DESIGN DESIGNATION

A.A.D.T. - 2025 = 628
A.A.D.T. - 2045 = 709
D.H.V. = 13.25%
T = 11.15%
V = 55 M.P.H.
D = 49.4% (EB)-50.6% (WB)

FUNCTIONAL CLASSIFICATION-MAJOR COLLECTOR

NORMAL RIGHT OF WAY TO BE ACQUIRED FOR THIS PROJECT.

KEY MAP
LOCATION OF WASHINGTON COUNTY

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		
FIRE HYDRANT		
WATER VALVE		
WATER METER		
DROP INLET		
DITCH BLOCK		
GROUND MOUNTED SIGN		
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL		
FENCE		
CHAIN LINK		V
WOVEN WIRE		X
GATE POST		
BENCHMARK		

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

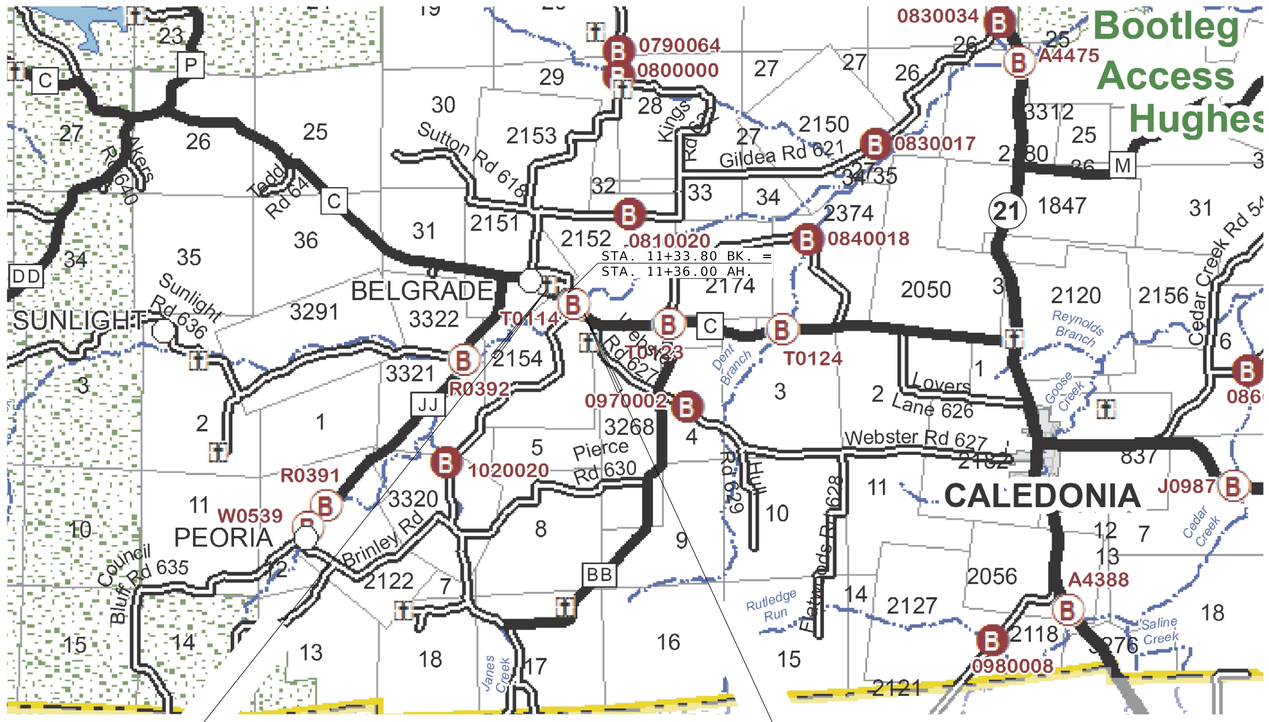
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED

STATE HIGHWAY

T35N & T36N - R2E

WASHINGTON COUNTY



NOT TO SCALE

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

INDEX OF SHEETS

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA. 8 + 90.00	
END OF PROJECT	STA. 19 + 06.65	
APPARENT LENGTH	1,016.65	FEET
EQUATIONS AND EXCEPTIONS:		
STA. 11+33.80 BK. = STA. 11+36.00 AH.	-2.20	FEET
TOTAL CORRECTIONS	-2.20	FEET
NET LENGTH OF PROJECT	1,014.45	FEET
STATE LENGTH	0.192	MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES	0.9	ACRES

STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2010021150
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/18/2024
ROUTE: C
STATE: MO
DISTRICT: CD
SHEET NO.: 1
COUNTY: WASHINGTON
JOB NO.: J5S3506
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)

(b) - TAPERS:
EXIST. WIDTH TO 11' - STA. 8+90.00 TO STA. 9+43.30
11' TO EXIST. WIDTH - STA. 18+56.65 TO STA. 19+06.65

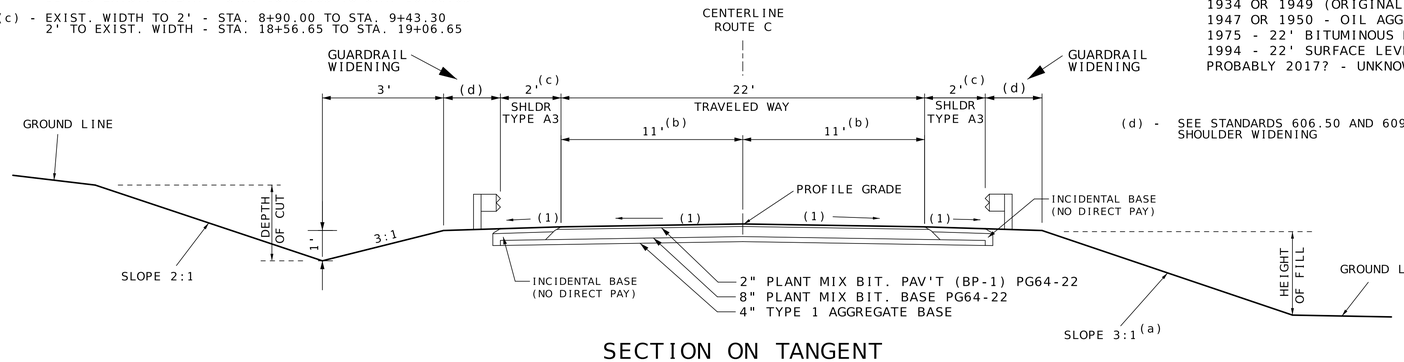
(c) - EXIST. WIDTH TO 2' - STA. 8+90.00 TO STA. 9+43.30
2' TO EXIST. WIDTH - STA. 18+56.65 TO STA. 19+06.65

EXISTING PAVEMENT:
1934 OR 1949 (ORIGINAL) - 20' WIDTH TO STA. 5+00 & THEN 24' WIDTH
1947 OR 1950 - OIL AGGREGATE TREATMENT
1975 - 22' BITUMINOUS MATERIAL (UNKNOWN THICKNESS)
1994 - 22' SURFACE LEVELING (UNKNOWN THICKNESS)
PROBABLY 2017? - UNKNOWN (FROM ARAN)

CROSS SLOPE

(1) 2.0%

(3) S.E. SLOPE IF GREATER THAN 4.0%

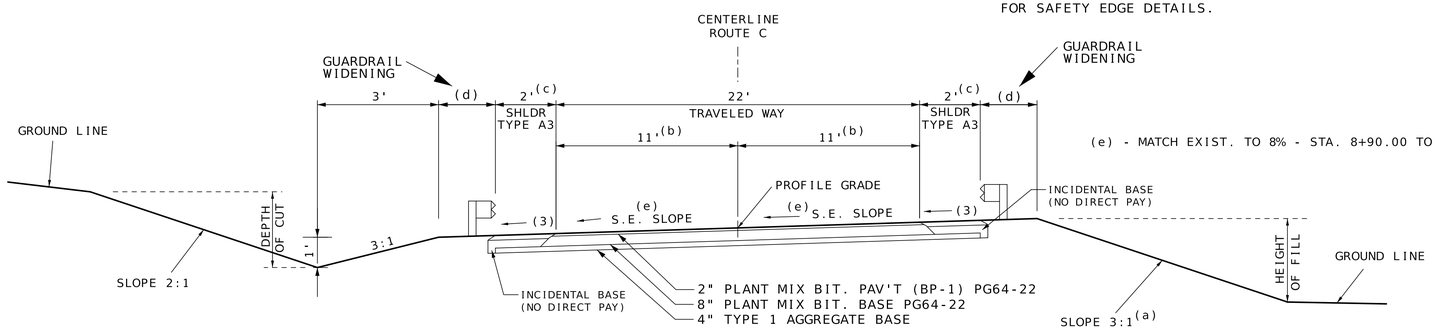


(d) - SEE STANDARDS 606.50 AND 609.40 FOR SHOULDER WIDENING

SECTION ON TANGENT
TYPICAL SECTION RTE. C
STA. 8+90.00 TO STA. 12+74.00
STA. 16+20.62 TO STA. 19+06.65

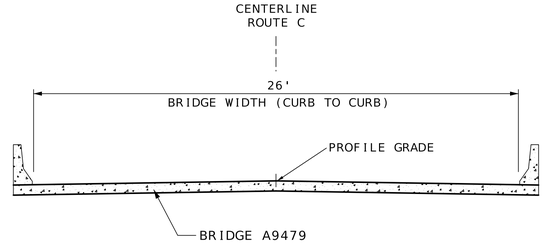
IN LIEU OF THE ASPHALT PAVEMENT OPTION SHOWN, A 8" JOINTED PORTLAND CONCRETE PAVEMENT ON 4" TYPE 1 AGGREGATE BASE MAY BE USED.

SEE STANDARD 401.00 FOR SAFETY EDGE DETAILS.



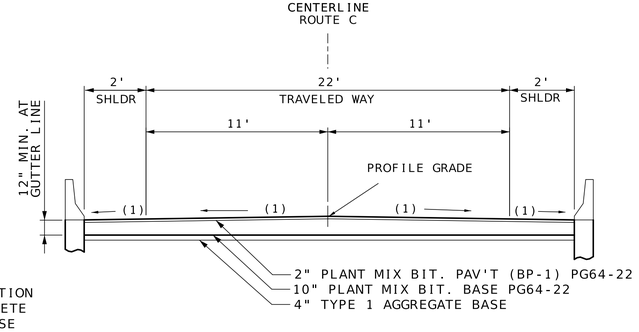
(e) - MATCH EXIST. TO 8% - STA. 8+90.00 TO STA. 10+11.39

SECTION ON SUPERELEVATED CURVE
TYPICAL SECTION RTE. C
STA. 8+90.00 TO STA. 12+74.00
STA. 16+20.62 TO STA. 19+06.65



TYPICAL SECTION RTE. C
BRIDGE A9479
STA. 12+94.00 TO STA. 16+00.62

(a) - EXIST. SLOPE TO 3:1 - STA. 8+90.00 TO STA. 9+43.30 (LT. & RT.)
3:1 TO 2:1 - STA. 11+50.00 TO STA. 11+95.00 (LT. & RT.)
2:1 - STA. 11+95.00 TO STA. 17+04.51 (LT.)
2:1 - STA. 11+95.00 TO STA. 16+85.00 (RT.)
2:1 TO 3:1 - STA. 17+04.51 TO STA. 17+75.00 (LT.)
2:1 TO 3:1 - STA. 16+85.00 TO STA. 17+27.50 (RT.)



IN LIEU OF THE ASPHALT PAVEMENT OPTION SHOWN, A 12" REINF. PORTLAND CONCRETE PAVEMENT ON 4" TYPE 1 AGGREGATE BASE MAY BE USED.

TYPICAL SECTION RTE. C
BRIDGE APPROACH SLAB (MINOR ROUTE)
STA. 12+74.00 TO STA. 12+94.00
STA. 16+00.62 TO STA. 16+20.62

NOTE:
SEE BRIDGE DRAWINGS FOR ADDITIONAL DETAILS OF BRIDGE APPROACH SLAB (MINOR ROUTE).

NOT TO SCALE

TYPICAL SECTION
ROUTE C
SHEET 1 OF 2

STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/7/2024

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
CD	2

COUNTY
WASHINGTON

JOB NO.
J5S3506

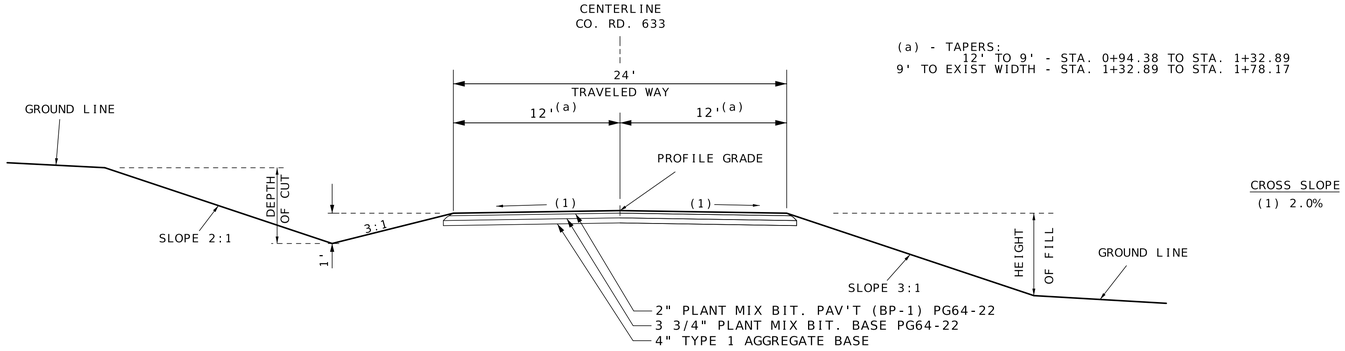
CONTRACT ID.

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)

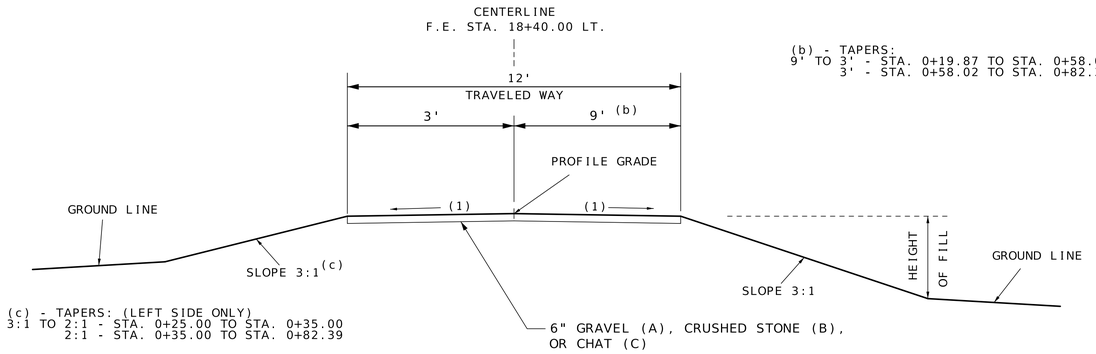


(a) - TAPERS:
12' TO 9' - STA. 0+94.38 TO STA. 1+32.89
9' TO EXIST WIDTH - STA. 1+32.89 TO STA. 1+78.17

CROSS SLOPE
(1) 2.0%

SECTION ON TANGENT
TYPICAL SECTION CO. RD. 633
STA. 0+11.00 TO STA. 1+78.70

IN LIEU OF THE ASPHALT PAVEMENT OPTION SHOWN, AN 5 3/4" JOINTED PORTLAND CONCRETE PAVEMENT WITHOUT DOWELS ON 4" TYPE 1 AGGREGATE BASE MAY BE USED.



(b) - TAPERS:
9' TO 3' - STA. 0+19.87 TO STA. 0+58.02
3' - STA. 0+58.02 TO STA. 0+82.39

(c) - TAPERS: (LEFT SIDE ONLY)
3:1 TO 2:1 - STA. 0+25.00 TO STA. 0+35.00
2:1 - STA. 0+35.00 TO STA. 0+82.39

SECTION ON TANGENT
TYPICAL SECTION F.E. STA. 18+40.00 LT.
STA. 0+13.00 TO STA. 0+82.39

TYPICAL SECTION
COUNTY ROAD 633
F.E. STA. 18+40.00 LT.
SHEET 2 OF 2

STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 12/17/2024
ROUTE: C | STATE: MO
DISTRICT: CD | SHEET NO.: 2
COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

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

REMOVAL OF IMPROVEMENTS

SHEET NO.	STA. TO STA.	LOCATION	ITEM	QUANTITY	REMARKS
4	10+70.00 13+00.00	RTE. C	EXISTING PAVEMENT	562 S.Y.	
8	12+65.00 12+94.00	RTE. C RT.	OBJECT MARKERS	3 EACH	INCLUDES POST & FOOTING
8	12+65.00 12+94.00	RTE. C LT.	OBJECT MARKERS	2 EACH	INCLUDES POST & FOOTING
8	16+00.00 16+20.00	RTE. C RT.	OBJECT MARKERS	3 EACH	INCLUDES POST & FOOTING
8	16+00.00 16+40.00	RTE. C LT.	OBJECT MARKERS	3 EACH	INCLUDES POST & FOOTING
8	16+55.00	CR 633	STOP SIGN	1 EACH	INCLUDES POST & FOOTING
4	15+98.00 17+25.00	RTE. C	EXISTING PAVEMENT	310 S.Y.	
	6+00.00	RTE. C RT.	WEIGHT LIMIT SIGN	1 EACH	INCLUDES POST & FOOTING
	600' PAST END OF PROJECT	RTE. C LT.	WEIGHT LIMIT SIGN	1 EACH	INCLUDES POST & FOOTING
4	10+50.00 12+50.00	RTE. C RT.	FENCE	205 L.F.	
4	1+78.70 19+00.00	CR633/RTE. C RT.	FENCE	355 L.F.	
			TOTAL =	1	LUMP SUM

EARTHWORK

STATION TO STATION	LOCATION	UNCLASSIFIED EXC. C.Y.	COMPACTING EMBANKMENT C.Y.	EMBANKMENT IN PLACE C.Y.	REMARKS
8+90 12+94.00	RTE. C	115	1,981	2,163	INCLUDES ENTRANCE STA. 10+84.00 LT.
12+94.00 13+00.62	RTE. C				BRIDGE EXCEPTION
13+00.62 19+06.65	RTE. C	430	685	358	
0+11.00 1+78.70	COUNTY ROAD 633	24	640	712	
0+11.00 1+78.70	COUNTY ROAD 633	518	0	0	OBLITERATION
	TOTAL	1,087.00	3,306.00	3,233.00	
	USE	1,087	3,306	3,233	

OPTIONAL PAVT. (8" PORTLAND CEMENT CONCRETE PAVT. OR 10" ASPHALTIC CONCRETE PAVT.)

SHEET NO	STATION TO STATION	LOCATION	LENGTH	WIDTH	AREA S.Y.	4" TYPE 1 AGG BASE S.Y.	REMARKS
4	8+90.00 9+43.30	RTE. C	53.30	VARIES	125.20	125.20	EXISTING WIDTH TO 22' WIDTH
4	9+43.30 12+74.00	RTE. C	330.70	22	808.38	808.38	
4	12+57.48 12+77.48	RTE. C - LT.	20.00	1.5	3.27	3.27	SHOULDER PAVING AREA (AVG. WIDTH)
4	16+20.62 18+56.65	RTE. C	236.03	22	576.96	576.96	
4	16+17.14 16+37.14	RTE. C - RT.	20.00	1.5	3.27	3.27	SHOULDER PAVING AREA (AVG. WIDTH)
4	18+56.65 19+06.65	RTE. C	50.00	VARIES	117.56	117.56	22' WIDTH TO EXISTING WIDTH
				TOTAL =	1,634.64	1,634.64	
				USE	1,634.6	1,635	
							CONCRETE PAVT. TO BE 15' JOINT SPA. WITH 1 1/4" DOWELS

OPTIONAL PAVT. (5.75" PORTLAND CEMENT CONCRETE PAVT. OR 5.75" ASPHALTIC CONCRETE PAVT.)

SHEET NO	STATION TO STATION	LOCATION	LENGTH	WIDTH	AREA S.Y.	4" TYPE 1 AGG BASE S.Y.	REMARKS
4	0+11.00 0+41.00	CO. RD. 633	30.00	VARIES	122.92	122.92	AROUND RADIUS
4	0+41.00 0+94.38	CO. RD. 633	53.38	24	142.35	142.35	
4	0+94.38 1+32.89	CO. RD. 633	38.51	10.5	44.93	44.93	TAPERS 12' TO 9'
4	1+32.89 1+78.70	CO. RD. 633	45.82	9	45.82	45.82	TAPERS 9' TO EXISTING WIDTH
				TOTAL =	356.02	356.02	
				USE	356.0	356	
							CONCRETE PAVT. TO BE JOINTED WITHOUT DOWELS

LINEAR GRADING CLASS 1

SHEET NO	STATION TO STATION	LOCATION	LENGTH	STA.	REMARKS
4	11+36.83 13+23.00	RTE. C - LT	186.17	1.86	CONTINUE FIELD ENTRANCE TO BRIDGE (6' WIDTH)
4	1+00.00	CO. RD. 633 - RT.	86.00	0.86	CUT OUTLET DITCH
			TOTAL =	2.72	
			USE =	2.7	

SEED & MULCH

STATION TO STATION	LOCATION	SEEDING COOL SEASON GRASSES ACRE	MULCHING ACRE	REMARKS
8+90.00 13+25.00	RTE. C - LT.	0.23	0.23	
8+90.00 13+25.00	RTE. C - RT.	0.19	0.19	
15+65.00 19+06.65	RTE. C - LT.	0.12	0.12	
15+65.00 19+06.65	RTE. C - RT.	0.31	0.31	INCLUDES CO. RD. 633
	TOTAL =	0.85	0.85	
	USE =	0.9	0.9	

GROUP C PIPE

SHEET NO	STATION	LOCATION	18" GROUP C PIPE LF	18" GROUP C FES EACH	CLASS III EXC. CY	REMARKS
4	1+00.00	CO. RD. 633	35	2	6	CUT OUTLET DITCH
		TOTAL =	35	2	6	
		USE =	35	2	6	

COMPACTING IN CUT

SHEET NO	STATION TO STATION	LOCATION	LENGTH	STA.	REMARKS
4	8+90.00 12+94.00	RTE. C	404.00	4.04	
4	16+00.62 19+06.65	RTE. C	306.03	3.06	
			TOTAL =	7.10	
			USE =	7.1	

MOBILIZATION
1 LUMP SUM

CONTRACTOR FURNISHED SURVEYING AND STAKING
1 LUMP SUM

R/W MARKERS

SHEET NO	2" ALUMINUM CAP EACH	6' CARSONITE POST EACH	24" SURVEY PIN EACH	REMARKS
4	11	11	11	BY OTHERS
TOTAL =	11	11	11	

SUMMARY OF QUANTITIES

SHEET 1 OF 5

STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2024

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
CD	3

COUNTY
WASHINGTON

JOB NO.
J5S3506

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)

TYPE A3 SHOULDER

SHEET NO	STATION TO STATION	LOCATION	LENGTH	WIDTH	A3 SHOULDER S.Y.	4" TYPE 1 AGG BASE S.Y.	REMARKS
4	8+90.00 9+43.30	RTE. C - LT.	53.30	VARIES	8.11	8.11	EXISTING WIDTH TO 2' WIDTH
4	8+90.00 9+43.30	RTE. C - RT.	53.30	VARIES	8.94	8.94	EXISTING WIDTH TO 2' WIDTH
4	9+43.30 12+57.50	RTE. C - LT.	314.20	2	69.82	69.82	
4	12+57.48 12+77.50	RTE. C - LT.	20.02	0.5	1.11	1.11	SHOULDER PAVING AREA (AVG. WIDTH)
4	9+43.30 12+71.10	RTE. C - RT.	327.80	2	72.84	72.84	
4	16+23.57 18+56.70	RTE. C - LT.	233.13	2	51.81	51.81	
4	18+56.65 19+06.70	RTE. C - LT.	50.05	VARIES	6.62	6.62	2' WIDTH TO EXISTING WIDTH
4	16+17.14 16+37.10	RTE. C - RT.	19.96	0.5	1.11	1.11	
4	16+37.14 16+43.50	RTE. C - RT.	6.36	2	1.41	1.41	TO RADIUS POINT
4	16+43.50 16+54.30	RTE. C - RT.	10.8	VARIES	1.61	1.61	AROUND RADIUS
4	17+16.73 17+27.50	RTE. C - RT.	10.8	VARIES	1.61	1.61	AROUND RADIUS
4	17+27.50 18+56.70	RTE. C - RT.	129	2	28.67	28.67	
4	18+56.65 19+06.70	RTE. C - RT.	50.05	2	11.12	11.12	
				TOTAL =	264.78	264.78	
				USE	264.8	265	

TYPE 2 ROCK BLANKET

SHEET NO	LOCATION	FURNISHING ROCK BLANKET C.Y.	PLACING ROCK BLANKET C.Y.	GEOTEXTILE S.Y.	REMARKS
4	WEST SPILL FILL	325.6	325.6	488.3	
4	EAST SPIL FILL	354.8	354.8	532.3	
	TOTAL =	680.4	680.4	1,020.6	
	USE	680	680	1,021	

GRAVEL (A), CRUSHED STONE (B) OR CHAT (C)

SHEET NO	STATION TO STATION	LOCATION	LENGTH	WIDTH	6" DEPTH S.Y.	REMARKS
4	0+13.00 0+22.90	ENTR. - LT.	9.90	VARIES	6.3	ENTRANCE 10+84.00 (RADIUS)
4	0+22.90 0+82.39	ENTR. - LT.	59.49	3	19.8	
4	0+13.00 0+19.87	ENTR. - RT.	6.87	VARIES	6.1	ENTRANCE 10+84.00 (RADIUS)
4	0+19.87 0+58.02	ENTR. - RT.	38.15	6	25.4	TAPERS 9' TO 3'
4	0+58.02 0+82.39	ENTR. - RT.	24.37	3	8.1	
				TOTAL =	65.7	
				USE	66	

ROCK DITCH LINER

SHEET NO	STATION	LOCATION	FURNISHING TYPE 1 ROCK DITCH LINER C.Y.	PLACING TYPE 1 ROCK DITCH LINER C.Y.	GEOTEXTILE S.Y.	REMARKS
4	16+14.97	RTE. C - RT.	1.2	1.2	8.2	DRAIN FLUME
4	16+22.11	RTE. C - LT.	1.0	1.0	6.7	DRAIN FLUME
		TOTAL =	2.2	2.2	14.9	
		USE	2	2	15	

EROSION CONTROL

EROSION CONTROL SHEET NO.	STATION TO STATION	LOCATION	SILT FENCE L.F.	ALT. DITCH CHECK L.F.	ROCK DITCH CHECK L.F.	ROCK INLET CHECK L.F.	TYPE B BERM L.F.	SLOPE DRAIN 6" L.F.	TYPE C BERM L.F.	SEDIMENT REMOVAL C.Y.	REMARKS
1 of 1	8+90.00 13+14.00	RTE. C LT.	421.80							4.2	
1 of 1	8+90.00 13+00.00	RTE. C RT.	407.80							4.1	
1 of 1	12+05.00	RTE. C RT.			13					1.0	
1 of 1	12+80.00	RTE. C RT.			13					1.0	
1 of 1	12+60.00 12+94.00	RTE. C LT. & RT.					94				
1 of 1	12+90.00	RTE. C RT.				10		32		1.0	
1 of 1	12+95.00	RTE. C LT.				10		32		1.0	
1 of 1	13+32.00	RTE. C LT. & RT.							170		
1 of 1	15+58.00	RTE. C LT. & RT.							135		
1 of 1	15+90.00 19+07.00	RTE. C LT.	317.00							3.2	
1 of 1	1+00.00 19+07.00	CR633 LT. & RTE. C RT.	275							2.8	
1 of 1	1+00.00 1+78.70	CR633 LT.	78.70							0.8	
1 of 1	1+00.00	CR633 LT.				20				1.0	AROUND PIPE INLET
1 of 1	17+50.00 17+80.00	RTE. C RT.		30						5.0	5 DICH CHECKS AT 30' SPACES
1 of 1		CR633 RT.	125							1.3	AT TEMP. ESM'T.
		TOTAL =	1,625.3	30.0	26.0	40.0	94.0	64.0	305.0	26.4	
		USE =	1,625	30	66		94	64	305	26	

NOTE: ROCK INLET CHECK TO BE PAID FOR AS ROCK DITCH CHECK

SUMMARY OF QUANTITIES
SHEET 2 OF 5

STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2024
ROUTE C | STATE MO
DISTRICT CD | SHEET NO. 3
COUNTY WASHINGTON
JOB NO. J5S3506
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)

MGS GUARDRAIL

SPECIAL SHEET NO	STATION TO STATION	LOCATION	MGS GUARDRAIL LF	TYPE A CRASHWORTHY END TERMINAL EACH	MGS BRIDGE APPROACH TRANSITION SECTION EACH	MGS END ANCHOR EACH	REMARKS
	11+91.83 12+80.12	RTE. C - RT.		1	1		
	11+98.79 12+87.09	RTE. C - LT.		1	1		
	16+15.11 17+03.40	RTE. C - LT.		1	1		
	16+07.38 16+70.89	RTE. C - RT.	25		1	1	2 SECTIONS WITH 28' RADIUS
		TOTAL =	25	3	4	1	
		USE =	25	3	4	1	

PERMANENT PAVEMENT MARKING

SHEET NO.	STATION TO STATION	LOCATION	LENGTH	WATERBORNE WITH TYPE P BEADS		REMARKS
				4" SOLID WHITE LF	4" SOLID YELLOW LF	
4	8+90.00 19+06.65	RTE. C LT. & RT.	1,016.65	2033.3		BOTH EDGELINES
4	8+90.00 19+06.65	RTE. C	1,016.65		2033.3	DOUBLE CENTERLINE
			TOTAL =	2,033.3	2,033.3	
			USE =	2,033	2,033	

TEMPORARY SURFACING

SHEET NO	STATION TO STATION	LOCATION	LENGTH	WIDTH	2" DEPTH C.Y.	REMARKS
4	16+85.00 19+06.65	RTE. C	221.65	20	27.4	FOR TEMP. ACCESS TO CO. RD. 633
4	0+11.00 1+78.70	CO. RD. 633	167.70	18	18.6	FOR TEMP. ACCESS TO RTE. C (EAST)
				TOTAL =	46.0	
				USE	46	

CLEARING AND GRUBBING

SHEET NO	STATION TO STATION	LOCATION	CLEARING AND GRUBBING AC.	REMARKS
4	8+90.00 19+06.65	RTE. C - LT.	0.04	
4	8+90.00 19+06.65	RTE. C - RT.	0.10	
		TOTAL =	0.14	
		USE	1	

SUMMARY OF QUANTITIES
SHEET 3 OF 5

STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2024

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
CD	3

COUNTY
WASHINGTON

JOB NO.
J5S3506

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)

SIGNS (902 SIGNAL SIGNS TABULATED ON D-37A SHEET)						CONCRETE FOOTINGS EMBEDDED	STRUCTURAL STEEL POSTS *						PIPE POSTS *					BACKING BARS **				U-CHANNEL POST	PERFORATED SQUARE STEEL TUBE										REMARKS AND OTHER REQUIRED ITEMS
																			2" X ⅜" BARS @ 2.55 LBS PER FT					2 IN. POST						2.5 IN. POST						
																									ANCHORS					ANCHORS			
SIGN NO.	SIGN SIZE	STATION	HORZ CLEAR IF NOT STD	LOCATION	SIGN DTL. SHT. NO.	ITEM NO. 9031010	POST DES NO.	POST NO.1	POST NO.2	POST NO.3	LBS PER FT	TOTAL ITEM NO. 9031210	PIPE SIZE	POST NO.1	POST NO.2	LBS PER FT	TOTAL ITEM NO. 9031220	NO. EACH	LGTH IN.	TOTAL LF	TOTAL LBS	ITEM NO. 9031250A	POST NO.1	POST NO.2	TOTAL ITEM NO. 9031270A	DRIVEN 12-GA. ITEM NO. 9031271A	DRIVEN 7-GA. ITEM NO. 9031273A	CONCRETE 7-GA. ITEM NO. 9031274	POST NO.1	POST NO.2	TOTAL ITEM NO. 9031280	2.25" INSERT (6 FT) ITEM NO. 9031272A	DRIVEN 7-GA. ITEM NO. 9031281A	CONCRETE 7-GA. ITEM NO. 9031285	BREAK-AWAY ASSEMBLY ITEM NO. 9031241	
						CY		LF	LF	LF		LBS	IN.	LF	LF		LBS	EACH	IN.	LF	LBS	LF	LF	LF	LF	EA	EA	EA	LF	LF	LF	EA	EA	EA	EA	
1	36x36	17+27.00		17' RT. - RTE. C	8																								16		16		1			
				SUBTOTAL																											16		1			
				TOTAL																		**									16		1			

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

ROUND PIPE POST AND FOOTING DATA TABLE

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

STRUCTURAL STEEL POST AND FOOTING DATA TABLE

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

STANDARD SIGN ASSEMBLIES

SIGN NUMBER	STATION	LOCATION	TYPE: R1-1	SIGN DESCRIPTION, SIZES & NUMBER OF EACH: STOP 36X36
1	17+27.00	17' RT. - RTE. C	1	1

SIGN SUMMARY

STANDARD SIGN OR SPECIAL SIGN NUMBER	SIGN DETAIL SHEET NO.	NO. EACH	SIZE, TYPE & SQUARE FEET: SIZE	FLAT SHEET SH ITEM NO. 9035004A	FLAT SHEET FLUORESCENT SHF * ITEM NO. 9035069A	STRUCTURAL ST ITEM NO. 9035011A	STRUCTURAL FLUORESCENT STF * ITEM NO. 9035071A
R1-1 (STOP)	8	1	36"X36"	9			
			TOTAL	9			

* ORANGE, YELLOW & YELLOW/GREEN

SUMMARY OF QUANTITIES
SHEET 4 OF 5

STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2010021150
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/12/2024
ROUTE: C | STATE: MO
DISTRICT: CD | SHEET NO.: 3
COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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

EFFECTIVE: 07-01-2024

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
WARNING SIGNS								
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT)
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT)
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT)
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT)
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT)
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
WO1-8	18X24	3.00						CHEVRON (SYMBOL)
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
WO3-4	48X48	16.00						BE PREPARED TO STOP
WO3-5	48X48	16.00						SPEED LIMIT AHEAD
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)
WO4-1aL	48X48	16.00						MERGE (LEFT)
WO4-1aR	48X48	16.00						MERGE (RIGHT)
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS
WO5-3	48X48	16.00						ONE LANE BRIDGE
WO5-5	48X48	16.00						NARROW LANES
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)
WO6-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)
WO7-3a	30X24	5.00						NEXT XX MILES (PLAQUE)
WO8-1	48X48	16.00						BUMP
WO8-2	48X48	16.00						DIP
WO8-3	48X48	16.00						PAVEMENT ENDS
WO8-4	48X48	16.00						SOFT SHOULDER
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)
WO8-6	48X48	16.00						TRUCK CROSSING
WO8-6c	48X48	16.00						TRUCK ENTRANCE
WO8-7	36X36	9.00						LOOSE GRAVEL
WO8-7a	36X36	9.00						FRESH OIL / LOOSE GRAVEL
WO8-9	48X48	16.00						LOW SHOULDER
WO8-11	48X48	16.00						UNEVEN LANES
WO8-12	48X48	16.00						NO CENTER LINE
WO8-15	48X48	16.00						GROOVED PAVEMENT
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)
WO8-17L	48X48	16.00						SHOULDER DROP-OFF (SYMBOL LEFT)
WO8-17R	48X48	16.00						SHOULDER DROP-OFF (SYMBOL RIGHT)
WO8-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)
W10-1	42RND.	9.62						RAILROAD CROSSING
WO12-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)
WO12-2x	24X18	3.00						LOW CLEARANCE (PLAQUE)
WO12-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)
WO12-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD
WO12-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD
WO13-1	30X30	6.25						ADVISORY SPEED (PLAQUE)
WO16-2	30X24	5.00						XXX FEET (PLAQUE)
WO16-3	30X24	5.00						X MILE (PLAQUE)
WO20-1	48X48	16.00	1	16			2	ROAD/BRIDGE/RAMP WORK AHEAD
WO20-2	48X48	16.00	2	32			18	DETOUR AHEAD
WO20-3	48X48	16.00	4	64			20,20A,20B	ROAD CLOSED AHEAD 20A-350 FT./20B-700 FT.
WO20-4	48X48	16.00						ONE LANE ROAD AHEAD
WO20-5	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED AHEAD
WO20-5a	48X48	16.00						2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
WO20-6a	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED
WO20-7a	48X48	16.00						FLAGGER (SYMBOL)
WO21-2	36X36	9.00						FRESH OIL
WO21-5	48X48	16.00						SHOULDER WORK / SHOULDER WORK AHEAD
WO22-1	48X48	16.00						BLASTING ZONE AHEAD
WO22-2	42X36	10.50						TURN OFF 2-WAY RADIO AND PHONE
WO22-3	42X36	10.50						END BLASTING ZONE
GO22-1	21X15	2.19						WET PAINT (ARROW PIVOTS)

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
GUIDE SIGNS								
E05-1	36X48	12.00						GORE EXIT
E05-2	48X36	12.00						EXIT OPEN
E05-2a	48X36	12.00						EXIT CLOSED
GO20-1	60X24	10.00						ROAD WORK NEXT XX MILES
GO20-2	48X24	8.00						END ROAD WORK
GO20-4	36X18	4.50						PILOT CAR FOLLOW ME
GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW
GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW
GO20-5aP	36X24	6.00						WORK ZONE (PLAQUE)
MO4-8a	24X18	3.00	2	6			52	END DETOUR
MO4-9L	48X36	12.00						DETOUR (LEFT)
MO4-9R	48X36	12.00						DETOUR (RIGHT)
MO4-9P	48X12	4.00						STREET NAME (PLAQUE)
MO4-10L	48X18	6.00						DETOUR ARROW (LEFT)
MO4-10R	48X18	6.00						DETOUR ARROW (RIGHT)
REGULATORY SIGNS								
R1-1	48X48	13.25						STOP
R1-2	48TRI.	6.93						YIELD
R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)
R1-3P	30X12	2.50						ALL WAY (PLAQUE)
R2-1	36X48	12.00						SPEED LIMIT XX
R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00						NO TURNS
R3-4	48X48	16.00						NO U-TURN (SYMBOL)
R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00						DO NOT PASS
R4-2	36X48	12.00						PASS WITH CARE
R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)
R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)
R5-1	30X30	6.25						DO NOT ENTER
R5-1a	36X24	6.00						WRONG WAY
R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)
R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)
R6-2L	24X30	5.00						ONE WAY (LEFT)
R6-2R	24X30	5.00						ONE WAY (RIGHT)
R9-9	24X12	2.00						SIDEWALK CLOSED
R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE
R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE
R10-6	24X36	6.00						STOP HERE ON RED (45^ ARROW)
R11-2	48X30	10.00	2	20			29	ROAD CLOSED
R11-3a	60X30	12.50	2	25			55 50H	ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY 4 MILES
R11-4	60X30	12.50	1	12.5			30	ROAD CLOSED TO THRU TRAFFIC
CONST-3A	60X48	20.00						FINE SIGN
CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)
MISCELLANEOUS SIGNS								
CONST-5	48X36	12.00	2	24			1	POINT OF PRESENCE
CONST-5	96X48	32.00						POINT OF PRESENCE
CONST-8	48X36	12.00						WORK ZONE NO PHONE ZONE
SPECIAL	36X60	15.00	38	570			50A-50G	DETOUR ROUTE ASSEMBLY
M1-5a	24X24	4.00	1	4			50H	STATE "C" LETTER ROUTE

616-10.05 CONSTRUCTION SIGNS	TOTAL
	774

616-10.10 RELOCATED SIGNS	TOTAL
	0

NEW BRIDGE
FALL 2025

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)
6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)
6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)
6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
6122020		REPLACEMENT SAND BARREL
6122030		IMPACT ATTENUATOR (RELOCATION)
6123001		TRUCK 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	3	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
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/7/2024
ROUTE: C
STATE: MO
DISTRICT: CD
SHEET NO.: 3
COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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

SUMMARY OF QUANTITIES
SHEET 5 OF 5

ENTR. 10+84.00
PI 0+42.46
PC 0+14.07
PT 0+56.51
Δ 97°16'09.7" (RT)
D 229°10'59.2"
L 42.44' (ARC)
T 28.39'
R 25.00'

1
RYAN & CANDACE MAXWELL
BOOK 2013 PAGE 13901
1,602 S.F. NEW R/W
9.40 AC. REMAINING LT.

2
JACK & SELMA AKERS TRUSTEES
BOOK 2023 PAGE 2219
0.24 AC. NEW R/W
295 S.F. TEMP. ESM'T.
65.87 AC. REMAINING LT.
(PARCEL ADJOINING ROAD)

3
JOSHUA MOSES
BOOK 2016 PAGE 956
0.15 AC. NEW R/W
9.43 AC. REMAINING LT.

4
JONATHAN TURNER TRUSTEE
BOOK 2012 PAGE 18077
0.19 AC. NEW R/W
30.85 AC. REMAINING RT.
(2 PARCELS ADJOINING ROAD)

5
JOAN OLMSTED TRUSTEE
BOOK 2021 PAGE 2589
0.24 AC. NEW R/W
458 S.F. TEMP. ESM'T.(OUTSIDE OF PERM. ESM'T.)
3,489 S.F. TEMP. ESM'T. (INSIDE OF PERM. ESM'T.)
163.15 AC. REMAINING RT.

BR. A9479 BUILD (60'-99'-99'-45')
PRESTRESSED CONCRETE NU GIRDER SPANS
SK. 15° LA, D.A.=41 SQ. MI., Q50=13,500 C.F.S.

LAND SURVEY MONUMENT:
FOUND 1/2" REBAR AT SE CORNER OF LOT 1 OF HUTCHINGS ADDITION TO TOWN OF BELGRADE. US SURVEY 2151, T35N & T36N, R2E. THENCE 2,749.01 S76°07'21"E TO STA.8+90.00 ℄ RTE. C AS ACCEPTED BY FREDRICK J. WILDE, PLS #2006016643.

BEGIN PROJECT STA. 8+90.00
AT A POINT APPROX. 2,668.77' EAST AND 659.34' SOUTH OF THE SE CORNER OF LOT 1 OF HUTCHINGS ADDITION TO THE TOWN OF BELGRADE, T35N & T36N, R2E

END PROJECT STA. 19+06.65
AT A POINT APPROX. 3,425.48' EAST AND 1,327.21' SOUTH OF THE SE CORNER OF LOT 1 OF HUTCHINGS ADDITION TO TOWN OF BELGRADE, T35N & T36N, R2E

PI 10+39.43
PC 9+43.30
PT 11+36.00
Δ 18°55'47.1" (RT)
D 9°56'12.7"
L 190.50' (ARC)
T 96.13'
R 576.60'
S.E. 0.08'/' (L=204.26')

PI 0+70.00
PC 0+42.02
PT 0+94.38
Δ 50°0'0.0" (RT)
D 95°29'34.7"
L 52.36' (ARC)
T 27.98'
R 60.00'

PI 1+56.54
PC 1+32.89
PT 1+78.71
Δ 35°0'0.0" (LT)
D 76°23'39.7"
L 45.81' (ARC)
T 23.65'
R 75.00'

STA 16+85.50 RTE. C = STA 0+00.00 CR 633

US SURVEY 2152
T35N & T36N
R2E

GENERAL NOTES:

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

BEARINGS BASED ON MISSOURI STATE PLANE COORIDATE SYSTEM OF 1983, EAST ZONE.

RIGHT OF WAY LIMITS FOR THIS PROJECT EXTEND FROM STA. 9+00.00 TO STA. 19+75.00, A DISTANCE OF 0.204 MILES.

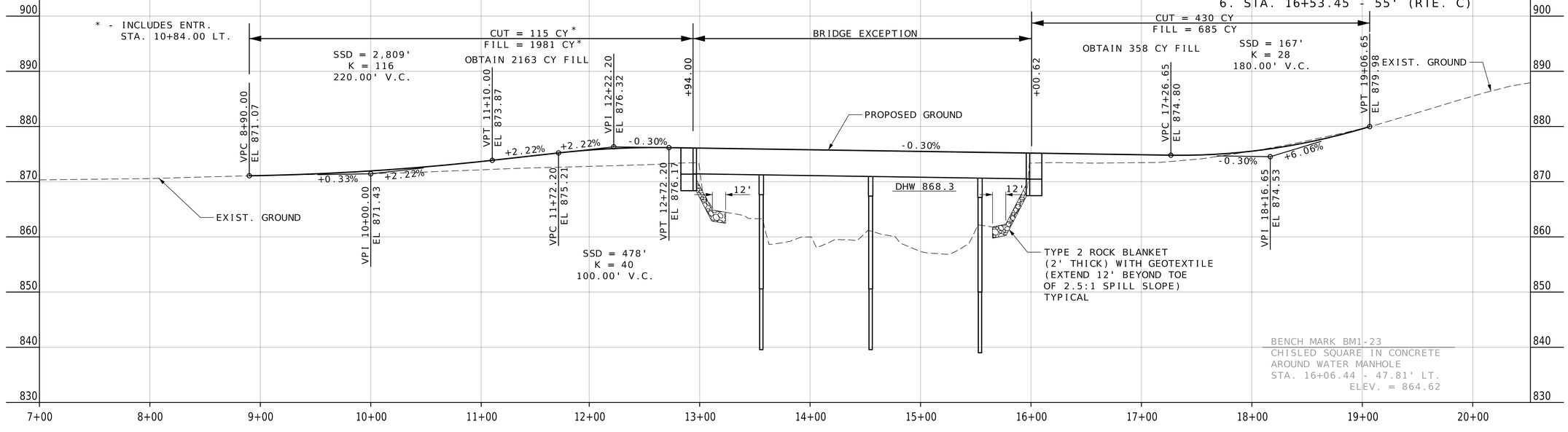
SCALE
0 50 100 150

R/W MARKERS = 11

CLEARING = 1 AC.
GRUBBING = 1 AC.

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.

CO. RD. 633 R/W
1. STA. 17+20.00 - 55' (RTE. C)
2. STA. 0+74.00 - 30'
3. STA. 0+94.38 - 30'
4. STA. 1+32.89 - 20'
5. STA. 1+78.71 - 20.85' (EXIST. R/W)
6. STA. 16+53.45 - 55' (RTE. C)



STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

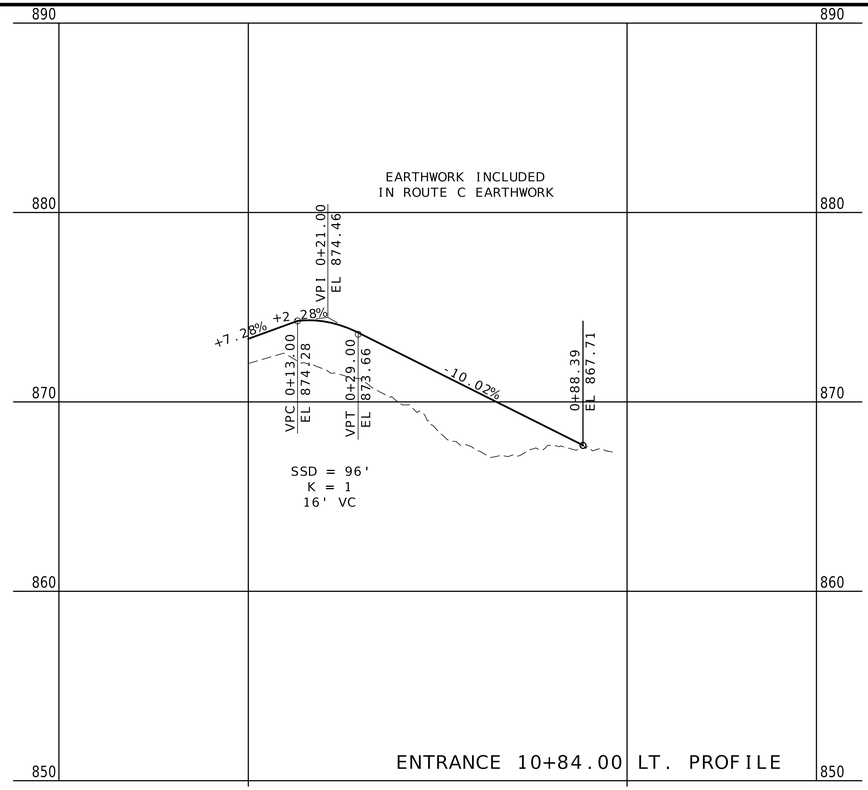
DATE PREPARED
12/3/2024

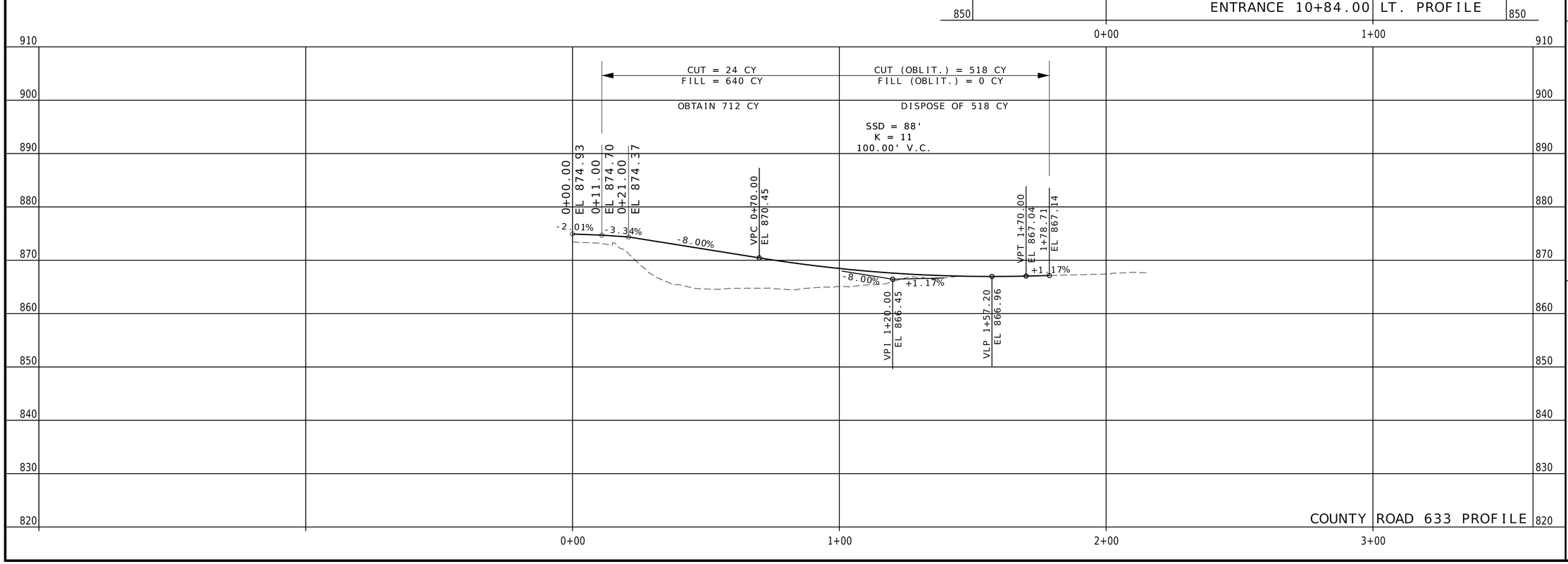
ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
CD	4

COUNTY
WASHINGTON
JOB NO.
J5S3506
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)





STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/13/2024

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
CD	5

COUNTY
WASHINGTON

JOB NO.
J5S3506

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

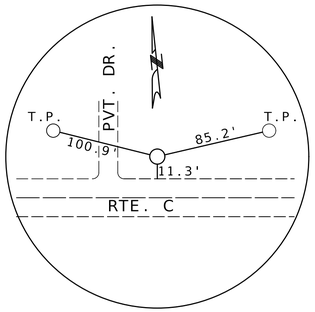
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

801

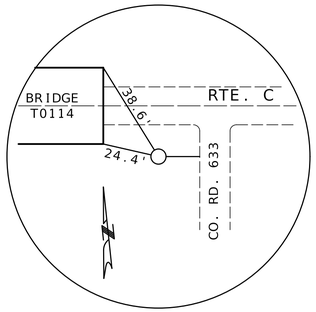
BURIED REBAR WITH CAP 0.2,
N/O NORTH EOP OF ROUTE C,
AND 827' EAST OF EAST END OF BRIDGE #T0114



X = 722,038.199
Y = 709,614.424
Z = 892.490

802

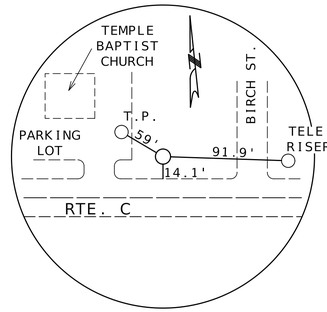
BURIED REBAR WITH CAP 0.2,
S/O SOUTH EOP OF ROUTE C,
AND W/O EAST E.P. OF CO. RD. 633



X = 721,424.602
Y = 710,142.120
Z = 871.449

803

BURIED REBAR WITH CAP 0.2,
N/O NORTH EOP OF ROUTE C,
AND W/O WEST E.P. OF BIRCH ST.
IN THE TOWN OF BELGRADE



X = 720,518.605
Y = 710,826.882
Z = 877.820

REFERENCE POINTS
SHEET 1 OF 1

STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/7/2024

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
CD	6

COUNTY
WASHINGTON

JOB NO.
J5S3506

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)

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	NAD83 (2011)
HORIZONTAL DATUM	NAD83
VERTICAL DATUM	NAVD88
GEOID MODEL	G2018U7
ELEVATIONS DETERMINED BY	Di erential Leveling
PROJECT PROJECTION FACTOR	1.00009240

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	NAD83 (2011)
CONTROL STATION	CORS
DESIGNATION	MODOT BELLEVIEW CORS ARP
CORS_ID	MOBW
PID	DL6310
LATITUDE	374217.7419
LONGITUDE	904438.6164
NORTHING (M)	207711.3490
EASTING (M)	228479.4130
ZONE	2401 (MO-East)
PROJECT AVERAGE GRID FACTOR	0.99990760

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

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

EXAMPLE: CONTROL POINT #801
N 709614.421 X 0.9998382 = N 709548.853
E 722038.199 X 0.9998382 = E 721971.484

LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND) NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)	DESCRIPTION	GPK POINT ID
PROJECT CONTROL POINTS								
4	16+06.44	RTE. C - LT.	47.81	710,200.938	721,466.615	864.620	Bench Mark	BM1-23
	24+25.11	RTE. C - LT.	25.6	709,614.421	722,038.199	892.490	Control Point	801
4	16+17.31	RTE. C - RT.	23.65	710,142.120	721,424.602	871.449	Control Point	802
	4+67.40	RTE. C - LT.	24.72	710,826.882	720,518.605	877.820	Control Point	803
ALIGNMENTS								
4	0+00.00	RTE. C	0	710,960.44971	720,068.59321		BEGINNING	
4	3+37.70	RTE. C	0	710,850.47811	720,387.88503		PC	
4	4+41.97	RTE. C		710,816.52808	720,486.45565		PI	
4		RTE. C		709,045.01289	719,766.04045		CC	
4	5+46.00	RTE. C	0	710,772.04876	720,580.74436		PT	
4	9+43.30	RTE. C	0	710,602.54250	720,940.06925		PC	
4	10+39.43	RTE. C		710,561.53066	721,027.00746		PI	
4		RTE. C		710,081.05627	720,694.06575		CC	
4	11+36.00	RTE. C	0	710,494.53337	721,095.93922		STA. 11+33.80 BK. = PT STA. 11+36.00 AH. - EQUA.	
4	24+35.30	RTE. C	0	709,588.95631	722,027.66379		ENDING	
4	0+00.00	CO. RD. 633	0	710,111.54669	721,489.98421		BEGINNING = STA. 16+85.50 RTE. C	
4	0+42.02	CO. RD. 633	0	710,081.41316	721,460.69633		PC	
4	0+70.00	CO. RD. 633		710,061.34988	721,441.19609		PI	
4		CO. RD. 633		710,123.23154	721,417.67049		CC	
4	0+94.38	CO. RD. 633	0	710,063.39150	721,413.29222		PT	
4	1+32.89	CO. RD. 633	0	710,066.20184	721,374.88173		PC	
4	1+56.54	CO. RD. 633		710,067.92742	721,351.29737		PI	
4		CO. RD. 633		709,991.40179	721,369.40891		CC	
4	1+78.70	CO. RD. 633	0	710,055.81349	721,330.98844		PT	
4	2+15.20	CO. RD. 633	0	710,037.11760	721,299.64487		ENDING	
4	0+00.00	ENTRANCE	0	710,527.65773	721,058.77487		BEGINNING = STA. 10+84.00 RTE. C	
4	0+14.07	ENTRANCE	0	710,538.55549	721,067.67434		PC	
4	0+42.46	ENTRANCE		710,560.54604	721,085.63253		PI	
4		ENTRANCE		710,522.74252	721,087.13797		CC	
4	0+56.51	ENTRANCE	0	710,539.94963	721,105.17399		PT	
4	0+96.81	ENTRANCE	0	710,510.71298	721,132.91315		ENDING	

COORDINATE POINT SHEET
SHEET 1 OF 1

STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

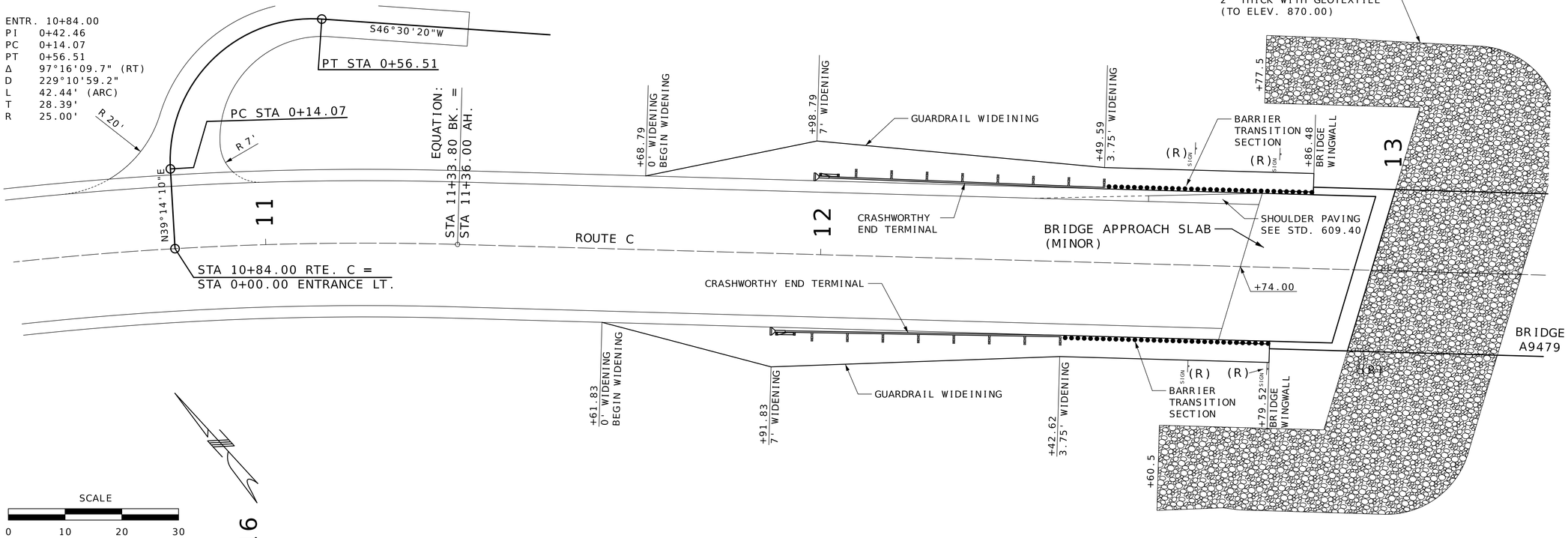
DATE PREPARED: 11/7/2024

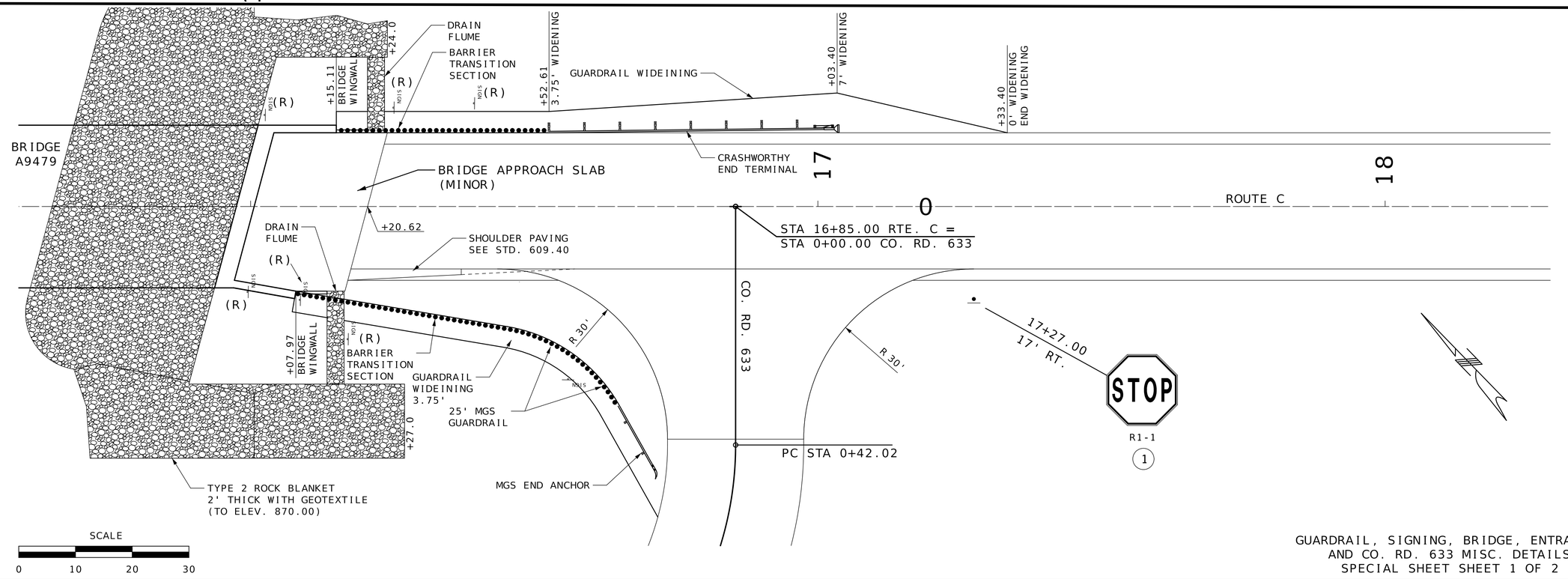
ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
CD	7

COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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





GUARDRAIL, SIGNING, BRIDGE, ENTRANCE, AND CO. RD. 633 MISC. DETAILS
SPECIAL SHEET SHEET 1 OF 2

STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER
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DATE PREPARED
11/7/2024

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
CD	8

COUNTY
WASHINGTON

JOB NO.
J5S3506

CONTRACT ID.

PROJECT NO.

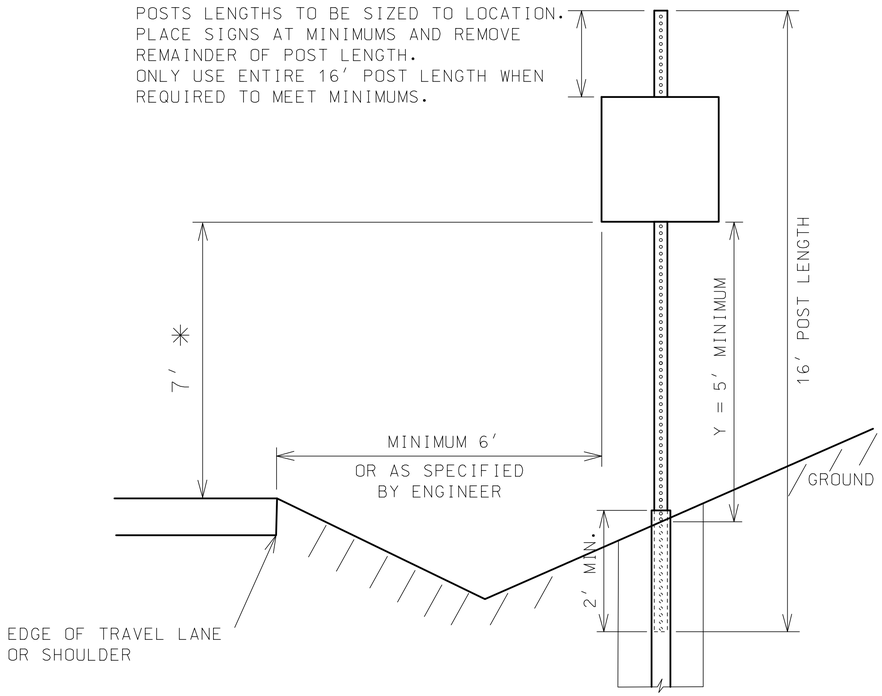
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MOUNTING HEIGHT DETAIL



SEE STANDARD PLANS 903.03 FOR INSTALLATION DETAILS

POSTS – 12 GAUGE – 2.5″ X 2.5″

ANCHORS – 7 GAUGE – 3″ X 3″ O.D.

BREAKAWAY – CERTIFIED NCHRP 350 COMPLIANT
USE REQUIRED FOR DOUBLE POST
INSTALLATIONS ONLY

GALVANIZATION – ALL PSST POSTS, ANCHORS AND
BREAKAWAY CASTINGS SHALL BE
GALVANIZED PER MoDOT STANDARD
SPECIFICATIONS

✳ 7′ MINIMUM REQUIRED IN URBAN APPLICATIONS AND PREFERRED IN RURAL APPLICATIONS.
IN RURAL APPLICATIONS ONLY – IN SITUATIONS WHERE THE 7′ MINIMUM CAN
NOT BE ATTAINED WITH A 16′ PSST A RANGE OF 5′– 7′ CAN BE USED AS
LONG AS DISTANCE "Y" IS ALSO MAINTAINED.

NOTE: PERFORATED SQUARE STEEL TUBE (PSST) POSTS ARE PAID AS 16 LINEAR FOOT, CONTRACTOR
IS RESPONSIBLE TO PROPERLY PLACE SIGN AS SHOWN ABOVE IN "MOUNTING HEIGHT DETAIL"

NOT TO SCALE

SIGNING SPECIAL SHEET
2.5" PSST POST DETAILS
SHEET 2 OF 2

STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/7/2024

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
CD	9

COUNTY
WASHINGTON

JOB NO.
J5S3506

CONTRACT ID.

PROJECT NO.

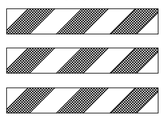
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

WO20-3



AWRS

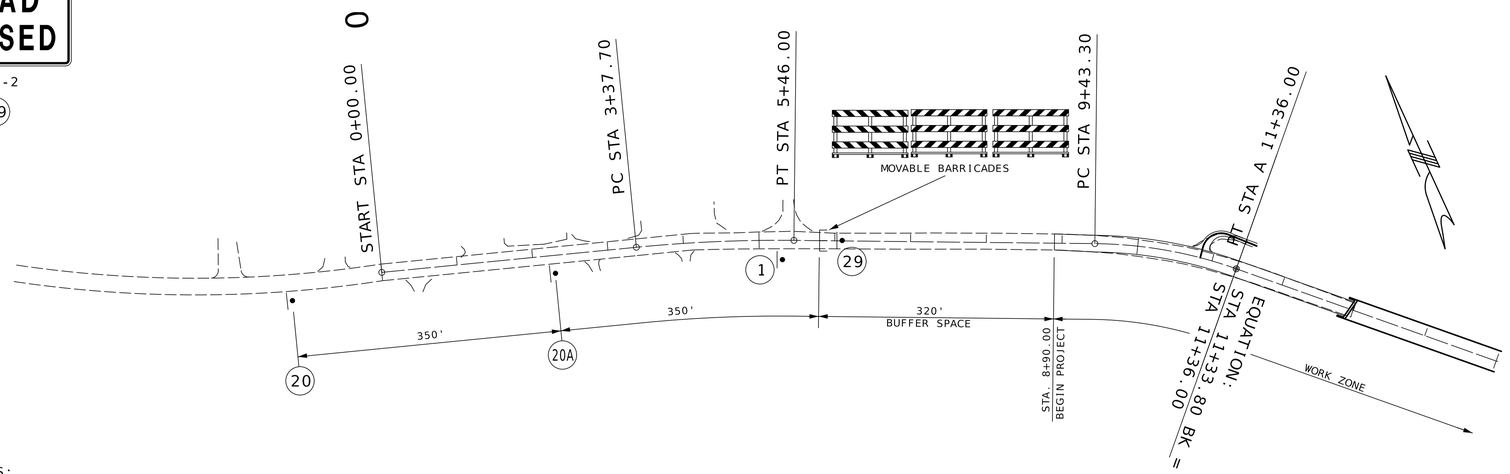
20

WO20-3

20A

R11-2

29



New Bridge

Fall 2025

CONST-5-48

1

GENERAL NOTES:

OTHER SIGNS SUCH AS DETOUR OR ALTERNATE ROUTE SIGNING MAY BE USED OUTSIDE THE PROJECT LIMITS.

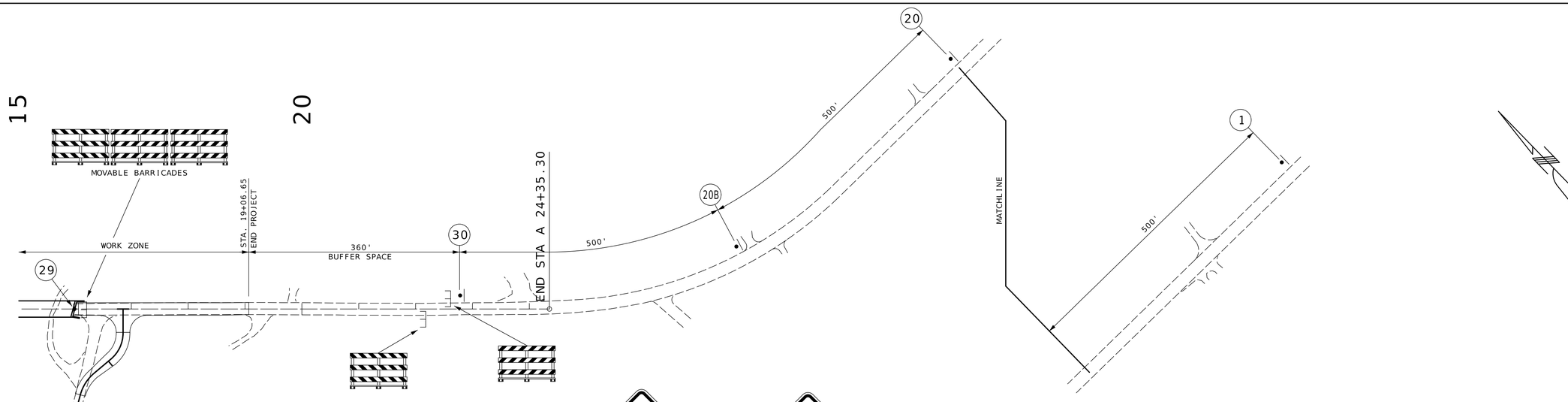
ANY EXISTING SIGNING THAT CONFLICTS WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED.

DISTANCE SHOWN MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS.

CONST-5-48 SIGN IS PLACED IN A VISIBLE AREA WITHIN THE PROJECT LIMITS PROVIDED ITS PLACEMENT DOES NOT DISRUPT A SEQUENCE OF SIGNS. IF A VISIBLE LOCATION WITHIN THE PROJECT IS NOT AVAILABLE, THE SIGN MAY BE PLACED 500 FEET BEFORE SIGN WO20-3 ROAD CLOSED AHEAD.

SCALE

0 100 200 300 400 500



SCALE

0 100 200 300 400 500

R11-4

30

WO20-3

20B

WO20-1

2

TRAFFIC CONTROL LEGEND

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

TRAFFIC CONTROL
SHEET 1 OF 3

15

STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER

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DATE PREPARED
11/7/2024

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
CD	10

COUNTY
WASHINGTON

JOB NO.
J5S3506

CONTRACT ID.

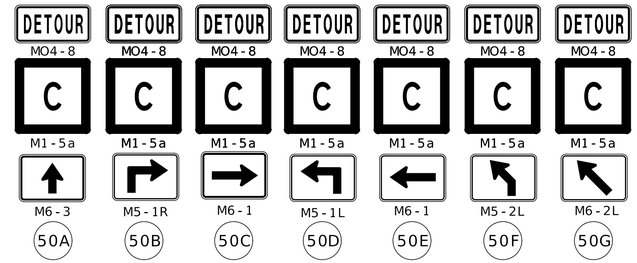
PROJECT NO.

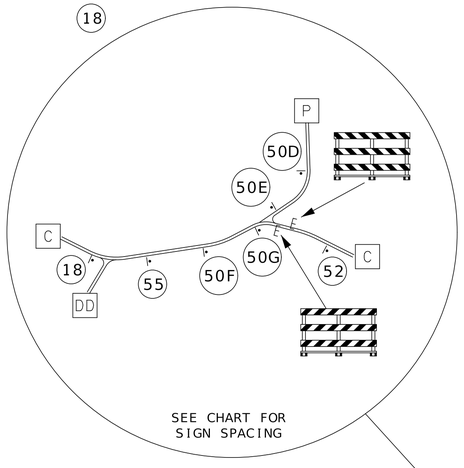
BRIDGE NO.

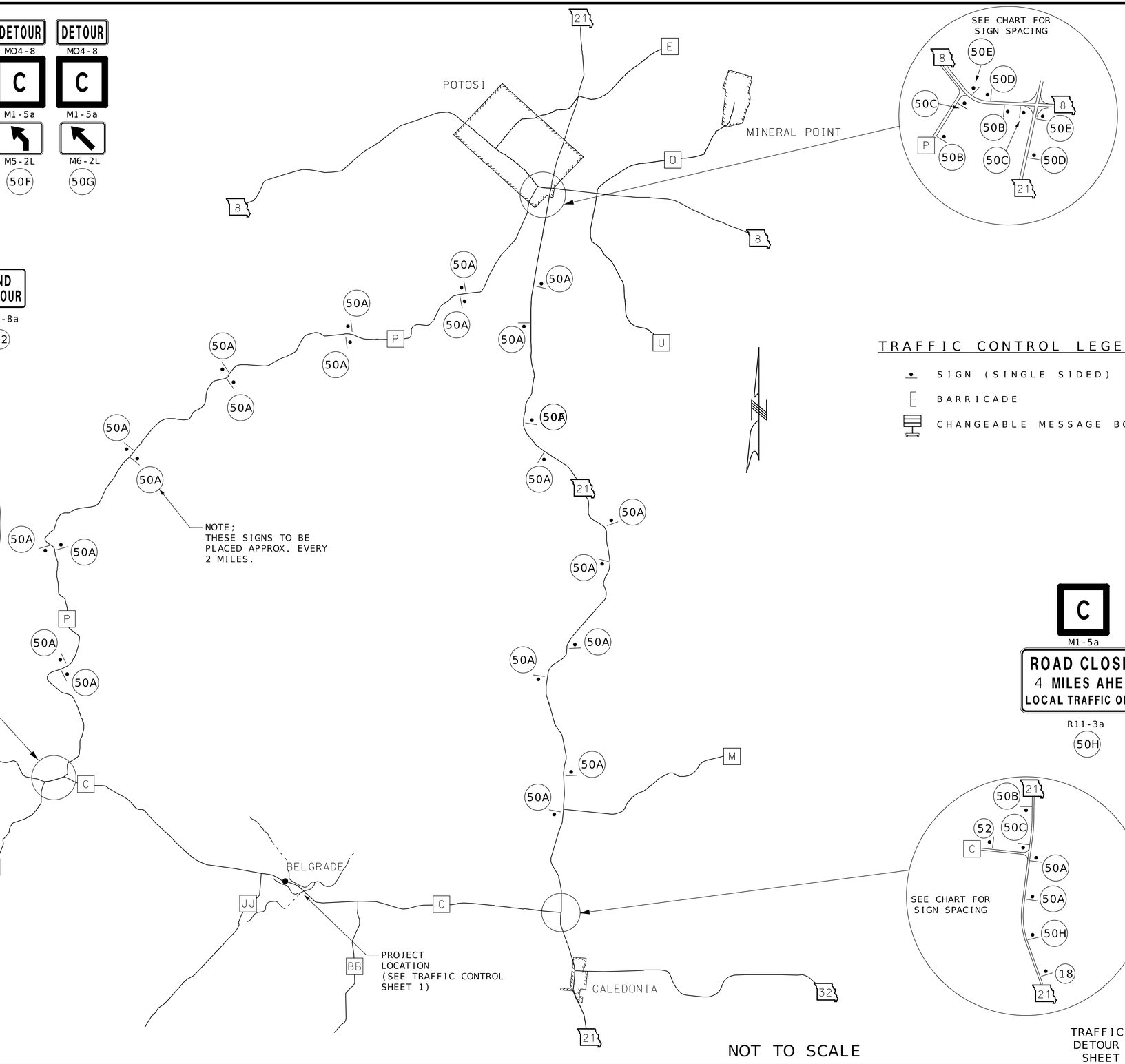
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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







TRAFFIC CONTROL LEGEND

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

SPEED	SIGN SPACING (FT) (1)
PERMANENT POSTED (MPH)	NON-DIVIDED HIGHWAYS (S)
0–35	200
40–45	350
50–55	500
60–70	1000

(1) SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS.

NOT TO SCALE

TRAFFIC CONTROL
DETOUR SIGNING
SHEET 2 OF 3

STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER
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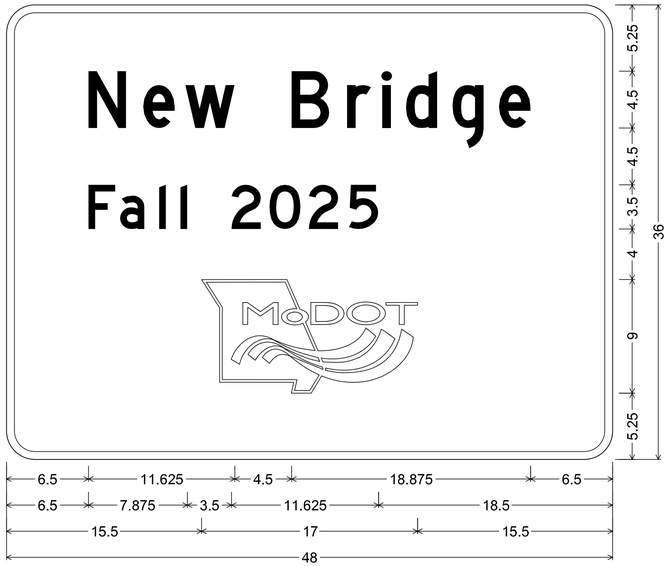
DATE PREPARED 11/7/2024

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
CD	11

COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

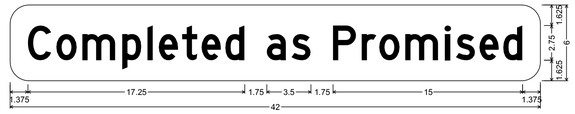
DESCRIPTION | DATE

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



CONST-5-48 SH-FLAT SHEET;
2.250" Radius, 0.625" Border, White on, Blue;
"New", D; "Bridge", D; "Fall 2025", D;
Table of letter and object lefts

N 6.500	e 10.875	w 14.125	B 22.625	r 27.000	i 29.750	d 31.625	g 35.375	e 39.000
F 6.500	a 9.000	l 12.125	l 13.750	2 17.875	0 20.875	2 24.000	5 27.125	
15.500								



CONST-5P-42 SHF-FLAT SHEET FLUORESCENT;
1.500" Radius, No border, Yellow;
"Completed as Promised" Black, D 65% spacing;
Table of letter and object lefts

C 1.375	o 3.625	m 5.750	p 8.875	l 10.875	e 11.750	t 13.625	e 15.125	d 17.000	a 20.375	s 22.250				
P 25.625	r 27.875	o 29.250	m 31.250	l 34.500	s 35.250	e 37.125	d 39.000							

TRAFFIC CONTROL
POINT OF PRESENCE SIGN
SHEET 3 OF 3

STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER
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DATE PREPARED
11/7/2024

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
CD	12

COUNTY
WASHINGTON

JOB NO.
J5S3506

CONTRACT ID.

PROJECT NO.

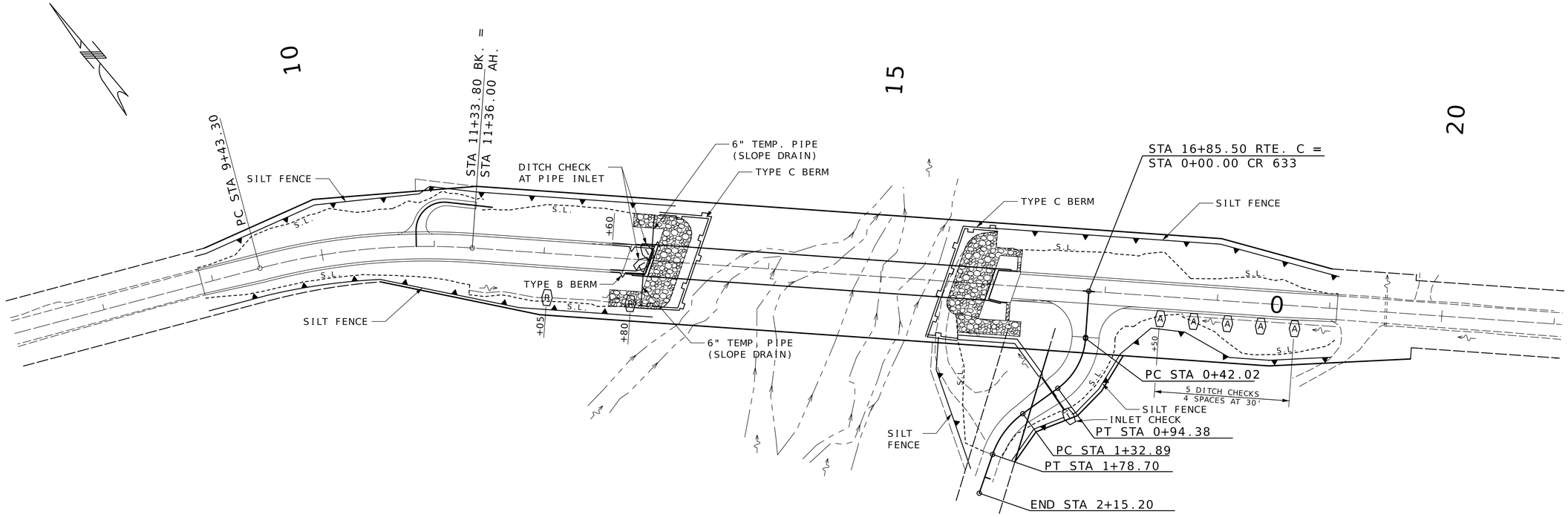
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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



TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (R) ROCK DITCH CHECK
- (I) INLET CHECK
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE

SCALE

0 50 100 150

EROSION CONTROL
SHEET 1 OF 1

STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER

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DATE PREPARED
11/7/2024

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
CD	13

COUNTY
WASHINGTON

JOB NO.
J5S3506

CONTRACT ID.

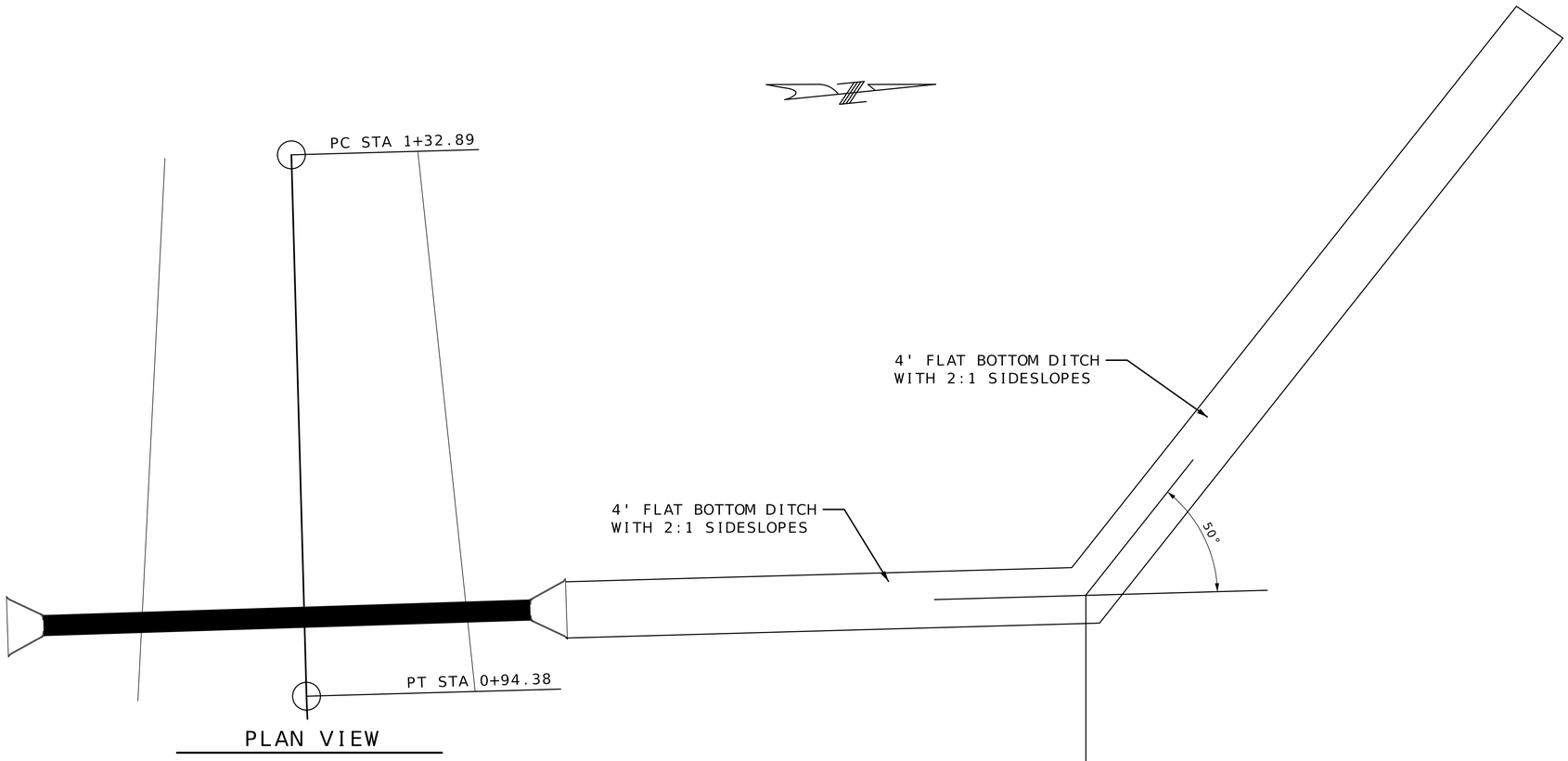
PROJECT NO.

BRIDGE NO.

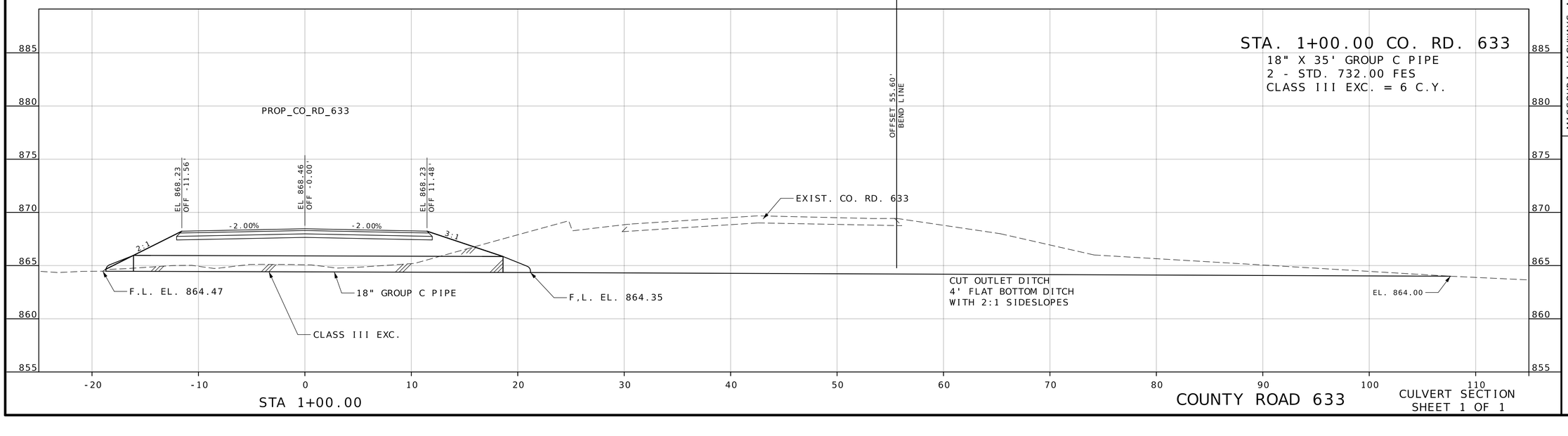
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



PLAN VIEW



STA 1+00.00

COUNTY ROAD 633

CULVERT SECTION
SHEET 1 OF 1

STATE OF MISSOURI
JAMES V. BEATTIE
NUMBER PE-2018021150
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/7/2024

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
CD	14

COUNTY
WASHINGTON

JOB NO.
J5S3506

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

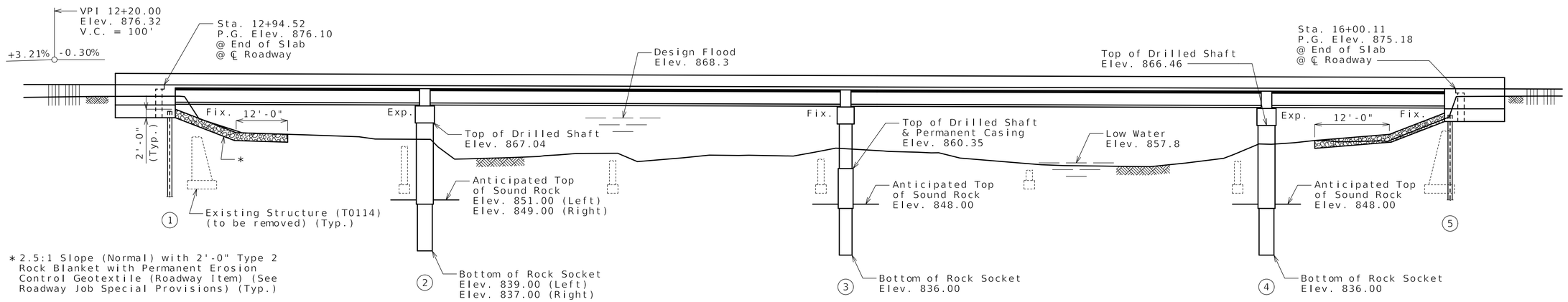
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

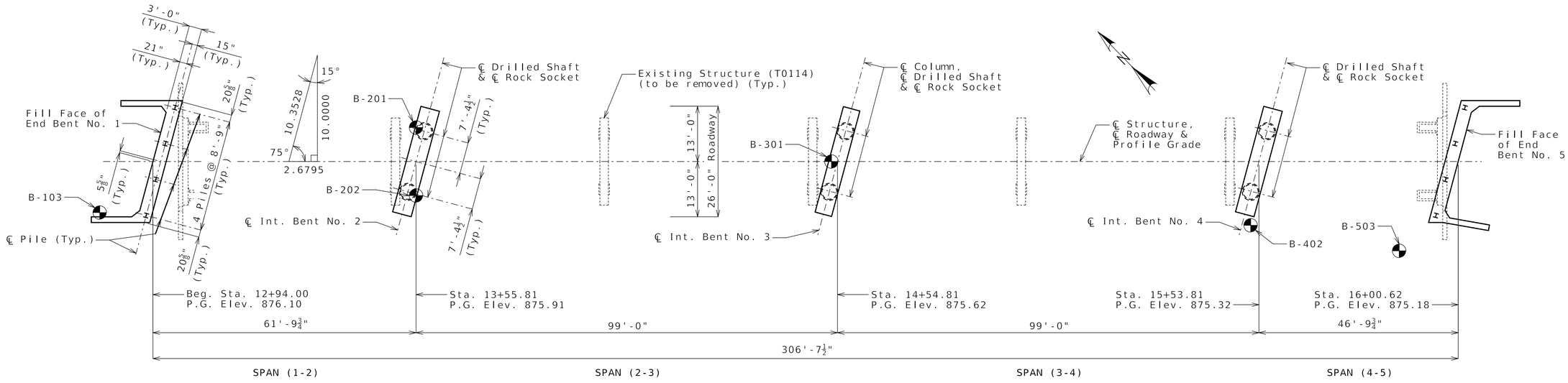
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

SEC/SUR 2152 TWP 36N RGE 2E

(60'-99'-99'-45') PRESTRESSED CONCRETE NU-GIRDER SPANS



GENERAL ELEVATION



PLAN

⊕ Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheet No. 40 and may be included in the Electronic Bridge Deliverables. They will also be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

The Commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the Commission.

Notes:

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

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

BM1-23 - CHISLED "□" IN CONCRETE AROUND WATER MANHOLE.
X = 721466.615, Y = 710200.938,
ELEV. = 864.62, STA. 16+06.44, OFFSET 47.81' LT.

BRIDGE: ROUTE C OVER BIG RIVER

ROUTE C FROM ROUTE JJ TO ROUTE BB
ABOUT 0.7 MILES SOUTHEAST OF ROUTE JJ
BEGINNING STATION 12+94.00

Designed Sept. 2024
Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
Ted Koester
03/07/2025 10:48:06 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED
1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	1

COUNTY
WASHINGTON

JOB NO.
J5S3506

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9479

DESCRIPTION

DATE

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

GENERAL NOTES:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
2011 AASHTO Guide Specifications for LRFD Seismic Bridge Design (2nd Ed.) and 2014 Interim Revisions (Seismic Details)

Seismic Design Category = B

Design earthquake response spectral acceleration coefficient at 1.0 second period, S_{D1} = 0.178g.

Acceleration Coefficient (effective peak ground acceleration coefficient), A_S = 0.207g.

Design Loading:

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

Design Unit Stresses:

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

For prestressed girder stresses, see Sheets No. 17 thru 22.

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.

MBS refers to mechanical bar splices. Mechanical bar splices shall be in accordance with Sec 706 or 710 except that no measurement will be made for mechanical bar splices and they will be considered completely covered by the contract unit price for other items.

Traffic Handling:

Structure to be closed during construction. Traffic to be maintained on other routes. 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

Estimated Quantities for Slab on Concrete NU-Girder

Item		Total
Class B-2 Concrete	cu. yard	276
Reinforcing Steel	pound	80
Reinforcing Steel (Epoxy Coated)	pound	74,400

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 Estimated Quantities for Slab on Concrete NU-Girder are based on skewed precast prestressed end panels.

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

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

Estimated Quantities

Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	80		80
Removal of Bridges (T0114)	lump sum			1
Bridge Approach Slab (Minor)	sq. yard		121	121
Drilled Shafts (4 ft. 0 in. Dia.)	linear foot	95.7		95.7
Rock Sockets (3 ft. 6 in. Dia.)	linear foot	72.0		72.0
Video Camera Inspection	each	6		6
Foundation Inspection Holes	linear foot	132.0		132.0
Sonic Logging Testing	each	6		6
Galvanized Structural Steel Piles (12 in.)	linear foot	156		156
Pre-Bore for Piling	linear foot	76		76
Pile Point Reinforcement	each	8		8
Class B Concrete (Substructure)	cu. yard	82.0		82.0
Type H Barrier	linear foot		657	657
Slab on Concrete NU-Girder	sq. yard		973	973
NU 43, Prestressed Concrete NU-Girder	linear foot		906	906
Reinforcing Steel (Bridges)	pound	29,270		29,270
Slab Drain	each		54	54
Vertical Drain at End Bents	each			2
Plain Neoprene Bearing Pad	each		6	6
Laminated Neoprene Bearing Pad	each		6	6
Laminated Neoprene Bearing Pad Assembly	each		12	12

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

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

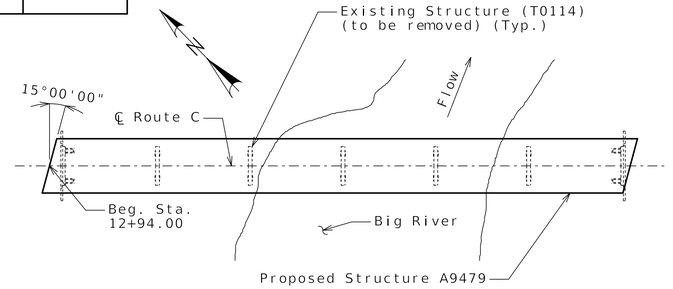
All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

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

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

Hydrologic Data

Drainage Area = 41 mi^2
Design Flood Frequency = 50 years
Design Flood Discharge = 13,500 cfs
Design Flood (D.F.) Elevation = 868.3
Base Flood (100-year)
Base Flood Elevation = 870.0
Base Flood Discharge = 15,900 cfs
Estimated Backwater = 0.8 ft
Average Velocity thru Opening = 8.1 ft/s
Freeboard (50-year)
Freeboard = 2.3 ft
Roadway Overtopping
Overtopping Flood Discharge = 18,100 cfs
Overtopping Flood Frequency = 190 years
Overtopping Flood Elevation = 870.3



LOCATION SKETCH

Foundation Data

Type	Design Data		Bent 1	Bent 2	Bent 3	Bent 4	Bent 5
Load Bearing Pile	Pile Type and Size		HP 12x53	–	–	–	HP 12x53
	Number	ea	4	–	–	–	4
	Approximate Length Per Each	ft	18	–	–	–	21
	Pile Point Reinforcement	ea	All	–	–	–	All
	Min. Galvanized Penetration (Elev.)	ft	Full Length	–	–	–	Full Length
	Pile Driving Verification Method		DF	–	–	–	DF
	Resistance Factor		0.4	–	–	–	0.4
	Minimum Nominal Axial Compressive Resistance	kip	481	–	–	–	409
Rock Socket	Number	ea	–	2	2	2	–
	Layer 1: Foundation Material		–	Strong Rock	Strong Rock	Strong Rock	–
	Layer 1: Elevation Range	ft	–	848-839	845-839.3	845-836.6	–
	Layer 1: Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	–	15.73	27	16.15	–
	Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf	–	0	11.23	0	–

Load Bearing Pile:

DF = FHWA-modified Gates Dynamic Pile Formula

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

Rock Socket (Drilled Shafts):

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

Drilled shafts and rock sockets shall be constructed per geotechnical report recommendations.

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.

Prebore for piles at Bents No. 1 & 5 to elevations 861.00 & 855.00, respectively.

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
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01/07/2025 10:48:33 AM
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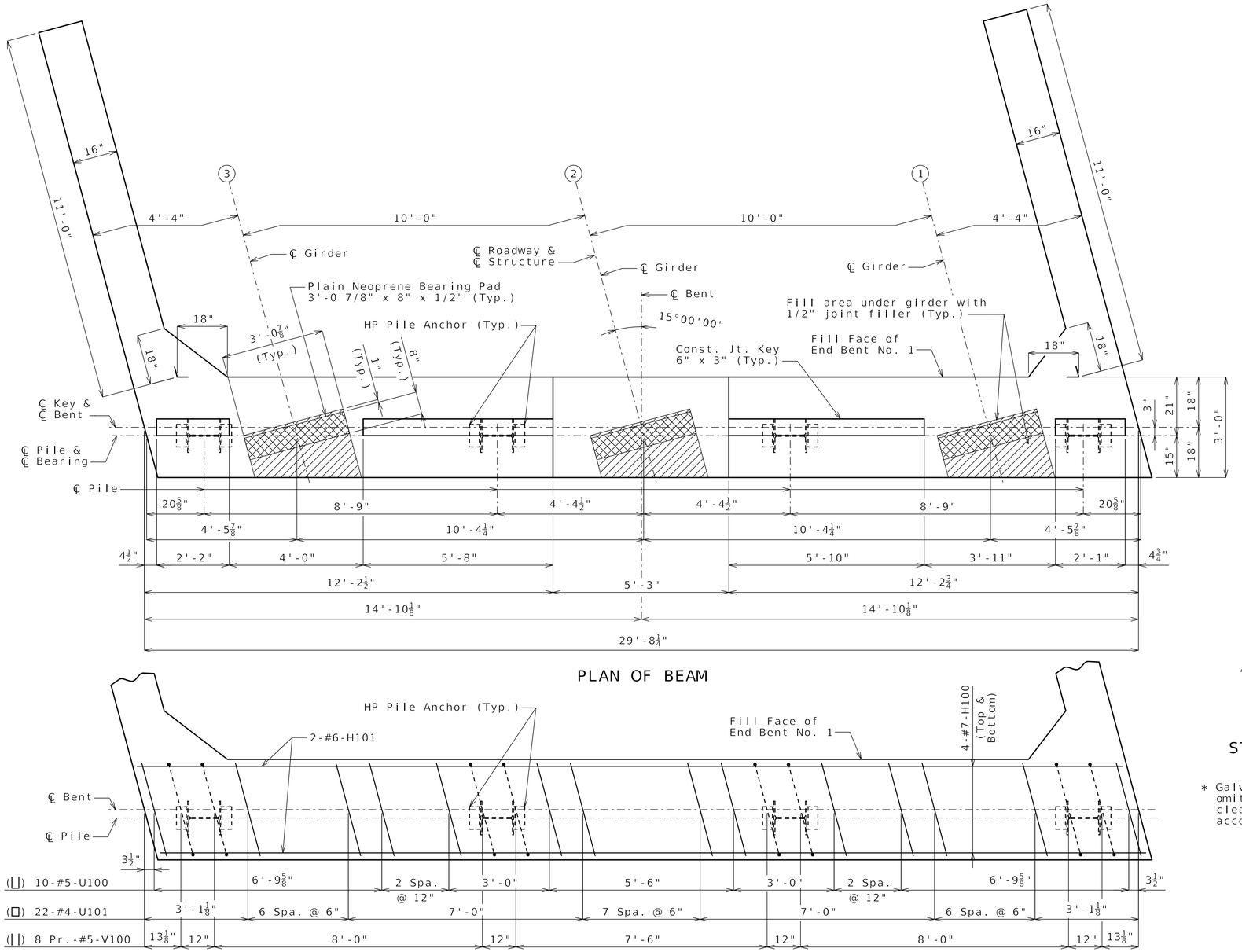
DATE PREPARED: 1/7/2025
ROUTE: C | STATE: MO
DISTRICT: BR | SHEET NO.: 2
COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9479

DESCRIPTION | DATE

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

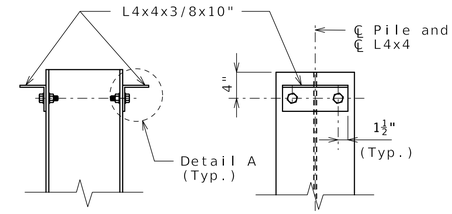


PLAN OF BEAM

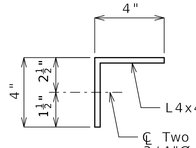
PLAN OF BEAM SHOWING REINFORCEMENT

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	40
Galvanized Structural Steel Piles (12 in.)	linear foot	72
Pre-Bore for Piling	linear foot	28
Pile Point Reinforcement	each	42
Class B Concrete (Substructure)	cu. yard	13.7

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

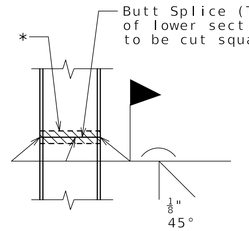


DETAILS OF HP PILE ANCHORS



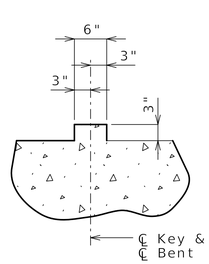
DETAIL A

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



STEEL PILE SPLICE
(If required)

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



SECTION THRU KEY

Notes:

Work this sheet with Sheets No. 4 & 5.

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

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

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

END BENT NO. 1

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
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DATE PREPARED
1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	3

COUNTY
WASHINGTON

JOB NO.
J5S3506

CONTRACT ID.

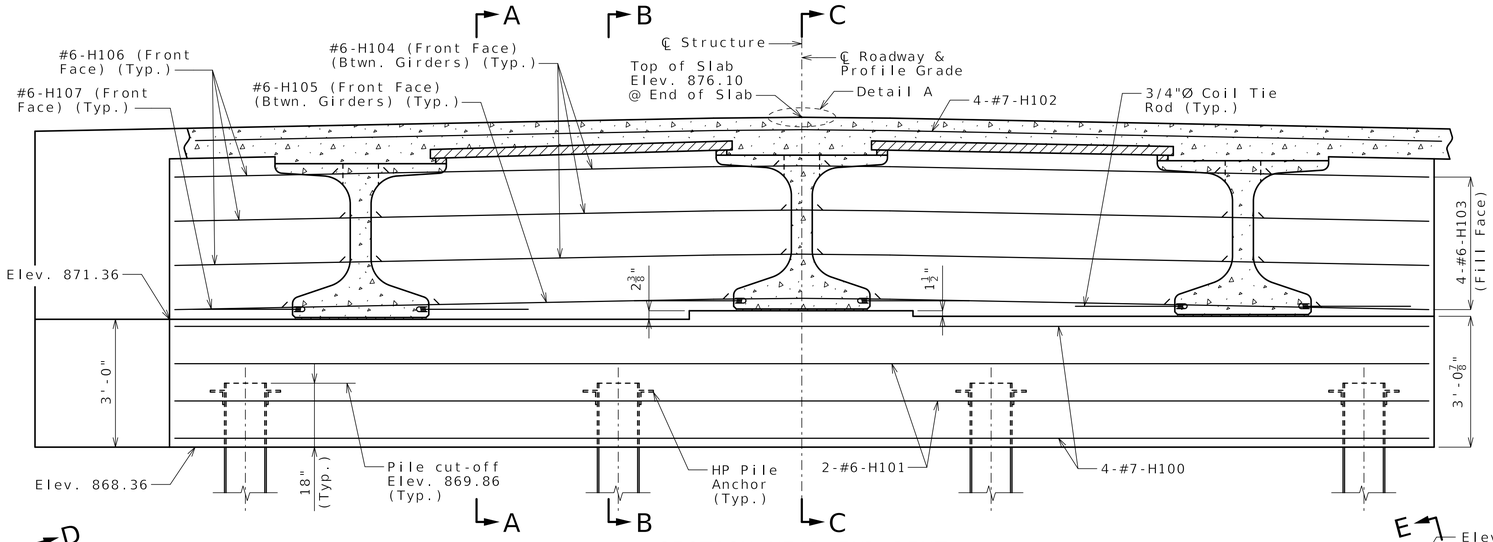
PROJECT NO.

BRIDGE NO.
A9479

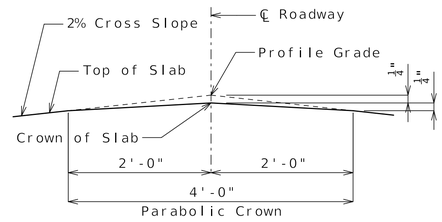
DESCRIPTION

DATE

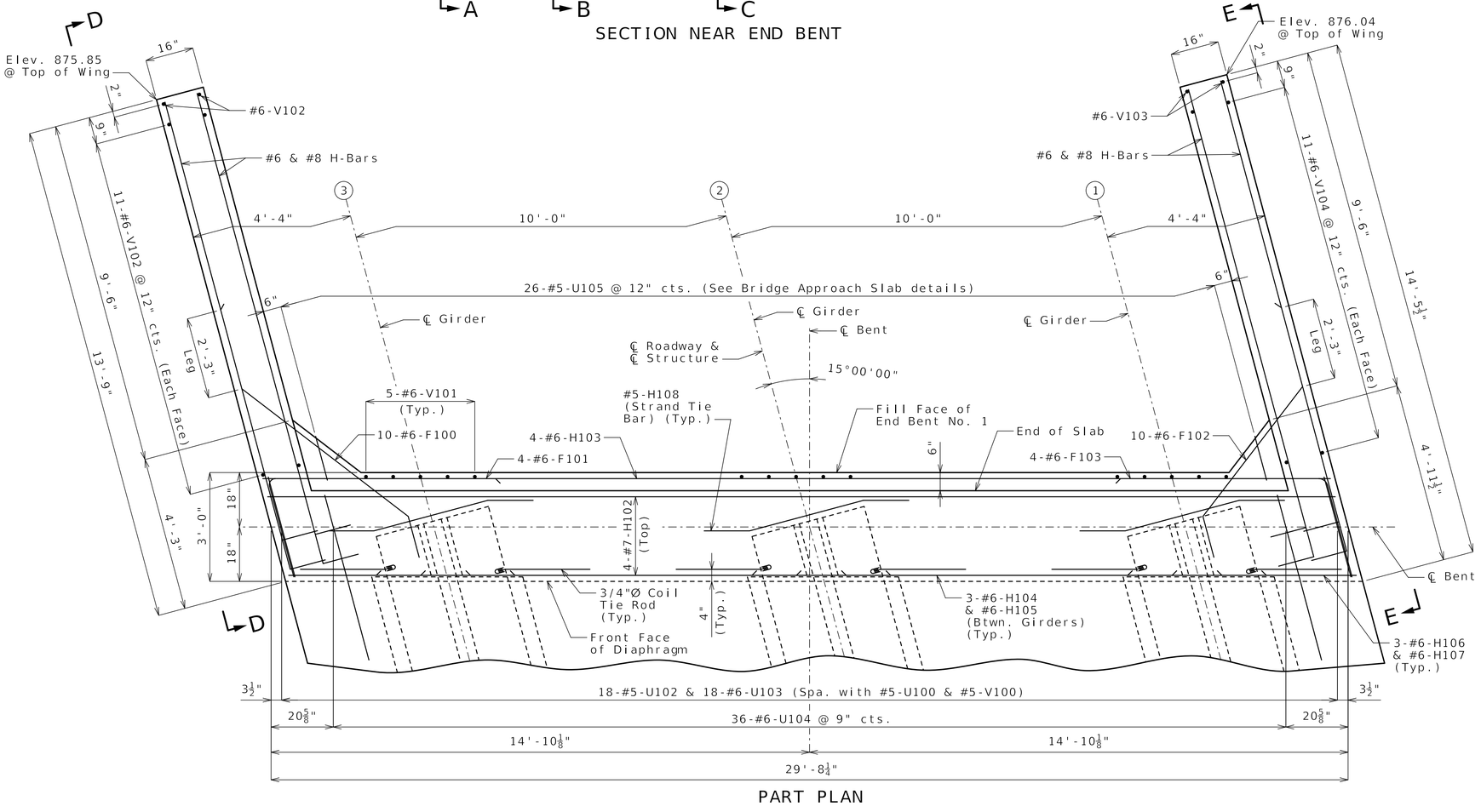
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



SECTION NEAR END BENT



DETAIL A



PART PLAN

END BENT NO. 1

Notes:

Work this sheet with Sheets No. 3 & 5.

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

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

For location of Coil Ties & #5-H108 (Strand Tie Bars), see Sheets No. 17 & 18.

The U bars shall be placed parallel to ℄ Roadway.

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

For details of bridge approach slab, see Sheet No. 35.

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
Ted Koester
01/07/2025 10:49:25 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED: 1/7/2025

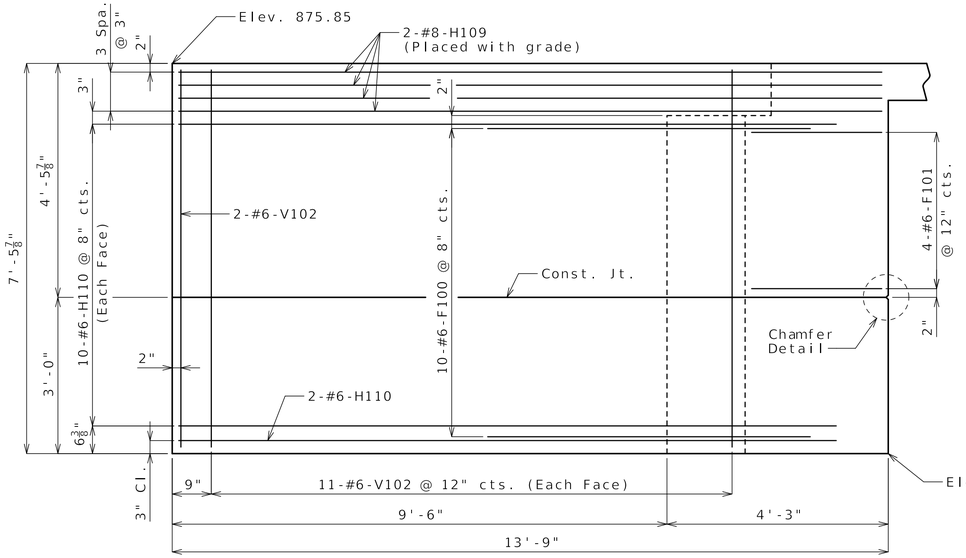
ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	4

COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9479

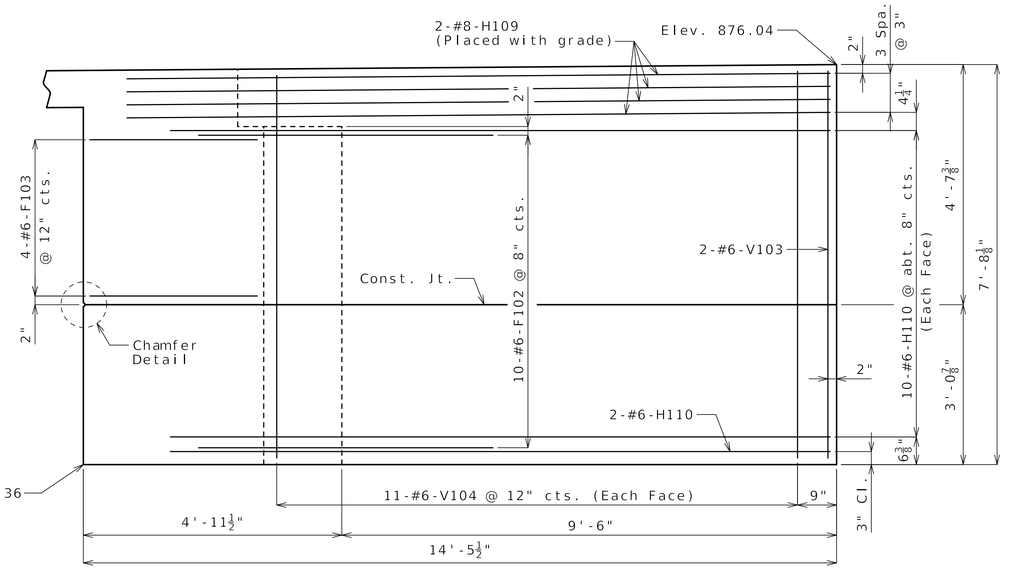
DATE	DESCRIPTION

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

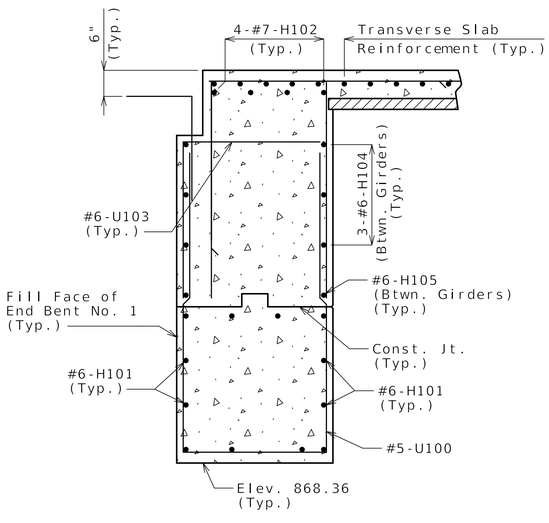
Detailed Oct. 2024
Checked Nov. 2024



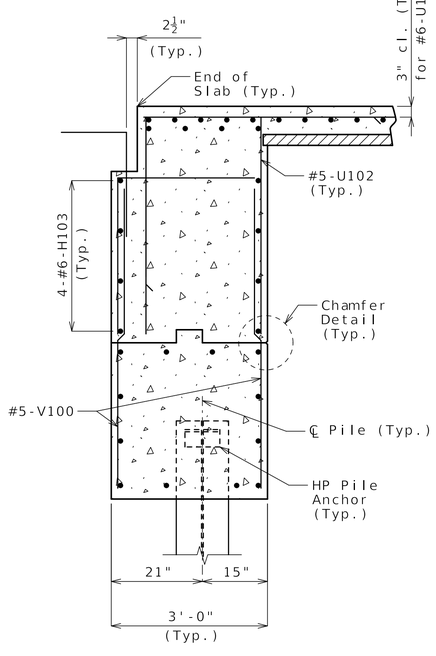
ELEVATION D-D



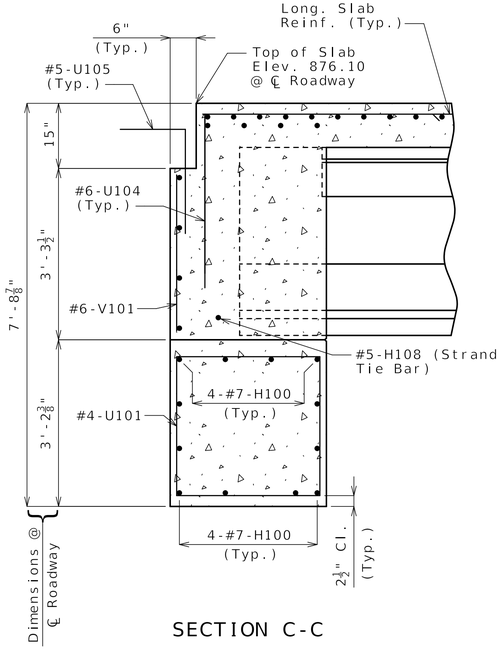
ELEVATION E-E



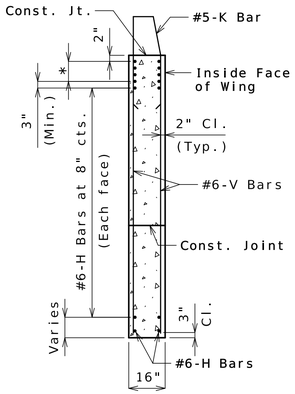
SECTION A-A



SECTION B-B

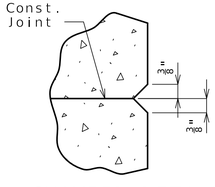


SECTION C-C



TYPICAL SECTION THRU WING

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



CHAMFER DETAIL

Notes:

Work this sheet with Sheets No. 3 & 4.

END BENT NO. 1

Detailed Oct. 2024
Checked Nov. 2024

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

DATE PREPARED: 1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	5

COUNTY: WASHINGTON

JOB NO.: J5S3506

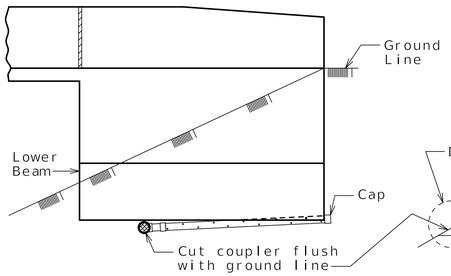
CONTRACT ID.:

PROJECT NO.:

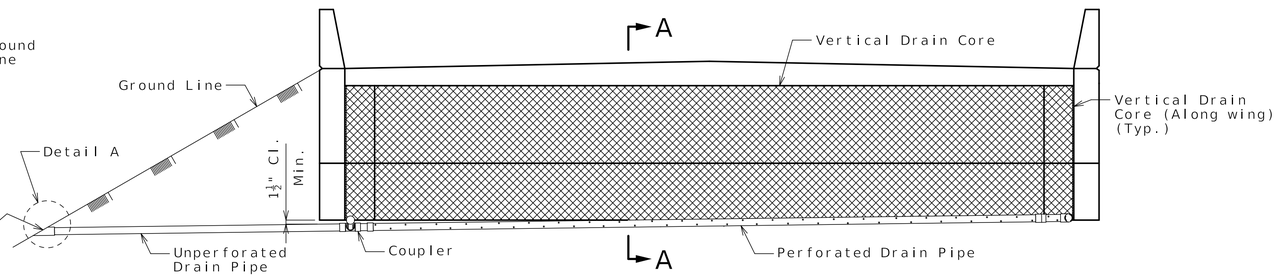
BRIDGE NO.: A9479

DESCRIPTION	DATE

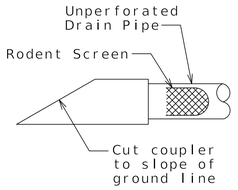
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



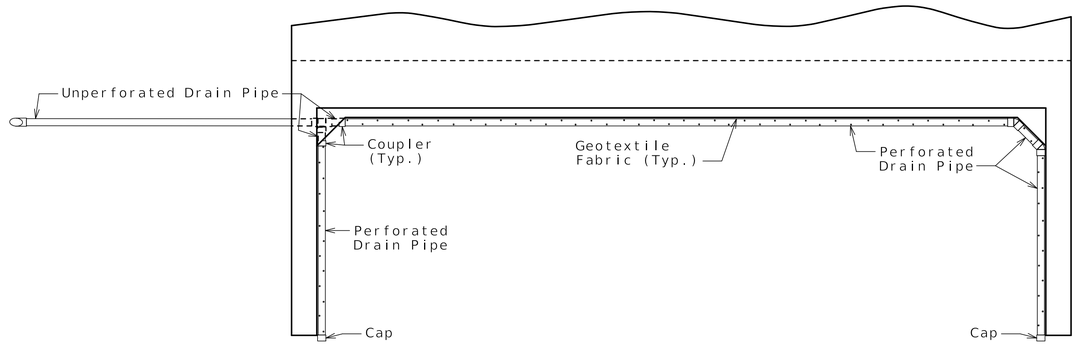
ELEVATION OF WING



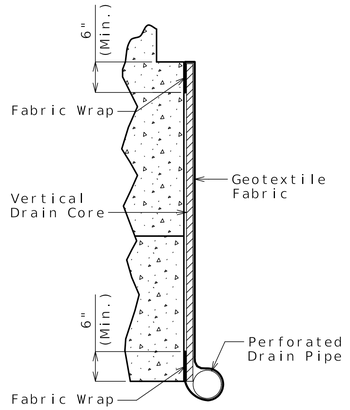
ELEVATION OF END BENT



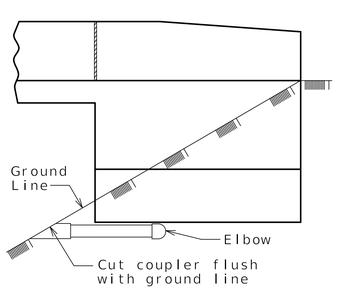
DETAIL A



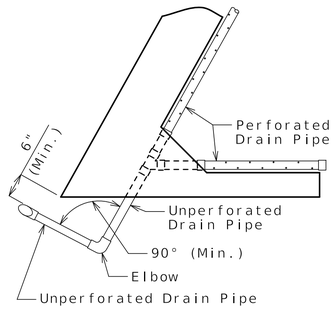
PLAN OF END BENT



PART SECTION A-A
(Section thru wing similar)



ELEVATION OF WING



PART PLAN

OPTIONAL TURNED DRAIN
(Use only when straight drain is not practical.)

General Notes:

All drain pipe shall be sloped 1 to 2 percent.

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

Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.

VERTICAL DRAIN AT END BENTS

(Squared end bent shown, skewed end bent similar)

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
01/07/2025 10:50:12 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

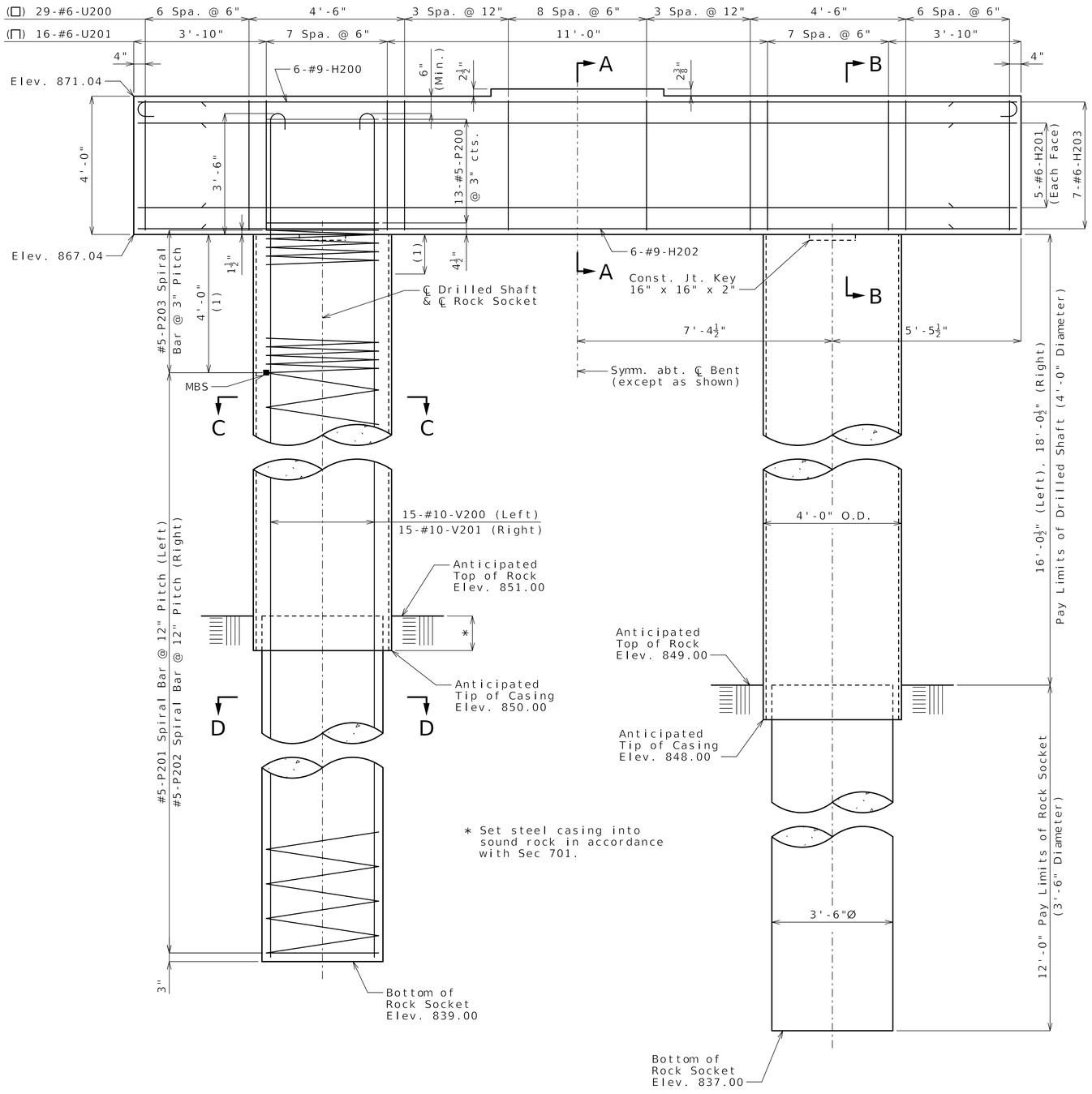
DATE PREPARED 1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	6

COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9479

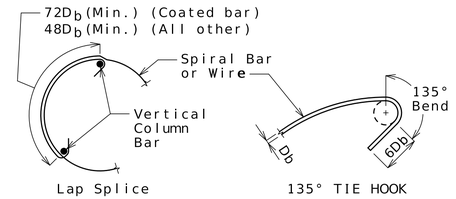
DESCRIPTION | DATE

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



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

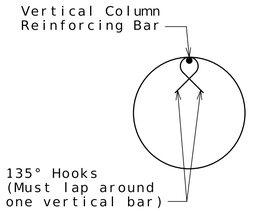
ELEVATION



INTERMEDIATE SPLICE OF SPIRALS

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

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



SEISMIC STIRRUP BAR

Substructure Quantity Table for Bent No. 2

Item		Quantity
Drilled Shaft (4 ft. 0 in. Dia.)	linear foot	34.1
Rock Sockets (3 ft. 6 in. Dia.)	linear foot	24.0
Video Camera Inspection	each	2
Foundation Inspection Holes	linear foot	44.0
Sonic Logging Testing	each	2
Class B Concrete (Substructure)	cu. yard	17.3
Reinforcing Steel (Bridges)	pound	8940

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

Notes:

Work this sheet with Sheet No. 8.

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

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

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

All reinforcement in drilled shaft and rock socket is included in the substructure quantities.

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

INTERMEDIATE BENT NO. 2

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
Ted Koester
01/07/2025 10:50:38 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED
1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	7

COUNTY
WASHINGTON

JOB NO.
J5S3506

CONTRACT ID.

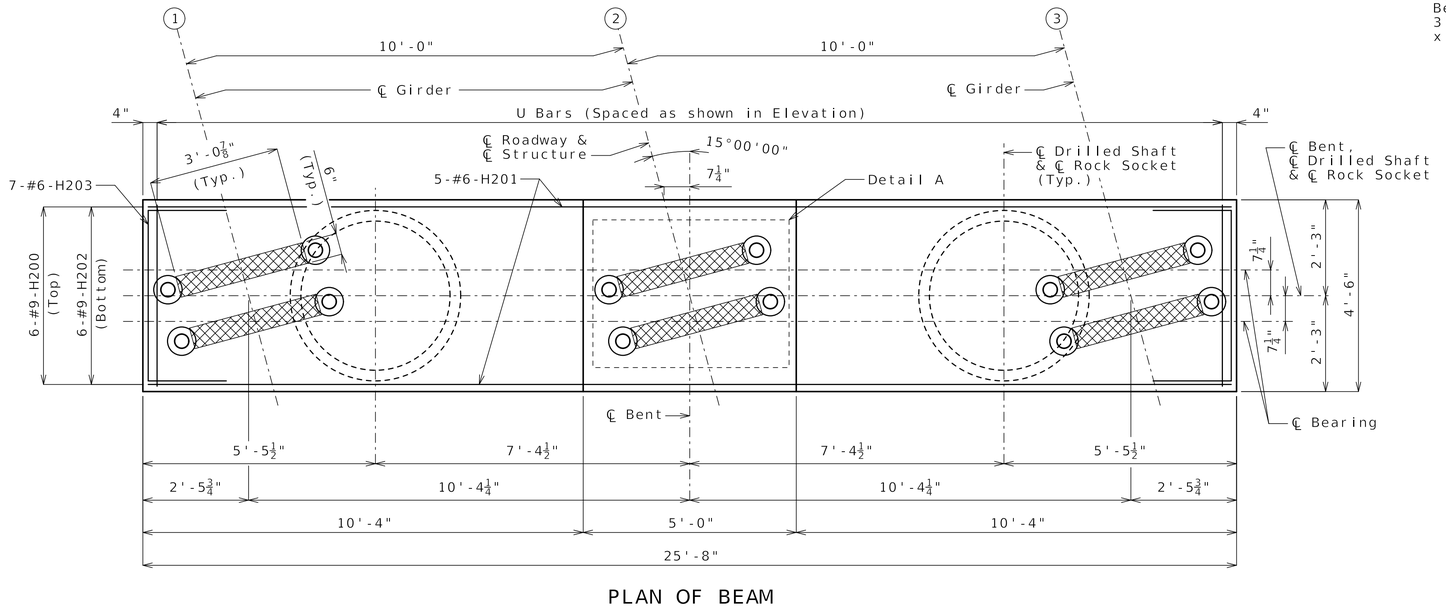
PROJECT NO.

BRIDGE NO.
A9479

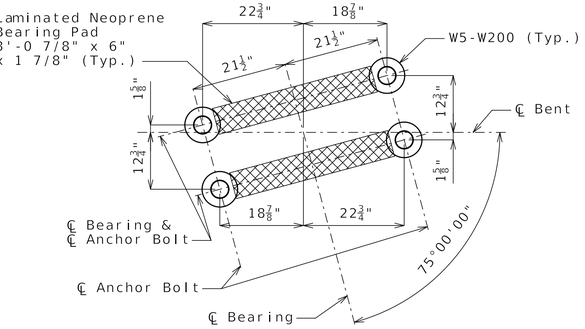
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

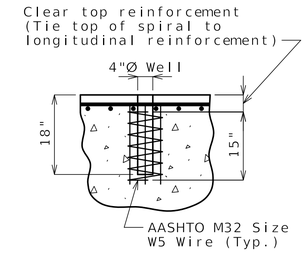
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



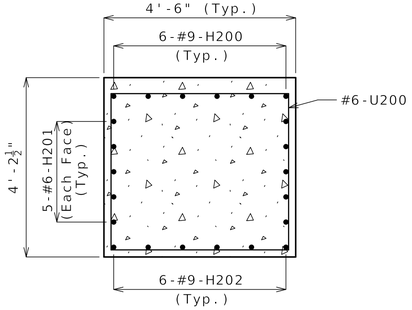
PLAN OF BEAM



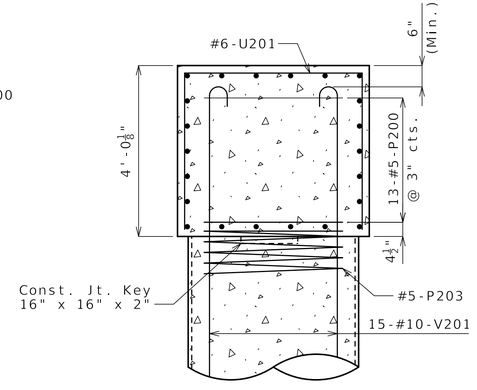
DETAIL A



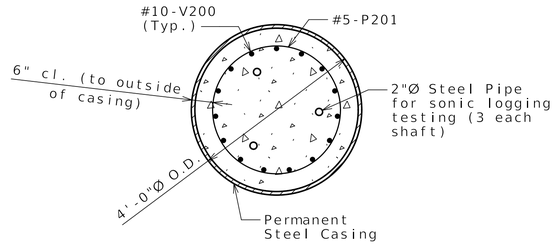
ANCHOR BOLT WELLS



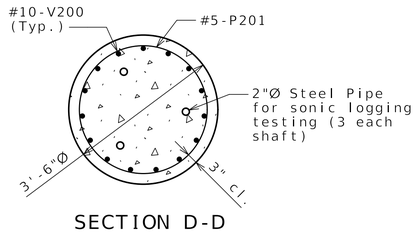
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

Notes:

Work this sheet with Sheet No. 7.

For bearing pad details, see Sheet No. 16.

INTERMEDIATE BENT NO. 2

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
Ted Koester
01/07/2025 10:50:57 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

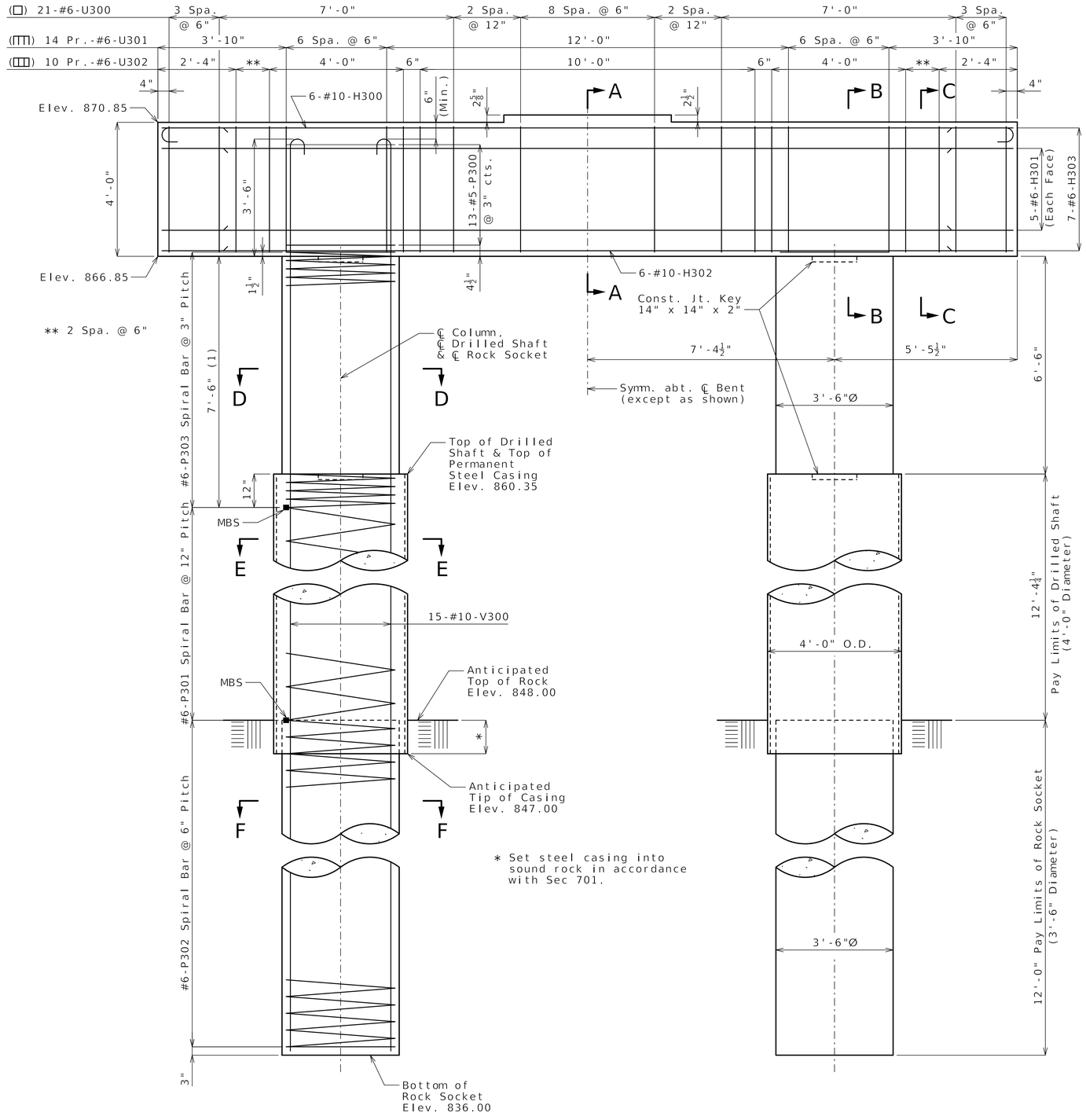
DATE PREPARED: 1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	8

COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9479

DESCRIPTION	DATE

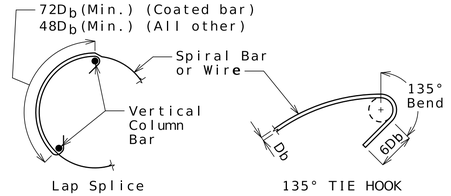
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



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

ELEVATION

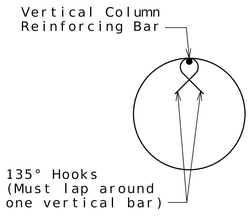
INTERMEDIATE BENT NO. 3



INTERMEDIATE SPLICE OF SPIRALS

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

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



SEISMIC STIRRUP BAR

Substructure Quantity Table for Bent No. 3

Item		Quantity
Drilled Shaft (4 ft. 0 in. Dia.)	linear foot	24.7
Rock Sockets (3 ft. 6 in. Dia.)	linear foot	24.0
Video Camera Inspection	each	2
Foundation Inspection Holes	linear foot	44.0
Sonic Logging Testing	each	2
Class B Concrete (Substructure)	cu. yard	20.1
Reinforcing Steel (Bridges)	pound	11,170

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

Notes:

Work this sheet with Sheet No. 10.

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

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

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

All reinforcement in drilled shaft and rock socket is included in the substructure quantities.

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
Ted Koester
01/07/2025 10:51:29 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED
1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	9

COUNTY
WASHINGTON

JOB NO.
J5S3506

CONTRACT ID.

PROJECT NO.

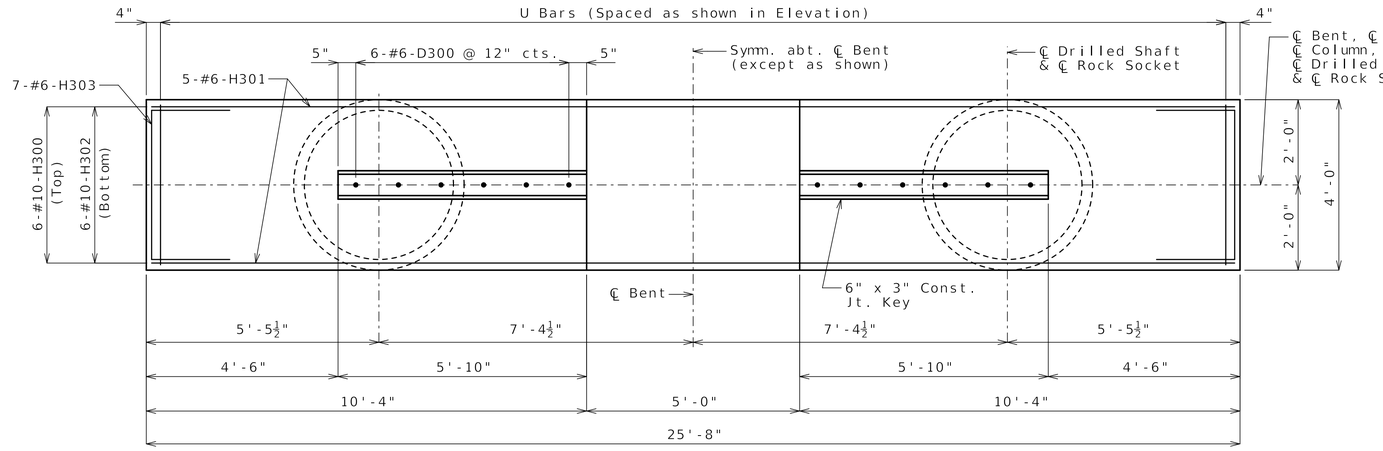
BRIDGE NO.
A9479

DESCRIPTION	DATE

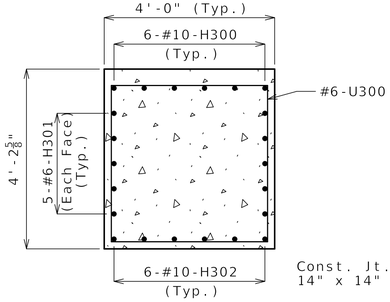
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

Detailed Oct. 2024
Checked Nov. 2024

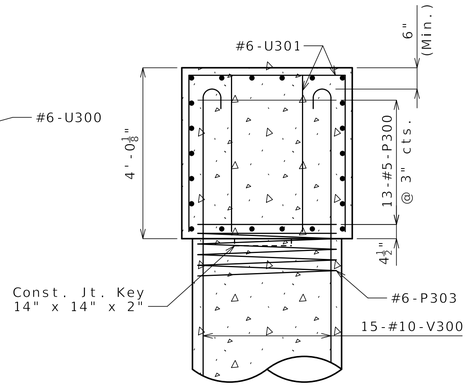
Note: This drawing is not to scale. Follow dimensions.



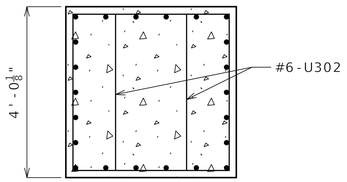
PLAN OF BEAM SHOWING REINFORCEMENT



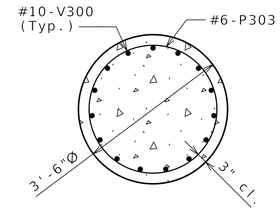
SECTION A-A



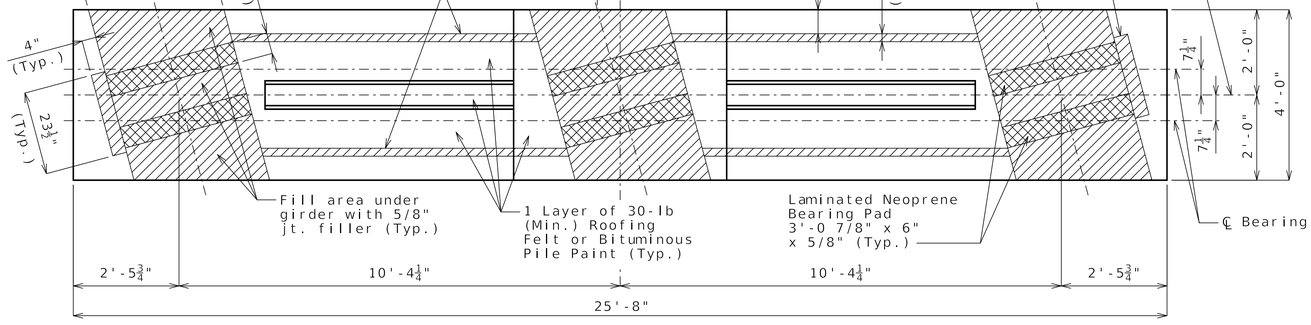
SECTION B-B



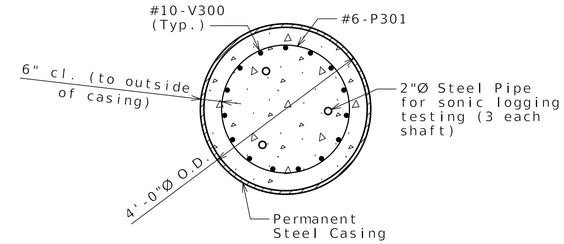
SECTION C-C



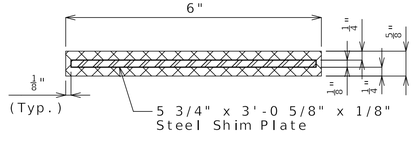
SECTION D-D



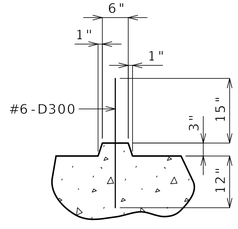
PLAN OF BEAM



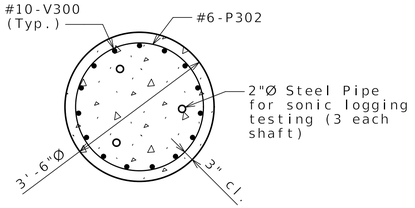
SECTION E-E



TYPICAL SECTION THRU
LAMINATED NEOPRENE BEARING PAD



SECTION THRU KEY



SECTION F-F

Notes:

Work this sheet with Sheet No. 9.

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

INTERMEDIATE BENT NO. 3

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
01/07/2025 10:51:50 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

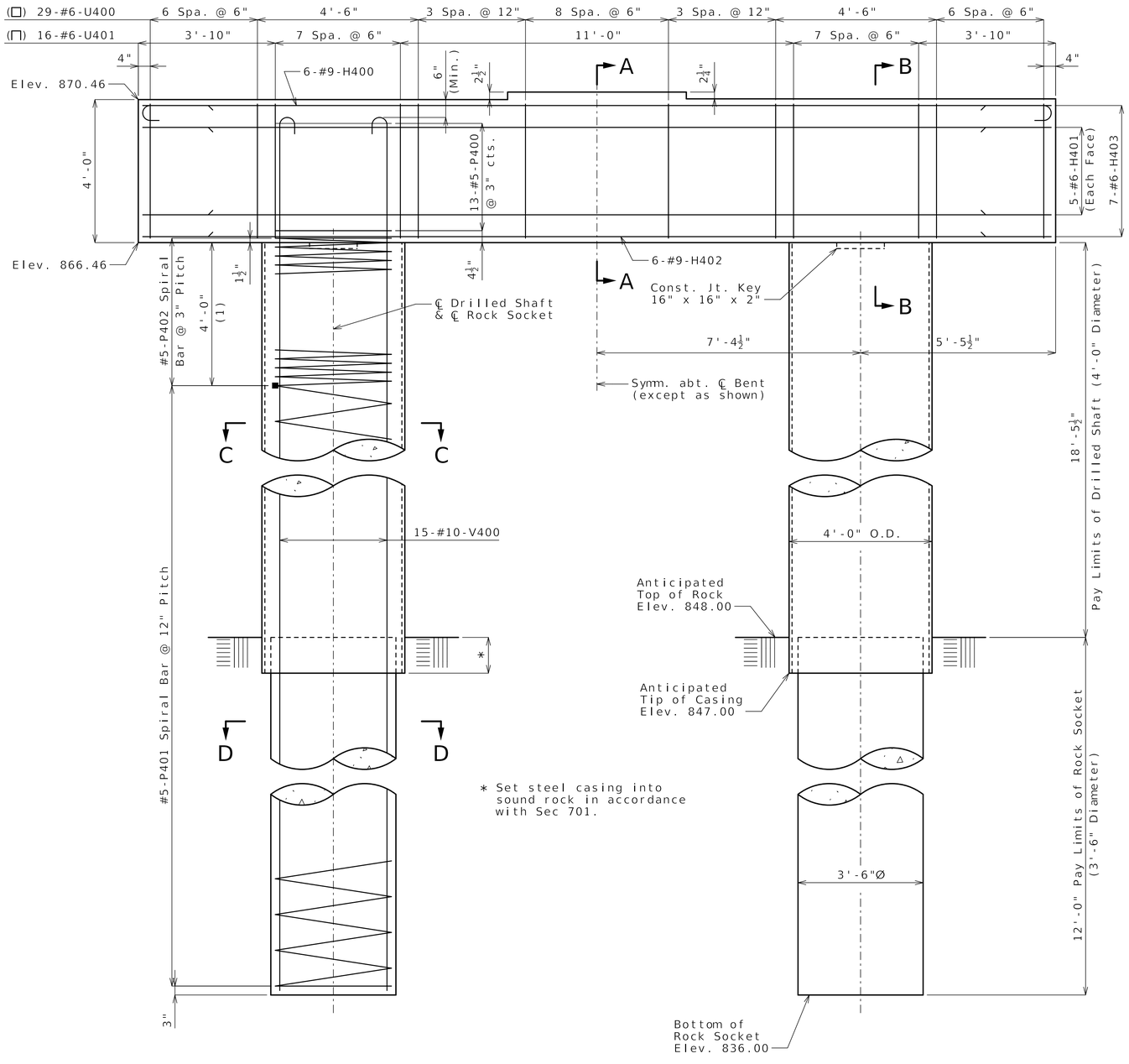
DATE PREPARED 1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	10

COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9479

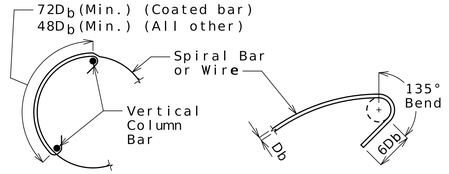
DESCRIPTION
DATE

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



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

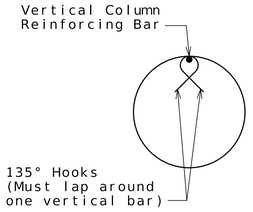
ELEVATION



INTERMEDIATE SPLICE OF SPIRALS

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

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



SEISMIC STIRRUP BAR

Substructure Quantity Table for Bent No. 4

Item		Quantity
Drilled Shaft (4 ft. 0 in. Dia.)	linear foot	36.9
Rock Sockets (3 ft. 6 in. Dia.)	linear foot	24.0
Video Camera Inspection	each	2
Foundation Inspection Holes	linear foot	44.0
Sonic Logging Testing	each	2
Class B Concrete (Substructure)	cu. yard	17.3
Reinforcing Steel (Bridges)	pound	9160

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

Notes:

Work this sheet with Sheet No. 12.

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

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

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

All reinforcement in drilled shaft and rock socket is included in the substructure quantities.

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

INTERMEDIATE BENT NO. 4

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
01/07/2025 10:52:15 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

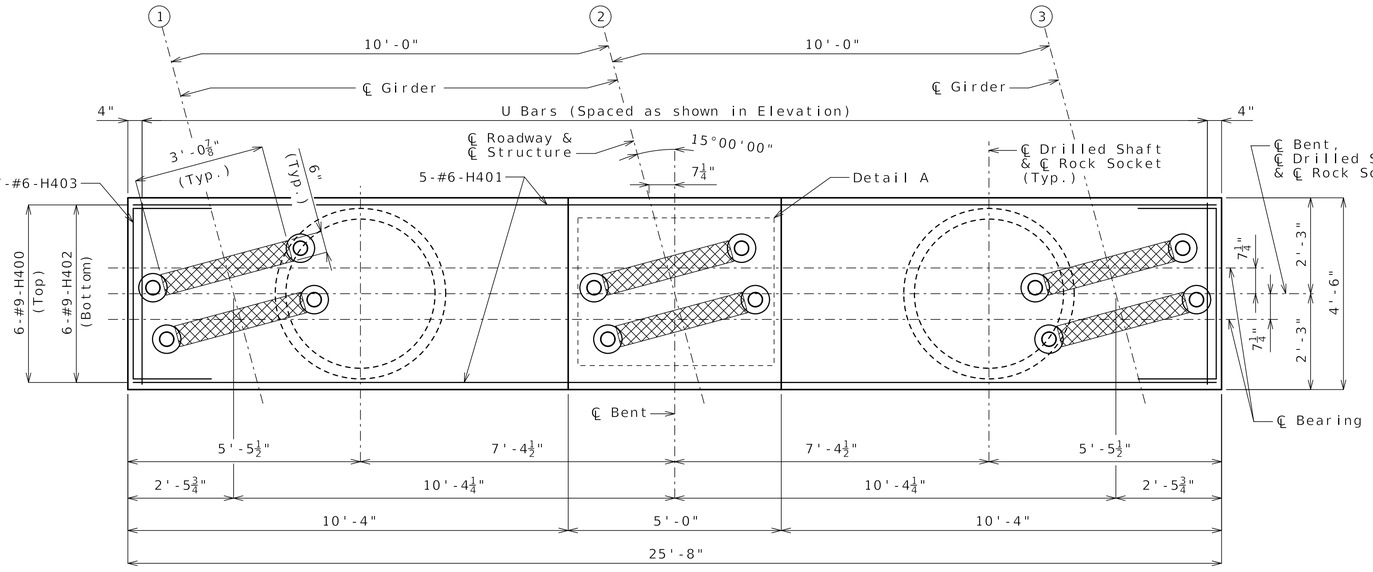
DATE PREPARED 1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	11

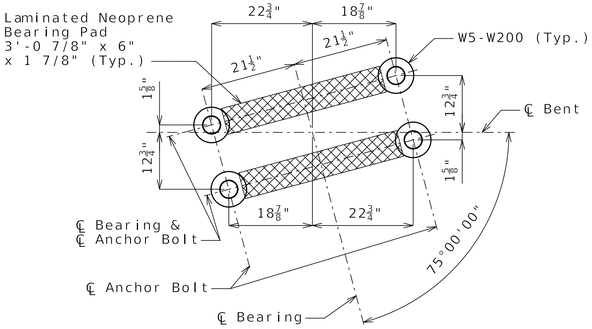
COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9479

DESCRIPTION | DATE

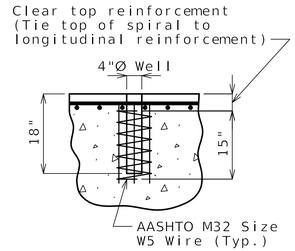
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



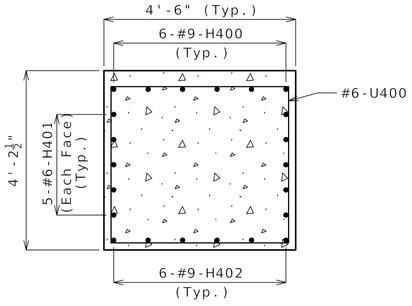
PLAN OF BEAM



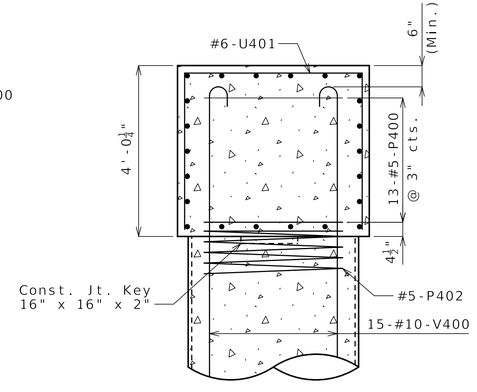
DETAIL A



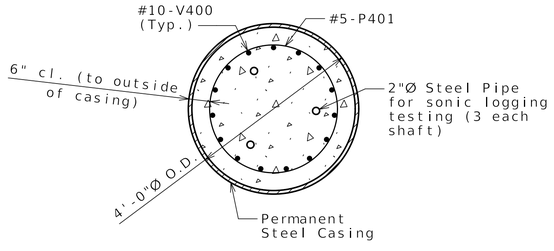
ANCHOR BOLT WELLS



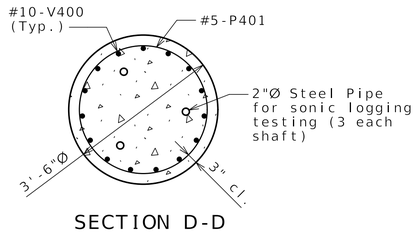
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

Notes:

Work this sheet with Sheet No. 11.

For bearing pad details, see Sheet No. 16.

INTERMEDIATE BENT NO. 4

Detailed Oct. 2024
Checked Nov. 2024

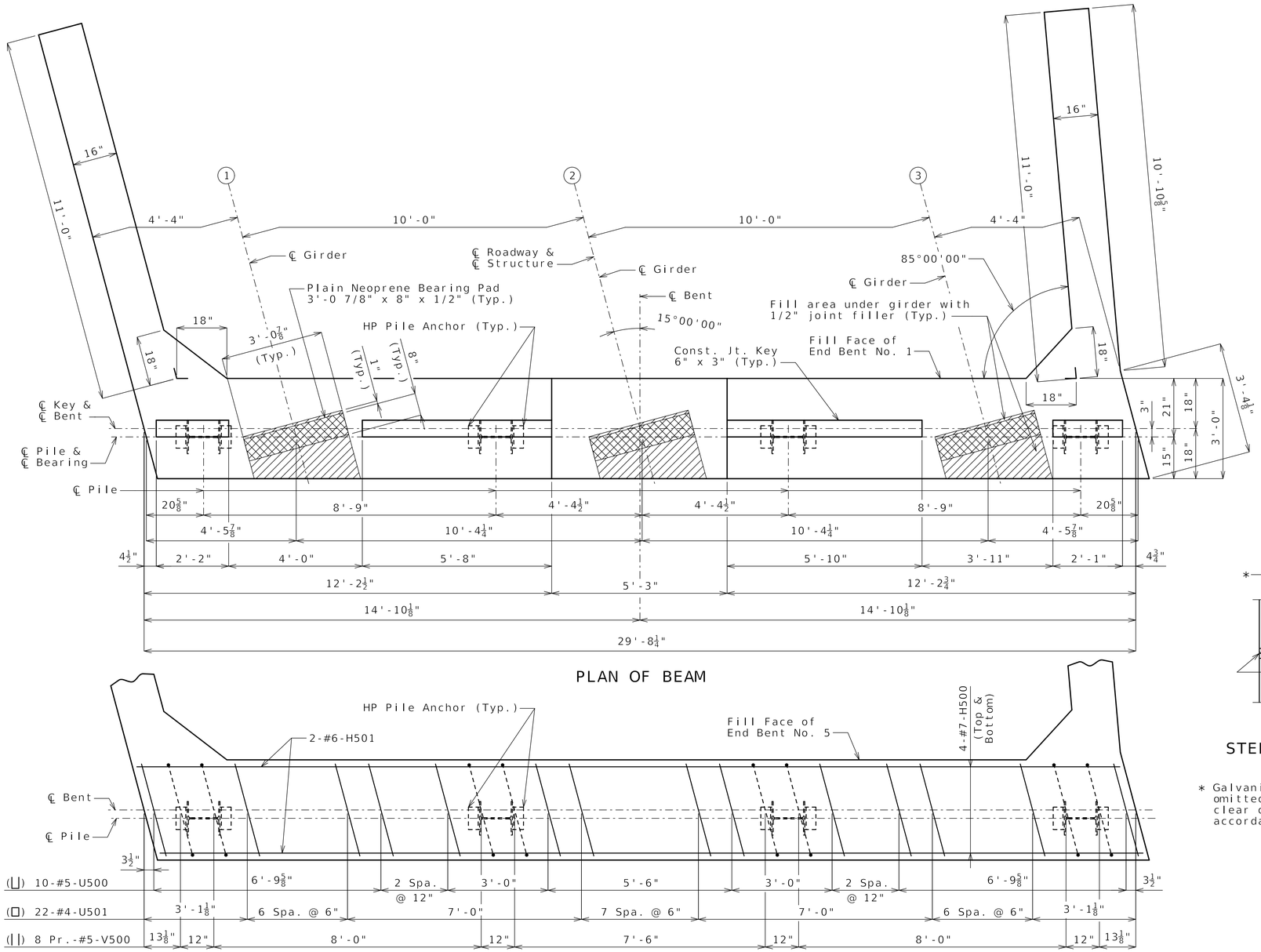
Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
Ted Koester
01/07/2025 10:52:45 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED: 1/7/2025
ROUTE: C | STATE: MO
DISTRICT: BR | SHEET NO.: 12
COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9479

DESCRIPTION | DATE

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

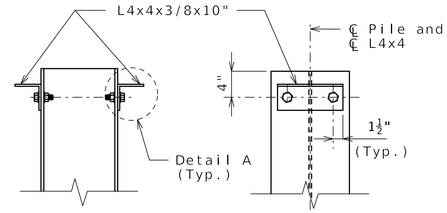


PLAN OF BEAM

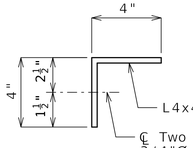
PLAN OF BEAM SHOWING REINFORCEMENT

Substructure Quantity Table for Bent No. 5		
Item		Quantity
Class 1 Excavation	cu. yard	40
Galvanized Structural Steel Piles (12 in.)	linear foot	84
Pre-Bore for Piling	linear foot	48
Pile Point Reinforcement	each	4
Class B Concrete (Substructure)	cu. yard	13.6

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

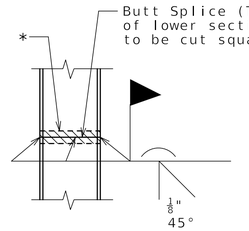


DETAILS OF HP PILE ANCHORS



DETAIL A

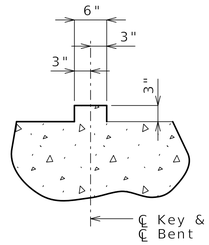
Angles shall be coated with a minimum of two coats of non-aluminum epoxy mastic primer to provide a dry film thickness of 4 mils minimum, 8 mils maximum, or galvanized in accordance with Sec 1081. Bolts, washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.



STEEL PILE SPLICE

(If required)

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



SECTION THRU KEY

Notes:

Work this sheet with Sheets No. 14 & 15.

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

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

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

END BENT NO. 5

Detailed Oct. 2024
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1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	13

COUNTY
WASHINGTON

JOB NO.
J5S3506

CONTRACT ID.

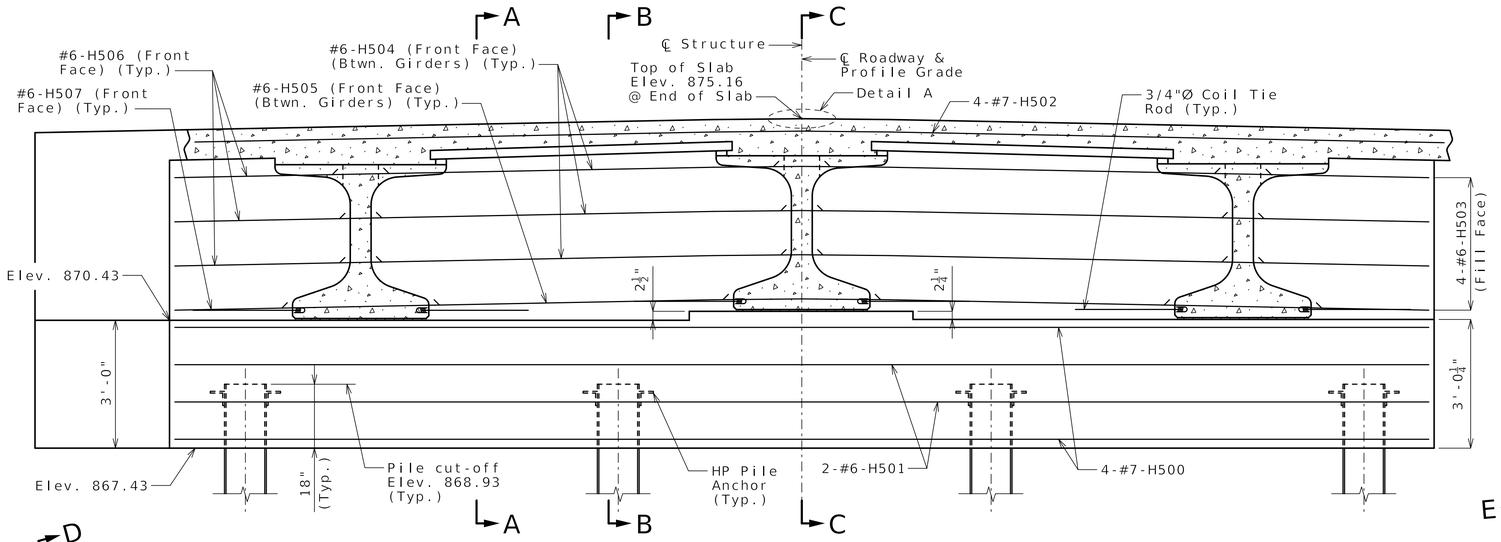
PROJECT NO.

BRIDGE NO.
A9479

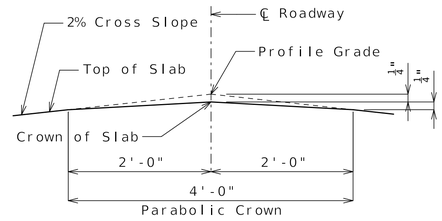
DESCRIPTION

DATE

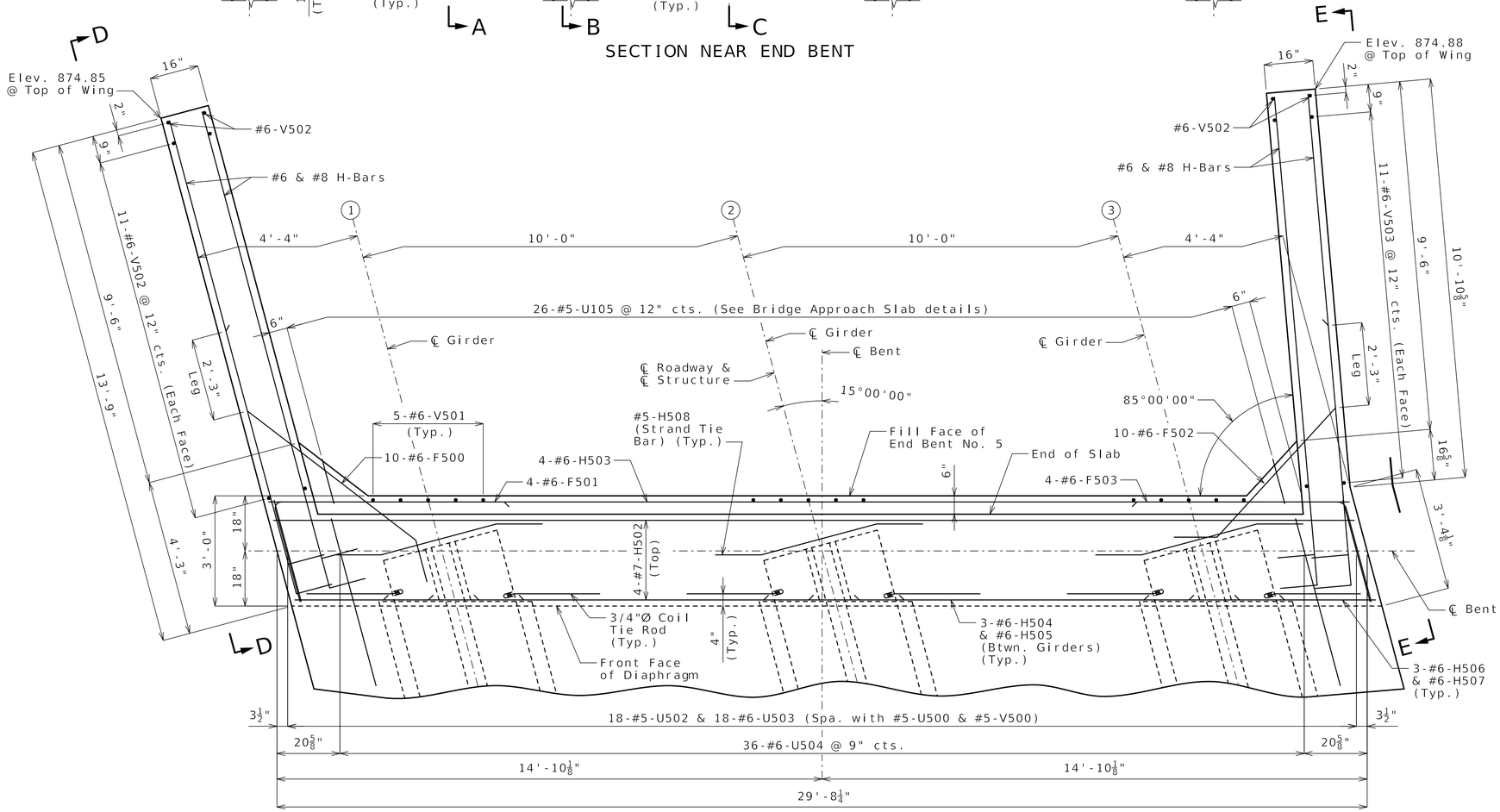
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



SECTION NEAR END BENT



DETAIL A



PART PLAN

END BENT NO. 5

Notes:

Work this sheet with Sheets No. 13 & 15.

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

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

For location of Coil Ties & #5-H508 (Strand Tie Bars), see Sheets No. 21 & 22.

The U bars shall be placed parallel to ℄ Roadway.

The #6-F500 & F502 bars shall be bent in field to clear girders.

For details of bridge approach slab, see Sheet No. 35.

Detailed Oct. 2024
Checked Nov. 2024

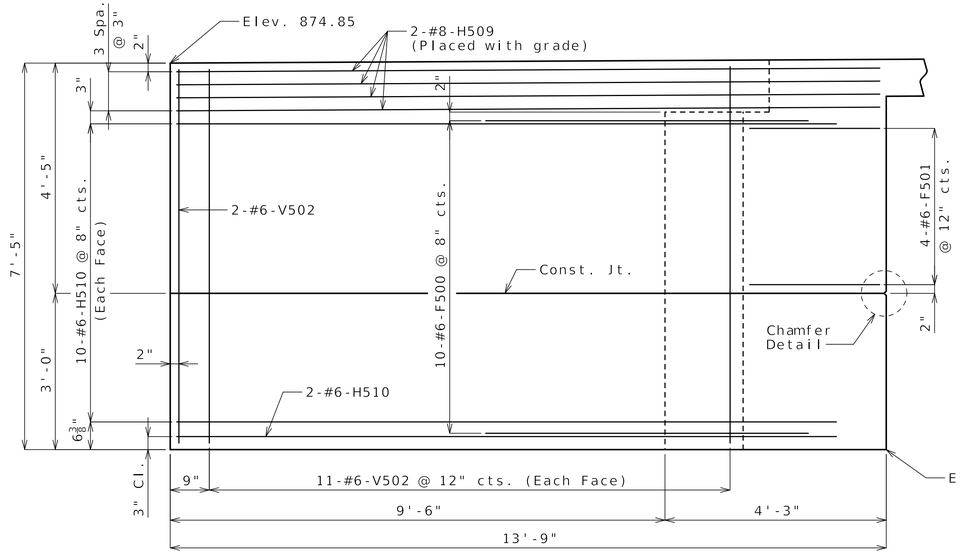
Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
Ted Koester
01/07/2025 10:53:46 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

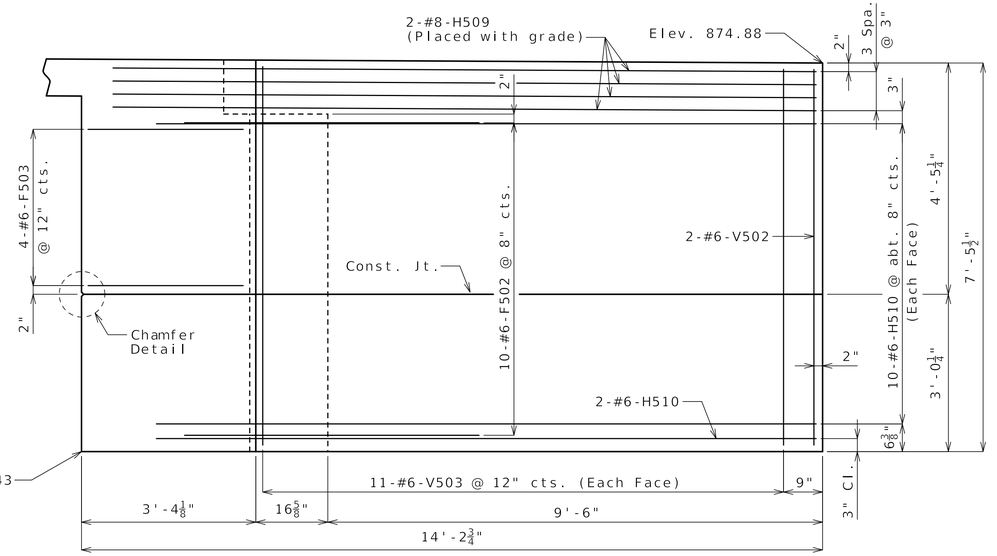
DATE PREPARED 1/7/2025
ROUTE C | STATE MO
DISTRICT BR | SHEET NO. 14
COUNTY WASHINGTON
JOB NO. J5S3506
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9479

DESCRIPTION
DATE

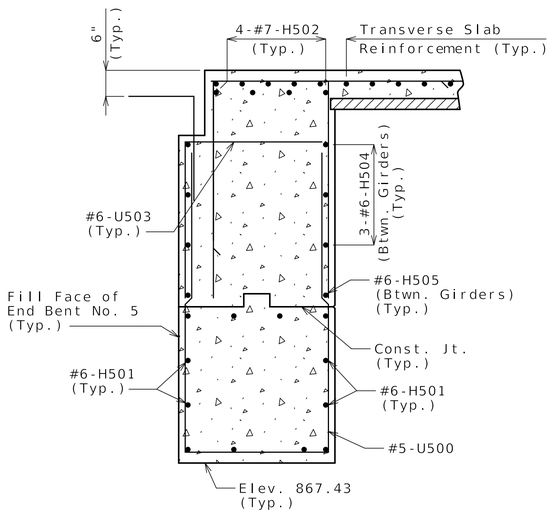
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



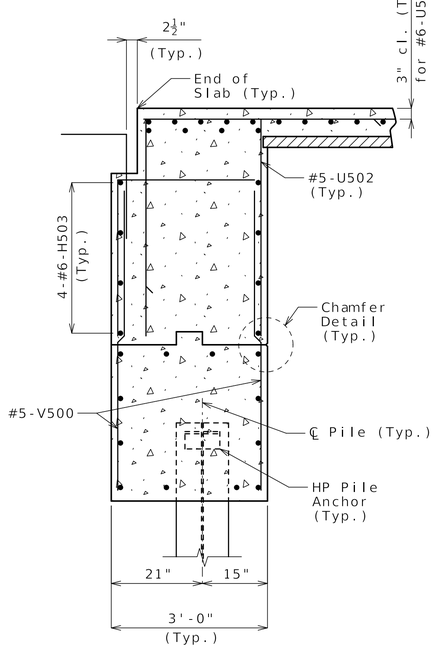
ELEVATION D-D



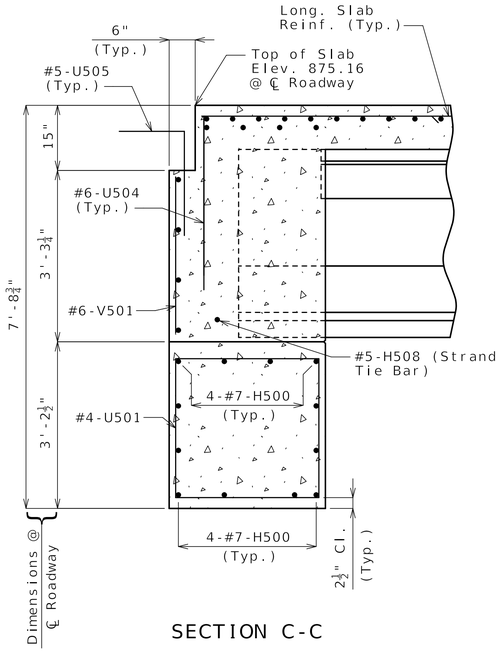
ELEVATION E-E



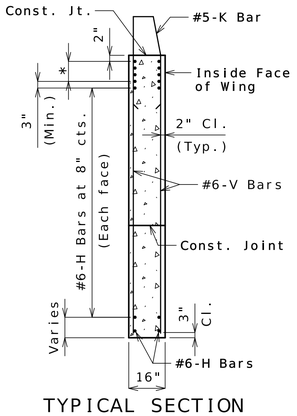
SECTION A-A



SECTION B-B

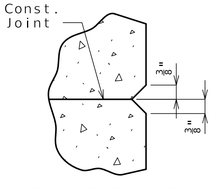


SECTION C-C



TYPICAL SECTION THRU WING

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



CHAMFER DETAIL

Notes:

Work this sheet with Sheets No. 13 & 14.

END BENT NO. 5

Detailed Oct. 2024
Checked Nov. 2024

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PROFESSIONAL ENGINEER
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MO-PE-2013000591

DATE PREPARED
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ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	15

COUNTY
WASHINGTON

JOB NO.
J5S3506

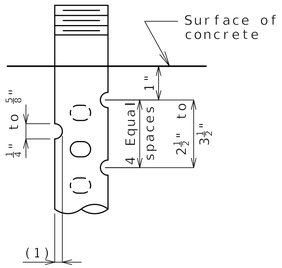
CONTRACT ID.

PROJECT NO.

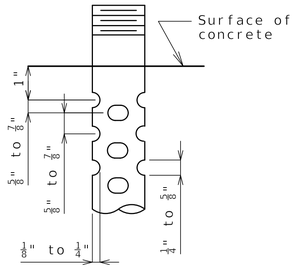
BRIDGE NO.
A9479

DATE	DESCRIPTION

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



DETAIL FOR 3/4"Ø THRU 2 1/2"Ø ANCHOR BOLTS

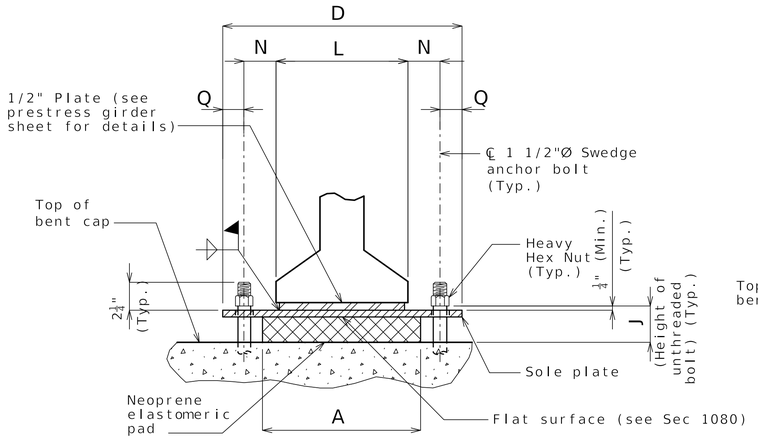


OPTIONAL DETAIL FOR 1 3/8"Ø THRU 2 1/2"Ø ANCHOR BOLTS

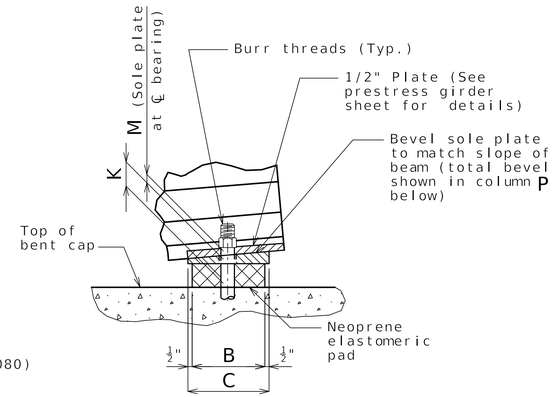
SWEDGE ANCHOR BOLT DETAILS

(1) $\frac{1}{8}$" for $\frac{3}{4}$"Ø thru $1\frac{1}{4}$"Ø anchor bolts

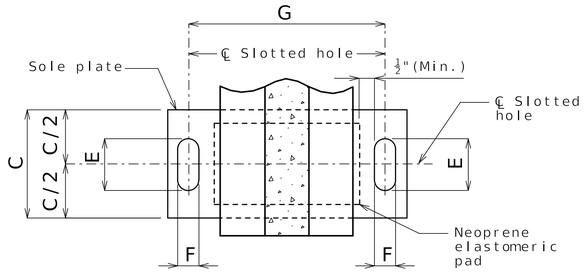
$\frac{1}{8}$" to $\frac{1}{4}$" for $1\frac{3}{8}$"Ø thru $2\frac{1}{2}$"Ø anchor bolts



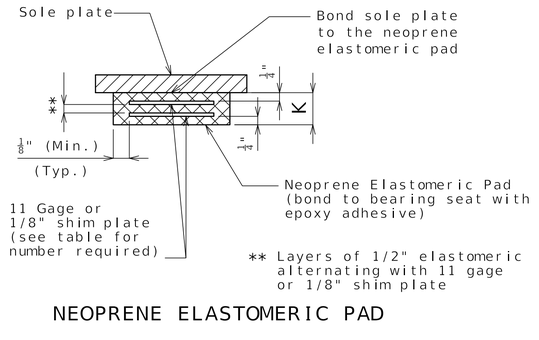
END VIEW



SIDE VIEW



PART PLAN VIEW



NEOPRENE ELASTOMERIC PAD

EXPANSION BEARINGS															
BENT NO.	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	R
2 (SPAN (1-2))	3'-0 7/8"	6"	7"	4'-0"	4 1/2"	1 5/8"	3'-7"	3 5/8"	1 7/8"	3'-2 3/8"	1 1/2"	2 5/16"	0"	2 1/2"	1/16"
2 (SPAN (2-3))	3'-0 7/8"	6"	7"	4'-0"	4 1/2"	1 5/8"	3'-7"	3 5/8"	1 7/8"	3'-2 3/8"	1 1/2"	2 5/16"	0"	2 1/2"	1/16"
4 (SPAN (3-4))	3'-0 7/8"	6"	7"	4'-0"	4 1/2"	1 5/8"	3'-7"	3 5/8"	1 7/8"	3'-2 3/8"	1 1/2"	2 5/16"	0"	2 1/2"	1/16"
4 (SPAN (4-5))	3'-0 7/8"	6"	7"	4'-0"	4 1/2"	1 5/8"	3'-7"	3 5/8"	1 7/8"	3'-2 3/8"	1 1/2"	2 5/16"	0"	2 1/2"	1/16"

NUMBER OF SHIM PLATES *	NUMBER REQUIRED
3	3
3	3
3	3
3	3
TOTAL BEARINGS	12

* The required shim plate shall be placed between layers of elastomeric and molded together to form an integral unit.

GENERAL NOTES:

Anchor bolts shall be 1 1/2"Ø ASTM F1554 Grade 55 swedged bolts and shall extend 15" into the concrete with ASTM A563 Grade A Heavy Hex nuts. Actual manufacturer's certified mill test reports (chemical and mechanical) shall be provided. Swedging shall be 1" less than extension into the concrete.

Anchor bolt shall be at the centerline of slotted hole at 60°F. Bearing position shall be adjusted R for each 10° fall or rise in temperature at installation.

Anchor bolts and heavy hex nuts shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with Sec 1081.

Neoprene Elastomeric Pads shall be 60 Durometer.

Structural steel for sole plate shall be ASTM A709 Grade 50 and shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils mimimum, 6 mils maximum.

Laminated Neoprene Bearing Pad Assembly shall be in accordance with Sec 716.

LAMINATED NEOPRENE BEARING PAD ASSEMBLY

Detailed Oct. 2024
Checked Nov. 2024

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

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TED S. KOESTER
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MO-PE-2013000591

DATE PREPARED: 1/7/2025
ROUTE: C | STATE: MO
DISTRICT: BR | SHEET NO.: 16
COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9479

DESCRIPTION | DATE

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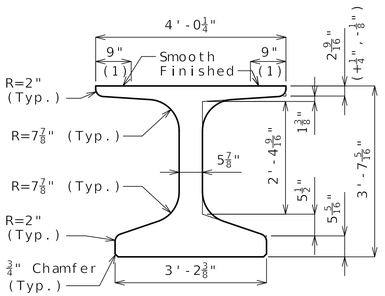
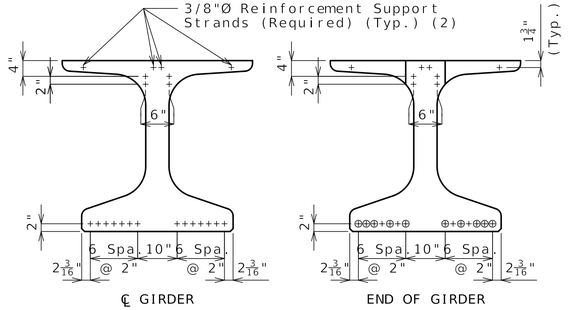
(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.



DIMENSIONS

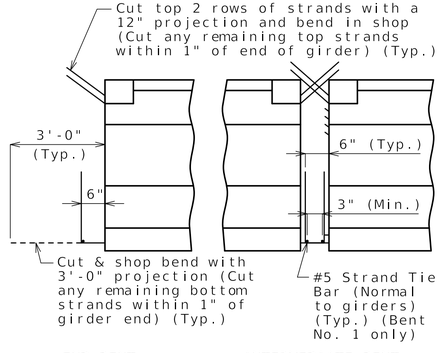
(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about ℄ Girder. May be moved laterally in pairs.



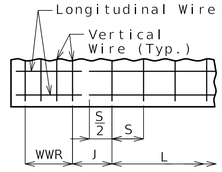
STRAND ARRANGEMENT

\+ Indicates prestressing strand.

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



STRANDS AT GIRDER ENDS



WELDED WIRE PLACEMENT

S = Vertical wire spacing

L = Length of WWR mats

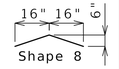
J = Distance between WWR mats

Bill of Reinforcing Steel

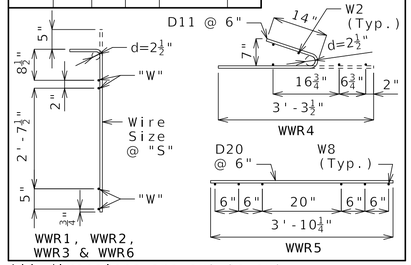
Bars Each Girder				
No.	Size/Mark		Length	Shape
82	3	G1	2'-10"	8
2	4	G3	3'-11"	20
2	4	G4	2'-3"	20
2	4	G5	2'-9"	20
4	4	G6	Varies	20

Welded Wire Each Girder					
Mark	Size	S	W	L	J
WWR1	D31	4"	W12	4'-4"	4"
WWR2	D31	8"	W12	4'-8"	8"
WWR3	D31	20"	W12	18'-4"	--
WWR6	D31	2"	W12	16"	3"

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 the reinforcing shall be 1", unless otherwise shown.

All bar reinforcement shall be Grade 60.

WWR shall not be epoxy coated.

G4 and G5 not required for interior girders. G3 and G6 not required for exterior girders of intermediate spans. Half no. of G3, G4, G5 and G6 not required for ext. girders of end spans.

General Notes:

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

Use 18 strands, 0.6"Ø Grade 270, with an initial prestress force of 791 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

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

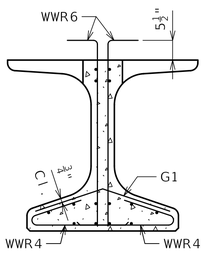
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. 27.

For location of coil inserts at slab drains, see Sheet No. 26.

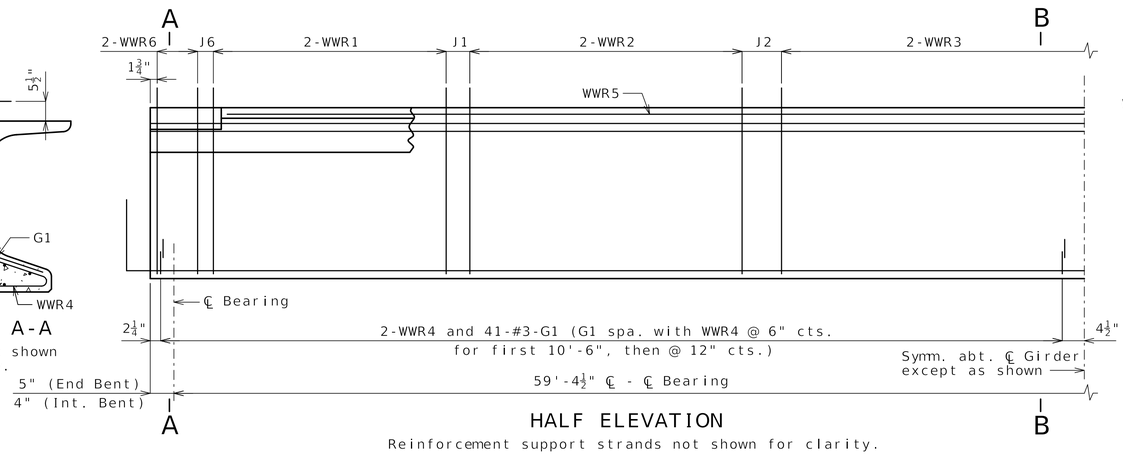
For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 4 and 23.

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



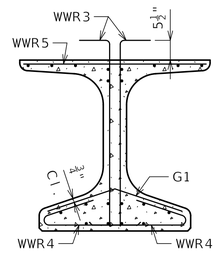
SECTION A-A

Strands not shown for clarity.



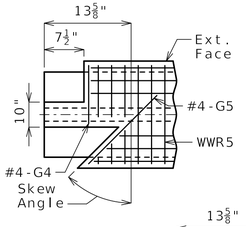
HALF ELEVATION

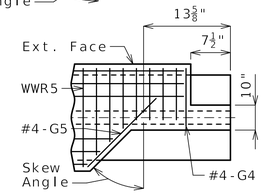
Reinforcement support strands not shown for clarity.



SECTION B-B

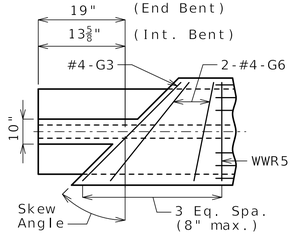
Strands not shown for clarity.





LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT

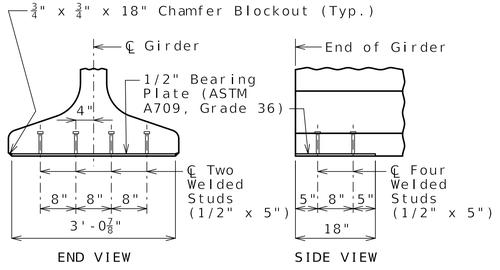
Rotate 180° for right ext.



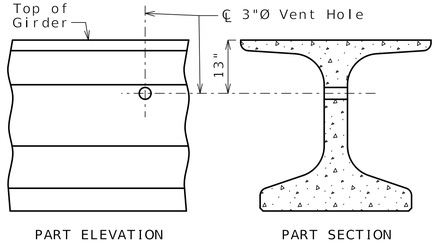
INTERIOR GIRDER AT ALL BENTS & EXTERIOR GIRDER AT END BENT

TOP FLANGE BLOCKOUT

Mirror for right advanced.

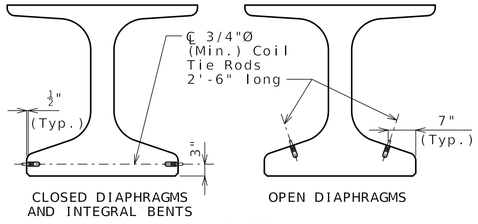


BEARING PLATE



VENT HOLE

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



COIL TIES

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

NU-GIRDERS - SPAN (1-2)

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
01/07/2025 10:55:02 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

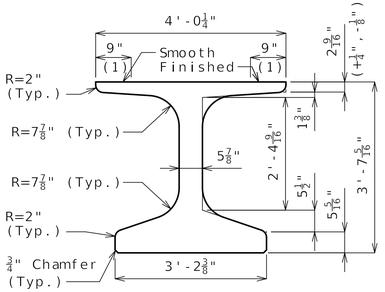
DATE PREPARED 1/7/2025

ROUTE C | STATE MO
DISTRICT BR | SHEET NO. 17
COUNTY WASHINGTON
JOB NO. J5S3506
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9479

DESCRIPTION | DATE

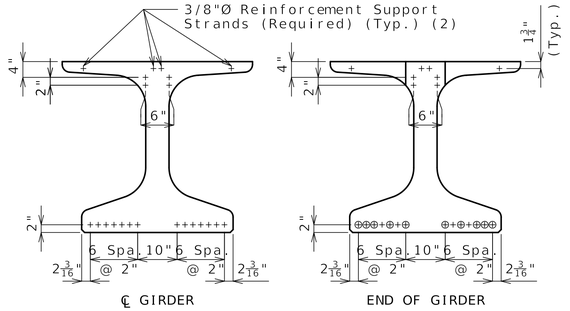
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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



DIMENSIONS

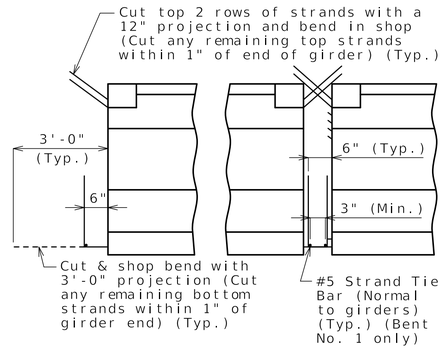
(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about ℄ Girder. May be moved laterally in pairs.



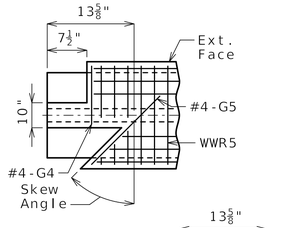
STRAND ARRANGEMENT

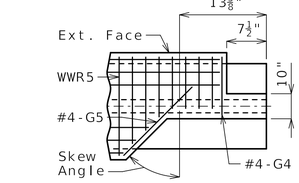
\+ Indicates prestressing strand.

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



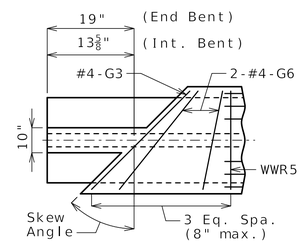
STRANDS AT GIRDER ENDS





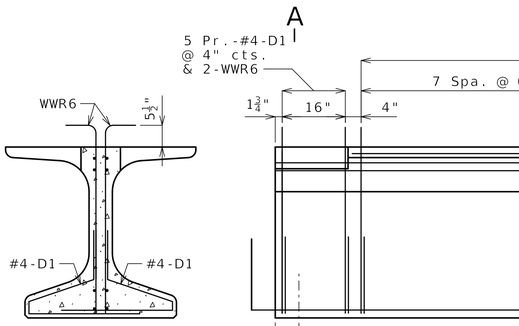
LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT

Rotate 180° for right ext.



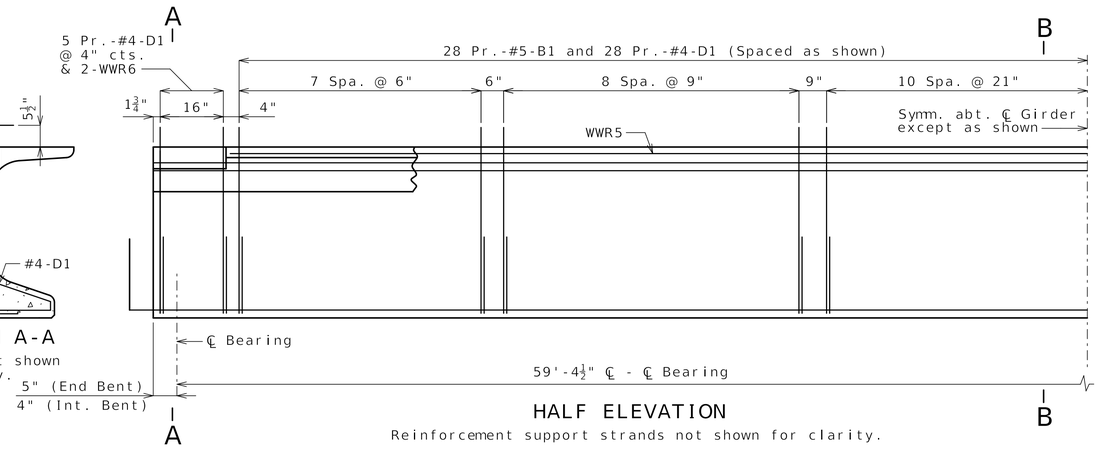
INTERIOR GIRDER AT ALL BENTS & EXTERIOR GIRDER AT END BENT

TOP FLANGE BLOCKOUT



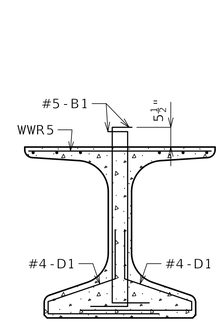
SECTION A-A

Strands not shown for clarity.



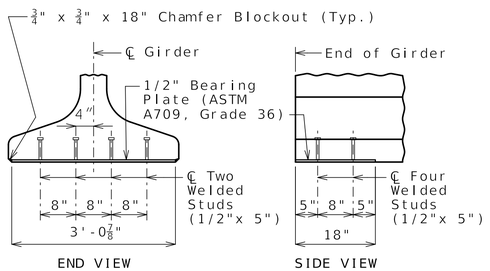
HALF ELEVATION

Reinforcement support strands not shown for clarity.

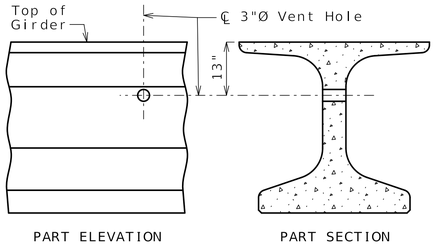


SECTION B-B

Strands not shown for clarity.

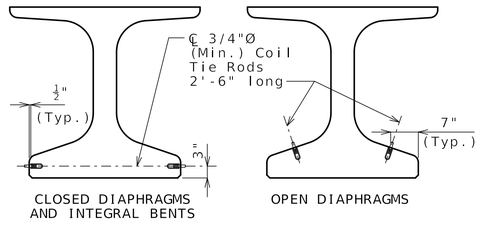


BEARING PLATE



VENT HOLE

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

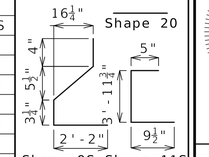


COIL TIES

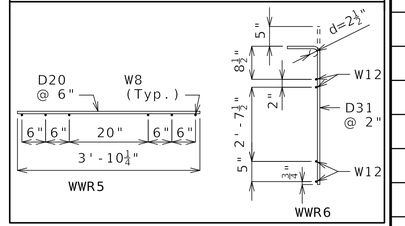
Exclude coil tie at exterior face of exterior girders except at integral end bents.

Bill of Reinforcing Steel - Each Girder			
No.	Size/ Mark	Length	Shape
55	5 B1	5'-0"	11S
75	4 D1	4'-0"	9S
2	4 G3	3'-11"	20
2	4 G4	2'-3"	20
2	4 G5	2'-9"	20
4	4 G6	Varies	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.

G4 and G5 not required for interior girders. G3 and G6 not required for exterior girders of intermediate spans. Half no. of G3, G4, G5 and G6 not required for ext. girders of end spans.

General Notes:

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

Use 18 strands, 0.6"Ø Grade 270, with an initial prestress force of 791 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

Exterior and interior girders are the same except: coil ties, top flange blockout, application of bond breaker, coil inserts for slab drains, holes for steel intermediate diaphragms.

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

For Girder Camber Diagram, see Sheet No. 27.

For location of coil inserts at slab drains, see Sheet No. 26.

For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 4 and 23.

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
Ted Koester
01/07/2025 10:55:29 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED 1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	18

COUNTY WASHINGTON

JOB NO. J5S3506

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9479

DATE	DESCRIPTION

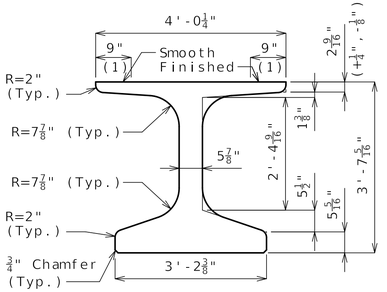
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

Detailed Oct. 2024
Checked Nov. 2024

NU-GIRDERS (ALTERNATE REINFORCEMENT) - SPAN (1-2)

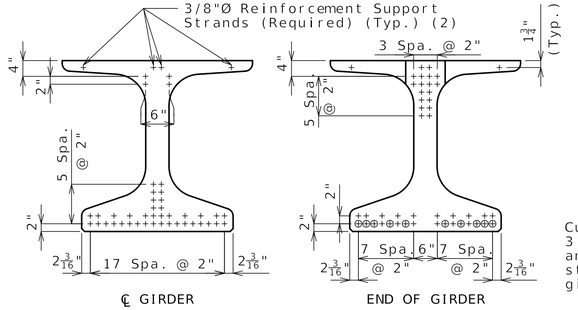
Note: This drawing is not to scale. Follow dimensions.

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



DIMENSIONS

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

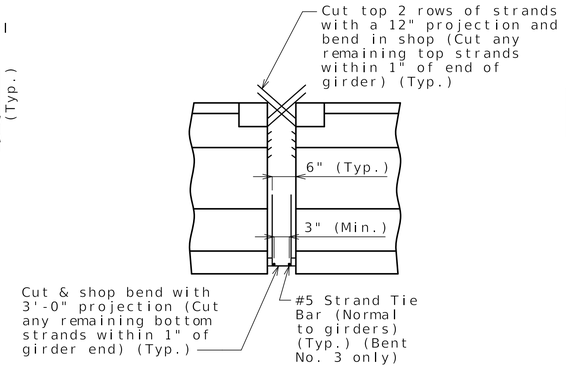


℄ GIRDER END OF GIRDER

STRAND ARRANGEMENT

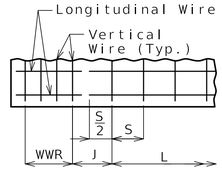
\+ Indicates prestressing strand.

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



INTERMEDIATE BENT

STRANDS AT GIRDER ENDS



WELDED WIRE PLACEMENT

S = Vertical wire spacing

L = Length of WWR mats

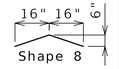
J = Distance between WWR mats

Bill of Reinforcing Steel

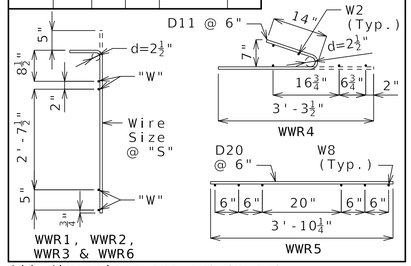
Bars Each Girder				
No.	Size/Mark		Length	Shape
120	3	G1	2'-10"	8
2	4	G3	3'-11"	20
2	4	G4	2'-3"	20
2	4	G5	2'-9"	20
4	4	G6	Varies	20

Welded Wire Each Girder					
Mark	Size	S	W	L	J
WWR1	D31	4"	W12	5'-4"	4"
WWR2	D31	8"	W12	19'-4"	8"
WWR3	D31	20"	W12	21'-8"	--
WWR6	D31	2"	W12	16"	4¾"

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.

G4 and G5 not required for interior girders. G3 and G6 not required for exterior girders of intermediate spans. Half no. of G3, G4, G5 and G6 not required for ext. girders of end spans.

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: coil ties, top flange blockout, application of bond breaker, coil inserts for slab drains.

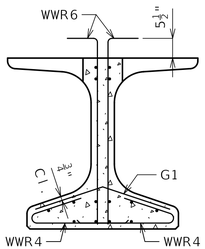
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. 27.

For location of coil inserts at slab drains, see Sheet No. 26.

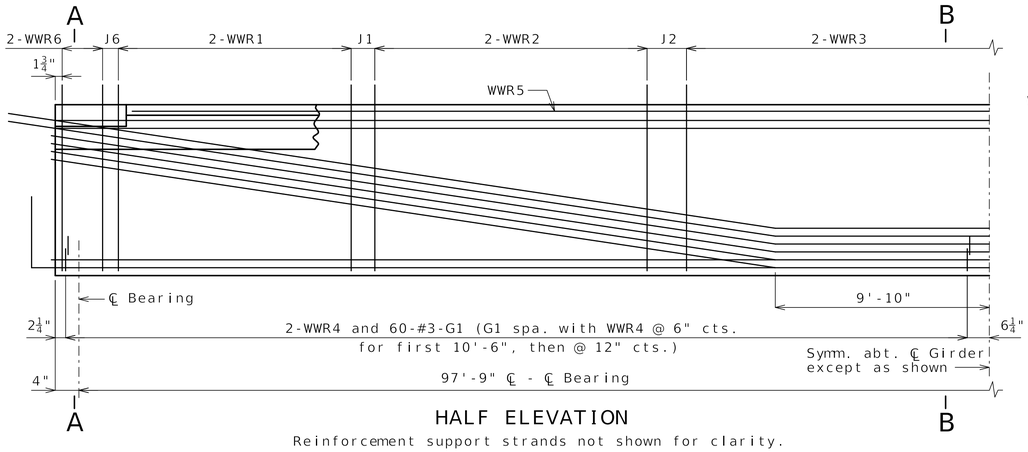
For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 23 and 24.

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



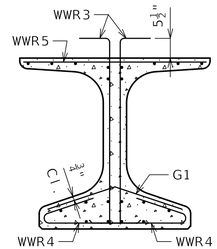
SECTION A-A

Strands not shown for clarity.



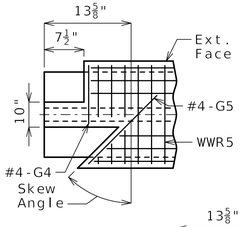
HALF ELEVATION

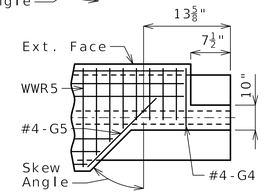
Reinforcement support strands not shown for clarity.



SECTION B-B

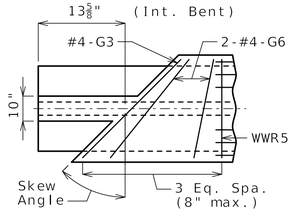
Strands not shown for clarity.





LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT

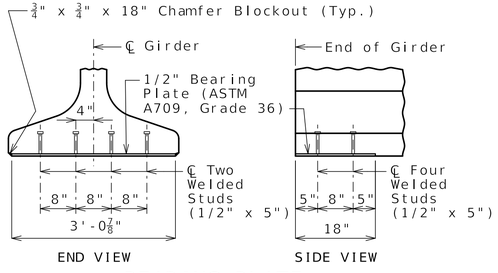
Rotate 180° for right ext.



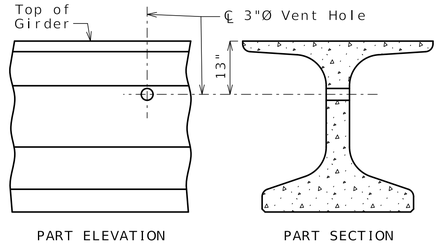
INTERIOR GIRDER AT ALL BENTS

TOP FLANGE BLOCKOUT

Mirror for right advanced.



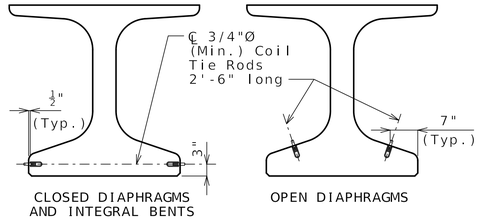
BEARING PLATE



PART ELEVATION PART SECTION

VENT HOLE

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



CLOSED DIAPHRAGMS AND INTEGRAL BENTS

OPEN DIAPHRAGMS

COIL TIES

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

NU-GIRDERS - SPANS (2-3) & (3-4)

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
01/07/2025 10:55:58 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED
1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	19

COUNTY
WASHINGTON

JOB NO.
J5S3506

CONTRACT ID.

PROJECT NO.

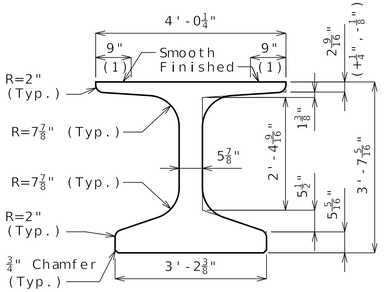
BRIDGE NO.
A9479

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

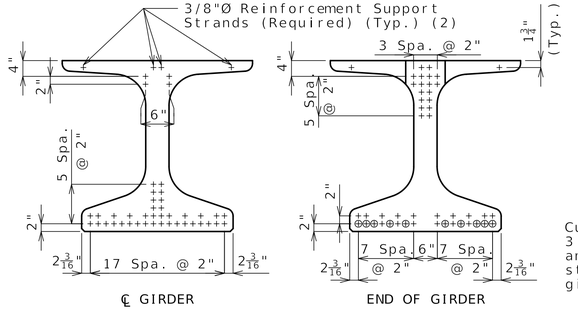
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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



DIMENSIONS

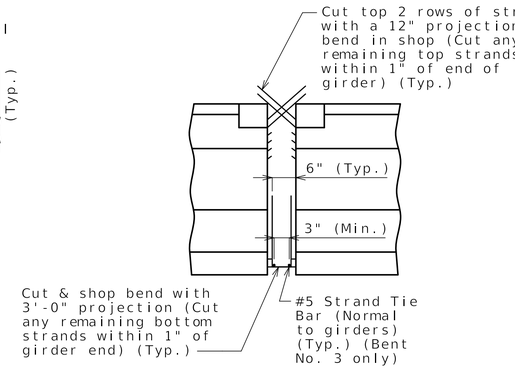
(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about ℄ Girder. May be moved laterally in pairs.



STRAND ARRANGEMENT

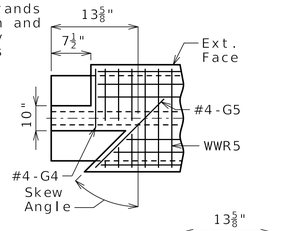
+ Indicates prestressing strand.

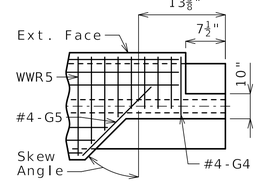
○ Indicates cut & shop bend with 3'-0" projection.



INTERMEDIATE BENT

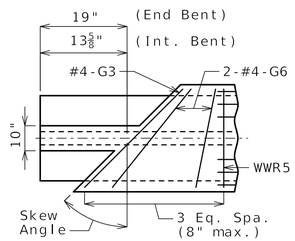
STRANDS AT GIRDER ENDS





LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT

Rotate 180° for right ext.

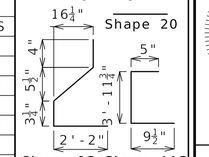


INTERIOR GIRDER AT ALL BENTS & EXTERIOR GIRDER AT END BENT

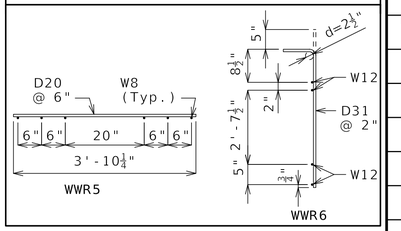
TOP FLANGE BLOCKOUT

Bill of Reinforcing Steel - Each Girder			
No.	Size/ Mark	Length	Shape
103	5 B1	5'-0"	11S
123	4 D1	4'-0"	9S
2	4 G3	3'-11"	20
2	4 G4	2'-3"	20
2	4 G5	2'-9"	20
4	4 G6	Varies	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.

G4 and G5 not required for interior girders. G3 and G6 not required for exterior girders of intermediate spans. Half no. of G3, G4, G5 and G6 not required for ext. girders of end spans.

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: coil ties, top flange blockout, application of bond breaker, coil inserts for slab drains, holes for steel intermediate diaphragms.

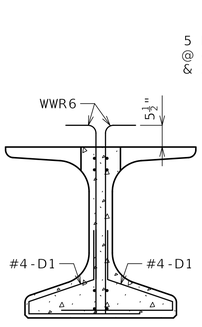
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. 27.

For location of coil inserts at slab drains, see Sheet No. 26.

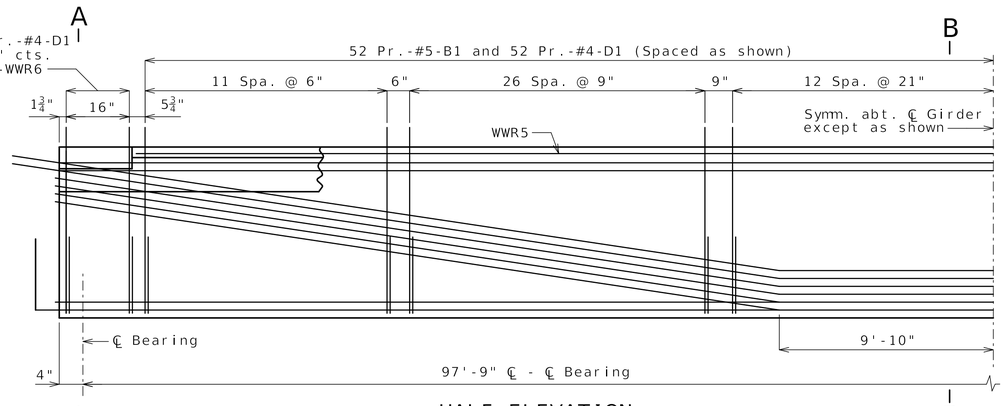
For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 23 and 24.

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.



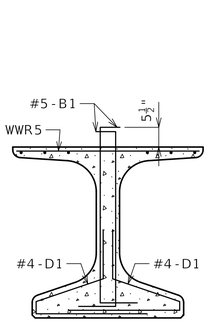
SECTION A-A

Strands not shown for clarity.



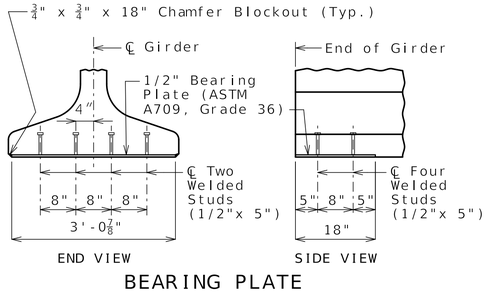
HALF ELEVATION

Reinforcement support strands not shown for clarity.

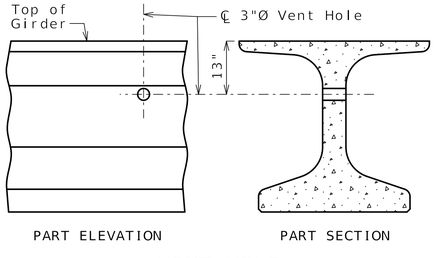


SECTION B-B

Strands not shown for clarity.

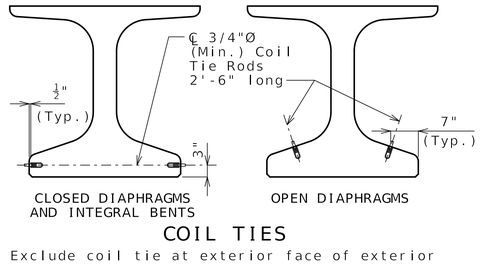


BEARING PLATE



VENT HOLE

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



COIL TIES

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

NU-GIRDERS (ALTERNATE REINFORCEMENT) - SPANS (2-3) & (3-4)

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
01/07/2025 10:58:31 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

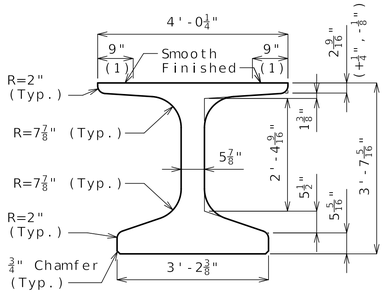
DATE PREPARED 1/7/2025

ROUTE C | STATE MO
DISTRICT BR | SHEET NO. 20
COUNTY WASHINGTON
JOB NO. J5S3506
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9479

DESCRIPTION | DATE

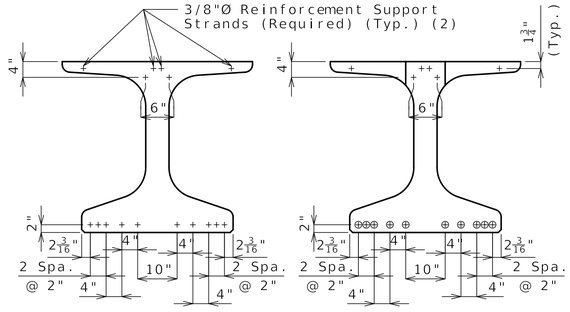
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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



DIMENSIONS

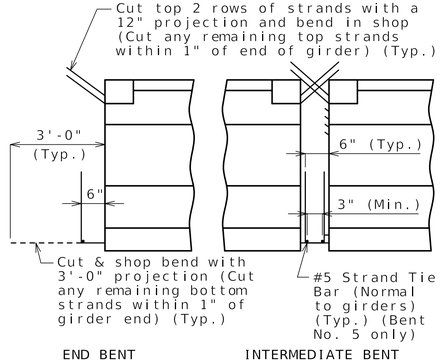
(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about ℄ Girder. May be moved laterally in pairs.



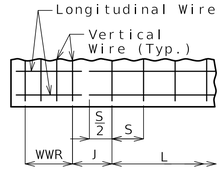
STRAND ARRANGEMENT

\+ Indicates prestressing strand.

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



STRANDS AT GIRDER ENDS



WELDED WIRE PLACEMENT

S = Vertical wire spacing

L = Length of WWR mats

J = Distance between WWR mats

Bill of Reinforcing Steel

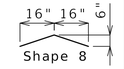
Bars Each Girder

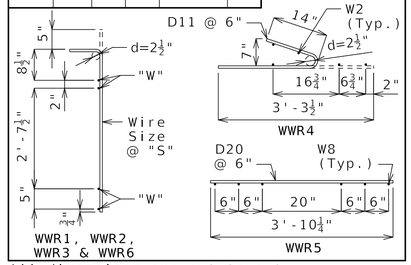
No.	Size/Mark		Length	Shape
66	3	G1	2'-10"	8
2	4	G3	3'-11"	20
2	4	G4	2'-3"	20
2	4	G5	2'-9"	20
4	4	G6	Varies	20

Welded Wire Each Girder

Mark	Size	S	W	L	J
WWR1	D31	4"	W12	4'-8"	8"
WWR2	D31	8"	W12	2'-0"	20"
WWR3	D31	20"	W12	11'-8"	--
WWR6	D31	2"	W12	16"	5"

Bending Diagrams





All dimensions are out to out.

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

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

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

All bar reinforcement shall be Grade 60.

WWR shall not be epoxy coated.

G4 and G5 not required for interior girders. G3 and G6 not required for exterior girders of intermediate spans. Half no. of G3, G4, G5 and G6 not required for ext. girders of end spans.

General Notes:

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

Use 12 strands, 0.6"Ø Grade 270, with an initial prestress force of 527 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

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

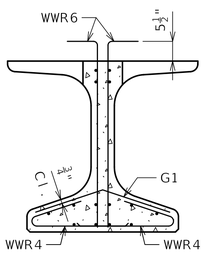
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. 27.

For location of coil inserts at slab drains, see Sheet No. 26.

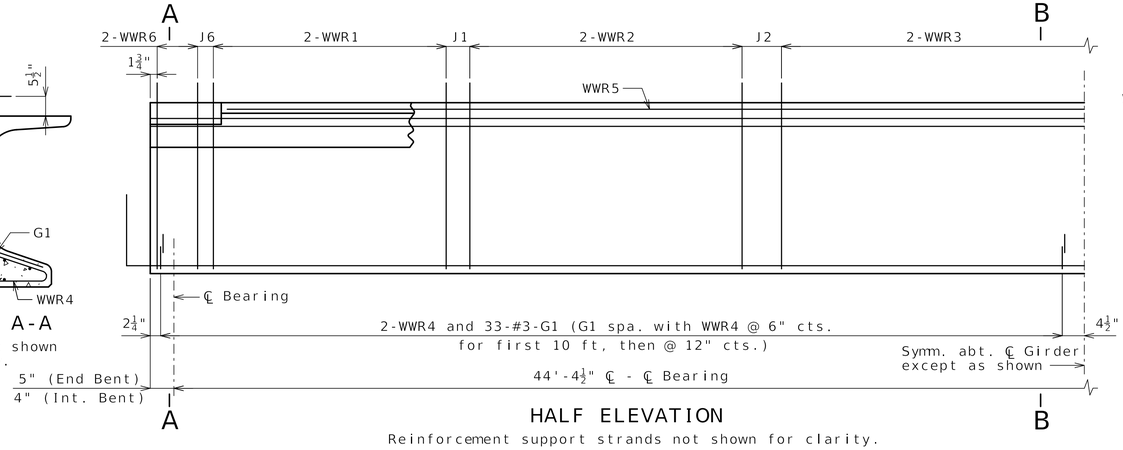
For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 14 and 23.

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



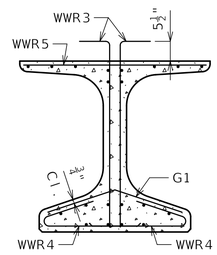
SECTION A-A

Strands not shown for clarity.



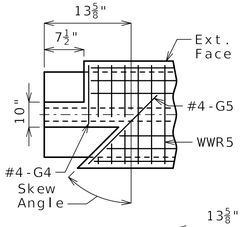
HALF ELEVATION

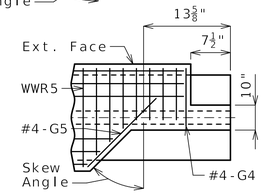
Reinforcement support strands not shown for clarity.



SECTION B-B

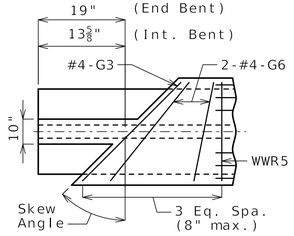
Strands not shown for clarity.





LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT

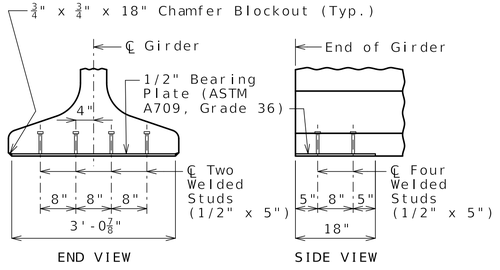
Rotate 180° for right ext.



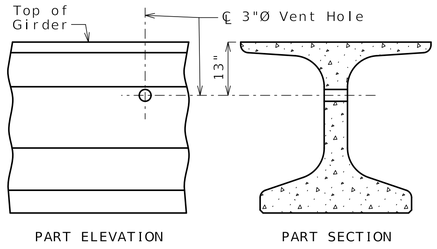
INTERIOR GIRDER AT ALL BENTS & EXTERIOR GIRDER AT END BENT

TOP FLANGE BLOCKOUT

Mirror for right advanced.

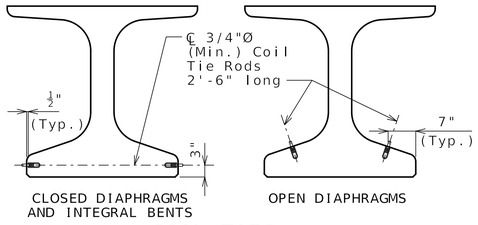


BEARING PLATE



VENT HOLE

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



COIL TIES

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

NU-GIRDERS - SPAN (4-5)

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
Ted Koester
02/07/2025 10:59:01 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED 1/7/2025

ROUTE C | STATE MO

DISTRICT BR | SHEET NO. 21

COUNTY WASHINGTON

JOB NO. J5S3506

CONTRACT ID.

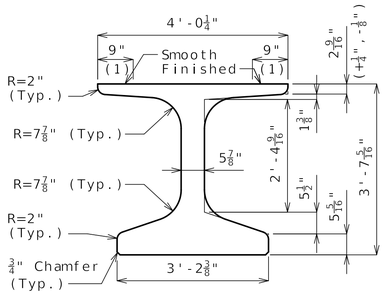
PROJECT NO.

BRIDGE NO. A9479

DESCRIPTION | DATE

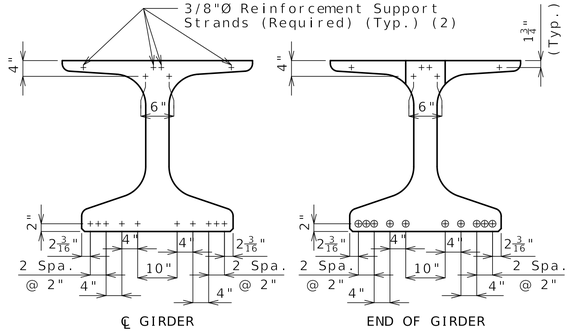
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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



DIMENSIONS

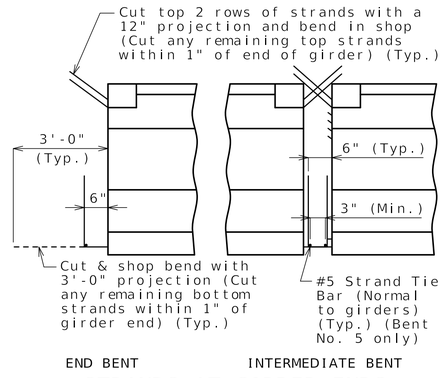
(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about ℄ Girder. May be moved laterally in pairs.



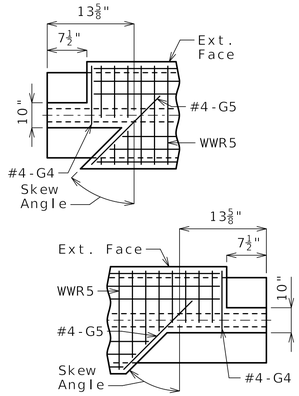
STRAND ARRANGEMENT

\+ Indicates prestressing strand.

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

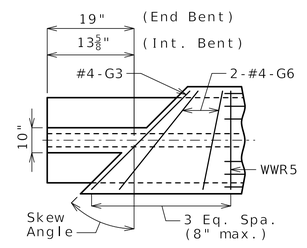


STRANDS AT GIRDER ENDS



LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT

Rotate 180° for right ext.

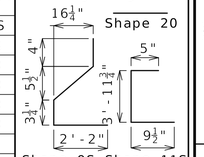


INTERIOR GIRDER AT ALL BENTS & EXTERIOR GIRDER AT END BENT

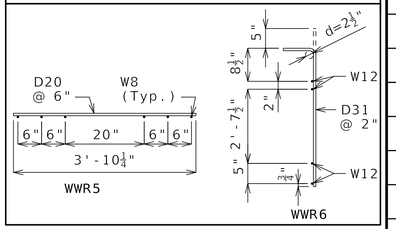
TOP FLANGE BLOCKOUT

Bill of Reinforcing Steel - Each Girder			
No.	Size/ Mark	Length	Shape
41	5 B1	5'-0"	11S
61	4 D1	4'-0"	9S
2	4 G3	3'-11"	20
2	4 G4	2'-3"	20
2	4 G5	2'-9"	20
4	4 G6	Varies	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.

G4 and G5 not required for interior girders. G3 and G6 not required for exterior girders of intermediate spans. Half no. of G3, G4, G5 and G6 not required for ext. girders of end spans.

General Notes:

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

Use 12 strands, 0.6"Ø Grade 270, with an initial prestress force of 527 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

Exterior and interior girders are the same except: coil ties, top flange blockout, application of bond breaker, coil inserts for slab drains, holes for steel intermediate diaphragms.

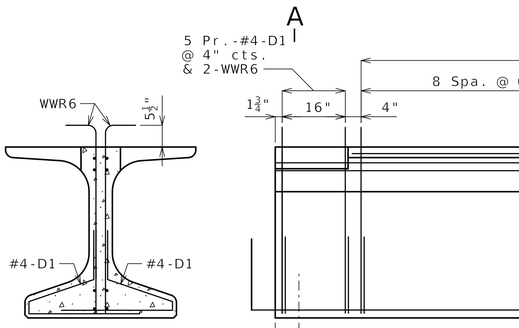
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. 27.

For location of coil inserts at slab drains, see Sheet No. 26.

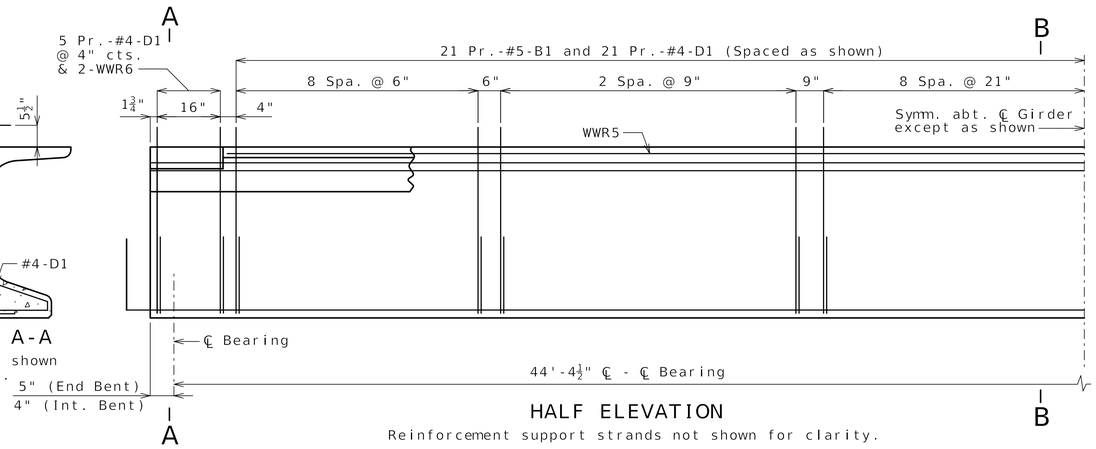
For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 14 and 23.

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.



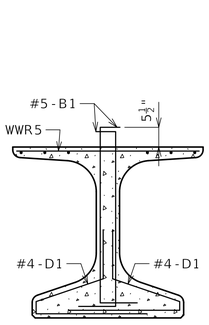
SECTION A-A

Strands not shown for clarity.



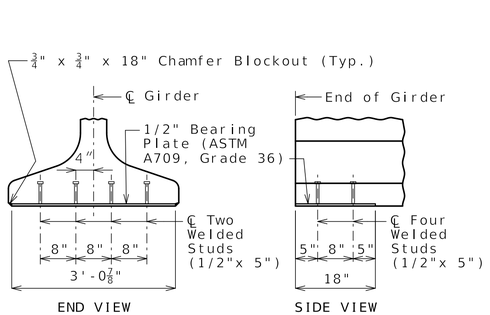
HALF ELEVATION

Reinforcement support strands not shown for clarity.

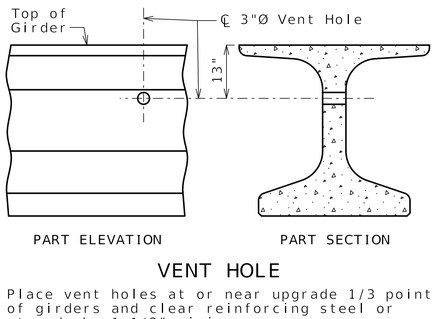


SECTION B-B

Strands not shown for clarity.

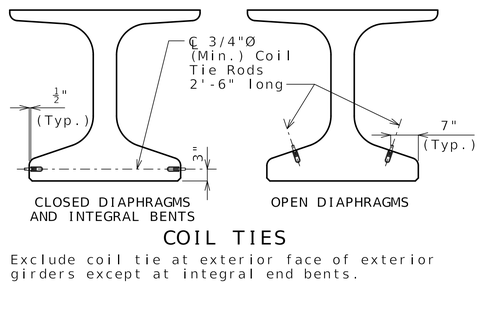


BEARING PLATE



VENT HOLE

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



COIL TIES

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

NU-GIRDERS (ALTERNATE REINFORCEMENT) - SPAN (4-5)

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
Ted Koester
01/07/2025 10:59:30 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

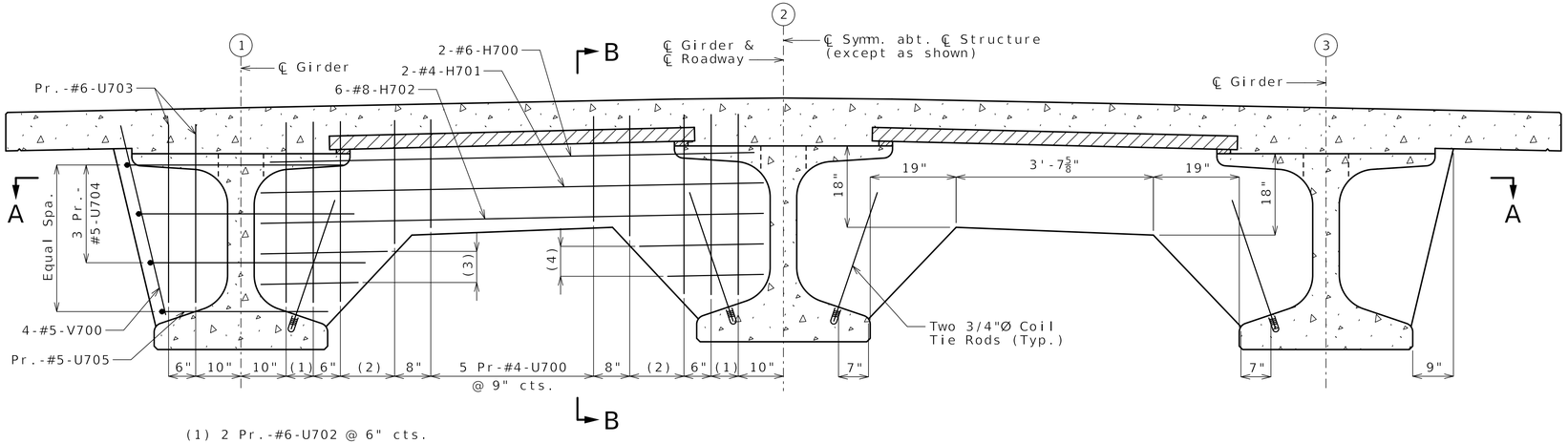
DATE PREPARED 1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	22

COUNTY WASHINGTON
JOB NO. J5S3506
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9479

DATE	DESCRIPTION

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



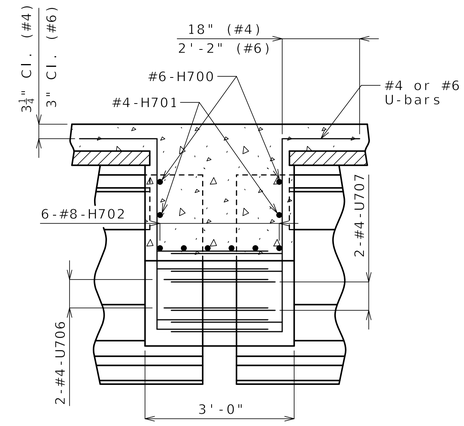
(1) 2 Pr.-#6-U702 @ 6" cts.

(2) 3 Pr.-#6-U701 @ 6" cts.

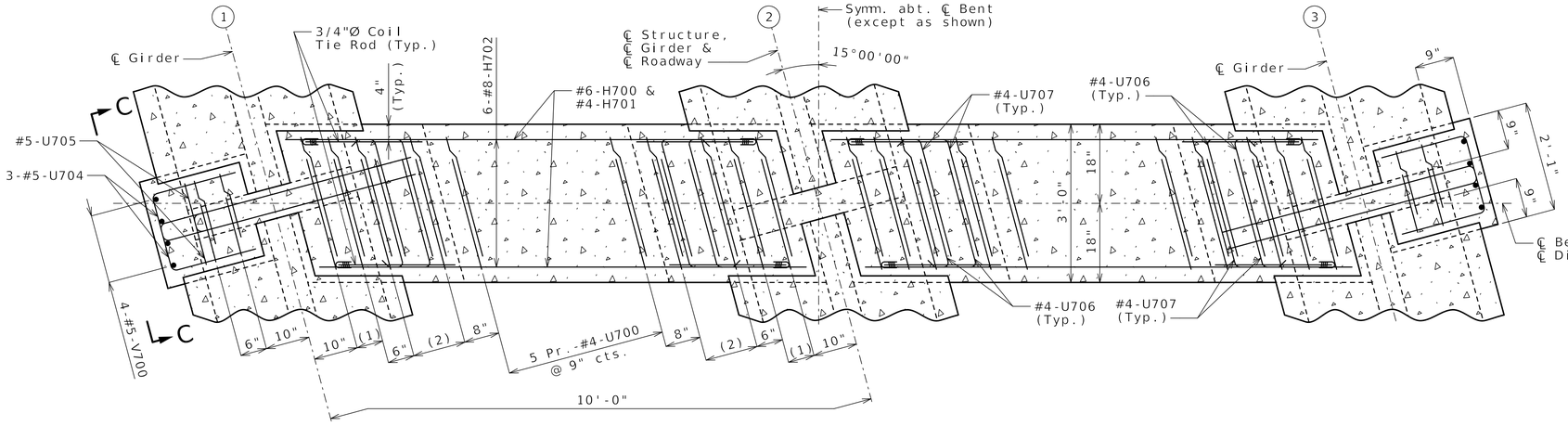
(3) 2-#4-U706 (Near)
2-#4-U707 (Far)

(4) 2-#4-U707 (Near)
2-#4-U706 (Far)

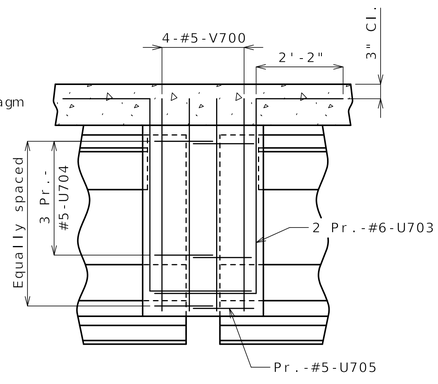
SECTION NEAR INTERMEDIATE BENT



SECTION B-B



SECTION A-A



ELEVATION C-C

Notes:

Diaphragm at intermediate bent shall be built vertical.

For location of #5-H703 (Strand Tie Bars) and coil tie rods, see Sheets No. 17 thru 22.

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

CONCRETE DIAPHRAGM AT INTERMEDIATE BENTS NO. 2 & 4

Detailed Oct. 2024
Checked Nov. 2024

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

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PROJECT NO.

BRIDGE NO.
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DESCRIPTION

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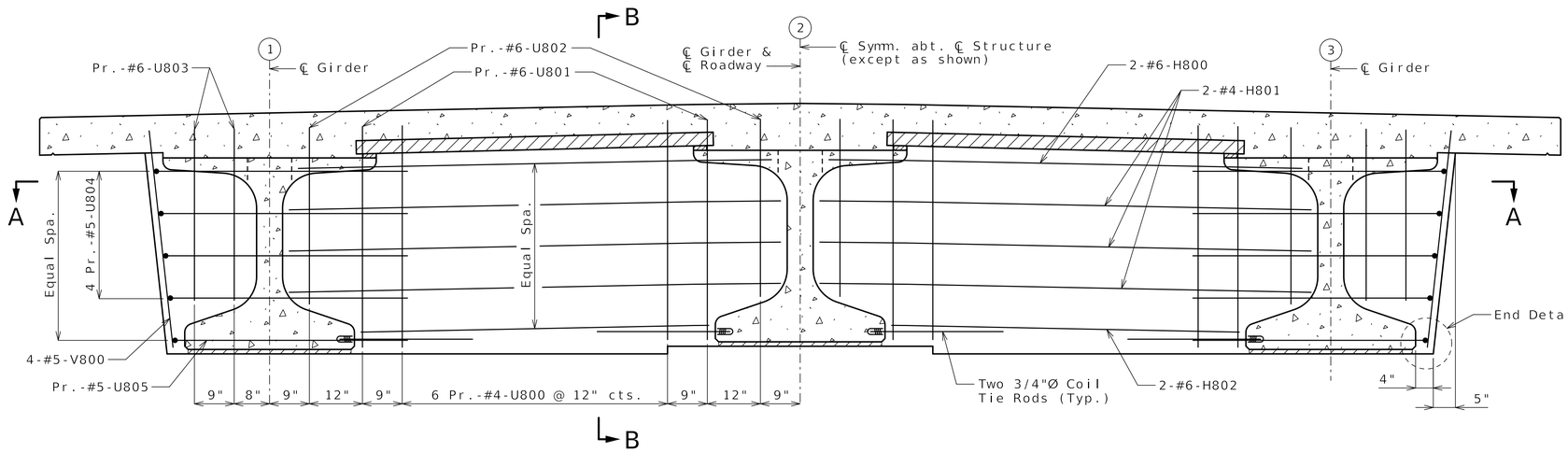
1-888-ASK-MODOT (1-888-275-6636)



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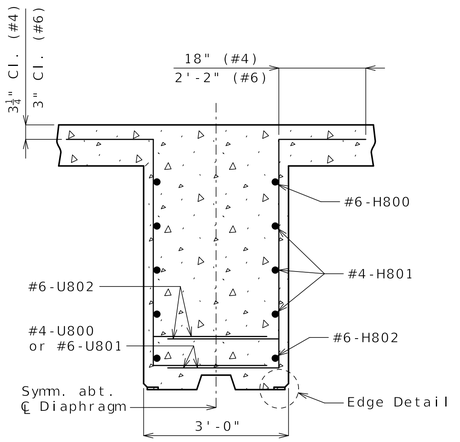
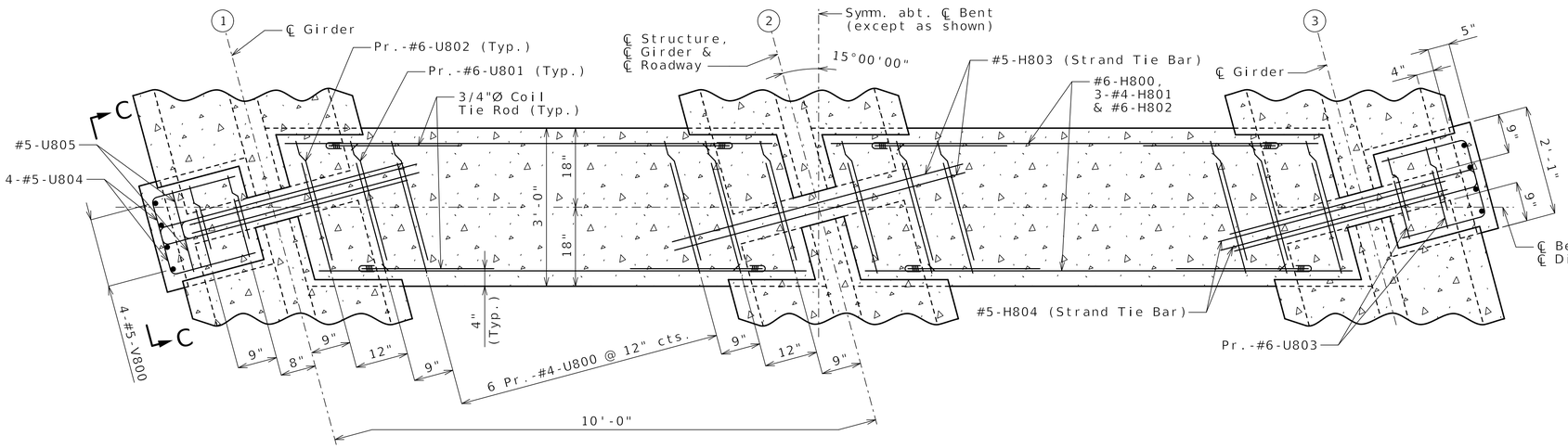


SECTION B-B



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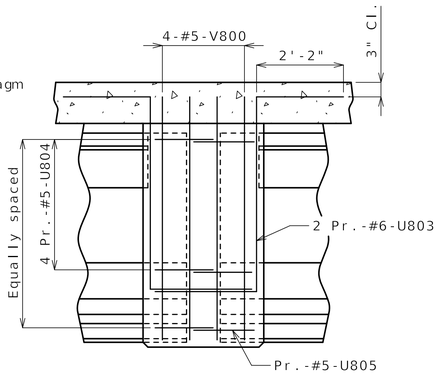
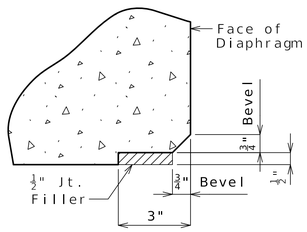
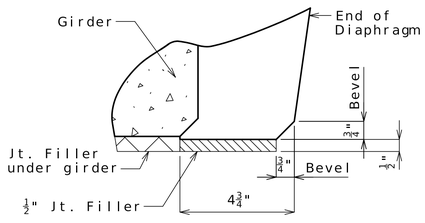


ELEVATION C-C



EDGE DETAIL



END DETAIL

Notes:

Diaphragm at intermediate bent shall be built vertical.

For location of #5-H803 & #5-H804 (Strand Tie Bars) and coil tie rods, see Sheets No. 19 & 20.

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

CONCRETE DIAPHRAGM AT INTERMEDIATE BENT NO. 3

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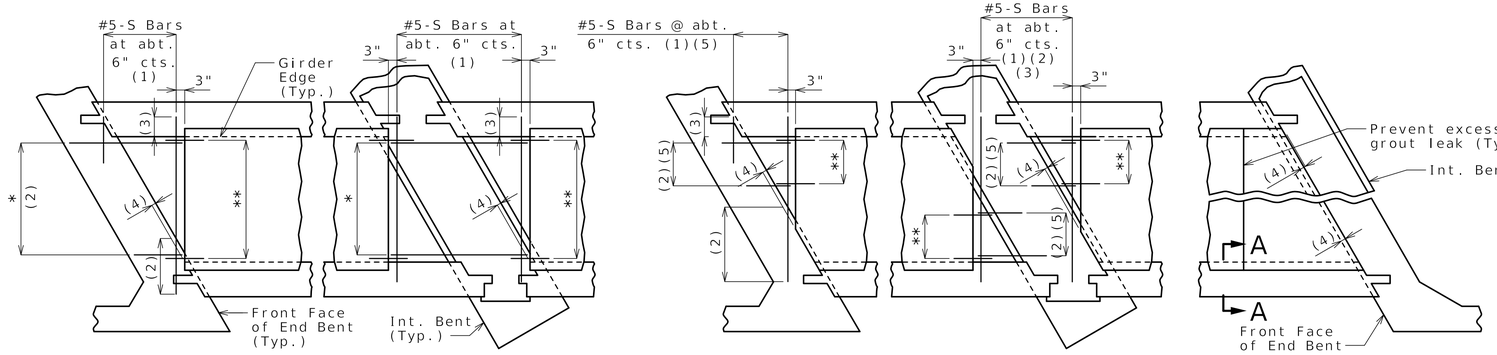
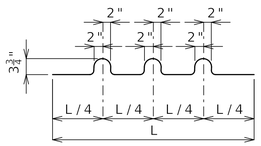


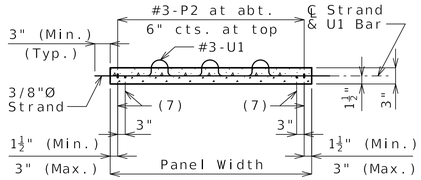
SQUARED END PANELS OR TRUNCATED END PANELS

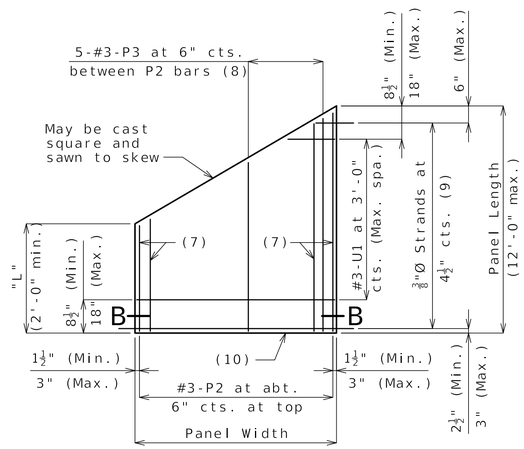
PLAN SHOWING PANEL PLACEMENT

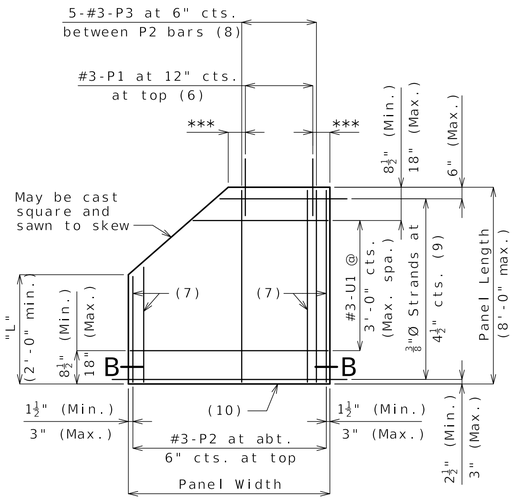
* #5-S Bars at abt. 9" cts. (1)
** #3-P1 at 12" cts. (End panels only)

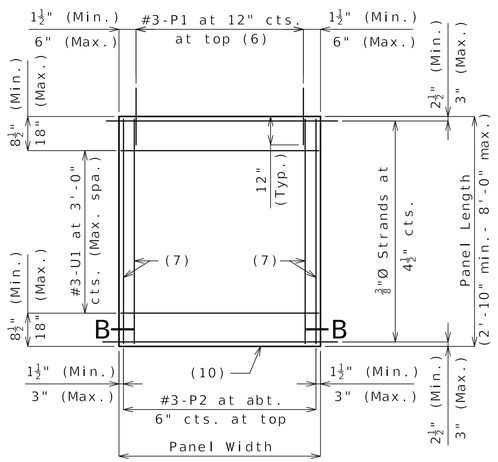


U1 Bars may be oriented at right angles to location and spacing shown. U1 Bars shall be placed between P1 bars.



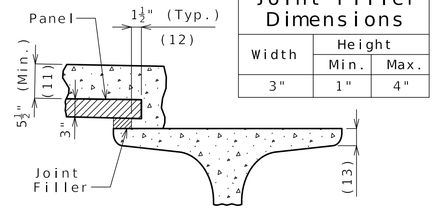






SKEWED END PANELS

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. 27 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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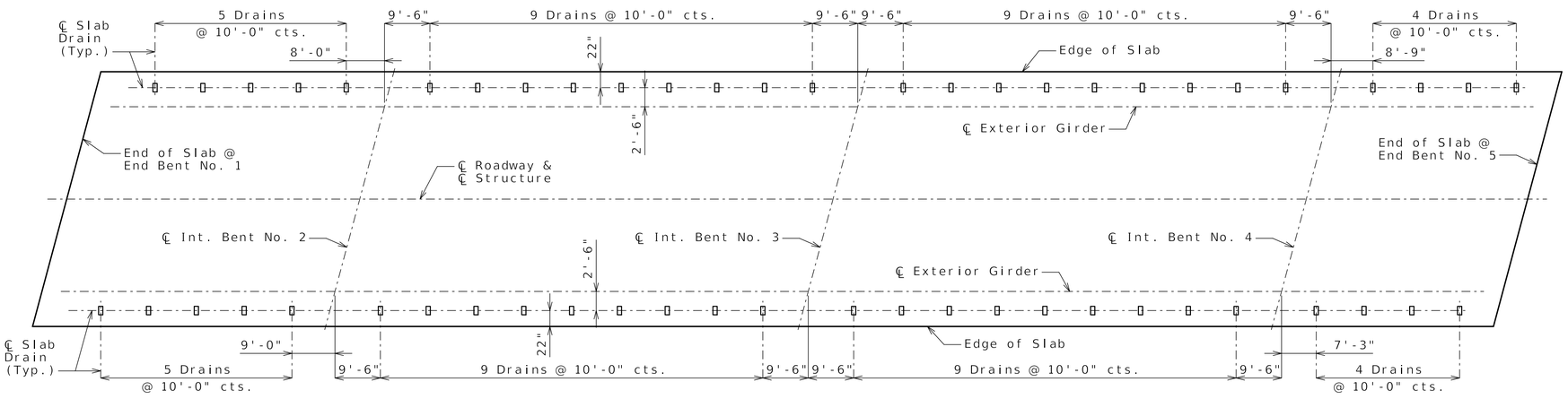
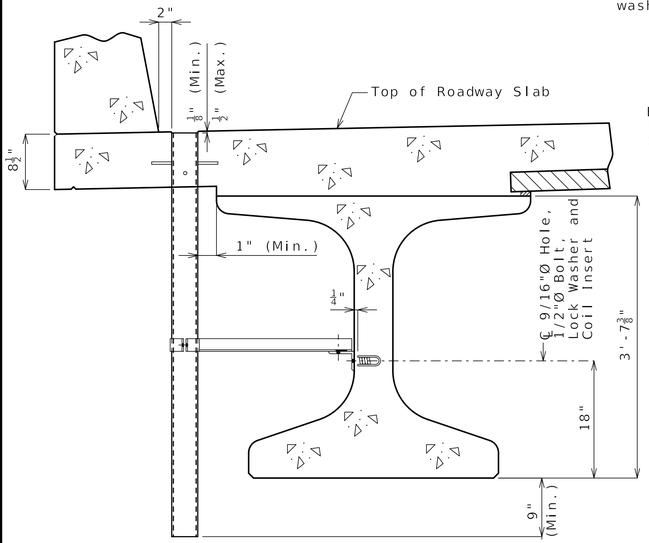
PRESTRESSED PANELS

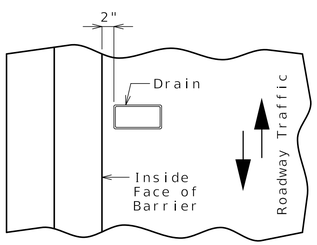


PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS

PART SECTION SHOWING BRACKET ASSEMBLY



PART SECTION NEAR DRAIN



PART PLAN OF SLAB AT DRAIN

ELEVATION OF DRAIN

PLAN OF STEEL DRAIN OPTION

PLAN OF FRP DRAIN OPTION

General Notes:

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

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

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

Reinforcing steel shall be shifted to clear drains.

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

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

All 1/2"Ø bolts shall be ASTM A307.

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

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

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

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

Notes for Steel Drain:

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

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

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

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

Minimum reinforced wall thickness shall be 1/4 inch.

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

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

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

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

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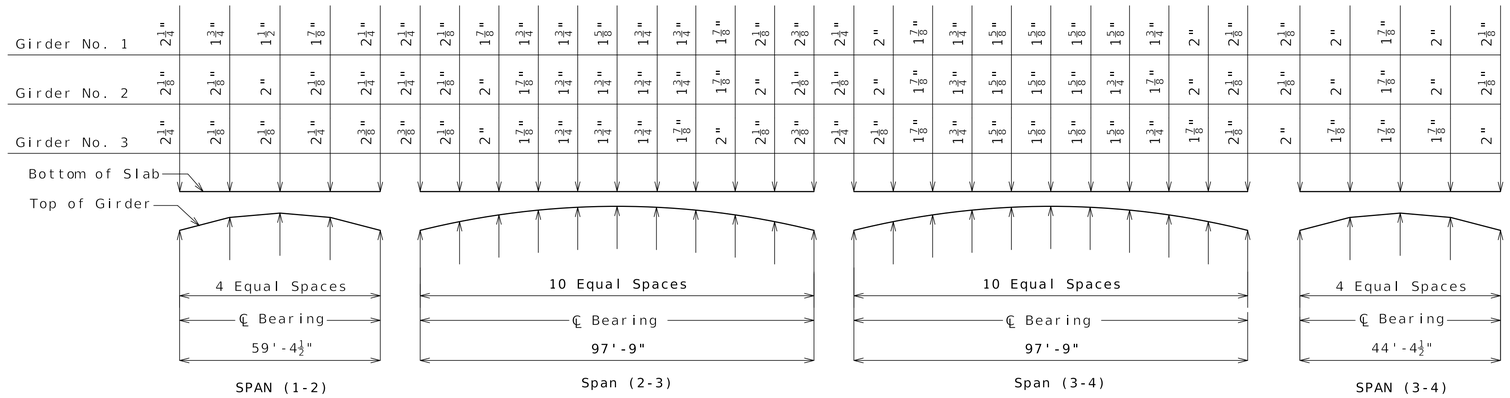
SLAB DRAINS

Detailed Oct. 2024
Checked Nov. 2024

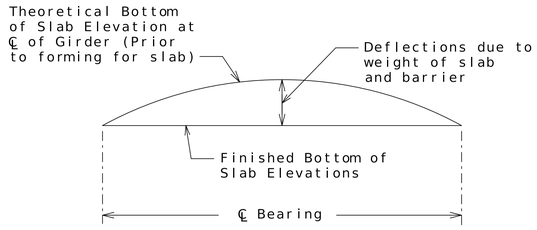
Note: This drawing is not to scale. Follow dimensions.



THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

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

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



TYPICAL SLAB ELEVATIONS DIAGRAM

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

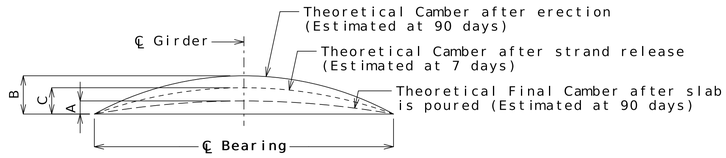
Girder Number	Span (1-2) (59'-4½" ℄ Brg. - ℄ Brg.)				
	℄ Brg.	.25	.50	.75	℄ Brg.
1	875.27	875.19	875.11	875.06	875.00
2	875.38	875.36	875.32	875.27	875.21
3	875.19	875.17	875.13	875.08	875.01

Girder Number	Span (2-3) (97'-9" ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ Brg.
1	874.99	875.02	875.05	875.06	875.05	875.03	875.00	874.94	874.87	874.79	874.70
2	875.20	875.24	875.26	875.28	875.27	875.25	875.22	875.16	875.09	875.00	874.91
3	875.01	875.04	875.06	875.07	875.07	875.05	875.01	874.96	874.89	874.81	874.72

Girder Number	Span (3-4) (97'-9" ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ Brg.
1	874.70	874.73	874.75	874.76	874.76	874.74	874.70	874.64	874.57	874.49	874.40
2	874.91	874.94	874.96	874.98	874.98	874.96	874.92	874.86	874.79	874.70	874.61
3	874.71	874.74	874.77	874.78	874.77	874.75	874.71	874.66	874.59	874.51	874.42

Girder Number	Span (4-5) (44'-4½" ℄ Brg. - ℄ Brg.)				
	℄ Brg.	.25	.50	.75	℄ Brg.
1	874.40	874.37	874.34	874.31	874.27
2	874.61	874.58	874.55	874.51	874.48
3	874.42	874.39	874.36	874.32	874.28

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.



Girder	Span (1-2)			Span (2-3)			Span (3-4)			Span (4-5)		
	A	B	C	A	B	C	A	B	C	A	B	C
Exterior	⅛"	½"	⅜"	⅝"	2⅞"	2"	⅜"	2⅞"	2"	¼"	¼"	⅜"
Interior	⅛"			½"			½"			⅛"		

GIRDER CAMBER DIAGRAM

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

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

0.25 pt. = 0.7125 x 0.5 pt.

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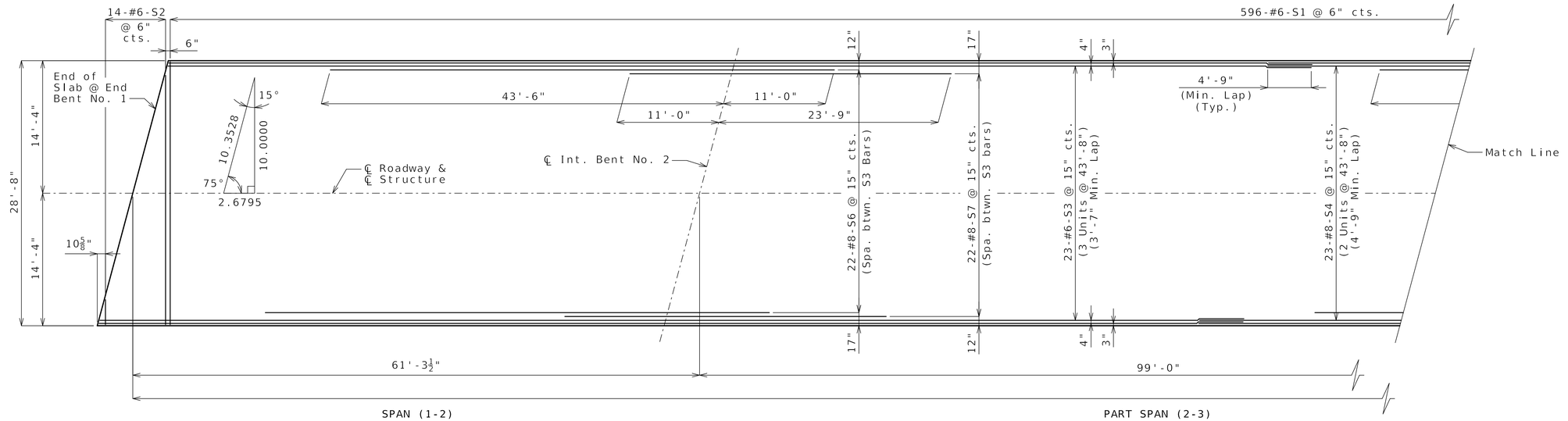
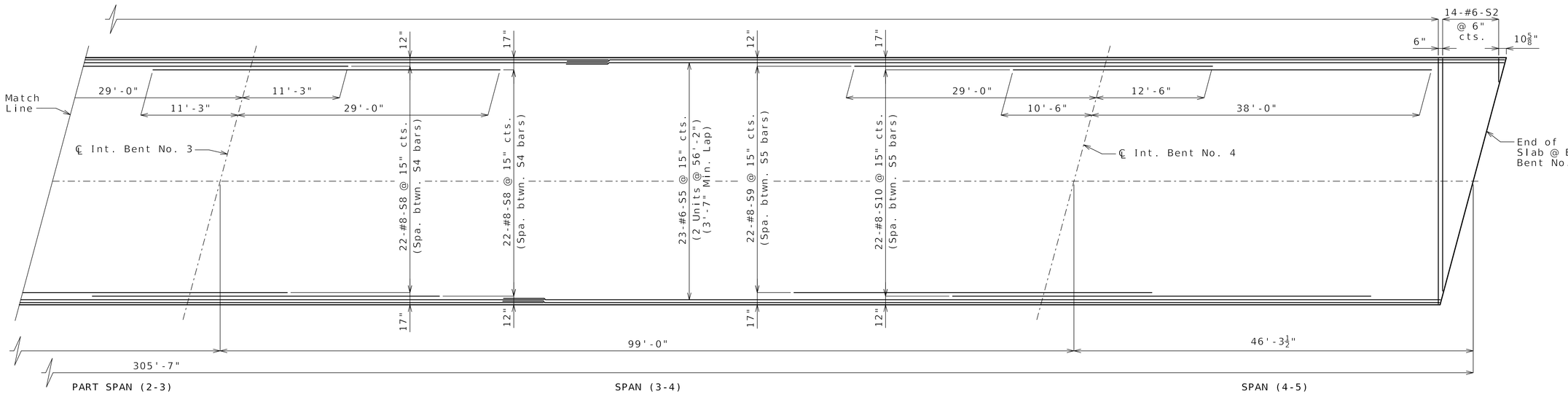




Notes:

Longitudinal dimensions are measured horizontally.

For Plan of Slab Showing Bottom Reinforcement, see Sheet No. 29.

For Slab Details, see Sheet No. 30.

For details and locations of slab drains, see Sheet No. 26.

For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, see Sheet No. 28.

For details and reinforcement of Type H Barrier, see Sheets No. 31 and 32.

PLAN OF SLAB SHOWING TOP REINFORCEMENT

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
01/07/2025 11:02:20 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED
1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	28

COUNTY
WASHINGTON

JOB NO.
J5S3506

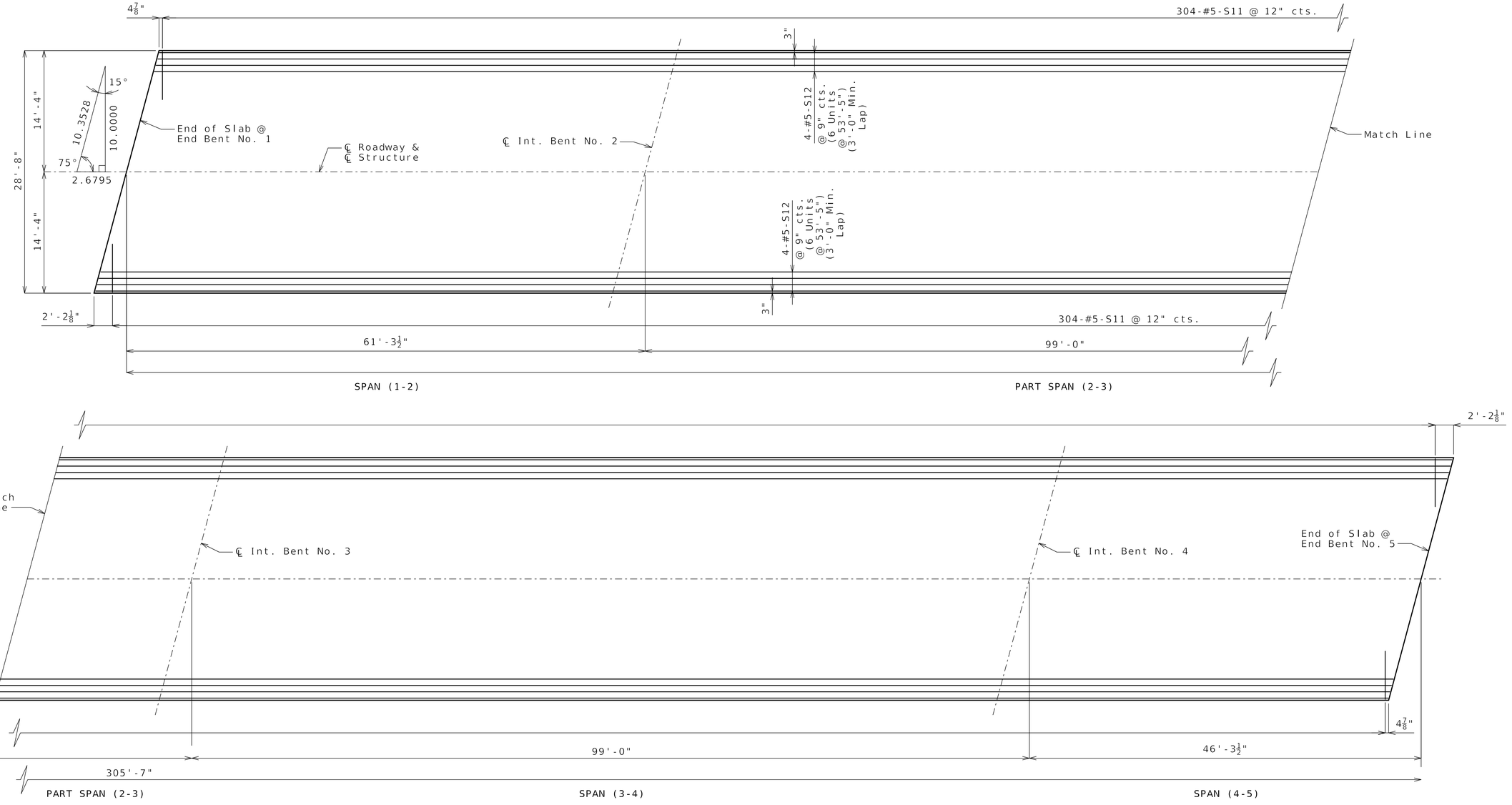
CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9479

DESCRIPTION	DATE

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



Notes:

Longitudinal dimensions are measured horizontally.

For Plan of Slab Showing Top Reinforcement, see Sheet No. 28.

For Slab Details, see Sheet No. 30.

For details and locations of slab drains, see Sheet No. 26.

For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, see Sheet No. 27.

For details and reinforcement of Type H Barrier, see Sheets No. 31 and 32.

PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
Ted Koester
01/07/2025 11:02:46 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

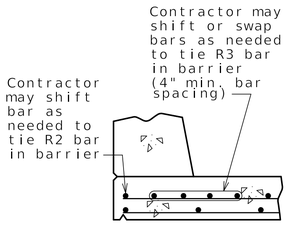
DATE PREPARED: 1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	29

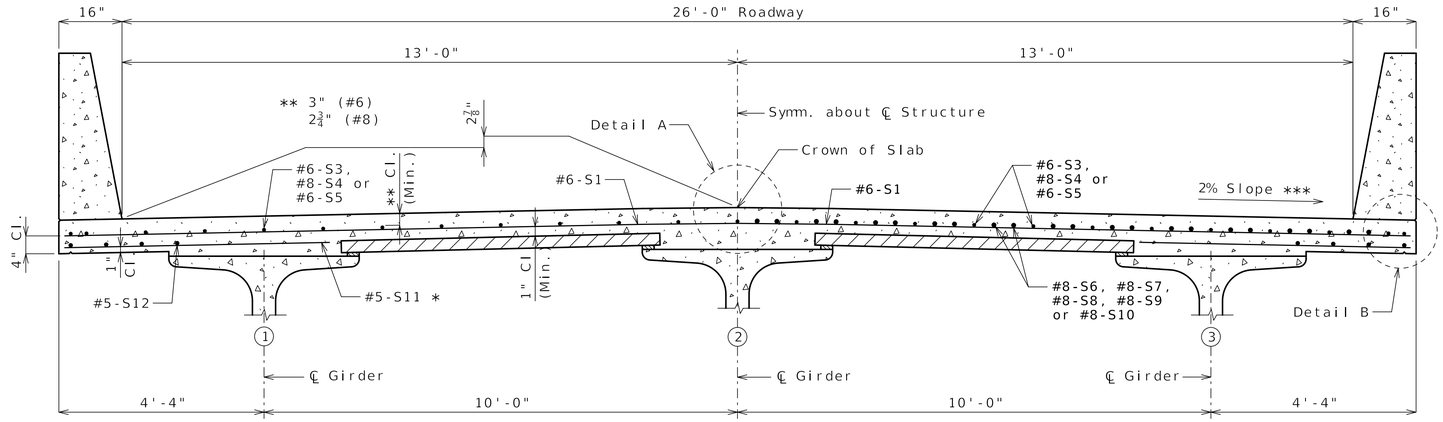
COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9479

DESCRIPTION	DATE

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



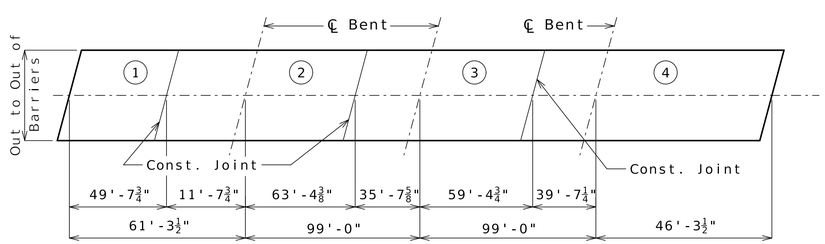
OPTIONAL SHIFTING
TOP BARS AT BARRIER



HALF SECTION NEAR MIDSPAN HALF SECTION NEAR INTERMEDIATE BENT

SECTION THRU SLAB

* Alternate bar shape available, see barrier sheet.
*** Slope varies in Span (1-2)

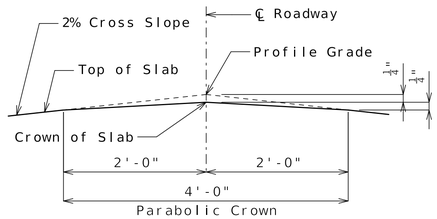


	Sequence of Pours				Min. Rate of Pour Cu. Yds./Hr.
	Direction				With Retarder
Basic Sequence	1 End to 2	2 1 to 3	3 2 to 4	4 3 to End	25
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.					
Alternate A Pours	1 + 2 End to 3		3 2 to 4	4 3 to End	25
Alternate B Pours	1 + 2 End to 3		3 + 4 2 to End		25
Alternate C Pours	1 + 2 + 3 + 4 End to End				25

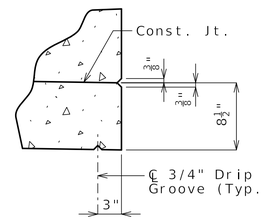
The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

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

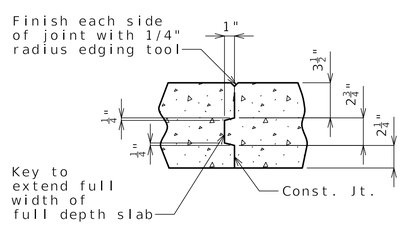
SLAB POURING SEQUENCE



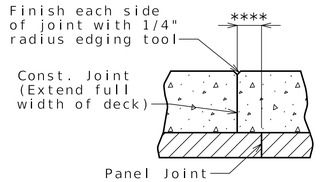
DETAIL A



DETAIL B



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. 25.

For reinforcement of barrier not shown, see Sheets No. 31 & 32.

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 27.

For Plan of Slab Showing Reinforcement, see Sheets No. 28 & 29.

SLAB DETAILS

Detailed Oct. 2024
Checked Nov. 2024

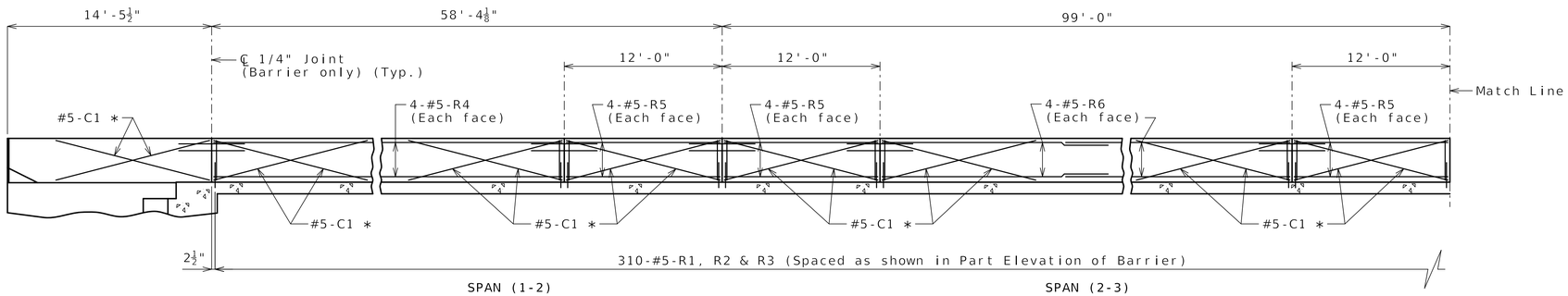
Note: This drawing is not to scale. Follow dimensions.

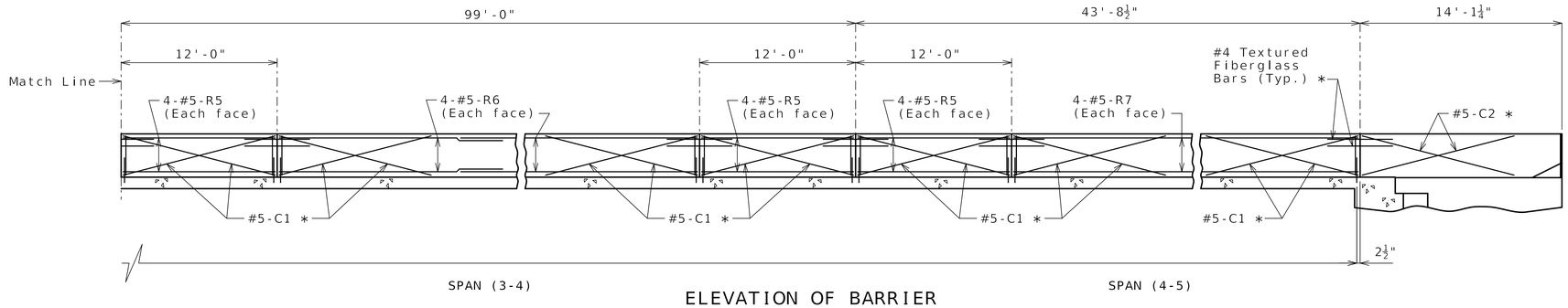
STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
01/07/2025 11:03:09 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED 1/7/2025
ROUTE C | STATE MO
DISTRICT BR | SHEET NO. 30
COUNTY WASHINGTON
JOB NO. J5S3506
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9479

DESCRIPTION	DATE

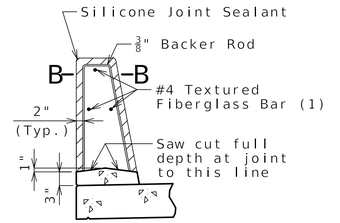
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



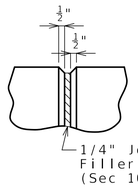


ELEVATION OF BARRIER

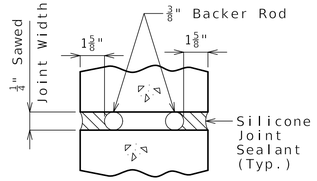
Longitudinal dimensions are horizontal.



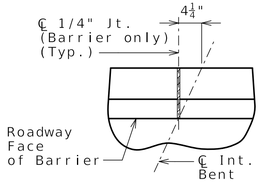
SECTION THRU SAW CUT JOINT



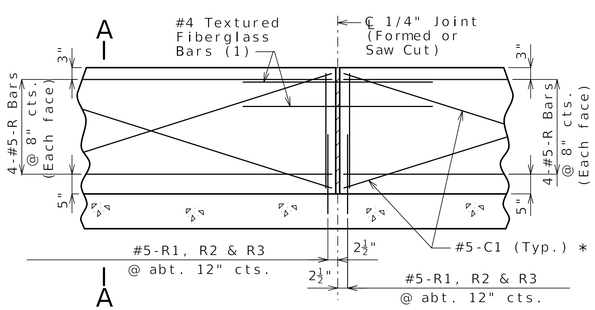
PART ELEVATION AT FORMED JOINT



SECTION B-B

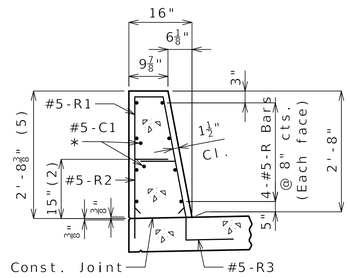


PART PLAN SHOWING JOINT LOCATION



PART ELEVATION OF BARRIER

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



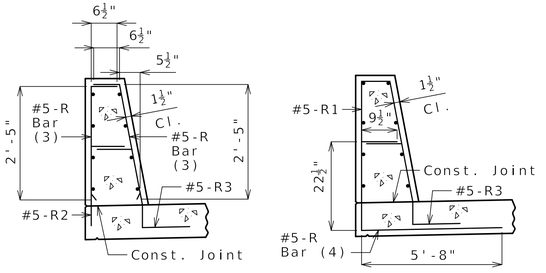
SECTION A-A

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

The cross-sectional area above the slab is 2.89 square feet.

(2) To top of bar

(5) (Varies in Span (1-2))



R-BAR PERMISSIBLE ALTERNATE SHAPE

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

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

General Notes:

∗ Slip-formed option only.

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

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

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

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

Concrete in barrier shall be Class B-1.

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

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

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

TYPE H BARRIER (LEFT)

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
01/07/2025 11:03:35 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED
1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	31

COUNTY
WASHINGTON

JOB NO.
J5S3506

CONTRACT ID.

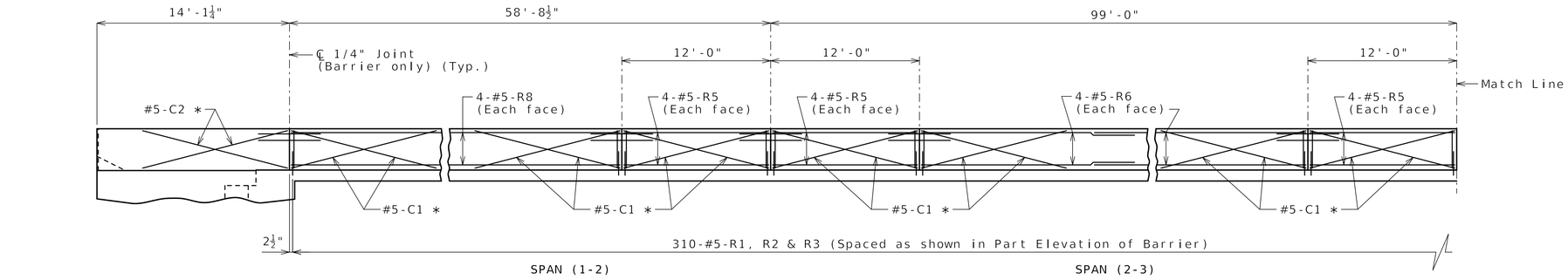
PROJECT NO.

BRIDGE NO.
A9479

DESCRIPTION

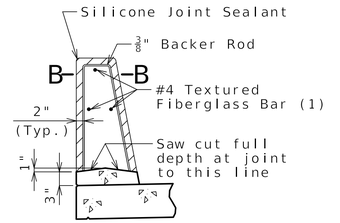
DATE

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

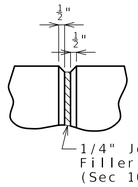


ELEVATION OF BARRIER

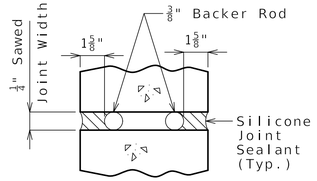
Longitudinal dimensions are horizontal.



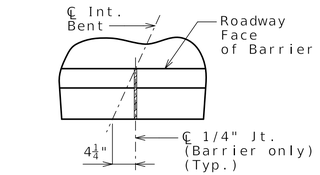
SECTION THRU SAW CUT JOINT



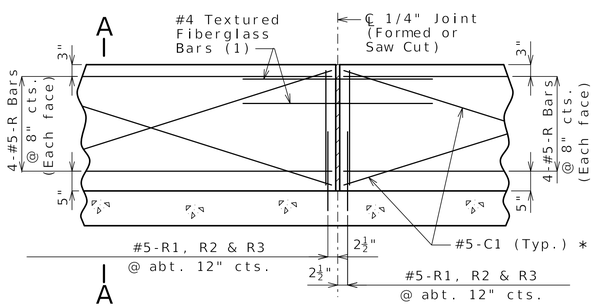
PART ELEVATION AT FORMED JOINT



SECTION B-B

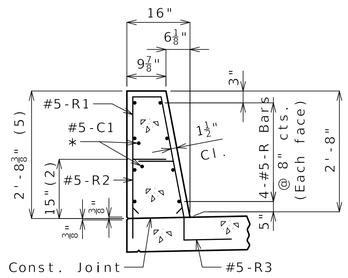


PART PLAN SHOWING JOINT LOCATION



PART ELEVATION OF BARRIER

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



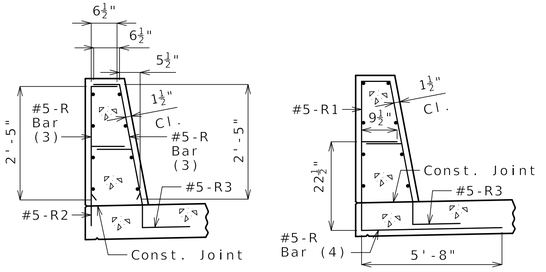
SECTION A-A

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

The cross-sectional area above the slab is 2.89 square feet.

(2) To top of bar

(5) (Varies in Span (1-2))



R-BAR PERMISSIBLE ALTERNATE SHAPE

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

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

General Notes:

∗ Slip-formed option only.

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

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

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

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

Concrete in barrier shall be Class B-1.

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

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

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

TYPE H BARRIER (RIGHT)

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
01/07/2025 11:04:01 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

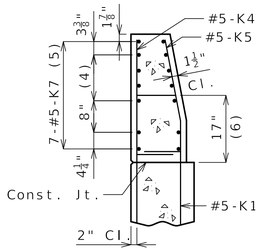
DATE PREPARED: 1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	32

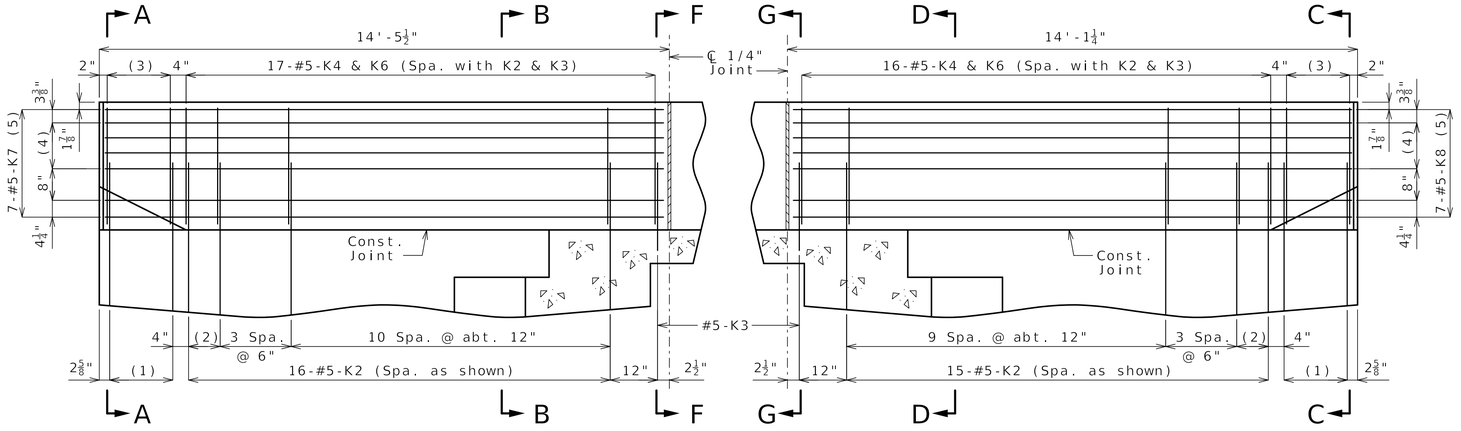
COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9479

DESCRIPTION	DATE

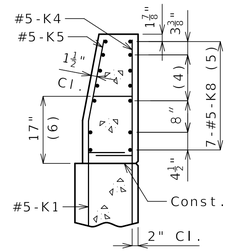
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



SECTION A-A



PART ELEVATION



SECTION C-C

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

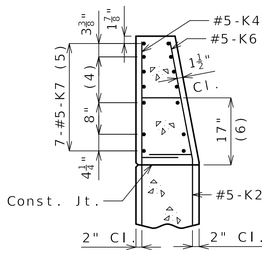
(2) 2 Spaces @ 4"

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

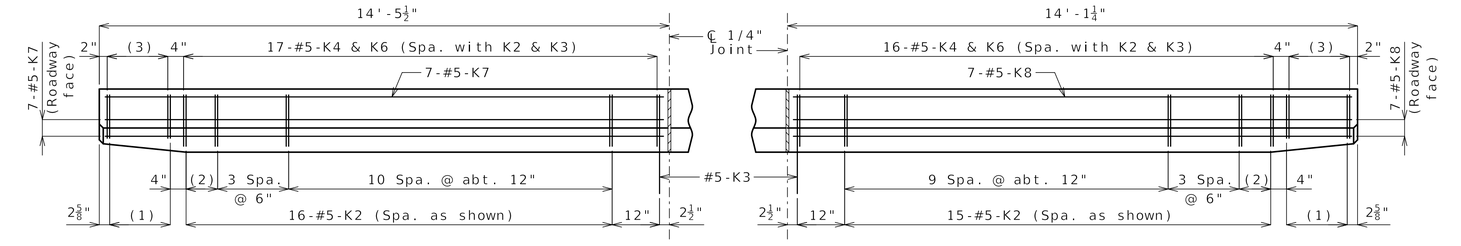
(4) 3 Spaces @ 3$\frac{13}{16}$"

(5) Spaced as shown, each face

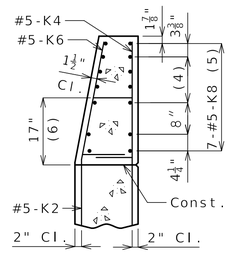
(6) To top of bar



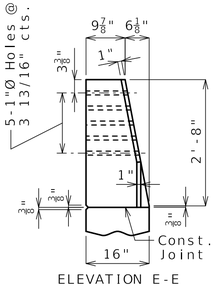
SECTION B-B



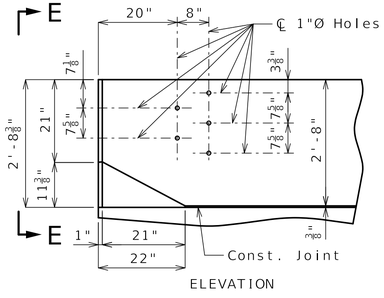
PART PLAN



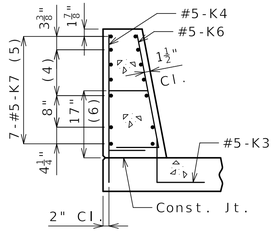
SECTION D-D



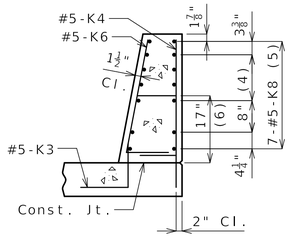
ELEVATION E-E



ELEVATION

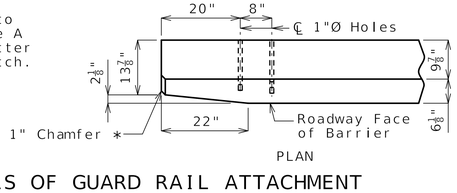


SECTION F-F



SECTION G-G

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



PLAN

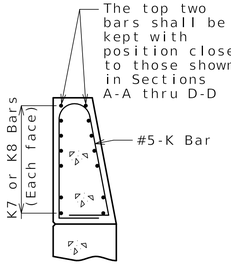
DETAILS OF GUARD RAIL ATTACHMENT

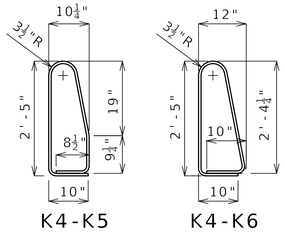
General Notes:

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

Reinforcing Steel:

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





PERMISSIBLE ALTERNATE SHAPES

(Other K bars not shown for clarity)

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

All dimensions are out to out.

TYPE H BARRIER AT END BENTS

(Left barrier shown, right barrier similar)

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
01/07/2025 11:04:23 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

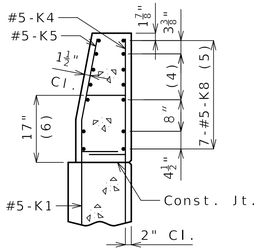
DATE PREPARED: 1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	33

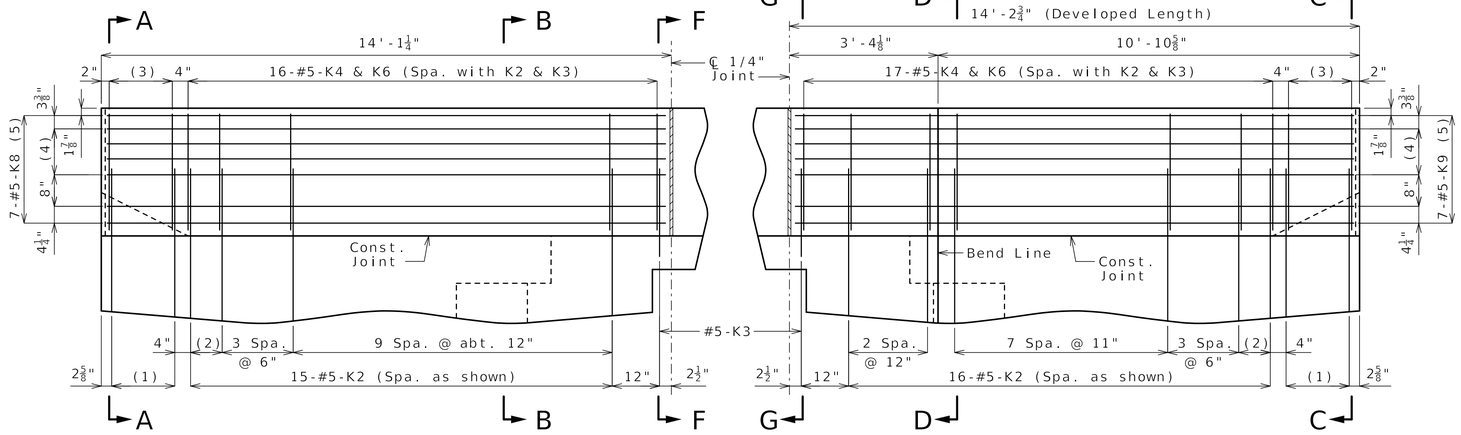
COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9479

DESCRIPTION | DATE

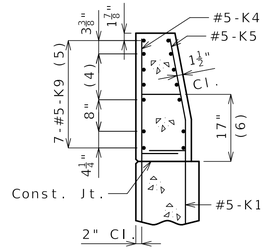
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



SECTION A-A



PART ELEVATION



SECTION C-C

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

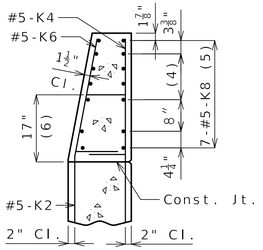
(2) 2 Spaces @ 4"

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

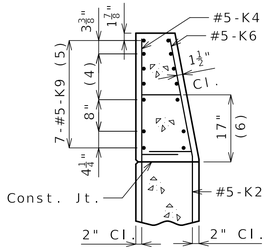
(4) 3 Spaces @ $3\frac{13}{16}$"

(5) Spaced as shown, each face

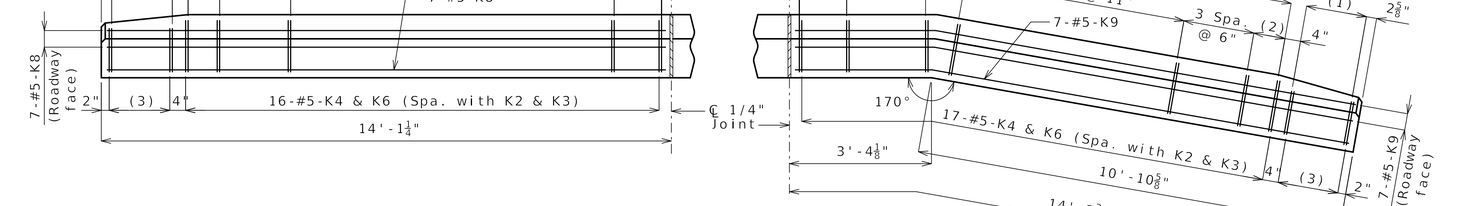
(6) To top of bar



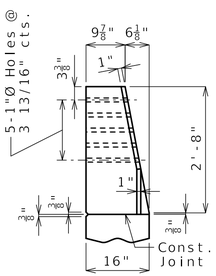
SECTION B-B



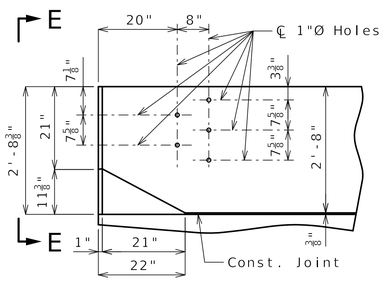
SECTION D-D



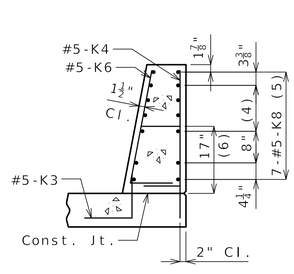
PART PLAN



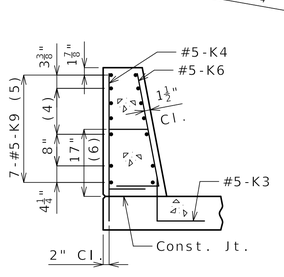
ELEVATION E-E



ELEVATION

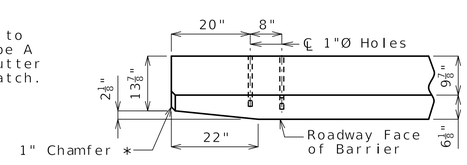


SECTION F-F



SECTION G-G

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



PLAN

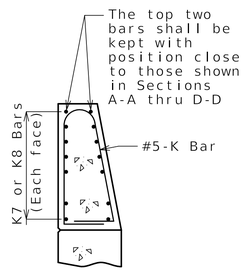
DETAILS OF GUARD RAIL ATTACHMENT

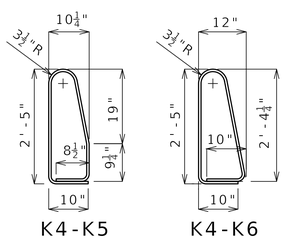
General Notes:

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

Reinforcing Steel:

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





K4-K5 K4-K6

PERMISSIBLE ALTERNATE SHAPES

(Other K bars not shown for clarity)

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

All dimensions are out to out.

TYPE H BARRIER AT END BENTS

(Left barrier shown, right barrier similar)

Detailed Oct. 2024
Checked Nov. 2024

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

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NUMBER PE-2013000591
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01/07/2025 11:04:48 AM
TED S. KOESTER - CIVIL
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C	MO
DISTRICT	SHEET NO.
BR	34

COUNTY
WASHINGTON

JOB NO.
J5S3506

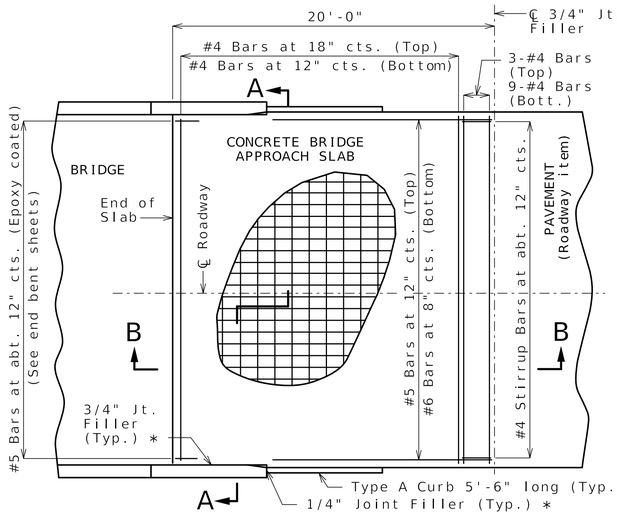
CONTRACT ID.

PROJECT NO.

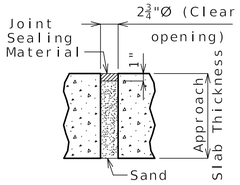
BRIDGE NO.
A9479

DATE	DESCRIPTION

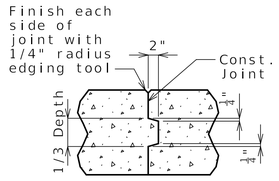
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



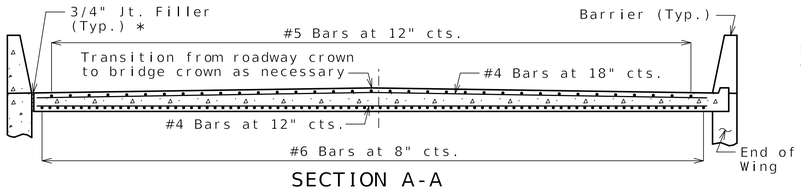
PART PLAN OF SQUARED STRUCTURE
(Skewed structure similar)



UNDERSEAL ACCESS HOLE DETAIL
(If required)

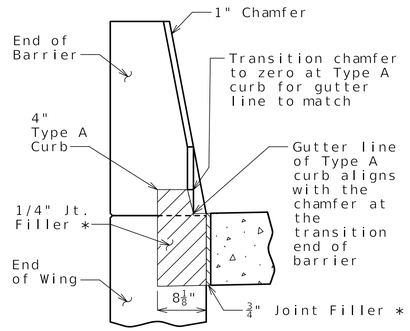


CONSTRUCTION JOINT DETAIL



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.

Mechanical bar splices shall be in accordance with Sec 710.

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

Payment for furnishing all materials, labor and excavation necessary to construct the concrete bridge approach slab, including the timber header, underdrain, Type 5 aggregate base, joint filler, and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor) per square yard.

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

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

* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

General Notes:

Contractor shall have the option to construct either slab except as noted.

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

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

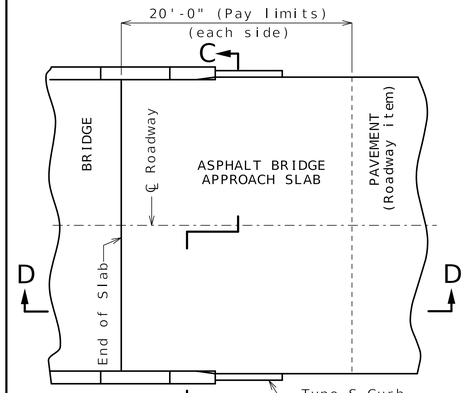
☐ Concrete Bridge Approach Slab

☐ Asphalt Bridge Approach Slab

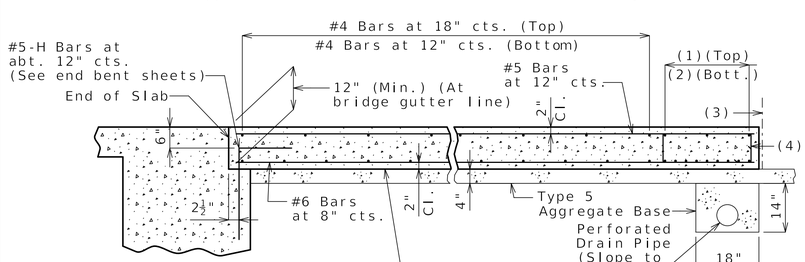
Notes For Asphalt Slab Only:

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

Application of tack is required between lifts per Sec 403.



PART PLAN
(Squared structure shown, skewed structure similar)



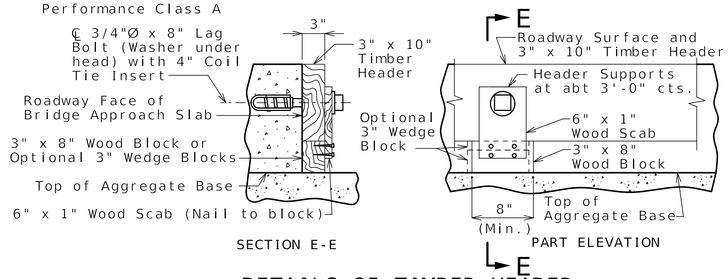
(1) 3-#4 Bars

(2) 9-#4 Bars

(3) ℄ 3/4" Jt. Filler

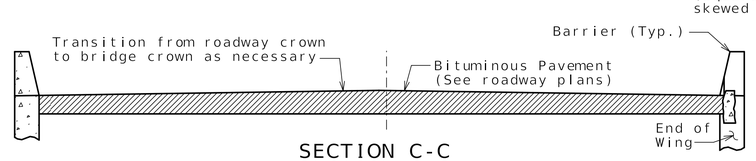
(4) #4 Stirrup Bars at abt. 12" cts.; 2'-0"x 8" (Min.) out to out; Actual length = 5'-10" (Min.); 90° stirrup hook at bottom; Stirrup height (8") and actual length vary due to crown.

SECTION B-B
(Integral end bent)



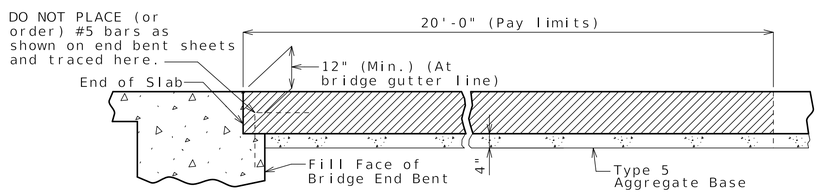
DETAILS OF TIMBER HEADER
Remove timber header when concrete pavement is placed.

OPTIONAL CONCRETE SLAB

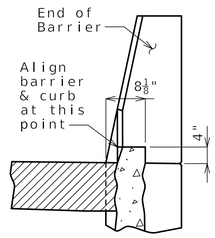


SECTION C-C

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



SECTION D-D



4" TYPE S CURB
See Missouri Standard Plan 609.00 for details of Type S curb.

OPTIONAL ASPHALT SLAB (NOT ALLOWED WITH CONCRETE PAVEMENT)

BRIDGE APPROACH SLAB (MINOR)

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

Detailed Oct. 2024
Checked Nov. 2024

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

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PROFESSIONAL ENGINEER
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TED S. KOESTER - CIVIL
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DATE PREPARED: 1/7/2025

ROUTE	STATE
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DISTRICT	SHEET NO.
BR	35

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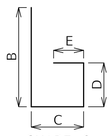
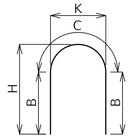
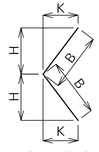
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



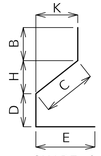
SHAPE 6
or 6S



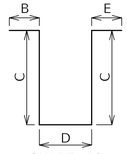
SHAPE 7



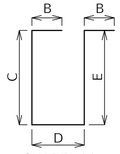
SHAPE 8
or 8S



SHAPE 9
or 9S



SHAPE 10
or 10S



SHAPE 11
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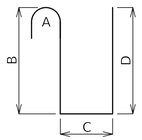
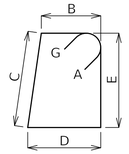
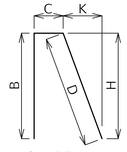


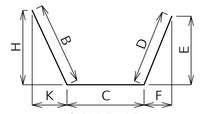
SHAPE 12



SHAPE 13S



SHAPE 14
or 14S



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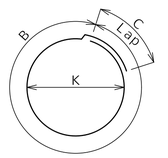

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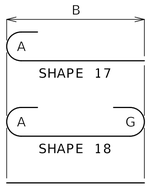
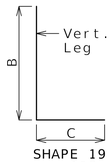
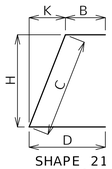


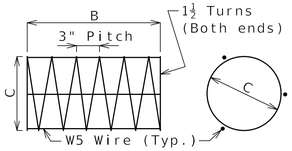
SHAPE 17
SHAPE 18
SHAPE 20



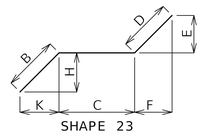
SHAPE 19
or 19S



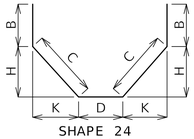
SHAPE 21
or 21S



SHAPE 22



SHAPE 23
or 23S



SHAPE 24
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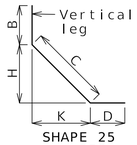
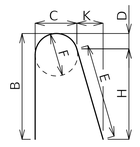
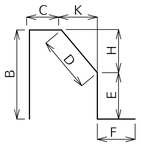


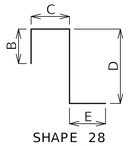
SHAPE 25
or 25S



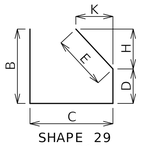
SHAPE 26



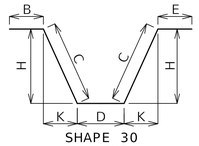
SHAPE 27S



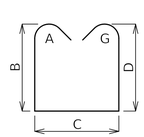
SHAPE 28
or 28S



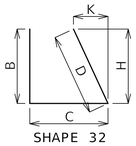
SHAPE 29
or 29S



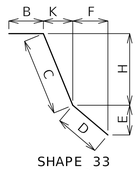
SHAPE 30
or 30S



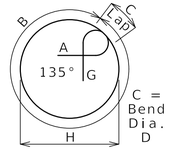
SHAPE 31S



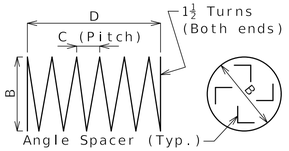
SHAPE 32
or 32S



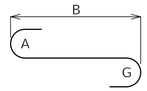
SHAPE 33
or 33S



SHAPE 34S



SHAPE 35 (1)

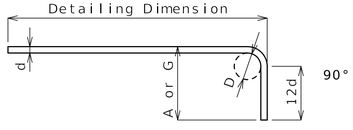


SHAPE 36

Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes

Size	Case	D	A or G		J
			90°	180°	180°
#4	1	3"	8"	6"	4"
#5	1	3¾"	10"	7"	5"
#6	1	4½"	12"	8¼"	6"
#7	2	5¼"	14"	9¾"	7"
	3	7"	15"	11½"	8¾"
#8	2	6"	16"	11"	8"
	3	8"	17"	13¼"	10"
#9	1	9½"	19½"	15½"	11¾"
#10	1	10¾"	22"	17½"	13¼"
#11	1	12"	24½"	19½"	14⅞"
#14	1	18¼"	31¼"	27½"	21⅝"
#18	1	24"	41½"	36¾"	28½"

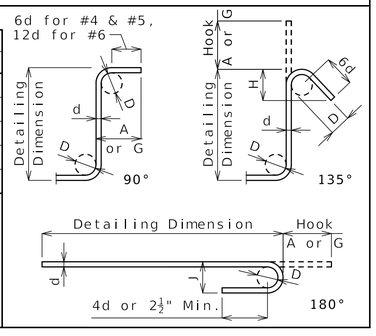


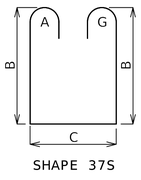
Stirrup Pin Bend Shapes (S)

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

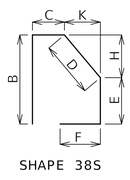
Applicable for all grades of steel.

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





SHAPE 37S



SHAPE 38S

BENDING DIAGRAMS

All dimensions are out to out.

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

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

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

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

Reinforcing Steel Totals (Pounds)

		Substructure		Superstructure				Entire Bridge	
				Slab			Slip		
	Size	Plain	Epoxy	Plain	Epoxy	Barrier	Form	Plain	Epoxy
By Size	W5	92	0	0	0	0	0	92	0
	4	0	0	0	841	0	0	0	841
	5	3,098	0	31	7,757	14,325	792	3,129	22,874
	6	7,455	0	52	41,868	0	0	7,507	41,868
	7	0	0	0	1,444	0	0	0	1,444
	8	0	0	0	22,490	0	0	0	22,490
	9	2,178	0	0	0	0	0	2,178	0
	10	16,446	0	0	0	0	0	16,446	0
	11	0	0	0	0	0	0	0	0
	14	0	0	0	0	0	0	0	0
	18	0	0	0	0	0	0	0	0
By Type		29,269	0	83	74,400	14,325	792	29,352	89,517

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

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
01/07/2025 11:05:33 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED
1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	36

COUNTY
WASHINGTON

JOB NO.
J5S3506

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9479

DATE	DESCRIPTION

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

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
		Substructure													
		Int Bent 2													
6	9 H200	BEAM		18		25 5.00							27 11	27 11	570
10	6 H201	BEAM		20		25 5.00							25 5	25 5	382
6	9 H202	BEAM		20		25 5.00							25 5	25 5	519
14	6 H203	BEAM		10S			22.00	4 1.50					7 10	7 6	158
26	5 P200	BEAM		34S		10 2.50	2.50				3 3.00		11 4	11 2	303
1	5 P201	DRILLED SHAFT		35		3 3.00	12.00	27 10.00					316 2	311 2	325
1	5 P202	DRILLED SHAFT		35		3 3.00	12.00	29 10.00					336 8	331 4	346
2	5 P203	DRILLED SHAFT		35		3 3.00	3.00	4 1.50					199 2	196	409
29	6 U200	BEAM		13S		4 3.00	3 9.00	4 3.00	3 9.00				17 4	16 10	733
16	6 U201	BEAM		10S			3 9.00	4 3.00					11 9	11 5	274
15	10 V200	DRILLED SHAFT		17		35 4.00							36 9	36 9	2,372
15	10 V201	DRILLED SHAFT		17		37 4.00							38 9	38 9	2,501
12	W5 W200	BEAM		22		15.00	9.25						23 2	22 8	46
		Int Bent 3													
12	6 D300	BEAM		20		2 6.00							2 6	2 6	45
6	10 H300	BEAM		18		25 5.00							28 3	28 3	729
10	6 H301	BEAM		20		25 5.00							25 5	25 5	382
6	10 H302	BEAM		20		25 5.00							25 5	25 5	656
14	6 H303	BEAM		10S			22.00	3 7.50					7 4	7	147
26	5 P300	BEAM		34S		10 2.50	2.50				3 3.00		11 4	11 2	303
2	6 P301	DRILLED SHAFT		35		3 3.00	12.00	11 4.00					146 11	144 1	433
2	6 P302	ROCK SOCKET		35		3 3.00	6.00	15 9.00					352 8	345 10	1,039
2	6 P303	COLUMN		35		3 3.00	3.00	7 7.50					342 2	335 7	1,008
21	6 U300	BEAM		13S		3 9.00	3 9.00	3 9.00	3 9.00				16 4	15 10	499
28	6 U301	BEAM		10S			3 9.00	2 6.00					10	9 8	407
20	6 U302	BEAM		13S		2 6.00	3 9.00	2 6.00	3 9.00				13 10	13 4	401
30	10 V300	DRILLED SHAFT		17		38 3.00							39 8	39 8	5,121
		Int Bent 4													
6	9 H400	BEAM		18		25 5.00							27 11	27 11	570
10	6 H401	BEAM		20		25 5.00							25 5	25 5	382
6	9 H402	BEAM		20		25 5.00							25 5	25 5	519
14	6 H403	BEAM		10S			22.00	4 1.50					7 10	7 6	158
26	5 P400	BEAM		34S		10 2.50	2.50				3 3.00		11 4	11 2	303
2	5 P401	DRILLED SHAFT		35		3 3.00	12.00	30 3.00					341	335 7	700
2	5 P402	DRILLED SHAFT		35		3 3.00	3.00	4 1.50					199 2	196	409
29	6 U400	BEAM		13S		4 3.00	3 9.00	4 3.00	3 9.00				17 4	16 10	733
16	6 U401	BEAM		10S			3 9.00	4 3.00					11 9	11 5	274
30	10 V400	DRILLED SHAFT		17		37 10.00							39 3	39 3	5,067
12	W5 W400	BEAM		22		15.00	9.25						23 2	22 8	46
		Superstructure													
		End Bent 1													
10	6 F100	WING BRACE	E	23S		14.25	5 9.25	2 3.00	16.50	21.25	8.75	11.25	9 3	9 2	138
4	6 F101	DIAPHRAGM	E	21S			2 9.75	6 4.00			2 8.50	8.75	9 2	9	54
10	6 F102	WING BRACE	E	23S		14.25	4 6.00	2 3.00	21.50	16.25	11.25	8.75	7 11	7 10	118
4	6 F103	DIAPHRAGM	E	15S		2 9.50	5 8.00				2 8.50	8.50	8 6	8 3	50
8	7 H100	BEAM	E	20		29 5.00							29 5	29 5	481
4	6 H101	BEAM	E	20		29 5.00							29 5	29 5	177
4	7 H102	DIAPHRAGM	E	20		29 5.00							29 5	29 5	241
4	6 H103	DIAPHRAGM	E	20		29 5.00							29 5	29 5	177
6	6 H104	DIAPHRAGM	E	20		9 2.00							9 2	9 2	83
2	6 H105	DIAPHRAGM	E	20		6 9.00							6 9	6 9	20
6	6 H106	DIAPHRAGM	E	20		3 9.00							3 9	3 9	34
2	6 H107	DIAPHRAGM	E	20		2 6.00							2 6	2 6	8
3	6 H108	STRAND TIE		23		15.00	3 3.00	15.00	4.00	14.50	4.00	14.50	5 9	5 9	26

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
16	8 H109	WING	E	19		13 6.00	18.00						15	14 9	630
44	6 H110	WING	E	19S		12 8.00	16.00						14	13 10	914
10	5 U100	BEAM	E	10S			6 1.75	2 10.00					15 2	14 11	156
22	4 U101	BEAM	E	13S		2 10.00	2 8.00	2 10.00	2 8.00				11 9	11 6	169
18	5 U102	DIAPHRAGM	E	10S			4 1.75	2 3.75					10 7	10 5	196
18	6 U103	DIAPHRAGM	E	19S		3 0.00	2 10.00						5 10	5 8	153
36	6 U104	DIAPHRAGM	E	19S		3 5.00	4 9.00						8 2	8	433
26	5 U105	APPROACH NOTCH	E	19S		2 0.00	15.00						3 3	3 2	86
16	5 V100	BEAM	E	20		6 1.00							6 1	6 1	102
15	6 V101	DIAPHRAGM	E	20		3 0.00							3	3	68
24	6 V102	WING	E	20		7 2.00							7 2	7 2	258
2	6 V103	WING	E	20		7 5.00							7 5	7 5	22
22	6 V104	WING	E	20	2	7 4.00							7 4	7 4	
		Incr. = 0.125"				7 5.00							7 5	7 5	244
		End Bent 5													
10	6 F500	WING BRACE	E	23S		14.25	5 9.25	2 3.00	16.50	21.25	8.75	11.25	9 3	9 2	138
4	6 F501	DIAPHRAGM	E	21S			2 9.75	6 4.00			2 8.50	8.75	9 2	9	54
10	6 F502	WING BRACE	E	23S		14.00	4 9.00	2 3.00	20.00	18.00	10.50	9.25	8 2	8 1	121
4	6 F503	DIAPHRAGM	E	15S		2 9.50	5 8.00				2 8.50	8.50	8 6	8 3	50
8	7 H500	BEAM	E	20		29 5.00							29 5	29 5	481
4	6 H501	BEAM	E	20		29 5.00							29 5	29 5	177
4	7 H502	DIAPHRAGM	E	20		29 5.00							29 5	29 5	241
4	6 H503	DIAPHRAGM	E	20		29 5.00							29 5	29 5	177
6	6 H504	DIAPHRAGM	E	20		9 2.00							9 2	9 2	83
2	6 H505	DIAPHRAGM	E	20		6 9.00							6 9	6 9	20
6	6 H506	DIAPHRAGM	E	20		3 9.00							3 9	3 9	34
2	6 H507	DIAPHRAGM	E	20		2 6.00							2 6	2 6	8
3	6 H508	STRAND TIE		23		15.00	3 3.00	15.00	4.00	14.50	4.00	14.50	5 9	5 9	26
16	8 H509	WING	E	19		13 6.00	18.00						15	14 9	630
44	6 H510	WING	E	19S		12 8.00	16.00						14	13 10	914
10	5 U500	BEAM	E	10S			6 1.75	2 10.00					15 2	14 11	156
22	4 U501	BEAM	E	13S		2 10.00	2 8.00	2 10.00	2 8.00				11 9	11 6	169
18	5 U502	DIAPHRAGM	E	10S			4 1.75	2 3.75					10 7	10 5	196
18	6 U503	DIAPHRAGM	E	19S		3 0.00	2 10.00						5 10	5 8	153
36	6 U504	DIAPHRAGM	E	19S		3 5.00	4 9.00						8 2	8	433
26	5 U505	APPROACH NOTCH	E	19S		2 0.00	15.00						3 3	3 2	86
16	5 V500	BEAM	E	20		6 1.00							6 1	6 1	102
15	6 V501	DIAPHRAGM	E	20		3 0.00							3	3	68
26	6 V502	WING	E	20		7 2.00							7 2	7 2	280
22	6 V503	WING	E	20	2	7 2.00							7 2	7 2	
		Incr. = 0.125"				7 3.00							7 3	7 3	238
		Int Diaphragms													
8	6 H700	DIAPHRAGM	E	20		9 2.00							9 2	9 2	110
8	4 H701	DIAPHRAGM	E	20		9 6.00							9 6	9 6	51
24	8 H702	DIAPHRAGM	E	20		9 6.00							9 6	9 6	609
40	4 U700	DIAPHRAGM	E	28S			2 6.00	23.00	18.00				5 11	5 9	154
48	6 U701	DIAPHRAGM	E	28S	16		2 6.00	2 2.50	2 2.00				6 11	6 7	
		Incr. = 6.000"					2 6.00	3 3.25	2 2.00				7 11	7 7	511
32	6 U702	DIAPHRAGM	E	28S			2 6.00	3 3.00	2 2.00				7 11	7 7	364
16	6 U703	DIAPHRAGM	E	28S			16.00	3 2.50	2 2.00				6 9	6 5	154
24	5 U704	DIAPHRAGM	E	11S	8		3 11.00	11.00	14.00				6	5 9	
		Incr. = 3.000"					4 2.00	11.00	17.00				6 6	6 3	150
8	5 U705	DIAPHRAGM	E	19S		3 0.00	11.00						3 11	3 10	32
16	4 U706	DIAPHRAGM	E	21S	8		2 6.00	21.50			2 5.00	8.00	4 4	4 3	
		Incr. = 6.000"					2 6.00	2 4.00			2 5.00	8.00	4 10	4 9	48
16	4 U707	DIAPHRAGM	E	23S	8	2 6.00	21.50				2 5.00	7.75	4 4	4 2	
		Incr. = 6.000"				2 6.00	2 4.00				2 5.00	7.75	4 10	4 8	47
16	5 V700	DIAPHRAGM	E	20		3 6.00							3 6	3 6	58
4	6 H800	DIAPHRAGM	E	20		9 2.00							9 2	9 2	55
12	4 H801	DIAPHRAGM	E	20		9 6.00							9 6	9 6	76
4	6 H802	DIAPHRAGM	E	20		6 9.00							6 9	6 9	41
2	5 H803	STRAND TIE		20		5 9.00							5 9	5 9	12

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. 36.

All bars shall be Grade 60.

Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.

SH = Required shape, see bending diagrams.

V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

BILL OF REINFORCING STEEL

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
01/07/2025 11:06:00 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED 1/7/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	37

COUNTY: WASHINGTON
JOB NO.: J5S3506
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9479

DESCRIPTION | DATE

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

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
4	5 H804	STRAND TIE		20		4 6.00							4 6	4 6	19
24	4 U800	DIAPHRAGM	E	28S			2 6.00	4 1.00	18.00				8 1	7 11	127
8	6 U801	DIAPHRAGM	E	28S			2 6.00	4 1.00	2 2.00				8 9	8 5	101
8	6 U802	DIAPHRAGM	E	28S			2 6.00	3 2.50	2 2.00				7 11	7 7	91
8	6 U803	DIAPHRAGM	E	28S			16.00	3 1.00	2 2.00				6 7	6 3	75
16	5 U804	DIAPHRAGM	E	11S	4		4 8.00	11.00	16.00				6 11	6 8	
		Incr. = 1.375"					4 10.00	11.00	18.00				7 3	7	114
4	5 U805	DIAPHRAGM	E	19S		4 6.00	11.50						5 6	5 4	22
8	5 V800	DIAPHRAGM	E	20		4 1.00							4 1	4 1	34
		Slab													
596	6 S1	SLAB	E	20		28 5.00							28 5	28 5	25,438
28	6 S2	SLAB	E	20	2	2 8.00							2 8	2 8	
		Incr. = 22.375"				26 11.00							26 11	26 11	622
69	6 S3	SLAB	E	20		43 8.00							43 8	43 8	4,526
46	8 S4	SLAB	E	20		43 8.00							43 8	43 8	5,363
46	6 S5	SLAB	E	20		56 2.00							56 2	56 2	3,881
22	8 S6	SLAB	E	20		54 6.00							54 6	54 6	3,201
22	8 S7	SLAB	E	20		34 9.00							34 9	34 9	2,041
44	8 S8	SLAB	E	20		40 3.00							40 3	40 3	4,729
22	8 S9	SLAB	E	20		41 6.00							41 6	41 6	2,438
22	8 S10	SLAB	E	20		48 6.00							48 6	48 6	2,849
608	5 S11	SLAB	E	20		5 8.00							5 8	5 8	3,593
48	5 S12	SLAB	E	20		53 5.00							53 5	53 5	2,674
		Barrier													
		Type D													
20	5 K1	BARRIER	E	27S		3 8.00	9.25	5.25	3 2.75		5.25	1.00	8 1	7 11	165
62	5 K2	BARRIER	E	27S		3 8.00	9.25	14.50	2 5.75		14.25	2.75	8 2	7 11	512
4	5 K3	BARRIER	E	27S		22.50	9.25	14.50	7.75	12.00	14.25	2.75	5 6	5 2	22
86	5 K4	BARRIER	E	19S		2 5.00	10.00						3 3	3 2	284
20	5 K5	BARRIER	E	38S				19.25	9.50	8.25	18.75	4.25	3 1	3	63
66	5 K6	BARRIER	E	21S			2 5.00	10.00			2 4.25	6.00	3 3	3 2	218
14	5 K7	BARRIER	E	20		14 2.00							14 2	14 2	207
28	5 K8	BARRIER	E	20		13 10.00							13 10	13 10	404
14	5 K9	BARRIER	E	23S		3 2.75	10 9.25				6.75	3 2.25	14	13 11	203
620	5 R1	BARRIER	E	14S		2 5.00	6.50	2 5.50			5.50	2 5.00	5 5	5 4	3,449
620	5 R2	BARRIER	E	19S		20.50	9.50						2 6	2 5	1,563
620	5 R3	BARRIER	E	27S			9.50	15.25	5.00	12.00	15.00	3.00	3 6	3 4	2,156
8	5 R4	BARRIER	E	20		46 1.00							46 1	46 1	385
96	5 R5	BARRIER	E	20		11 9.00							11 9	11 9	1,177
64	5 R6	BARRIER	E	20		39 1.00							39 1	39 1	2,609
8	5 R7	BARRIER	E	20		31 5.00							31 5	31 5	262
8	5 R8	BARRIER	E	20		46 5.00							46 5	46 5	387
8	5 R9	BARRIER	E	20		31 1.00							31 1	31 1	259
		Slip-Form													
58	5 C1	SLIP FORM	E	20		12 0.00							12	12	726
6	5 C2	SLIP FORM	E	20		10 6.00							10 6	10 6	66

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb

Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

For bending diagrams and steel reinforcing totals, see Sheet No. 36.

All bars shall be Grade 60.

Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.

SH = Required shape, see bending diagrams.

V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

Detailed Oct. 2024
Checked Nov. 2024

BILL OF REINFORCING STEEL

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
Ted Koester
01/07/2025 11:06:23 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED
1/7/2025

ROUTE	STATE
C	MO

DISTRICT	SHEET NO.
BR	38

COUNTY
WASHINGTON

JOB NO.
J5S3506

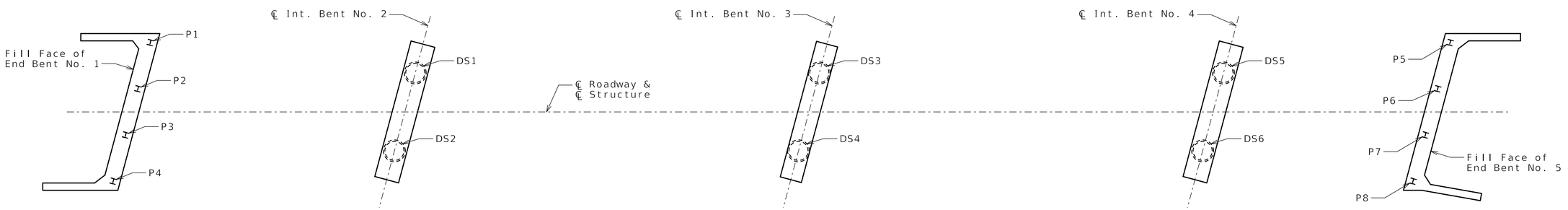
CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9479

DESCRIPTION | DATE

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



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

As-Built Pile Data

Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 1
P1			
P2			
P3			
P4			
			End Bent No. 5
P5			
P6			
P7			
P8			

As-Built Drilled Shaft Data

Shaft No.	Top of Sound Rock (Elev.)	Tip of Casing (Elev.)	Bottom of Rock Socket (Elev.)	Remarks
				Int. Bent No. 2
DS1				
DS2				
				Int. Bent No. 3
DS3				
DS4				
				Int. Bent No. 4
DS5				
DS6				

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

This sheet to be completed by MoDOT construction personnel.

AS-BUILT PILE AND DRILLED SHAFT DATA

Detailed Oct. 2024
Checked Nov. 2024

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

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
01/07/2025 11:06:44 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED: 1/7/2025
ROUTE: C | STATE: MO
DISTRICT: BR | SHEET NO.: 39
COUNTY: WASHINGTON
JOB NO.:
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9479

DESCRIPTION | DATE

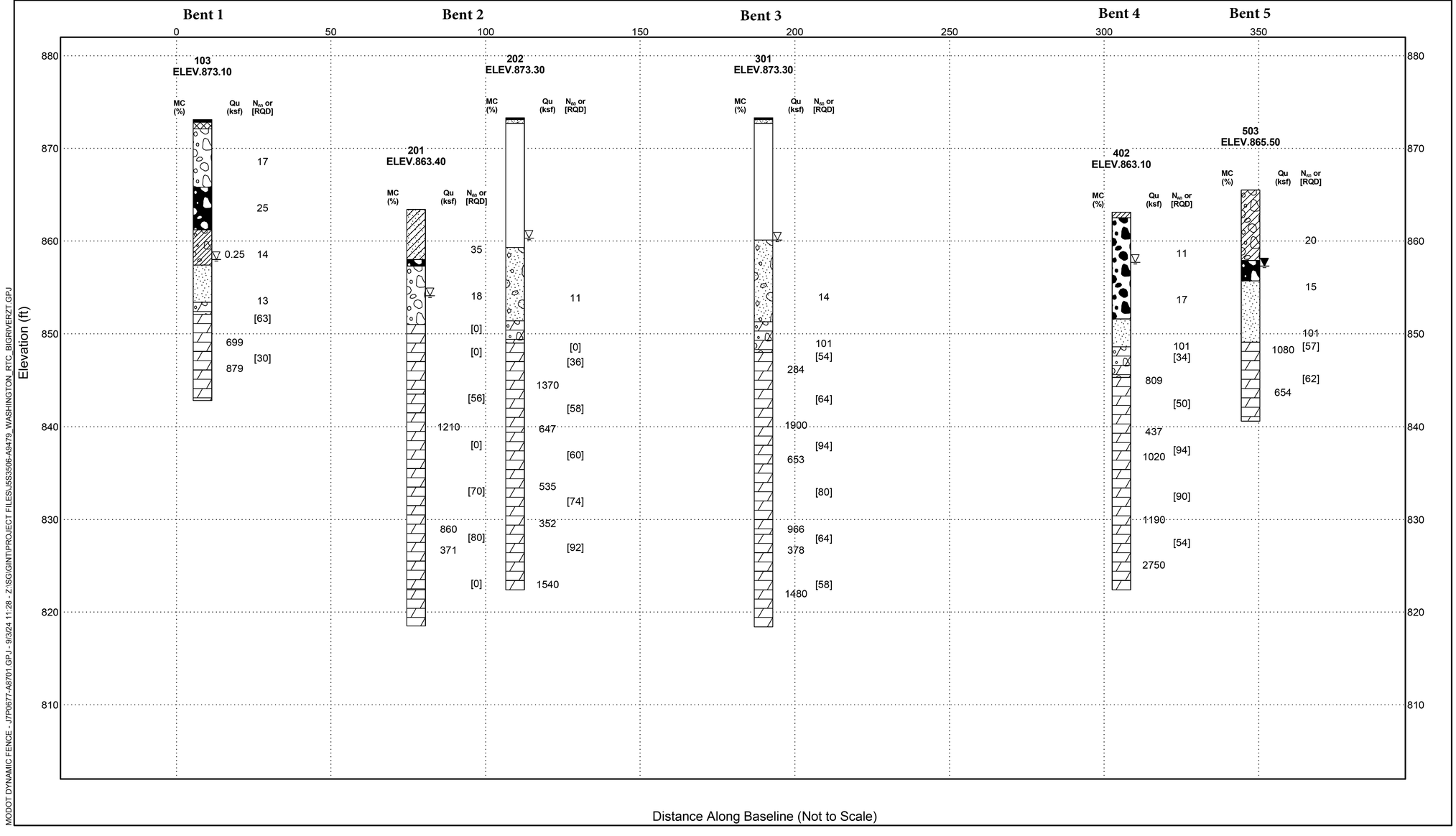
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

Missouri Department of Transportation

SUBSURFACE DIAGRAM

PROJECT NAME Bridge Replacement
PROJECT LOCATION Over Big River
CLIENT MODOT
PROJECT NUMBER J5S3506

Asphalt
Boulders and cobbles
Highly Weathered Dolomite
Concrete
Fill (made ground)
USCS Low Plasticity Gravelly Clay
Dolomite
USCS Poorly-graded Gravelly Sand
USCS Poorly-graded Gravel
USCS Poorly-graded Sand
USCS Clayey Sand
USCS Low Plasticity Clay



BORING DATA

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

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

Detailed Oct. 2024
Checked Nov. 2024

STATE OF MISSOURI
TED S. KOESTER
NUMBER PE-2013000591
PROFESSIONAL ENGINEER
01/07/2025 11:07:15 AM
TED S. KOESTER - CIVIL
MO-PE-2013000591

DATE PREPARED 1/7/2025
ROUTE C | STATE MO
DISTRICT BR | SHEET NO. 40
COUNTY WASHINGTON
JOB NO. J5S3506
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9479

DESCRIPTION | DATE

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