DESIGN DESIGNATION

A.A.D.T. - 2027 = 1,281
A.A.D.T. - 2047 = 1,857
T = 10.5%
V = 30 M.P.H.

FUNCTIONAL CLASSIFICATION - MAJOR COLLECTOR

NO NEW ACQUISITIONS REQUIRED

CONVENTIONAL SYMBOLS
(USED IN PLANS)

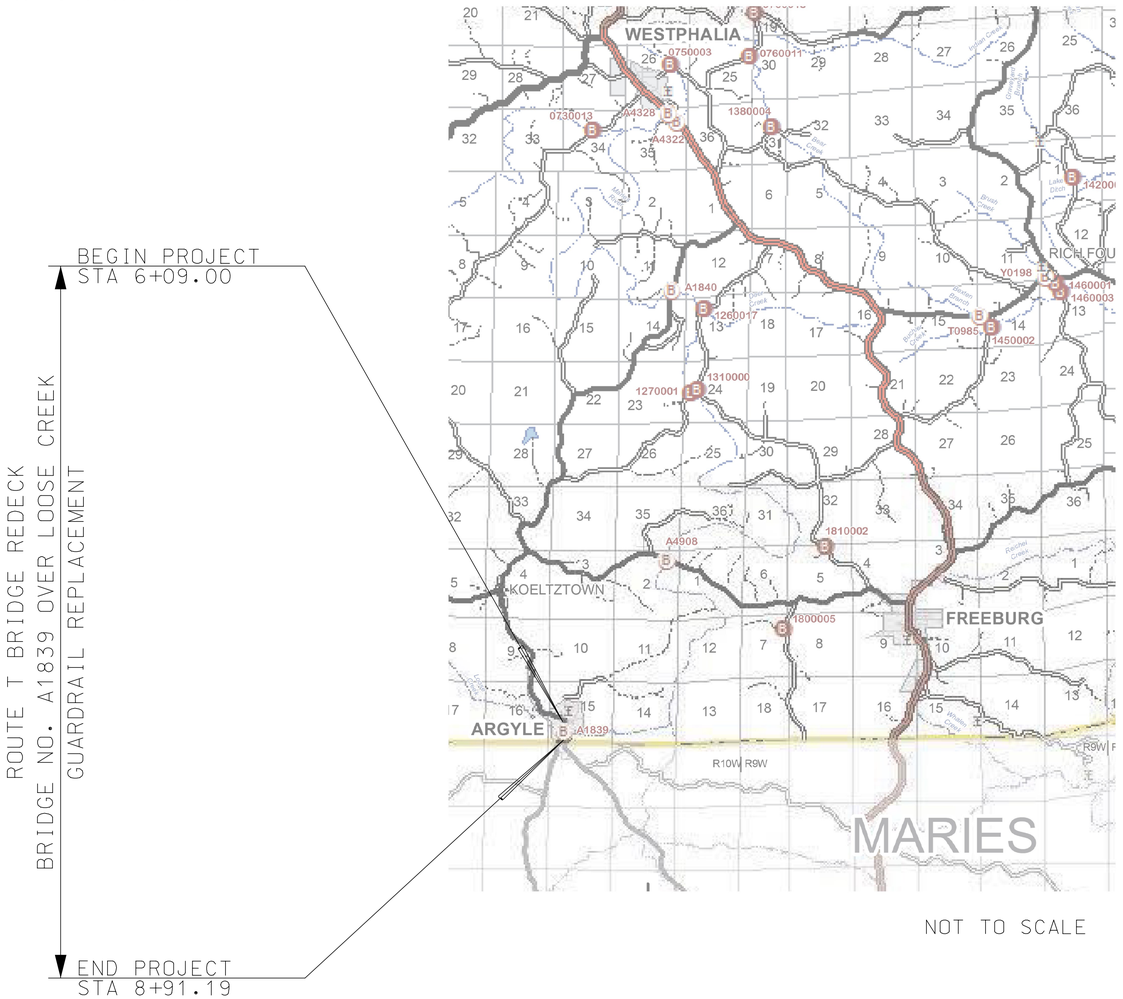
	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
GUARD CABLE		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
UTILITIES		
FIBER OPTICS	-FO-	-FO-
OVERHEAD CABLE TV	-OTV-	-OTV-
UNDERGROUND CABLE TV	-UTV-	-UTV-
OVERHEAD TELEPHONE	-OT-	-OT-
UNDERGROUND TELEPHONE	-UT-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

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED STATE HIGHWAY OSAGE COUNTY





NOT TO SCALE

BEGIN PROJECT
STA 6+09.00

ROUTE T BRIDGE REDECK
BRIDGE NO. A1839 OVER LOOSE CREEK
GUARDRAIL REPLACEMENT

END PROJECT
STA 8+91.19

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

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (TS) (1 SHEET)	2
QUANTITIES (QU) (2 SHEETS)	3
PLAN (PP)	4
TRAFFIC CONTROL SHEETS (TC)	5-7
EROSION CONTROL SHEETS (EC)	8
BRIDGE DRAWINGS (B)	
A1839	1-11

LENGTH OF PROJECT

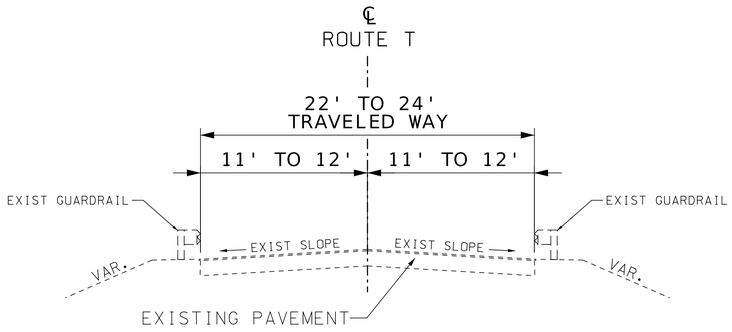
BEGINNING OF PROJECT	STA 6+09.00
END OF PROJECT	STA 8+91.19
APPARENT LENGTH	282.19 FEET
EQUATIONS AND EXCEPTIONS:	NONE
TOTAL CORRECTIONS	0 FEET
NET LENGTH OF PROJECT	282.19 FEET
STATE LENGTH	0.053 MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES	0.1 ACRES

STATE OF MISSOURI
GREGORY G. LEARY
NUMBER PE-026654
PROFESSIONAL ENGINEER
09/23/2026 1:01:06 PM
GREGORY G. LEARY - CIVIL
MO-PE-026654

DATE PREPARED: 9/21/2026
ROUTE: T
STATE: MO
DISTRICT: CD
SHEET NO.: 1
COUNTY: OSAGE
JOB NO.: JCD0071
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

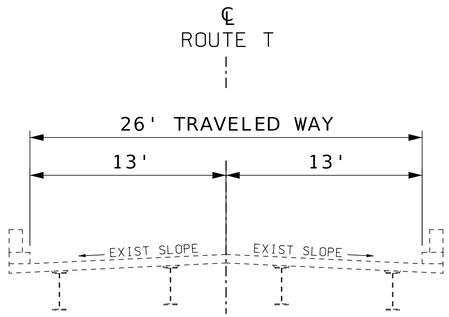
DESCRIPTION | DATE

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



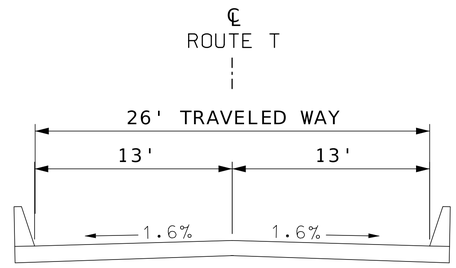
EXISTING TYPICAL SECTION

ROUTE T
STA 6+09.00 TO STA 6+96.50
STA 8+03.69 TO STA 8+91.19



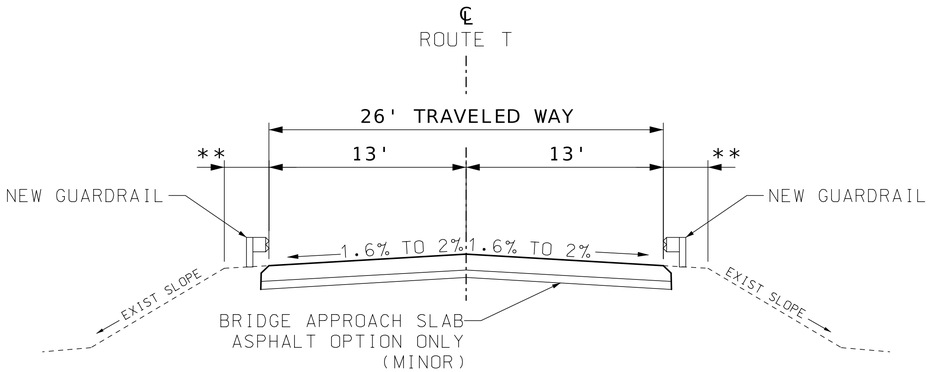
EXISTING BRIDGE TYPICAL SECTION

ROUTE T – BR A18391
STA 6+96.50 TO STA 8+03.69



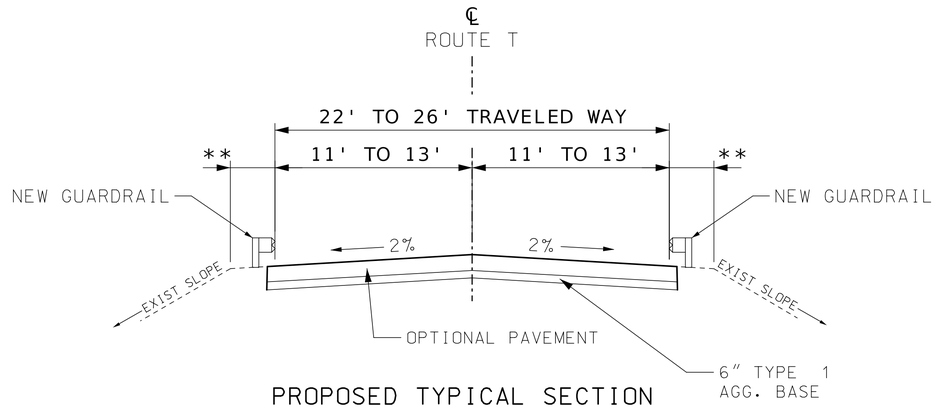
PROPOSED BRIDGE TYPICAL SECTION

ROUTE T – BR A18392
STA 6+96.50 TO STA 8+03.69



PROPOSED TYPICAL SECTION 20' MINOR BRIDGE APPROACH SLAB

ROUTE T
STA. 6+76.50 TO STA. 6+96.50
STA. 8+03.69 TO STA. 8+23.69



PROPOSED TYPICAL SECTION OPTIONAL PAVEMENT

ROUTE T
STA. 6+46.50 TO STA. 6+76.50
STA. 8+23.69 TO STA. 8+53.69

OPTIONAL PAVEMENT"
2" BIT. PAVEMENT MIX (BP-1) PG64-22 OVER
8" BIT. PAVEMENT MIX (BASE) PG64-22
OR
8" PCCP W/ 15'JOINT SPACING AND 1.25" DOWELS

TYPICAL SECTIONS
ROUTE T
SHEET 1 OF 1

STATE OF MISSOURI
GREGORY G. LEARY
NUMBER PE-026654
PROFESSIONAL ENGINEER
09/23/2026 1:00:11 PM
GREGORY G. LEARY - CIVIL
MO-PE-026654

DATE PREPARED: 9/21/2026
ROUTE: T
STATE: MO
DISTRICT: CD
SHEET NO.: 2
COUNTY: COLE
JOB NO.: JCD0071
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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

GUARDRAIL (MIDWEST GUARDRAIL SYSTEM - MASH APPROVED)

STATION	STATION	LOCATION	MGS BRIDGE APPROACH TRANSITION (NO CURB) EA.	MGS GUARDRAIL LF	MGS END ANCHOR EA.	TYPE A CRASHWORTHY END TERMINAL (MASH) EA.	REMARKS
8+03.69	8+91.19	RTE T	1	-	-	1	BRIDGE A1839 - SE CORNER USE SOFT STOP CET
8+03.69	8+91.19	RTE T	1	-	-	1	BRIDGE A1839 - SW CORNER USE SOFT STOP CET
6+09.00	6+96.50	RTE T	1	-	-	1	BRIDGE A1839 - NW CORNER
6+55.93	6+96.50	RTE T	1	12.5	1	-	BRIDGE A1839 - NE CORNER
		TOTALS	4	12.5	1	3	
		USE	4	13	1	3	

MOBILIZATION

TOTAL = 1 LUMP SUM

CONTRACTOR FURNISHED SURVEYING AND STAKING

TOTAL = 1 LUMP SUM

TYPE 2 ROCK BLANKET

STATION	STATION	LOCATION	PLACING TYPE 2 ROCK BLANKET CY	FURNISHING TYPE 2 ROCK BLANKET CY	PERMANENT EROSION CONTROL GEOTEXTILE SY	REMARKS
6+96.50	7+36.65	RTE T	152.64	152.64	228.96	FROM BENT 1 TO BENT 2 (COVER FOOTINGS AT BENT 2)
		TOTAL	152.64	152.64	228.96	
		USE	153	153	229	

SEEDING - COOL SEASON MIXTURE

STATION	STATION	LOCATION	SEEDING AND MULCHING COOL SEASON GRASSES AC	REMARK
6+09.00	8+91.19	RTE T	0.1	AS NEEDED
				AT BRIDGE ENDS
		TOTAL	0.1	
		USE	1 LUMP SUM	

PAVEMENT MARKING - CLASS 1 PAINT (18-MIL-TYPE P BEADS)

STATION	STATION	LOCATION	LENGTH FT.	4" SOLID YELLOW LF	REMARKS
6+46.50	8+53.69	RTE T	207.39	414.78	BRIDGE LENGTH AND OPTIONAL PAVEMENT
			TOTAL	414.78	
			USE	415	

SUBGRADING AND SHOULDERING, CLASS 1

STATION	STATION	LOCATION	SUBGRADING AND SHOULDERING, CLASS 1 (100 FT)	REMARKS
6+46.50	6+96.50	RTE T	0.5	FOR OPTIONAL PAVEMENT
8+03.69	8+53.69	RTE T	0.5	AND BRIDGE APPROACH SLAB
		TOTAL	1.0	
		USE	1	

OPTIONAL PAVEMENT (10" HMA OR 8" PCCP)

STATION	STATION	LOCATION	LENGTH (FT)	AVG WIDTH (FT)	OPTIONAL PAVEMENT (SY)	TYPE 1 AGGREGATE FOR BASE (6 IN. THICK) (SY)	REMARKS
6+46.50	6+76.50	RTE T	30	24	80	80	
8+23.69	8+53.69	RTE T	30	24	80	80	
				TOTAL	160	160	
				USE	160	160	

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING & GRUBBING AC	REMARKS
6+09.00	8+91.19	ROUTE T	0.13	CLEARING FOR ROCK BLANKET & BEHIND GUARDRAIL
		TOTAL	0.13	
		USE	1	

TEMPORARY EROSION CONTROL

STATION	STATION	SIDE	SILT FENCE LF	SEDIMENT REMOVAL CY	ROCK DITCH CHECK LF	REMARKS
6+59.48	6+82.80	NE	29	0.38		
6+96.50		NW		1	30	
8+03.89		SW		1	6	
8+03.89		SE		1	8	
		TOTAL	29	3.38	44	
		USE	29	4	44	

PERFORATED SQUARE STEEL TUBE POST**

SIGN NO.	LOCATION	STATION	POST QTY EA	2.5" POST ITEM NO. 9031280 LF	CONCRETE ANCHOR ITEM NO. 9031285 EA
S1	ROUTE T - LT	8+15	1	16.0	1
S2	ROUTE T - RT	8+15	1	16	1
			TOTAL	32	2

**FOR PSST WITHOUT BREAKAWAY DEVICES, POST LENGTH SHALL INCLUDE AN ADDITIONAL 6" FOR INSERTION INTO ANCHOR. PSST POST SHALL BE CUT IN THE FIELD TO MEET MINIMUM SIGN MOUNTNG HEIGHT, AS SHOWN IN STD PLAN 903.03, AT NO DIRECT PAY.

REMOVAL OF IMPROVMENTS

STATION	STATION	LOCATION	GUARDRAIL LF	PAVEMENT S.Y.	REMARKS
6+09.00	6+96.50	RTE T	87.5	-	BRIDGE A1839 - NW CONRER
6+55.93	6+96.50	RTE T	56.25	-	BRIDGE A1839 - NE CONRER
8+03.69	8+91.19	RTE T	87.5	-	BRIDGE A1839 - SW CONRER
8+03.69	8+91.19	RTE T	87.5	-	BRIDGE A1839 - SE CONRER
6+46.50	6+96.50	RTE T	-	137.78	22' SAW CUT
8+03.69	8+53.69	RTE T	-	137.78	22' SAW CUT
		TOTAL	1 LUMP SUM		

SUMMARY OF QUANTITIES
SHEET 1 OF 2

STATE OF MISSOURI
GREGORY G. LEARY
NUMBER PE-026654
PROFESSIONAL ENGINEER
09/23/2026 1:01:56 PM
GREGORY G. LEARY - CIVIL
MO-PE-026654

DATE PREPARED: 9/21/2026
ROUTE: T | STATE: MO
DISTRICT: CD | SHEET NO.: 3
COUNTY: OSAGE
JOB NO.: JCD0071
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NO.	DESCRIPTION
WARNING SIGNS								
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT)
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT)
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT)
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT)
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT)
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
WO1-8	18X24	3.00						CHEVRON (SYMBOL)
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
WO3-4	48X48	16.00						BE PREPARED TO STOP
WO3-5	48X48	16.00						SPEED LIMIT AHEAD
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)
WO4-1aL	48X48	16.00						MERGE (LEFT)
WO4-1aR	48X48	16.00						MERGE (RIGHT)
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS
WO5-3	48X48	16.00						ONE LANE BRIDGE
WO5-5	48X48	16.00						NARROW LANES
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)
WO6-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)
WO7-3a	30X24	5.00						NEXT XX MILES (PLAQUE)
WO8-1	48X48	16.00						BUMP
WO8-2	48X48	16.00						DIP
WO8-3	48X48	16.00						PAVEMENT ENDS
WO8-4	48X48	16.00						SOFT SHOULDER
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)
WO8-6	48X48	16.00						TRUCK CROSSING
WO8-6c	48X48	16.00						TRUCK ENTRANCE
WO8-7	36X36	9.00						LOOSE GRAVEL
WO8-7a	36X36	9.00						FRESH OIL / LOOSE GRAVEL
WO8-9	48X48	16.00						LOW SHOULDER
WO8-11	48X48	16.00						UNEVEN LANES
WO8-12	48X48	16.00						NO CENTER LINE
WO8-15	48X48	16.00						GROOVED PAVEMENT
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)
WO8-17L	48X48	16.00						SHOULDER DROP-OFF (SYMBOL LEFT)
WO8-17R	48X48	16.00						SHOULDER DROP-OFF (SYMBOL RIGHT)
WO8-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)
W10-1	42RND.	9.62						RAILROAD CROSSING
WO12-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)
WO12-2x	24X18	3.00						LOW CLEARANCE (PLAQUE)
WO12-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)
WO12-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD
WO12-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD
WO13-1	30X30	6.25						ADVISORY SPEED (PLAQUE)
WO16-2	30X24	5.00						XXX FEET (PLAQUE)
WO16-3	30X24	5.00						X MILE (PLAQUE)
WO20-1	48X48	16.00						ROAD/BRIDGE/RAMP WORK AHEAD
WO20-2	48X48	16.00	2	32.00			18	DETOUR AHEAD
WO20-3	48X48	16.00	6	96.00			20/20A	ROAD CLOSED AHEAD/500FT
WO20-4	48X48	16.00	2	32.00				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	4	8.76				WET PAINT (ARROW PIVOTS)

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NO.	DESCRIPTION
GUIDE SIGNS								
E05-1	36X48	12.00						GORE EXIT
E05-2	48X36	12.00						EXIT OPEN
E05-2a	48X36	12.00						EXIT CLOSED
GO20-1	60X24	10.00						ROAD WORK NEXT X MILES (4@1, 2@2)
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	2	25.00			55A/ 55B	ROAD CLOSED 7+4 MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60X30	12.50						ROAD CLOSED TO THRU TRAFFIC
CONST-3A	60X48	20.00						FINE SIGN
CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)
MISCELLANEOUS SIGNS								
CONST-5	48X36	12.00	2	24.00			60	POINT OF PRESENCE
CONST-5	96X48	32.00						POINT OF PRESENCE
CONST-7	72X36	18.00						RATE OUR WORK ZONE
CONST-8	48X36	12.00						WORK ZONE NO PHONE ZONE
	36X78	19.50	20	390.00			50A	
	36X79	19.50	3	58.50			50B	
	36X80	19.50	3	58.50			50C	
	36X81	19.50	3	58.50			50D	
	36X82	19.50	3	58.50			50E	

616-10.05 CONSTRUCTION SIGNS	TOTAL 868*
616-10.10 RELOCATED SIGNS	TOTAL

EFFECTIVE: 07-01-2025

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)
6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)
6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)
6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
6122020		REPLACEMENT SAND BARREL
6122030		IMPACT ATTENUATOR (RELOCATION)
6122040		WORK ZONE CRASH CUSHION (NARROW)
6122041		WORK ZONE CRASH CUSHION (RELOCATION)
6123001		TRUCK MOUNTED ATTENUATOR (TMA)
6161012		BUOYS (BOATS KEEP OUT)
6161013		BUOYS (NO WAKE)
6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
6161020		CHANNELIZER (DRUM-LIKE)
6161022		CHANNELIZER (CONE)
6161025		CHANNELIZER (TRIM-LINE)
6161026		CHANNELIZER (VERTICAL PANEL)
6161030	8*	TYPE 3 MOVEABLE BARRICADE
6161033		DIRECTION INDICATOR BARRICADE
6161040		FLASHING ARROW PANEL
6161047		TYPE 3 OBJECT MARKER
6161055		SEQUENTIAL FLASHING WARNING LIGHT
6161070		TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A		CHANGEABLE MESSAGE SIGN WITHOUT COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
6161099	3	CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
6162002		TEMPORARY LONG-TERM RUMBLE STRIPS
6173600D		TEMPORARY TRAFFIC BARRIER, CONTRACTOR FURNISHED/RETAINED
6173700B		TEMP. TRAFFIC BARRIER ANCHORED, CONTRACTOR FURNISHED/RETAINED
6173706		TEMP. TRAFFIC BARRIER STIFFNESS TRANSITION CONTRACTOR FURNISHED/RETAINED
6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION, CONTRACTOR FURNISHED/RETAINED
6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER
6175011B		RELOCATING TEMP. TRAFFIC BARRIER ANCHORED
6175013		RELOCATING TEMP. TRAFFIC BARRIER STIFFNESS
6175020A		RELOCATING TEMP. TRAFFIC BARRIER HEIGHT
6208064A		TEMPORARY RAISED PAVEMENT MARKER
9029400		TEMPORARY TRAFFIC SIGNALS
9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING

6169901	1	LUMP SUM TEMPORARY TRAFFIC CONTROL (*ITEM INCLUDED)

STATE OF MISSOURI
GREGORY G. LEARY
NUMBER PE-026654
PROFESSIONAL ENGINEER
09/23/2026 12:58:52 PM
GREGORY G LEARY - CIVIL
MO-PE-026654

DATE PREPARED: 9/21/2026

ROUTE	STATE
T	MO

DISTRICT	SHEET NO.
CD	3

COUNTY: OSAGE

JOB NO.: JCD0071

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION | DATE

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

SUMMARY OF QUANTITIES
SHEET 2 OF 2

GENERAL NOTE:
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.

NOTES:
SUBGRADING AND SHOULDERING CLASS 1
STA. 6+46.00 TO STA. 6+96.00
STA. 8+03.69 TO STA. 8+53.69
PAVEMENT REMOVAL:
275.56 SY PAVEMENT REMOVAL
44 LF SAW CUTS
REMOVE 319 FT EXIST GUARDRAIL FROM BRIDGE ENDS

ROUTE T CURVE 1

PI 4+99.97
PC 3+49.40
PT 6+49.40
Δ 12°9'57.2" (RT)
D 4°3'19.0"
L 300.00' (ARC)
T 150.57'
R 1,412.87'

ROUTE T CURVE 2

PI 9+79.83
PC 8+66.20
PT 10+90.50
Δ 22°34'22.9" (LT)
D 10°3'49.6"
L 224.30' (ARC)
T 113.62'
R 569.33'

REMOVE EXISTING BRIDGE DECK
STA. 6+96.50
INSTALL NEW BRIDGE DECK
BEGIN STA. 6+96.50 (MATCH EXIST)
26' WIDTH W/ 16" TPYE D BARRIER

SEC 15, T41N, R10W
NE ¼ OF SW ¼

SEC 15, T41N, R10W
SE ¼ OF SW ¼

SEC 15, T41N, R10W
NW ¼ OF SW ¼

SEC 15, T41N, R10W
SW ¼ OF SW ¼

2' TYPE 2 ROCK BLANKET - 152.64 CY
W/ PERM. EROSION CONTROL GEOTEXTILE 228.96 SY
FROM BENT 1 TO COVER EXPOSED FOOTINGS AT BENT 2

MATCH TOP OF EXIST BERM

MGS BRIDGE APPROACH TRANS. 37.5

MGS END TERMINAL 12.5'

MGS GUARDRAIL 12.5'

OPTIONAL PVMT.

BEGIN WORK STA. 6+09.00

EXIST R/W

¼ ¼ SEC. LINE

ROUTE T
S00°53'23"E

ROUTE T
S11°17'49"E

PC STA 3+49.40

PT STA 6+49.40

PC STA 8+66.20

PT STA 10+90.50

END STA 13+38.54

100'
EXIST. PERM. ESMT
(CH. CONTROL)

80'

OPTIONAL PVMT.

MGS BRIDGE APPROACH TRANS. 37.5

MGS TYPE A CET 50'

SIGN
(UIP)

END WORK STA. 8+91.19

BRIDGE A1839
S11°16'34"W

MGS TYPE A CET 50'
MGS BRIDGE APPROACH TRANS. 37.5

MATCH EXIST ROCK DITCH

20' ASPHALT BRIDGE APPROACH SLAB (MINOR)
BRIDGE ITEM - SEE BRIDGE PLANS

EXIST. PERM. SIDE RD ESMT.

EXIST. PERM. ESMT
(CH. CONTROL)
100'

130'

SCALE
0 40 80 120

PLAN SHEET
SHEET 1 OF 1

STATE OF MISSOURI
GREGORY G. LEARY
NUMBER PE-026654
PROFESSIONAL ENGINEER
09/23/2026 1:00:26 PM
GREGORY G. LEARY - CIVIL
MO-PE-026654

DATE PREPARED
9/22/2026

ROUTE	STATE
T	MO
DISTRICT	SHEET NO.
CD	4

COUNTY
OSAGE

JOB NO.
JCD0071

CONTRACT ID.

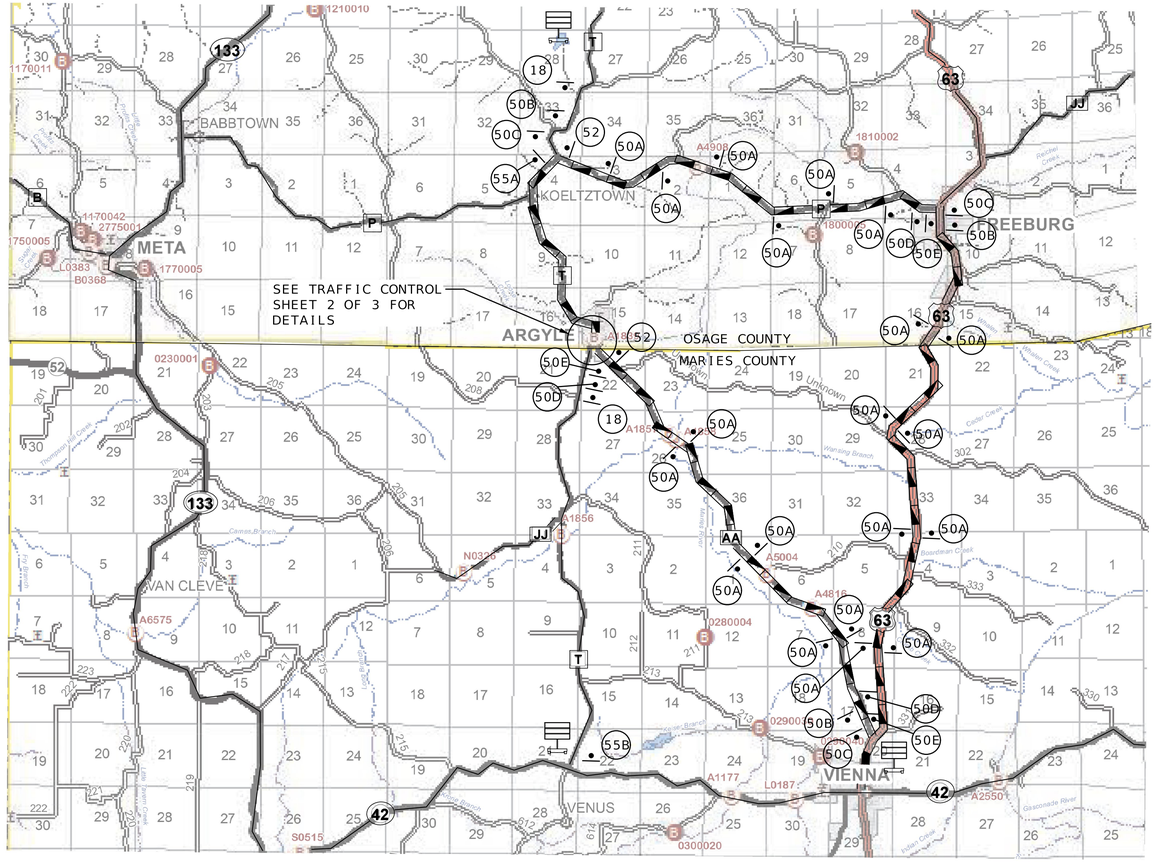
PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



ROAD CLOSED
4 MILES AHEAD
LOCAL TRAFFIC ONLY

R11-3a

55A

ROAD CLOSED
7 MILES AHEAD
LOCAL TRAFFIC ONLY

R11-3a

55B

Bridge Improvements Fall 2027



CONST-5 SH-FLAT SHEET;
2.250" Radius, 0.625" Border, White on, Green;
"Bridge", D 85% spacing; "Improvements", D 85% spacing; "Fall 2027", D;
Table of letter and object lefts

B 3.500	r 7.625	i 10.250	d 12.000	q 15.500	e 19.000	
i 3.500	m 5.500	p 11.000	r 14.500	o 16.875	v 20.125	e 23.750	m 27.250	e 32.500	n 36.000	t 39.375	s 42.000
F 3.500	a 6.000	i 9.000	l 10.750	2 14.750	0 17.750	2 20.875	7 23.875				
15.500											

60

DETOUR AHEAD

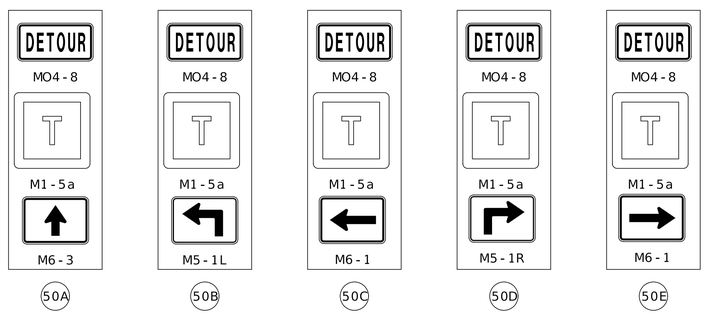
WO20-2

18

END DETOUR

MO4-8a

52



50A 50B 50C 50D 50E

GENERAL NOTES:
- LETTERED ROUTE DETOUR SIGN ASSEMBLY 36" X 60"
- CMS BOARDS PLACED AS APPROVED BY THE ENGINEER.
- CONST-5-48 SIGN (60) IS PLACED IN A VISIBLE AREA WITHIN THE PROJECT LIMITS PROVIDED ITS PLACEMENT DOES NOT DISRUPT A SEQUENCE OF SIGNS.
- ALL DISTANCES AND SPACING OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE AND MAY BE REVISED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- ANY EXISTING SIGNING THAT CONFLICTS WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- DETOUR ROUTE

NOT TO SCALE

TRAFFIC CONTROL
SHEET 1 OF 3

STATE OF MISSOURI
GREGORY G. LEARY
NUMBER PE-026654
PROFESSIONAL ENGINEER

09/23/2026 1:01:42 PM
GREGORY G. LEARY - CIVIL
MO-PE-026654

DATE PREPARED
9/22/2026

ROUTE	STATE
T	MO
DISTRICT	SHEET NO.
CD	5

COUNTY
OSAGE

JOB NO.
JCD0071

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

BRIDGE A1839 CLOSURE





WO20-3

20



WO20-3A

20A



R11-2

29

TRAFFIC CONTROL LEGEND

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

NOT TO SCALE

NOTE:
MAINTAIN ALL PRIVATE ENTRANCE INGRESS/EGRESS
FOR FULL DURATION OF PROJECT.

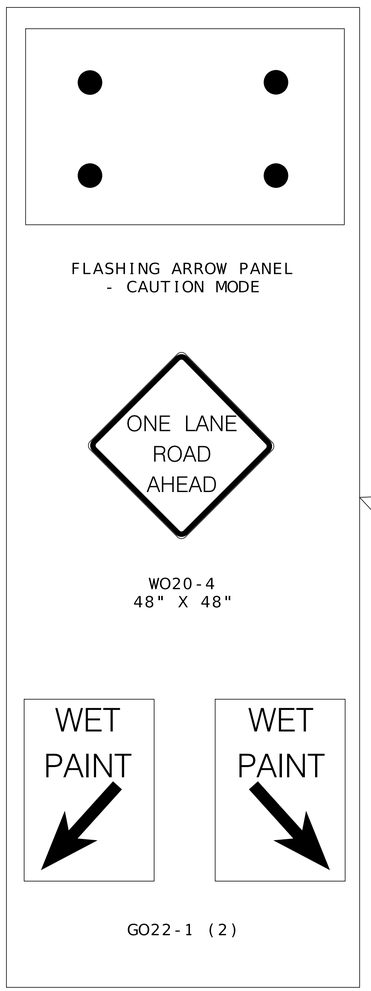
STATE OF MISSOURI
GREGORY G. LEARY
NUMBER PE-026654
PROFESSIONAL ENGINEER

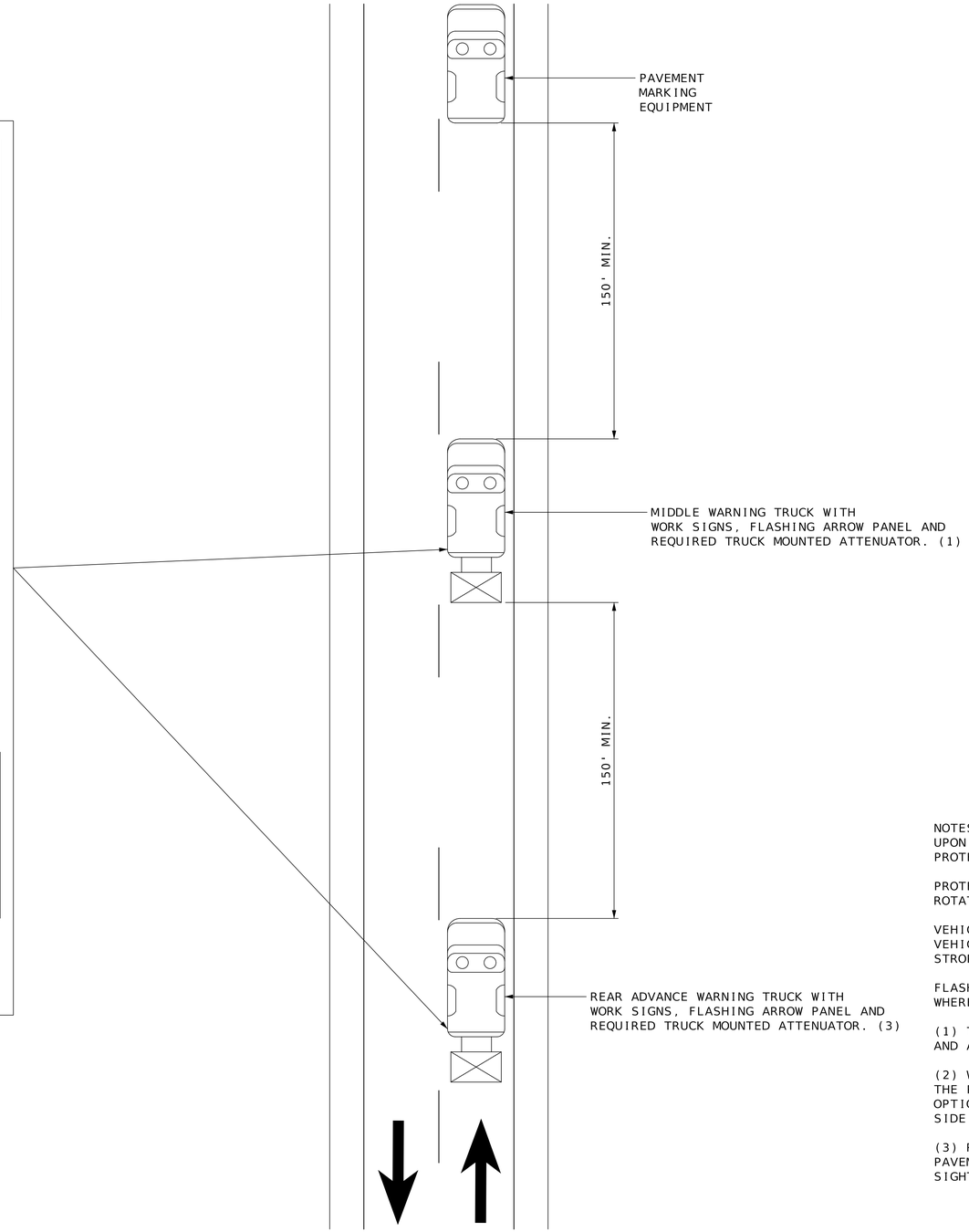
09/23/2026 12:59:36 PM
GREGORY G. LEARY - CIVIL
MO-PE-026654

DATE PREPARED	9/22/2026
ROUTE	T
STATE	MO
DISTRICT	CD
SHEET NO.	6
COUNTY	OSAGE
JOB NO.	JCD0071
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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





NOTES:
UPON APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY PROVIDE ADDITIONAL PROTECTIVE TRUCK EQUIPPED WITH PROPER WARNING DEVICES.

PROTECTIVE TRUCK AND WORK VEHICLES SHALL DISPLAY HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

VEHICLE HAZARD WARNING SIGNALS SHALL NOT BE USED INSTEAD OF THE VEHICLE'S HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROPE LIGHTS.

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

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

(2) WET PAINT SIGNS ARE INSTALLED TO INDICATE THE SIDE IN WHICH THE PAVEMENT MARKING MATERIAL IS BEING APPLIED. AT THE CONTRACTOR'S OPTION, A FRONT FACING WET PAINT SIGN MAY BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT MARKING EQUIPMENT.

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

CENTERLINE/EDGELINE STRIPING ON TWO-LANE HIGHWAYS

TRAFFIC CONTROL
SHEET 3 OF 3

STATE OF MISSOURI
GREGORY G. LEARY
NUMBER PE-026654
PROFESSIONAL ENGINEER
09/23/2026 12:59:09 PM
GREGORY G. LEARY - CIVIL
MO-PE-026654

DATE PREPARED
9/22/2026

ROUTE	STATE
T	MO
DISTRICT	SHEET NO.
CD	7

COUNTY
OSAGE

JOB NO.
JCD0071

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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



TEMPORARY EROSION CONTROL LEGEND

(R) ROCK DITCH CHECK

SILT FENCE

NOT TO SCALE

EROSION CONTROL SHEET
SHEET 1 OF 1

STATE OF MISSOURI
GREGORY G. LEARY
NUMBER PE-026654
PROFESSIONAL ENGINEER

09/23/2026 12:59:50 PM
GREGORY G. LEARY - CIVIL
MO-PE-026654

DATE PREPARED
9/22/2026

ROUTE	STATE
T	MO
DISTRICT	SHEET NO.
CD	8

COUNTY
OSAGE

JOB NO.
JCD0071

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

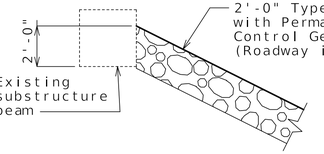
SEC/SUR 15 TWP 41N RGE 10W

U.I.P., REDECK AND MAKE COMPOSITE EXISTING (35',35',35') SIMPLE WIDE FLANGE BEAM SPANS

Table Showing S2 Bar Lengths			
Int. Bent No. 2		Int. Bent No. 3	
Span 1	Span 2	Span 2	Span 3
5'-0"	5'-0"	5'-0"	5'-0"

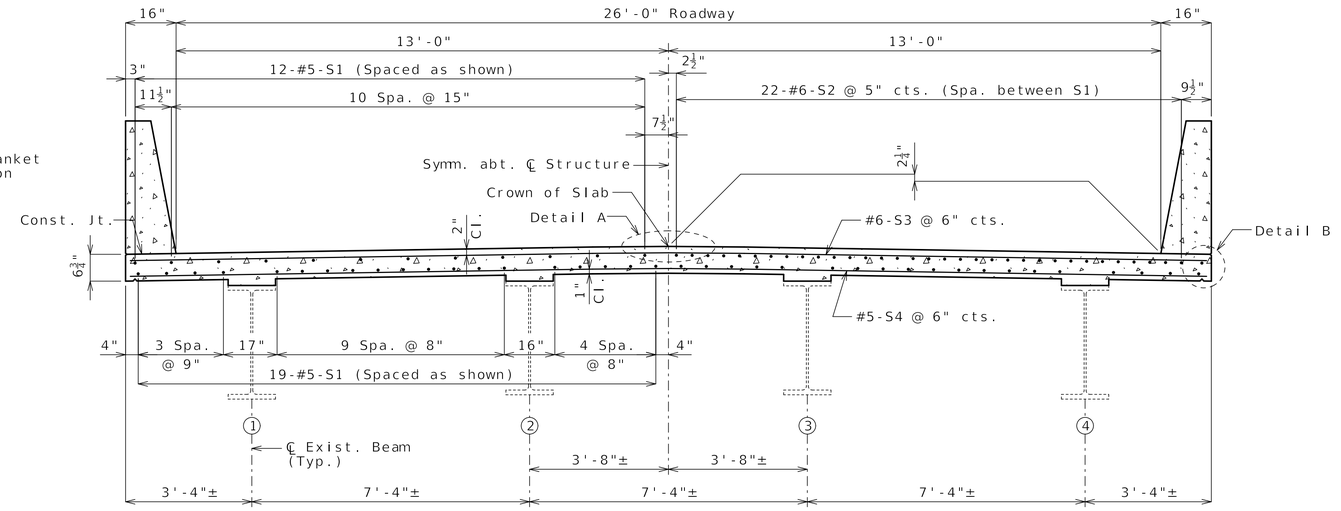
Required Lap Length For Bar Splices **	
Bar Size	Splice Length
4	2'-7"
5	3'-3"
6	3'-10"
7	4'-11"

** Unless otherwise shown.



ROCK BLANKET ON SPILL SLOPE AT END BENT NO. 1

Note: Extend rock blanket to cover footings at Intermediate Bent No. 2.



HALF SECTION NEAR MIDSPAN HALF SECTION NEAR INT. BENT

TYPICAL SECTION THRU SLAB

General Notes:

Design Specifications:
2002 AASHTO LFD (17th Ed.) Standard Specifications
Seismic Performance Category A

Design Loading:
H15-44 (1961) (Existing)
HS20-44 (New Construction)
35 lb/sf Future Wearing Surface
Earth - 120 lb/cf, Equivalent Fluid Pressure 45 lb/cf
Fatigue Stress - Case III

Design Unit Stresses:

Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Class B-2 Concrete (End Bents & Superstructure, except Barrier)	f'c = 4,000 psi
Reinforcing Steel (ASTM A615 Grade 60)	fy = 60,000 psi

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

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

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

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

Roadway surfacing adjacent to bridge ends shall match new bridge slab surface. (Roadway item)

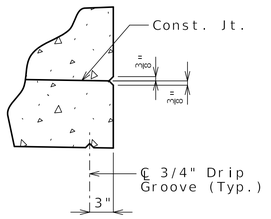
Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved qualified special mortar in accordance with Sec 704.

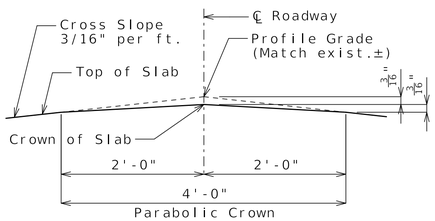
Rubblized concrete from the existing bridge deck that qualifies as clean fill may be placed on spill slopes at end bents above ordinary high water line (Roadway item).

For adjusted girder deflection due to the weight of the new deck and barriers, see Bridge Electronic Deliverables.

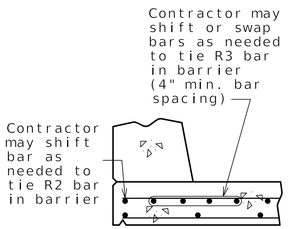
Traffic Handling:
Structure to be closed during construction. Traffic to be maintained on other routes. See roadway plans for traffic control.



DETAIL B



DETAIL A



OPTIONAL SHIFTING TOP BARS AT BARRIER

Estimated Quantities		
Item		Total
Removal of Miscellaneous ACM (Non-Friable)	sq. foot	8.0
Removal of Existing Bridge Deck	sq. foot	3083
Bridge Approach Slab (Minor)	sq. yard	118
Slab on Steel	sq. yard	341
Type D Barrier	linear foot	214
Fiber Reinforced Polymer Wrap	sq. foot	63
Protective Coating - Concrete Bents and Piers (Epoxy)	lump sum	1
Shear Connectors	each	984
Slab Drain	each	18

Cost of any required excavation for bridge will be considered completely covered by the contract unit price for other items.

Estimated Quantities for Slab on Steel		
Item		Total
Class B-2 Concrete	cu. yard	81
Reinforcing Steel (Epoxy Coated)	pound	26,050

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

Method of forming the slab shall be 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 forming or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

For Optional Stay-In-Place Form Details, see Sheet No. 2.

REPAIRS TO BRIDGE: ROUTE T OVER LOOSE CREEK

ROUTE T FROM ROUTE P TO ROUTE AA
ABOUT 2.7 MILES SOUTHEAST OF ROUTE P
BEGINNING STATION 6+96.50± (MATCH EXISTING)

STATE OF MISSOURI
TIMOTHY D. LEAF
NUMBER PE-2012000778
PROFESSIONAL ENGINEER
04/29/2026 3:15:44 PM
TIMOTHY D. LEAF - CIVIL
MO-PE-2012000778

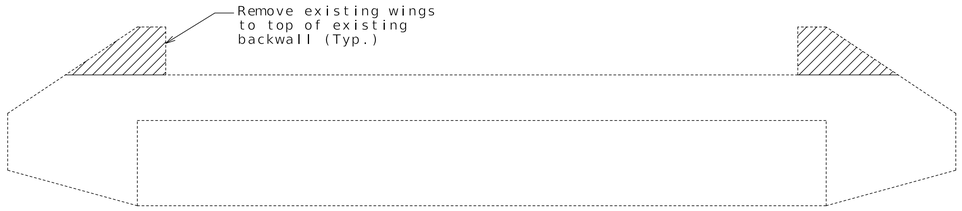
DATE PREPARED 4/29/2026
ROUTE T | STATE MO
DISTRICT BR | SHEET NO. 1
COUNTY OSAGE
JOB NO. JCD0071
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A18392

DESCRIPTION | DATE

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

Detailed Mar. 2025
Checked Sep. 2025

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



DETAILS OF CONCRETE REMOVAL AT END BENTS

The cost of concrete removal as shown will be considered completely covered by the contract unit price for Removal of Existing Bridge Deck. Vertical backwall and wingwall reinforcement to be cut off one inch below concrete removal surface and the resulting holes shall be filled with a qualified special mortar.

A smooth, level surface shall be provided at Bents No. 1 & 4 removal lines.

General Notes:

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 beam flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Welding on or drilling holes in the beam 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 beam loading.

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

Pouring and Finishing Slab:

The contractor shall provide bracing necessary for lateral and torsional stability of the beams during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not weld on or drill holes in the beams. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Slab on Steel.

Slab shall be poured upgrade from end to end at a minimum rate of 25 cubic yards per hour.

Alternate pour sequences may be submitted to the engineer for approval. Keyed construction joints shall be provided between pours.

Haunching:

(1) Slab is to be considered a uniform thickness as shown on the plans. Haunching will vary. See front sheet for slab thickness.

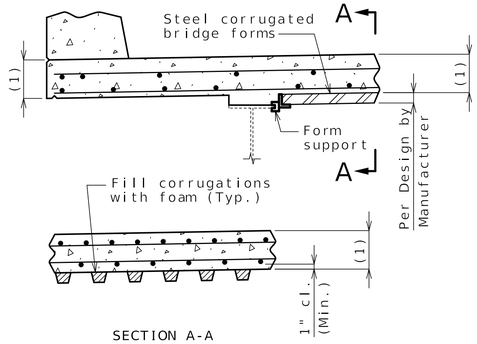
Resin Anchor System:

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

Cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for Slab on Steel.

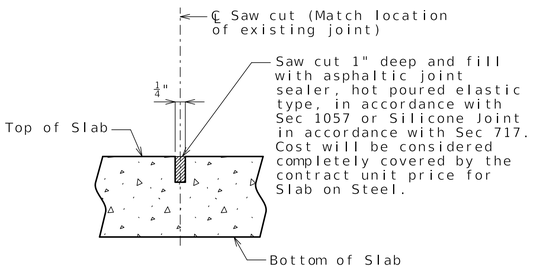
The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor systems shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

An epoxy coated #5 Grade 60 reinforcing bar shall be substituted for the 5/8"ø threaded rod.

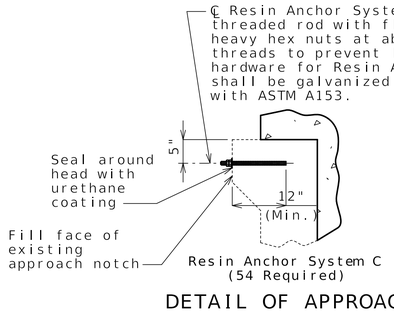


SECTION A-A

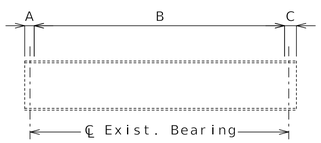
OPTIONAL STAY-IN-PLACE FORM DETAILS



TYPICAL SECTION THRU SAW CUT AT INTERMEDIATE BENTS

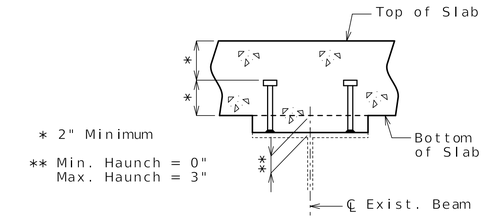


DETAIL OF APPROACH NOTCH REINFORCEMENT AT END BENTS NO. 1 & 4



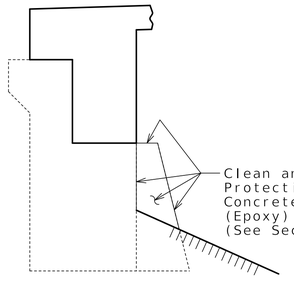
ELEVATION SHOWING SHEAR CONNECTOR SPACING

TABLE SHOWING SHEAR CONNECTOR UNIT SPACING				
Span	S.C. per unit	A	B	C
1	2	9"±	41 Units @ 10" cts.	9"±
2	2	9"±	41 Units @ 10" cts.	9"±
3	2	9"±	41 Units @ 10" cts.	9"±
Total shear connectors required				984

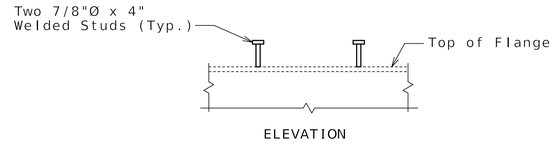


* 2" Minimum

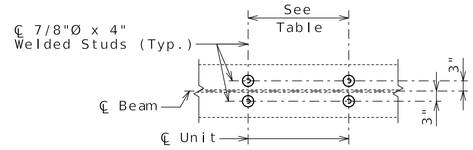
SECTION THRU EXIST. BEAM SHOWING SHEAR CONNECTORS



TYPICAL SECTION THRU END BENTS NO. 1 & 4 SHOWING PROTECTIVE COATING



ELEVATION

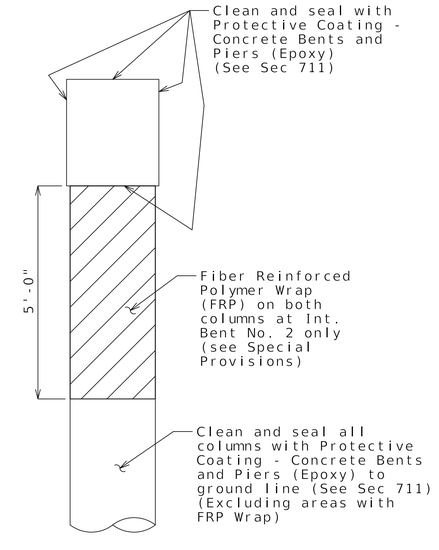


PLAN OF SHEAR CONN. (2 PER UNIT)

DETAILS OF SHEAR CONNECTORS

The cost of supplying and installing shear connectors will be considered completely covered by the contract unit price for Shear Connectors.

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



TYPICAL SECTION THRU INTERMEDIATE BENTS NO. 2 & 3 SHOWING PROTECTIVE COATING AND FRP WRAP

STATE OF MISSOURI
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DATE PREPARED
4/29/2026

ROUTE	STATE
T	MO
DISTRICT	SHEET NO.
BR	2

COUNTY
OSAGE

JOB NO.
JCD0071

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A18392

DESCRIPTION

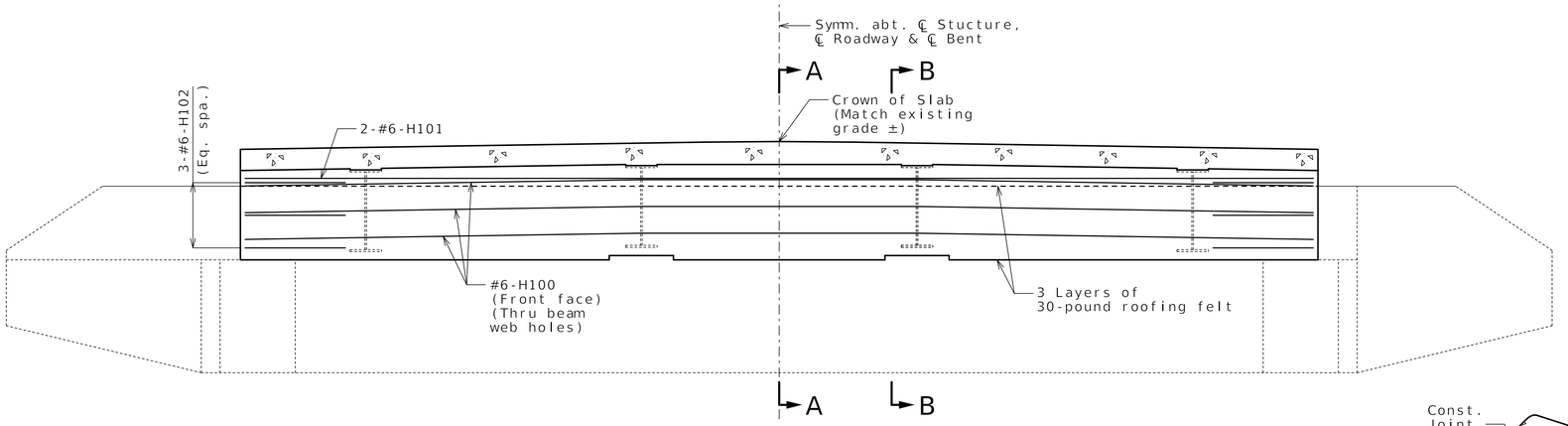
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

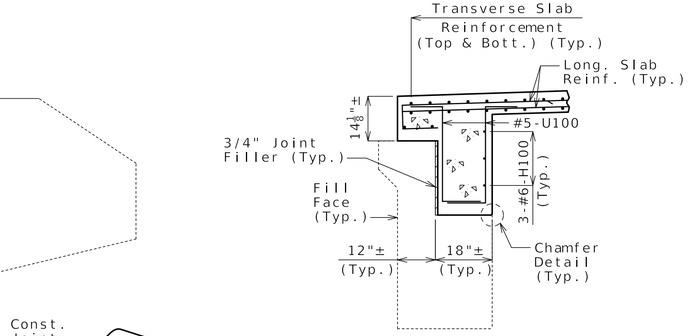
Detailed Mar. 2025
Checked Sep. 2025

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



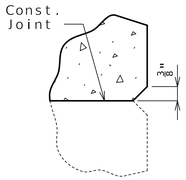
SECTION NEAR END BENT NO. 1

Existing steel end diaphragms, bearings, slab reinforcement, and U bars not shown for clarity.

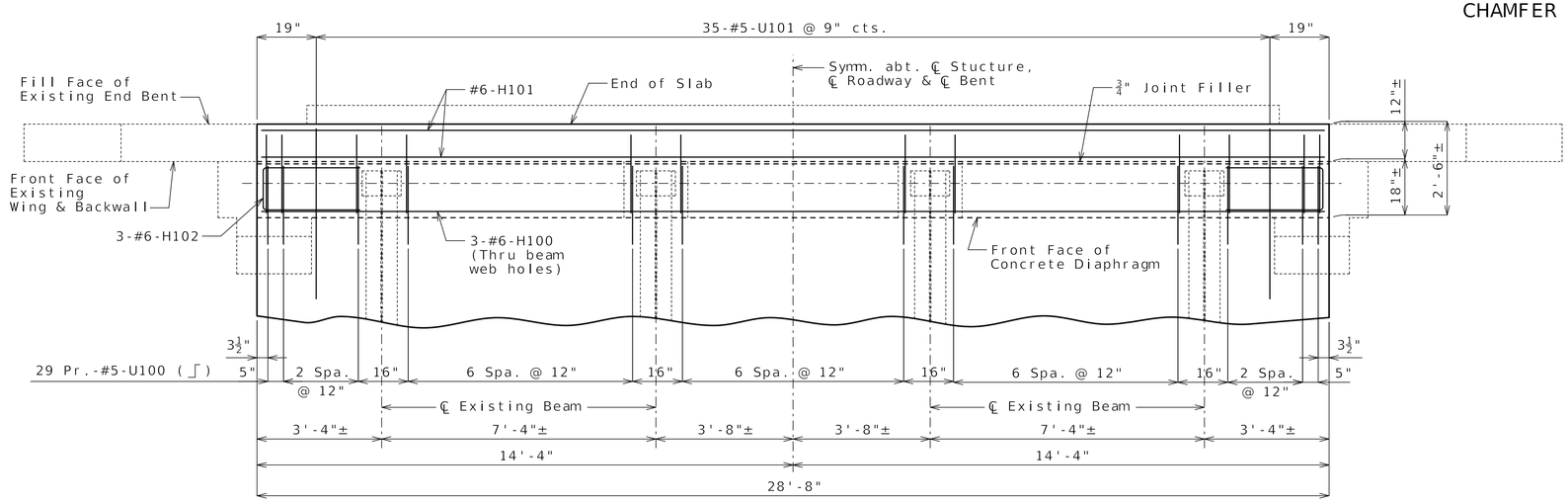


SECTION A-A

(Normal)
(At ℄ Roadway)

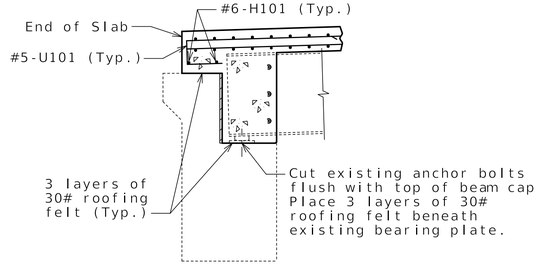


CHAMFER DETAIL



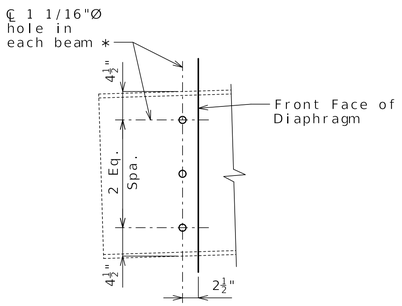
PART PLAN

Slab reinforcement not shown for clarity.



SECTION B-B

(Normal)



DETAIL OF WEB HOLES

* Cost of field drilling holes in existing webs will be considered completely covered by the contract unit price for Slab on Steel.

Notes:

For barrier reinforcement not shown, see Sheet No. 8.

The exposed and accessible surfaces of the existing structural steel and bearings that will be encased in concrete shall be cleaned with a minimum of SSPC-SP-3 surface preparation and coated with a minimum of one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce a dry film thickness of not less than 3 mils before concrete is poured. The surface preparation and coating for girders shall extend a minimum of one foot outside the face of the girder encasement. Payment for cleaning and coating steel to be encased in concrete will be considered completely covered by the contract unit price for Slab on Steel.

All concrete and reinforcement in the concrete diaphragms at end bents is included in the contract unit price for Slab on Steel.

The H100 bars are segmented for ease of placement through girder web holes. The total bar length for H100 bars shown in Bill of Reinforcing Steel allows for one lap splice with a length of 3'-10". Actual bar segment lengths to be determined by contractor for ease of installing bars. The contractor may use a mechanical bar splice in lieu of a lap splice. When a mechanical bar splice is used, the actual bar segment length will be determined by the contractor to accommodate manufacturer's recommendations for installation and ease of construction. The cost of furnishing and installing the bar splices will be considered completely covered by the contract unit price for Slab on Steel. No adjustment of the quantity of reinforcing steel will be allowed for the use of mechanical bar splices.

END BENT NO. 1

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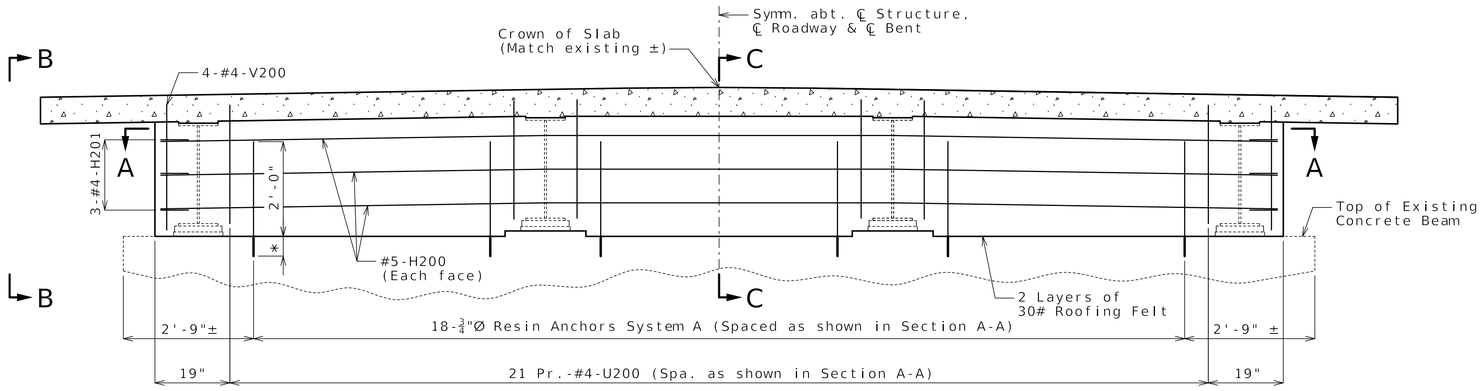
Note: This drawing is not to scale. Follow dimensions.

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TIMOTHY D. LEAF
NUMBER PE-2012000778
PROFESSIONAL ENGINEER
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MO-PE-2012000778

DATE PREPARED: 4/29/2026
ROUTE: T
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SHEET NO.: 3
COUNTY: OSAGE
JOB NO.: JCD0071
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A18392

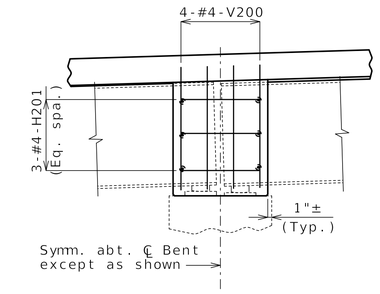
DESCRIPTION | DATE

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

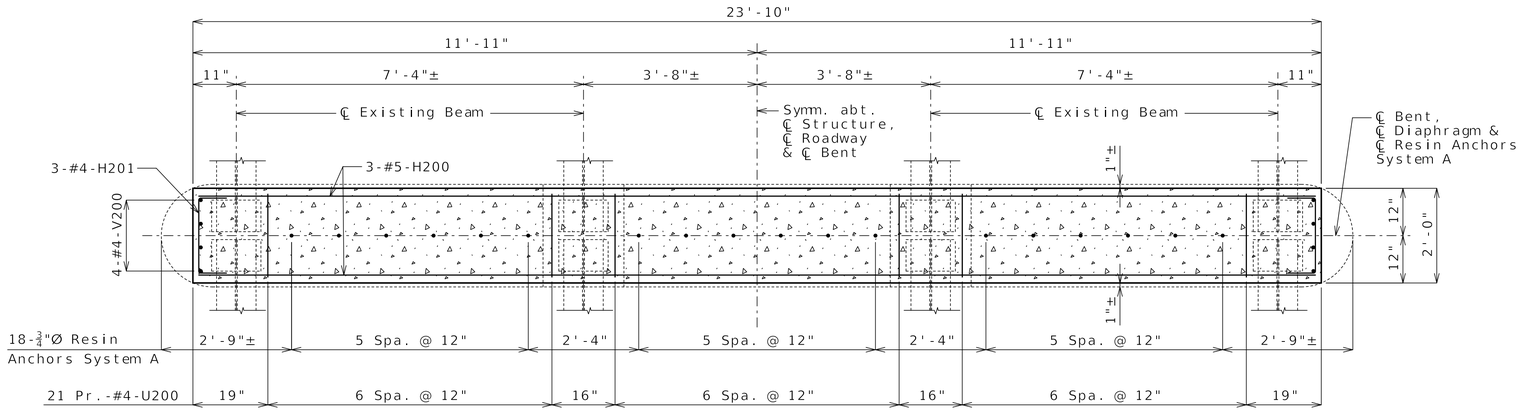


* Manufacturer's recommended embedment length (5 inches minimum)

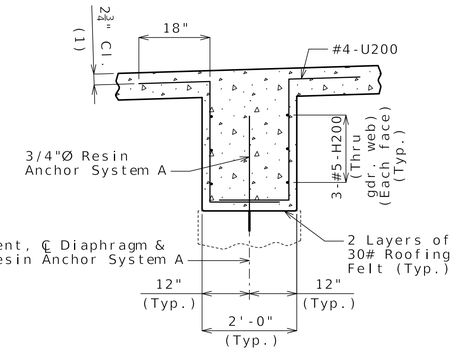
PART SECTION NEAR INTERMEDIATE BENT



ELEVATION B-B

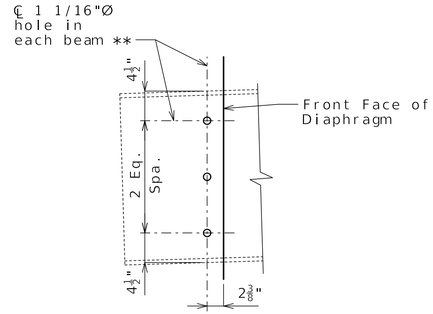


SECTION A-A



SECTION C-C

(1) Bend top leg of #4-U200 in field to maintain clearance to top of slab.



DETAIL OF WEB HOLES

** Cost of field drilling holes in existing webs will be considered completely covered by the contract unit price for Slab on Steel.

Notes:

Slab reinforcement, steel diaphragms, connection plates, and barriers not shown for clarity.

The exposed and accessible surfaces of the existing structural steel and bearings that will be encased in concrete shall be cleaned with a minimum of SSPC-SP-3 surface preparation and coated with a minimum of one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce a dry film thickness of not less than 3 mils before concrete is poured. The surface preparation and coating for girders shall extend a minimum of one foot outside the face of the girder encasement. Payment for cleaning and coating steel to be encased in concrete will be considered completely covered by the contract unit price for Slab on Steel.

All concrete and reinforcement in the intermediate bent concrete diaphragms, complete in place, will be considered completely covered by the contract unit price for Slab on Steel.

The H200 bars are segmented for ease of placement through girder web holes. The total bar length for H200 bars shown in Bill of Reinforcing Steel allows for one lap splice with a length of 3'-3". Actual bar segment lengths to be determined by contractor for ease of installing bars. The contractor may use a mechanical bar splice in lieu of a lap splice. When a mechanical bar splice is used, the actual bar segment length will be determined by the contractor to accommodate manufacturer's recommendations for installation and ease of construction. The cost of furnishing and installing the bar splices will be considered completely covered by the contract unit price for Slab on Steel. No adjustment of the quantity of reinforcing steel will be allowed for the use of mechanical bar splices.

CONCRETE DIAPHRAGM AT INTERMEDIATE BENTS NO. 2 & 3

Detailed Mar. 2025
Checked Sep. 2025

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

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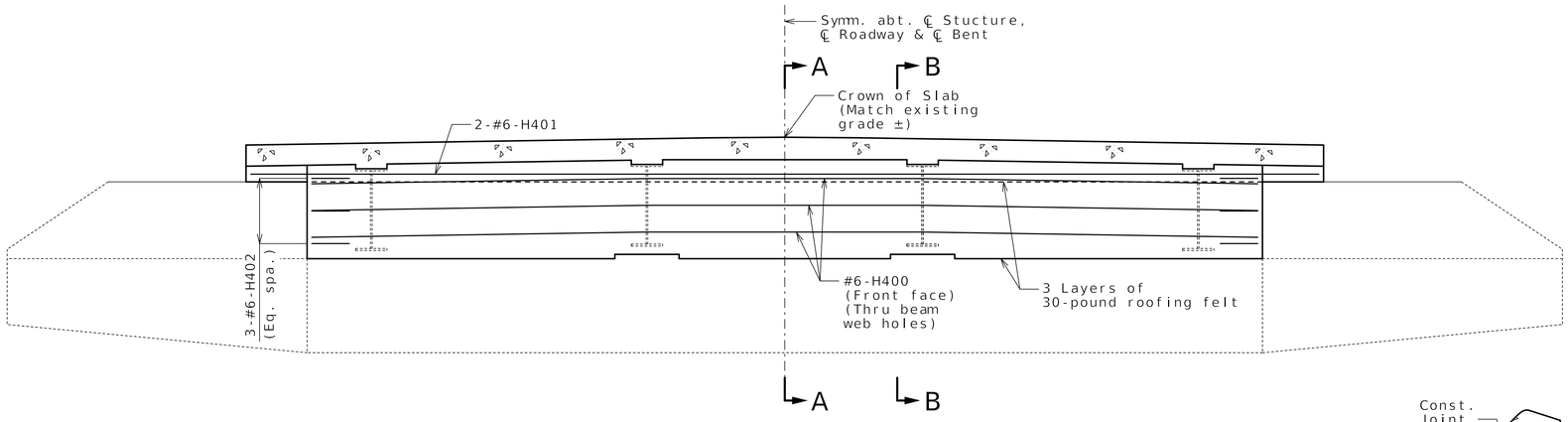
DATE PREPARED 4/29/2026

ROUTE	STATE
T	MO
DISTRICT	SHEET NO.
BR	4

COUNTY: OSAGE
JOB NO.: JCD0071
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A18392

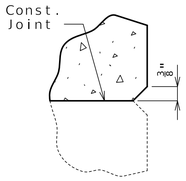
DESCRIPTION | DATE

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

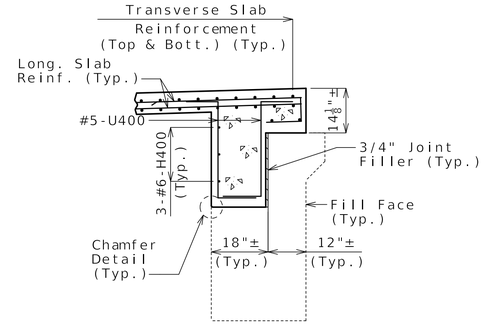


SECTION NEAR END BENT NO. 4

Existing steel end diaphragms, bearings, slab reinforcement, and U bars not shown for clarity.

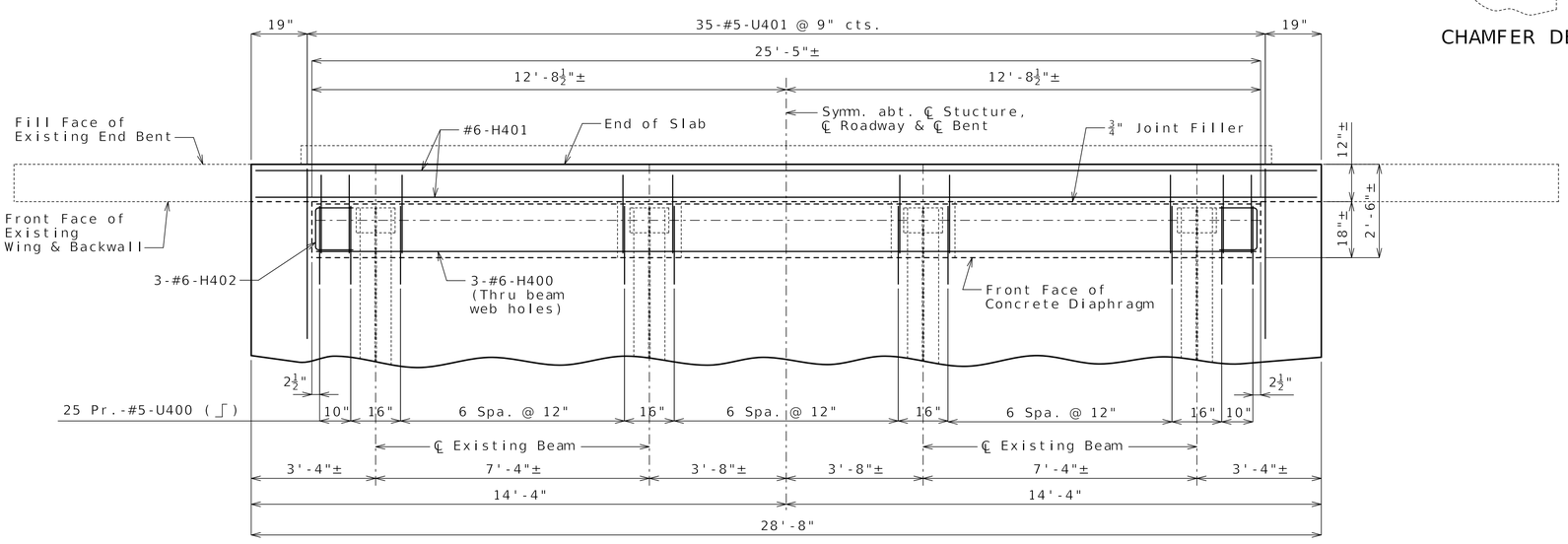


CHAMFER DETAIL



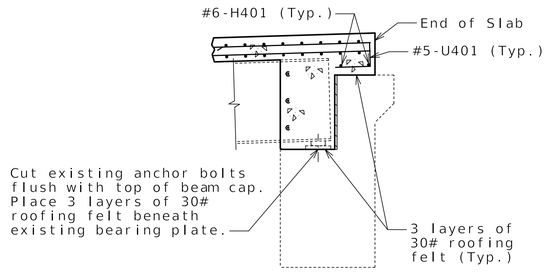
SECTION A-A

(Normal)
(At ℄ Roadway)



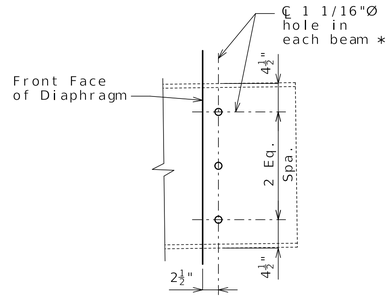
PART PLAN

Slab reinforcement not shown for clarity.



SECTION B-B

(Normal)



DETAIL OF WEB HOLES

* Cost of field drilling holes in existing webs will be considered completely covered by the contract unit price for Slab on Steel.

Notes:

For barrier reinforcement not shown, see Sheet No. 8.

The exposed and accessible surfaces of the existing structural steel and bearings that will be encased in concrete shall be cleaned with a minimum of SSPC-SP-3 surface preparation and coated with a minimum of one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce a dry film thickness of not less than 3 mils before concrete is poured. The surface preparation and coating for girders shall extend a minimum of one foot outside the face of the girder encasement. Payment for cleaning and coating steel to be encased in concrete will be considered completely covered by the contract unit price for Slab on Steel.

All concrete and reinforcement in the concrete diaphragms at end bents is included in the contract unit price for Slab on Steel.

The H400 bars are segmented for ease of placement through girder web holes. The total bar length for H400 bars shown in Bill of Reinforcing Steel allows for one lap splice with a length of 3'-10". Actual bar segment lengths to be determined by contractor for ease of installing bars. The contractor may use a mechanical bar splice in lieu of a lap splice. When a mechanical bar splice is used, the actual bar segment length will be determined by the contractor to accommodate manufacturer's recommendations for installation and ease of construction. The cost of furnishing and installing the bar splices will be considered completely covered by the contract unit price for Slab on Steel. No adjustment of the quantity of reinforcing steel will be allowed for the use of mechanical bar splices.

END BENT NO. 4

Detailed Mar. 2025
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4/29/2026

ROUTE	STATE
T	MO
DISTRICT	SHEET NO.
BR	5

COUNTY
OSAGE

JOB NO.
JCD0071

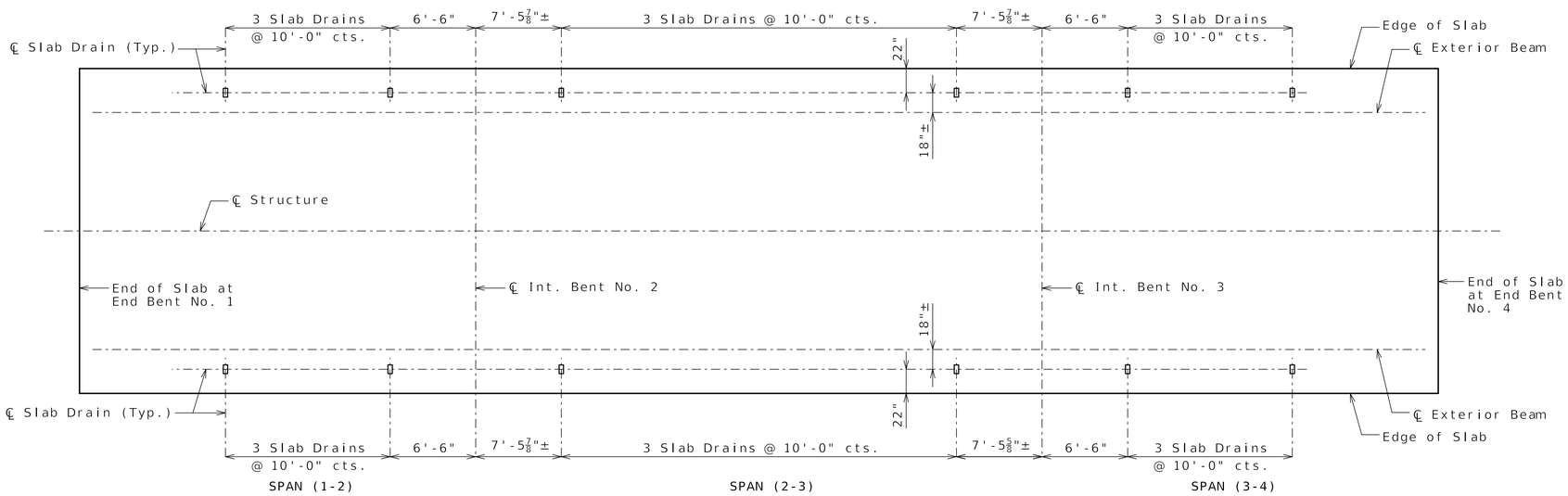
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PROJECT NO.

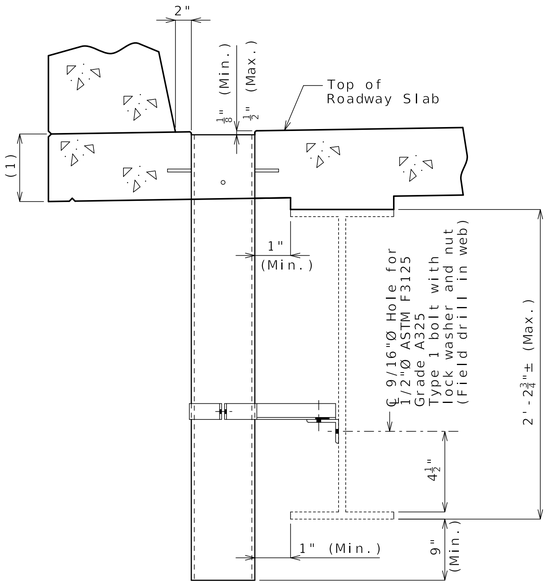
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A18392

DESCRIPTION	DATE

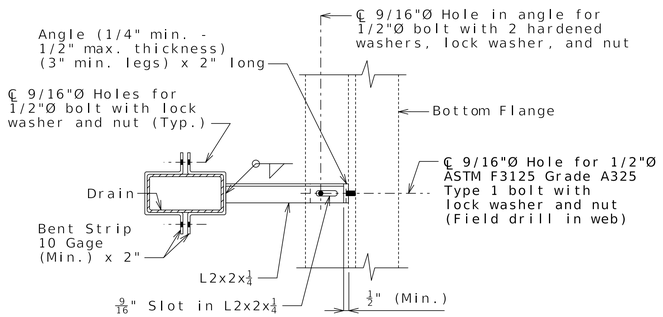
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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



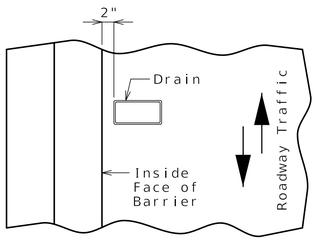
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



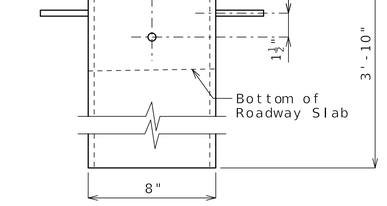
PART SECTION NEAR DRAIN



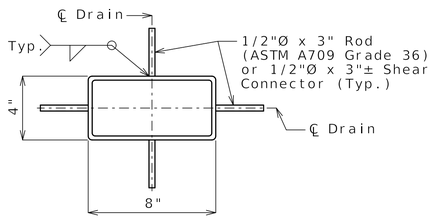
PART SECTION SHOWING BRACKET ASSEMBLY



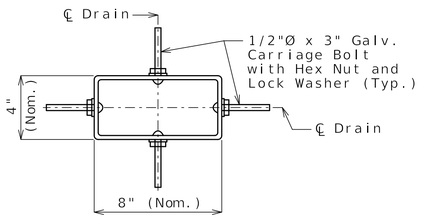
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

SLAB DRAINS

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 bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.

All 1/2"Ø bolts shall be ASTM A307, except as shown.

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

The bolt hole for the bracket assembly attachment shall be shifted to the minimum extent necessary to field drill in the existing web.

(1) See front sheet for slab thickness.

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 recommended by the manufacturer to ensure a smooth, chip free cut.

STATE OF MISSOURI
TIMOTHY D. LEAF
NUMBER PE-2012000778
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DATE PREPARED: 4/29/2026

ROUTE	STATE
T	MO

DISTRICT	SHEET NO.
BR	6

COUNTY: OSAGE

JOB NO.: JCD0071

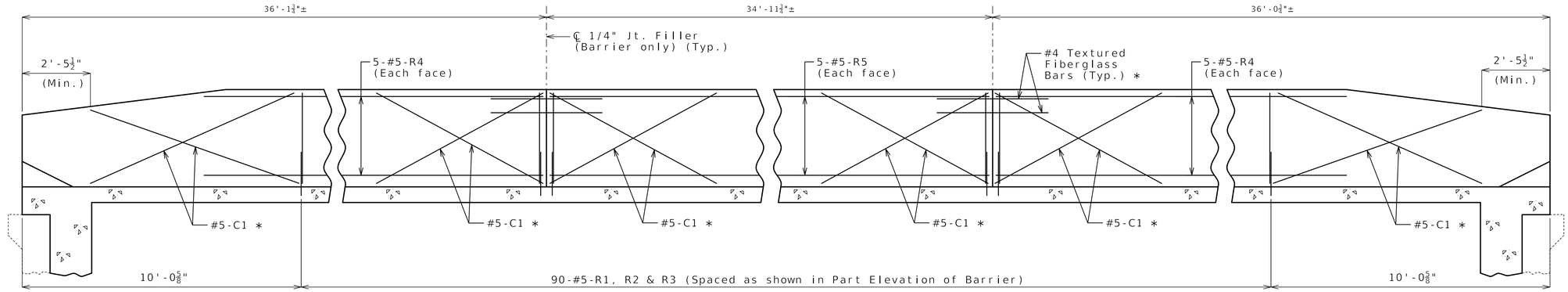
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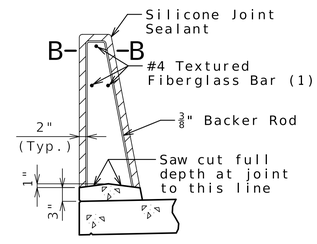
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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



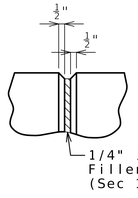
ELEVATION OF BARRIER

(Left barrier shown, right barrier similar)

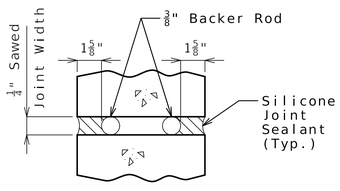
Longitudinal dimensions are horizontal.



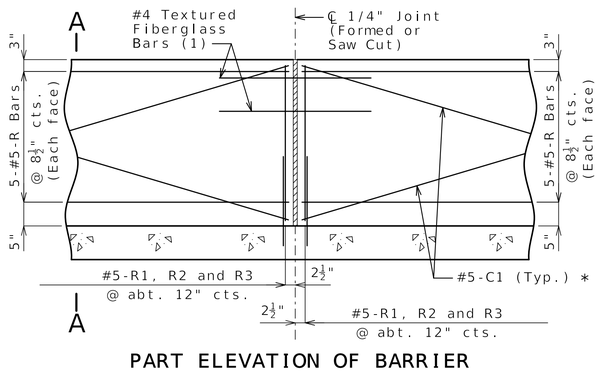
SECTION THRU SAW CUT JOINT



PART ELEVATION AT FORMED JOINT

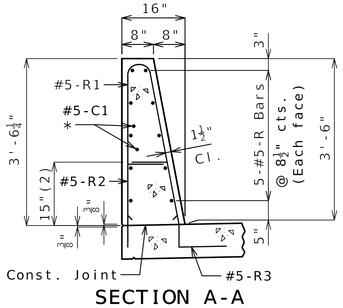


SECTION B-B



PART ELEVATION OF BARRIER

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

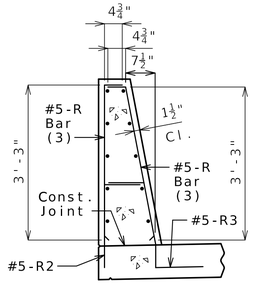


SECTION A-A

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

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

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

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

General Notes:

* Slip-formed option only.

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

Top of barrier shall be built parallel to grade and barrier joints 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 slab to end of slab.

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

Detailed Mar. 2025
Checked Sep. 2025

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

STATE OF MISSOURI
TIMOTHY D. LEAF
NUMBER PE-2012000778
PROFESSIONAL ENGINEER
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MO-PE-2012000778

DATE PREPARED
4/29/2026

ROUTE	STATE
T	MO
DISTRICT	SHEET NO.
BR	7

COUNTY
OSAGE

JOB NO.
JCD0071

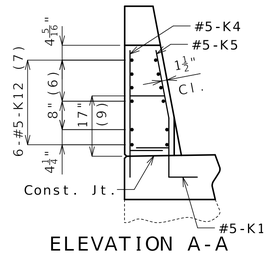
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PROJECT NO.

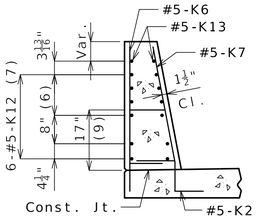
BRIDGE NO.
A18392

DESCRIPTION	DATE

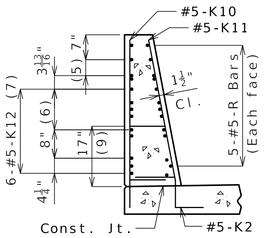
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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



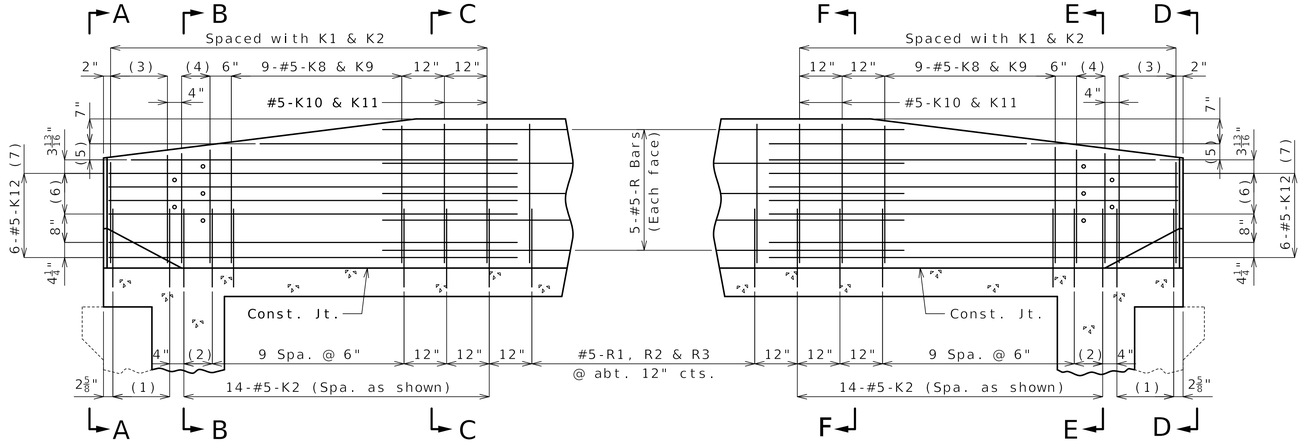
ELEVATION A-A



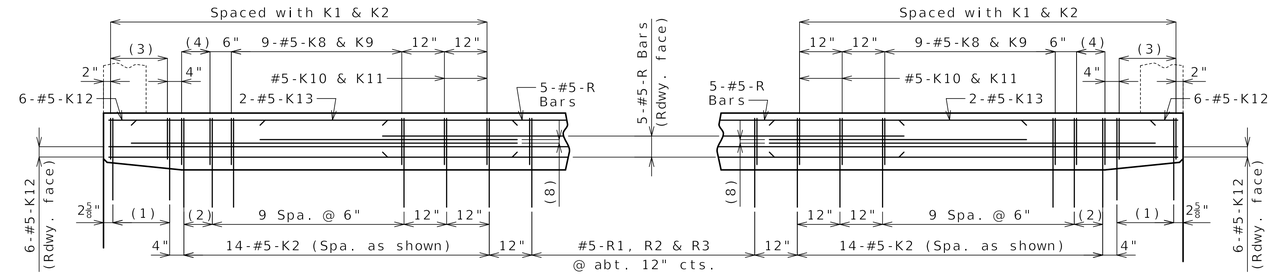
SECTION B-B



SECTION C-C

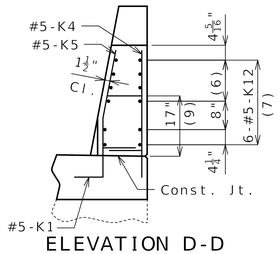


PART ELEVATION

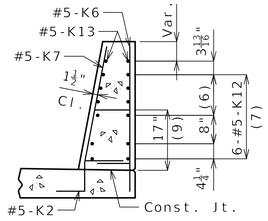


PART PLAN

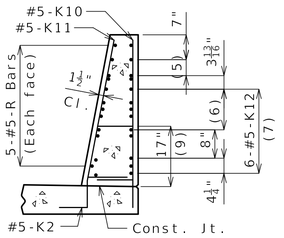
(Top of barrier not shown for clarity.)



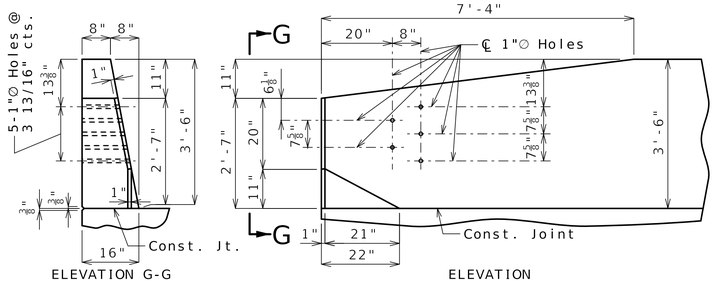
ELEVATION D-D



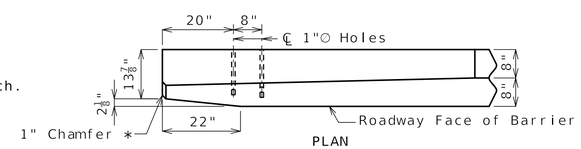
SECTION E-E



SECTION F-F



ELEVATION G-G ELEVATION



PLAN

DETAILS OF GUARD RAIL ATTACHMENT

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

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

(2) 2 spaces @ 4"

(3) 5-#5-K4 & K5

(4) 3-#5-K6 & K7

(5) 2-#5-K13 @ 4½" cts., each face

(6) 3 spaces @ 3 13/16"

(7) Spaced as shown, each face

(8) 2-#5-K13 (Roadway face)

(9) To top of bar

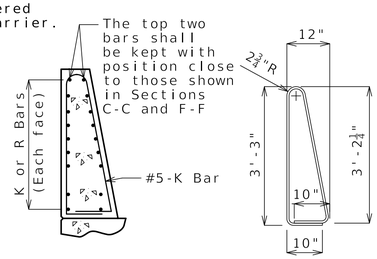
General Notes:

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

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2".

Use a minimum lap of 3'-1" between horizontal K bars and R bars.



K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

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

All dimensions are out to out.

TYPE D BARRIER AT END BENTS

(Left barrier shown, right barrier similar)

Detailed Mar. 2025
Checked Sep. 2025

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

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TIMOTHY D. LEAF
NUMBER PE-2012000778
PROFESSIONAL ENGINEER
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MO-PE-2012000778

DATE PREPARED
4/29/2026

ROUTE	STATE
T	MO
DISTRICT	SHEET NO.
BR	8

COUNTY
OSAGE

JOB NO.
JCD0071

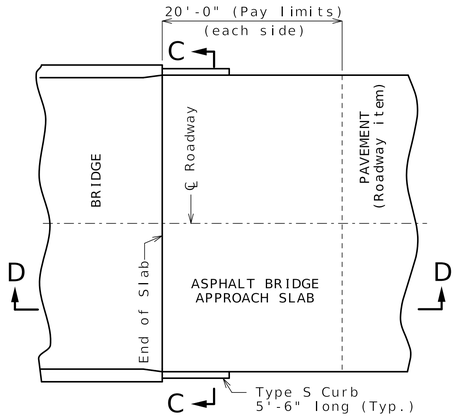
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PROJECT NO.

BRIDGE NO.
A18392

DESCRIPTION	DATE

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



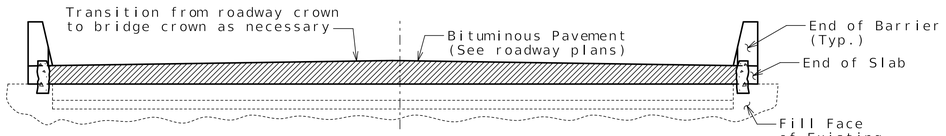
PART PLAN

General Notes:

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

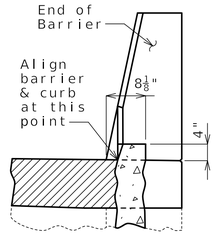
Payment for furnishing all materials, labor and excavation necessary to construct the asphalt bridge approach slab, including tack, curb, and Type 5 aggregate base within the pay limits shown, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab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

Application of tack is required between lifts per Sec 403.



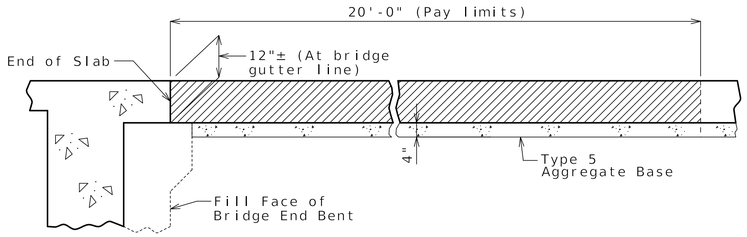
SECTION C-C

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



4" TYPE S CURB

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



SECTION D-D

(Resin Anchor C thru approach notch not shown for clarity. See Sheet No. 2.)

BRIDGE APPROACH SLAB (MINOR)

Detailed Mar. 2025
Checked Sep. 2025

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

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TIMOTHY D. LEAF
NUMBER PE-2012000778
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DATE PREPARED: 4/29/2026

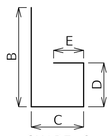
ROUTE	STATE
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DISTRICT	SHEET NO.
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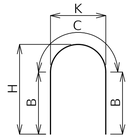
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DESCRIPTION	DATE

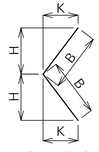
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JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



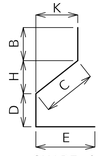
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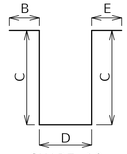
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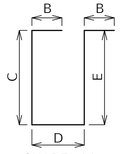
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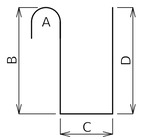
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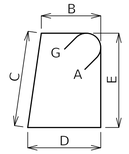
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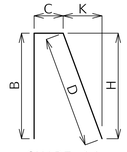
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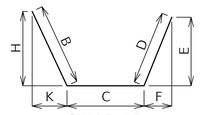
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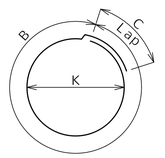
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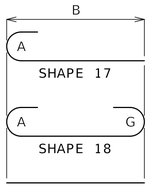
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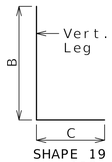
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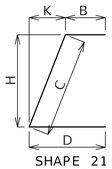
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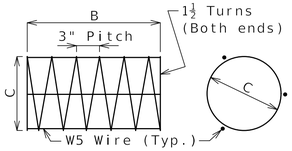
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SHAPE 18
SHAPE 20



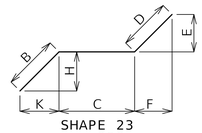
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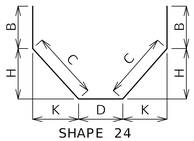
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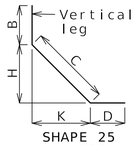
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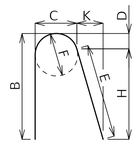
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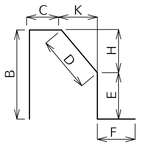
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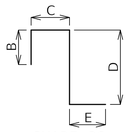
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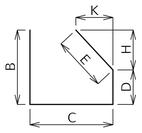
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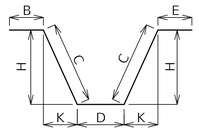
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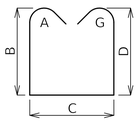
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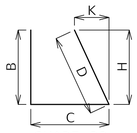
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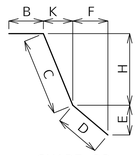
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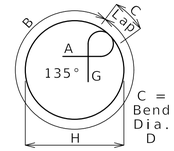
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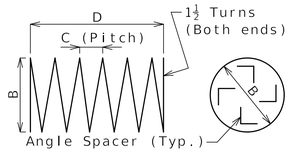
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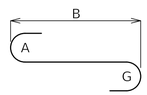
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SHAPE 34S



SHAPE 35 (1)

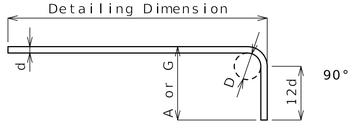


SHAPE 36

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"	36¾"	28½"

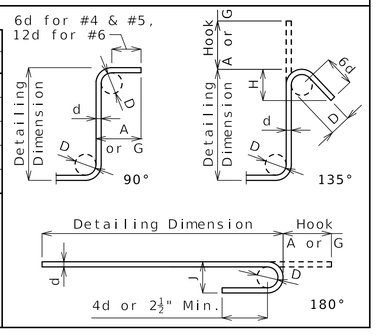


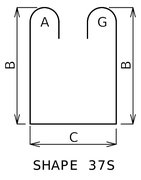
Stirrup Pin Bend Shapes (S)

Size	Case	D	A or G			H	J
			90°	135°	180°	135°	180°
#4	2	2"	4½"	4½"	5"	2⅝"	3"
	3	3"	5"	5¼"	6"	3"	4"
#5	2	2½"	5¾"	5¾"	5¾"	3⅝"	3¾"
	3	3¾"	6¼"	6½"	7"	3⅞"	5"
#6	1	4½"	12"	7¾"	8¼"	4⅝"	6"

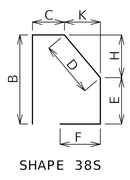
Applicable for all grades of steel.

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





SHAPE 37S



SHAPE 38S

BENDING DIAGRAMS

All dimensions are out to out.

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

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

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

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

Reinforcing Steel Totals (Pounds)

	Size	Substructure		Superstructure			Entire Bridge	
		Plain	Epoxy	Slab	Barrier	Slip Form	Plain	Epoxy
By Size	W5	0	0	0	0	0	0	0
	4	0	0	362	0	0	0	362
	5	0	0	14,706	5,848	300	0	20,854
	6	0	0	10,982	0	0	0	10,982
	7	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0
	9	0	0	0	0	0	0	0
	10	0	0	0	0	0	0	0
	11	0	0	0	0	0	0	0
	14	0	0	0	0	0	0	0
	18	0	0	0	0	0	0	0
By Type		0	0	26,050	5,848	300	0	32,198

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

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Detailed Apr. 2025
Checked Sep. 2025

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

STATE OF MISSOURI
TIMOTHY D. LEAF
NUMBER PE-2012000778
PROFESSIONAL ENGINEER
04/29/2026 4:58:47 PM
TIMOTHY D. LEAF - CIVIL
MO-PE-2012000778

DATE PREPARED: 4/29/2026
ROUTE: T
STATE: MO
DISTRICT: BR
SHEET NO.: 10
COUNTY: OSAGE
JOB NO.: JCD0071
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A18392

DESCRIPTION	DATE

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

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	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
		Superstructure													
		End Bent 1													
3	6 H100	DIAPHRAGM	E	20		32 3.00							32 3	32 3	145
2	6 H101	DIAPHRAGM	E	20		28 5.00							28 5	28 5	85
6	6 H102	DIAPHRAGM	E	10S			2 7.00	14.00					6 4	6	54
58	5 U100	DIAPHRAGM	E	28S			10.00	2 6.00	12.00				4 4	4 1	247
35	5 U101	DIAPHRAGM	E	6S		4 7.00	7.50	11.00					6 2	5 11	216
		End Bent 4													
3	6 H400	DIAPHRAGM	E	20		29 0.00							29	29	131
2	6 H401	DIAPHRAGM	E	20		28 5.00							28 5	28 5	85
6	6 H402	DIAPHRAGM	E	10S			12.00	14.00					3 2	2 10	26
50	5 U400	DIAPHRAGM	E	28S			10.00	2 6.00	12.00				4 4	4 1	213
35	5 U401	DIAPHRAGM	E	6S		4 7.00	7.50	11.00					6 2	5 11	216
		Int Diaphragms													
12	5 H200	DIAPHRAGM	E	20		26 10.00							26 10	26 10	336
12	4 H201	DIAPHRAGM	E	10S			7.00	20.00					2 10	2 8	21
84	4 U200	DIAPHRAGM	E	28S			18.00	2 6.00	21.00				5 9	5 7	313
16	4 V200	DIAPHRAGM	E	20		2 7.00							2 7	2 7	28
		Slab													
124	5 S1	SLAB	E	20		55 2.00							55 2	55 2	7,135
88	6 S2	SLAB	E	20		10 0.00							10	10	1,322
214	6 S3	SLAB	E	20		28 5.00							28 5	28 5	9,134
214	5 S4	SLAB	E	20		28 5.00							28 5	28 5	6,343
		Barrier													
		Type D													
20	5 K1	BARRIER	E	27S		20.75	9.25	5.25	15.00	12.00	5.25	1.00	5 2	4 11	103
56	5 K2	BARRIER	E	27S		20.75	9.25	17.25	3.25	12.00	17.00	3.25	5 3	4 11	287
20	5 K4	BARRIER	E	19S	4	2 4.25	10.00						3 2	3 1	
		Incr. = 0.500"				2 6.25	10.00						3 4	3 3	66
20	5 K5	BARRIER	E	38S	4			18.50	9.50	8.25	18.00	4.00	3	2 10	
		Incr. = 0.750"						20.50	9.50	8.25	20.00	4.50	3 2	3 1	62
12	5 K6	BARRIER	E	19S		2 6.75	10.00						3 5	3 3	41
12	5 K7	BARRIER	E	21S			10.00	10.00			2 6.00	6.25	3 6	3 4	42
36	5 K8	BARRIER	E	19S	4	2 8.50	10.00						3 7	3 5	
		Incr. = 0.750"				3 2.50	10.00						4 1	3 11	138
36	5 K9	BARRIER	E	21S	4		10.00	10.00			2 7.75	6.75	3 8	3 6	
		Incr. = 0.750"					10.00	10.00			3 1.75	7.75	4 2	4	141
8	5 K10	BARRIER	E	19S		3 3.00	10.00						4 1	4	33
8	5 K11	BARRIER	E	21S			3 3.00	10.00			3 2.25	7.75	4 1	4	33
48	5 K12	BARRIER	E	20		9 7.00							9 7	9 7	480
24	5 K13	BARRIER	E	20	8	8 10.00							8 10	8 10	
		Incr. = 18.000"				5 10.00							5 10	5 10	184
180	5 R1	BARRIER	E	26		3 3.00	5.50	2.25	3 1.25	5.50	3 0.75	6.75	7	6 9	1,267
180	5 R2	BARRIER	E	19S		18.75	9.50						2 4	2 3	422
180	5 R3	BARRIER	E	27S			9.50	15.25	3.25	12.00	15.00	3.00	3 4	3 2	595
40	5 R4	BARRIER	E	20		29 6.00							29 6	29 6	1,231
20	5 R5	BARRIER	E	20		34 8.00							34 8	34 8	723
		Slip-Form													
24	5 C1	SLIP FORM	E	20		12 0.00							12	12	300

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

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. 10.

Detailed Apr. 2025
Checked Sep. 2025

Reinforcing steel (ASTM A615 Grade 60) fy = 60,000 psi

BILL OF REINFORCING STEEL

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

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
TIMOTHY D. LEAF
NUMBER PE-2012000778
PROFESSIONAL ENGINEER
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DATE PREPARED
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ROUTE	STATE
T	MO
DISTRICT	SHEET NO.
BR	11

COUNTY
OSAGE

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JCD0071

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