DESIGN DESIGNATION

A.A.D.T. - 2027 = 570
A.A.D.T. - 2047 = 630
D.H.V. = 11.2%
T = 6.2%
V = 30 M.P.H.
D = 50% EB / 50% WB
FUNCTIONAL CLASSIFICATION- RURAL MINOR COLLECTOR

NO NEW 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

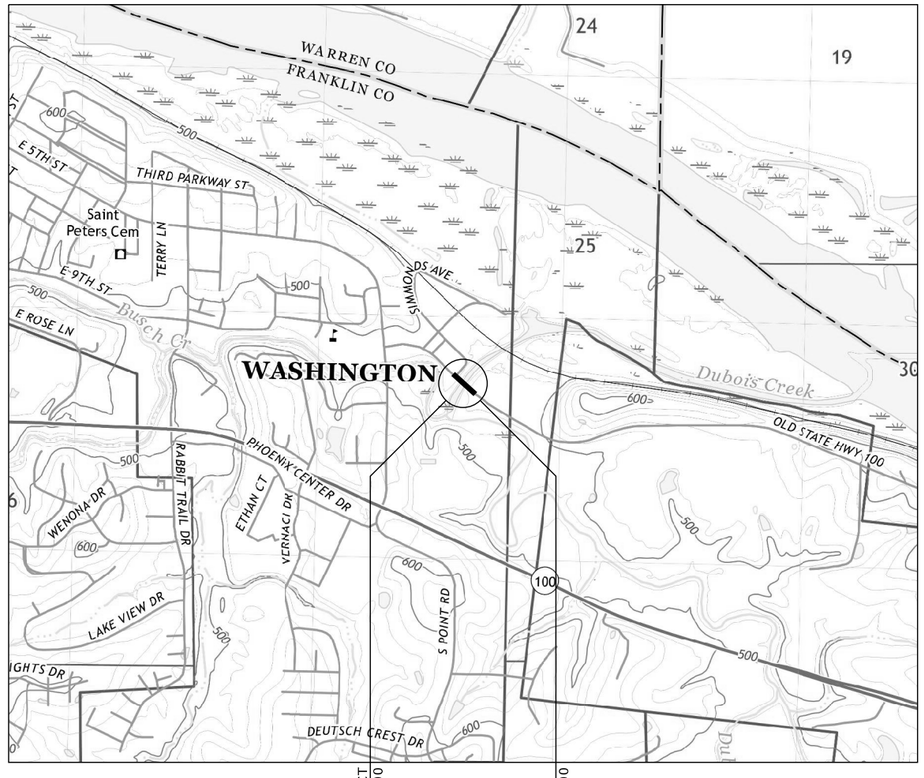
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
FINAL PLANS FOR PROPOSED
ROUTE OLD HIGHWAY 100
FRANKLIN COUNTY



KEY MAP
SHOWING LOCATION OF COUNTY

NOT TO SCALE

S1923 T44N R1W



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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

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(OLD HIGHWAY 100)	1-3
(DUBOIS CREEK)	1-6
BRIDGE DRAWINGS (B)	
A9801	1-36

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA.	90+00.00
END OF PROJECT	STA.	94+00.00
APPARENT LENGTH		400.00 FEET
EQUATIONS AND EXCEPTIONS:		
TOTAL CORRECTIONS		0.00 FEET
NET LENGTH OF PROJECT		400.00 FEET
STATE LENGTH		0.076 MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES		0.6 ACRES

STATE OF MISSOURI
BENTLEY M. GEDRIS
NUMBER PE-2019017818
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 9/22/2026
ROUTE: OLD 100 | STATE: MO
DISTRICT: SL | SHEET NO.: 1
COUNTY: FRANKLIN
JOB NO.: J6S3627
CONTRACT ID.: -
PROJECT NO.: -
BRIDGE NO.: A9801

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
Collinsville Executive Center, Suite 1
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St. Charles, MO 63301
636.493.0177

www.oatesassociates.com

MISSOURI DESIGN FIRM PE-001166

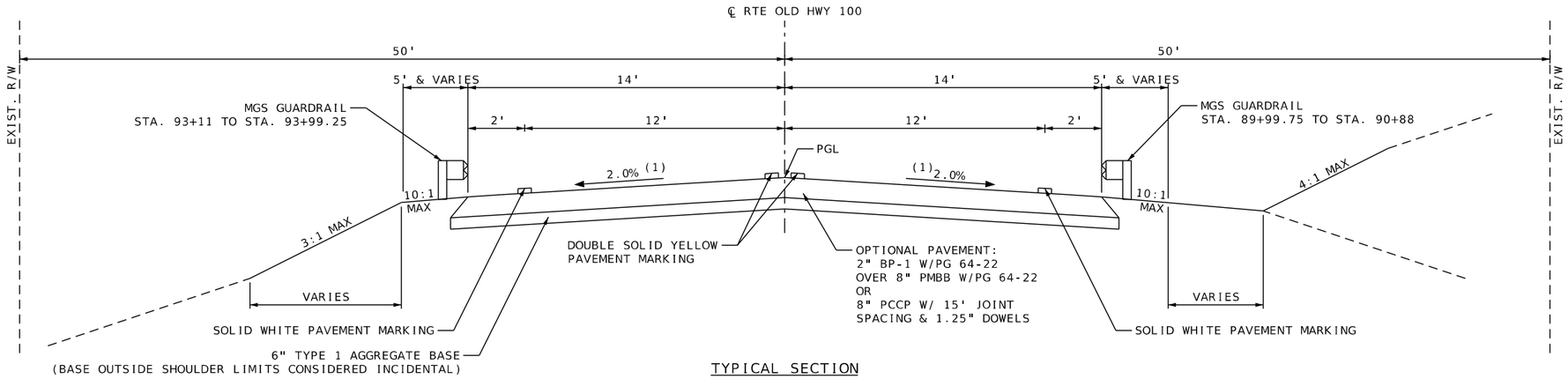
REV.

H:\P\225045 - Old Route 100 over Dubois Creek\CADD\Microstation\CADD Drawings\CADD Sheets\001_TL_J6S3627.dgn 6:51:07 PM 9/22/2026

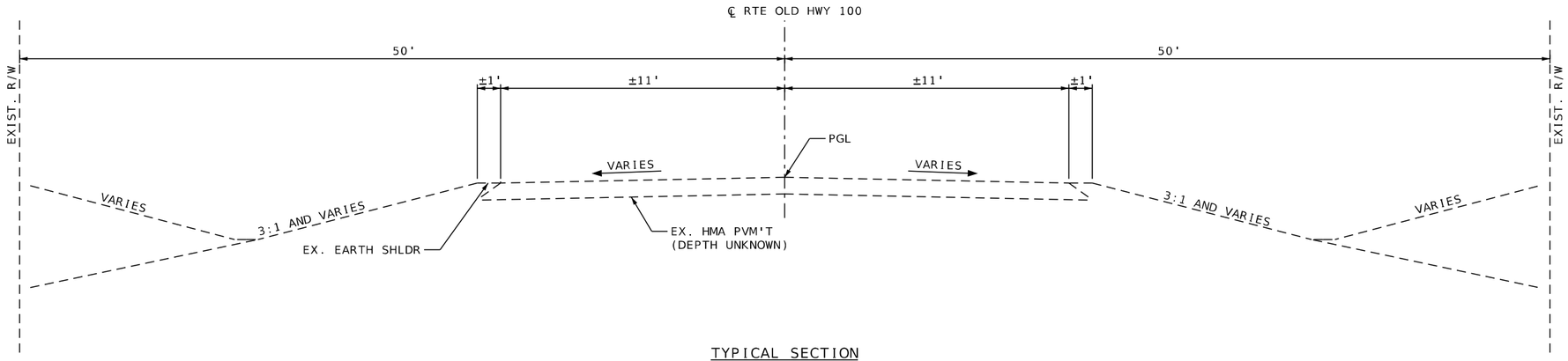
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(1) CROSS-SLOPE TRANSITIONS:
FROM 1.64% TO 2.00% FROM STA. 90+00 TO STA. 90+40 (LT)
FROM 2.00% TO 7.00% FROM STA. 93+25 TO STA. 94+00 (LT)
FROM 0.00% TO -2.00% FROM STA. 90+00 TO STA. 90+40 (RT)
FROM -2.00% TO 1.84% FROM STA. 93+25 TO STA. 94+00 (RT)

APPLICATION RATES:
BP-1 W/PG 64-22 = 1.96 TON/CY
PMBB W/PG 64-22 = 1.96 TON/CY



TYPICAL SECTION
PROPOSED OLD RTE 100
STA. 90+00 TO STA. 94+00
(BRIDGE OMISSION STA. 90+75.27 TO STA. 93+22.73)



TYPICAL SECTION
EXISTING OLD RTE 100
STA. 90+00 TO STA. 94+00
(BRIDGE OMISSION STA. 91+00 TO STA. 93+00)

NOT TO SCALE

TYPICAL SECTIONS SHEET
SHEET 1 OF 1

STATE OF MISSOURI
BENTLEY M. GEDRIS
NUMBER PE-2019017818
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/22/2026

ROUTE	STATE
OLD 100	MO
DISTRICT	SHEET NO.
SL	2

COUNTY
FRANKLIN

JOB NO.
J6S3627

CONTRACT ID.
-

PROJECT NO.
-

BRIDGE NO.
A9801

REV.	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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1 South Church, Suite 200
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618.416.4656
www.oatesassociates.com
MISSOURI DESIGN FIRM PE-001166

EARTHWORK

PLAN SHEET NO.	STATION	CUT (SF)	FILL (SF)	UNCLASSIFIED EXCAVATION (CY)	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE (CY)	COMPACTING EMBANKMENT (CY)	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) (CY)	REMARKS
℄ OLD HIGHWAY 100								
XS 1	90+00	18.8	0.0					
XS 1	90+25	19.0	0.4	17.5	13.1	0.2	12.9	
XS 1	90+48	27.0	0.1	19.6	14.7	0.2	14.5	
XS 1	90+75	21.9	1.7	24.7	18.5	0.9	17.6	
BRIDGE OMISSION								
XS 2	93+23	19.0	5.5					
XS 2	93+50	16.5	3.4	17.9	13.4	4.5	9	
XS 3	93+75	16.0	1.2	15.0	11.3	2.1	9.2	
XS 3	94+00	24.6	0.0	18.8	14.1	0.6	13.5	
℄ DUBOIS CREEK								
XS 2	0+10	297.0	0.0					
XS 2	0+20	456.2	3.8	139.5	104.6	0.7	103.9	
XS 3	0+30	606.2	6.9	196.7	147.6	2.0	145.6	
XS 3	0+40	514.6	12.5	207.6	155.7	3.6	152.1	
XS 4	0+50	595.8	6.5	205.6	154.2	3.5	150.7	
XS 4	0+60	602.7	2.5	221.9	166.5	1.7	164.8	
XS 5	0+70	564.3	0.0	216.1	162.1	0.5	161.6	
XS 5	0+80	431.7	19.0	184.4	138.3	3.5	134.8	
XS 6	0+90	257.7	41.7	127.7	95.8	11.2	84.5	
XS 6	1+00	285.3	33.1	100.6	75.4	13.9	61.6	
			SUB TOTAL	1713.6	-	49.1	-	
			PAY TOTAL	1714	-	50	-	

EARTHWORK NOTES:
1. ESTIMATED SHRINKAGE FACTOR = 25%.

PAVEMENT & ENTRANCE

PLAN SHEET NO.	STATION	STATION	OFFSET	TYPE 1 AGGREGATE FOR BASE (6 IN. THICK) (SY)	OPTIONAL PAVEMENT (SY)	GRAVEL (A) OR CRUSHED STONE (B) (SY)	REMARKS
4	90+00	90+75	LT/RT	262	236.8		WEST OF BRIDGE #A9801
4	93+23	94+00	LT/RT	268	241.8		EAST OF BRIDGE #A9801
4	90+48		LT			56	ENTRANCE
			PAY TOTAL	479	478.6	56	

PAVEMENT NOTES:
1. SEE TYPICAL SECTIONS FOR OPTIONAL PAVEMENT DESIGN

ROCK BLANKET

PLAN SHEET NO.	STATION	ROCK BLANKET FILL (SF)	FURNISHING TYPE 2 ROCK BLANKET (CY)	PLACING TYPE 2 ROCK BLANKET (CY)	REMARKS
℄ DUBOIS CREEK					
XS 2	0+10	270.4			
XS 2	0+20	304.3	106	106	
XS 3	0+30	348.3	121	121	
XS 3	0+40	279.8	116	116	
XS 4	0+50	279.8	104	104	
XS 4	0+60	279.8	104	104	
XS 5	0+70	279.8	104	104	
XS 5	0+80	350.1	117	117	
XS 6	0+90	286.5	118	118	
XS 6	1+00	270	103	103	
		PAY TOTAL	993	993	

PAVEMENT MARKING

PLAN SHEET NO.	STATION	STATION	OFFSET	CLASS 1 PAVEMENT MARKING PAINT (18-MIL, TYPE P BEADS) 4 IN. WHITE (LF)	CLASS 1 PAVEMENT MARKING PAINT (18-MIL, TYPE P BEADS) 4 IN. YELLOW (LF)	REMARKS
4	89+50	94+50	LT	500	500	
4	89+50	94+50	RT	500	500	
			PAY TOTAL	1000	1000	

CONTRACTOR FURNISHED SURVEYING AND STAKING

PAY TOTAL = 1 LUMP SUM

CLEARING AND GRUBBING

PAY TOTAL = 1 ACRE

MOBILIZATION

PAY TOTAL = 1 LUMP SUM

SUBGRADING AND SHOULDERING CLASS 1

PAY TOTAL = 2 STA

POT HOLING UTILITY FACILITIES

PAY TOTAL = 10 EACH

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SUMMARY OF QUANTITIES
SHEET 1 OF 3

STATE OF MISSOURI
BENTLEY M. GEDRIS
NUMBER PE-2019017818
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/22/2026
ROUTE OLD 100 | STATE MO
DISTRICT SL | SHEET NO. 3
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID. -
PROJECT NO. -
BRIDGE NO. A9801

DESCRIPTION	DATE

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

St. Louis 720 Olive St., Suite 700 St. Louis, MO 63101 314.588.8281
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Belleville 1 South Church, Suite 200 Belleville, IL 62220 618.416.4600
www.oatesassociates.com
MISSOURI DESIGN FIRM PE-001166
OATES ASSOCIATES

REV.

EROSION CONTROL

PLAN SHEET NO.	STATION	STATION	OFFSET	PERMANENT EROSION CONTROL GEOTEXTILE (SY)	SILT FENCE (LF)	TYPE C BERM (LF)	ROCK DITCH CHECK (LF)	SEDIMENT REMOVAL (CY)	REMARKS
10	90+74	91+67	LT/RT	949		262			
10	92+05	93+24	LT/RT	1293		340			
10	90+00	90+39	LT		50			1	
10	90+60	90+73	LT		16		6	2	
10	89+93	90+74	RT		85		6	2	
10	93+24	94+04	LT		93		6	2	
10	93+21	94+00	RT		93		6	2	
10	90+20		LT				6	1	
10	90+20		RT				6	1	
10	93+70		LT				6	1	
10	93+70		RT				6	1	
			PAY TOTAL	2242	337	602	48	13	

SEEDING AND MULCHING

PLAN SHEET NO.	STATION	STATION	OFFSET	MULCHING (ACRE)	SEEDING - COOL SEASON GRASSES (ACRE)	TEMPORARY SEEDING (ACRE)	REMARKS
4	90+00	90+75	LT	0.2	0.1	0.1	
4	90+00	90+75	RT	0.2	0.1	0.1	
4	93+23	94+00	LT	0.2	0.1	0.1	
4	93+23	94+00	RT	0.2	0.1	0.1	
			PAY TOTAL	0.8	0.4	0.4	

GUARDRAIL

PLAN SHEET NO.	STATION	STATION	OFFSET	MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR/NO CURB) (EA)	TYPE A CRASHWORTHY END TERMINAL (MASH) (EA)	REMARKS
4	89+99	90+50	RT		1	
4	90+50	90+50	RT	1		
4	93+11	93+49	LT	1		
4	93+49	94+00	LT		1	
			PAY TOTAL	2	2	

REMOVAL OF IMPROVEMENTS

PLAN SHEET NO.	STATION	STATION	OFFSET	LENGTH (LF)	AREA (SY)	EACH (EA)	DESCRIPTION
4	90+00	90+75	LT/RT		237		ASPHALT PAVEMENT AND BASE
4	93+23	94+00	LT/RT		242		ASPHALT PAVEMENT AND BASE
4	90+00		LT/RT	28			SAWCUT
4	94+00		LT/RT	28			SAWCUT
4	91+02		LT			3	SIGNS AND POSTS
4	91+00		RT			2	SIGNS AND POSTS
4	93+00		RT			1	SIGN AND POST
4	93+09		LT			1	SIGN AND POST
			SUBTOTAL	56	479	7	
			PAY TOTAL	PAY TOTAL = 1 LUMP SUM			

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SUMMARY OF QUANTITIES
SHEET 2 OF 3

STATE OF MISSOURI
BENTLEY M. GEDRIS
NUMBER PE-2019017818
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/22/2026
ROUTE OLD 100 | STATE MO
DISTRICT SL | SHEET NO. 3
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID. -
PROJECT NO. -
BRIDGE NO. A9801

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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820 South Main, Suite 309
St. Charles, MO 63301
636.493.5077
Collinsville
101 West Main Street, Suite 1
Collinsville, IL 62234
618.345.2200
Belleville
1 South Church, Suite 200
Belleville, IL 62220
618.416.4555
www.oatesassociates.com
MISSOURI DESIGN FIRM PE-001166

REV.

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
WARNING SIGNS								
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT)
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT)
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT)
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT)
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT)
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
WO1-8	18X24	3.00						CHEVRON (SYMBOL)
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
WO3-4	48X48	16.00						BE PREPARED TO STOP
WO3-5	48X48	16.00						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	4	64.00			20,20A	ROAD CLOSED AHEAD, ROAD CLOSED 500FT
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 NUM.	DESCRIPTION
GUIDE SIGNS								
E05-1	36X48	12.00						GORE EXIT
E05-2	48X36	12.00						EXIT OPEN
E05-2a	48X36	12.00						EXIT CLOSED
GO20-1	60X24	10.00						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	2	20.00			29	ROAD CLOSED
R11-3a	60X30	12.50						ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60X30	12.50	3	37.50			56	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
SP-1	48X36	12.00	3	36.00			17A	DETOUR STRAIGHT
SP-2	48X36	12.00	2	24.00			17B	DETOUR RIGHT
SP-3	48X36	12.00	3	36.00			17C	DETOUR LEFT

616-10.05 CONSTRUCTION SIGNS	TOTAL
	256

616-10.10 RELOCATED SIGNS	TOTAL
	**

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	50	CHANNELIZER (TRIM LINE)
6161030	12	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

LUMP SUM
TEMPORARY TRAFFIC CONTROL
PAY TOTAL = 1 LUMP SUM

TEMPORARY TRAFFIC CONTROL NOTES
* ITEMS NOT INCLUDED IN 616-99.01, "LUMP SUM TEMPORARY TRAFFIC CONTROL"
** NO DIRECT PAYMENT WILL BE MADE FOR RELOCATING TEMPORARY TRAFFIC CONTROL SIGNS OR DEVICES

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SUMMARY OF QUANTITIES
SHEET 3 OF 3

STATE OF MISSOURI
BENTLEY M. GEDRIS
NUMBER PE-2019017818
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

EFFECTIVE: 07-01-2024

DATE PREPARED 9/22/2026
ROUTE OLD 100 | STATE MO
DISTRICT SL | SHEET NO. 3
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID. -
PROJECT NO. -
BRIDGE NO. A9801

DESCRIPTION | DATE | REV.

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

OATES ASSOCIATES
St. Louis: 701 Dan Jones Road, Suite 700, Columbia, MO 65201, 314.588.8383
Collinsville: 1 Court Square, Suite 1, Collinsville, IL 62234, 618.345.2200
Belleville: 1 South Church, Suite 200, Belleville, IL 62220, 618.416.5466
St. Charles: 820 South Main, Suite 309, St. Charles, MO 63301, 636.993.0277
www.oatesassociates.com
MISSOURI DESIGN FIRM PE-001166

N/F
CITY OF WASHINGTON
PARCEL # 10-7-25.0-1-001-013.000
DEED DOC 2004-16614
OLD HIGHWAY 100 WASHINGTON 63090

N/F
MMK REAL ESTATE LLC
PARCEL # 10-7-25.0-0-007-008.000
DEED DOC 2300401
5025 OLD HIGHWAY 100 WASHINGTON 63090

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BRIDGE #9801
STA. 91+99.00
61'-83'-61' PRESTRESSED CONCRETE NU-GIRDER BRIDGE
30'-0" ROADWAY
DA = 34.6 SQ MI

DUBOIS CREEK

PI 94+99.91
PC 90+31.12
PT 99+63.39
Δ 14°54'58.2" (LT)
D 1°36'0.0"
L 932.26' (ARC)
T 468.78'
R 3580.99'

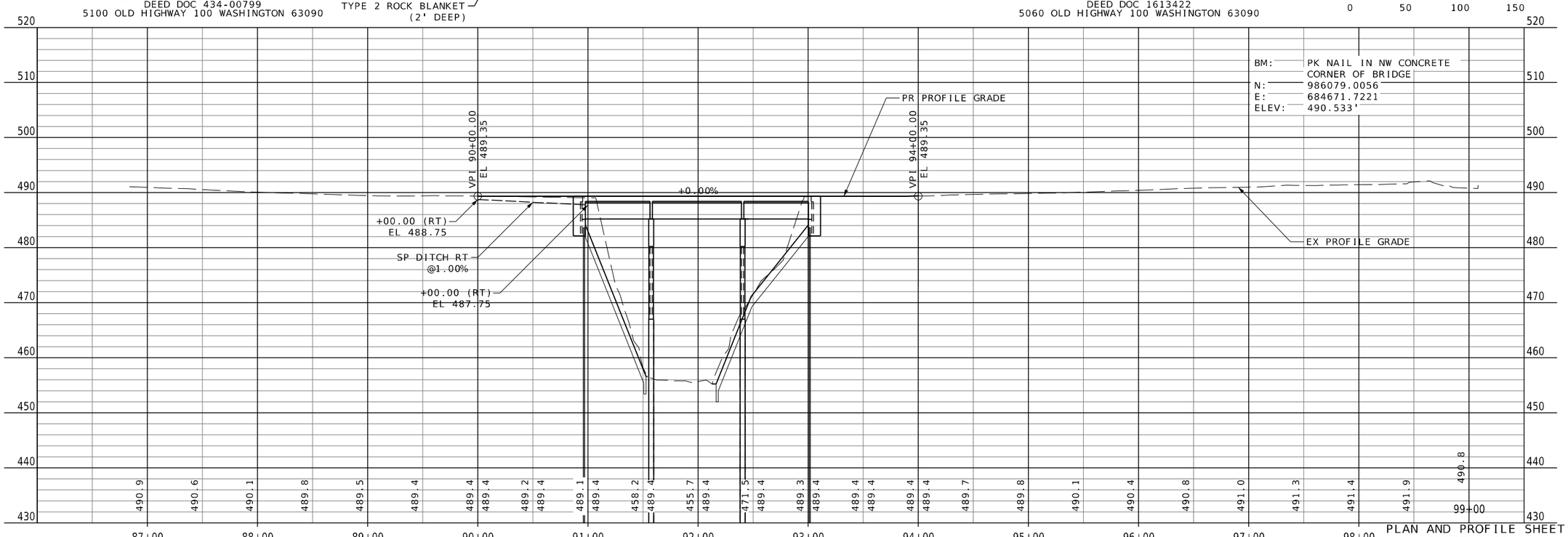
START STA 86+83.59
4 IN. YELLOW CLASS 1 PAVEMENT MARKING PAINT (18-MIL, TYPE P BEADS)
4 IN. WHITE CLASS 1 PAVEMENT MARKING PAINT (18-MIL, TYPE P BEADS)
EX. R/W
℄ OLD ROUTE 100
S45°08'25"E
100'
EX. R/W
PC STA 90+31.12
STA. 90+48
12" GRAVEL
15" CMP (UIP)
POWER POLE W/DUSK TO DAWN LIGHT (RELOC. LIGHT, BY OTHERS)
3 SIGNS (R)
TREES AND BRUSH (R TO CONST. LIMITS)
CHAIN-LINK FENCE (UIP)
TYPE 2 ROCK BLANKET (2' DEEP)
STA. 93+11.00 TO 93+99.25
1 TYPE A CRASHWORTHY END TERMINAL (MASH)
1 MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR/NO CURB)
END PROJECT STA. 94+00.00
21" CMP (UIP)
ATT CABLE (RELOC, BY OTHERS)
24" CMP (UIP)
EX. PAVEMENT (UIP)
CP#3
PT STA 99+63.39
100'
EX. R/W
+50
GAS LINE (RELOC, BY OTHERS)
BEGIN PROJECT STA. 90+00.00
PROTECT OVERHEAD ELECTRIC SERVICE LINE DURING GUARDRAIL POST INSTALLATION
SAN. MANHOLE (UIP)
STA. 89+99.75 TO 90+88.00
1 TYPE A CRASHWORTHY END TERMINAL (MASH)
1 MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR/NO CURB)
BEGIN BRIDGE SLAB STA. 90+75.27
TYPE 2 ROCK BLANKET (2' DEEP)
2 SIGNS (R)
GAS VALVE (RELOC, BY OTHERS)
BENCHMARK
SIGN (R)
EX BRIDGE #4330001 (R)
STA. 92+01.73
191'-3" X 28'-0"
28'
24'
+50
END BRIDGE SLAB STA. 93+22.73
GAS VALVE (RELOC, BY OTHERS)
CONSTRUCTION LIMITS
CHAIN-LINK FENCE (UIP)

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

SCALE
0 50 100 150

N/F
LANGENDOERFER,ROGER L&RHONDA K
PARCEL # 10-7-25.0-1-001-015.000
DEED DOC 434-00799
5100 OLD HIGHWAY 100 WASHINGTON 63090

N/F
RTX LAND DEVELOPMENT LLC
PARCEL # 10-7-25.0-0-001-009.000
DEED DOC 1613422
5060 OLD HIGHWAY 100 WASHINGTON 63090



PLAN AND PROFILE SHEET
SHEET 1 OF 1

STATE OF MISSOURI
BENTLEY M. GEDRIS
NUMBER PE-2019017818
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/22/2026
ROUTE OLD 100 | STATE MO
DISTRICT SL | SHEET NO. 4
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID. -
PROJECT NO. -
BRIDGE NO. A9801

DESCRIPTION | DATE | REV.

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

OATES ASSOCIATES
St. Louis
701 Emerson Rd. Suite 700
St. Louis, MO 63141
314.588.8381
St. Charles
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St. Charles, MO 63301
636.493.0277
Collinsville
1000 Eastport Plaza Drive, Suite 1
Collinsville, IL 62234
618.345.2200
Belleville
1 South Church, Suite 200
Belleville, IL 62220
618.416.4666
www.oatesassociates.com
MISSOURI DESIGN FIRM PE-001166

H:\P\225045 - Old Route 100 over Dubois Creek\CADD\Microstation\CADD Drawings\CADD Sheets\003_PP_J6S3627.dgn 6:52:46 PM 9/22/2026

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	1.0000649

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	COORDINATE SYSTEM OF 1983
CONTROL STATION	MODOT VRS
DESIGNATION	MODOT CORS
CORS_ID	MOS2
PID	-
LATITUDE	N38°20'21.14367"
LONGITUDE	W091°00'22.18573"
NORTHING (M)	5008557.5823
EASTING (M)	87963.5807
ZONE	2401 (MO-EAST)
PROJECT AVERAGE GRID FACTOR	0.9999351

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

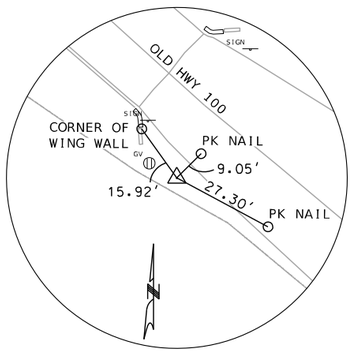
EXAMPLE: CONTROL POINT # 1
N 684828.4434 X 0.9999351 = N 684383.99
E 985931.4214 X 0.9999351 = E 985867.43

LINEAR UNIT CONVERSION

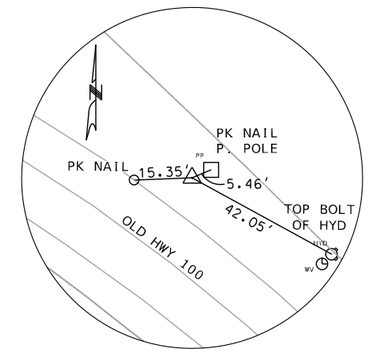
1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

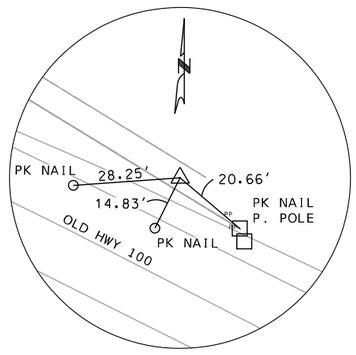
SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND) NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)	DESCRIPTION	GPK POINT ID
PROJECT CONTROL POINTS								
4	93+16.08	OLD HWY 100	20.66 RT	684828.4434	985931.4214	488.761	SET IRON ROD WITH ALUMINUM CAP	CP#1
4	85+99.88	OLD HWY 100	15.10 LT	684337.0125	986454.823	491.746	SET IRON ROD WITH ALUMINUM CAP	CP#2
4	98+99.24	OLD HWY 100	50.64 LT	685341.3022	985651.2074	491.503	SET IRON ROD WITH ALUMINUM CAP	CP#3
ALIGNMENTS								
4		OLD HWY 100	CL	684385.6953	986385.0701		POB	
4		OLD HWY 100	CL	684632.0401	986139.9286		PC CURVE #1	
4		OLD HWY 100	CL	684964.3289	985809.2629		PI CURVE #1	
4		OLD HWY 100	CL	685370.5360	985575.2725		PT CURVE #1/POE	



CONTROL POINT #1
I-BAR W/ ALUM. CAP SET FLUSH
ON EAST SIDE OF BRIDGE ±20'FROM
EDGE OF BRIDGE DECK & ±20' FROM
THE ℄ OF OLD HWY 100
N: 684828.4434
E: 985931.4214
ELEV: 488.761



CONTROL POINT #2
I-BAR W/ ALUM CAP SET FLUSH
±20' FROM THE ℄ OF OLD HWY 100 &
±125' EAST OF THE ℄ OF KINGSLAND DR
NEAR CITY OF WASHINGTON WASTE DEPARTMENT
N: 684337.0125
E: 986454.8230
ELEV: 491.746



CONTROL POINT #3
I-BAR W/ ALUM CAP SET FLUSH
±25' FROM THE ℄ OLD HWY 100 &
±165 WEST OF THE ℄ OF 2ND ENTRANCE
ON THE EAST SIDE OF FACILITY
N: 685341.3022
E: 985651.2074
ELEV: 491.503

HORIZONTAL AND VERTICAL CONTROL STATEMENT

STATE PLANE COORDINATES ON THIS PROJECT WERE ESTABLISHED UTILIZING THE MISSOURI HIGHWAYS AND TRANSPORTATION COMISSION GLOBAL NAVIGATION SATELLITE REAL TIME NETWORK FOR CONTINUOUSLY OPERATING REFERENCE STATIONS DURING SEPT. 2025 AND ARE BASED ON THE MISSOURI COORDIANTE SYSTEM OF 1983. EAST ZONE. THE AVERAGE COMBINED PROJECT GRID FACTOR IS 0.9999351

COORDINATE BASE ARE MODIFIED MISSOURI STATE PLANE COORDINATES AND WERE ESTABLISHED BY APPLYING THE INVERSE OF THE PROJECT GRID FACTOR (1.0000649) ABOUT THE ORIGIN (0,0)

VERTICAL DATUM IS NAVD 88 AS BROADCAST WITH THE MODOT GNSS NETWORK

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COORDINATE POINTS SHEET
SHEET 1 OF 1

STATE OF MISSOURI
BENTLEY M. GEDRIS
NUMBER PE-2019017818
PROFESSIONAL ENGINEER

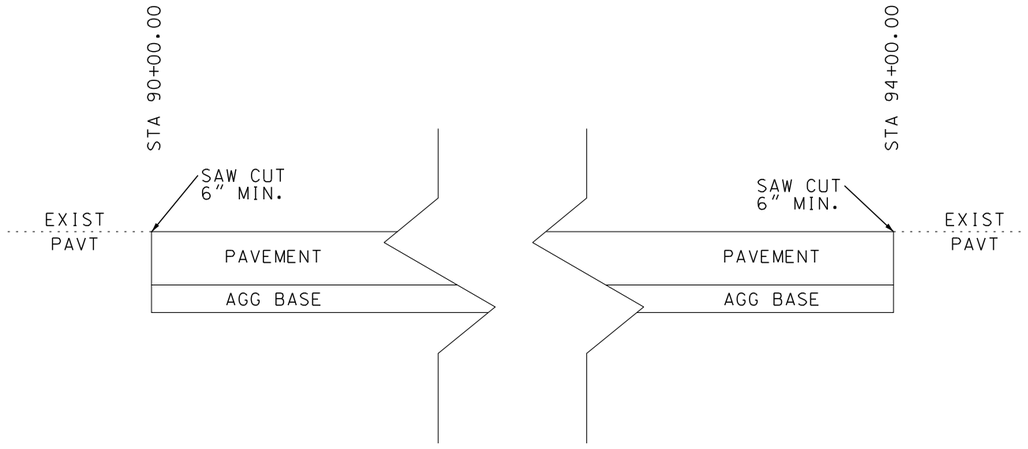
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/22/2026
ROUTE OLD 100 | STATE MO
DISTRICT SL | SHEET NO. 5
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID. -
PROJECT NO. -
BRIDGE NO. A9801

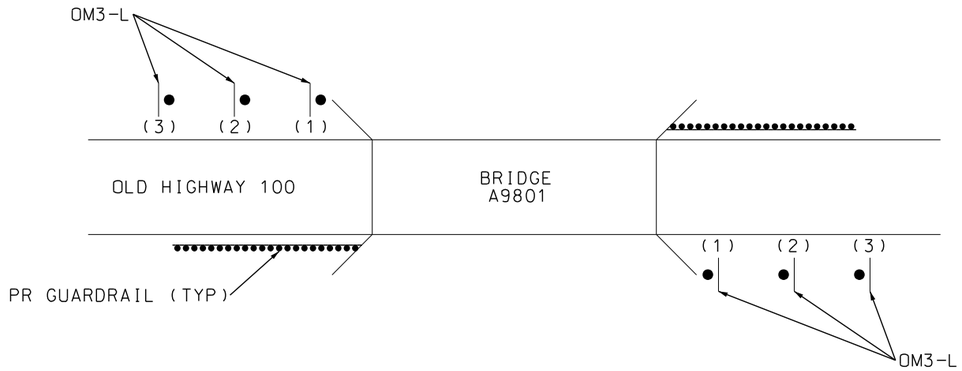
DESCRIPTION | DATE | REV.

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: 701 Emerson Rd. Suite 700, St. Louis, MO 63101, 314.588.8381
St. Charles: 820 South Main, Suite 309, St. Charles, MO 63301, 636.493.0577
Collinsville: 1 Mark Twain Circle, Suite 1, Collinsville, IL 62234, 618.345.2200
Belleville: 1 South Church, Suite 200, Belleville, IL 62220, 618.416.1555
www.oatesassociates.com



SAW CUT



OBJECT MARKERS FOR OBSTRUCTIONS
ADJACENT TO THE ROADWAY

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

SPECIAL SHEETS
CONSTRUCTION DETAILS
SHEET 1 OF 1

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STATE OF MISSOURI
BENTLEY M. GEDRIS
NUMBER PE-2019017818
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/22/2026

ROUTE	STATE
OLD 100	MO
DISTRICT	SHEET NO.
SL	6

COUNTY
FRANKLIN

JOB NO.
J6S3627

CONTRACT ID.
-

PROJECT NO.
-

BRIDGE NO.
A9801

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
10 Commerce Center, Suite 1
Collinsville, IL 62234
618.345.2200

St. Louis
3535 Harry S. Truman Blvd., Suite 200
St. Louis, MO 63129
314.588.8383

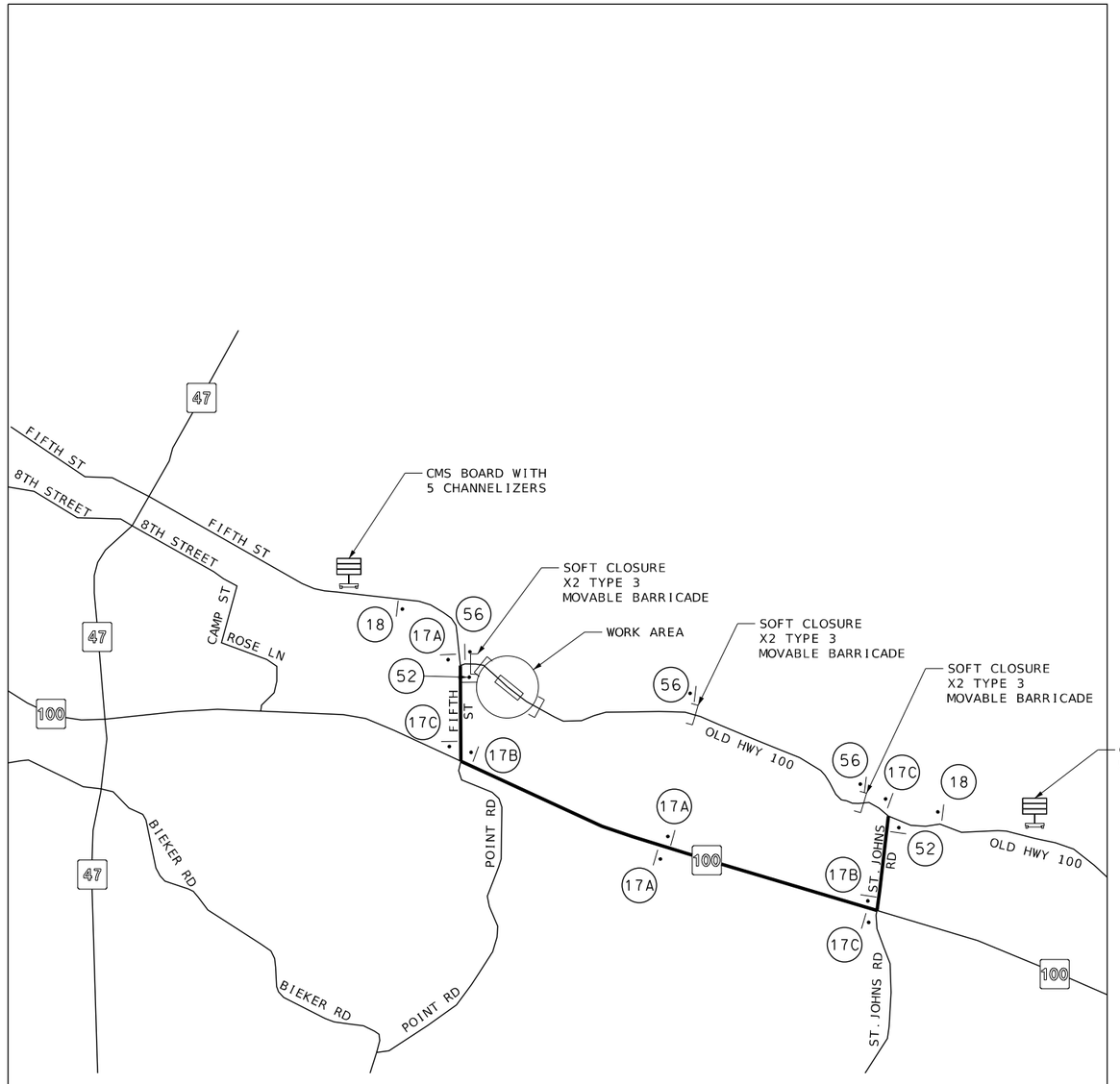
Belleville
1 South Church, Suite 200
Belleville, IL 62220
618.416.4666

St. Charles
820 South Main, Suite 309
St. Charles, MO 63301
636.493.5277

www.oatesassociates.com

MISSOURI DESIGN FIRM PE-001166

REV.



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



SP-1

17A



SP-2

17B



SP-3

17C

M04-8a

52



WO20-2

18

R11-4

56

TRAFFIC CONTROL LEGEND

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

TRAFFIC CONTROL SHEETS
SHEET 1 TO 3

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THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/22/2026

ROUTE	STATE
OLD 100	MO
DISTRICT	SHEET NO.
SL	7

COUNTY
FRANKLIN

JOB NO.
J6S3627

CONTRACT ID.
-

PROJECT NO.
-

BRIDGE NO.
A9801

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
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MISSOURI DESIGN FIRM PE-001166

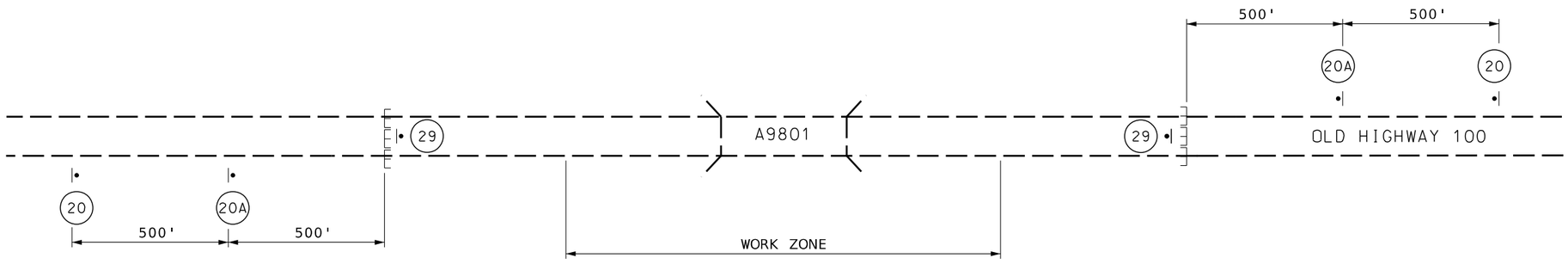
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NOTES:

ALL SPACING AND DISTANCES OF TRAFFIC CONTROL SIGNS AND 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.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- TYPE III MOVEABLE BARRICADE

DRAWING NOT TO SCALE

TRAFFIC CONTROL SHEETS
SHEET 2 OF 3

STATE OF MISSOURI
BENTLEY M. GEDRIS
NUMBER PE-2019017818
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/22/2026

ROUTE	STATE
OLD 100	MO
DISTRICT	SHEET NO.
SL	8

COUNTY
FRANKLIN

JOB NO.
J6S3627

CONTRACT ID.
-

PROJECT NO.
-

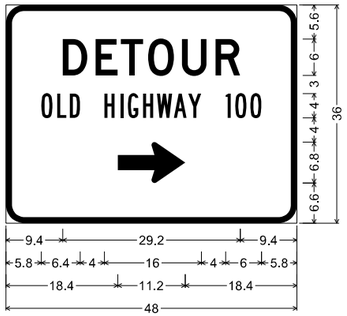
BRIDGE NO.
A9801

REV.	DESCRIPTION	DATE

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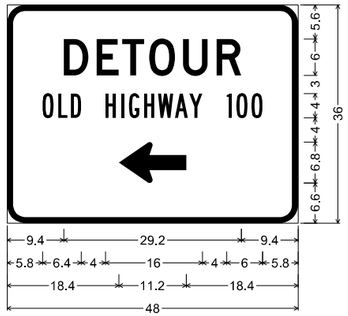
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636.493.0277
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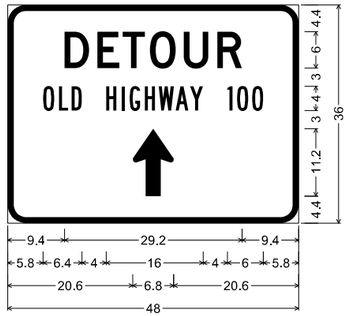
3.0" Radius, 1.0" Border, Black on Orange;
"DETOUR" Black, D;
"OLD HIGHWAY 100" Black, B;
Standard Arrow 2.5 11.1" X 6.8" 0° Black;
Table of letter and object lefts

D 9.4	E 14.8	T 19.0	O 23.5	U 29.0	R 34.6	
O 5.8	L 8.4	D 10.5				
H 16.2	I 18.8	G 20.1	H 22.6	W 24.9	A 27.7	Y 30.1
I 36.2	O 37.8	O 40.3				
→ 18.4						



3.0" Radius, 1.0" Border, Black on Orange;
"DETOUR" Black, D;
"OLD HIGHWAY 100" Black, B;
Standard Arrow 2.5 11.1" X 6.8" 180° Black;
Table of letter and object lefts

D 9.4	E 14.8	T 19.0	O 23.5	U 29.0	R 34.6	
O 5.8	L 8.4	D 10.5				
H 16.2	I 18.8	G 20.1	H 22.6	W 24.9	A 27.7	Y 30.1
I 36.2	O 37.8	O 40.3				
← 18.4						



3.0" Radius, 1.0" Border, Black on Orange;
"DETOUR" Black, D;
"OLD HIGHWAY 100" Black, B;
Standard Arrow 2.5 11.1" X 6.8" 90° Black;
Table of letter and object lefts

D 9.4	E 14.8	T 19.0	O 23.5	U 29.0	R 34.6	
O 5.8	L 8.4	D 10.5				
H 16.2	I 18.8	G 20.1	H 22.6	W 24.9	A 27.7	Y 30.1
I 36.2	O 37.8	O 40.3				
↑ 20.6						

TRAFFIC CONTROL SHEETS
SHEET 3 OF 3

STATE OF MISSOURI
BENTLEY M. GEDRIS
NUMBER PE-2019017818
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/22/2026

ROUTE	STATE
OLD 100	MO
DISTRICT	SHEET NO.
SL	9

COUNTY
FRANKLIN

JOB NO.
J6S3627

CONTRACT ID.
-

PROJECT NO.
-

BRIDGE NO.
A9801

REV.	DATE	DESCRIPTION
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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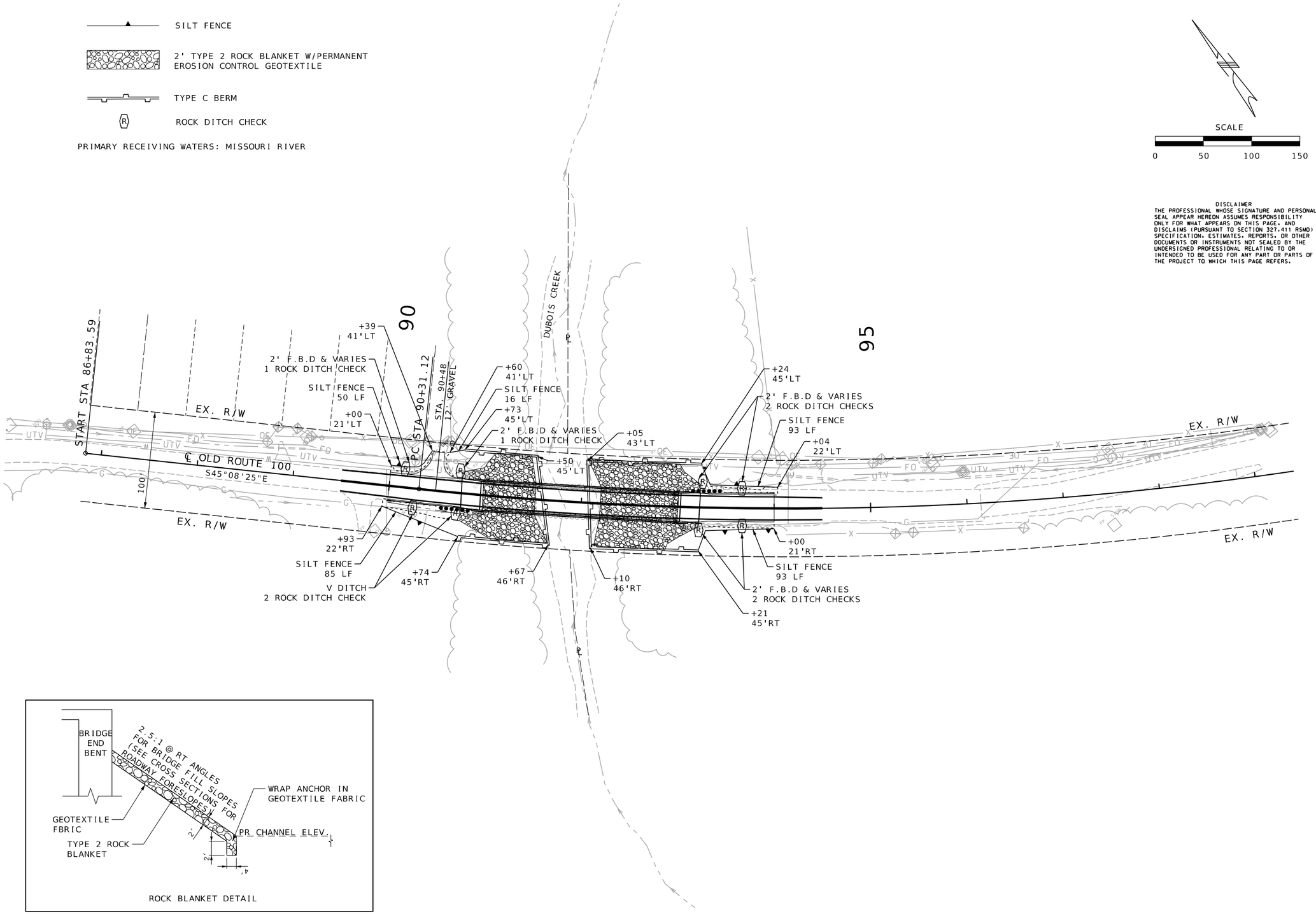
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MISSOURI DESIGN FIRM PE-001166

TEMPORARY EROSION CONTROL LEGEND

- SILT FENCE
- 2' TYPE 2 ROCK BLANKET W/PERMANENT EROSION CONTROL GEOTEXTILE
- TYPE C BERM
- (R) ROCK DITCH CHECK

PRIMARY RECEIVING WATERS: MISSOURI RIVER



ROCK BLANKET DETAIL

SCALE
0 50 100 150

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EROSION CONTROL SHEET
SHEET 1 OF 1

STATE OF MISSOURI
BENTLEY M. GEDRIS
NUMBER PE-2019017818
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/22/2026

ROUTE	STATE
OLD 100	MO
DISTRICT	SHEET NO.
SL	10

COUNTY
FRANKLIN

JOB NO.
J6S3627

CONTRACT ID.
-

PROJECT NO.
-

BRIDGE NO.
A9801

REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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JEFFERSON CITY, MO 65102
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SIGNS

902 SIGNAL SIGNS TABULATED ON D-37A SHEET

SIGN NO.	SIGN SIZE	STATION	HORZ CLEAR IF NOT STD	LOCATION	SIGN DTL. SHT. NO.	CONCRETE FOOTINGS EMBEDDED ITEM NO. 9031010 CY
1	12X36	90+35		LT		
1	12X36	90+55		LT		
1	12X36	90+75		LT		
1	12X36	93+20		RT		
1	12X36	93+40		RT		
1	12X36	93+60		RT		
				SUBTOTAL		
				PAY TOTAL		

STRUCTURAL STEEL POSTS *

POST DES NO.	POST NO.1 LF	POST NO.2 LF	POST NO.3 LF	LBS PER FT	TOTAL ITEM NO. 9031210 LBS

PIPE POSTS *

PIPE SIZE IN.	POST NO.1 LF	POST NO.2 LF	LBS PER FT	TOTAL ITEM NO. 9031220 LBS

BACKING BARS **

2" X 3/8" BARS @ 2.55 LBS PER FT

NO. EACH	LGTH IN.	TOTAL LF	TOTAL LBS
			**
			**

U-CHANNEL POST

ITEM NO. 9031250A LF
10
10
11
11
12
12
66
66

PERFORATED SQUARE STEEL TUBE

2 IN. POST						2.5 IN. POST						BREAK-AWAY ASSEMBLY ITEM NO. 9031241 EA
			ANCHORS						ANCHORS			
POST NO.1 LF	POST NO.2 LF	TOTAL ITEM NO. 9031270A LF	DRIVEN 12-GA. ITEM NO. 9031271A EA	DRIVEN 7-GA. ITEM NO. 9031273A EA	CONCRETE 7-GA. ITEM NO. 9031274 EA	POST NO.1 LF	POST NO.2 LF	TOTAL ITEM NO. 9031280 LF	2.25" INSERT (6 FT) ITEM NO. 9031272A EA	DRIVEN 7-GA. ITEM NO. 9031281A EA	CONCRETE 7-GA. ITEM NO. 9031285 EA	

REMARKS AND OTHER REQUIRED ITEMS

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

ROUND PIPE POST AND FOOTING DATA TABLE

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

STRUCTURAL STEEL POST AND FOOTING DATA TABLE

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

STANDARD SIGN ASSEMBLIES

SIGN NUMBER	STATION	LOCATION	TYPE SHF: SIGN DESCRIPTION, SIZES & NUMBER OF EACH — OM3-L 12"X36"
1	90+35	LT	1
1	90+55	LT	1
1	90+75	LT	1
1	93+20	RT	1
1	93+40	RT	1
1	93+60	RT	1

SIGN SUMMARY

STANDARD SIGN OR SPECIAL SIGN NUMBER	SIGN DETAIL SHEET NO.	NO. EACH	SIZE, TYPE & SQUARE FEET: SIZE	FLAT SHEET SH ITEM NO. 9035004A	FLAT SHEET FLUORESCENT SHF * ITEM NO. 9035069A	STRUCTURAL ST ITEM NO. 9035011A	STRUCTURAL FLUORESCENT STF * ITEM NO. 9035071A
OM3-L		18	12"X36"		18		
PAY TOTAL					18		

* ORANGE, YELLOW & YELLOW/GREEN

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SIGNING SHEET
SHEET 1 OF 1

REVISED D-29/D-30

STATE OF MISSOURI — BENTLEY M. GEDRIS — NUMBER PE-2019017818 — PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 9/22/2026
ROUTE: OLD 100 | STATE: MO
DISTRICT: SL | SHEET NO.: 11
COUNTY: FRANKLIN
JOB NO.: J6S3627
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9801

DESCRIPTION | DATE | REV.

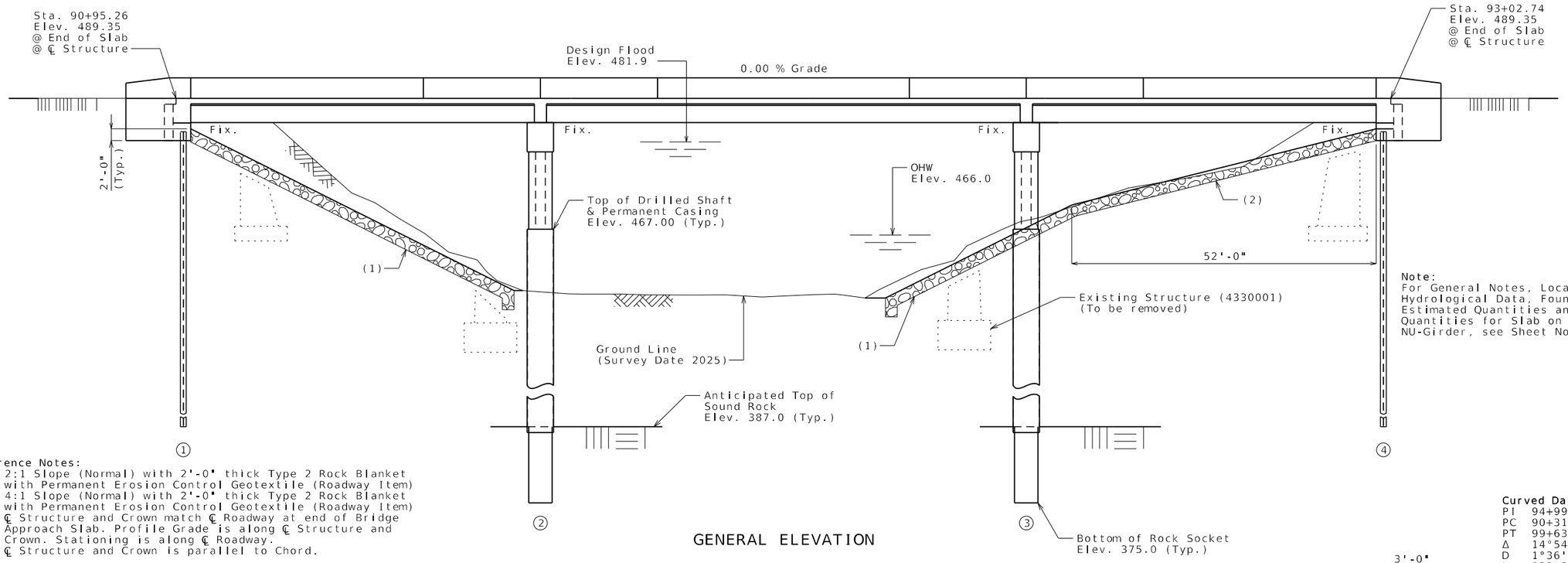
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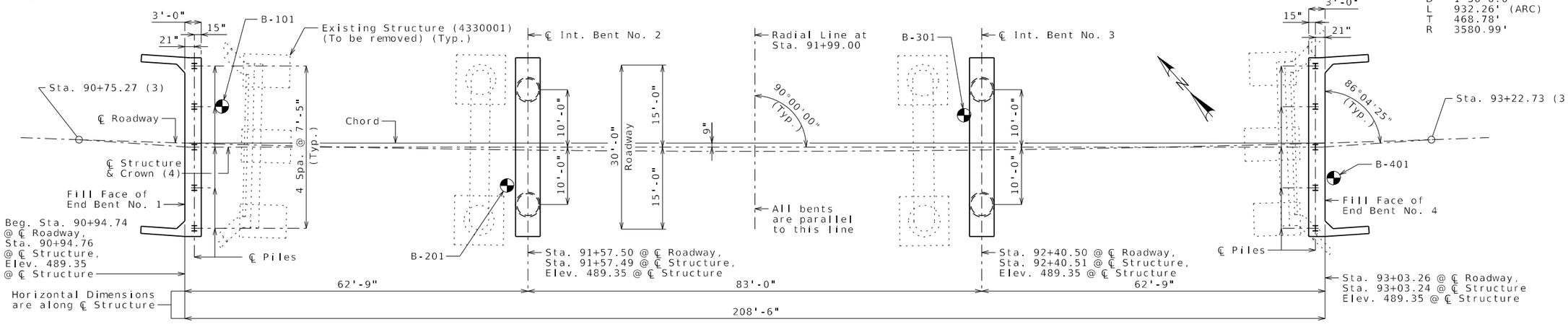
(61'-83'-61') PRESTRESSED CONCRETE NU-GIRDER SPANS

SEC/SUR 1925 TWP 44N RGE 1W



GENERAL ELEVATION

Reference Notes:
(1) 2:1 Slope (Normal) with 2'-0" thick Type 2 Rock Blanket with Permanent Erosion Control Geotextile (Roadway Item)
(2) 4:1 Slope (Normal) with 2'-0" thick Type 2 Rock Blanket with Permanent Erosion Control Geotextile (Roadway Item)
(3) ℄ Structure and Crown match ℄ Roadway at end of Bridge Approach Slab. Profile Grade is along ℄ Structure and Crown. Stationing is along ℄ Roadway.
(4) ℄ Structure and Crown is parallel to Chord.



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. 25 thru 36 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.

Designed Jun. 2026
Detailed Jun. 2026
Checked Jul. 2026

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

Sheet No. 1 of 36

Curved Data
PI 94+99.91
PC 90+31.12
PT 99+63.39
Δ 14°54'58.2" (LT)
D 1°36'0.0"
L 932.26' (ARC)
T 468.78'
R 3580.99'

B.M. "A" - PK NAIL IN NW CONCRETE CORNER OF BRIDGE.
STA. 91+01.92, 15.90' RT.
ELEV. 490.53

BRIDGE: ROUTE OLD HWY. 100 OVER DUBOIS CREEK

ROUTE OLD HWY. 100 FROM ROUTE T TO EAST FIFTH STREET
ABOUT 5.6 MILES WEST OF ROUTE T
BEGINNING STATION 90+94.74

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 OLD 100 | STATE MO
DISTRICT BR | SHEET NO. 1
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

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	146		146
Removal of Bridges (4330001)	lump sum			1
Bridge Approach Slab (Minor)	sq. yard		135	135
Drilled Shafts (5 ft. 0 in. Dia.)	linear foot	320.0		320.0
Rock Sockets (4 ft. 6 in. Dia.)	linear foot	48.0		48.0
Video Camera Inspection	each	4		4
Foundation Inspection Holes	linear foot	88.0		88.0
Sonic Logging Testing	each	4		4
Galvanized Structural Steel Piles (12 in)	linear foot	970		970
Pile Point Reinforcement	each	10		10
Class B Concrete (Substructure)	cu. yard	148.8		148.8
Type D Barrier	linear foot		449	449
Slab on Concrete NU-Girder	sq. yard		753	753
NU 35, Prestressed Concrete NU-Girder	linear foot		819	819
Reinforcing Steel (Bridges)	pound	70,980		70,980
Slab Drain	each		34	34
Vertical Drain at End Bents	each	2		2
Plain Neoprene Bearing Pad	each		8	8
Laminated Neoprene Bearing Pad	each		16	16

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

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

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 NU-Girder.

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

Estimated Quantities for Slab on Concrete NU-Girder

Item		Total
Class B-2 Concrete	cu. yard	237
Reinforcing Steel (Epoxy Coated)	pound	72,300

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

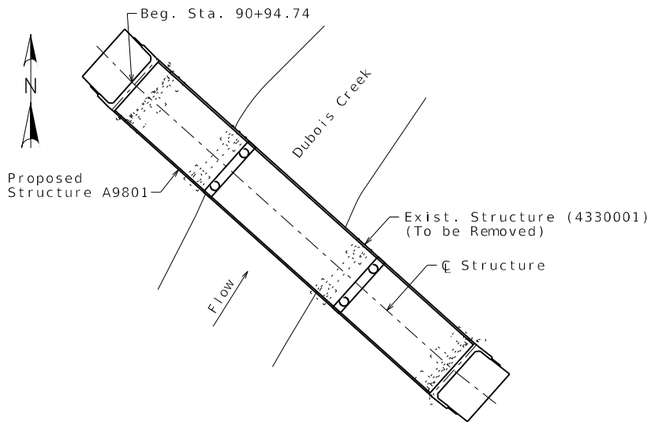
Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

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

Hydrologic Data

Drainage Area = 34.5 mi²
Design Flood Frequency = 50 years
Design Flood Discharge = 20,400 cfs
Design Flood (D.F.) Elevation = 481.9
Base Flood (100-year)
Base Flood Elevation = 488.7
Base Flood Discharge = 24,100 cfs
Estimated Backwater = 0.4 ft
Average Velocity thru Opening = 6.8 ft/s
Freeboard (50-year)
Freeboard = 3.3 ft
Roadway Overtopping
Overtopping Flood Discharge = 25,000 cfs
Overtopping Flood Frequency = 120 years
Overtopping Flood Elevation = 489.3
Missouri River Backwater *
Design Flood (50 year) Elevation = 489.9
Base Flood (100 year) Elevation = 491.3
Overtopping Flood Frequency = <50 years
Freeboard (50 year) = -4.7 ft

* Data taken from FEMA FIS published June 5, 2020



LOCATION SKETCH

Foundation Data

Type	Design Data		Bent Number 1	2	3	4
Load Bearing Pile	Pile Type and Size		HP 12x53	-	-	HP 12x53
	Number	ea	5	-	-	5
	Approximate Length Per Each	ft	97	-	-	97
	Pile Point Reinforcement	ea	ALL	-	-	ALL
	Min. Galvanized Penetration (Elev.)	ft	462	-	-	462
	Pile Driving Verification Method		DF	-	-	DF
	Resistance Factor		0.4	-	-	0.4
	Minimum Nominal Axial Compressive Resistance	kip	426	-	-	426
Rock Socket	Number	ea	-	2	2	-
	Foundation Material		-	Rock	Rock	-
	Elevation Range	ft	-	387-375	387-375	-
	Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	-	22.0	22.0	-
	Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf	-	0	0	-

Load Bearing Pile:
DF = FHWA Modified Gates Dynamic Pile Formula

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

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

HP piles are anticipated to be driven to refusal on rock. Review all boring for 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 compression resistance is verified and no additional pile driving method is required.

Rock Socket (Drilled Shaft):

$$\text{Minimum Nominal Axial Compressive Resistance (Side Resistance + Tip Resistance)} = \frac{\text{Maximum Factored Loads}}{\text{Resistance Factors}}$$

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 acceleration coefficient at 1.0 second period, SD1 = 0.205
Acceleration Coefficient (effective peak ground acceleration coefficient), As = 0.161

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, except Drilled Shafts & Rock Sockets)	f'c = 3,000 psi
Class B-2 Concrete (Drilled Shafts & Rock Sockets)	f'c = 4,000 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 prestressed girder stresses, see Sheets No. 9 thru 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 partition joint filler, except as noted.

Reinforcing Steel:

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

Traffic Handling:

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

Detailed Jun. 2026
Checked Jul. 2026

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

GENERAL NOTES AND QUANTITIES

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JASON A. DREYER
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PROFESSIONAL ENGINEER

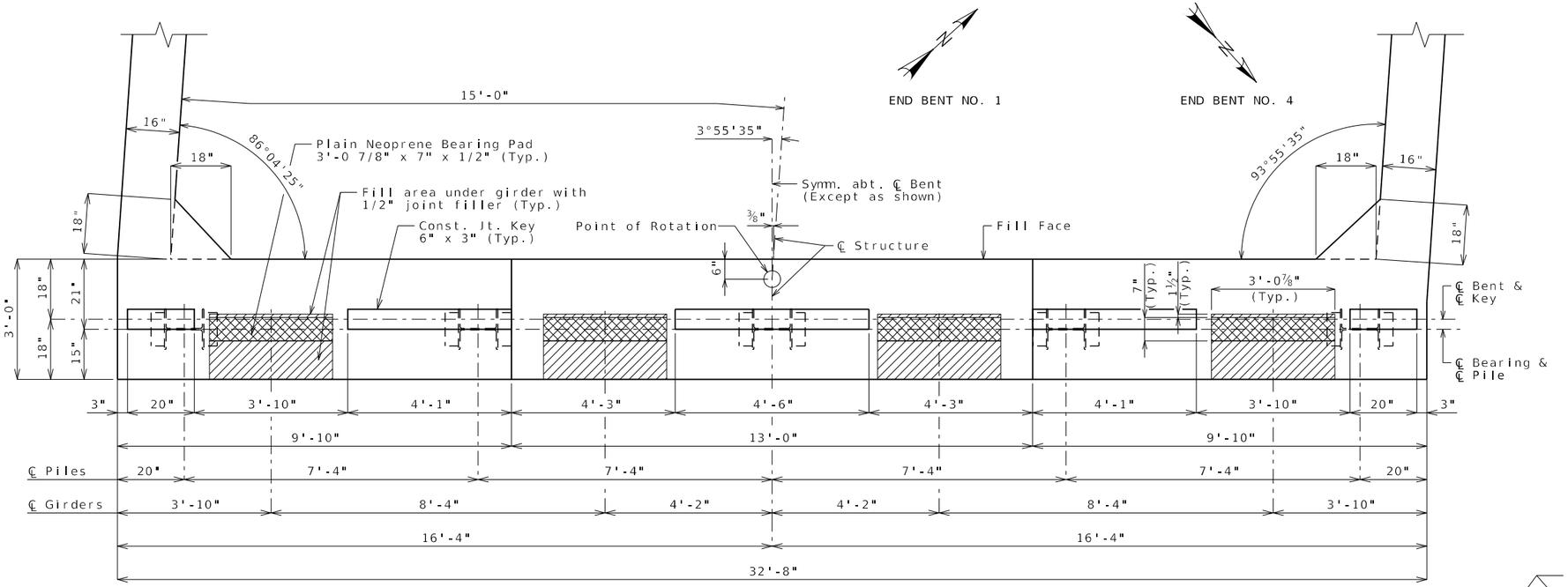
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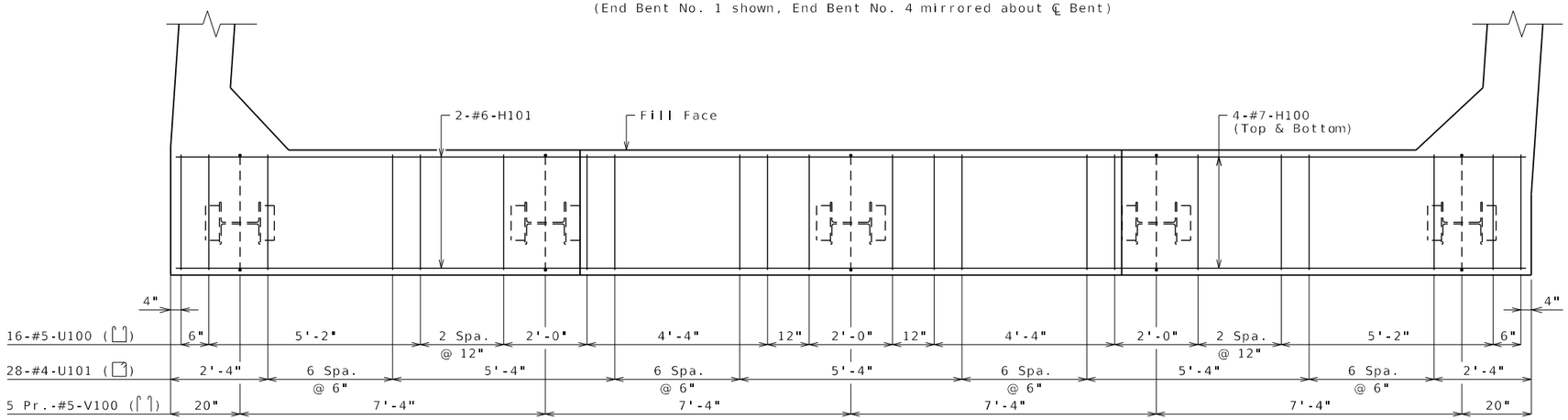
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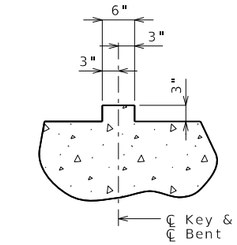
PLAN OF BEAM

(End Bent No. 1 shown, End Bent No. 4 mirrored about ℄ Bent)

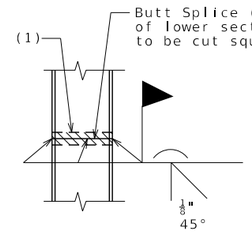


PLAN OF BEAM SHOWING REINFORCEMENT

(Keys not shown for clarity)

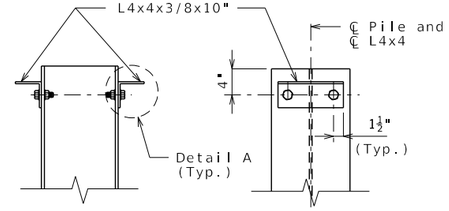


SECTION THRU KEY

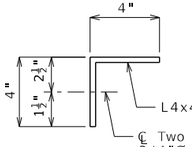


STEEL PILE SPLICE

(If required)



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.

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	72
Galvanized Structural Steel Piles (12 in)	linear foot	485
Pile Point Reinforcement	each	5
Class B Concrete (Substructure)	cu. yard	13.8

Substructure Quantity Table for Bent No. 4		
Item		Quantity
Class 1 Excavation	cu. yard	74
Galvanized Structural Steel Piles (12 in)	linear foot	485
Pile Point Reinforcement	each	5
Class B Concrete (Substructure)	cu. yard	13.8

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.

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

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

DETAILS OF END BENTS NO. 1 AND 4

Detailed Aug. 2026
Checked Aug. 2026

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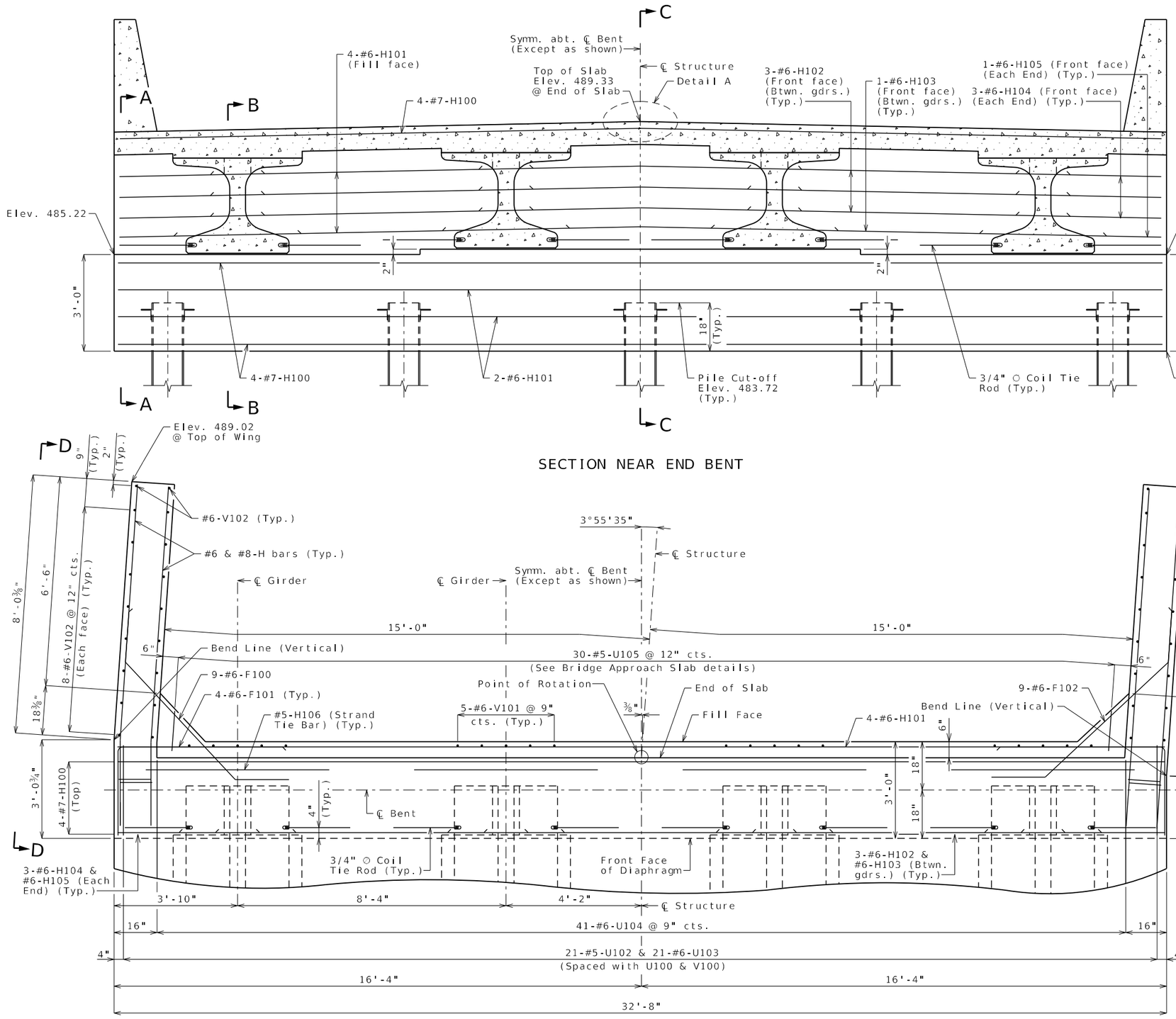
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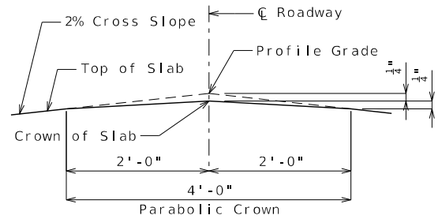
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SECTION NEAR END BENT



DETAIL A

PART PLAN
(End Bent No. 1 shown, End Bent No. 4 mirrored about ℄ Bent)



END BENT NO. 1 END BENT NO. 4

General Notes:
For details of End Bents No. 1 & 4 not shown, see Sheets No. 3 & 5.

Strands at end of the girders 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 girders.

For locations of Coil Tie Rods and #5-H106 (Strand Tie Bar), see Sheets No. 9 thru 12.

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

For details of Bridge Approach Slab, see Sheet No. 21.

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, see Sheet No. 5.

U-105 bars shall be placed parallel to the wing face.

For details and reinforcement of barriers at end bent, see Sheets No. 19 & 20.

DETAILS OF END BENTS NO. 1 AND 4

Detailed Aug. 2026
Checked Aug. 2026

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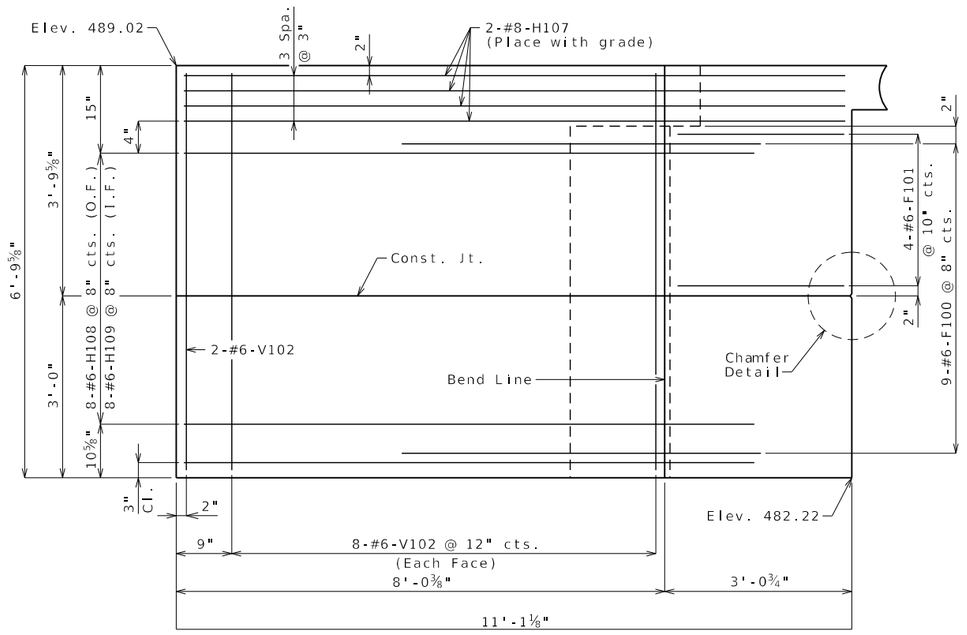
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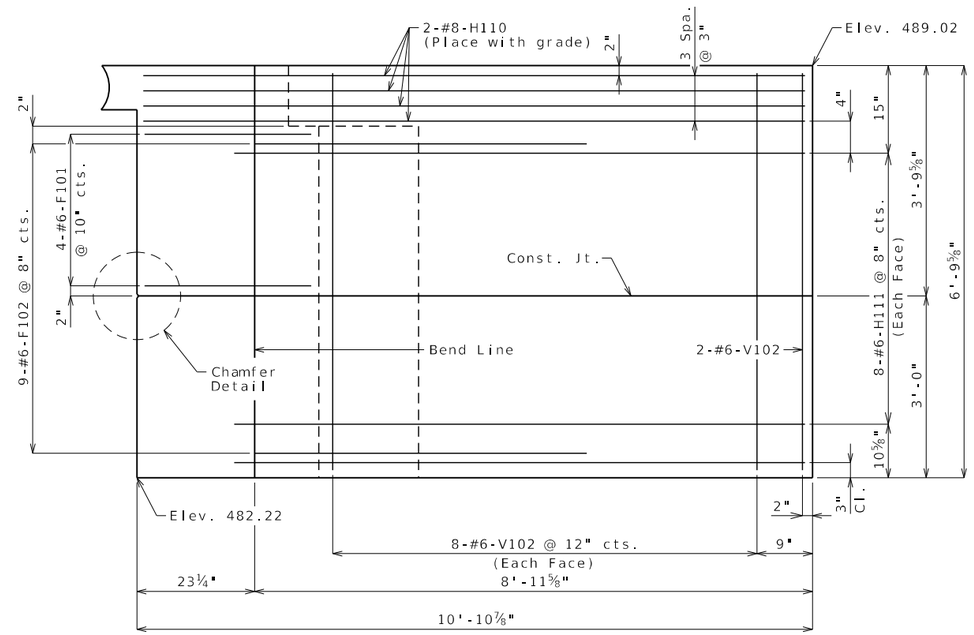
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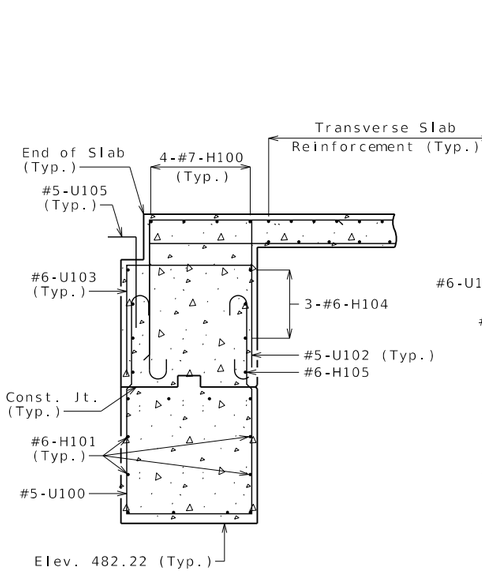
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ELEVATION D-D

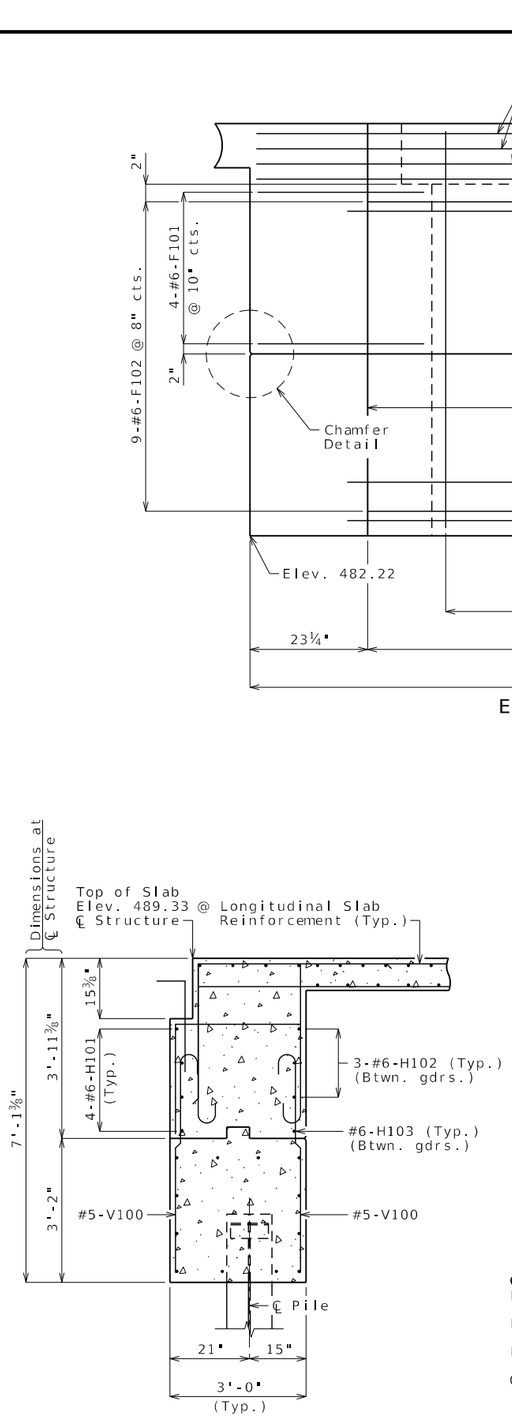


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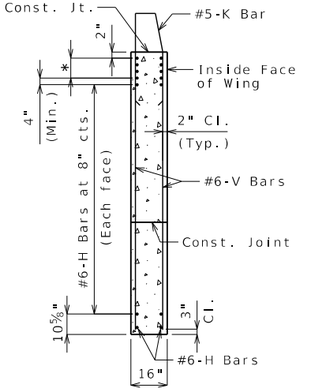
SECTION A-A

SECTION B-B



SECTION C-C

CHAMFER DETAIL



TYPICAL SECTION THRU WING

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

General Notes:

For details of End Bents No. 1 & 4 not shown, see Sheets No. 3 & 4.

For reinforcement of the barrier, see Sheets No. 18 thru 20.

For locations of Sections A-A, B-B & C-C, see Sheet No. 4.

O.F. indicates Outside Face, I.F. indicates Inside Face.

DETAILS OF END BENTS NO. 1 AND 4

Detailed Aug. 2026
Checked Aug. 2026

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

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BR	5

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JOB NO.: J6S3627

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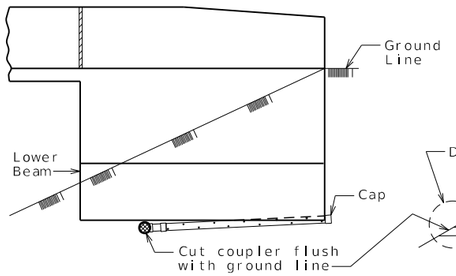
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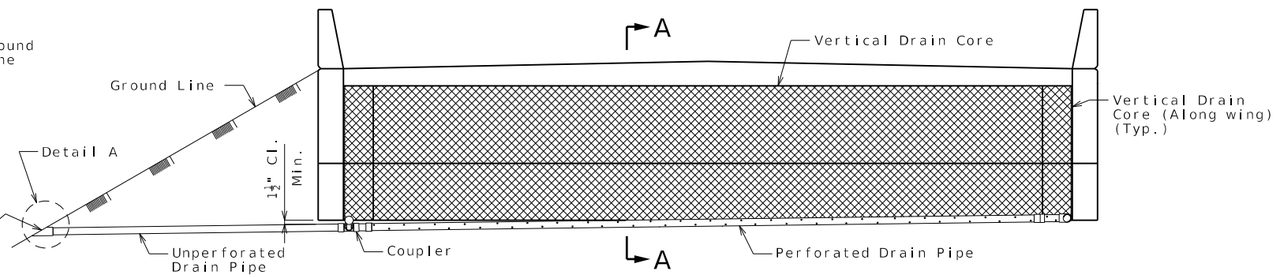
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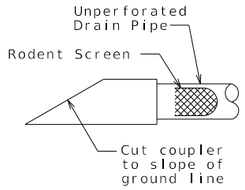
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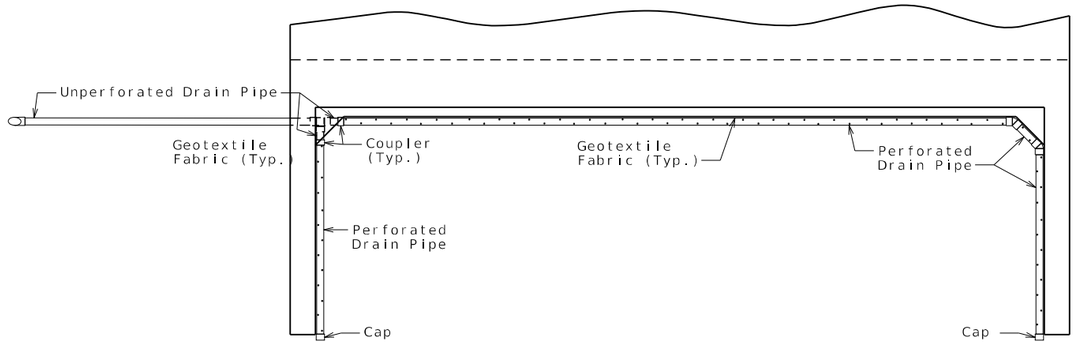
ELEVATION OF WING



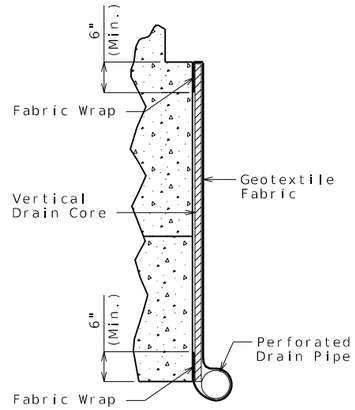
ELEVATION OF END BENT



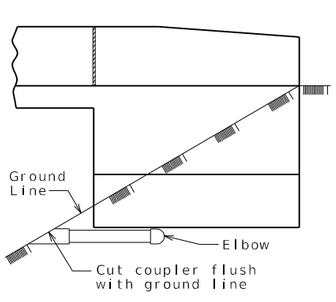
DETAIL A



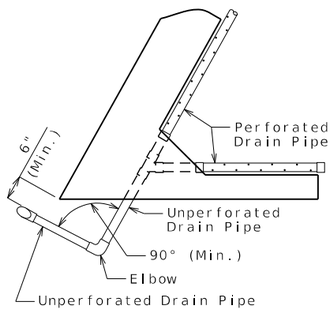
PLAN OF END BENT



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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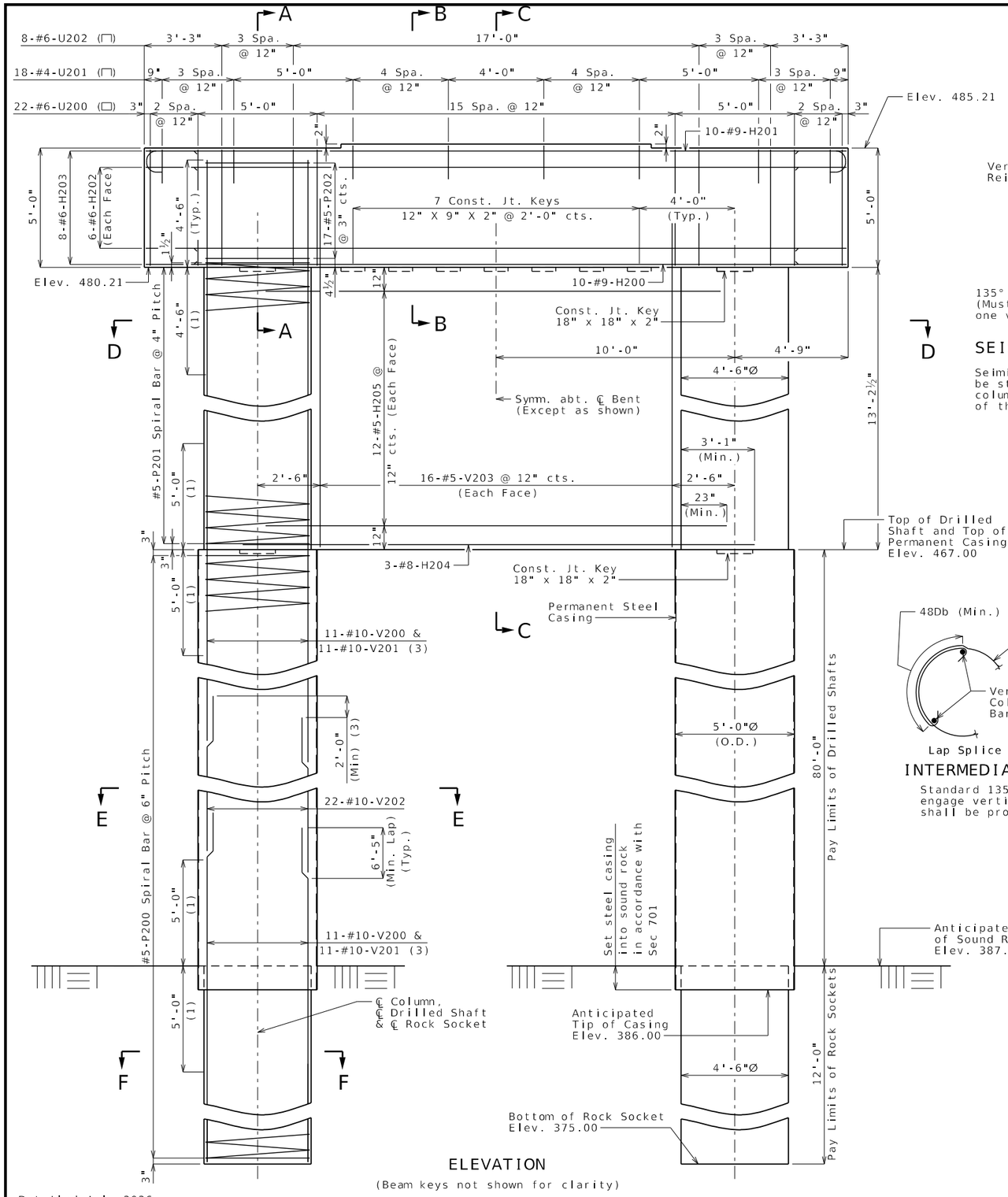
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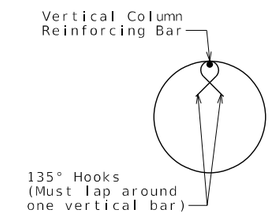
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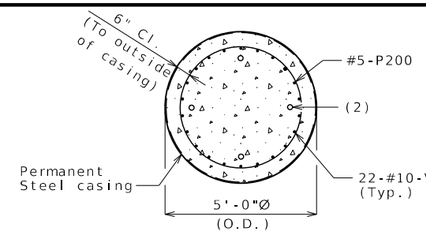
ELEVATION

(Beam keys not shown for clarity)

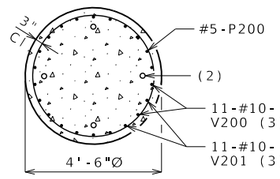


SEISMIC STIRRUP BAR

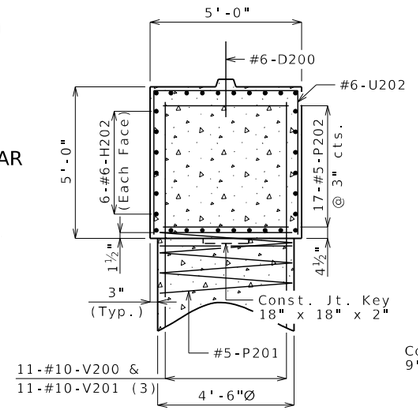
Seimic hoop hooks shall be staggered around the column at about one-third of the hoop circumference.



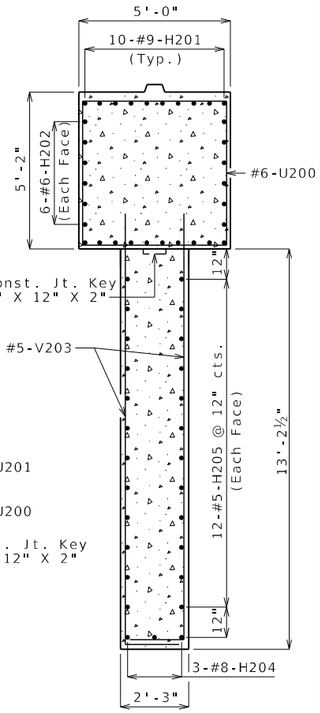
SECTION E-E



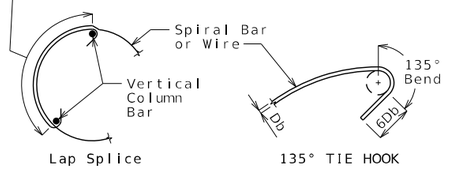
SECTION F-F



SECTION A-A

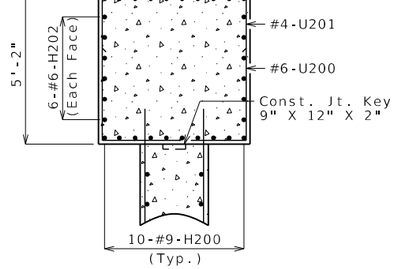


SECTION C-C



INTERMEDIATE SPLICE OF SPIRALS

Standard 135-degree tie hooks that engage vertical column reinforcing bars shall be provided at each end of splice.



SECTION B-B

Reference Notes:
(1) Lap splicing of longitudinal and spiral reinforcement shall not be permitted in this region. If splice is unavoidable, a mechanical bar splice shall be used. No additional payment will be made for mechanical bar splices.
(2) 2" Ø Steel Pipe for Sonic Logging Testing (4 each shaft).
(3) Alternate #10-V200 & #10-V201 bars (Typ.)

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

Sonic Logging testing shall be performed on all drilled shafts and rock sockets.

Thickness of permanent steel casing shall be in accordance to Sec 701.

An additional 4 feet has been added to included in the V-bar lengths and spiral bar heights and have been added in the quantities, if required, for possible change in drilled shaft or rock socket length. The additional V-bar length shall be cut off or included in the reinforcement lap if not required. The additional spiral bar height shall be cut off if not required.

This sheet shall be used as a template for Bents No. 2 & 3. Bent No. 2 bar marks typically shown. The Bill of Reinforcing Steel uses separate bar marks for each bent. The first number in the bar mark matches the corresponding Bent Number.

DETAILS OF INTERMEDIATE BENTS NO. 2 AND 3

Detailed Jul. 2026
Checked Aug. 2026

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

Sheet No. 7 of 36

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PROFESSIONAL ENGINEER

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DATE PREPARED 9/17/2026
ROUTE OLD 100 | STATE MO
DISTRICT BR | SHEET NO. 7
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

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

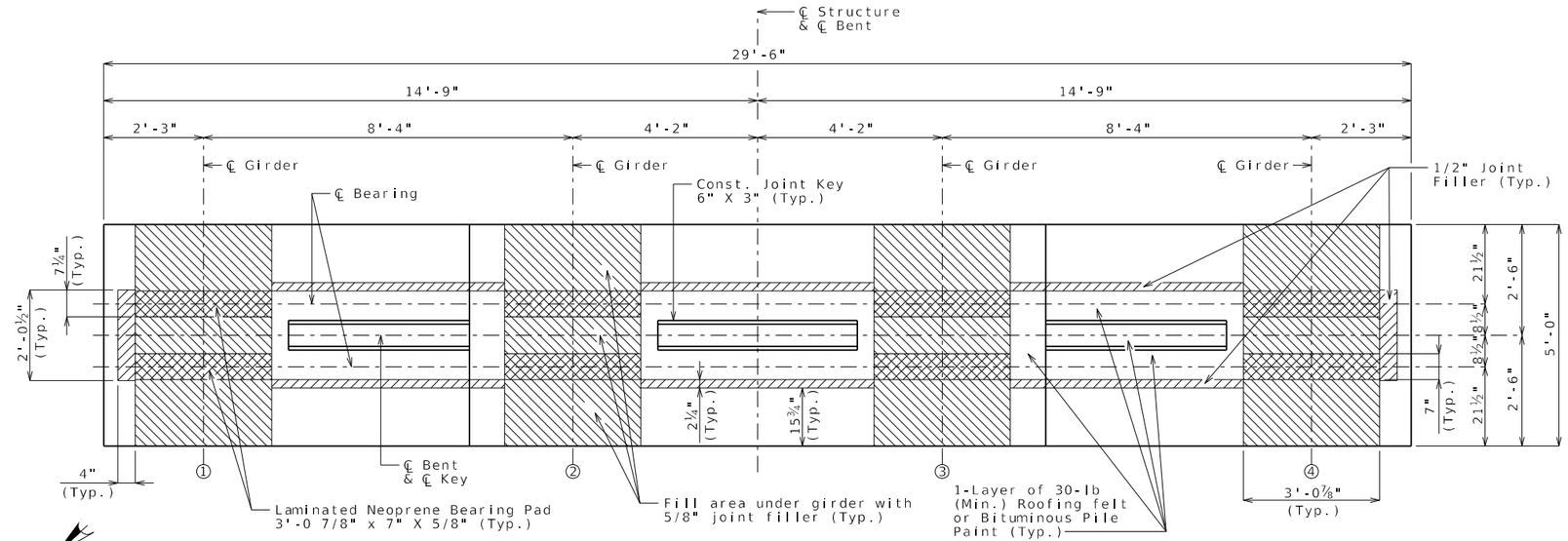
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St. Louis, MO 63101
314.588.8381

St. Charles
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St. Charles, MO 63301
636.493.8277

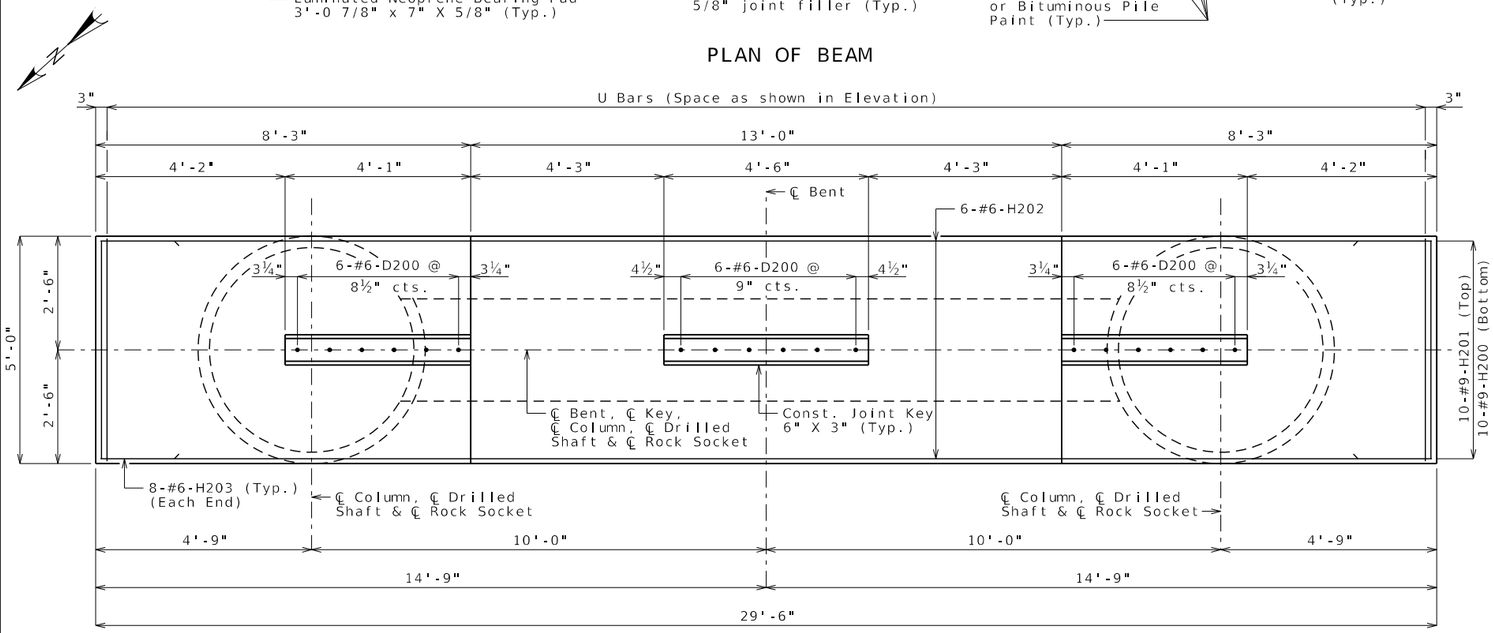
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Belleville, IL 62220
618.416.5488

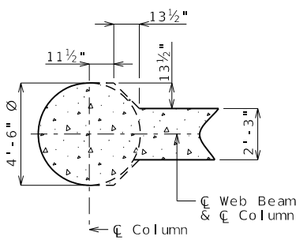
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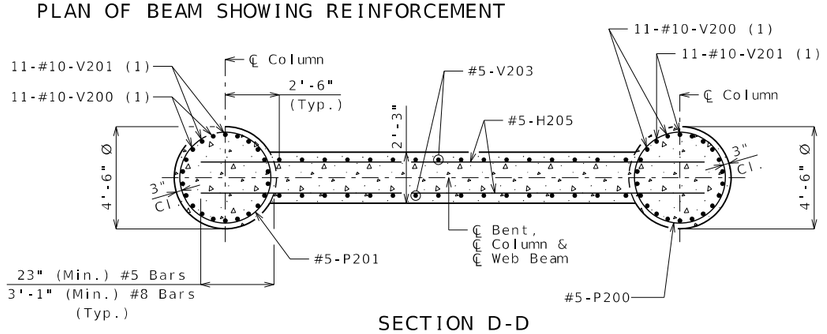
PLAN OF BEAM



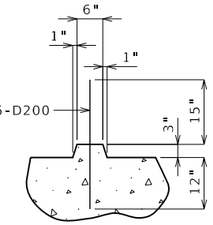
PLAN OF BEAM SHOWING REINFORCEMENT



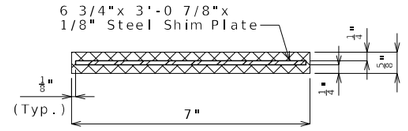
OPTIONAL SECTION D-D



SECTION D-D



SECTION THRU KEY



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD

Substructure Quantity Table for Bents No. 2 & 3			
Item		Quantity	
		Bent 2	Bent 3
Drilled Shafts (5 ft. 0 In. Dia.)	linear foot	160.0	160.0
Rock Sockets (4 ft 6 In. Dia.)	linear foot	24.0	24.0
Video Camera Inspection	each	2	2
Foundation Inspection Holes	linear foot	44.0	44.0
Sonic Logging Testing	each	2	2
Class B Concrete (Substructure)	cu. yard	60.6	60.6
Reinforcing Steel (Bridges)	pound	35,490	35,490

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

All reinforcement in drilled shafts and rock sockets is included in the substructure quantities.

The cost of any required excavation to the top of the drilled shafts will be considered completely covered by the contract unit price for other items.

Reference Notes:
(1) Alternate #10-V200 & #10-V201 bars (Typ.)

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

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

At the contractor's option, the details shown in Optional Section D-D may be used for Column-Web Beam at Intermediate Bents No. 2 & 3. No additional payment will be made for this substitution.

DETAILS OF INTERMEDIATE BENTS NO. 2 AND 3

Detailed Jul. 2026
Checked Aug. 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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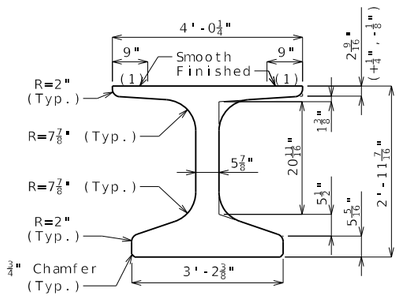
DATE PREPARED 9/17/2026
ROUTE OLD 100 | STATE MO
DISTRICT BR | SHEET NO. 8
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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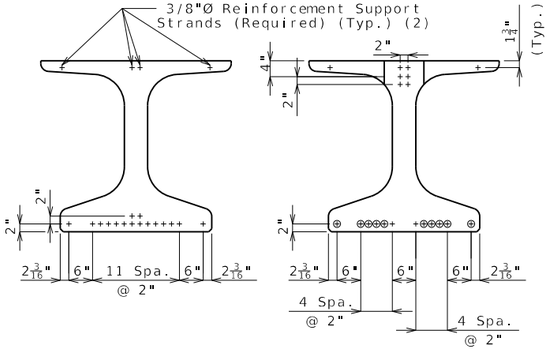
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(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.



DIMENSIONS

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

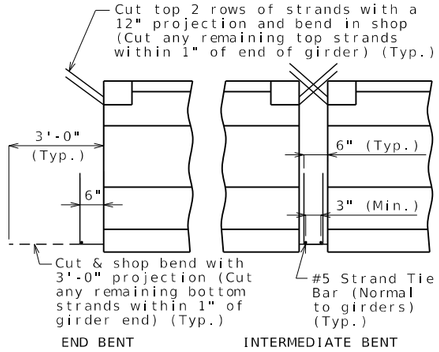


℄ GIRDER END OF GIRDER

STRAND ARRANGEMENT

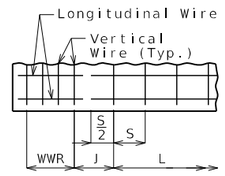
\+ Indicates prestressing strand.

○ Indicates cut & shop bend with 3'-0" projection.



END BENT INTERMEDIATE BENT

STRANDS AT GIRDER ENDS



WELDED WIRE PLACEMENT

S = Vertical wire spacing

L = Length of WWR mats

J = Distance between WWR mats

Bill of Reinforcing Steel

Bars Each Girder

No.	Size/Mark		Length	Shape
82	3	G1	2'-10"	8
2	4	G3	3'-10"	20
2	4	G4	2'-3"	20
2	4	G5	2'-8"	20

Welded Wire Each Girder

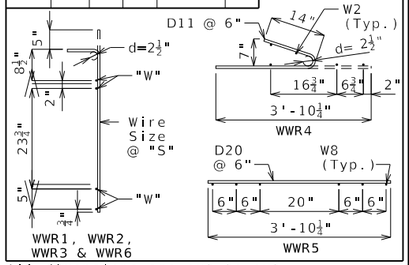
Mark	Size	S	W	L	J
WWR1	D31	4"	W12	6'-0"	4"
WWR2	D31	12"	W12	9'-0"	12"
WWR3	D31	20"	W12	25'-0"	--
WWR6	D31	2"	W12	16"	3"

Bending Diagrams



Shape 8

Shape 20



All dimensions are out to out.

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

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

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

All bar reinforcement shall be ASTM A615 or A706 Grade 60.

WWR shall not be epoxy coated.

G4 and G5 not required for interior girders. G3 not required for exterior girders of intermediate spans. Half no. of G3, G4, and G5 not required for ext. girders of end spans.

General Notes:

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

Use 16 strands, 0.6"Ø Grade 270, with an initial prestress force of 703 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, top flange blockout, coil inserts for slab drains.

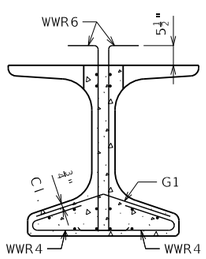
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. 15.

For location of coil inserts at slab drains, see Sheet No. 14.

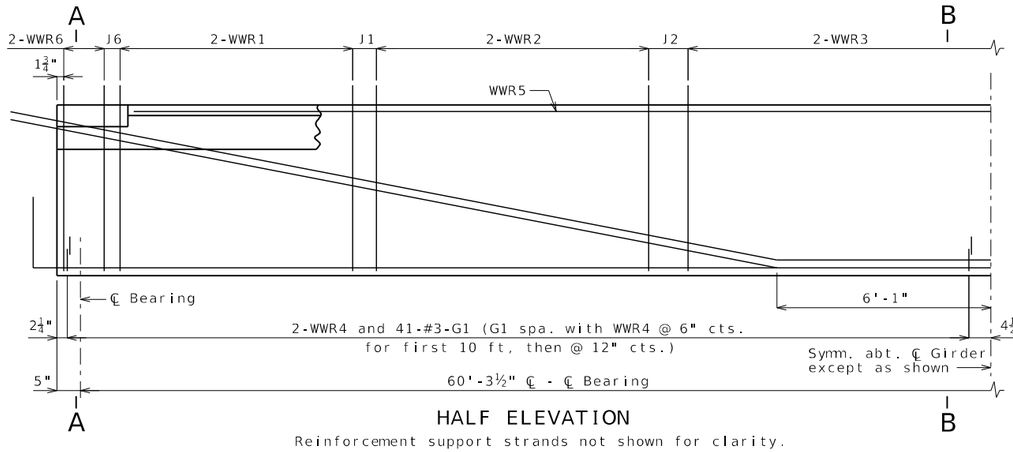
For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 4 & 13.

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



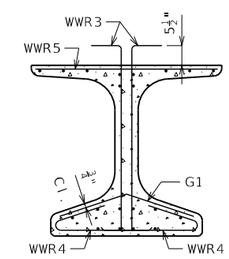
SECTION A-A

Strands not shown for clarity.



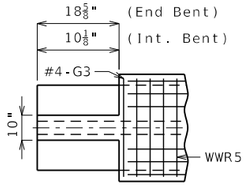
HALF ELEVATION

Reinforcement support strands not shown for clarity.



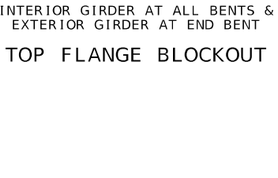
SECTION B-B

Strands not shown for clarity.



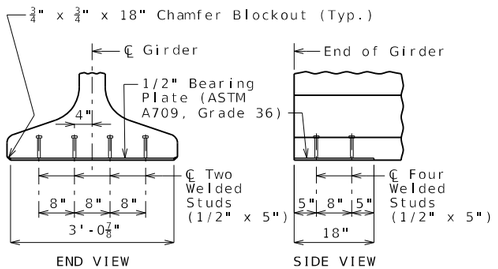
LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT

Rotate 180° for right ext.

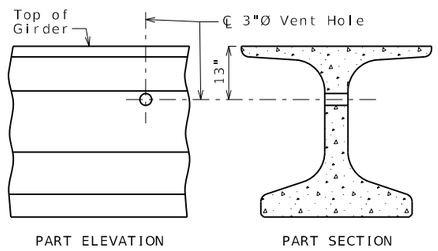


INTERIOR GIRDER AT ALL BENTS & EXTERIOR GIRDER AT END BENT

TOP FLANGE BLOCKOUT



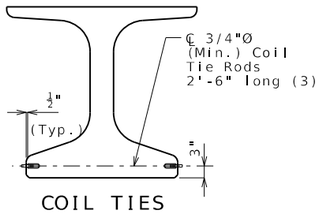
BEARING PLATE



PART ELEVATION PART SECTION

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.



COIL TIES

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

(3) 2'-3" at exterior face of exterior girders at end bents

NU-GIRDERS - SPANS (1-2) AND (3-4)

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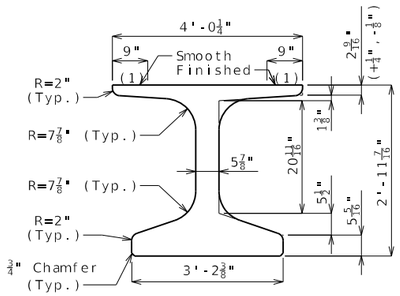
BRIDGE NO. A9801

DESCRIPTION | DATE

OATES ASSOCIATES

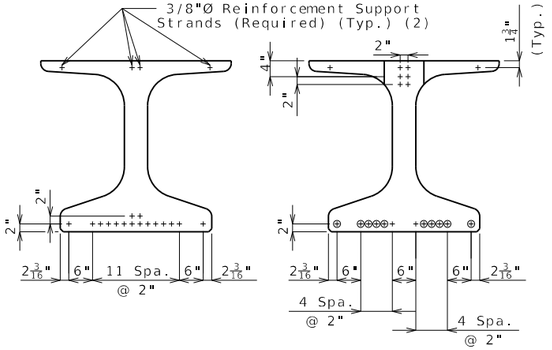
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(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.



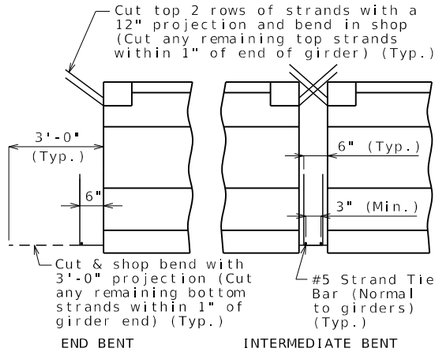
DIMENSIONS

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



℄ GIRDER END OF GIRDER

STRAND ARRANGEMENT

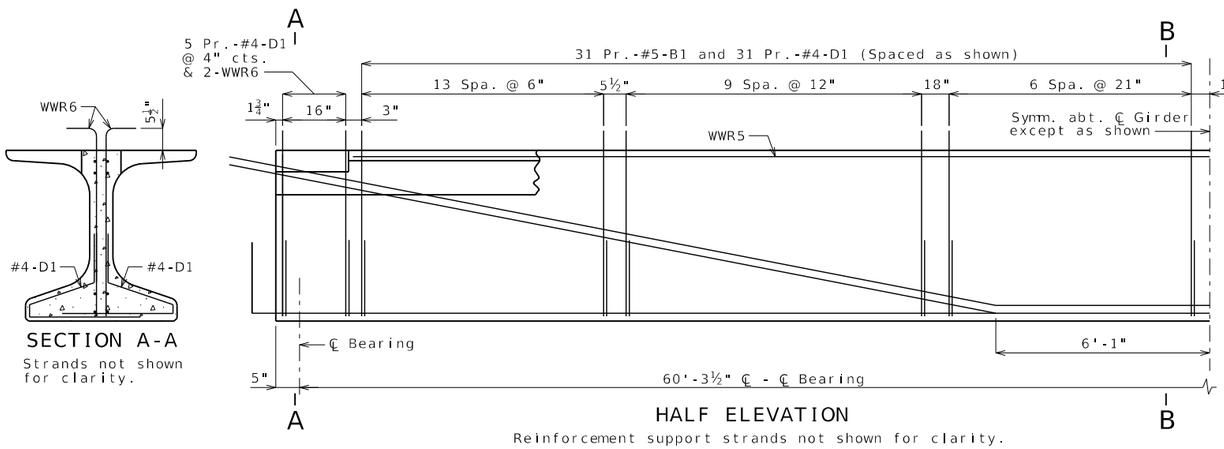


END BENT INTERMEDIATE BENT

STRANDS AT GIRDER ENDS

\+ Indicates prestressing strand.

○ Indicates cut & shop bend with 3'-0" projection.

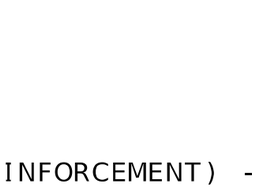


SECTION A-A
Strands not shown for clarity.

HALF ELEVATION
Reinforcement support strands not shown for clarity.

SECTION B-B
Strands not shown for clarity.

LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT
Rotate 180° for right ext.

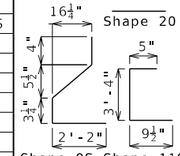


INTERIOR GIRDER AT ALL BENTS & EXTERIOR GIRDER AT END BENT

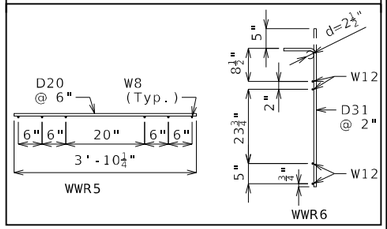
TOP FLANGE BLOCKOUT

Bill of Reinforcing Steel - Each Girder			
No.	Size/ Mark	Length	Shape
124	5 B1	4'-4"	11S
144	4 D1	4'-0"	9S
2	4 G3	3'-10"	20
2	4 G4	2'-3"	20
2	4 G5	2'-8"	20

Bending Diagrams



Welded Wire Reinforcement - Each Girder



All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be one inch.

All bar reinforcement shall be 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.

G4 and G5 not required for interior girders. G3 not required for exterior girders of intermediate spans. Half no. of G3, G4 and G5 not required for ext. girders of end spans.

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, 0.6"Ø Grade 270, with an initial prestress force of 703 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, top flange blockout, coil inserts for slab drains.

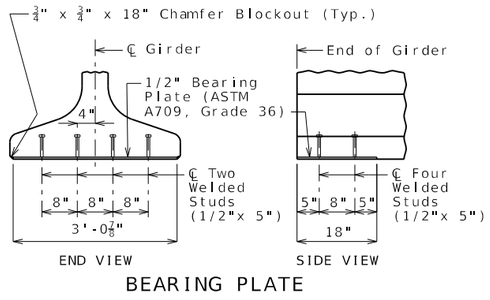
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For Girder Camber Diagram, see Sheet No. 15.

For location of coil inserts at slab drains, see Sheet No. 14.

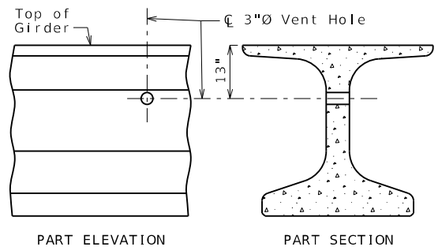
For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 4 & 13.

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END VIEW SIDE VIEW

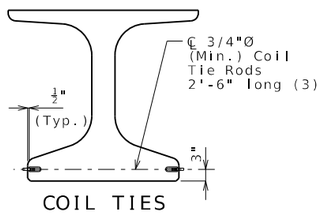
BEARING PLATE



PART ELEVATION PART SECTION

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.



COIL TIES

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

(3) 2'-3" at exterior face of exterior girders at end bents.

NU-GIRDERS (ALTERNATE REINFORCEMENT) - SPANS (1-2) AND (3-4)

Detailed Jun. 2026
Checked Aug. 2026

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

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DISTRICT	SHEET NO.
BR	10

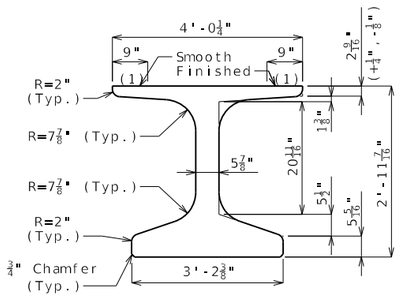
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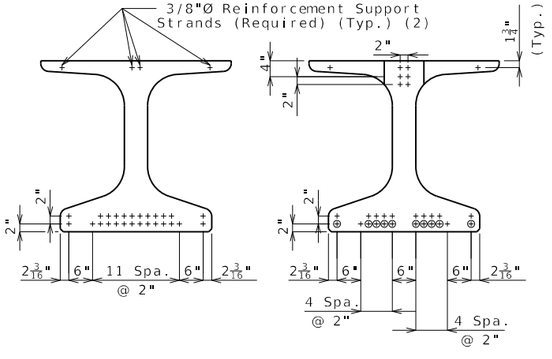
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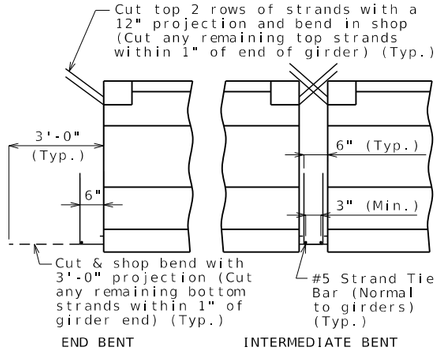


℄ GIRDER END OF GIRDER

STRAND ARRANGEMENT

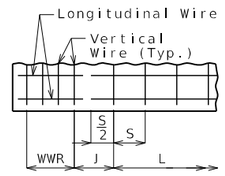
\+ Indicates prestressing strand.

○ Indicates cut & shop bend with 3'-0" projection.



END BENT INTERMEDIATE BENT

STRANDS AT GIRDER ENDS



WELDED WIRE PLACEMENT

S = Vertical wire spacing

L = Length of WWR mats

J = Distance between WWR mats

Bill of Reinforcing Steel

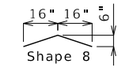
Bars Each Girder

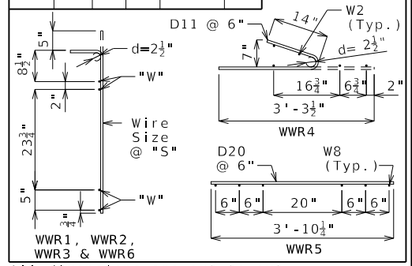
No.	Size/Mark		Length	Shape
104	3	G1	2'-10"	8
2	4	G3	3'-10"	20
2	4	G4	2'-3"	20
2	4	G5	2'-8"	20

Welded Wire Each Girder

Mark	Size	S	W	L	J
WWR1	D31	4"	W12	2'-4"	5"
WWR2	D31	8"	W12	16'-8"	13¾"
WWR3	D31	24"	W12	38'-0"	--
WWR6	D31	2"	W12	16"	2"

Bending Diagrams





All dimensions are out to out.

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

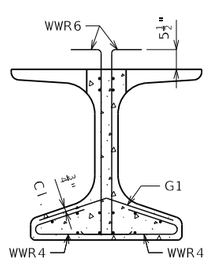
Actual bar lengths are measured along centerline of bar to the nearest inch.

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

All bar reinforcement shall be ASTM A615 or A706 Grade 60.

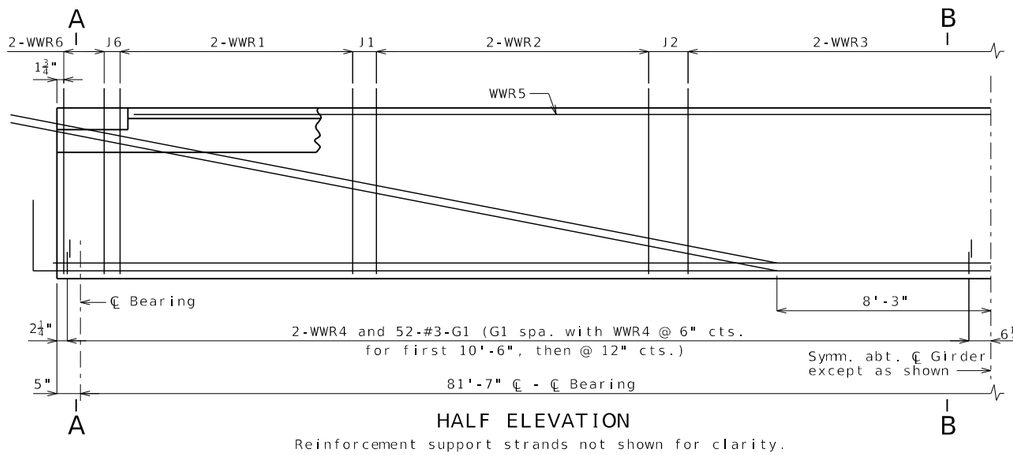
WWR shall not be epoxy coated.

G4 and G5 not required for interior girders. G3 not required for exterior girders.



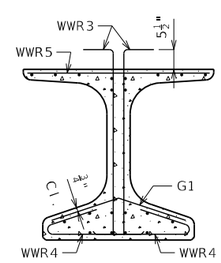
SECTION A-A

Strands not shown for clarity.



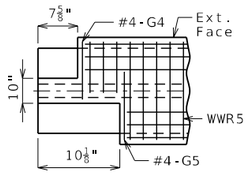
HALF ELEVATION

Reinforcement support strands not shown for clarity.



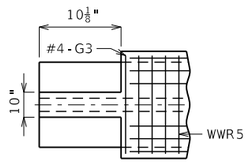
SECTION B-B

Strands not shown for clarity.



LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT

Rotate 180° for right ext.



INTERIOR GIRDER AT ALL BENTS

TOP FLANGE BLOCKOUT

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 girders are the same except: coil ties, top flange blockout, coil inserts for slab drains.

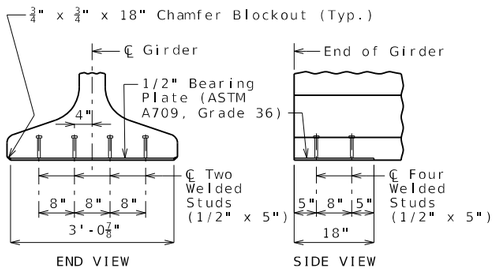
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. 15.

For location of coil inserts at slab drains, see Sheet No. 14.

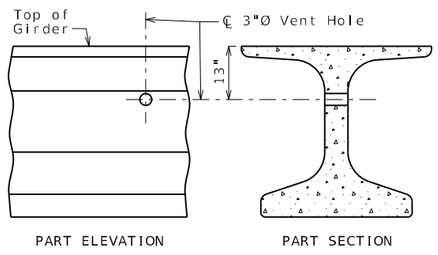
For location of coil ties at concrete diaphragms, see Sheet No. 13.

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



END VIEW SIDE VIEW

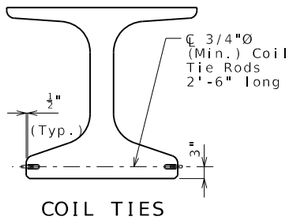
BEARING PLATE



PART ELEVATION PART SECTION

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.



COIL TIES

Exclude coil tie at exterior face of exterior girders.

NU-GIRDERS - SPAN (2-3)

Detailed Jun. 2026
Checked Aug. 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 OLD 100 | STATE MO

DISTRICT BR | SHEET NO. 11

COUNTY FRANKLIN

JOB NO. J6S3627

CONTRACT ID.

PROJECT NO.

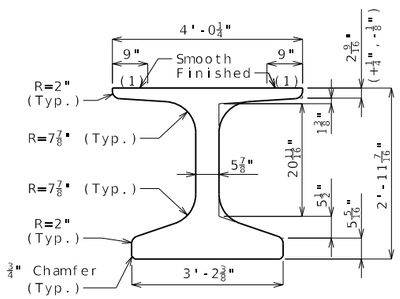
BRIDGE NO. A9801

DESCRIPTION | DATE

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

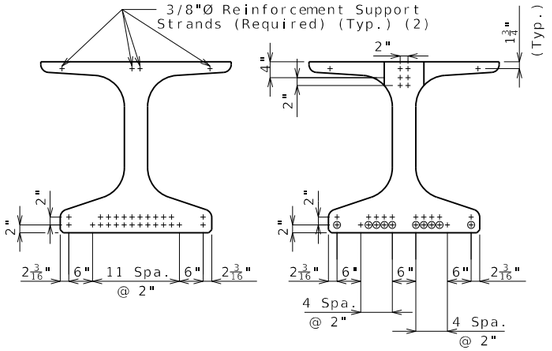
OATES ASSOCIATES
MISSOURI DESIGN FIRM PE-001166
Collinsville 101 Lemay Court, Suite 1 Collinsville, IL 62234 618.345.2200
St. Louis 720 Olive Street, Suite 700 St. Louis, MO 63101 314.588.8381
Belleville 100 West Main Street, 2nd Floor Belleville, IL 62220 618.416.5468
St. Charles 820 South Main, Suite 309 St. Charles, MO 63301 636.493.6277
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(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.



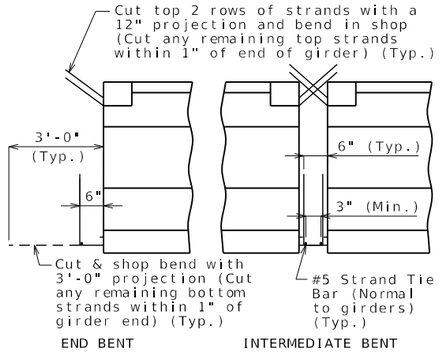
DIMENSIONS

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



℄ GIRDER END OF GIRDER

STRAND ARRANGEMENT

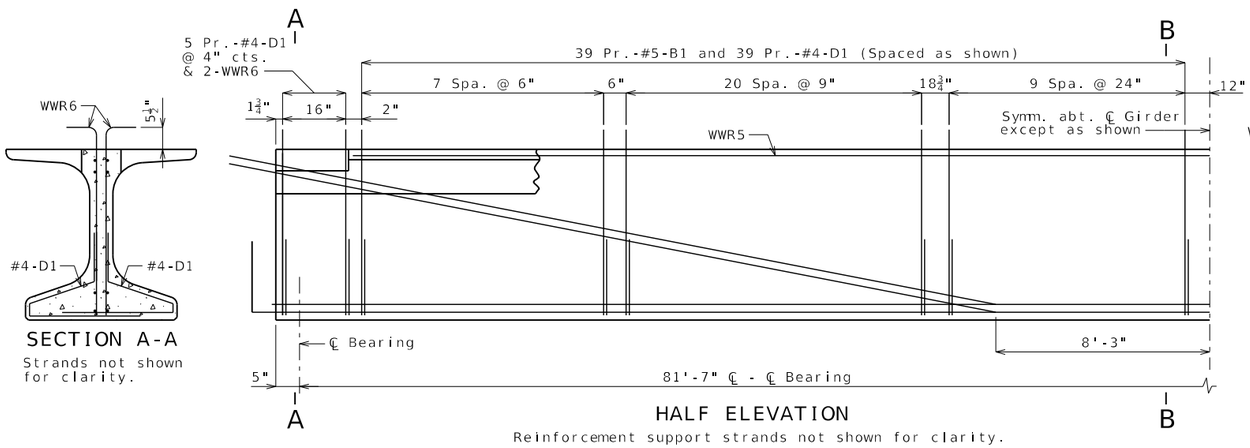


END BENT INTERMEDIATE BENT

STRANDS AT GIRDER ENDS

\+ Indicates prestressing strand.

○ Indicates cut & shop bend with 3'-0" projection.



SECTION A-A

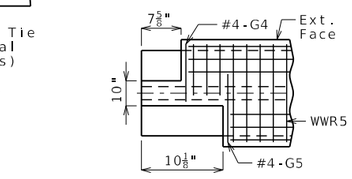
Strands not shown for clarity.

SECTION B-B

Strands not shown for clarity.

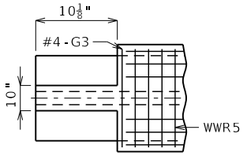
HALF ELEVATION

Reinforcement support strands not shown for clarity.



LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT

Rotate 180° for right ext.

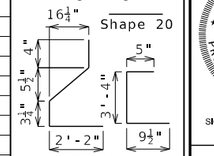


INTERIOR GIRDER AT ALL BENTS

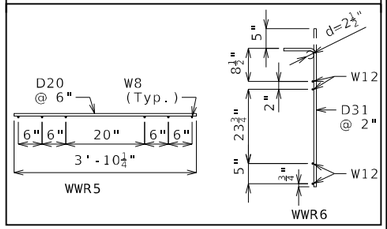
TOP FLANGE BLOCKOUT

Bill of Reinforcing Steel - Each Girder			
No.	Size/ Mark	Length	Shape
156	5 B1	4'-4"	11S
176	4 D1	4'-0"	9S
2	4 G3	3'-10"	20
2	4 G4	2'-3"	20
2	4 G5	2'-8"	20

Bending Diagrams



Welded Wire Reinforcement - Each Girder



All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be one inch.

All bar reinforcement shall be 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.

G4 and G5 not required for interior girders. G3 not required for exterior girders.

General Notes:

Concrete for prestressed girders 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 girders are the same except: coil ties, top flange blockout, coil inserts for slab drains.

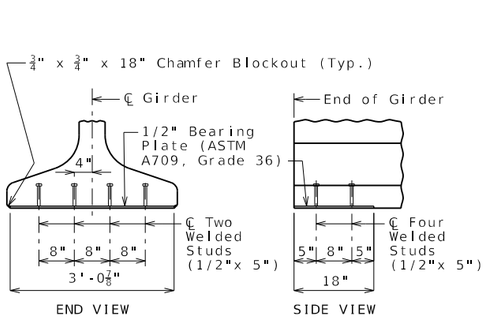
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. 15.

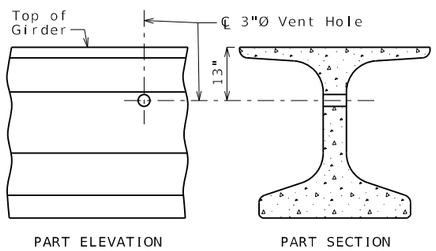
For location of coil inserts at slab drains, see Sheet No. 14.

For location of coil ties at concrete diaphragms, see Sheet No. 13.

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

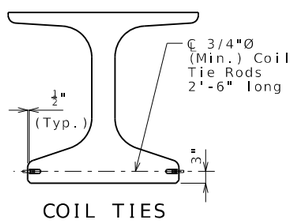


BEARING PLATE



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.



COIL TIES

Exclude coil tie at exterior face of exterior girders.

NU-GIRDERS (ALTERNATE REINFORCEMENT) - SPAN (2-3)

Detailed Jun. 2026
Checked Aug. 2026

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

H:\P\225045 - Old Route 100 over Dubois Creek\Bridge\Final Bridge\Microstation\B_A9801_012_J6S3627_NU-Girders (Alternate Reinforcement) - Span (2-3).dgn 3:08:30 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
OLD 100	MO
DISTRICT	SHEET NO.
BR	12

COUNTY: FRANKLIN

JOB NO.: J6S3627

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.: A9801

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

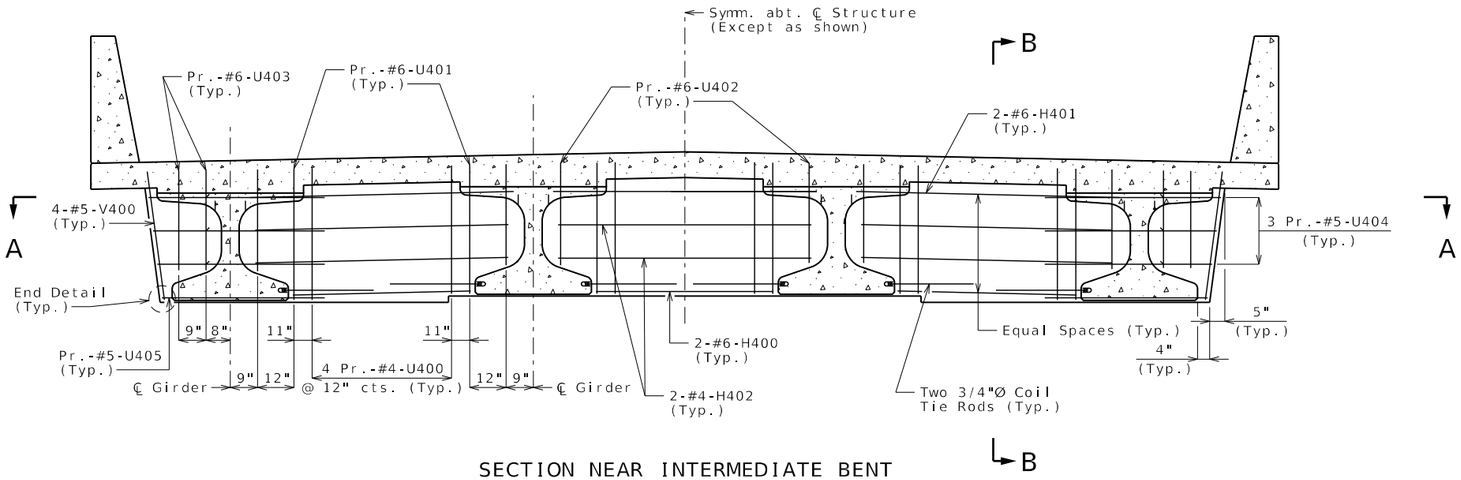
St. Louis: 720 Olive Street, Suite 700, St. Louis, MO 63101, 314.588.8383

Belleville: 100 West Main Street, 2nd Floor, Belleville, IL 62220, 618.416.4488

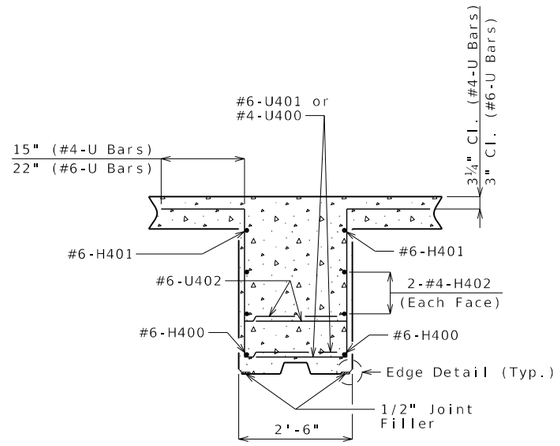
St. Charles: 820 South Main, Suite 309, St. Charles, MO 63301, 636.493.6277

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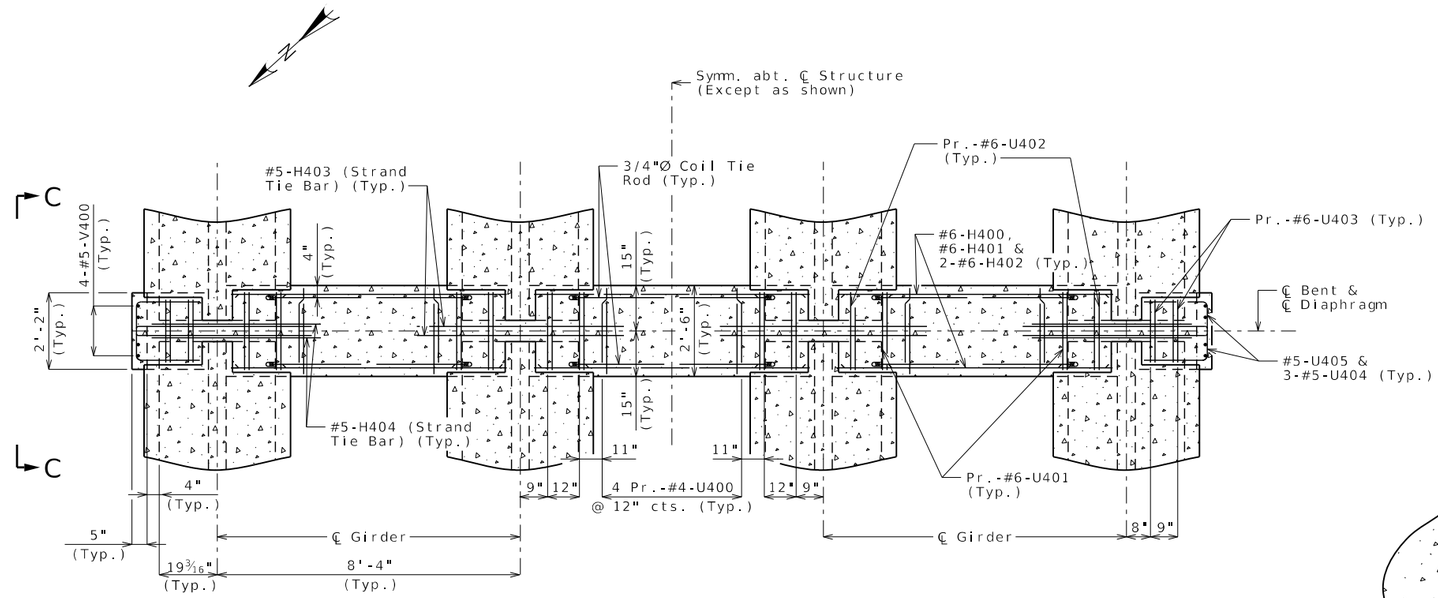
MISSOURI DESIGN FIRM PE-001166



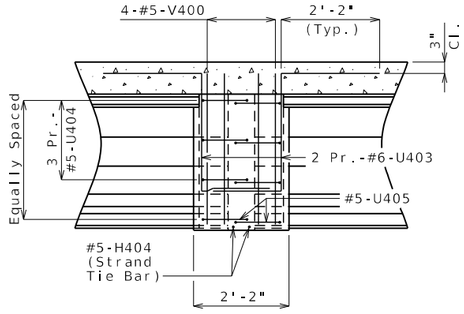
SECTION NEAR INTERMEDIATE BENT



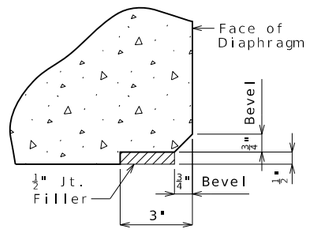
SECTION B-B



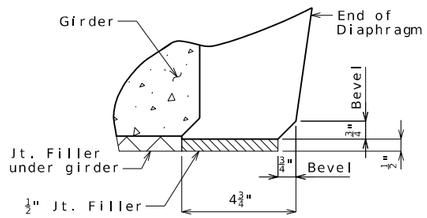
SECTION A-A



SECTION C-C



EDGE DETAIL



END DETAIL

General Notes:
For locations of Strand Tie Bars and Coil Tie Rods, see Sheets No. 9 thru 12.

Diaphragms at intermediate bents shall be built vertical.

CONCRETE DIAPHRAGMS AT INTERMEDIATE BENTS NO. 2 AND 3

Detailed Jul. 2026
Checked Aug. 2026

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

H:\P\225045 - Old Route 100 over Dubois Creek\Bridge\Final Bridge\Microstation\B_A9801_013_J6S3627_Concrete Diaphragms at Intermediate Bents No. 2 and 3.dgn 3:08:32 PM 9/17/2026

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

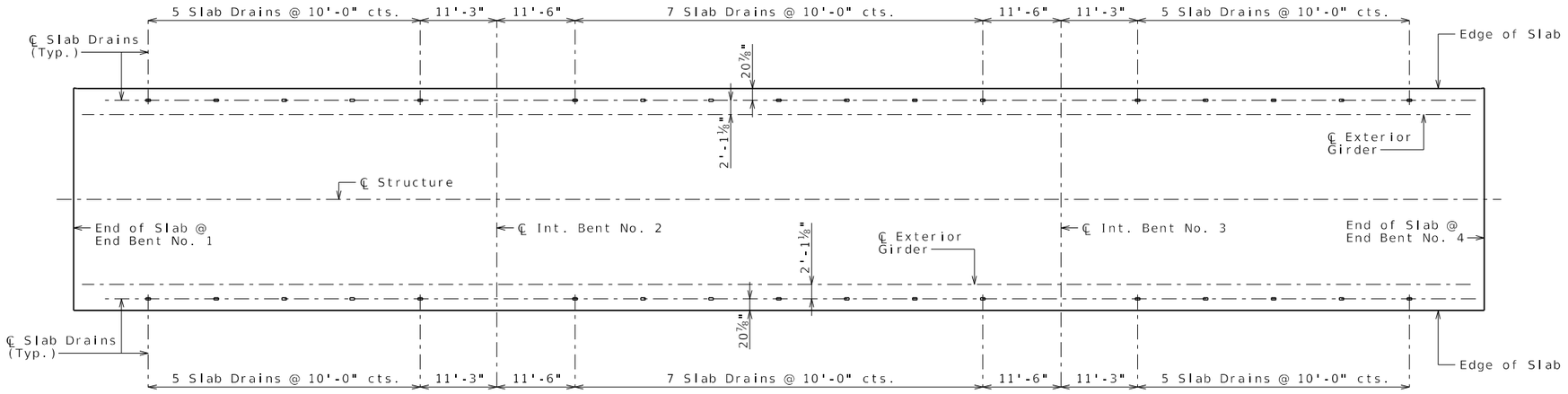
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/17/2026
ROUTE OLD 100
STATE MO
DISTRICT BR
SHEET NO. 13
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

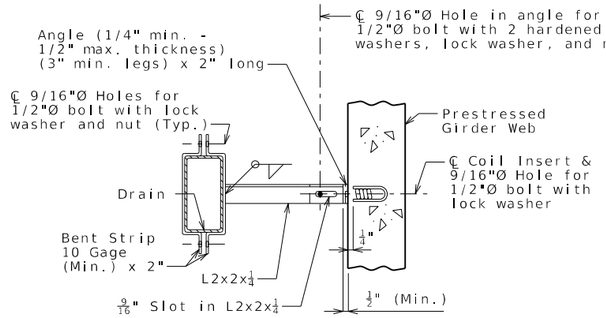
DESCRIPTION
DATE

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

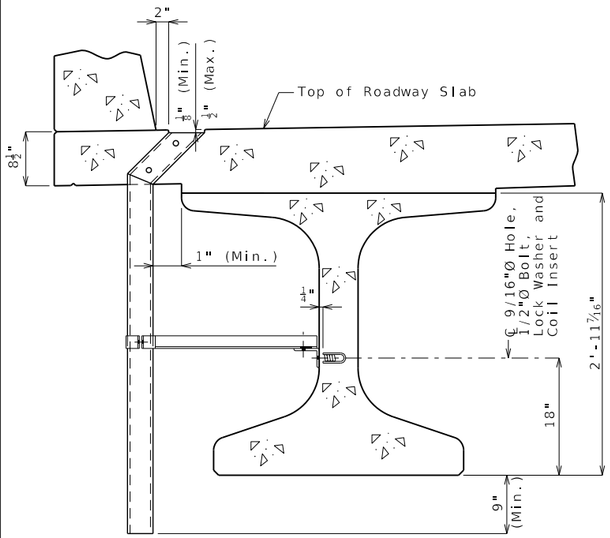
OATES ASSOCIATES
MISSOURI DESIGN FIRM PE-001166
St. Louis
720 Olive Street, Suite 700
St. Louis, MO 63101
314.588.8381
St. Charles
820 South Main, Suite 309
St. Charles, MO 63301
636.493.0277
Collinsville
1101 Lonergan Court, Suite I
Collinsville, IL 62234
618.345.2300
Belleville
100 West Main Street, 2nd Floor
Belleville, IL 62220
618.416.6466
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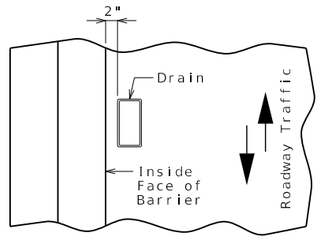
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



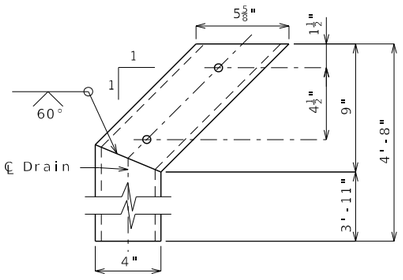
PART SECTION SHOWING BRACKET ASSEMBLY



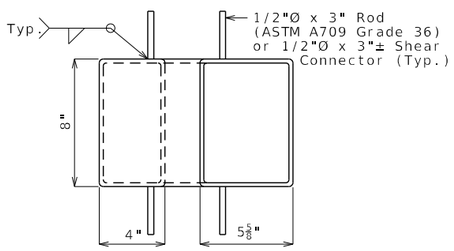
PART SECTION NEAR DRAIN



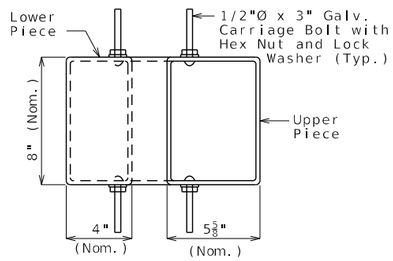
PART PLAN OF SLAB AT DRAIN



ELEVATION OF 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 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.

Both upper and lower drain pieces shall be rigidly connected to each other. Drain flow shall not be obstructed. Approval of the engineer is required.

SLAB DRAINS

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 OLD 100 | STATE MO
DISTRICT BR | SHEET NO. 14
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

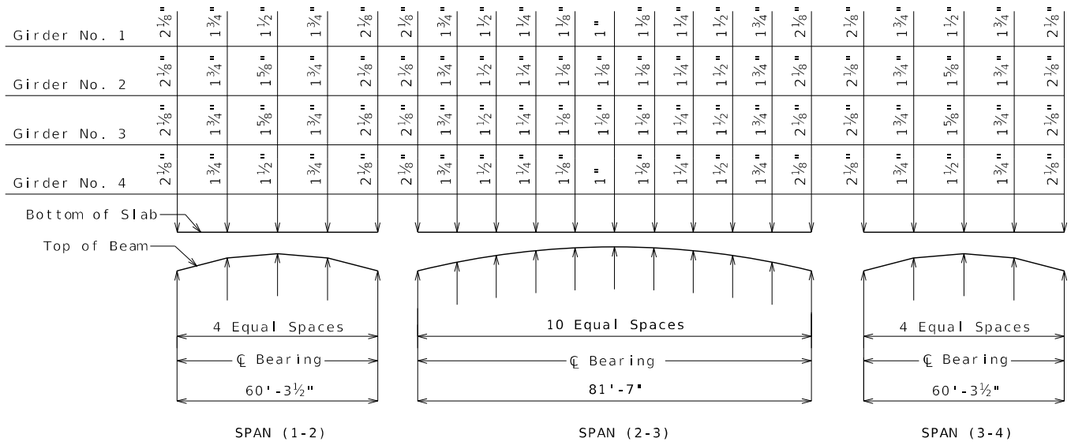
DESCRIPTION | DATE

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Detailed Jul. 2026
Checked Aug. 2026

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

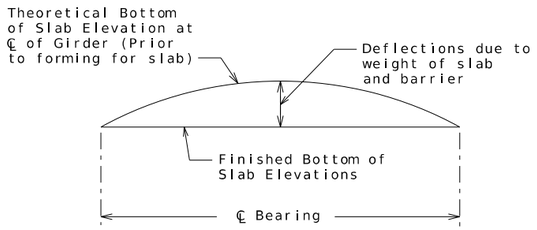
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THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

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

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



TYPICAL SLAB ELEVATIONS DIAGRAM

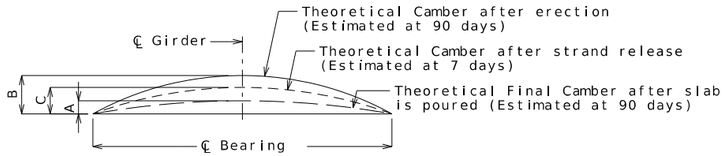
Theoretical Bottom of Slab Elevations at Centerline of Girder (Prior to forming for slab) (Estimated at 90 days)

Girder Number	Span (1-2) (60'-3½" ℄ Brg. - ℄ Brg.)				
	℄ Brg.	.25	.50	.75	℄ Brg.
1	488.39	488.42	488.43	488.42	488.39
2	488.56	488.59	488.60	488.59	488.56
3	488.56	488.59	488.60	488.59	488.56
4	488.39	488.42	488.43	488.42	488.39

Girder Number	Span (2-3) (81'-7" ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ Brg.
1	488.39	488.43	488.47	488.50	488.52	488.53	488.52	488.50	488.47	488.43	488.39
2	488.56	488.60	488.64	488.67	488.69	488.70	488.69	488.67	488.64	488.60	488.56
3	488.56	488.60	488.64	488.67	488.69	488.70	488.69	488.67	488.64	488.60	488.56
4	488.39	488.43	488.47	488.50	488.52	488.53	488.52	488.50	488.47	488.43	488.39

Girder Number	Span (3-4) (60'-3½" ℄ Brg. - ℄ Brg.)				
	℄ Brg.	.25	.50	.75	℄ Brg.
1	488.39	488.42	488.43	488.42	488.39
2	488.56	488.59	488.60	488.59	488.56
3	488.56	488.59	488.60	488.59	488.56
4	488.39	488.42	488.43	488.42	488.39

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



Girder	Span (1-2)			Span (2-3)			Span (3-4)		
	A	B	C	A	B	C	A	B	C
Exterior	5/8"	1 1/8"	5/8"	1 1/8"	2 3/4"	1 5/8"	5/8"	1 1/8"	5/8"
Interior	5/8"			1 1/8"			5/8"		

GIRDER CAMBER DIAGRAM

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

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

0.25 pt. = 0.7125 x 0.5 pt.

SLAB ELEVATIONS, HAUNCHING AND CAMBER

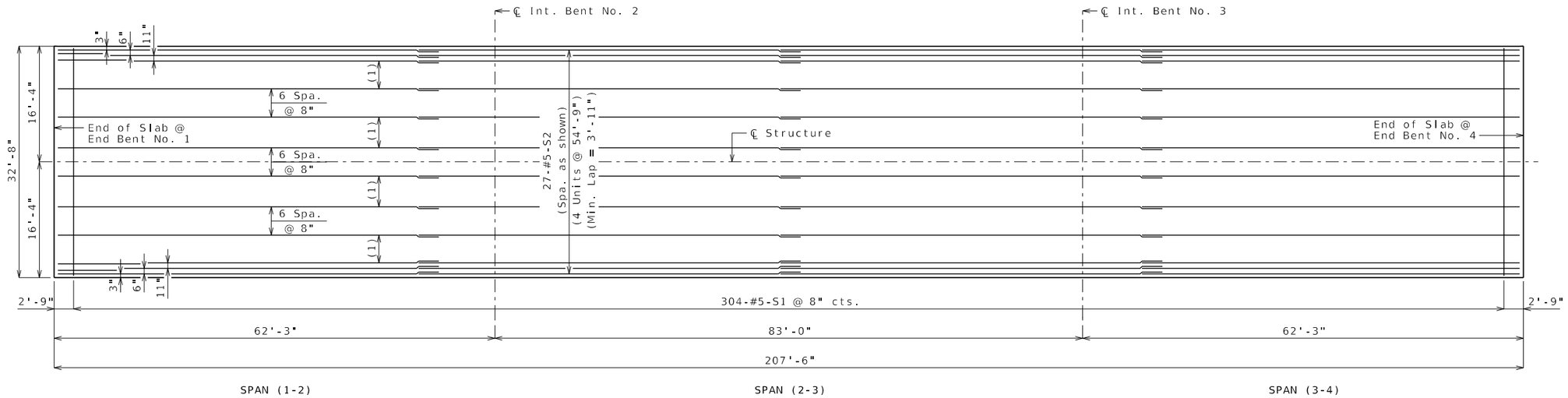
STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
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DISTRICT: BR | SHEET NO.: 15
COUNTY: FRANKLIN
JOB NO.: J6S3627
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9801

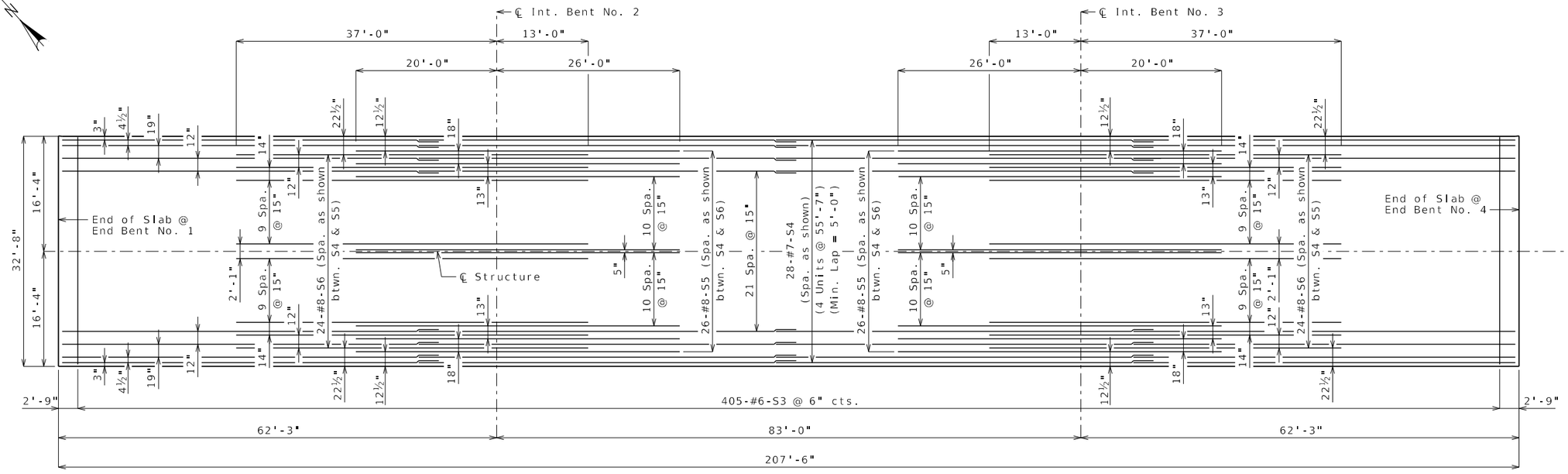
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PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT



PLAN OF SLAB SHOWING TOP REINFORCEMENT

Reference Notes:
(1) 4'-4"

General Notes:
Longitudinal slab dimensions are measured horizontally.

For details and locations of Slab Drains, see Sheet No. 14.

For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, see Sheet No. 15.

For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 17.

For details and reinforcement of barrier not shown, see Sheets No. 18 thru 20.

PLAN OF SLAB SHOWING REINFORCEMENT

Detailed Aug. 2026
Checked Aug. 2026

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

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

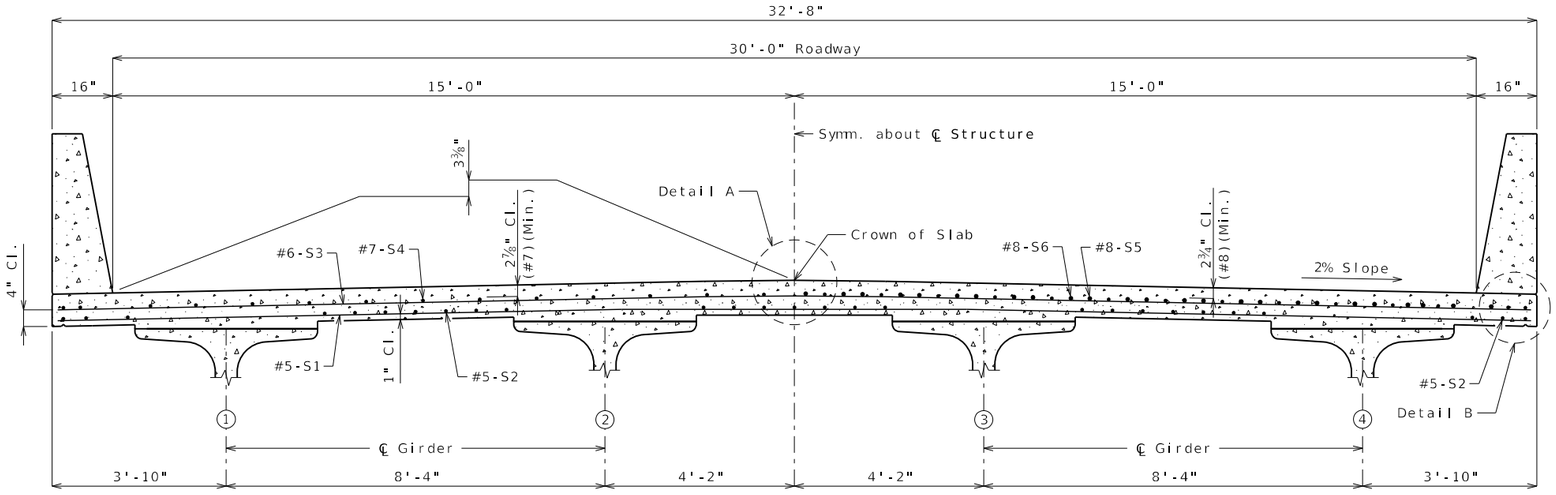
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DISTRICT: BR | SHEET NO.: 16
COUNTY: FRANKLIN
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CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9801

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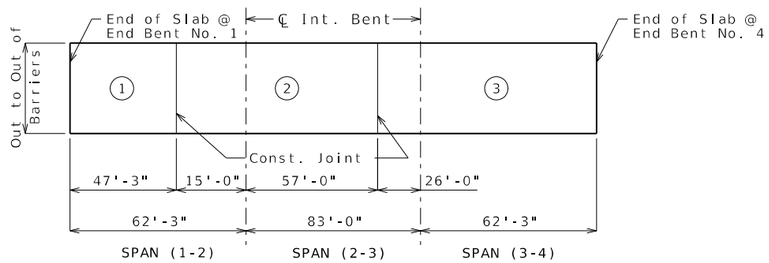
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HALF SECTION NEAR END BENT

HALF SECTION NEAR INTERMEDIATE BENT

SECTION THRU SLAB

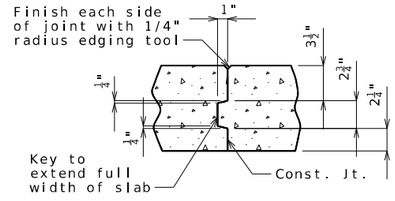


	Sequence of Pours			Min. Rate of Pour Cu. Yds./Hr.
	Direction			With Retarder
Basic Sequence	1	2	3	25
	End to 2	1 to 3	2 to End	
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.				
Alternate A Pours	1 + 2		3	25
	End to 3		2 to End	
Alternate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

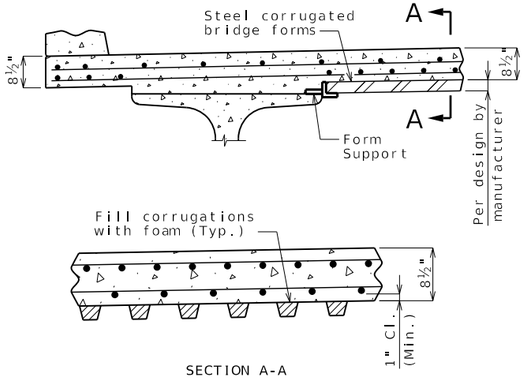
The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

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



SLAB CONSTRUCTION JOINT



SECTION A-A

OPTIONAL STAY-IN-PLACE FORM DETAILS

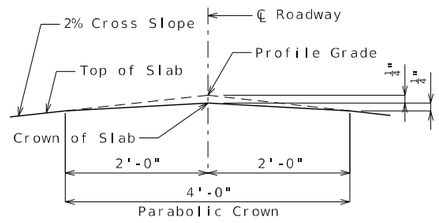
Stay-In-Place Forms:

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

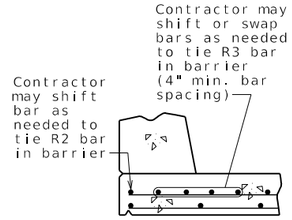
Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

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

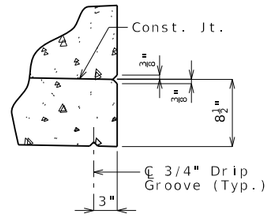
The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for girder loading.



DETAIL A



OPTIONAL SHIFTING TOP BARS AT BARRIER



DETAIL B

General Notes:
For reinforcement of barrier not shown, see Sheets No. 18 thru 20.

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 15.

For Plan of Slab Showing Reinforcement, see Sheet No. 16.

SLAB DETAILS

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

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DATE PREPARED 9/17/2026

ROUTE OLD 100 | STATE MO

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COUNTY FRANKLIN

JOB NO. J6S3627

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9801

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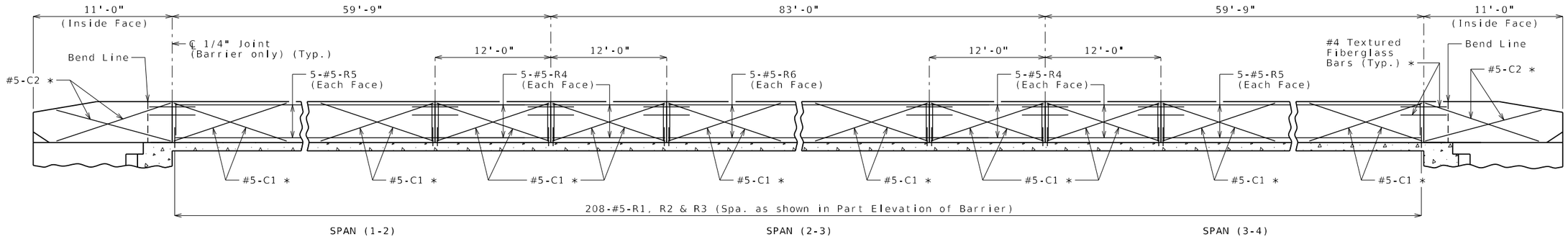
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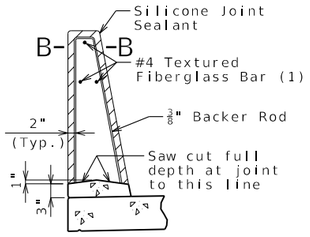
Note: This drawing is not to scale. Follow dimensions.

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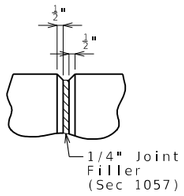


ELEVATION OF BARRIER

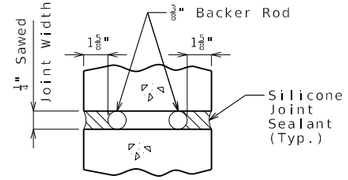
(Left barrier shown, right barrier similar)
Longitudinal dimensions are horizontal.



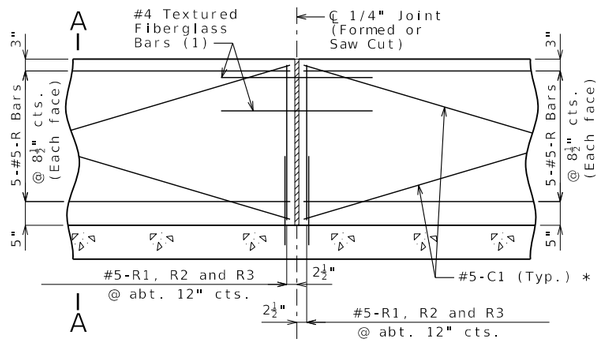
SECTION THRU
SAW CUT JOINT



PART ELEVATION
AT FORMED JOINT

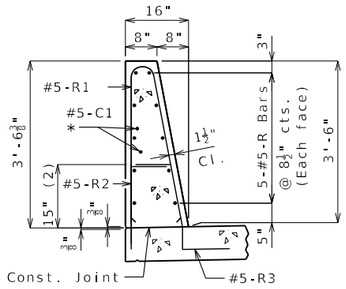


SECTION B-B



PART ELEVATION OF BARRIER

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

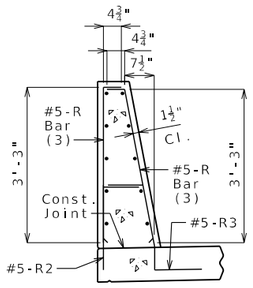


SECTION A-A

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

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

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

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

General Notes:

* Slip-formed option only.

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

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

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

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

Concrete in barrier shall be Class B-1.

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

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

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

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

TYPE D BARRIER

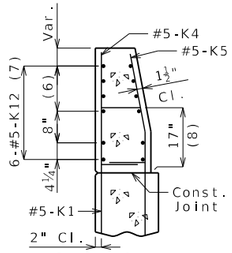
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COUNTY FRANKLIN
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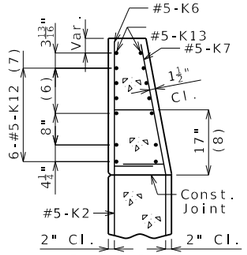
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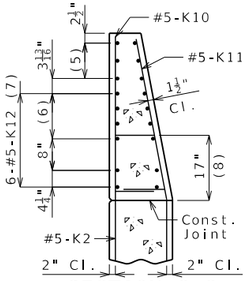
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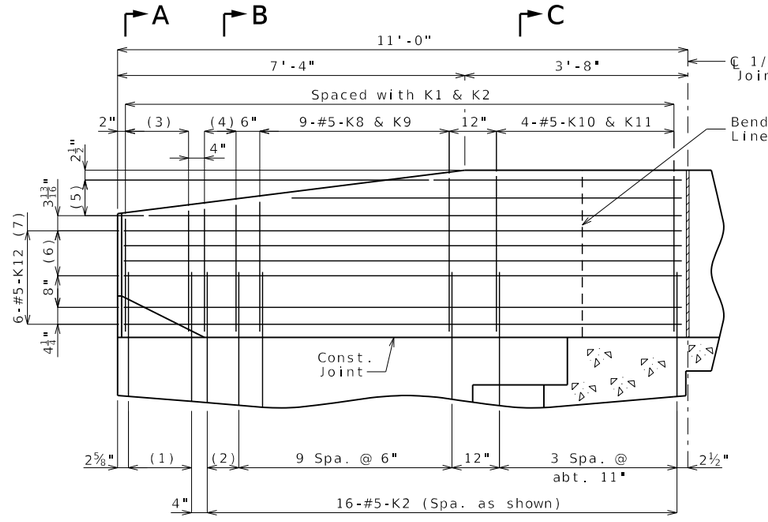
SECTION A-A

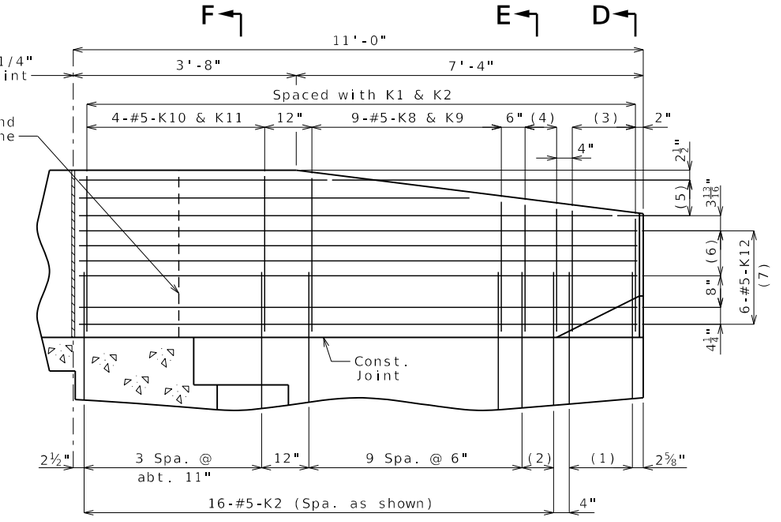


SECTION B-B

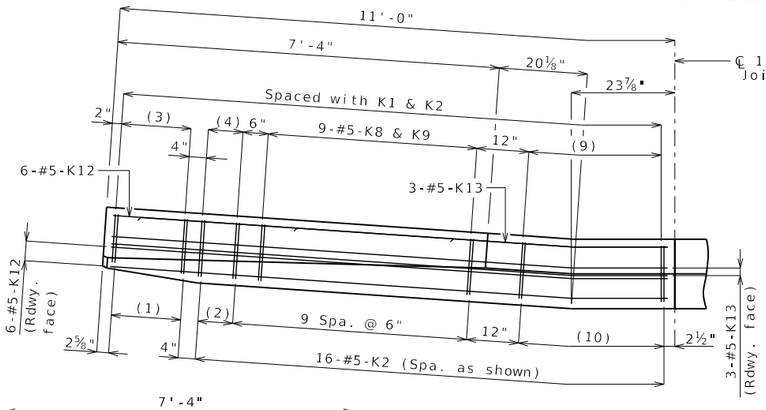


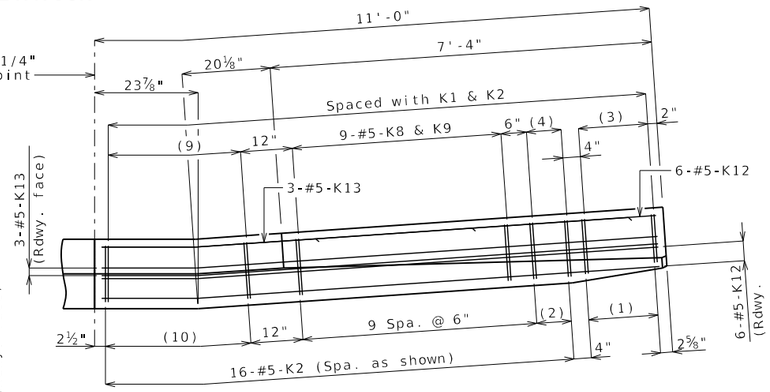
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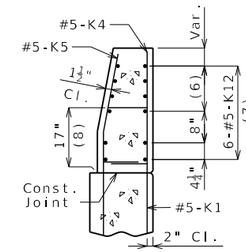




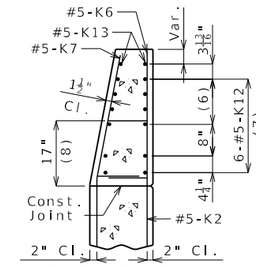
PART ELEVATION



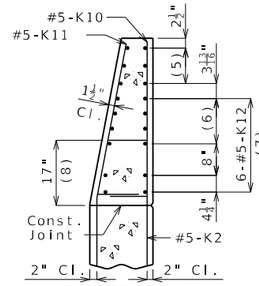




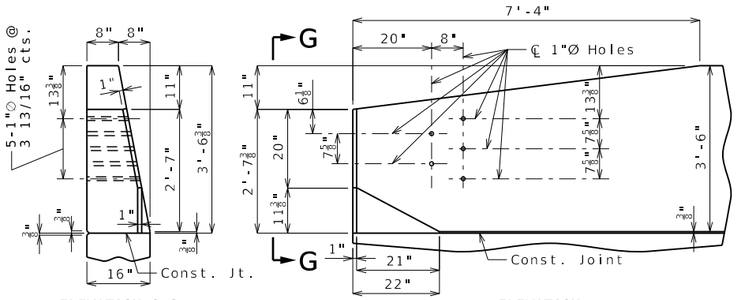
SECTION D-D



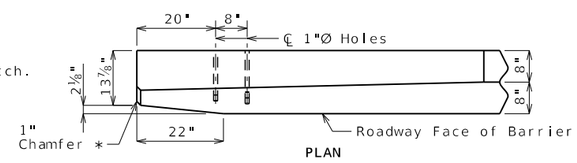
SECTION E-E



SECTION F-F



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



DETAILS OF GUARD RAIL ATTACHMENT

PART PLAN

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

(2) 2 spaces @ 4"

(3) 5-#5-K4 & K5

(4) 3-#5-K6 & K7

(5) 3-#5-K13 @ 4½" cts., each face

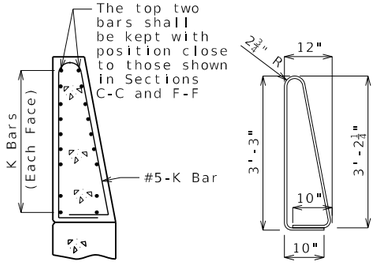
(6) 3 spaces @ 3 13/16"

(7) Spaced as shown, each face

(8) To top of bar

(9) 4-#5-K10 & K11

(10) 3 Spa. @ abt. 11"



K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

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

All dimensions are out to out.

General Notes:

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

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

Detailed Jun. 2026
Checked Jul. 2026

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

TYPE D BARRIER AT END BENTS (LEFT)

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

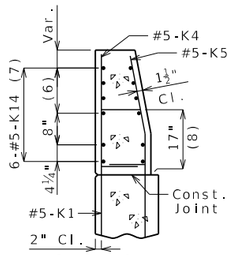
ROUTE	STATE
OLD 100	MO
DISTRICT	SHEET NO.
BR	19

COUNTY: FRANKLIN
JOB NO.: J6S3627
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9801

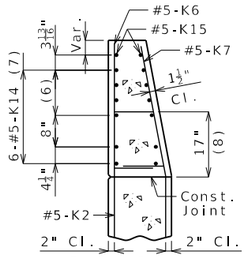
DESCRIPTION | DATE

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

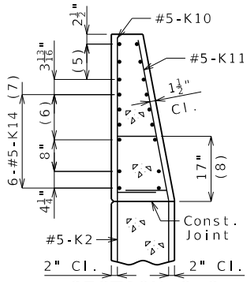
OATES ASSOCIATES
MISSOURI DESIGN FIRM PE-001166
St. Louis: 720 Olive Street, Suite 700, St. Louis, MO 63101, 314.588.8381
St. Charles: 820 South Main, Suite 309, St. Charles, MO 63301, 636.493.0277
Collinsville: 101 Lamar Court, Suite 1, Collinsville, IL 62234, 618.345.5200
Belleville: 100 West Main Street, 2nd Floor, Belleville, IL 62220, 618.416.6688
www.oatesassociates.com



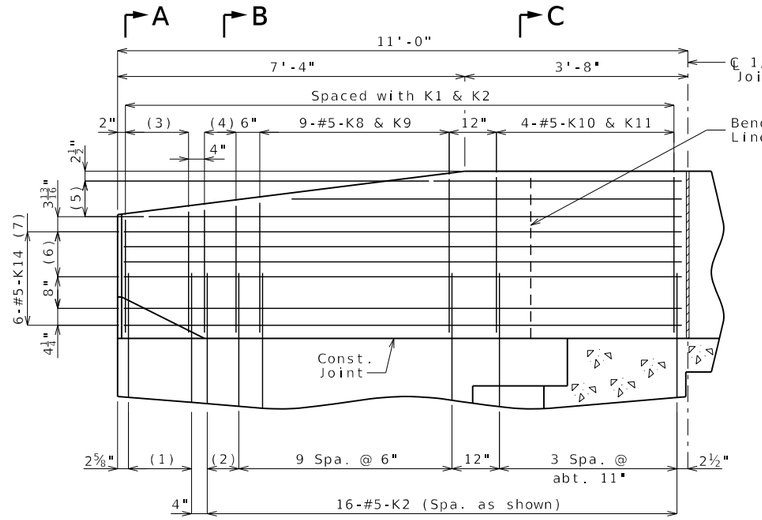
SECTION A-A

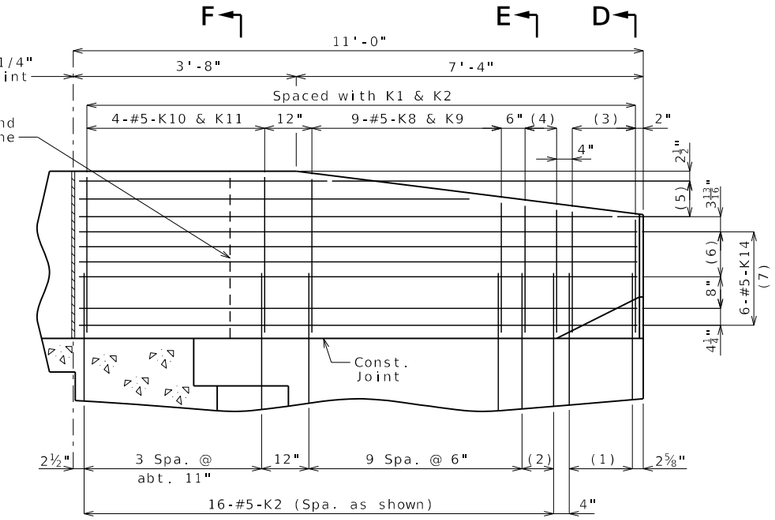


SECTION B-B

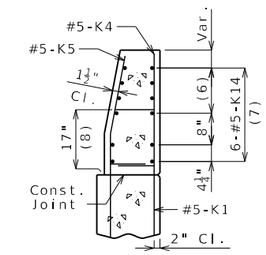


SECTION C-C

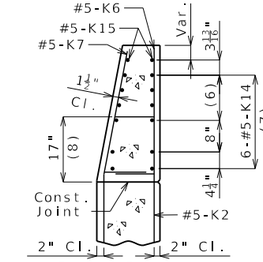




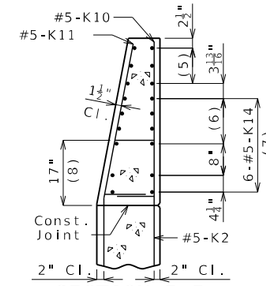
PART ELEVATION



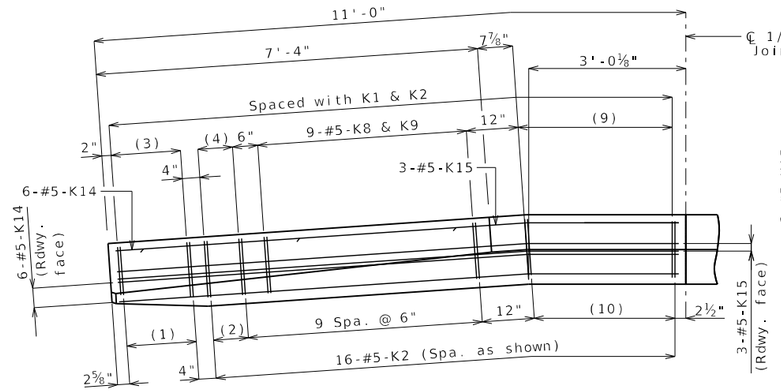
SECTION D-D

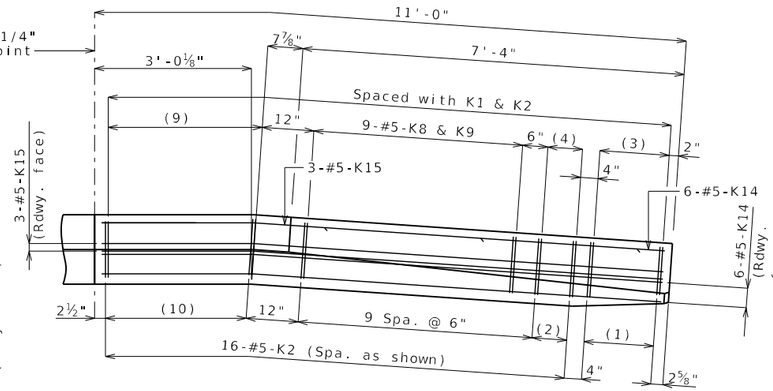


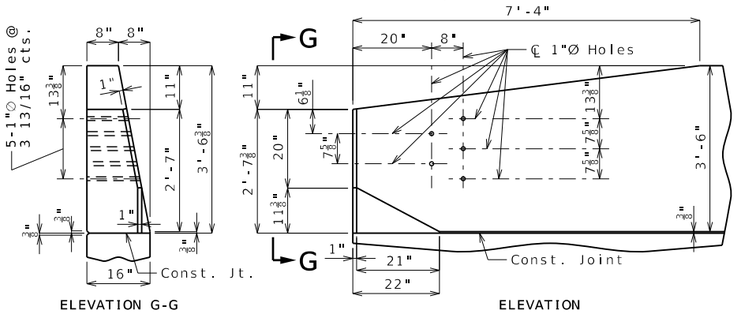
SECTION E-E

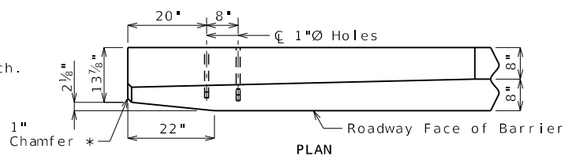


SECTION F-F









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

DETAILS OF GUARD RAIL ATTACHMENT

PART PLAN

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

(2) 2 spaces @ 4"

(3) 5-#5-K4 & K5

(4) 3-#5-K6 & K7

(5) 3-#5-K15 @ 4½" cts., each face

(6) 3 spaces @ 3 13/16"

(7) Spaced as shown, each face

(8) To top of bar

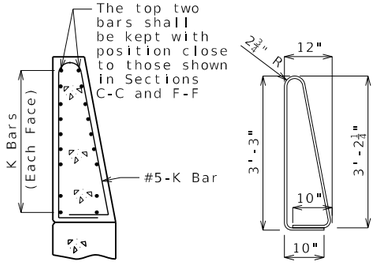
(9) 4-#5-K10 & K11

(10) 3 Spa. @ abt. 11"

General Notes:

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

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



K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

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

All dimensions are out to out.

TYPE D BARRIER AT END BENTS (RIGHT)

Detailed Jun. 2026
Checked Jul. 2026

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

H:\P\225045 - Old Route 100 over Dubois Creek\Bridge\Final Bridge\Microstation\B_A9801_020_J6S3627_Type D Barrier at End Bents (Right).dgn 3:08:42 PM 9/17/2026

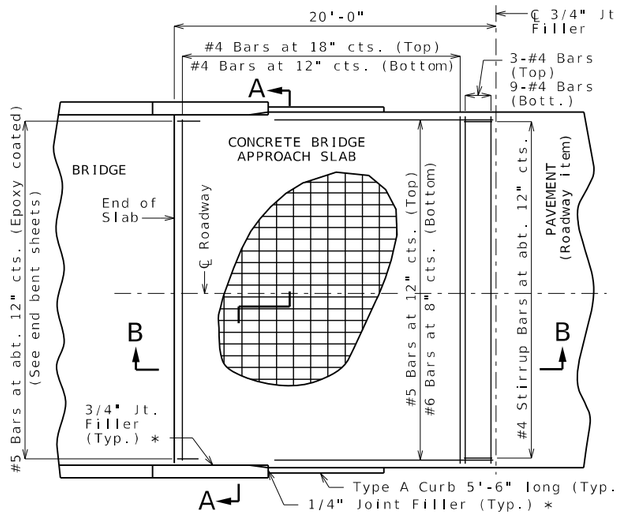
STATE OF MISSOURI
JASON A. DREYER
NUMBER PE-2013038971
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 9/17/2026
ROUTE: OLD 100 | STATE: MO
DISTRICT: BR | SHEET NO.: 20
COUNTY: FRANKLIN
JOB NO.: J6S3627
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9801

DESCRIPTION | DATE

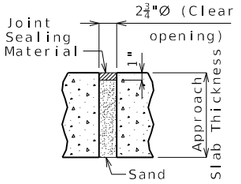
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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St. Charles: 820 South Main, Suite 309, St. Charles, MO 63301, 636.493.6277
Collinsville: 100 Lumber Count, Suite 1, Collinsville, IL 62234, 618.345.2300
Belleville: 100 West Main Street, 2nd Floor, Belleville, IL 62220, 618.416.6688
www.oatesassociates.com



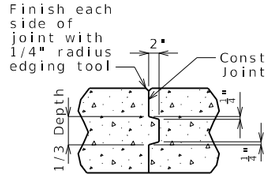
PART PLAN OF SQUARED STRUCTURE

(Skewed structure similar)

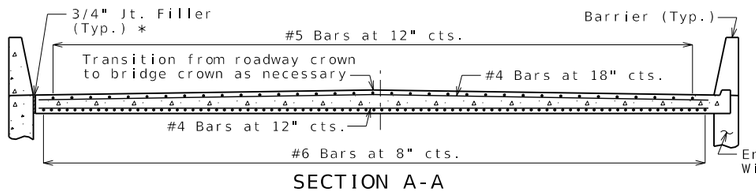


UNDERSEAL ACCESS HOLE DETAIL

(If required)

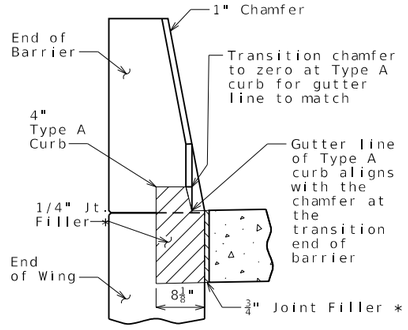


CONSTRUCTION JOINT DETAIL



SECTION A-A

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



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.

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

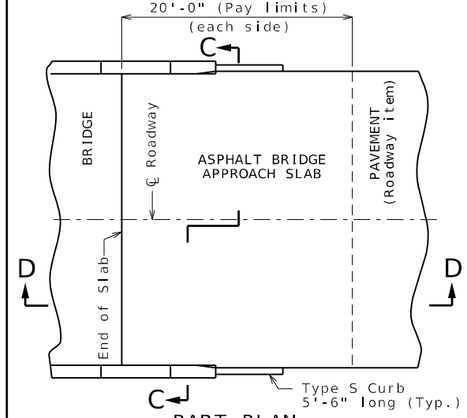
☐ Concrete Bridge Approach Slab

☐ Asphalt Bridge Approach Slab

Notes For Asphalt Slab Only:

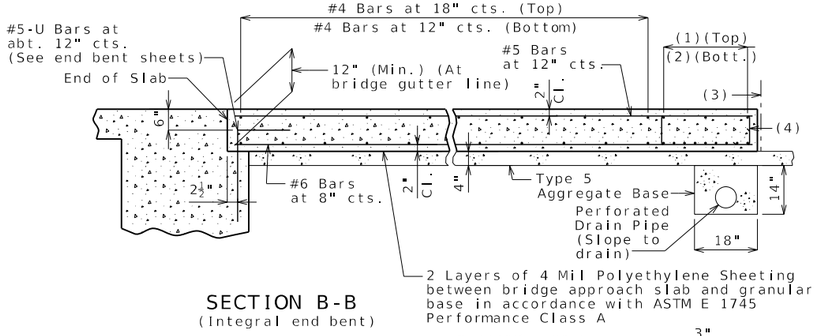
Payment for furnishing all materials, labor and excavation necessary to construct the asphalt bridge approach slab, including tack, curb, and Type 5 aggregate base within the pay limits shown, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab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

Application of tack is required between lifts per Sec 403.



PART PLAN

(Squared structure shown, skewed structure similar)



(1) 3-#4 Bars

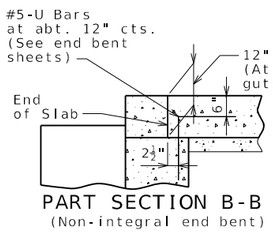
(2) 9-#4 Bars

(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.

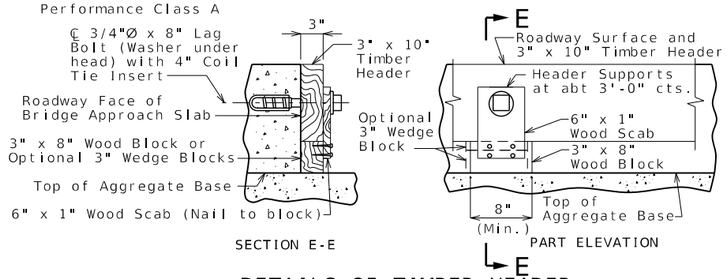
SECTION B-B

(Integral end bent)



PART SECTION B-B

(Non-integral end bent)



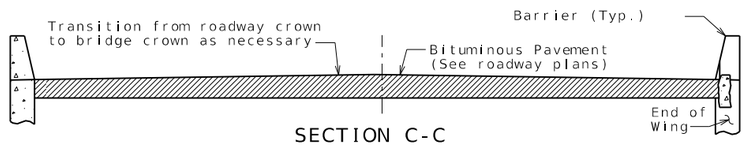
SECTION E-E

PART ELEVATION

DETAILS OF TIMBER HEADER

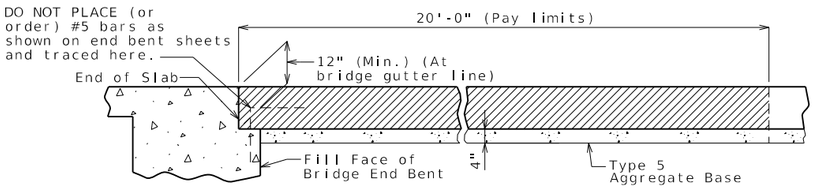
Remove timber header when concrete pavement is placed.

OPTIONAL CONCRETE SLAB

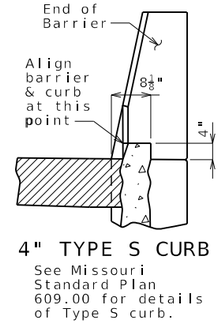


SECTION C-C

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)

Detailed Jul. 2026
Checked Aug. 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 OLD 100 | STATE MO

DISTRICT BR | SHEET NO. 21

COUNTY FRANKLIN

JOB NO. J6S3627

CONTRACT ID.

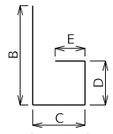
PROJECT NO.

BRIDGE NO. A9801

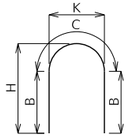
DESCRIPTION | DATE

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

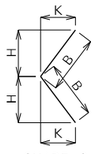
OATES ASSOCIATES
MISSOURI DESIGN FIRM PE-001166
St. Louis 730 Olive Street, Suite 700 St. Louis, MO 63101 314.588.8381
St. Charles 820 South Main, Suite 309 St. Charles, MO 63301 636.493.8277
Collinsville 1101 Lumber Court, Suite I Collinsville, IL 62234 618.345.5200
Belleville 100 West Main Street, 2nd Floor Belleville, IL 62220 618.416.6688
www.oatesassociates.com



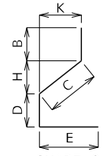
SHAPE 6
or 6S



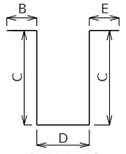
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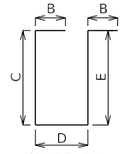
SHAPE 8
or 8S



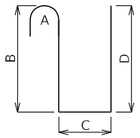
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or 9S



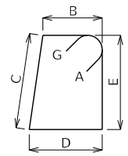
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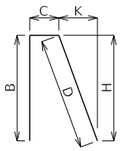
SHAPE 11
or 11S



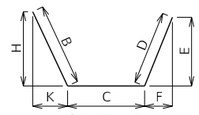
SHAPE 12



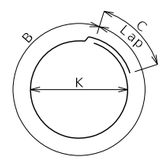
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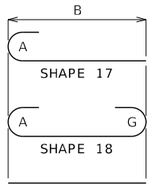
SHAPE 14
or 14S



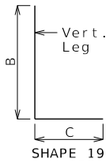
SHAPE 15
or 15S



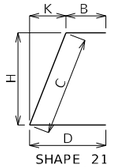
SHAPE 16



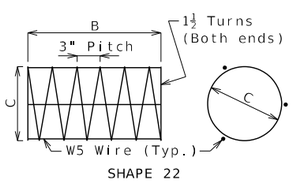
SHAPE 17
SHAPE 18
SHAPE 20



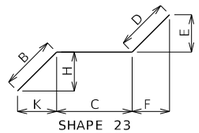
SHAPE 19
or 19S



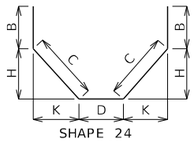
SHAPE 21
or 21S



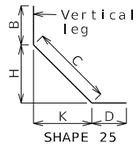
SHAPE 22



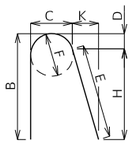
SHAPE 23
or 23S



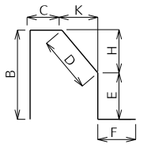
SHAPE 24
or 24S



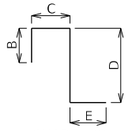
SHAPE 25
or 25S



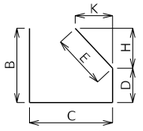
SHAPE 26



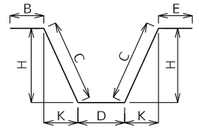
SHAPE 27S



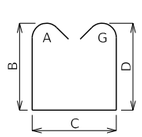
SHAPE 28
or 28S



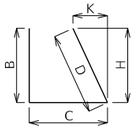
SHAPE 29
or 29S



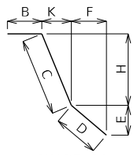
SHAPE 30
or 30S



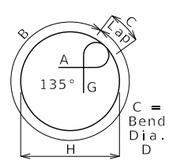
SHAPE 31S



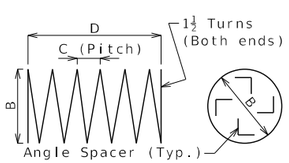
SHAPE 32
or 32S



SHAPE 33
or 33S



SHAPE 34S



SHAPE 35 (1)

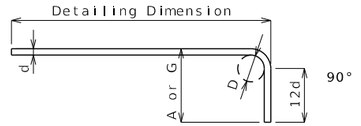


SHAPE 36

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"	13¼"	10"
#9	1	9½"	19½"	15½"	11¾"
#10	1	10¾"	22"	17½"	13¼"
#11	1	12"	24½"	19½"	14⅞"
#14	1	18¼"	31¼"	27½"	21⅝"
#18	1	24"	41½"	36¼"	28½"

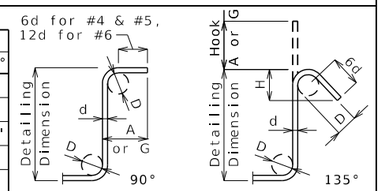


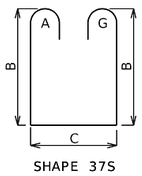
Stirrup Pin Bend Shapes (S)

Size	Case	D	A or G			H	J
			90°	135°	180°	135°	180°
#4	2	2"	4½"	4½"	5"	2⅜"	3"
	3	3"	5"	5¼"	6"	3"	4"
#5	2	2½"	5⅜"	5⅜"	5⅜"	3⅝"	3¾"
	3	3¾"	6¼"	6½"	7"	3⅞"	5"
#6	1	4½"	12"	7¾"	8¼"	4⅝"	6"

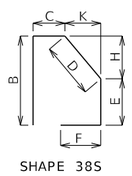
Applicable for all grades of steel.

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	134	-	630	-	-	134	630
	5	15,128	-	18,037	11,593	574	15,128	30,204
	6	3,218	-	25,628	-	-	3,218	25,628
	7	-	-	14,315	-	-	-	14,315
	8	354	-	13,693	-	-	354	13,693
	9	4,154	-	-	-	-	4,154	-
	10	47,996	-	-	-	-	47,996	-
By Type		70,984	-	72,303	11,593	574	70,984	84,470

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 OLD 100 | STATE MO
DISTRICT BR | SHEET NO. 22
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

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 1101 Lenter Court, Suite I Collinsville, IL 62234 618.345.5200
St. Louis 720 Olive Street, Suite 700 St. Louis, MO 63101 314.588.8381
Belleville 100 West Main Street, 2nd Floor Belleville, IL 62220 618.416.6688
St. Charles 820 South Main, Suite 309 St. Charles, MO 63301 636.493.8277
www.oatesassociates.com
MISSOURI DESIGN FIRM PE-001166

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													
18	6 D200	BEAM		20		2 6.000							2 6	2 6	68
10	9 H200	BEAM		20		29 3.000							29 3	29 3	995
10	9 H201	BEAM		18		29 3.000							31 10	31 10	1082
12	6 H202	BEAM		20		29 3.000							29 3	29 3	527
16	6 H203	BEAM		10S			22.000	4 7.500					8 4	8 0	192
3	8 H204	WEB BEAM		20		22 1.000							22 1	22 1	177
24	5 H205	WEB BEAM		20		19 9.000							19 9	19 9	494
2	5 P200	SHAFT		35		4 0.000	6.000	95 6.000					2375 4	2375 4	4955
2	5 P201	COLUMN		35		4 0.000	4.000	13 1.000					517 1	517 1	1079
34	5 P202	BEAM		34S		12 6.750	4.000				4 0.000		13 8	13 8	485
22	6 U200	BEAM		13S		4 9.000	4 9.000	4 9.000	4 9.000				20 4	19 10	655
18	4 U201	BEAM		10S			6.000	4 9.000					5 9	5 7	67
8	6 U202	BEAM		10S			4 9.000	4 9.000					14 3	13 11	167
44	10 V200	COLUMN/SHAFT		20		41 3.000							41 3	41 3	7810
44	10 V201	COLUMN/SHAFT		20		43 3.000							43 3	43 3	8189
44	10 V202	SHAFT		20		42 3.000							42 3	42 3	7999
32	5 V203	WEB BEAM		19S		14 7.000	2 0.000						16 7	16 6	551
		INT. BENT 3													
18	6 D300	BEAM		20		2 6.000							2 6	2 6	68
10	9 H300	BEAM		20		29 3.000							29 3	29 3	995
10	9 H301	BEAM		18		29 3.000							31 10	31 10	1082
12	6 H302	BEAM		20		29 3.000							29 3	29 3	527
16	6 H303	BEAM		10S			22.000	4 7.500					8 4	8 0	192
3	8 H304	WEB BEAM		20		22 1.000							22 1	22 1	177
24	5 H305	WEB BEAM		20		19 9.000							19 9	19 9	494
2	5 P300	SHAFT		35		4 0.000	6.000	95 6.000					2375 4	2375 4	4955
2	5 P301	COLUMN		35		4 0.000	4.000	13 1.000					517 1	517 1	1079
34	5 P302	BEAM		34S		12 6.750	4.000				4 0.000		13 8	13 8	485
22	6 U300	BEAM		13S		4 9.000	4 9.000	4 9.000	4 9.000				20 4	19 10	655
18	4 U301	BEAM		10S			6.000	4 9.000					5 9	5 7	67
8	6 U302	BEAM		10S			4 9.000	4 9.000					14 3	13 11	167
44	10 V300	COLUMN/SHAFT		20		41 3.000							41 3	41 3	7810
44	10 V301	COLUMN/SHAFT		20		43 3.000							43 3	43 3	8189
44	10 V302	SHAFT		20		42 3.000							42 3	42 3	7999
32	5 V303	WEB BEAM		19S		14 7.000	2 0.000						16 7	16 6	551
		SUPERSTRUCTURE													
		END BENTS 1 & 4													
18	6 F100	WING BRACE	E	15		20.000	4 10.000	20.000	14.625	13.625	14.625	13.625	8 2	8 1	219
16	6 F101	WING BRACE	E	6		5 6.000	2 8.000						8 2	8 0	192
18	6 F102	DIAPHRAGM	E	15		20.000	5 2.000	20.000	13.625	14.625	13.625	14.625	8 6	8 5	228
24	7 H100	BEAM	E	20		32 5.000							32 5	32 5	1590
16	6 H101	BEAM	E	20		32 5.000							32 5	32 5	779
18	6 H102	DIAPHRAGM	E	20		7 5.000							7 5	7 5	201
6	6 H103	DIAPHRAGM	E	20		4 10.000							4 10	4 10	44
12	6 H104	DIAPHRAGM	E	20		3 3.000							3 3	3 3	59
4	6 H105	DIAPHRAGM	E	20		2 0.000							2 0	2 0	12
8	5 H106	DIAPHRAGM	E	20		5 8.000							5 8	5 8	47
16	8 H107	WINGWALL	E	9			7 10.750	2 7.250			7 10.500	6.500	10 6	10 6	449
18	6 H108	WINGWALL	E	9S			7 10.750	14.250	10.500		7 10.500	6.500	10 0	9 10	266
18	6 H109	WINGWALL	E	27S				7 10.500	14.000	10.500	7 10.250	6.500	9 11	9 9	264
16	8 H110	WINGWALL	E	20		10 6.000							10 6	10 6	449
32	6 H111	WINGWALL	E	6S		9 1.000	10.500						10 0	9 10	473
32	5 U100	BEAM	E	37S		4 10.000	2 9.000						13 5	13 2	439
56	4 U101	BEAM	E	13S		2 9.000	2 8.000	2 9.000	2 8.000				11 7	11 4	424
42	5 U102	DIAPHRAGM	E	37S		3 6.000	2 3.000						10 3	10 0	438
42	6 U103	DIAPHRAGM	E	19S		2 5.000	2 9.000						5 2	5 0	315

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
82	6 U104	DIAPHRAGM	E	19S		2 11.000	4 3.000						7 2	7 0	862
60	5 U105	DIAPHRAGM	E	19S		2 0.000	15.000						3 3	3 2	198
20	5 V100	DIAPHRAGM	E	17		4 10.000							5 5	5 5	113
40	6 V101	DIAPHRAGM	E	20		2 5.000							2 5	2 5	145
72	6 V102	WINGWALL	E	20		6 6.000							6 6	6 6	703
		INT. BENT 2 & 3													
		DIAPHRAGM													
12	6 H400	DIAPHRAGM	E	20		4 10.000							4 10	4 10	87
12	6 H401	DIAPHRAGM	E	20		7 3.000							7 3	7 3	131
24	6 H402	DIAPHRAGM	E	20		7 7.000							7 7	7 7	273
8	5 H403	STRAND TIE	E	20		5 8.000							5 8	5 8	47
8	5 H404	STRAND TIE	E	20		4 7.000							4 7	4 7	38
48	4 U400	DIAPHRAGM	E	28S			15.000	3 5.000	23.000				6 7	6 5	206
24	6 U401	DIAPHRAGM	E	28S			22.000	3 5.000	2 3.000				7 6	7 2	258
24	6 U402	DIAPHRAGM	E	28S			22.000	2 9.000	2 3.000				6 10	6 6	234
16	6 U403	DIAPHRAGM	E	28S			2 2.000	2 9.000	2 3.000				7 2	6 10	164
24	5 U404	DIAPHRAGM	E	6S	8	4 5.000	12.000	18.000					6 11	6 8	169
		INCREMENT -				4 5.000	12.000	20.000					7 1	6 10	
		1.000 INCH													
8	5 U405	DIAPHRAGM	E	6S		4 5.000	12.000						5 5	5 4	45
16	5 V400	DIAPHRAGM	E	20		3 6.000							3 6	3 6	58
		SLAB													
304	5 S1	SLAB	E	20		32 5.000							32 5	32 5	10278
108	5 S2	SLAB	E	20		54 9.000							54 9	54 9	6167
405	6 S3	SLAB	E	20		32 5.000							32 5	32 5	19719
112	7 S4	SLAB	E	20		55 7.000							55 7	55 7	12725
52	8 S5	SLAB	E	20		46 0.000							46 0	46 0	6387
48	8 S6	SLAB	E	20		50 0.000							50 0	50 0	6408
		TYPE D BARRIER													
20	5 K1	BARRIER	E	27S		3 5.000	9.250	5.375	2 11.750		5.250	1.000	7 7	7 5	155
64	5 K2	BARRIER	E	27S		3 5.000	9.250	14.500	2 2.750		14.250	2.750	7 8	7 5	495
20	5 K4	BARRIER	E	19S	4	2 4.250	10.000						3 2	3 1	66
		INCREMENT -				2 6.250	10.000						3 4	3 3	
		0.500 INCH													
20	5 K5	BARRIER	E	38S	4			18.500	9.500	8.250	18.000	4.000	3 0	2 11	63
		INCREMENT -						20.500	9.500	8.250	20.000	4.500	3 2	3 1	
		0.500 INCH													
12	5 K6	BARRIER	E	19S		2 6.750	10.000						3 5	3 4	42
12	5 K7	BARRIER	E	21S			2 6.625	10.000			2 6.000	6.250	3 5	3 3	41
36	5 K8	BARRIER	E	19S	4	2 8.500	10.000						3 7	3 5	138
		INCREMENT =				3 2.500	10.000						4 1	3 11	
		0.750 INCH													
36	5 K9	BARRIER	E	21S	4		2 8.500	10.000			2 7.750	6.750	3 7	3 5	138
		INCREMENT =					3 2.500	10.000			3 1.750	7.750	4 1	3 11	
		0.750 INCH													
16	5 K10	BARRIER	E	19S		3 3.000	10.000						4 1	4 0	67
16	5 K11	BARRIER	E	21S			3 3.000	10.000			3 2.250	7.750	4 1	3 11	65
24	5 K12	BARRIER	E	23		8 10.000	22.000				1.500	22.000	10 8	10 8	267
12	5 K13	BARRIER	E	23	4	2 1.000	22.000				1.500	22.000	3 11	3 11	87
		INCREMENT =				8 1.000	22.000				1.500	22.000	9 11	9 11	
		36.000 INCH													
24	5 K14	BARRIER	E	23		7 10.000	2 11.000				2.375	2 10.875	10 9	10 9	269
12	5 K15	BARRIER	E	23	4	13.000	2 11.000				2.375	2 10.875	4 0	4 0	88
		INCREMENT -				7 9.000	2 11.000				2.375	2 10.875	10 0	10 0	
		36.000 INCH													
416	5 R1	BARRIER	E	26		3 3.000	5.500	2.250	3 1.375	5.500	3 0.750	6.750	6 9	6 9	2929
416	5 R2	BARRIER	E	19S			20.500	9.500					2 6	2 5	1049
416	5 R3	BARRIER	E	27S				9.500	15.250	5.000	12.000	15.000	3.000	3 6	3 4	1446
80	5 R4	BARRIER	E	20		11 9.000								11 9	11 9	980
40	5 R5	BARRIER	E	20		47 6.000								47 6	47 6	1982
20	5 R6	BARRIER	E	20		58 9.000								58 9	58 9	1226
		SLIP FORM BARRIER													
40	5 C1	BARRIER	E	20		12 0.000								12 0	12 0	501
8	5 C2	BARRIER	E	20		8 9.000								8 9	8 9	73

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. 22.

Detailed Jul. 2026
Checked Aug. 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. 23 of 36

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

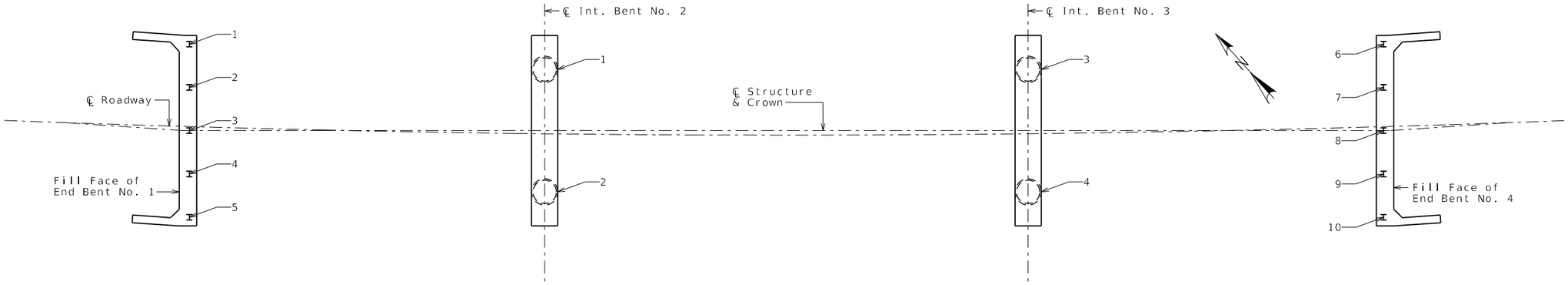
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/17/2026
ROUTE OLD 100
STATE MO
DISTRICT BR
SHEET NO. 23
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

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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PART PLAN SHOWING PILE & DRILLED SHAFT NUMBERING
FOR RECORDING AS-BUILT PILE DATA & AS-BUILT DRILLED SHAFT 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			
			End Bent No. 4
6			
7			
8			
9			
10			

As-Built Drilled Shaft Data

Shaft No.	Top of Sound Rock (Elev.)	Tip of Casing (Elev.)	Bottom of Rock Socket (Elev.)	Remarks
				Intermediate Bent No. 2
1				
2				
				Intermediate Bent No. 3
3				
4				

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 AND DRILLED SHAFT DATA

Detailed Aug. 2026
Checked Aug. 2026

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

H:\P\225045 - Old Route 100 over Dubois Creek\Bridge\Final Bridge\Microstation\B_A9801_024_J6S3627_As-Built Pile and Drilled Shaft Data.dgn 3:08:48 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: OLD 100
STATE: MO
DISTRICT: BR
SHEET NO.: 24
COUNTY: FRANKLIN
JOB NO.: J6S3627
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9801

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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St. Charles: 820 South Main, Suite 309, St. Charles, MO 63301, 636.493.8277
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Missouri Department of Transportation
Construction and Materials

BORING NO. B-101
Page 1 of 4

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
MoDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 91+01.36 **Northing:** 986095.8435 **Date of Work:** 12/17/25
Offset: 6.88' LT **Easting:** 684687.0653 **Depth to Water:** 24.0
Elevation: 488.7 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler, Shelby Tube
Requested Elevation: **Location Note:** Northwest Abutment
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Hollow Stem Auger & Mud-Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0		0.0-0.3' ASPHALT (4")							
		0.3-0.9' CONCRETE (7")							
		0.9-16.8' Brown to dark brown, lean CLAY (CL), trace sand							
			485						
5					78	2 - 2 - 4 (8)		PP = 1.50 tsf	MC = 27.6%
			480						
10					83	2 - 3 - 4 (9)		PP = 1.50 tsf	LL = 45 PL = 21 MC = 21.9%
		12.0' - brown and grey below 12 ft.							
		13.0' - Undrained Shear Strength = 0.65 tsf at 13.0 ft.	475		88		Qu Test Results MC = 25.3% γ_{moist} = 120.5 pcf	PP = 0.75 tsf	MC = 25.3%
15									
		16.8-21.8' Brown, silty lean CLAY (CL-ML), trace gravel							
			470		17	0 - 0 - 0 (0)		PP = 0.50 tsf	MC = 27.1%
20									
		21.8-26.8' Brown, sandy CLAY (CL)							
		23.5' - sieve analysis performed at 23.5 ft.: 55.3% passing No. 200 sieve	465		83	1 - 2 - 1 (5)			MC = 26.5%
25									

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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(Continued Next Page)

Missouri Department of Transportation
Construction and Materials

BORING NO. B-101
Page 2 of 4

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
MoDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 91+01.36 **Northing:** 986095.8435 **Date of Work:** 12/17/25
Offset: 6.88' LT **Easting:** 684687.0653 **Depth to Water:** 24.0
Elevation: 488.7 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler, Shelby Tube
Requested Elevation: **Location Note:** Northwest Abutment
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Hollow Stem Auger & Mud-Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
25		21.8-26.8' Brown, sandy CLAY (CL) *(continued)*							
		26.8-59.8' Grey, fat CLAY (CH), trace sand and gravel	460		100	1 - 2 - 2 (6)		PP = 1.50 tsf	MC = 26.6%
30									
		32.0' - with sand, no gravel below 32 ft.	455		33	1 - 1 - 2 (5)		PP = 1.00 tsf	MC = 44.6%
35									
			450		67	2 - 2 - 2 (7)		PP = 1.00 tsf	LL = 51 PL = 23 MC = 33.6%
40									
			445		100	1 - 2 - 2 (7)		PP = 1.00 tsf	MC = 46.7%
45									
			440		83	2 - 3 - 4 (12)		PP = 2.50 tsf	MC = 31.6%
50									

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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(Continued Next Page)

LETTER BOREHOLE - MODOT_20151118.GDT - 6/5/26 13:38 - G:\PROJECT FILES\2025\MG25049 OLD ROUTE 100 OVER DUBOIS CREEK BRIDGE REPLACEMENT\FIELD DATA\OLD ROUTE 100 OVER DUBOIS CREEK.GPJ

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

BORING DATA

Detailed Aug. 2026
Checked Aug. 2026

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

H:\P\225045 - Old Route 100 over Dubois Creek\Bridge\Final Bridge\Microstation\B_A9801_025_J6S3627_ Boring Data.dgn 3:08:50 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 OLD 100 | STATE MO
DISTRICT BR | SHEET NO. 25
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

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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St. Louis
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Belleville
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St. Charles
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Missouri Department of Transportation
Construction and Materials

BORING NO. B-101
Page 3 of 4

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
MoDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 91+01.36 **Northing:** 986095.8435 **Date of Work:** 12/17/25
Offset: 6.88' LT **Easting:** 684687.0653 **Depth to Water:** 24.0
Elevation: 488.7 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler, Shelby Tube
Requested Elevation: **Location Note:** Northwest Abutment
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Hollow Stem Auger & Mud-Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
50		26.8-59.8' Grey, fat CLAY (CH), trace sand and gravel *(continued)*							
			435						
55					100	2 - 3 - 4 (12)		PP = 3.00 tsf	MC = 36.6%
			430						
60		59.8-61.8' Grey, fine grained SAND (SP)			100	2 - 4 - 6 (17)		PP = 4.50 tsf	MC = 45.2%
		61.8-69.3' Grey, sandy fat CLAY (CH)	425						
65					83	3 - 5 - 6 (18)		PP = 2.50 tsf	MC = 35.9%
			420						
70		69.3-74.3' Grey, clayey SAND (SC)			100	3 - 3 - 4 (12)		PP = 1.50 tsf	MC = 30.3%
			415						
75		74.3-91.8' Grey, sandy fat CLAY (CH)			83	3 - 6 - 6 (20)			MC = 24.3%

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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(Continued Next Page)

LETTER BOREHOLE - MODOT_20151118.GDT - 6/5/26 13:38 - G:\PROJECT FILES\2025\MG25049 OLD ROUTE 100 OVER DUBOIS CREEK\FIELD DATA\OLD ROUTE 100 OVER DUBOIS CREEK BRIDGE REPLACEMENT\FIELD DATA\OLD ROUTE 100 OVER DUBOIS CREEK.GPJ

Missouri Department of Transportation
Construction and Materials

BORING NO. B-101
Page 4 of 4

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
MoDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 91+01.36 **Northing:** 986095.8435 **Date of Work:** 12/17/25
Offset: 6.88' LT **Easting:** 684687.0653 **Depth to Water:** 24.0
Elevation: 488.7 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler, Shelby Tube
Requested Elevation: **Location Note:** Northwest Abutment
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Hollow Stem Auger & Mud-Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
75		74.3-91.8' Grey, sandy fat CLAY (CH) *(continued)*							
			410						
80					100	2 - 2 - 3 (8)		PP = 3.00 tsf	MC = 39.8%
			405						
85					89	0 - 3 - 5 (13)			MC = 18.7%
		89.0' - trace gravel below 89.0 ft.	400						
90					6	2 - 4 - 6 (17)			MC = 38.8%
		91.8-100.0' Grey, clayey GRAVEL (GC), with sand, dolomite and chert fragments							
			395						
95					56	14 - 17 - 22 (65)			MC = 11.0%
			390						
100		Bottom of borehole at 100.0 feet.			78	5 - 20 - 25 (75)			MC = 16.0%

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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LETTER BOREHOLE - MODOT_20151118.GDT - 6/5/26 13:38 - G:\PROJECT FILES\2025\MG25049 OLD ROUTE 100 OVER DUBOIS CREEK\FIELD DATA\OLD ROUTE 100 OVER DUBOIS CREEK BRIDGE REPLACEMENT\FIELD DATA\OLD ROUTE 100 OVER DUBOIS 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 OLD 100 | STATE MO
DISTRICT BR | SHEET NO. 26
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

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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Belleville 100 West Main Street, 2nd Floor Belleville, IL 62220 618.416.4688
St. Charles 820 South Main, Suite 309 St. Charles, MO 63301 636.493.0277
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MSSOURI DESIGN FIRM PE-001166

OATES ASSOCIATES

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

BORING DATA

Detailed Aug. 2026
Checked Aug. 2026

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

H:\P\225045 - Old Route 100 over Dubois Creek\Bridge\Final Bridge\Microstation\B_A9801_026_J6S3627_ Boring Data.dgn 3:09:25 PM 9/17/2026

Missouri Department of Transportation
Construction and Materials

BORING NO. B-201
Page 1 of 5

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
MoDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 91+53.77 **Northing:** 986050.1285 **Date of Work:** 12/22/25-12/23/25
Offset: 6.54' RT **Easting:** 684715.9892 **Depth to Water:** 32.0
Elevation: 489.5 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:** At Time of Drilling
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler
Requested Elevation: **Location Note:** Pier 1
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Mud-Rotary & NQ Rock Coring

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0		0.0-0.2' ASPHALT (2") 0.2-0.8' CONCRETE (8") 0.8-32.0' OPEN AIR							
5			485						
10			480						
15			475						
20			470						
25			465						

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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(Continued Next Page)

Missouri Department of Transportation
Construction and Materials

BORING NO. B-201
Page 2 of 5

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
MoDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 91+53.77 **Northing:** 986050.1285 **Date of Work:** 12/22/25-12/23/25
Offset: 6.54' RT **Easting:** 684715.9892 **Depth to Water:** 32.0
Elevation: 489.5 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:** At Time of Drilling
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler
Requested Elevation: **Location Note:** Pier 1
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Mud-Rotary & NQ Rock Coring

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
25		0.8-32.0' OPEN AIR *(continued)*							
30			460						
35		32.0-61.8' Grey, fat CLAY (CH) 32.1' - with wood fibers to 47 ft. 32.2' - with sand and gravel to 52 ft.	455						
40			450						
45			445			11	2 - 2 - 1 (5)		MC = 35.5%
50			440			100	1 - 2 - 2 (7)	PP = 0.50 tsf	LL = 65 PL = 19 MC = 30.5%

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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

(Continued Next Page)

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

BORING DATA

Detailed Aug. 2026
Checked Aug. 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 OLD 100 | STATE MO
DISTRICT BR | SHEET NO. 27
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

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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St. Charles 820 South Main, Suite 309 St. Charles, MO 63301 636.493.6277
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MISSOURI DESIGN FIRM PE-001166

LETTER BOREHOLE - MODOT_20151118.GDT - 6/5/26 13:38 - G:\PROJECT FILES\2025\MG25049 OLD ROUTE 100 OVER DUBOIS CREEK.GPJ
LETTER BOREHOLE - MODOT_20151118.GDT - 6/5/26 13:38 - G:\FIELD DATA\OLD ROUTE 100 OVER DUBOIS CREEK BRIDGE REPLACEMENT\FIELD DATA\OLD ROUTE 100 OVER DUBOIS CREEK.GPJ

Missouri Department of Transportation
Construction and Materials

BORING NO. B-201
Page 3 of 5

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
McDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 91+53.77 **Northing:** 986050.1285 **Date of Work:** 12/22/25-12/23/25
Offset: 6.54' RT **Easting:** 684715.9892 **Depth to Water:** 32.0
Elevation: 489.5 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:** At Time of Drilling
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler
Requested Elevation: **Location Note:** Pier 1
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Mud-Rotary & NQ Rock Coring

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
50		32.0-61.8' Grey, fat CLAY (CH) *(continued)*							
			435		100	1 - 2 - 2 (7)		PP = 0.50 tsf	MC = 44.4%
55									
			430		100	1 - 1 - 2 (5)		PP = 0.50 tsf	MC = 50.8%
60		61.8-76.8' Grey, sandy CLAY (CL)							
			425		100	2 - 6 - 5 (18)		PP = 2.50 tsf	MC = 29.4%
65									
			420		100	3 - 7 - 13 (33)		PP = 0.75 tsf	MC = 37.3%
70									
		73.5' - sieve analysis performed at 73.5 ft.: 56.1% passing No. 200 sieve	415		78	4 - 5 - 5 (17)			MC = 29.0%
75									

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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

(Continued Next Page)

LETTER BOREHOLE - MODOT_20151118.GDT - 6/5/26 13:38 - G:\PROJECT FILES\2025\MG25049 OLD ROUTE 100 OVER DUBOIS CREEK\FIELD DATA\OLD ROUTE 100 OVER DUBOIS CREEK BRIDGE REPLACEMENT\FIELD DATA\OLD ROUTE 100 OVER DUBOIS CREEK.GPJ

Missouri Department of Transportation
Construction and Materials

BORING NO. B-201
Page 4 of 5

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
McDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 91+53.77 **Northing:** 986050.1285 **Date of Work:** 12/22/25-12/23/25
Offset: 6.54' RT **Easting:** 684715.9892 **Depth to Water:** 32.0
Elevation: 489.5 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:** At Time of Drilling
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler
Requested Elevation: **Location Note:** Pier 1
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Mud-Rotary & NQ Rock Coring

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
75		61.8-76.8' Grey, sandy CLAY (CL) *(continued)*							
		76.8-86.8' Grey, fat CLAY (CH), with sand	410		100	2 - 2 - 3 (8)		PP = 2.50 tsf	MC = 50.4%
80									
			405		100	2 - 4 - 4 (13)		PP = 3.00 tsf	MC = 29.6%
85		86.8-96.8' Grey, GRAVEL (GW), with sand							
		88.5' - sieve analysis performed at 88.5 ft.: 2.5% passing No. 200 sieve	400		67	10 - 13 - 19 (53)			MC = 19.7%
90									
			395		56	12 - 9 - 12 (35)			MC = 11.8%
95									
		96.8-102.5' Grey, fine to coarse SAND (SW-SM), with silt and gravel							
		98.5' - sieve analysis performed at 98.5 ft.: 5.3% passing No. 200 sieve	390		50	12 - 11 - 17 (47)			MC = 16.3%
100									

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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(Continued Next Page)

LETTER BOREHOLE - MODOT_20151118.GDT - 6/5/26 13:38 - G:\PROJECT FILES\2025\MG25049 OLD ROUTE 100 OVER DUBOIS CREEK\FIELD DATA\OLD ROUTE 100 OVER DUBOIS CREEK BRIDGE REPLACEMENT\FIELD DATA\OLD ROUTE 100 OVER DUBOIS 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 OLD 100 | STATE MO
DISTRICT BR | SHEET NO. 28
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801
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, 314.588.8281
St. Charles 820 South Main, Suite 309, St. Charles, MO 63301, 636.493.0277
Collinsville 101 Lamar Court, Suite I, Collinsville, IL 62234, 618.345.2300
Belleville 100 West Main Street, 2nd Floor, Belleville, IL 62220, 618.416.4688
www.oatesassociates.com
MSSOURI DESIGN FIRM PE-001166

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

BORING DATA

Detailed Aug. 2026
Checked Aug. 2026

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

H:\P\225045 - Old Route 100 over Dubois Creek\Bridge\Final Bridge\Microstation\B_A9801_028_J6S3627_ Boring Data.dgn 3:10:37 PM 9/17/2026

Missouri Department of Transportation
Construction and Materials

BORING NO. B-201
Page 5 of 5

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
MoDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 91+53.77 **Northing:** 986050.1285 **Date of Work:** 12/22/25-12/23/25
Offset: 6.54' RT **Easting:** 684715.9892 **Depth to Water:** 32.0
Elevation: 489.5 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:** At Time of Drilling
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler
Requested Elevation: **Location Note:** Pier 1
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Mud-Rotary & NQ Rock Coring

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
100		96.8-102.5' Grey, fine to coarse SAND (SW-SM), with silt and gravel *(continued)*							
		102.5-122.5' DOLOMITE: Light grey, moderately to slightly weathered, sandy			100 (28)				
		104.0' - slightly weathered below 104 ft.	385						
105		105.3' - Uniaxial Compressive Strength = 9,710 psi at 105.3 ft.			100 (83)				
		107.0' - Uniaxial Compressive Strength = 7,480 psi at 107.0 ft.							
		108.8' - Uniaxial Compressive Strength = 16,460 psi at 108.8 ft.	380						
110		110.5' - highly fractured 6 in. chert layer at 110.5 ft.			100 (28)				
		113.0' - Uniaxial Compressive Strength = 5,940 psi at 113.0 ft.							
			375						
115		115.0' - Uniaxial Compressive Strength = 11,360 psi at 115.0 ft.			100 (93)				
		117.8' - Uniaxial Compressive Strength = 7,920 psi at 117.8 ft.							
		119.0' - Uniaxial Compressive Strength = 11,990 psi at 119.0 ft.	370						
120		120.6' - Uniaxial Compressive Strength = 14,550 psi at 120.6 ft.			100 (100)				
		Refusal at 102.5 feet. Bottom of borehole at 122.5 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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LETTER BOREHOLE - MODOT_20151119.GDT - 6/5/26 13:38 - C:\PROJECT FILES\2025\MG25049 OLD ROUTE 100 OVER DUBOIS CREEK BRIDGE REPLACEMENT\FIELD DATA\OLD ROUTE 100 OVER DUBOIS CREEK.GPJ

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

BORING DATA

Detailed Aug. 2026
Checked Aug. 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 OLD 100 | STATE MO
DISTRICT BR | SHEET NO. 29
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

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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St. Louis 720 Olive Street, Suite 700 St. Louis, MO 63101 314.588.8381
Belleville 100 West Main Street, 2nd Floor Belleville, IL 62220 618.415.4488
St. Charles 820 South Main, Suite 309 St. Charles, MO 63301 636.493.6279
www.oatesassociates.com
MISSOURI DESIGN FIRM PE-001166

Missouri Department of Transportation
Construction and Materials

BORING NO. B-301
Page 1 of 5

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
MoDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 92+37.33 **Northing:** 986003.5545 **Date of Work:** 12/30/25-12/31/25
Offset: 6.40' LT **Easting:** 684786.5558 **Depth to Water:** 32.0
Elevation: 488.7 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:** At Time of Drilling
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler
Requested Elevation: **Location Note:** Pier 2
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Mud-Rotary & NQ Rock Coring

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0		0.0-0.2' ASPHALT (2")							
		0.2-0.9' CONCRETE (8.5")							
		0.9-21.0' OPEN AIR	485						
5									
			480						
10									
			475						
15									
			470						
20									
		21.0-61.8' Grey, fat CLAY, trace sand							
			465						
25									

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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(Continued Next Page)

Missouri Department of Transportation
Construction and Materials

BORING NO. B-301
Page 2 of 5

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
MoDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 92+37.33 **Northing:** 986003.5545 **Date of Work:** 12/30/25-12/31/25
Offset: 6.40' LT **Easting:** 684786.5558 **Depth to Water:** 32.0
Elevation: 488.7 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:** At Time of Drilling
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler
Requested Elevation: **Location Note:** Pier 2
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Mud-Rotary & NQ Rock Coring

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
25		21.0-61.8' Grey, fat CLAY, trace sand *(continued)*							
			460						
30									
			455						
35									
			450		100	1 - 2 - 2 (7)		PP = 1.00 tsf	MC = 40.7%
40									
			445		100	2 - 2 - 2 (7)		PP = 1.50 tsf	LL = 83 PL = 22 MC = 38.0%
45		47.0' - with sand below 47 ft.							
			440		100	2 - 2 - 4 (10)		PP = 2.00 tsf	MC = 34.9%
50									

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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(Continued Next Page)

LETTER BOREHOLE - MODOT_20151118.GDT - 6/5/26 13:38 - G:\PROJECT FILES\2025\MG25049 OLD ROUTE 100 OVER DUBOIS CREEK.GPJ

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

BORING DATA

Detailed Aug. 2026
Checked Aug. 2026

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

H:\P\225045 - Old Route 100 over Dubois Creek\Bridge\Final Bridge\Microstation\B_A9801_030_J6S3627_ Boring Data.dgn 3:11:33 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 OLD 100 | STATE MO
DISTRICT BR | SHEET NO. 30
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

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 Lumber Court, Suite 1 Collinsville, IL 62234 618.345.2200
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Missouri Department of Transportation
Construction and Materials

BORING NO. B-301
Page 3 of 5

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
McDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 92+37.33 **Northing:** 986003.5545 **Date of Work:** 12/30/25-12/31/25
Offset: 6.40' LT **Easting:** 684786.5558 **Depth to Water:** 32.0
Elevation: 488.7 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:** At Time of Drilling
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler
Requested Elevation: **Location Note:** Pier 2
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Mud-Rotary & NQ Rock Coring

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
50		21.0-61.8' Grey, fat CLAY, trace sand *(continued)*							
			435		100	2 - 3 - 4 (12)		PP = 2.50 tsf	MC = 30.6%
55									
			430		100	2 - 3 - 3 (10)		PP = 2.00 tsf	MC = 40.7%
60									
		61.8-69.5' Grey, sandy CLAY (CL)	425		100	3 - 3 - 3 (10)		PP = 1.00 tsf	MC = 31.9%
65									
			420		100	2 - 3 - 6 (15)		PP = 1.00 tsf	MC = 27.1%
70		69.5-76.8' Grey, silty SAND (SM), trace gravel							
		73.5' - sieve analysis performed at 73.5 ft.: 47.4% passing No. 200 sieve	415		100	2 - 4 - 6 (17)			MC = 33.3%
75									

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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(Continued Next Page)

Missouri Department of Transportation
Construction and Materials

BORING NO. B-301
Page 4 of 5

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
McDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 92+37.33 **Northing:** 986003.5545 **Date of Work:** 12/30/25-12/31/25
Offset: 6.40' LT **Easting:** 684786.5558 **Depth to Water:** 32.0
Elevation: 488.7 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:** At Time of Drilling
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler
Requested Elevation: **Location Note:** Pier 2
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Mud-Rotary & NQ Rock Coring

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
75		69.5-76.8' Grey, silty SAND (SM), trace gravel *(continued)*							
		76.8-81.8' Grey, fat CLAY (CH), with sand	410		100	2 - 4 - 4 (13)		PP = 2.50 tsf	MC = 42.2%
80									
		81.8-86.8' Grey, clayey SAND (SC)	405		100	4 - 4 - 4 (13)			MC = 21.1%
85									
		86.8-91.8' Grey, sandy CLAY (CL)	400		100	6 - 5 - 10 (25)			MC = 30.9%
90		89.5' - with gravel below 89.5 ft.							
		91.8-102.0' Grey, fine to coarse grained SAND (SW), with gravel and rock fragments	395		44	9 - 15 - 7 (37)			MC = 20.7%
95									
		98.5' - sieve analysis performed at 98.5 ft.: 3.6% passing No. 200 sieve	390		61	18 - 20 - 10 (50)			MC = 14.5%
100									

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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(Continued Next Page)

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

BORING DATA

Detailed Aug. 2026
Checked Aug. 2026

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

H:\P\225045 - Old Route 100 over Dubois Creek\Bridge\Final Bridge\Microstation\B_A9801_031_J6S3627_ Boring Data.dgn 3:12:09 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 OLD 100 | STATE MO
DISTRICT BR | SHEET NO. 31
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

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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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
101 Lamar Court, Suite 1
Collinsville, IL 62234
618.345.2300

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

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MSSOURI DESIGN FIRM PE-001166

OATES ASSOCIATES

LETTER BOREHOLE - MODOT_20151118.GDT - 6/5/26 13:38 - G:\PROJECT FILES\2025\MG25049 OLD ROUTE 100 OVER DUBOIS CREEK.GPJ

Missouri Department of Transportation
Construction and Materials

BORING NO. B-301
Page 5 of 5

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
MoDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 92+37.33 **Northing:** 986003.5545 **Date of Work:** 12/30/25-12/31/25
Offset: 6.40' LT **Easting:** 684786.5558 **Depth to Water:** 32.0
Elevation: 488.7 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:** At Time of Drilling
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler
Requested Elevation: **Location Note:** Pier 2
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Mud-Rotary & NQ Rock Coring

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
100		91.8-102.0' Grey, fine to coarse grained SAND (SW), with gravel and rock fragments *(continued)*							
		102.0-103.0' DOLOMITE: with clay, highly fractured			75 (0)				
		103.0-122.0' DOLOMITE: Light grey, highly to moderately weathered, sandy	385						
		104.0' - moderately to slightly weathered below 104 ft.							
105		105.3' - Uniaxial Compressive Strength = 3,640 psi at 105.3 ft.			100 (60)				
		107.6' - Uniaxial Compressive Strength = 3,640 psi at 107.6 ft.	380						
		108.3' - Uniaxial Compressive Strength = 7,290 psi at 108.3 ft.							
110		111.0' - intermixed shale layers from 111 to 112 ft.			93 (47)				
		112.0' - not sandy below 112 ft.							
		112.3' - Uniaxial Compressive Strength = 11,570 psi at 112.3 ft.	375						
		114.0' - slightly weathered below 114 ft.							
115		114.8' - Uniaxial Compressive Strength = 11,640 psi at 114.8 ft.			100 (87)				
		115.3' - Uniaxial Compressive Strength = 4,910 psi at 115.3 ft.							
		116.8' - Uniaxial Compressive Strength = 12,040 psi at 116.8 ft.							
		118.5' - Uniaxial Compressive Strength = 13,830 psi at 118.5 ft.	370						
120		119.5' - Uniaxial Compressive Strength = 13,230 psi at 119.5 ft.			100 (89)				
		120.8' - Uniaxial Compressive Strength = 11,440 psi at 120.8 ft.							
		Refusal at 102.0 feet. Bottom of borehole at 122.0 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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LETTER BOREHOLE - MODOT_20151119.GDT - 6/5/26 13:38 - C:\PROJECT FILES\2025\MG25049 OLD ROUTE 100 OVER DUBOISE CREEK BRIDGE REPLACEMENT\FIELD DATA\OLD ROUTE 100 OVER DUBOIS CREEK.GPJ

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

BORING DATA

Detailed Aug. 2026
Checked Aug. 2026

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

Sheet No. 32 of 36

H:\P\225045 - Old Route 100 over Dubois Creek\Bridge\Final Bridge\Microstation\B_A9801_032_J6S3627_ Boring Data.dgn 3:12:47 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 OLD 100 | STATE MO
DISTRICT BR | SHEET NO. 32
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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Missouri Department of Transportation
Construction and Materials

BORING NO. B-401
Page 1 of 5

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
MoDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 93+04.67 **Northing:** 985949.6750 **Date of Work:** 12/19/25
Offset: 6.43' RT **Easting:** 684828.9365 **Depth to Water:** 29.0
Elevation: 489.5 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler, Shelby Tube
Requested Elevation: **Location Note:** Southeast Abutment
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Hollow Stem Auger & 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' ASPHALT (6")							
		0.5-1.2' CONCRETE (8")							
		1.2-56.8' Brown and grey, fa: CLAY (CH)							
			485		44	4 - 3 - 3 (8)		PP = 2.00 tsf	MC = 26.5%
5									
			480		71		Qu Test Results MC = 24.2% γ_{moist} = 117.4 pcf	PP = 2.00 tsf	LL = 61 PL = 19 MC = 24.2%
10		12.0' - trace sand below 12 ft.							
			475		83	2 - 3 - 3 (9)		PP = 2.00 tsf	MC = 27.4%
15									
		17.0' - grey below 17 ft.	470		100	3 - 3 - 3 (9)		PP = 1.50 tsf	LL = 55 PL = 18 MC = 41.7%
20									
			465		100	2 - 2 - 3 (8)		PP = 1.50 tsf	MC = 26.9%
25									

N_{60} = (Em/60)Nm N_{80} - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value; (1) = Assumed, (2) = Actual

Coordinate System: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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(Continued Next Page)

Missouri Department of Transportation
Construction and Materials

BORING NO. B-401
Page 2 of 5

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
MoDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 93+04.67 **Northing:** 985949.6750 **Date of Work:** 12/19/25
Offset: 6.43' RT **Easting:** 684828.9365 **Depth to Water:** 29.0
Elevation: 489.5 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler, Shelby Tube
Requested Elevation: **Location Note:** Southeast Abutment
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Hollow Stem Auger & Mud-Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
25		1.2-56.8' Brown and grey, fat CLAY (CH) *(continued)*							
			460		100	2 - 3 - 3 (10)		PP = 2.00 tsf	MC = 48.5%
30									
			455		100	2 - 3 - 3 (10)		PP = 2.00 tsf	MC = 39.9%
35									
			450		100	1 - 2 - 3 (8)		PP = 2.50 tsf	MC = 40.4%
40									
		47.0' - with sand below 47 ft.	445		100	1 - 3 - 3 (10)		PP = 2.50 tsf	MC = 32.5%
45									
			440		100	2 - 3 - 5 (13)		PP = 2.00 tsf	MC = 23.2%
50									

N_{60} = (Em/60)Nm N_{80} - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value; (1) = Assumed, (2) = Actual

Coordinate System: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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(Continued Next Page)

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 OLD 100 | STATE MO
DISTRICT BR | SHEET NO. 33
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

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

BORING DATA

Detailed Aug. 2026
Checked Aug. 2026

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

H:\P\225045 - Old Route 100 over Dubois Creek\Bridge\Final Bridge\Microstation\B_A9801_033_J6S3627_ Boring Data.dgn 3:13:06 PM 9/17/2026

Missouri Department of Transportation
Construction and Materials

BORING NO. B-401
Page 3 of 5

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
MoDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 93+04.67 **Northing:** 985949.6750 **Date of Work:** 12/19/25
Offset: 6.43' RT **Easting:** 684828.9365 **Depth to Water:** 29.0
Elevation: 489.5 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler, Shelby Tube
Requested Elevation: **Location Note:** Southeast Abutment
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Hollow Stem Auger & Mud-Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
50		1.2-56.8' Brown and grey, fa: CLAY (CH) *(continued)*							
55			435	X	100	3 - 3 - 4 (12)		PP = 3.00 tsf	MC = 28.0%
		56.8-59.5' Grey, clayey SAND (SC)							
60		59.5-81.8' Grey, sandy CLAY (CL)	430	X	100	2 - 3 - 4 (12)			MC = 22.9%
65			425	X	100	3 - 6 - 9 (25)			MC = 26.8%
70		68.5' - sieve analysis performed at 68.5 ft.: 52.6% passing No. 200 sieve	420	X	22	6 - 4 - 5 (15)			MC = 24.6%
75			415	X	44	3 - 4 - 7 (18)			MC = 30.6%

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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(Continued Next Page)

LETTER BOREHOLE - MODOT_20151118.GDT - 6/5/26 13:38 - G:\PROJECT FILES\2025\MG25049 OLD ROUTE 100 OVER DUBOIS CREEK.GPJ

Missouri Department of Transportation
Construction and Materials

BORING NO. B-401
Page 4 of 5

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
MoDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 93+04.67 **Northing:** 985949.6750 **Date of Work:** 12/19/25
Offset: 6.43' RT **Easting:** 684828.9365 **Depth to Water:** 29.0
Elevation: 489.5 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler, Shelby Tube
Requested Elevation: **Location Note:** Southeast Abutment
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Hollow Stem Auger & Mud-Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
75		59.5-81.8' Grey, sandy CLAY (CL) *(continued)*							
80			410	X	39	2 - 2 - 4 (10)		PP = 2.00 tsf	MC = 31.1%
		81.8-96.8' Grey, fat CLAY (CH), trace sand							
85			405	X	100	3 - 3 - 5 (13)		PP = 2.50 tsf	MC = 26.5%
90		92.0' - trace gravel below 92 ft.	400	X	100	3 - 4 - 6 (17)		PP = 3.00 tsf	MC = 32.0%
95			395	X	44	6 - 6 - 10 (27)		PP = 3.50 tsf	MC = 18.1%
		96.8-101.0' Grey, clayey GRAVEL (GC), with sand							
100			390	X	50	8 - 7 - 19 (43)			MC = 11.7%

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

Coordinate System: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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(Continued Next Page)

LETTER BOREHOLE - MODOT_20151118.GDT - 6/5/26 13:38 - G:\PROJECT FILES\2025\MG25049 OLD ROUTE 100 OVER DUBOIS CREEK BRIDGE REPLACEMENT\FIELD DATA\OLD ROUTE 100 OVER DUBOIS 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 OLD 100 | STATE MO
DISTRICT BR | SHEET NO. 34
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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Note; For locations of borings, see Sheet No. 1.

BORING DATA

Detailed Aug. 2026
Checked Aug. 2026

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Construction and Materials

BORING NO. B-401

Job No.: MG25049 **County:** Franklin **Route:** Old Route 100
MoDOT Job No.: J6S3627 **Skew:** **Location:** Washington, Missouri
Bent: **Logged By:** M. Jenkins **Operator:** P. Hart
Station: 93+04.67 **Northing:** 985949.6750 **Date of Work:** 12/19/25
Offset: 6.43' RT **Easting:** 684828.9365 **Depth to Water:** 29.0
Elevation: 489.5 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X,Split-Spoon Sampler, Shelby Tube
Requested Elevation: **Location Note:** Southeast Abutment
Drill No.: CME 550X **Hammer Efficiency:** 95.4 **Drilling Method:** Hollow Stem Auger & Mud-Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
100		Refusal at 101.0 feet. Bottom of borehole at 101.0 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: **Coordinate Units:** U.S. Survey Feet

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LETTER BOREHOLE - MODOT_20151119.GDT - 6/5/26 13:38 - C:\PROJECT FILES\2025\MG25049 OLD ROUTE 100 OVER DUBOIS CREEK\FIELD DATA\OLD ROUTE 100 OVER DUBOIS CREEK BRIDGE REPLACEMENT

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

BORING DATA

Detailed Aug. 2026
Checked Aug. 2026

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

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DATE PREPARED 9/17/2026
ROUTE OLD 100 | STATE MO
DISTRICT BR | SHEET NO. 35
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

DESCRIPTION | DATE

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GENERAL NOTES

The number of borings is based on topographic and geologic factors: the magnitude of loading; the size, shape, and value of the structure; consequences of failure; and other factors. The type and sequence of sampling is selected to reduce the possibility of undiscovered anomalies and increase drilling efficiency. Attempts are made to detect and/or identify occurrences during drilling and sampling such as encountering water, boulders, gas, zones of lost circulation, relative ease or resistance of drilling progress, unusual sample recovery, variation in driving resistance, unusual odors, etc. However, lack of mention of such variations does not preclude their presence.

Although attempts are made to obtain stabilized groundwater levels, the levels shown on the Boring Logs may not have stabilized, particularly in more permeable cohesive soils. Consequently, the indicated groundwater levels may not represent present or future levels. Groundwater levels may vary significantly over time due to effects of precipitation, infiltration, or other factors not evident at the times indicated.

Unless otherwise noted, soil classifications indicated on the Boring Logs are based on visual observations and are not the result of classification tests. Although visual classifications are performed by experienced technicians or engineers, classifications so made may not be conclusive.

Generally, variations in texture less than one foot in thickness will be described as seams while thicker strata will be logged as individual strata. However, minor anomalies and changes of questionable lateral extent may appear only in the verbal description. The lines indicating changes in strata on the Boring Logs are approximate boundaries only as the actual material change may be between samples or may be a gradual transition.

Samples chosen for laboratory testing are selected in such a manner so as to determine selected physical characteristics of each material encountered. However, as samples are recovered only intermittently and only representative samples are tested, the results of such tests may not conclusively represent the characteristics of all subsurface materials present.

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

Soil Properties

Cohesive Soils			Granular and Intermediate Textured Soils	
Qu (tsf)	N-Value (bpf)	Consistency	N-Value (bpf)	Relative Density
< 0.25	0 - 2	Very soft	0 - 4	Very loose
0.25 - 0.50	3 - 4	Soft	5 - 10	Loose
0.51 - 1.00	5 - 8	Medium stiff	11 - 30	Medium dense
1.01 - 2.00	9 - 15	Stiff	31 - 50	Dense
2.01 - 4.00	15-30	Very Stiff	> 50	Very dense
> 4.00	>30	Hard		
Qu (tsf): unconfined compressive strength			N-Value: blows per foot of a 140lb. Hammer falling 30in on a standard split-barrel sampler, except where noted	

Criteria for Assigning Group Symbols and Group Names Using laboratory Tests [A]					Soil Classification	
					Group Symbol	Group Name [B]
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** > 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	Cu ≥ 4 and 1 ≤ Cc ≤ 3 [E]		GW	Well-graded gravel [F]
			Cu < 4 and/or 1 > Cc > 3 [E]		GP	Poorly-graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F, G, H]
			Fines classify as CL or CH		GC	Clayey gravel [F, G, H]
	Sands: > 50% of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	Cu ≥ 6 and 1 ≤ Cc ≤ 3 [E]		SW	Well-graded sand [I]
			Cu < 6 and/or Cc < 1 or Cc > 3 [E]		SP	Poorly-graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G, H, I]
			Fines classify as CL or CH		SC	Clayey sand [G, H, I]
Fine-Grained Soils: More than 50% passes No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots on/above "A" line		CL	Lean clay [K, L, M]
			PI < 4 or plots below "A" line [J]		ML	Silt [K, L, M]
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay [K, L, M, N]
			Liquid limit - not dried			Organic silt [K, L, M, O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line		CH	Fat clay [K, L, M]
			PI plots below "A" line		MH	Elastic silt [K, L, M]
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay [K, L, M, P]
			Liquid limit - not dried			Organic Silt [K, L, M, Q]
Highly Organic Soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name

[C] Gravels with 5-12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly-graded gravel with silt, GP-GC poorly-graded gravel with clay

[D] Sands with 5-12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly-graded sand with silt, SP-SC poorly-graded sand with clay

[E] $Cu = D_{60}/D_{10}$ $Cc = (D_{30})^2 / (D_{10} * D_{60})$

[F] If soil contains ≥ 15% sand, add "with sand" to group name

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM

[H] If fines are organic, add "with organic fines" to group name

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay

[K] If soil contains 15-29% plus No. 200, add "with sand" or "with gravel," whichever is predominant

[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name

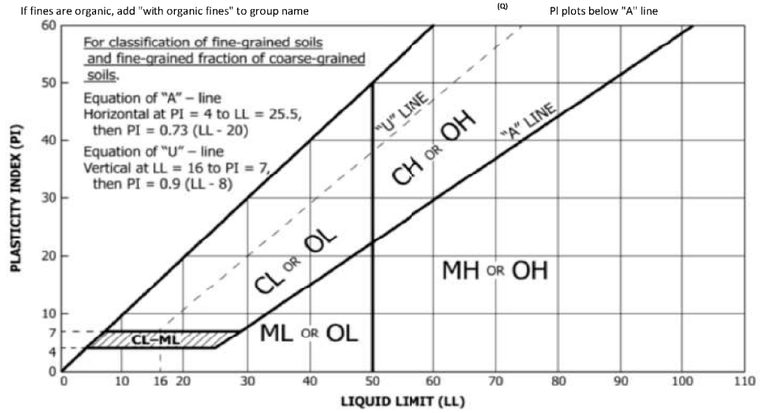
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name

[N] PI ≥ 4 and plots on or above "A" line

[O] PI < 4 or plots below "A" line

[P] PI plots on or above "A" line

[Q] PI plots below "A" line



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

BORING DATA

Detailed Aug. 2026
Checked Aug. 2026

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

Sheet No. 36 of 36

H:\P\225045 - Old Route 100 over Dubois Creek\Bridge\Final Bridge\Microstation\B_A9801_036_J6S3627_ Boring Data.dgn 3:14:39 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 OLD 100
STATE MO
DISTRICT BR
SHEET NO. 36
COUNTY FRANKLIN
JOB NO. J6S3627
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9801

DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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MoDOT

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