DESIGN DESIGNATION

A.A.D.T. - 2025 = 180
A.A.D.T. - 2045 = 199
D.H.V. = 9.81%
T = 23.58%
V = 55 M.P.H.

FUNCTIONAL CLASSIFICATION - MAJOR COLLECTOR

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	

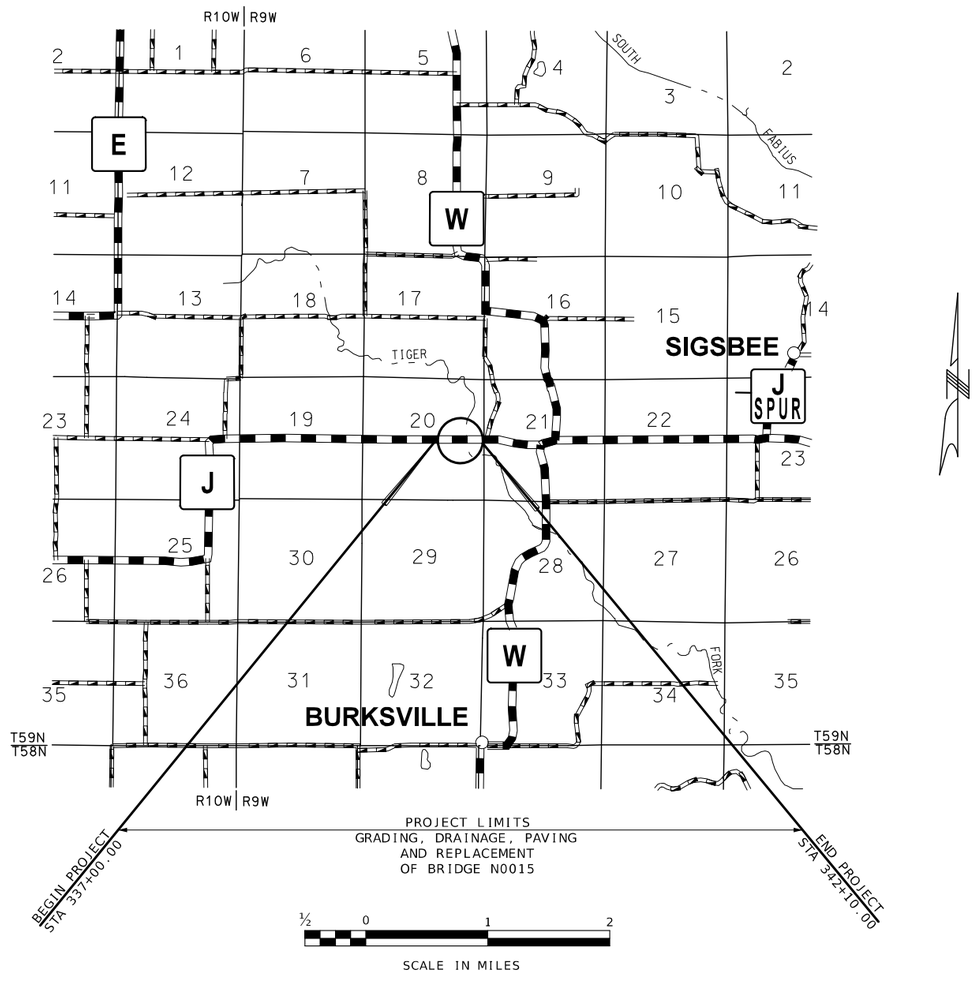
NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED
STATE HIGHWAY

SHELBY COUNTY
T59N, R9W

KEY MAP
LOCATION OF SHELBY COUNTY



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

INDEX OF SHEETS

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA.	337+00.00
END OF PROJECT	STA.	342+10.00
APPARENT LENGTH		510.00 FEET
EQUATIONS AND EXCEPTIONS:		NONE
TOTAL CORRECTIONS		0.00 FEET
NET LENGTH OF PROJECT		510.00 FEET
STATE LENGTH		0.097 MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES		XX ACRES

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
Brian Untiedt
10/31/2024 4:58:44 PM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
10/31/2024

ROUTE	STATE
J	MO
DISTRICT	SHEET NO.
NE	1

COUNTY
SHELBY

JOB NO.
JNE0050

CONTRACT ID.

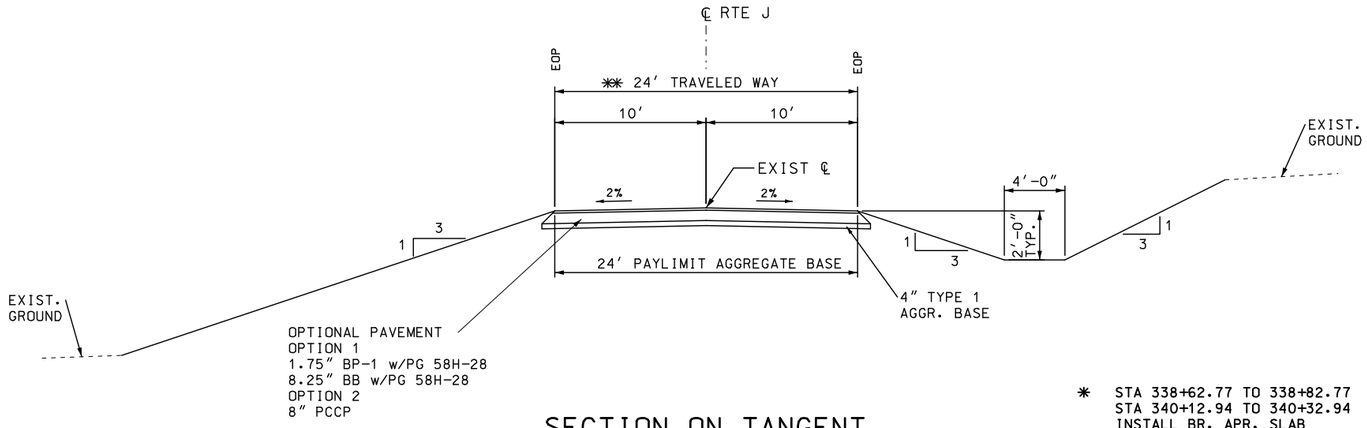
PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

TITLE SHEET



SECTION ON TANGENT

TYPICAL SECTION RTE. J

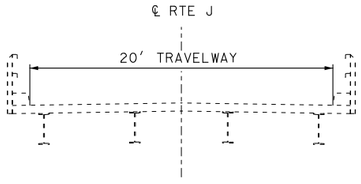
STA 337+00.00 TO STA 338+62.77*

STA 340+32.94* TO STA 342+10.00

NOTE:
SEE STD. PLANS FOR
SAFETY EDGE DETAILS

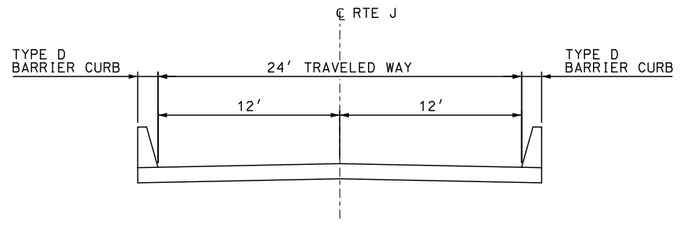
* STA 338+62.77 TO 338+82.77
STA 340+12.94 TO 340+32.94
INSTALL BR. APR. SLAB
SEE BR. PLANS FOR DETAILS

** PAVEMENT WIDENING
STA 338+12.77 TO STA 338+62.77 (20′-24′)
STA 340+32.94 TO STA 340+82.94 (24′-20′)



EXISTING TYPICAL SECTION – BRIDGE N0015

STA. 338+89.50 TO STA. 340+20.17
(SURVEY ℄ RTE J)



PROPOSED TYPICAL SECTION – BRIDGE A9486

STA. 338+82.27 TO STA. 340+13.44

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
10/31/2024 4:40:48 PM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
10/31/2024

ROUTE	STATE
J	MO
DISTRICT	SHEET NO.
NE	2

COUNTY
SHELBY

JOB NO.
JNE0050

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)

TYPICAL SECTIONS
SHEET 1 OF 1

REMOVAL OF IMPROVEMENTS

SHEET	LOCATION	STATION	STATION	OFFSET	TOTAL	REMARKS
-	RTE J	328+37	-	15 FT	1 EA	LOAD LIMIT SIGN
4	RTE J	337+00	-	-	20 LF	SAW CUT
4	RTE J	337+00	338+82.77	10 FT	405 SY	PAVEMENT REMOVAL
4	RTE J	338+32.77	338+82.77	15 FT	6 EA	6 OBJECT MARKERS
4	RTE J	340+12.94	340+62.94	15 FT	6 EA	6 OBJECT MARKERS
4	RTE J	340+12.94	342+10.00	10 FT	407 SY	PAVEMENT REMOVAL
4	RTE J	342+10	-	-	20 LF	SAW CUT
-	RTE J	350+22	-	15 FT	1 EA	LOAD LIMIT SIGN
				TOTAL	1	LUMP SUM

TYPE 2 DITCH LINER AND PERMANENT EROSION CONTROL GEOTEXTILE

	BEGIN	END	FURNISH TYPE 2	PLACING TYPE 2	PERM. EROSION CNTRL.	
SHEET	STATION	STATION	ROCK DITCH LINER (CY)	ROCK DITCH LINER (CY)	GEOTEXTILE (SY)	REMARKS
4	338+10	339+23	75	75	224	SPECIAL DITCH
		TOTAL	75	75	224	

TEMPORARY EROSION CONTROL

	ROCK DITCH	SEDIMENT	SILT	TYPE C
SHEET	CHECK (LF)	REMOVAL (CY)	FENCE (LF)	BERM (LF)
8	16	9	651	265
TOTAL	16	9	651	265

CLEARING AND GRUBBING

TOTAL	
USE	1 ACRE

ALL TREES MUST BE CLEARED BEFORE MARCH 31ST

CONTRACTOR FURNISHED SURVEYING AND STAKING

1 LUMP SUM

MOBILIZATION

1 LUMP SUM

EARTHWORK

	BEGIN	END		CL. A	COMP.	SUBGRADE COMPACTION	
SHEET	STATION	STATION	LOCATION	EXC. (CY)	EMB. (CY)	(6" DEPTH) (100FT)	REMARKS
4	337+00.00	338+82.27	RTE J	845	224	1.8	INCLUDES SPILL FILL AND SPECIAL DITCH VOLUMES
4	340+13.44	342+10.00	RTE J	134	622	2.0	INCLUDES SPILL FILL VOLUMES
			TOTAL	979	846	3.8	
			USE	979	846	4	

4" STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS

SHEET	LOCATION	STATION	STATION	(LF)	4" INT YLW (LF)	4" SLD WHITE (LF)	REMARKS
7	ROUTE J	333+82.00	345+13.00	1131.00		2262.00	EDGELINES
7	ROUTE J	337+00.00	342+10.00	510.00	127.5		INT. CENTERLINE
					127.5	2262.0	SUBTOTAL
					128	2262	TOTAL

HEAVY STONE REVETMENT

	BEGIN	END	HEAVY STONE	PERM. EROSION CNTRL.	
SHEET	STATION	STATION	REVETMENT (SY)	GEOTEXTILE (SY)	REMARKS
7	338+52	339+15	821	821	BENT #1
7	339+94	340+42	352	352	BENT #2
		TOTAL	1173	1173	

OPTIONAL PAVEMENT AND TYPE 1 AGGREGATE BASE (4" THICK)

SHEET	BEGIN STATION	END STATION	LOCATION	PAYLIMIT WIDTH	PAVEMENT (SY)	4" TYPE 1 AGG FOR BASE (SY)	REMARKS
4	337+00.00	337+60.00	ROUTE J	VARIES	109.7	110	WIDTH TRANSITION - MATCH EXIST TO 20'
4	337+60.00	338+12.77	ROUTE J	20	117.3	118	ROADWAY
4	338+12.77	338+62.77	ROUTE J	VARIES	122.2	123	WIDTH TRANSITION - 20' TO 24'
4	338+62.77	338+82.77	ROUTE J	24	-	-	BRIDGE APPROACH SLAB
4	338+82.77	340+12.94	ROUTE J	24	-	-	BRIDGE EXCEPTION
4	340+12.94	340+32.94	ROUTE J	24	-	-	BRIDGE APPROACH SLAB
4	340+32.94	340+82.94	ROUTE J	VARIES	122.2	123	WIDTH TRANSITION - 24' TO 20'
4	340+82.94	341+60.00	ROUTE J	20	171.2	172	ROADWAY
4	341+60.00	342+10.00	ROUTE J	VARIES	110.3	111	WIDTH TRANSITION - 20' TO MATCH EXIST
				TOTAL	752.9	757	
				USE	752.9	757	

MISC. SEEDING AND MULCHING

SHEET	STATION	STATION	LOCATION	APPROX. ACRES	REMARKS
4	337+00	338.+53	RTE J	0.18	NW QUADRANT
4	337+00	338+63	RTE J	0.05	SW QUADRANT
4	340+43	342+10	RTE J	0.05	NE QUADRANT
4	340+33	342+10	RTE J	0.14	SE QUADRANT
				0.42	ESTIMATED PERMANENT SEEDING
				0.42	ESTIMATED TEMPORARY SEEDING
				1 LS	USE

SIGNS / PERFORATED SQUARE STEEL TUBE

SIGN NO.	SIGN SIZE	STATION	HORZ CLEAR IF NOT STD	LOCATION	SIGN DTL. SHT. NO.	2 IN. POST: POST NO.1	POST NO.2	TOTAL ITEM NO. 9031270A	ANCHORS: DRIVEN 12-GA. ITEM NO. 9031271A	DRIVEN 7-GA. ITEM NO. 9031273A	CONCRETE 7-GA. ITEM NO. 9031274	BREAKAWAY ASSEMBLY ITEM NO. 9031241	REMARKS AND OTHER REQUIRED ITEMS
						LF	LF	LF	EA	EA	EA	EA	
1	12"x36"	338+72		NW CORNER		16.00		16.00	1.00				
	12"x36"	338+52		NW CORNER		16.00		16.00	1.00				
	12"x36"	338+32		NW CORNER		16.00		16.00	1.00				
2	12"x36"	338+72		SW CORNER		16.00		16.00	1.00				
	12"x36"	338+52		SW CORNER		16.00		16.00	1.00				
	12"x36"	338+32		SW CORNER		16.00		16.00	1.00				
3	12"x36"	330+24		NE CORNER		16.00		16.00	1.00				
	12"x36"	330+44		NE CORNER		16.00		16.00	1.00				
	12"x36"	330+64		NE CORNER		16.00		16.00	1.00				
4	12"x36"	330+24		SE CORNER		16.00		16.00	1.00				
	12"x36"	330+44		SE CORNER		16.00		16.00	1.00				
	12"x36"	330+64		SE CORNER		16.00		16.00	1.00				
				SUBTOTAL				192.00	12.00	0.00	0.00	0.00	
				TOTAL				192.0	12.00	0.0	0.0	0.0	

STANDARD SIGN ASSEMBLIES / SIGN SUMMARY

SIGN NUMBER	STATION	LOCATION	TYPE: OM3-R	OM3-L	STANDARD SIGN OR SPECIAL SIGN NUMBER	SIGN DETAIL SHEET NO.	NO. EACH	SIZE, TYPE & SQUARE FEET: SIZE	FLAT SHEET SH ITEM NO. 9035004A	FLAT SHEET FLUORESCENT SHF * ITEM NO. 9035069A	STRUCTURAL ST ITEM NO. 9035011A	STRUCTURAL FLUORESCENT STF * ITEM NO. 9035071A
			SIGN DESCRIPTION, SIZES & NUMBER OF EACH									
1	504+43.70	NW CORNER	3		TYPE III OBJECT MARKER (RIGHT)	STD.	3	12"x36"		9.0		
2	504+52.00	SW CORNER		3	TYPE III OBJECT MARKER (LEFT)	STD.	3	12"x36"		9.0		
3	505+66.50	NE CORNER		3	TYPE III OBJECT MARKER (LEFT)	STD.	3	12"x36"		9.0		
4	505+76.30	SE CORNER	3		TYPE III OBJECT MARKER (RIGHT)	STD.	3	12"x36"		9.0		
		TOTAL	6	6				TOTAL		36		

* ORANGE, YELLOW & YELLOW/GREEN

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
10/31/2024 4:41:33 PM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED: 10/31/2024
ROUTE: J | STATE: MO
DISTRICT: NE | SHEET NO.: 3
COUNTY: SHELBY
JOB NO.: JNE0050
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)

QUANTITIES
SHEET 1 OF 2

EFFECTIVE: 04-01-2023

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
WARNING SIGNS								
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT ARROW)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT ARROW)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT ARROW)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT ARROW)
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT ARROW)
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT ARROW)
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT ARROW)
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT ARROW)
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)
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 (ARROW SYMBOL)
WO4-1aR	48X48	16.00						MERGE (ARROW SYMBOL)
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS
WO5-3	48X48	16.00						ONE LANE BRIDGE
WO5-5	48X48	16.00						NARROW LANES
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)
WO6-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)
WO7-3a	30X24	5.00						NEXT XX MILES (PLAQUE)
WO8-1	48X48	16.00						BUMP
WO8-2	48X48	16.00						DIP
WO8-3	48X48	16.00						PAVEMENT ENDS
WO8-4	48X48	16.00						SOFT SHOULDER
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)
WO8-6	48X48	16.00						TRUCK CROSSING (WITH FLAGS)
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)
WO8-17	48X48	16.00						SHOULDER DROP-OFF (SYMBOL)
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	2	10			20B	500 FEET (PLAQUE)
WO16-3	30X24	5.00						X MILE (PLAQUE)
WO20-1	48X48	16.00						ROAD/BRIDGE/RAMP WORK AHEAD
WO20-2	48X48	16.00						DETOUR AHEAD
WO20-3	48X48	16.00	4	64			20A,20B	ROAD CLOSED AHEAD
WO20-3	48X48	16.00						ROAD CLOSED 500 FT
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, WITH FLAGS)
WO21-2	36X36	9.00						FRESH OIL
WO21-5	48X48	16.00						SHOULDER WORK AHEAD
WO22-1	48X48	16.00						BLASTING ZONE AHEAD
WO22-2	42X36	10.50						TURN OFF 2-WAY RADIO AND PHONE
WO22-3	42X36	10.50						END BLASTING ZONE
GO22-1	21X15	2.19						WET PAINT (ARROW PIVOTS)

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
GUIDE SIGNS								
E05-1	36X48	12.00						GORE EXIT
E05-2	48X36	12.00						EXIT OPEN
E05-2a	48X36	12.00						EXIT CLOSED
GO20-1	60X24	10.00						ROAD WORK NEXT XX MILES
GO20-2	48X24	8.00						END ROAD WORK
GO20-4	36X18	4.50						PILOT CAR FOLLOW ME
GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW
GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW
GO20-5aP	36X24	6.00						WORK ZONE (PLAQUE)
MO4-8a	24X18	3.00						END DETOUR
MO4-9L	48X36	12.00						DETOUR (LEFT ARROW)
MO4-9R	48X36	12.00						DETOUR (RIGHT ARROW)
MO4-9P	48X12	4.00						STREET NAME (PLAQUE)
MO4-10L	48X18	6.00						DETOUR (ARROW LEFT)
MO4-10R	48X18	6.00						DETOUR (ARROW RIGHT)
REGULATORY SIGNS								
R1-1	48X48	13.25						STOP
R1-2	48TRI.	6.93						YIELD
R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)
R1-3P	30X12	2.50						ALL WAY (PLAQUE)
R2-1	36X48	12.00						SPEED LIMIT XX
R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00						NO TURNS
R3-4	48X48	16.00						NO U-TURN (SYMBOL)
R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00						DO NOT PASS
R4-2	36X48	12.00						PASS WITH CARE
R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)
R4-7a	36X48	12.00						KEEP RIGHT (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	1	12.5			55A	ROAD CLOSED 2 MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60X30	12.50						ROAD CLOSED TO THRU TRAFFIC
CONST-3A	60X48	20.00						FINE SIGN
CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)
MISCELLANEOUS SIGNS								
CONST-5	48X36	12.00						POINT OF PRESENCE
CONST-5	96X48	32.00						POINT OF PRESENCE
CONST-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
SPECIAL	96X48	32	2	64	2	64	48A&B	ROUTE J BRIDGE CLOSED AHEAD

616-10.05 CONSTRUCTION SIGNS	TOTAL
	171

616-10.10 RELOCATED SIGNS	TOTAL
	64

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)
6123000A		TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
6161008	2	ADVANCED WARNING RAIL SYSTEM
6161012		BUOYS (BOATS KEEP OUT)
6161013		BUOYS (NO WAKE)
6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
6161025		CHANNELIZER (TRIM LINE)
6161030	10	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		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

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
10/31/2024 4:41:50 PM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
10/31/2024

ROUTE	STATE
J	MO
DISTRICT	SHEET NO.
NE	3

COUNTY
SHELBY

JOB NO.
JNE0050

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

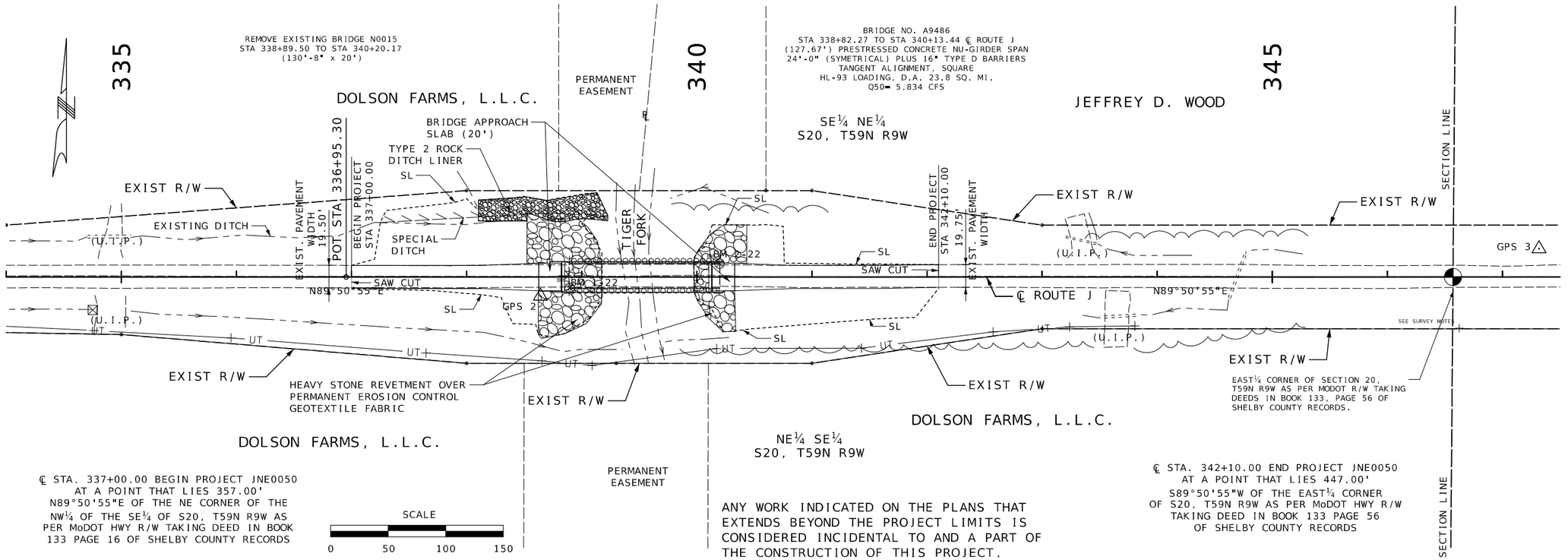
DESCRIPTION

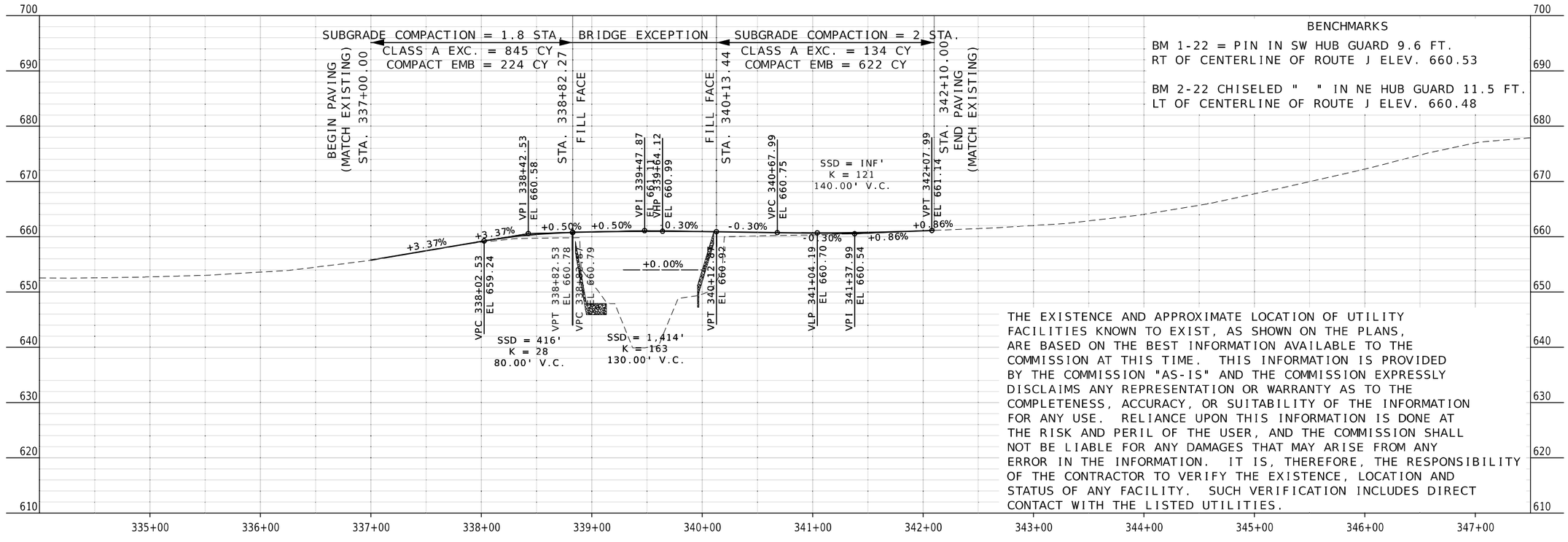
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

QUANTITIES
SHEET 2 OF 2





STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
10/31/2024 4:42:08 PM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
10/31/2024

ROUTE	STATE
J	MO
DISTRICT	SHEET NO.
NE	4

COUNTY
SHELBY

JOB NO.
JNE0050

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

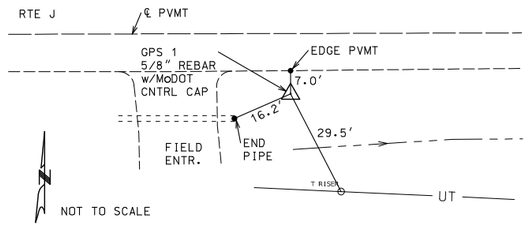
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

PLAN/PROFILE SHEET
SHEET 1 OF 1

GPS 1

NOTE: TIES ARE SLOPE DISTANCE

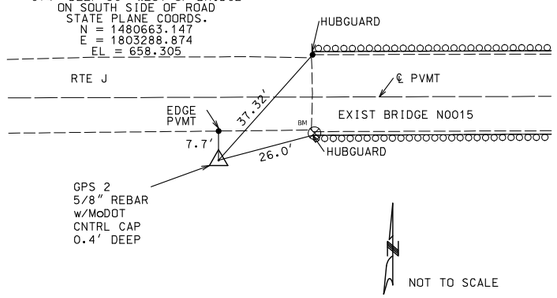
GPS 1
5/8" REBAR w/MODOT CONTROL CAP
525' WEST OF BRIDGE SOUTH SIDE
OF ROAD AT ENTRANCE
STATE PLANE COORDS.
N = 1480662.544
E = 1802786.871
EL = 651.277



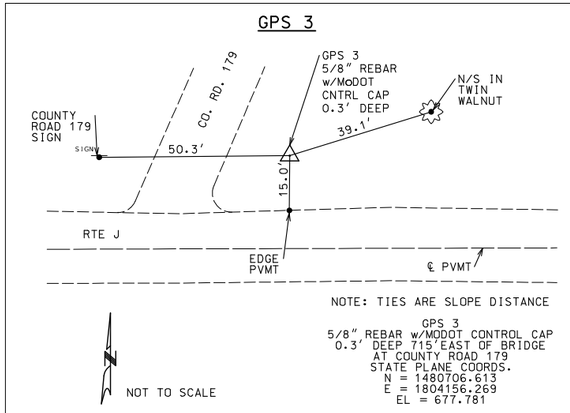
GPS 2

NOTE: TIES ARE SLOPE DISTANCE

GPS 2
5/8" REBAR w/MODOT CONTROL CAP
0.4' DEEP 30' WEST OF BRIDGE
ON SOUTH SIDE OF ROAD
STATE PLANE COORDS.
N = 1480663.147
E = 1803288.874
EL = 658.305



GPS 3



NOTE: TIES ARE SLOPE DISTANCE

GPS 3
5/8" REBAR w/MODOT CONTROL CAP
0.3' DEEP 715' EAST OF BRIDGE
AT COUNTY ROAD 179
STATE PLANE COORDS.
N = 1480706.613
E = 1804156.269
EL = 677.781

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
Brian Untiedt
10/31/2024 4:42:24 PM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
10/31/2024

ROUTE	STATE
J	MO
DISTRICT	SHEET NO.
NE	5

COUNTY
SHELBY

JOB NO.
JNE0050

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)

REFERENCE POINTS
SHEET 1 OF 1

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 (GROUND)
HORIZONTAL DATUM	NAD 83(2011) EPOCH 2010.0
VERTICAL DATUM	NAVD 88: GNSS DERIVED
GEOID MODEL	18
ELEVATIONS DETERMINED BY	DIFFERENTIAL LEVELING / GPS - MODOT VRS
PROJECT PROJECTION FACTOR	1.00006321

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MO COORDINATE SYSTEM OF 1983
CONTROL STATION	MISSOURI CORS
DESIGNATION	MODOT SHELBINA CORS ARP
CORS_ID	MOSH
PID	DM4692
LATITUDE	39 41 54.74906 N
LONGITUDE	092 03 09.79831 W
NORTHING (M)	429074.8360
EASTING (M)	538359.7590
ZONE	CENTRAL
PROJECT AVERAGE GRID FACTOR	0.99993679

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 #__GPS 1_
N 1480756.13002626 X 0.999936794493365 = 1480662.54
E 1802900.81705755 X 0.999936794493365 = 1802786.87

LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND) NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)	DESCRIPTION	GPK POINT ID
PROJECT CONTROL POINTS								
-	333+62.12	RTE J	15.92'	1480756.1300	1802900.8171	651.28		GPS 1
4	338+64.16	RTE J	16.64'	1480756.7331	1803402.8518	658.31		GPS 2
4	347+31.72	RTE J	-24.54'	1480800.2018	1804270.3016	677.78		GPS 3
ALIGNMENTS								
4	337+00.00	RTE J	0	1480772.9391	1803238.6523	655.78	BEGINNING OF PROJECT	
4	338+82.27	RTE J	0	1480773.4207	1803420.9217	660.78	FILL FACE BRIDGE #A9486	
4	330+13.44	RTE J	0	1480773.7673	1803552.0912	660.91	FILL FACE BRIDGE #A9486	
4	342+10.00	RTE J	0	1480774.2866	1803748.6505	661.16	END OF PROJECT	

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
10/31/2024 4:42:38 PM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED: 10/31/2024
ROUTE: J | STATE: MO
DISTRICT: NE | SHEET NO.: 6
COUNTY: SHELBY
JOB NO.: JNE0050
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

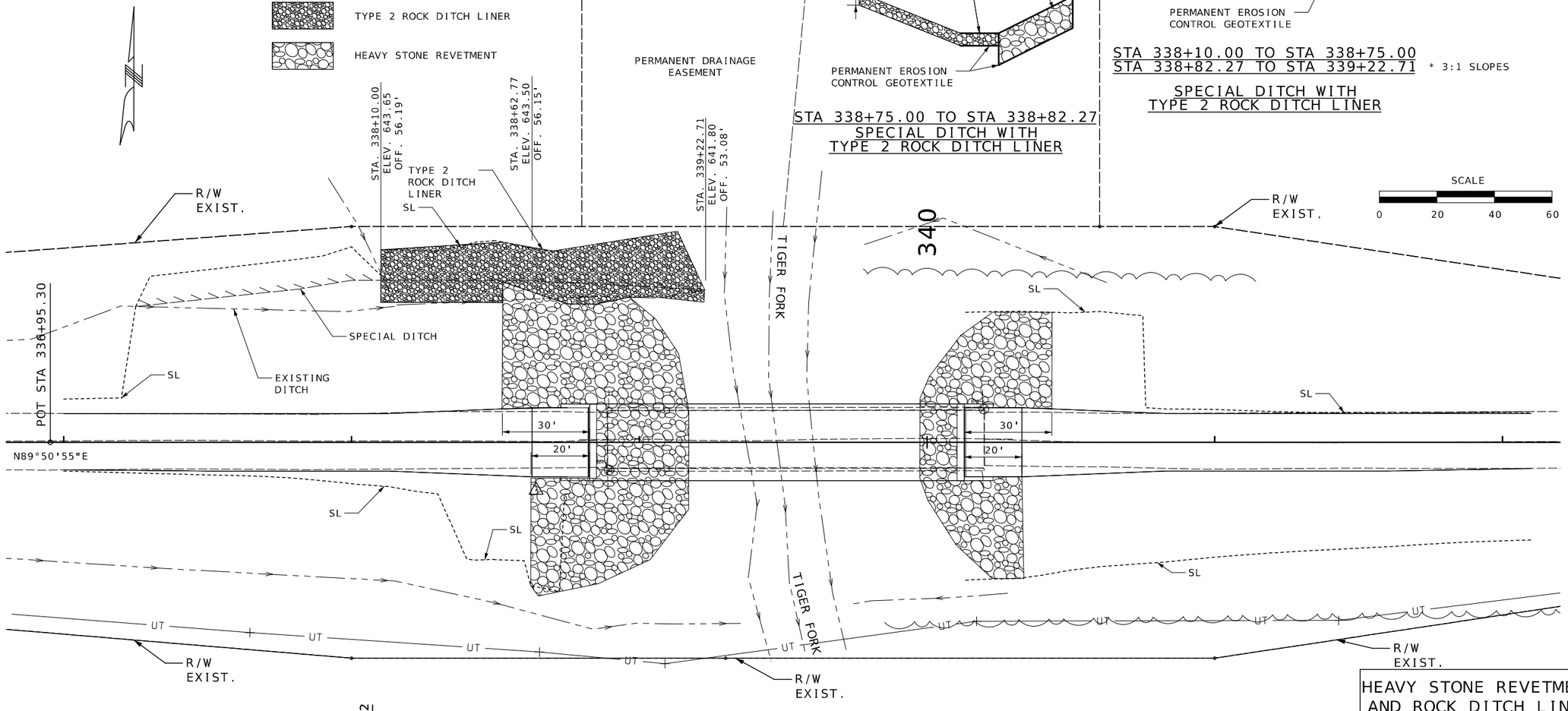
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

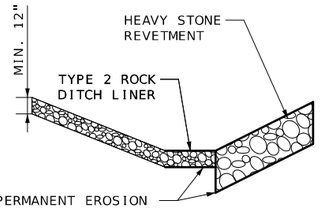
COORDINATE POINTS
SHEET 1 OF 1

LEGEND

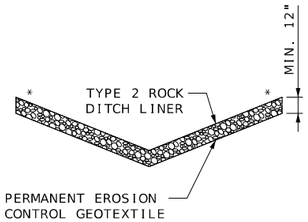
TYPE 2 ROCK DITCH LINER

HEAVY STONE REVETMENT





STA 338+75.00 TO STA 338+82.27
SPECIAL DITCH WITH
TYPE 2 ROCK DITCH LINER

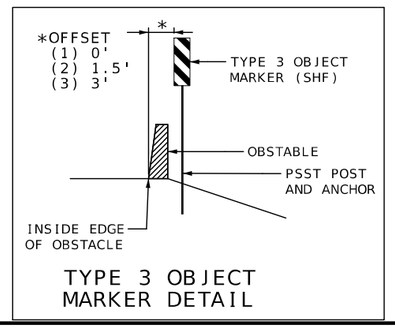


STA 338+10.00 TO STA 338+75.00
STA 338+82.27 TO STA 339+22.71 * 3:1 SLOPES

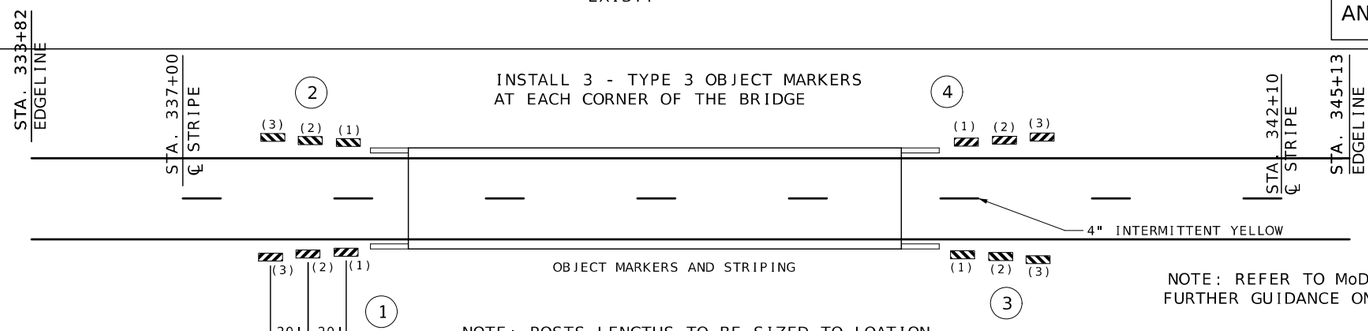
SPECIAL DITCH WITH
TYPE 2 ROCK DITCH LINER

SCALE 0 20 40 60

HEAVY STONE REVETMENT AND ROCK DITCH LINER



TYPE 3 OBJECT MARKER DETAIL



TYPICAL TYPE 3 OBJECT MARKER SPACING

NOTE: POSTS LENGTHS TO BE SIZED TO LOATION. PLACE SIGNS AT MINIMUMS AND REMOVE REMAINDER OF POST LENGTH. ONLY USE ENTIRE 16' POST LENGTH WHEN REQUIRED TO MEET MINIMUMS.

NOTE: REFER TO MoDOT EPG 620.2.7.1 FOR FURTHER GUIDANCE ON THE EDGELINE STRIPE

(X) SIGN NUMBER

PAVEMENT MARKING & DELINEATION

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
10/31/2024 4:42:59 PM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
10/31/2024

ROUTE	STATE
J	MO
DISTRICT	SHEET NO.
NE	7

COUNTY
SHELBY

JOB NO.
JNE0050

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

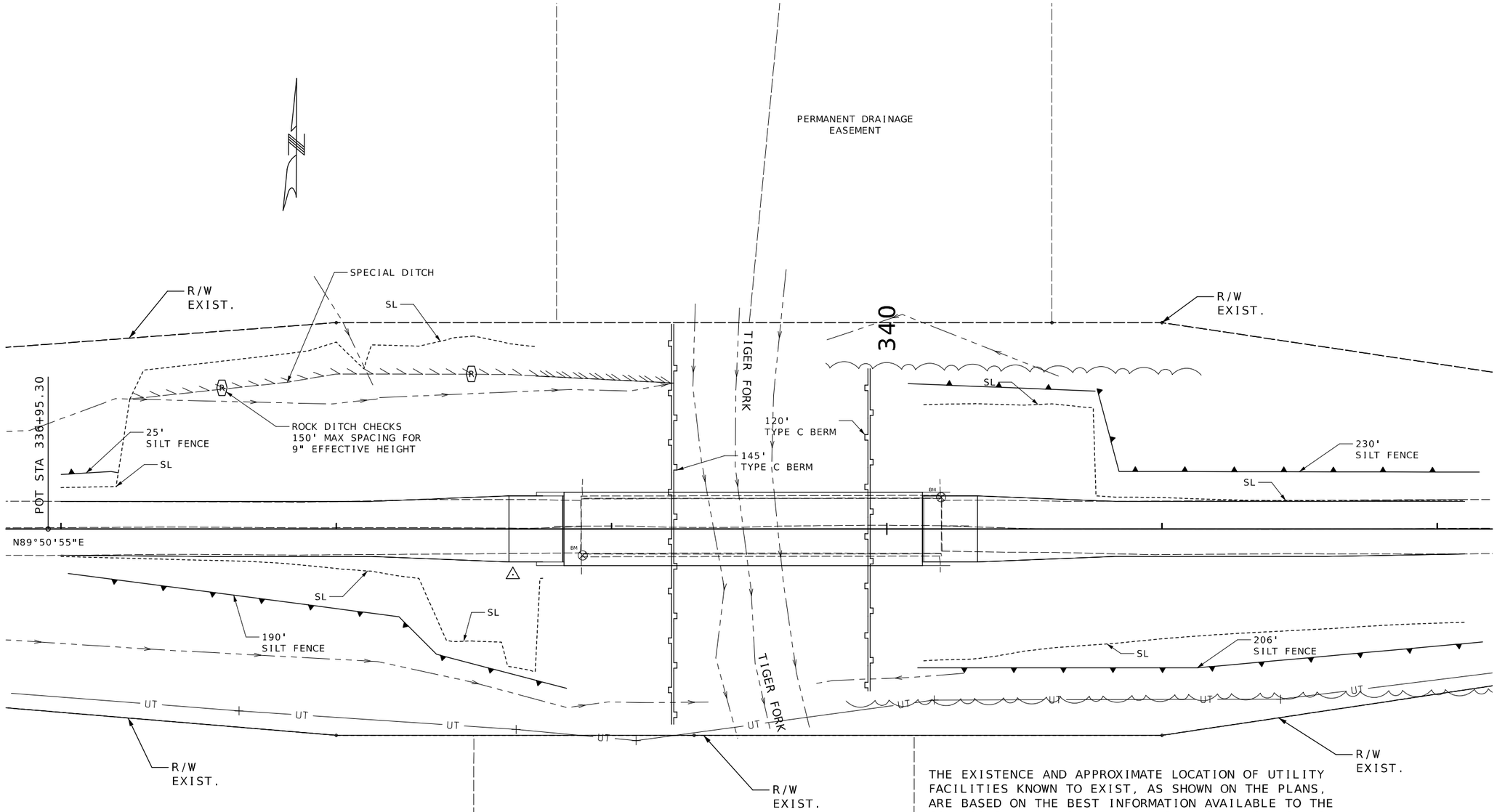
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

SPECIAL SHEET
ROCK DETAILS AND DELINEATION
SHEET 1 OF 1



TEMPORARY EROSION CONTROL LEGEND

- (R) ROCK DITCH CHECK
- TEMPORARY BERM TYPE C
- SILT FENCE

EC1

PERMANENT DRAINAGE
EASEMENT

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.

SCALE
0 20 40 60

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
Brian Untiedt
10/31/2024 4:43:19 PM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
10/31/2024

ROUTE	STATE
J	MO
DISTRICT	SHEET NO.
NE	8

COUNTY
SHELBY

JOB NO.
JNE0050

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

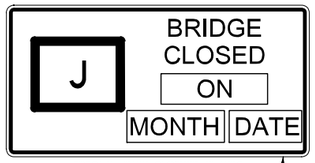
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

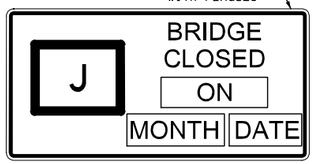
EROSION CONTROL
SHEET 1 OF 1



SPECIAL WITH CLOSURE PLATES

(48A)

PRE-CLOSURE SIGNS WITH PLAQUES



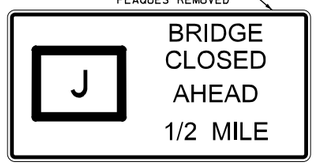
SPECIAL WITH CLOSURE PLATES

(48B)

SPECIAL

(48A)

POST-CLOSURE SIGNS PLAQUES REMOVED



SPECIAL

(48B)

NOT TO SCALE

W020-3

(20A)

W020-3

(20B)

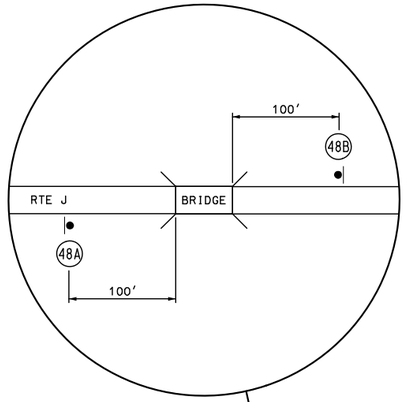
R11-2

(29)

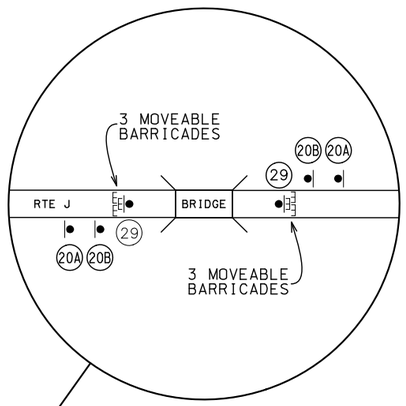
R11-3a

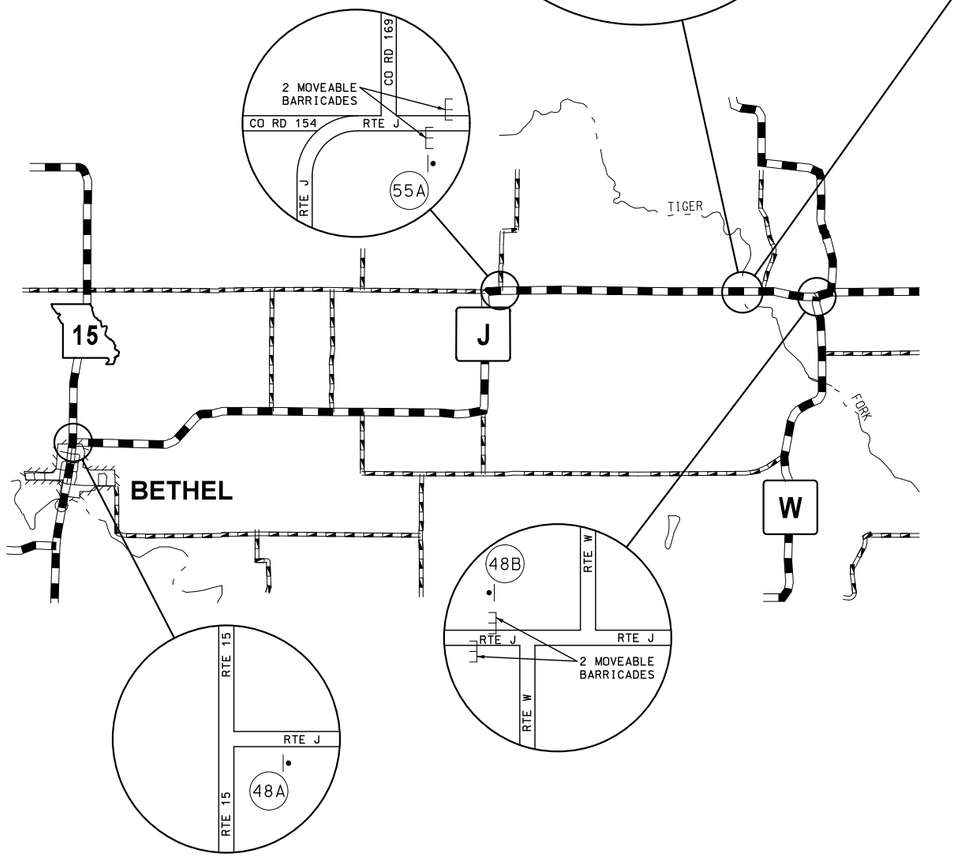
(55A)

PRE-CLOSURE SIGNAGE AT BRIDGE (TO BE RELOCATED)



POST-CLOSURE SIGNAGE AT BRIDGE





TRAFFIC CONTROL LEGEND	
●	SIGN (SINGLE SIDED)
⫞	TYPE III MOVEABLE BARRICADE

NOTES:

INSTALL PRE-CLOSURE SIGNS WITH PLAQUES 48A & 48B A MINIMUM OF 2 WEEKS PRIOR TO CLOSURE.

WHEN BRIDGE CLOSURE OCCURS - REMOVE SPECIAL SIGN PLAQUES AND RELOCATE NOTED SIGNS.

SEE TRAFFIC CONTROL SHEET 2 OF 2 FOR SPECIAL SIGN AND PLAQUE DETAILS.

ALL SIGNS SHALL BE SPACED AT 500 FEET UNLESS OTHERWISE NOTED.

✳ LOCATE SIGNS 100' FROM INTERSECTION.

USE IN PLACE ALL SIGNS WHICH DO NOT CONFLICT WITH THIS PLAN. COVER OR REMOVE CONFLICTING SIGNS.

PLACE ALL SIGNS AS SHOWN OR AS DIRECTED BY THE ENGINEER.

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
10/31/2024 4:43:36 PM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
10/31/2024

ROUTE	STATE
J	MO
DISTRICT	SHEET NO.
NE	9

COUNTY
SHELBY

JOB NO.
JNE0050

CONTRACT ID.

PROJECT NO.

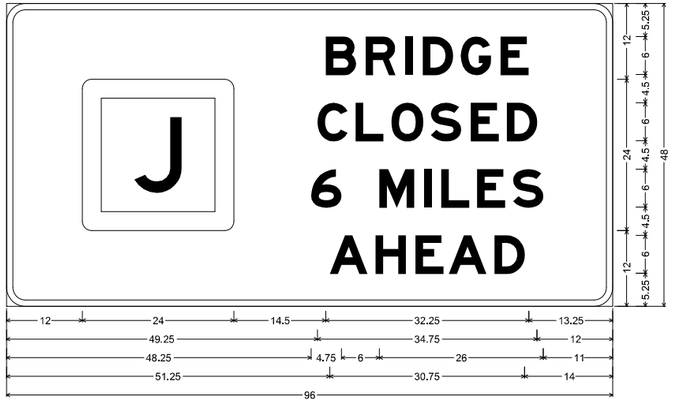
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

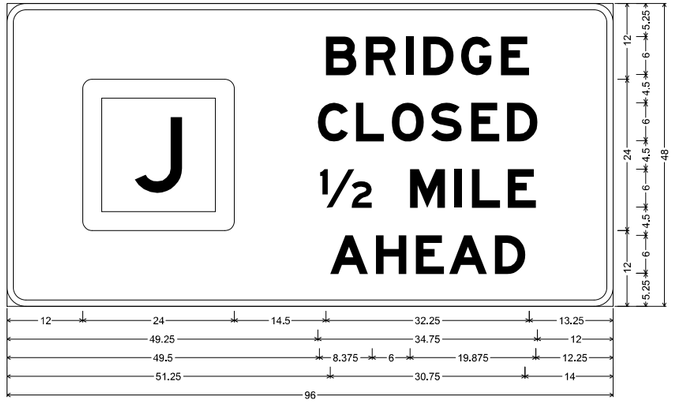
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TRAFFIC CONTROL
SHEET 1 OF 2



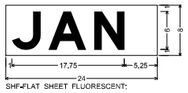
MO4-13 SHF-FLAT SHEET FLUORESCENT:
3.000" Radius, 1.000" Border, Black on, Orange;
"BRIDGE", E Mod; "CLOSED", E Mod; "6 MILES", E Mod; "AHEAD", E Mod;
Table of letter and object lefts

12.000	B 50.500	R 56.875	I 63.125	D 65.875	G 71.875	E 78.250
C 49.250	L 55.250	O 61.000	S 67.250	E 73.500	D 79.250	
6 48.250	M 59.000	I 66.125	L 68.875	E 74.500	S 80.250	
A 51.250	H 58.375	E 64.750	A 70.000	D 77.250		



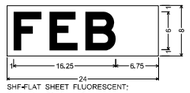
MO4-13 SHF-FLAT SHEET FLUORESCENT:
3.000" Radius, 1.000" Border, Black on, Orange;
"BRIDGE", E Mod; "CLOSED", E Mod; "½ MILE", E Mod; "AHEAD", E Mod;
Table of letter and object lefts

12.000	B 50.500	R 56.875	I 63.125	D 65.875	G 71.875	E 78.250
C 49.250	L 55.250	O 61.000	S 67.250	E 73.500	D 79.250	
½ 49.500	M 63.875	I 70.875	L 73.625	E 79.375		
A 51.250	H 58.375	E 64.750	A 70.000	D 77.250		



SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[JAN] E Mod;
Table of letter and object lefts.

J 1.000	A 6.750	N 14.000



SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[FEB] E Mod;
Table of letter and object lefts.

F 1.000	E 6.750	B 12.375

SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[MAR] E Mod;
Table of letter and object lefts.

M 1.000	A 7.750	R 15.000

SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[APR] E Mod;
Table of letter and object lefts.

A 1.000	P 8.250	R 14.500

SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[MAY] E Mod 75% spacing;
Table of letter and object lefts.

M 1.000	A 7.500	Y 13.750

SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[JUN] E Mod;
Table of letter and object lefts.

J 1.000	U 7.125	N 13.375

SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[JUL] E Mod;
Table of letter and object lefts.

J 1.000	U 7.000	L 13.375

SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[AUG] E Mod;
Table of letter and object lefts.

A 1.000	U 8.250	G 14.500

SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[SEP] E Mod;
Table of letter and object lefts.

S 1.000	E 7.250	P 13.000

SHF-FLAT SHEET FLUORESCENT:
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[OCT] E Mod;
Table of letter and object lefts.

O 1.000	C 7.250	T 12.875

SHF-FLAT SHEET FLUORESCENT:
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[NOV] E Mod;
Table of letter and object lefts.

N 1.000	O 7.250	V 13.500

SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[0] E Mod;
Table of letter and object lefts.

O 1.500		

SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[1] E Mod;
Table of letter and object lefts.

I 3.125		

SHF-FLAT SHEET FLUORESCENT:
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[2] E Mod;
Table of letter and object lefts.

2 1.625		

SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[3] E Mod;
Table of letter and object lefts.

3 1.625		

SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[4] E Mod;
Table of letter and object lefts.

4 1.250		

SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[5] E Mod;
Table of letter and object lefts.

5 1.625		

SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[6] E Mod;
Table of letter and object lefts.

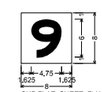
6 1.625		

SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[7] E Mod;
Table of letter and object lefts.

7 1.625		

SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[8] E Mod;
Table of letter and object lefts.

8 1.625		



SHF-FLAT SHEET FLUORESCENT:
No border, Black on Orange;
[9] E Mod;
Table of letter and object lefts.

9 1.625		

SHF-FLAT SHEET FLUORESCENT: No border, Black on Orange;
[ON] E Mod;
Table of letter and object lefts.

O 18.375	N 24.875	

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
10/31/2024 4:43:48 PM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
10/31/2024

ROUTE	STATE
J	MO
DISTRICT	SHEET NO.
NE	10

COUNTY
SHELBY

JOB NO.
JNE0050

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

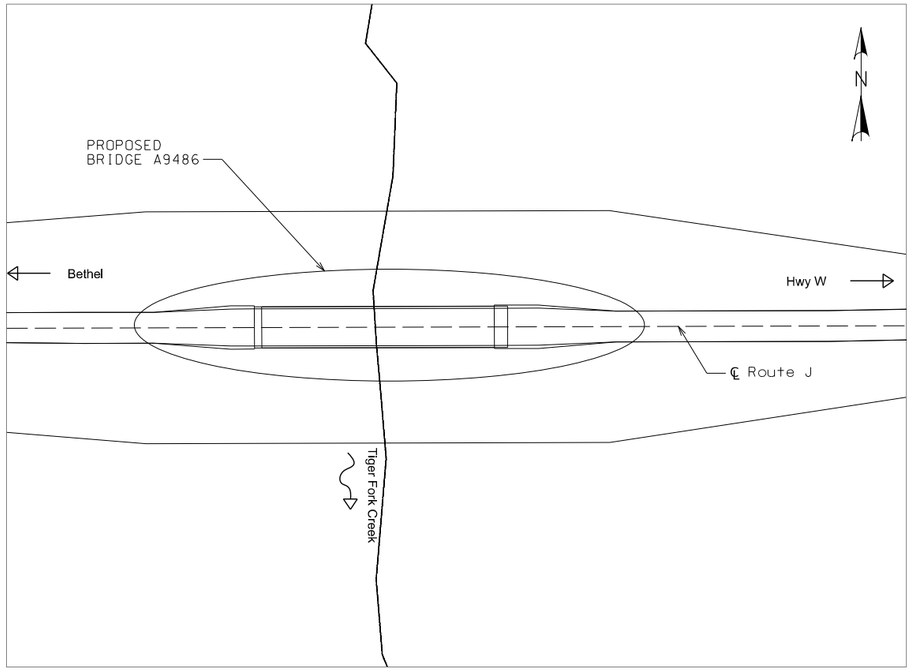
DATE	DESCRIPTION

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

TRAFFIC CONTROL SHEET
SIGN DETAILS
SHEET 2 OF 2

SEC/SUR 20 TWP 59N RGE 9W

INDEX OF DRAWINGS



LOCATION MAP

BRIDGE: ROUTE J OVER TIGER FORK CREEK

STATE ROAD FROM ROUTE 15 TO ROUTE W
ABOUT 0.6 MILES W OF ROUTE W
BEG. STA. 338+82.27

STATE OF MISSOURI
KANDI SPRAGGS
NUMBER PE-2011020089
PROFESSIONAL ENGINEER
11/12/2024 3:33:20 PM

DATE PREPARED
11/12/2024

ROUTE	STATE
J	MO
DISTRICT	SHEET NO.
BR	1

COUNTY
SHELBY

JOB NO.
JNE0050

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9486

DESCRIPTION	DATE

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

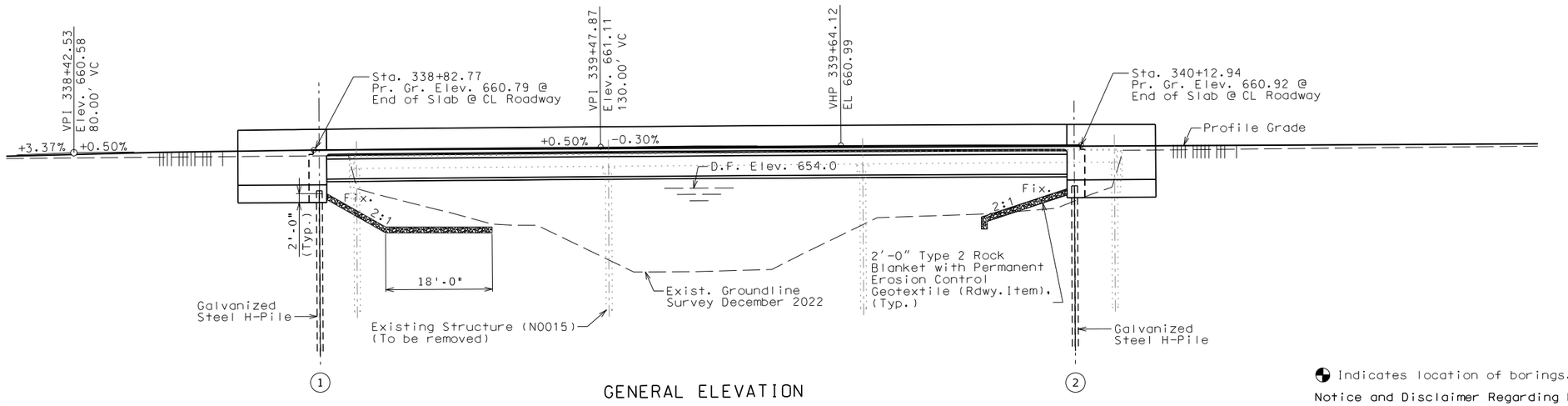
WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102

Detailed June 2024
Checked Aug 2024

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

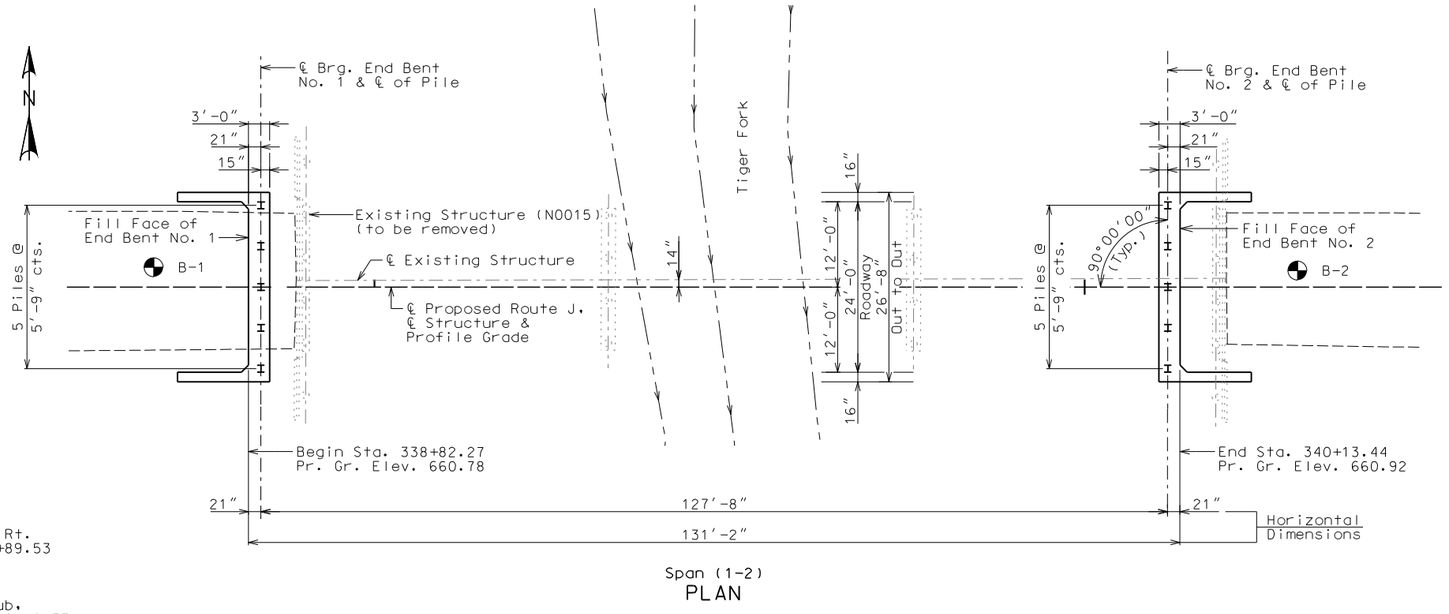
c:\bms\wsp-pb-us-pw-02\wsp__derrick.eldridge\d0860988\B_A9486_001_JNE0050_CV_01.dgn 2:55:54 PM 11/12/2024

(127.67') PRESTRESSED CONCRETE NU GIRDER SPAN



GENERAL ELEVATION

Note:
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 not less than 25 feet in back of the fill face of the end bents before any piles are driven for any end bents falling in the embankment section.



Span (1-2)
PLAN

BENCHMARKS

B.M. #1-22
Pin in SW Hub, 9.62' Rt.
of Route J, Sta. 338+89.53
Elev. 660.53

B.M. #2-22
Chisled "□" in NE Hub,
11.54' Lt. of Sta. 340+19.73
Elev. 660.48

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. 21 & 22 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.

PLAN AND GENERAL ELEVATION

Detailed June 2024
Checked Aug 2024

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STATE OF MISSOURI
KANDI SPRAGGS
NUMBER PE-2011020089
PROFESSIONAL ENGINEER
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DATE PREPARED 11/12/2024
ROUTE J | STATE MO
DISTRICT BR | SHEET NO. 2
COUNTY SHELBY
JOB NO. JNE0050
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9486

DESCRIPTION | DATE

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

WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
Seismic Design Category = A

Design Loading:

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

Design Unit Stresses:

Class B Concrete (Substructure)	f'c = 3,000 psi
Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Class B-2 Concrete (Superstructure, except Prestressed Girders and Barrier)	f'c = 4,000 psi
Reinforcing Steel (ASTM A615 Grade 60)	fy = 60,000 psi
Structural Steel HP Pile (ASTM A709 Grade 50)	fy = 50,000 psi

For precast prestressed panel stresses, see Sheet No.13.
For prestressed girder stresses, see Sheets No.9 & 10.

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 to traffic during construction. See roadway plans for traffic control.

Miscellaneous:

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

☐ Constant Joint Filler
☐ Variable Joint Filler

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

Estimated Quantities

	Item		Substr.	Superstr.	Total
	Class 1 Excavation	cu. yard	40		40
	Removal of Bridges (N0015)	lump sum			1
	Bridge Approach Slab (Minor)	sq. yard		115	115
	Galvanized Structural Steel Piles (12 in.)	linear foot	615		615
	Dynamic Pile Testing	each	2		2
	Pile Point Reinforcement	each	10		10
	Class B Concrete (Substructure)	cu. yard	26.6		26.6
*	Type D Barrier	linear foot		303	303
	Slab on Concrete NU-Girder	sq. yard		386	386
	NU 53, Prestressed Concrete NU-Girder	linear foot		514	514
	Steel Intermediate Diaphragm for P/S Girders	each		6	6
	Vertical Drain at End Bents	each			2
	Plain Neoprene Bearing Pad	each		8	8

* Type D Barrier shall be cast-in-place option or slip-form option.

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.

Estimated Quantities for Slab on Concrete NU-Girder

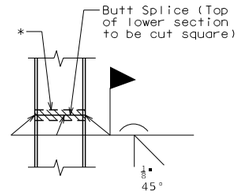
Item		Total
Class B-2 Concrete	cu. yard	124.0
Reinforcing Steel (Epoxy Coated)	pound	25,330

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 prestressed panels, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

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

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

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



STEEL PILE SPLICE
(If required)

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

Hydrologic Data

Drainage Area = 23.8 mi²
Design Flood Frequency = 50 years
Design Flood Discharge = 5800 cfs
Design Flood (D.F.) Elevation = 654.0'
Base Flood (100-year)
Base Flood Elevation = 654.5
Base Flood Discharge = 6400 cfs
Estimated Backwater = 0.2 ft
Average Velocity thru Opening = 5.8 ft/s
Freeboard (50-year)
Freeboard = 1.4 ft
Roadway Overtopping
Overtopping Flood Discharge = 1500 cfs
Overtopping Flood Frequency = 25 years
25-Year Flood Elevation = 653.4'

Foundation Data

Type	Design Data		Bent Number 1	Bent Number 2
Load Bearing Pile	Pile Type and Size		HP 12x53	HP 12x53
	Number	ea	5	5
	Approximate Length Per Each	ft	64.0	59.0
	Pile Point Reinforcement	ea	5	5
	Min. Galvanized Penetration (Elev.)	ft	631	632
	Pile Driving Verification Method		(DT)	(DT)
	Resistance Factor		0.65	0.65
	Minimum Nominal Axial Compressive Resistance	kip	405	405

DT = Dynamic Testing

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

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.

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

GENERAL NOTES AND ESTIMATED QUANTITIES

Detailed June 2024
Checked Aug 2024

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

STATE OF MISSOURI
KANDI SPRAGGS
NUMBER PE-2010020089
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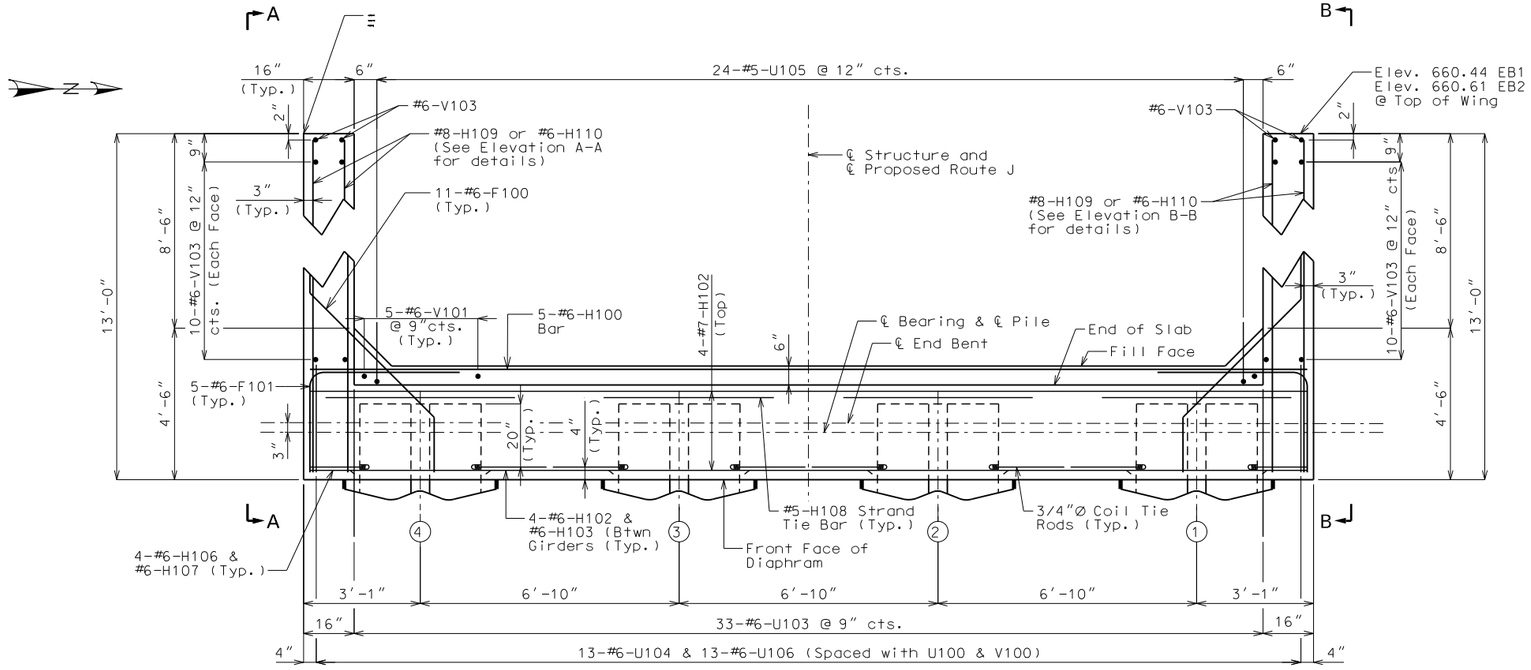
DATE PREPARED 11/12/2024
ROUTE J | STATE MO
DISTRICT BR | SHEET NO. 3
COUNTY SHELBY
JOB NO. JNE0050
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9486

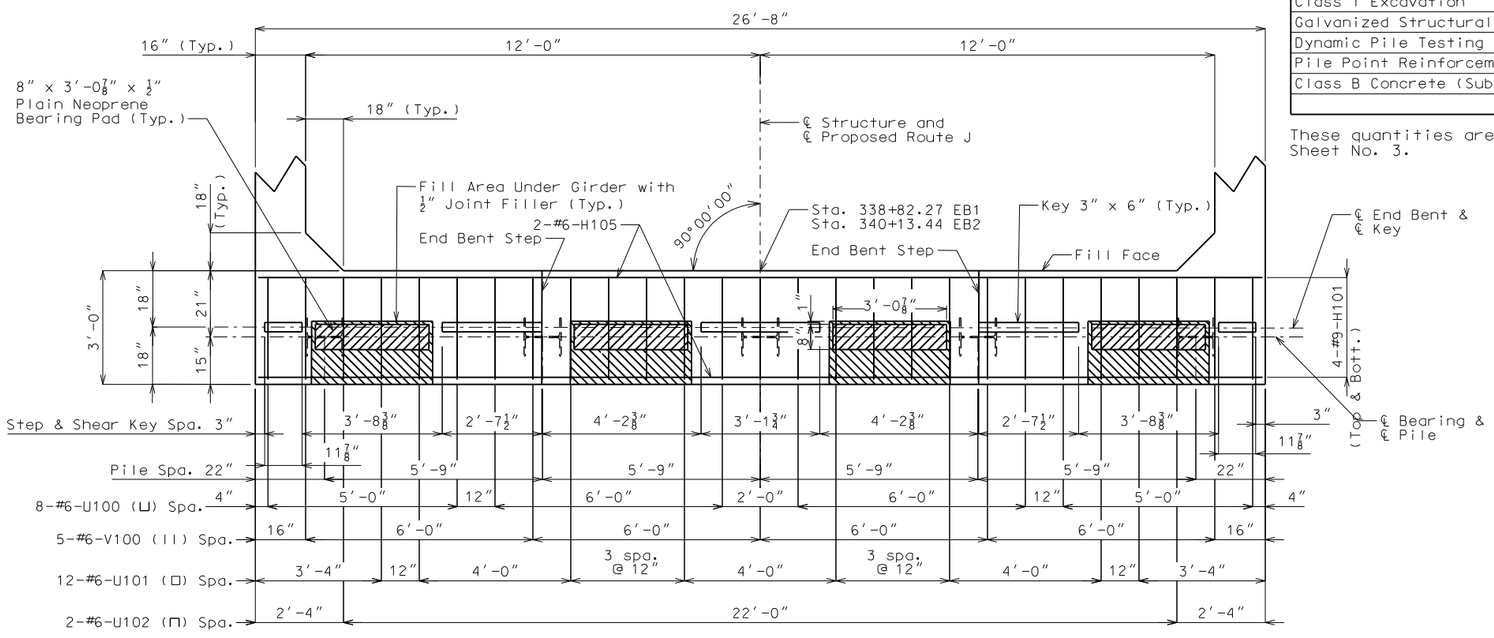
DESCRIPTION | DATE

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

WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102



PART PLAN
End Bent No. 1 (Shown)
End Bent No. 2 (Similar)



PLAN OF BEAM

END BENT NO. 1 & 2 - PLANS

Substructure Quantity Table for End Bents

Item		Quantity	
		End Bent No. 1	End Bent No. 2
Class 1 Excavation	cu. yard	40	-
Galvanized Structural Steel Pile (12 in.)	linear foot	320	295
Dynamic Pile Testing	each	1	1
Pile Point Reinforcement	each	5	5
Class B Concrete (Substructure)	cu. yard	13.2	13.4

These quantities are included in the Estimated Quantities table on Sheet No. 3.

General Notes:

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

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

Strands at end of the girders beams shall be field bent or, if necessary, cut in field to maintain 1½" minimum clearance to fill face of end bent.

Work this sheet with Sheets No. 5 & 6.

For Elevations A-A and B-B, see Sheet No. 6.

For details of vertical drain at end bent, see Sheet No. 7.

For details of bridge approach slab, see Sheet No. 17.

The #6-F100 and #6-F101 bars shall be bent in the field to clear girders.

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

For location of coil-tie rods and #5-H108 (strand tie-bar), see Sheets No. 9 & 10.

STATE OF MISSOURI
KANDI SPRAGGS
NUMBER PE-2011020089
PROFESSIONAL ENGINEER
11/12/2024 3:33:21 PM

DATE PREPARED: 11/12/2024
ROUTE: J | STATE: MO
DISTRICT: BR | SHEET NO.: 4
COUNTY: SHELBY
JOB NO.: JNE0050
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9486

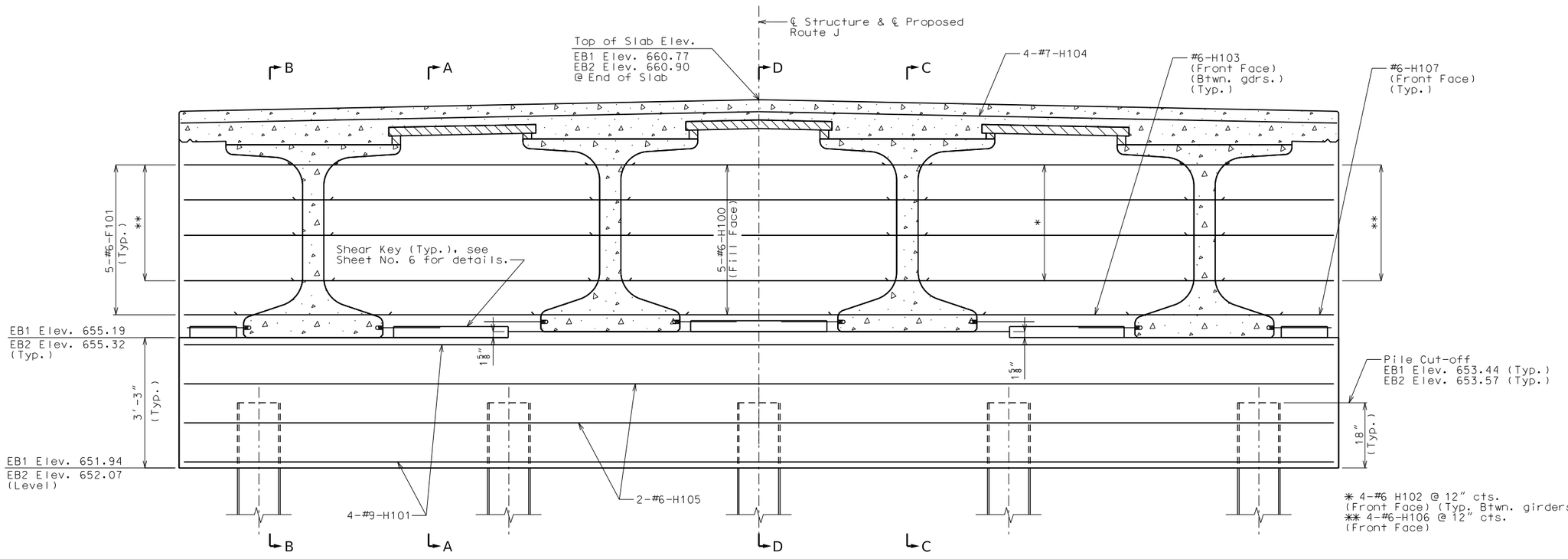
DESCRIPTION | DATE

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

WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102

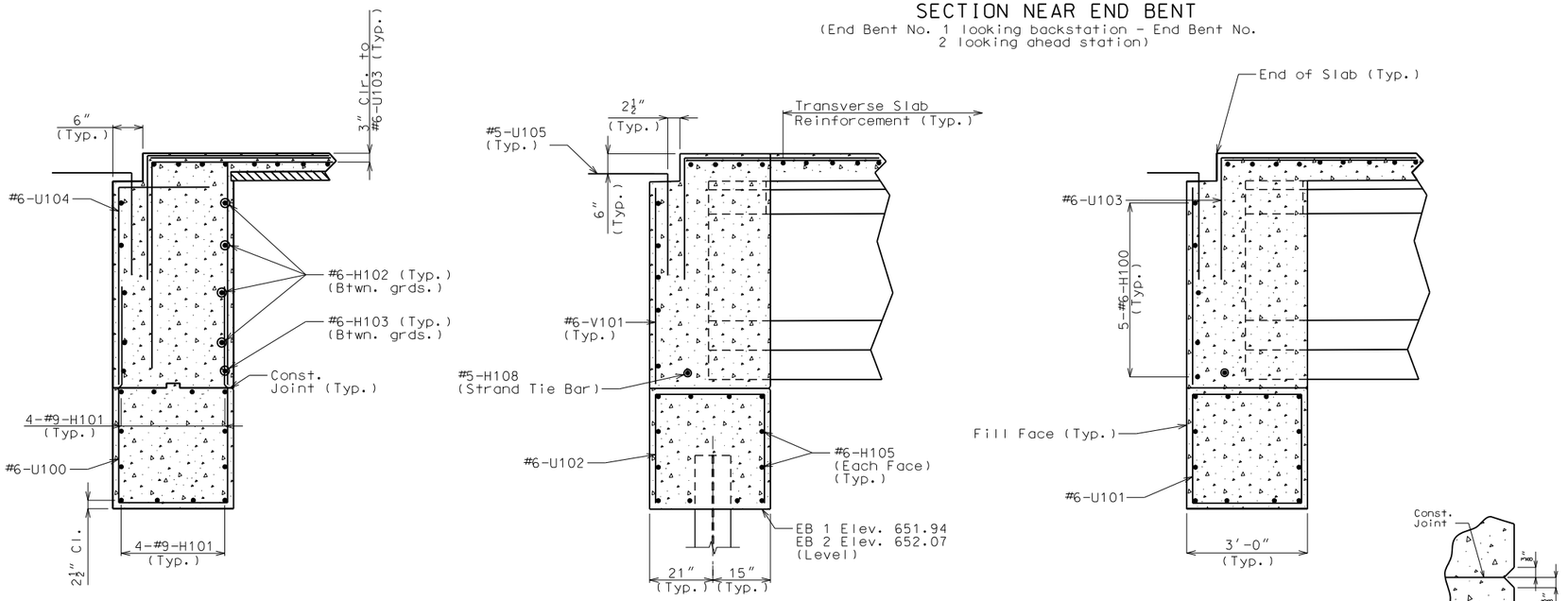
Detailed June 2024
Checked Aug 2024

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



SECTION NEAR END BENT

(End Bent No. 1 looking backstation - End Bent No. 2 looking ahead station)



General Notes:
Work this sheet with Sheets No. 4 & 6.

END BENT NO. 1 & 2 - DETAILS

Detailed June 2024
Checked Aug 2024

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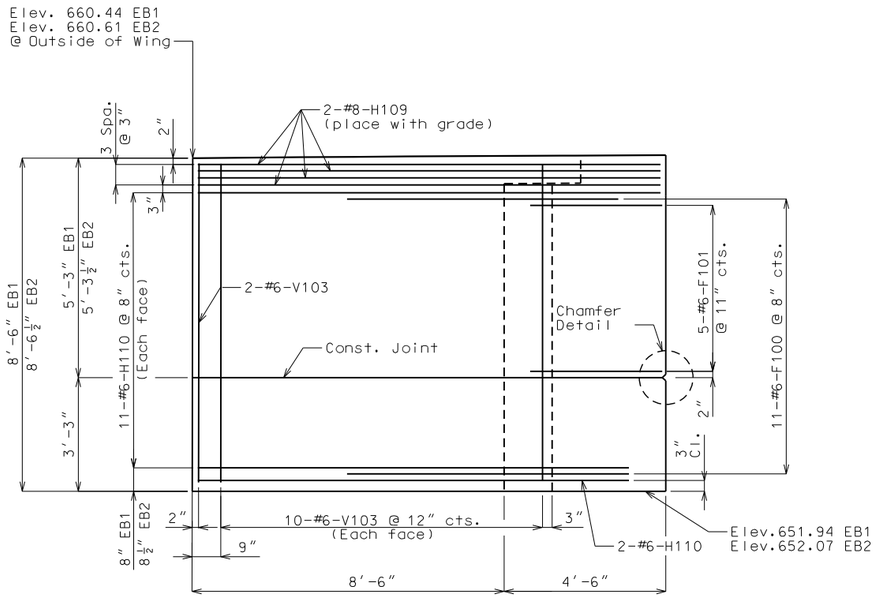
STATE OF MISSOURI
KANDI SPRAGGS
NUMBER PE-2010020089
PROFESSIONAL ENGINEER
11/12/2024 3:33:21 PM

DATE PREPARED 11/12/2024
ROUTE J | STATE MO
DISTRICT BR | SHEET NO. 5
COUNTY SHELBY
JOB NO. JNE0050
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9486

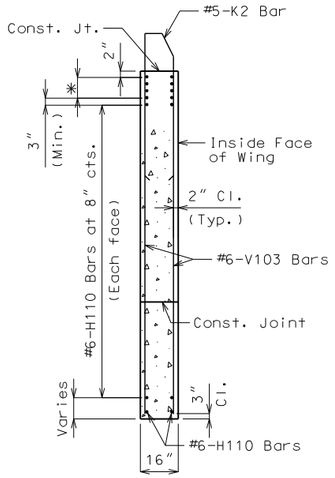
DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102

c:\bms\wsp-pb-us-pw-02\wsp__derrick.eldridge\d0860988\B_A9486_005_JNE0050_EB_02.dgn 3:00:48 PM 11/12/2024

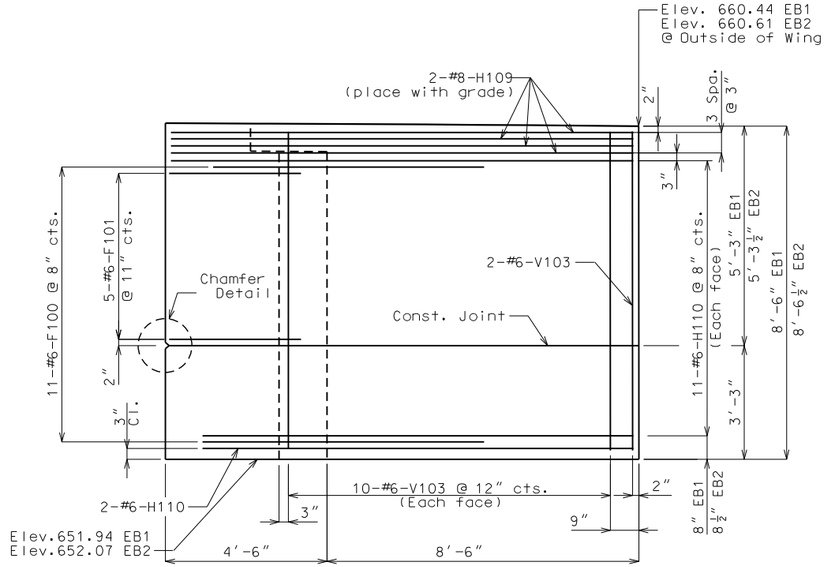


ELEVATION A-A

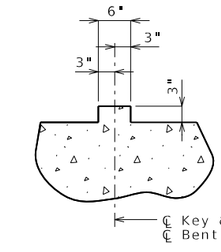


TYPICAL SECTION THRU WING

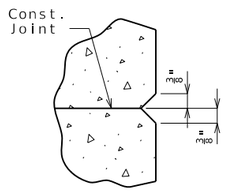
* #8-H109 Bars at 3" cts.
(Each face)(Place with grade)



ELEVATION B-B



SECTION THRU KEY



CHAMFER DETAIL

General Notes:
Work this sheet with Sheets No. 4 & 5.

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

END BENT NO. 1 & 2 WING DETAILS

Detailed June 2024
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KANDI SPRAGGS
NUMBER PE-2010020089
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11/12/2024

ROUTE	STATE
J	MO
DISTRICT	SHEET NO.
BR	6

COUNTY
SHELBY

JOB NO.
JNE0050

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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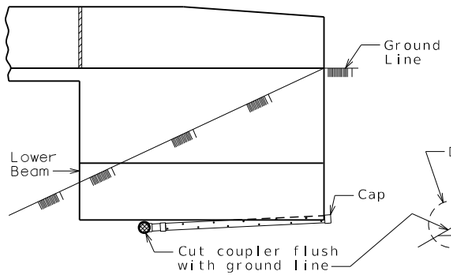
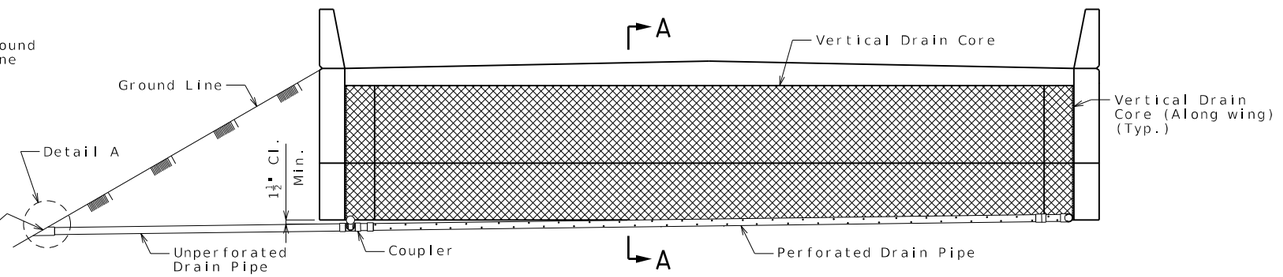
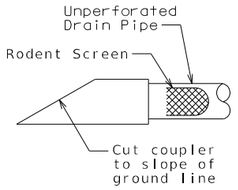
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102



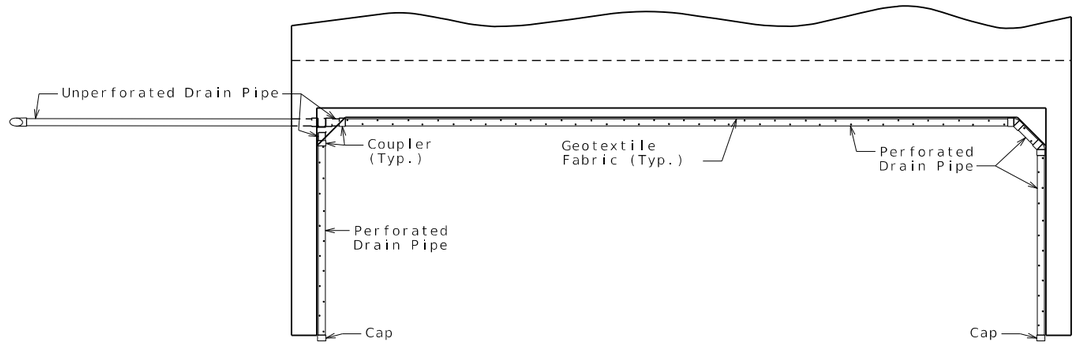
ELEVATION OF WING



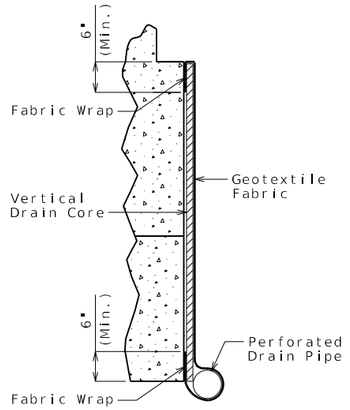
ELEVATION OF END BENT



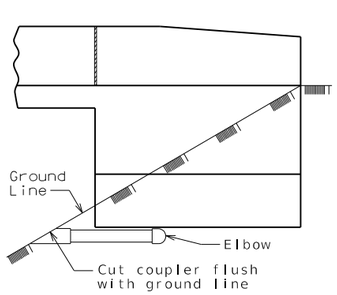
DETAIL A



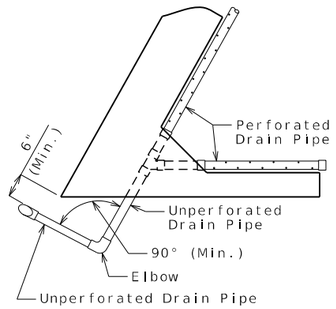
PLAN OF END BENT



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

Detailed June 2024
Checked Aug 2024

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

STATE OF MISSOURI
KANDI SPRAGGS
NUMBER PE-2011020089
PROFESSIONAL ENGINEER
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DATE PREPARED 11/12/2024

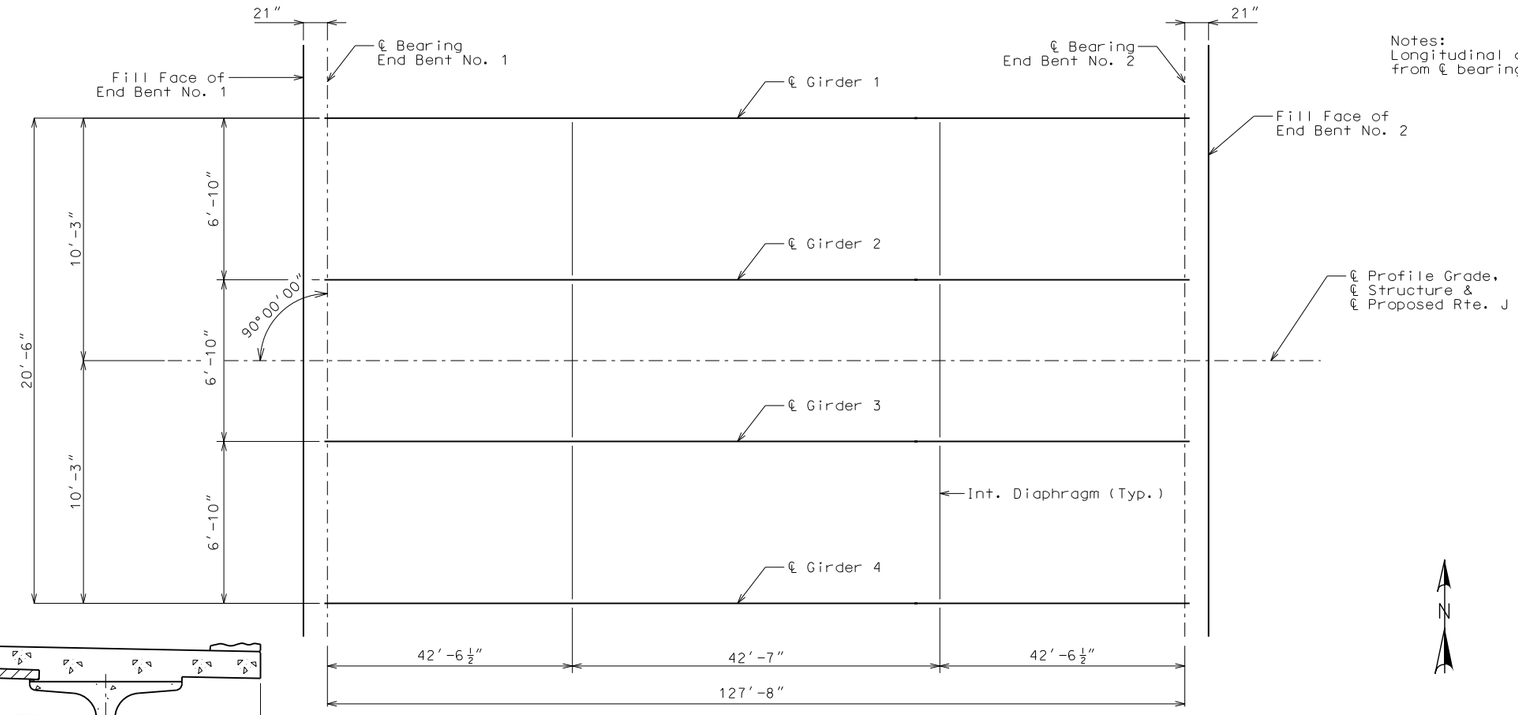
ROUTE	STATE
J	MO
DISTRICT	SHEET NO.
BR	7

COUNTY: SHELBY
JOB NO.: JNE0050
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9486

DESCRIPTION | DATE

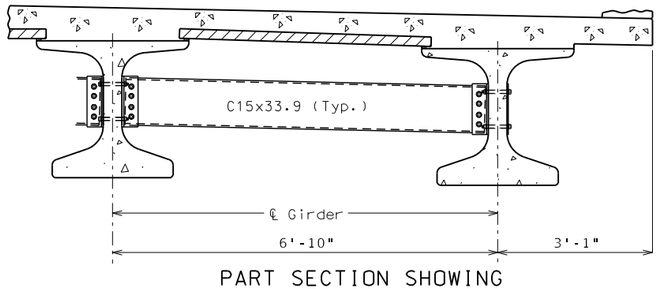
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102

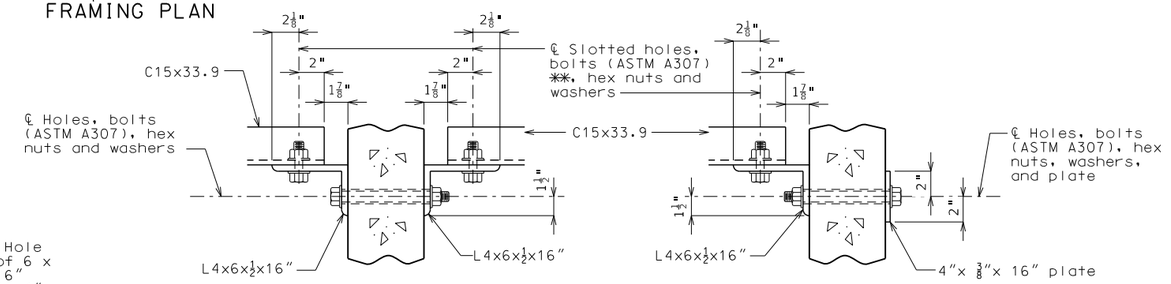


Notes:
Longitudinal dimensions are horizontal from ℄ bearing to ℄ bearing.

Span (1-2)
FRAMING PLAN

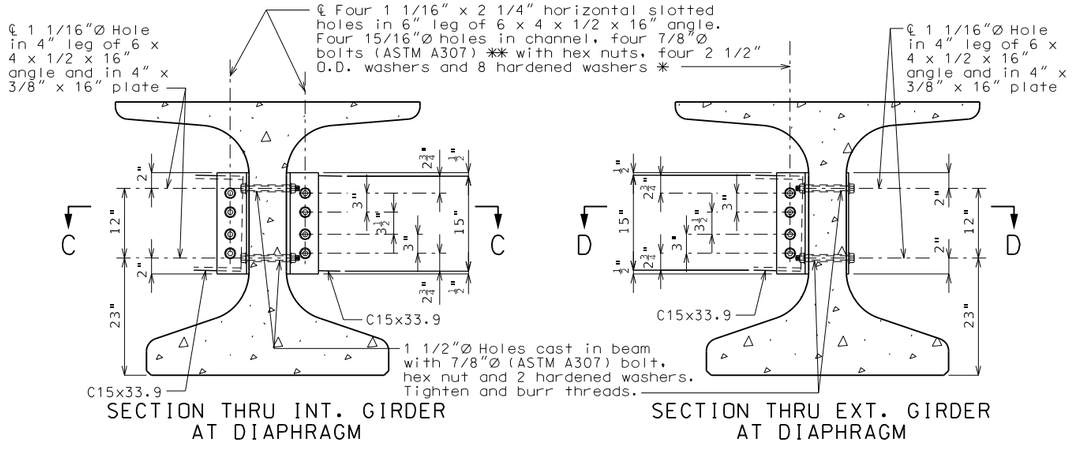


PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS



SECTION C-C

SECTION D-D



SECTION THRU INT. GIRDER
AT DIAPHRAGM

SECTION THRU EXT. GIRDER
AT DIAPHRAGM

STEEL DIAPHRAGM NOTES:

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

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

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

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

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

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

FRAMING PLAN AND STEEL INTERMEDIATE DIAPHRAGMS

Detailed June 2024
Checked Aug 2024

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

STATE OF MISSOURI
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ROUTE J | STATE MO
DISTRICT BR | SHEET NO. 8
COUNTY SHELBY
JOB NO. JNE0050
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9486

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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SUITE 2800
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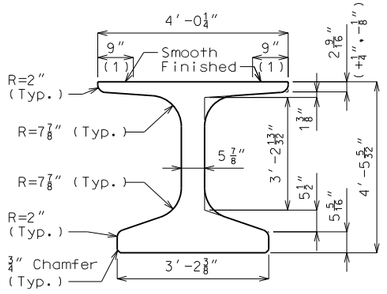
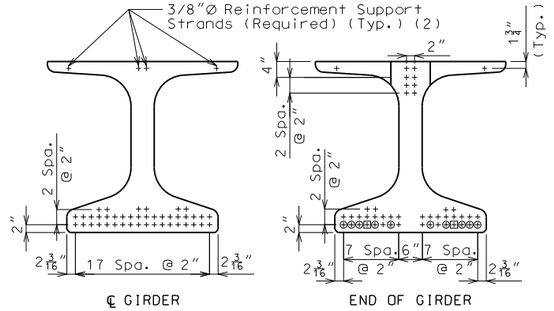
(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.



DIMENSIONS

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

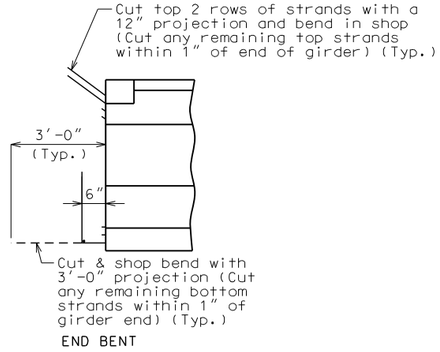


STRAND ARRANGEMENT

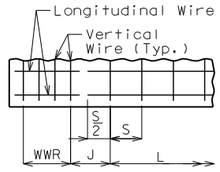
+ Indicates prestressing strand.

o Indicates cut & shop bend with 3′-0″ projection.

□ Indicates debonded for 2′-0″ from end of girder.



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

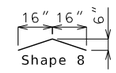
Bars Each Girder

No.	Size/Mark		Length	Shape
150	3	G1	2′-10″	8
2	4	G3	3′-10¼″	20

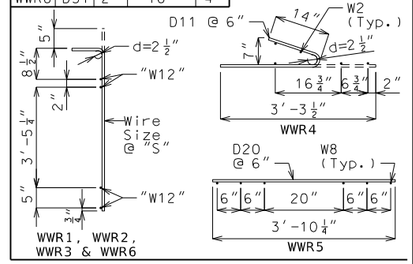
Welded Wire Each Girder

Mark	Size	S	L	J
WWR1	D31	4″	2′-4″	12″
WWR2	D31	12″	7′-0″	20″
WWR3	D31	20″	50′-0″	5¼″
WWR6	D31	2″	16″	4″

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 Grade 60.

WWR shall not be epoxy coated.

General Notes:

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

Use 42 strands, 0.6″Ø Grade 270, with an initial prestress force of 1846 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

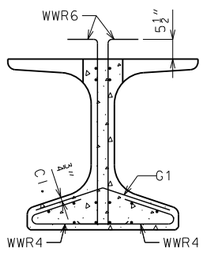
Exterior and interior girders are the same except: holes for steel intermediate diaphragms.

For Girder Camber Diagram, see Sheet No. 11.

The 1 1/2″Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 8.

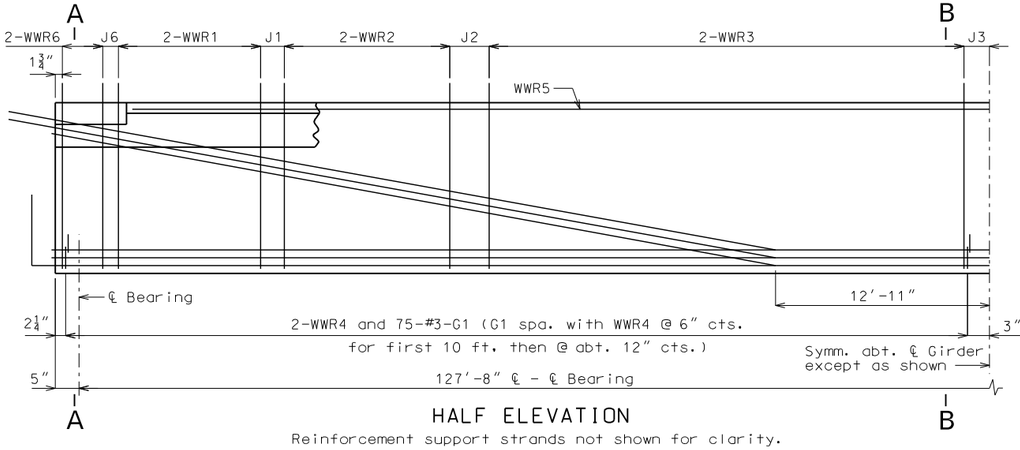
For location of coil ties at integral bents, see Sheet No. 4.

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



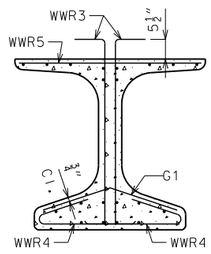
SECTION A-A

Strands not shown for clarity.



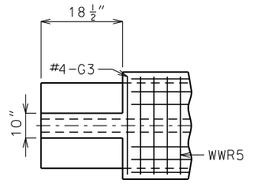
HALF ELEVATION

Reinforcement support strands not shown for clarity.



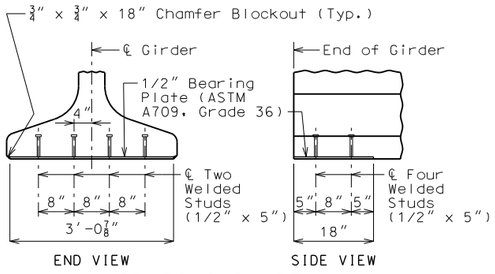
SECTION B-B

Strands not shown for clarity.

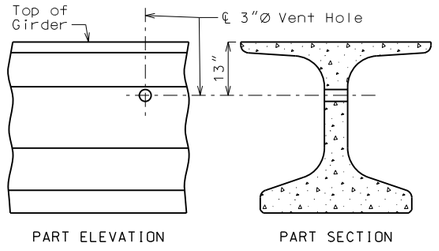


INTERIOR GIRDER & EXTERIOR GIRDER AT END BENT

TOP FLANGE BLOCKOUT

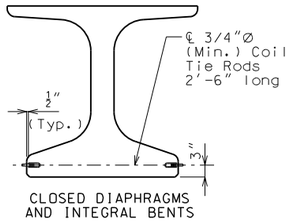


BEARING PLATE



VENT HOLE

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



CLOSED DIAPHRAGMS AND INTEGRAL BENTS

COIL TIES

TYPE NU 53 P/S GIRDER SPAN - SPAN (1-2) (WWR)

Detailed June 2024
Checked Aug 2024

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

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KANDI SPRAGGS
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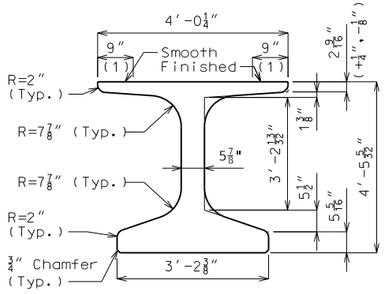
ROUTE J | STATE MO
DISTRICT BR | SHEET NO. 9
COUNTY SHELBY
JOB NO. JNE0050
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9486

DESCRIPTION | DATE

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

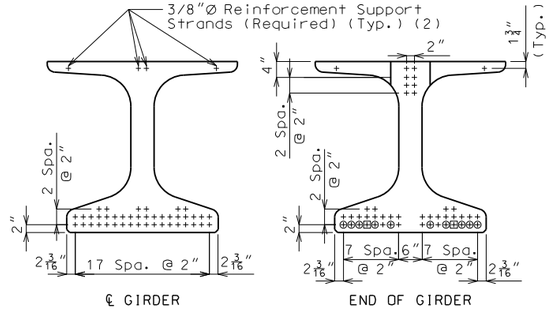
WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102

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

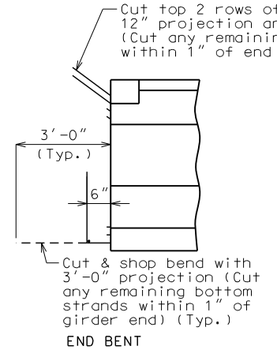


DIMENSIONS

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



STRAND ARRANGEMENT

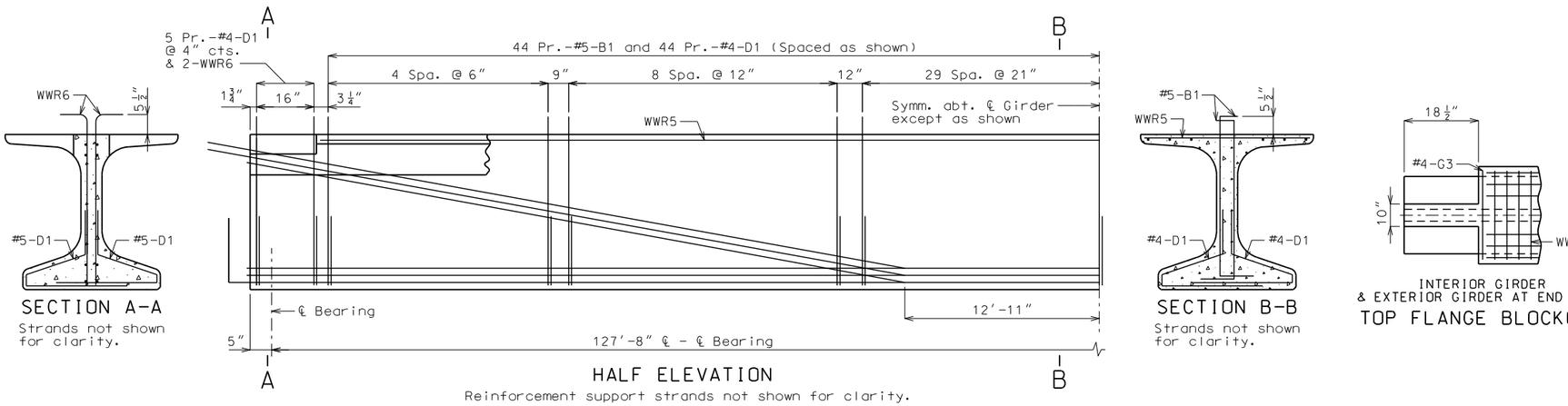


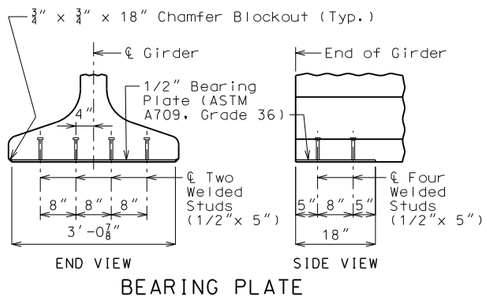
STRANDS AT GIRDER ENDS

\+ Indicates prestressing strand.

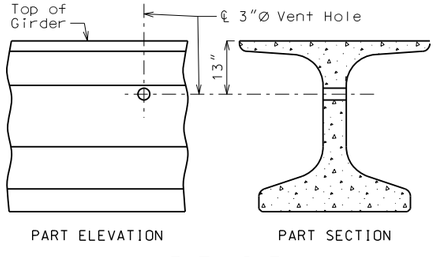
o Indicates cut & shop bend with 3′-0″ projection.

□ Indicates debonded for 2′-0″ from end of girder.



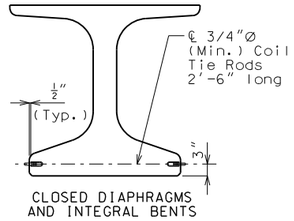


BEARING PLATE



VENT HOLE

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



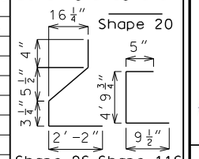
CLOSED DIAPHRAGMS AND INTEGRAL BENTS

COIL TIES

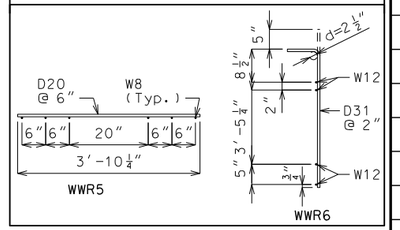
Bill of Reinforcing Steel - Each Girder

No.	Size/ Mark	Length	Shape
174	5 B1	5′-10″	11S
194	4 D1	4′-0″	9S
2	4 G3	3′-10¼″	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 Grade 60.

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

All B1 bars shall be epoxy coated.

General Notes:

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

Use 42 strands, 0.6″Ø Grade 270, with an initial prestress force of 1846 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: holes for steel intermediate diaphragms.

For Girder Camber Diagram, see Sheet No. 11.

The 1 1/2″Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No.8.

For location of coil ties at integral bents, see Sheet No. 4.

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
KANDI SPRAGGS NUMBER PE-2014020089
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ROUTE J | STATE MO
DISTRICT BR | SHEET NO. 10
COUNTY SHELBY
JOB NO. JNE0050
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9486

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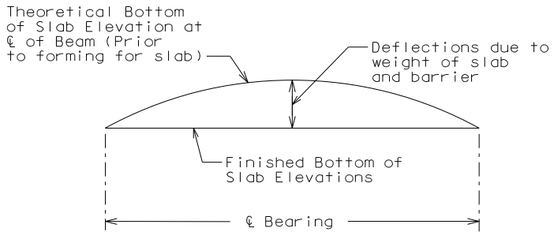
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102

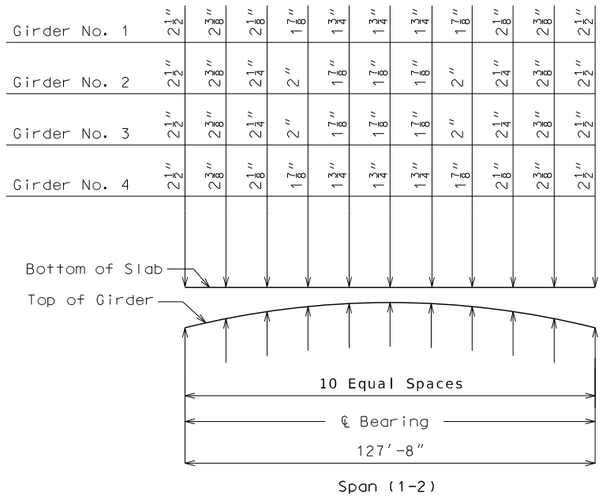
TYPE NU 53 P/S GIRDER SPAN - SPAN (1-2) (REBAR)

Detailed June 2024
Checked Aug 2024

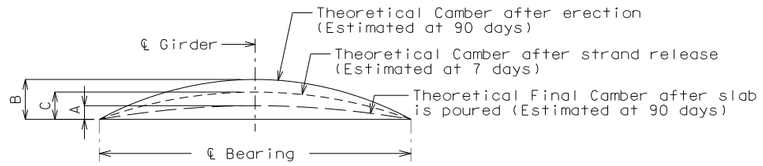
Note: This drawing is not to scale. Follow dimensions.



TYPICAL SLAB ELEVATIONS DIAGRAM



THEORETICAL SLAB HAUNCHING DIAGRAM
(Estimated at 90 days)



Girder	Span (1-2)		
	A	B	C
Exterior	2¾″	5⅞″	4⅛″
Interior	2⅝″		

GIRDER CAMBER DIAGRAM

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.

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

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

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

	Span (1-2) (127′-8″ ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ Brg.
Girder No. 1	659.87	660.03	660.16	660.26	660.33	660.36	660.35	660.31	660.23	660.13	660.00
Girder No. 2	660.01	660.17	660.30	660.41	660.48	660.51	660.50	660.46	660.38	660.27	660.14
Girder No. 3	660.01	660.17	660.30	660.41	660.48	660.51	660.50	660.46	660.38	660.27	660.14
Girder No. 4	659.87	660.03	660.16	660.26	660.33	660.36	660.35	660.31	660.23	660.13	660.00

Elevations are based on a constant slab thickness of 8 1/2″ and include allowance for theoretical dead load deflections due to weight of slab (including precast panel) and barrier.

THEORETICAL SLAB HAUNCHING DIAGRAM, THEORETICAL BOTTOM OF SLAB ELEVATIONS, AND GIRDER CAMBER DIAGRAM

Detailed June 2024
Checked Aug 2024

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

STATE OF MISSOURI
KANDI SPRAGGS
NUMBER PE-2011020089
PROFESSIONAL ENGINEER
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ROUTE J | STATE MO
DISTRICT BR | SHEET NO. 11
COUNTY SHELBY
JOB NO. JNE0050
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9486

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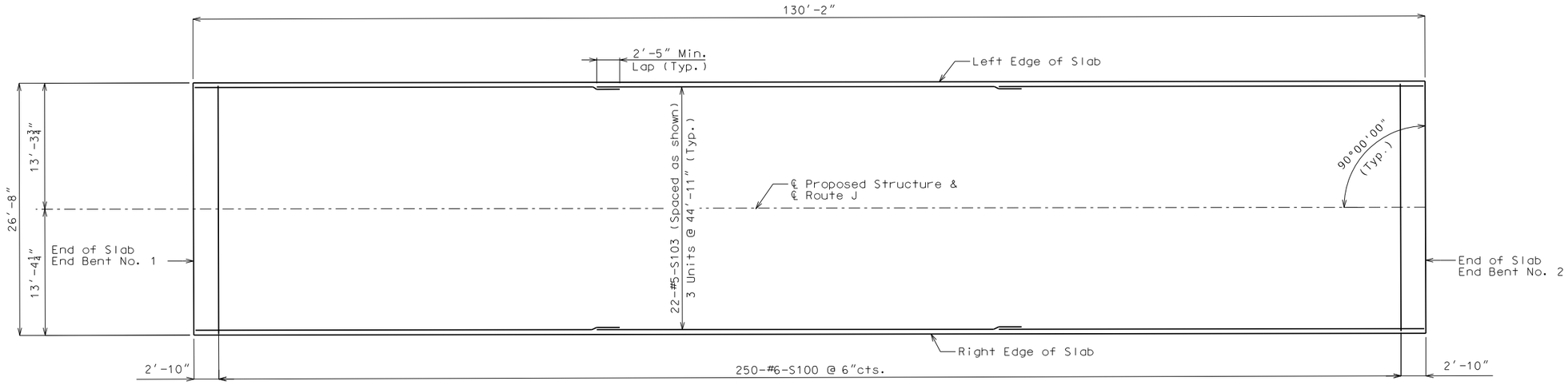
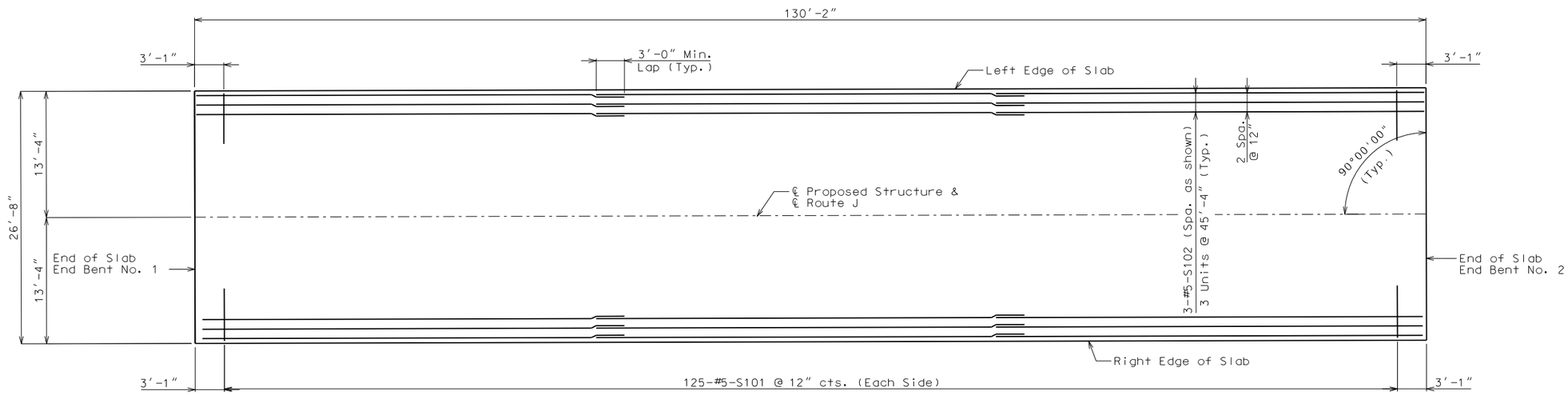
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102



TOP REINFORCEMENT



BOTTOM REINFORCEMENT

Notes:

Longitudinal slab dimensions are measured horizontally.

For Section Thru Slab, see Sheet No. 14.

For Details and Reinforcement of Barrier not shown, see Sheet No. 15.

For Theoretical Slab Haunching Diagram, Theoretical Bottom of Slab Elevations, Girder Camber Diagram, see Sheet No. 11.

For Details of Precast Prestressed Panes, see Sheet No. 13.

SLAB PLAN SHOWING REINFORCING

Detailed June 2024
Checked Aug 2024

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

STATE OF MISSOURI
KANDI SPRAGGS
NUMBER PE-2011020089
PROFESSIONAL ENGINEER
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DATE PREPARED
11/12/2024

ROUTE	STATE
J	MO
DISTRICT	SHEET NO.
BR	12

COUNTY
SHELBY

JOB NO.
JNE0050

CONTRACT ID.

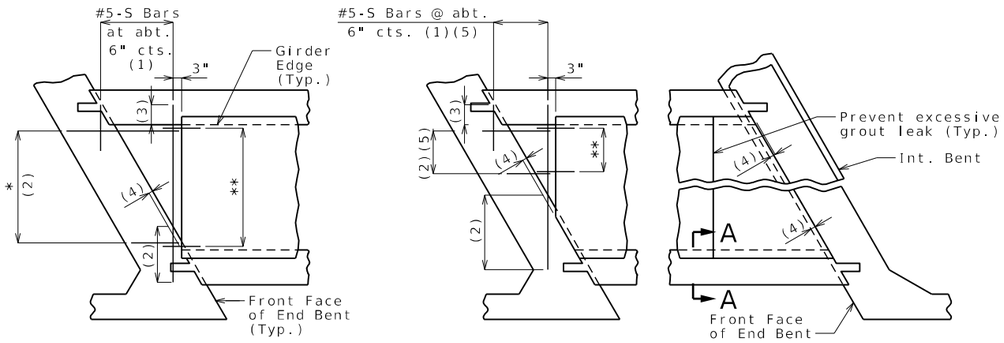
PROJECT NO.

BRIDGE NO.
A9486

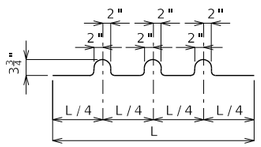
DESCRIPTION	DATE

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

WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102

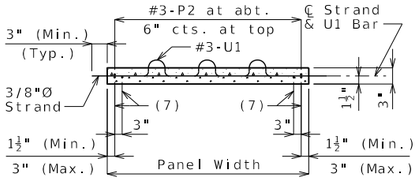


SQUARED END PANELS OR TRUNCATED END PANELS



BENDING DIAGRAM FOR U1 BAR

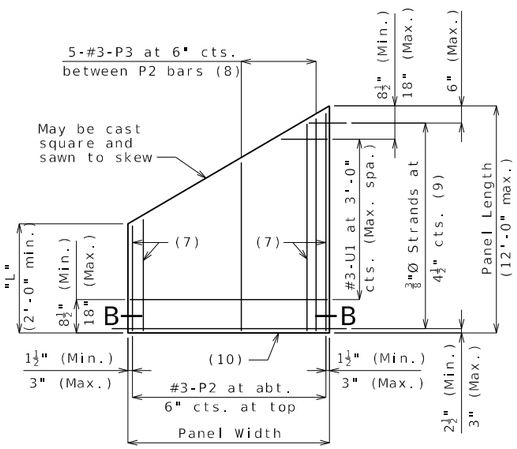
U1 Bars may be oriented at right angles to location and spacing shown. U1 Bars shall be placed between P1 bars.



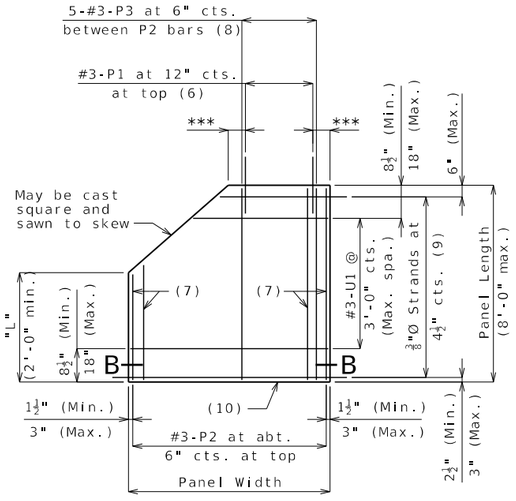
SECTION B-B

PLAN SHOWING PANEL PLACEMENT

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

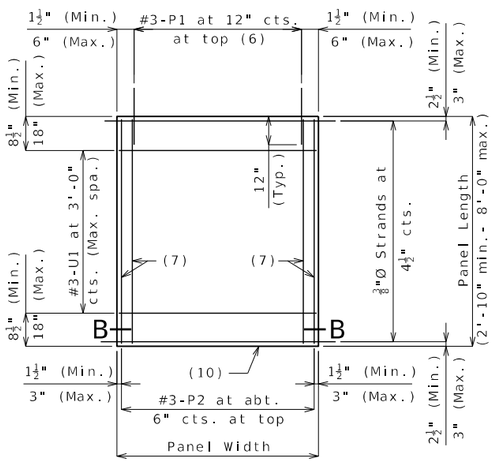


PLAN OF OPTIONAL SKEWED END PANEL

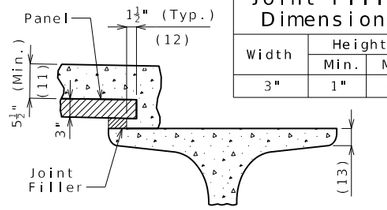


PLAN OF OPTIONAL TRUNCATED END PANEL

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



PLAN OF SQUARED PANEL



SECTION A-A

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

Reference Notes:

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

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

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

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

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

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

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

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

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

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

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

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

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

General Notes:

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

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

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

Initial prestressing force = 17.2 kips/strand.

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

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

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

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

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

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

Reinforcing Steel:
All dimensions are out to out.

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

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

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

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

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

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

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

All reinforcement other than prestressing strands shall be epoxy coated.

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

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

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

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

Use Slab Haunching Diagram on Sheet No. 11 for determining thickness of joint filler within the limits noted in the table of Joint Filler Dimensions.

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

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

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

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

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KANDI SPRAGGS NUMBER PE-2010020088 PROFESSIONAL ENGINEER
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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102

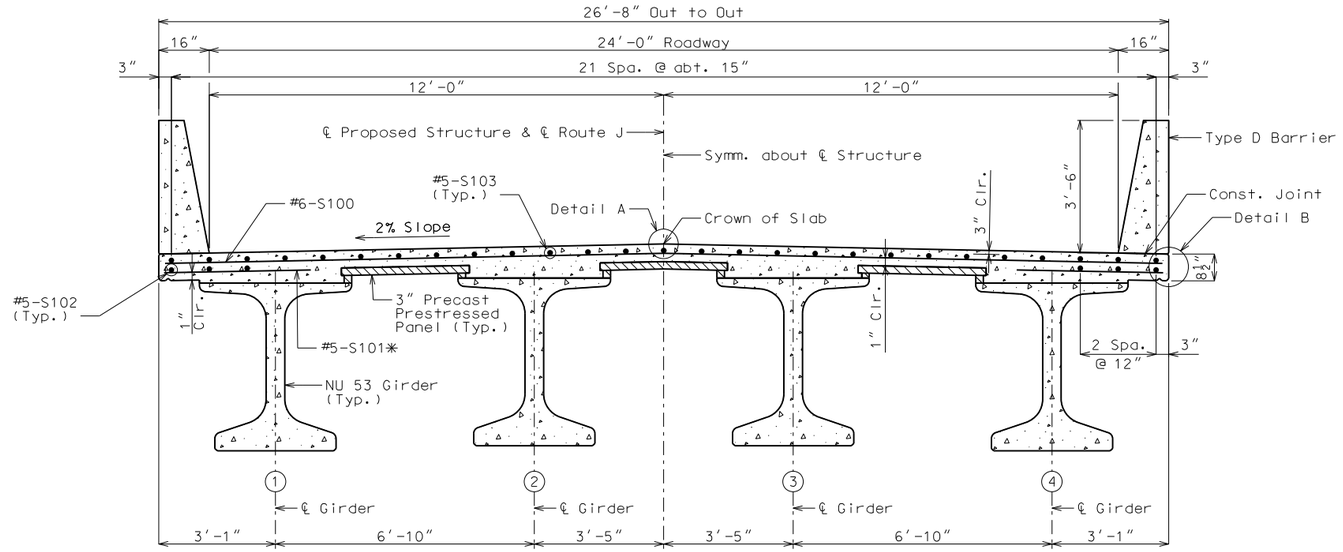
DATE PREPARED 11/12/2024
ROUTE J | STATE MO
DISTRICT BR | SHEET NO. 13
COUNTY SHELBY
JOB NO. JNE0050
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9486

DESCRIPTION	DATE

DETAILS OF PRESTRESSED PANELS

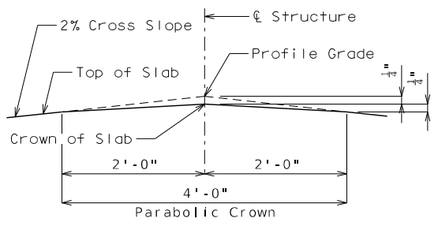
Detailed June 2024
Checked Aug 2024

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

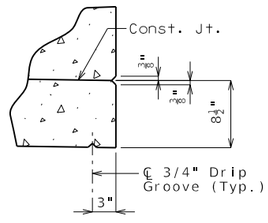


SECTION THRU SLAB

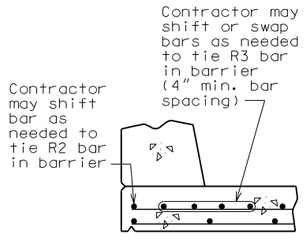
✳ Alternate bar available, see Type D Barrier sheet.



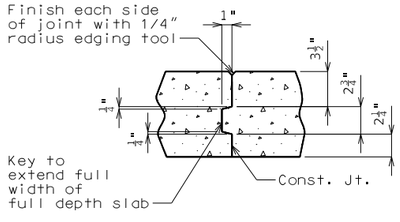
DETAIL A



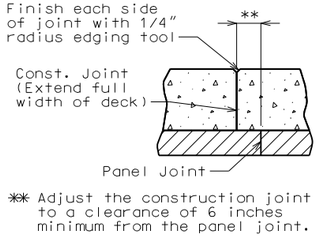
DETAIL B



OPTIONAL SHIFTING TOP BARS AT BARRIER



FULL DEPTH SLAB



✳✳ Adjust the construction joint to a clearance of 6 inches minimum from the panel joint.

SLAB ON PANELS

SLAB CONSTRUCTION JOINT

Notes:

For details of Precast Prestressed Panels, see Sheet No. 13.

For details and reinforcement of Type D Barrier not shown, see Sheet No. 15.

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 11.

For Plan of Slab Showing Reinforcement, see Sheet No. 12.

SLAB DETAILS

Detailed June 2024
Checked Aug 2024

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

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DISTRICT BR | SHEET NO. 14
COUNTY SHELBY
JOB NO. JNE0050
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9486

DESCRIPTION | DATE

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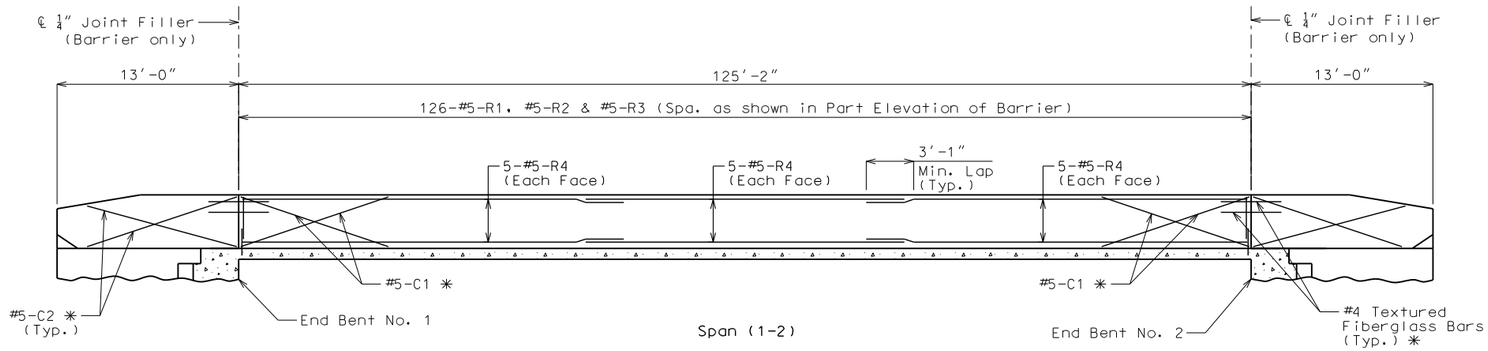
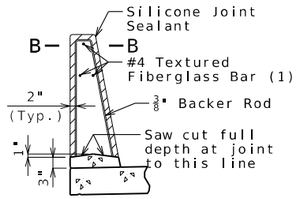
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102

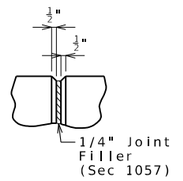


ELEVATION OF TYPE D BARRIER

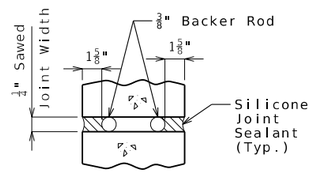
(Left barrier shown, right barrier similar)
Longitudinal dimensions are horizontal



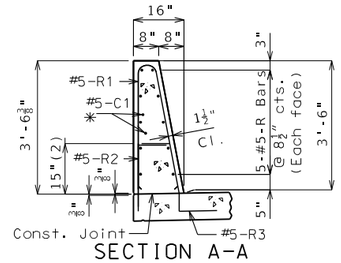
SECTION THRU SAW CUT JOINT



PART ELEVATION AT FORMED JOINT



SECTION B-B

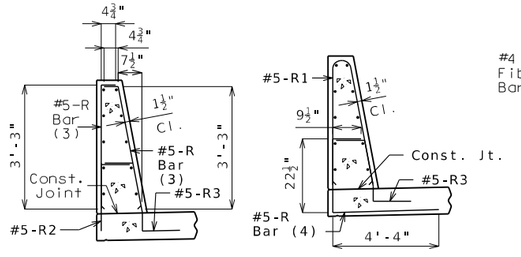


SECTION A-A

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

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

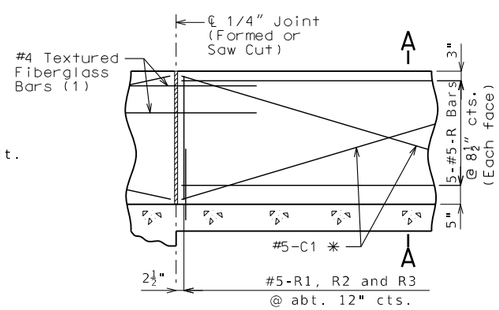
(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

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

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



PART ELEVATION OF BARRIER

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

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 Type D Barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.

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

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

Concrete in Type D Barrier shall be Class B-1.

Measurement of Type D Barrier is to the nearest linear foot for each structure, measured along the outside top of slab 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.

DETAILS OF TYPE D BARRIER

Detailed June 2024
Checked Aug 2024

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ROUTE	STATE
J	MO
DISTRICT	SHEET NO.
BR	15

COUNTY: SHELBY
JOB NO.: JNE0050
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9486

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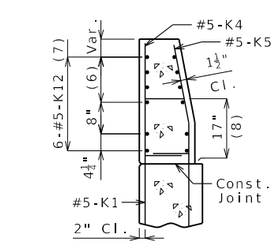
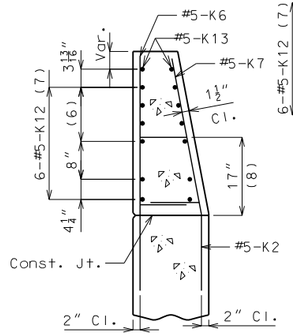
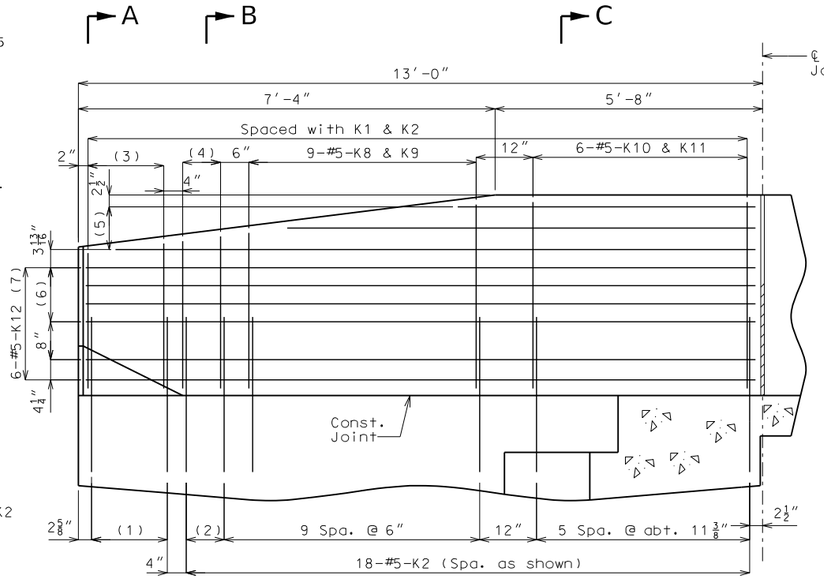
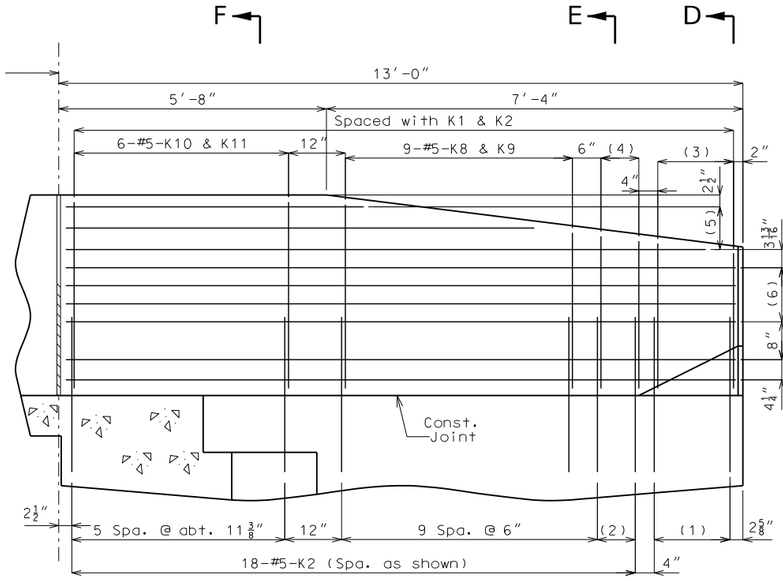


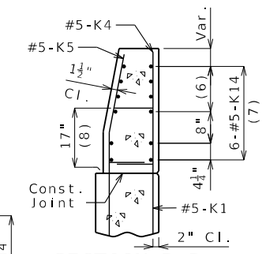
SECTION A-A



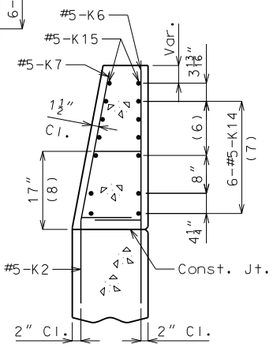
SECTION B-B





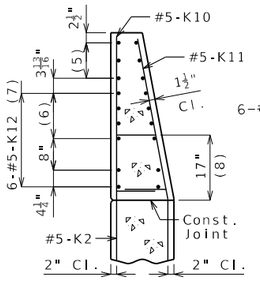


SECTION D-D

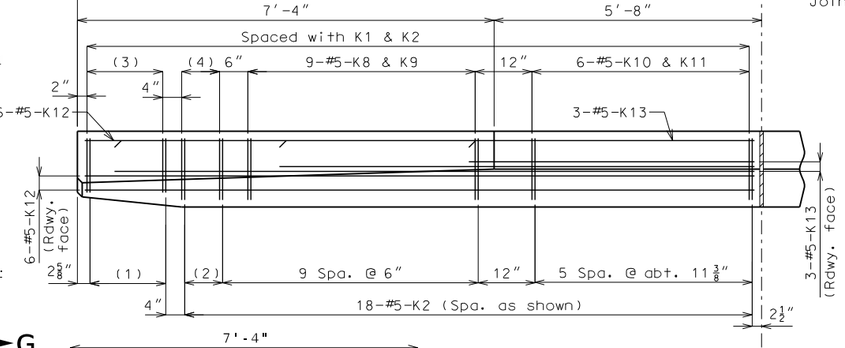


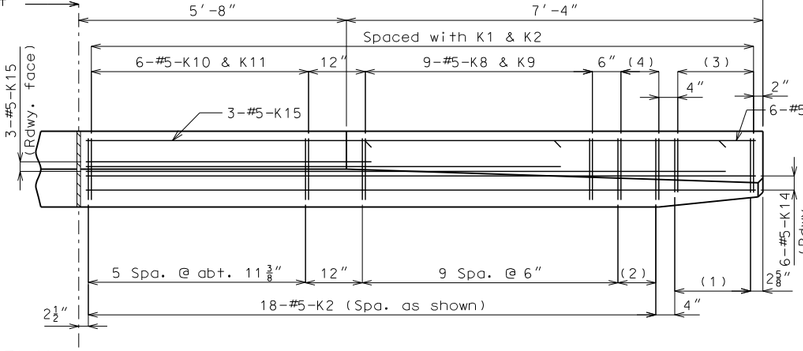
SECTION E-E

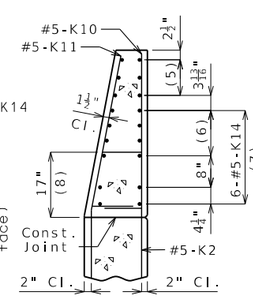
PART ELEVATION



SECTION C-C







SECTION F-F

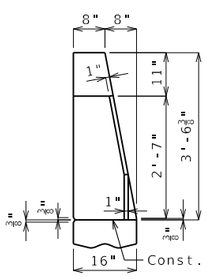
PART PLAN

(Left barrier shown, right barrier similar)

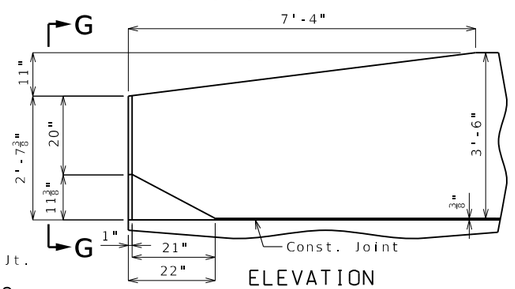
(1) 5-#5-K1 @ 4" cts.
(2) 2 Spa. @ 4"
(3) 5-#5-K4 & K5
(4) 3-#5-K6 & K7
(5) 3-#5-K13 or K15 @ 4½" cts., each face
(6) 3 Spa. @ 3 13/16"
(7) Spa. as shown, each face
(8) To top of bar

General Notes:
Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accorance with Sec 617. Delineators on bridges with two-lane, two-way 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.

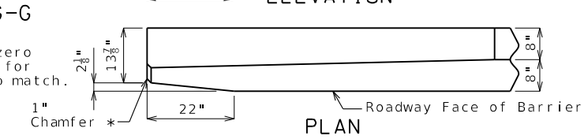


ELEVATION G-G



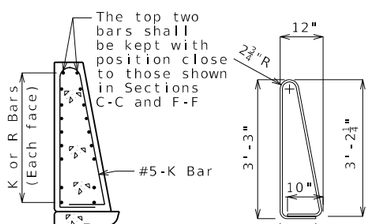
ELEVATION

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



PLAN

DETAILS OF GUARDRAIL ATTACHMENT



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.

DETAILS OF TYPE D BARRIER AT END BENTS

Detailed June 2024
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ROUTE J | STATE MO
DISTRICT BR | SHEET NO. 16
COUNTY SHELBY
JOB NO. JNE0050
CONTRACT ID.
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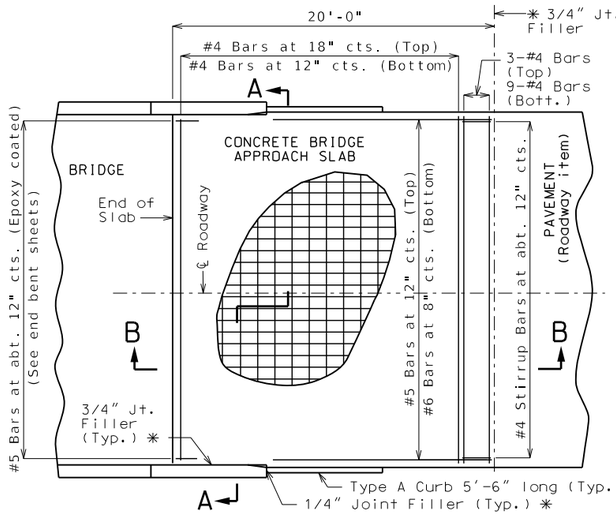
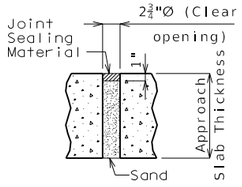
1-888-ASK-MODOT (1-888-275-6636)

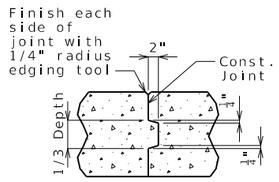
WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102



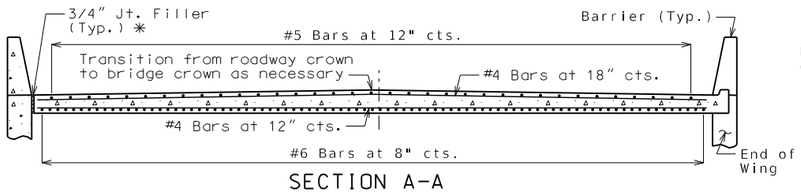
PART PLAN OF SQUARED STRUCTURE
(Skewed structure similar)



UNDERSEAL ACCESS HOLE DETAIL
(If required)

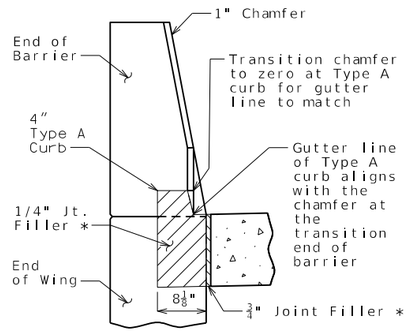


CONSTRUCTION JOINT DETAIL



SECTION A-A

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



SECTION BETWEEN CURB AND BARRIER

Notes For Concrete Slab Only:

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

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

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

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

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 23 inches for #4 bars, or by mechanical bar splice.

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:

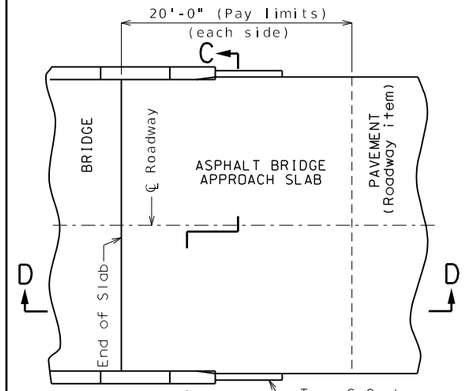
☐ Concrete Bridge Approach Slab

☐ Asphalt Bridge Approach Slab

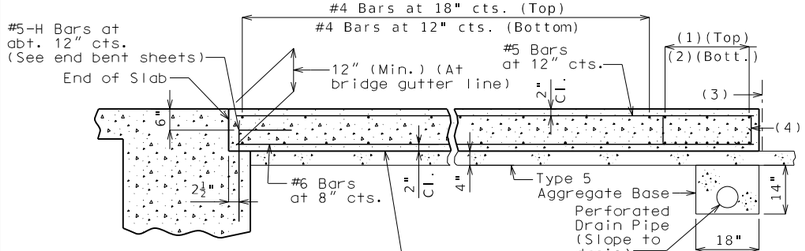
Notes For Asphalt Slab Only:

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)



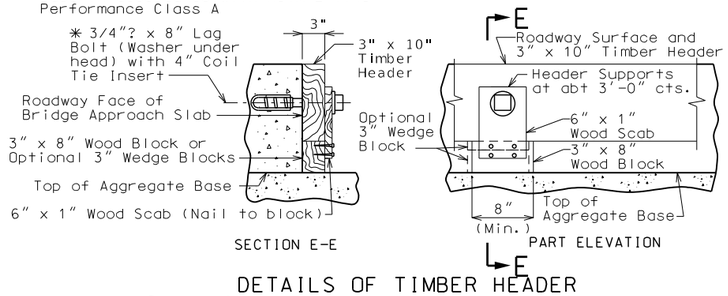
SECTION B-B
(Integral end bent)

(1) 3-#4 Bars

(2) 9-#4 Bars

(3) ✳ 3/4" Jt. Filler

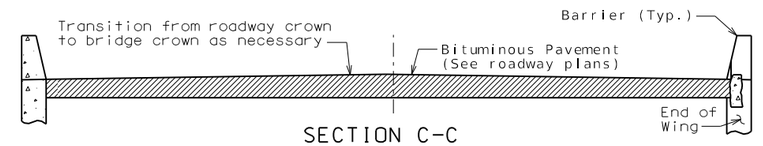
(4) #4 Stirrup Bars at abt. 12" cts.; 2'-0"x 8" (Min.) out to out; Actual length = 5'-10" (Min.); 90° stirrup hook at bottom; Stirrup height (8") and actual length vary due to crown.



SECTION E-E

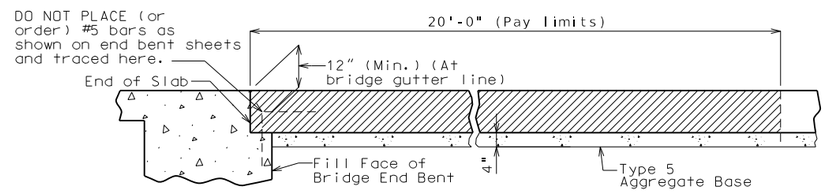
PART ELEVATION

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

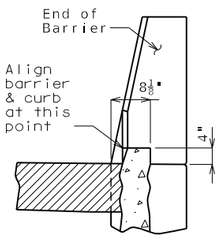


SECTION C-C

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)

Detailed June 2024
Checked Aug 2024

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

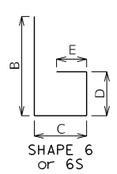
STATE OF MISSOURI
KANDI SPRAGGS
NUMBER PE-2010020089
PROFESSIONAL ENGINEER
11/12/2024 3:33:22 PM

DATE PREPARED	11/12/2024
ROUTE	J
STATE	MO
DISTRICT	BR
SHEET NO.	17
COUNTY	SHELBY
JOB NO.	JNE0050
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A9486

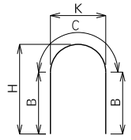
DESCRIPTION | DATE

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

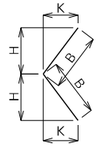
WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102



SHAPE 6
or 6S



SHAPE 7



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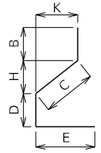

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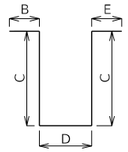

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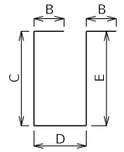

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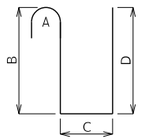

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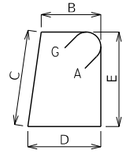

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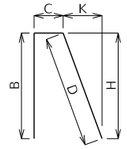

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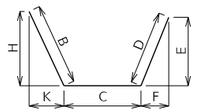

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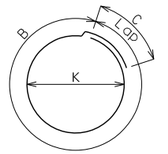

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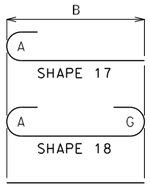
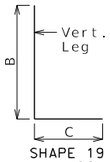


SHAPE 17
SHAPE 18
SHAPE 20



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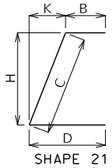

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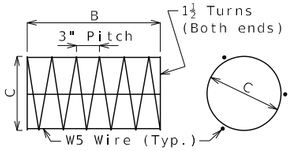

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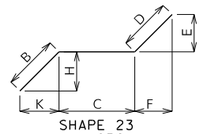

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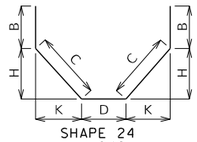

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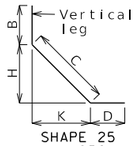

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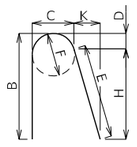

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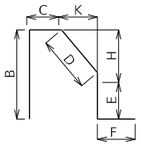

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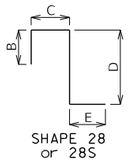

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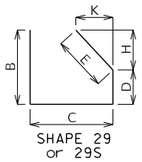

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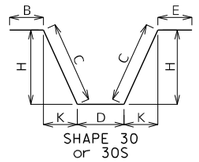

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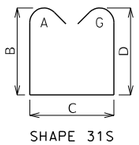

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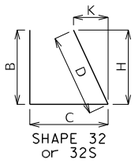

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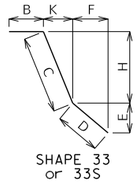

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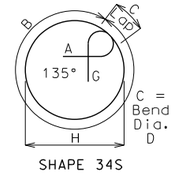

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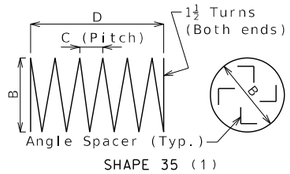
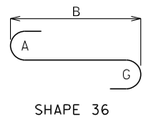


SHAPE 35 (1)

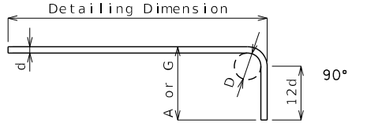


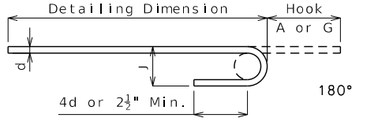
SHAPE 36

Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes

Size	Case	D	A or G		J
			90°	180°	180°
#4	1	3″	8″	6″	4″
#5	1	3¾″	10″	7″	5″
#6	1	4½″	12″	8¼″	6″
#7	2	5¼″	14″	9⅜″	7″
	3	7″	15″	11½″	8¾″
#8	2	6″	16″	11″	8″
	3	8″	17″	13¼″	10″
#9	1	9½″	19½″	15½″	11¾″
#10	1	10¾″	22″	17½″	13¼″
#11	1	12″	24½″	19½″	14⅞″
#14	1	18¼″	31¼″	27½″	21⅝″
#18	1	24″	41½″	36¼″	28½″



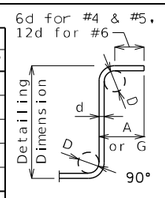


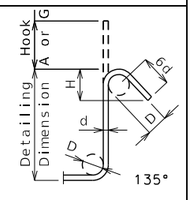
Stirrup Pin Bend Shapes (S)

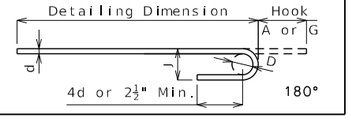
Size	Case	D	A or G			H	J
			90°	135°	180°	135°	180°
#4	2	2″	4½″	4½″	5″	2⅝″	3″
	3	3″	5″	5¼″	6″	3″	4″
#5	2	2½″	5¾″	5¾″	5¾″	3⅝″	3¾″
	3	3¾″	6¼″	6½″	7″	3⅞″	5″
#6	1	4½″	12″	7¾″	8¼″	4⅝″	6″

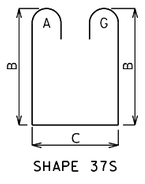
Applicable for all grades of steel.

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

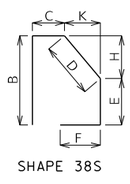








SHAPE 37S



SHAPE 38S

BENDING DIAGRAMS

All dimensions are out to out.

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

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

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

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

Reinforcing Steel Totals (Pounds)

	Size	Substructure		Superstructure				Entire Bridge	
				Slab					
		Plain	Epoxy	Plain	Epoxy	Barrier	Slip Form	Plain	Epoxy
By Size	W5								
	4								
	5				5280	8336	188		13804
	6				17112				17112
	7				431				431
	8				1068				1068
	9				1433				1433
	10								
	11								
	14								
	18								
By Type					25324	8336	188		33848

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

BAR BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Detailed June 2024
Checked Aug 2024

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

STATE OF MISSOURI
KANDI SPRAGGS
NUMBER PE-2010020089
PROFESSIONAL ENGINEER
11/12/2024 3:33:22 PM

DATE PREPARED 11/12/2024
ROUTE J | STATE MO
DISTRICT BR | SHEET NO. 18
COUNTY SHELBY
JOB NO. JNE0050
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9486

DESCRIPTION
DATE

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

WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes E	SH	S	X	V	No. Each	Dimensions B ft	B in.	C ft	C in.	D ft	D in.	E ft	E in.	E ft	E in.	H ft	H in.	K ft	K in.	Nom. Length ft	Nom. Length in.	Actual Length ft	Actual Length in.	Weight lb
		END BENT NO. 1&2																									
44	6 F100	Wing Brace	E	23	S				2	3.000	4	7.750		14.000		9.875		9.875		19.125		19.125	8	1	8	0	529
20	6 F101	Wing Brace	E	19	S				4	8.000	2	8.000											7	4	7	2	216
10	6 H100	Diaphragm	E	20					26	4.000													26	4	26	4	396
16	9 H101	Beam	E	20					26	4.000													26	4	26	4	1433
24	6 H102	Diaphragm	E	20					5	9.000													5	9	5	9	208
6	6 H103	Diaphragm	E	20					3	3.000													3	3	3	3	30
8	7 H104	Diaphragm	E	20					26	4.000													26	4	26	4	431
8	6 H105	Beam	E	20					26	4.000													26	4	26	4	317
16	6 H106	Diaphragm	E	20					2	5.000													2	5	2	5	59
4	6 H107	Diaphragm	E	20						14.000														14		14	8
8	5 H108	Strand Tie	E	20					5	9.000													5	9	5	9	48
32	8 H109	Wing	E	20					12	5.500													12	6	12	6	1068
96	6 H110	Wing	E	20					11	7.500													11	8	11	8	1683
16	6 U100	Beam	E	10	S						6	4.125	2	8.000									15	4	15	0	361
24	6 U101	Beam	E	13	S				2	8.000	2	10.500	2	8.000	2	10.500							12	5	11	11	430
4	6 U102	Beam	E	10	S						2	10.500	2	8.000									8	5	8	1	49
66	6 U103	Diaphragm	E	19	S				3	3.250	5	4.000											8	7	8	5	835
26	6 U104	Diaphragm	E	19	S				3	10.000	2	6.000											6	4	6	2	241
48	5 U105	Diaphragm	E	19	S				2	0.000		15.000											3	3	3	2	159
26	6 U106	Diaphragm	E	10	S						4	10.000	2	0.000									11	8	11	4	443
10	6 V100	Beam	E	20					6	7.125													6	7	6	7	99
40	6 V101	Diaphragm	E	20					3	10.125													3	10	3	10	231
88	6 V103	Wing	E	20					8	1.000													8	1	8	1	1069
		SLAB																									
250	6 S100	Slab	E	20					26	5.000													26	5	26	5	9920
250	5 S101	Slab	E	20					4	4.000													4	4	4	4	1130
18	5 S102	Slab	E	20					45	4.000													45	4	45	4	852
66	5 S103	Slab	E	20					44	11.000													44	11	44	11	3092
		BARRIER																									
252	5 R1	Type D Barrier	E	26					3	3.000		5.500		2.250				5.500	3	0.750		6.750	6	8	6	7	1731
252	5 R2	Type D Barrier	E	19	S					20.500		9.500											2	6	2	5	636
252	5 R3	Type D Barrier	E	27	S							9.500		15.250		5.000		12.000		15.000		3.000	3	6	3	4	877
60	5 R4	Type D Barrier	E	20					44	9.000													44	9	44	9	2801
20	5 K1	Type D Barrier	E	27	S				3	8.000		9.250		5.375	3	2.750				5.250		1.000	8	1	7	11	166
72	5 K2	Type D Barrier	E	27	S				3	8.000		9.250		14.500	2	5.750				14.250		2.750	8	2	7	11	595
20	5 K4	Type D Barrier	E	19	S		V	4	2	4.250		10.000											3	2	3	1	67
		Increment B = 0.5"							2	6.250		10.000											3	4	3	3	
20	5 K5	Type D Barrier	E	29	S		V	4				8.250		9.500		18.500				18.000		4.000	3	0	2	10	61
		Increment H = 0.5"										8.250		9.500		20.500				20.000		4.500	3	0	3	0	
		Increment K = 0.125"																									
12	5 K6	Type D Barrier	E	19	S				2	6.750		10.000											3	5	3	3	41
12	5 K7	Type D Barrier	E	21	S						2	6.625		10.000						2	6.000	6.250	3	5	3	2	40
36	5 K8	Type D Barrier	E	19	S		V	4	2	8.500		10.000											3	7	3	5	138
		Increment B = 0.75"							3	2.500		10.000											4	1	3	11	
36	5 K9	Type D Barrier	E	21	S		V	4			2	8.500		10.000						2	7.750	6.750	3	6	3	4	135
		Increment H = 0.75"									3	2.500		10.000						3	1.750	7.750	4	1	3	10	
		Increment K = 0.125"																									
24	5 K10	Type D Barrier	E	19	S				3	3.000		10.000											4	1	4	0	101
24	5 K11	Type D Barrier	E	21	S						3	3.000		10.000						3	2.250	7.750	4	1	3	10	96
24	5 K12	Type D Barrier	E	20					12	8.000													12	8	12	8	318
12	5 K13	Type D Barrier	E	20			V	2	5	11.000													5	11	5	11	112
		Increment B = 36"							11	11.000													11	11	11	11	
24	5 K14	Type D Barrier	E	20					12	8.000													12	8	12	8	318
12	5 K15	Type D Barrier	E	20			V	2	5	11.000													5	11	5	11	112
		Increment B = 36"							11	11.000													11	11	11	11	
		SLIP FORM BARRIER																									
8	5 C1	Slip Form	E	20					12	0.000													12	0	12	0	101
8	5 C2	Slip Form	E	20					10	6.000													10	6	10	6	88

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.18.

Detailed June 2024
Checked Aug 2024

All bars shall be Grade 60.

BILL OF REINFORCING STEEL

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

Codes: E = EPOXY COATED REINFORCEMENT.
SH = REQUIRED SHAPE, SEE BENDING DIAGRAMS.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.

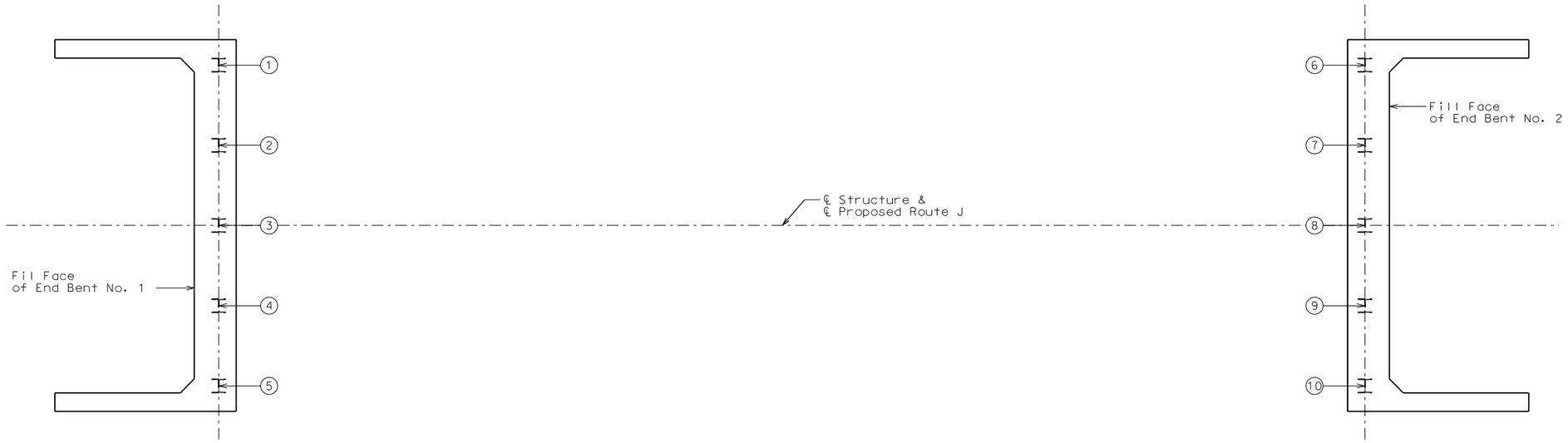
STATE OF MISSOURI
KANDI SPRAGGS
NUMBER PE-2010020089
PROFESSIONAL ENGINEER
11/12/2024 3:33:22 PM

DATE PREPARED 11/12/2024
ROUTE J | STATE MO
DISTRICT BR | SHEET NO. 19
COUNTY SHELBY
JOB NO. JNE0050
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9486

DESCRIPTION | DATE

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

WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102



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

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

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

This sheet to be completed by MoDOT construction personnel.

AS-BUILT PILE DATA

Detailed June 2024
Checked Aug 2024

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

STATE OF MISSOURI
KANDI SPRAGGS
NUMBER PE-2011020089
PROFESSIONAL ENGINEER
11/12/2024 3:33:22 PM

DATE PREPARED 11/12/2024
ROUTE J | STATE MO
DISTRICT BR | SHEET NO. 20
COUNTY SHELBY
JOB NO. JNE0050
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9486

DESCRIPTION | DATE

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

WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102

Missouri Department of Transportation
Construction and Materials

BORING NO. B-1
Page 1 of 2

Job No.: NE 0050 **County:** Shelby **Route:** Route J
Design: A9486 **Skew:** - **Location:** Over Tiger Fork Creek
Bent: - **Logged By:** ADP (UES) **Operator:** KAA (UES)
Station: - **Northing:** 1480682.588 **Date of Work:** 03/04/24-03/07/24
Offset: - **Easting:** 1803293.573 **Depth to Water:** 19.0
Elevation: 660.3 **Requested Northing:** - **Depth Hole Open:**
Requested Station: - **Requested Easting:** - **Time Change:**
Requested Offset: - **Equipment:** CME 55HTX ,Shelby Tube, Split-Spoon Sampler
Requested Elevation: **Location Note:**
Drill No.: S/N 314225 **Hammer Efficiency:** 80% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0		0.0-0.5' ASPHALT - 6 inches 0.5-2.0' GRANULAR BASE - 18 inches 2.0-6.0' FILL: gray, lean clay, trace sand	660						
5			655	X	22	2-2-4 (8)		PP = 2.00 tsf	MC = 21.8%
		6.0-19.0' (CL) Medium stiff, gray, LEAN CLAY, trace sand - (CL)			58		Qu Test Results UCS = 2.12 ksf MC = 21.5% γ_{moist} = 123 pcf	PP = 1.00 tsf	LL = 41 PL = 19
10			650	X	78	0-3-4 (9)		PP = 1.00 tsf	MC = 22.9%
					83		Qu Test Results UCS = 1.84 ksf MC = 23.1% γ_{moist} = 122 pcf	PP = 1.00 tsf	LL = 36 PL = 19
15			645	X	100	0-1-2 (4)		PP = 0.75 tsf	MC = 23.7%
20		19.0-23.0' Very loose, brown, POORLY-GRADED SAND, trace clay - SP	640	X	83	2-1-2 (4)			Sieve Analysis Sieve # % Passing 3/8" 100.0 #4 99.8 #10 96.3 #20 82.2 #40 33.8 #60 12.0 #100 7.6 #140 6.6 #200 6.0
25		23.0-68.5' Hard, gray, FAT CLAY, little sand, little gravel - CH (Glacial Till)	635	X	100	20-45-50/0.4'		PP = 5.00 tsf	MC = 11.3%
30			630	X	100	38-40-44 (112)		PP = 6.00 tsf	MC = 9.7%
35			625	X	100	7-15-25 (53)		PP = 7.00 tsf	MC = 12.3%
40				X	100	5-13-23 (48)		PP = 7.00 tsf	MC = 13.3%

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

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

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

Missouri Department of Transportation
Construction and Materials

BORING NO. B-1
Page 2 of 2

Job No.: NE 0050 **County:** Shelby **Route:** Route J
Design: A9486 **Skew:** - **Location:** Over Tiger Fork Creek
Bent: - **Logged By:** ADP (UES) **Operator:** KAA (UES)
Station: - **Northing:** 1480682.588 **Date of Work:** 03/04/24-03/07/24
Offset: - **Easting:** 1803293.573 **Depth to Water:** 19.0
Elevation: 660.3 **Requested Northing:** - **Depth Hole Open:**
Requested Station: - **Requested Easting:** - **Time Change:**
Requested Offset: - **Equipment:** CME 55HTX ,Shelby Tube, Split-Spoon Sampler
Requested Elevation: **Location Note:**
Drill No.: S/N 314225 **Hammer Efficiency:** 80% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
40		23.0-68.5' Hard, gray, FAT CLAY, little sand, little gravel - CH (Glacial Till) *(continued)*	620						
45			615	X	100	35-50/0.4'		PP = 6.00 tsf	MC = 13.4%
50			610	X	100	25-50-48 (131)		PP = 9.00 tsf	MC = 12.1%
55			605	X	100	45-50/0.1'		PP = 9.00 tsf	MC = 5.4%
60			600	X	100	13-30-40 (93)		PP = 9.00 tsf	MC = 12.4%
65			595						
70		68.5-72.5' Gray, calcareous SHALE	590	X	100	50/0.1'			
		Bottom of borehole at 72.5 feet.		X	100	50/0.1'			

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

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

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

LETTER BOREHOLE - MODOT_20151118.GDT - 4/17/24 13:43 - S:\PROJECTS\044\J044894.01-MODOT - J OVER TIGER FORK (N-0015)\DATA\J044894.01 ROUTE J OVER TIGER CREEK.GPJ

STATE OF MISSOURI
KANDI SPRAGGS
NUMBER PE-2010020089
PROFESSIONAL ENGINEER
11/12/2024 3:33:22 PM

DATE PREPARED 11/12/2024
ROUTE J | STATE MO
DISTRICT BR | SHEET NO. 21
COUNTY SHELBY
JOB NO. JNE0050
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9486

DESCRIPTION | DATE | REVISION

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

WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102

BORING DATA (1 OF 2)

Note: For locations of borings, see Sheet No. 2.

Detailed June 2024
Checked Aug 2024

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

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Missouri Department of Transportation
Construction and Materials

BORING NO. B-2
Page 1 of 2

Job No.: NE 0050 **County:** Shelby **Route:** Route J
Design: A9486 **Skew:** - **Location:** Over Tiger Fork Creek
Bent: - **Logged By:** ADP (UES) **Operator:** KAA (UES)
Station: - **Northing:** 1480682.543 **Date of Work:** 03/07/24-03/08/24
Offset: - **Easting:** 1803454.622 **Depth to Water:** 19.0
Elevation: 660.3 **Requested Northing:** - **Depth Hole Open:**
Requested Station: - **Requested Easting:** - **Time Change:**
Requested Offset: - **Equipment:** CME 55HTX ,Shelby Tube, Split-Spoon Sampler
Requested Elevation: **Location Note:**
Drill No.: S/N 314225 **Hammer Efficiency:** 80% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0		0.0-0.5' ASPHALT - 6 inches 0.5-2.0' GRANULAR BASE - 18 inches 2.0-6.0' FILL: gray, lean clay, trace sand	660						
5			655	X	33	3-1-2 (4)		PP = 0.75 tsf	LL = 38 PL = 15 MC = 16.9%
10		6.0-19.0' Medium stiff, gray, LEAN CLAY, trace sand - (CL)	650	■	79		Qu Test Results UCS = 3.12 ksf MC = 19% γ_{moist} = 129 pcf	PP = 1.50 tsf	LL = 41 PL = 18
15			645	X	78	2-2-3 (7)		PP = 1.50 tsf	MC = 25.4%
20		19.0-32.0' Very loose, brown, POORLY-GRADED SAND, trace clay, trace gravel - SP	640	X	67	1-1-1 (3)			
25			635	X	100	0-1-2 (4)			Sieve Analysis Sieve # % Passing 1/2" 100.0 3/8" 97.3 #4 90.8 #10 80.2 #20 53.3 #40 23.2 #60 11.2 #100 6.9 #140 5.7 #200 4.9 MC = 16.8%
30			630	X	100	1-2-4 (8)			
35		32.0-63.5' Hard, gray, FAT CLAY, little sand, little gravel - CH (Glacial Till)	625	X	89	4-13-27 (53)		PP = 9.00 tsf	MC = 11.6%
40				X	100	8-45-26 (95)		PP = 5.00 tsf	MC = 16.0%

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

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

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

LETTER BOREHOLE - MODOT_20151118.GDT - 4/17/24 13:43 - S:\PROJECTS\J044J\J044894.01-MODOT - J OVER TIGER FORK (N-0015)\DATA\J044894.01 ROUTE J OVER TIGER CREEK.GPJ

Missouri Department of Transportation
Construction and Materials

BORING NO. B-2
Page 2 of 2

Job No.: NE 0050 **County:** Shelby **Route:** Route J
Design: A9486 **Skew:** - **Location:** Over Tiger Fork Creek
Bent: - **Logged By:** ADP (UES) **Operator:** KAA (UES)
Station: - **Northing:** 1480682.543 **Date of Work:** 03/07/24-03/08/24
Offset: - **Easting:** 1803454.622 **Depth to Water:** 19.0
Elevation: 660.3 **Requested Northing:** - **Depth Hole Open:**
Requested Station: - **Requested Easting:** - **Time Change:**
Requested Offset: - **Equipment:** CME 55HTX ,Shelby Tube, Split-Spoon Sampler
Requested Elevation: **Location Note:**
Drill No.: S/N 314225 **Hammer Efficiency:** 80% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
40		32.0-63.5' Hard, gray, FAT CLAY, little sand, little gravel - CH (Glacial Till) *(continued)*	620						
45			615	X	100	8-19-33 (69)		PP = 7.50 tsf	MC = 14.6%
50			610	X	100	14-25-37 (83)		PP = 7.50 tsf	MC = 12.8%
55			605	X	100	15-23-35 (77)		PP = 9.00 tsf	MC = 11.8%
60			600	X	100	20-30-45 (100)		PP = 8.50 tsf	MC = 12.7%
65		63.5-68.5' Gray, calcareous SHALE	595	X	100	50/0.1'			
		Bottom of borehole at 68.5 feet.		X	100	50/0.1'			

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

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

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

LETTER BOREHOLE - MODOT_20151118.GDT - 4/17/24 13:43 - S:\PROJECTS\J044J\J044894.01-MODOT - J OVER TIGER FORK (N-0015)\DATA\J044894.01 ROUTE J OVER TIGER CREEK.GPJ

STATE OF MISSOURI
KANDI SPRAGGS
NUMBER PE-2010020089
PROFESSIONAL ENGINEER
11/12/2024 3:33:22 PM

DATE PREPARED 11/12/2024
ROUTE J | STATE MO
DISTRICT BR | SHEET NO. 22
COUNTY SHELBY
JOB NO. JNE0050
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9486

DESCRIPTION | DATE | REVISION

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

WSP USA INC.
211 NORTH BROADWAY
SUITE 2800
ST. LOUIS, MO 63102

BORING DATA (2 OF 2)

Note: For locations of borings, see Sheet No. 2.

Detailed June 2024
Checked Aug 2024

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