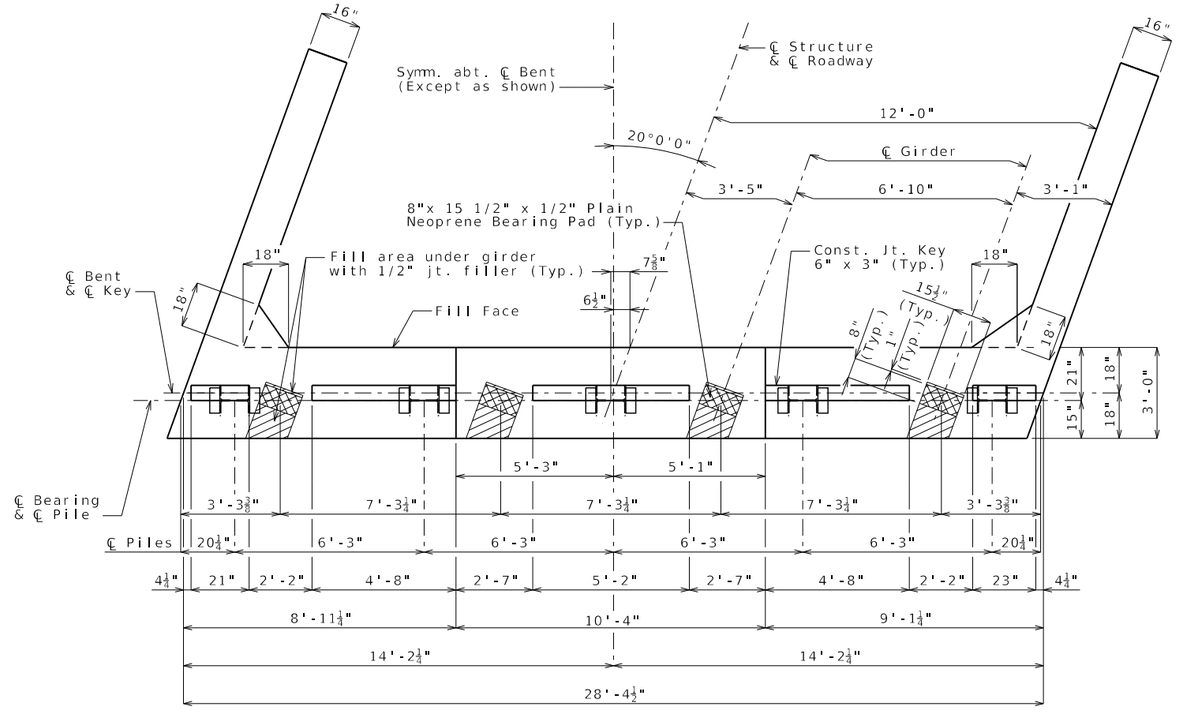
STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
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DATE PREPARED 9/24/2026
ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 8
COUNTY MADISON
JOB NO. JSE0037
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9729

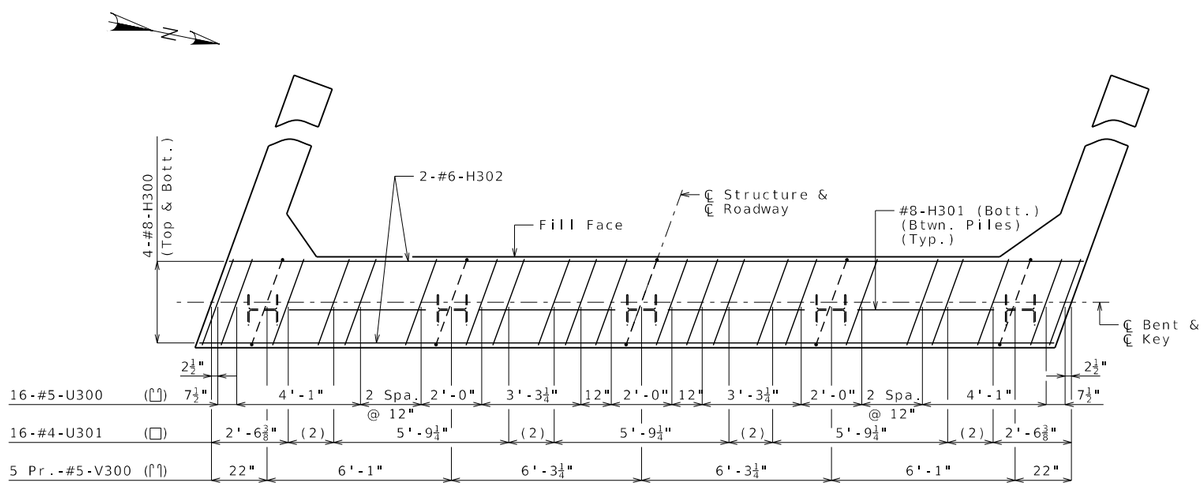
DESCRIPTION | DATE

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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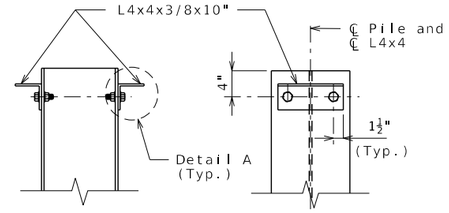
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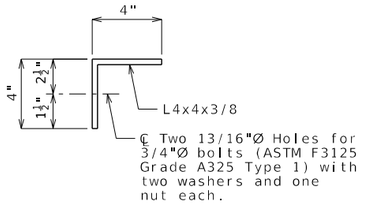
PLAN OF BEAM



PLAN OF BEAM SHOWING REINFORCEMENT
(Keys not shown for clarity)

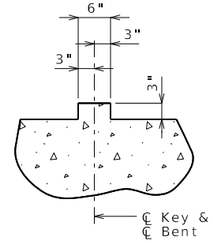


DETAILS OF HP PILE ANCHORS

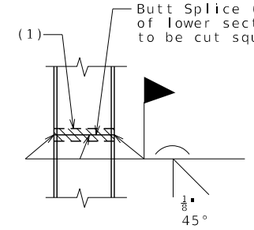


DETAIL A

Angles shall be coated with a minimum of two coats of non-aluminum epoxy mastic primer to provide a dry film thickness of 4 mils minimum, 8 mils maximum, or galvanized in accordance with Sec 1081. Bolts, washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.



SECTION THRU KEY



STEEL PILE SPLICE
(If required)

Reference Notes:
(1) Galvanized material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.
(2) 3 Spaces at 6" cts.

General Notes:
For details of End Bent No. 3 not shown, see Sheets No. 10 & 11.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inches.

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

Substructure Quantity Table for Bent No. 3		
Item		Quantity
Class 1 Excavation	cu. yard	63
Galvanized Structural Steel Piles (12 in)	linear foot	195
Pre-Bore for Piling	linear foot	124
Pile Point Reinforcement	each	5
Class B Concrete (Substructure)	cu. yard	12.9

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

DETAILS OF END BENT NO. 3

STATE OF MISSOURI — JASON A. DREYER — NUMBER PE-2013038971 — PROFESSIONAL ENGINEER

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DATE PREPARED 9/24/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	9

COUNTY: MADISON
JOB NO.: JSE0037
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9729

DESCRIPTION | DATE

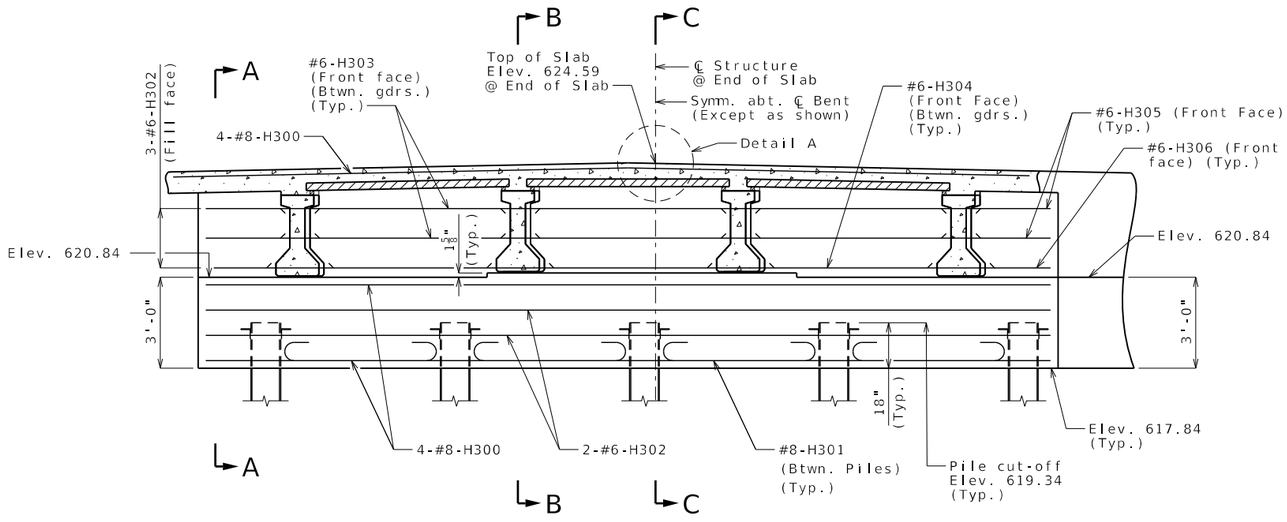
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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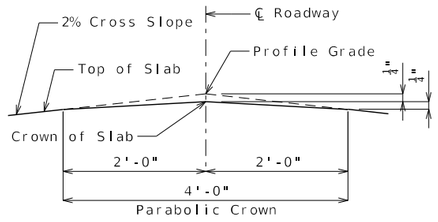
Detailed Jul. 2025
Checked Jan. 2026

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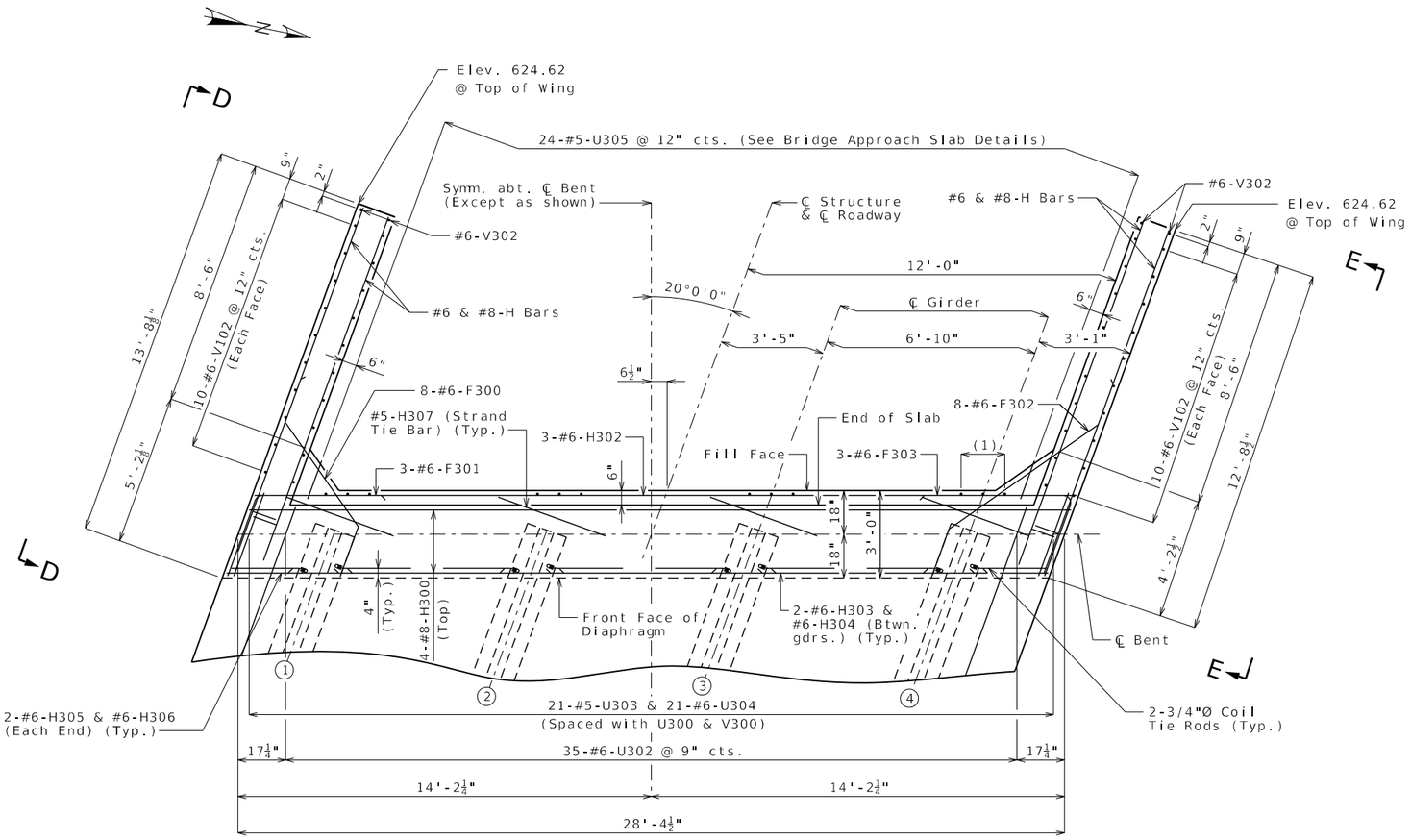
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SECTION NEAR END BENT



DETAIL A



PART PLAN

Reference Notes:
(1) 3-#6-V301 @ 9" cts. (Typ.)

General Notes:
For details of End Bent No. 3 not shown, see Sheets No. 9 & 11.

For Sections A-A, B-B & C-C and Elevations D-D & E-E, see Sheet No. 11.

The #6-F300 and #6-F302 bars shall be bent in the field to clear girders.

The U bars shall be placed parallel to centerline of roadway.

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

For location of coil tie rods and #5-H307 (Strand tie bar), see Sheet No. 12.

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

For details of Bridge Approach Slab, see Sheet No. 22.

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

DETAILS OF END BENT NO. 3

Detailed Jul. 2025
Checked Jan. 2026

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

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

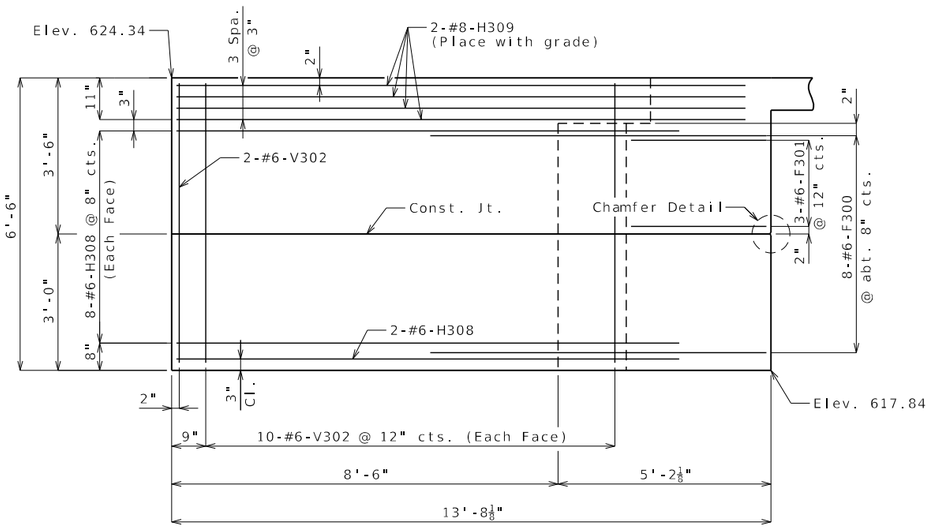
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 9/24/2026
ROUTE: M | STATE: MO
DISTRICT: BR | SHEET NO.: 10
COUNTY: MADISON
JOB NO.: JSE0037
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9729

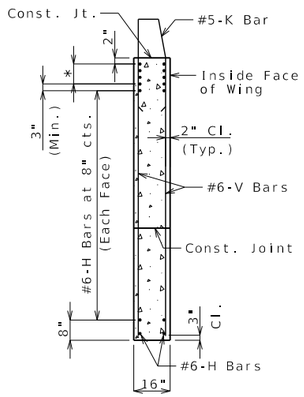
DESCRIPTION | DATE

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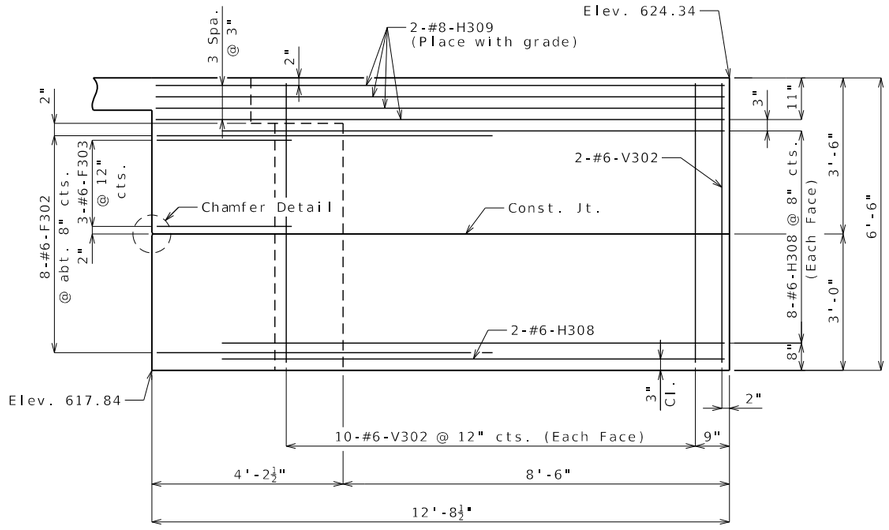


ELEVATION D-D

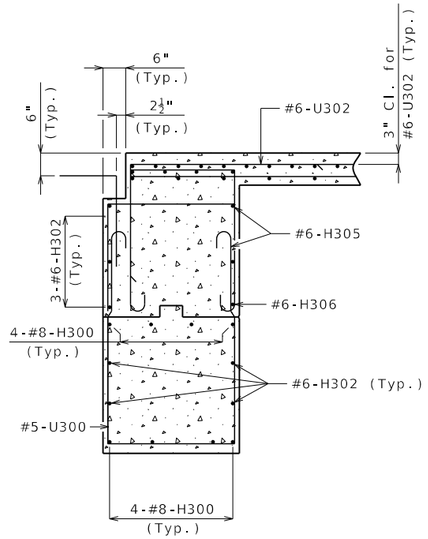


TYPICAL SECTION THRU WING

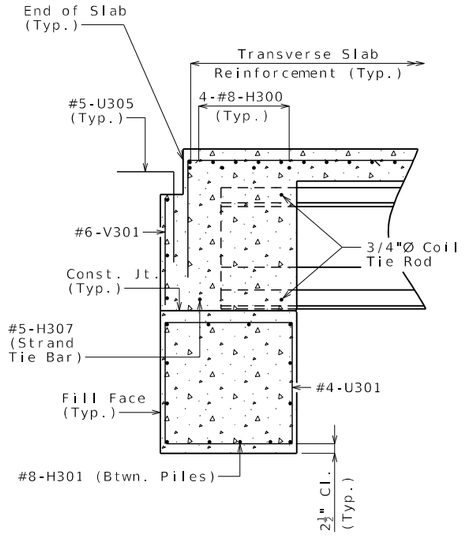
* #8-H Bars at 3" cts. (Each face)(Place with grade)



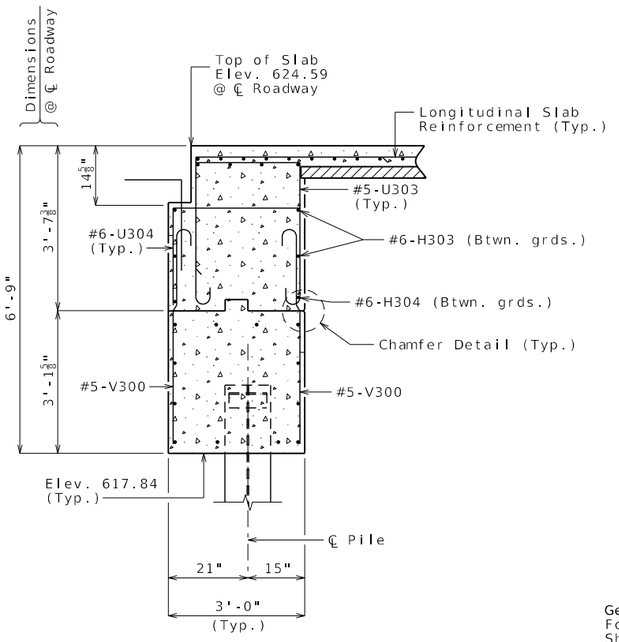
ELEVATION E-E



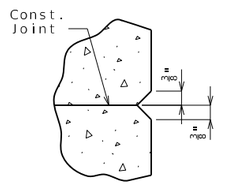
SECTION A-A



SECTION B-B



SECTION C-C



CHAMFER DETAIL

General Notes:
For details of End Bents No. 3 not shown, see Sheets No. 9 & 10.

For locations of Sections A-A, B-B & C-C and Elevations D-D & E-E, see Sheet No. 10.

For reinforcement of the barrier, see Sheets No.19 & 20.

DETAILS OF END BENT NO. 3

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

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DATE PREPARED 9/24/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	11

COUNTY: MADISON
JOB NO.: JSE0037
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9729

DESCRIPTION / DATE

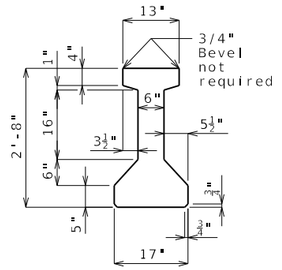
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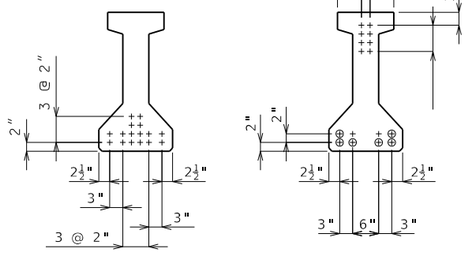
Detailed Jul. 2025
Checked Jan. 2026

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

H:\P\224097 - Madison County Bridge Package\003-JSE0037-T0093\Bridge\Final Bridge\Microstation\B_A9729_011_JSE0037_Details of End Bent No. 3.dgn 9:37:53 AM 9/24/2026



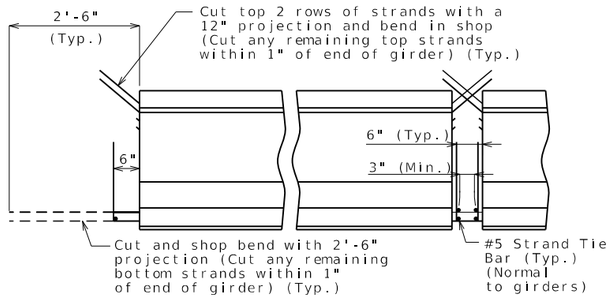
DIMENSIONS



STRAND ARRANGEMENT

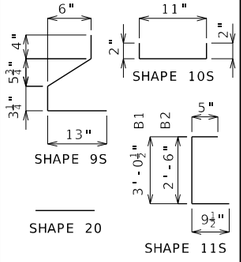
+ Indicates prestressing strand.

○ Indicates cut & shop bend with 2'-6" projection.



STRANDS AT GIRDER ENDS

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
2	5 A1	54'-11"	20	
118	5 B1	4'-1"	11S	
16	6 B2	3'-5"	11S	
67	4 C1	13"	10S	
134	4 D1	2'-3"	9S	



All dimensions are out to out.

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

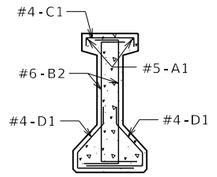
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be one inch.

All reinforcement shall be ASTM A615 or A706 Grade 60.

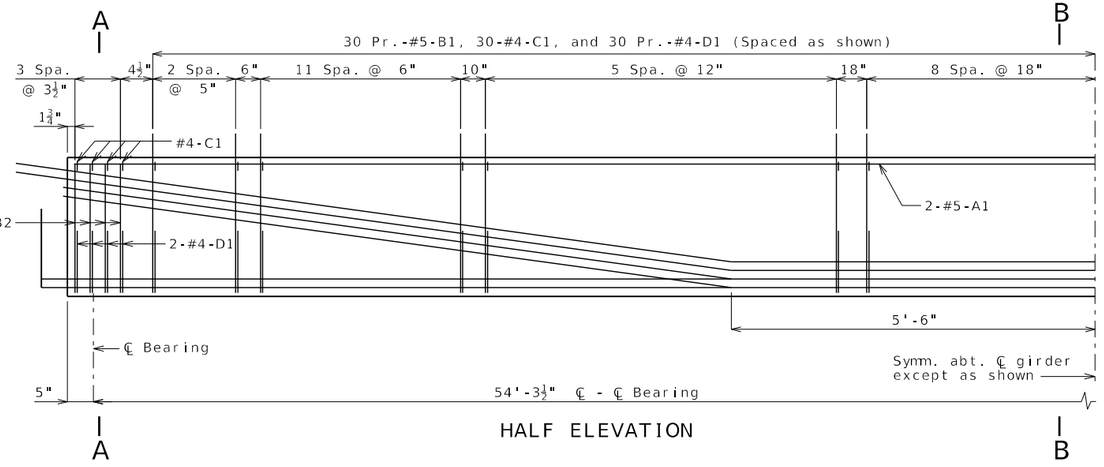
The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

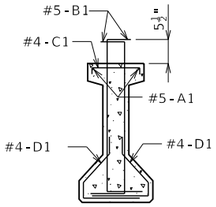


SECTION A-A

Strands not shown for clarity.

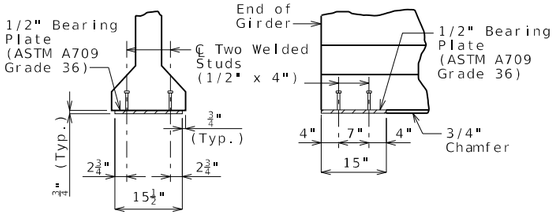


HALF ELEVATION

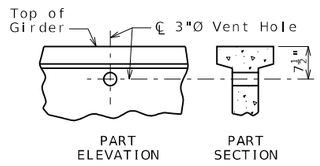


SECTION B-B

Strands not shown for clarity.

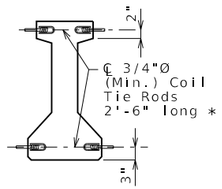


BEARING PLATE



VENT HOLE

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



COIL TIES

Exclude coil tie at exterior face of exterior girders except at integral end bents.

* 2'-5" at exterior face of exterior girders at end bents

General Notes:

Concrete for prestressed girders shall be Class A-1 with f'c = 8,000 psi and f'ci = 6,500 psi.

Use 16 strands, 1/2"Ø Grade 270, with an initial prestress force of 496 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

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

For Girder Camber Diagram, see Sheet No. 17.

The 1 1/2"Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 13.

For location of coil inserts at slab drains, see Sheet No. 16.

For location of coil ties at concrete bent diaphragms, see Sheets No. 4, 10 & 14.

I-GIRDERS - SPANS (1-2) AND (2-3)

Detailed May 2025
Checked Aug. 2025

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

STATE OF MISSOURI — JASON A. DREYER — NUMBER PE-2013038971 — PROFESSIONAL ENGINEER

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DATE PREPARED 9/25/2026

ROUTE M | STATE MO

DISTRICT BR | SHEET NO. 12

COUNTY MADISON

JOB NO. JSE0037

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9729

DESCRIPTION | DATE

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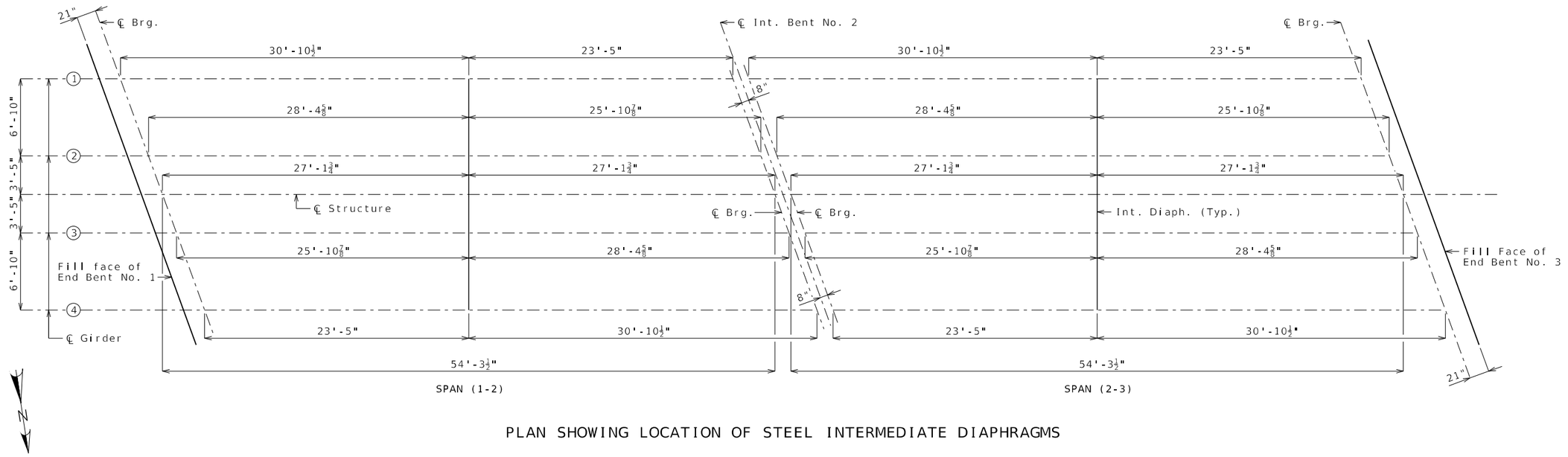
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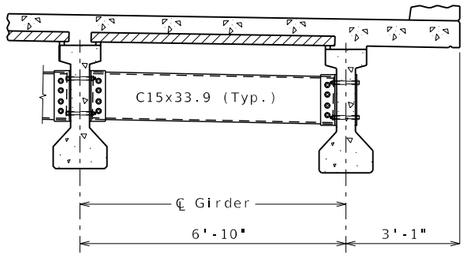
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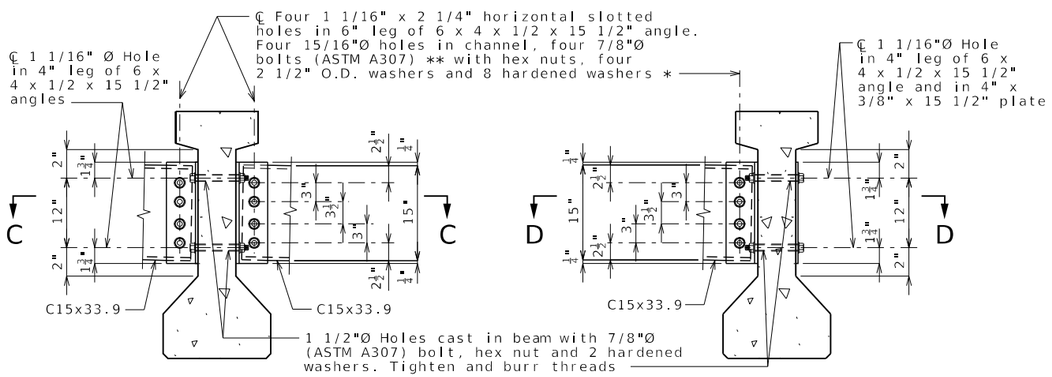
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PLAN SHOWING LOCATION OF STEEL INTERMEDIATE DIAPHRAGMS

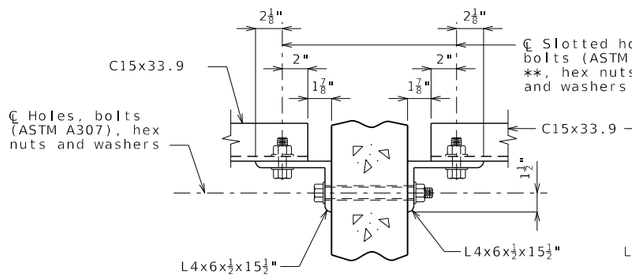


PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS

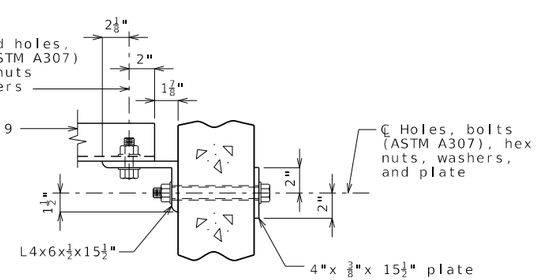


SECTION THRU INT. GIRDER AT DIAPHRAGM

SECTION THRU EXT. GIRDER AT DIAPHRAGM



SECTION C-C



SECTION D-D

STEEL DIAPHRAGM NOTES:

* In lieu of 2 1/2" outside diameter washers, contractor may substitute a 3/16" (Min. thickness) plate with four 15/16" Ø holes and one hardened washer per bolt.

** Bolts shall be tightened to provide a tension of one-half that specified in Sec 712 for high strength bolt installation. ASTM F3125 Grade A325 Type 1 bolts may be substituted for and installed in accordance with the requirements for the specified ASTM A307 bolts.

All diaphragm materials including bolts, nuts, and washers shall be galvanized.

Fabricated structural steel shall be ASTM A709 Grade 36 except as noted.

Payment for furnishing and installing steel intermediate diaphragms will be considered completely covered by the contract unit price for Steel Intermediate Diaphragm for P/S Concrete Girders.

Shop drawings will not be required for steel intermediate diaphragms and angle connections.

STEEL INTERMEDIATE DIAPHRAGMS

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
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DISTRICT BR | SHEET NO. 13
COUNTY MADISON
JOB NO. JSE0037
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9729

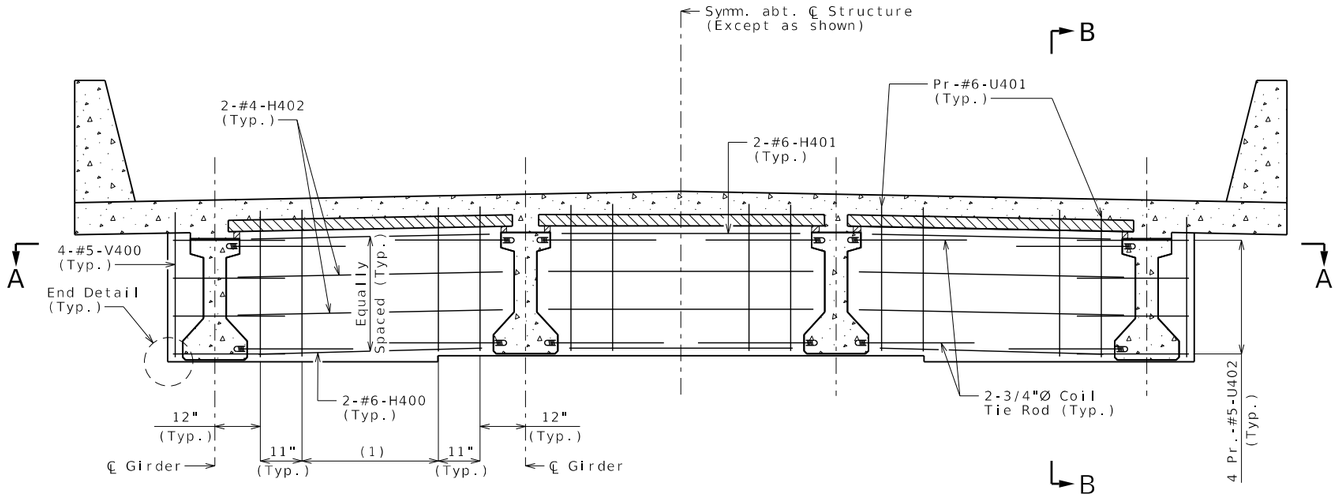
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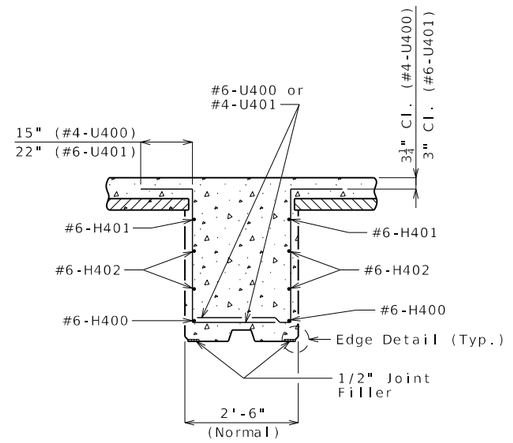
Detailed May 2025
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Note: This drawing is not to scale. Follow dimensions.

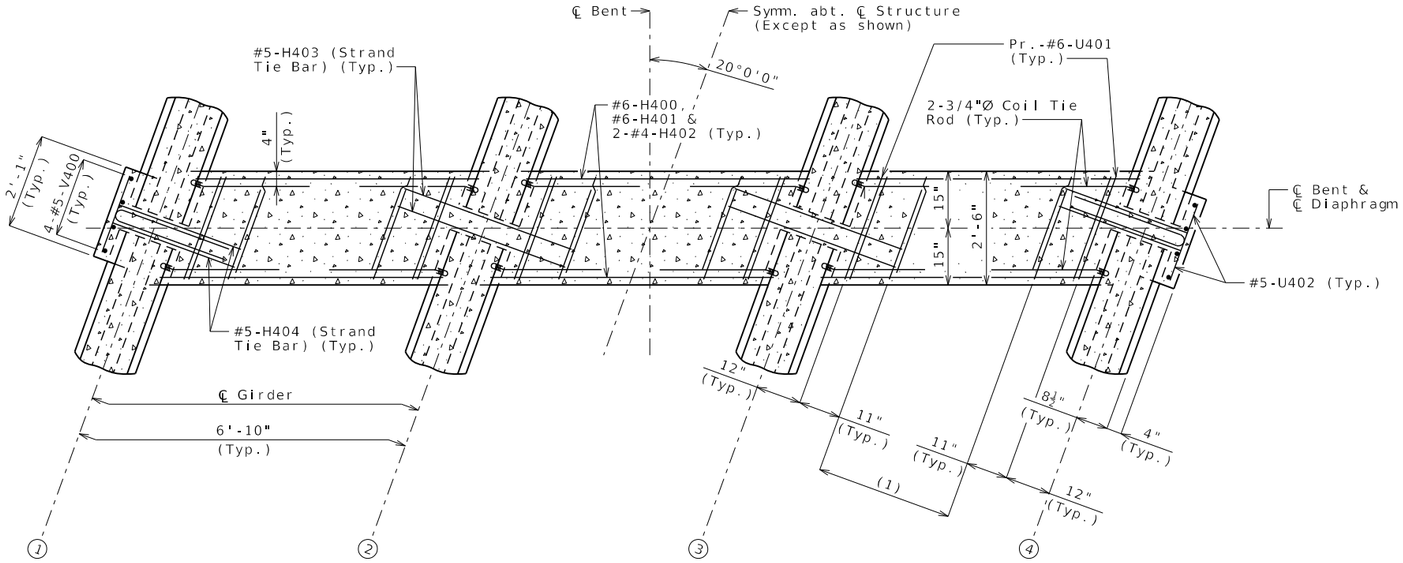


SECTION NEAR INTERMEDIATE BENT

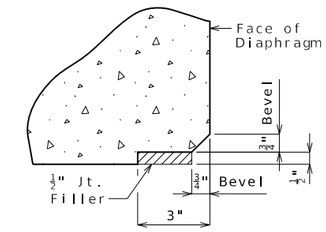
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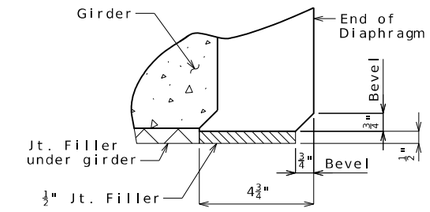
SECTION B-B



SECTION A-A



EDGE DETAIL



END DETAIL

Reference Note:
(1) 4 Pr.-#4-U400 @ 12" cts. (Typ.)

General Notes:
For location of Strand Tie Bars and Coil Tie Rods, see Sheet No. 12.

Diaphragms at intermediate bents shall be built vertical.

All U-bars in the diaphragm are to be placed parallel to CL Roadway.

DETAILS OF CONCRETE DIAPHRAGM AT INTERMEDIATE BENT NO. 2

Detailed Oct. 2025
Checked Aug. 2026

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

H:\P\224097 - Madison County Bridge Package\003-JSE0037-T0093\Bridge\Final Bridge\Microstation\B_A9729_014_JSE0037_Details of Concrete Diaphragm at Intermediate Bent No. 2.dgn 9:37:58 AM 9/24/2026

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PROFESSIONAL ENGINEER

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JOB NO.
JSE0037

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
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DESCRIPTION

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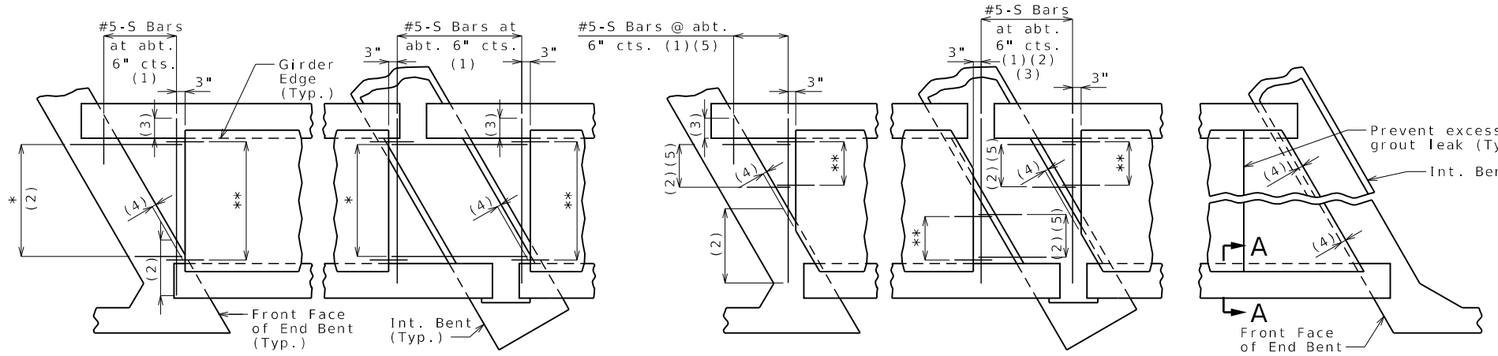
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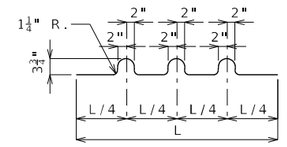


SQUARED END PANELS OR TRUNCATED END PANELS

SKEWED END PANELS

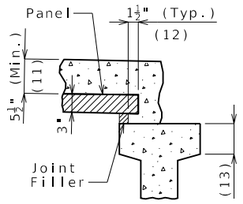
PLAN SHOWING PANEL PLACEMENT

* #5-S Bars at abt. 9" cts. (1)
** #3-P1 at 12" cts. (End panels only)



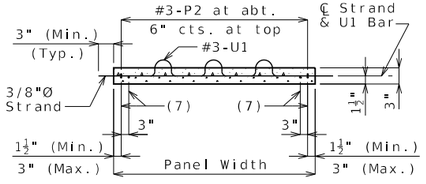
U1 Bars may be oriented at right angles to location and spacing shown. U1 Bars shall be placed between P1 bars.

BENDING DIAGRAM FOR U1 BAR

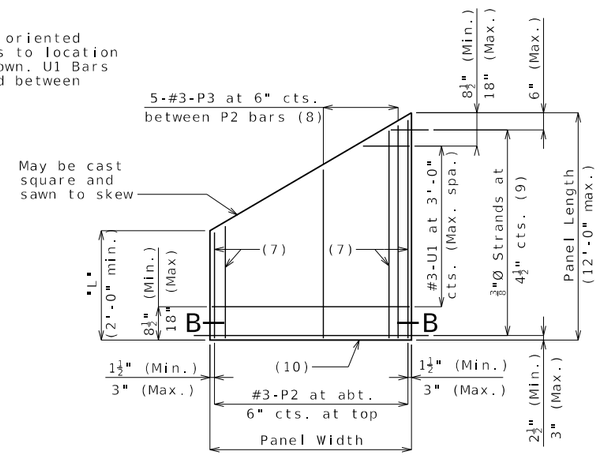


SECTION A-A

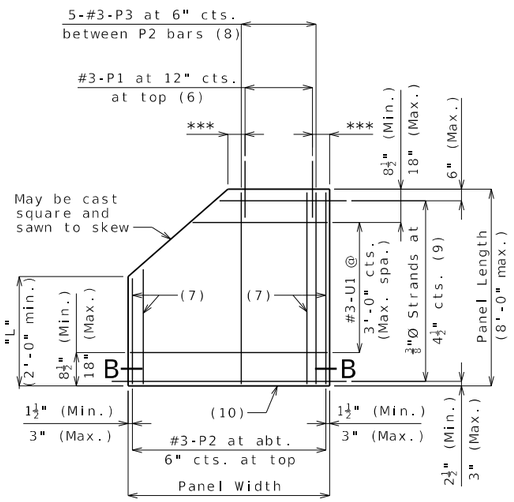
Joint Filler Dimensions		
Width	Height	
	Min.	Max.
1½"	1"	2"



SECTION B-B

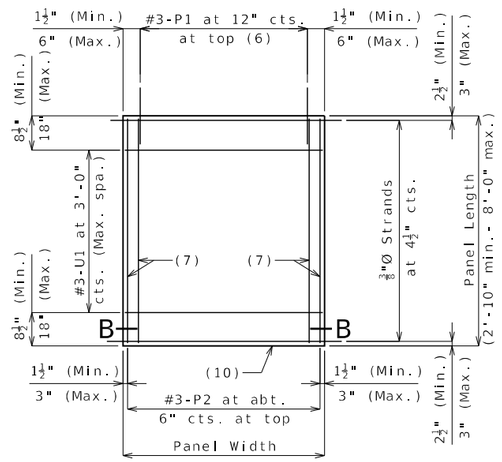


PLAN OF OPTIONAL SKEWED END PANEL



PLAN OF OPTIONAL TRUNCATED END PANEL

*** 3" (Min.), 6" (Max.)



PLAN OF SQUARED PANEL

Reference Notes:

Plan of Panel Placement:
(1) S-bars shown are bottom steel in slab between panels and used with squared and truncated end panels only.

(2) Extend S-bars 18 inches beyond the front face of end bents and int. bents for squared and truncated end panels only.

(3) Extend S-bars 9 inches beyond edge of girder (Typ.).

(4) End panels shall be dimensioned 1/2" min. to 1 1/2" max. from the inside face of diaphragm.

(5) For truncated end panels, use a min. of #5-S bars at 6" crossings in openings, or min. 4x4-W7xW7.

Plans of Panels:
(6) For end panels only, P1 bars shall be 2'-0" in length and embedded 12". P1 bars will not be required for panels at squared integral end bents.

(7) #3-P2 bars near edge of panel at bottom (under strands).

(8) Use #3-P3 bars if panel is skewed 45° or greater.

(9) Any strand 2'-0" or shorter shall have a #4 reinforcing bar on each side of it, centered between strands. Strands 2'-0" or shorter may then be debonded at the fabricator's option.

(10) Optional 1/2" x 45° Chamfer one or both sides at bottom.

Section A-A:
(11) Slab thickness over prestressed panels varies due to girder camber. In order to maintain minimum slab thickness, it may be necessary to raise the grade uniformly throughout the structure. No payment will be made for additional labor or materials required for necessary grade adjustment.

(12) Contractor shall ensure proper consolidation under and between panels.

(13) At the contractor's option, the variation in slab thickness over prestressed panels may be eliminated or reduced by increasing and varying the girder top flange thickness. Dimensions shall be shown on the shop drawings.

General Notes:

Prestressed Panels:
Concrete for prestressed panels shall be Class A-1 with f'c = 6,000 psi, f'ci = 4,000 psi.

The top surface of all panels shall receive a scored finish with a depth of scoring of 1/8" perpendicular to the prestressing strands in the panels.

Prestressing tendons shall be high-tensile strength, uncoated, seven-wire, low-relaxation strands for prestressed concrete in accordance with AASHTO M 203 Grade 270, with nominal diameter of strand = 3/8" and nominal area = 0.085 sq.in. and minimum ultimate strength = 22.95 kips (270 ksi). Larger strands may be used with the same spacing and initial tension.

Initial prestressing force = 17.2 kips/strand.

The method and sequence of releasing the strands shall be shown on the shop drawings.

Suitable anchorage devices for lifting panels may be cast in panels, provided the devices are shown on the shop drawings and approved by the engineer. Panel lengths shall be determined by the contractor and shown on the shop drawings.

When squared end panels are used at skewed bents, the skewed portion shall be cast full depth. No separate payment will be made for additional concrete and reinforcing required.

Support from diaphragm forms is required under the optional skewed end until cast-in-place concrete has reached 3,000 psi compressive strength.

Prestressed panels shall be brought to saturated surface-dry (SSD) condition just prior to the deck pour. There shall be no free standing water on the panels or in the area to be cast.

The prestressed panel quantities are not included in the table of estimated quantities for the slab.

Reinforcing Steel:
All dimensions are out to out.

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

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

If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.

Deformed welded wire reinforcement (WWR) providing a minimum area of reinforcing perpendicular to strands of 0.22 sq in./ft, with spacing parallel to strands sufficient to ensure proper handling, may be used in lieu of the #3-P2 bars shown. Wire diameter shall not be larger than 0.375 inch. The above alternative reinforcement criteria may be used in lieu of the #3-P3 bars, when required, and placed over a width not less than 2 feet.

The following reinforcing steel shall be tied securely to the strands with the following maximum spacing in each direction:
#3-P2 bars at 16 inches.
WWR at 24 inches.

The #3-U1 bars shall be tied securely to #3-P2 bars, to WWR or to strands (when placed between P1 bars) at about 3-foot centers.

Minimum reinforcement steel length shall be 2'-0".

All reinforcement other than prestressing strands shall be epoxy coated.

Precast panels may be in contact with stirrup reinforcing in diaphragms.

S-bars are not listed in the bill of reinforcing.

Cost of S-bars will be considered completely covered by the contract unit price for the slab.

Joint Filler:
Joint filler shall be preformed fiber expansion joint material in accordance with Sec 1057 or expanded or extruded polystyrene bedding material in accordance with Sec 1073.

Use Slab Haunching Diagram on Sheet No. 17 for determining thickness of joint filler within the limits noted in the table of Joint Filler Dimensions.

Thicker material may be used on one or both sides of the girder to reduce cast-in-place concrete thickness to within tolerances.

The same thickness of preformed fiber expansion joint material shall be used under any one edge of any panel except at locations where top flange thickness may be stepped. The maximum change in thickness between adjacent panels shall be 1/2 inch. The polystyrene bedding material may be cut with a transition to match haunch height above top of flange.

Joint filler shall be glued to the girder. When thickness exceeds 1 1/2 inches, the joint filler shall be glued top and bottom. The glue used shall be the type recommended by the joint filler manufacturer.

Edges of panels shall be uniformly seated on the joint filler before slab reinforcement is placed.

PRESTRESSED PANELS

Detailed May 2025
Checked Aug. 2025

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

STATE OF MISSOURI — JASON A. DREYER — NUMBER PE-2013038971 — PROFESSIONAL ENGINEER

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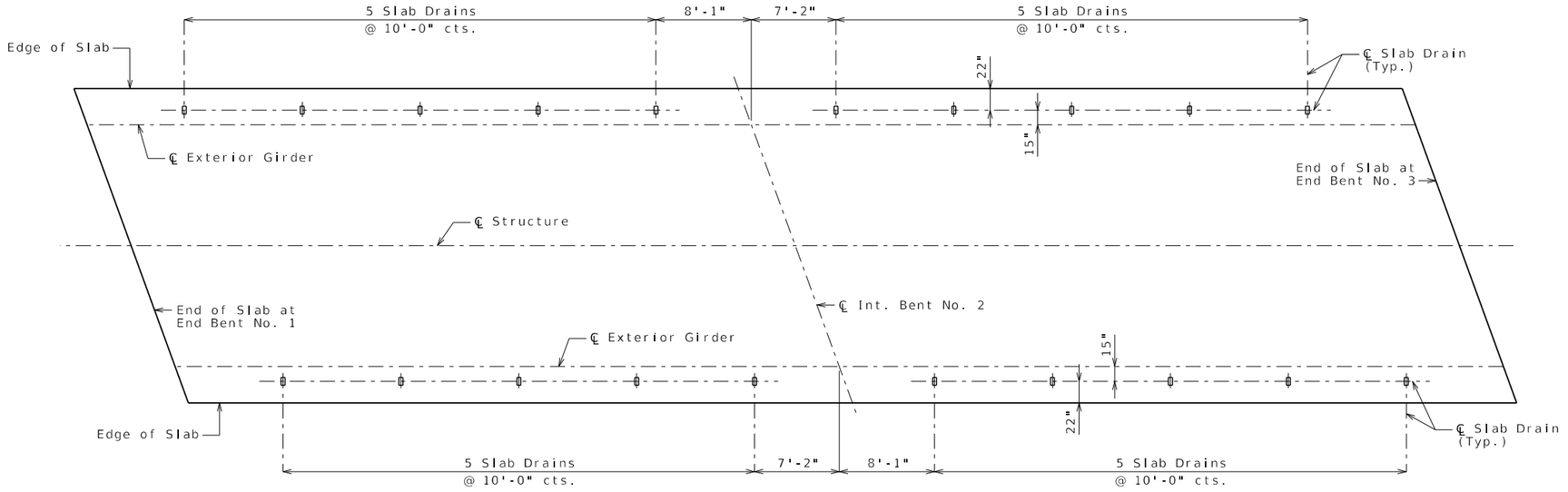
ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	15

COUNTY: MADISON
JOB NO.: JSE0037
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9729

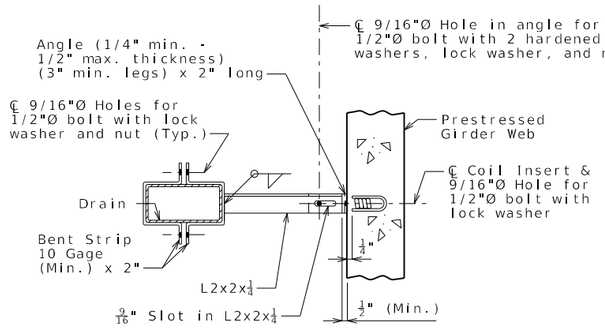
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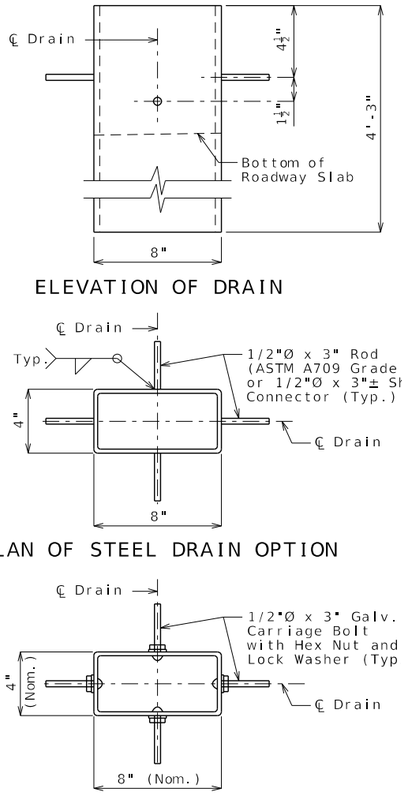
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PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



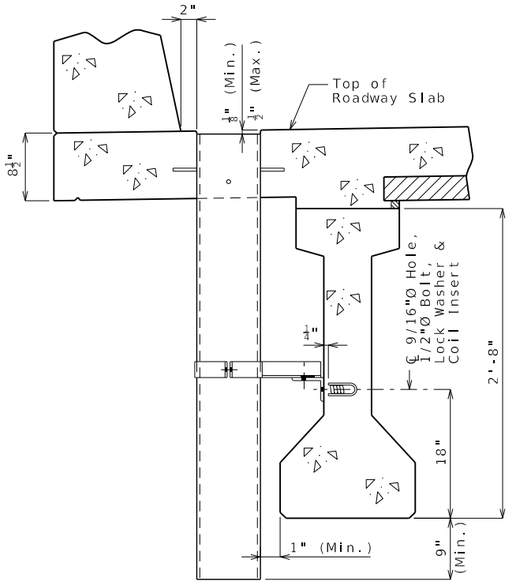
PART SECTION SHOWING BRACKET ASSEMBLY



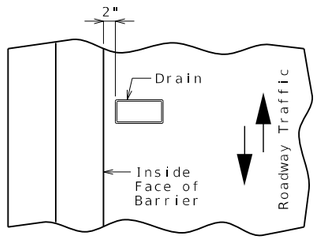
ELEVATION OF DRAIN

PLAN OF STEEL DRAIN OPTION

PLAN OF FRP DRAIN OPTION



PART SECTION NEAR DRAIN



PART PLAN OF SLAB AT DRAIN

General Notes:

Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of same type.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Reinforcing steel shall be shifted to clear drains.

The coil inserts and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM F2329.

All 1/2"Ø bolts shall be ASTM A307.

Shop drawings will not be required for the slab drains and the bracket assembly.

The coil insert required for the bracket assembly attachment shall be located on the prestressed girder shop drawings.

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed girder fabricator.

Notes for Steel Drain:

Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:

Shape of drains shall be rectangular with outside nominal dimensions of 8" x 4".

Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

The color of the slab drain shall be gray (Federal Standard #26373). The color shall be uniform throughout the resin and any coating used.

The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall furnish the results of the required ultraviolet testing prior to acceptance of the slab drains.

At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be as recommended by the manufacturer to ensure a smooth, chip free cut.

SLAB DRAINS

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

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COUNTY: MADISON
JOB NO.: JSE0037
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9729

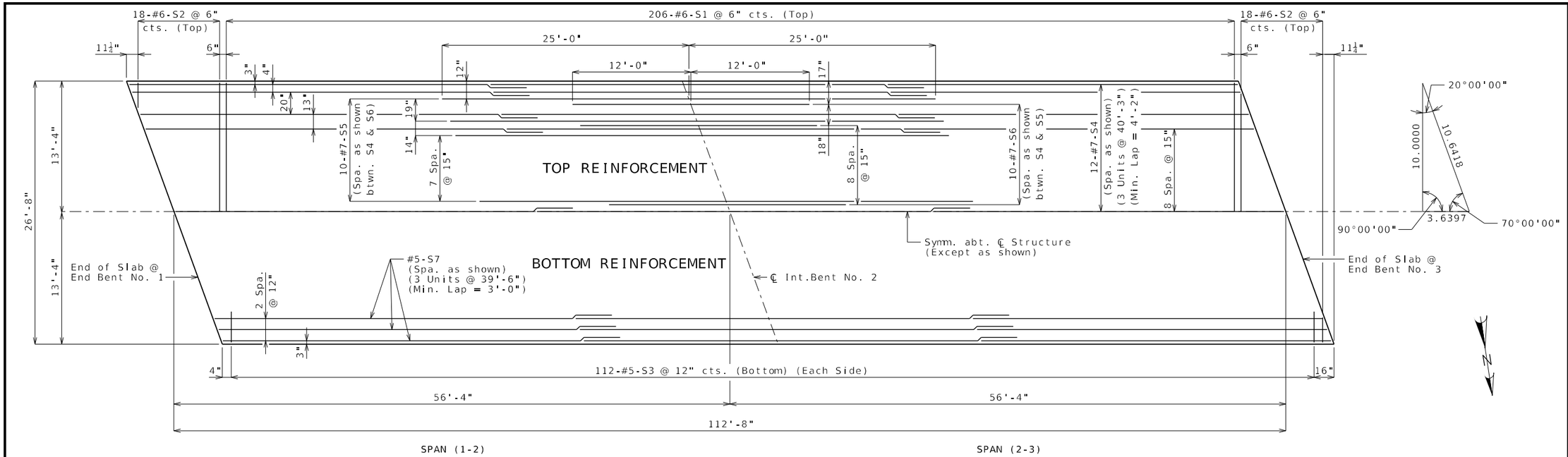
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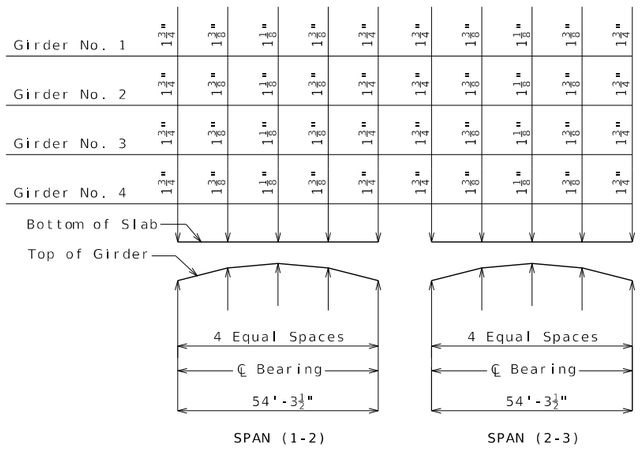
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Detailed May 2025
Checked Aug. 2025

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





THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

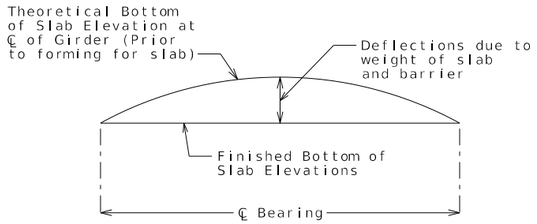
If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness, an adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. No payment will be made for additional labor or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

Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete I-Girder.

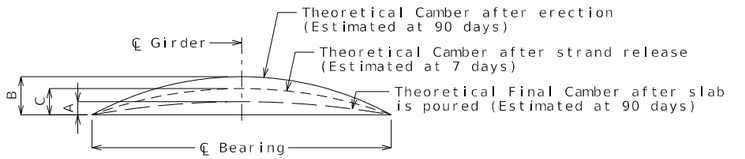
Theoretical Bottom of Slab Elevations at Centerline of Girder (Prior to forming for slab) (Estimated at 90 days)

Girder Number	Span (1-2) (54'-3½" ℄ Brg. - ℄ Brg.)					Span (2-3) (54'-3½" ℄ Brg. - ℄ Brg.)				
	℄ Brg.	.25	.50	.75	℄ Brg.	℄ Brg.	.25	.50	.75	℄ Brg.
1	623.70	623.74	623.76	623.74	623.70	623.70	623.74	623.76	623.74	623.70
2	623.83	623.88	623.90	623.88	623.83	623.83	623.88	623.90	623.88	623.83
3	623.83	623.88	623.90	623.88	623.83	623.83	623.88	623.90	623.88	623.83
4	623.70	623.74	623.76	623.74	623.70	623.70	623.74	623.76	623.74	623.70

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 (including precast panel) and barrier.



TYPICAL SLAB ELEVATION DIAGRAM



Girder	Span (1-2) & (2-3)		
	A	B	C
Exterior	5/8"	1 3/8"	5/8"
Interior	5/8"		5/8"

GIRDER CAMBER DIAGRAM

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

0.25 pt. = 0.7125 x 0.5 pt.

General Notes:
Longitudinal slab dimensions are measured horizontally.

For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 18.

For details and reinforcement of barrier not shown, see Sheets No. 19 & 20.

For details and locations of Slab Drains, see Sheet No. 16.

For details of Prestressed Panels, see Sheet No. 15.

PLAN OF SLAB SHOWING REINFORCEMENT

Detailed Jun. 2025
Checked Aug. 2025

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

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JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

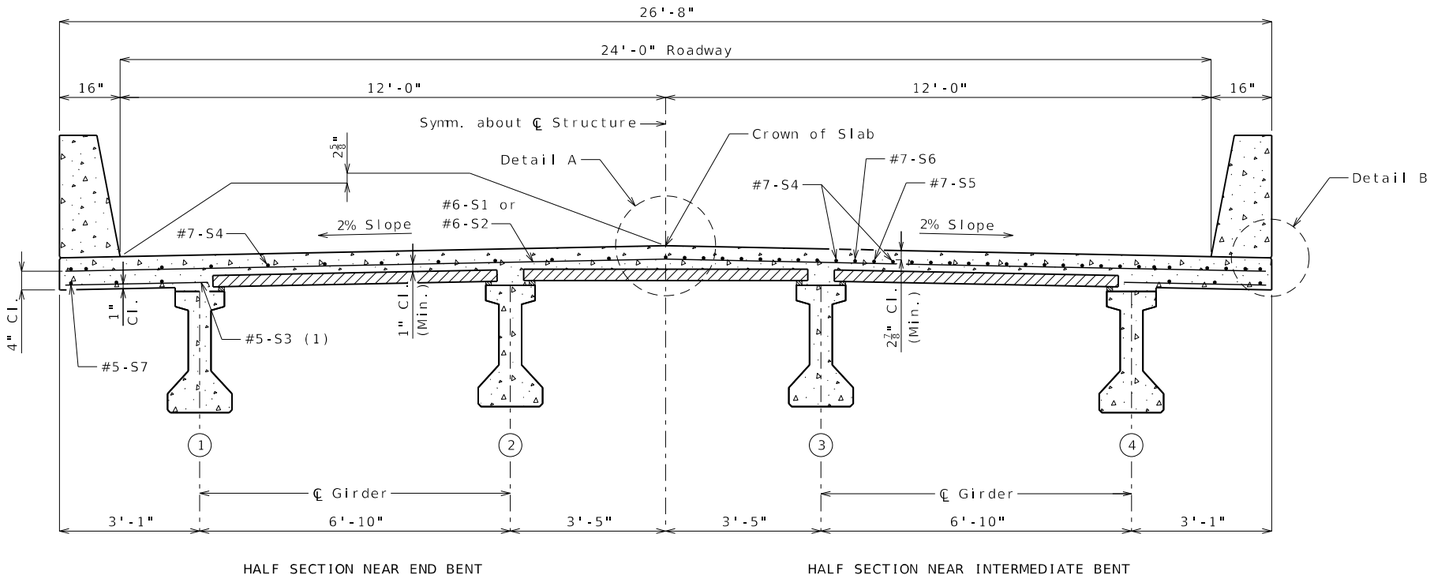
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DISTRICT BR | SHEET NO. 17
COUNTY MADISON
JOB NO. JSE0037
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9729

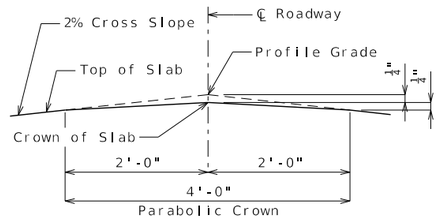
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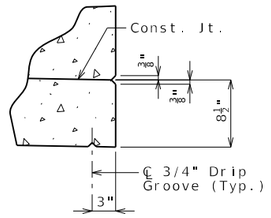
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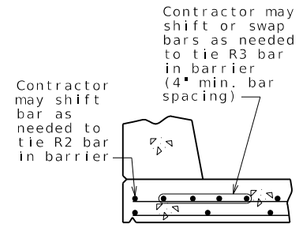
SECTION THRU SLAB



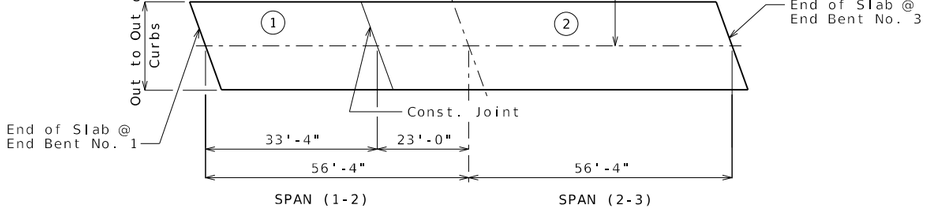
DETAIL A



DETAIL B



OPTIONAL SHIFTING TOP BARS AT BARRIER

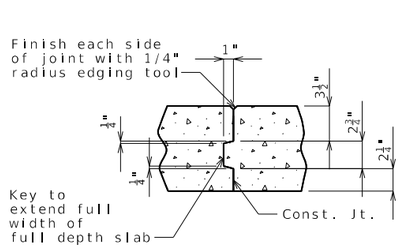


	Sequence of Pours		Min. Rate of Pour Cu. Yds./Hr.
	Direction		With Retarder
Basic Sequence	1 End to 2	2 1 to End	25
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.			
Alternate A Pours	1 + 2 End to End		25

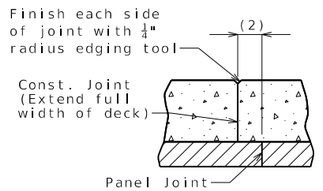
The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

The concrete diaphragm at the intermediate bent and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

SLAB POURING SEQUENCE



FULL DEPTH SLAB



SLAB ON PANELS

SLAB CONSTRUCTION JOINT

Reference Notes:
(1) Alternate shape available, see barrier sheet.
(2) Adjust the construction joint to a clearance of 6 inches minimum from the panel joint.

General Notes:
For details of Prestressed Panels, see Sheet No. 15.

For details and reinforcement of barrier not shown, see Sheets No. 19 & 20.

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram, Plan of Slab Showing Reinforcement, and Theoretical Slab Haunching Diagram, see Sheet No. 17.

SLAB DETAILS

Detailed Jun. 2025
Checked Aug. 2025

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

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JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

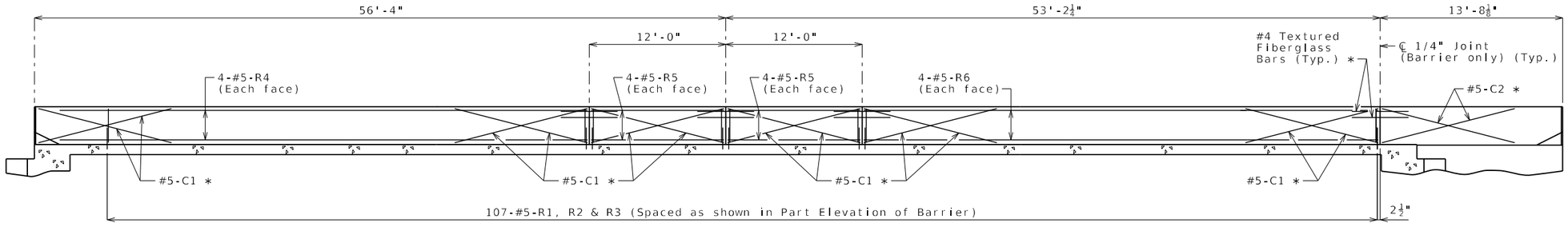
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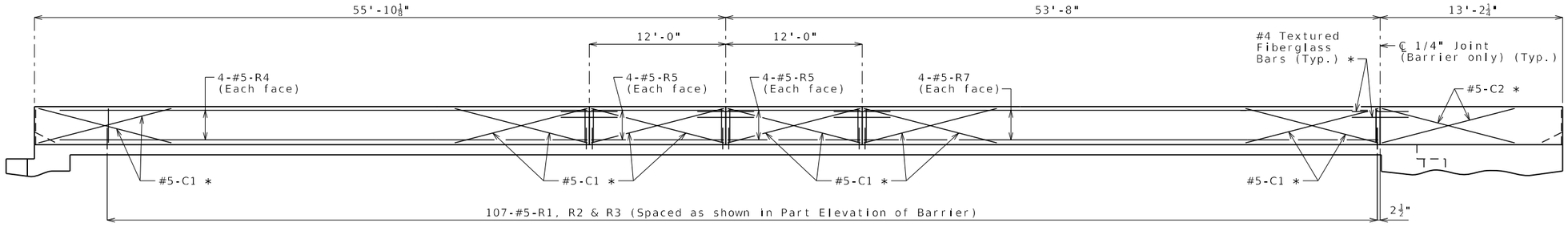
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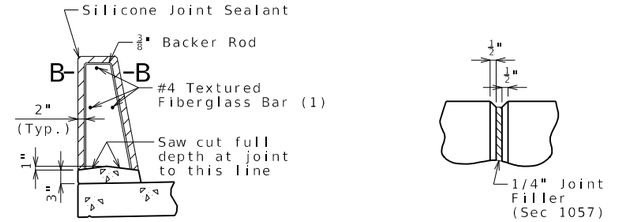
ELEVATION OF LEFT BARRIER

Longitudinal dimensions are horizontal.



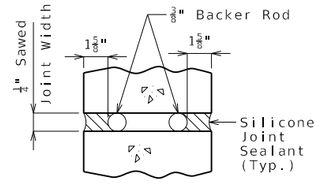
ELEVATION OF RIGHT BARRIER

Longitudinal dimensions are horizontal.

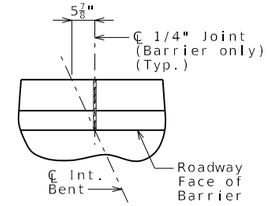


SECTION THRU SAW CUT JOINT

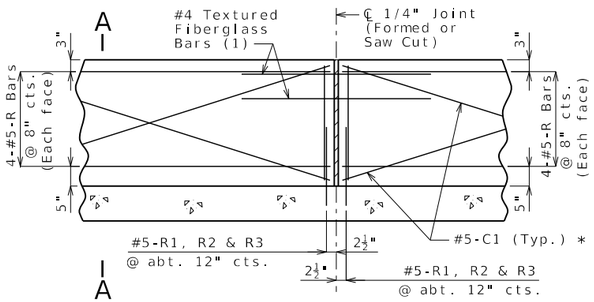
PART ELEVATION AT FORMED JOINT



SECTION B-B

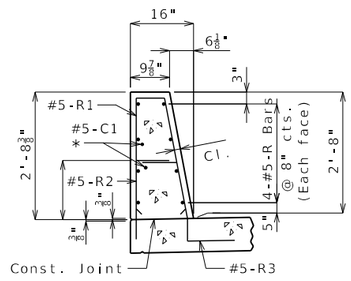


PART PLAN SHOWING JOINT LOCATION



PART ELEVATION OF BARRIER

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

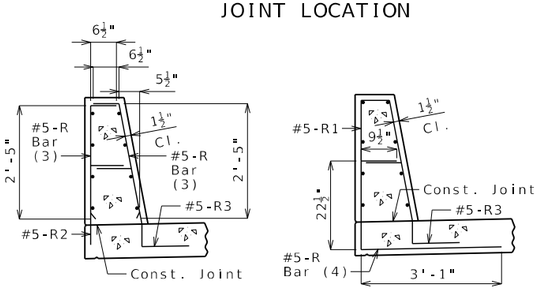


SECTION A-A

Use a minimum lap of 2'-6" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 2.89 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.)

(4) The R2 bar and #5 bottom transverse slab bar in cantilever (prestressed panels only) combination may be furnished as one bar as shown, at the contractor's option.

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 H Barrier per linear foot.

Concrete in barrier shall be Class B-1.

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

TYPE H BARRIER

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 9/24/2026

ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	19

COUNTY: MADISON
JOB NO.: JSE0037
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9729

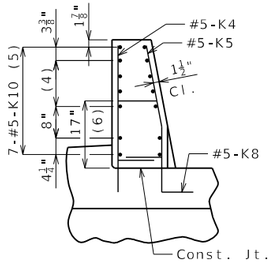
DESCRIPTION	DATE

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

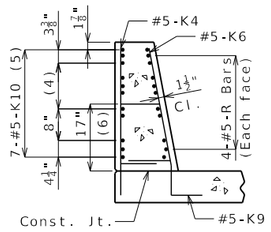
OATES ASSOCIATES
MISSOURI DESIGN FIRM PE-001166
Collinsville: 100 Lumber Count, Suite 1, Collinsville, IL 62234, 618.345.2200
St. Louis: 720 Olive Street, Suite 700, St. Louis, MO 63101, 314.588.8381
Belleville: 100 West Main Street, 2nd Floor, Belleville, IL 62220, 618.416.4488
St. Charles: 820 South Main, Suite 309, St. Charles, MO 63301, 636.493.6277
www.oatesassociates.com

Detailed May 2025
Checked Aug. 2025

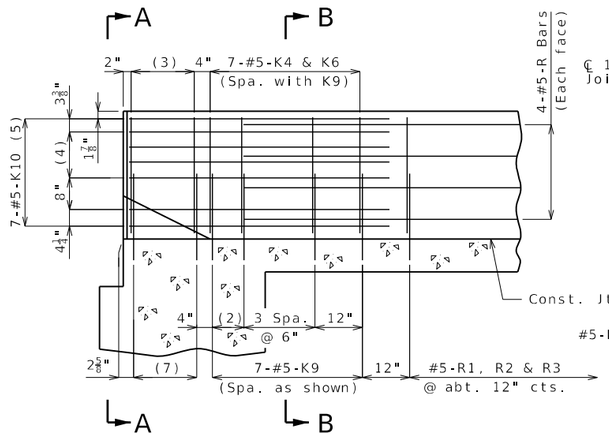
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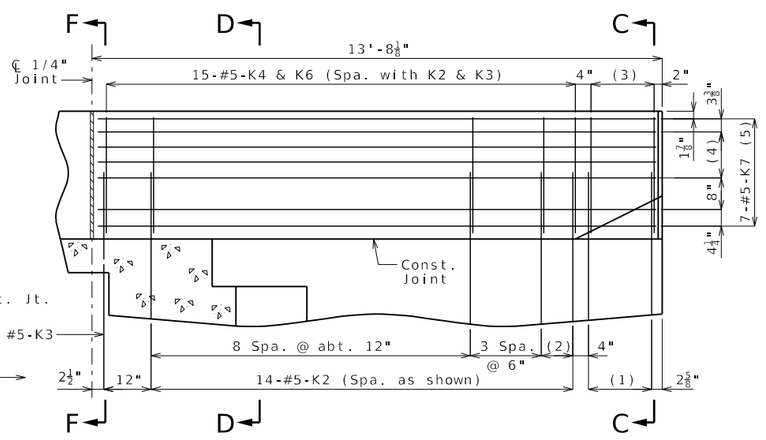


ELEVATION A-A

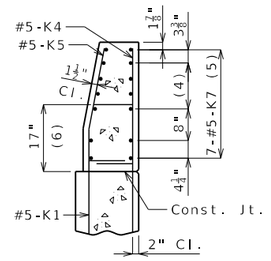


SECTION B-B

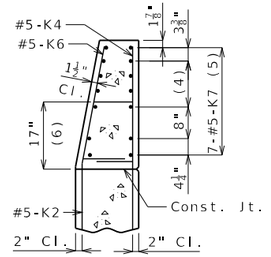




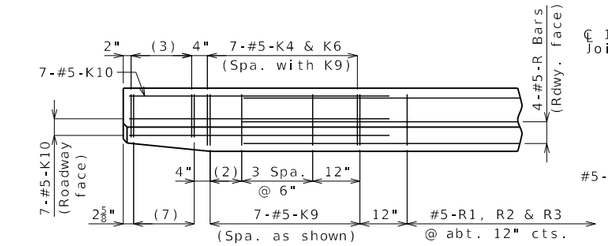
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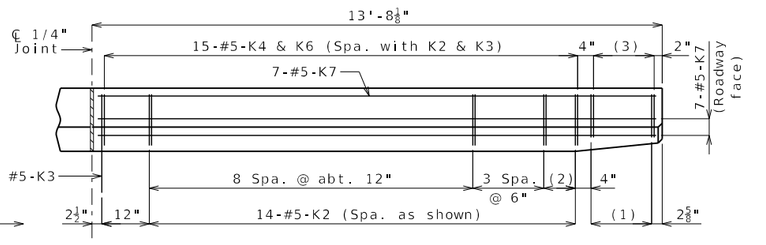


SECTION C-C

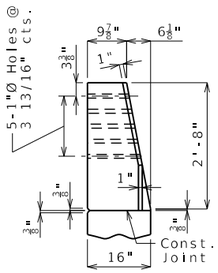


SECTION D-D

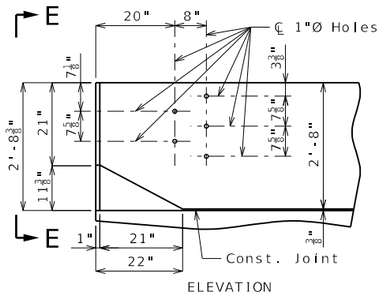




PART PLAN

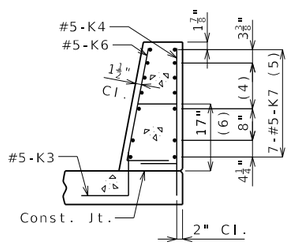


ELEVATION E-E

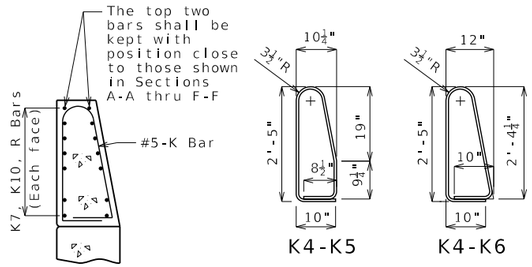


ELEVATION

(1) 5-#5-K1 @ 4" cts.
(2) 2 Spaces @ 4"
(3) 5-#5-K4 and 5-#5-K5. Spaced with K1 or K8
(4) 3 Spaces @ $3\frac{13}{16}$"
(5) Spaced as shown, each face
(6) To top of bar
(7) 5-#5-K8 @ 4" cts.



SECTION F-F



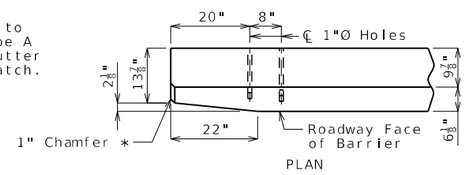
PERMISSIBLE ALTERNATE SHAPES

(Other K bars not shown for clarity)

The K4-K5 and K4-K6 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

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



DETAILS OF GUARD RAIL ATTACHMENT

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 H Barrier.

Reinforcing Steel:

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

Use a minimum lap of 2'-6" between K10 bars and R bars.

TYPE H BARRIER AT END BENTS (LEFT)

Detailed May 2025
Checked Aug. 2025

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

H:\P\224097 - Madison County Bridge Package\003-JSE0037-T0093\Bridge\Final Bridge\Microstation\B_A9729_020_JSE0037_Type H Barrier At End Bents (Left).dgn 9:38:09 AM 9/24/2026

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/24/2026

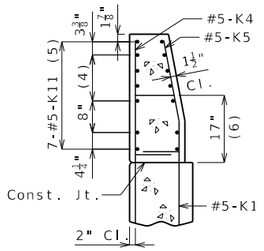
ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	20

COUNTY: MADISON
JOB NO.: JSE0037
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9729

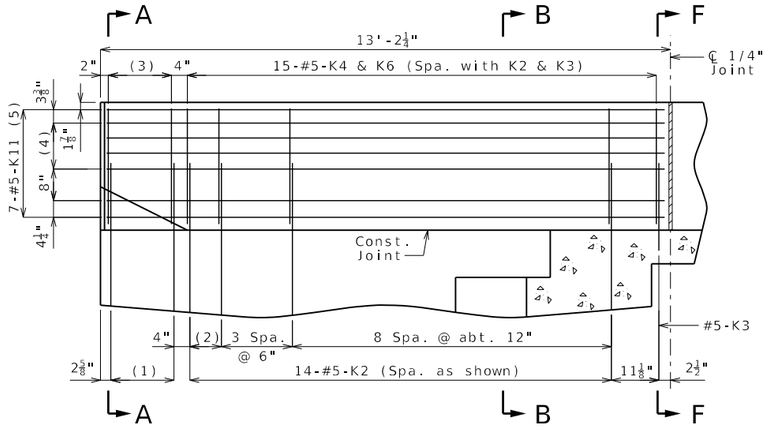
DESCRIPTION | DATE

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

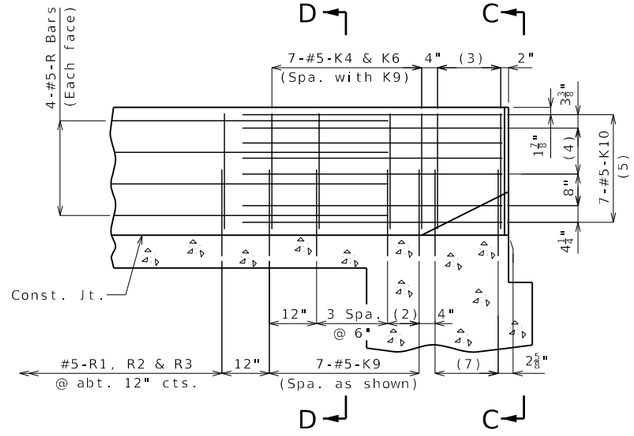
OATES ASSOCIATES
Collinsville 101 Lamar Court, Suite 1 Collinsville, IL 62234 618.345.4200
St. Louis 720 Olive Street, Suite 700 St. Louis, MO 63101 314.588.8381
Belleville 100 West Main Street, 2nd Floor Belleville, IL 62220 618.416.4488
St. Charles 820 South Main, Suite 309 St. Charles, MO 63301 636.493.0277
www.oatesassociates.com
MISSOURI DESIGN FIRM PE-001166

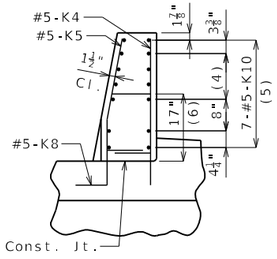


SECTION A-A

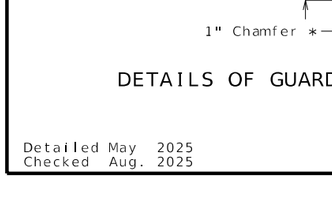


PART ELEVATION

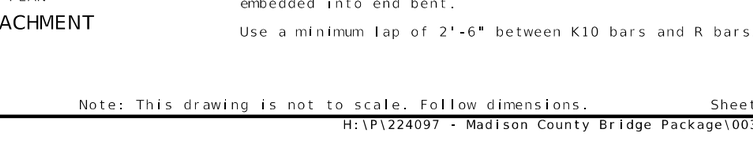




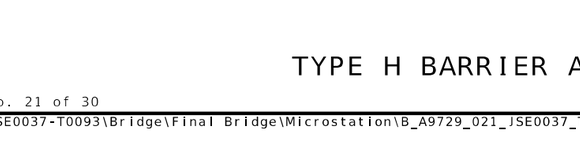
ELEVATION C-C

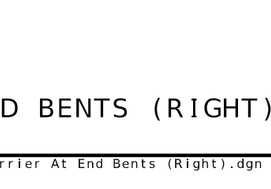


SECTION B-B

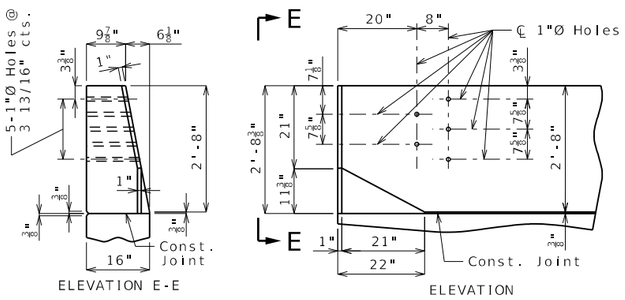


PART PLAN

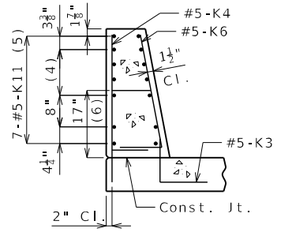




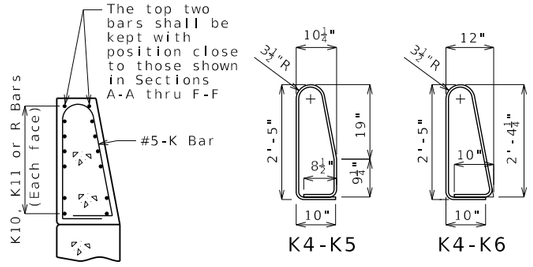
SECTION D-D



(1) 5-#5-K1 @ 4" cts.
(2) 2 Spaces @ 4"
(3) 5-#5-K4 and 5-#5-K5. Spaced with K1 or K8
(4) 3 Spaces @ 3 13/16"
(5) Spaced as shown, each face
(6) To top of bar
(7) 5-#5-K8 @ 4" cts.



SECTION F-F



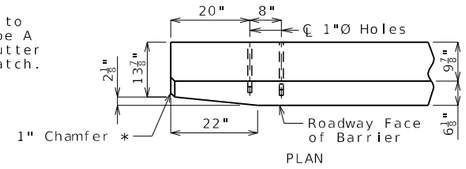
PERMISSIBLE ALTERNATE SHAPES

(Other K bars not shown for clarity)

The K4-K5 and K4-K6 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

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



DETAILS OF GUARD RAIL ATTACHMENT

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 H Barrier.

Reinforcing Steel:

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

Use a minimum lap of 2'-6" between K10 bars and R bars.

TYPE H BARRIER AT END BENTS (RIGHT)

Detailed May 2025
Checked Aug. 2025

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

H:\P\224097 - Madison County Bridge Package\003-JSE0037-T0093\Bridge\Final Bridge\Microstation\B_A9729_021_JSE0037_Type H Barrier At End Bents (Right).dgn 9:38:11 AM 9/24/2026

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/24/2026

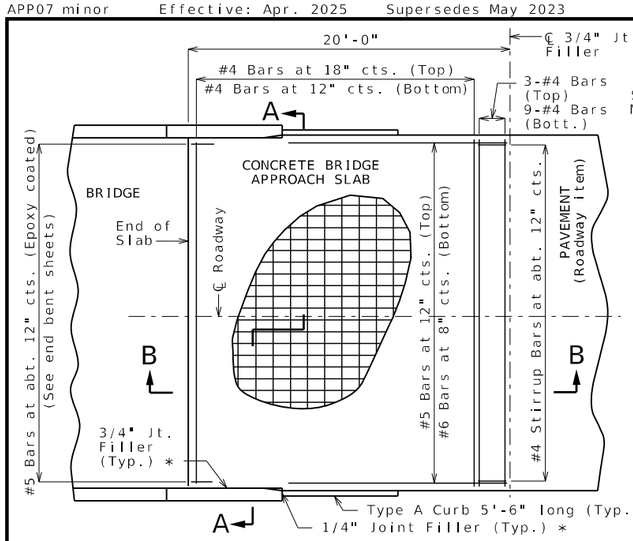
ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	21

COUNTY MADISON
JOB NO. JSE0037
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9729

DESCRIPTION
DATE

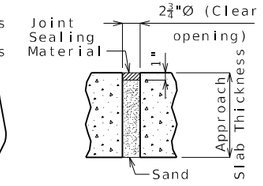
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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OATES ASSOCIATES
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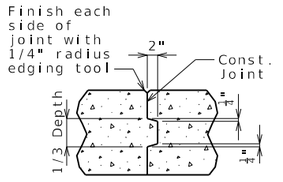
PART PLAN OF SQUARED STRUCTURE

(Skewed structure similar)
(Details of End Bent No. 4 shown)

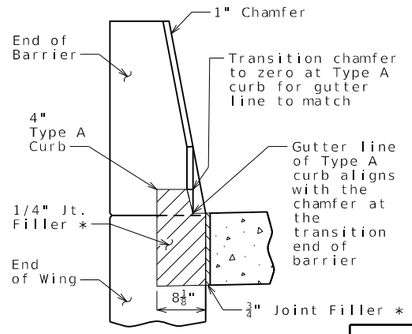


UNDERSEAL ACCESS HOLE DETAIL

(If required)



CONSTRUCTION JOINT DETAIL



SECTION BETWEEN CURB AND BARRIER

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 26 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.

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

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

* 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.

Approach slab and curb at End Bent No. 1 may need to be modified due to crash cushion foundation. Crash cushion foundation per crash cushion supplier. Crash cushion may be mounted to concrete approach slab. See roadway plans for locations of crash cushions. See Part Plan @ End Bent No. 1 for modified slab geometry.

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

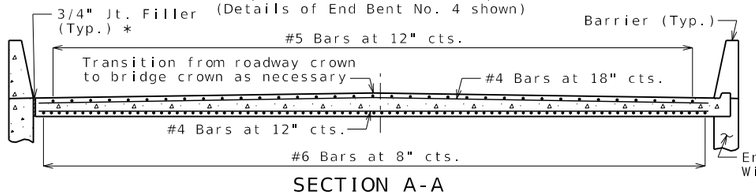
☐ Concrete Bridge Approach Slab

☐ Asphalt Bridge Approach Slab

Notes For Asphalt Slab Only:

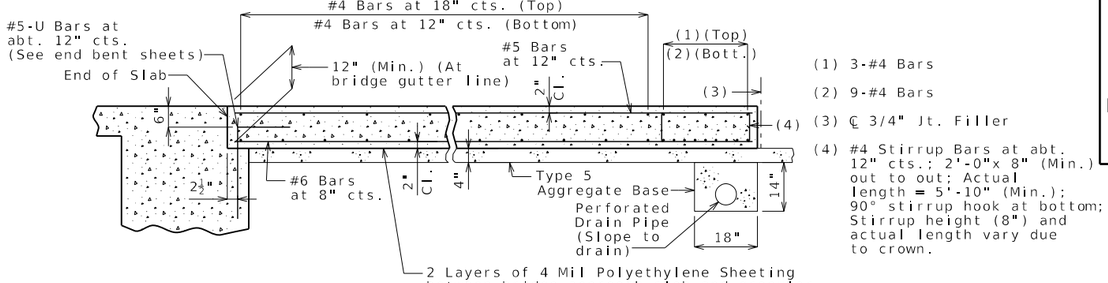
Payment for furnishing all materials, labor and excavation necessary to construct the asphalt bridge approach slab, including tack, curb, and Type 5 aggregate base within the pay limits shown, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab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

Application of tack is required between lifts per Sec 403.



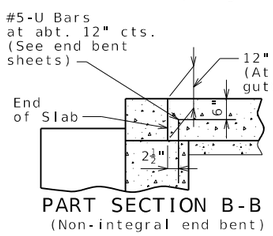
SECTION A-A

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



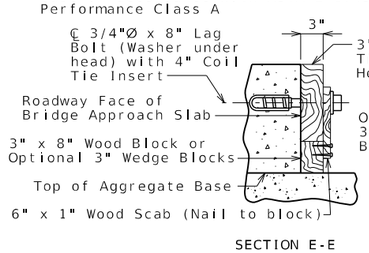
SECTION B-B

(Integral end bent)

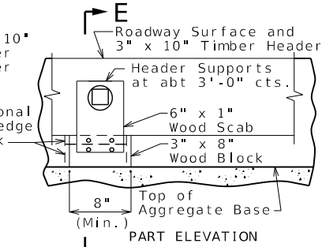


PART SECTION B-B

(Non-integral end bent)



SECTION E-E

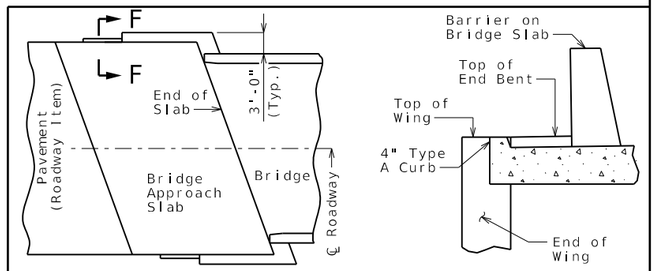


PART ELEVATION

DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

OPTIONAL CONCRETE SLAB

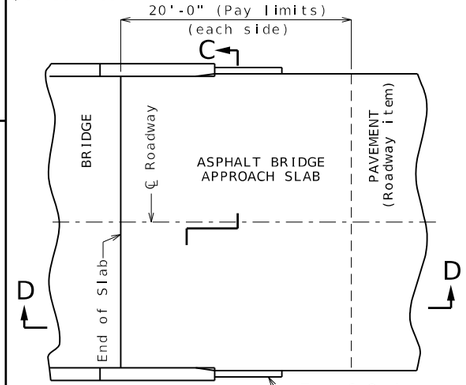


PART PLAN @ END BENT NO. 1

(See Part Plan for details not shown)

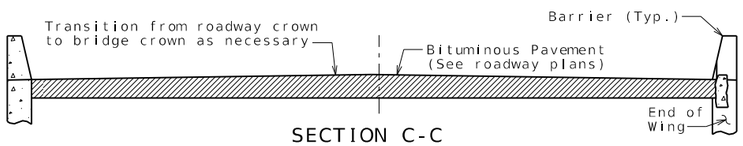
SECTION F-F

(Concrete approach slab shown, Asphalt approach slab with Type S Curb similar)



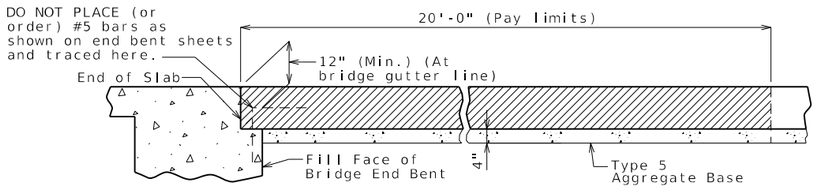
PART PLAN

(Squared structure shown, skewed structure similar)
(Details of End Bent No. 4 shown)

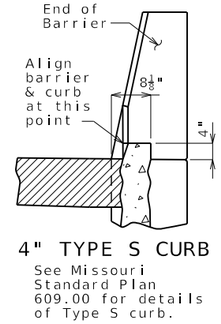


SECTION C-C

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



4" TYPE S CURB

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

OPTIONAL ASPHALT SLAB (NOT ALLOWED WITH CONCRETE PAVEMENT)

BRIDGE APPROACH SLAB (MINOR)

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

JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
STATE OF MISSOURI
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/24/2026

ROUTE M | STATE MO

DISTRICT BR | SHEET NO. 22

COUNTY MADISON

JOB NO. JSE0037

CONTRACT ID.

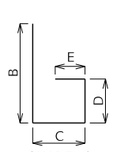
PROJECT NO.

BRIDGE NO. A9729

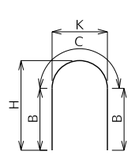
DESCRIPTION | DATE

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

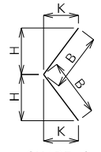
OATES ASSOCIATES
St. Louis: 720 Olive Street, Suite 700, St. Louis, MO 63101, 314.588.8381
Collinsville: 1101 Lincoln Court, Suite 1, Collinsville, IL 62234, 618.345.4200
St. Charles: 820 South Main, Suite 309, St. Charles, MO 63301, 636.493.0277
Belleville: 100 West Main Street, 2nd Floor, Belleville, IL 62220, 618.416.4488
www.oatesassociates.com
MISSOURI DESIGN FIRM PE-001166



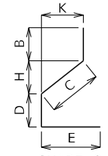
SHAPE 6
or 6S



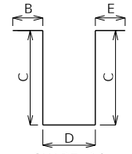
SHAPE 7



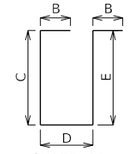
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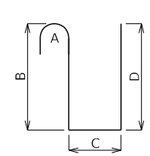
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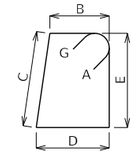
SHAPE 10
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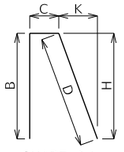
SHAPE 11
or 11S



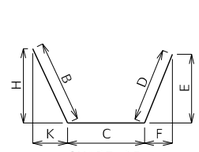
SHAPE 12



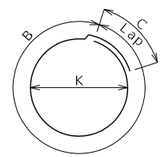
SHAPE 13S



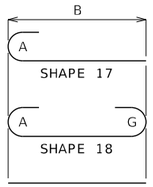
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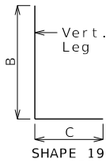
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or 15S



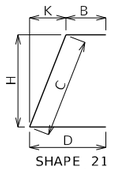
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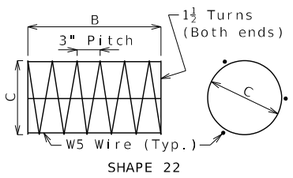
SHAPE 17
SHAPE 18
SHAPE 20



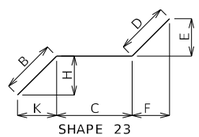
SHAPE 19
or 19S



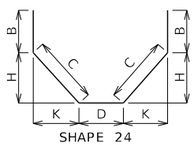
SHAPE 21
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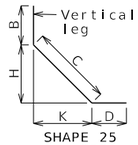
SHAPE 22



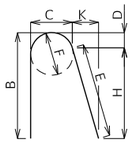
SHAPE 23
or 23S



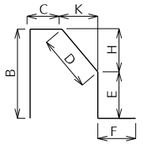
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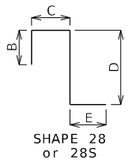
SHAPE 25
or 25S



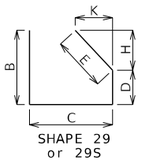
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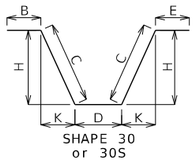
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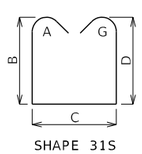
SHAPE 28
or 28S



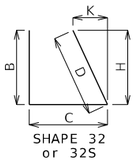
SHAPE 29
or 29S



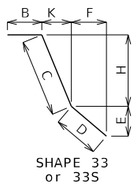
SHAPE 30
or 30S



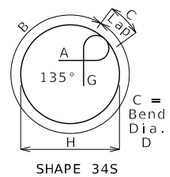
SHAPE 31S



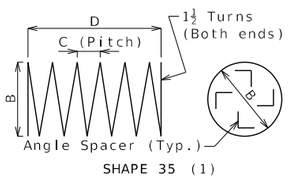
SHAPE 32
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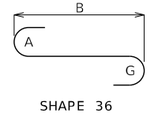
SHAPE 33
or 33S



SHAPE 34S



SHAPE 35 (1)

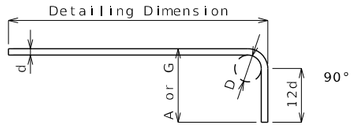


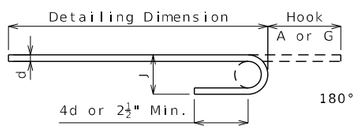
SHAPE 36

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"	9¾"	7"
	3	7"	15"	11½"	8¾"
#8	2	6"	16"	11"	8"
	3	8"	17"	13¾"	10"
#9	1	9½"	19½"	15½"	11¾"
#10	1	10¾"	22"	17½"	13¼"
#11	1	12"	24½"	19½"	14⅞"
#14	1	18¼"	31¼"	27½"	21⅝"
#18	1	24"	41½"	36¼"	28½"



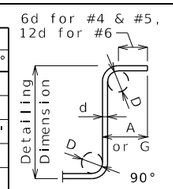


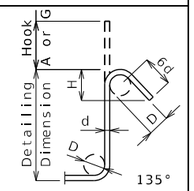
Stirrup Pin Bend Shapes (S)

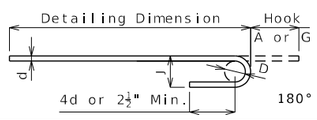
Size	Case	D	A or G			H	J
			90°	135°	180°	135°	180°
#4	2	2"	4½"	4½"	5"	2⅝"	3"
	3	3"	5"	5¼"	6"	3"	4"
#5	2	2½"	5⅝"	5⅝"	5⅝"	3⅝"	3¾"
	3	3¾"	6¼"	6½"	7"	3⅞"	5"
#6	1	4½"	12"	7¾"	8¼"	4⅝"	6"

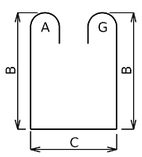
Applicable for all grades of steel.

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

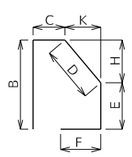








SHAPE 37S



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)

		Substructure		Superstructure			Entire Bridge	
	Size	Plain	Epoxy	Slab	Barrier	Slip Form	Plain	Epoxy
By Size	4	19	0	401	0	0	19	401
	5	334	0	2,912	5,618	344	334	8,874
	6	280	0	14,060	0	0	280	14,060
	7	0	0	8,702	0	0	0	8,702
	8	651	0	2,695	0	0	651	2,695
By Type		1,284	0	28,770	5,618	344	1,284	34,732

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

All bars shall be ASTM A706 Grade 60.

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Detailed May 2025
Checked May 2026

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

H:\P\224097 - Madison County Bridge Package\003-JSE0037-T0093\Bridge\Final Bridge\Microstation\B_A9729_023_JSE0037_Bending Diagrams and Reinforcing Steel Totals.dgn 9:38:15 AM 9/24/2026

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/24/2026
ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 23
COUNTY MADISON
JOB NO. JSE0037
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9729

DESCRIPTION | DATE

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

OATES ASSOCIATES
MISSOURI DESIGN FIRM PE-001166
St. Louis 720 Olive Street, Suite 700 St. Louis, MO 63101 314.588.8281
St. Charles 820 South Main, Suite 309 St. Charles, MO 63301 636.493.8277
Collinsville 1101 Lenter Court, Suite 1 Collinsville, IL 62234 618.345.5200
Belleville 100 West Main Street, 2nd Floor Belleville, IL 62220 618.416.6688
www.oatesassociates.com

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
		SUBSTRUCTURE													
		INT. BENT 2													
15	6 D200	BEAM		20		2 6.000							2 6	2 6	56
8	8 H200	BEAM		18		25 3.000							27 1	27 1	579
4	8 H201	BEAM		18		4 11.000							6 9	6 9	72
4	6 H202	BEAM		20		25 3.000							25 3	25 3	152
8	6 H203	BEAM		10S			22.000	2 7.750					6 4	6 0	72
24	5 U200	BEAM		13S		2 9.000	2 9.000	2 9.000	2 9.000				12 0	11 8	292
5	5 U201	BEAM		10S			2 9.000	2 9.000					8 3	8 1	42
8	4 U202	BEAM		10S			6.000	2 9.000					3 9	3 7	19
		SUPERSTRUCTURE													
		END BENT 1													
8	6 F100	WING BRACE	E	23		20.000	4 4.000	20.000	16.375	11.500	16.375	11.500	7 8	7 7	91
3	6 F101	DIAPHRAGM	E	21		7 8.000	2 9.000				2 7.000	11.250	10 5	10 4	47
8	6 F102	WING BRACE	E	23		20.000	6 1.000	20.000	11.500	16.375	11.500	16.375	9 5	9 4	112
3	6 F103	DIAPHRAGM	E	21			2 9.000	8 7.000			2 7.000	11.250	11 4	11 1	50
12	8 H100	BEAM/DIAPHRAGM	E	20		34 6.000							34 6	34 6	1105
4	8 H101	BEAM	E	18		6 3.000							8 1	8 1	86
7	6 H102	BEAM/DIAPHRAGM	E	20		34 6.000							34 6	34 6	363
6	6 H103	DIAPHRAGM	E	20		6 5.000							6 5	6 5	58
3	6 H104	DIAPHRAGM	E	20		5 6.000							5 6	5 6	25
4	6 H105	DIAPHRAGM	E	20		5 11.000							5 11	5 11	36
2	6 H106	DIAPHRAGM	E	20		5 5.000							5 5	5 5	16
4	5 H107	STRAND TIE	E	20		3 11.000							3 11	3 11	16
44	6 H108	WINGWALL	E	6S		11 1.000	10.500						12 0	11 10	782
20	5 U100	BEAM	E	37S		4 11.000	2 11.000						13 9	13 6	282
16	4 U101	BEAM	E	13S		2 11.000	2 8.000	2 11.000	2 8.000				11 11	11 8	125
35	6 U102	DIAPHRAGM	E	19S		2 11.000	4 5.000						7 4	7 2	377
27	5 U103	DIAPHRAGM	E	37S		3 0.000	2 4.750						9 4	9 2	258
27	6 U104	DIAPHRAGM	E	19S		2 1.000	2 11.000						5 0	4 10	196
30	5 U105	DIAPHRAGM	E	19S		2 0.000	15.000						3 3	3 2	99
14	5 V100	BEAM	E	17		4 11.000							5 6	5 6	80
12	6 V101	DIAPHRAGM	E	20		2 1.000							2 1	2 1	38
44	6 V102	WINGWALL	E	20		6 6.000							6 6	6 6	430
		END BENT 3													
8	6 F300	WING BRACE	E	23		20.000	4 4.000	20.000	16.375	11.500	11.500	16.375	7 8	7 7	91
3	6 F301	DIAPHRAGM	E	21		4 6.000	2 9.000				2 7.000	11.250	7 3	7 2	32
8	6 F302	WING BRACE	E	23		20.000	6 1.000	20.000	11.500	16.375	16.375	11.500	9 5	9 4	112
3	6 F303	DIAPHRAGM	E	21		5 4.000	2 9.000				2 7.000	11.250	8 1	7 10	35
12	8 H300	BEAM/DIAPHRAGM	E	20		28 1.000							28 1	28 1	900
4	8 H301	BEAM	E	18		4 9.000							6 7	6 7	70
7	6 H302	BEAM/DIAPHRAGM	E	20		28 1.000							28 1	28 1	295
6	6 H303	DIAPHRAGM	E	20		6 5.000							6 5	6 5	58
3	6 H304	DIAPHRAGM	E	20		5 6.000							5 6	5 6	25
4	6 H305	DIAPHRAGM	E	20		2 9.000							2 9	2 9	17
2	6 H306	DIAPHRAGM	E	20		2 3.000							2 3	2 3	7
4	5 H307	STRAND TIE	E	20		3 11.000							3 11	3 11	16
36	6 H308	WINGWALL	E	6S		11 1.000	10.500						12 0	11 10	640
16	8 H309	WINGWALL	E	20		12 6.000							12 6	12 6	534
16	5 U300	BEAM	E	37S		4 11.000	2 11.000						13 9	13 6	225
16	4 U301	BEAM	E	13S		2 11.000	2 8.000	2 11.000	2 8.000				11 11	11 8	125
35	6 U302	DIAPHRAGM	E	19S		2 11.000	4 5.000						7 4	7 2	377
21	5 U303	DIAPHRAGM	E	37S		3 0.000	2 4.750						9 4	9 2	201
21	6 U304	DIAPHRAGM	E	19S		2 2.000	2 11.000						5 1	4 11	155
24	5 U305	DIAPHRAGM	E	19S		2 0.000	15.000						3 3	3 2	79
14	5 V300	BEAM	E	17		4 11.000							5 6	5 6	80
12	6 V301	DIAPHRAGM	E	20		2 2.000							2 2	2 2	39
44	6 V302	DIAPHRAGM	E	20		6 3.000							6 3	6 3	413

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
		INT. BENT 2													
		DIAPHRAGM													
6	6 H400	DIAPHRAGM	E	20		5 6.000							5 6	5 6	50
6	6 H401	DIAPHRAGM	E	20		5 10.000							5 10	5 10	53
12	4 H402	DIAPHRAGM	E	20		6 6.000							6 6	6 6	52
4	5 H403	STRAND TIE	E	20		3 11.000							3 11	3 11	16
4	5 H404	STRAND TIE	E	20		2 11.000							2 11	2 11	12
24	4 U400	DIAPHRAGM	E	28S			15.000	3 1.000	2 0.000				6 4	6 2	99
12	6 U401	DIAPHRAGM	E	28S			22.000	3 1.000	2 4.000				7 3	6 11	125
16	5 U402	DIAPHRAGM	E	6S		2 8.000	12.000						3 8	3 7	60
8	5 V400	DIAPHRAGM	E	20		3 2.000							3 2	3 2	26
		SLAB													
206	6 S1	SLAB	E	20		26 5.000							26 5	26 5	8174
36	6 S2	SLAB	E	20	2	2 0.000							2 0	2 0	741
		INCREMENT ▬				25 5.000							25 5	25 5	
		16.500 INCH													
224	5 S3	SLAB	E	20		3 1.000							3 1	3 1	720
69	7 S4	SLAB	E	20		40 3.000							40 3	40 3	5677
20	7 S5	SLAB	E	20		50 0.000							50 0	50 0	2044
20	7 S6	SLAB	E	20		24 0.000							24 0	24 0	981
18	5 S7	SLAB	E	20		39 6.000							39 6	39 6	742
		TYPE H BARRIER													
10	5 K1	BARRIER	E	27S		3 5.000	9.250	5.375	2 11.750		5.250	1.000	7 7	7 5	77
28	5 K2	BARRIER	E	27S		3 5.000	9.250	14.500	2 2.750		14.250	2.750	7 8	7 5	217
2	5 K3	BARRIER	E	27S		22.500	9.250	14.500	7.750	12.000	14.250	2.750	5 6	5 3	11
64	5 K4	BARRIER	E	19S		2 5.000	10.000						3 3	3 2	211
20	5 K5	BARRIER	E	38S				19.250	9.500	8.250	18.750	4.250	3 1	3 0	63
44	5 K6	BARRIER	E	21S			2 4.875	10.000			2 4.250	6.000	3 3	3 1	142
14	5 K7	BARRIER	E	20		13 5.000							13 5	13 5	196
10	5 K8	BARRIER	E	27S		22.500	9.250	5.375	16.750	12.000	5.250	1.000	5 6	5 2	54
14	5 K9	BARRIER	E	27S		22.500	9.250	17.250	5.000	12.000	17.000	3.250	5 6	5 3	77
28	5 K10	BARRIER	E	20		5 6.000							5 6	5 6	161
14	5 K11	BARRIER	E	20		12 11.000							12 11	12 11	189
214	5 R1	BARRIER	E	14S		2 5.000	6.500	2 5.500			2 5.000	5.500	5 5	5 3	1172
214	5 R2	BARRIER	E	19S		20.500	9.500						2 6	2 5	539
214	5 R3	BARRIER	E	27S			9.500	15.250	5.000	12.000	15.000	3.000	3 6	3 4	744
16	5 R4	BARRIER	E	20		41 1.000							41 1	41 1	686
32	5 R5	BARRIER	E	20		11 9.000							11 9	11 9	392
8	5 R6	BARRIER	E	20		40 11.000							40 11	40 11	341
8	5 R7	BARRIER	E	20		41 5.000							41 5	41 5	346
		SLIP FORM BARRIER													
24	5 C1	BARRIER	E	20		12 0.000							12 0	12 0	300
4	5 C2	BARRIER	E	20		10 6.000							10 6	10 6	44

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. 23.

Detailed Nov. 2025
Checked May 2026

Reinforcing steel (ASTM A706 Grade 60) fy = 60,000 psi

BILL OF REINFORCING STEEL

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

Sheet No. 24 of 30

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.

STATE OF MISSOURI — JASON A. DREYER — NUMBER PE-2013038971 — PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/24/2026

ROUTE M | STATE MO

DISTRICT BR | SHEET NO. 24

COUNTY MADISON

JOB NO. JSE0037

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9729

DESCRIPTION | DATE

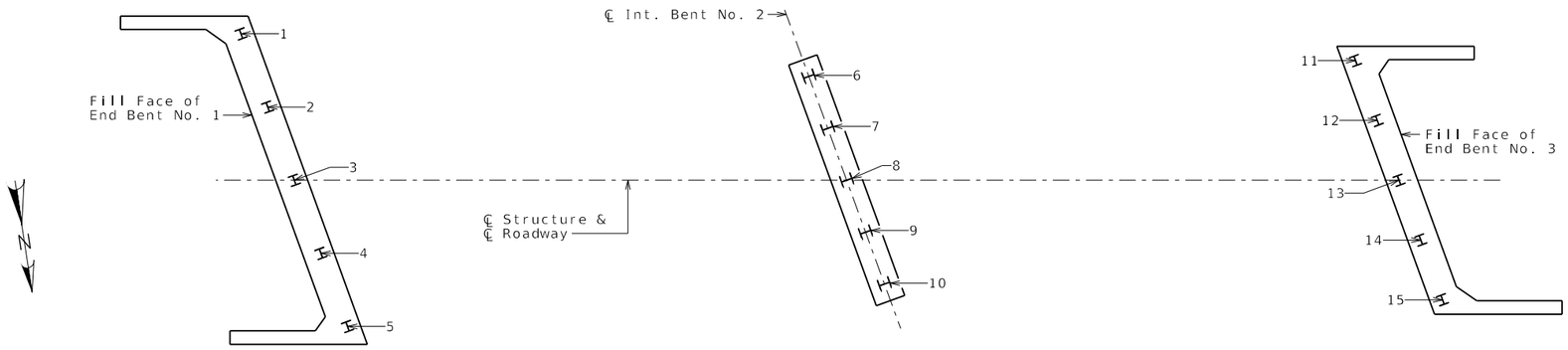
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JEFFERSON CITY, MO 65102
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MISSOURI DESIGN FIRM PE-001166



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

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

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

This sheet to be completed by MoDOT construction personnel.

AS-BUILT PILE DATA

Detailed Nov. 2025
Checked Apr. 2026

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

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 9/24/2026
ROUTE: M | STATE: MO
DISTRICT: BR | SHEET NO.: 25
COUNTY: MADISON
JOB NO.: JSE0037
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9729

DESCRIPTION	DATE

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BORING LOG LEGEND AND NOMENCLATURE

Depth is in feet below ground surface. **Elevation** is in feet in reference to sea level, site datum, or as otherwise noted.

Sample Type

- **SS** Split-spoon sample, disturbed, obtained by driving a 2-inch-O.D. split-spoon sampler (ASTM D 1586).
- **NX** Diamond core bit, nominal 2-inch-diameter rock sample (ASTM D 2113).
- **NQ** Diamond core bit, nominal 1 7/8-inch diameter rock sample
- **ST** Thin-walled (Shelby) tube sample, relatively undisturbed, obtained by pushing a 3-inch-diameter, tube (ASTM D 1587).
- **CS** Continuous sample tube system, relatively undisturbed, obtained by split-barrel sampler in conjunction with auger advancement.
- **SV** Shear vane, field test to determine strength of cohesive soil by pushing or driving a 2-inch-diameter vane, and then shearing by torquing soil in existing and remolded states (ASTM D 2573).
- **BS** Bag sample, disturbed, obtained from cuttings.
- **MC** Modified California Sampler, disturbed, obtained by driving a 2.5-inch O.D. ring-lined split-barrel sampler (ASTM D 3550).

Recovery is expressed as the sample length recovered / the total length pushed, driven, or cored.

Blows Numbers indicate blows per 6 inches of split-spoon sampler penetration when driven with a 140-pound hammer falling freely 30 inches. The number of total blows obtained for the second and third 6-inch increments is the N value (Standard Penetration Test or SPT) in blows per foot (ASTM D 1586). Practical refusal is considered to be 50 or more blows without achieving 6 inches of penetration and is expressed as a ratio of 50 to actual penetration, e.g., 50/2 (50 blows for 2 inches).

For analysis, the N value is used when obtained by a cathead and rope system. When obtained by an automatic hammer, the N value may be increased by a factor of 1.3.

Vane Shear Strength is expressed as the peak strength (existing state) / the residual strength (remolded state).

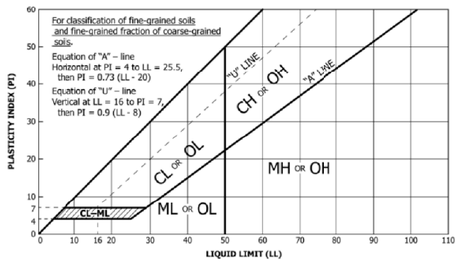
Description indicates soil constituents and other classification characteristics (ASTM D 2488) and the Unified Soil Classification (ASTM D 2487).

SOIL GRAIN SIZE

Soil Component	Particle Size Range
Boulders	> 12 in.
Cobbles	12 in. -3 in.
Gravel	3 in. - #4 sieve (4.75 mm)
Coarse Gravel	3 in. - ¾ in.
Fine Gravel	¾ in. - #4 sieve (4.75 mm)
Sand	#4 sieve (4.75 mm) - #200 sieve (0.075 mm)
Coarse Sand	#4 sieve (4.75 mm) - #10 sieve (2 mm)
Medium Sand	#10 sieve (2 mm) - #40 sieve (0.425 mm)
Fine Sand	#40 sieve (0.425 mm) - #200 sieve (0.075 mm)
Fines (Silt & Clay)	< #200 sieve (0.075 mm)

in – inches
mm – millimeters

PLASTICITY CHART



BORING LOG LEGEND AND NOMENCLATURE

Strength of Cohesive Soils			Density of Granular Soils	
Consistency	*N-Value*	*Unconfined Comp. Strength (ksf)*	*Descriptive Term*	*N-Value*
Very Soft	0 – 2	< 0.50	Very Loose	0 – 4
Soft	3 – 4	0.50 – 1.00	Loose	5 – 10
Medium Stiff	5 – 8	1.0 – 2.0	Medium Dense	11 – 29
Stiff	9 – 15	2.0 – 4.0	Dense	30 – 49
Very Stiff	16 – 30	4.0 – 6.0	Very Dense	Over 50
Hard	Over 30	> 8.0		

ksf – kips per square foot

USCS SOIL CLASSIFICATION

		Major Divisions		Group Symbol	Typical Names
Coarse-Grained Soils (Less than 50% Passing the #200 Sieve)	Gravels	Clean Gravels		GW	Well graded gavels, gravel-sand mixture
				GP	Poorly graded gravels, gravel-sand mixture
		Gravels with fines	Limits plot below "A" line on plasticity chart	GM	Silty gravels, gravel-sand-silt mixture
			Limits plot above "A" line on plasticity chart	GC	Clayey gravels, gravel-sand-clay mixture
	Sands	Clean Sands		SW	Well graded sands, gravelly sands
				SP	Poorly graded sands, gravelly sands
		Sands with fines	Limits plot below "A" line on plasticity chart	SM	Silty sands, sand-silt mixture
			Limits plot above "A" line on plasticity chart	SC	Clayey sands, sand-clay mixture
Fine-Grained Soils (50% or More Passing #200 Sieve)	Silts	Silts of low plasticity (LL<50)		ML	Inorganic silts, clayey silts
		Silts of high plasticity (LL≥50)		MH	Inorganic silts, elastic silts
	Clays	Clays of low plasticity (LL<50)		CL	Inorganic lean clays, sandy and silty clays
		Clays of high plasticity (LL≥50)		CH	Inorganic fat clays, sandy clays
	Organic Silts and Clays	Organic silts and clays of low plasticity (LL<50)		OL	Organic silts and lean clays
		Organic silts and clays of high plasticity (LL≥50)		OH	Organic silts and fat clays
Organic Soils		Primarily organic matter		PT	Peat

*Table per Unified Soil Classification System (USCS)

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/24/2026
ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 26
COUNTY MADISON
JOB NO. JSE0037
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9729

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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BORING DATA
Note: For locations of borings, see Sheet No. 1

Detailed Nov. 2025
Checked Jun. 2026

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

H:\P\224097 - Madison County Bridge Package\003-JSE0037-T0093\Bridge\Final Bridge\Microstation\B_A9729_026_JSE0037_Boring Data.dgn 9:38:19 AM 9/24/2026

BORING LOG LEGEND AND NOMENCLATURE

SECONDARY SOIL CONSTITUENT RELATIVE COMPOSITION

If Primary Soil Constituent is	Clay or Silt		Sand or Gravel	
	Trace	0-5%	Trace	0-5%
	Few	6-15%	With	6-12%
	With	>15%	Silty/Clayey/Gravelly/Sandy	>12%
	Sandy/Gravelly	>30%		

Stratigraphic Breaks may be observed or interpreted and are indicated by a dashed line (inferred) or solid line (observed). Transition between described materials may be gradual.

Laboratory Test Results

- Natural moisture content (ASTM D 2216) in percent.
- Dry density in pounds per cubic foot (pcf).
- Hand penetrometer value of apparently intact cohesive sample in kips per square foot (ksf).
- Unconfined compressive strength (ASTM D 2166) in ksf.
- Liquid and Plastic Limits (ASTM D 4318) in percent.

Rock Quality Designation (RQD) is the ratio between the total length of core segments 4 inches or more and the total length of core drilled. RQD indicates in-situ rock quality as follows:

Excellent	90 - 100%
Good	75 – 90%
Fair	50 – 75%
Poor	25 – 50%
Very Poor	0 – 25%

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St. Charles, Missouri 63301
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ROCK CORE DESCRIPTIONS

Hardness	
Very weak	Easily indented with the thumb
Weak	Broken by hand into pieces
Moderate	Easily scratched with a knife
Strong	Difficult to scratch with a knife
Very Strong	Cannot be scratched with a knife

Voids	
Dense	Usually not discernible with naked eye
Pit (pitted)	Discernible to 1/4 in.
Vug (vuggy)	1/4 in. to diameter of the core
Cavity	Larger than 6 in. in diameter

in. – inch

Mass Bedding	
Parting	Thinner than 0.02 ft (< 0.60 cm)
Band	0.02 ft - 0.2 ft (0.60 - 6.1 cm)
Thin Bed	0.2 ft - 0.5 ft (6.1 - 15.2 cm)
Medium Bed	0.5 ft - 1.0 ft (15.2 - 30.5 cm)
Thick Bed	1.0 ft - 2.0 ft (30.5 - 61.0 cm)
Massive	Thicker than 2.0 ft (> 61.0 cm)

ft – feet
cm – centimeter

Weathering	
Fresh	No visible signs of decompositions or discoloration
Slightly Weathered	Slight discoloration inward from open fractures
Moderately Weathered	Discoloration throughout, some loss of strength, texture intact
Highly Weathered	Specimens easily broken by hand, texture intact

Crystallinity*	
Aphanitic – Igneous Micritic – Carbonates	Crystals cannot be distinguished with naked eye
Very Finely Crystalline	Crystals are barely discernible with naked eye
Finely Crystalline	Crystals are easily discernible with naked eye
Medium Crystalline	Crystals are medium size; up to 1/8 in. in diameter
Coarsely Crystalline	Crystals are 1/8 in. to 1/4 in. in diameter
Very Coarsely Crystalline	Crystals are larger than 1/4 in. in diameter

*Use grain size for Sandstones
in. – inch

Geologic Definitions

Argillaceous – A term applied to all rocks or substances composed of clay minerals or having a notable clay portion (> 30%) in composition.

Fissile– A property of splitting along closely spaced parallel planes.

Calcareous – A term applied to rocks containing calcium carbonate.

Fossiliferous – A rock that contains noticeable quantities of fossils.

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/24/2026
ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 27
COUNTY MADISON
JOB NO. JSE0037
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9729

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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JEFFERSON CITY, MO 65102
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MISSOURI DESIGN FIRM PE-001166

Detailed Nov. 2025
Checked Jun. 2026

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

BORING DATA

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

Missouri Department of Transportation
Construction and Materials

BORING NO. B-101
Page 1 of 2

Job No.: JSE0037 (SCI No. 2024-1686.12)
County: Madison
Route: M
Design: A9729
Skew: 20 degrees
Location: Madison County
Bent: East Abutment
Logged By: Tina Cowan
Operator: Midwest Drilling, Inc.
Station: 422+56.00
Northing: 556370.11
Date of Work: 07/21/25
Offset: 4.47 feet LT
Easting: 885659.75
Depth to Water: 12.0
Elevation: 624.5
Requested Northing: N/A
Depth Hole Open: 41.0
Requested Station: N/A
Requested Easting: N/A
Time Change: 0
Requested Offset: N/A
Equipment: CME 550X ,Split-Spoon Sampler
Requested Elevation:
Location Note: Approx. 100 feet west of the intersection of Hwy M and Madison 301
Drill No.: 266443
Hammer Efficiency: 90.3%
Drilling Method: CFA, HSA, and mud rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0		0.0-0.5' 6" ASPHALTIC CONCRETE							
		0.5-1.0' 5.5" CRUSHED ROCK		X	33	4-4-4 (12)			MC = 14.2%
		1.0-3.0' (FILL) Brown, FAT CLAY, with fine- to coarse-grained sand, trace fine gravel							
5		3.0-5.5' (CH) Brown, FAT CLAY, few fine-grained sand, trace fine gravel	620	X	67	2-3-4 (11)			MC = 14.4%
		5.5-14.0' (SC) Brown, CLAYEY SAND WITH GRAVEL, fine- to coarse-grained, gravel is fine to coarse, clay is lean		X	44	7-7-6 (20)			Sieve Analysis Sieve # % Passing 3/4 inch 100.0 1/2-inch 93.4 3/8-inch 87.0 #4 74.7 #10 60.6 #20 50.1 #40 38.2 #60 24.5 #100 17.0 #140 14.2 #200 12.6
10			615	X	11	3-2-7 (14)			
15		14.0-14.5' (CL) Brown and gray, LEAN CLAY	610	X	89	1-1-0 (2)			Sieve Analysis Sieve # % Passing 1-inch 100.0 3/4-inch 91.9 1/2-inch 88.9 3/8-inch 84.7 #4 74.0 #10 61.7 #20 52.5 #40 47.9 #60 44.5 #100 41.0 #140 38.5 #200 36.5
		14.5-17.0' (SC) Brown, CLAYEY SAND WITH GRAVEL, fine- to coarse-grained, gravel is fine to coarse, clay is lean							
		15.0' Switched to hollow stem augers							
		17.0-37.0' (SM) Brown and gray, SILTY SAND, fine- to coarse-grained							
20		19.3' *Percent passing the number 200 sieve: 13.3%*	605	X	44	5-5-3 (12)			
		20.0' Started mud rotary							
25		24.3' *Percent passing the number 200 sieve: 18.5%*	600	X	22	3-0-0 (0)			
30			595	X	56	7-7-13 (30)			
		32.0' Interbedded with weathered sandstone							
35			590	X	82	37-50/0.4'			

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: Modified State Plane **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:** 1.0000814052
Coordinate Datum: NAD 1983 **Coordinate Units:** U.S. Survey Feet

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LETTER BOREHOLE - MODOT 20150728.GDT - 4/8/25 12:10 - N:\LABORATORY\ACTIVE GINT PROJECTS\2024-1686.12 JSE0037 ROUTE M OVER EAST FORK BIG CREEK.GPJ

Missouri Department of Transportation
Construction and Materials

BORING NO. B-101
Page 2 of 2

Job No.: JSE0037 (SCI No. 2024-1686.12)
County: Madison
Route: M
Design: A9729
Skew: 20 degrees
Location: Madison County
Bent: East Abutment
Logged By: Tina Cowan
Operator: Midwest Drilling, Inc.
Station: 422+56.00
Northing: 556370.11
Date of Work: 07/21/25
Offset: 4.47 feet LT
Easting: 885659.75
Depth to Water: 12.0
Elevation: 624.5
Requested Northing: N/A
Depth Hole Open: 41.0
Requested Station: N/A
Requested Easting: N/A
Time Change: 0
Requested Offset: N/A
Equipment: CME 550X ,Split-Spoon Sampler
Requested Elevation:
Location Note: Approx. 100 feet west of the intersection of Hwy M and Madison 301
Drill No.: 266443
Hammer Efficiency: 90.3%
Drilling Method: CFA, HSA, and mud rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
35		17.0-37.0' (SM) Brown and gray, SILTY SAND, fine- to coarse-grained *(continued)*							
		37.0-41.0' WEAK ROCK, sandstone and dolomite	585	X	73	23-49-50/0.3'			
40									
		41.0' Auger refusal at 41.1 feet on dolomite Bottom of borehole at 41.1 feet.		X	0	50/0.1'			

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: Modified State Plane **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:** 1.0000814052
Coordinate Datum: NAD 1983 **Coordinate Units:** U.S. Survey Feet

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LETTER BOREHOLE - MODOT 20150723.GDT - 4/8/25 12:10 - N:\LABORATORY\ACTIVE GINT PROJECTS\2024-1686.12 JSE0037 ROUTE M OVER EAST FORK BIG CREEK.GPJ

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 9/24/2026
ROUTE: M STATE: MO
DISTRICT: BR SHEET NO.: 28
COUNTY: MADISON
JOB NO.: JSE0037
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9729

DESCRIPTION | DATE

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

OATES ASSOCIATES
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Belleville: 100 West Main Street, 2nd Floor, Belleville, IL 62220, 618.416.4488
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BORING DATA

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

Detailed Nov. 2025
Checked Jun. 2026

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

H:\P\224097 - Madison County Bridge Package\003-JSE0037-T0093\Bridge\Final Bridge\Microstation\B_A9729_028_JSE0037_Boring Data.dgn 9:40:06 AM 9/24/2026

Missouri Department of Transportation
Construction and Materials

BORING NO. B-201
Page 1 of 2

Job No.: JSE0037 (SCI No. 2024-1686.12) **County:** Madison **Route:** M
Design: A9729 **Skew:** 20 degrees **Location:** Madison County
Bent: Interior Bent **Logged By:** Tina Cowan **Operator:** Midwest Drilling, Inc.
Station: 423+25.80 **Northing:** 556404.35 **Date of Work:** 07/16/25-07/17/25
Offset: 19.64 feet RT **Easting:** 885594.31 **Depth to Water:** 2.0
Elevation: 614.4 **Requested Northing:** N/A **Depth Hole Open:** 65.0
Requested Station: N/A **Requested Easting:** N/A **Time Change:** 0
Requested Offset: N/A **Equipment:** CME 550X ,Split-Spoon Sampler, NQ
Requested Elevation: **Location Note:** Approx. 100 feet west of the intersection of Hwy M and Madison 301
Drill No.: 266443 **Hammer Efficiency:** 90.3% **Drilling Method:** Tricone bit with casing advancer

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0		0.0-8.0' (GP) Brown, POORLY GRADED GRAVEL, fine to coarse, trace fine- to coarse-grained sand			33	4-2-2 (6)			
			610		56	37-24-21 (68)			
5					39	18-21-27 (72)			
		8.0-12.0' (SM) Brown, SILTY SAND, fine- to coarse-grained sand, few fine gravel 9.3' *Percent passing the number 200 sieve: 16.8%*	605		39	6-9-11 (30)			
10									
		12.0-18.0' (SC) Brown, CLAYEY SAND WITH GRAVEL, fine- to coarse-grained, gravel is fine to coarse							
			600		44	4-12-10 (33)			Sieve Analysis Sieve # % Passing 1-inch 100.0 3/4-inch 93.7 1/2-inch 92.0 3/8-inch 87.1 #4 72.0 #10 56.2 #20 43.9 #40 35.7 #60 29.2 #100 23.3 #140 19.6 #200 16.8
15									
		18.0-21.0' WEAK ROCK, likely dolomite	595		0	50/0.3'			
20									
		21.0-21.5' DOLOMITE: Gray, weak, highly weathered, fractured, with chert 21.5-35.0' (SM) SILTY SAND - *Estimated material got washed away during coring*	590		9	(9)	Qu Test Results UCS = 393 ksf MC = 0% γ_{moist} = 150.4 pcf		
25									
			585		0	(0)			
30									
			580		0	(0)			
35									

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: Modified State Plane **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:** 1.0000814052
Coordinate Datum: NAD 1983 **Coordinate Units:** U.S. Survey Feet

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LETTER BOREHOLE - MODOT 20150728.GDT - 4/8/23 12:10 - N:\LABORATORY\ACTIVE GINT PROJECTS\2024-1686.12 JSE0037 ROUTE M OVER EAST FORK BIG CREEK.GPJ

Missouri Department of Transportation
Construction and Materials

BORING NO. B-201
Page 2 of 2

Job No.: JSE0037 (SCI No. 2024-1686.12) **County:** Madison **Route:** M
Design: A9729 **Skew:** 20 degrees **Location:** Madison County
Bent: Interior Bent **Logged By:** Tina Cowan **Operator:** Midwest Drilling, Inc.
Station: 423+25.80 **Northing:** 556404.35 **Date of Work:** 07/16/25-07/17/25
Offset: 19.64 feet RT **Easting:** 885594.31 **Depth to Water:** 2.0
Elevation: 614.4 **Requested Northing:** N/A **Depth Hole Open:** 65.0
Requested Station: N/A **Requested Easting:** N/A **Time Change:** 0
Requested Offset: N/A **Equipment:** CME 550X ,Split-Spoon Sampler, NQ
Requested Elevation: **Location Note:** Approx. 100 feet west of the intersection of Hwy M and Madison 301
Drill No.: 266443 **Hammer Efficiency:** 90.3% **Drilling Method:** Tricone bit with casing advancer

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
35		35.0-37.0' (SP-SM) Brown, POORLY GRADED SAND WITH SILT, fine- to coarse-grained sand 36.8' *Percent passing the number 200 sieve: 6.9%*			100	1-4-4 (12)			
40		37.0-42.0' (SM) Brown, SILTY SAND WITH GRAVEL, fine- to coarse-grained, gravel is fine to coarse	575						
		42.0-52.0' (SM) Brown, SILTY SAND, fine- to coarse-grained sand, trace fine gravel 44.3' *Percent passing the number 200 sieve: 12.2%*	570		50	3-5-7 (18)			
45									
50		48.8' 3" LEAN CLAY 49.0' No gravel	565		83	10-8-18 (39)			Sieve Analysis Sieve # % Passing 1/2-inch 100.0 3/8-inch 88.2 #4 85.0 #10 78.6 #20 70.4 #40 63.1 #60 50.9 #100 37.3 #140 29.5 #200 23.8
		52.0-57.0' (SM) Brown, SILTY SAND WITH GRAVEL, fine- to coarse-grained, gravel is fine to coarse	560		50	17-13-10 (35)			
55									
		57.0-63.5' (SC) Tan and gray, CLAYEY SAND, fine- to coarse-grained, trace fine gravel, clay is lean 59.3' *Percent passing the number 200 sieve: 19.9%*	555		50	1-4-12 (24)			
60									
		63.5-65.0' WEAK ROCK, likely dolomite	550		0	50/0.1'			
65		65.0' Auger refusal on dolomite at 65.0 feet. Bottom of borehole at 65.0 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: Modified State Plane **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:** 1.0000814052
Coordinate Datum: NAD 1983 **Coordinate Units:** U.S. Survey Feet

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LETTER BOREHOLE - MODOT 20150723.GDT - 4/8/23 12:10 - N:\LABORATORY\ACTIVE GINT PROJECTS\2024-1686.12 JSE0037 ROUTE M OVER EAST FORK BIG CREEK.GPJ

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/24/2026
ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 29
COUNTY MADISON
JOB NO. JSE0037
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9729
DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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OATES ASSOCIATES
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636.493.0277

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Detailed Nov. 2025
Checked Jun. 2026

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

Sheet No. 29 of 30

BORING DATA

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

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Missouri Department of Transportation
Construction and Materials

BORING NO. B-301
Page 1 of 2

Job No.: JSE0037 (SCI No. 2024-1686.12) **County:** Madison **Route:** M
Design: A9729 **Skew:** 20 degrees **Location:** Madison County
Bent: West Abutment **Logged By:** Tina Cowan **Operator:** Midwest Drilling, Inc.
Station: 423+82.66 **Northing:** 556389.76 **Date of Work:** 07/21/25-07/22/25
Offset: 3.67 feet LT **Easting:** 885534.62 **Depth to Water:** 12.0
Elevation: 624.5 **Requested Northing:** N/A **Depth Hole Open:** 43.5
Requested Station: N/A **Requested Easting:** N/A **Time Change:** 0
Requested Offset: N/A **Equipment:** CME 550X ,Split-Spoon Sampler
Requested Elevation: **Location Note:** Approx. 100 feet west of the intersection of Hwy M and Madison 301
Drill No.: 266443 **Hammer Efficiency:** 90.3% **Drilling Method:** CFA, HSA, and mud rotary

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Index Tests
0	0.0-0.5' 6" ASPHALTIC CONCRETE 0.5-1.0' (FILL) Crushed rock and sand					
	1.0-3.0' (FILL) Brown, FAT CLAY, with fine- to coarse-grained sand, trace fine gravel			39	4-3-3 (9)	MC = 10.5%
5	3.0-8.0' (FILL) Brown, LEAN CLAY, with fine- to coarse-grained sand, trace fine gravel	620		67	4-3-3 (9)	LL = 23 PL = 15 MC = 8.7%
				67	3-2-2 (6)	LL = 24 PL = 16 MC = 10.9%
10	8.0-12.0' (SC) Brown, CLAYEY SAND, fine- to coarse-grained, trace fine gravel, clay is lean 9.3' *Percent passing the number 200 sieve: 31.9%*	615		28	2-1-2 (5)	
15	12.0-22.0' (SP-SC) Brown, POORLY GRADED SAND WITH CLAY AND GRAVEL, fine- to coarse-grained, gravel is fine, clay is lean 13.5' Swtiched to hollow stem augers	610		33	9-16-8 (36)	Sieve Analysis Sieve # % Passing 1-inch 100.0 3/4-inch 96.8 1/2-inch 86.8 3/8-inch 79.4 #4 57.7 #10 39.0 #20 27.2 #40 19.7 #60 15.1 #100 12.5 #140 11.3 #200 10.5
20	19.0' Begin mud rotary	605		17	7-12-16 (42)	
	22.0-25.5' (SM) Tan, SILTY SAND, fine-grained					
25	24.3' *Percent passing the number 200 sieve: 43.9%* 25.5-31.5' WEAK ROCK, dolomite	600		67	10-10-11 (32)	
30		595		0	50/0.3'	
	31.5-42.5' (SM) Gray and tan, SILTY SAND, fine-grained					
35	34.3' *Percent passing the number 200 sieve:*	590		78	6-7-20 (41)	

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: Modified State Plane **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:** 1.0000814052
Coordinate Datum: NAD 1983 **Coordinate Units:** U.S. Survey Feet

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LETTER BOREHOLE - MODOT 20150728.GDT - 4/6/23 12:11 - N:\LABORATORY\ACTIVE GINT PROJECTS\2024-1686.12 JSE0037 ROUTE M OVER EAST FORK BIG CREEK.GPJ

Missouri Department of Transportation
Construction and Materials

BORING NO. B-301
Page 2 of 2

Job No.: JSE0037 (SCI No. 2024-1686.12) **County:** Madison **Route:** M
Design: A9729 **Skew:** 20 degrees **Location:** Madison County
Bent: West Abutment **Logged By:** Tina Cowan **Operator:** Midwest Drilling, Inc.
Station: 423+82.66 **Northing:** 556389.76 **Date of Work:** 07/21/25-07/22/25
Offset: 3.67 feet LT **Easting:** 885534.62 **Depth to Water:** 12.0
Elevation: 624.5 **Requested Northing:** N/A **Depth Hole Open:** 43.5
Requested Station: N/A **Requested Easting:** N/A **Time Change:** 0
Requested Offset: N/A **Equipment:** CME 550X ,Split-Spoon Sampler
Requested Elevation: **Location Note:** Approx. 100 feet west of the intersection of Hwy M and Madison 301
Drill No.: 266443 **Hammer Efficiency:** 90.3% **Drilling Method:** CFA, HSA, and mud rotary

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Index Tests
35	*27.5%* 31.5-42.5' (SM) Gray and tan, SILTY SAND, fine-grained *(continued)*					
40		585		78	9-12-27 (59)	
	42.5-43.5' WEAK ROCK, likely dolomite			0	50/0.1'	
	43.5' Split-spoon refusal on dolomite at 43.5 feet. Bottom of borehole at 43.5 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: Modified State Plane **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:** 1.0000814052
Coordinate Datum: NAD 1983 **Coordinate Units:** U.S. Survey Feet

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LETTER BOREHOLE - MODOT 20150723.GDT - 4/6/23 12:11 - N:\LABORATORY\ACTIVE GINT PROJECTS\2024-1686.12 JSE0037 ROUTE M OVER EAST FORK BIG CREEK.GPJ

STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/24/2026
ROUTE M | STATE MO
DISTRICT BR | SHEET NO. 30
COUNTY MADISON
JOB NO. JSE0037
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9729

DESCRIPTION | DATE

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

OATES ASSOCIATES
MISSOURI DESIGN FIRM PE-001166

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St. Charles: 820 South Main, Suite 309, St. Charles, MO 63301, 636.493.6277
Belleville: 100 West Main Street, 2nd Floor, Belleville, IL 62220, 618.416.4488, www.oatesassociates.com

Detailed Nov. 2025
Checked Jun. 2026

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

Sheet No. 30 of 30

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

H:\P\224097 - Madison County Bridge Package\003-JSE0037-T0093\Bridge\Final Bridge\Microstation\B_A9729_030_JSE0037_Boring Data.dgn 9:41:22 AM 9/24/2026