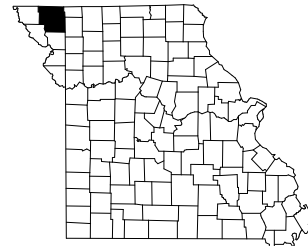


A.A.D.T. - 2026 = 149
A.A.D.T. - 2046 = 193
D.H.V. = 12.3%
T = 9.6%
V = 55 M.P.H.
D = 50.0% / 50.0%

NORMAL RIGHT-OF-WAY

	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	— UT —	— UT —
OVERHEAD TELEPHONE	— OE —	— OE —
UNDERGROUND TELEPHONE	— UE —	— UE —
OVERHEAD POWER	— S —	— S —
UNDERGROUND POWER	— SS —	— SS —
SANITARY SEWER	— G —	— G —
STORM SEWER	— W —	— W —
GAS		
WATER		
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 —	— V —
WOVEN WIRE	— X —	— X —
GATE POST		
BENCHMARK		

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
STATE HIGHWAY
NODAWAY COUNTY

[illegible]

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	1
TYPICAL SECTIONS (TS) (2 SHEETS)---	2
QUANTITIES (QU) (4 SHEETS)-----	3
PLAN-PROFILE (PP)-----	4-6
REFERENCE POINTS (RP)-----	7
COORDINATE POINTS (CP)-----	8
SPECIAL SHEETS (SS)-----	9-10
TRAFFIC CONTROL SHEETS (TC)-----	11
EROSION CONTROL SHEETS (EC)-----	12-13
SIGNING (SN)-----	14-16
CULVERT SECTIONS (CS)-----	17
BRIDGE DRAWINGS (B)	
A9608-----	1-31
CROSS SECTIONS (XS)	
ROUTE VV-----	1-14
BENDWAY WEIRS-----	15-16
LONGITUDINAL PEAK STONE-----	17-25
TOE PROTECTION	

[illegible]

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA.	179+30.00
END OF PROJECT	STA.	188+80.00

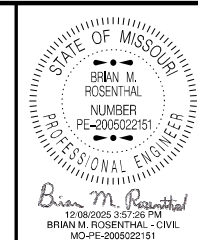
APPARENT LENGTH	950.00 FEET
-----------------	-------------

EQUATIONS AND EXCEPTIONS:

NONE

TOTAL CORRECTIONS	0.00 FEET
NET LENGTH OF PROJECT	950.00 FEET
STATE LENGTH	0.180 MILE

FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES	4 ACRES
---	---------



DATE PREPARED
12/2/2025

ROUTE VV	STATE MO
-------------	-------------

DISTRICT	SHEET NO.
NW	1

COUNTY
NODAWAY

JNW0046

CONTRACT ID.	
--------------	--

PROJECT NO.

BRIDGE NO.

--	--	--	--	--	--	--	--

[illegible]

2							
---	--	--	--	--	--	--	--

PTIO

SCRI

DE

--	--	--	--	--	--	--	--

--	--	--	--	--	--	--

[illegible]

D/							
----	--	--	--	--	--	--	--

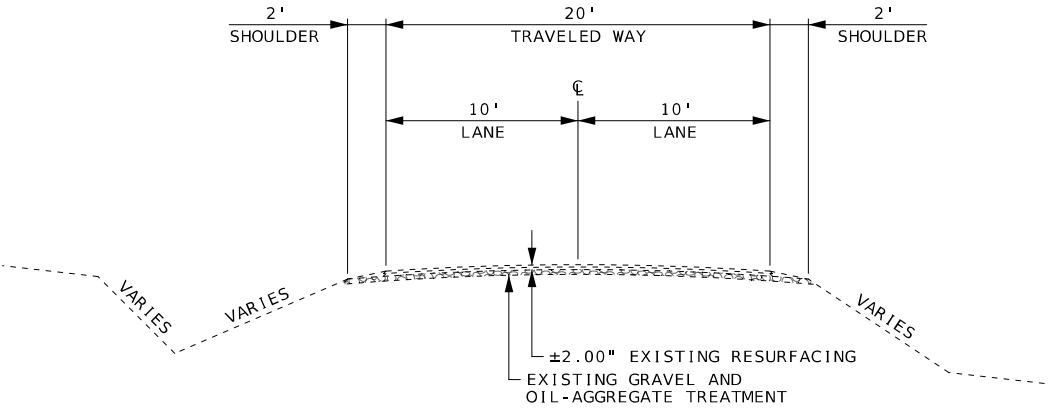
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

PAVEMENT HISTORY			
YEAR	PROJECT	TREATMENT	WIDTH
1963	SVV-S-620(6)	GRAVEL	20'
1965	VV-65	OIL-AGGREGATE TREATMENT	20'
1994	CO74-VV(101)M	1.00" SURFACE LEVELING	20'
2012	J1L1200	1.00" SURFACE LEVELING	20'

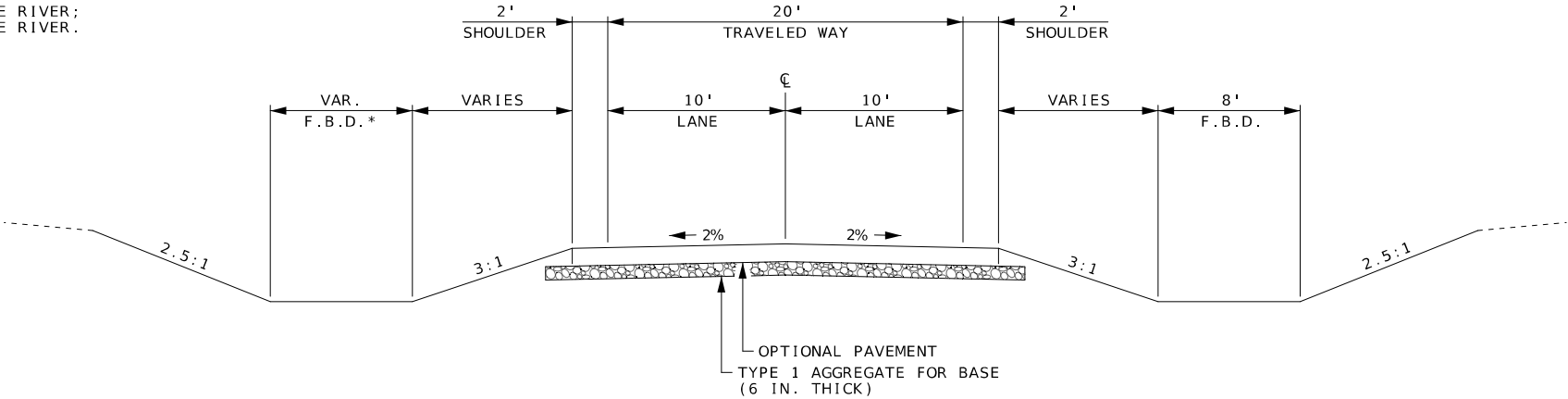
ESTIMATE FACTOR*		
ITEM	DESCRIPTION	FACTOR
310-50.02	GRAVEL (A) OR CRUSHED STONE (B)	1.40 TONS/CU. YD.

* FOR INFORMATION PURPOSES ONLY

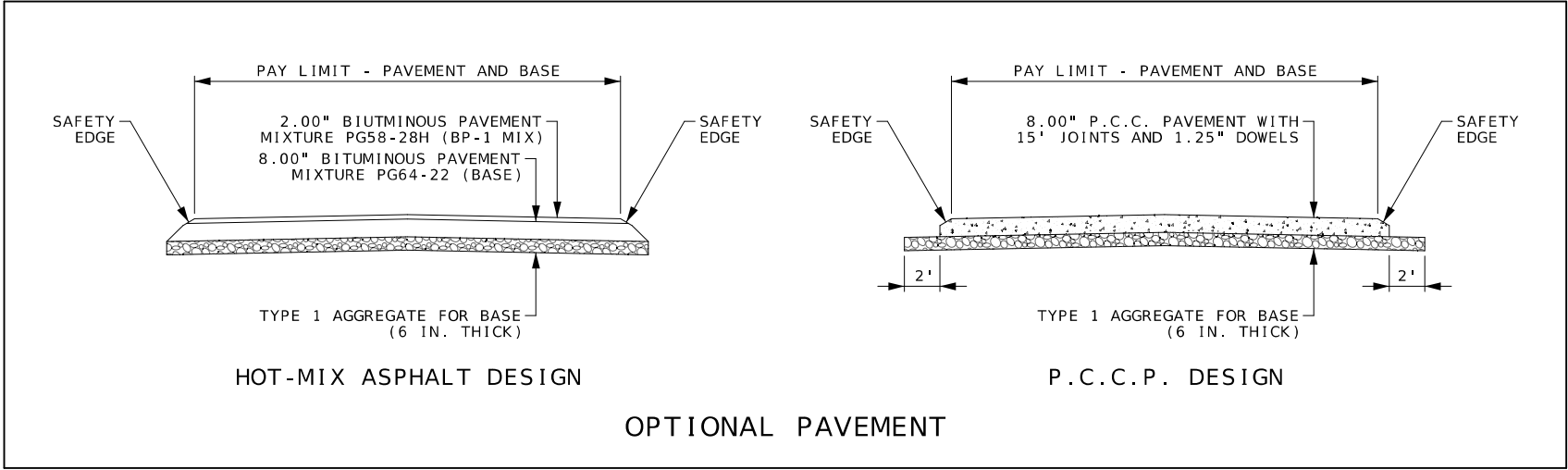


SECTION ON TANGENT
EXISTING TYPICAL SECTION ROUTE VV
STA. 179+30.00 TO STA. 188+80.00

* 8' F.B.D. LT. WEST OF PLATTE RIVER;
12' F.B.D. LT. EAST OF PLATTE RIVER.



SECTION ON TANGENT
PROPOSED TYPICAL SECTION ROUTE VV
STA. 179+30.00 TO STA. 180+94.99 (WEST OF BRIDGE A9608)
STA. 184+62.72 TO STA. 188+80.00 (EAST OF BRIDGE A9608)



OPTIONAL PAVEMENT

NOT TO SCALE

STATE OF MISSOURI
BRIAN M. ROSENTHAL
NUMBER
PE-2005022151
PROFESSIONAL ENGINEER
Brian M. Rosenthal
12/08/2025 3:57:53 PM
BRIAN M. ROSENTHAL - CIVIL
MO-PE-2005022151

DATE PREPARED
12/5/2025

ROUTE
VV

DISTRICT
NW

STATE
MO

SHEET NO.
2

COUNTY
NODAWAY

JOB NO.
JNW0046

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

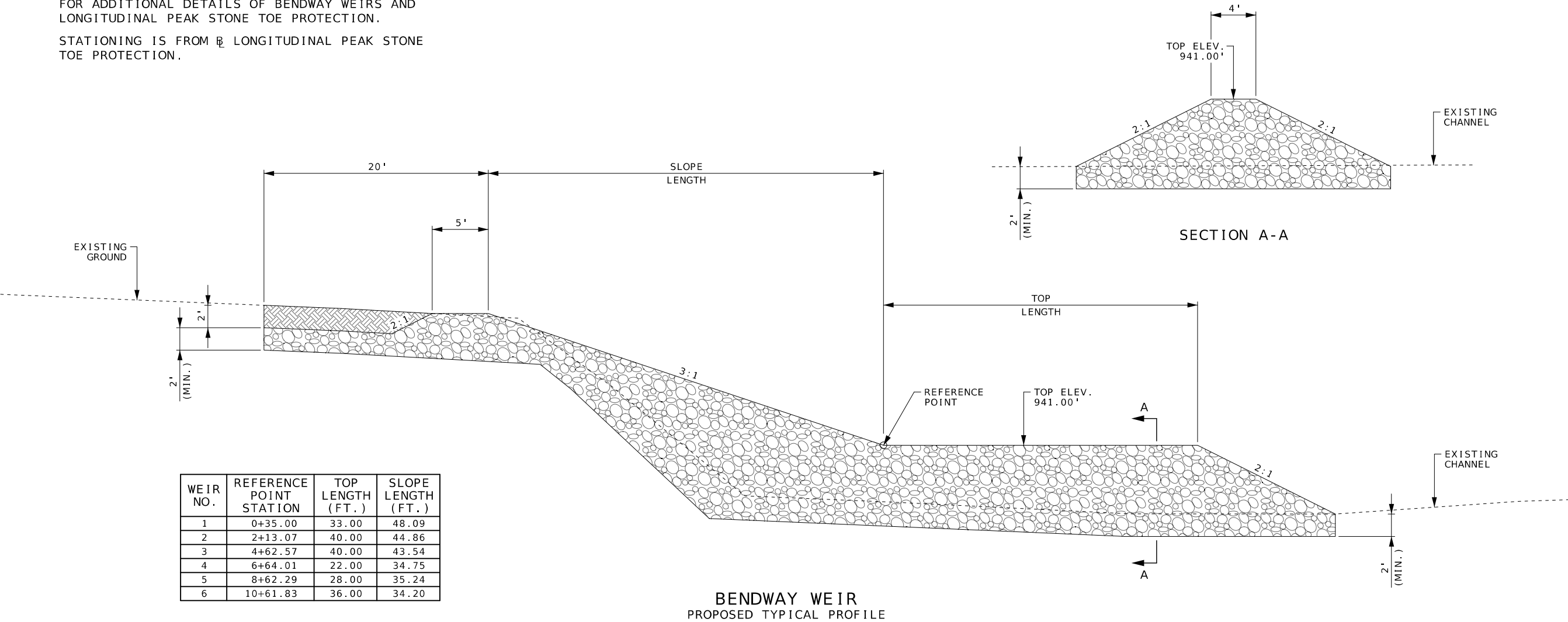
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

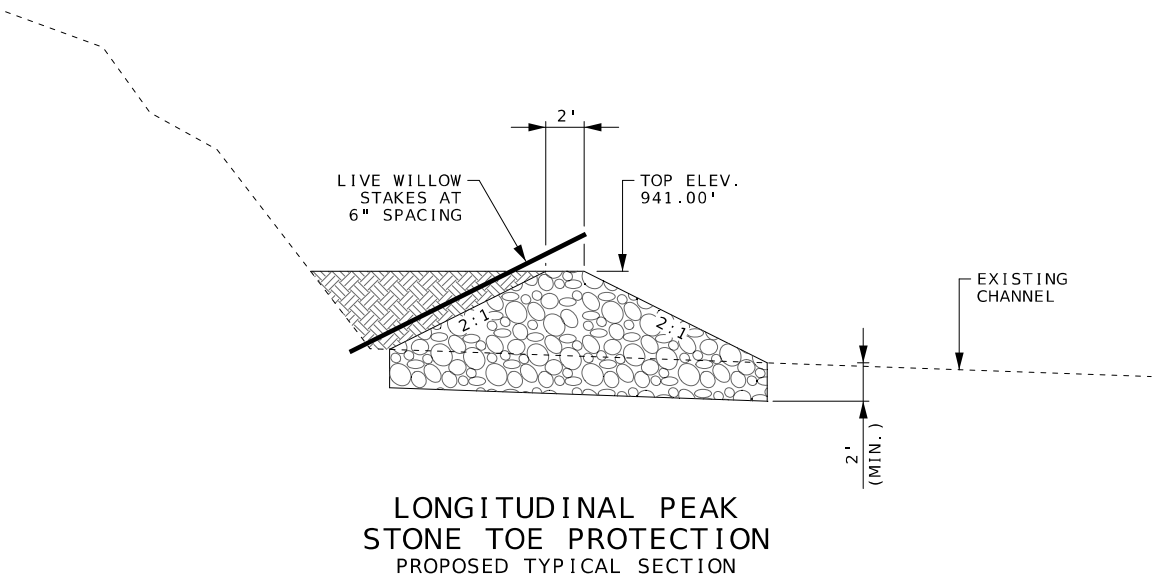
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

NOTES: SEE SHEET 6 AND CROSS-SECTION SHEETS 15-25 FOR ADDITIONAL DETAILS OF BENDWAY WEIRS AND LONGITUDINAL PEAK STONE TOE PROTECTION.

STATIONING IS FROM $\varnothing$ LONGITUDINAL PEAK STONE TOE PROTECTION.



BENDWAY WEIR
PROPOSED TYPICAL PROFILE



LONGITUDINAL PEAK
STONE TOE PROTECTION
PROPOSED TYPICAL SECTION

LEGEND

- EARTH FILL
- STONE FOR BANK STABILIZATION

NOT TO SCALE

TYPICAL SECTIONS
SHEET 2 OF 2

STATE OF MISSOURI

BRIAN M. ROSENTHAL

NUMBER

PE-2005022151

PROFESSIONAL ENGINEER

Brian M. Rosenthal

12/08/2025 3:58:17 PM

BRIAN M. ROSENTHAL - CIVIL

MO-PE-2005022151

DATE PREPARED

12/5/2025

ROUTE

VV

STATE

MO

DISTRICT

NW

SHEET NO.

2

COUNTY

NODAWAY

JOB NO.

JNW0046

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)

MoDOT

REMOVAL OF IMPROVEMENTS				
STATION	LOCATION	STATION	LOCATION	DESCRIPTION
154+92.30	16' RT.	--	--	'ONE LANE BRIDGE' AND '1/2 MILE' SIGNS AND POST
176+22.10	16' RT.	--	--	'YIELD' AND 'TO ONCOMING TRAFFIC' SIGNS AND POST
179+30.00	☺	181+21.50	☺	±426 S.Y. EXIST. BITUMINOUS PAVEMENT*
180+85.79	14' RT.	--	--	TYPE 3 OBJECT MARKER SIGN AND POST
180+86.47	13' LT.	--	--	TYPE 3 OBJECT MARKER SIGN AND POST
181+03.18	13' RT.	--	--	TYPE 3 OBJECT MARKER SIGN AND POST
181+06.62	12' LT.	--	--	TYPE 3 OBJECT MARKER SIGN AND POST
181+11.56	14' RT.	--	--	'PLATTE RIVER' SIGN AND POST
181+15.64	13' RT.	--	--	TYPE 3 OBJECT MARKER SIGN AND POST
181+25.59	10' LT.	--	--	TYPE 3 OBJECT MARKER SIGN AND POST
184+33.62	12' RT.	--	--	TYPE 3 OBJECT MARKER SIGN AND POST
184+38.56	☺	188+80.00	☺	±981 S.Y. EXIST. BITUMINOUS PAVEMENT*
184+44.88	12' LT.	--	--	TYPE 3 OBJECT MARKER SIGN AND POST
184+45.78	14' LT.	--	--	'PLATTE RIVER' SIGN AND POST
184+53.86	12' RT.	--	--	TYPE 3 OBJECT MARKER SIGN AND POST
184+63.60	13' LT.	--	--	TYPE 3 OBJECT MARKER SIGN AND POST
184+74.06	13' RT.	--	--	TYPE 3 OBJECT MARKER SIGN AND POST
184+82.71	14' LT.	--	--	TYPE 3 OBJECT MARKER SIGN AND POST
185+48.38	45' RT.	185+91.65	44' RT.	24" X 43' C.M.P.
189+33.42	16' LT.	--	--	'YIELD' AND 'TO ONCOMING TRAFFIC' SIGNS AND POST
207+02.77	16' LT.	--	--	'ONE LANE BRIDGE' AND '1/2 MILE' SIGNS AND POST
1 LUMP SUM				
*PAVEMENT VOLUME IS ALSO INCLUDED IN EARTHWORK QUANTITIES				

EARTHWORK					
STATION	STATION	LOCATION	CLASS A EXCAVATION (CU. YD.)	COMPACTING EMBANKMENT (CU. YD.)	REMARKS
179+30.00	182+36.38	☺ ROUTE VV	2278	1023	WEST OF PLATTE RIVER
183+03.33	188+80.00	☺ ROUTE VV	8392	5017	EAST OF PLATTE RIVER
0+35.00	--	☒ L.P.S.T.P.	178	4	BENDWAY WEIR NO. 1
0+36.86	2+10.89	☒ L.P.S.T.P.	217	196	L.P.S.T.P. SEGMENT B-E; OBTAIN 29 C.Y. FROM BALANCE OF BENDWAY WEIR EXCAVATION
2+13.07	--	☒ L.P.S.T.P.	198	4	BENDWAY WEIR NO. 2
2+14.81	4+62.57	☒ L.P.S.T.P.	344	302	L.P.S.T.P. SEGMENT E-H; OBTAIN 37 C.Y. FROM BALANCE OF BENDWAY WEIR EXCAVATION
4+65.12	--	☒ L.P.S.T.P.	274	4	BENDWAY WEIR NO. 3
4+67.05	6+62.00	☒ L.P.S.T.P.	262	434	L.P.S.T.P. SEGMENT H-K; OBTAIN 232 C.Y. FROM BALANCE OF BENDWAY WEIR EXCAVATION
6+64.01	--	☒ L.P.S.T.P.	164	4	BENDWAY WEIR NO. 4
6+66.07	8+60.16	☒ L.P.S.T.P.	284	479	L.P.S.T.P. SEGMENT K-N; OBTAIN 261 C.Y. FROM BALANCE OF BENDWAY WEIR EXCAVATION
8+62.29	--	☒ L.P.S.T.P.	174	4	BENDWAY WEIR NO. 5
8+64.35	10+59.68	☒ L.P.S.T.P.	305	315	L.P.S.T.P. SEGMENT N-Q; OBTAIN 80 C.Y. FROM BALANCE OF BENDWAY WEIR EXCAVATION
10+61.83	--	☒ L.P.S.T.P.	242	4	BENDWAY WEIR NO. 6
10+63.75	11+73.75	☒ L.P.S.T.P.	162	204	L.P.S.T.P. SEGMENT Q-S; OBTAIN 79 C.Y. FROM BALANCE OF BENDWAY WEIR EXCAVATION
TOTALS			13474	7994	
ROUNDING			84		
PAY TOTALS			13558	7994	

AGGREGATE SURFACE										
STATION	STATION	LOCATION	LENGTH (FT.)	THICKNESS (IN.)	WIDTH		VOLUME (CU. YD.)	ESTIMATE FACTOR (T/CY)	GRAVEL (A) OR CRUSHED STONE (B) (TONS)	REMARKS
					SURFACE (FT.)	PAY (FT.)				
9+05.00	9+78.00	☒ TYPE 1 DRWY. LT. OF 188+05.00	73.00	6.00	30.00	30.50	41.23	1.40	57.7	
9+78.00	9+88.00	☒ TYPE 1 DRWY. LT. OF 188+05.00	10.00	6.00	VARIES		6.26	1.40	8.8	THROUGH RADII
10+12.00	10+22.00	☒ TYPE 1 DRWY. RT. OF 188+05.00	10.00	6.00	VARIES		6.26	1.40	8.8	THROUGH RADII
10+22.00	10+60.00	☒ TYPE 1 DRWY. RT. OF 188+05.00	38.00	6.00	30.00	30.50	21.46	1.40	30.0	
TOTAL									105.3	
PAY TOTAL									105	

CLEARING AND GRUBBING				
STATION	STATION	LOCATION	CLEARING AND GRUBBING (ACRE)	REMARKS
179+25.00	182+59.10	LT.	0.6	
179+25.00	182+22.83	RT.	0.4	
182+51.12	188+25.00	RT.	1.0	
182+66.06	188+25.00	LT.	1.4	
184+30.00	190+52.73	LT.	0.8	STREAMBANK STABILIZATION TEMPORARY EASEMENT - ALONG EAST BANK
TOTAL			4.2	NOTE: ALL TREES WITHIN THE PROJECT LIMITS GREATER THAN 3" IN DIAMETER WILL BE CUT DOWN JUST ABOVE GROUND LEVEL BY OTHERS PRIOR TO THE NOTICE TO PROCEED DATE. THE CONTRACTOR WILL BE RESPONSIBLE FOR DISPOSING OF THE FALLEN TREES AND REMOVAL OF TREE STUMPS.
PAY TOTAL			4	

PAVEMENT AND BASE							
STATION	STATION	LOCATION	LENGTH (FT.)	WIDTH (FT.)	TYPE 1 AGGR. FOR BASE (6 IN. THICK) (SQ. YD.)	OPTIONAL PAVEMENT (SQ. YD.)	REMARKS
179+30.00	179+80.00	ROUTE VV	50.00	22.16	123.1	123.11	WIDTH TRANSITION - 20.32' TO 24'
179+80.00	180+90.62	ROUTE VV	110.62	24.00	295.0	294.99	TO BEGIN BRIDGE APPROACH SLAB RT.
180+90.62	180+99.36	ROUTE VV	8.74	12.00	11.7	11.65	24' TO 0' - TO BEGIN BRIDGE APPROACH SLAB LT.
184+58.35	184+67.09	ROUTE VV	8.74	12.00	11.7	11.65	0' TO 24' - FROM END BRIDGE APPROACH SLAB RT.
184+67.09	188+30.00	ROUTE VV	362.91	24.00	967.8	967.76	FROM END BRIDGE APPROACH SLAB LT.
188+30.00	188+80.00	ROUTE VV	50.00	22.22	123.4	123.44	WIDTH TRANSITION - 24' TO 20.43'
TOTALS					1532.7	1532.60	
PAY TOTALS					1533	1532.6	

COMPACTING IN CUT				
STATION	STATION	LOCATION	COMPACTING IN CUT (STA.)	REMARKS
179+30.00	181+21.87	ROUTE VV	1.92	WEST OF PLATTE RIVER
184+38.55	188+80.00	ROUTE VV	4.41	EAST OF PLATTE RIVER
TOTAL			6.33	
PAY TOTAL			6.3	

CONTRACTOR FURNISHED SURVEYING AND STAKING
1 LUMP SUM

MOBILIZATION
1 LUMP SUM



DATE PREPARED 12/5/2025	
ROUTE VV	STATE MO
DISTRICT NW	SHEET NO. 3
COUNTY NODAWAY	
JOB NO. JNW0046	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION									

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

DRAINAGE							
STATION	LOCATION	SKEW	ROCK LINING (CU. YD.)	PIPE GROUP C		GROUP C FLARED END SECTIONS	
				24 IN. (LIN. FT.)	78 IN. (LIN. FT.)	24 IN. (EACH)	78 IN. (EACH)
9+38.21	℞ TYPE 1 DRWY. LT. OF 188+05.00	02°56'00" L.A.					2
10+41.12	℞ TYPE 1 DRWY. RT. OF 188+05.00	02°01'16" R.A.	3.1	54.0	54.8	2	
TOTALS			3.1	54.0	54.8	2	2
PAY TOTALS			3	54	55	2	2

EMBANKMENT PROTECTION							
STATION	STATION	TYPE 2 ROCK BLANKET			PERMANENT EROSION CONTROL GEOTEXTILE (SQ. YD.)	REMARKS	
		THICKNESS (FT.)	FURNISH (CU. YD.)	PLACING (CU. YD.)			
180+85.93	181+60.19	2.0	377.8	377.8	655.9	WEST SPILL FILL	
183+95.41	184+71.61	2.0	458.7	458.7	787.7	EAST SPILL FILL	
TOTALS			836.5	836.5	1443.6		
PAY TOTALS			837	837	*		

*SEE GEOTEXTILE TABLE FOR PAY TOTAL

ROCK DITCH LINER																	
DESCRIPTION	STATION	STATION	LOCATION	LENGTH (FT.)	ROCK DITCH LINER								BEDDING MATERIAL FOR ROCK DITCH LINER		PERMANENT EROSION CONTROL GEOTEXTILE (SQ. YD.)	REMARKS	
					END AREA (SQ. FT.)		TYPE 1 (CU. YD.)		TYPE 2 (CU. YD.)		TYPE 3 (CU. YD.)		END AREA (SQ. FT.)				(CU. YD.)
					BEGIN	END	FURNISH	PLACING	FURNISH	PLACING	FURNISH	PLACING	BEGIN	END			
DRAIN FLUMES	180+93.17	--	RT.	16.71	2.48	2.48	1.5	1.5								10.8	
	181+01.94	--	LT.	16.66	2.48	2.48	1.5	1.5								10.7	
	184+55.62	--	RT.	16.43	2.48	2.48	1.5	1.5								10.6	
	184+64.39	--	LT.	16.47	2.48	2.48	1.5	1.5								10.6	
NORTHEAST DITCH	183+40.00	183+70.16	LT.	30.16	30.56	46.37					43.0	43.0	11.11	16.86	15.6	89.0	29" TREATMENT DEPTH
	183+70.16	184+31.25	LT.	61.09	46.37	46.37					104.9	104.9	16.86	16.86	38.1	211.4	29" TREATMENT DEPTH
	184+31.25	184+57.00	LT.	25.75	33.08	33.08					31.5	31.5	12.03	12.03	11.5	67.3	29" TREATMENT DEPTH; ROCK BLANKET ON FORESLOPE
	184+57.00	184+71.19	LT.	14.19	19.92	19.92			10.5	10.5						33.9	38" TREATMENT DEPTH; ROCK BLANKET ON FORESLOPE
	184+71.19	187+74.14	LT.	302.95	29.42	29.42			330.1	330.1						1095.3	38" TREATMENT DEPTH
TOTALS							6.0	6.0	340.6	340.6	179.4	179.4			65.2	1539.6	
PAY TOTALS							6	6	341	341	179	179			65	*	

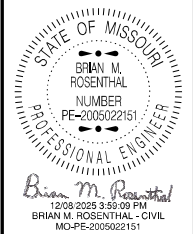
*SEE GEOTEXTILE TABLE FOR PAY TOTAL

STONE FOR BANK STABLIZATION					
STATION	STATION	LOCATION	STONE FOR BANK STABILIZATION		REMARKS
			FURNISHING (CU. YD.)	PLACING (CU. YD.)	
0+35.00	--	℞ L.P.S.T.P.	353	353	BENDWAY WEIR NO. 1
0+36.86	2+10.89	℞ L.P.S.T.P.	494	494	L.P.S.T.P. SEGMENT B-E
2+13.07	--	℞ L.P.S.T.P.	375	375	BENDWAY WEIR NO. 2
2+14.81	4+62.57	℞ L.P.S.T.P.	821	821	L.P.S.T.P. SEGMENT E-H
4+65.12	--	℞ L.P.S.T.P.	484	484	BENDWAY WEIR NO. 3
4+67.05	6+62.00	℞ L.P.S.T.P.	703	703	L.P.S.T.P. SEGMENT H-K
6+64.01	--	℞ L.P.S.T.P.	418	418	BENDWAY WEIR NO. 4
6+66.07	8+60.16	℞ L.P.S.T.P.	767	767	L.P.S.T.P. SEGMENT K-N
8+62.29	--	℞ L.P.S.T.P.	364	364	BENDWAY WEIR NO. 5
8+64.35	10+59.68	℞ L.P.S.T.P.	765	765	L.P.S.T.P. SEGMENT N-Q
10+61.83	--	℞ L.P.S.T.P.	512	512	BENDWAY WEIR NO. 6
10+63.75	11+73.75	℞ L.P.S.T.P.	432	432	L.P.S.T.P. SEGMENT Q-S
PAY TOTALS			6488	6488	

WILLOW STAKES					
STATION	STATION	LOCATION	LENGTH (FT.)	WILLOW STAKES (EACH)	REMARKS
0+36.86	2+10.89	℞ L.P.S.T.P.	174.03	349	L.P.S.T.P. SEGMENT B-E
2+14.81	4+62.57	℞ L.P.S.T.P.	247.76	497	L.P.S.T.P. SEGMENT E-H
4+67.05	6+62.00	℞ L.P.S.T.P.	194.95	391	L.P.S.T.P. SEGMENT H-K
6+66.07	8+60.16	℞ L.P.S.T.P.	194.09	389	L.P.S.T.P. SEGMENT K-N
8+64.35	10+59.68	℞ L.P.S.T.P.	195.33	392	L.P.S.T.P. SEGMENT N-Q
10+63.75	11+73.75	℞ L.P.S.T.P.	110.00	221	L.P.S.T.P. SEGMENT Q-S
PAY TOTAL				2239	

TURF REINFORCEMENT MAT								
DESCRIPTION	STATION	STATION	LOCATION	LENGTH (FT.)	WIDTH (FT.)		TYPE 2 TURF REINFORCEMENT MAT (SQ. YD.)	REMARKS
					BEGIN	END		
SOUTHWEST DITCH	179+30.00	179+80.00	RT.	50.00	13.87	16.29	83.8	17" TREATMENT DEPTH
	179+80.00	180+32.98	RT.	52.98	16.29	16.29	95.9	17" TREATMENT DEPTH
	180+32.98	180+86.12	RT.	53.14	14.83	14.83	87.6	14" TREATMENT DEPTH
	180+86.12	181+27.58	RT.	41.46	11.14	11.14	51.3	14" TREATMENT DEPTH; ROCK BLANKET ON FORESLOPE
	181+27.58	181+71.67	RT.	44.09	14.83	14.83	72.7	14" TREATMENT DEPTH
	181+71.67	181+80.19	RT.	8.52	14.83	0.00	7.0	14" TREATMENT DEPTH
NORTHWEST DITCH	179+80.00	180+32.98	LT.	52.98	16.29	16.29	95.9	17" TREATMENT DEPTH
	180+32.98	180+95.05	LT.	62.07	14.83	14.83	102.3	14" TREATMENT DEPTH
	180+95.05	181+59.66	LT.	64.61	11.14	11.14	80.0	14" TREATMENT DEPTH; ROCK BLANKET ON FORESLOPE
	181+59.66	182+31.09	LT.	71.43	14.83	14.83	117.7	14" TREATMENT DEPTH
	182+31.09	182+36.38	LT.	5.29	14.83	0.00	4.4	14" TREATMENT DEPTH
SOUTHEAST DITCH	183+03.33	183+12.96	RT.	9.63	0.00	14.83	7.9	14" TREATMENT DEPTH
	183+12.96	183+95.93	RT.	82.97	14.83	14.83	136.7	14" TREATMENT DEPTH
	183+95.93	184+61.53	RT.	65.60	11.14	11.14	81.2	14" TREATMENT DEPTH; ROCK BLANKET ON FORESLOPE
	184+61.53	185+11.53	RT.	50.00	14.83	14.83	82.4	14" TREATMENT DEPTH
TOTALS							1106.8	
PAY TOTALS							1107	

GEOTEXTILE	
DESCRIPTION	PERMANENT EROSION CONTROL GEOTEXTILE (SQ. YD.)
FROM 'EMBANKMENT PROTECTION' TABLE	1443.6
FROM 'ROCK DITCH LINER' TABLE	1539.6
TOTAL	2983.2
PAY TOTAL	2983



DATE PREPARED
12/5/2025

ROUTE
VV

STATE
MO

DISTRICT
NW

SHEET NO.
3

COUNTY
NODAWAY

JOB NO.
JNW0046

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)

DITCH CHECKS						
STATION	STATION	LOCATION	SPACING (FT.)	LENGTH PER CHECK (LIN. FT.)	NUMBER OF CHECKS (EACH)	ROCK DITCH CHECK (LIN. FT.)
179+95.29	--	LT.	--	19.0	1	19.0
180+67.93	181+09.76	LT.	41.83	19.0	2	38.0
181+41.49	182+31.49	LT.	30.00	19.0	4	76.0
183+44.83	183+76.71	LT.	31.88	23.0	2	46.0
184+08.61	--	LT.	--	23.0	1	23.0
184+61.42	185+72.07	LT.	110.65	23.0	2	46.0
186+88.23	--	LT.	--	23.0	1	23.0
180+05.90	--	RT.	--	19.0	1	19.0
180+74.25	181+14.17	RT.	39.92	19.0	2	38.0
181+45.30	181+75.30	RT.	30.00	19.0	2	38.0
183+08.22	183+98.22	RT.	30.00	19.0	4	76.0
184+29.63	184+76.26	RT.	46.63	19.0	2	38.0
186+53.92	--	RT.	--	19.0	1	19.0
TOTAL						499.0
PAY TOTAL						499

MULCHING AND SEEDING								
STATION	STATION	LOCATION	ADDITIONAL MOBILIZATION FOR SEEDING (EACH)	MULCHING (ACRE)	SEEDING COOL SEASON GRASSES (ACRE)	SEEDING WARM SEASON GRASSES (ACRE)	TEMPORARY SEEDING (ACRE)	REMARKS
179+25.00	182+59.10	LT.	4	0.16		0.16	0.16	DITCH BACKSLOPE
179+25.00	182+43.82	LT.		0.32	0.32			
179+25.00	182+22.83	RT.		0.28	0.28			
179+25.00	181+90.51	RT.		0.10		0.10	0.10	DITCH BACKSLOPE
180+90.73	181+10.12	RT.		0.01	0.01			
180+99.66	181+20.74	LT.		0.01	0.01			
182+51.12	187+90.00	RT.		0.25		0.25	0.25	DITCH BACKSLOPE
182+53.01	187+90.00	RT.		0.58	0.58			
182+66.06	184+32.36	LT.		0.30	0.30			
183+19.92	187+90.00	LT.		0.27		0.27	0.27	DITCH BACKSLOPE
184+30.00	191+40.00	LT.		6.60		6.60	6.60	STREAMBANK STABILIZATION*
184+36.98	184+57.16	RT.		0.01	0.01			
184+47.59	184+66.09	LT.		0.01	0.01			
184+66.19	187+90.00	LT.		0.35	0.35			
188+20.00	188+85.00	LT.		0.03		0.03	0.03	DITCH BACKSLOPE
188+20.00	188+85.00	LT.		0.08	0.08			
188+20.00	188+85.00	RT.		0.04	0.04			
188+20.00	188+85.00	RT.		0.02		0.02	0.02	DITCH BACKSLOPE
TOTALS			4	9.42	1.99	7.43	7.43	
PAY TOTALS			4	9.4	2.0	7.4	7.4	

* QUANTITY SHOWN IS THE ENTIRITY OF THE TEMPORARY EASEMENT (STREAMBANK STABILIZATION) THAT LIES EAST OF THE PLATTE RIVER.

PAVEMENT MARKING						
STATION	STATION	LOCATION	LENGTH (FT.)	4 IN. YELLOW CLASS 1 PAVEMENT MARKING PAINT (18-MIL, TYPE P BEADS) (LIN. FT.)	PAVEMENT MARKING REMOVAL (LIN. FT.)	REMARKS
176+22.10	189+33.42	☺	1311.32	2622.6		DOUBLE SOLID YELLOW CENTERLINE
178+58.00	179+30.00	LT. & RT.	72.00		144.0	EXISTING EDGE LINES
TOTALS				2622.6	144.0	
PAY TOTALS				2623	144	

SILT FENCE				
STATION	STATION	LOCATION	SILT FENCE (LIN. FT.)	REMARKS
179+25.00	181+29.10	LT. & RT.	470.5	MID-SLOPE
183+70.10	187+72.51	LT.	411.9	MID-SLOPE
184+07.07	186+52.10	LT.	257.4	MID-SLOPE
184+27.39	187+90.00	LT. & RT.	710.8	MID-SLOPE
184+31.33	191+29.38	LT.	3172.0	STREAMBANK STABILIZATION - PERIMETER
188+20.00	188+85.00	LT.	115.5	MID-SLOPE
TOTAL			5138.1	
PAY TOTAL			5138	

TEMPORARY BERMS				
STATION	LOCATION	STATION	LOCATION	TYPE C BERM (LIN. FT.)
181+80.73	86.54' RT.	182+46.48	95.12' LT.	194.4
182+55.43	98.92' RT.	183+58.30	134.38' LT.	270.9
TOTAL				465.3
PAY TOTAL				465

SEDIMENT REMOVAL		
DESCRIPTION	SEDIMENT REMOVAL (CU. YD.)	REMARKS
25 EA. ROCK DITCH CHECKS	25.0	EST. 1 C.Y./DITCH CHECK
5138 LIN. FT. SILT FENCE	51.4	EST. 1 C.Y./100 L.F. SILT FENCE
465 LIN. FT. TYPE C BERM	4.7	EST. 1 C.Y./100 L.F. TYPE C BERM
TOTAL		81.1
PAY TOTAL		81



DATE PREPARED 12/5/2025	
ROUTE VV	STATE MO
DISTRICT NW	SHEET NO. 3
COUNTY NODAWAY	
JOB NO. JNW0046	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

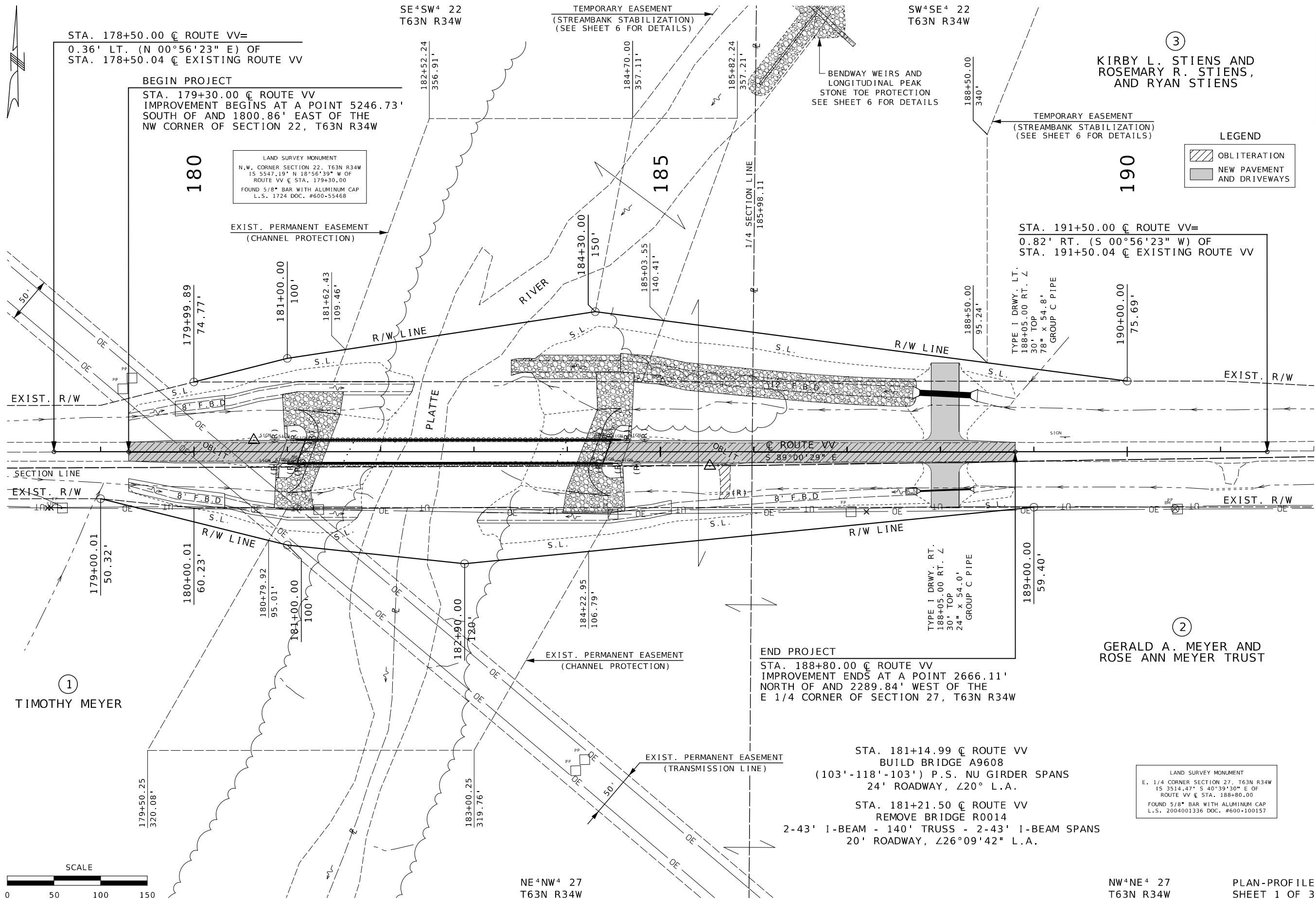
DESCRIPTION									

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



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

SIGN	SIZE	AREA	QTY	TOTAL AREA	RELOC	RELOC	SIGN	DESCRIPTION	SIGN	SIZE	AREA	QTY	TOTAL	RELOC	RELOC	SIGN	DESCRIPTION	ITEM	TOTAL	EFFECTIVE: 07-01-2025			
IN.	IN.	SQ. FT.	EACH	SQ. FT.	EACH	SQ. FT.	NO.		IN.	SQ. FT.	EACH	SQ. FT.	EACH	SQ. FT.	NO.			NUMBER	QTY	DESCRIPTION			
WARNING SIGNS									GUIDE SIGNS									6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)			
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT)	E05-1	36X48	12.00						GORE EXIT	6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)			
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT)	E05-2	48X36	12.00						EXIT OPEN	6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)			
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT)	E05-2a	48X36	12.00						EXIT CLOSED	6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)			
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT)	GO20-1	60X24	10.00						ROAD WORK NEXT XX MILES	6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)			
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT)	GO20-2	48X24	8.00						END ROAD WORK	6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)			
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT)	GO20-4	36X18	4.50						PILOT CAR FOLLOW ME	6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)			
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT)	GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW	6122020		REPLACEMENT SAND BARREL			
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT)	GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW	6122030		IMPACT ATTENUATOR (RELOCATION)			
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)	GO20-5aP	36X24	6.00						WORK ZONE (PLAQUE)	6122040		WORK ZONE CRASH CUSHION (NARROW)			
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)	MO4-8a	24X18	3.00						END DETOUR	6122041		WORK ZONE CRASH CUSHION (RELOCATION)			
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)	MO4-9L	48X36	12.00						DETOUR (LEFT)	6123001		TRUCK MOUNTED ATTENUATOR (TMA)			
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)	MO4-9R	48X36	12.00						DETOUR (RIGHT)	6161012		BUOYS (BOATS KEEP OUT)			
WO1-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)	MO4-9P	48X12	4.00						STREET NAME (PLAQUE)	6161013		BUOYS (NO WAKE)			
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)	MO4-10L	48X18	6.00						DETOUR ARROW (LEFT)	6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)			
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)	MO4-10R	48X18	6.00						DETOUR ARROW (RIGHT)	6161020		CHANNELIZER (DRUM-LIKE)			
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)	REGULATORY SIGNS									6161022		CHANNELIZER (CONE)			
WO1-8	18X24	3.00						CHEVRON (SYMBOL)	R1-1	48X48	13.25						STOP	6161025		CHANNELIZER (TRIM-LINE)			
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)	R1-2	48TRI.	6.93						YIELD	6161026		CHANNELIZER (VERTICAL PANEL)			
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)	R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)	6161030	10*	TYPE 3 MOVEABLE BARRICADE			
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)	R1-3P	30X12	2.50						ALL WAY (PLAQUE)	6161033		DIRECTION INDICATOR BARRICADE			
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)	R2-1	36X48	12.00						SPEED LIMIT XX	6161040		FLASHING ARROW PANEL			
WO3-4	48X48	16.00						BE PREPARED TO STOP	R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)	6161047		TYPE 3 OBJECT MARKER			
WO3-5	48X48	16.00						SPEED LIMIT AHEAD	R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)	6161055		SEQUENTIAL FLASHING WARNING LIGHT			
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)	R3-3	36X36	9.00						NO TURNS	6161070		TUBULAR MARKER			
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)	R3-4	48X48	16.00						NO U-TURN (SYMBOL)	6161095		RADAR SPEED ADVISORY SYSTEM			
WO4-1aL	48X48	16.00						MERGE (LEFT)	R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT	6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED			
WO4-1aR	48X48	16.00						MERGE (RIGHT)	R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT			CHANGEABLE MESSAGE SIGN WITHOUT COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED			
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS	R4-1	36X48	12.00						DO NOT PASS	6161098A		CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED			
WO5-3	48X48	16.00						ONE LANE BRIDGE	R4-2	36X48	12.00						PASS WITH CARE			CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED			
WO5-5	48X48	16.00						NARROW LANES	R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)	6161099		WORK ZONE TRAFFIC SIGNAL SYSTEM			
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)	R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)			TEMPORARY LONG-TERM RUMBLE STRIPS			
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)	R5-1	30X30	6.25						DO NOT ENTER	6162000A		TEMPORARY TRAFFIC BARRIER, CONTRACTOR FURNISHED/RETAINED			
WO6-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)	R5-1a	36X24	6.00						WRONG WAY	6162002		TEMP. TRAFFIC BARRIER ANCHORED, CONTRACTOR FURNISHED/RETAINED			
WO7-3a	30X24	5.00						NEXT XX MILES (PLAQUE)	R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)	6173600D		TEMP. TRAFFIC BARRIER STIFFNESS TRANSITION CONTRACTOR FURNISHED/RETAINED			
WO8-1	48X48	16.00						BUMP	R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)			TEMP. TRAFFIC BARRIER HEIGHT TRANSITION, CONTRACTOR FURNISHED/RETAINED			
WO8-2	48X48	16.00						DIP	R6-2L	24X30	5.00						ONE WAY (LEFT)	6173700B		RELOCATING TEMP. TRAFFIC BARRIER			
WO8-3	48X48	16.00						PAVEMENT ENDS	R6-2R	24X30	5.00						ONE WAY (RIGHT)			RELOCATING TEMP. TRAFFIC BARRIER ANCHORED			
WO8-4	48X48	16.00						SOFT SHOULDER	R9-9	24X12	2.00						SIDEWALK CLOSED	6173706		TEMPORARY RAISED PAVEMENT MARKER			
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)	R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE			TEMPORARY TRAFFIC SIGNALS			
WO8-6	48X48	16.00						TRUCK CROSSING	R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE	6174000A		TEMPORARY TRAFFIC SIGNALS AND LIGHTING			
WO8-6c	48X48	16.00						TRUCK ENTRANCE	R10-6	24X36	6.00						STOP HERE ON RED (45° ARROW)						
WO8-7	36X36	9.00						LOOSE GRAVEL	R11-2	48X30	10.00	2	20.00			29	ROAD CLOSED	6175013					
WO8-7a	36X36	9.00						FRESH OIL / LOOSE GRAVEL	R11-3a	60X30	12.50	1	12.50			55A	ROAD CLOSED 3 MILES AHEAD LOCAL TRAFFIC ONLY	6175020A					
WO8-9	48X48	16.00						LOW SHOULDER	R11-3a	60X30	12.50	1	12.50			55B	ROAD CLOSED 1/2 MILE AHEAD LOCAL TRAFFIC ONLY	6208064A					
WO8-11	48X48	16.00						UNEVEN LANES	R11-3a	60X30	12.50	1	12.50			55C	ROAD CLOSED 2 MILES AHEAD LOCAL TRAFFIC ONLY	9029400					
WO8-12	48X48	16.00						NO CENTER LINE	R11-4	60X30	12.50						ROAD CLOSED TO THRU TRAFFIC	9029401					
WO8-15	48X48	16.00						GROOVED PAVEMENT	CONST-3A	60X48	20.00						FINE SIGN						
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)	CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)						
WO8-17L	48X48	16.00						SHOULDER DROP-OFF (SYMBOL LEFT)	MISCELLANEOUS SIGNS														
WO8-17R	48X48	16.00						SHOULDER DROP-OFF (SYMBOL RIGHT)	CONST-5	48X36	12.00						POINT OF PRESENCE						
WO8-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)	CONST-5	96X48	32.00						POINT OF PRESENCE						
WO10-1	42RND.	9.62						RAILROAD CROSSING	CONST-8	48X36	12.00						WORK ZONE NO PHONE ZONE						
WO12-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)															
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)															
WO12-2x	24X18	3.00						LOW CLEARANCE (PLAQUE)															
WO12-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)															
WO12-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD															
WO12-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD															
WO13-1	30X30	6.25						ADVISORY SPEED (PLAQUE)															
WO16-2	30X24	5.00						XXX FEET (PLAQUE)															
WO16-3	30X24	5.00						X MILE (PLAQUE)															
WO20-1	48X48	16.00						ROAD/BRIDGE/RAMP WORK AHEAD															
WO20-2	48X48	16.00						DETOUR AHEAD															
WO20-3	48X48	16.00	2	32.00			20A	ROAD CLOSED 1000 FT	616-10.05				TOTAL					6169901	1	LUMP SUM TEMPORARY TRAFFIC CONTROL (*ITEM INCLUDED)			
WO20-3	48X48	16.00	2	32.00			20B	ROAD CLOSED 500 FT	CONSTRUCTION SIGNS				122*										
WO20-4	48X48	16.00						ONE LANE ROAD AHEAD	616-10.10					TOTAL									
WO20-5	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED AHEAD	RELOCATED SIGNS														
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															
GO22-1	21X15	2.19						WET PAINT (ARROW PIVOTS)															
																					SUMMARY OF QUANTITIES SHEET 4 OF 4		



DATE PREPARED	12/2/2025
ROUTE	VV
STATE	MO
DISTRICT	NW
SHEET NO.	4
COUNTY	NODAWAY
JOB NO.	JNW0046
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)

KIRBY L. STIENS AND
ROSEMARY R. STIENS,
AND RYAN STIENS

GERALD A. MEYER AND
ROSE ANN MEYER TRUST

- LEGEND
- OBLITERATION
 - NEW PAVEMENT AND DRIVEWAYS

LAND SURVEY MONUMENT
E. 1/4 CORNER SECTION 27, T63N R34W
15 3514.47' S 40°39'30" E OF
ROUTE VV @ STA. 188+80.00
FOUND 5/8" BAR WITH ALUMINUM CAP
L.S. 2004001336 DOC. #600-100157



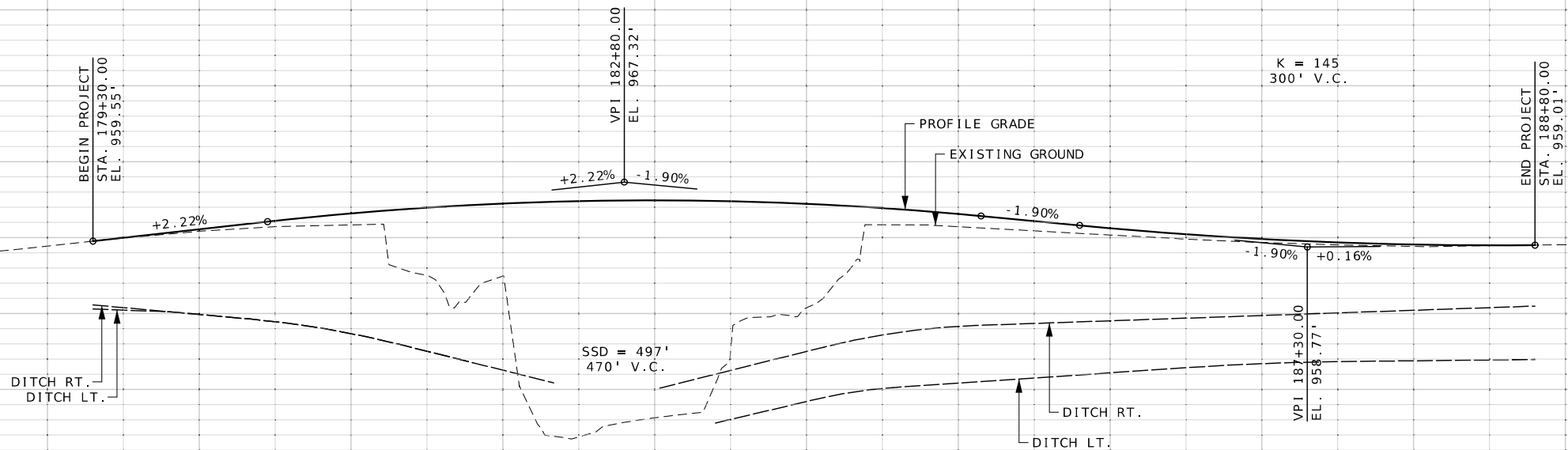
ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

RIGHT OF WAY LIMITS FOR THIS PROJECT EXTEND FROM STA. 179+00.01 TO STA. 191+40.00, A DISTANCE OF 0.235 MILE.

ALL BEARINGS SHOWN ARE MODIFIED STATE PLANE BEARINGS, WEST ZONE.

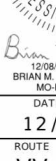
DRIVEWAYS						
STATION	LOCATION	TYPE	SKREW	GRADE	SURFACE	PIPE
188+05.00	LT.	30' TYPE I	RT. $\angle$	+9.87%	AGGREGATE	78" x 54.8' GROUP C
188+05.00	RT.	30' TYPE I	RT. $\angle$	-9.83%	AGGREGATE	24" x 54.0' GROUP C

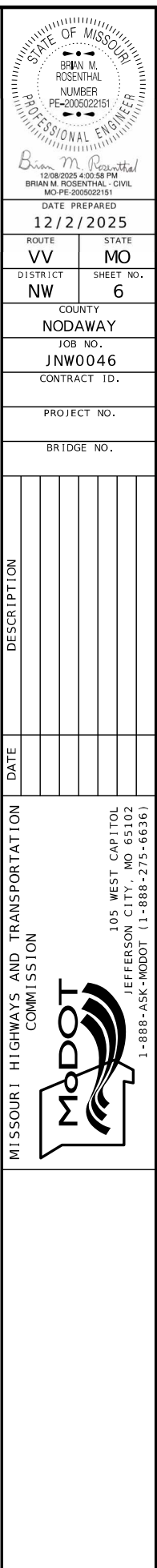
BENCHMARKS (NAVD88)	
BM 300	- 5/8" REBAR WITH ALUMINUM CAP STAMPED CLS 2005013257; 56.01' RT. OF STA. 172+24.92 @ EXISTING ROUTE VV; EL. 954.89'
BM 301	- CUT SQUARE ON TOP OF THE SOUTHWEST ABUTMENT OF BRIDGE R0014; 12.20' RT. OF STA. 181+15.79 @ ROUTE VV; EL. 962.59'
BM 302	- CUT SQUARE ON TOP OF THE NORTHEAST ABUTMENT OF BRIDGE R0014; 12.13' LT. OF STA. 184+44.14 @ ROUTE VV; EL. 962.59'
BM 303	- 5/8" REBAR WITH ALUMINUM CAP STAMPED CLS 2005013257; 61.95' RT. OF STA. 190+51.31 @ EXISTING ROUTE VV; EL. 956.04'



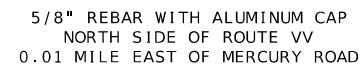
<u>UTILITY COMPANIES</u>	
AT&T DISTRIBUTION 320 NORTH 10TH STREET SAINT JOSEPH, MO 65401 (314) 275-0020	GRM NETWORKS 3406 MILLER STREET BETHANY, MO 64424 (660) 425-2225
UNITED ELECTRIC COOPERATIVE 401 N. HIGHWAY 71 SAVANNAH, MO 64485 (816) 324-3155	NW ELECTRIC POWER COOPERATIVE, INC. 1001 W. GRAND AVENUE P.O. BOX 565 CAMERON, MO 64429 (816) 649-1772

PLAN-PROFILE
SHEET 2 OF 3

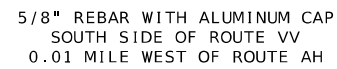
	
<i>Brian M. Rosenthal</i> BRIAN M. ROSENTHAL - CIVIL MO-PE-2005022151	
DATE PREPARED 12/5/2025	
ROUTE VV	STATE MO
DISTRICT NW	SHEET NO. 5
COUNTY NODAWAY	
JOB NO. JNW0046	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



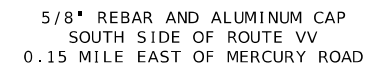
```
N = 1484473.34
E = 2726189.78
EL. 976.94'
```



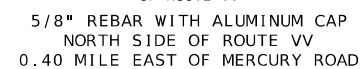
```
N = 1484365.00
E = 2730876.91
EL. 958.77'
```



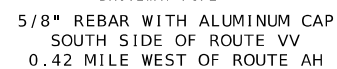
```
N = 1484418.95
E = 2726936.29
EL. 954.00'
```



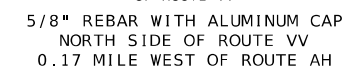
N = 1484446.71
E = 2728216.38
EL. 960.46'



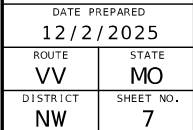
N = 1484410.74
E = 2728704.43
EL. 959.55'



N = 1484427.31
E = 2730074.38
EL. 955.97'



REFERENCE POINTS
SHEET 1 OF 1



JOB NO.
JNW0046

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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 MULTIPLY THE PROJECT COORDINATES BY THE AVERAGE GRID FACTOR AS SHOWN IN THE "REFERENCE CONTROL INFORMATION" PORTION OF THIS TABLE.		
PROJECT COORDINATE INFORMATION		
COORDINATE SYSTEM	MISSOURI STATE PLANE, WEST ZONE	
HORIZONTAL DATUM	NAD83	
VERTICAL DATUM	NAVD88	
GEOID MODEL	GEOID 18	
ELEVATIONS DETERMINED BY	BARTLETT & WEST RAN TWO 4-HOUR OPUS SOLUTIONS FOR CONTROL POINT 102. OPUS SOLUTIONS WERE AVERAGED AND HELD FOR CONTROL POINTS 100 AND 101. LEVEL LOOPS WERE RAN FROM CONTROL POINT 100 THROUGH THE REMAINING CONTROL POINTS.	
PROJECT PROJECTION FACTOR		1.00009597
REFERENCE CONTROL INFORMATION		
COORDINATE SYSTEM	MO COORDINATE SYSTEM OF 1983	
CONTROL STATION	MISSOURI CORS	
DESIGNATION	MODOT MARYVILLE CORS ARP	
CORS_ID	MOMV	
PID	DM4124	
LATITUDE	N40°21'29.38579"	
LONGITUDE	W94°50'48.02143"	
NORTHING (M)	465292.955	
EASTING (M)	820553.240	
ZONE	WEST	
PROJECT AVERAGE GRID FACTOR		0.99990404
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 #100 N 1484473.34 X 0.99990404 = N 1484330.89 E 2726189.78 X 0.99990404 = E 2725928.17		
LINEAR UNIT CONVERSION		
1 METER = 3.280833333 US SURVEY FEET (USFT)		

COORDINATE POINT LISTING							
NAME	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND)			DESCRIPTION
				NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)	
PROJECT CONTROL POINTS							
100	160+37.76	☒ EXISTING VV	25.69' LT.	1,484,473.34	2,726,189.78	976.94	5/8" REBAR WITH ALUMINUM CAP
200	167+83.90	☒ EXISTING VV	33.61' RT.	1,484,418.95	2,726,936.29	954.00	5/8" REBAR WITH ALUMINUM CAP
300	172+24.92	☒ EXISTING VV	56.01' RT.	1,484,391.99	2,727,376.12	954.89	5/8" REBAR WITH ALUMINUM CAP
201	180+64.12	☒ PROPOSED VV	12.32' LT.	1,484,446.71	2,728,216.38	960.46	5/8" REBAR WITH ALUMINUM CAP
301	181+15.79	☒ PROPOSED VV	12.20' RT.	1,484,421.31	2,728,267.62	962.59	CUT SQUARE ON TOP OF BR. R0014 SW ABUTMENT
302	184+44.14	☒ PROPOSED VV	12.13' LT.	1,484,439.94	2,728,596.35	962.59	CUT SQUARE ON TOP OF BR. R0014 NE ABUTMENT
202	185+52.71	☒ PROPOSED VV	15.20' RT.	1,484,410.74	2,728,704.43	959.55	5/8" REBAR WITH ALUMINUM CAP
303	190+51.32	☒ PROPOSED VV	61.21' RT.	1,484,356.10	2,729,202.16	956.04	5/8" REBAR WITH ALUMINUM CAP
203	199+22.65	☒ EXISTING VV	23.16' LT.	1,484,427.31	2,730,074.38	955.97	5/8" REBAR WITH ALUMINUM CAP
101				1,484,365.00	2,730,876.91	958.77	5/8" REBAR WITH ALUMINUM CAP
ALIGNMENTS							
EX_☒_ROUTE_VV	160+14.00			1,484,447.50	2,726,166.18		START
	169+00.00			1,484,453.32	2,727,052.16		P.I.
	199+00.00			1,484,404.12	2,730,051.76		P.I.
	205+00.00			1,484,404.75	2,730,651.76		END
PR_☒_ROUTE_VV	178+50.00			1,484,438.10	2,728,002.08		START
	191+50.00			1,484,415.60	2,729,301.89		END
DRWY_18805_LT	8+75.00			1,484,546.55	2,728,959.10		START
	10+00.00			1,484,421.57	2,728,956.94		END
DRWY_18805_RT	10+00.00			1,484,421.57	2,728,956.94		START
	11+25.00			1,484,296.59	2,728,954.77		END
LPSTP	0+00.00			1,485,881.75	2,729,135.45		START
	0+35.00			1,485,846.76	2,729,135.20		P.O.T.
	2+13.07			1,485,668.69	2,729,133.97		P.I.
	4+65.12			1,485,417.62	2,729,111.78		P.I.
	6+64.01			1,485,234.17	2,729,034.93		P.I.
	8+62.29			1,485,056.80	2,728,946.31		P.I.
	10+61.83			1,484,896.13	2,728,827.98		P.I.
	11+61.83			1,484,818.42	2,728,765.04		P.O.T.
	12+00.00			1,484,788.76	2,728,741.01		END
WEIR_1	0+00.00			1,485,870.98	2,729,112.79		START
	0+33.00			1,485,846.76	2,729,135.20		P.I.
	1+01.09			1,485,833.41	2,729,201.98		END
WEIR_2	0+00.00			1,485,689.83	2,729,100.01		START
	0+40.00			1,485,668.69	2,729,133.97		P.I.
	1+04.86			1,485,654.52	2,729,197.27		END
WEIR_3	0+00.00			1,485,435.67	2,729,076.09		START
	1+03.54			1,485,388.94	2,729,168.48		END
WEIR_4	0+00.00			1,485,242.80	2,729,014.69		START
	0+76.75			1,485,212.71	2,729,085.30		END
WEIR_5	0+00.00			1,485,072.24	2,728,922.95		START
	0+83.24			1,485,026.34	2,728,992.39		END
WEIR_6	0+00.00			1,484,921.07	2,728,802.02		START
	0+90.20			1,484,858.59	2,728,867.07		END

STATE OF MISSOURI

BRIAN M. ROSENTHAL

NUMBER
PE-2005022151

PROFESSIONAL ENGINEER

Brian M. Rosenthal

12/08/2025 4:01:47 PM

BRIAN M. ROSENTHAL - CIVIL

MO-PE-2005022151

DATE PREPARED

12/2/2025

ROUTE
VV

STATE
MO

DISTRICT
NW

SHEET NO.
8

COUNTY

NODAWAY

JOB NO.

JNW0046

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

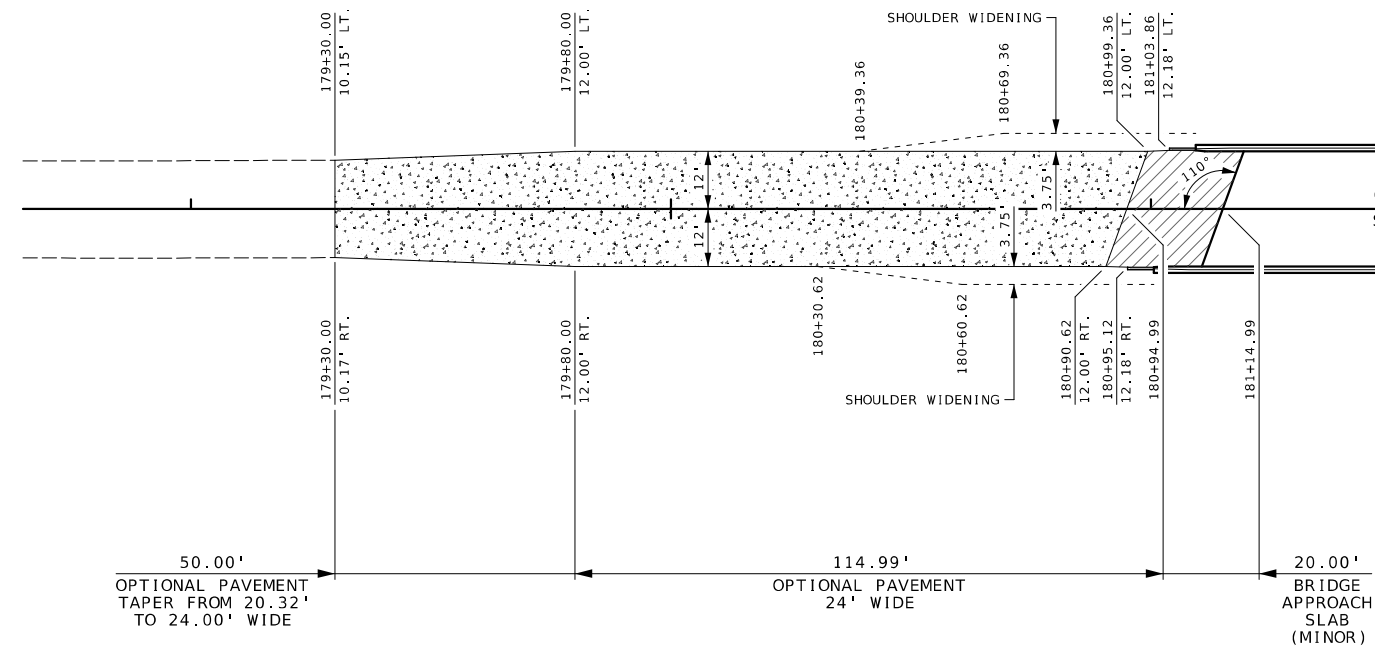
JEFFERSON CITY, MO 65102

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

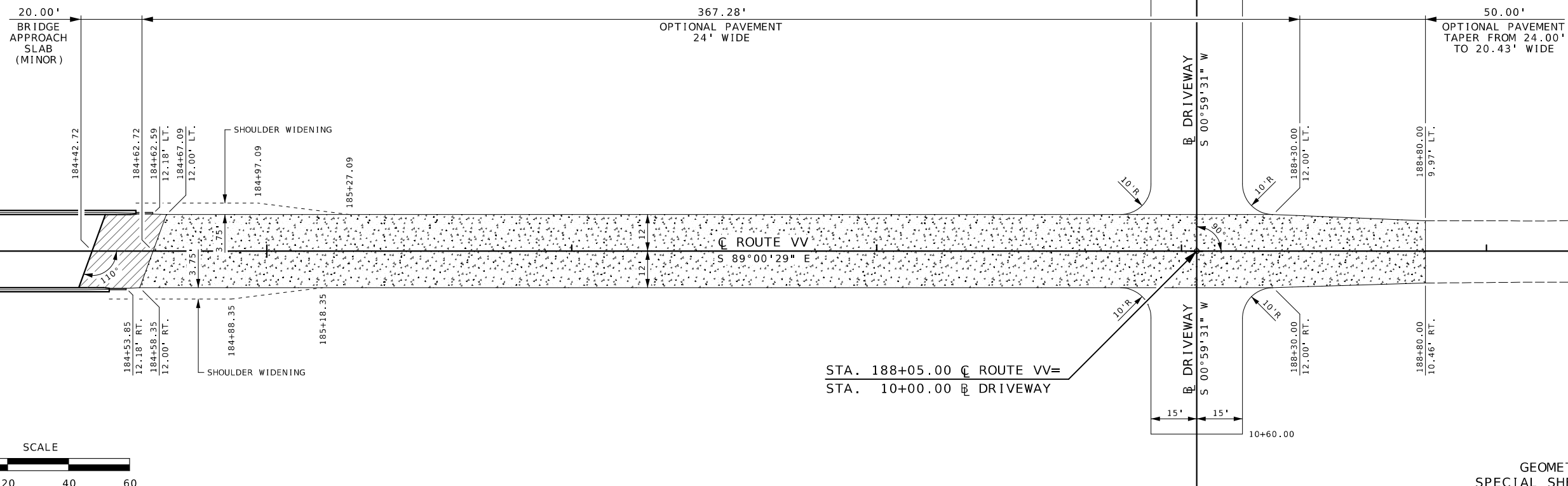


SCALE

0 20 40 60



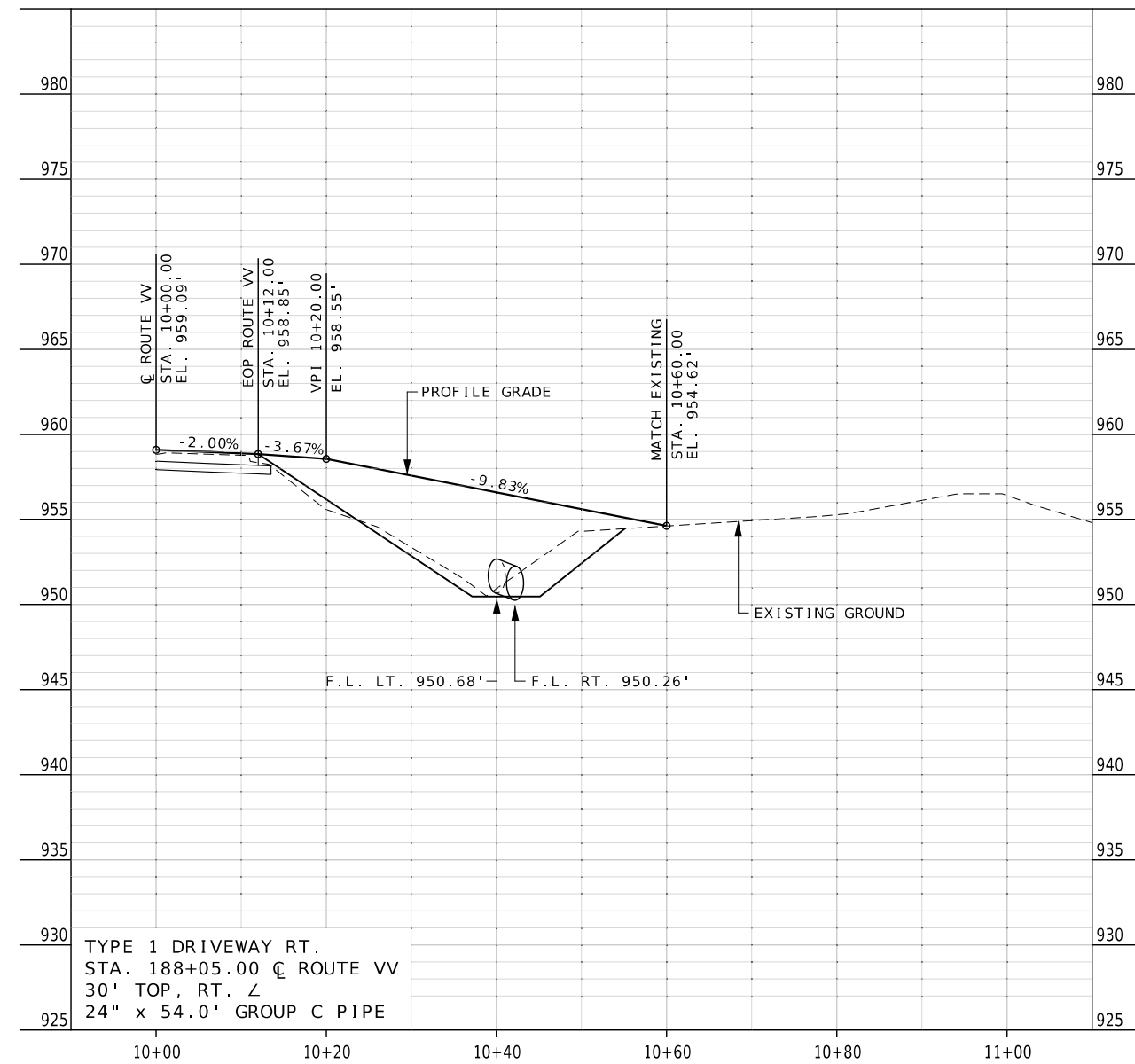
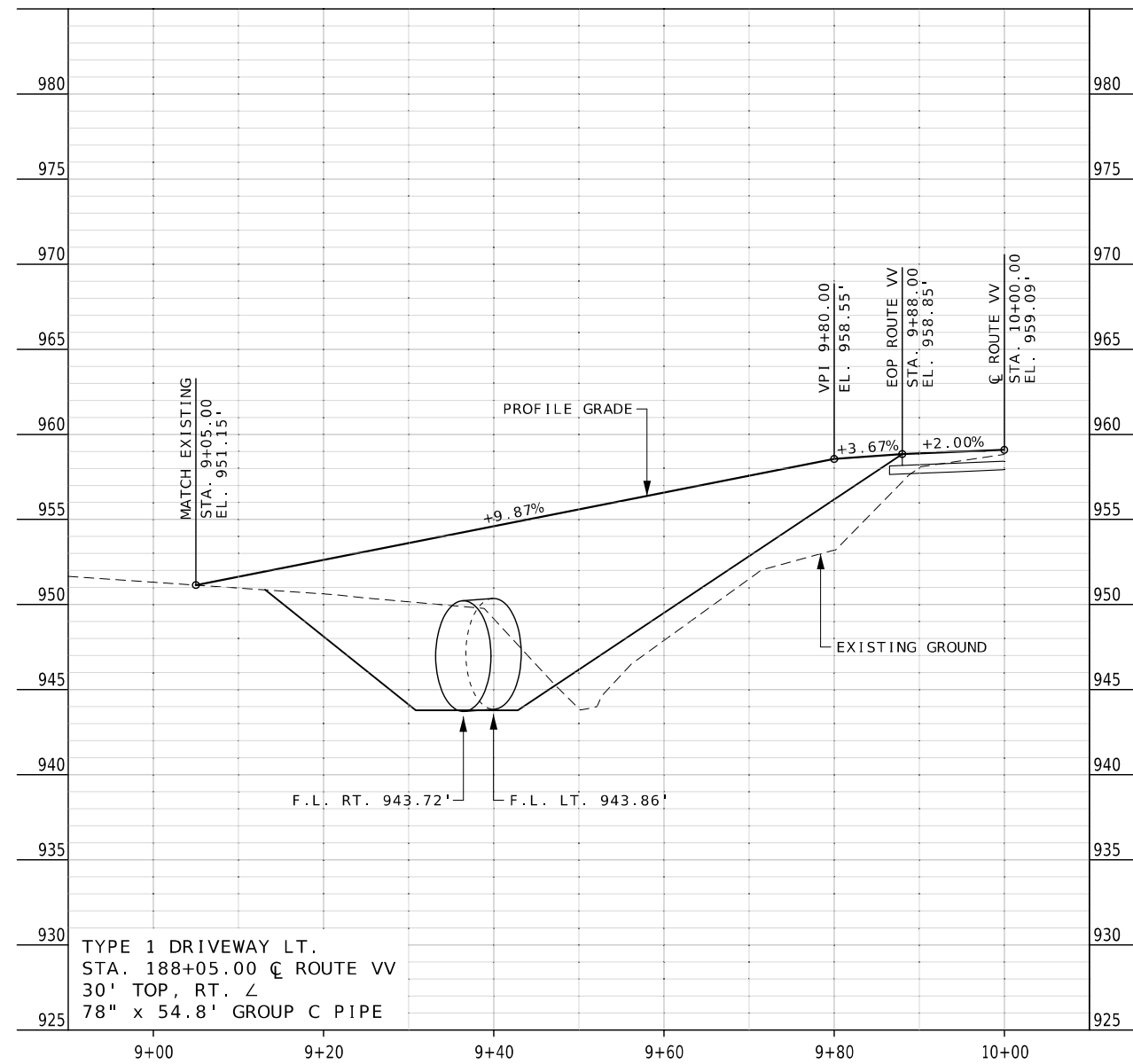
185



GEOMETRICS
SPECIAL SHEET 1 OF 2

MATCHLINE STA. 184+05.00

[illegible]



DRIVEWAY PROFILES
SPECIAL SHEET 2 OF 2

[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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



WO20-3
(20A)



WO20-3
(20B)



R11-2
(29)



R11-3a
(55A)

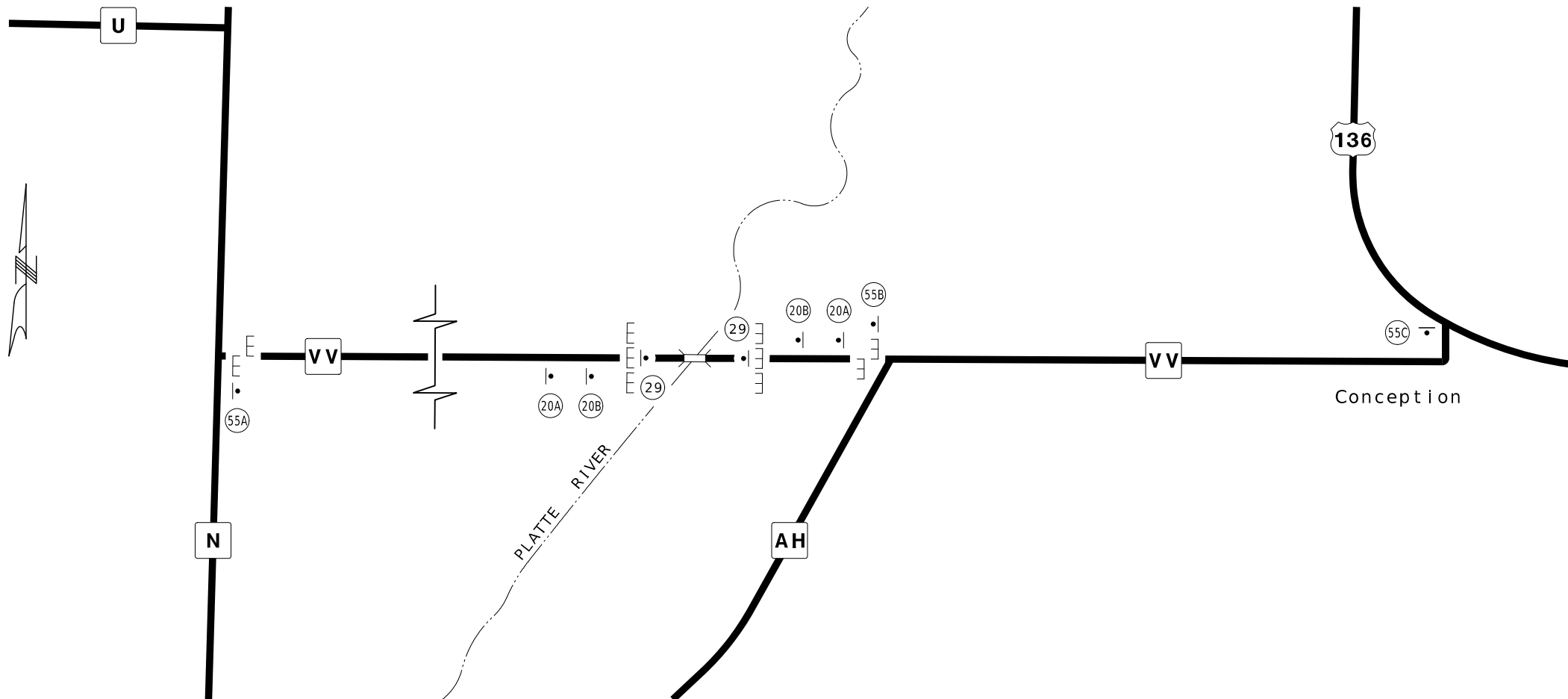


R11-3a
(55B)



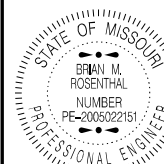
R11-3a
(55C)

E
MOVABLE
BARRICADE
XX
SIGN



NOT TO SCALE

TRAFFIC CONTROL
SHEET 1 OF 1



Brian M. Rosenthal
12/08/2025 4:02:46 PM
BRIAN M. ROSENTHAL - CIVIL
MO-PE-2008022151

DATE PREPARED
12/2/2025

ROUTE VV STATE MO

DISTRICT NW SHEET NO. 11

COUNTY
NODAWAY

JOB NO.
JNW0046

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

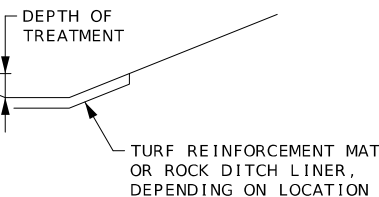
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)





175

TYPICAL SECTION
DITCH TREATMENT



BEGIN PROJECT
STA. 179+30.00 @ ROUTE VV

EXISTING ROUTE VV
S 89°03'37" E

PERMANENT EROSION
CONTROL LEGEND

- ROCK DITCH LINER
OR ROCK LINING
- ROCK BLANKET
- TURF REINFORCEMENT MAT

STA. 178+50.00 @ ROUTE VV=
0.36' LT. (N 00°56'23" E) OF
STA. 178+50.04 @ EXISTING ROUTE VV

TYPE 2 TURF
REINFORCEMENT MAT
17" TREATMENT DEPTH

180

TYPE 2 TURF
REINFORCEMENT MAT
14" TREATMENT DEPTH

DRAIN FLUME
(TYPE 1 ROCK DITCH LINER)

DRAIN FLUME
(TYPE 1 ROCK DITCH LINER)

TYPE 2 ROCK BLANKET (2' THICK)
WITH GEOTEXTILE
TOP EL. 958.76'

TYPE 2 TURF
REINFORCEMENT MAT
17" TREATMENT DEPTH

TYPE 2 TURF
REINFORCEMENT MAT
14" TREATMENT DEPTH

RIVER

PLATTE

MATCHLINE STA. 182+70.00

MATCHLINE STA. 182+70.00

PLATTE RIVER

TYPE 3 ROCK DITCH LINER
29" TREATMENT DEPTH

TYPE 2 ROCK DITCH LINER
38" TREATMENT DEPTH

185

190

TYPE 2 ROCK BLANKET (2' THICK)
WITH GEOTEXTILE
TOP EL. 958.76'

DRAIN FLUME
(TYPE 1 ROCK DITCH LINER)

DRAIN FLUME
(TYPE 1 ROCK DITCH LINER)

8' F.B.D.

3.1 C.Y. ROCK LINING
1' X 6' X 14'

188+05.00 RT.
24" DRIVEWAY PIPE

END PROJECT
STA. 188+80.00 @ ROUTE VV

TYPE 2 TURF REINFORCEMENT MAT
14" TREATMENT DEPTH

SCALE



PERMANENT EROSION CONTROL
SHEET 1 OF 1



Brian M. Rosenthal
12/08/2025 4:03:10 PM
BRIAN M. ROSENTHAL - CIVIL
MO-PE-2005022151

DATE PREPARED
12/2/2025

ROUTE VV STATE MO

DISTRICT NW SHEET NO. 12

COUNTY
NODAWAY

JOB NO.
JNW0046

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)

180

+25.00 —

— +39 10

44

MATCHLINE STA. 182+70.00

	ROCK DITCH CHECK
	SILT FENCE
	TYPE C BERM

MATCHLINE STA. 182+70.00

190

TEMPORARY EROSION CONTROL
SHEET 1 OF 1



Brian M. Rosenthal
12/08/2025 4:03:34 PM
BRIAN M. ROSENTHAL - CIVIL
MO RE 2005022151

DATE PREPARED
12/2/2025

ROUTE	STATE
VV	MO

DISTRICT NW	SHEET NO. 13
----------------	-----------------

13	13
COUNTY	
NODAWAY	

JOB NO.
LNW0046

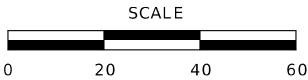
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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



OM3 - R
12"x36"

OM3 - R
12"x36"

OM3 - R
12"x36"

1

STA. 180+60.62
15.50' RT.

3

STA. 180+80.62
14.00' RT.

5

STA. 181+00.12
12.82' RT.

OM3 - L
12"x36"

OM3 - L
12"x36"

OM3 - L
12"x36"

2

STA. 180+69.36
15.50' LT.

4

STA. 180+89.36
14.00' LT.

6

STA. 181+08.86
12.82' LT.

PLATTE

RIVER

ROUTE VV
S 89°00'29" E

OM3 - L
12"x36"

OM3 - L
12"x36"

OM3 - L
12"x36"

7

STA. 184+48.85
12.82' RT.

9

STA. 184+68.35
14.00' RT.

11

STA. 184+88.35
15.50' RT.

OM3 - R
12"x36"

OM3 - R
12"x36"

OM3 - R
12"x36"

8

STA. 184+57.59
12.82' LT.

10

STA. 184+77.09
14.00' LT.

12

STA. 184+97.09
15.50' LT.

SIGNING
SHEET 1 OF 3

STATE OF MISSOURI

BRAM M. ROSENTHAL

NUMBER
PE-2005022151

PROFESSIONAL ENGINEER

Bram M. Rosenthal

12/08/2025 4:03:55 PM

BRAM M. ROSENTHAL - CIVIL

MO-PE-2005022151

DATE PREPARED
12/2/2025

ROUTE
VV

DISTRICT
NW

STATE
MO

SHEET NO.
14

COUNTY
NODAWAY

JOB NO.
JNW0046

CONTRACT ID.

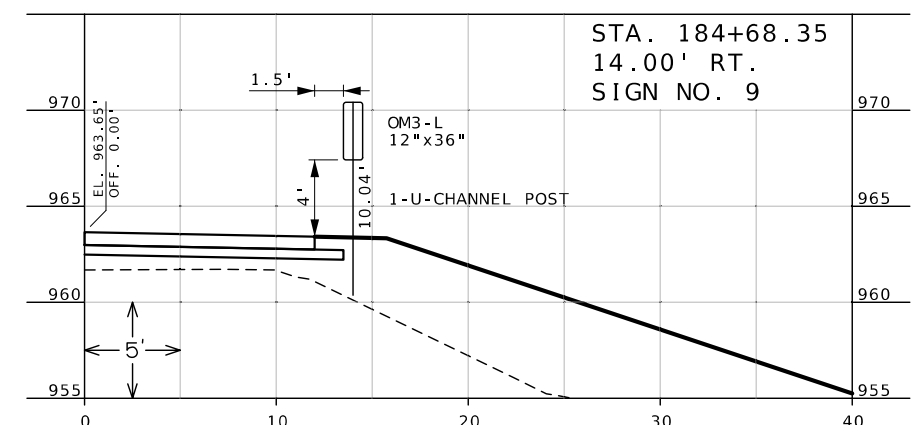
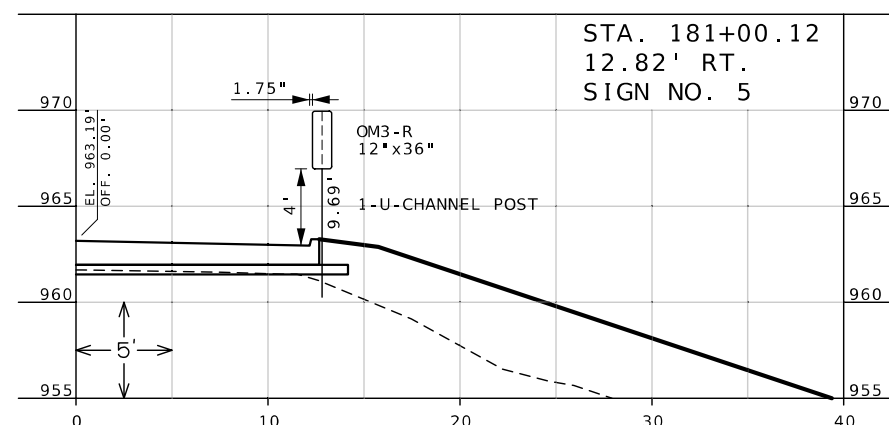
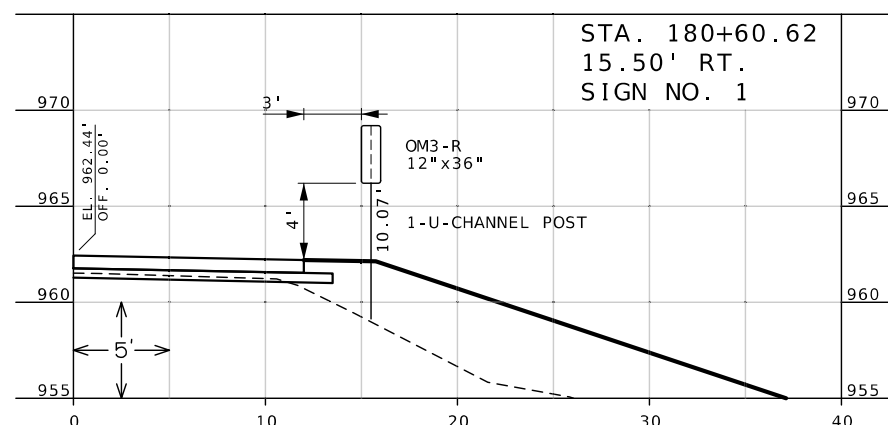
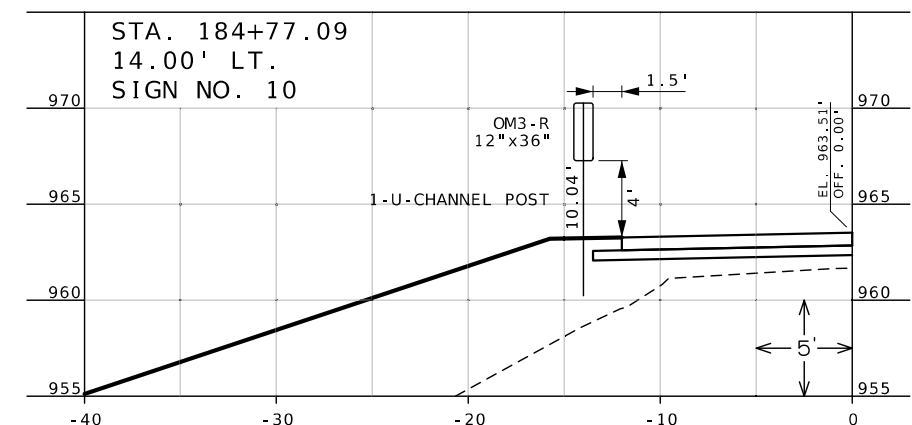
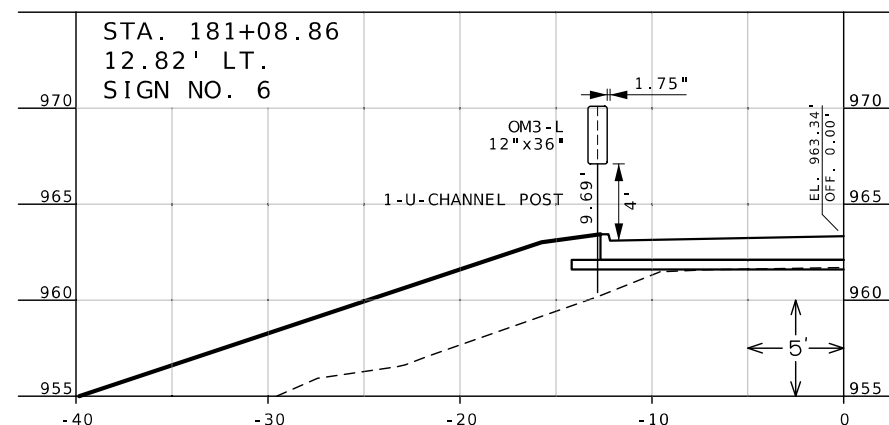
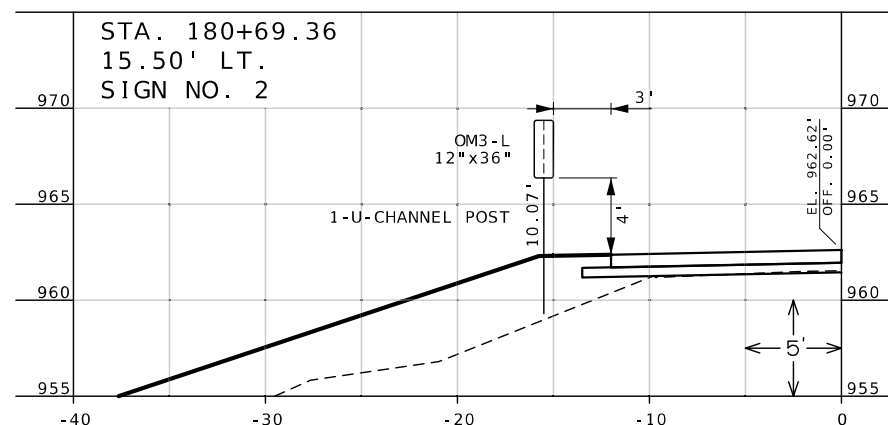
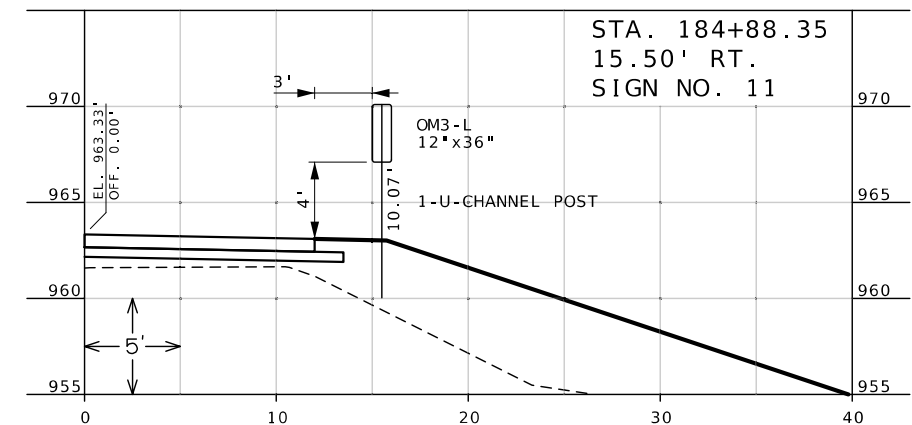
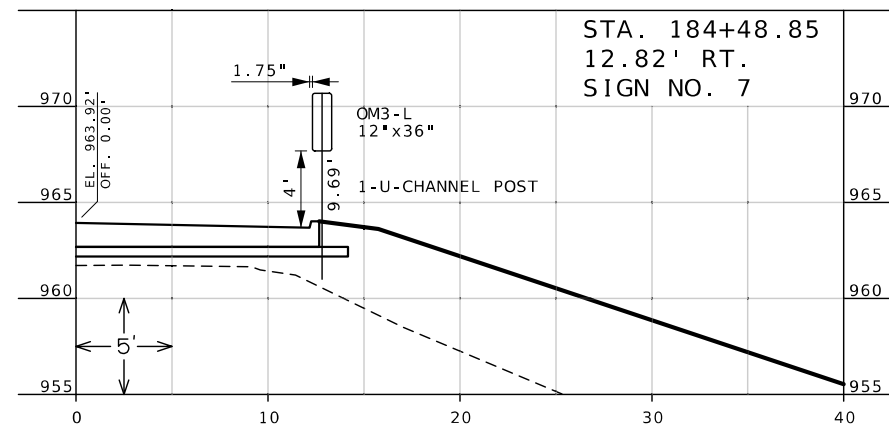
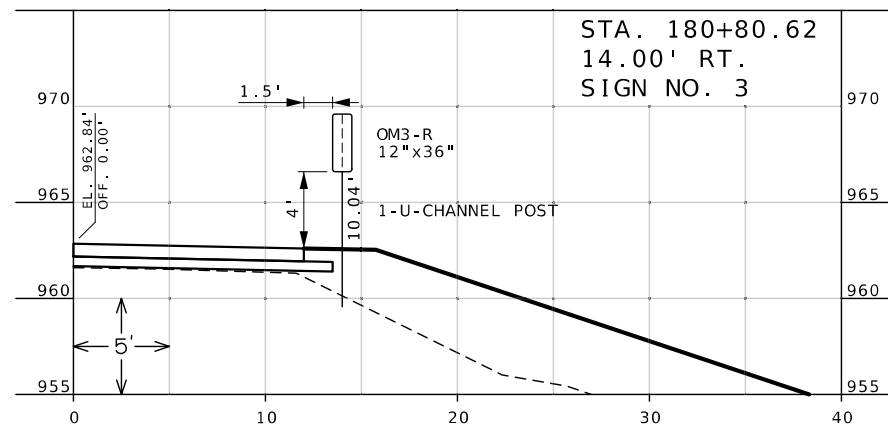
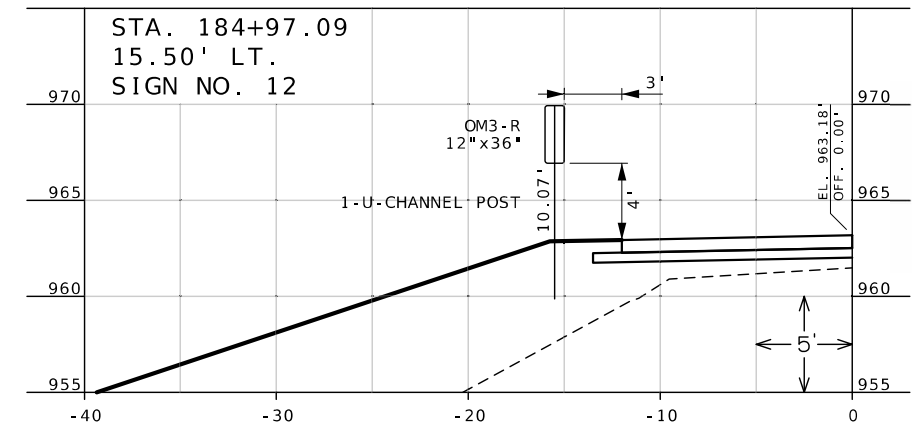
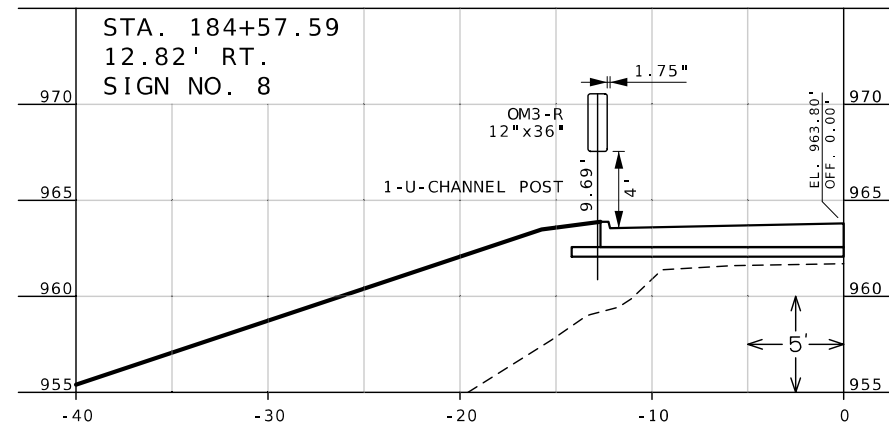
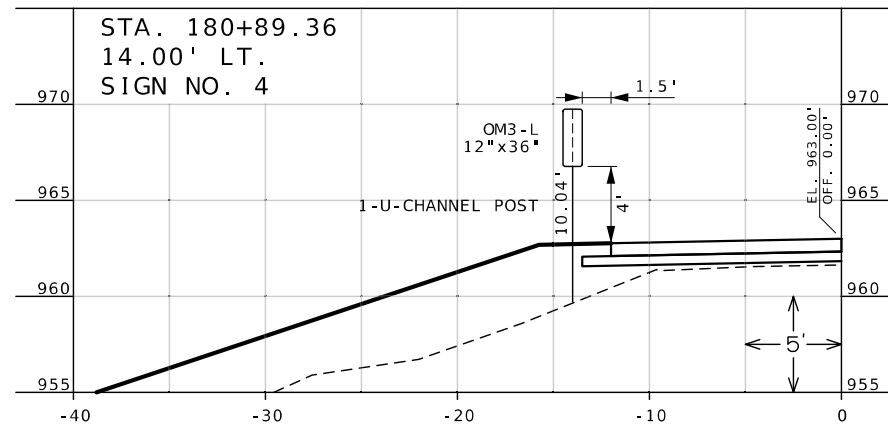
PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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



Brian M. Rosenthal
12/08/2025 4:04:38 PM
BRIAN M. ROSENTHAL - CIVIL

DATE PREPARED
12/2/2025

ROUTE VV	STATE MO
-------------	-------------

DISTRICT NW	SHEET NO. 16
----------------	-----------------

COUNTY
NODAWAY

JOB NO.
JNW0046

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

(103' - 118' - 103') PRESTRESSED CONCRETE NU-GIRDER SPANS

SEC/SUR 22/27 TWP 63N RGE 34W

PVI Sta.
182+80.00
Elev. 967.32
+2.22% -1.90%
470' V.C.

Sta. 181+15.52
Pr. Gr. Elev. 963.45
@ End of Slab
@ C Roadway

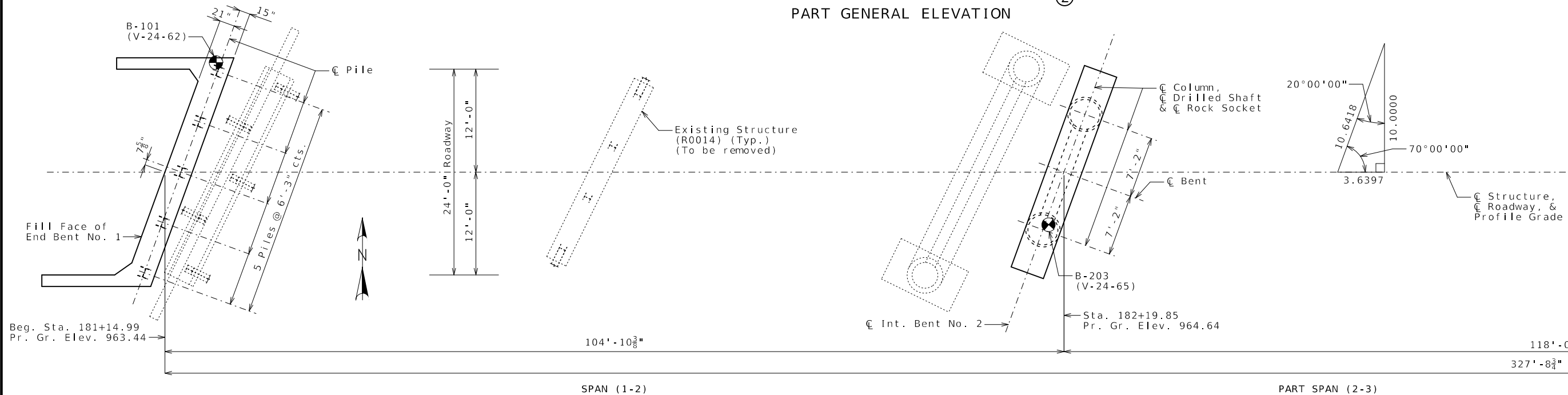
2:1 Slope (Normal) with
2'-0" Type 2 Rock Blanket
with Permanent Erosion Control
Geotextile (Roadway item)

Notes:

Existing roadway fill under the ends of the bridge shall be removed as shown.
Removal of existing roadway fill will be considered completely covered by the
contract unit price for roadway excavation.

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.

PART GENERAL ELEVATION



PART PLAN

Note: Work this sheet with Sheet No. 2.

Designed May 2025
Detailed June 2025
Checked July 2025

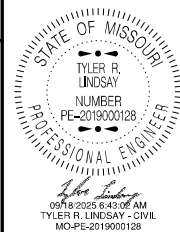
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 31

B.M. 301 - (NAVD 88); CHISLED SQUARE ON THE SOUTH SIDE
OF THE WEST END BENT OF BRIDGE R0014; 12.20'
RT. OF STA. 181+15.79 C Roadway VV; EL. 962.59'

BRIDGE: ROUTE VV OVER PLATTE RIVER

ROUTE VV FROM ROUTE N TO ROUTE AH
ABOUT 0.5 MILE WEST OF ROUTE AH
BEGINNING STATION 181+14.99



DATE PREPARED
9/17/2025

ROUTE VV STATE MO

DISTRICT BR SHEET NO. 1

COUNTY NODAWAY

JOB NO. JN00046

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9608

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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

MoDOT

General Notes:

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

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

For prestressed girder stresses, see Sheets No. 15 thru 18.

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 filler, except as noted.

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

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

Estimated Quantities				
Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	60		60
Removal of Bridges (R0014)	lump sum			1
Bridge Approach Slab (Minor)	sq. yard			109
Drilled Shafts (4 ft. 0 in. Dia.)	linear foot	62.0		62.0
Rock Sockets (3 ft. 6 in. Dia.)	linear foot	40.0		40.0
Video Camera Inspection	each	4		4
Foundation Inspection Holes	linear foot	80.0		80.0
Sonic Logging Testing	each	4		4
Galvanized Structural Steel Piles (14 in.)	linear foot	350		350
Pile Point Reinforcement	each	10		10
Class B Concrete (Substructure)	cu. yard	77.5		77.5
Type H Barrier	linear foot		695	695
Slab on Concrete NU-Girder	sq. yard		968	968
NU 44, Prestressed Concrete NU-Girder	linear foot		970	970
Reinforcing Steel (Bridges)	pound	24,480		24,480
Slab Drain	each		40	40
Vertical Drain at End Bents	each			2
Laminated Neoprene Bearing Pad	each		18	18

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 diaphragm 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.

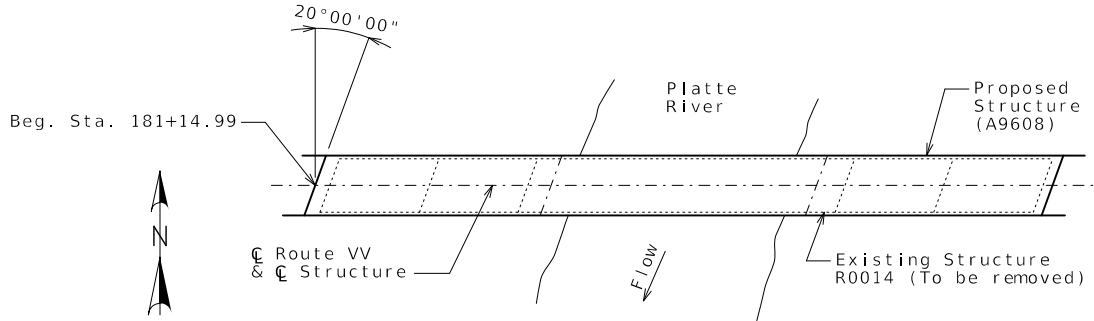
Estimated Quantities for Slab on Concrete NU-Girder	
Item	Total
Class B-2 Concrete	cu. yard 296
Reinforcing Steel (Epoxy Coated)	pound 96,660

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

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

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

For stay-in-place form details, see Sheet No. 23.



LOCATION SKETCH

Foundation Data Notes:

DF = FHWA-modified Gates Dynamic Pile Formula

Load Bearing Pile:

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

Rock Socket (Drilled Shafts):

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

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.

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

Foundation Data					
Type	Design Data	Bent Number			
		1	2	3	4
Load Bearing Pile	Pile Type and Size	HP 14x73	--	--	HP 14x73
	Number	ea 5	--	--	5
	Approximate Length Per Each	ft 35	--	--	35
	Pile Point Reinforcement	ea All	--	--	All
	Min. Galvanized Penetration (Elev.)	ft Full length	--	--	Full length
	Pile Driving Verification Method	DF	--	--	DF
	Resistance Factor	0.40	--	--	0.40
Rock Socket	Minimum Nominal Axial Compressive Resistance	kip 504	--	--	504
	Number	ea --	2	2	--
	Foundation Material	--	Strong Rock	Strong Rock	--
	Elevation Range	ft --	922.7-899.7	922.8-900.6	--
	Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf --	26.5	26.3	--
	Foundation Material	--	Strong Rock	Strong Rock	--
	Elevation Range	ft --	899.7-895.7	900.5-895.8	--
Layer 2	Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf --	--	--	--
	Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf --	--	--	--

STATE OF MISSOURI
TYLER R. LINDSAY
NUMBER
PE-2019000128
PROFESSIONAL ENGINEER

Tyler R. Lindsay
09/16/2025 5:43:41 AM
TYLER R. LINDSAY - CIVIL
MO-PE-2019000128

DATE PREPARED
9/17/2025

ROUTE
VV

STATE
MO

DISTRICT
BR

SHEET NO.
3

COUNTY
NODAWAY

JOB NO.
JNW0046

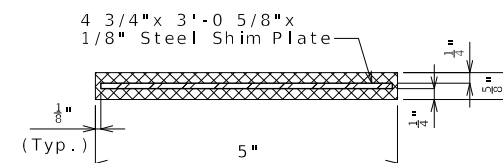
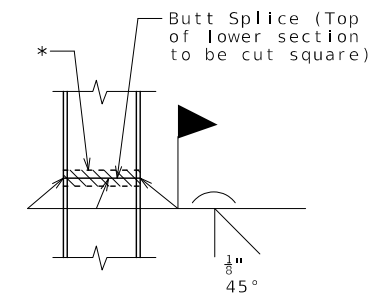
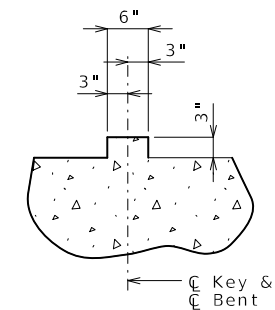
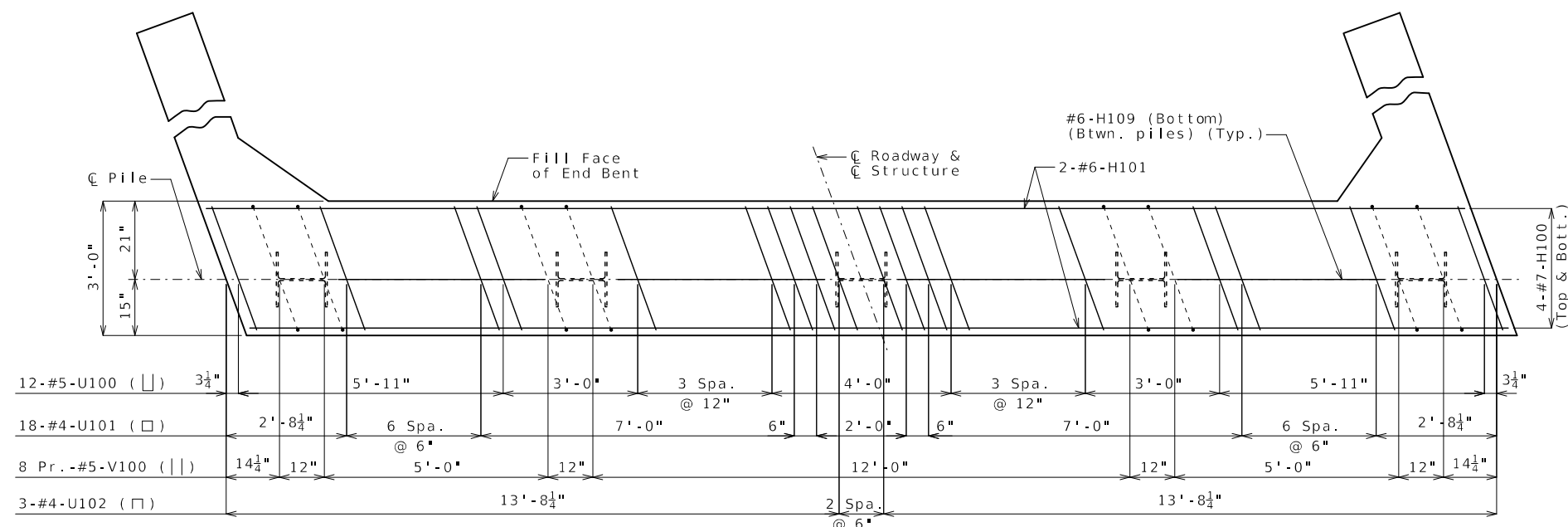
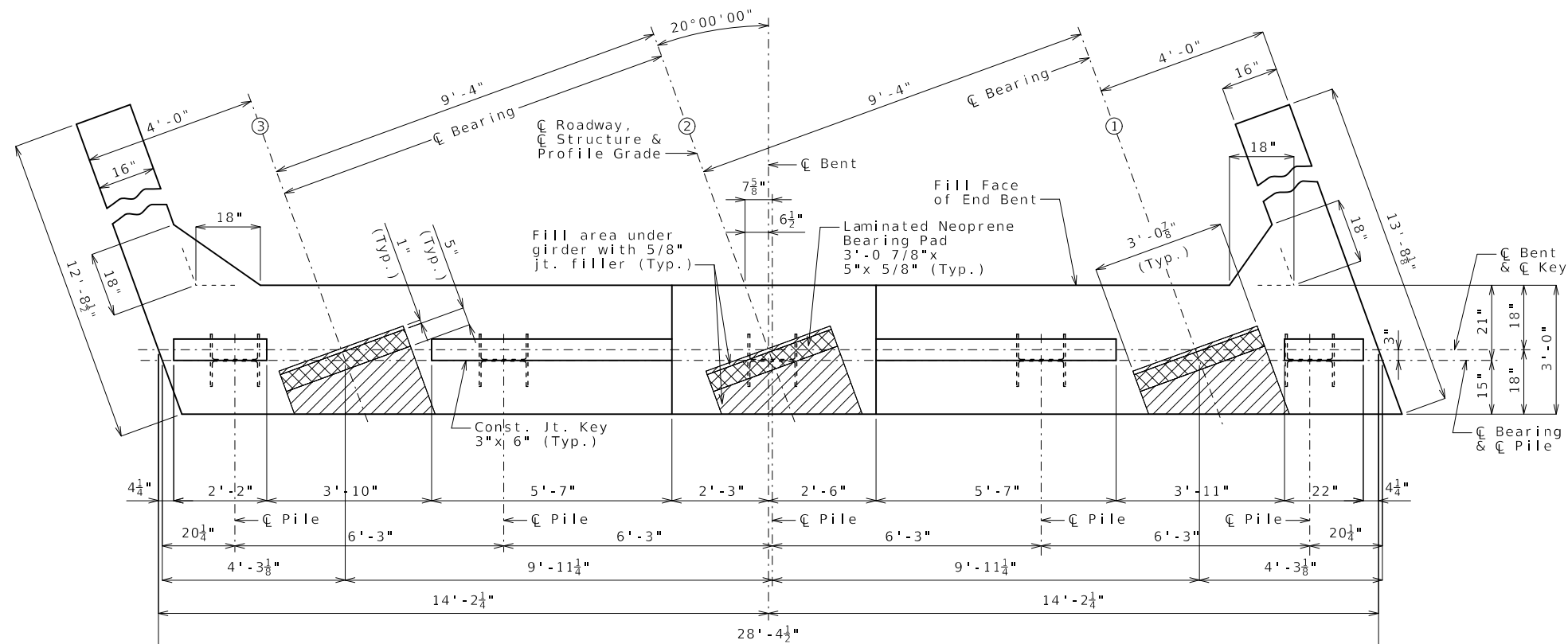
CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9608

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6636)



Notes :

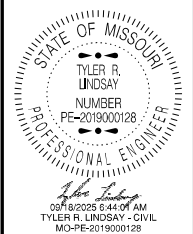
Work this sheet with Sheets No. 5 & 6.

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

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

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	30
Galvanized Structural Steel Piles (14 in.)	linear foot	175
Pile Point Reinforcement	each	5
Class B Concrete (Substructure)	cu. yard	13.0

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



DATE PREPARED

9/17/2025	
-----------	--

ROUTE	STATE
VV	MO

VV	MO
DISTRICT	SHEET NO.

BR	4
----	---

COUNTY
NODAWAY

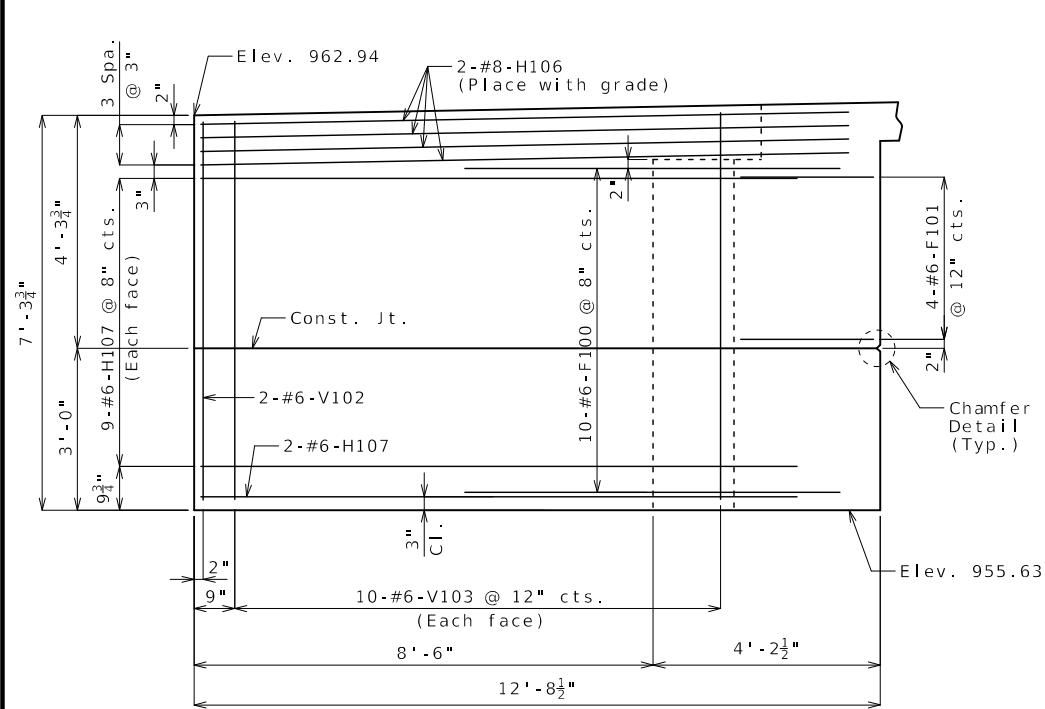
NODAWAY
JOB NO.

JNW0046

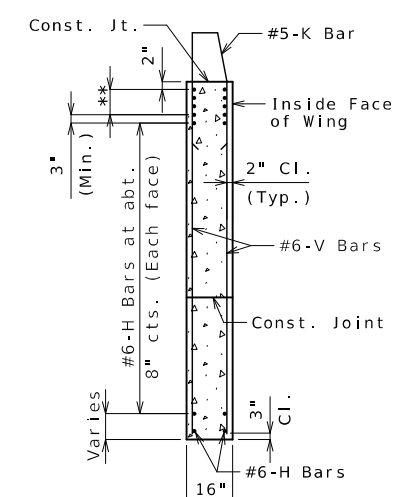
	CONTRACT ID.						
	PROJECT NO.						
	BRIDGE NO. A9608						
	DESCRIPTION						
DATE							

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

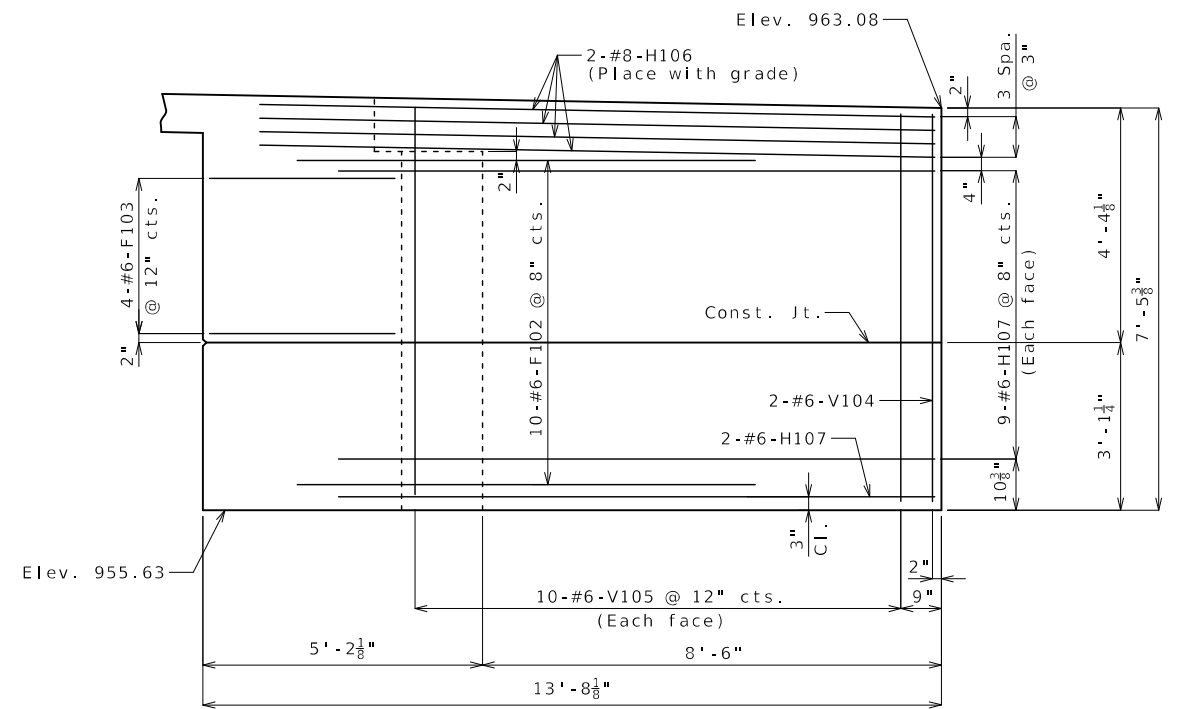
103 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



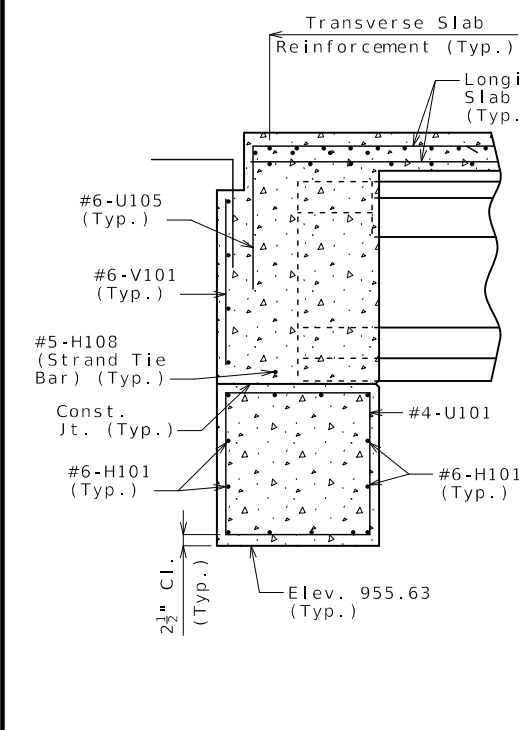
ELEVATION E-E



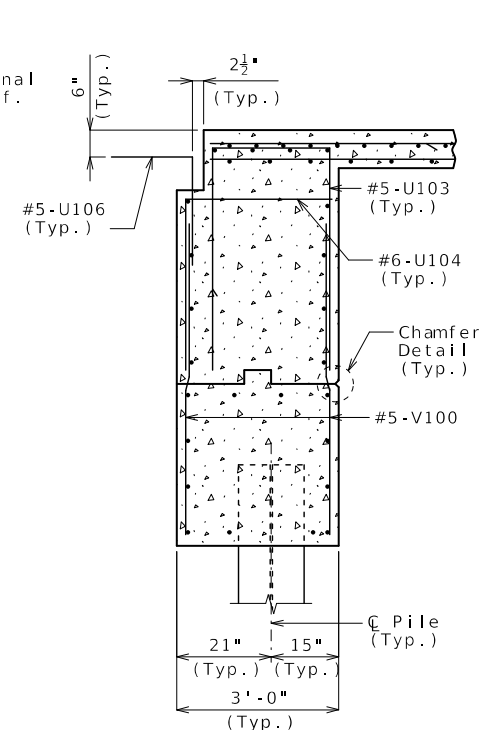
TYPICAL SECTION THRU WING
** #8-H Bars at 3" cts. (Each face)(Place with grade)



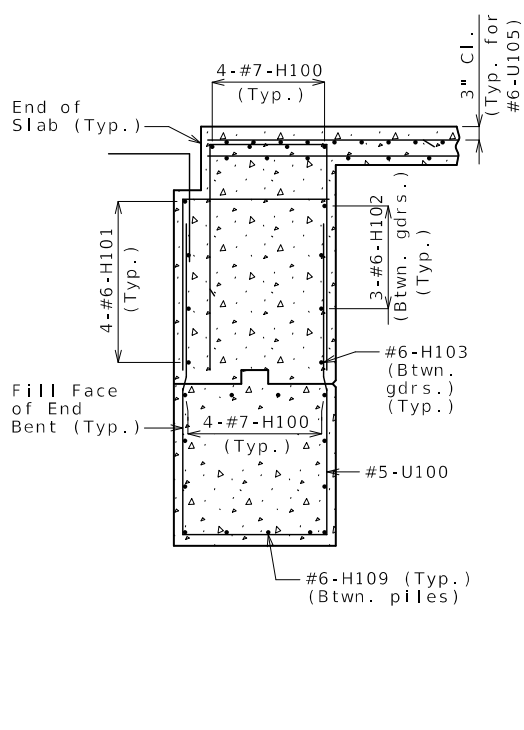
ELEVATION F-F



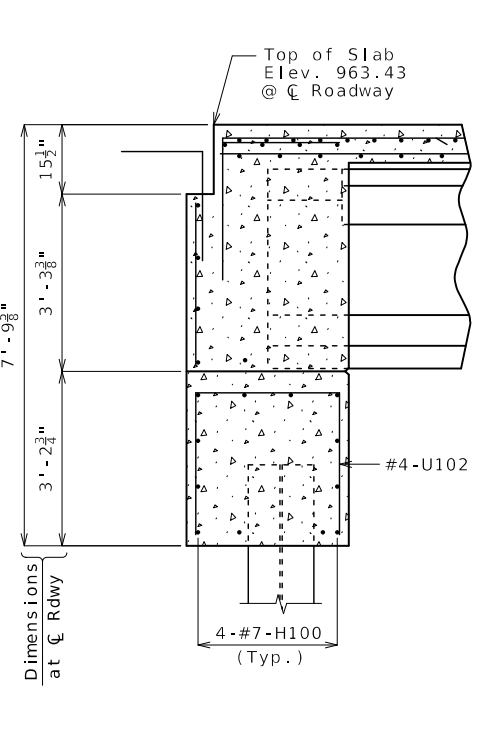
SECTION A-A



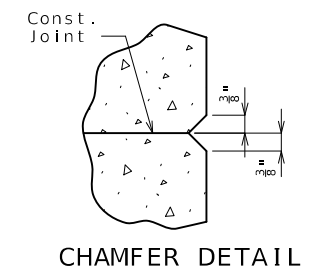
SECTION B-B



SECTION C-C



SECTION D-D

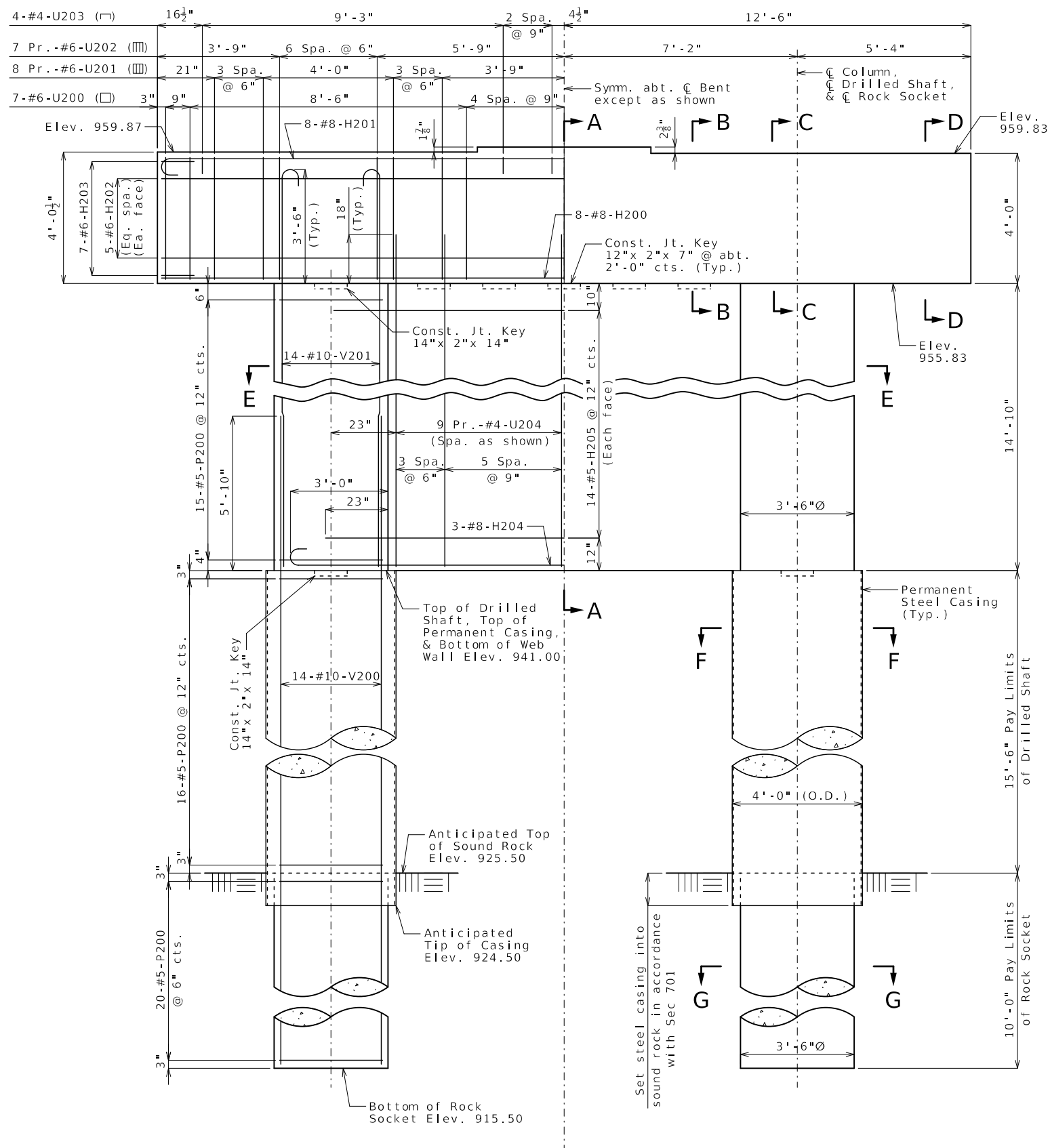


CHAMFER DETAIL

Notes:
Work this sheet with Sheets No. 4 & 5.
For reinforcement of the barrier, see Sheet No. 25.

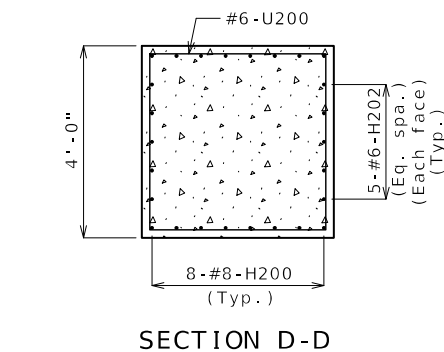
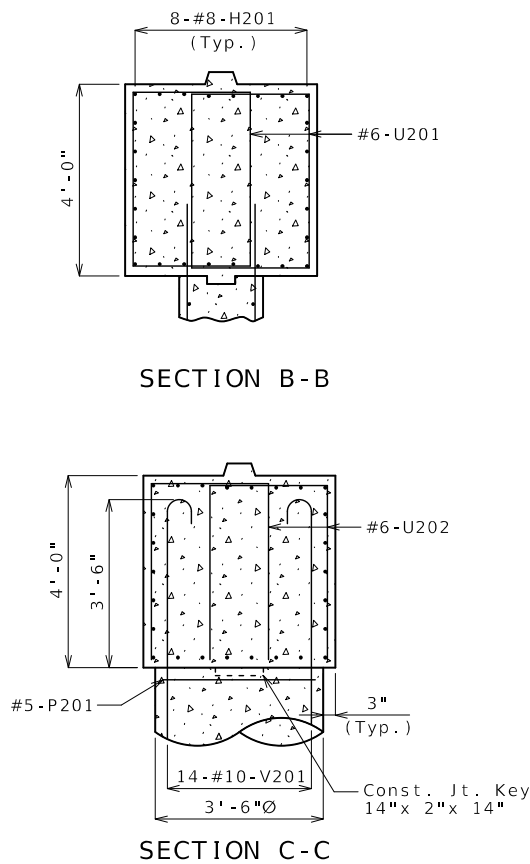
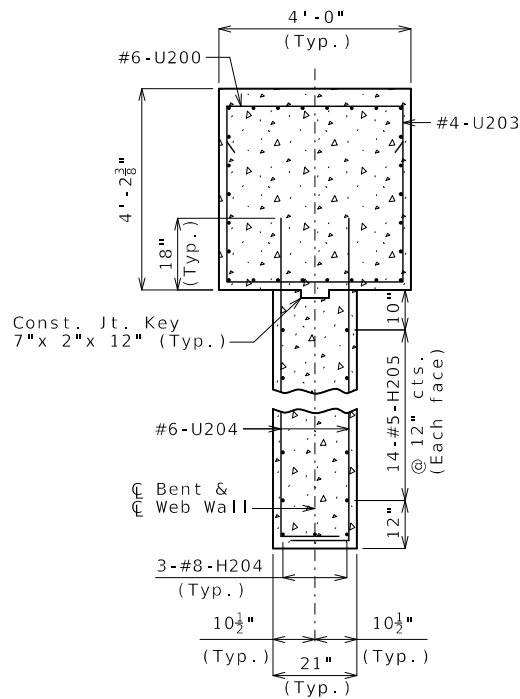
TYLER R. LINDSAY
NUMBER
PE-2019000128
PROFESSIONAL ENGINEER

DATE PREPARED 9/17/2025	
ROUTE VV	STATE MO
DISTRICT BR	SHEET NO. 6
COUNTY NODAWAY	
JOB NO. JN00046	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9608	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-273-6636)	



ELEVATION
(Beam keys not shown for clarity.)

INTERMEDIATE BENT NO. 2



Notes:

Work this sheet with Sheet No. 9.

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

An additional 4 feet has been added to #10-V200 bar lengths and additional 16-#5-P200 bars 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 P bars shall be spaced similarly to that shown in elevation, if required, or to a lesser spacing if not required, but not less than 6-inch centers.

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

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

Substructure Quantity Table for Bent No. 2		
Item		Quantity
Drilled Shafts (4 ft. 0 in. Dia.)	linear foot	31.0
Rock Sockets (3 ft. 6 in. Dia.)	linear foot	20.0
Video Camera Inspection	each	2
Foundation Inspection Holes	linear foot	40.0
Sonic Logging Testing	each	2
Class B Concrete (Substructure)	cu. yard	25.7
Reinforcing Steel (Bridges)	pound	12,220

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

STATE OF MISSOURI
TYLER R. LINDSAY
NUMBER
PE-2019000128
PROFESSIONAL ENGINEER
09/16/2025 8:45:01 AM
TYLER R. LINDSAY - CIVIL
MO-PE-2019000128

DATE PREPARED
9/17/2025

ROUTE
VV

DISTRICT
BR

STATE
MO

SHEET NO.
8

COUNTY
NODAWAY

JOB NO.
JNW0046

CONTRACT ID.

PROJECT NO.

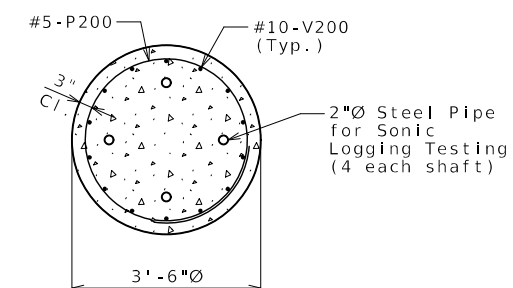
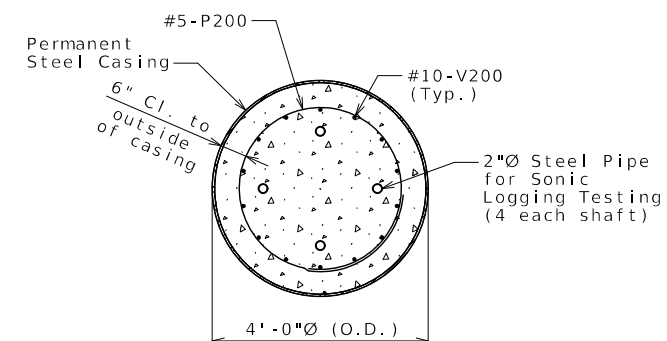
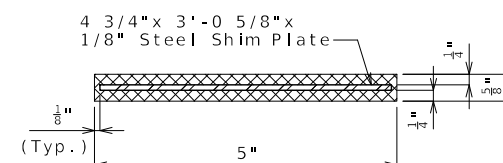
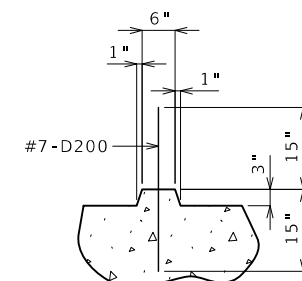
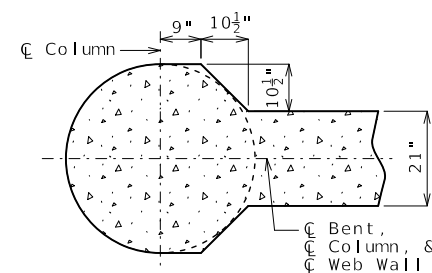
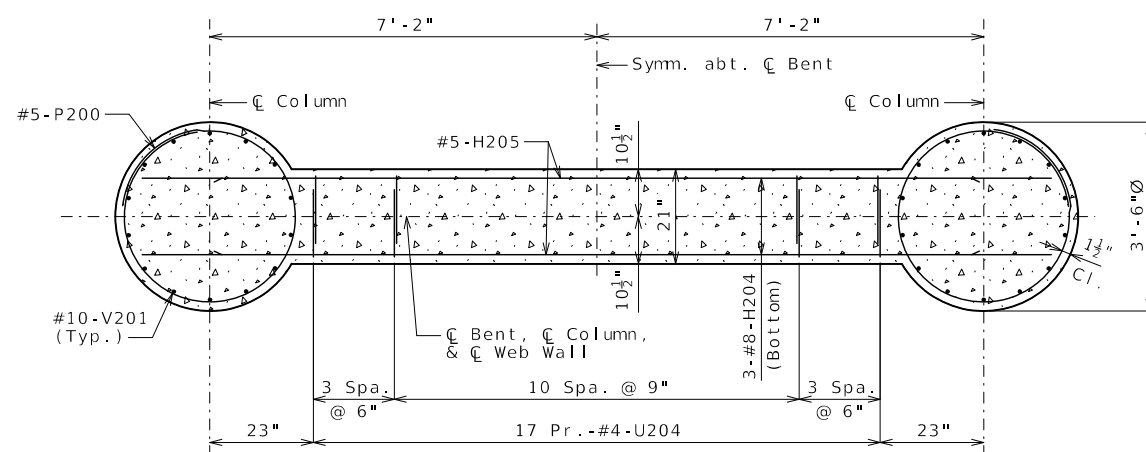
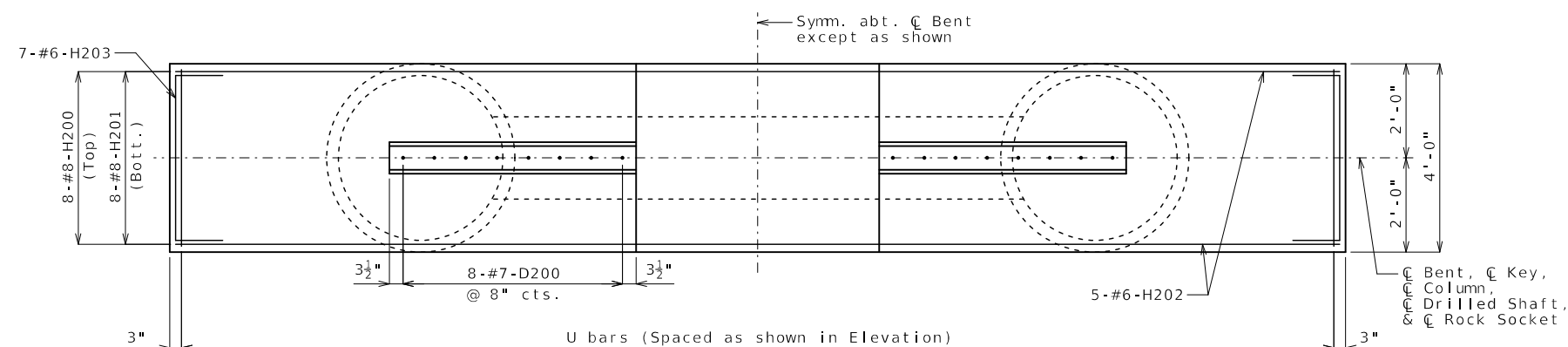
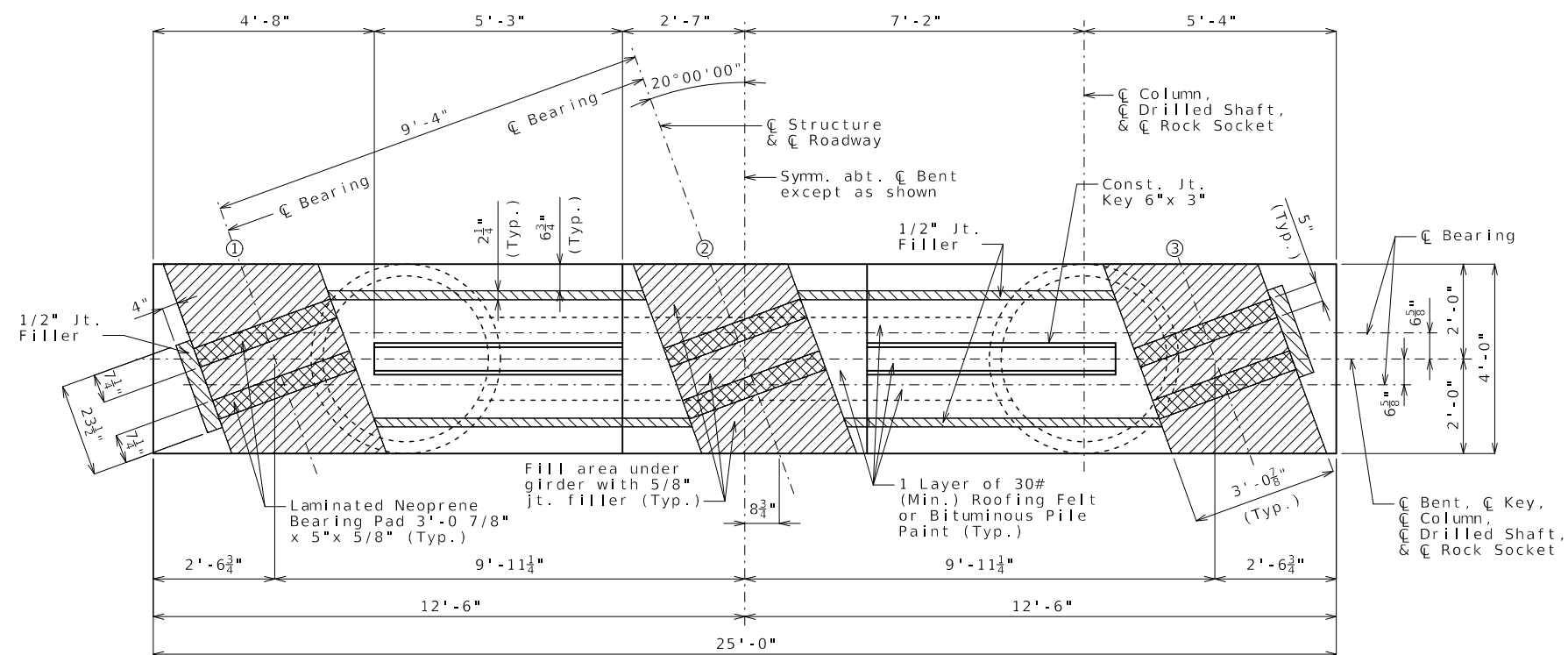
BRIDGE NO.
A9608

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6636)

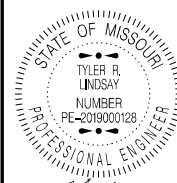


Notes:

Work this sheet with Sheet No. 8.

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

At the contractor's option, the details shown in Optional Part Section E-E may be used for column-web beam at intermediate bent. No additional payment will be made for this substitution.



09/18/2025 6:45:21 AM
TYLER R. LINDSAY - CIVIL
MO-PE-2019000128

9/17/2025

ROUTE	STATE
MM	MO

VV	MO
DISTRICT	SHEET NO

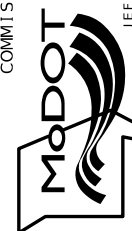
BR	9
----	---

COUNTY

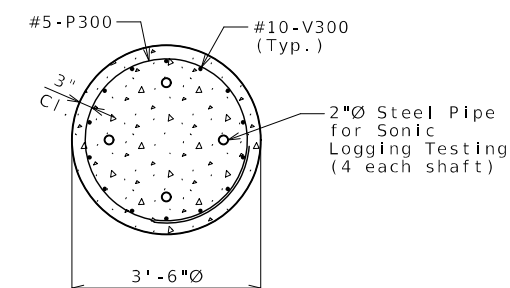
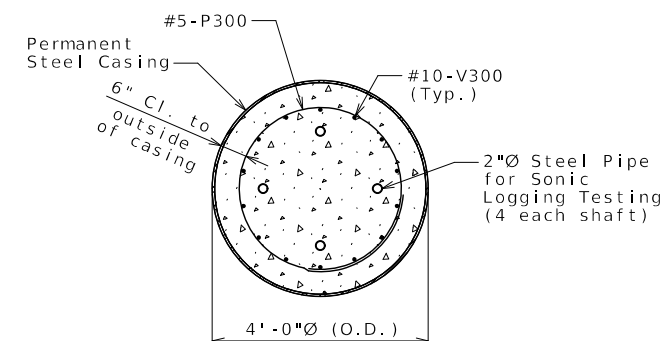
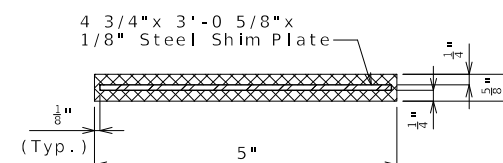
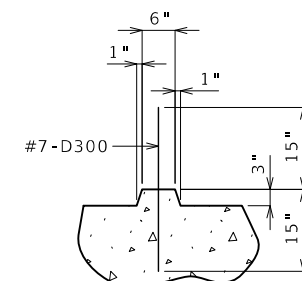
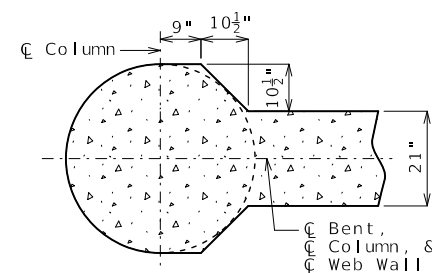
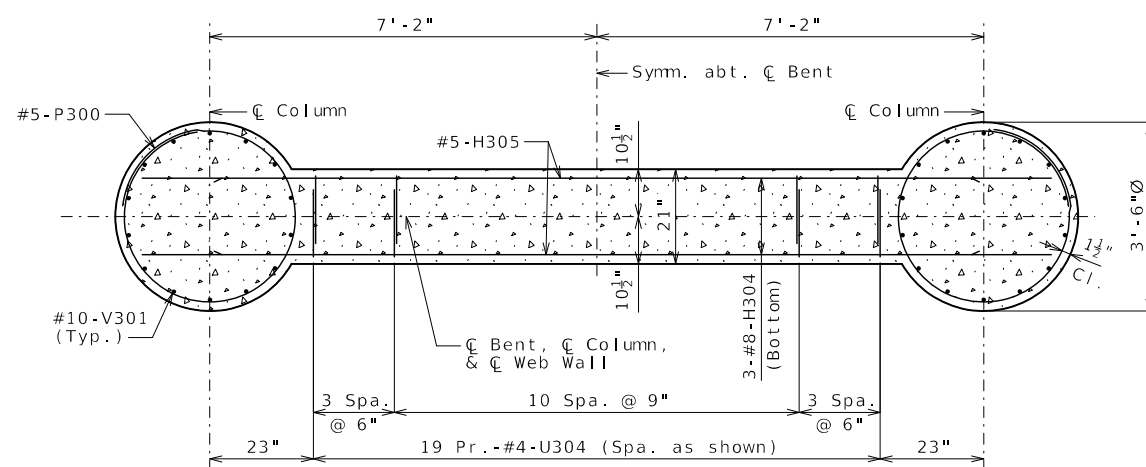
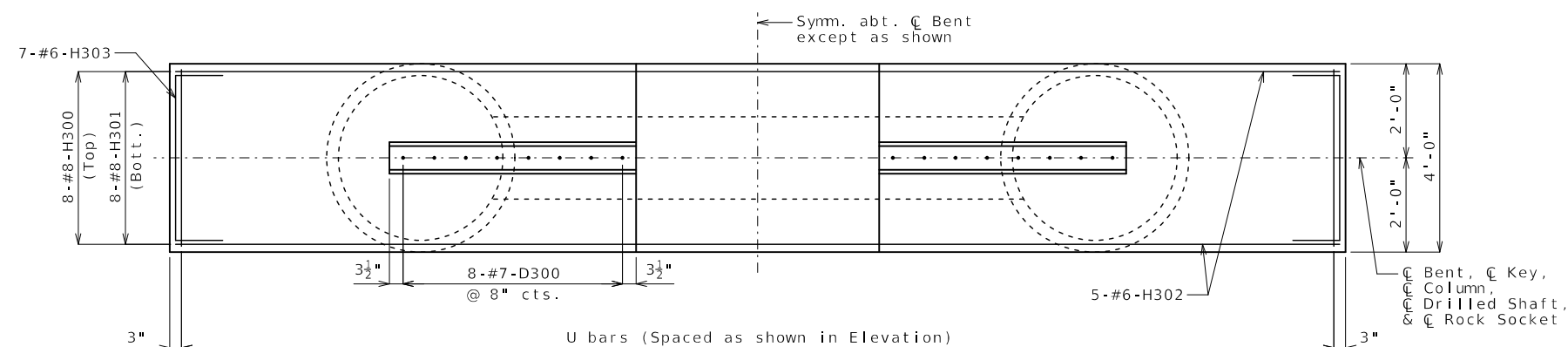
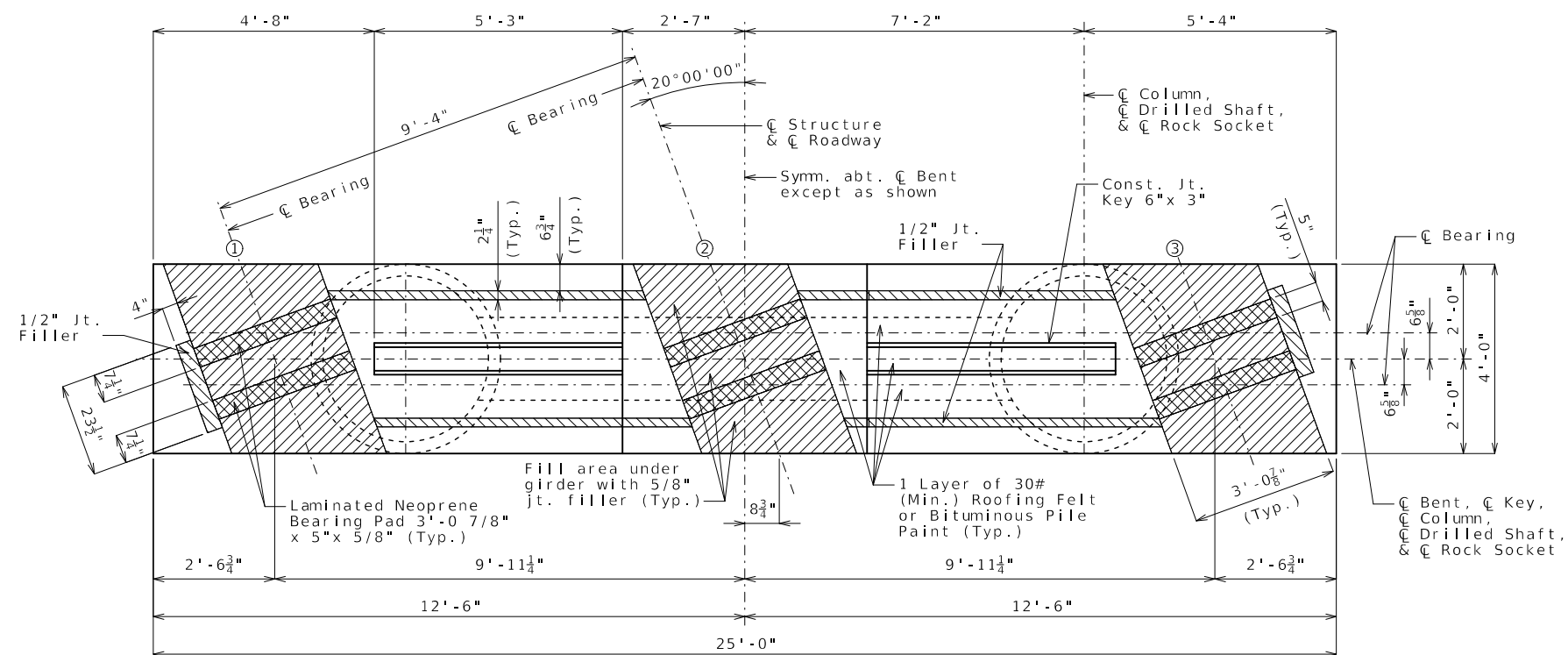
NODAWAY
LCB NO.

JNW0046

CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9608	
DATE	
DESCRIPTION	

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

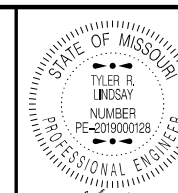


Notes:

Work this sheet with Sheet No. 10.

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

At the contractor's option, the details shown in Optional Part Section E-E may be used for column-web beam at intermediate bent. No additional payment will be made for this substitution.



09/18/2025 6:45:43 AM
TYLER R. LINDSAY - CIVIL
MC DE 00100000100

MC-PE-2019000128
DATE PREPARED
9/17/2025

ROUTE	STATE
MM	MO

VV	MO
DISTRICT	SHEET

BR	11
----	----

COUNTY

NODAWAY
LCB NO

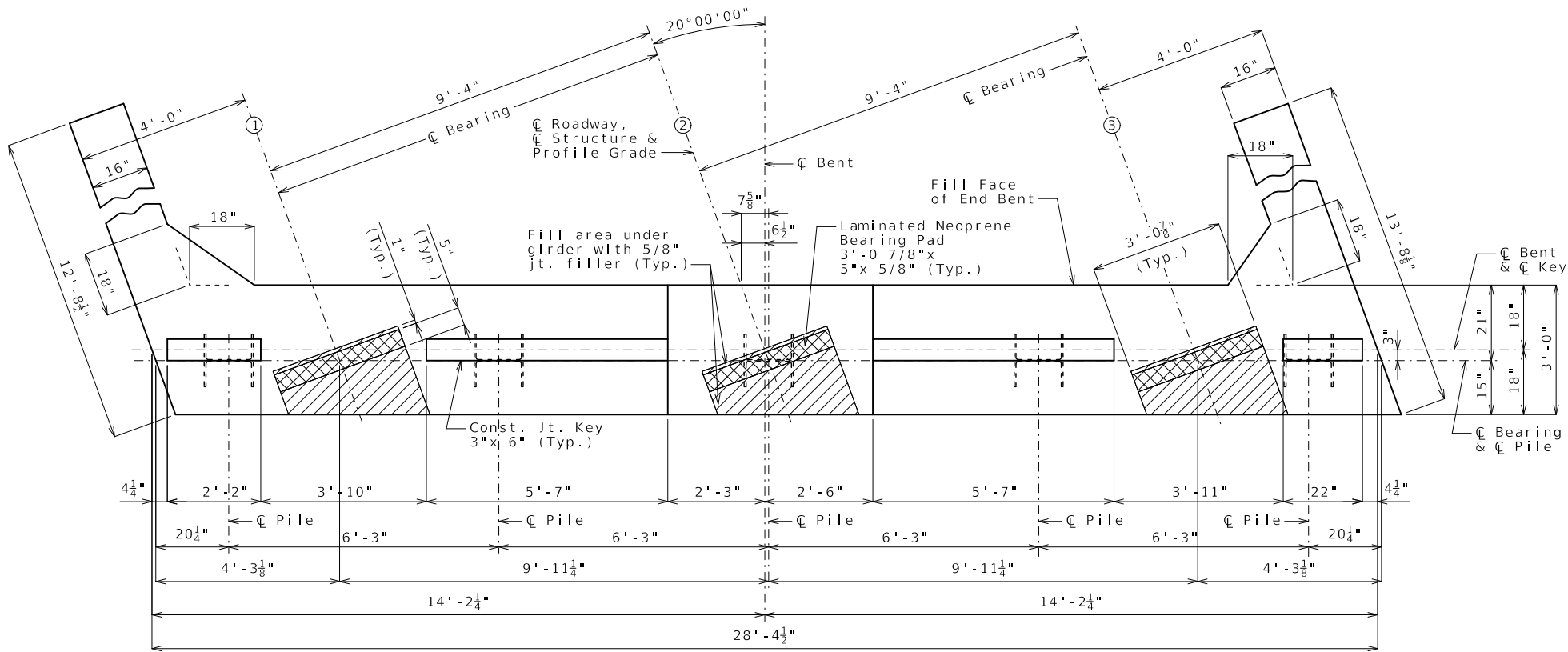
JNW0046

CONTRACT ID.

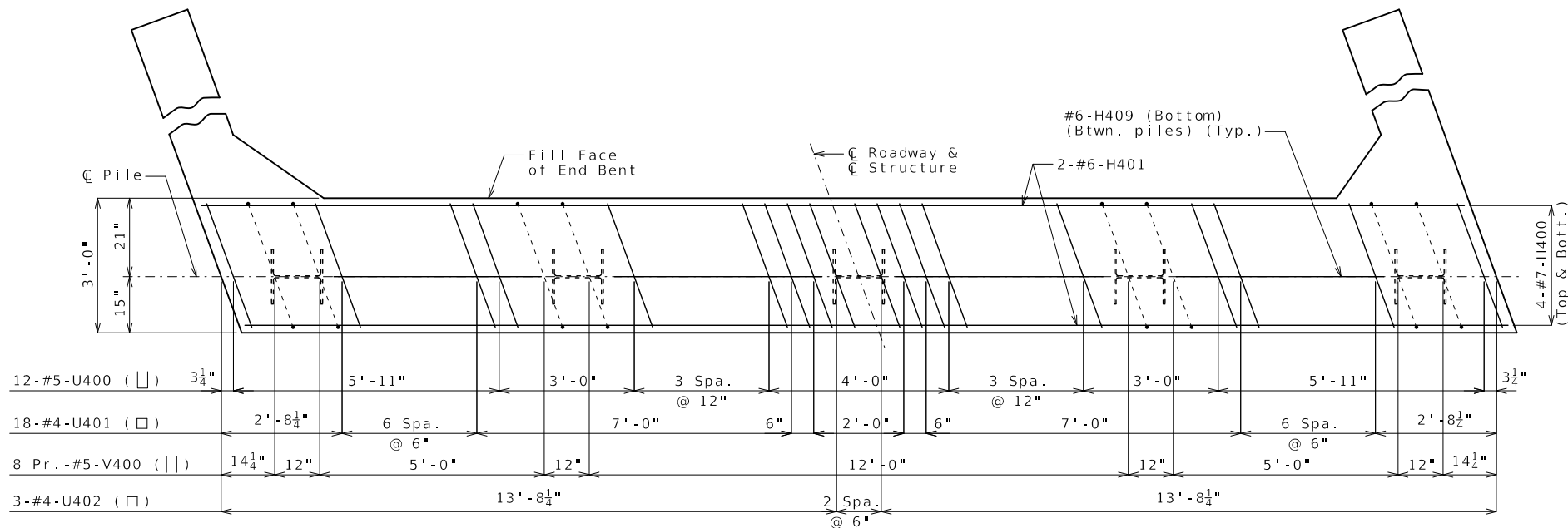
[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

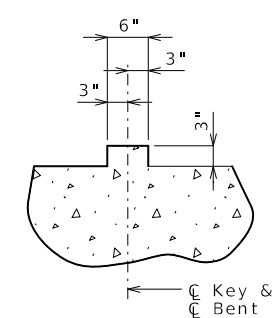
105 WEST CAPITOL
JEFFERSON CITY, MO 65102



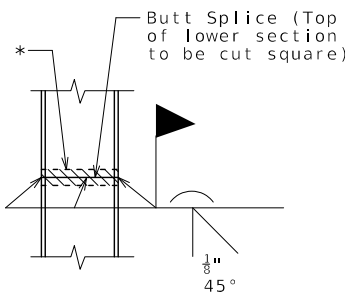
PLAN OF BEAM SHOWING DIMENSIONS



PLAN OF BEAM SHOWING REINFORCEMENT
(Beam keys and steps not shown for clarity.)

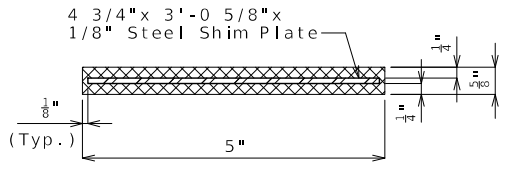


SECTION THRU KEY



STEEL PILE SPLICE
(If required)

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



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD

Notes:
Work this sheet with Sheets No. 13 & 14.
The U bars and pairs V bars shall be placed parallel to the centerline of roadway.
Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inches.

Substructure Quantity Table for Bent No. 4		
Item		Quantity
Class 1 Excavation	cu. yard	30
Galvanized Structural Steel Piles (14 in.)	linear foot	175
Pile Point Reinforcement	each	5
Class B Concrete (Substructure)	cu. yard	13.0

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

END BENT NO. 4

Detailed May 2025
Checked July 2025

STATE OF MISSOURI
TYLER R. LINDSAY
NUMBER
PE-2019000128
PROFESSIONAL ENGINEER
08/16/2025 6:46:05 AM
TYLER R. LINDSAY - CIVIL
MO-PE-2019000128

DATE PREPARED
9/17/2025

ROUTE
VV

STATE
MO

DISTRICT
BR

SHEET NO.
12

COUNTY
NODAWAY

JOB NO.
JNW0046

CONTRACT ID.

PROJECT NO.

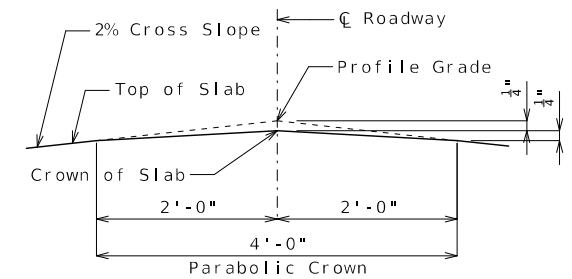
BRIDGE NO.
A9608

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

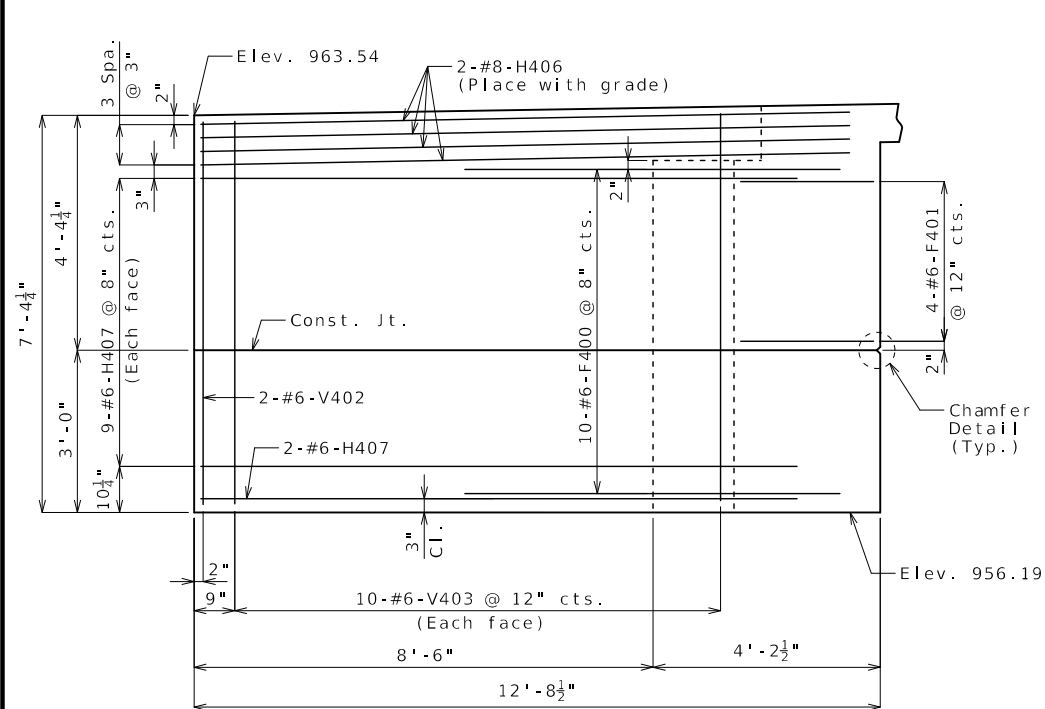
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6636)



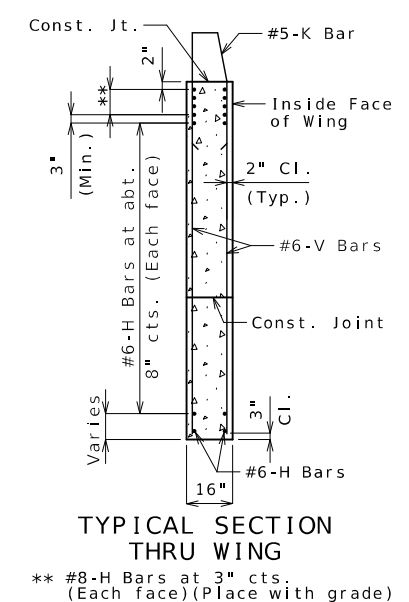
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6636)

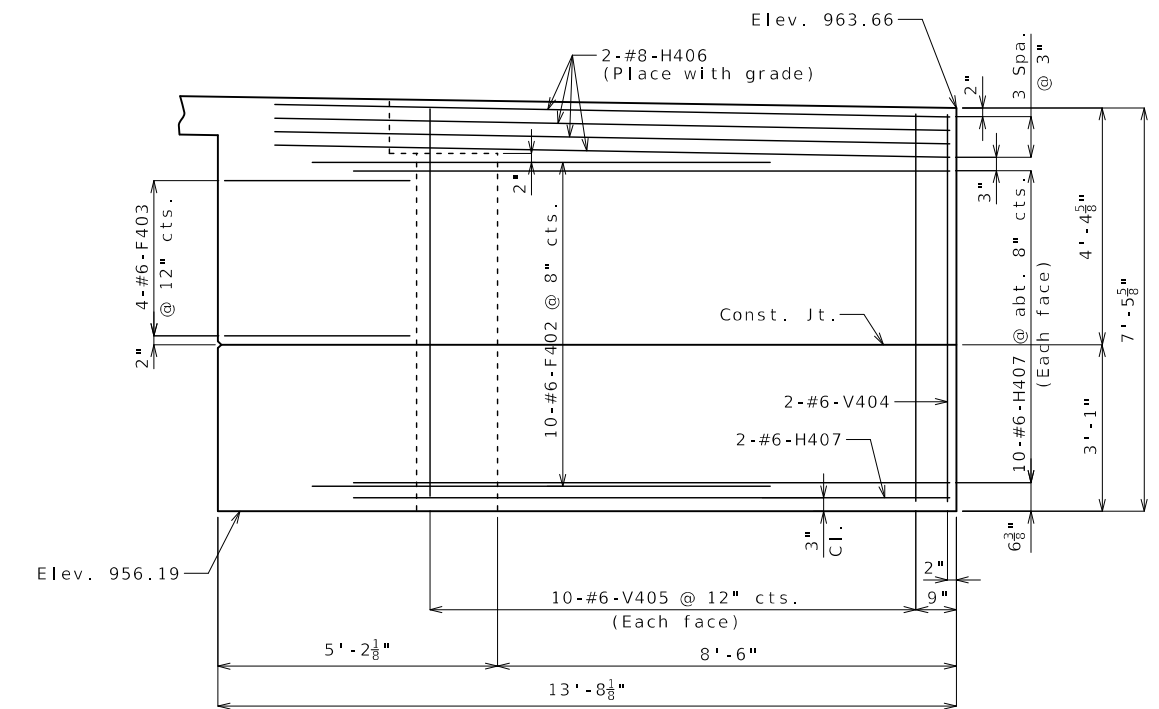
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



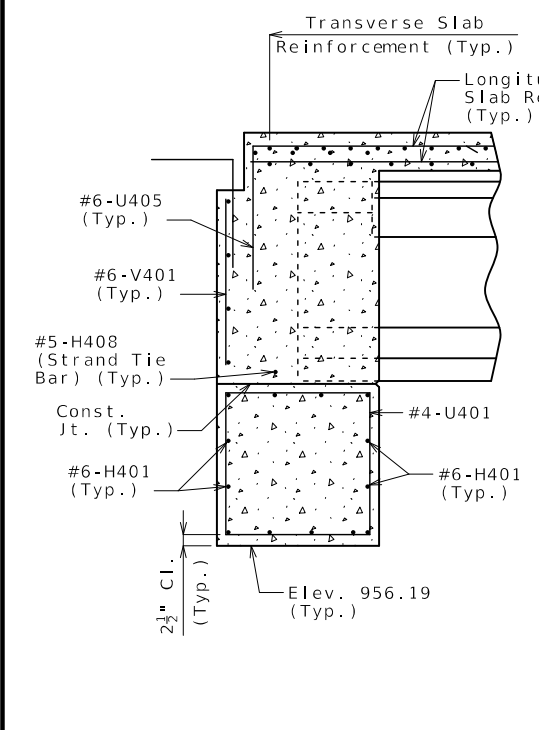
ELEVATION E-E



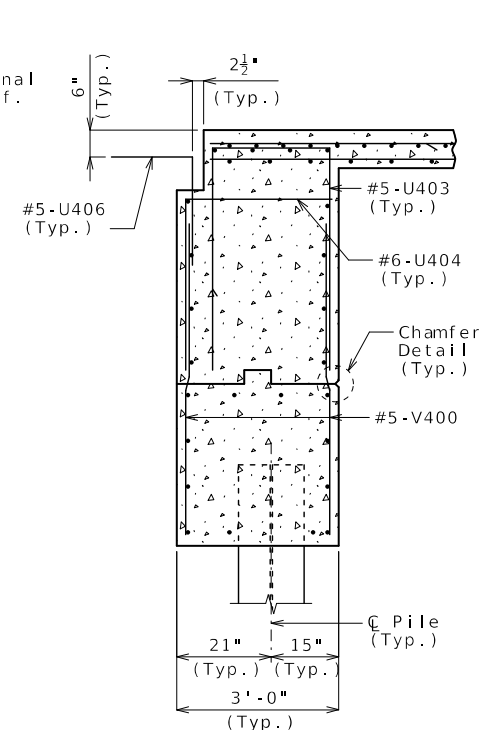
TYPICAL SECTION THRU WING



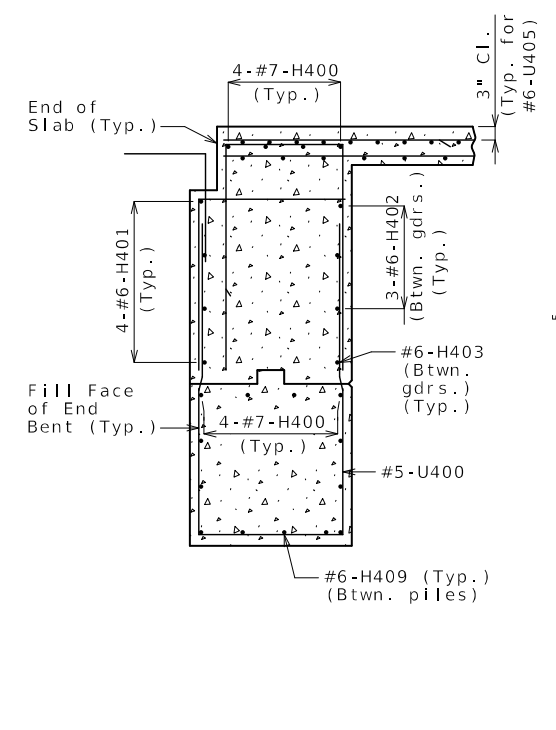
ELEVATION F-F



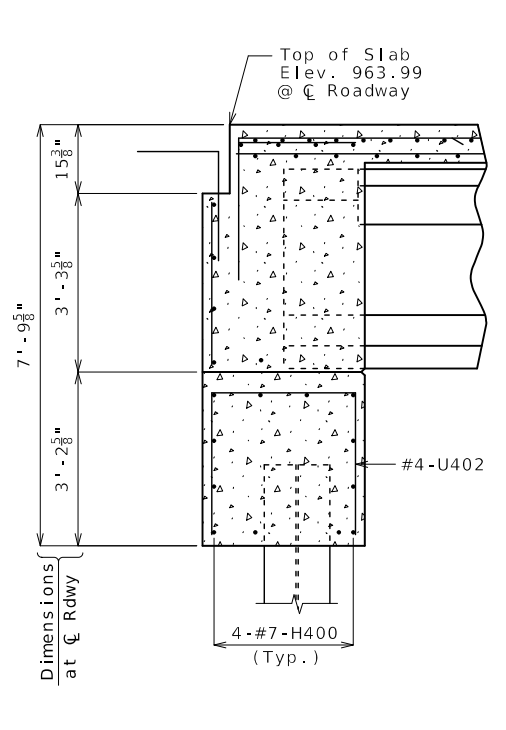
SECTION A-A



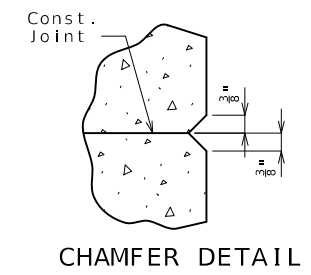
SECTION B-B



SECTION C-C



SECTION D-D



CHAMFER DETAIL

Notes:
Work this sheet with Sheets No. 12 & 13.
For reinforcement of the barrier, see Sheet No. 25.

DATE PREPARED
9/17/2025

ROUTE **VV** STATE **MO**

DISTRICT **BR** SHEET NO. **14**

COUNTY
NODAWAY

JOB NO.
JNW0046

CONTRACT ID.

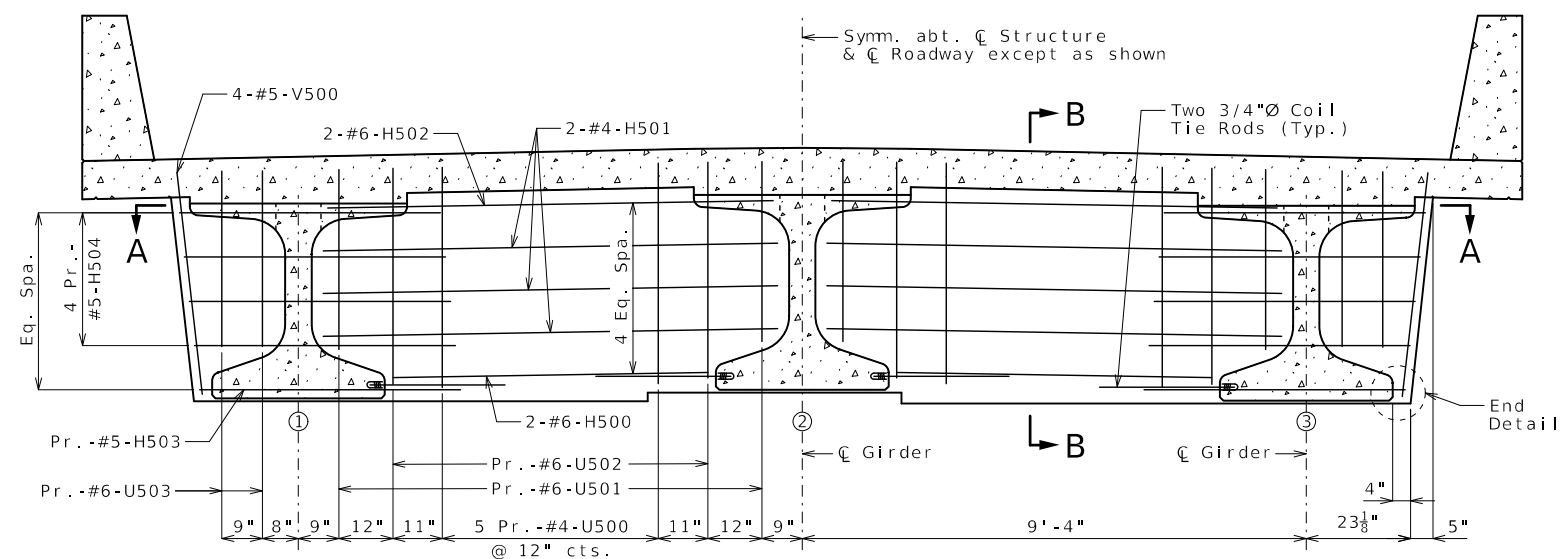
PROJECT NO.

BRIDGE NO.
A9608

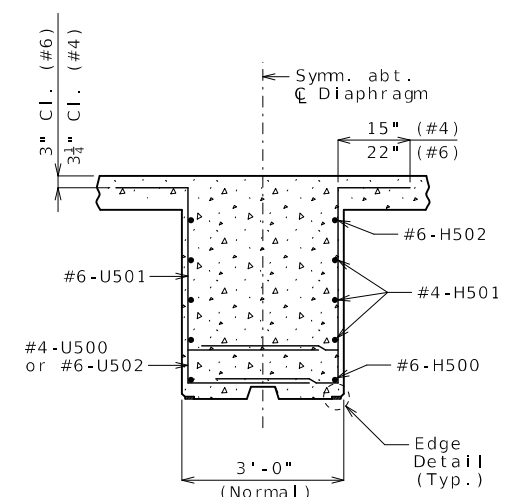
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

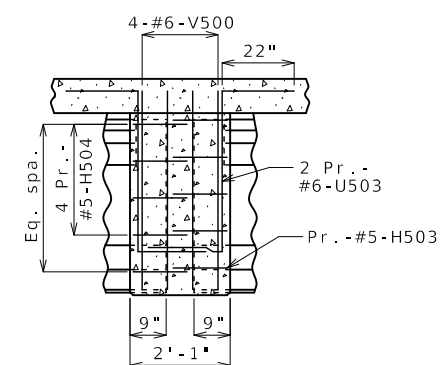
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6636)



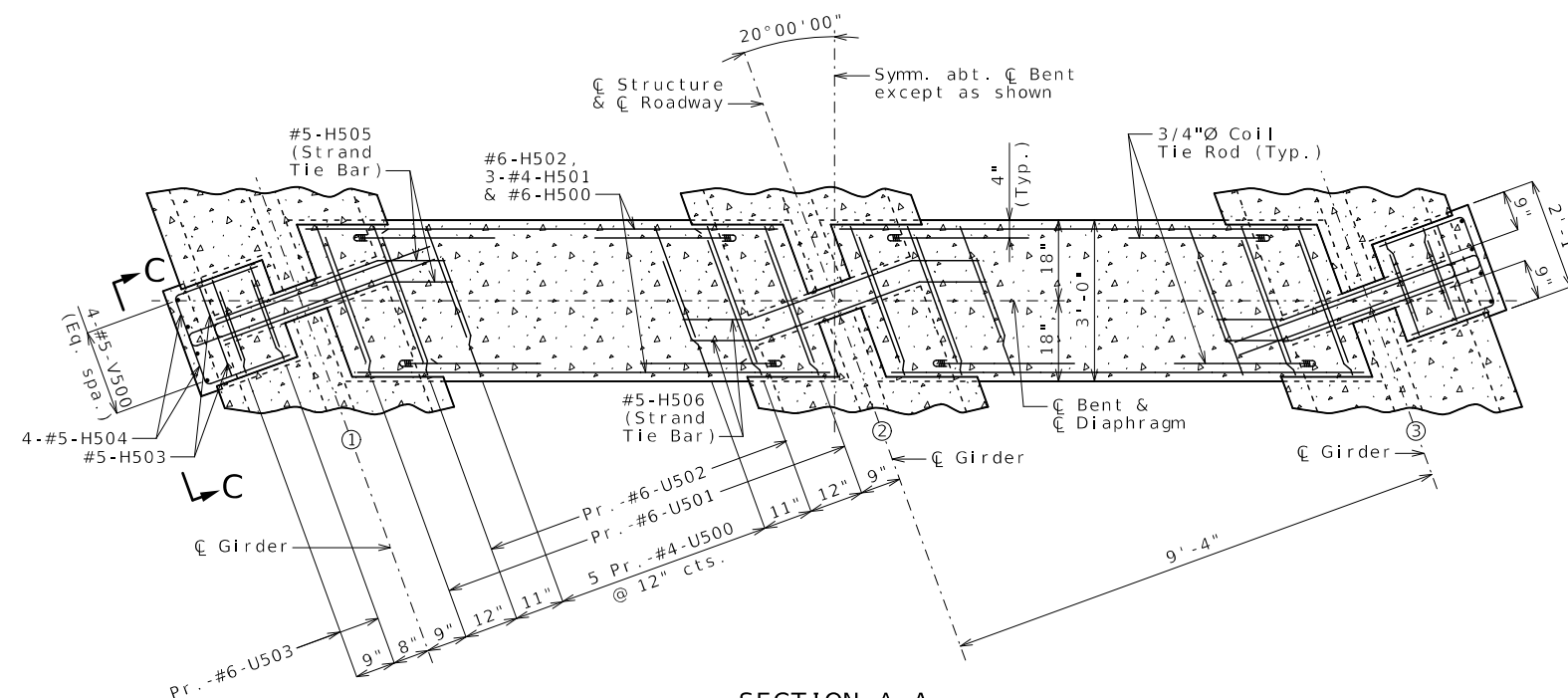
SECTION NEAR INTERMEDIATE BENT
(Normal to C Structure)



SECTION B-B



ELEVATION C-C



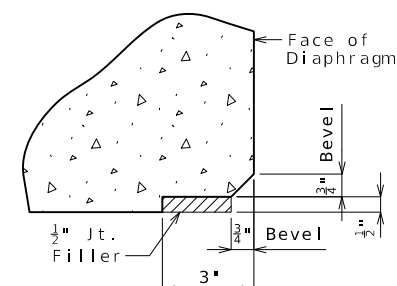
SECTION A-A

Notes:

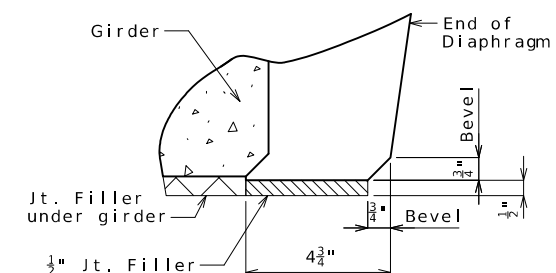
Diaphragms at intermediate bents shall be built vertical.

For location of #5-H505 & #5-H506 (Strand Tie Bars), and coil tie rods, see Sheets No. 15 thru 18.

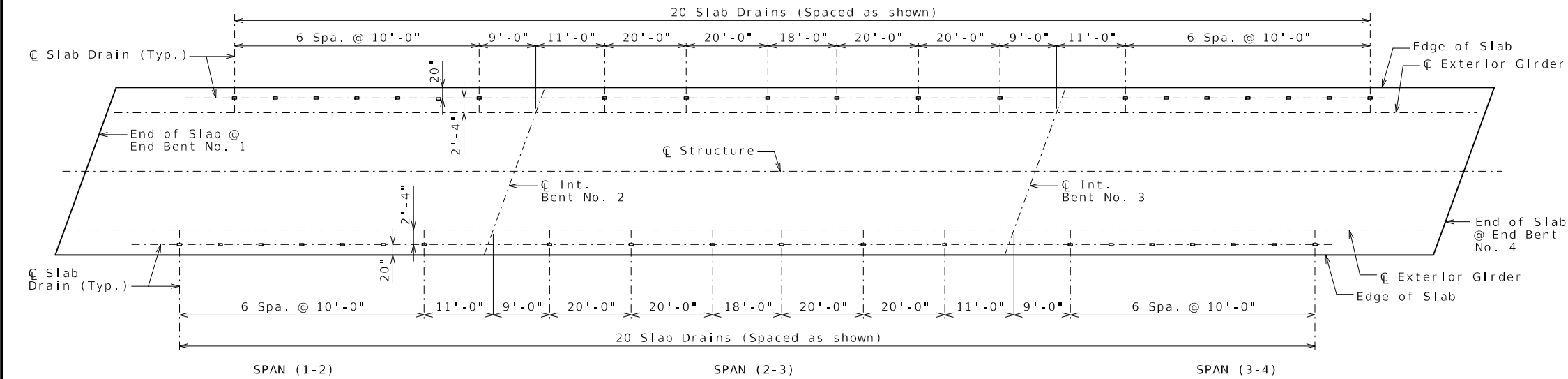
All U bars in diaphragm shall be placed parallel to centerline of roadway.



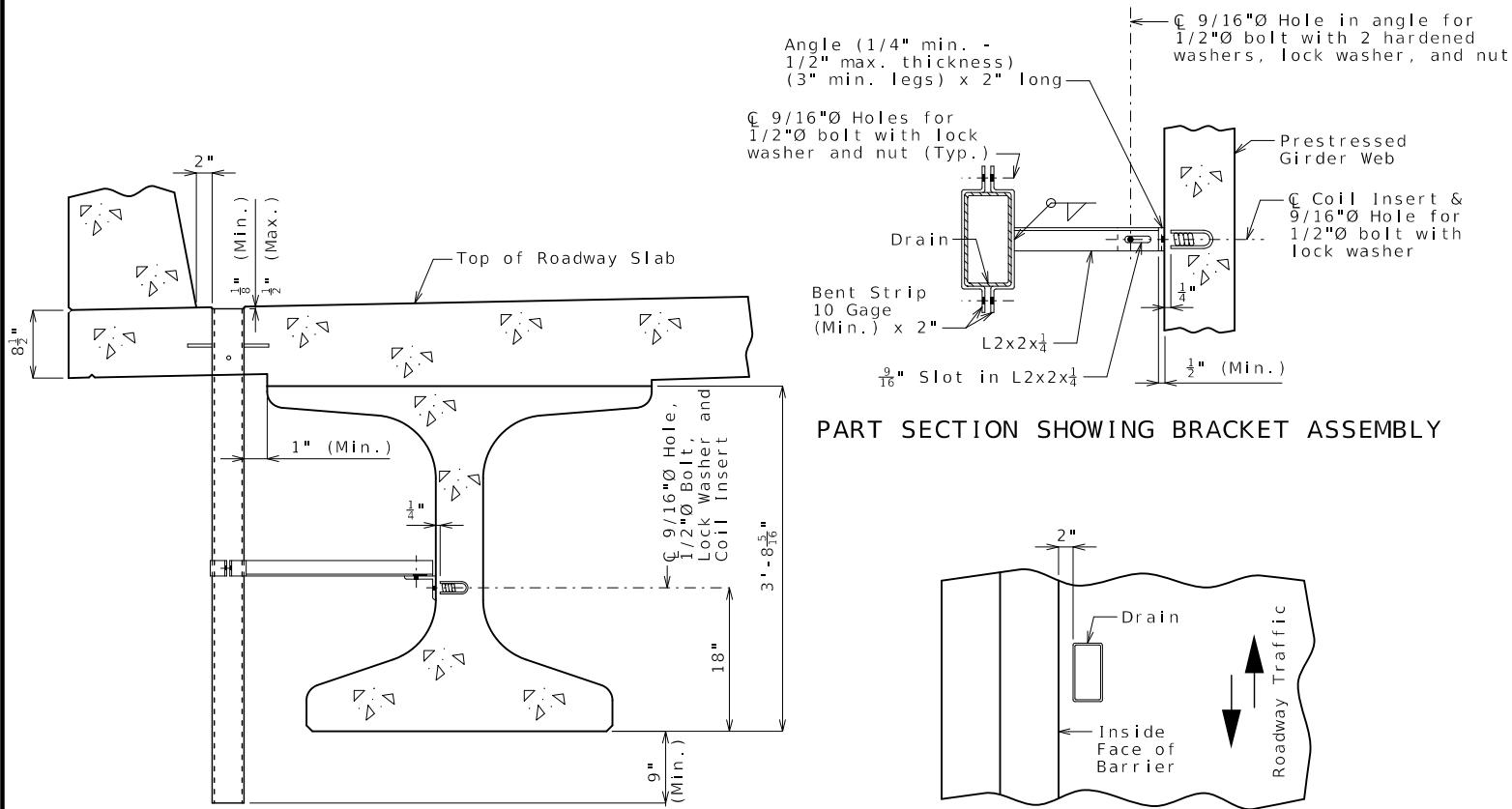
EDGE DETAIL



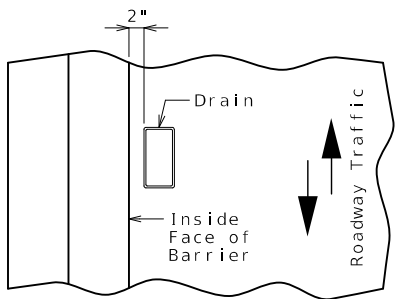
END DETAIL



PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



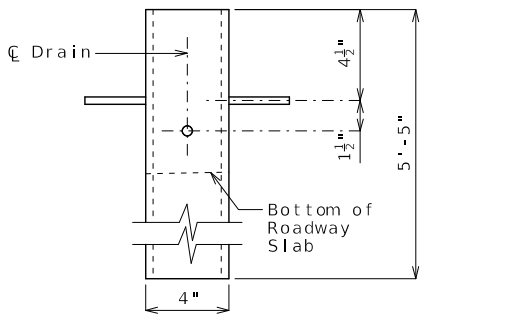
PART SECTION SHOWING BRACKET ASSEMBLY



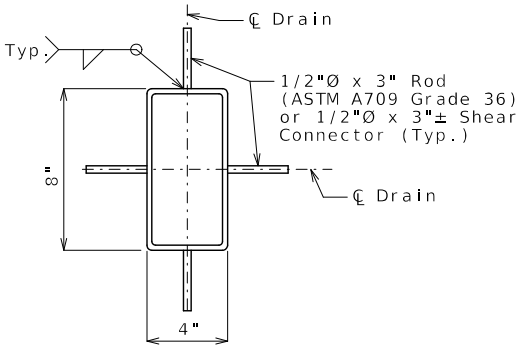
PART PLAN OF SLAB AT DRAIN

PART SECTION NEAR DRAIN

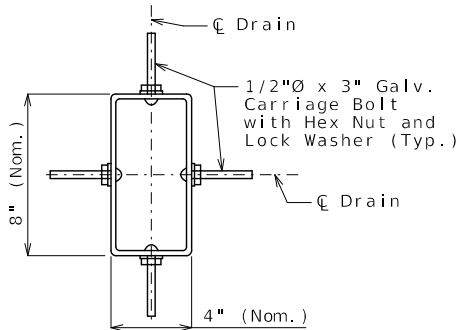
SLAB DRAINS



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.

STATE OF MISSOURI

TYLER R. LINDSAY

NUMBER

PE-2019000128

PROFESSIONAL ENGINEER

09/16/2025 8:47:56 AM

TYLER R. LINDSAY - CIVIL

MO-PE-2019000128

DATE PREPARED

9/17/2025

ROUTE

VV

DISTRICT

BR

STATE

MO

SHEET NO.

20

COUNTY

NODAWAY

JOB NO.

JNW0046

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A9608

DESCRIPTION

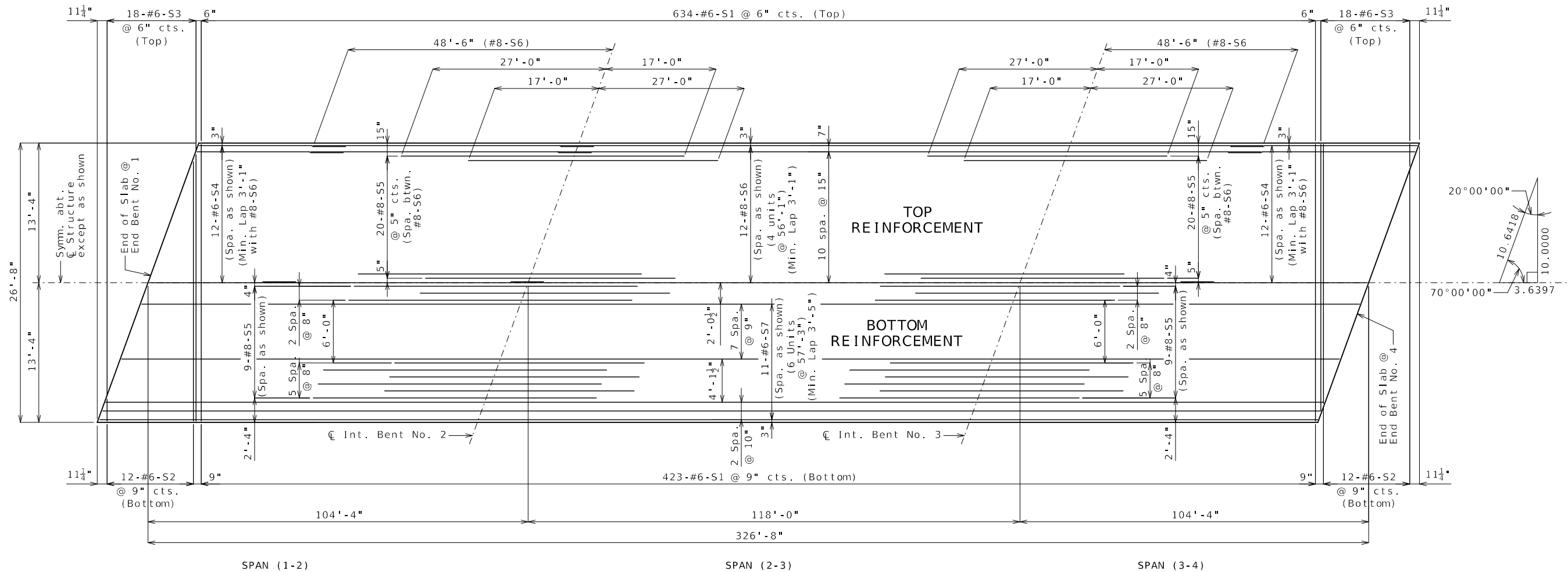
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-273-6636)



PLAN OF SLAB SHOWING REINFORCEMENT

Notes:

Longitudinal dimensions are horizontal.

For Section thru Slab and Slab Pouring Sequence, see Sheet No. 23.

For details and reinforcement of barrier, see Sheets No. 24 & 25.

For details and locations of slab drains, see Sheet No. 20.

For Theoretical Slab Haunching Diagram, Girder Camber Diagram, and Theoretical Bottom of Slab Elevations, see Sheet No. 21.

SLAB DETAILS

Detailed May 2025
Checked July 2025

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

Sheet No. 22 of 31



DATE PREPARED
9/17/2025

ROUTE VV STATE MO

DISTRICT BR SHEET NO. 22

COUNTY NODAWAY

JOB NO. JNW0046

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9608

DESCRIPTION

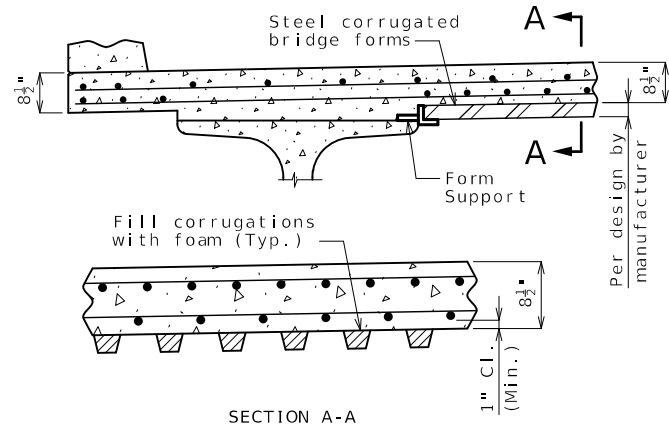
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-273-6636)

MoDOT



OPTIONAL STAY-IN-PLACE FORM DETAILS

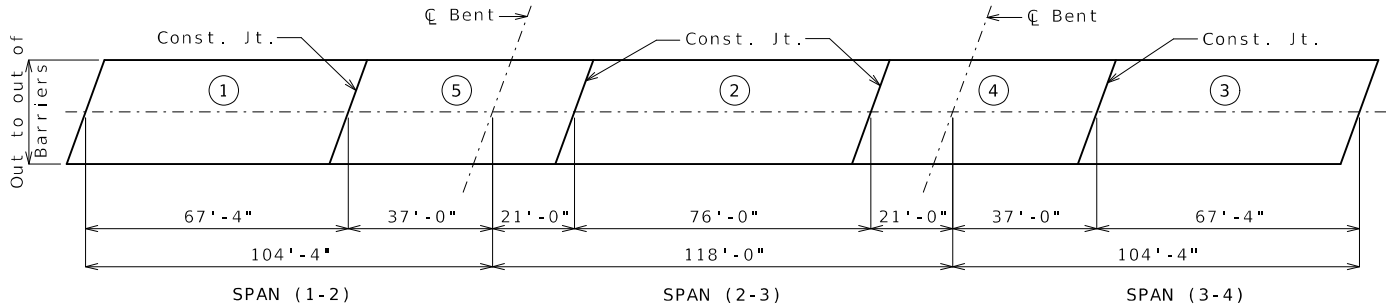
Stay-In-Place Forms:

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

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

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

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

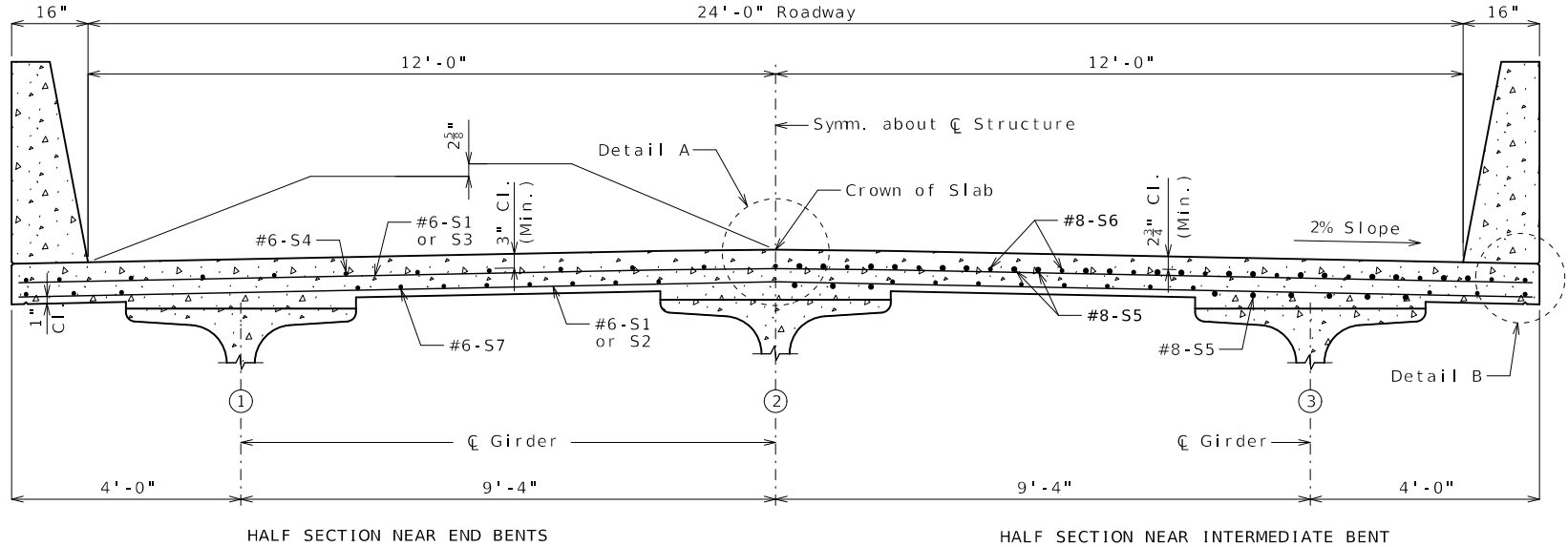


	Sequence of Pours					Min. Rate of Pour Cu. Yds./Hr.
	Direction					With Retarder
Basic Sequence	1	2	3	4	5	25
	Either Direction					
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.						
Alternate A Pours	1		5 + 2		4 + 3	25
	End to 5		1 to 4		2 to End	
Alternate B Pours	1 + 5 + 2			4 + 3		25
	End to 4			2 to End		
Alternate C Pours	1 + 5 + 2 + 4 + 3					25
	End to End					

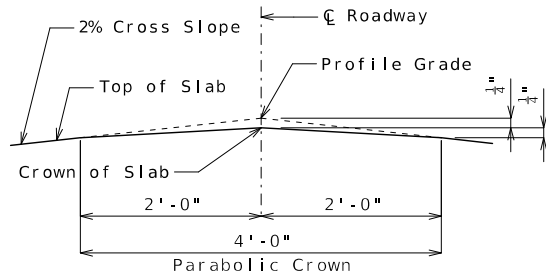
The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

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

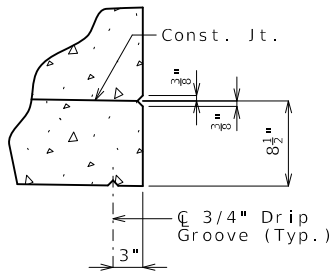
SLAB POURING SEQUENCE



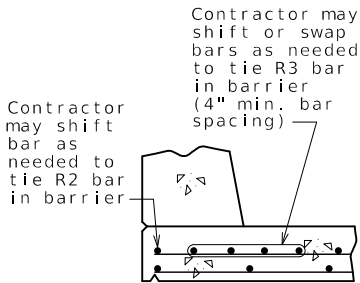
SECTION THRU SLAB



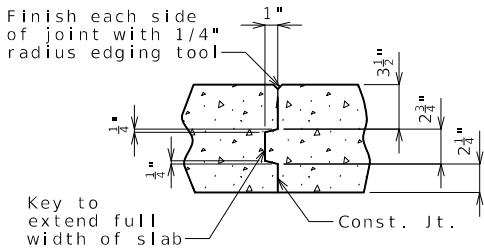
DETAIL A



DETAIL B



OPTIONAL SHIFTING TOP BARS AT BARRIER



SLAB CONSTRUCTION JOINT

Notes:

For reinforcement of barrier not shown, see Sheet No. 24.

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 21.

For Plan of Slab Showing Reinforcement, see Sheet No. 22.

SLAB DETAILS

STATE OF MISSOURI
TYLER R. LINDSAY
NUMBER
PE-2019000128
PROFESSIONAL ENGINEER
09/16/2025 5:51:36 AM
TYLER R. LINDSAY - CIVIL
MO-PE-2019000128

DATE PREPARED
9/17/2025

ROUTE
VV

DISTRICT
BR

STATE
MO

SHEET NO.
23

COUNTY
NODAWAY

JOB NO.
JNW0046

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9608

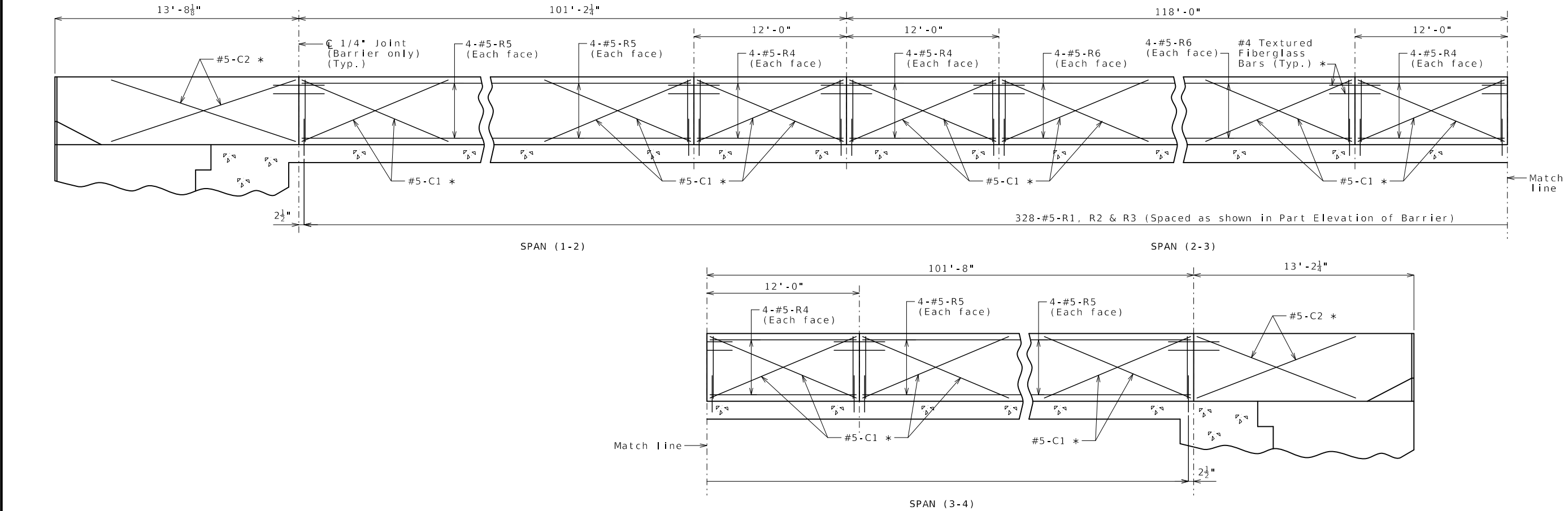
DESCRIPTION

DATE

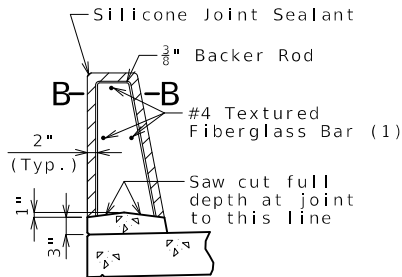
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6636)

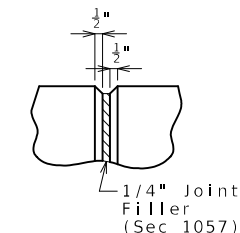
MoDOT



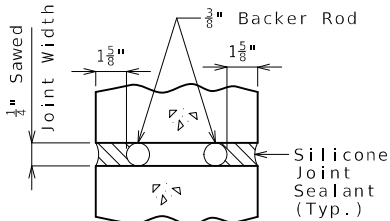
ELEVATION OF BARRIER
(Left barrier shown, right barrier similar by 180° rotation)
Longitudinal dimensions are horizontal.



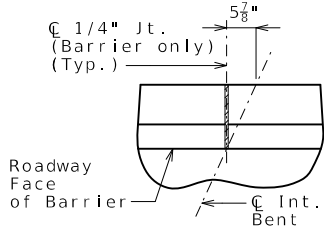
SECTION THRU
SAW CUT JOINT



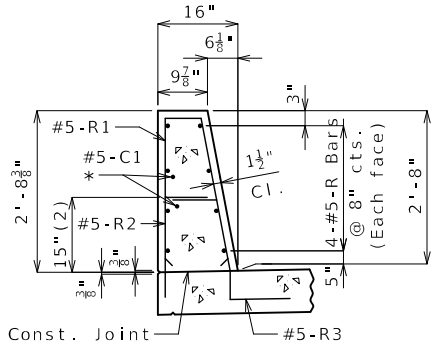
PART ELEVATION
AT FORMED JOINT



SECTION B-B



PART PLAN SHOWING
JOINT LOCATION

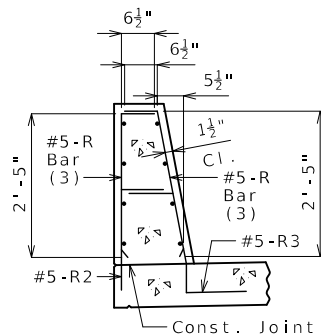


SECTION A-A

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

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

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

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

General Notes:

* Slip-formed option only.

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

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

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

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type 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

Sheet No. 24 of 31

Detailed Apr. 2025
Checked July 2025

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

STATE OF MISSOURI

TYLER R. LINDSAY

NUMBER

PE-2019000128

PROFESSIONAL ENGINEER

09/16/2025 6:51:54 AM

TYLER R. LINDSAY - CIVIL

MO-PE-2019000128

DATE PREPARED

9/17/2025

ROUTE

VV

STATE

MO

DISTRICT

BR

SHEET NO.

24

COUNTY

NODAWAY

JOB NO.

JNW0046

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A9608

DESCRIPTION

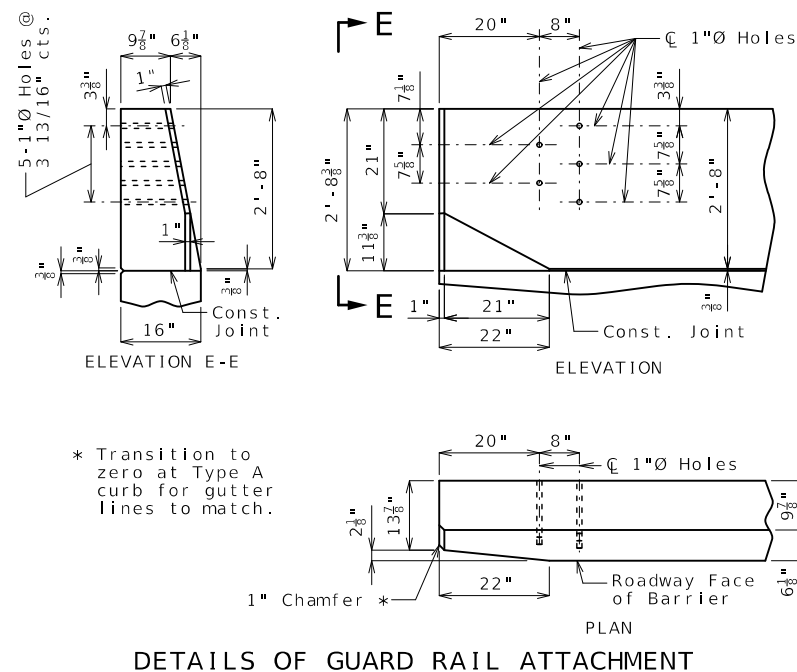
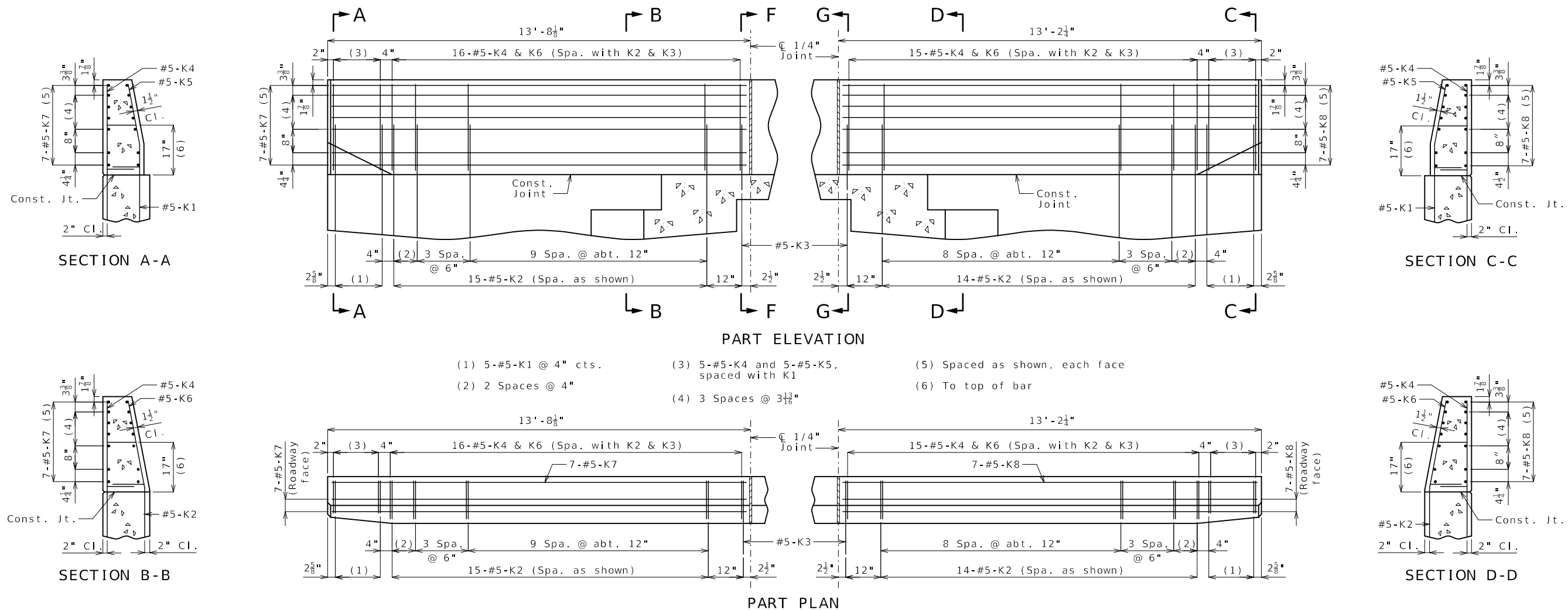
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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



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.

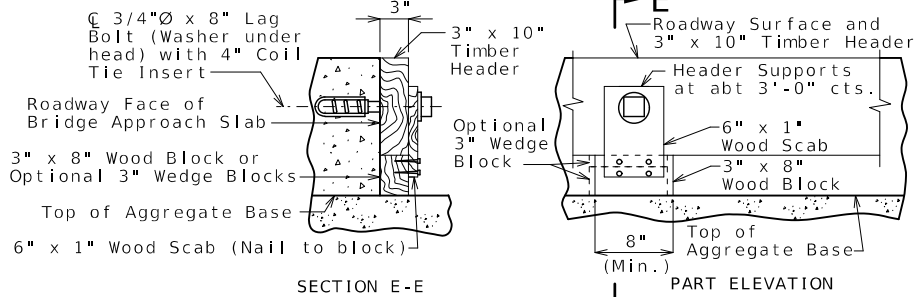
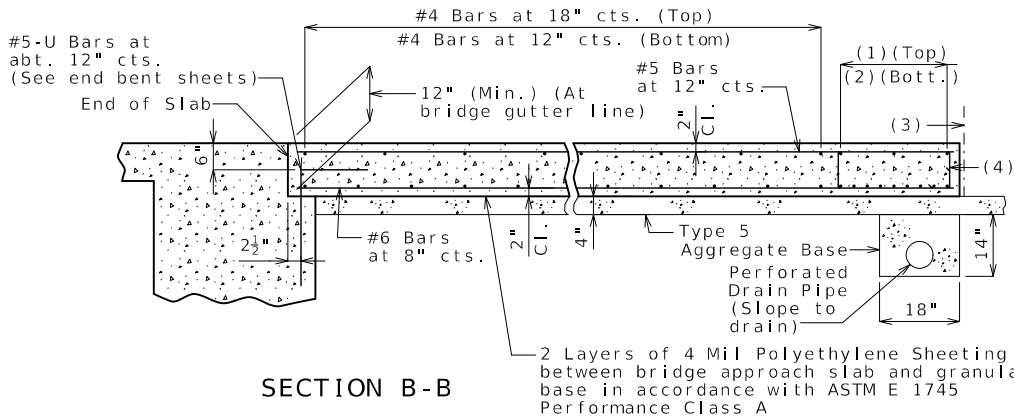
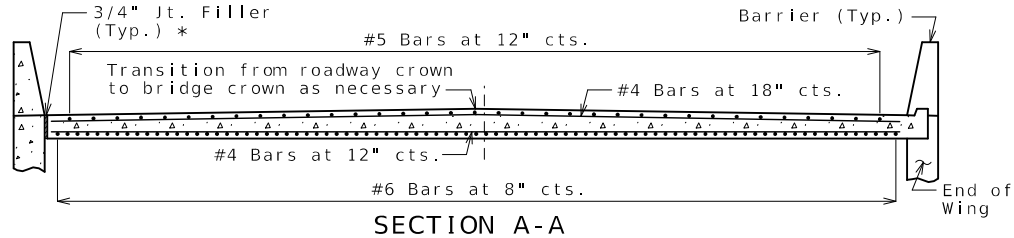
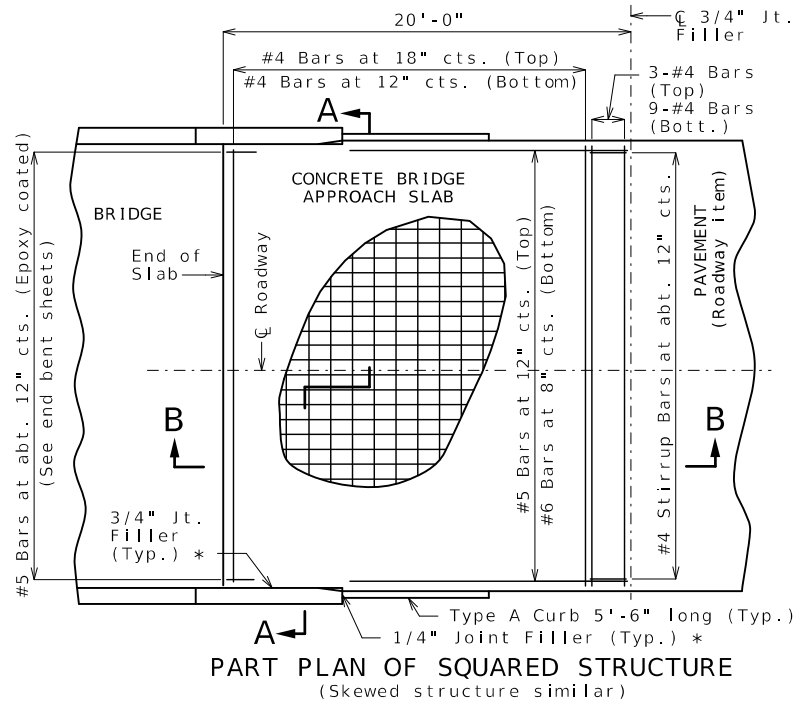
TYPE H BARRIER AT END BENTS

(Left barrier shown, right barrier similar by 180° rotation)

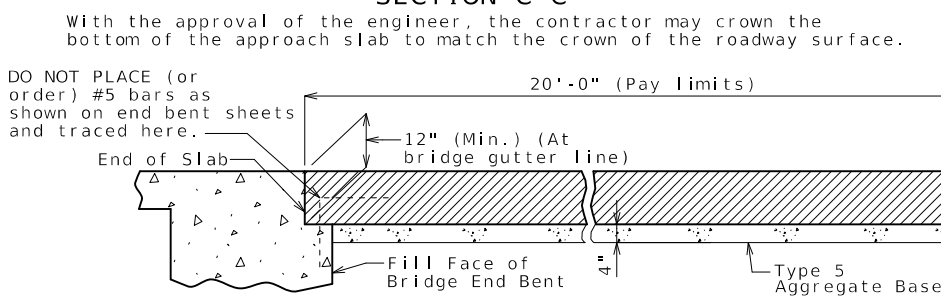
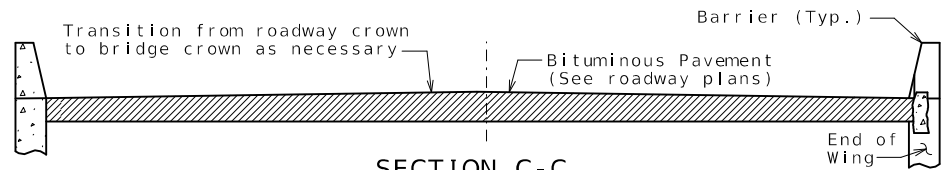
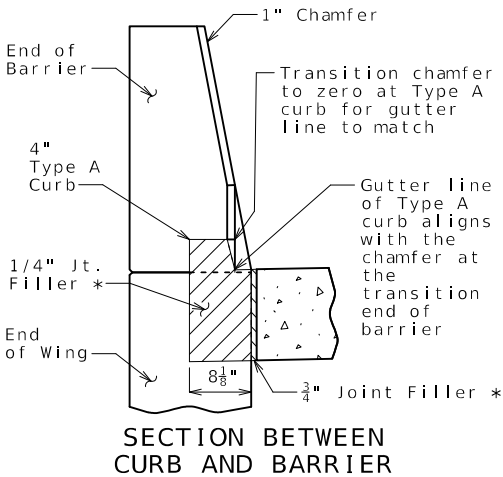
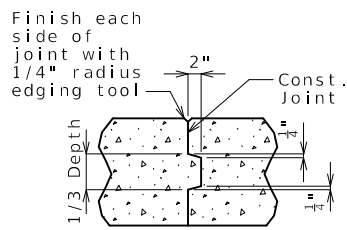
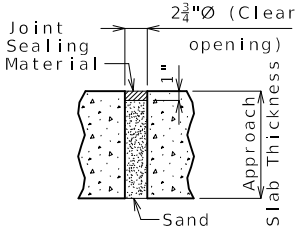
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 25 of 31

[illegible]



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



OPTIONAL ASPHALT SLAB (NOT ALLOWED WITH CONCRETE PAVEMENT)

Notes For Concrete Slab Only:

All concrete for the bridge approach slab shall be in accordance with Sec 503 (f'c = 4,000 psi).
The reinforcing steel in the bridge approach slab shall be epoxy coated Grade 60 with fy = 60,000 psi.

Longitudinal construction joints in bridge approach slab shall be aligned with longitudinal construction joints in bridge slab.
Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 26 inches for #4 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710.

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

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

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

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

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

General Notes:

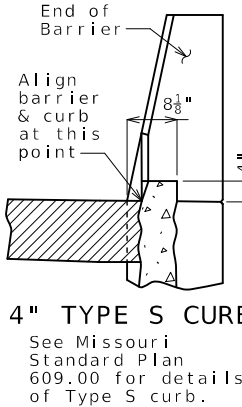
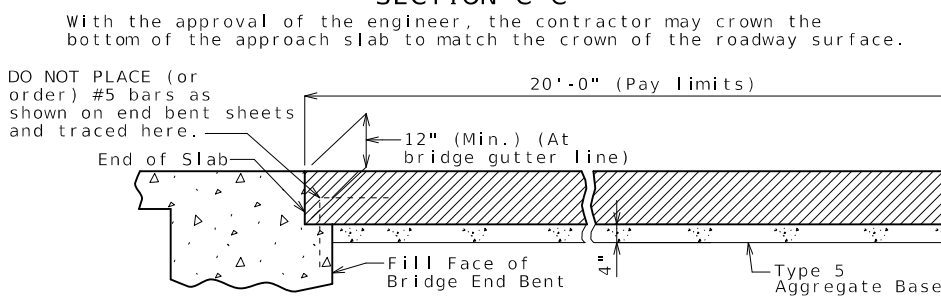
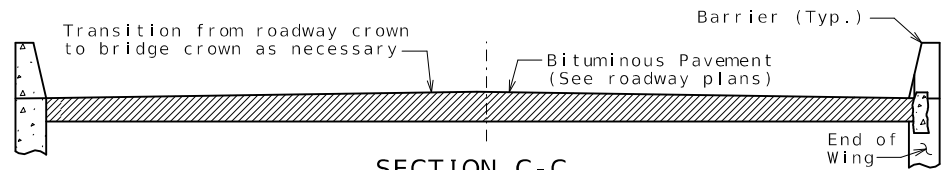
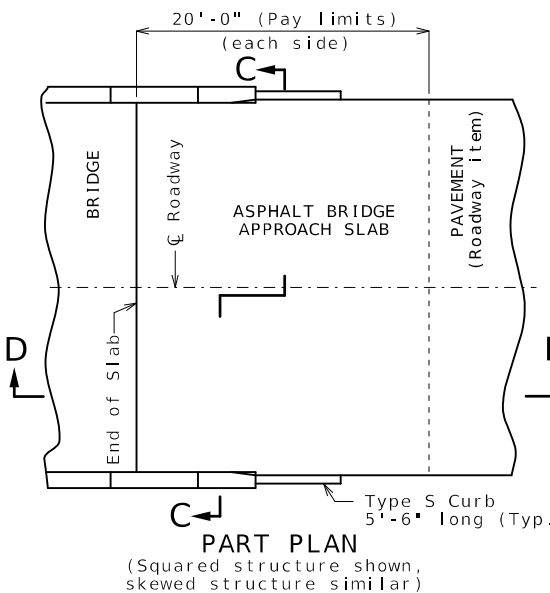
Contractor shall have the option to construct either slab except as noted.
The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

MoDOT Construction personnel will indicate the bridge approach slab used for this structure:
☐ Concrete Bridge Approach Slab
☐ Asphalt Bridge Approach Slab

Notes For Asphalt Slab Only:

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

Application of tack is required between lifts per Sec 403.

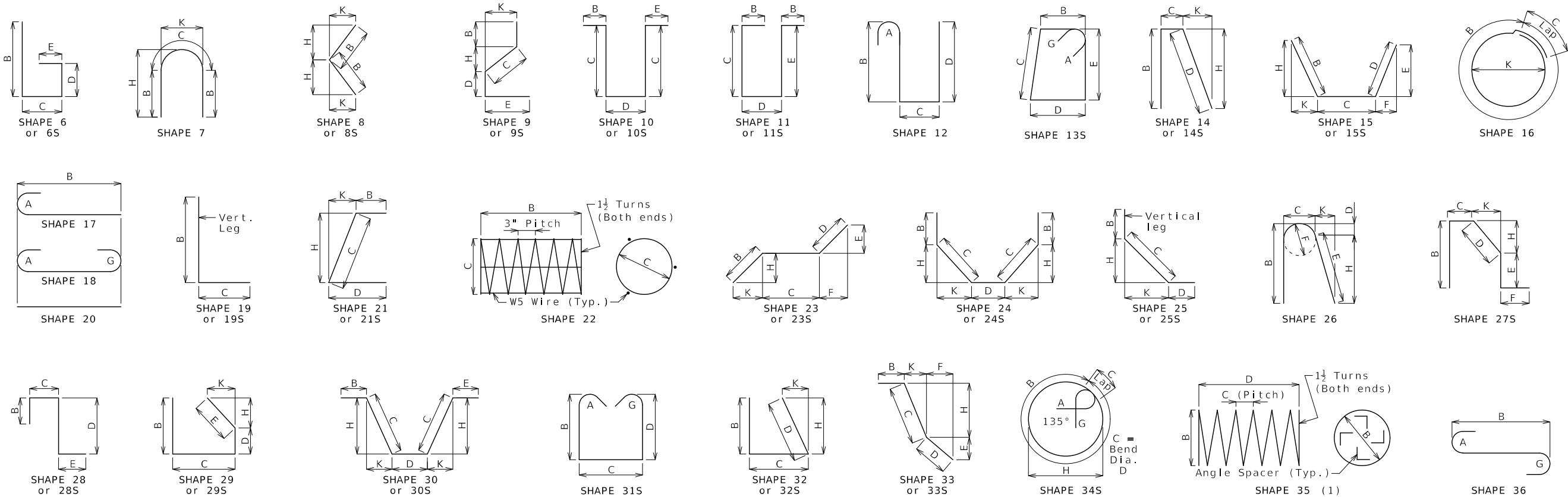


STATE OF MISSOURI
TYLER R. LINDSAY
NUMBER
PE-2019000128
PROFESSIONAL ENGINEER
DATE PREPARED
9/17/2025
ROUTE
VV
DISTRICT
BR
COUNTY
NODAWAY
JOB NO.
JNW0046
CONTRACT ID.
PROJECT NO.
BRIDGE NO.
A9608

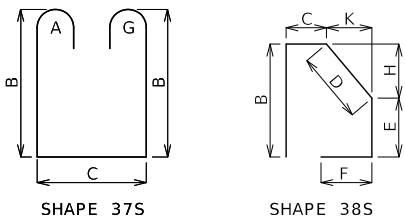
DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6636)

BRIDGE APPROACH SLAB (MINOR)



Finished Bend Dimensions 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	3 ³ / ₄ "	10"	7"	5"	
#6	1	4 ¹ / ₂ "	12"	8 ¹ / ₄ "	6"	
#7	2	5 ¹ / ₄ "	14"	9 ³ / ₄ "	7"	
	3	7"	15"	11 ¹ / ₂ "	8 ³ / ₄ "	
#8	2	6"	16"	11"	8"	
	3	8"	17"	13 ¹ / ₄ "	10"	
#9	1	9 ¹ / ₂ "	19 ¹ / ₂ "	15 ¹ / ₂ "	11 ³ / ₄ "	
#10	1	10 ³ / ₄ "	22"	17 ¹ / ₂ "	13 ¹ / ₄ "	
#11	1	12"	24 ¹ / ₂ "	19 ¹ / ₂ "	14 ⁷ / ₈ "	
#14	1	18 ¹ / ₄ "	31 ¹ / ₄ "	27 ¹ / ₂ "	21 ⁵ / ₈ "	
#18	1	24"	41 ¹ / ₂ "	36 ¹ / ₄ "	28 ¹ / ₂ "	
Stirrup Pin Bend Shapes (S)						
Size	Case	D	A or G		H	J
			90°	135°	180°	135°
#4	2	2"	4 ¹ / ₂ "	4 ¹ / ₂ "	5"	2 ⁷ / ₈ "
	3	3"	5"	5 ¹ / ₄ "	6"	3"
#5	2	2 ³ / ₄ "	5 ³ / ₄ "	5 ³ / ₄ "	5 ³ / ₄ "	3 ³ / ₄ "
	3	3 ³ / ₄ "	6 ¹ / ₄ "	6 ¹ / ₄ "	7"	3 ³ / ₈ "
#6	1	4 ¹ / ₂ "	12"	7 ³ / ₄ "	8 ¹ / ₄ "	4 ³ / ₈ "
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.						



BENDING DIAGRAMS

Reinforcing Steel Totals (Pounds)							
Size	Substructure		Superstructure			Entire Bridge	
	Plain	Epoxy	Slab	Barrier	Slip Form	Plain	Epoxy
W5	0	0	0	0	0	0	0
4	842	0	652	0	0	842	652
5	4,063	0	1,585	14,924	589	4,063	17,098
6	3,682	0	64,574	0	0	3,682	64,574
7	164	0	1,378	0	0	164	1,378
8	2,494	0	28,472	0	0	2,494	28,472
9	0	0	0	0	0	0	0
10	13,233	0	0	0	0	13,233	0
11	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0
By Type	24,478	0	96,661	14,924	589	24,478	112,174

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

All dimensions are out to out. (1) Shall be a deformed or plain spiral bar or wire.

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.

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.

STATE OF MISSOURI

TYLER R. LINDSAY

NUMBER

PE-2019000128

PROFESSIONAL ENGINEER

09/16/2025 6:52:36 AM

TYLER R. LINDSAY - CIVIL

MO-PE-2019000128

DATE PREPARED

9/17/2025

ROUTE

VV

STATE

MO

DISTRICT

BR

SHEET NO.

27

COUNTY

NODAWAY

JOB NO.

JNW0046

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A9608

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-273-6636)

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Bill of Reinforcing Steel																
No. Req.	Size/ Mark	Location	Codes			Dimensions								Nom. Length	Actual Length	Weight
			C	SH	V	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	lb
		Substructure														
		Int Bent 2														
16	7 D200	BEAM	20			2	6.00							2	6	82
8	8 H200	BEAM	18			24	9.00							26	7	568
8	8 H201	BEAM	20			24	9.00							24	9	529
10	6 H202	BEAM	20			24	9.00							24	9	372
14	6 H203	BEAM	10S				12.00	3	7.50					5	8	112
3	8 H204	WEB WALL	18			16	10.00							18	8	150
28	5 H205	WEB WALL	20			14	8.00							14	8	428
118	5 P200	DRILLED SHAFT	16			10	2.50	2	10.00					13	1	1,590
13	6 U200	BEAM	13S			3	9.00	3	9.00	3	9.00	3	9.00	16	11	309
32	6 U201	BEAM	13S			2	6.00	3	9.00	2	6.00	3	9.00	13	10	641
28	6 U202	BEAM	10S				3	9.00	2	6.00				10	9	407
8	4 U203	BEAM	10S				6.00	3	9.00					4	9	24
34	4 U204	WEB WALL	19S			16	3.00	16.00						17	7	397
28	10 V200	DRILLED SHAFT	20			35	3.00							35	3	4,247
28	10 V201	COLUMN	17			18	2.00							19	7	2,359
		Int Bent 3														
16	7 D300	BEAM	20			2	6.00							2	6	82
8	8 H300	BEAM	18			24	9.00							26	7	568
8	8 H301	BEAM	20			24	9.00							24	9	529
10	6 H302	BEAM	20			24	9.00							24	9	372
14	6 H303	BEAM	10S				12.00	3	7.50					5	8	112
3	8 H304	WEB WALL	18			16	10.00							18	8	150
28	5 H305	WEB WALL	20			14	8.00							14	8	428
120	5 P300	DRILLED SHAFT	16			10	2.50	2	10.00					13	1	1,617
13	6 U300	BEAM	13S			3	9.00	3	9.00	3	9.00	3	9.00	16	11	309
32	6 U301	BEAM	13S			2	6.00	3	9.00	2	6.00	3	9.00	13	10	641
28	6 U302	BEAM	10S				3	9.00	2	6.00				10	9	407
8	4 U303	BEAM	10S				6.00	3	9.00					4	9	24
34	4 U304	WEB WALL	19S			16	3.00	16.00						17	7	397
28	10 V300	DRILLED SHAFT	20			35	3.00							35	3	4,247
28	10 V301	COLUMN	17			18	4.00							19	9	2,380
		Superstructure														
		End Bent 1														
10	6 F100	WING BRACE	E 15S			20.00		6	0.00	20.00	11.50	16.50	11.50	9	4	140
4	6 F101	DIAPHRAGM	E 21S				2	11.00	6	5.00	2	9.00	12.00	9	4	56
10	6 F102	WING BRACE	E 15S			20.00		4	4.50	20.00	16.50	11.50	16.50	7	9	115
4	6 F103	DIAPHRAGM	E 23S			2	11.00	5	5.00			2	9.00	8	4	49
12	7 H100	BEAM	E 20			28	1.00							28	1	689
8	6 H101	BM & DIAPH	E 20			28	1.00							28	1	337
6	6 H102	DIAPHRAGM	E 20			8	9.00							8	9	79
2	6 H103	DIAPHRAGM	E 20			6	3.00							6	3	19
6	6 H104	DIAPHRAGM	E 20			3	6.00							3	6	32
2	6 H105	DIAPHRAGM	E 20			2	3.00							2	3	7
16	8 H106	WING	E 20			12	6.00							12	6	534
40	6 H107	WING	E 20			11	1.00							11	1	666
3	5 H108	STRAND TIE	E 23S			14.75		3	2.00	14.75	5.00	14.00	5.00	5	8	18
4	6 H109	BEAM	E 18			4	6.00							5	11	35
12	5 U100	BEAM	E 10S				6	1.00	2	11.00				15	1	186
18	4 U101	BEAM	E 13S			2	11.00	2	8.00	2	11.00	2	8.00	11	11	140
3	4 U102	BEAM	E 10S				2	8.00	2	11.00				8	3	16
20	5 U103	DIAPHRAGM	E 10S				4	0.00	2	4.00				10	11	210
20	6 U104	DIAPHRAGM	E 19S			3	0.00	2	11.00					5	11	173
34	6 U105	DIAPHRAGM	E 19S			3	0.00	4	5.00					7	5	370
24	5 U106	DIAPHRAGM	E 19S			2	0.00	15.00						3	3	79
16	5 V100	BEAM	E 20			6	1.00							6	1	102
15	6 V101	DIAPHRAGM	E 20			3	0.00							3		68
2	6 V102	WING	E 20			7	0.00							7		21

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. 27.

Detailed June 2025
Checked July 2025

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

BILL OF REINFORCING STEEL

Sheet No. 28 of 31

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																			
No. Req.	Size/ Mark	Location	Codes			Dimensions								Nom. Length	Actual Length	Weight			
						B	C	D	E	F	H	K							
			C	SH	V	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	lb			
20	6 V103	WING	E	20	2	7	2.00							7	2				
		Incr. = 0.250"				7	0.00							7		213			
2	6 V104	WING	E	20		7	2.00							7	2	22			
20	6 V105	WING	E	20	2	7	4.00							7	4				
		Incr. = 0.250"				7	2.00							7	2	218			
		End Bent 4																	
10	6 F400	WING BRACE	E	15S		20.00		6	0.00	20.00	11.50	16.50	11.50	9	4	140			
4	6 F401	DIAPHRAGM	E	21S				2	11.00	6	5.00		2	9.00	9	3	56		
10	6 F402	WING BRACE	E	15S		20.00		4	4.50	20.00	16.50	11.50	16.50	7	9	115			
4	6 F403	DIAPHRAGM	E	23S		2	11.00	5	5.00				2	9.00	8	1	49		
12	7 H400	BEAM	E	20		28	1.00							28	1	689			
8	6 H401	BM & DIAPH	E	20		28	1.00							28	1	337			
6	6 H402	DIAPHRAGM	E	20		8	9.00							8	9	79			
2	6 H403	DIAPHRAGM	E	20		6	3.00							6	3	19			
6	6 H404	DIAPHRAGM	E	20		3	6.00							3	6	32			
2	6 H405	DIAPHRAGM	E	20		2	3.00							2	3	7			
16	8 H406	WING	E	20		12	6.00							12	6	534			
42	6 H407	WING	E	20		11	1.00							11	1	699			
3	5 H408	STRAND TIE	E	23S		14.75		3	2.00	14.75	5.00	14.00	5.00	5	8	18			
4	6 H409	BEAM	E	18		4	6.00							5	11	35			
12	5 U400	BEAM	E	10S				6	1.00	2	11.00			15	1	14	10	186	
18	4 U401	BEAM	E	13S		2	11.00	2	8.00	2	11.00	2	8.00	11	11	11	8	140	
3	4 U402	BEAM	E	10S				2	8.00	2	11.00			8	3	8	1	16	
20	5 U403	DIAPHRAGM	E	10S				4	0.00	2	4.00			10	11	10	10	210	
20	6 U404	DIAPHRAGM	E	19S		3	0.00	2	11.00					5	11	5	10	173	
34	6 U405	DIAPHRAGM	E	19S		3	0.00	4	5.00					7	5	7	3	370	
24	5 U406	DIAPHRAGM	E	19S		2	0.00	15.00						3	3	3	2	79	
16	5 V400	BEAM	E	20		6	1.00							6	1	6	1	102	
15	6 V401	DIAPHRAGM	E	20		3	0.00							3		3		68	
2	6 V402	WING	E	20		7	1.00							7	1	7	1	21	
20	6 V403	WING	E	20	2	7	1.00							7	1	7	1		
		Incr. = 0.125"				7	2.00							7	2	7	2	214	
2	6 V404	WING	E	20		7	2.00							7	2	7	2	22	
20	6 V405	WING	E	20	2	7	4.00							7	4	7	4		
		Incr. = 0.250"				7	2.00							7	2	7	2	218	
		Int Diaphragms																	
8	6 H500	DIAPHRAGM	E	20		6	3.00							6	3	6	3	75	
24	4 H501	DIAPHRAGM	E	20		9	1.00							9	1	9	1	146	
8	6 H502	DIAPHRAGM	E	20		8	9.00							8	9	8	9	105	
8	5 H503	DIAPHRAGM	E	19S		12.00		4	4.00					5	4	5	3	44	
32	5 H504	DIAPHRAGM	E	6S	8	4	10.00		12.00	18.00				7	4	7	1		
		Incr. = 3.000"				4	4.00		12.00	15.00				6	7	6	4	224	
8	5 H505	STRAND TIE	E	23S		14.75		3	3.00				5.00	14.00	4	6	4	4	36
4	5 H506	STRAND TIE	E	23S		14.75		3	3.00	14.75	5.00	14.00	5.00	14.00	5	9	5	9	24
40	4 U500	DIAPHRAGM	E	28S				15.00	4	0.00	2	2.00			7	5	7	3	194
16	6 U501	DIAPHRAGM	E	28S				22.00	3	3.00	2	11.00			8		7	8	184
16	6 U502	DIAPHRAGM	E	28S				22.00	4	0.00	2	11.00			8	9	8	5	202
16	6 U503	DIAPHRAGM	E	28S				22.00	3	3.00	19.00				6	8	6	4	152
16	5 V500	DIAPHRAGM	E	20		4	0.00							4		4		67	
		Slab																	
1057	6 S1	SLAB	E	20		26	5.00							26	5	26	5		41,939
24	6 S2	SLAB	E	20	2	24	9.00							24	9	24	9		
		Incr. = 24.750"				2	1.00							2	1	2	1		484
36	6 S3	SLAB	E	20	2	25	5.00							25	5	25	5		
		Incr. = 16.500"				2	1.00							2	1	2	1		743
46	6 S4	SLAB	E	20		58	10.00							58	10	58	10		4,065
116	8 S5	SLAB	E	20		44	0.00							44		44			13,628
92	8 S6	SLAB	E	20		56	1.00							56	1	56	1		13,776
132	6 S7	SLAB	E	20		57	3.00							57	3	57	3		11,351

