DESIGN DESIGNATION

A.A.D.T. CONST. YEAR - 2026 = 412
A.A.D.T. DESIGN YEAR - 2046 = 455
D.H.V. = 14.82%
T = 11.42%
V = 55 M.P.H.
D = 51.5% EAST/48.5% WEST
FUNCTIONAL CLASSIFICATION - MINOR COLLECTOR

NORMAL RIGHT OF WAY

CONVENTIONAL SYMBOLS
(USED IN PLANS)

	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
GUARD CABLE		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
UTILITIES		
FIBER OPTICS	-FO-	FO
OVERHEAD CABLE TV	-OTV-	OTV
UNDERGROUND CABLE TV	-UTV-	UTV
OVERHEAD TELEPHONE	-OT-	OT
UNDERGROUND TELEPHONE	-UT-	UT
OVERHEAD POWER	-OE-	OE
UNDERGROUND POWER	-UE-	UE
SANITARY SEWER	-S-	S
STORM SEWER	-SS-	SS
GAS	-G-	G
WATER	-W-	W
MANHOLE	SAN	
FIRE HYDRANT	HYD	
WATER VALVE	WV	
WATER METER	WM	
DROP INLET		
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

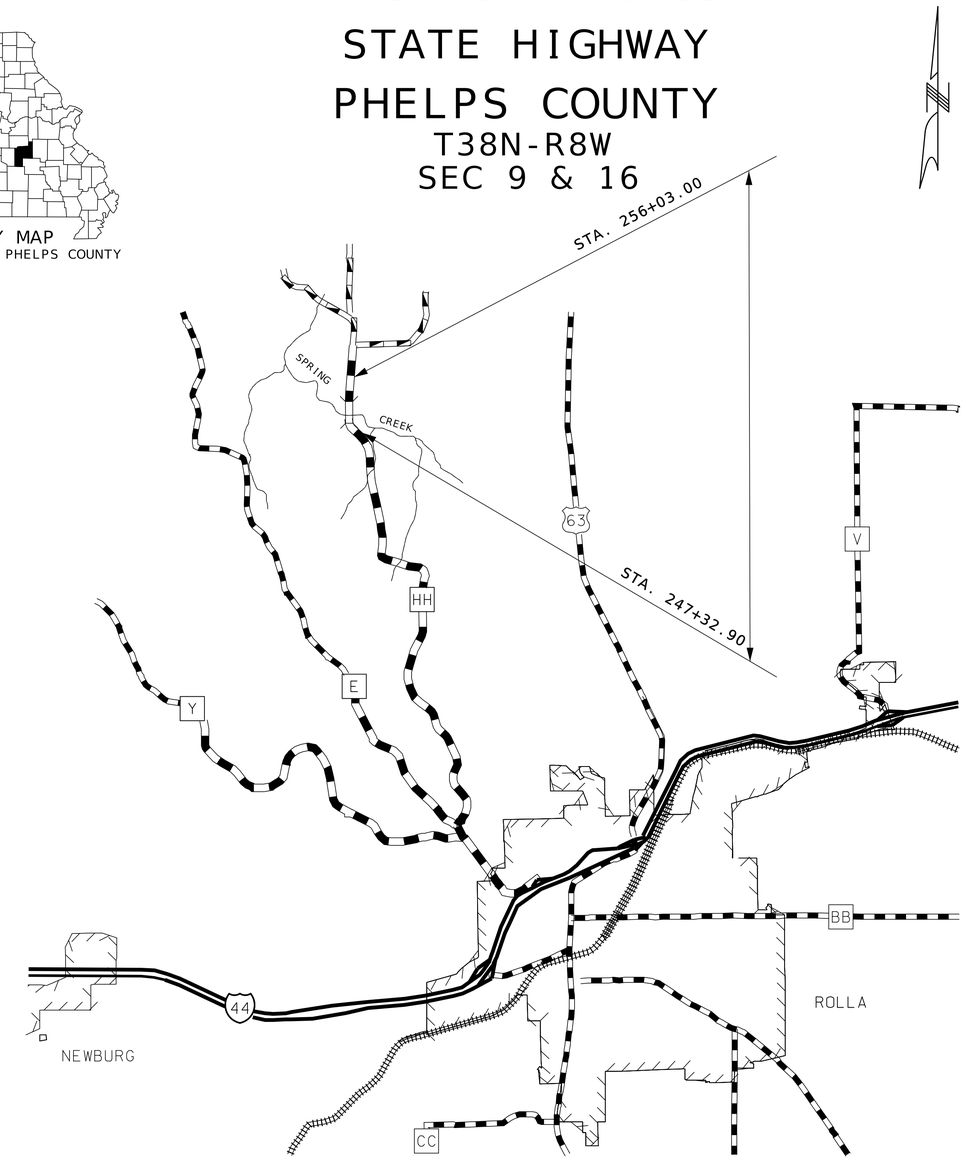
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED STATE HIGHWAY PHELPS COUNTY

T38N-R8W
SEC 9 & 16



KEY MAP
LOCATION OF PHELPS COUNTY



NOT TO SCALE

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) (3 SHEETS)	3
PLAN-PROFILE (PP)	4-5
REFERENCE POINTS (RP)	6
COORDINATE POINTS (CP)	7
SPECIAL SHEETS (SS)	8
TRAFFIC CONTROL SHEETS (TC)	9-12
EROSION CONTROL SHEETS (EC)	13
CULVERT SECTION (CS)	14
BRIDGE DRAWINGS (B)	
A9754	1-24
CROSS SECTIONS (XS)	1-12

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA. 247+32.90
END OF PROJECT	STA. 256+03.00
APPARENT LENGTH	870.10 FEET
EQUATIONS AND EXCEPTIONS:	NONE
TOTAL CORRECTIONS	0 FEET
NET LENGTH OF PROJECT	870.10 FEET
STATE LENGTH	0.165 MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES	1.4 ACRES

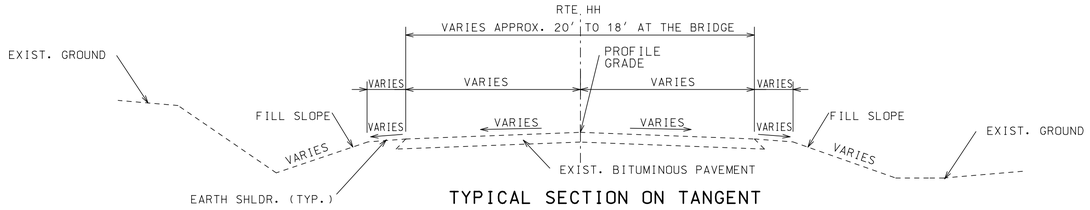
STATE OF MISSOURI
YAHKHUB R. SHEBIB
NUMBER PE-2026001396
PROFESSIONAL ENGINEER
09/29/2026 7:45:40 AM
YAHKHUB R. SHEBIB - CIVIL
MO-PE-2026001396

DATE PREPARED: 9/29/2026
ROUTE: HH | STATE: MO
DISTRICT: CD | SHEET NO.: 1
COUNTY: PHELPS
JOB NO.: JCD0036
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

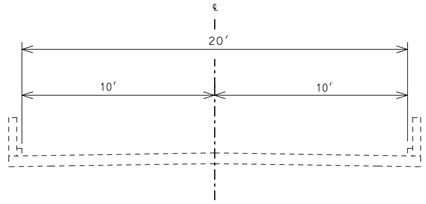
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

OPTIONAL PAVEMENT DESIGN:
2″ BP-1 – PG 64-22 8″ PMBP – PG 64-22
8″ JPCP



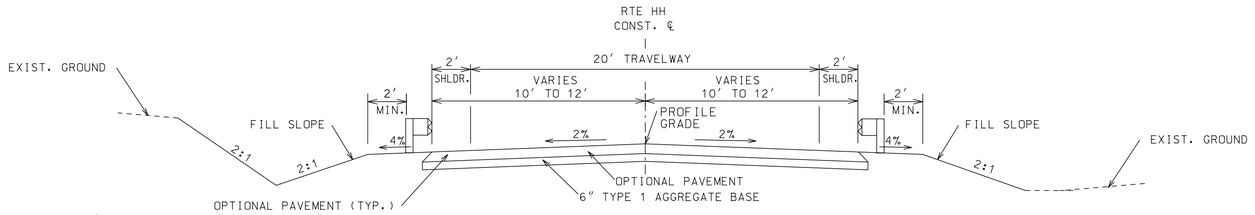
TYPICAL SECTION ON TANGENT
EXISTING TYPICAL SECTION

STA. 248+84.00 TO STA. 250+53.00
STA. 252+15.50 TO STA. 256+03.00



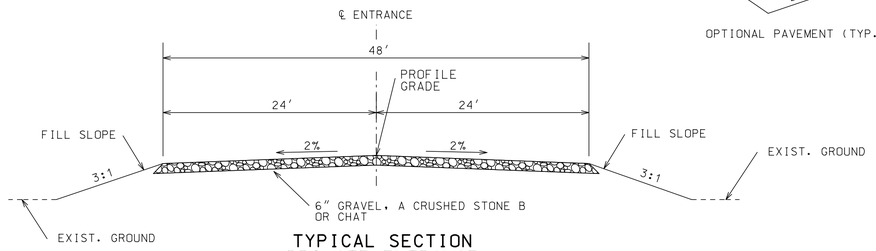
EXIST. BRIDGE #N0668
TYPICAL SECTION

STA. 250+53.00 TO STA. 252+15.50



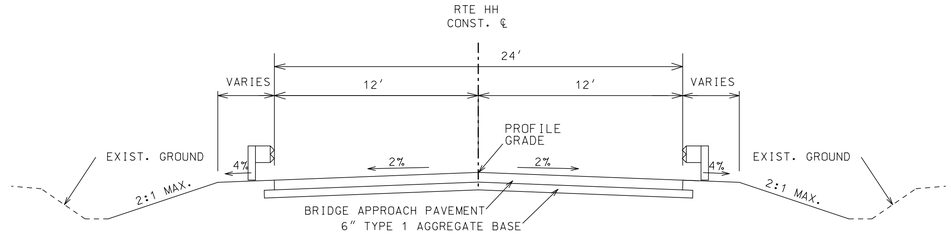
TYPICAL SECTION ON TANGENT

PROPOSED TYPICAL SECTION
STA. 248+84.00 TO STA. 250+27.96
STA. 252+40.46 TO STA. 256+03.00



TYPICAL SECTION
PRIVATE ENTRANCE

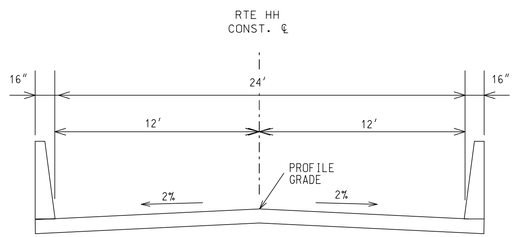
PROPOSED TYPICAL SECTION
STA. 247+83.49



TYPICAL SECTION ON TANGENT

BRIDGE APPROACH SLAB (MINOR)

STA. 250+27.96 TO STA. 250+47.96
STA. 252+20.46 TO STA. 252+40.46



PROPOSED TYPICAL SECTION BRIDGE #A9754
STA. 250+47.96 TO STA. 252+20.46

NOT TO SCALE

TYPICAL SECTIONS
SHEET 1 OF 1

STATE OF MISSOURI
YAHKHUB R. SHEBIB
NUMBER PE-2026001396
PROFESSIONAL ENGINEER
09/29/2026 7:47:43 AM
YAHKHUB R. SHEBIB - CIVIL
MO-PE-2026001396

DATE PREPARED
9/29/2026

ROUTE	STATE
HH	MO
DISTRICT	SHEET NO.
CD	2

COUNTY
PHELPS

JOB NO.
JCD0036

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)

REMOVAL OF IMPROVEMENTS

STA	STA	LOCATION	DESCRIPTION	QUANTITY	REMARKS
241+77.96		RTE. HH - RT	ONE LANE BRIDGE SIGN AND POST	1 EA	
244+52.96		RTE. HH - RT	WEIGHT RESTRICTION SIGN AND POST	1 EA	
248+49.96		RTE. HH - RT	YIELD SIGN WITH - TO ONCOMING TRAFFIC PLAQUE AND POST	2 EA	
250+52.96		RTE. HH - RT	OBJECT MARKER AND POST	1 EA	EXISTING BRIDGE END
250+52.96		RTE. HH - LT	OBJECT MARKER AND POST	1 EA	EXISTING BRIDGE END
252+15.59		RTE. HH - RT	OBJECT MARKER AND POST	1 EA	EXISTING BRIDGE END
252+15.59		RTE. HH - LT	OBJECT MARKER AND POST	1 EA	EXISTING BRIDGE END
254+18.59		RTE. HH - LT	YIELD SIGN WITH - TO ONCOMING TRAFFIC PLAQUE AND POST	2 EA	
256+00.59		RTE. HH - RT	WEIGHT RESTRICTION SIGN AND POST	1 EA	
260+63.59		RTE. HH - RT	ONE LANE BRIDGE SIGN AND POST	1 EA	
250+03.53	250+79.40	RTE. HH	CONCRETE SLOPE PROTECTION	253 SY	EXISTING BRIDGE END
251+94.31	252+63.53	RTE. HH	CONCRETE SLOPE PROTECTION	232 SY	EXISTING BRIDGE END
248+84.00		RTE. HH	SAW CUT FOR BEGINNING OF NEW PAVEMENT	20 LF	
256+03.00		RTE. HH	SAW CUT FOR END OF NEW PAVEMENT	20 LF	
248+38.38	250+53.00	RTE. HH	BITUMINOUS PAVEMENT	442 SY	
252+15.50	256+03.00	RTE. HH	BITUMINOUS PAVEMENT	796 SY	
247+83.49		RTE. HH - LT	CORRIGATED METAL PIPE	55 LF	
			TOTAL	1 LUMP SUM	

EARTHWORK

STA.	STA.	LOCATION	LENGTH (FT)	TYPE 2 FURNISH ROCK BLANKET CY	TYPE 2 PLACE ROCK BLANKET CY	PERM EROSION CONTROL GEOTEXTILE SY	CLASS A EXCAVATION CY	COMPACTING EMBANKMENT CY	REMARKS
248+38.38	256+03.00	RTE. HH	764.62	399.00	399.00	717.70	544.00	299.00	
248+38.38	256+03.00	RTE. HH	764.62	370.00	370.00	747.90	594.00	395.00	
247+83.49		RTE. HH					31.00	27.17	CHURCH ENTRANCE
		SUB TOTAL EARTHWORK				1465.6			
		SUB TOTAL GROUP C PIPE				16.0			
			TOTAL	769.0	769.0	1481.6	1169.0	721.2	APPROX. WASTE 285 CY
			USE	769.0	769	1482.0	1169	721	ASSUMED 1.13 SHRINK FACTOR

NOTE: GEOTEXTILE USED UNDER ROCK BLANKET AT BRIDGE ENDS.

OPTIONAL PAVEMENT (8" CONCRETE OR 10" ASPHALT)

STA	STA	LOCATION	LENGTH (FEET)	WIDTH (FEET)	OPTIONAL PAVEMENT (SY)	6 IN. TYPE 1 AGGR. FOR BASE (SY)	REMARKS
248+84.00	249+04.00	RTE. HH	20.00	VARIES	43.00	43.00	
249+04.00	250+27.96	RTE. HH	123.96	24	330.56	330.56	
252+40.46	255+83.00	RTE. HH	342.54	24	913.44	913.44	
255+83.00	256+03.00	RTE. HH	20.00	VARIES	44.13	44.13	
				TOTAL	1331.13	1331.13	
				USE	1331.1	1331	

TEMPORARY EROSION CONTROL

STATION	STATION	LOCATION	SEDIMENT TRAP ROCK C.Y.	ROCK DITCH CHECK L.F.	TYPE C BERM L.F.	SILT FENCE L.F.	SEDIMENT REMOVAL CU.YD.	REMARKS
247+32.90	251+10.00	RTE. HH - LT & RT	3.3	88.0	278		15.8	
251+70.00	256+03.00	RTE. HH - RT	1.7	64.0	288		11.9	TYPE C BERM LT & RT
251+70.00	256+03.00	RTE. HH - LT	1.7			371	4.7	
		TOTAL	6.7	152.0	566	371.0	32.4	
		USE	6.7	152	566	371	32	

GRAVEL ENTRANCE

STA	STA	LOCATION	WIDTH (FEET)	GRAVEL A CRUSHED STONE B OR CHAT (TON)	REMARKS
247+83.49		RTE. HH - LT	VARIES	55.03	CHURCH ENTRANCE
249+32.84	250+09.84	RTE. HH - LT	VARIES	18.29	CHURCH PARKING LOT REPAIR
		TOTAL		73.32	
		USE		73	

SUMMARY OF QUANTITIES
SHEET 1 OF 3

STATE OF MISSOURI
YAHKHUB R. SHEBIB
NUMBER PE-2026001396
PROFESSIONAL ENGINEER
10/07/2026 12:15:04 PM
YAHKHUB R. SHEBIB - CIVIL
MO-PE-2026001396

DATE PREPARED
10/7/2026

ROUTE	STATE
HH	MO
DISTRICT	SHEET NO.
CD	3

COUNTY
PHELPS

JOB NO.
JCD0036

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

STA	STA	TOTAL LENGTH	LOCATION	MGS GUARDRAIL (LF)	MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR/NO CURB) (EACH)	TYPE A CRASHWORTHY END TERMINAL (MASH) (EACH)	REMARKS
248+64.96	250+39.96	175	RTE. HH - RT	87.5	1	1	
249+52.46	250+39.96	87.5	RTE. HH - LT		1	1	
252+28.46	253+15.96	87.5	RTE. HH - RT		1	1	
252+28.46	254+03.46	175	RTE. HH - LT	87.5	1	1	
			TOTAL	175	4	4	
			USE	175	4	4	

GROUP C PIPE

STRUCT. NUMBER	LOCATION	SKEW (DEG)	FILL HEIGHT (FT)	GROUP C 30" PIPE (LF)	GROUP C 30" F.E.S (EA)	CLASS 3 EXC. (CY)	ROCK LINING (CY)	GEOTEXTILE (SY)	REMARKS
P-1	RTE.HH LT.	3^38"	5.2	60	2	22.0	4.0	16.0	
			SUB TOTAL					16	
			TOTAL	60	2	22	4		
			USE	60	2	22	4		

PERMANENT PAVEMENT MARKING

STA	STA	LOCATION	LENGTH (FT)	CLASS 1 PAVEMENT MARKING PAINT TYPE P BEADS 4 IN WHITE LF	CLASS 1 PAVEMENT MARKING PAINT TYPE P BEADS 4 IN YELLOW LF	REMARKS
248+74.00	256+13.00	RTE. HH	739.00	1478.00	1478.00	DOUBLE YELLOW CENTER LINE / EDGE LINES
		TOTAL		1478.00	1478.00	
		USE		1478	1478	

SEEDING

STA	STA	LOCATION	LENGTH (FEET)	WIDTH (FEET)	SEEDING - COOL SEASON GRASS (AC)	MULCHING (AC)	TEMPORARY SEEDING (AC)	CLEARING AND GRUBBING (AC)	REMARKS
248+38.38	250+47.96	RTE. HH - LT & RT	209.58	VARIES	0.51	0.51	0.13	0.51	
252+20.46	256+13.00	RTE. HH - LT & RT	392.54	VARIES	0.78	0.78	0.20	0.78	
				TOTAL	1.29	1.29	0.33	1.29	
				USE	1.3	1.3	0.3	1.0	QUANTITIES ARE APPROXIMATE

CONTRACTOR SURVEYING AND STAKING

TOTAL = 1 LUMP SUM

ADDITIONAL MOBILIZATION

SEEDING

TOTAL = 4 EACH

MOBILIZATION

TOTAL = 1 LUMP SUM

SUMMARY OF QUANTITIES
SHEET 2 OF 3

STATE OF MISSOURI
YAHKHUB R. SHEBIB
NUMBER PE-2026001396
PROFESSIONAL ENGINEER
09/29/2026 7:49:49 AM
YAHKHUB R. SHEBIB - CIVIL
MO-PE-2026001396

DATE PREPARED: 9/28/2026
ROUTE: HH | STATE: MO
DISTRICT: CD | SHEET NO.: 3
COUNTY: PHELPS
JOB NO.: JCD0036
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)

EFFECTIVE: 04-01-2024

WARNING SIGNS

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT)
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT)
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT)
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT)
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT)
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
WO1-8	18X24	3.00						CHEVRON (SYMBOL)
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
WO3-4	48X48	16.00						BE PREPARED TO STOP
WO3-5	48X48	16.00						SPEED LIMIT AHEAD
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)
WO4-1aL	48X48	16.00						MERGE (LEFT)
WO4-1aR	48X48	16.00						MERGE (RIGHT)
WO5-1	48X48	16.00	1	16			43	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						500 FEET (PLAQUE)
WO16-3	30X24	5.00						X MILE (PLAQUE)
WO20-1	48X48	16.00	2	32			2	ROAD/BRIDGE/RAMP WORK AHEAD
WO20-2	48X48	16.00						DETOUR AHEAD
WO20-3	48X48	16.00	4	64			20	ROAD CLOSED AHEAD/500 FT
WO20-4	48X48	16.00	2	32				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	2	32			21	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)

GUIDE SIGNS

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
E05-1	36X48	12.00						GORE EXIT
E05-2	48X36	12.00						EXIT OPEN
E05-2a	48X36	12.00						EXIT CLOSED
GO20-1	60X24	10.00						ROAD WORK NEXT XX MILES
GO20-2	48X24	8.00						END ROAD WORK
GO20-4	36X18	4.50						PILOT CAR FOLLOW ME
GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW
GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW
GO20-5aP	36X24	6.00						WORK ZONE (PLAQUE)
MO4-8a	24X18	3.00						END DETOUR
MO4-9L	48X36	12.00						DETOUR (LEFT)
MO4-9R	48X36	12.00						DETOUR (RIGHT)
MO4-9P	48X12	4.00						STREET NAME (PLAQUE)
MO4-10L	48X18	6.00						DETOUR ARROW (LEFT)
MO4-10R	48X18	6.00						DETOUR ARROW (RIGHT)

REGULATORY SIGNS

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
R1-1	48X48	13.25						STOP
R1-2	48TRI.	6.93						YIELD
R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)
R1-3P	30X12	2.50						ALL WAY (PLAQUE)
R2-1	36X48	12.00						SPEED LIMIT XX
R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00						NO TURNS
R3-4	48X48	16.00						NO U-TURN (SYMBOL)
R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00						DO NOT PASS
R4-2	36X48	12.00						PASS WITH CARE
R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)
R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)
R5-1	30X30	6.25						DO NOT ENTER
R5-1a	36X24	6.00						WRONG WAY
R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)
R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)
R6-2L	24X30	5.00						ONE WAY (LEFT)
R6-2R	24X30	5.00						ONE WAY (RIGHT)
R9-9	24X12	2.00						SIDEWALK CLOSED
R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE
R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE
R10-6	24X36	6.00						STOP HERE ON RED (45^ ARROW)
R11-2	48X30	10.00	2	20			29	ROAD CLOSED
R11-3a	60X30	12.50	2	25			55	ROAD CLOSED 4 & 5 MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60X30	12.50						ROAD CLOSED TO THRU TRAFFIC
CONST-3A	60X48	20.00						FINE SIGN
CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)

MISCELLANEOUS SIGNS

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
CONST-5	48X36	12.00						POINT OF PRESENCE
CONST-5	96X48	32.00						POINT OF PRESENCE
CONST-7	48X24	8.00						RATE OUR WORK ZONE
CONST-7	72X36	18.00						RATE OUR WORK ZONE
CONST-8	48X36	12.00						WORK ZONE NO PHONE ZONE

616-10.05 CONSTRUCTION SIGNS	TOTAL
	230*

616-10.10 RELOCATED SIGNS	TOTAL
	0

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	28*	CHANNELIZER (TRIM LINE)
6161030	8*	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 W/O 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

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6169901	1	LUMP SUM TEMPORARY TRAFFIC CONTROL (* ITEMS INCLUDED)

SUMMARY OF QUANTITIES
SHEET 3 OF 3

STATE OF MISSOURI
YAHKHUB R. SHEBIB
NUMBER PE-2026001396
PROFESSIONAL ENGINEER
10/07/2026 12:15:39 PM
YAHKHUB R. SHEBIB - CIVIL
MO-PE-2026001396

DATE PREPARED: 10/7/2026
ROUTE: HH
STATE: MO
DISTRICT: CD
SHEET NO.: 3
COUNTY: PHELPS
JOB NO.: JCD0036
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)

NW⁴ NW⁴ SEC 16

SPRING CREEK BAPTIST CHURCH
0.02 AC. (1258 SQ. FT.)
PERM. SLOPE ESM'T.
0.07 AC. (3229.32 SQ. FT.)
TEMP. ESM'T.
4.23 AC. REMAINING

CORNER:
SOUTHWEST CORNER OF SECTION 9,
TOWNSHIP 38 NORTH, RANGE 8 WEST
CERTIFIED LAND CORNER DOCUMENT
#600-84377

247+83.49 CE LT. TYPE I DRIVEWAY
48' TOP - 30' BOT - 5.5:1 GRADE
6m SKEW RA - GR. - 5.52% C. CULVERT
GRAVEL SURFACE
2-30" FLARED END SECTIONS (P1)

+24.00 / 40.00 +24.00 / 76.00 +21.72 7'x16' TYPE 1 R.D.L. @ CULV. OUTLET

+52.00 / 56.00 +52.00 / 140.00

PT STA 248+76.70

+76.70 / 40.00

+29.00 / 57.00 +29.00 / 43.85'

S86°57'53"E 1402.86'

SECTION LINE

+12.60 / 50.00

+72.00 / 57.00 +72.00 / 50.00

SPRING CREEK

N58°00'44"W

STA.4+00.00 EXIST. PERM. DRAINAGE ESM'T

200' WIDE X 400' LONG EXIST. PERM. DRAINAGE ESM'T

EXIST. PERM DRAINAGE ESM'T #1
CUR 1

PI 1+49.69
PC 0+50.00
PT 2+44.80
Δ 30°0'0.0" (RT)
D 15°24'1.5"
L 194.80' (ARC)
T 99.69'
R 372.04'

SW⁴ SW⁴ SEC 9

BRIDGE STA. 251+34.25
STA. 0+00.00 NORTH AND SOUTH
DRAINAGE ESM'T ALIGNMENTS

REMOVE EXIST.
BRIDGE N0668
STA. 250+53.00
50'-55'-50'
CONC. GIRDER SPAN

+00.00 / 50.00'

+86.50 / 35.00'

POT EXIST. CENTERLINE
STA 253+89.58 =
PI CONST. CENTERLINE
Δ 01°32'13" (RT)

SPRING CREEK GAP LLC

245 245

255 255

PI STA 256+00.00 R2
Δ 03°17'59" (RT)

BEGIN PROJECT
STA. 247+32.90

¼ SECTION LINE

EXIST. R/W

UT

SL (R) 83.49

TEMP ESM'T

PERM. SLOPE ESM'T

DND

RTE HH EXIST CENTERLINE

CONST. STA 243+98.30
PC STA 243+98.30

EXIST. RTE. HH - CUR 2
CONST. ℄ RTE. HH - CUR 1

PI 246+52.40
PC 243+98.30
PT 248+76.70
Δ 47°47'0.0" (RT)
D 9°59'17.5"
L 478.40' (ARC)
T 254.10'
R 573.63'

N45°47'44"W

STA EQUATION:
STA 243+78.98 BK =
STA 243+98.30 AH

+80.00 / 30.00'

STA 243+78.98 BK = STA 243+98.30 AH

1 P1

N01°59'16"E

N03°31'30"E

N05°17'16"E

N76°00'30"E

+76.70 / 40.00

+12.50 / 60.00

STA. 250+47.96
BUILD BRIDGE #A9754
CONSTRUCT (50'-70'-50')
PRESTRESSED CONCRETE
NU 35 GIRDER SPAN
DA - 23 SQ. MI.
Q (25) = 8,600 CFS

RTE HH CONST. CENTERLINE

END PROJECT
STA. 256+03.00
CONST. CENTERLINE

END STA 256+03.00 CONST. CENTERLINE

2
KENNETH AND LULA ROBINSON

NOTES:

1) RIGHT OF WAY AND OFFSETS ARE BASED ON EXISTING ROUTE HH ALIGNMENT.

2) TREE CLEARING TO ADHERE TO JSP RESTRICTION DATES.

NE⁴NW⁴ SEC 16

SECTION LINE

CENTERLINE EXIST. PERM. DRAINAGE ESM'T

SE⁴ SW⁴ SEC 9

160' WIDE, 60' RT, 100' LT 1000' LONG EXIST. PERM. DRAINAGE ESM'T

EXIST. PERM DRAINAGE ESM'T #2
CUR 2

PI 6+84.13
PC 3+18.00
PT 9+43.00
Δ 74°51'46.0" (RT)
D 11°58'41.0"
L 625.00' (ARC)
T 366.13'
R 478.34'

EXIST. PERM DRAINAGE ESM'T #2
CUR 1

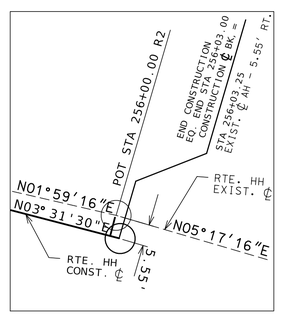
PI 1+30.52
PC 0+50.00
PT 2+10.00
Δ 15°58'46.5" (LT)
D 9°59'14.1"
L 160.00' (ARC)
T 80.52'
R 573.69'

RIGHT OF WAY LIMITS FOR THIS PROJECT ARE FROM STATION 249+29.00 TO STATION 250+72.00, A DISTANCE OF 143 FEET.

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.

ALL BEARINGS BASED ON STATE PLANE BEARINGS CENTRAL ZONE.

SCALE
0 50 100 150



DETAIL OF ALIGNMENT EQUATION

PLAN SHEET
SHEET 1 OF 1

STATE OF MISSOURI
YAHKHUB R. SHEBIB
NUMBER PE-2026001396
PROFESSIONAL ENGINEER
09/29/2026 7:53:25 AM
YAHKHUB R. SHEBIB - CIVIL
MO-PE-2026001396

DATE PREPARED 9/28/2026

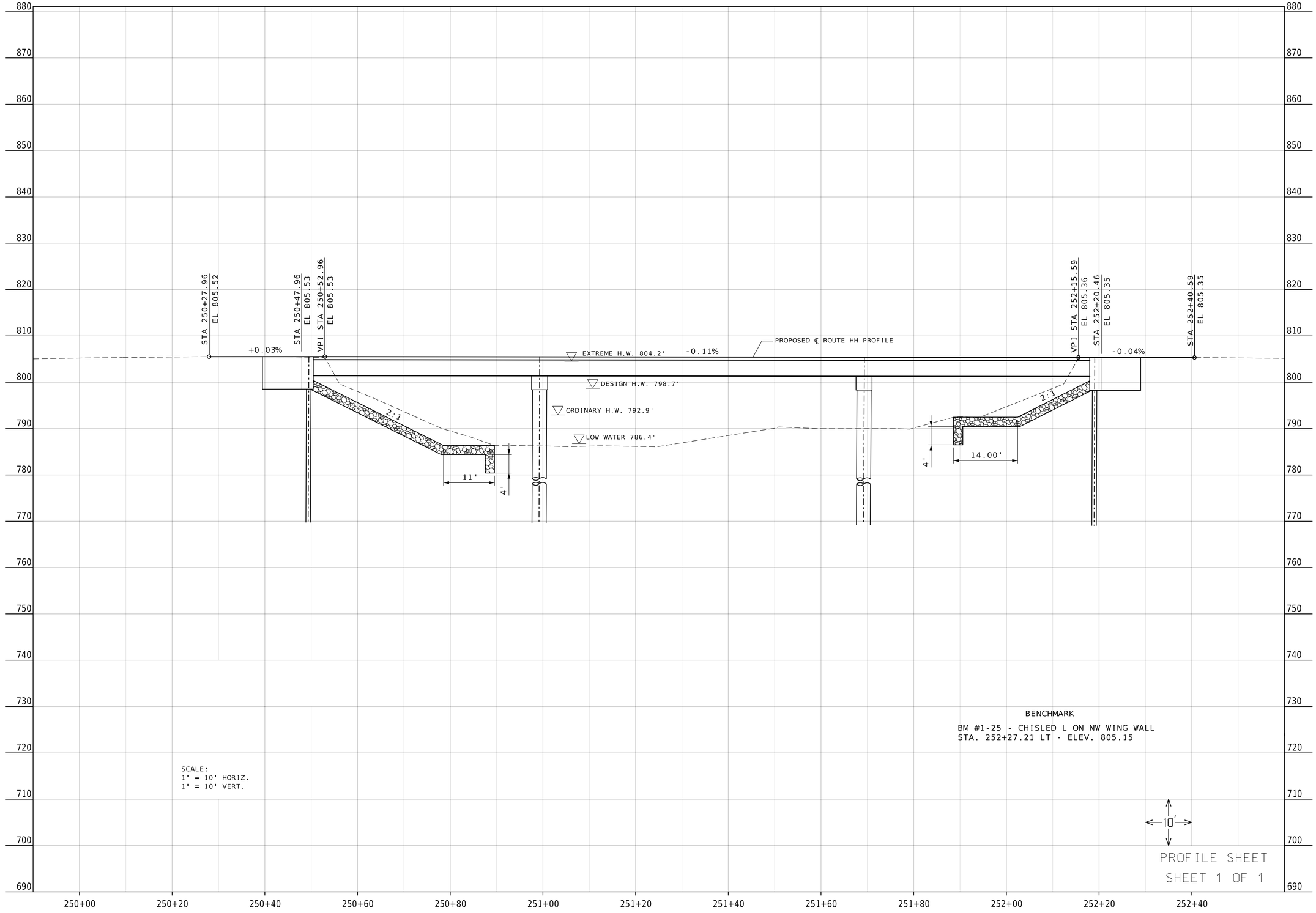
ROUTE	STATE
HH	MO
DISTRICT	SHEET NO.
CD	4

COUNTY: PHELPS
JOB NO.: JCD0036
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)



SCALE:
1" = 10' HORIZ.
1" = 10' VERT.

BENCHMARK

BM #1-25 - CHISLED L ON NW WING WALL
STA. 252+27.21 LT - ELEV. 805.15

10'

PROFILE SHEET
SHEET 1 OF 1

STATE OF MISSOURI
YAHKHUB R. SHEBIB
NUMBER PE-2026001396
PROFESSIONAL ENGINEER
09/29/2026 7:53:59 AM
YAHKHUB R. SHEBIB - CIVIL
MO-PE-2026001396

DATE PREPARED
9/29/2026

ROUTE	STATE
HH	MO
DISTRICT	SHEET NO.
CD	5

COUNTY
PHELPS

JOB NO.
JCD0036

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

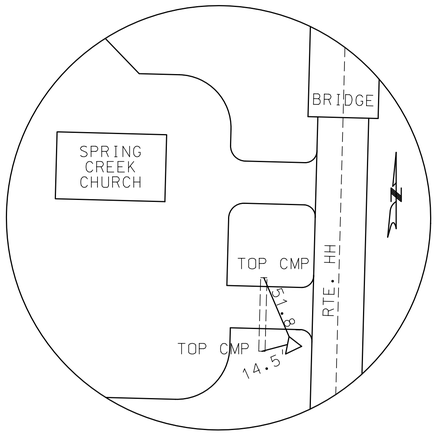
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

PT #801

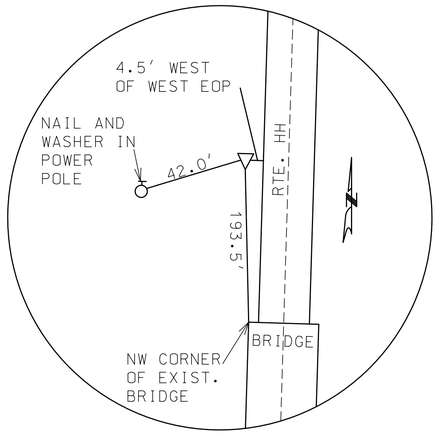
REBAR AND CAP BURRIED 0.20,
WEST OF WEST E.P. RTE. HH, SOUTH
OF SOUTH END OF BRIDGE
OVER SPRING CREEK



X = 1837450.5923
Y = 797807.1378
Z = 801.59

PT #802

REBAR AND CAP BURRIED 0.20,
4.5' WEST OF WEST E.P. RTE. HH, 194'
NORTHWEST OF NORTH END OF BRIDGE
OVER SPRING CREEK



X = 1837474.2585
Y = 798456.4117
Z = 802.18

REFERENCE POINT

STATE OF MISSOURI
YAHKHUB R. SHEBIB
NUMBER PE-2026001396
PROFESSIONAL ENGINEER
09/29/2026 7:54:50 AM
YAHKHUB R. SHEBIB - CIVIL
MO-PE-2026001396

DATE PREPARED
9/28/2026

ROUTE	STATE
HH	MO
DISTRICT	SHEET NO.
CD	6

COUNTY
PHELPS

JOB NO.
JCD0036

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)

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	Modified State Plane
HORIZONTAL DATUM	NAD83
VERTICAL DATUM	NAVD88
GEOID MODEL	G2018U7
ELEVATIONS DETERMINED BY	DIFFERENTIAL LEVELING
PROJECT PROJECTION FACTOR	1.0000518

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MO COORDINATE SYSTEM OF 1983
CONTROL STATION	MISSOURI CORS
DESIGNATION	MODOT VIENNA CORS ARP
CORS_ID	MOVE
PID	DL6 151
LATITUDE	381129.1097
LONGITUDE	915655.2605
NORTHING (M)	261821.6960
EASTING (M)	1548294.3060
ZONE	2402 (MO-Central)
PROJECT AVERAGE GRID FACTOR	0.9999482

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 #801
N 797,807.14 X 0.9999482 = N 797765.8136
E 1,837,450.599 X 0.9999482 = E 1837355.4191

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
PROJECT CONTROL POINTS							
				797807.1378	1837450.5923	801.60	CONTROL - GPS #801
				798456.4117	1837474.2585	802.22	CONTROL - GPS #802
				799261.2737	1837522.0111	807.84	CONTROL - GPS #803
				798262.2150	1837467.9910	805.15	BM-1
ALIGNMENTS							
4	243+98.30		0.00	797493.0210	1837642.2639		BEGIN CONSTRUCTION CENTERLINE - PC CURVE
4	247+32.90		0.00				BEGIN PROJECT
4	246+52.40		0.00	797670.1852	1837460.1110		PI CURVE CONSTRUCTION CENTERLINE
4	248+76.70		0.00	797924.1321	1837468.9254		PT CURVE CONSTRUCTION CENTERLINE
4	250+47.96		0.00	798095.2913	1837474.8662		FILL FACE BRIDGE #A9754
4	252+20.46		0.00	798267.6876	1837480.8500		FILL FACE BRIDGE #A9754
4	253+89.58		0.00	798436.4838	1837486.7088		PI CONSTRUCTION CENTERLINE
4	256+03.00		0.00	798649.4979	1837499.8304		END PROJECT
	232+65.42 R1		0.00	796623.8129	1838325.0008		BEGIN EXISTING CENTERLINE
	237+46.70 R1		0.00	797036.5132	1838077.3969		PC CURVE EXISTING CENTERLINE
	238+39.92 R1		0.00	797116.4512	1838029.4373		PI CURVE EXISTING CENTERLINE
	239+32.10 R1		0.00	797181.4471	1837462.6111		PT CURVE EXISTING CENTERLINE
4 EQNBK	243+78.98 R1		0.00	797493.0209	1837642.2640		
4 EQNAH	243+98.30 R2		0.00	797493.0210	1837642.2639		PC CURVE EXISTING CENTERLINE
4	246+52.40 R2		0.00	797670.1852	1837460.1110		PI CURVE EXISTING CENTERLINE
4	248+76.70 R2		0.00	797924.1323	1837468.9254		PT CURVE EXISTING CENTERLINE
4	256+00.00 R2		0.00	798646.9970	1837494.0157		PI EXISTING CENTERLINE
	263+98.45 R2		0.00	799442.0500	1837567.5982		END EXISTING CENTERLINE

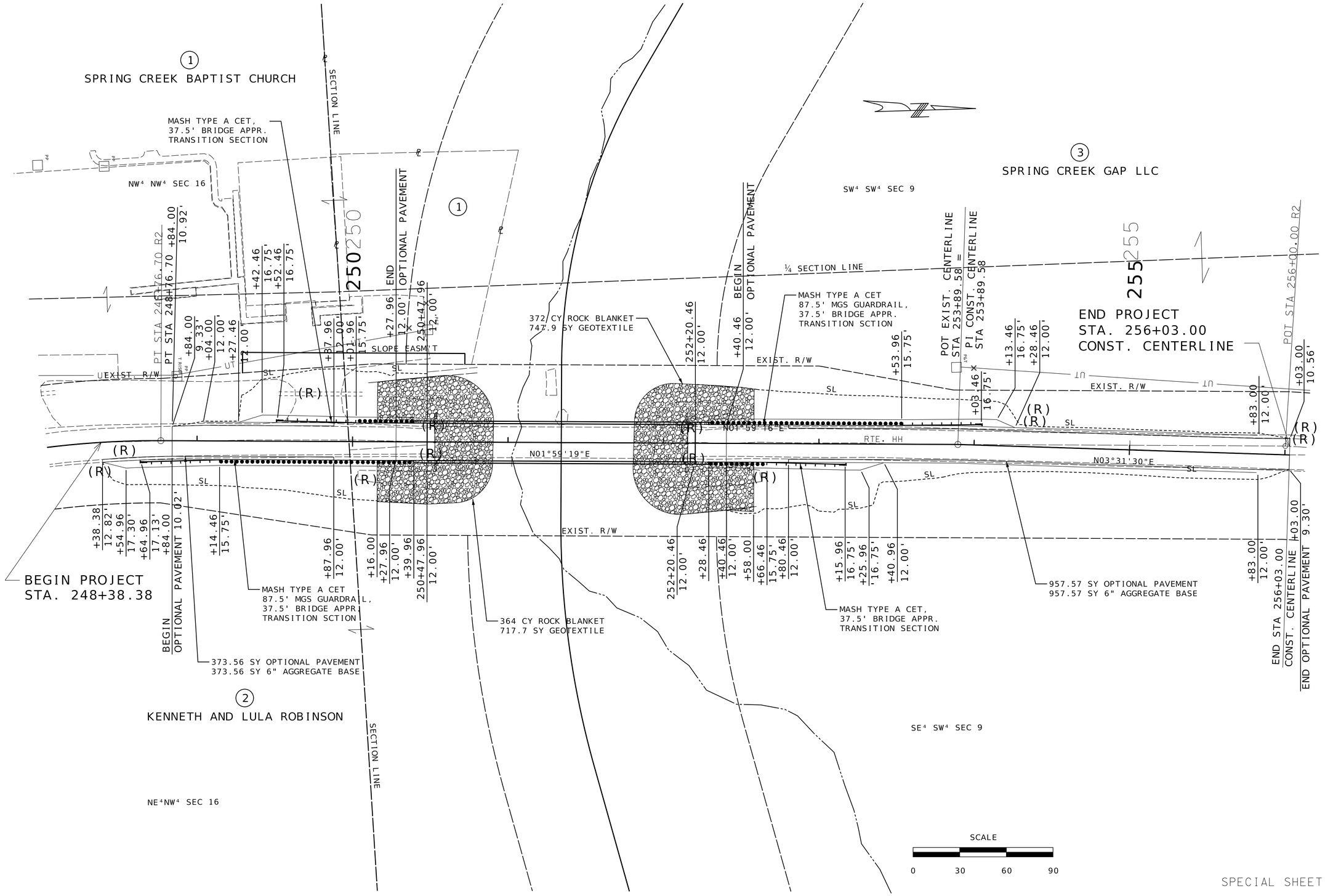
COORDINATE POINT SHEET
SHEET 1 OF 1

STATE OF MISSOURI
YAHKHUB R. SHEBIB
NUMBER PE-2026001396
PROFESSIONAL ENGINEER
09/29/2026 7:55:48 AM
YAHKHUB R. SHEBIB - CIVIL
MO-PE-2026001396

DATE PREPARED: 9/28/2026
ROUTE: HH | STATE: MO
DISTRICT: CD | SHEET NO.: 7
COUNTY: PHELPS
JOB NO.: JCD0036
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)



SPECIAL SHEET
1 OF 1

STATE OF MISSOURI
YAHKHUB R. SHEBIB
NUMBER PE-2026001396
PROFESSIONAL ENGINEER
09/29/2026 7:56:44 AM
YAHKHUB R. SHEBIB - CIVIL
MO-PE-2026001396

DATE PREPARED
9/28/2026

ROUTE	STATE
HH	MO
DISTRICT	SHEET NO.
CD	8

COUNTY
PHELPS

JOB NO.
JCD0036

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 Spacing, Device Spacing and Channelizing Taper Lengths

SIGN SPACING (S) FOR ADVANCE SIGN SERIES (1) (2)		
SPEED MPH	UNDIVIDED HIGHWAYS	DIVIDED HIGHWAYS
0-35	200	200
40-45	350	500
50-55	500	1000
60-70	1000	SA-1000 SB-1500 SC-2640

TAPER LENGTHS AND SPACING OF CHANNELIZING DEVICES					
SPEED MPH	MINIMUM TAPER LENGTHS (L) FOR LANE WIDTHS (W)			MAXIMUM CHANNELIZER SPACING	
	10 FT	11 FT	12 FT	THROUGH TAPER	THROUGH WORK AREA
0-35	205	225	245	35	40
40-45	450	495	540	40	80
50-55	550	605	660	50	80
60-70	700	770	840	60	120

NOTES:

DIMENSIONS IN FEET UNLESS OTHERWISE NOTED.

(1) SPACING BETWEEN SIGNS AND SPACING BETWEEN LAST SIGN AND FLAGGER, BEGINNING OF TAPER, OR SIGNED CONDITION

(2) SPACINGS MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS

LONGITUDINAL BUFFER SPACE (B)	
SPEED MPH	BUFFER SPACE
0-35	250
40-45	360
50-55	495
60-70	730

TAPER LENGTH (L):

L = WS FOR 40 MPH OR MORE

$L = \frac{WS^2}{60}$ FOR 35 MPH OR LESS

FOR SHOULDER TAPER USE L/3

WHERE:

L = TAPER LENGTH IN FEET

W = LATERAL SHIFT IN FEET

S = POSTED SPEED IN MPH

TRAFFIC CONTROL DEVICES

GENERAL NOTES:

1. SEE STANDARD PLAN 616.10 FOR DETAILS AND ITEMS NOT SHOWN
2. EXISTING SIGNS SHALL BE COVERED DURING WORKING HOURS ONLY IF IN CONFLICT WITH TRAFFIC CONTROL PLANS.
3. NO DIRECT PAYMENT WILL BE MADE FOR RELOCATING, COVERING, UNCOVERING OR REMOVING SIGNS.
4. CONES ALLOWABLE FOR DAYTIME OPERATIONS ONLY.
6. LOCATE FLASHING ARROW PANEL AT BEGINNING OF TAPER WHEN FEASIBLE, ARROW PANELS ARE ALWAYS LOCATED BEHIND CHANNELIZERS OR CONES.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- SIGN (DOUBLE SIDED)
- FLAGGER
- DIRECTION INDICATOR BARRICADE
- CHANNELIZER
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- FLASHING ARROW PANEL
- TMA (TRUCK MOUNTED ATTENUATOR) WITH FLASHING ARROW PANEL

TEMPORARY TRAFFIC CONTROL

STATE OF MISSOURI
YAHKHUB R. SHEBIB
NUMBER PE-2026001396
PROFESSIONAL ENGINEER
09/29/2026 7:57:15 AM
YAHKHUB R. SHEBIB - CIVIL
MO-PE-2026001396

DATE PREPARED 9/28/2026

ROUTE	STATE
HH	MO
DISTRICT	SHEET NO.
CD	9

COUNTY: PHELPS

JOB NO.: JCD0036

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)

SPEED	SIGN SPACING (ft.)		OPTIONAL
Normal Posted (mph)	Undivided (S)	Divided (S)	BUFFER LENGTH (ft.) (B)
0-35	200	200	250
40-45	350	500	360
50-55	500	1000	495
60-70	1000	SA - 1000 SB - 1500 SC - 2640	730

TYPE OF ROADWAY	SIGN HEIGHT	MAXIMUM WORK ZONE LENGTH (L)
URBAN	1' PORTABLE 7' POST	1 MILE
RURAL UNDIVIDED	1' PORTABLE 5' POST	3 MILES

1) THE ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY SIGN SHOULD BE LOCATED AT THE FIRST STATE ROUTE OR, UPON THE DISCRETION OF THE SUPERVISOR, ANY OTHER INTERSECTION IN ADVANCE OF THE CLOSURE.

2) ADDITIONAL BARRICADE MAY BE USED AND OFFSET TO FACILITATE ACCESS FOR LOCAL TRAFFIC, ETC.

TRAFFIC CONTROL SHOULD BE REMOVED AS SOON AS PRACTICAL AFTER CONDITION FOR THE CLOSURE NO LONGER EXISTS.

FOR PLANNED ACTIVITIES, COMMUNITY RELATIONS SHOULD BE NOTIFIED.

REFER TO STANDARD PLANS FOR HIGHWAY CONSTRUCTION 616.10 TEMPORARY TRAFFIC CONTROL DEVICES FOR TYPE 3 BARRICADES.

SIGN

TYPE 3 BARRICADE

WORK SPACE

CHANGEABLE MESSAGE BOARD



WO20-3

20



WO20-3

20a



R11-3a

55



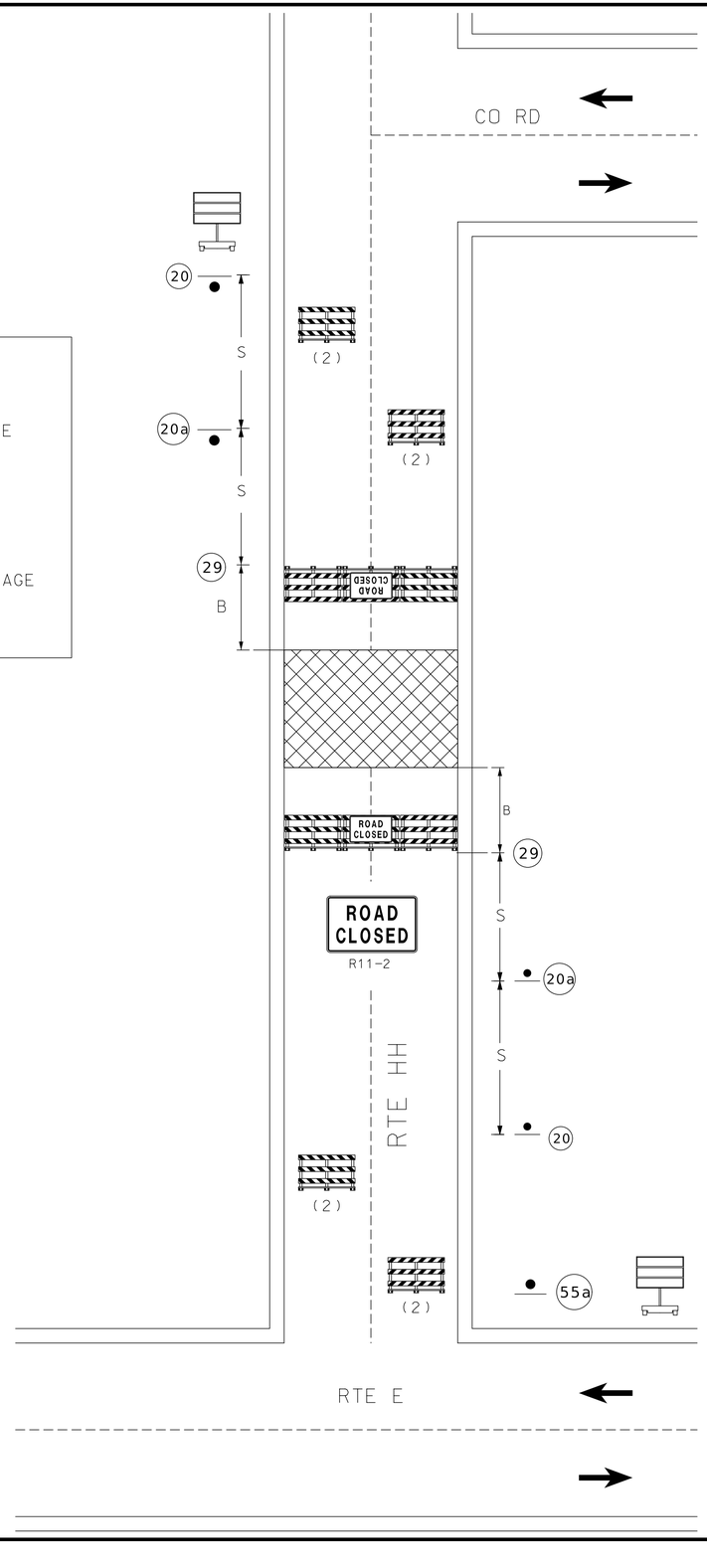
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R11-2

29



TEMPORARY TRAFFIC CONTROL

SHEET 2 OF 4

STATE OF MISSOURI
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DISTRICT	SHEET NO.
CD	10

COUNTY: PHELPS

JOB NO.: JCD0036

CONTRACT ID.:

PROJECT NO.:

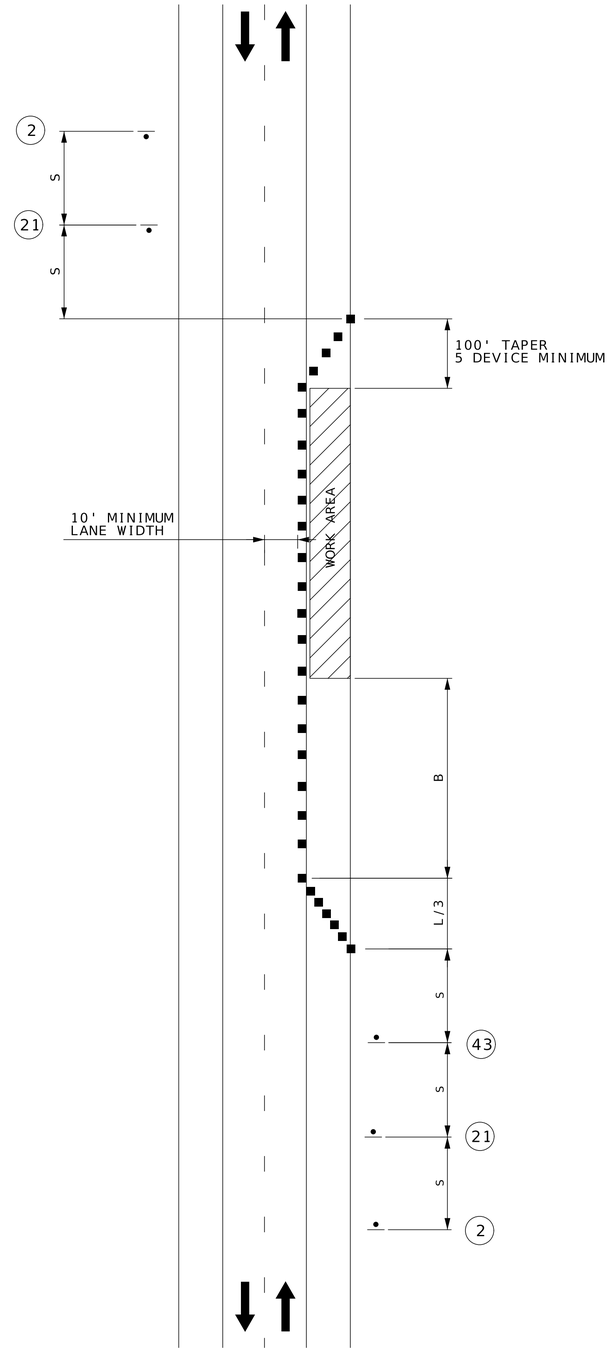
BRIDGE NO.:

DESCRIPTION	DATE

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

NOT TO SCALE



SHOULDER WORK

UNDIVIDED HIGHWAY



BRIDGE
OR
RAMP

WO20-1

2



WO21-5

21



BRIDGE
OR
RAMP

WO5-1

43

TEMPORARY TRAFFIC CONTROL

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DISTRICT	SHEET NO.
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COUNTY
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JCD0036

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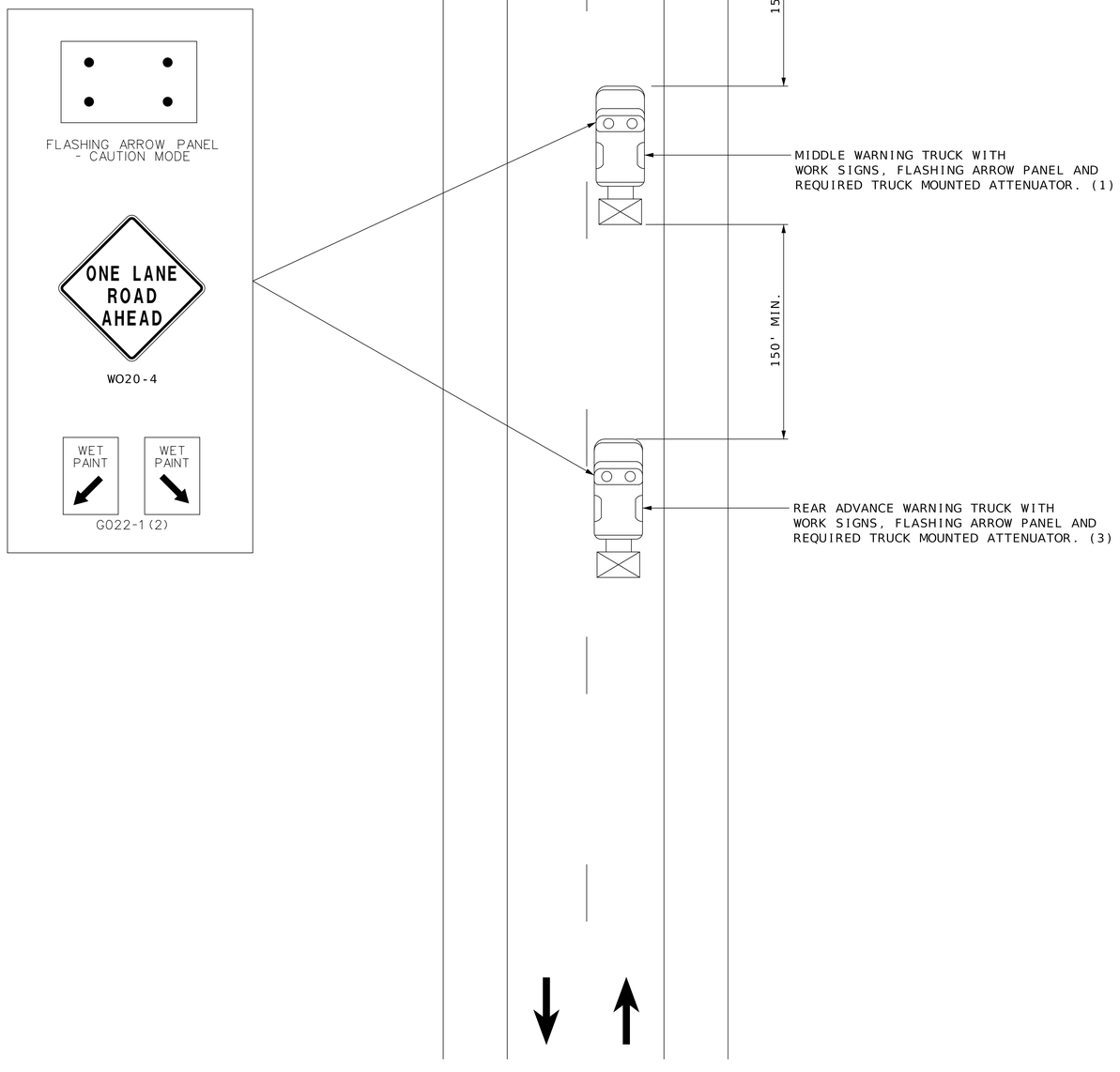
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DESCRIPTION	DATE

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STRIPING ON TWO-LANE HIGHWAY

NOTES:

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

PROTECTIVE TRUCKS 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 STROBE LIGHTS.

VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.

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 ARE 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 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, WHICHEVER IS GREATER.

STATE OF MISSOURI
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DATE PREPARED
9/28/2026

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HH	MO

DISTRICT	SHEET NO.
CD	12

COUNTY
PHELPS

JOB NO.
JCD0036

CONTRACT ID.

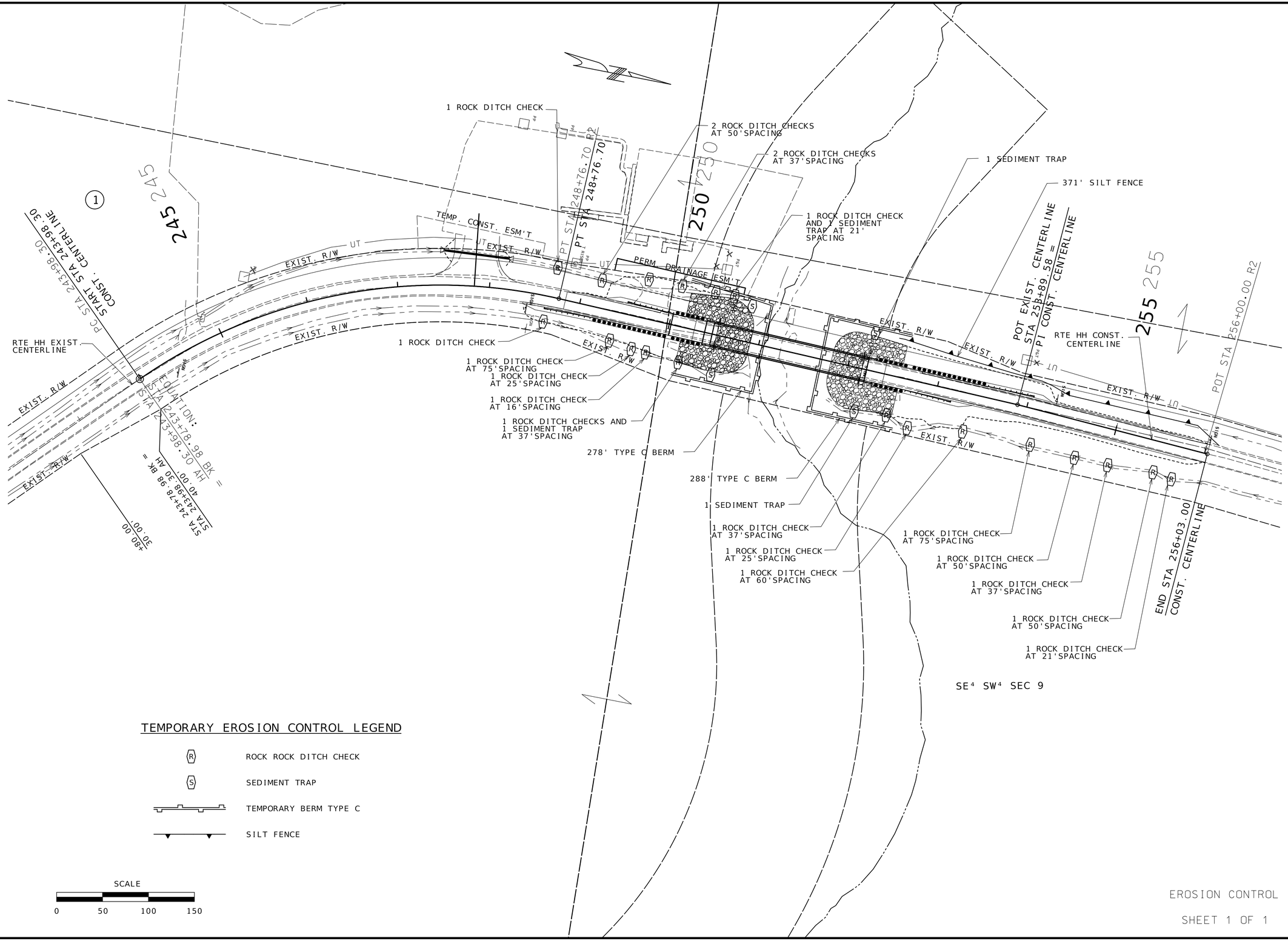
PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

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TEMPORARY EROSION CONTROL LEGEND

- ROCK ROCK DITCH CHECK
- SEDIMENT TRAP
- TEMPORARY BERM TYPE C
- SILT FENCE

SCALE

0 50 100 150

EROSION CONTROL

SHEET 1 OF 1

STATE OF MISSOURI
YAHKHUB R. SHEBIB
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DISTRICT	SHEET NO.
CD	13

COUNTY
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JCD0036

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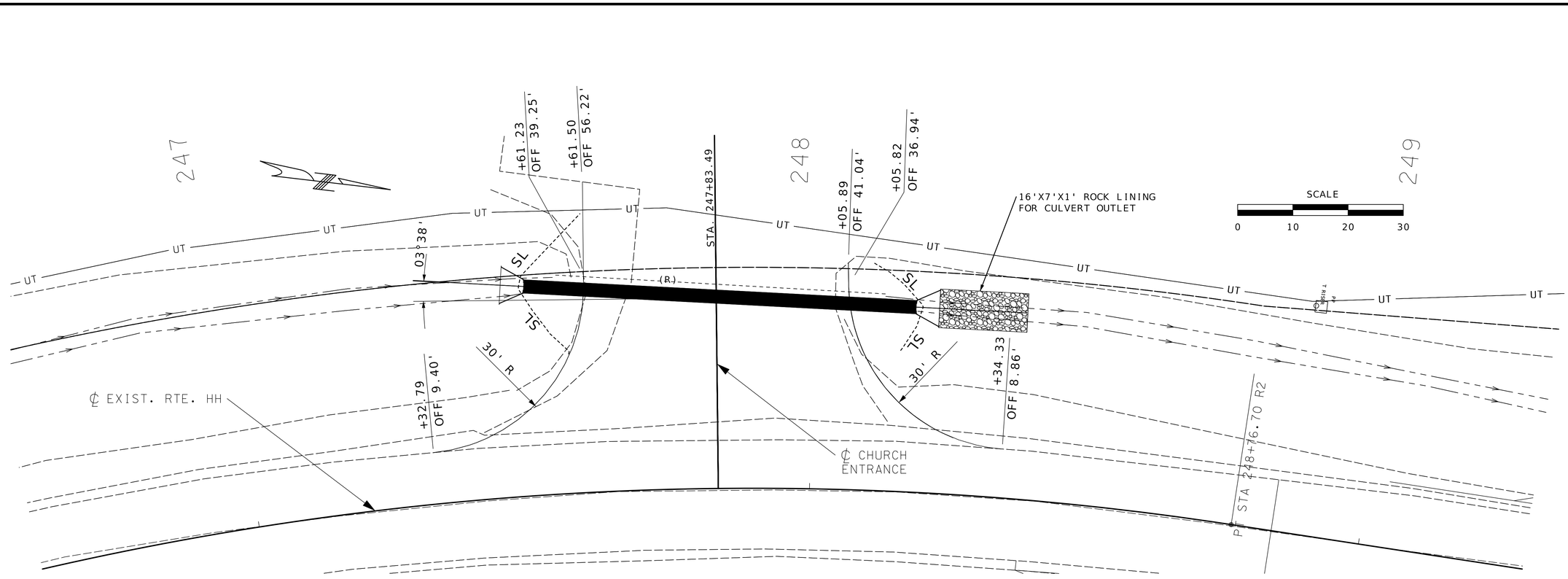
BRIDGE NO.

DESCRIPTION

DATE

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JEFFERSON CITY, MO 65102
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STA. 247+83.49

P1

CHURCH ENTRANCE

30" X 60' GROUP C PIPE - 3° 38" SKEW RA

CL 3 EXC. = 22 CY

2 - 30" GR. C FLARED END SECTIONS

ROCK LINING FOR CULVERT OUTLET - 4 CY

CULVERT SECTION
SHEET 1 OF 1

STATE OF MISSOURI
YAHKHUB R. SHEBIB
NUMBER PE-2026001396
PROFESSIONAL ENGINEER

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ROUTE	STATE
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DISTRICT	SHEET NO.
CD	14

COUNTY
PHELPS

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PROJECT NO.

BRIDGE NO.

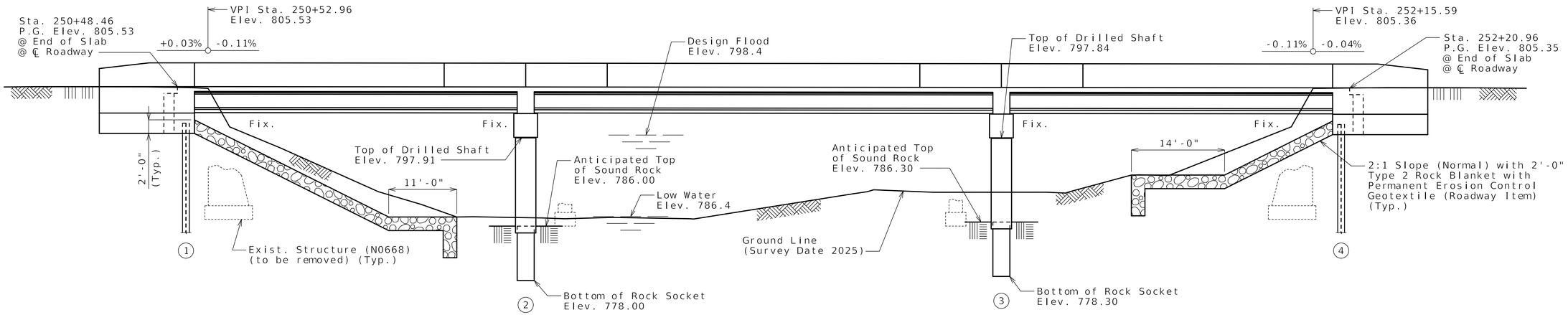
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

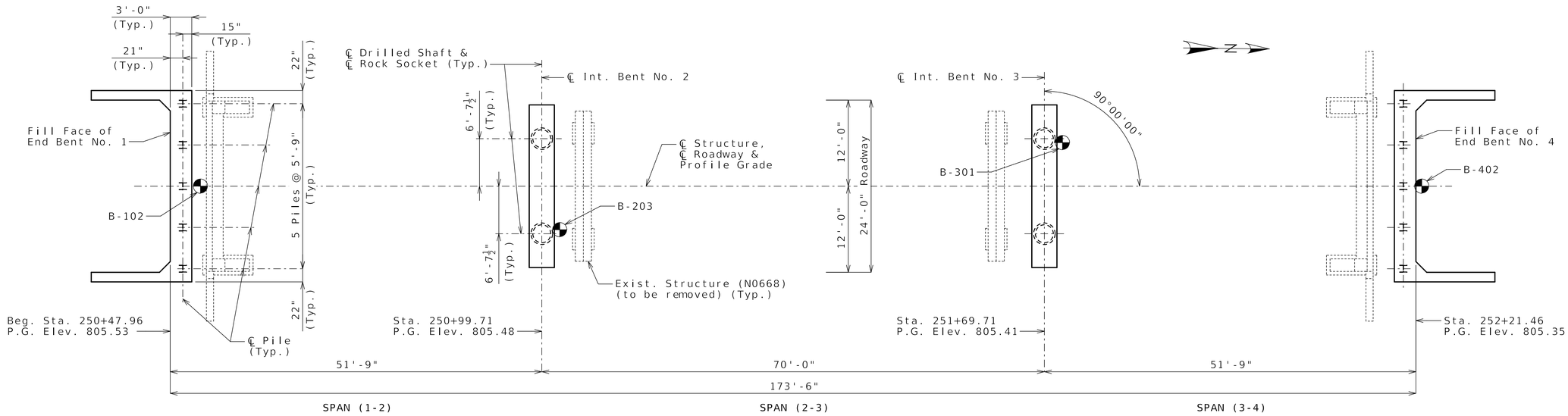
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SEC/SUR 9 TWP 38N RGE 8W

(50'-70'-50') PRESTRESSED CONCRETE NU-GIRDER SPANS



GENERAL ELEVATION



PLAN

Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheet(s) No. 24 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.

Notes:

For General Notes, Hydrologic Data, Foundation Data, Estimated Quantities, Estimated Quantities for Slab on Concrete NU-Girder and Location Sketch, see Sheet No. 2.

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

B.M. #1-25 - CHISLED L ON NW WING WALL
STA. 252+27.21 LT - ELEV. 805.15

BRIDGE: ROUTE HH OVER SPRING CREEK

ROUTE HH FROM ROUTE E TO END OF STATE MAINTENANCE
ABOUT 4.7 MILES NORTH OF ROUTE E
BEGINNING STATION 250+47.96

Designed July 2026
Detailed Aug. 2026
Checked Aug. 2026

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

STATE OF MISSOURI
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9/29/2026

ROUTE	STATE
HH	MO
DISTRICT	SHEET NO.
BR	1

COUNTY
PHELPS

JOB NO.
JCD0036

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9754

DESCRIPTION	DATE

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

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, S_{D1} = 0.175g.

Acceleration Coefficient (effective peak ground acceleration coefficient), A_S = 0.139g.

Design Loading:

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

Design Unit Stresses:

Class B Concrete (Substructure)	f'c = 3,000 psi
Class B-2 Concrete (Drilled Shafts & Rock Sockets)	f'c = 4,000 psi
Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Class B-2 Concrete (Superstructure, except Prestressed Girders and 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 and 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. See roadway plans for traffic control.

Estimated Quantities

Item		Substr.	Superstr.	Total
Removal of Miscellaneous ACM (Non-Friable)	sq. foot			94
Class 1 Excavation	cu. yard	80		80
Removal of Bridges (N0668)	lump sum			1
Bridge Approach Slab (Minor)	sq. yard		109	109
Drilled Shafts (3 ft. 0 in. Dia.)	linear foot	46.9		46.9
Rock Sockets (2 ft. 6 in. Dia.)	linear foot	32.0		32.0
Video Camera Inspection	each	4		4
Foundation Inspection Holes	linear foot	72.0		72.0
Sonic Logging Testing	each	4		4
Galvanized Structural Steel Piles (12 in.)	linear foot	190		190
Pre-Bore for Piling	linear foot	180		180
Pile Point Reinforcement	each	10		10
Class B Concrete (Substructure)	cu. yard	45.8		45.8
Type D Barrier	linear foot		391	391
Slab on Concrete NU-Girder	sq. yard		511	511
NU 35, Prestressed Concrete NU-Girder	linear foot		509	509
Reinforcing Steel (Bridges)	pound	11,310		11,310
Slab Drain	each		28	28
Vertical Drain at End Bents	each			2
Plain Neoprene Bearing Pad	each		6	6
Laminated Neoprene Bearing Pad	each		12	12

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

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

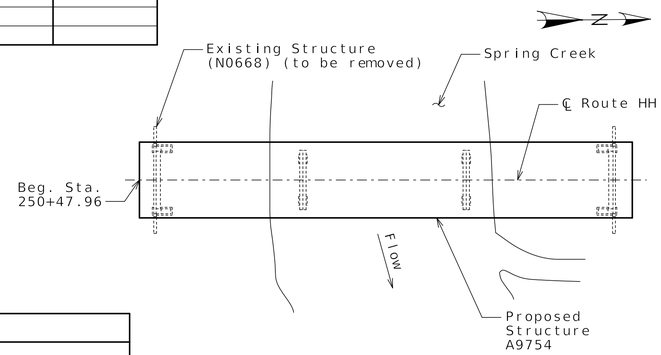
All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

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

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

Hydrologic Data

Drainage Area = 23 mi^2
Design Flood Frequency = 25 years
Design Flood Discharge = 8,600 cfs
Design Flood (D.F.) Elevation = 798.4
Base Flood (100-year)
Base Flood Elevation = 800.7
Base Flood Discharge = 12,400 cfs
Estimated Backwater = 1.6 ft
Average Velocity thru Opening = 8.8 ft/s
Freeboard (50-year)
Freeboard = 2.3 ft
Roadway Overtopping
Overtopping Flood Discharge = N/A
Overtopping Flood Frequency > 500 years
Overtopping Flood Elevation = 802.8



LOCATION SKETCH

Estimated Quantities for Slab on Concrete NU-Girder

Item		Total
Class B-2 Concrete	cu. yard	169
Reinforcing Steel (Epoxy Coated)	pound	43,840

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 forms. Precast prestressed panels will not be permitted.

Foundation Data

Type	Design Data		Bent 1	Bent 2	Bent 3	Bent 4
Load Bearing Pile	Pile Type and Size		HP 12x53	–	–	HP 12x53
	Number	ea	5	–	–	5
	Approximate Length Per Each	ft	19	–	–	19
	Pile Point Reinforcement	ea	All	–	–	All
	Min. Galvanized Penetration (Elev.)	ft	Full Length	–	–	Full Length
	Pile Driving Verification Method		DF	–	–	DF
	Resistance Factor		0.4	–	–	0.4
	Minimum Nominal Axial Compressive Resistance	kip	334	–	–	335
Rock Socket	Number	ea	–	2	2	–
	Layer 1: Foundation Material		–	Strong Rock	Strong Rock	–
	Layer 1: Elevation Range	ft	–	783-740	783.3-745.5	–
	Layer 1: Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	–	35	35	–
	Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf	–	-	-	–

Load Bearing Pile:

DF = FHWA-modified Gates Dynamic Pile Formula

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

Rock Socket (Drilled Shafts):

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

Prebore to piles at Bents No. 1 & 4 to elevations 780.99 & 780.8, respectively.

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

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

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

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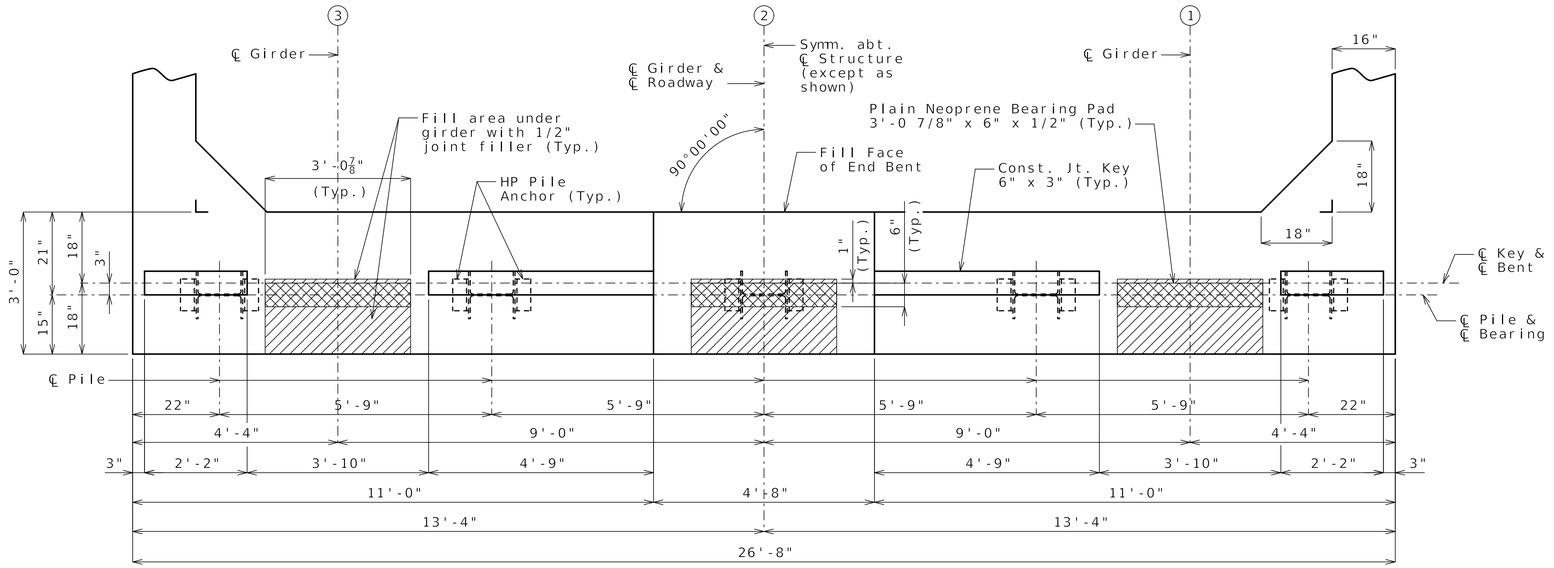
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DISTRICT: BR | SHEET NO.: 2
COUNTY: PHELPS
JOB NO.: JCD0036
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9754

DESCRIPTION | DATE

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105 WEST CAPITOL
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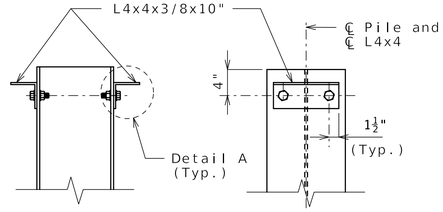
Detailed Aug. 2026
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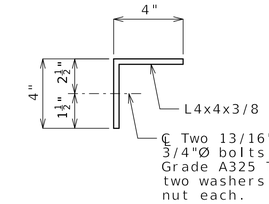


PLAN OF BEAM

(End Bent No. 1 shown, End Bent No. 4 similar)

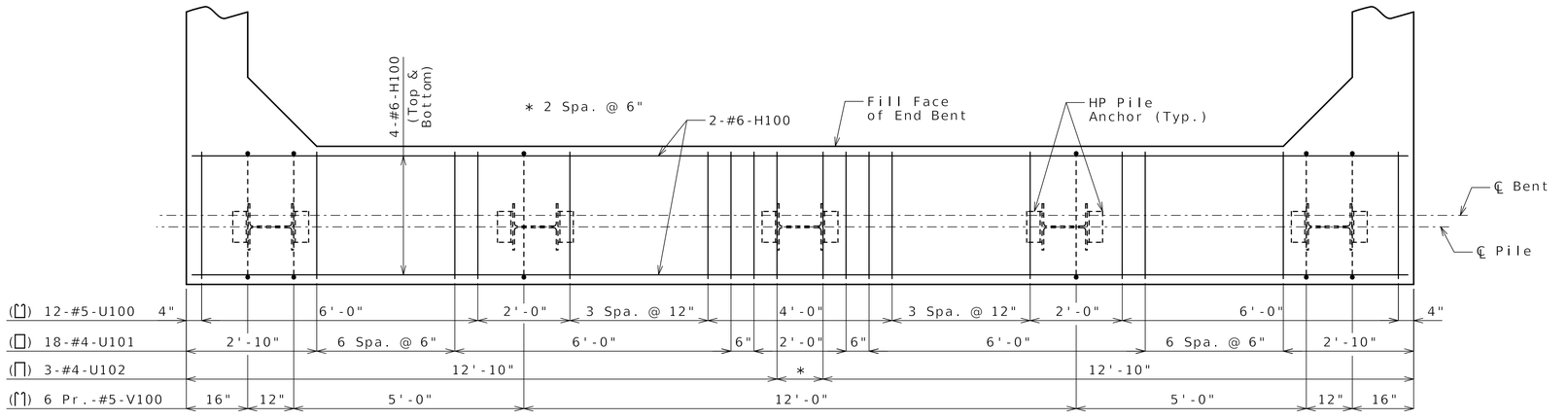


DETAILS OF HP PILE ANCHORS



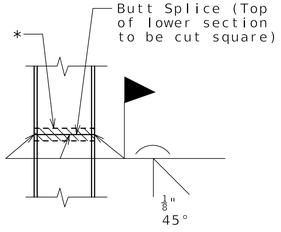
DETAIL A

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 ASTM F2329.



PLAN OF BEAM SHOWING REINFORCEMENT

(Steps and keys not shown for clarity)



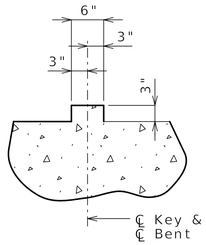
STEEL PILE SPLICE

(If required)

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

Substructure Quantity Table for Bents No. 1 & 4			
Item		Quantity	
		Bent 1	Bent 4
Class 1 Excavation	cu. yard	40	40
Galvanized Structural Steel Piles (12 in.)	linear foot	95	95
Pre-Bore for Piling	linear foot	90	90
Pile Point Reinforcement	each	5	5
Class B Concrete (Substructure)	cu. yard	12.5	12.5

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



SECTION THRU KEY

Notes:

Work this sheet with Sheets No. 4 & 5.

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

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

END BENTS NO. 1 & 4

Detailed Aug. 2026
Checked Aug. 2026

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
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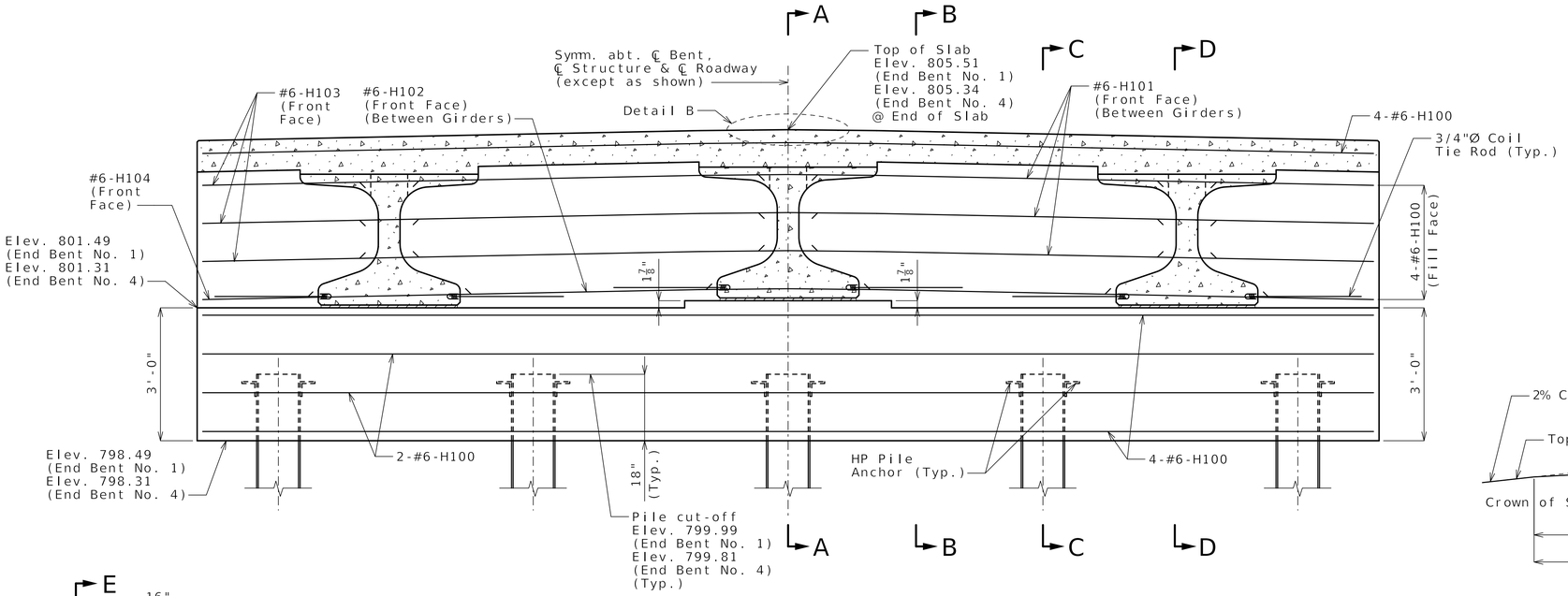
DATE PREPARED: 9/29/2026

ROUTE	STATE
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DISTRICT	SHEET NO.
BR	3

COUNTY: PHELPS
JOB NO.: JCD0036
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9754

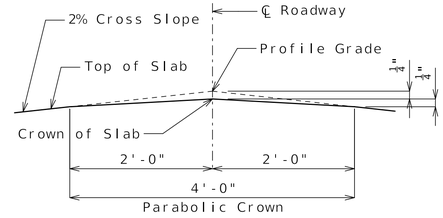
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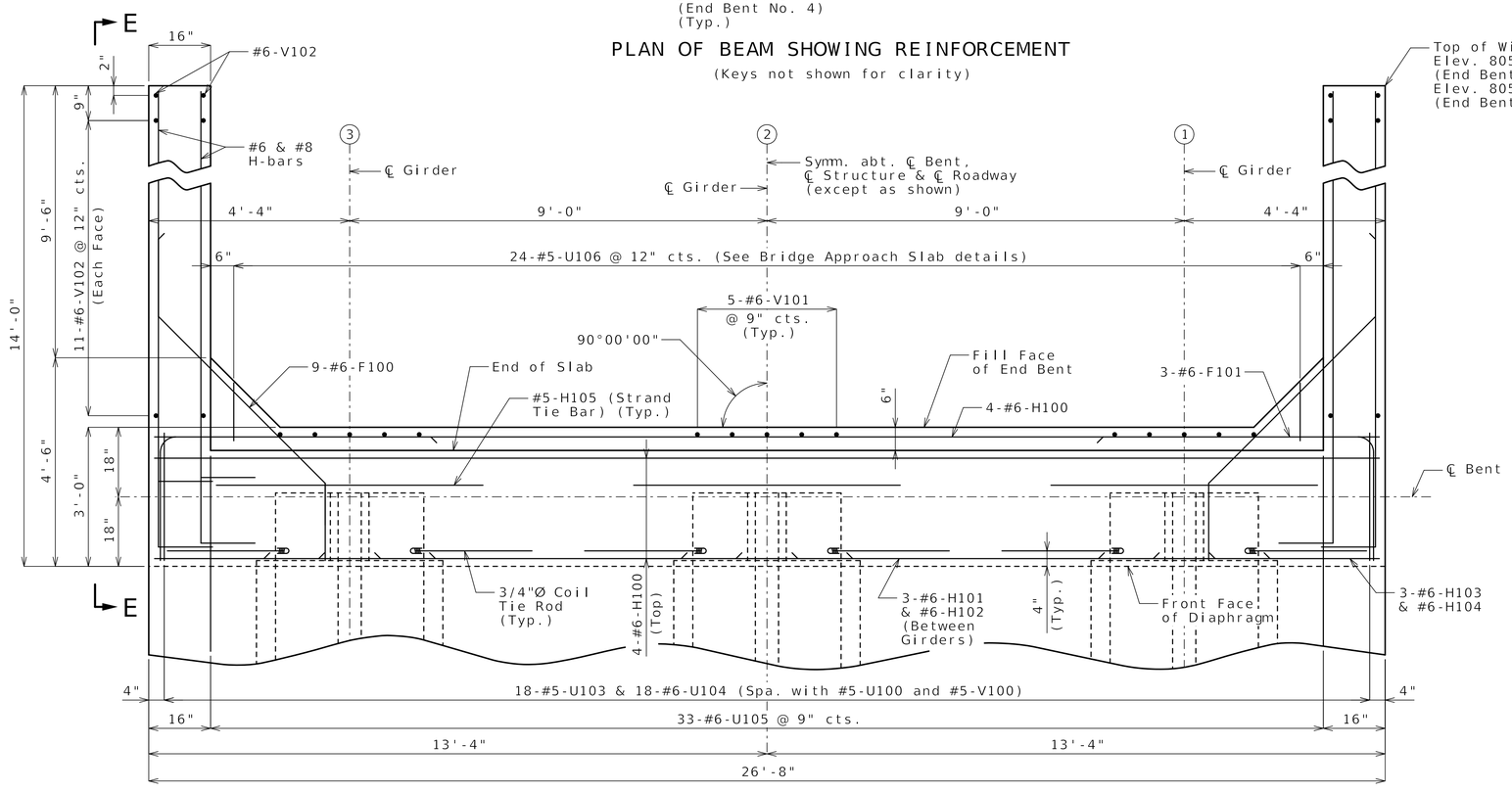


PLAN OF BEAM SHOWING REINFORCEMENT

(Keys not shown for clarity)



DETAIL B



PART PLAN

(End Bent No. 1 shown, End Bent No. 4 similar)

END BENTS NO. 1 & 4

Notes:

Work this sheet with Sheets No. 3 & 5.

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

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

For location of coil tie rods & #5-H105 (strand tie bar), see Sheets No. 9 & 10.

The U bars shall be placed parallel to ℄ Roadway.

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

For details of vertical drain at end bent, see Sheet No. 6.

For details of bridge approach slab, see Sheet No. 20.

Detailed Aug. 2026
Checked Aug. 2026

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

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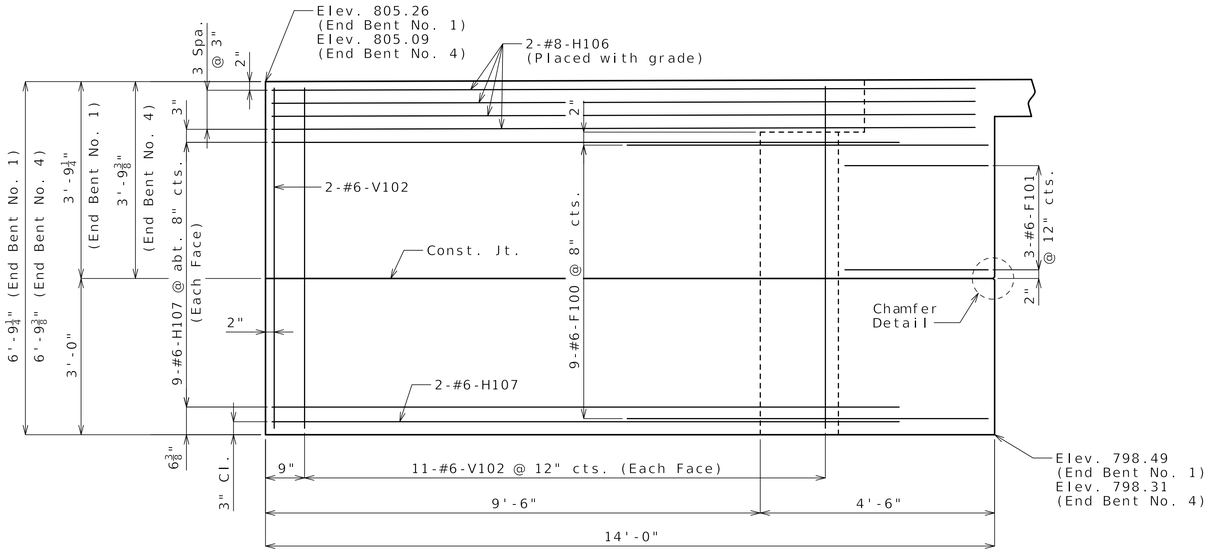
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HH	MO
DISTRICT	SHEET NO.
BR	4

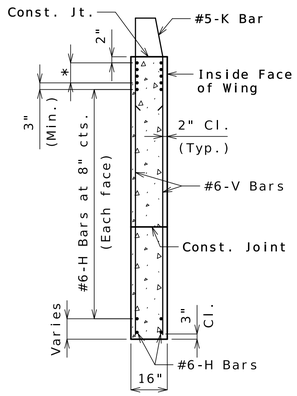
COUNTY: PHELPS
JOB NO.: JCD0036
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9754

DESCRIPTION | DATE

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

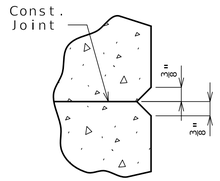


ELEVATION E-E

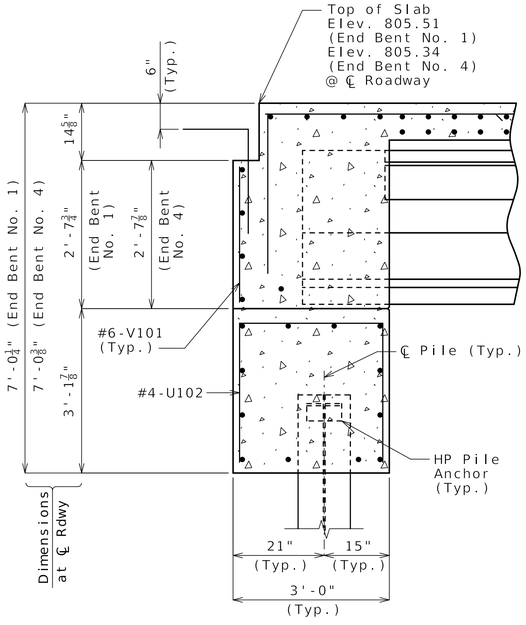


TYPICAL SECTION
THRU WING

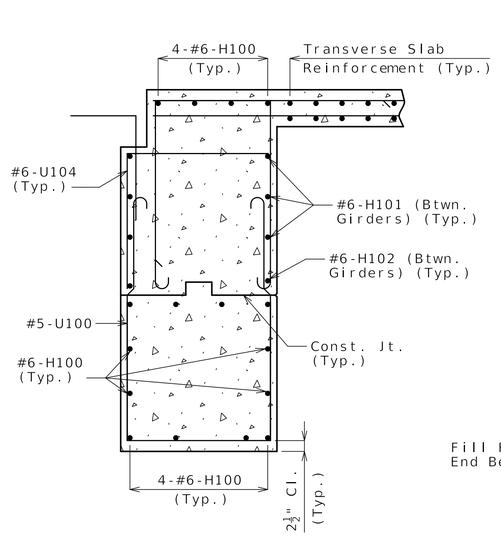
* #8-H Bars at 3" cts.
(Each face)(Place with grade)



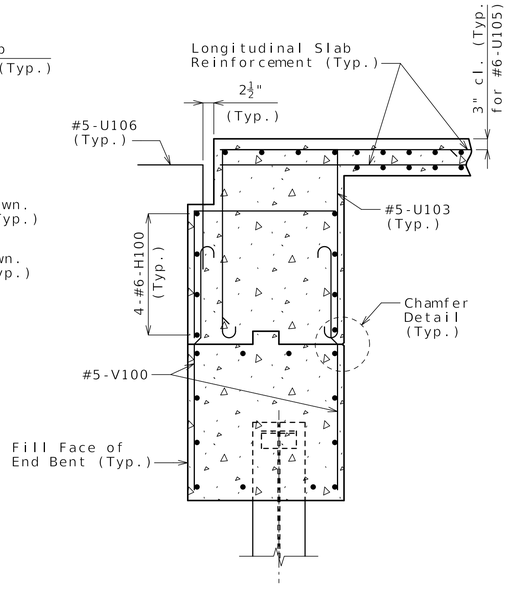
CHAMFER DETAIL



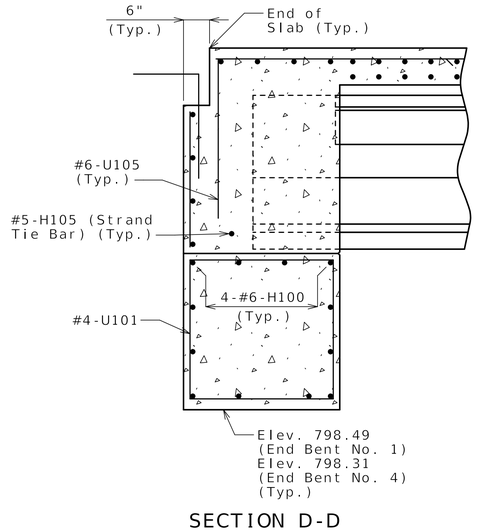
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

Notes:

Work this sheet with Sheets No. 3 & 4.

For reinforcement of the barrier, see Sheet No. 19.

END BENTS NO. 1 & 4

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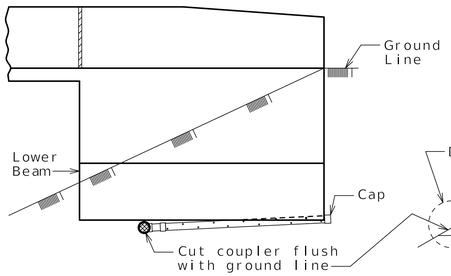
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ROUTE	STATE
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DISTRICT	SHEET NO.
BR	5

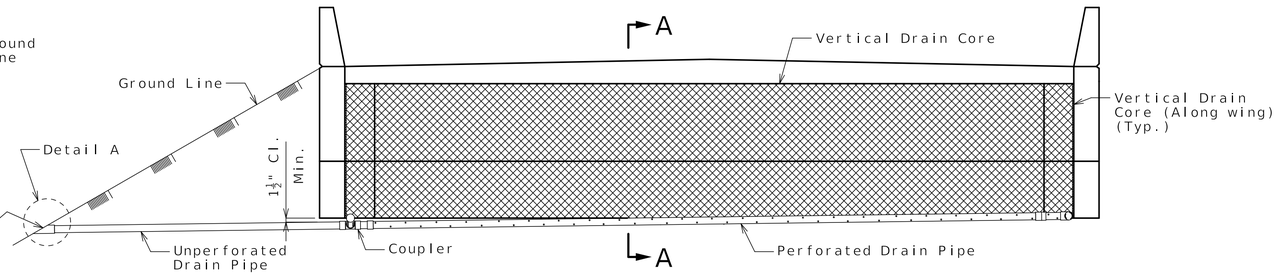
COUNTY: PHELPS
JOB NO.: JCD0036
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9754

DESCRIPTION	DATE

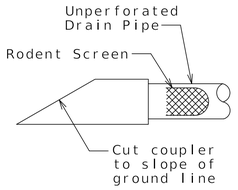
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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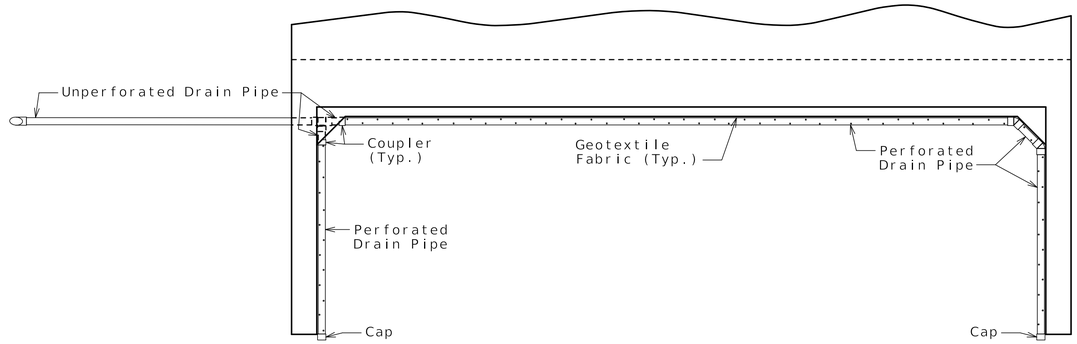
ELEVATION OF WING



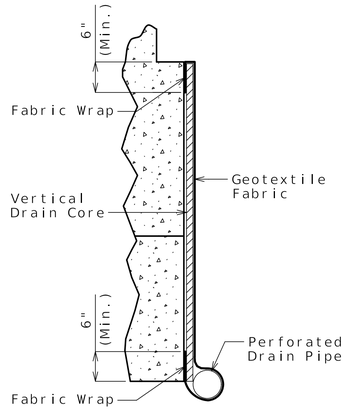
ELEVATION OF END BENT



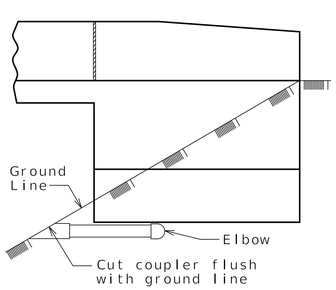
DETAIL A



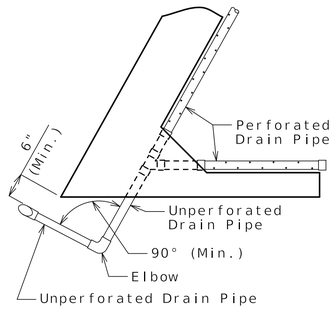
PLAN OF END BENT



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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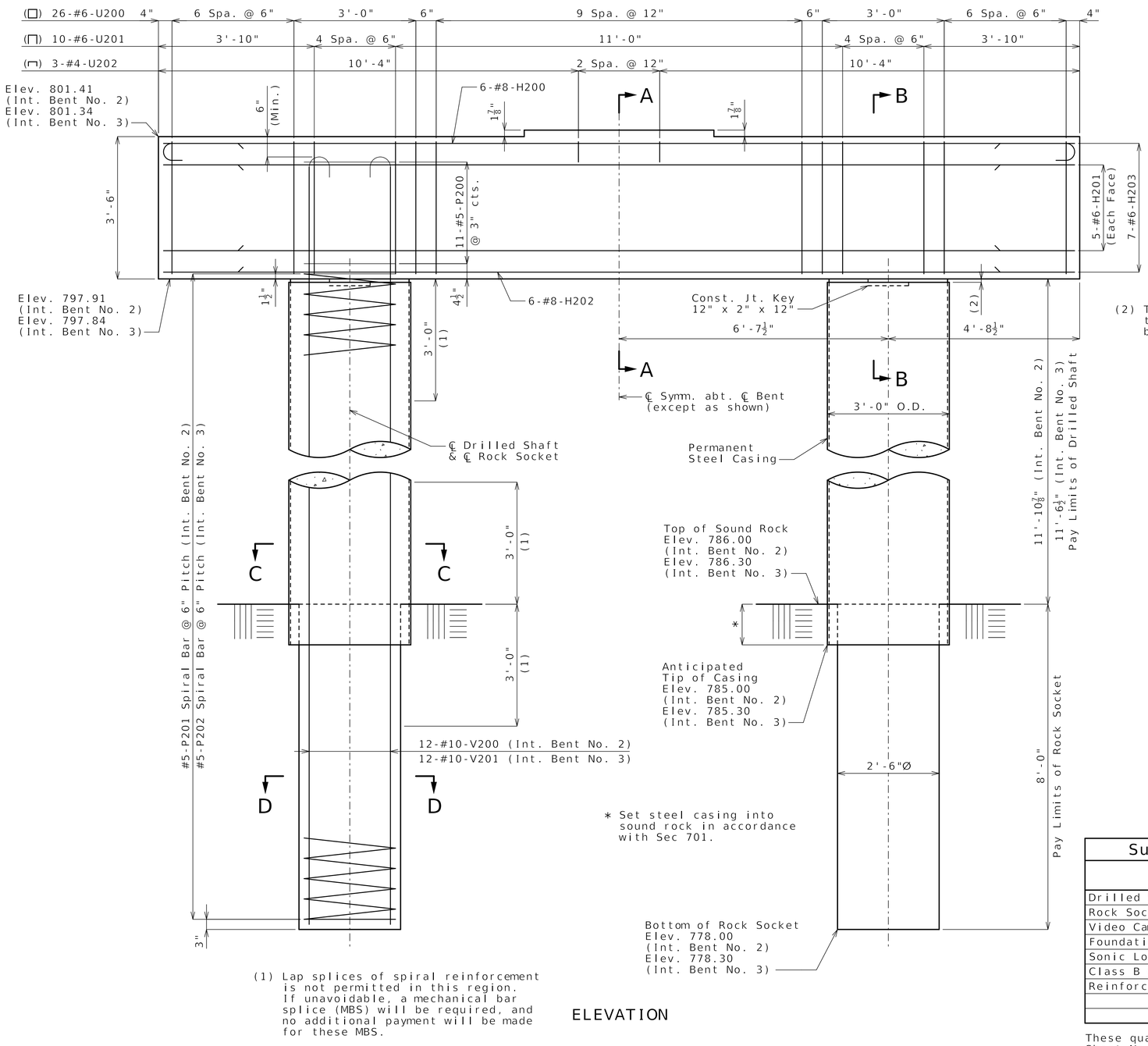
DATE PREPARED: 9/29/2026

ROUTE	STATE
HH	MO
DISTRICT	SHEET NO.
BR	6

COUNTY: PHELPS
JOB NO.: JCD0036
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9754

DESCRIPTION	DATE

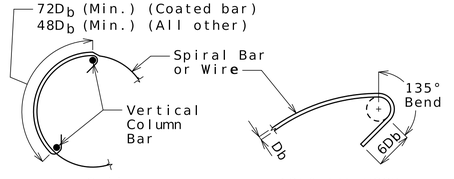
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* Set steel casing into sound rock in accordance with Sec 701.

(1) Lap splices of spiral reinforcement is not permitted in this region. If unavoidable, a mechanical bar splice (MBS) will be required, and no additional payment will be made for these MBS.

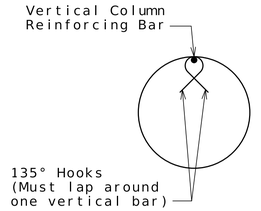
ELEVATION



INTERMEDIATE SPLICE OF SPIRALS

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

(2) Top of permanent casing to terminate 1" below bottom of beam cap.



SEISMIC STIRRUP BAR

Notes:

Work this sheet with Sheet No. 8.

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

An additional 4 feet has been added to 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.

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

The tip of casing shall not extend into the rock socket elevation range reported in the Foundation Data table without approval by the engineer.

The hooks of vertical bars embedded in the beam cap shall not be turned outward, away from the column core.

Substructure Quantity Table for Bents No. 2 & 3

Item		Quantity	
		Bent 2	Bent 3
Drilled Shafts (3 ft. 0 in. Dia.)	linear foot	23.8	23.1
Rock Sockets (2 ft. 6 in. Dia.)	linear foot	16.0	16.0
Video Camera Inspection	each	2	2
Foundation Inspection Holes	linear foot	36.0	36.0
Sonic Logging Testing	each	2	2
Class B Concrete (Substructure)	cu. yard	10.4	10.4
Reinforcing Steel (Bridges)	pound	5680	5630

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.

INTERMEDIATE BENTS NO. 2 & 3

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ROUTE	STATE
HH	MO
DISTRICT	SHEET NO.
BR	7

COUNTY PHELPS

JOB NO. JCD0036

CONTRACT ID.

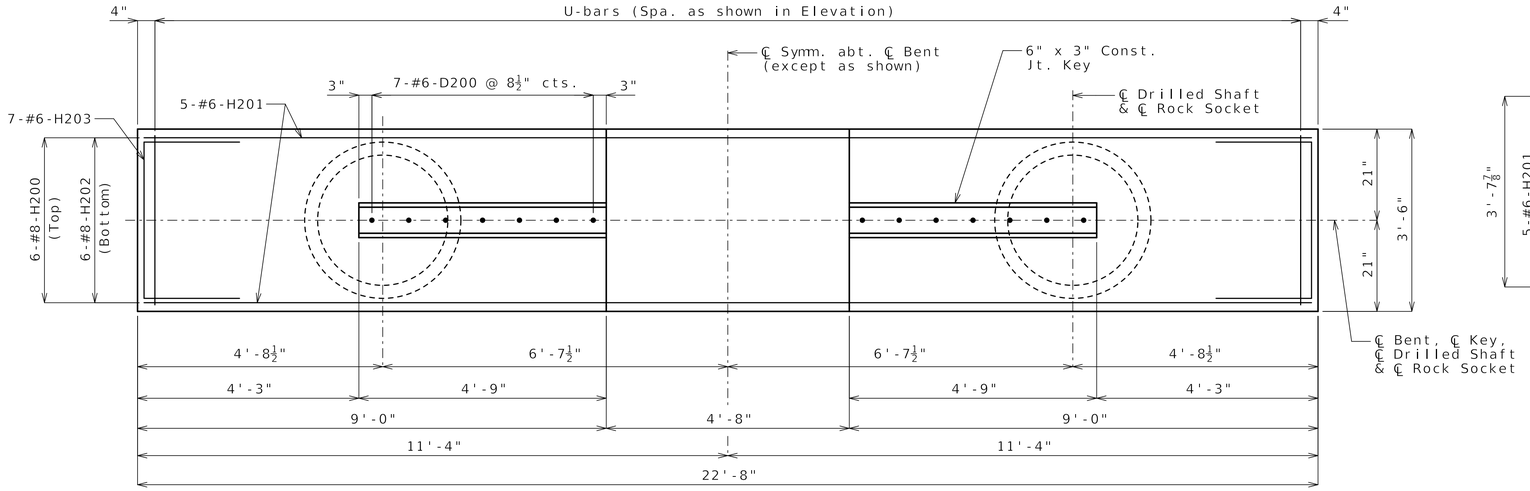
PROJECT NO.

BRIDGE NO. A9754

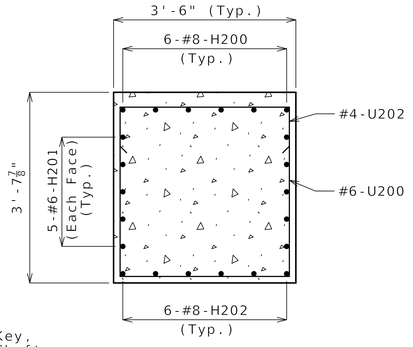
DESCRIPTION

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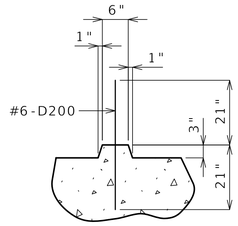
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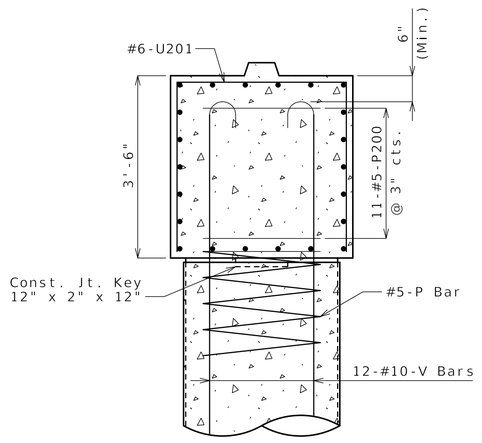
PLAN OF BEAM SHOWING REINFORCEMENT



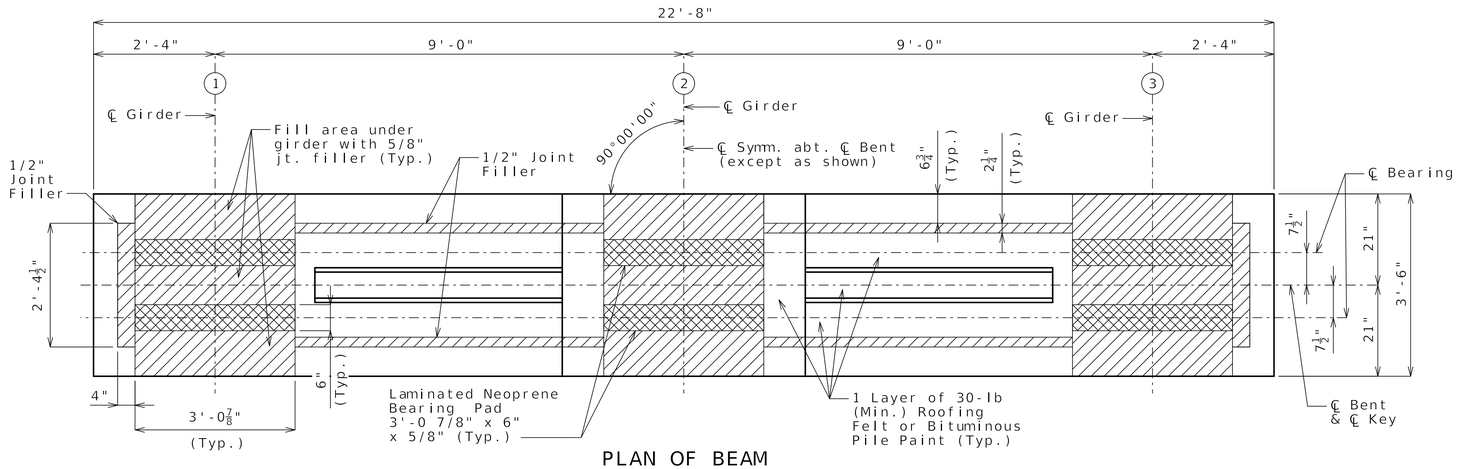
SECTION A-A



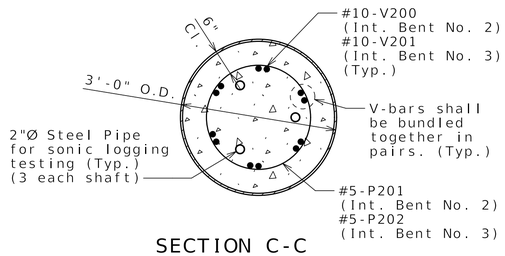
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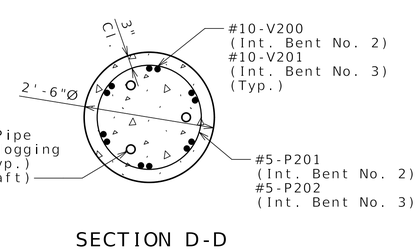
SECTION B-B



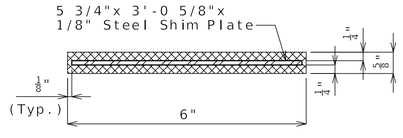
PLAN OF BEAM



SECTION C-C



SECTION D-D



TYPICAL SECTION
THRU LAMINATED
NEOPRENE BEARING PAD

Note: Work this sheet with Sheet No. 7.

INTERMEDIATE BENTS NO. 2 & 3

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HH	MO
DISTRICT	SHEET NO.
BR	8

COUNTY
PHELPS

JOB NO.
JCD0036

CONTRACT ID.

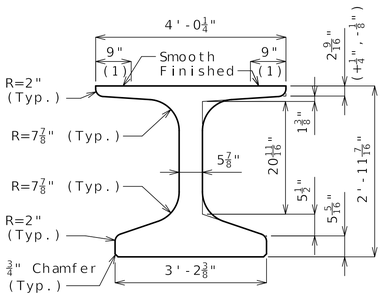
PROJECT NO.

BRIDGE NO.
A9754

DESCRIPTION	DATE

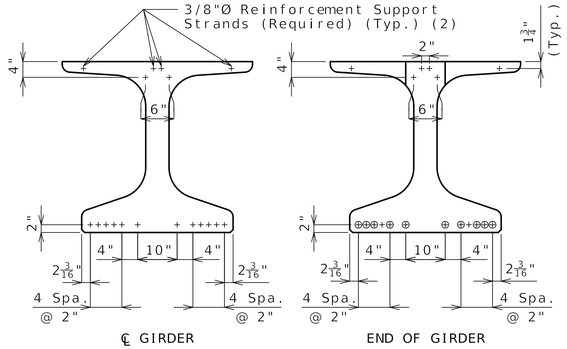
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(1) Fabricator shall apply a bond breaker to this region.



DIMENSIONS

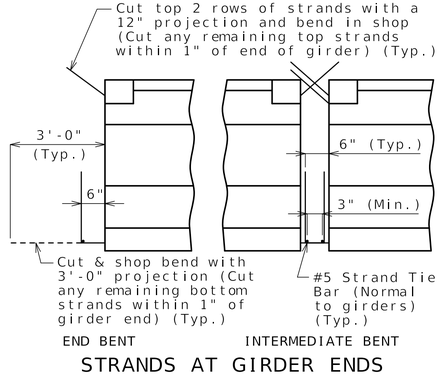
(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about ℄ Girder. May be moved laterally in pairs.



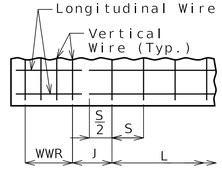
STRAND ARRANGEMENT

+ Indicates prestressing strand.

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



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

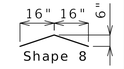
Bars Each Girder

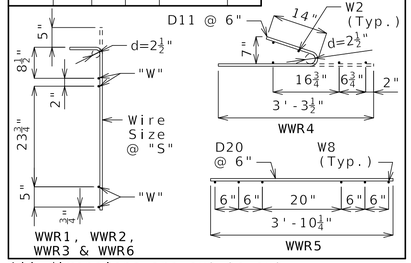
No.	Size/Mark	Length	Shape
72	3 G1	2'-10"	8
2	4 G3	3'-10"	20

Welded Wire Each Girder

Mark	Size	S	W	L	J
WWR1	D31	4"	W12	3'-8"	8"
WWR2	D31	8"	W12	4'-8"	10"
WWR3	D31	20"	W12	13'-4"	--
WWR6	D31	2"	W12	16"	4½"

Bending Diagrams





All dimensions are out to out.

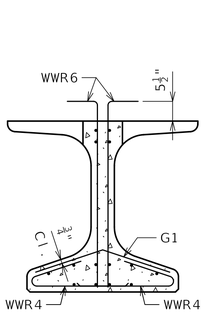
Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

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

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

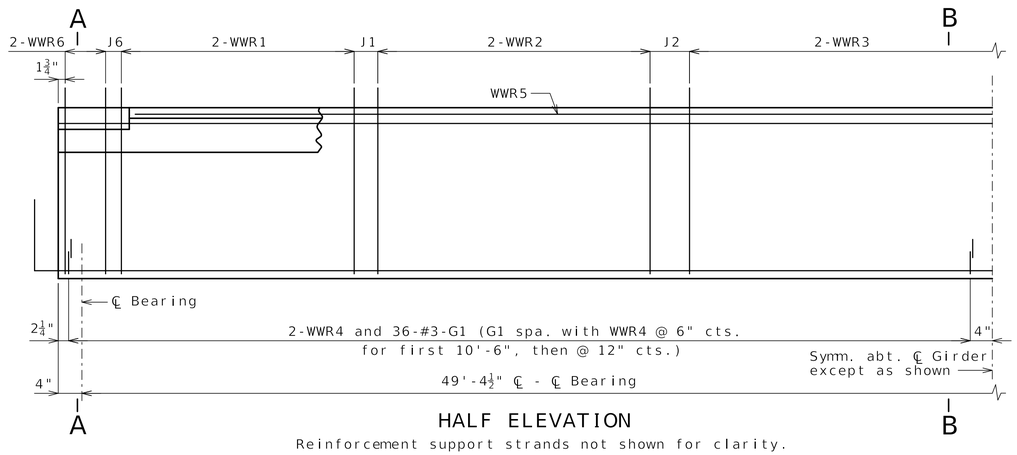
All bar reinforcement shall be ASTM A615 or A706 Grade 60.

WWR shall not be epoxy coated.



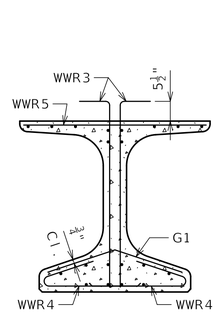
SECTION A-A

Strands not shown for clarity.



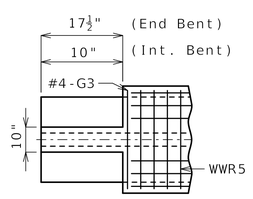
HALF ELEVATION

Reinforcement support strands not shown for clarity.



SECTION B-B

Strands not shown for clarity.



TOP FLANGE BLOCKOUT

General Notes:

Concrete for prestressed beams shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

Use 14 strands, 0.6"Ø Grade 270, with an initial prestress force of 615 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

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

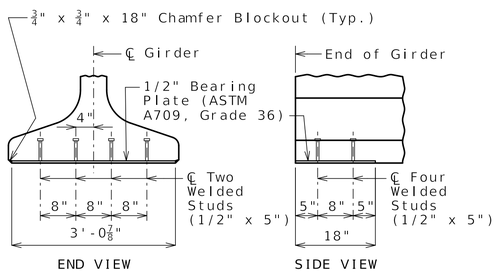
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. 15.

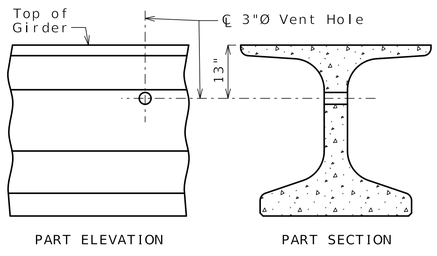
For location of coil inserts at slab drains, see Sheet No. 14.

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

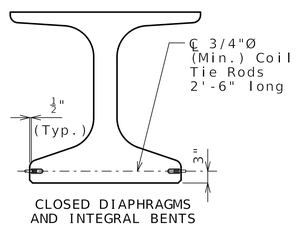


BEARING PLATE



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 except at integral end bents.

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

Detailed Aug. 2026
Checked Aug. 2026

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

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ROUTE HH | STATE MO

DISTRICT BR | SHEET NO. 9

COUNTY PHELPS

JOB NO. JCD0036

CONTRACT ID.

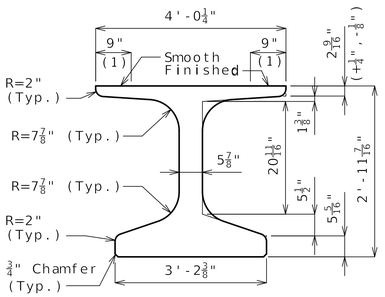
PROJECT NO.

BRIDGE NO. A9754

DESCRIPTION | DATE

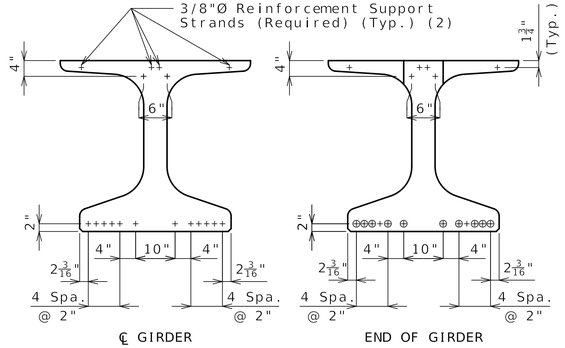
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

(1) Fabricator shall apply a bond breaker to this region.



DIMENSIONS

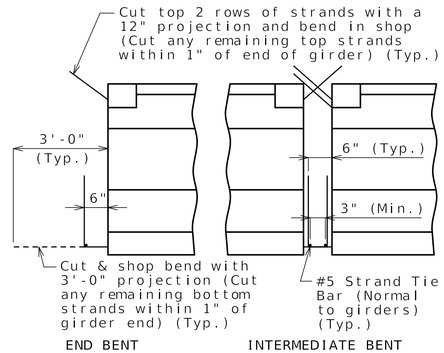
(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about ℄ Girder. May be moved laterally in pairs.



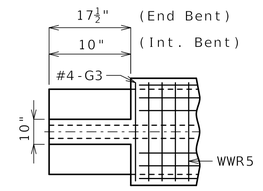
STRAND ARRANGEMENT

\+ Indicates prestressing strand.

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



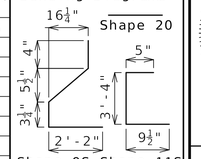
STRANDS AT GIRDER ENDS



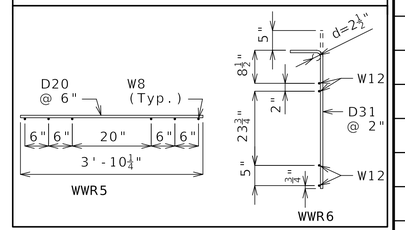
TOP FLANGE BLOCKOUT

Bill of Reinforcing Steel - Each Girder			
No.	Size/ Mark	Length	Shape
98	5 B1	4'-4"	11S
118	4 D1	4'-0"	9S
2	4 G3	3'-10"	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.

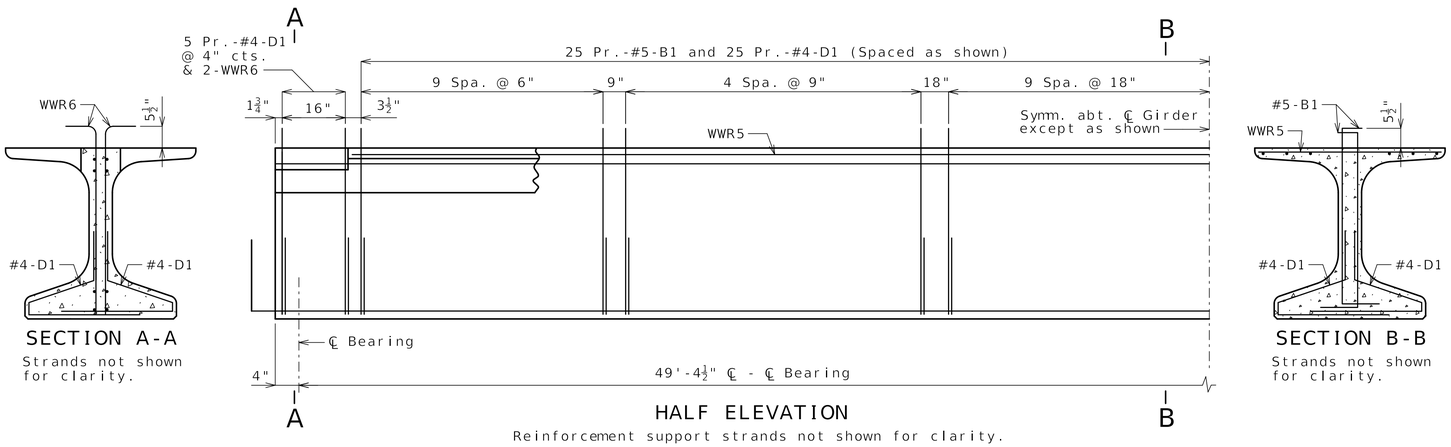
Actual bar lengths are measured along centerline of bar to the nearest inch.

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.

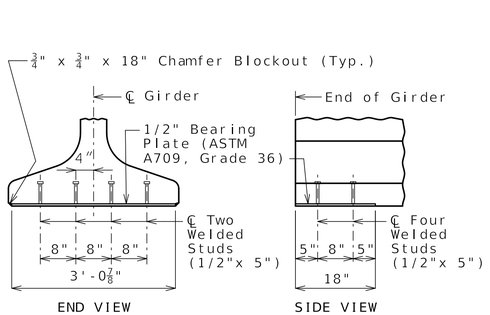
All B1 bars shall be epoxy coated.



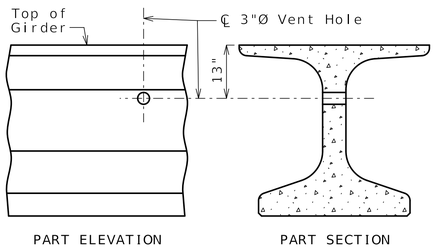
SECTION A-A
Strands not shown for clarity.

HALF ELEVATION
Reinforcement support strands not shown for clarity.

SECTION B-B
Strands not shown for clarity.

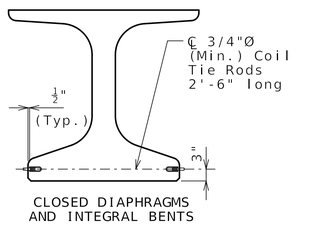


BEARING PLATE



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 except at integral end bents.

General Notes:

Concrete for prestressed girders shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

Use 14 strands, 0.6"Ø Grade 270, with an initial prestress force of 615 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

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

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 and 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.

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
09/29/2026 8:30:02 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED 9/29/2026

ROUTE	STATE
HH	MO
DISTRICT	SHEET NO.
BR	10

COUNTY: PHELPS
JOB NO.: JCD0036
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9754

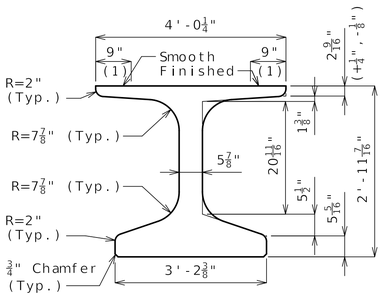
DATE	DESCRIPTION

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

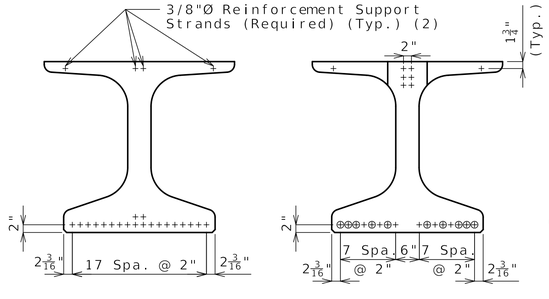
NU-GIRDERS (ALTERNATE REINFORCEMENT) - SPANS (1-2) AND (3-4)

(1) Fabricator shall apply a bond breaker to this region.

(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.



DIMENSIONS

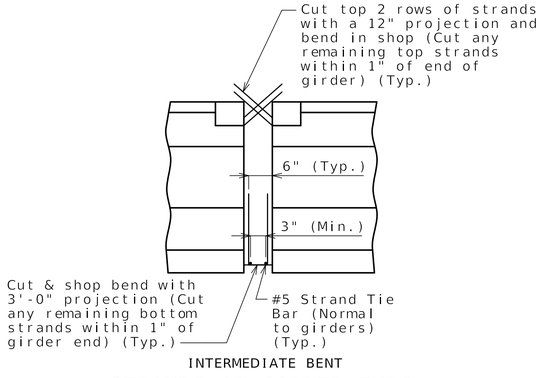


℄ GIRDER END OF GIRDER

STRAND ARRANGEMENT

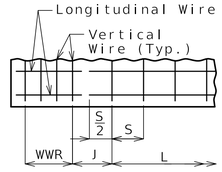
\+ Indicates prestressing strand.

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



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

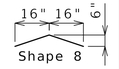
Bars Each Girder

No.	Size/Mark	Length	Shape
90	3 G1	2'-10"	8
2	4 G3	3'-10"	20

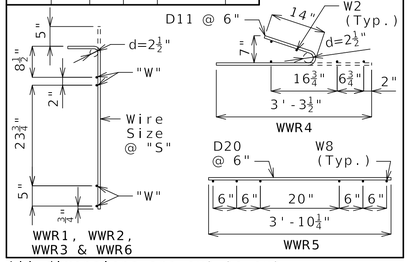
Welded Wire Each Girder

Mark	Size	S	W	L	J
WWR1	D31	4"	W12	4'-0"	8"
WWR2	D31	8"	W12	6'-8"	20"
WWR3	D31	20"	W12	20'-0"	--
WWR6	D31	2"	W12	16"	2¾"

Bending Diagrams



Shape 20



All dimensions are out to out.

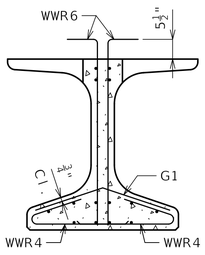
Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

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

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

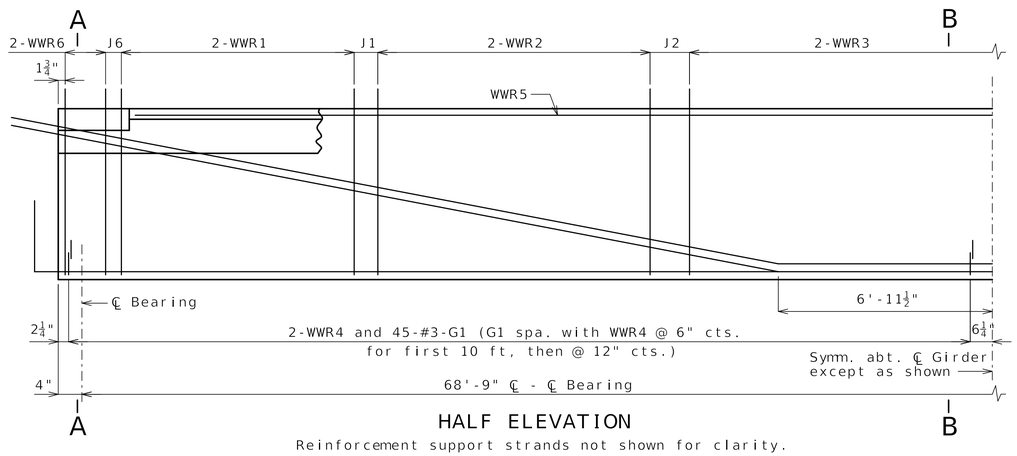
All bar reinforcement shall be ASTM A615 or A706 Grade 60.

WWR shall not be epoxy coated.



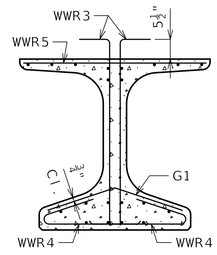
SECTION A-A

Strands not shown for clarity.



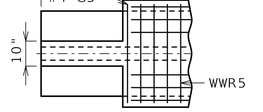
HALF ELEVATION

Reinforcement support strands not shown for clarity.



SECTION B-B

Strands not shown for clarity.



TOP FLANGE BLOCKOUT

General Notes:

Concrete for prestressed beams shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

Use 20 strands, 0.6"Ø Grade 270, with an initial prestress force of 879 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

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

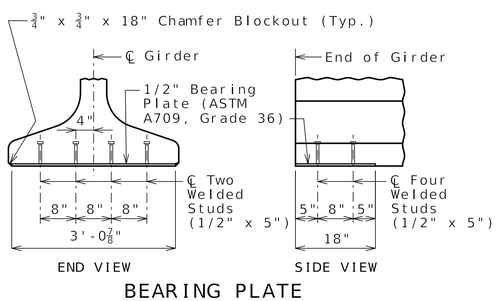
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. 15.

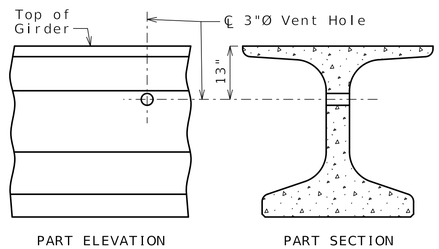
For location of coil inserts at slab drains, see Sheet No. 14.

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.

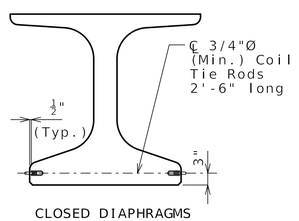


BEARING PLATE



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 - SPAN (2-3)

Detailed Aug. 2026
Checked Aug. 2026

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
09/29/2026 8:30:18 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

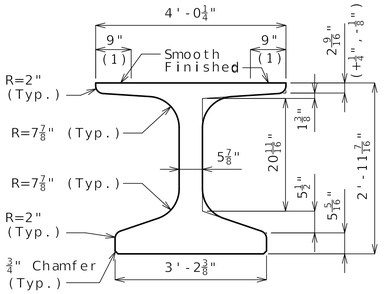
DATE PREPARED 9/29/2026

ROUTE HH | STATE MO
DISTRICT BR | SHEET NO. 11
COUNTY PHELPS
JOB NO. JCD0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9754

DESCRIPTION | DATE

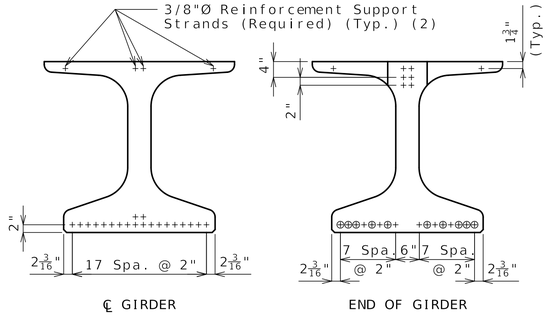
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

(1) Fabricator shall apply a bond breaker to this region.



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.

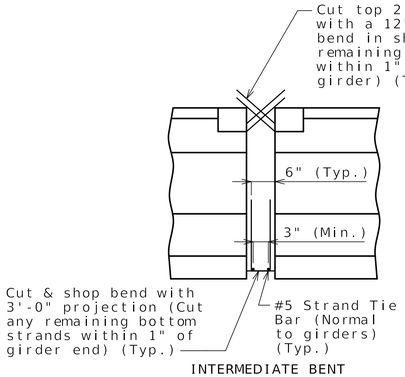


℄ GIRDER END OF GIRDER

STRAND ARRANGEMENT

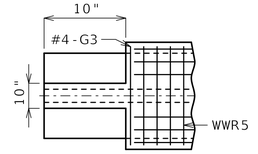
\+ Indicates prestressing strand.

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



INTERMEDIATE BENT

STRANDS AT GIRDER ENDS

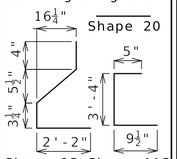


TOP FLANGE BLOCKOUT

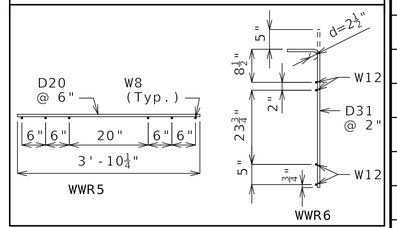
Bill of Reinforcing Steel - Each Girder

No.	Size/ Mark	Length	Shape
126	5 B1	4'-4"	11S
146	4 D1	4'-0"	9S
2	4 G3	3'-10"	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.

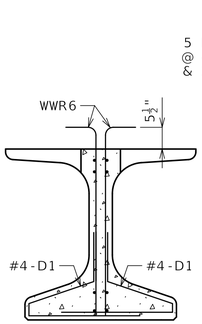
Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be one inch.

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

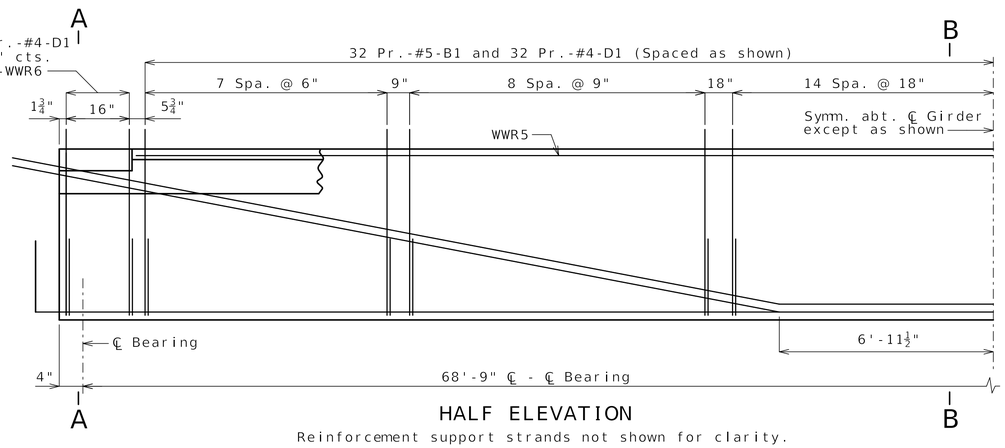
The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



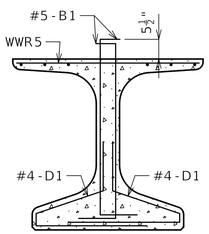
SECTION A-A

Strands not shown for clarity.



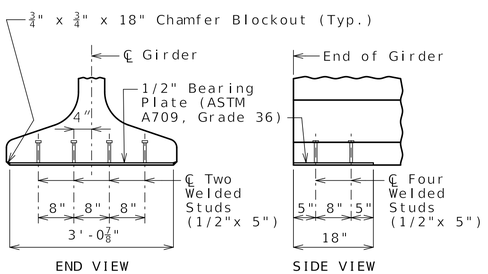
HALF ELEVATION

Reinforcement support strands not shown for clarity.



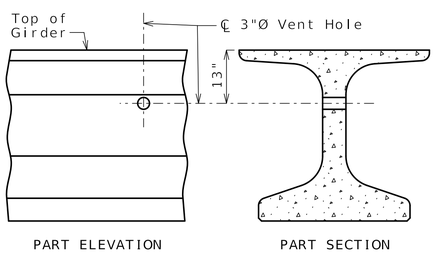
SECTION B-B

Strands not shown for clarity.



END VIEW SIDE VIEW

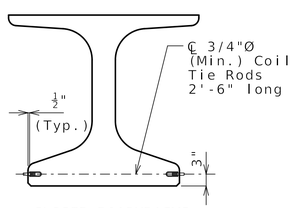
BEARING PLATE



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.



CLOSED DIAPHRAGMS

COIL TIES

Exclude coil tie at exterior face of exterior girders.

General Notes:

Concrete for prestressed girders shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

Use 20 strands, 0.6"Ø Grade 270, with an initial prestress force of 879 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

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

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.

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
09/29/2026 8:30:35 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED: 9/29/2026

ROUTE	STATE
HH	MO
DISTRICT	SHEET NO.
BR	12

COUNTY: PHELPS

JOB NO.: JCD0036

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.: A9754

DESCRIPTION | DATE

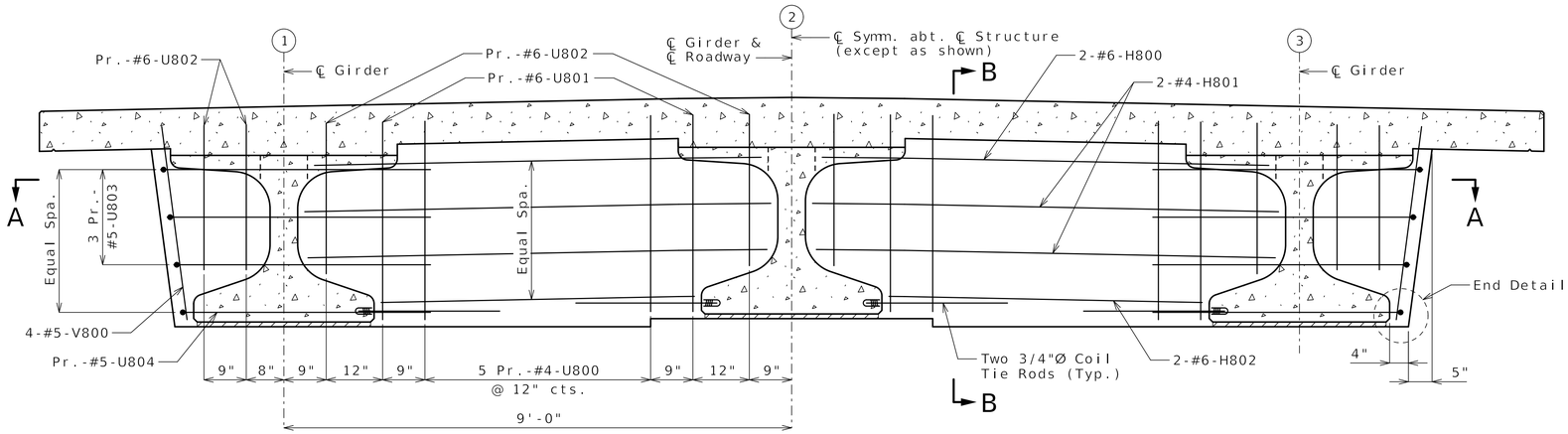
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

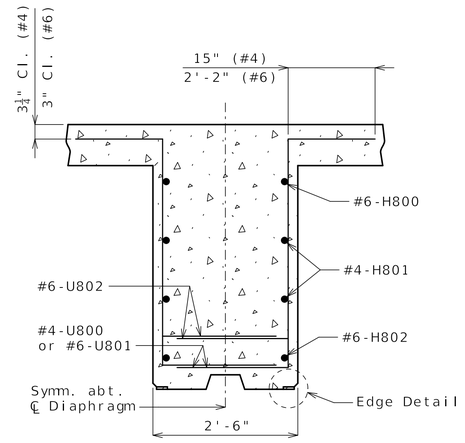
Detailed Aug. 2026
Checked Aug. 2026

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

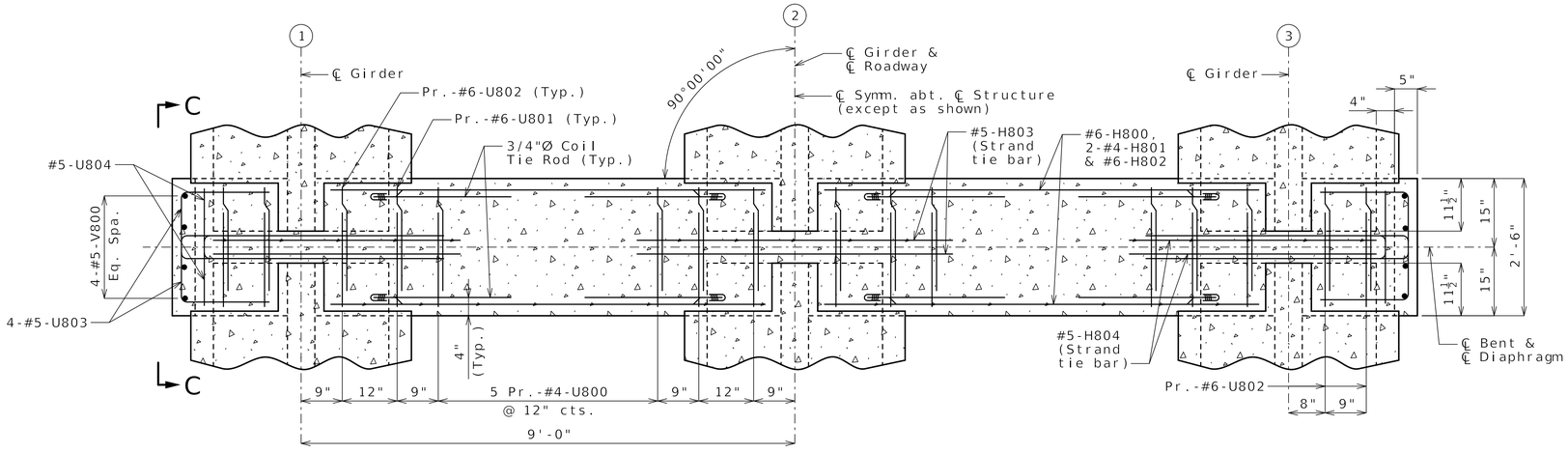
Note: This drawing is not to scale. Follow dimensions.



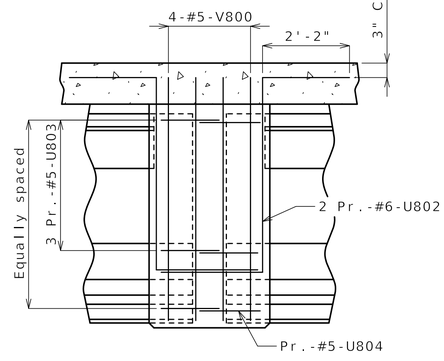
SECTION NEAR INTERMEDIATE BENT



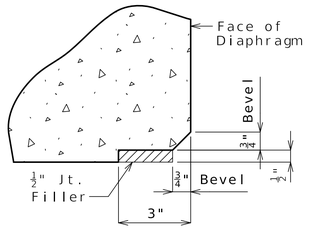
SECTION B-B



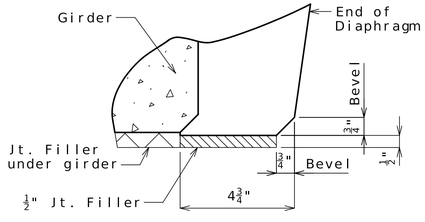
SECTION A-A



ELEVATION C-C



EDGE DETAIL



END DETAIL

Notes:

Diaphragm at intermediate bent shall be built vertical.

For location of #5-H803 & #5-H804 (Strand Tie Bars) and coil tie rods, see Sheets No. 9 thru 12.

All U bars in diaphragm shall be placed parallel to centerline of roadway.

CONCRETE DIAPHRAGM AT INTERMEDIATE BENTS NO. 2 & 3

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PHELPS

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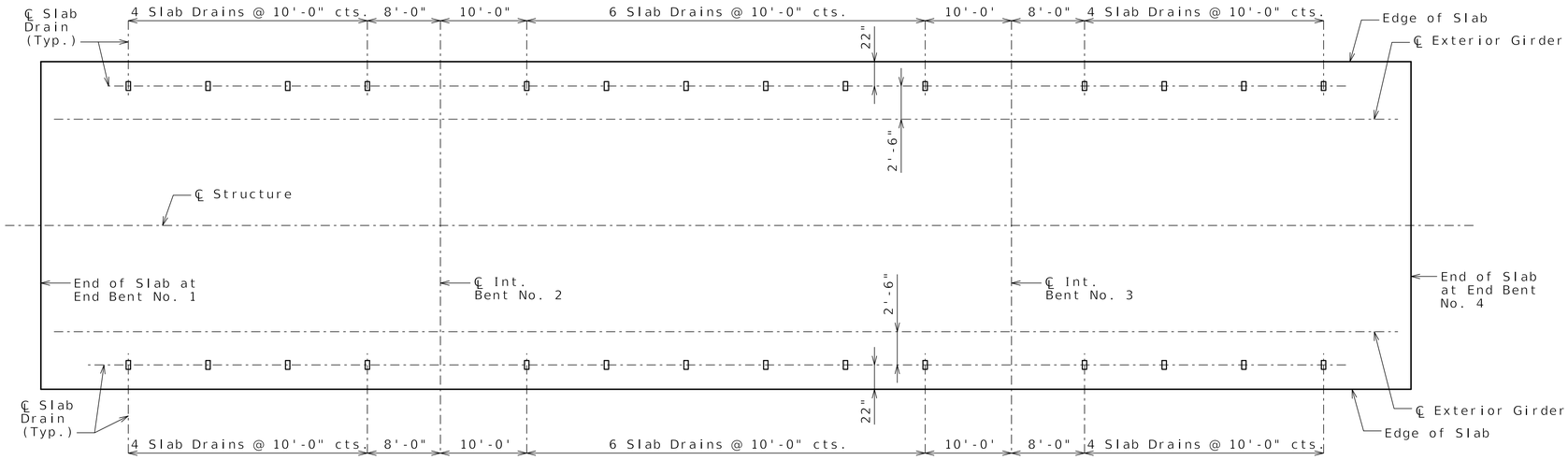
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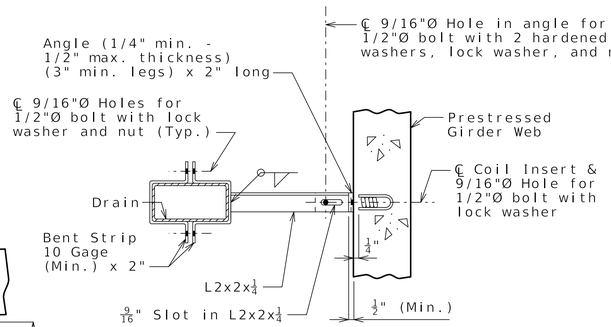
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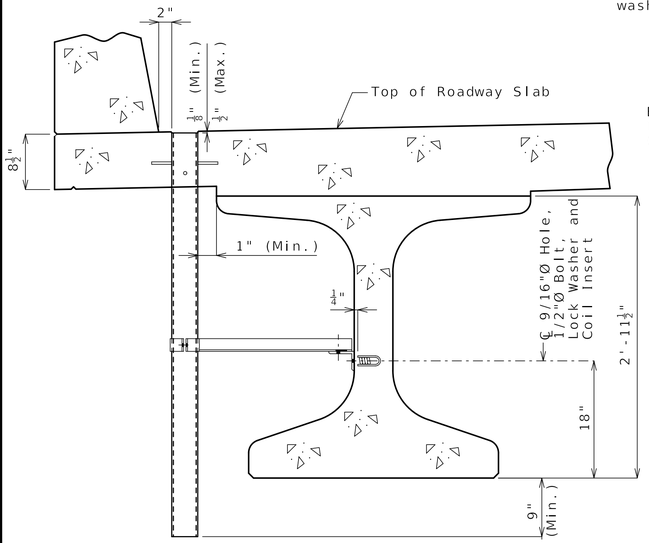
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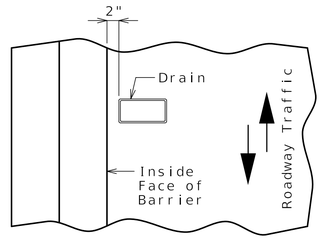
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



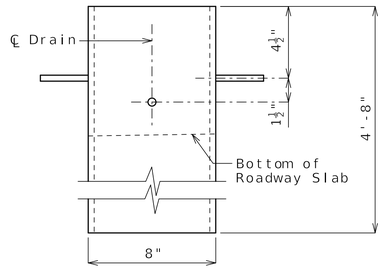
PART SECTION SHOWING BRACKET ASSEMBLY



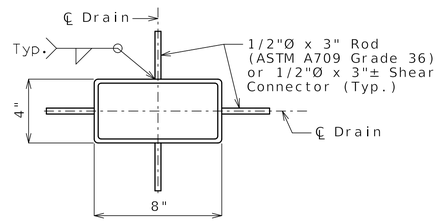
PART SECTION NEAR DRAIN



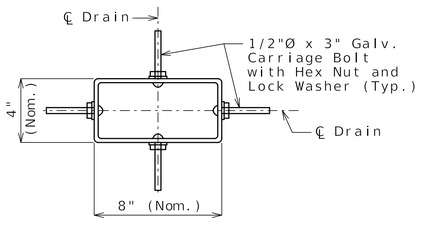
PART PLAN OF SLAB AT DRAIN



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.

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CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9754

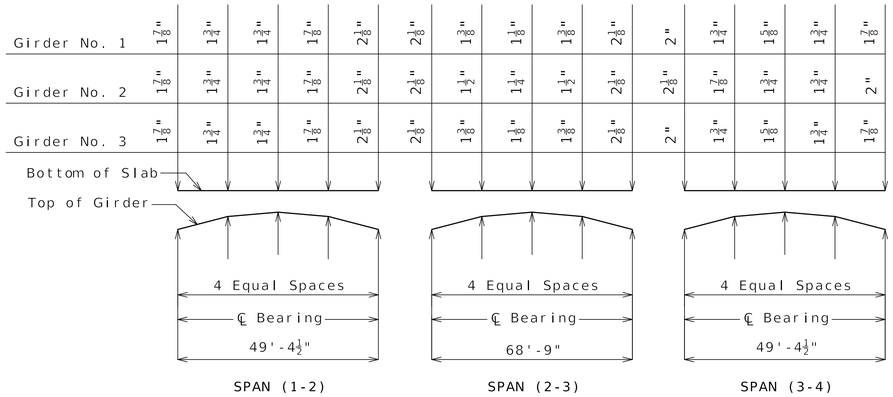
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SLAB DRAINS

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Checked Aug. 2026

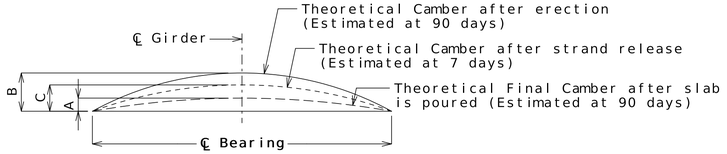
Note: This drawing is not to scale. Follow dimensions.



THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

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

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



Girder	Span (1-2)			Span (2-3)			Span (3-4)		
	A	B	C	A	B	C	A	B	C
Exterior	$\frac{3}{8}$"	$\frac{1}{2}$"	$\frac{3}{8}$"	1"	$1\frac{7}{8}$"	$1\frac{1}{4}$"	$\frac{3}{8}$"	$\frac{1}{2}$"	$\frac{3}{8}$"
Interior	$\frac{3}{8}$"			1"			$\frac{3}{8}$"		

GIRDER CAMBER DIAGRAM

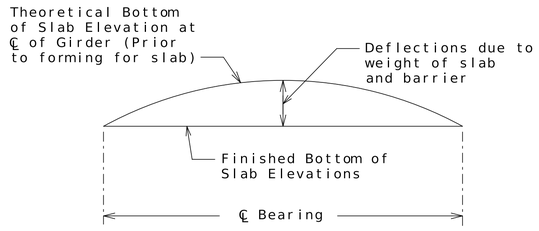
Conversion Factors for Girder Camber (Estimated at 90 days):

0.25 pt. = 0.7125 x 0.5 pt.

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

Girder Number	Span (1-2) (49'-4½" ℄ Brg. - ℄ Brg.)					Span (2-3) (68'-9" ℄ Brg. - ℄ Brg.)					Span (3-4) (49'-4½" ℄ Brg. - ℄ Brg.)				
	℄ Brg.	.25	.50	.75	℄ Brg.	℄ Brg.	.25	.50	.75	℄ Brg.	℄ Brg.	.25	.50	.75	℄ Brg.
1	804.64	804.65	804.64	804.62	804.59	804.59	804.62	804.62	804.59	804.52	804.52	804.52	804.51	804.49	804.46
2	804.80	804.81	804.80	804.78	804.75	804.75	804.78	804.79	804.75	804.68	804.68	804.68	804.67	804.65	804.62
3	804.64	804.65	804.64	804.62	804.59	804.59	804.62	804.62	804.59	804.52	804.52	804.52	804.51	804.49	804.46

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



TYPICAL SLAB ELEVATIONS DIAGRAM

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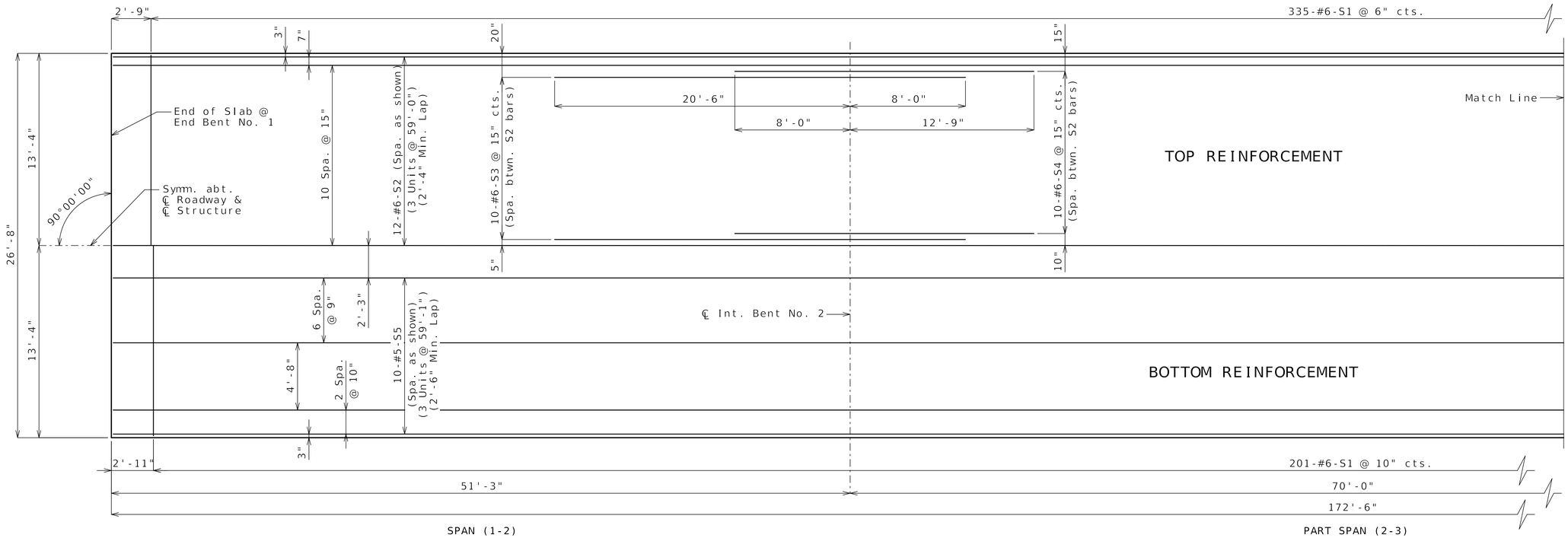
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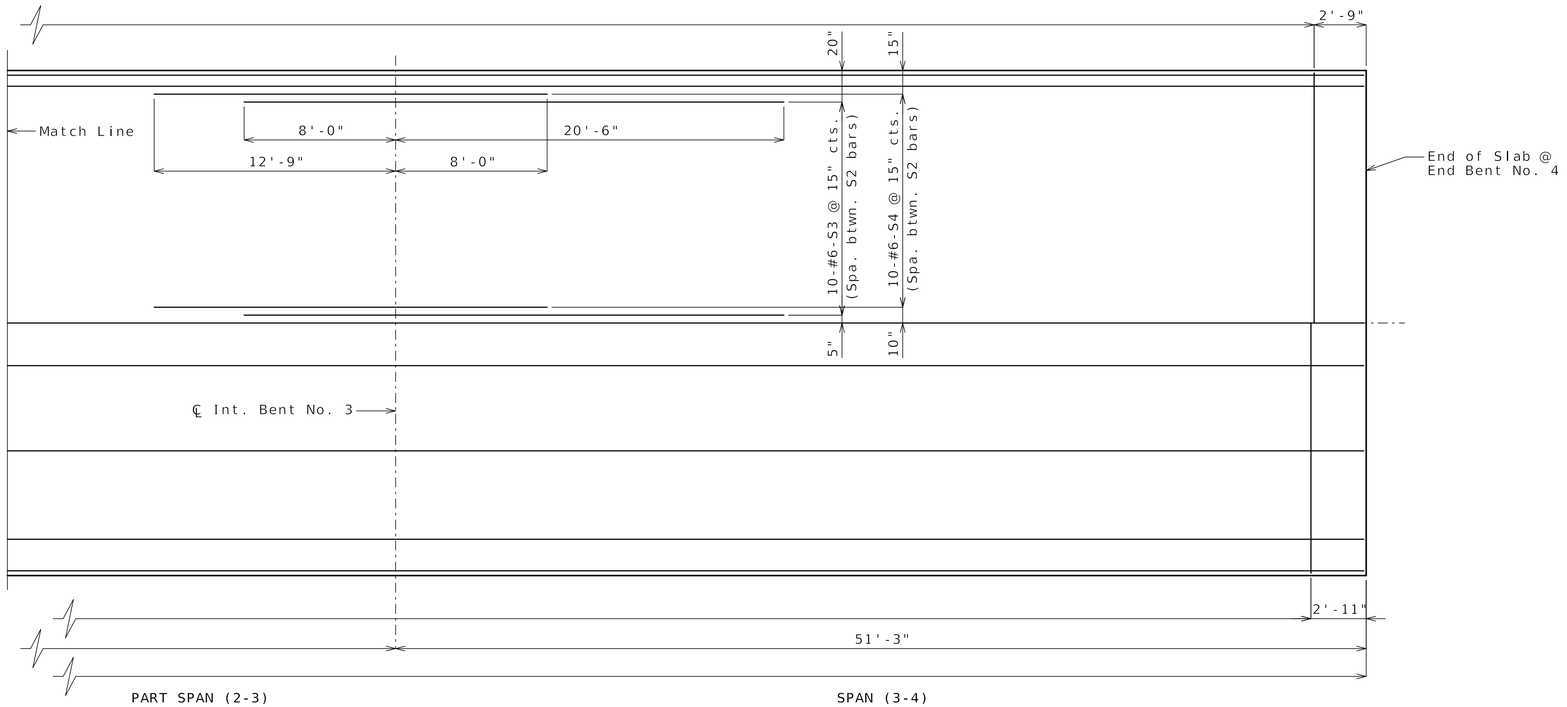
PROJECT NO.

BRIDGE NO.
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Notes:

Longitudinal dimensions are measured horizontally.

For Slab Details, see Sheet No. 17.

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

For details and reinforcement of Type D Barrier, see Sheets No. 18 & 19.

PLAN OF SLAB SHOWING REINFORCEMENT

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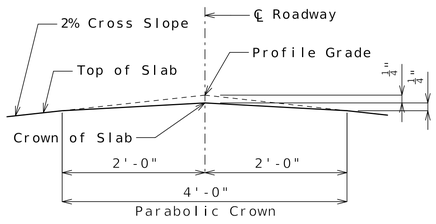
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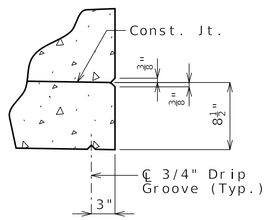
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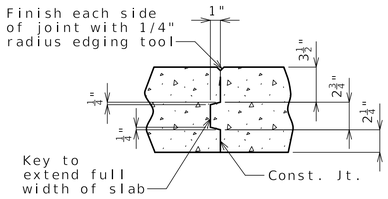
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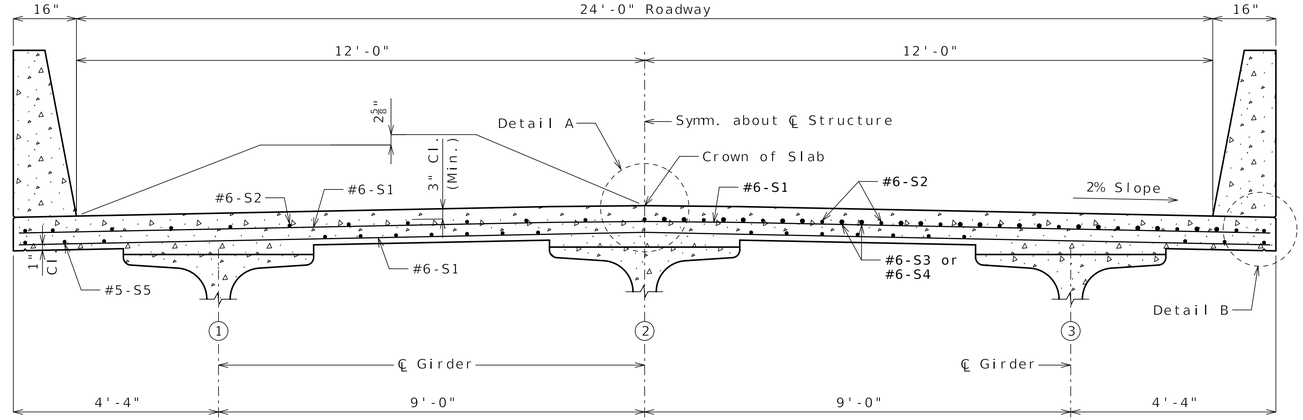
DETAIL A



DETAIL B



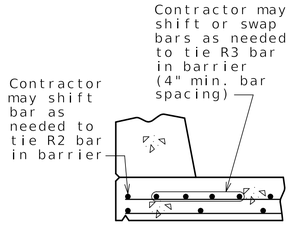
SLAB CONSTRUCTION JOINT



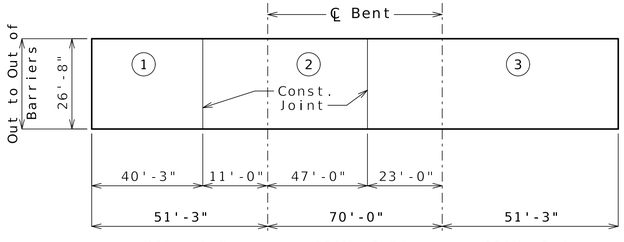
HALF SECTION NEAR MIDSPAN

HALF SECTION NEAR INTERMEDIATE BENT

SECTION THRU SLAB



OPTIONAL SHIFTING TOP BARS AT BARRIER

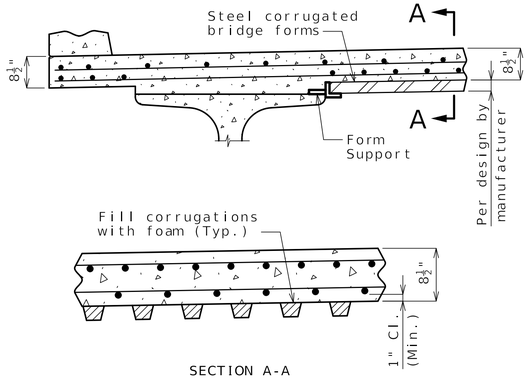


	Sequence of Pours			Min. Rate of Pour Cu. Yds./Hr.
	Direction			With Retarder
Basic Sequence	1	2	3	25
	End to 2	1 to 3	2 to End	
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.				
Alternate A Pours	1 + 2		3	25
	End to 3		2 to End	
Alternate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



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.

Notes:

For reinforcement of barrier not shown, see Sheets No. 18 & 19.

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

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DISTRICT BR | SHEET NO. 17

COUNTY PHELPS

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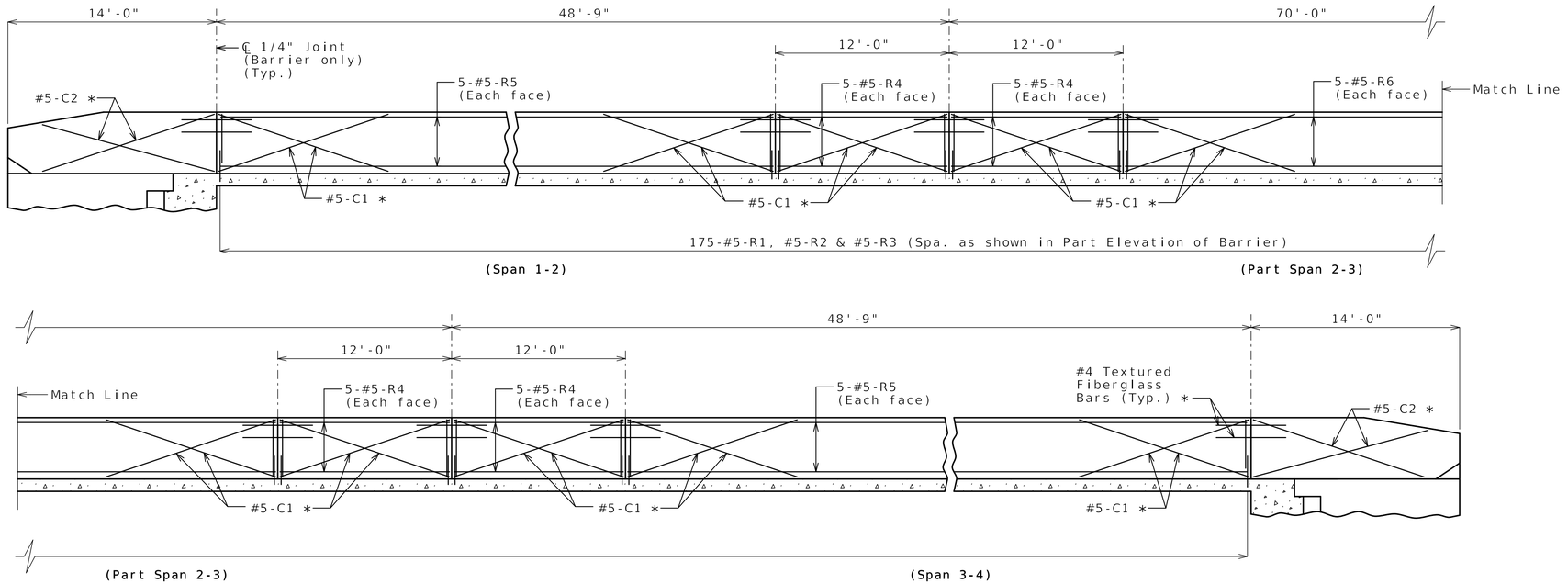
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BRIDGE NO. A9754

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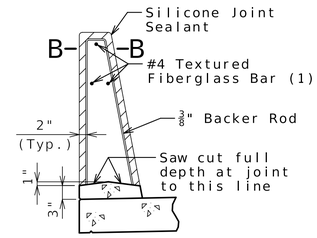
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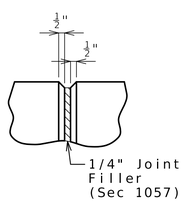
ELEVATION OF BARRIER

(Left barrier shown, right barrier similar)

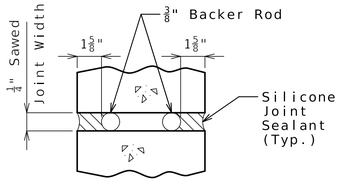
Longitudinal dimensions are horizontal.



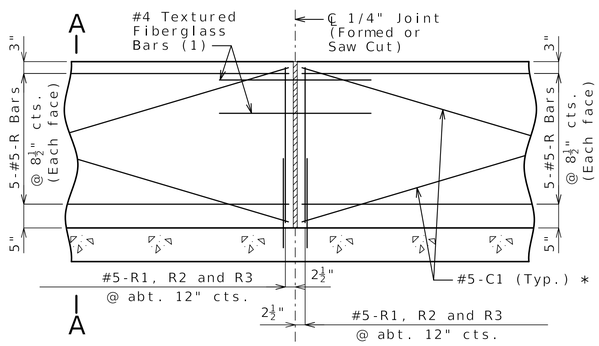
SECTION THRU SAW CUT JOINT



PART ELEVATION AT FORMED JOINT

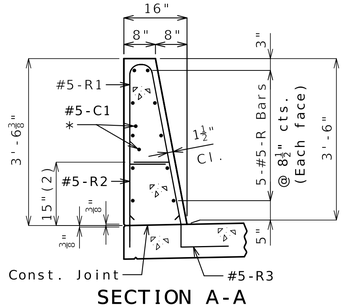


SECTION B-B



PART ELEVATION OF BARRIER

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

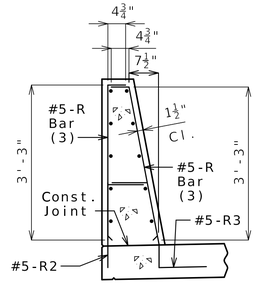


SECTION A-A

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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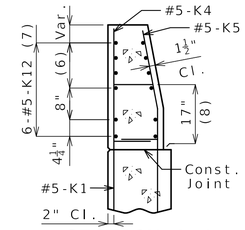
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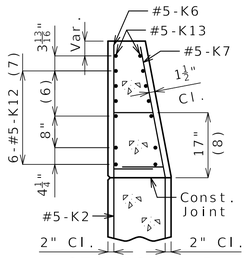
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PROJECT NO.:
BRIDGE NO.: A9754

DESCRIPTION | DATE

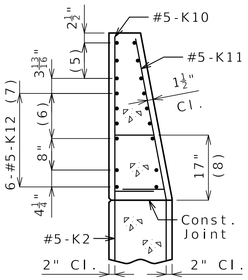
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



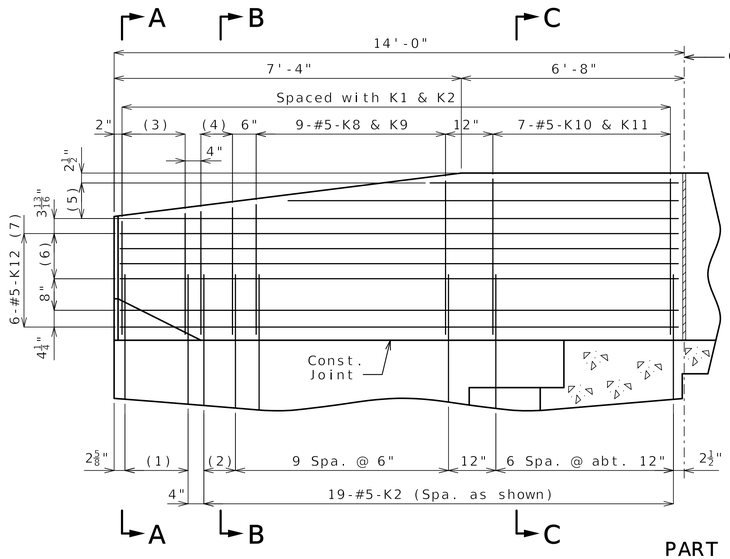
SECTION A-A

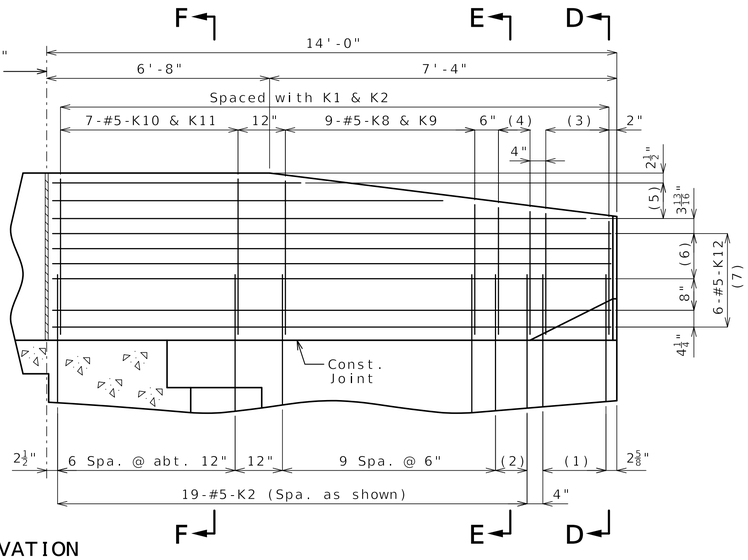


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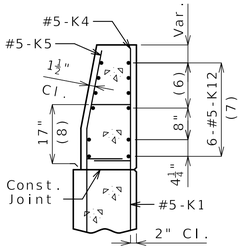


SECTION C-C

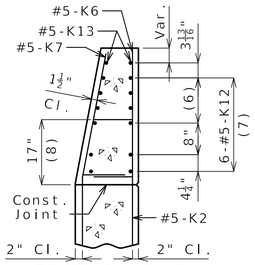




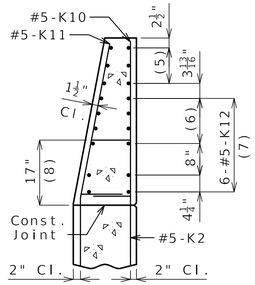
PART ELEVATION



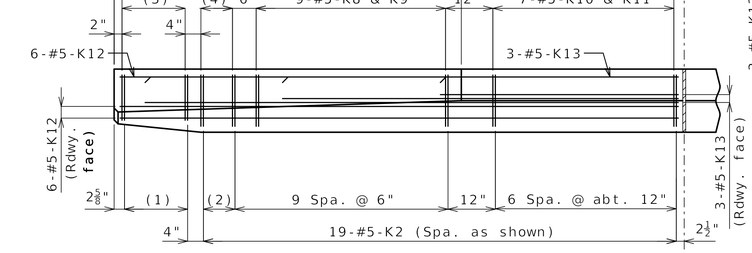
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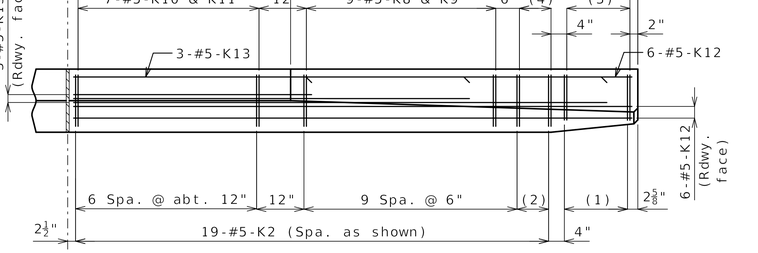


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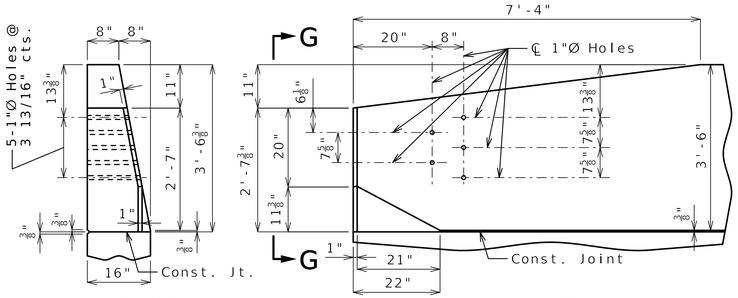


SECTION F-F

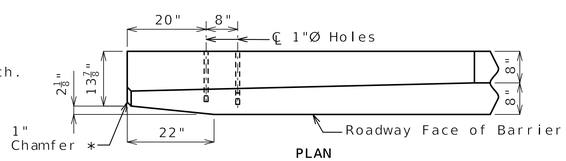




PART PLAN



ELEVATION G-G ELEVATION



PLAN

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

DETAILS OF GUARD RAIL ATTACHMENT

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

(2) 2 spaces @ 4"

(3) 5-#5-K4 & K5

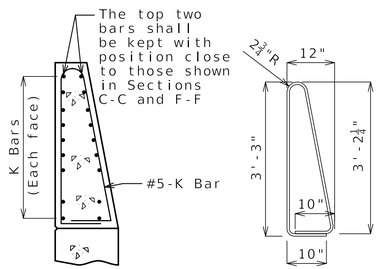
(4) 3-#5-K6 & K7

(5) 3-#5-K13 @ 4½" cts., each face

(6) 3 spaces @ 3 13/16"

(7) Spaced as shown, each face

(8) To top of bar



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.

TYPE D BARRIER AT END BENTS

(Left barrier shown, right barrier similar)

Detailed Aug. 2026
Checked Aug. 2026

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
09/29/2026 8:36:10 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED
9/29/2026

ROUTE	STATE
HH	MO
DISTRICT	SHEET NO.
BR	19

COUNTY
PHELPS

JOB NO.
JCD0036

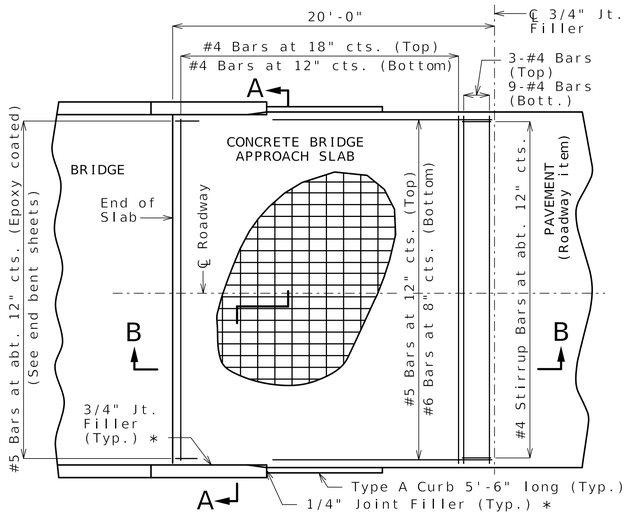
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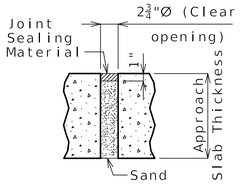
BRIDGE NO.
A9754

DESCRIPTION	DATE

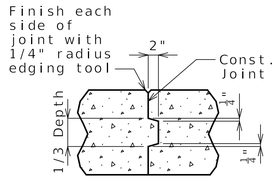
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



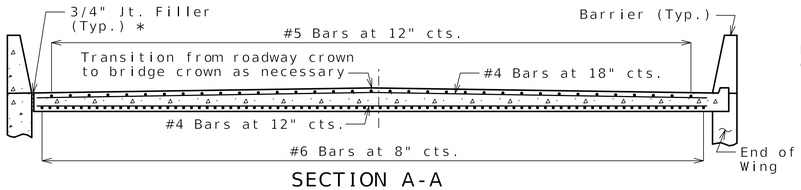
PART PLAN OF SQUARED STRUCTURE
(Skewed structure similar)



UNDERSEAL ACCESS HOLE DETAIL
(If required)

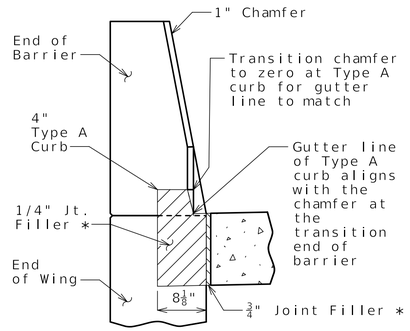


CONSTRUCTION JOIN DETAIL



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:

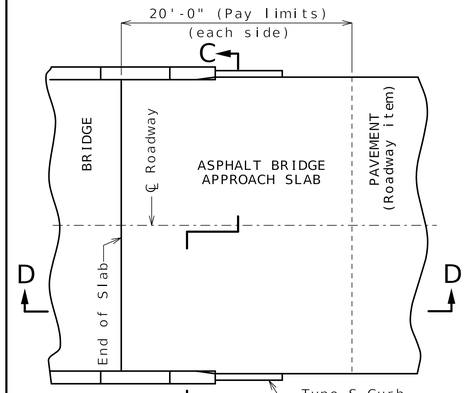
☐ Concrete Bridge Approach Slab

☐ Asphalt Bridge Approach Slab

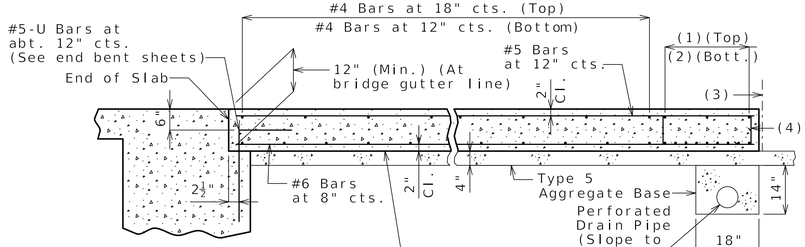
Notes For Asphalt Slab Only:

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)



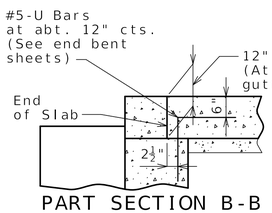
(1) 3-#4 Bars

(2) 9-#4 Bars

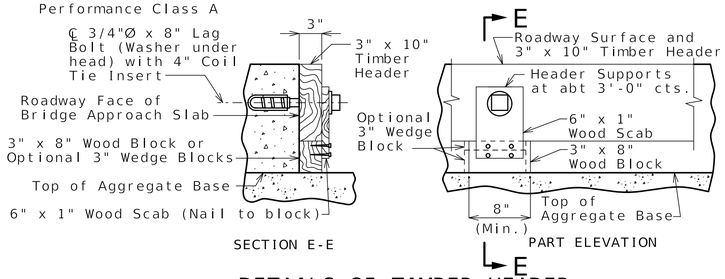
(3) ℄ 3/4" Jt. Filler

(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.

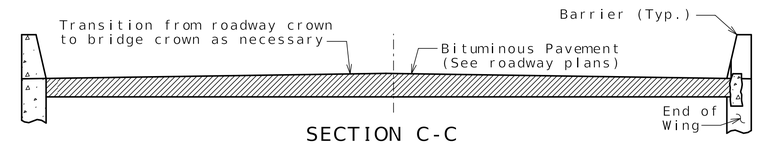
SECTION B-B
(Integral end bent)



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

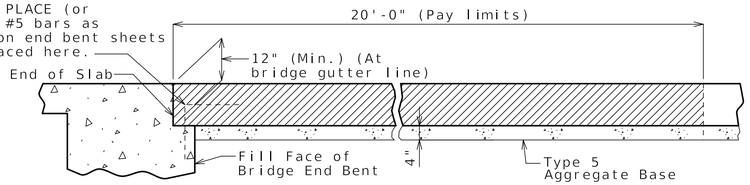


DETAILS OF TIMBER HEADER
Remove timber header when concrete pavement is placed.

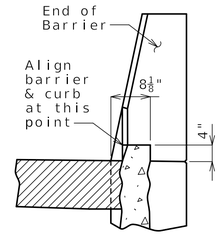


SECTION C-C

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 CONCRETE SLAB

OPTIONAL ASPHALT SLAB (NOT ALLOWED WITH CONCRETE PAVEMENT)

BRIDGE APPROACH SLAB (MINOR)

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

Detailed Aug. 2026
Checked Aug. 2026

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
09/29/2026 8:36:39 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED: 9/29/2026

ROUTE	STATE
HH	MO
DISTRICT	SHEET NO.
BR	20

COUNTY: PHELPS

JOB NO.: JCD0036

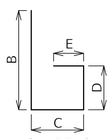
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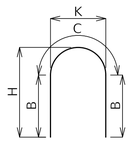
BRIDGE NO.: A9754

DESCRIPTION	DATE

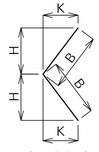
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



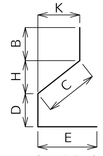
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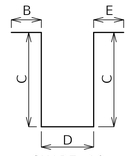
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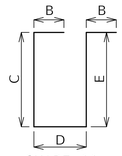
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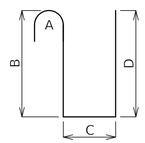
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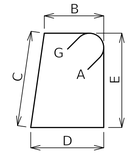
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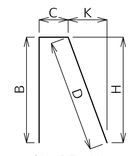
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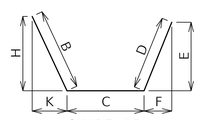
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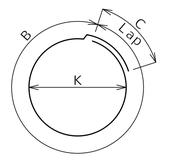
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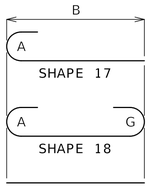
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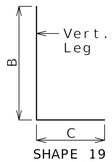
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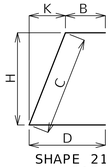
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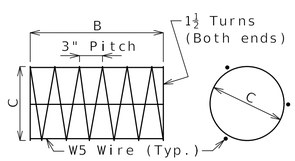
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SHAPE 18
SHAPE 20



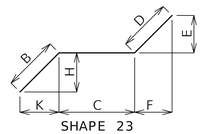
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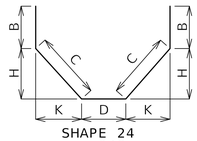
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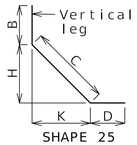
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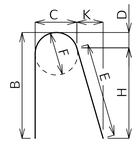
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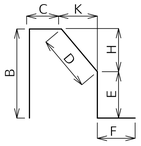
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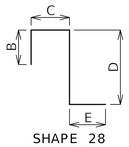
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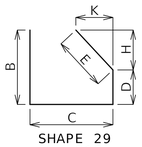
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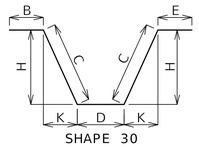
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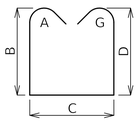
SHAPE 28
or 28S



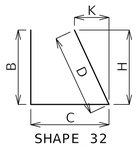
SHAPE 29
or 29S



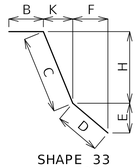
SHAPE 30
or 30S



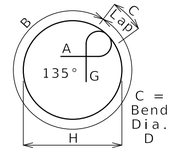
SHAPE 31S



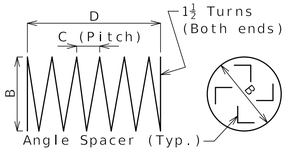
SHAPE 32
or 32S



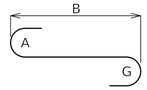
SHAPE 33
or 33S



SHAPE 34S



SHAPE 35 (1)

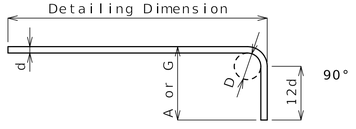


SHAPE 36

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"	36¾"	28½"

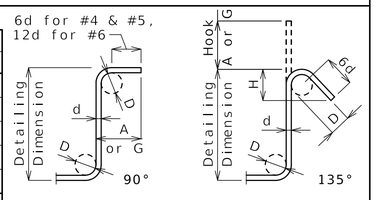


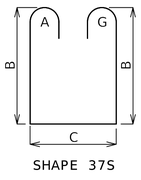
Stirrup Pin Bend Shapes (S)

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"

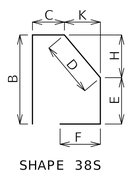
Applicable for all grades of steel.

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)

		Substructure		Superstructure				Entire Bridge	
				Slab			Slip		
	Size	Plain	Coated	Plain	Coated	Barrier	Form	Plain	Coated
By Size	W5	0	0	0	0	0	0	0	0
	4	16	0	0	566	0	0	16	566
	5	1,620	0	0	5,056	10,426	589	1,620	16,071
	6	2,386	0	0	36,976	0	0	2,386	36,976
	7	0	0	0	0	0	0	0	0
	8	1,495	0	0	1,246	0	0	1,495	1,246
	9	0	0	0	0	0	0	0	0
	10	5,791	0	0	0	0	0	5,791	0
	11	0	0	0	0	0	0	0	0
	14	0	0	0	0	0	0	0	0
	18	0	0	0	0	0	0	0	0
By Type		11,308	0	0	43,844	10,426	589	11,308	54,859

All superstructure reinforcing steel shall be Epoxy Coated unless otherwise specified.

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Detailed Aug. 2026
Checked Aug. 2026

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
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TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED
9/29/2026

ROUTE	STATE
HH	MO
DISTRICT	SHEET NO.
BR	21

COUNTY
PHELPS

JOB NO.
JCD0036

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9754

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
		SUBSTRUCTURE													
		INT BENTS 2 & 3													
28	6 D200	BEAM		20		3 6.00							3 6	3 6	147
12	8 H200	BEAM		18		22 5.00							24 3	24 3	777
20	6 H201	BEAM		20		22 5.00							22 5	22 5	673
12	8 H202	BEAM		20		22 5.00							22 5	22 5	718
28	6 H203	BEAM		10S			12.00	3 1.50					5 2	4 10	203
44	5 P200	BEAM		34S		6 3.50	2.50				2 0.00		7 5	7 3	333
2	5 P201	DRILLED SHAFT		35		2 0.00	6.00	23 10.00					319 4	311 0	649
2	5 P202	DRILLED SHAFT		35		2 0.00	6.00	23 5.00					314 1	305 11	638
52	6 U200	BEAM		13S		3 3.00	3 3.00	3 3.00	3 3.00				14 4	13 10	1,080
20	6 U201	BEAM		10S			3 3.00	3 3.00					9 9	9 5	283
6	4 U202	BEAM		10S			6.00	3 3.00					4 3	4 1	16
24	10 V200	DRILLED SHAFT		17		26 10.00							28 3	28 3	2,917
24	10 V201	DRILLED SHAFT		17		26 5.00							27 10	27 10	2,874
		SUPERSTRUCTURE													
		END BENTS 1 & 4													
36	6 F100	WING BRACE	E	23S		20.00	5 1.25	20.00	14.00	14.25	14.00	14.25	8 5	8 4	451
12	6 F101	DIAPHRAGM	E	19S		5 11.50	2 8.00						8 8	8 6	153
40	6 H100	BEAM/DIAPHRAGM	E	20		26 5.00							26 5	26 5	1,587
12	6 H101	DIAPHRAGM	E	20		7 11.00							7 11	7 11	143
4	6 H102	DIAPHRAGM	E	20		5 6.00							5 6	5 6	33
12	6 H103	DIAPHRAGM	E	20		3 8.00							3 8	3 8	66
4	6 H104	DIAPHRAGM	E	20		2 5.00							2 5	2 5	15
6	5 H105	STRAND TIE	E	20		5 9.00							5 9	5 9	36
32	8 H106	WING	E	19		13 6.00	16.00						14 10	14 7	1,246
80	6 H107	WING	E	19		12 1.00	12.00						13 1	12 11	1,552
24	5 U100	BEAM	E	31S		4 10.00	2 9.00	4 10.00					13 4	13 1	328
36	4 U101	BEAM	E	13S		2 9.00	2 8.00	2 9.00	2 8.00				11 7	11 4	273
6	4 U102	BEAM	E	10S			2 8.00	2 9.00					8 1	7 11	32
36	5 U103	DIAPHRAGM	E	31S		3 4.75	2 3.00	3 4.75					10 0	9 9	366
36	6 U104	DIAPHRAGM	E	19		2 4.75	2 9.00						5 2	5 0	270
66	6 U105	DIAPHRAGM	E	19		2 10.00	4 3.00						7 1	6 11	686
48	5 U106	APPROACH NOTCH	E	19		2 0.00	15.00						3 3	3 1	154
24	5 V100	BEAM	E	17		4 8.00							5 3	5 3	131
30	6 V101	DIAPHRAGM	E	20		2 4.00							2 4	2 4	105
96	6 V102	WING	E	20		6 6.00							6 6	6 6	937
		INT DIAPHRAGMS													
8	6 H800	DIAPHRAGM	E	20		7 11.00							7 11	7 11	95
16	4 H801	DIAPHRAGM	E	20		7 11.00							7 11	7 11	85
8	6 H802	DIAPHRAGM	E	20		5 6.00							5 6	5 6	66
4	5 H803	STRAND TIE	E	20		5 9.00							5 9	5 9	24
8	5 H804	STRAND TIE	E	20		4 6.00							4 6	4 6	38
40	4 U800	DIAPHRAGM	E	28S			15.00	3 4.25	2 1.50				6 9	6 7	176
16	6 U801	DIAPHRAGM	E	28S			2 2.00	3 4.50	2 1.50				7 8	7 4	176
32	6 U802	DIAPHRAGM	E	28S			2 2.00	2 3.50	2 1.50				6 7	6 3	300
24	5 U803	DIAPHRAGM	E	6S		4 5.00	15.00	20.00					7 4	7 1	177
8	5 U804	DIAPHRAGM	E	19S		4 5.00	15.00						5 8	5 7	47
16	5 V800	DIAPHRAGM	E	20		3 6.00							3 6	3 6	58
		SLAB													
536	6 S1	SLAB	E	20		26 5.00							26 5	26 5	21,267
69	6 S2	SLAB	E	20		59 0.00							59 0	59 0	6,115
40	6 S3	SLAB	E	20		28 6.00							28 6	28 6	1,712
40	6 S4	SLAB	E	20		20 9.00							20 9	20 9	1,247
60	5 S5	SLAB	E	20		59 1.00							59 1	59 1	3,697

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
		BARRIER													
		TYPE D													
40	5 C1	SLIP FORM	E	20		12 0.00							12 0	12 0	501
8	5 C2	SLIP FORM	E	20		10 6.00							10 6	10 6	88
20	5 K1	BARRIER	E	27S		3 5.00	9.25	5.25	2 11.75		5.25	1.00	7 7	7 5	155
76	5 K2	BARRIER	E	27S		3 5.00	9.25	14.50	2 2.75		14.25	2.75	7 8	7 5	588
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 0	2 11	
		Incr. = 0.500"						20.50	9.50	8.25	20.00	4.50	3 2	3 1	63
12	5 K6	BARRIER	E	19S		2 6.75	10.00						3 5	3 3	41
12	5 K7	BARRIER	E	21S			2 6.75	10.00			2 6.00	6.25	3 5	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		2 8.50	10.00			2 7.75	6.75	3 7	3 6	
		Incr. = 0.750"					3 2.50	10.00			3 1.75	7.75	4 1	4 0	141
28	5 K10	BARRIER	E	19S		3 3.00	10.00						4 1	4 0	117
28	5 K11	BARRIER	E	21S			3 3.00	10.00			3 2.25	7.75	4 1	4 0	117
48	5 K12	BARRIER	E	20		13 9.00							13 9	13 9	688
24	5 K13	BARRIER	E	20	8	13 0.00							13 0	13 0	
		Incr. = 36.000"				7 0.00							7 0	7 0	250
350	5 R1	BARRIER	E	26		3 3.00	5.50	2.25	3 1.25	5.50	3 0.75	6.75	7 0	6 9	2,464
350	5 R2	BARRIER	E	19S		20.50	9.50						2 6	2 5	882
350	5 R3	BARRIER	E	27S			9.50	15.25	5.00	12.00	15.00	3.00	3 6	3 4	1,217
80	5 R4	BARRIER	E	20		11 9.00							11 9	11 9	980
40	5 R5	BARRIER	E	20		36 6.00							36 6	36 6	1,523
20	5 R6	BARRIER	E	20		45 9.00							45 9	45 9	954

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. 21.

Detailed Aug. 2026
Checked Aug. 2026

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

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.

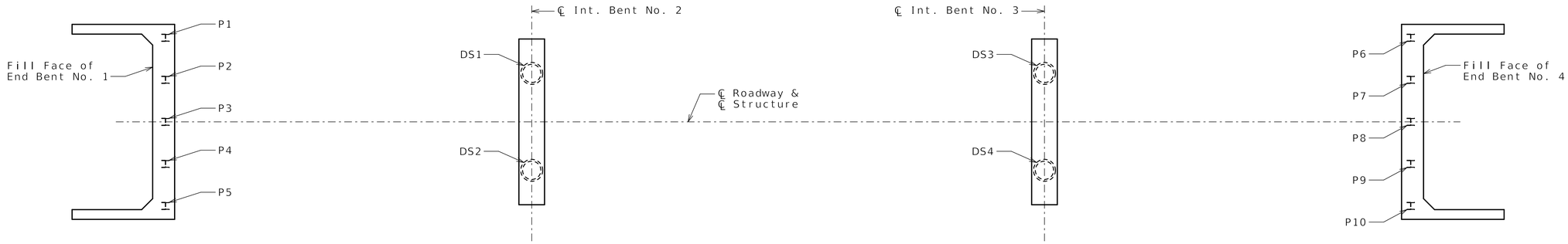
BILL OF REINFORCING STEEL

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
Ted Koester
09/29/2026 8:37:05 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED: 9/29/2026
ROUTE: HH
STATE: MO
DISTRICT: BR
SHEET NO.: 22
COUNTY: PHELPS
JOB NO.: JCD0036
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9754

DESCRIPTION | DATE

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



PART PLAN SHOWING PILE NUMBERING FOR RECORDING AS-BUILT PILE & DRILLED SHAFT DATA

As-Built Pile Data

Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 1
P1			
P2			
P3			
P4			
P5			
			End Bent No. 4
P6			
P7			
P8			
P9			
P10			

As-Built Drilled Shaft Data

Shaft No.	Top of Sound Rock (Elev.)	Tip of Casing (Elev.)	Bottom of Rock Socket (Elev.)	Remarks
				Int. Bent No. 2
DS1				
DS2				
				Int. Bent No. 3
DS3				
DS4				

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

This sheet to be completed by MoDOT construction personnel.

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
09/29/2026 8:37:22 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED
9/29/2026

ROUTE	STATE
HH	MO
DISTRICT	SHEET NO.
BR	23

COUNTY
PHELPS

JOB NO.
JCD0036

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9754

DESCRIPTION

DATE

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

Detailed Aug. 2026
Checked Aug. 2026

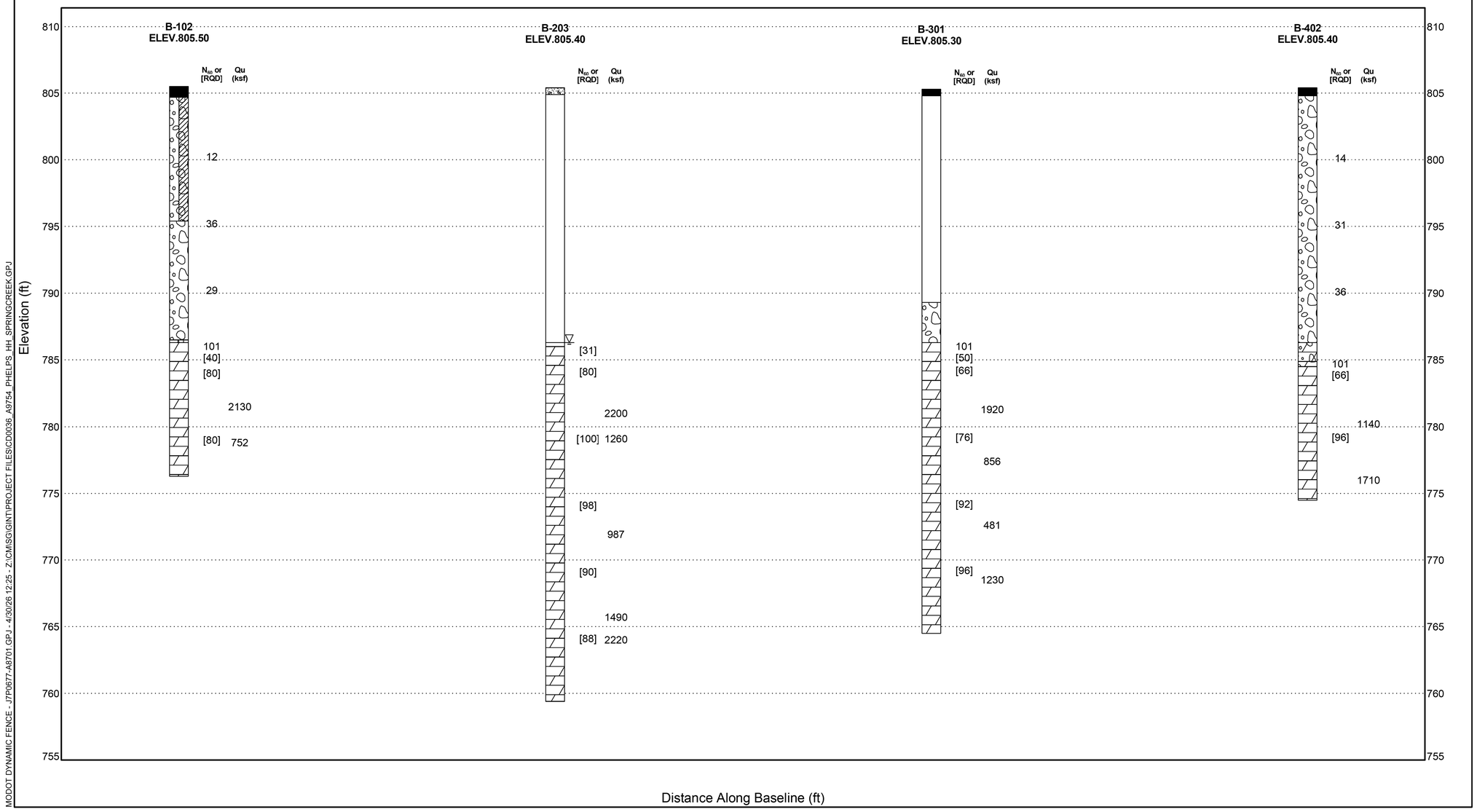
Note: This drawing is not to scale. Follow dimensions.

Missouri Department of Transportation

SUBSURFACE DIAGRAM

PROJECT NAME Bridge Replacement
PROJECT LOCATION Over Spring Creek
CLIENT
PROJECT NUMBER CD0036

Asphalt
Highly Weathered Dolomite
No Core
USCS Poorly-graded Gravel with Clay
Dolomite
Water
USCS Poorly-graded Gravel
Concrete



MODOT DYNAMIC FENCE - J7P0677-A8701.GPJ - 4/30/26 12:25 - Z:\CMS\GIN\PROJECT FILES\CD0036_A9754_PHELPS_HH_SPRINGCREEK.GPJ

BORING DATA

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

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

Detailed Aug. 2026
Checked Aug. 2026

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
09/29/2026 8:37:38 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED 9/29/2026
ROUTE HH | STATE MO
DISTRICT BR | SHEET NO. 24
COUNTY PHELPS
JOB NO. JCD0036
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9754

DESCRIPTION | DATE

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