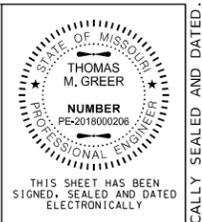
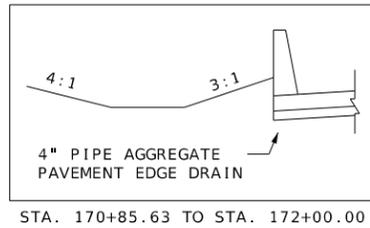


OVER EXCAVATION OF WALL BACKFILL REQUIRED FOR WALL STABILITY IN PROPOSED ULTIMATE CONDITION. PROVIDED GEOMETRIC INFORMATION FOR LIMITS OF EXCAVATION AND LCC ARE INTENDED TO MINIMIZE IMPACT TO THE EXISTING LEVEE SECTION. EXISTING WALL A7619 AND EXISTING LEVEE SECTION ARE SHOWN BASED ON EXISTING PLAN INFORMATION. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS. THE CONTRACTOR SHALL BE REQUIRED TO TAKE SPECIAL PRECAUTION AND CARE WITH EXCAVATION AND LCC PLACEMENT IN THE LEVEE SECTION, WITHOUT DISTURBANCE OF IMPERVIOUS FILL. IF IMPERVIOUS FILL IS ENCOUNTERED DURING EXCAVATION OF THE WALL, BACKFILL WITH COMPACTED IMPERVIOUS CLAY MATERIAL UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE WORK SHALL BE IN ACCORDANCE WITH THE USACE APPROVED DIPP FOR MSE WALL BRIDGE NO. 9617. PAYMENT FOR FURNISHING ALL MATERIAL, EQUIPMENT, TOOLS, LABOR AND ANY OTHER INCIDENTAL WORK AS REQUIRED FOR LEVEE IMPERVIOUS FILL, COMPLETE IN PLACE, WILL BE CONSIDERED COMPLETELY COVERED BY THE CONTRACT UNIT PRICE FOR COMPACTING EMBANKMENT.

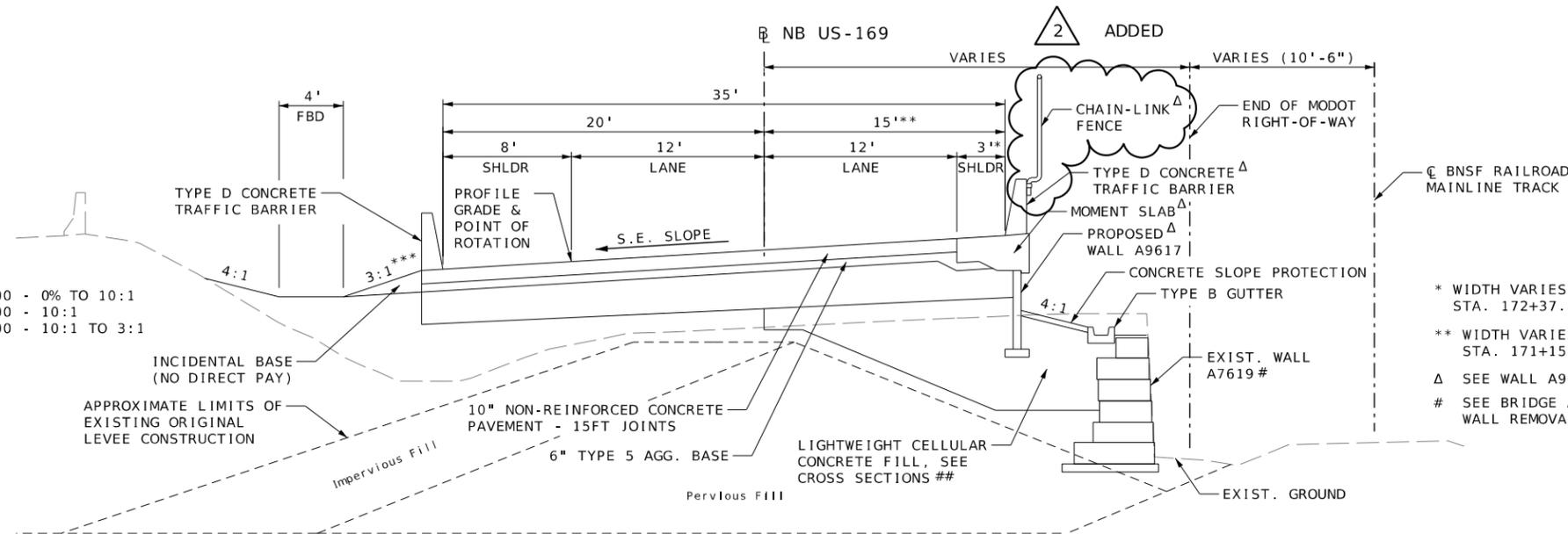
NOTE: SEE PLAN AND PROFILE SHEETS FOR SUPERELEVATION TRANSITION DETAILS.



DATE PREPARED	3/10/2026	
ROUTE	169	STATE MO
DISTRICT	KC	SHEET NO. 2
COUNTY	CLAY	
JOB NO.	JKU0099	
CONTRACT ID.		
PROJECT NO.		
BRIDGE NO.		



*** SLOPE VARIES:
 STA. 170+85.63 TO STA. 171+00.00 - 0% TO 10:1
 STA. 170+00.00 TO STA. 171+50.00 - 10:1
 STA. 171+50.00 TO STA. 172+00.00 - 10:1 TO 3:1

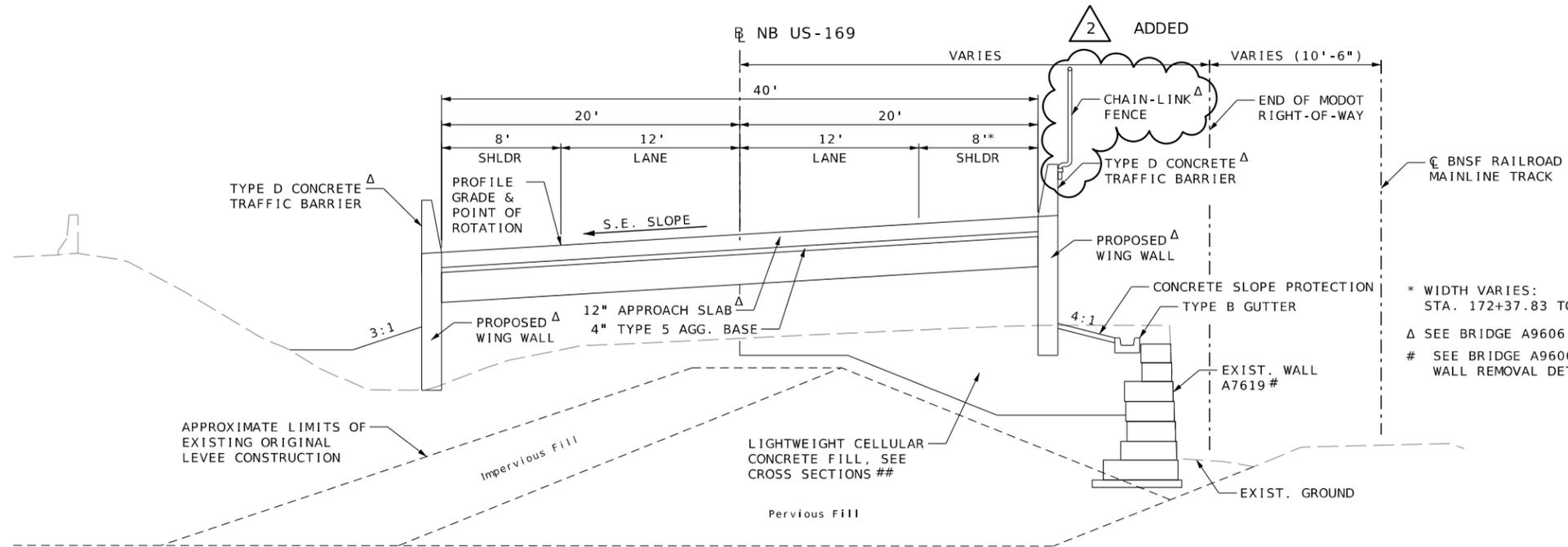


* WIDTH VARIES:
 STA. 172+37.83 TO STA. 173+46.51 - 3' TO 8'

** WIDTH VARIES:
 STA. 171+15.14 TO STA. 171+43.28 - 15.33' TO 15'

Δ SEE WALL A9617 PLANS FOR DETAILS
 # SEE BRIDGE A9606 PLANS FOR PARTIAL WALL REMOVAL DETAILS

TYPICAL SECTION US-169 NB
 STA. 170+85.63 TO STA. 173+26.93



* WIDTH VARIES:
 STA. 172+37.83 TO STA. 173+46.51 - 3' TO 8'

Δ SEE BRIDGE A9606 PLANS FOR DETAILS
 # SEE BRIDGE A9606 PLANS FOR PARTIAL WALL REMOVAL DETAILS

TYPICAL SECTION US-169 NB
 STA. 173+26.93 TO STA. 173+46.93

DATE	DESCRIPTION
03/11/26	ADDED FENCE

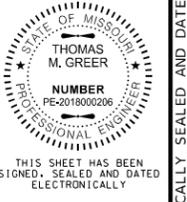
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

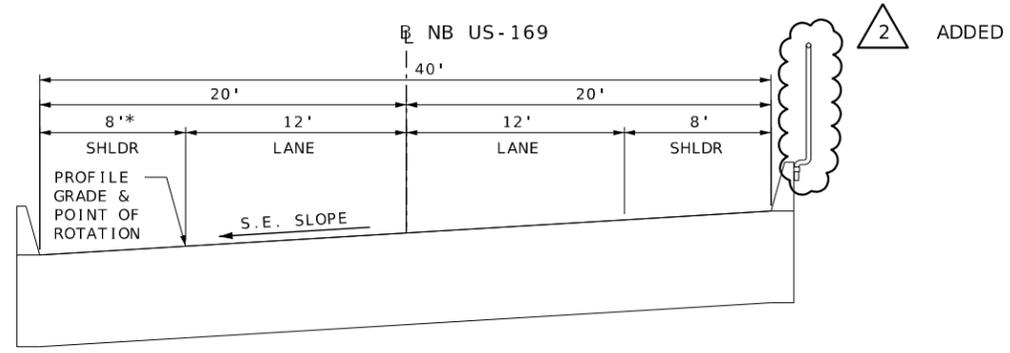
Burns & McDonnell Engineering Co., Inc.
 9400 Ward Parkway
 Kansas City, Missouri 64114
 816-333-9400
 Certificate of Authority
 No. : 000165
 BmC Project No. 154749

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

NOTE: SEE PLAN AND PROFILE SHEETS FOR SUPERELEVATION TRANSITION DETAILS.

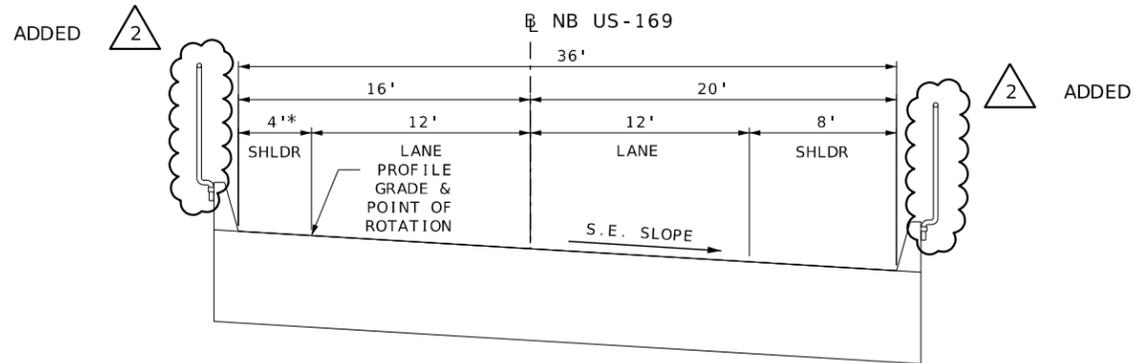


DATE PREPARED 3/10/2026	
ROUTE 169	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY CLAY	
JOB NO. JKU0099	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	



BRIDGE TYPICAL SECTION US-169 NB
STA. 173+46.93 TO STA. 176+39.32

* WIDTH VARIES: STA. 175+98.19 TO STA. 177+08.19 - 4' TO 8'



BRIDGE TYPICAL SECTION US-169 NB
STA. 176+39.32 TO STA. 183+62.33

DATE	DESCRIPTION
03/11/26	ADDED FENCE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400
Certificate of Authority
No. : 000165
BMcD Project No. 154749

TYPICAL SECTION
SHEET 3 OF 5

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REMOVAL OF IMPROVEMENTS									
PLAN SHEET	STA.*	STA.*	ROUTE	OFFSET	DESCRIPTION	QUANTITY	UNITS	REMARKS	
PAVEMENT AND SHOULDERS									
4	169+00.00	175+05.61	US-169	CT	NB US-169 PAVEMENT & SHOULDERS	2061.27	SY		
5	183+18.17	185+57.19	US-169	CT	NB US-169 PAVEMENT & SHOULDERS	951.47	SY		
6	176+29.62	177+82.92	US-169	LT	ACCESS ROAD 1	209.57	SY		
			US-169	CT	US-169 SOUTH CROSSOVER	310.00	SY	SAWCUT AT EDGE OF SHOULDERS. REMOVE CROSSOVER	
BARRIERS									
4	169+00.00	175+05.48	US-169	RT	TYPE B CONCRETE TRAFFIC BARRIER	610.55	LF		
4	173+99.05	175+05.64	US-169	LT	TYPE B CONCRETE TRAFFIC BARRIER	105.22	LF		
GUARDRAIL									
4	169+00.00	174+00.86	US-169	LT	TYPE A GUARDRAIL	496.82	LF	INCLUDES BRIDGE TRANSITION SECTION	
5	183+27.34	185+57.19	US-169	RT	TYPE A GUARDRAIL	230.10	LF	INCLUDES BRIDGE TRANSITION SECTION	
**	171+70.89	173+15.62	US-169	LT	TYPE A GUARDRAIL	137.50	LF	INCLUDES BRIDGE ANCHOR, TRANSITION, END TREATMENT	
RETAINING WALL									
4	173+99.05	175+00.66	US-169	LT	WALL A8081	430.00	SF		
DRAINAGE									
4	174+50.00		US-169	LT	DROP INLET	1	EA		
4	174+50.00		US-169	LT	12" PIPE	5	LF		
4	175+08.05		US-169	LT	12" PIPE	38	LF		
4	175+08.05		US-169	LT	12" FES	2	EA		
4	177+43.95		US-169	LT	12" PIPE	20	LF		
5	178+71.58		US-169	LT	12" PIPE	19	LF		
5	183+82.29		US-169	RT	DROP INLET	1	EA		
5	183+82.29		US-169	RT	12" PIPE	152	LF		
SIGNING									
33	171+50.22		US-169	LT	NB .2 ERM SIGN	EST. 7.5	SF	ONE POST SHEET SIGN	
33	174+04.67		US-169	LT	NB EXIT	EST. 144	SF	ON SIGN TRUSS	
33	174+04.67		US-169	LT	CURVE SIGN	EST. 22.25	SF	ON SIGN TRUSS	
33	174+04.67		US-169	LT	SIGN TRUSS	1	EA		
33	175+01.60		US-169	LT	CURVE SIGN	EST. 22.25	SF	ONE POST SHEET SIGN	
TOTAL						1	LUMP SUM		

NOTES:
1) SAWCUTTING PAVEMENT SHALL BE INCIDENTAL TO REMOVAL OF IMPROVEMENTS.

2 ADDED

MOBILIZATION
1 LUMP SUM

2 ADDED

CONTRACTOR FURNISHED
SURVEY AND STAKING
1 LUMP SUM

RAILROAD PLAN SUBMITTAL
1 LUMP SUM

ADDITIONAL MOBILIZATION
FOR SEEDING
1 EACH

* REMOVAL OF IMPROVEMENTS IS STATIONED FROM THE EXISTING NB US-169 ALIGNMENT
** REMOVAL OF GUARDRAIL AT THE SOUTH END OF THE SB US-169 BRIDGE THAT WAS CONSTRUCTED AS PART OF THE CROSSOVER PLANS

CLEARING AND GRUBBING IN LEVEE CRITICAL AREA				
SHEET	STA.	STA.	ROUTE	CLEARING AND GRUBBING IN LEVEE CRITICAL AREA (ACRE)
4, 5	169+00.00	185+56.00	US-169	3
TOTAL				3

CONCRETE PAVEMENT					
SHEET	STA.	STA.	ROUTE	CONCRETE PAVEMENT (10 IN. NON-REINFORCED 15 FT JOINTS) (SY)	TYPE 5 AGGREGATE BASE (6" THICK) (SY)
4	169+00.00	173+11.45	US-169	1,491.4	1,491
5	184+03.17	185+56.00	US-169	682.8	683
TOTAL				2,174.2	2,174

ACCESS ROAD PAVEMENT									
SHEET	STA.	STA.	ROUTE	ASPHALT PAVEMENT (SY)	BITUMINOUS PAVEMENT MIXTURE PG 64-22 (BP-1)** (TONS)	BITUMINOUS PAVEMENT MIXTURE PG 64-22 (BASE)** (TONS)	TYPE 5 AGGREGATE BASE (6" THICK) (SY)	GRAVEL (A) OR CRUSHED STONE (B) (6" THICK) (SY)	GRAVEL (A) OR CRUSHED STONE (B) (2" THICK)* (SY)
4, 31	173+51.70	176+69.59	US-169						2041
6, 31, 32	1+77.21	8+64.00	ACCESS ROAD 1	569.6	62.3	190.3	570		222
7, 32	20+10.99	20+94.58	ACCESS ROAD 2					116	19
TOTAL					62.3	190.3	570	116	2,282

* USED FOR GROUND COVER ON GRADING UNDER BRIDGE.
** ESTIMATE FACTORS (FOR INFORMATION ONLY)
BITUMINOUS PAVEMENT MIXTURE PG64-22, (BP-1) = 1.987 TON/C.Y.
BITUMINOUS PAVEMENT MIXTURE PG64-22, (BASE) = 2.005 TON/C.Y.

CONCRETE APPROACH PAVEMENT				
SHEET	STA.	STA.	ROUTE	CONCRETE APPROACH PAVEMENT (SY)
4	173+11.45	173+26.93	US-169	56.8
5	183+83.88	184+03.17	US-169	82.50
TOTAL				139.3

CONCRETE TRAFFIC BARRIER							
SHEET	STA.	STA.	ROUTE	SIDE	CONCRETE TRAFFIC BARRIER, TYPE D (LF)	CONCRETE TRAFFIC BARRIER, TYPE D (MOMENT SLAB) (LF)	CONCRETE TRAFFIC BARRIER, TYPE C (LF)
6	169+00.00	170+85.63	US-169	RT		188	
6	170+85.63	173+27.25	US-169	RT		245	
6	170+85.63	173+26.57	US-169	LT	237		
6	183+90.97	186+62.15	US-169	LT			272
TOTAL					237	433	272

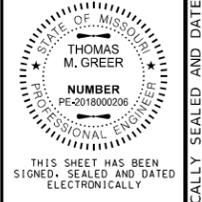
NOTE: TYPE C BID ITEM INCLUDES STANDARD BARRIER AND TRANSITIONS AND MODIFICATIONS NEEDED TO INSTALL AT LOCATION SHOWN ON THE PLANS

186+42.15
2 REVISED

2 REVISED

2 REVISED

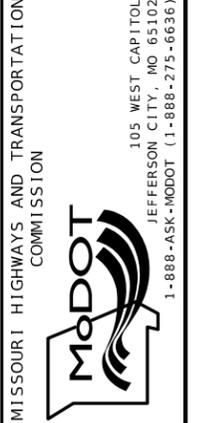
SUMMARY OF QUANTITIES
SHEET 1 OF 4-5



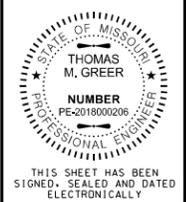
DATE PREPARED
3/12/2026
ROUTE 169 STATE MO
DISTRICT KC SHEET NO. 3
COUNTY CLAY
JOB NO. JKU0099
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION
03/11/26	REMOVED REMOVALS & TYPE C BARRIER



Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400
Certificate of Authority
No. : 000165
BMcD Project No. 154749



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
3/12/2026

ROUTE STATE
169 MO

DISTRICT SHEET NO.
KC 3

COUNTY
CLAY

JOB NO.
JKU0099

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION
03/11/26	ADDED SEEDING SOUTH CROSSOVER

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

Burns & McDonnell Engineering Co., Inc.

9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400

Certificate of Authority
No. : 000165
BMcD Project No. 154749

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

TEMPORARY EROSION CONTROL

BEGIN STA.	END STA.	ROUTE	SIDE	SILT FENCE	ROCK DITCH CHECK	CURB INLET CHECK	SEDIMENT TRAP	SEDIMENT REMOVAL
				(LF)	(LF)	(EACH)	EXCAVATION & ROCK (CY)	(CY)
169+00.00	177+86.40	US-169	LT / RT	764	52		3	15
177+86.40	185+56.00	US-169	LT / RT	1,644	50	1	6	25
TOTAL				2,408	102	1	9	40

GUARDRAIL

LOCATION	STA.	STA.	MGS GUARDRAIL	MGS GUARDRAIL, 6 FT. POSTS, 3 FT. -1.5 IN. SPACING	MGS HEIGHT AND BLOCK TRANSITION	MGS BRIDGE APPROACH TRANSITION SECTION (EXTENDED CURB)	MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR / NO CURB)	MGS END ANCHOR	TYPE A CRASHWORTHY END TERMINAL (MASH)
			(LF)	(LF)	(EA)	(EA)	(EA)	(EA)	(EA)
NB US-169	169+00.00	171+10.00	137.5	37.5	1			1	
NB US-169	183+68.16	185+55.66	125		1	1			
NB US-169 *			275				1		1
SB US-169 *			262.5				1	1	
TOTAL			800	38	2	1	2	2	1

* REPLACEMENT OF GUARDRAIL AT THE ENDS OF THE EXISTING CONCRETE BARRIER THAT WAS REMOVED FOR THE SOUTH CROSSOVER

ROCK BLANKET

SHEET	STA.	STA.	ROUTE	LOCATION	FURNISHING TYPE 2 ROCK BLANKET (CY)	PLACING TYPE 2 ROCK BLANKET (CY)
5	182+87.47	184+24.88	US-169	LT / RT	303	303
TOTAL					303	303

COLDMILLING *

BEGIN STA.	END STA.	ROUTE	SIDE	COLDMILLING BITUMINOUS PAVEMENT FOR REMOVAL OF SURFACING (GREATER THAN 3 IN. THICK) (SY)
183+90.97	186+62.15	US-169	LT	61
TOTAL				61

* COLDMILLING FOR REMOVING TEMP CROSSOVER PAVEMENT TO PLACE TYPE C BARRIER ON EXISTING CONCRETE

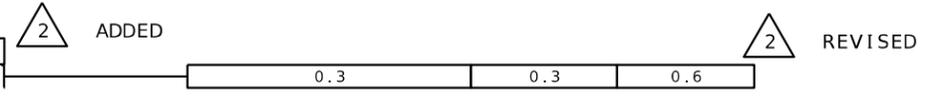
EARTHWORK

ROADWAY	BEGIN STA.	END STA.	UNCLASSIFIED EXCAVATION (CY)	COMPACTING EMBANKMENT (CY)	COMPACTING IN CUT (STA)
US-169	169+00.00	176+50.00	1,454	1,056	7.5
US-169	182+87.25	185+56.00	1,009	13	2.7
ACCESS ROAD 1	1+77.21	8+64.00	225	113	
ACCESS ROAD 2	20+10.99	20+94.58	12	1	
TOTAL			2,700	1,183	10.2

SEEDING AND MULCHING

BEGIN STA.	END STA.	ROUTE	LOCATION	SEEDING COOL SEASON GRASSES (ACRE)	TEMPORARY SEEDING (ACRE)	MULCHING (ACRE)
170+85.63	173+49.21	US-169	LT	0.08	0.08	0.16
183+64.06	185+40.00	US-169	RT	0.02	0.02	0.04
6+65.00	8+64.00	ACCESS ROAD 1	LT & RT	0.10	0.10	0.20
		US-169 *		0.12	0.12	0.24
TOTAL				0.2	0.2	0.4

* FOR RESTORATION OF THE MEDIAN AFTER REMOVAL OF THE SOUTH CROSSOVER



PAVEMENT UNDERDRAINAGE

BEGIN STA.	END STA.	ROUTE	SIDE	PIPE AGGREGATE PAVEMENT EDGE DRAIN (LF)
170+60.00	172+00.00	US-169	LT	140
184+05.00	185+56.00	US-169	RT	151
TOTAL				291

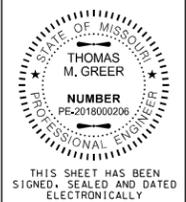
SLOPE PROTECTION

BEGIN STA.	END STA.	ROUTE	SIDE	SLOPE PROTECTION (SY)
171+92.19	173+54.70	US-169	RT	59
TOTAL				59

2 REVISED

SUMMARY OF QUANTITIES
SHEET 2 OF 4-5

WARNING SIGNS										GUIDE SIGNS										REGULATORY SIGNS										MISCELLANEOUS SIGNS									
SIGN	SIZE	AREA	QTY	TOTAL	QTY	TOTAL	SIGN	DESCRIPTION		SIGN	SIZE	AREA	QTY	TOTAL	QTY	TOTAL	SIGN	DESCRIPTION		SIGN	SIZE	AREA	QTY	TOTAL	QTY	TOTAL	SIGN	DESCRIPTION		SIGN	SIZE	AREA	QTY	TOTAL	QTY	TOTAL	SIGN	DESCRIPTION	
IN.	SQ.FT.	EACH	SQ.FT.	EACH	SQ.FT.	NO.				IN.	SQ.FT.	EACH	SQ.FT.	EACH	SQ.FT.	NO.				IN.	SQ.FT.	EACH	SQ.FT.	EACH	SQ.FT.	NO.				IN.	SQ.FT.	EACH	SQ.FT.	EACH	SQ.FT.	NO.			
W01-1L	48X48	16.00						TURN (SYMBOL LEFT)		E05-1	36X48	12.00						GORE EXIT		R1-1	48X48	13.25						STOP		CONST-5	48X36	12.00						POINT OF PRESENCE	
W01-1R	48X48	16.00						TURN (SYMBOL RIGHT)		E05-2	48X36	12.00						EXIT OPEN		R1-2	48TRI.	6.93						YIELD		CONST-5	96X48	32.00	2	64.00				POINT OF PRESENCE	
W01-2L	48X48	16.00						CURVE (SYMBOL LEFT)		E05-2a	48X36	12.00						EXIT CLOSED		R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)		CONST-8	48X36	12.00	4	48.00				WORK ZONE NO PHONE ZONE	
W01-2R	48X48	16.00						CURVE (SYMBOL RIGHT)		GO20-1	60X24	10.00	4	40.00			1	ROAD WORK NEXT XX MILES		R2-1	36X48	12.00	6	72.00			4/25	SPEED LIMIT 2-35, 2-45, 2-55		CONST-7-7	48X48	12.00						Rate our Work Zone	
W01-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT)		GO20-2	48X24	8.00	4	32.00			26	END ROAD WORK		R2-1	48X48	16.00						NO RIGHT TURN (SYMBOL)		CONST-7-4	48X48	12.00						Rate our Work Zone	
W01-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT)		GO20-4	36X18	4.50						PILOT CAR FOLLOW ME		R3-2	48X48	16.00	1	16.00				NO LEFT TURN (SYMBOL)		CONST-3A	60X48	20.00						FINE SIGN	
W01-4L	48X48	16.00	4	64.00			15	REVERSE CURVE (SYMBOL LEFT)		GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW		R3-2	48X48	16.00						NO U-TURN (SYMBOL)		CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)	
W01-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT)		GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW		R3-3	36X36	9.00						NO TURNS											
W01-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)		GO20-5aP	36X24	6.00	4	24.00			54	WORK ZONE (PLAQUE)		R3-4	48X48	16.00						NO U-TURN (SYMBOL)											
W01-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)		MO4-8a	24X18	3.00						END DETOUR		R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT											
W01-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)		MO4-9L	48X36	12.00						DETOUR (LEFT)		R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT											
W01-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)		MO4-9R	48X36	12.00						DETOUR (RIGHT)		R4-1	36X48	12.00						DO NOT PASS											
W01-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)		MO4-9P	48X12	4.00						STREET NAME (PLAQUE)		R4-2	36X48	12.00						PASS WITH CARE											
W01-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)		MO4-10L	48X18	6.00						DETOUR ARROW (LEFT)		R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)											
W01-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)		MO4-10R	48X18	6.00						DETOUR ARROW (RIGHT)		R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)											
W01-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)												R5-1	30X30	6.25						DO NOT ENTER											
W01-8	18X24	3.00						CHEVRON (SYMBOL)												R5-1a	36X24	6.00						WRONG WAY											
W01-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)												R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)											
W03-1	48X48	16.00						STOP AHEAD (SYMBOL)												R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)											
W03-2	48X48	16.00						YIELD AHEAD (SYMBOL)												R6-2L	24X30	5.00						ONE WAY (LEFT)											
W03-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)												R6-2R	24X30	5.00						ONE WAY (RIGHT)											
W03-4	48X48	16.00						BE PREPARED TO STOP												R9-9	24X12	2.00						SIDEWALK CLOSED											
W03-5	48X48	16.00						SPEED LIMIT AHEAD												R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE											
W04-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)												R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE											
W04-1R	48X48	16.00	1	16.00				MERGE (SYMBOL FROM RIGHT)												R10-6	24X36	6.00						STOP HERE ON RED (45° ARROW)											
W04-1aL	48X48	16.00	5	80.00			6A	MERGE (LEFT)												R11-2	48X30	10.00	3	30.00			29	ROAD CLOSED (RAMP)											
W04-1aR	48X48	16.00	4	64.00			6A	MERGE (RIGHT)												R11-3a	60X30	12.50						ROAD CLOSED XX MILES AHEAD											
W05-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS												R11-4	60X30	12.50						LOCAL TRAFFIC ONLY											
W05-3	48X48	16.00						ONE LANE BRIDGE												CONST-3A	60X48	20.00						ROAD CLOSED TO THRU TRAFFIC											
W05-5	48X48	16.00						NARROW LANES												CONST-3X	56X12	4.67						FINE SIGN											
W06-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)																															
W06-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)																															
W06-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)																															
W07-3a	30X24	5.00						NEXT XX MILES (PLAQUE)																															
W08-1	48X48	16.00						BUMP																															
W08-2	48X48	16.00						DIP																															
W08-3	48X48	16.00						PAVEMENT ENDS																															
W08-4	48X48	16.00						SOFT SHOULDER																															
W08-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)																															
W08-6	48X48	16.00						TRUCK CROSSING																															
W08-6c	48X48	16.00						TRUCK ENTRANCE																															
W08-7	36X36	9.00						LOOSE GRAVEL																															
W08-7a	36X36	9.00						FRESH OIL / LOOSE GRAVEL																															
W08-9	48X48	16.00						LOW SHOULDER																															
W08-11	48X48	16.00						UNEVEN LANES																															
W08-12	48X48	16.00						NO CENTER LINE																															
W08-15	48X48	16.00						GROOVED PAVEMENT																															
W08-15P	30X24	5.00						MOTORCYCLE (PLAQUE)																															
W08-17L	48X48	16.00						SHOULDER DROP-OFF (SYMBOL LEFT)																															
W08-17R	48X48	16.00						SHOULDER DROP-OFF (SYMBOL RIGHT)																															
W08-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)																															
W10-1	42RND.	9.62						RAILROAD CROSSING																															
W012-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)																						</									



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
3/6/2026

ROUTE
169

STATE
MO

DISTRICT
KC

SHEET NO.
6

COUNTY
CLAY

JOB NO.
JKU0099

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION
03/11/26	REVISED TYPE C BARRIER

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

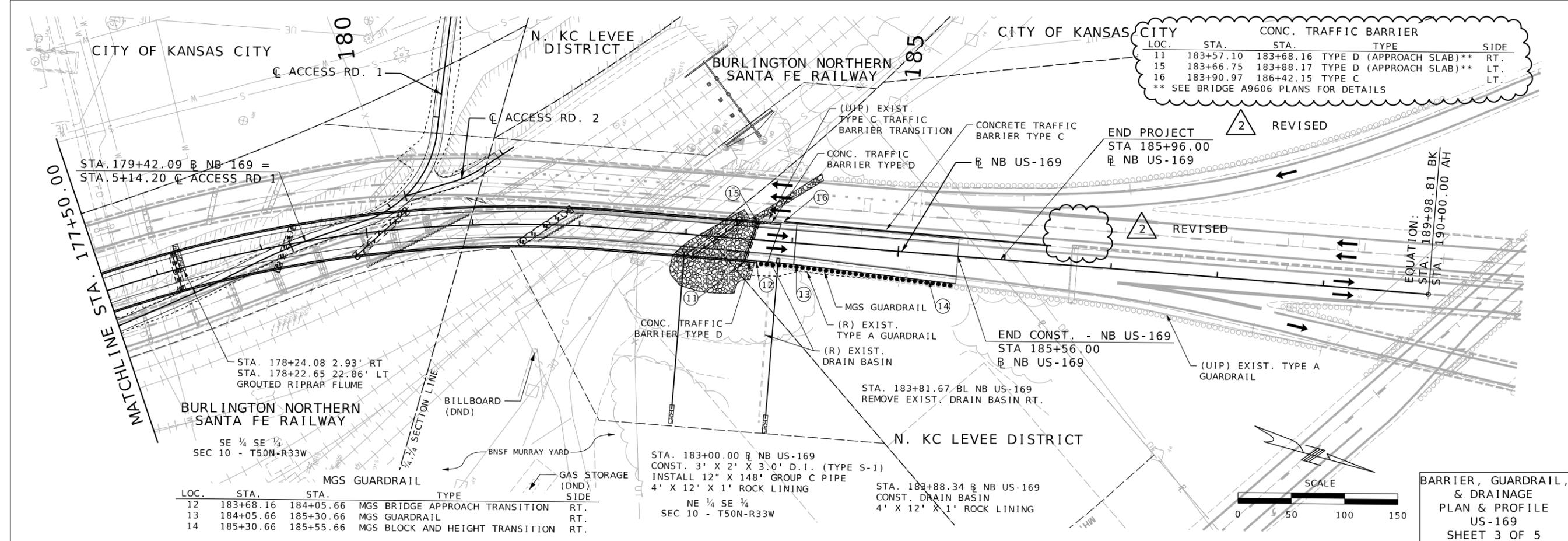
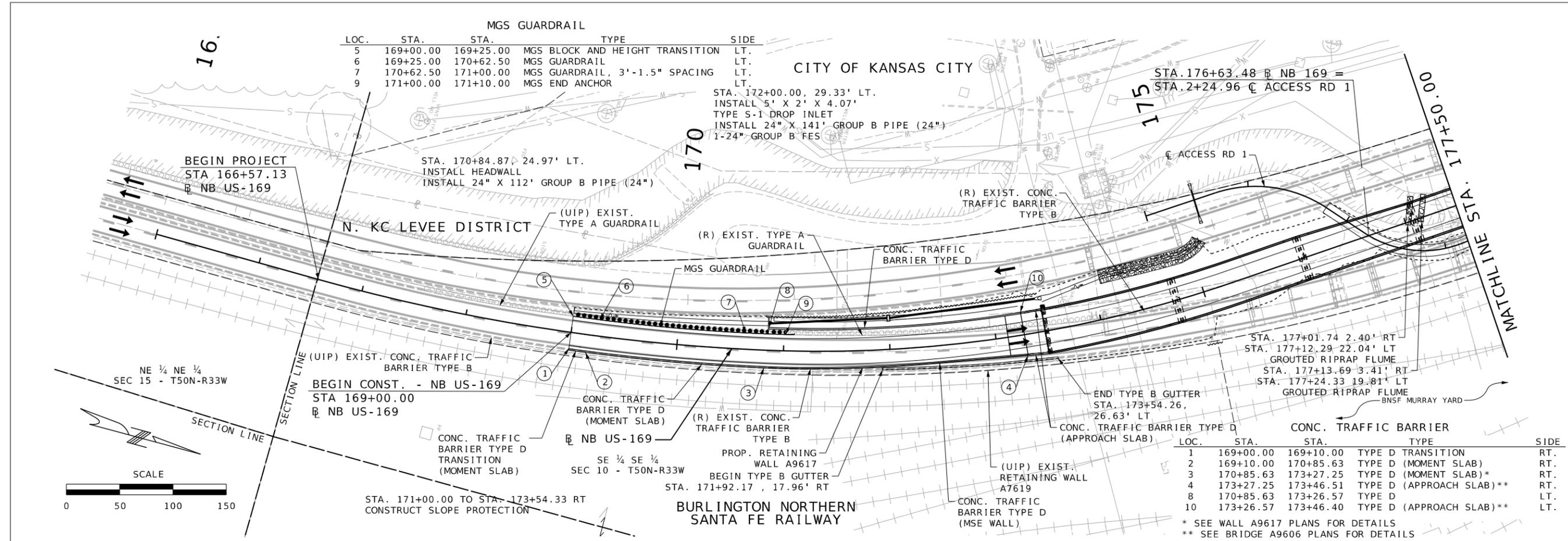
Burns & McDonnell Engineering Co., Inc.

9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400

Certificate of Authority
No. : 000165

BmCD Project No. 154749

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



Traffic Control Legend, Sign Spacing, Device Spacing, Channelizing Taper Lengths And Recommended Maximum Speed Reductions

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

** THE SA DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO THE FIRST SIGN.

THE SB DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS.

THE SC DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS.

(THE "FIRST SIGN" IS THE SIGN IN A THREE-SIGN SERIES THAT IS CLOSEST TO THE TEMPORARY TRAFFIC CONTROL ZONE. THE "THIRD SIGN" IS THE SIGN THAT IS FURTHEST UPSTREAM FROM THE TEMPORARY TRAFFIC CONTROL ZONE)

FORMULAS FOR DETERMINING TAPER LENGTHS

- L = W X S FOR 45 MPH OR MORE
- $L = \frac{WS^2}{60}$ FOR 40 MPH OR LESS
- L = TAPER LENGTH IN FEET
- W = LATERAL SHIFT IN FEET
- S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- ◻ FLASHING ARROW PANEL
- ◁ FLAGGER
- ◻ CHANGEABLE MESSAGE BOARD
- CHANNELIZER
-] BARRICADE
- ◻ PROTECTIVE VEHICLE WITH WORK SIGN, FLASHING ARROW PANEL AND REAR-MOUNTED IMPACT ATTENUATOR UNIT.
- ▲ DIRECTIONAL INDICATOR BARRICADE

LEGEND NOTE:

THE PROTECTIVE VEHICLE SIGN SHALL BE MOUNTED AT A RECOMMENDED HEIGHT OF 48 IN. ABOVE THE ROAD SURFACE.

GENERAL NOTES:

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

TAPER LENGTHS AND SPACING FOR CHANNELIZERS					
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (T2)(2)	MINIMUM SHOULDER TAPER LENGTH (T1)(1) BASED ON 10' SHOULDER	BUFFER LENGTH FT	MAXIMUM CHANNELIZER SPACING	
				THROUGH TAPER	THROUGH WORK AREA
0-35	245'	70'	250'	35'	40'
40-45	540'	150'	360'	40'	80'
50-55	660'	185'	495'	50'	80'
60-70	840'	235'	730'	60'	120'

- (1) SHOULDER TAPER LENGTH BASED ON 10 FT. (STANDARD SHOULDER WIDTH) OFFSET.
- (2) LANE TAPER BASED ON 12 FT. (STANDARD LANE WIDTH) OFFSET.

TEMPORARY TRAFFIC BARRIER:

- (1) A FLARE RATE OF 8:1 FOR THE FLARED CONCRETE BARRIER IS USED FROM THE EDGE OF TRAVELWAY TO THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OF FLATTER.
- (2) CONCRETE BARRIER WITHIN THE CLEAR ZONE WILL USE AN APPROVED CRASH CUSHION WHEN THE NORMAL SPEED LIMIT IS GREATER THAN 35 MPH.
- (3) CONCRETE BARRIER WITHIN THE CLEAR ZONE CAN USE EITHER A BARRIER HEIGHT TRANSITION OR AN APPROVED CRASH CUSHION WHEN THE NORMAL POSTED SPEED LIMIT IS LESS THAN OR EQUAL TO 35 MPH.
- (4) REMOVE AND/OR MODIFY ANY EXISTING PAVEMENT MARKING AS NEEDED. TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM CLOSURES.
- (5) FOR TEMPORARY TRAFFIC BARRIER, REFER TO EPG 616.6.85 TEMPORARY TRAFFIC BARRIER.

EPG TABLE 616.12 RECOMMENDED MAXIMUM SPEED REDUCTIONS	
ACTIVITY (I.E. WORKERS, EQUIPMENT OR MATERIAL) LOCATION	RECOMMENDED WORK ZONE SPEED REDUCTION (WHEN APPLICABLE)
10 FT. BEYOND EDGE OF TRAVELWAY TO EDGE OF RIGHT OF WAY	NO SPEED REDUCTION
IN TRAFFIC LANE OR WITHIN 10FT. OF THE TRAFFIC LANE	10 MPH
HEAD-TO-HEAD ON MULTILANE	10 MPH
SPECIAL CIRCUMSTANCES WITHIN A TEMPORARY TRAFFIC CONTROL WORK ZONE MAY WARRANT A LOWER SPEED LIMIT THAN RECOMMENDED ABOVE. ALL SPEED LIMIT REDUCTIONS GREATER THAN 10 MPH SHALL BE DOCUMENTED, SUBMITTED TO AND APPROVED BY THE DISTRICT WORK ZONE COORDINATOR.	

2 REVISED

TRAFFIC CONTROL SHEET 1 OF 13



DATE PREPARED
3/10/2026

ROUTE 169 STATE MO
DISTRICT KC SHEET NO. 16

COUNTY
CLAY

JOB NO.
JKU0099

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION
3/11/2026	R002-TRAFFIC CONTROL FOR X-OVER

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 974-4475
Fax: (816) 974-4477
www.trekkdesigngroup.com

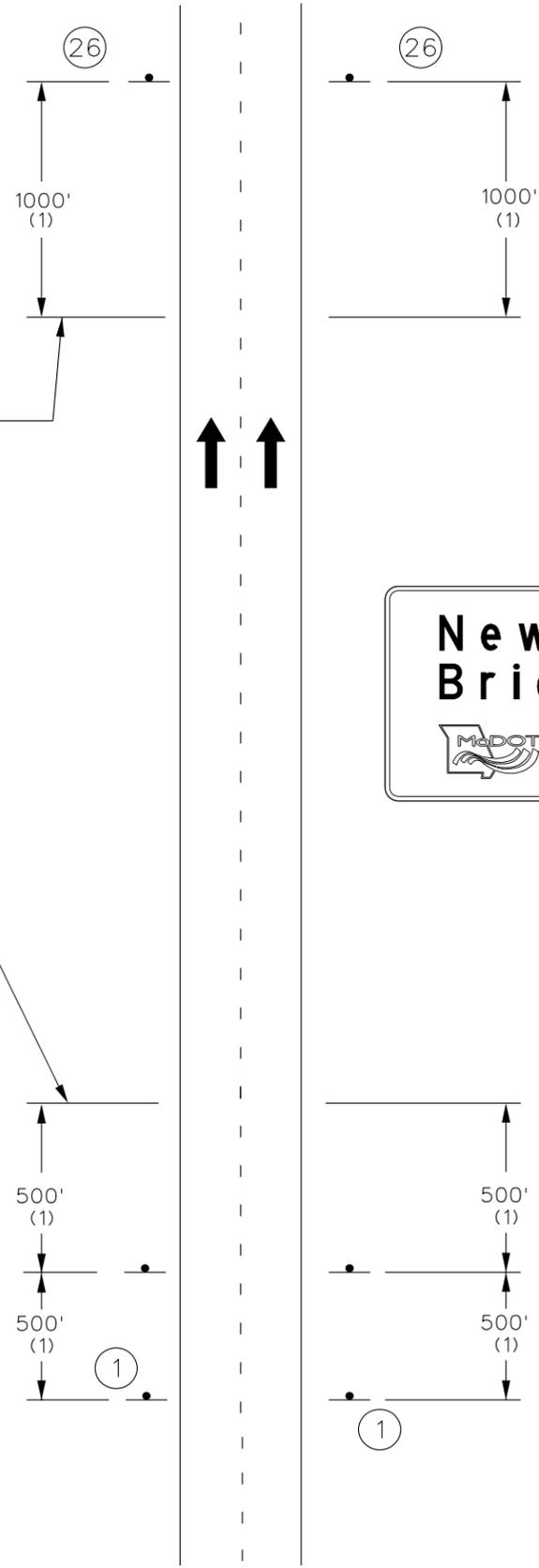
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Authority 2020101000

TREKK
DESIGN GROUP, LLC

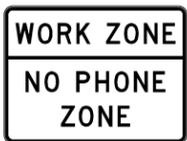
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

END OF PROJECT LIMITS;
 END OF WORK ZONE
 TERMINATION AREA, IF
 LOCATED BEYOND END
 OF PROJECT; OR LAST
 WORK ZONE SIGN, IF
 LOCATED OUTSIDE
 PROJECT LIMITS.

BEGINNING OF PROJECT LIMITS;
 OR INITIAL WORK ZONE SIGN, IF
 LOCATED OUTSIDE PROJECT LIMITS.



NOTES:
 SIGN G020-1 IS REQUIRED PER EPG 616.6.3.
 SIGN G020-2 IS USED ON ALL PROJECTS WHERE SIGN G020-1 IS USED.
 OTHER SIGNS SUCH AS DETOUR OR ALTERNATE ROUTE SIGNING MAY BE USED OUTSIDE THE PROJECT LIMITS.
 ANY EXISTING SIGNING THAT CONFLICTS WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED.
 (1) DISTANCE MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS. WHERE TRAFFIC BACKUPS ARE EXPECTED BEYOND THE ADVANCE WARNING AREA, ADDITIONAL SIGNING MAY BE NEEDED.
 (2) THE "WORK ZONE NO PHONE ZONE" SIGN IS PLACED A MINIMUM OF 500 FEET BEFORE THE ROAD WORK AHEAD SIGN.
 (3) THE "POINT OF PRESENCE" SIGN, CONST-5-96 IS PLACED IN A VISABLE AREA WITHIN THE PROJECT LIMITS PROVIDED ITS PLACEMENT DOES NOT DISRUPT A SEQUENCE OF SIGNS. IF A VISIBLE LOCATIN WITHIN THE PROJECT IS NOT AVAILABLE, THE SIGN MAY BE PLACED 500 FEET BEFORE SIGN G020-1, ROAD WORK NEXT XX MILES.



BEGIN/END OF PROJECT SIGNING

2 REVISED

BEGIN/END 13
 TRAFFIC CONTROL
 SHEET 2 OF 12



DATE PREPARED 3/10/2026	
ROUTE 169	STATE MO
DISTRICT KC	SHEET NO. 17
COUNTY CLAY	
JOB NO. JKU0099	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

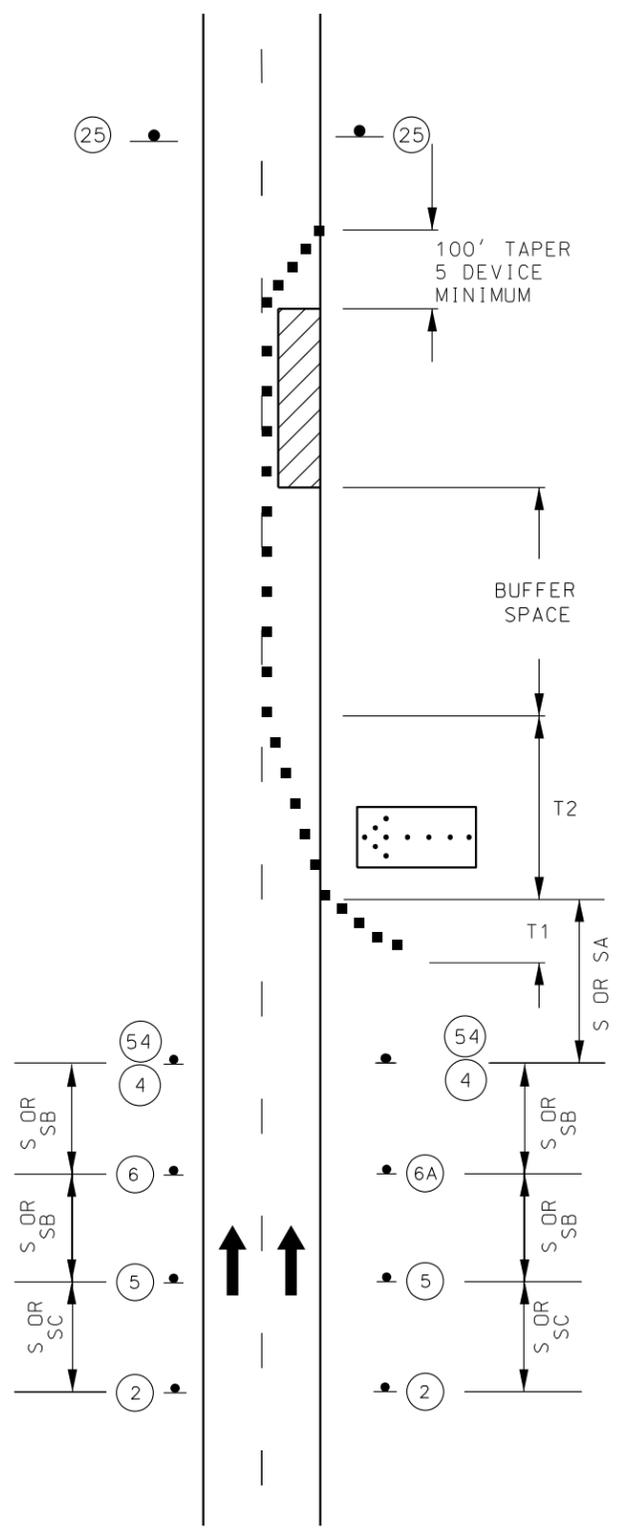
DATE	DESCRIPTION
3/11/2026	ROADWORK TRAFFIC CONTROL FOR X-OVER

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

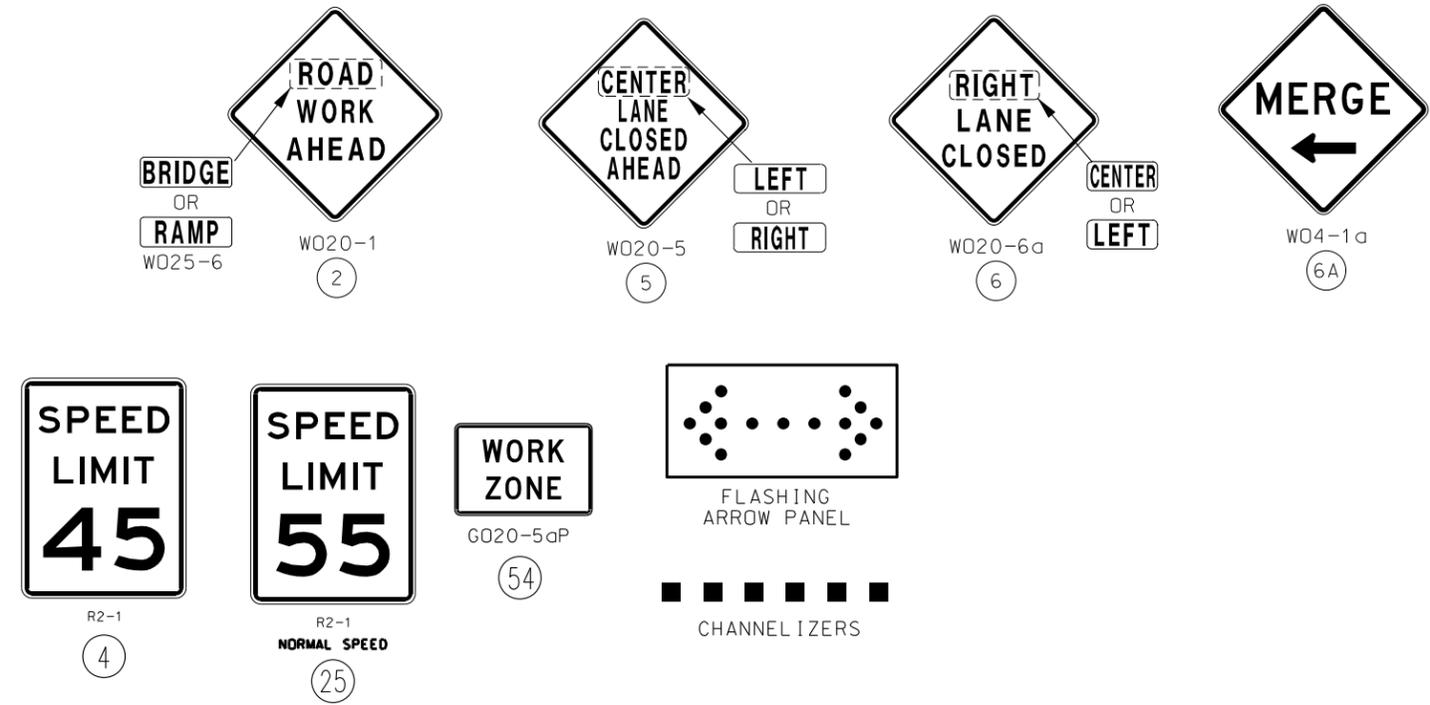
1411 East 104th St.
 Kansas City, MO 64131
 Tel: (816) 874-4475
 Fax: (816) 874-4476
 www.trekkdesigngroup.com
 Missouri Cert. of Authority 202010300



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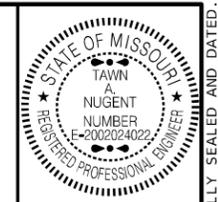
TWO-LANE DIVIDED HIGHWAY



NOTES:

- SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.
- SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.
- REMOVE AND/OR MODIFY ANY EXISTING PAVEMENT MARKING AS NEEDED.
- TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM CLOSURES.
- THIS INFORMATION ALSO SHALL BE USED WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY. IN THIS CASE, THE LEFT LANE CLOSED SIGNS AND THE CORRESPONDING MERGE OR LANE ENDS SIGN SHALL BE SUBSTITUTED.
- WHEN A SIDE ROAD INTERSECTS THE HIGHWAY WITHIN THE TTC ZONE ADDITIONAL TTC DEVICES SHALL BE PLACED AS NEEDED.
- TEMPORARY TRAFFIC BARRIERS, IF USED SHALL COMPLY WITH THE PROVISIONS IN EPG 617.1 TEMPORARY TRAFFIC BARRIER AND REVIEW LANE CLOSURE WITH A TEMPORARY TRAFFIC BARRIER.
- REVIEW EPG LANE CLOSURE WITH WIDTH AND LANE RESTRICTIONS DE/CM FOR A LANE CLOSURE WITH WIDTH RESTRICTIONS.
- AN ARROW BOARD SHALL BE USED WHEN A FREEWAY LANE IS CLOSED. WHEN MORE THAN ONE FREEWAY LANE IS CLOSED, A SEPARATE ARROW BOARD SHALL BE USED FOR EACH CLOSED LANE.
- REVIEW EPG 616.12.7 WARNING LIGHTS WHEN SEQUENTIAL OR WARNING LIGHTS SHOULD BE USED ON NIGHTTIME OPERATIONS.
- IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.13.6 RUMBLE STRIPS.
- REVIEW EPG 616.11.1 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND GUIDELINES FOR THE DEVICES

2 REVISED
13
STATIONARY
LANE CLOSURE
DIVIDED HIGHWAY
TRAFFIC CONTROL
SHEET 3 OF 12

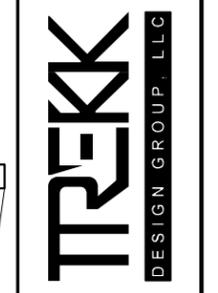


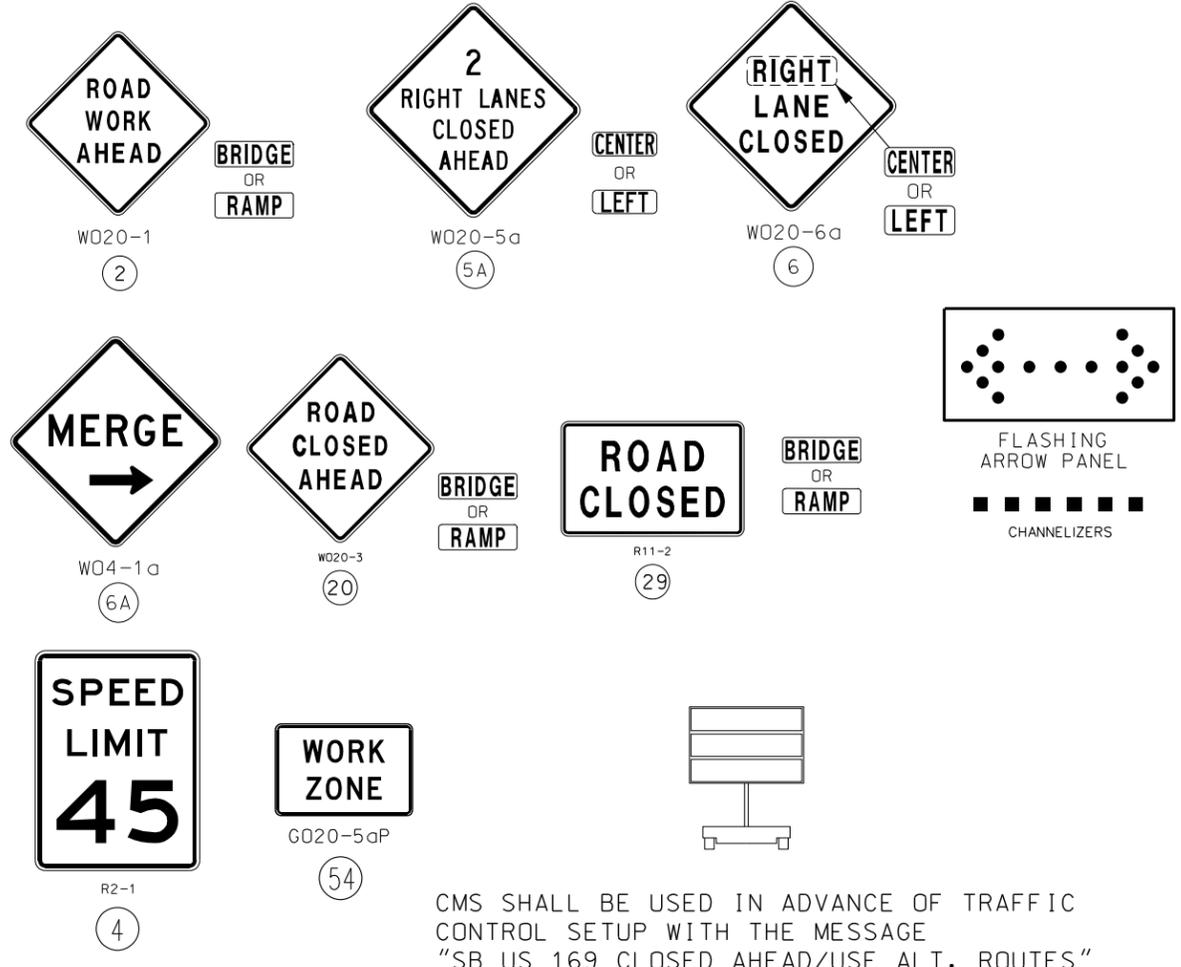
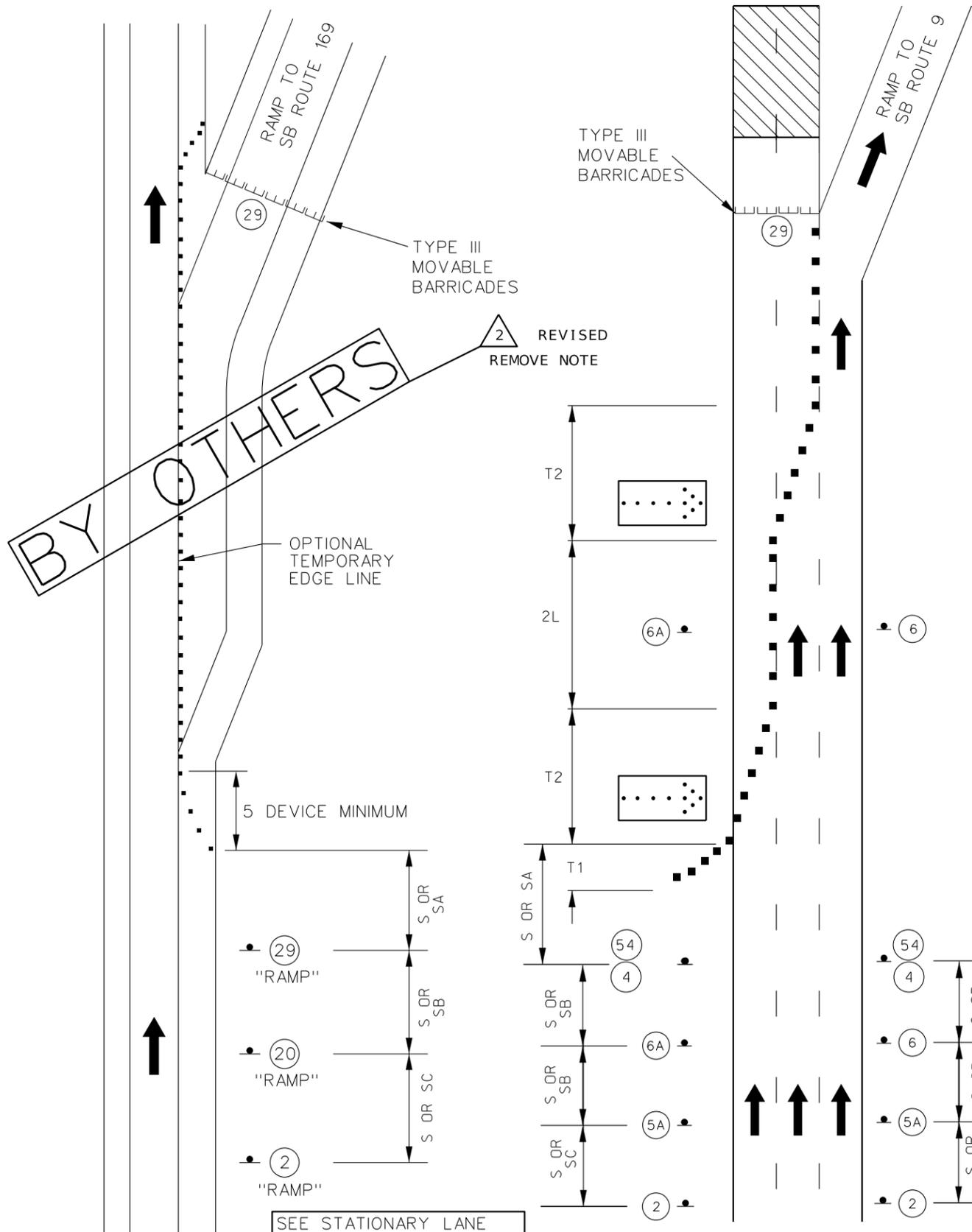
THIS SHEET HAS BEEN REVISIONED, SEALED AND DATED ELECTRONICALLY.
DATE PREPARED: 3/10/2026
ROUTE: 169 STATE: MO
DISTRICT: KC SHEET NO.: 18
COUNTY: CLAY
JOB NO.: JKU0099
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE
RO02-TRAFFIC CONTROL FOR X-OVER	3/11/2026

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

1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4475
Fax: (816) 874-4679
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300





CMS SHALL BE USED IN ADVANCE OF TRAFFIC CONTROL SETUP WITH THE MESSAGE "SB US 169 CLOSED AHEAD/USE ALT. ROUTES"

- NOTES:
- SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.
 - SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.
 - REMOVE AND/OR MODIFY ANY EXISTING PAVEMENT MARKING AS NEEDED.
 - TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM CLOSURES.
 - THIS INFORMATION ALSO SHALL BE USED WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY. IN THIS CASE, THE LEFT LANE CLOSED SIGNS AND THE CORRESPONDING MERGE OR LANE ENDS SIGN SHALL BE SUBSTITUTED.
 - AN ARROW BOARD SHALL BE USED WHEN A FREEWAY LANE IS CLOSED. WHEN MORE THAN ONE FREEWAY LANE IS CLOSED, A SEPARATE ARROW BOARD SHALL BE USED FOR EACH CLOSED LANE.
 - REVIEW EPG 616.12.7 WARNING LIGHTS WHEN SEQUENTIAL OR WARNING LIGHTS SHOULD BE USED ON NIGHTTIME OPERATIONS.
 - IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.11.1 RUMBLE STRIPS.
 - REVIEW EPG 616.13.6 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND GUIDELINES FOR THE DEVICES

HIGHWAY 9 RAMP CLOSURE INCLUDED IN THE CROSSOVER TRAFFIC CONTROL

SEE STATIONARY LANE CLOSURE DIVIDED HIGHWAY

SB US 169 CLOSURE

REVISED 13 SOUTHBOUND ROUTE 169 CLOSURE TRAFFIC CONTROL SHEET 4 OF 12

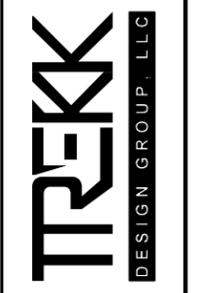


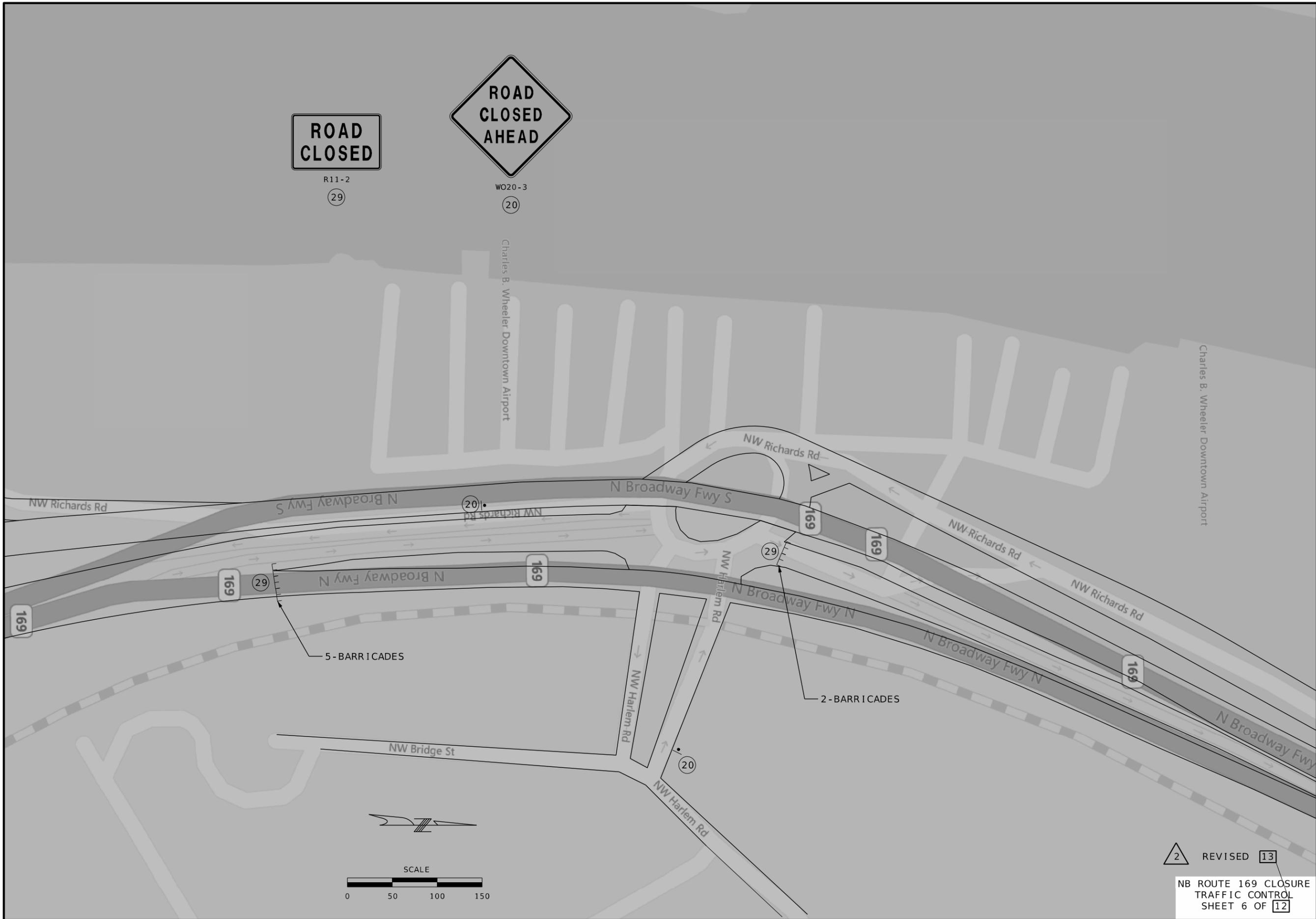
DATE PREPARED 3/10/2026
 ROUTE 169 STATE MO
 DISTRICT KC SHEET NO. 19
 COUNTY CLAY
 JOB NO. JKU0099
 CONTRACT ID.
 PROJECT NO.
 BRIDGE NO.

DATE	DESCRIPTION
3/11/2026	R002-TRAFFIC CONTROL FOR X-OVER

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

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R11-2
29



WO20-3
20



THIS SEAL HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED 3/10/2026	
ROUTE 169	STATE MO
DISTRICT KC	SHEET NO. 21
COUNTY CLAY	
JOB NO. JKU0099	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION
3/11/2026	R002-TRAFFIC CONTROL FOR X-OVER

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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2 REVISED 13
NB ROUTE 169 CLOSURE
TRAFFIC CONTROL
SHEET 6 OF 12



THIS SHEET HAS BEEN REBID, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
3/10/2026

ROUTE STATE
169 MO

DISTRICT SHEET NO.
KC 22

COUNTY
CLAY

JOB NO.
JKU0099

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION
3/11/2026	R002-TRAFFIC CONTROL FOR X-OVER

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

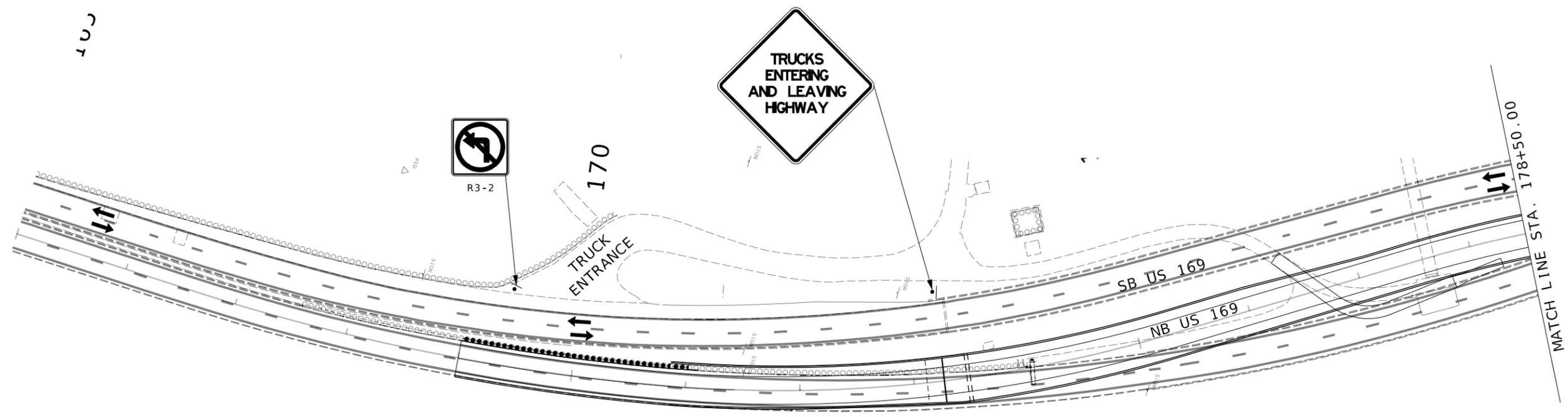


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Fax: (816) 874-4475
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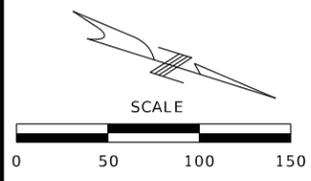


Missouri Dept. of
Transportation
Authority 202010300

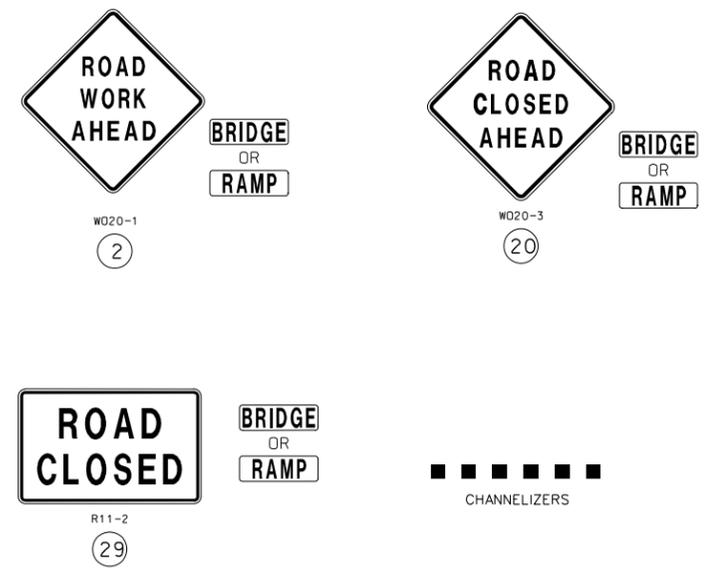
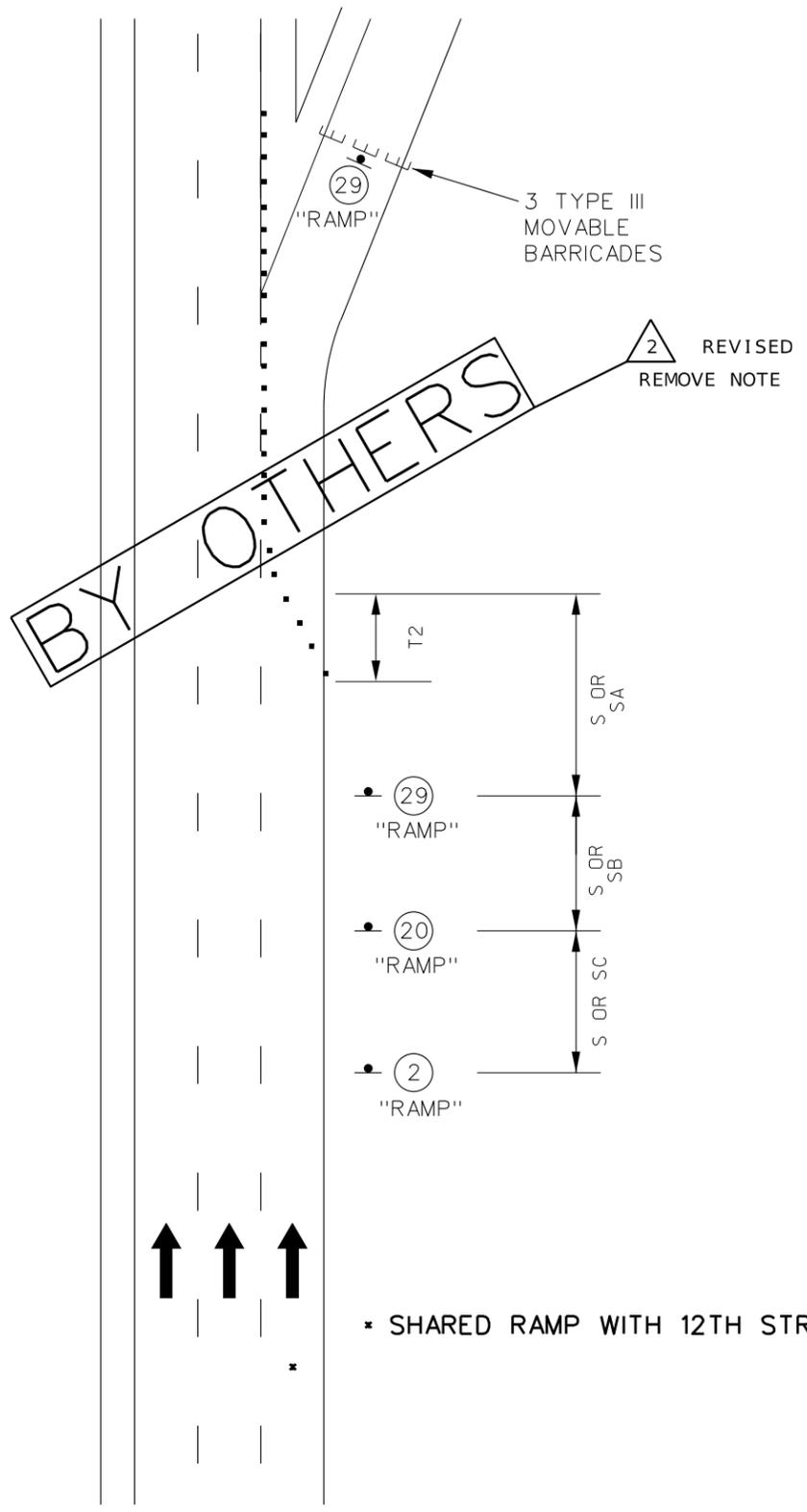
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



NOTE:
SEE TRAFFIC CONTROL FOR HEAD TO HEAD TRAFFIC ON SB ROUTE 169



2 REVIS
13
TRUCK ENTRANCE
TRAFFIC CONTROL
SHEET 7 OF 12



NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.11.1 RUMBLE STRIPS.

REVIEW EPG 616.13.6 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND GUIDELINES FOR THE DEVICE.

FOR TEMPORARY CLOSURE OF NB ROUTE 169.
DO NOT INSTALL DURING THE WORLD CUP.

(2) ADDED NOTES ADDED

INCLUDED IN CROSSOVER TRAFFIC CONTROL

(2) REVISED (13)
1-35 NB TO US 169 NB
EXIT RAMP CLOSURE
TRAFFIC CONTROL
SHEET 8 OF 12



THIS SHEET HAS BEEN REPRODUCED AND DATED ELECTRONICALLY.

DATE PREPARED: 3/10/2026

ROUTE: 169 STATE: MO

DISTRICT: KC SHEET NO.: 23

COUNTY: CLAY

JOB NO.: JKU0099

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DATE	DESCRIPTION
3/11/2026	R002-TRAFFIC CONTROL FOR X-OVER

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102
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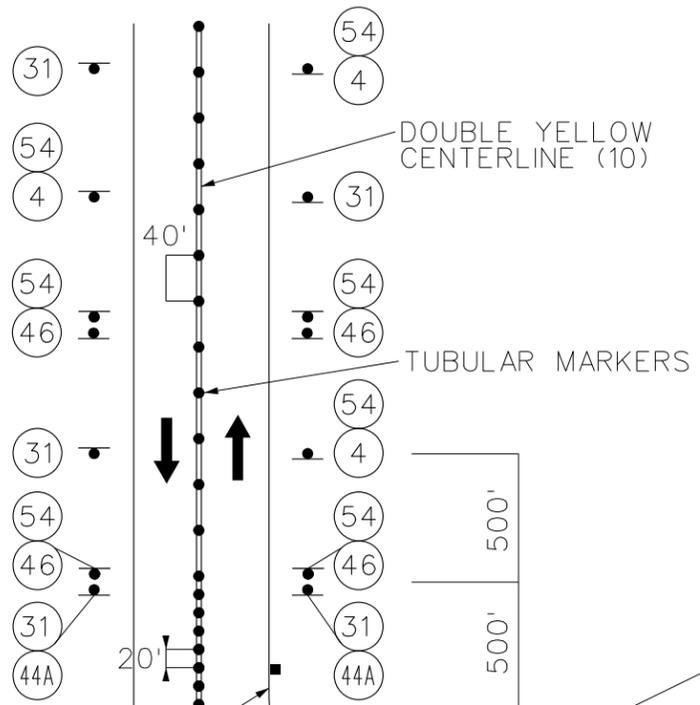


IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

1000' TO NEXT SIGNING SET

REPEAT SIGNING SET THROUGH 2-WAY SECTION BOTH DIRECTIONS

1000'
1000'
1000'



WHITE EDGE LINES
EDGE OF TRAVELWAY

24" DIAGONAL YELLOW MARKING AT 50' TYPICAL SPACING (OPTIONAL)

YELLOW EDGE LINE

LANE CLOSURE SIGNING (7)

100' TAPER 5' DEVICE MIN.

DOUBLE YELLOW CENTERLINE (10)

TUBULAR MARKERS

P.T.

8" YELLOW (L) AND WHITE (R) EDGE LINES THROUGH CROSSOVER

BY OTHERS

WHITE EDGE LINE

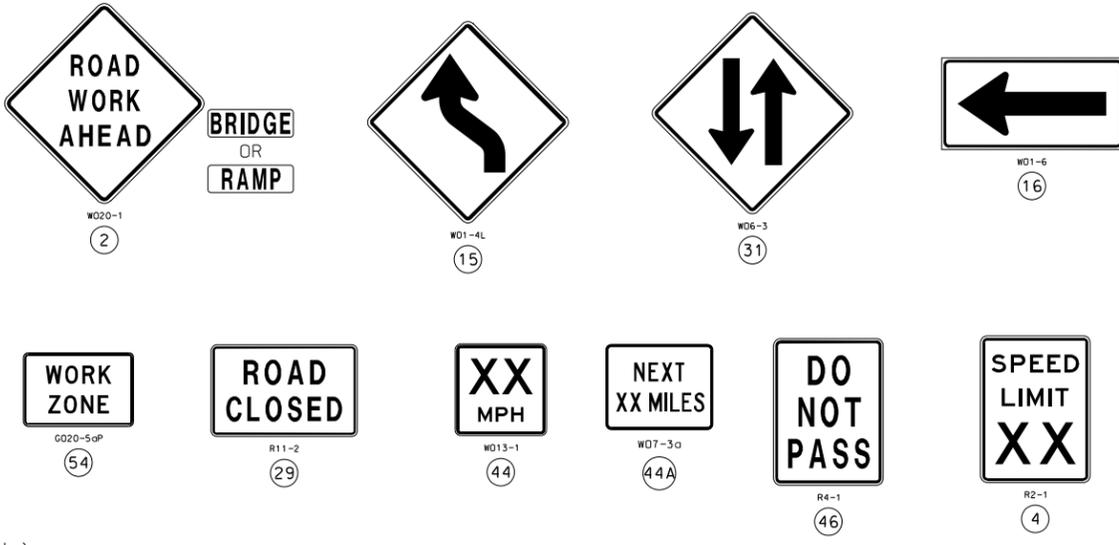
YELLOW (L) AND WHITE (R) TEMP. RAISED PAVEMENT MARKERS (OPTIONAL)

INCLUDED IN CROSSOVER TRAFFIC CONTROL

DIRECTIONAL INDICATOR BARRICADES

NOT TO SCALE

MEDIAN CROSSOVER DIVIDED HIGHWAY TEMPORARY TRAFFIC CONTROL SHEET 9 OF 12



NOTES:

- (1) SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.
- (2) SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.
- (3) REMOVE AND/OR MODIFY ANY EXISTING PAVEMENT MARKING AS NEEDED.
- (4) TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM CLOSURES.
- (5) FOR NIGHT TIME OPERATIONS, REVIEW EPG 616.12.7 WARNING LIGHTS FOR USE OF SEQUENTIAL LIGHTS.
- (6) REVIEW EPG 616.11.1 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND GUIDELINES FOR THE DEVICES.
- (7) SEE LANE CLOSURE FOR ADVANCED LANE CLOSURE.
- (8) CROSSOVER PAVEMENT WIDTH MAY BE WIDER AS NEEDED.
- (9) FLARE BARRIER TO EXTEND BEYOND CLEAR ZONE OR FLARE BARRIER TO EDGE LINE AND USE APPROVED END TREATMENT.
- (10) SEE STANDARD PLAN 616.10 FOR ADDITIONAL INFORMATION.

2 REVISED REMOVE NOTE

2 REVISED 13

2 ADDED



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.
DATE PREPARED: 3/10/2026
ROUTE: 169 STATE: MO
DISTRICT: KC SHEET NO.: 24
COUNTY: CLAY
JOB NO.: JKU0099
CONTRACT ID.:

PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE
R002-TRAFFIC CONTROL FOR X-OVER	3/11/2026

DATE: 3/11/2026

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

1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4475
Fax: (816) 874-4477
www.trekkdesigngroup.com
Missouri Cert. of Authority 2020210300





THIS SHEET HAS BEEN SEIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 3/10/2026

ROUTE STATE 169 MO

DISTRICT SHEET NO. KC 25

COUNTY CLAY

JOB NO. JKU0099

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

ROUTE-TRAFFIC CONTROL FOR X-OVER

DATE 3/11/2026

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

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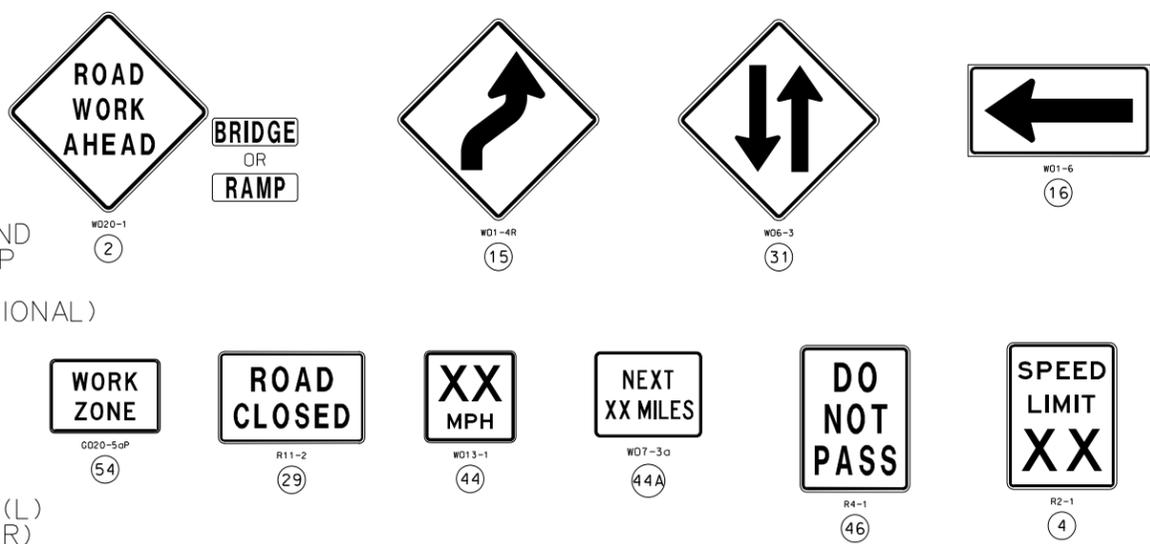
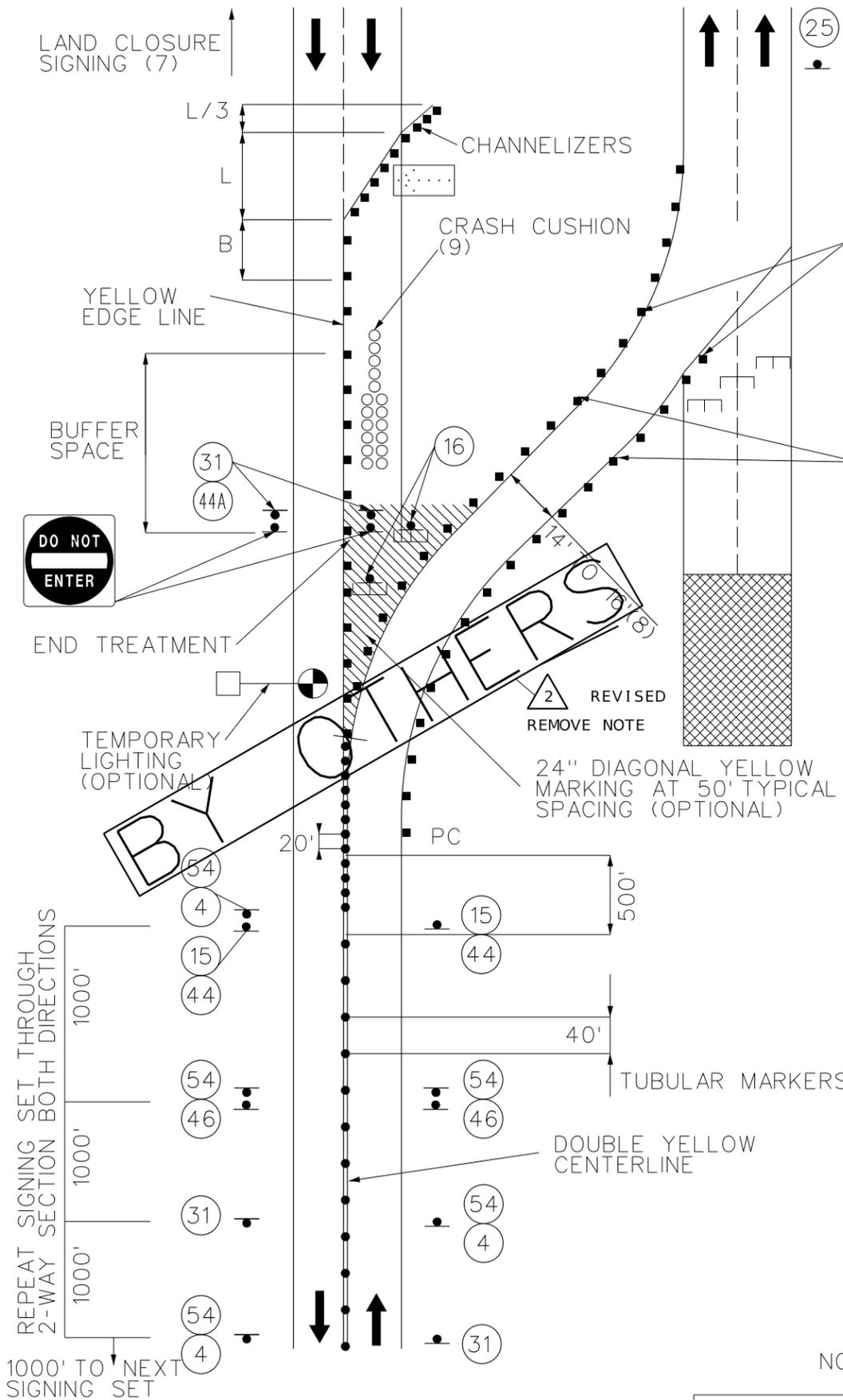
MoDOT

Missouri Dept. of Transportation Authority 202610300

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TREKK DESIGN GROUP, LLC

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



- NOTES:
- (1) SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.
 - (2) SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.
 - (3) REMOVE AND/OR MODIFY ANY EXISTING PAVEMENT MARKING AS NEEDED.
 - (4) TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM CLOSURES.
 - (5) FOR NIGHT TIME OPERATIONS, REVIEW EPG 616.12.7 WARNING LIGHTS FOR USE OF SEQUENTIAL LIGHTS.
 - (6) REVIEW EPG 616.11.1 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND GUIDELINES FOR THE DEVICES.
 - (7) ADVANCED LANE CLOSURE SIGNING IS AS SHOWN ON EPG LANE CLOSURE WITH A TEMPORARY TRAFFIC BARRIER.
 - (8) CROSSOVER PAVEMENT WIDTH MAY BE WIDER AS NEEDED.
 - (9) CRASH CUSHION SHALL CONSIST OF IMPACT ATTENUATOR (SAND BARRELS) OR OTHER TEMPORARY CRASHWORTHY DEVICE, AS APPROVED BY THE ENGINEER.
 - (10) SEE STANDARD PLAN 616.10 FOR ADDITIONAL INFORMATION.

REPEAT SIGNING SET THROUGH 2-WAY SECTION BOTH DIRECTIONS

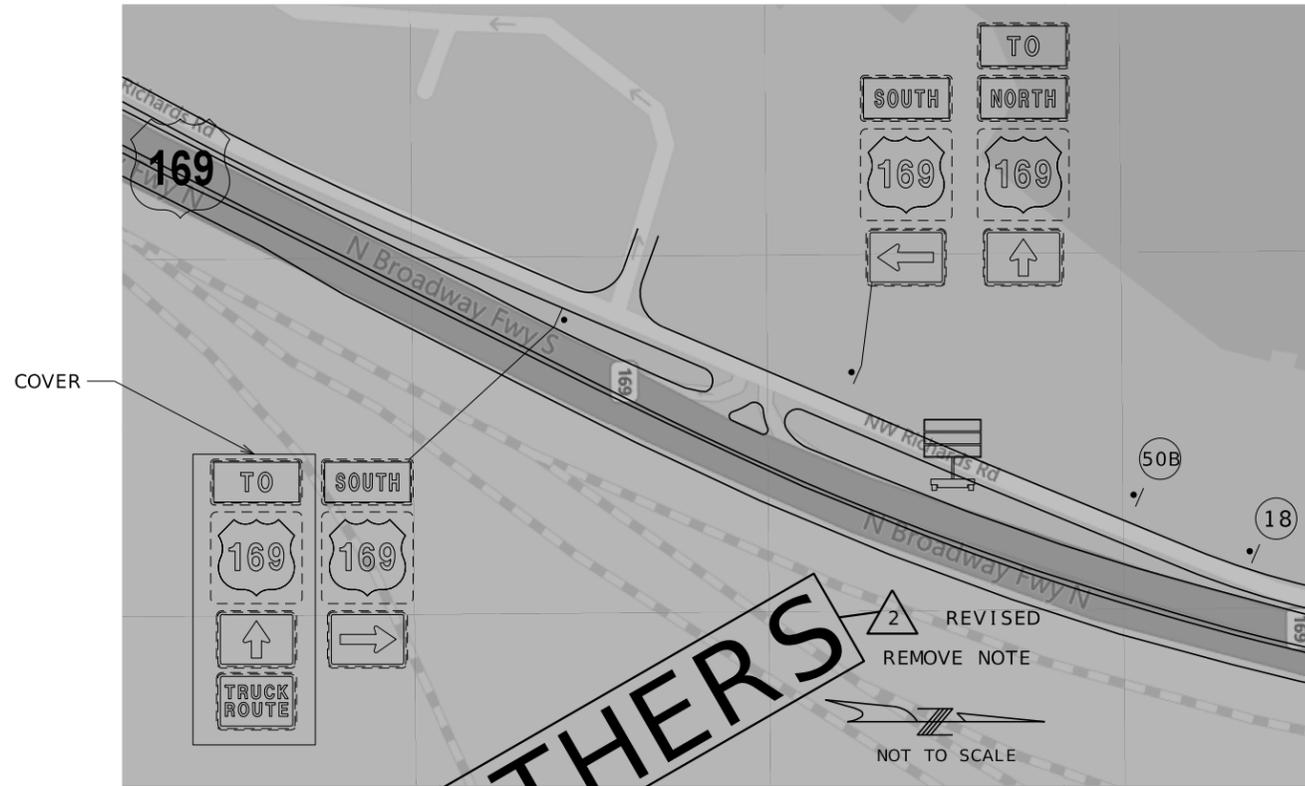
1000' TO NEXT SIGNING SET

NOT TO SCALE

INCLUDED IN CROSSOVER TRAFFIC CONTROL

2 REVISED
13
MEDIAN CROSSOVER DIVIDED HIGHWAY TEMPORARY TRAFFIC CONTROL SHEET 10 OF 12

DETOUR M4-8
NORTH M3-4
169 M1-4
↑ M6-3
 (50B)

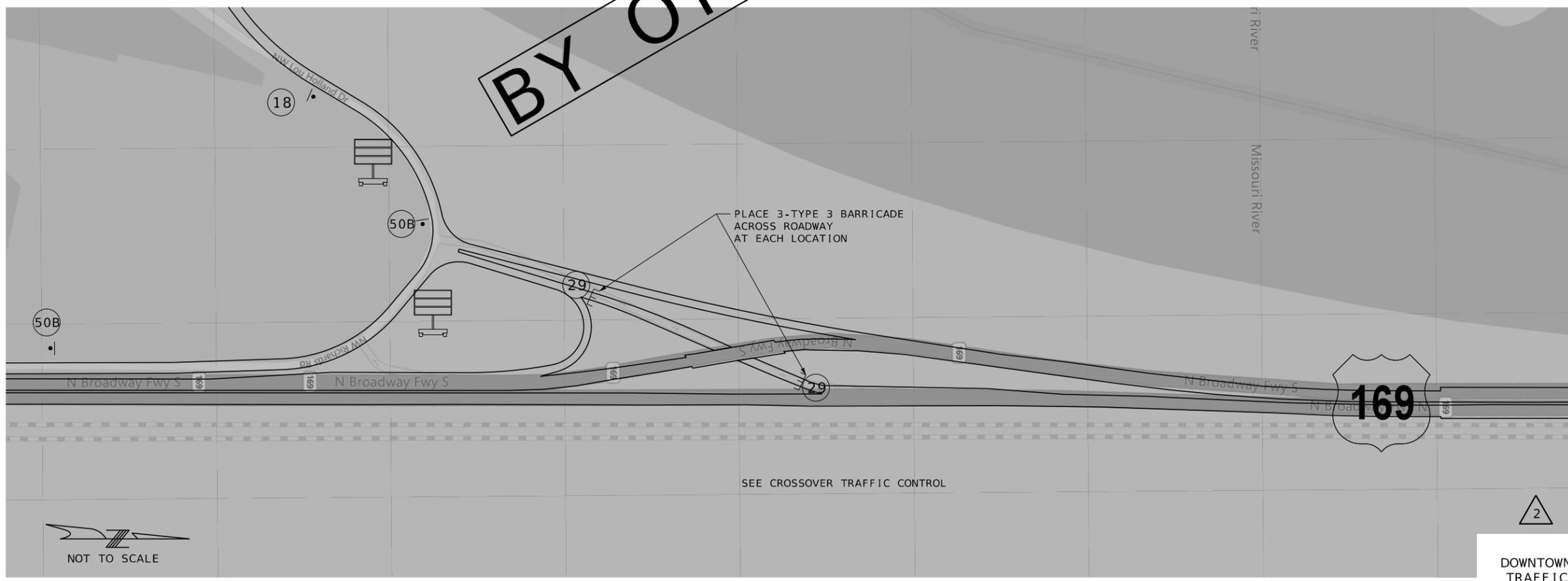


DETOUR AHEAD
 WO20-2
 (18)

NB ROUTE 169
 CLOSE AHEAD

ROAD CLOSED
 R11-2
 (29)

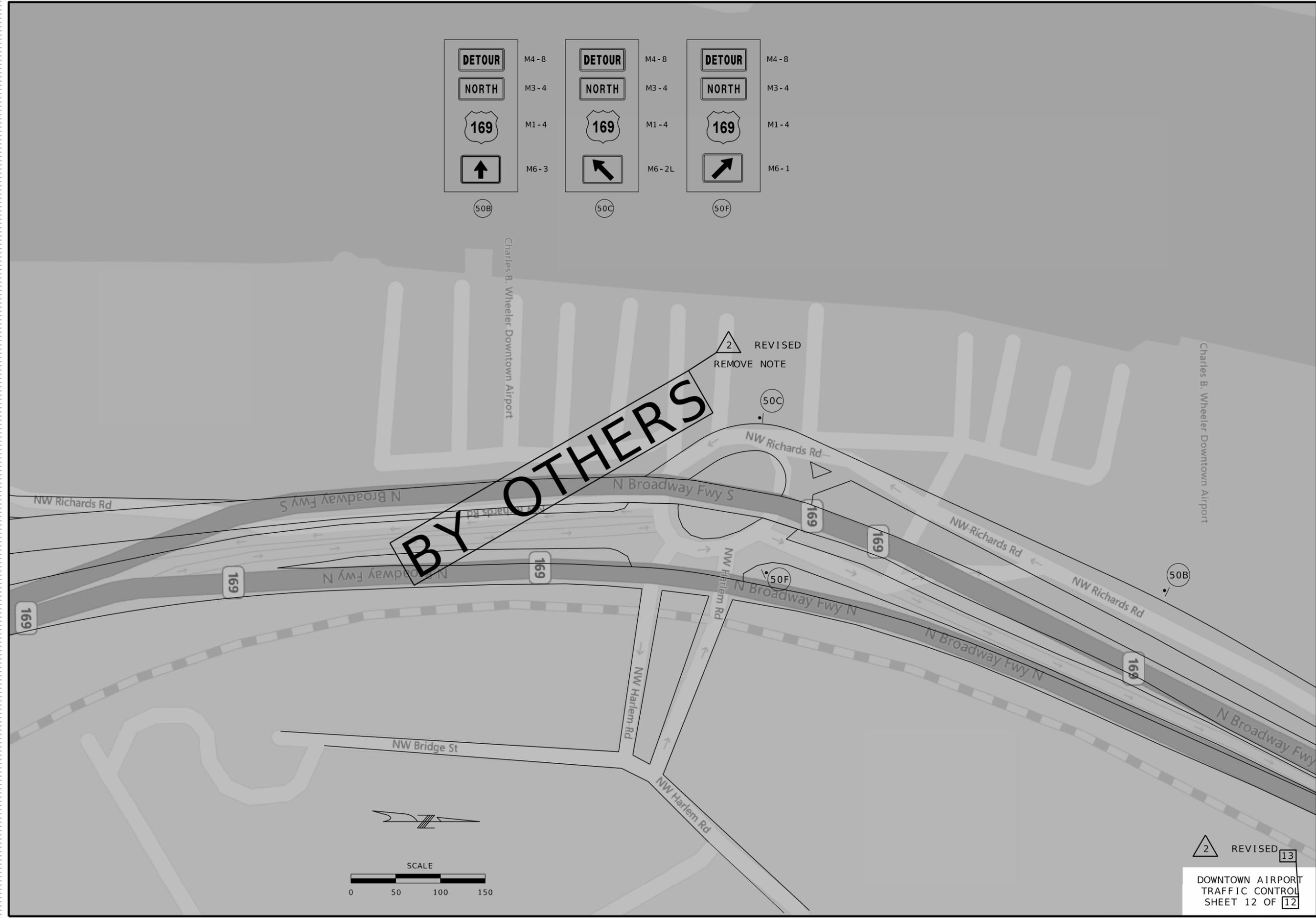
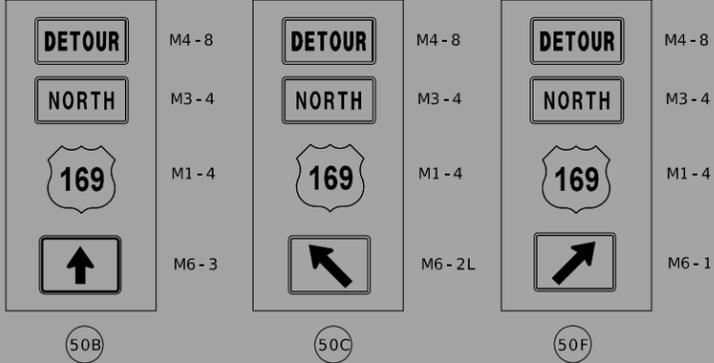
BY OTHERS



(2) REVISED
13
 DOWNTOWN AIRPORT
 TRAFFIC CONTROL
 SHEET 11 OF 12

DATE PREPARED 3/13/2026	
ROUTE 169	STATE MO
DISTRICT KC	SHEET NO. 26
COUNTY CLAY	
JOB NO. JKU0099	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DATE	DESCRIPTION
3/11/2026	R002-TRAFFIC CONTROL FOR X-OVER
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
1411 East 104th St. Kansas City, MO 64131 Tel: (816) 874-4475 Fax: (816) 874-4476 www.mo.gov	
Missouri Dept. of Transportation Authority 202010300	
TREKK DESIGN GROUP, LLC	

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IF THIS SHEET HAS BEEN REVISIONED, THE DATE OF THE LATEST REVISION SHALL BE SHOWN IN THE DATE FIELD.

DATE PREPARED
3/10/2026

ROUTE	STATE
169	MO
DISTRICT	SHEET NO.
KC	27

COUNTY
CLAY
JOB NO.
JKU0099
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION
3/11/2026	R002-TRAFFIC CONTROL FOR X-OVER

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

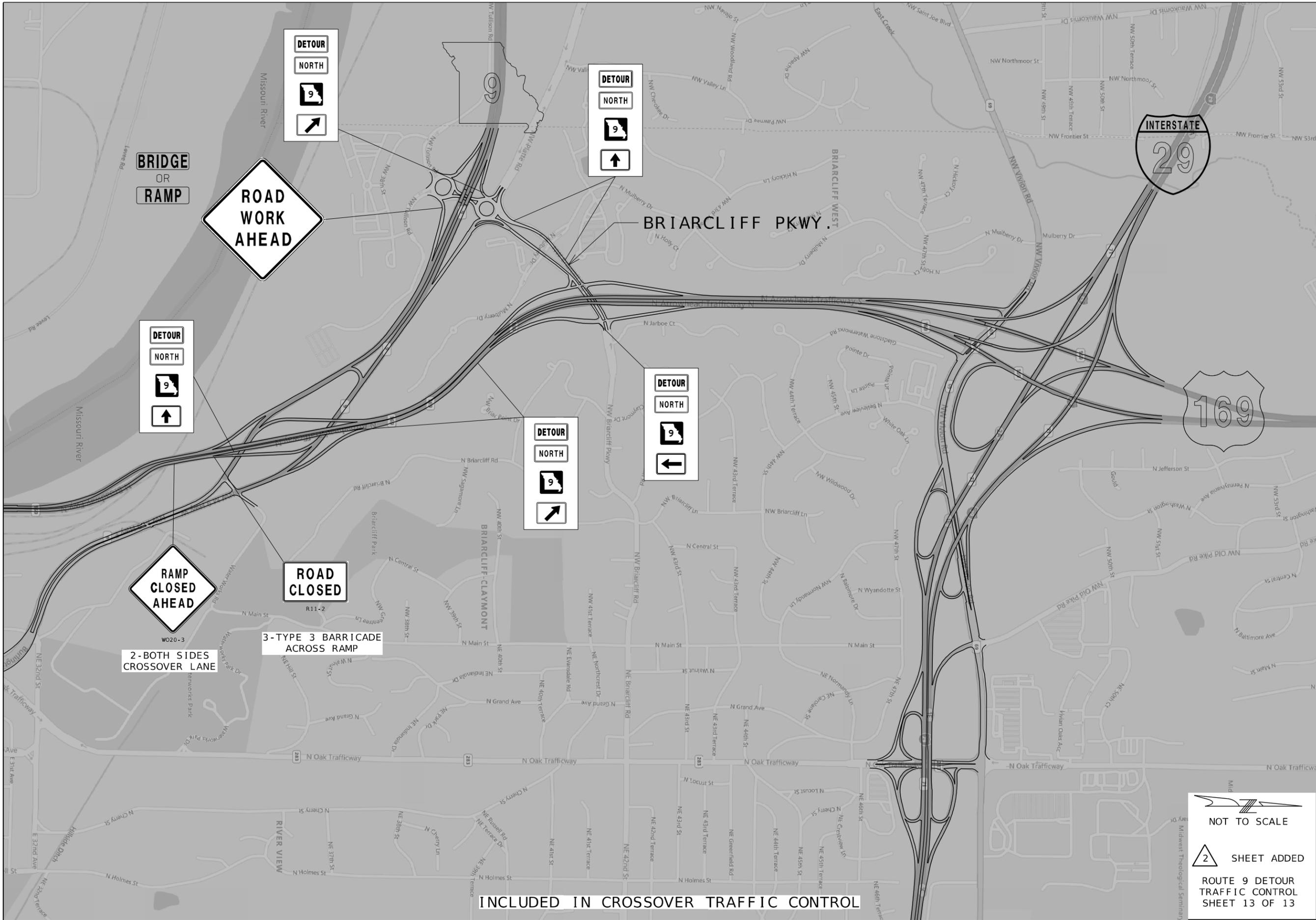
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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Kansas City, MO 64131
Tel: (816) 974-4475
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2 REVISED 13
DOWNTOWN AIRPORT
TRAFFIC CONTROL
SHEET 12 OF 12



**BRIDGE
OR
RAMP**

**ROAD
WORK
AHEAD**

**DETOUR
NORTH**

**RAMP
CLOSED
AHEAD**

WO20-3
2 - BOTH SIDES
CROSSOVER LANE

**ROAD
CLOSED**

R11-2
3 - TYPE 3 BARRICADE
ACROSS RAMP

INCLUDED IN CROSSOVER TRAFFIC CONTROL

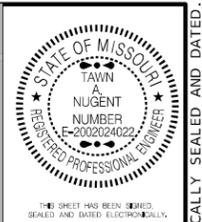
**DETOUR
NORTH**

**DETOUR
NORTH**

**DETOUR
NORTH**

NOT TO SCALE

2 SHEET ADDED
ROUTE 9 DETOUR
TRAFFIC CONTROL
SHEET 13 OF 13



DATE PREPARED 3/10/2026	
ROUTE 169	STATE MO
DISTRICT KC	SHEET NO. 27A
COUNTY CLAY	
JOB NO. JKU0099	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION
3/11/2026	R002-TRAFFIC CONTROL FOR X-OVER

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-7475
Fax: (816) 874-7475
www.mo.gov

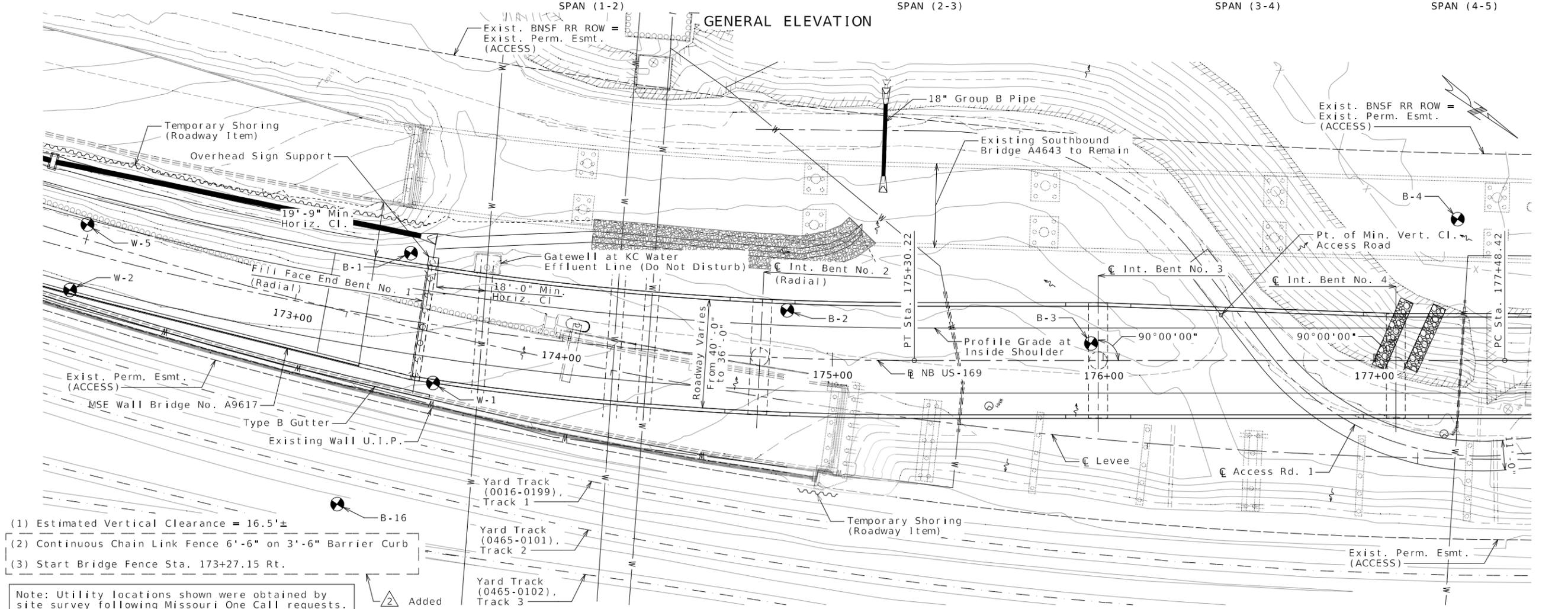
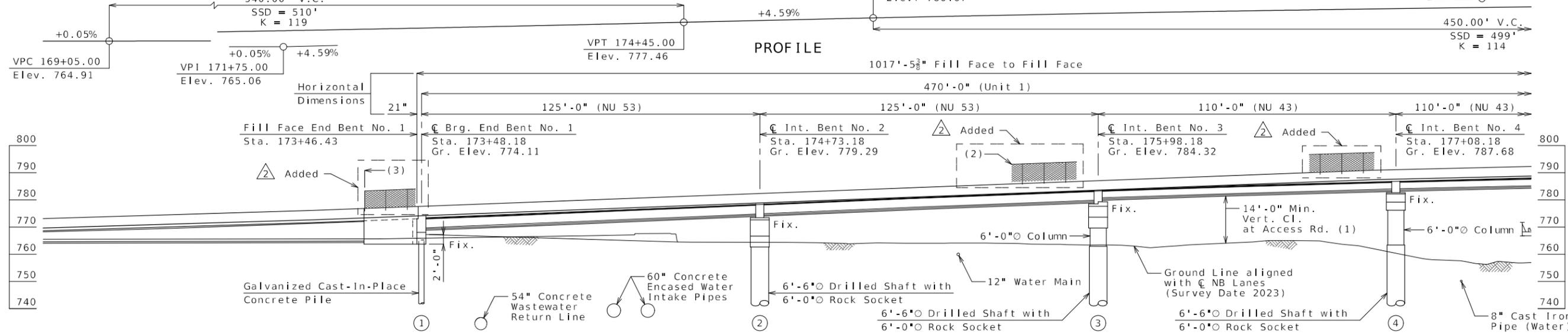
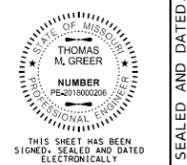
Missouri Dept. of
Transportation
Authority 202010300

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

CURVE DATA		SUPERELEVATION DATA	
PI 173+10.50	PI 179+94.97	Sta. 171+03.63, Full Super 6%	
PCC 170+85.63	PC 177+48.42	Sta. 174+23.32, Full Super 6%	
PT 175+30.22	PT 182+34.76	Sta. 176+39.32, 0% Cross Slope	
Δ 21°13'40.3"	Δ 23°13'15.5"	Sta. 178+55.32, Full Super -6%	
D 04°46'28.7"	D 04°46'28.7"		
L 444.60'	L 486.34'		
T 224.88'	T 246.55'		
R 1200'	R 1200'		

UNIT 1: (2 @ 125'-2 @ 110') PRESTRESSED CONCRETE NU-GIRDER SPANS
 UNIT 2: (105'-4½"-92'-11½") PRESTRESSED CONCRETE NU-GIRDER SPANS
 UNIT 3: (153'-3¾"-160') PRESTRESSED CONCRETE NU-GIRDER SPANS
 UNIT 4: (32'-6") SOLID SLAB SPAN

SEC/SUR 10 TWP 50N RGE 33W
 VPI 177+40.00
 Elev. 791.00
 +4.59% +0.65%



- (1) Estimated Vertical Clearance = 16.5'±
 - (2) Continuous Chain Link Fence 6'-6" on 3'-6" Barrier Curb
 - (3) Start Bridge Fence Sta. 173+27.15 Rt.
- Note: Utility locations shown were obtained by site survey following Missouri One Call requests. Locations are approximate.

Note: (B) Indicates location of boring. For Notice and Disclaimer Regarding Boring Log Data, see Sheet No. 4.
 Note: This drawing is not to scale. Follow dimensions.

Designed: Sept. 2025
 Detailed: Oct. 2025
 Checked: Oct. 2025

Sheet No. 1 of 132

BRIDGE: ROUTE 169 OVER BNSF R.R.
 ROUTE 169 NB FROM ROUTE I-70 TO ROUTE 9
 ABOUT 0.5 MILE SOUTH OF ROUTE 9
 BEGINNING STATION 173+46.43

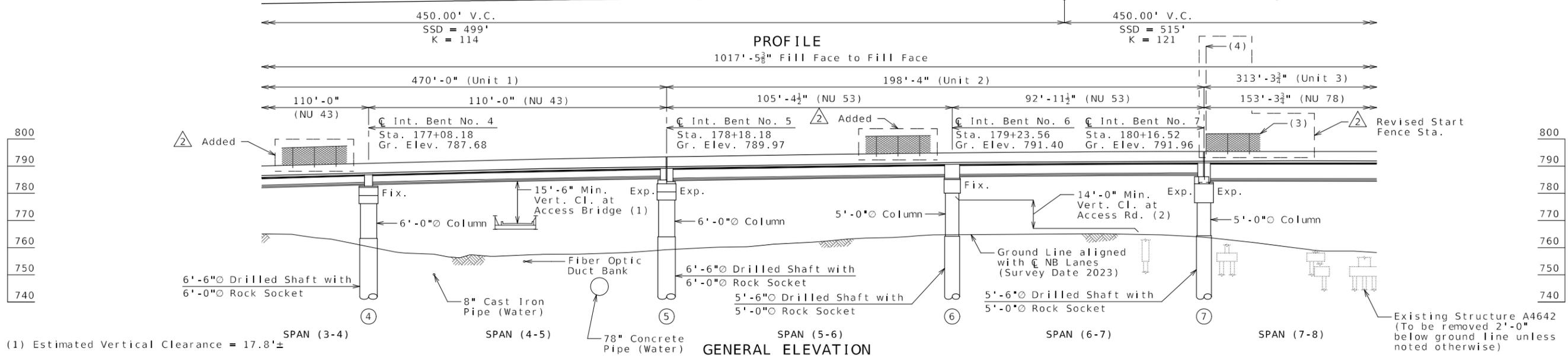
DATE	DATE PREPARED	ROUTE	STATE
03-11-26	3/10/2026	169	MO
DESCRIPTION	DISTRICT	SHEET NO.	COUNTY
Addendum 2	BR	1	CLAY
	JOB NO.		
	KJU0099		
	CONTRACT ID.		
	PROJECT NO.		
	BRIDGE NO.		
	A9606		
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION			
105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)			
Burns & McDonnell Engineering Co., Inc. 9400 Ward Parkway Kansas City, Missouri 64114 816-333-9400 Certificate of Authority No. : 000165 BmCD Project No. 154749			

CURVE DATA
 PI 179+94.97
 PC 177+48.42
 PT 182+34.76
 Δ 23°13'15.5"
 D 04°46'28.7"
 L 486.34'
 T 246.55'
 R 1200'

SUPERELEVATION DATA
 Sta. 176+39.32, 0% Cross Slope
 Sta. 178+55.32, Full Super -6%

VPI 177+40.00
 Elev. 791.00
 +4.59% +0.65%

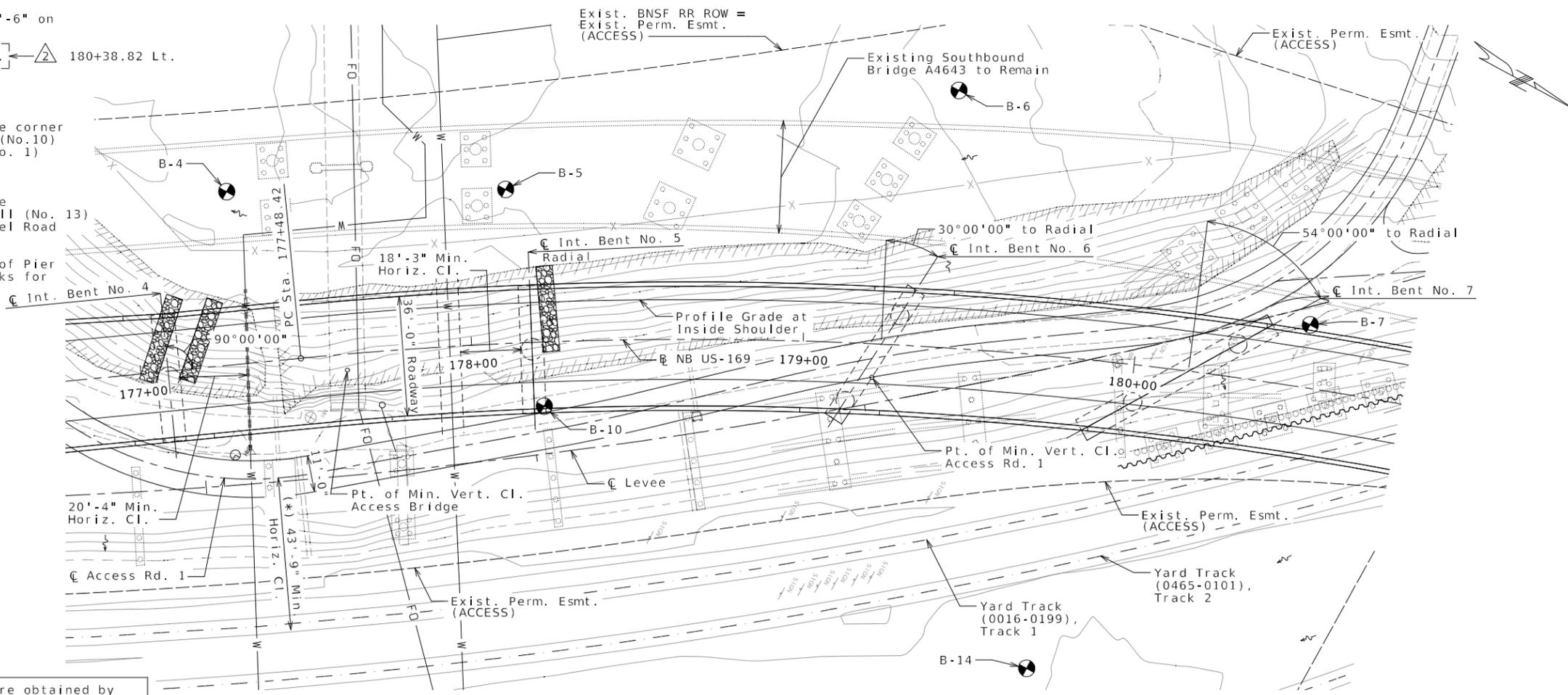
VPT-VPC 179+65.00
 Elev. 792.46
 VHP 180+43.42
 Elev. 792.71



- (1) Estimated Vertical Clearance = 17.8'±
- (2) Estimated Vertical Clearance = 14.1'±
- (3) Continuous Chain Link Fence 6'-6" on 3'-6" Barrier Curb
- (4) Start Fence Sta. [179+88.92 Rt.] ← 180+38.82 Lt.
- (*) Perpendicular to C RR Tracks

- CP 701: 1/2" Iron Bar with Cap
 RM 1 - 31.26' S to 90 degree Fence corner
 RM 2 - 118.64' SE to N Face Well (No.10)
 RM 3 - 92.74' N to S Face Well (No. 1)
 Elevation: 745.01
- CP 702: 1/2" Iron Bar with Cap
 RM 1 - 69.77' SE to Center Manhole
 RM 2 - 120.36' SW to N Face of Well (No. 13)
 RM 3 - 29.13' N to Center of Gravel Road
 Elevation: 747.32
- BM 1: Chiseled Square on West End of Pier Footing 3rd Pier South of RR Tracks for NB 169 Bridge.
 Elevation: 765.69
- BM 2: Chiseled Square on Southeast Corner Abutment of Bridge
 Elevation: 765.42

Note: Utility locations shown were obtained by site survey following Missouri One Call requests. Locations are approximate.



Note: [Symbol] Indicates location of boring. For Notice and Disclaimer Regarding Boring Log Data, see Sheet No. 4.

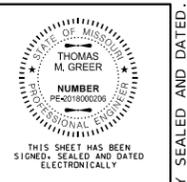
Note: This drawing is not to scale. Follow dimensions.

PLAN

Detailed: Oct. 2025
 Checked: Oct. 2025

Sheet No. 2 of 132

Revised 03-11-2026



DATE	
DATE PREPARED	3/11/2026
ROUTE	169
STATE	MO
DISTRICT	BR
SHEET NO.	2
COUNTY	CLAY
JOB NO.	JKU0099
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A9606

DESCRIPTION	Addendum 2
DATE	03-11-26

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

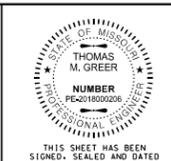
105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

Burns & McDonnell Engineering Co., Inc.
 9400 Ward Parkway
 Kansas City, Missouri 64114
 816-333-9400

Certificate of Authority
 No. : 000165
 BlcD Project No. 154749

CURVE DATA
 PI 179+94.97
 PC 177+48.42
 PT 182+34.76
 Δ 23°13'15.5"
 D 04°46'28.7"
 L 486.34'
 T 246.55'
 R 1200'

SUPERELEVATION DATA
 Sta. 181+86.77, Full Super -6%
 Sta. 183+30.77, End Super Transition -2%
 Sta. 185+33.65, -2% Cross Slope



DATE
 DATE PREPARED
 3/11/2026
 ROUTE 169 STATE MO
 DISTRICT BR SHEET NO. 3

COUNTY CLAY
 JOB NO. JKU0099
 CONTRACT ID.

PROJECT NO.
 BRIDGE NO. A9606

DATE	DESCRIPTION
03-11-26	Addendum 2

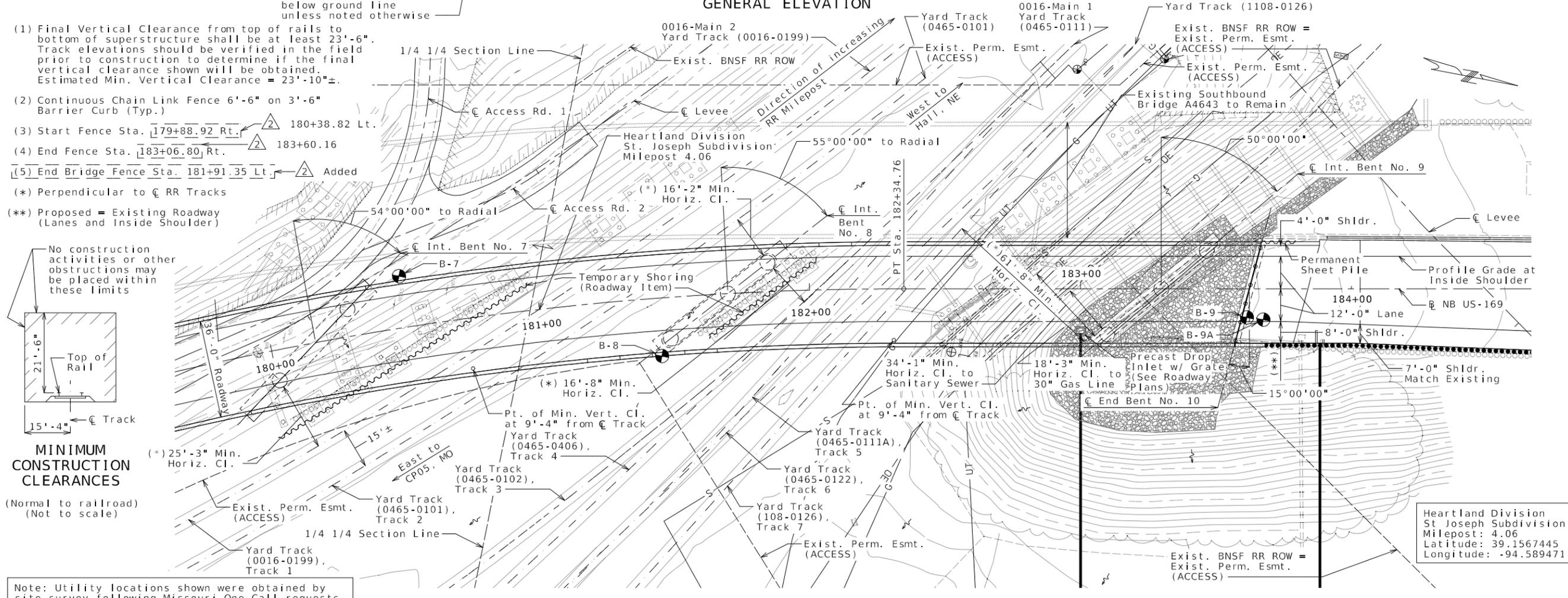
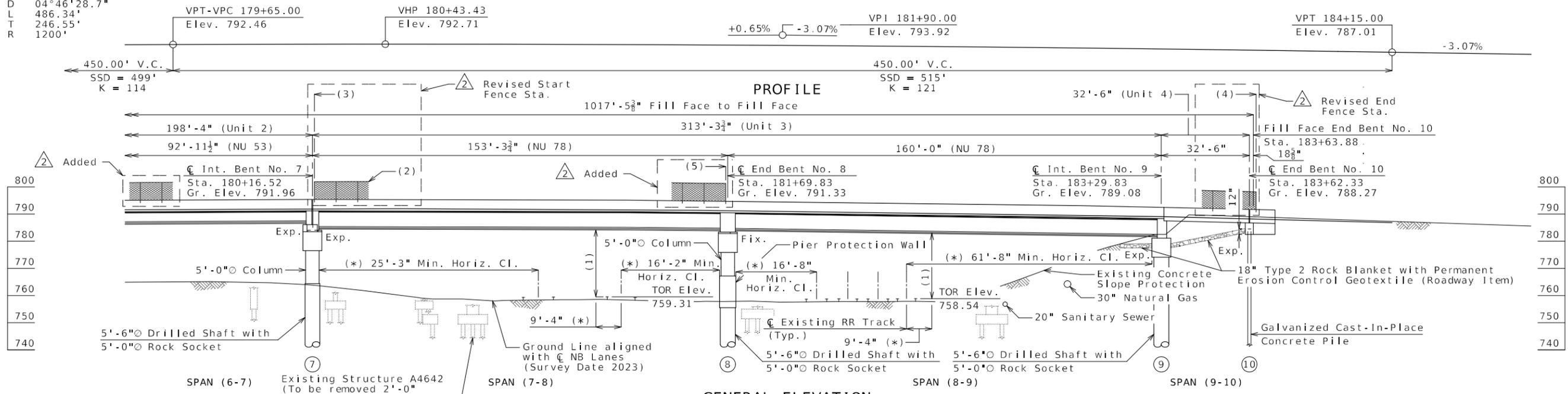
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



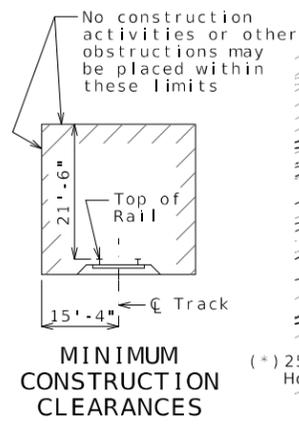
Burns & McDonnell Engineering Co., Inc.
 9400 Ward Parkway
 Kansas City, Missouri 64114
 816-333-9400
 Certificate of Authority
 No. : 000165
 BmC Project No. 154749

Heartland Division
 St Joseph Subdivision
 Milepost: 4.06
 Latitude: 39.1567445
 Longitude: -94.589471

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



- (1) Final Vertical Clearance from top of rails to bottom of superstructure shall be at least 23'-6". Track elevations should be verified in the field prior to construction to determine if the final vertical clearance shown will be obtained. Estimated Min. Vertical Clearance = 23'-10"±.
 - (2) Continuous Chain Link Fence 6'-6" on 3'-6" Barrier Curb (Typ.)
 - (3) Start Fence Sta. 179+88.92 Rt. 180+38.82 Lt.
 - (4) End Fence Sta. 183+06.80 Rt. 183+60.16
 - (5) End Bridge Fence Sta. 181+91.35 Lt. Added
- (* Perpendicular to C RR Tracks)
 (** Proposed = Existing Roadway (Lanes and Inside Shoulder))



Note: Utility locations shown were obtained by site survey following Missouri One Call requests. Locations are approximate.

Note: [Symbol] Indicates location of boring. For Notice and Disclaimer Regarding Boring Log Data, see Sheet No. 4.

Detailed: Oct. 2025
 Checked: Oct. 2025

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

Sheet No. 3 of 132

Revised 03-11-2026

GENERAL NOTES:

DESIGN SPECIFICATIONS:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
 2023 AASHTO Guide Specifications for LRFD Seismic Bridge Design (3rd Ed.)
 Seismic Design Category = A (Nonseismic)
 Design earthquake response spectral acceleration coefficient at 1.0 second period, $S_{D1} < 0.15 = 0.084$
 Acceleration Coefficient (effective peak ground acceleration coefficient), $A_s = 0.053$

2025 Edition of the American Railway Engineering and Maintenance of Way Association (AREMA) Manual for Railway Engineering
 UPRR-BNSF Joint Guidelines for Railroad Grade Separation Projects - 2016

DESIGN LOADING:

Vehicular = HL-93
 Future Wearing Surface = 35 lb/sf
 Earth = 120 lb/cf
 Equivalent Fluid Pressure = 45 lb/cf (Min.)
 Superstructure (Prestressed Concrete NU-Girder - Units 1-3):
 Simply-supported, non-composite for dead load.
 Continuous composite for live load.

DESIGN UNIT STRESSES:

Class B Concrete (Substructure at Bents No. 1, 6, 7, 8, 9, 10)	f'c = 3,000 psi
Class B-2 Concrete (Drilled Shafts & Rock Sockets)	f'c = 4,000 psi
Class B-1 Concrete (Type D Barrier, Substructure at Int. Bents No. 2, 3, 4, 5 and Cast-in-Place Concrete Piles)	f'c = 4,000 psi
Class B-2 Concrete (Superstructure, except Prestressed Girders and Type D Barrier)	f'c = 4,000 psi
Reinforcing Steel (ASTM A615 Grade 60)	f _y = 60,000 psi
Structural Steel Permanent Sheet Pile (ASTM A572 Grade 50)	f _y = 50,000 psi
Welded or Seamless steel shell (pipe) for CIP pile (ASTM A252 Modified Grade 3)	f _y = 50,000 psi

For prestressed girder stresses, see Sheets No. 48 thru 58.

NEOPRENE PADS:

Neoprene bearing pads shall be 60 durometer and shall be in accordance with Sec 716.

JOINT FILLER:

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

REINFORCING STEEL:

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

Minimum clearance between galvanized piles (CIP pile and Sheet Pile) and uncoated (plain) reinforcing steel including bar supports shall be 1 1/2". Nylon, PVC, or polyethylene spacers shall be used to maintain clearance. Nylon cable ties shall be used to bind the spacers to the reinforcement.

For bridge bent columns and drilled shafts, the Contractor may propose alternate reinforcing bar lap splice locations or mechanical bar splices for approval by the Engineer. Lap splice lengths shall be equal to or greater than those shown on the Plans. No additional payment will be made for increased bar length, mechanical bar splice, or additional reinforcing steel required due to relocated splices. Mechanical bar splices shall be in accordance with Sec 706 or 710.

TRAFFIC HANDLING:

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

Vertical clearance for BNSF Railroad during construction shall be 21'-6" minimum over a 15'-4" wide horizontal opening on each side of the centerline of existing tracks.

CONCRETE PROTECTIVE COATINGS:

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

TEMPORARY SHORING:

Temporary shoring may be required for construction of Intermediate Bent No. 8. Temporary shoring will be required for existing bridge removals. For Railroad shoring requirements, see Sheet No. .

Temporary shoring will be required for construction of the median culvert in the south approach roadway.

Contractor shall backfill temporary shoring with flowable fill during removal of shoring. Flowable fill shall be maintained at least 1 foot above the bottom of temporary shoring as it is extracted. Payment for flowable fill will be considered completely covered by the contract unit price for Temporary Shoring (Roadway Item).

Temporary casing for drilled shaft construction shall include backfill procedures per approved USACE DIPP.

The Contractor shall be responsible for the stability of the structure during all phases of construction prior to completion of the final configuration. The Contractor shall provide all necessary temporary supports and bracing to ensure stability of the structure during erection and construction. The Engineer's review or approval of temporary works shall not relieve the Contractor of this responsibility.

MISCELLANEOUS:

Rubblized concrete from the existing bridge deck that qualifies as clean fill may be placed on spill slope at End Bent No. 10 (Roadway item).

NOTICE AND DISCLAIMER REGARDING BORING LOG DATA:

The locations of all subsurface borings for this structure are shown on the plan sheets for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheets No. 116 thru 132 and may be included in the Electronic Bridge Deliverables. They will also be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the on the plan sheets than is given to the subsurface data available from the district or elsewhere.

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

USACE DRILLED SHAFT REQUIREMENTS NOTES:

Temporary casing is required to allow for a 6" space between temporary and permanent casing.

Extend temporary casing at a minimum 1 foot below the bottom of the upper clay blanket material shown in the nearest geotechnical boring. The clay blanket material is the cohesive zone that lies below the footprint of the levee and above the pervious foundation sand.

The contractor shall completely fill the void between the permanent and temporary casing. Backfill shall be a bentonite-cement grout mix or other mix with limited volume change that can properly fill the void. Backfill shall be installed from bottom up. Temporary casing shall be pulled in manner that backfill grout is always 1 foot above the bottom of the casing.

The USACE Drilled Shaft Requirements shall be will be considered completely covered by the contract unit price for Drilled Shafts.

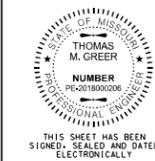
LEVEE RELATED BACKFILL WITH COMPACTED IMPERVIOUS CLAY MATERIAL:

After removal of structures, backfill with compacted impervious clay, cohesive material benched into existing soil as shown on the plans. Backfill materials shall be placed in 6-inch lifts.

Cohesive materials include silts and clays generally exclusive of sands and gravel; materials for which impact compaction will produce a well-defined moisture-density relationship curve. Granular backfill shall not be allowed. Material shall be approved by the Engineer.

Compaction of backfill materials shall achieve a minimum of 90 percent of maximum density with a moisture content plus or minus 3 percent at optimum moisture per ASTM D698.

Payment for furnishing all material, equipment, tools, labor and any other incidental work for compacted impervious clay backfill or flowable fill, complete in place, will be considered completely covered by the contract unit price for Removal of bridges (A4642).



DATE

DATE PREPARED

3/11/2026

ROUTE 169 STATE MO

DISTRICT BR SHEET NO. 4

COUNTY CLAY

JOB NO. JKU0099

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9606

DATE	DESCRIPTION
03-11-26	Addendum 2

DATE	DESCRIPTION
03-11-26	Addendum 2



Burns & McDonnell Engineering Co., Inc.
 9400 Ward Parkway
 Kansas City, Missouri 64114
 816-333-9400
 Certificate of Authority
 No. : 000165
 Bmcd Project No. 154749

Revised 03-11-2026

GENERAL NOTES

Detailed: Oct. 2025
 Checked: Oct. 2025

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

Sheet No. 4 of 132

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

RAILROAD GENERAL NOTES:

These Railroad General Notes are not all inclusive of BNSF requirements. Refer to the BNSF Railway Special Provisions for all additional requirements and coordination information.

For Railroad coordination please refer to the Railroad's Coordination Requirements as part of the Specifications or Special Provisions of the project.

Railroad review and approval of any shoring, erection, demolition, and falsework to build this structure is required. Allow a minimum of four weeks for the review and approval of each submittal and each re-submittal. (Section 3.10 UPRR/BNSF Guidelines for Railroad Grade Separation Project).

Prior to excavation in BNSF Right-of-Way the Contractor shall call and notify the following: (Section 4.10 UPRR/BNSF Guidelines for Railroad Grade Separation Projects).

- BNSF Signal/Telecommunications Engineering:
"Call Before You Dig"
1-800-533-2891
- BNSF Grade Crossings:
1-800-832-5452

Please refer to the BNSF website for utility review and approval process and application.

A flagman is required when any work is performed within 25 feet of track centerline. If the Railroad provides flagging or other services, the Contractor shall not be relieved of any responsibilities or liabilities as set forth in any document authorizing work. No work is allowed within 50 feet of track centerline when a train passes the work site, and all personnel must clear the area within 25 feet of track centerline and secure equipment when trains are present.

Provide access to BNSF R.O.W., maintained at all times.

Existing ditches to be maintained open at all times during construction.

The proposed grade separation project shall not increase the quantity and/or characteristics of the flow in the Railroad's ditches and/or drainage structures. (Section 5.8 UPRR/BNSF Guidelines for Railroad Grade Separation Projects).

The Contractor must submit a proposed method of erosion and sediment control and have the method approved by the Railroad. (Section 4.6 UPRR/BNSF Guidelines for Railroad Grade Separation Projects).

Any shoring system that impact the Railroad operations and/or supports Railroad embankment shall be designed and constructed per Railroad temporary Shoring Requirements. (Section 4.4.2 UPRR/BNSF Guidelines for Railroad Grade Separation Projects).

All demolition within the Railroad's Right-of-Way and/or demolition that may impact the Railroad tracks or operations shall comply with the Railroad's Demolition requirements. Hot-Work plan shall be submitted to BNSF. (Section 4.4.3 UPRR/BNSF Guidelines for Railroad Grade Separation Projects).

The elevation of the existing top-of-rail profile shall be verified before beginning construction. All discrepancies shall be brought to the attention of the Railroad prior to construction.

Temporary Construction Clearances shall include clearances for falsework. See Sheet No. 3 for the Minimum Construction Clearance diagram. (Section 4.4.1; 4.4.5; 5.3 UPRR/BNSF Guidelines for Railroad Grade Separation Projects)

All permanent clearances shall be verified before project closeout. (Plan No. 711100 Sheet 1 UPRR/BNSF Guidelines for Railroad Grade Separation Projects)

Vegetation on or adjacent to ROW shall not become a fire hazard or obstruction to inspection.

TRACK PROTECTION SHORING NOTES:

All dimensions are measured perpendicular to centerline track.

The Contractor shall provide and install track protection shoring before commencing excavation.

Prior to the start of excavation, the Contractor shall submit detailed plans indicating the nature and extent of the track protection shoring proposed for approval by the Railroad. Installation of track protection shoring shall not happen until the plans have been approved by the Railroad.

Design and construction of the shoring shall comply with the 2021 UPRR/BNSF Guidelines for Temporary Shoring and the AREMA Specifications for Design and Construction of Shoring Adjacent to Active Railroad Tracks.

The Contractor shall monitor the track, ground, and shoring for movement to ensure proper performance of the shoring system and safe operations of trains. A top of rail monitoring plan must be included with the detailed shoring plans. A maximum of 1/4" is acceptable horizontal or vertical movement of the rail for shoring within 25' of the centerline Track.

For all excavations within Zone A, track protection shoring plans must be accompanied by the design calculations. Both the plans and calculations shall be stamped by a Professional Engineer registered in the State of Missouri.

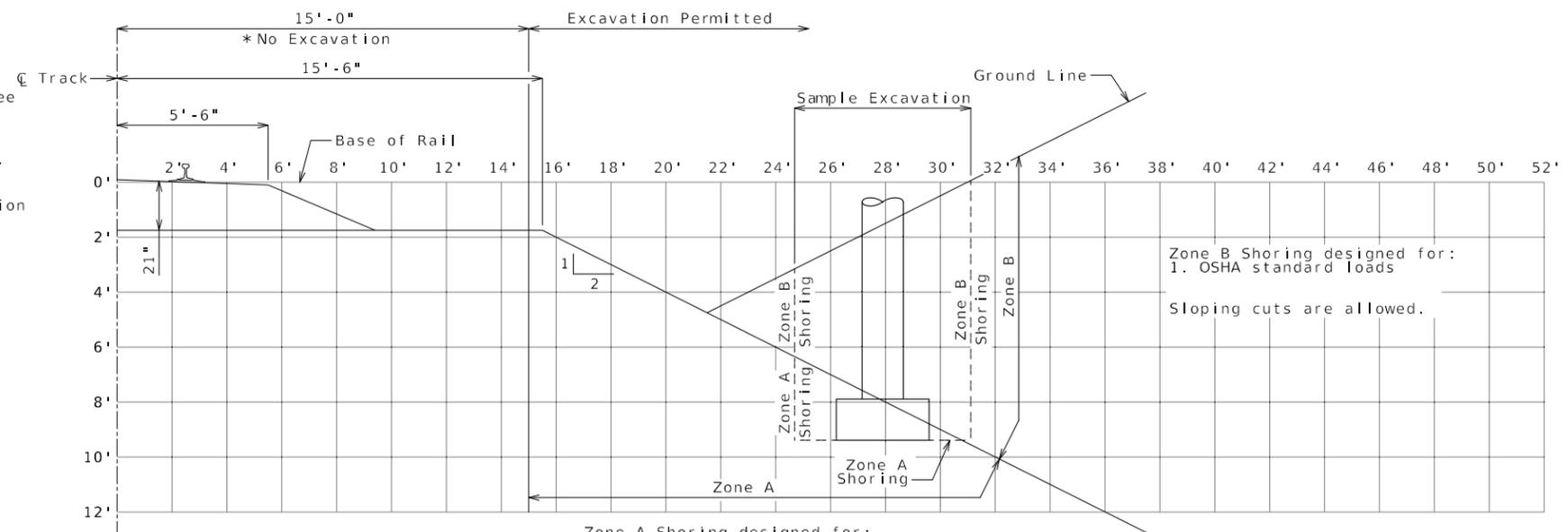
Payment for shoring plans, calculations, installation and removal of shoring shall be considered subsidiary to Temporary Shoring (Roadway Item).

BNSF DRILLED SHAFT REQUIREMENT NOTES:

During installation no phase of construction will be accepted proposing an open hole without casing (permanent or temporary) from the surface to the elevation of the top of the rock socket.

If temporary casing is extracted a permanent casing must be installed within the entire length of the temporary casing. A grout must be present with adequate head pressure to fill any void left during the extraction.

Added



* Except at Existing Abutment No. 1 and Bents No. 12, 15 & 16 for temporary shoring required for Removal of Bridges (A4642) with BNSF approved design variance. Shoring shall be designed and constructed per the Railroad temporary shoring requirements. Shoring design and construction procedures shall be submitted to the Railroad. Shoring shall be at locations as to provide maximum clearance from tracks as practical.

TRACK PROTECTION SHORING REQUIREMENTS

Revised 03-11-2026

RAILROAD NOTES & DETAILS

Detailed: Sept. 2025
Checked: Oct. 2025

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

Sheet No. 5 of 132

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE	
DATE PREPARED 3/11/2026	
ROUTE 169	STATE MO
DISTRICT BR	SHEET NO. 5
COUNTY CLAY	
JOB NO. JKU0099	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9606	
DATE	DESCRIPTION
03-11-26	Addendum 2

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

Burns & McDonnell Engineering Co., Inc.

9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400

Certificate of Authority
No. : 000165

BMcD Project No. 154749

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

Estimated Quantities			
Item	Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	195	195
Removal of Bridges (A4642)	lump sum		1
Bridge Approach Slab (Major)	sq. yard		174
(78 in.) Chain-Link Railroad Fence (Structures)	linear foot		314
Drilled Shafts (5 ft. 6 in. Dia.)	linear foot	1322.9	1322.9
Drilled Shafts (6 ft. 6 in. Dia.)	linear foot	523.2	523.2
Rock Sockets (5 ft. 0 in. Dia.)	linear foot	251.0	251.0
Rock Sockets (6 ft. 0 in. Dia.)	linear foot	110.5	110.5
Video Camera Inspection	each	14	14
Foundation Inspection Holes	linear foot	509.5	509.5
Sonic Logging Testing	each	14	14
Galvanized Cast-In-Place Concrete Piles (16 in.)	linear foot	384	384
Galvanized Cast-In-Place Concrete Piles (24 in.)	linear foot	400	400
Dynamic Pile Testing	each	9	9
Pile Point Reinforcement	each	6	6
Pile Point Reinforcement for 24 in. CIP Piles	each	8	8
Class B Concrete (Substructure)	cu. yard	679.5	679.5
Class B-1 Concrete (Substructure)	cu. yard	314.3	314.3
Class B-2 Concrete (Superstructure Solid Slab)	cu. yard		72.0
Type D Barrier	linear foot		2100
Slab on Concrete NU-Girder	sq. yard		4351
NU 43, Prestressed Concrete NU-Girder	linear foot		1088
NU 53, Prestressed Concrete NU-Girder	linear foot		2201
NU 78, Prestressed Concrete NU-Girder	linear foot		1550
Reinforcing Steel (Bridges)	pound	519,730	519,730
Reinforcing Steel (Epoxy Coated)	pound	93,570	93,570
Protective Coating - Concrete Bents and Piers (Epoxy)	lump sum	1	1
Steel Intermediate Diaphragm for P/S Concrete Girders	each		61
Drainage System (On Structure)	lump sum		1
Galvanized Permanent Sheet Pile Wall	sq. foot	210	210
Vertical Drain at End Bents	each	2	2
Laminated Neoprene Bearing Pad	each		20
Laminated Neoprene Bearing Pad (Tapered)	each		35
Laminated Neoprene Bearing Pad Assembly	each		25
Strip Seal Expansion Joint System	linear foot		135

All concrete above the construction joint in End Bent No. 1 is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All reinforcement in End Bent No. 1 and all reinforcement in cast-in-place pile at End Bent No. 1 is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All reinforcement in End Bent No. 10 and all reinforcement in cast-in-place pile at End Bent No. 10 is included in Reinforcing Steel (Epoxy Coated).

All concrete above the construction joint in End Bent No. 10 is included in Class B-2 Concrete (Superstructure Solid Slab).

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

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

All concrete for Unit 4 solid slab is included in Class B-2 Concrete (Superstructure Solid Slab).

All reinforcing steel for Unit 4 solid slab is included in Reinforcing Steel (Epoxy Coated).

Removal of Bridges (A4642) shall include removal of the gravity block wall Bridge No. A8081 located on the west side of the south approach roadway. Payment for Removal of Bridges (A8081) will be considered completely covered by the contract unit price for Removal of Bridges (A4642).

Estimated Quantities for Slab on Concrete NU-Girder		
Item		Total
Class B-2 Concrete	cu. yard	1488
Reinforcing Steel (Epoxy Coated)	pound	435,030

The tables of Estimated Quantities for Slab on Concrete NU-Girder represents the quantities used by the State in preparing the cost estimate for concrete slabs in Units 1-3. 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 corrugated steel forms. Precast panels will not be permitted.

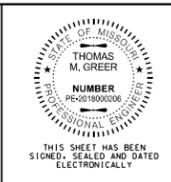
STAY-IN-PLACE CORRUGATED STEEL FORMS:

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 the 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. Welding on or 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.



DATE
3/11/2026

ROUTE 169 STATE MO
DISTRICT BR SHEET NO. 6

COUNTY CLAY
JOB NO. JKU0099
CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9606

DATE	DESCRIPTION
03-11-26	Addendum 2



Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400
Certificate of Authority
No. : 000165
BMcD Project No. 154749

Detailed: Oct. 2025
Checked: Oct. 2025

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

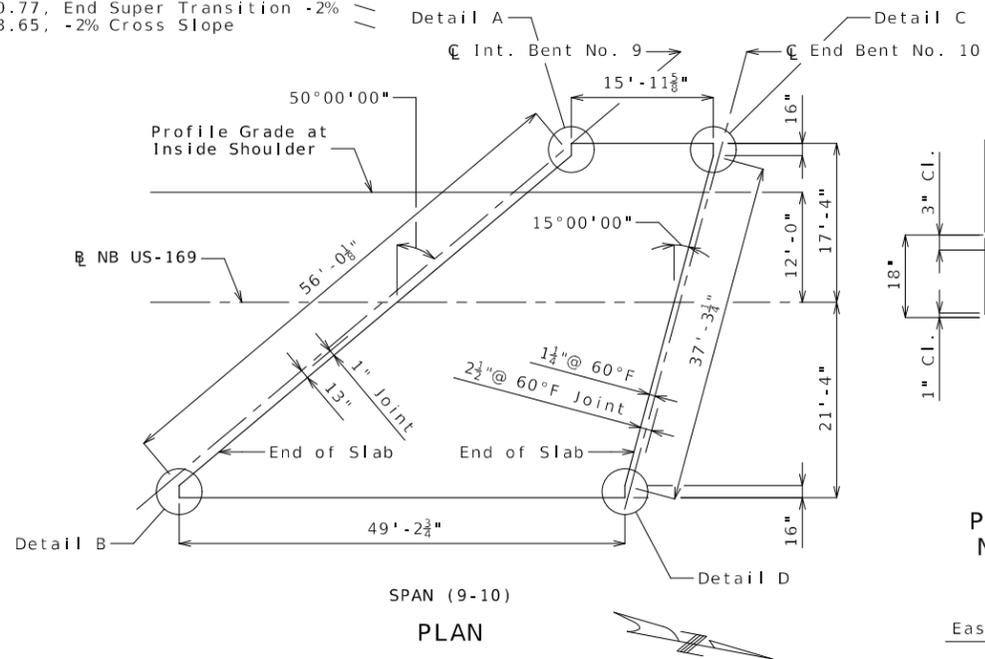
Sheet No. 6 of 132

SUMMARY OF ESTIMATED QUANTITIES

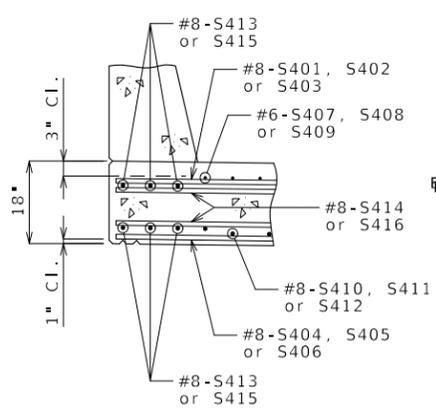
Revised 03-11-2026

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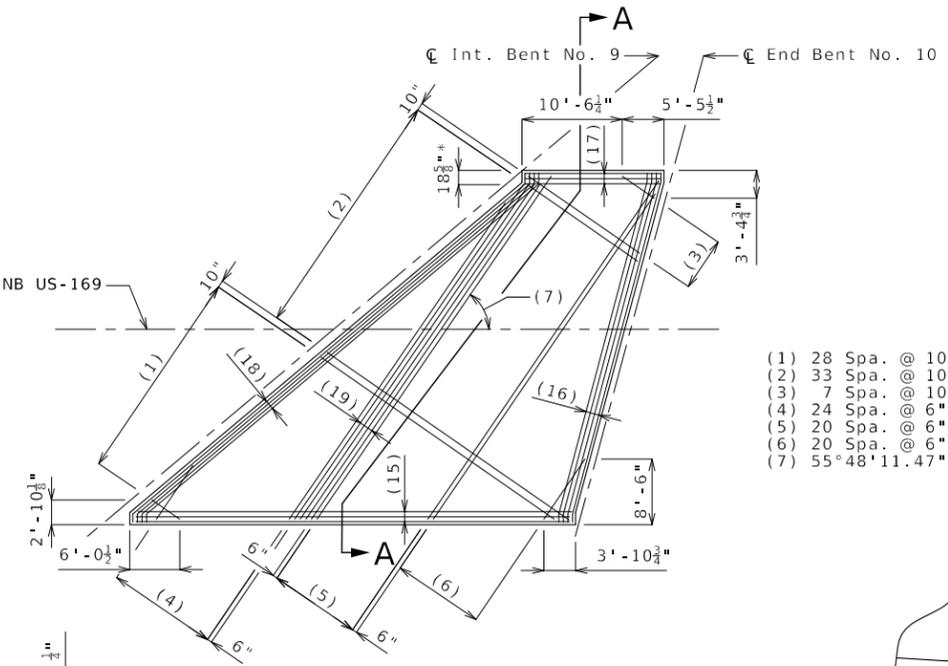
SUPERELEVATION DATA
 Sta. 181+86.77, Full Super -6%
 Sta. 183+30.77, End Super Transition -2%
 Sta. 185+33.65, -2% Cross Slope



SPAN (9-10)
PLAN



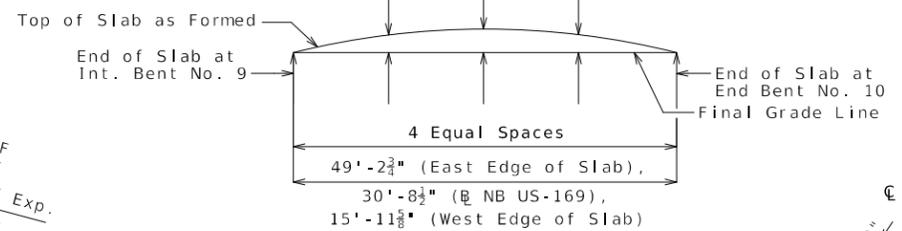
PART SECTION NEAR CORNER



SPAN (9-10)
PLAN TOP REINFORCEMENT

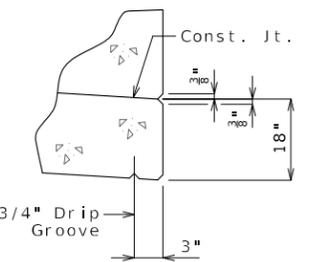
- (1) 28 Spa. @ 10"; 29-#6-S409
- (2) 33 Spa. @ 10"; 34-#6-S408
- (3) 7 Spa. @ 10"; 8-#6-S407
- (4) 24 Spa. @ 6"; 25-#8-S401
- (5) 20 Spa. @ 6"; 21-#8-S402
- (6) 20 Spa. @ 6"; 21-#8-S403
- (7) 55°48'11.47"

East Edge of Slab	1/8"	2/8"	1/8"
NB US-169	1/8"	1/8"	1/8"
West Edge of Slab	1/8"	1/8"	1/8"

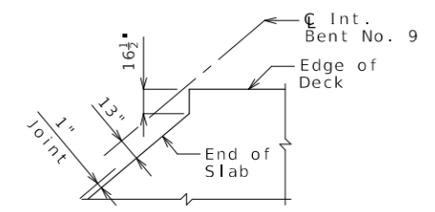


FORM CAMBER DIAGRAM

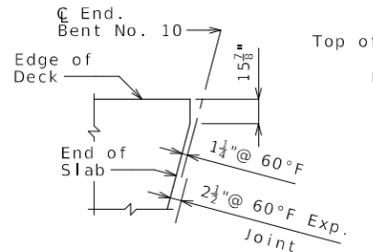
This diagram illustrates the form camber required to compensate for the anticipated ultimate dead load deflection. The dimensions shown do not account for form deflection or falsework settlement.



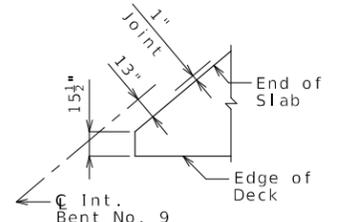
DETAIL E



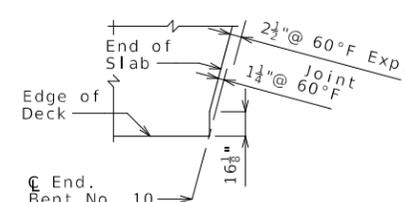
DETAIL A



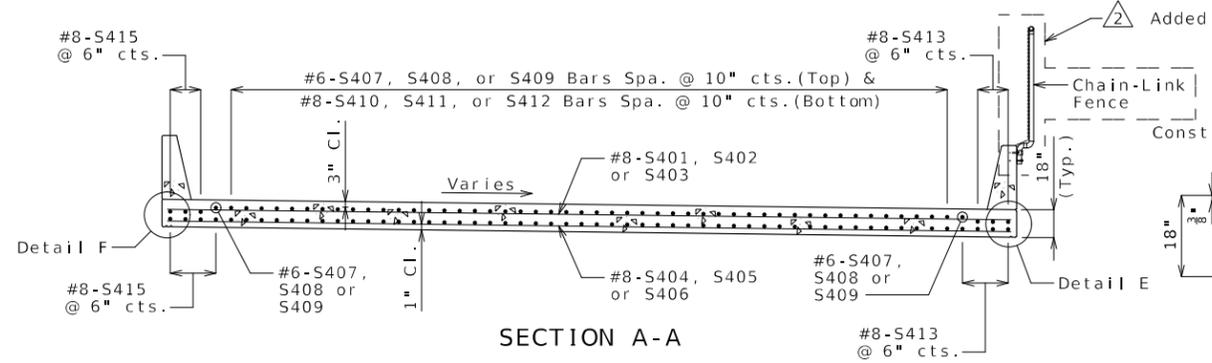
DETAIL C



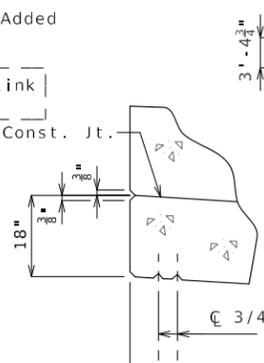
DETAIL B



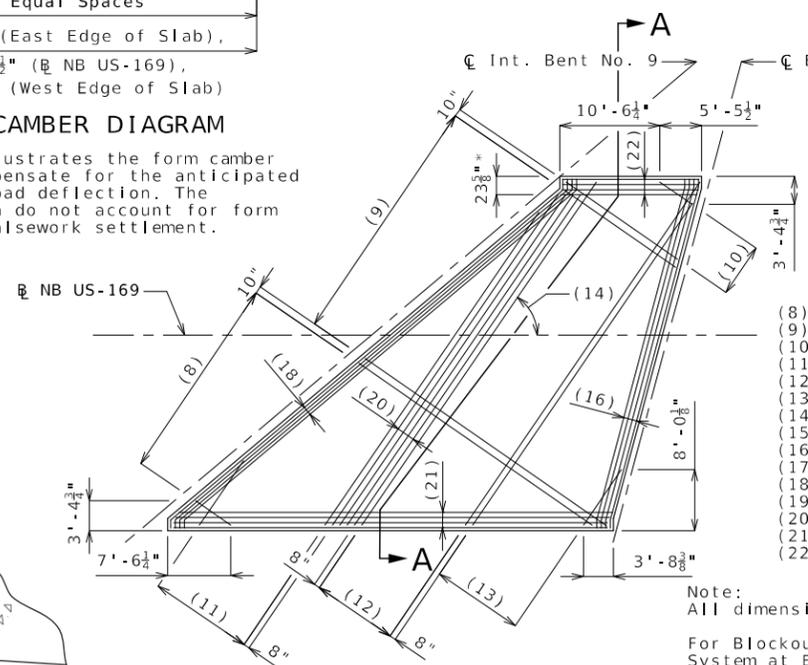
DETAIL D



SECTION A-A



DETAIL F



SPAN (9-10)
PLAN BOTTOM REINFORCEMENT

- (8) 27 Spa. @ 10"; 28-#8-S412
- (9) 33 Spa. @ 10"; 34-#8-S411
- (10) 7 Spa. @ 10"; 8-#8-S410
- (11) 17 Spa. @ 8"; 18-#8-S404
- (12) 14 Spa. @ 8"; 15-#8-S405
- (13) 15 Spa. @ 8"; 16-#8-S406
- (14) 55°48'11.47"
- (15) 2 Spa. @ 6"; 3-#8-S413
- (16) 3 Spa. @ 6"; 4-#8-S414 (Top & Bottom)
- (17) 2 Spa. @ 6"; 3-#8-S415
- (18) 3 Spa. @ 6"; 4-#8-S416 (Top & Bottom)
- (19) 3 Spa. @ 6"; 4-#8-S417
- (20) 3 Spa. @ 6"; 4-#8-S418
- (21) 3 Spa. @ 6"; 4-#8-S413
- (22) 3 Spa. @ 6"; 4-#8-S415

Note:
 All dimensions are horizontal.

For Blockout Details for Strip Seal Expansion Joint System at End Bent No. 10, see Sheet No. 78.

Work this sheet with Sheet No. 92.

Falsework shall be in accordance with Sec 703. The Contractor shall submit detailed plans for falsework, including the supporting design computations. The Engineer's acceptance of the plans will not relieve the Contractor of the responsibility for obtaining satisfactory results.

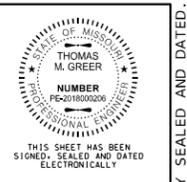
SLAB PLAN - UNIT 4 REINFORCEMENT

Detailed: Oct. 2025
 Checked: Oct. 2025

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

Sheet No. 88 of 132

Revised 03-11-2026



DATE	DATE PREPARED
	3/10/2026
ROUTE	STATE
169	MO
DISTRICT	SHEET NO.
BR	88
COUNTY	JOB NO.
CLAY	KJU0099
PROJECT NO.	CONTRACT ID.
BRIDGE NO.	
A9606	

DATE	DESCRIPTION
03-11-26	Addendum 2

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

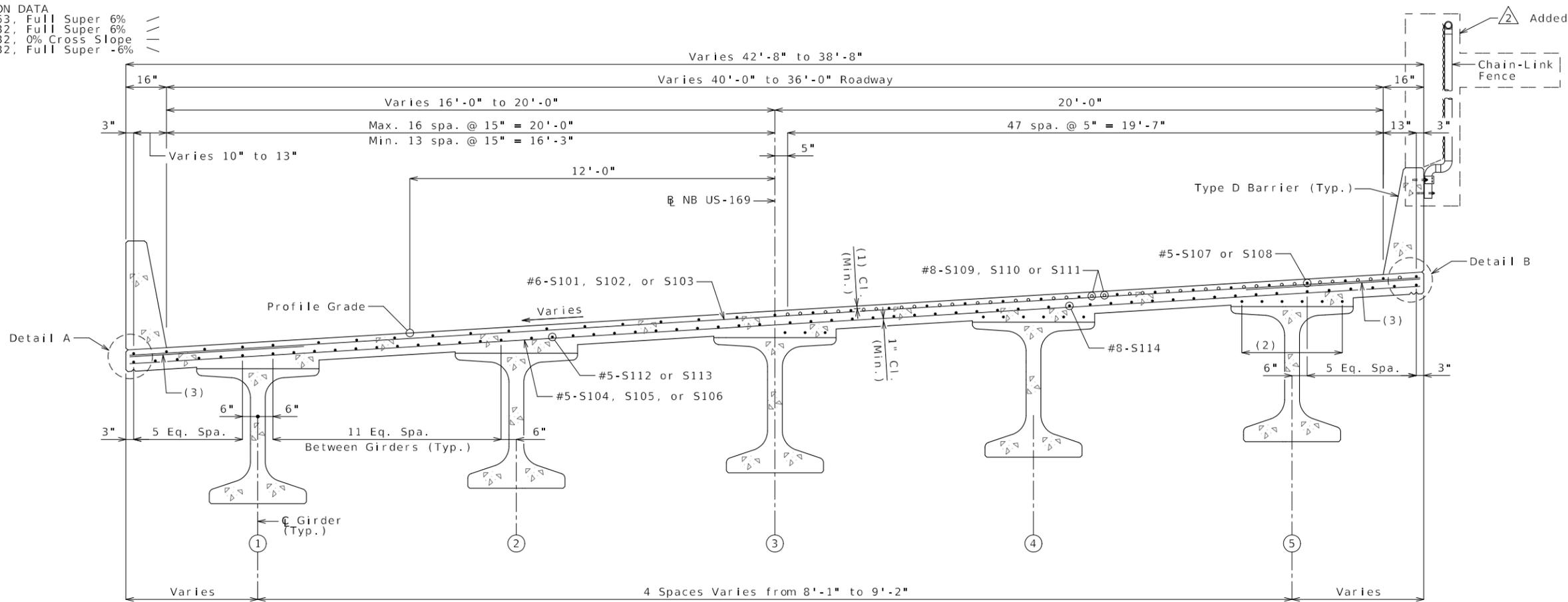


Burns & McDonnell Engineering Co., Inc.
 9400 Ward Parkway
 Kansas City, Missouri 64114
 816-333-9400
 Certificate of Authority
 No. : 000165
 Bmcd Project No. 154749



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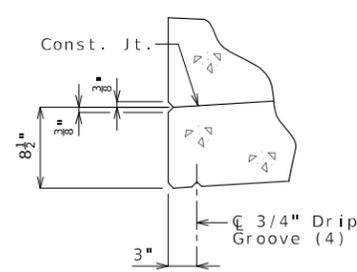
SUPERELEVATION DATA
 Sta. 171+03.63, Full Super 6%
 Sta. 174+23.32, Full Super 6%
 Sta. 176+39.32, 0% Cross Slope
 Sta. 178+55.32, Full Super -6%



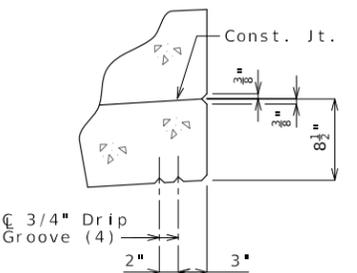
PART SECTION NEAR MIDSPAN

PART SECTION NEAR INTERIOR BENT

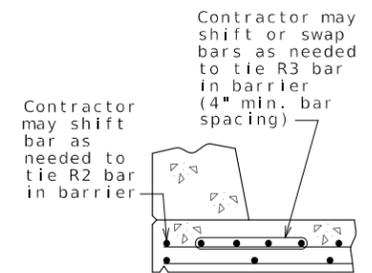
SECTION THRU SLAB



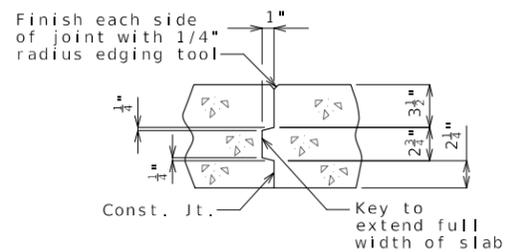
DETAIL A



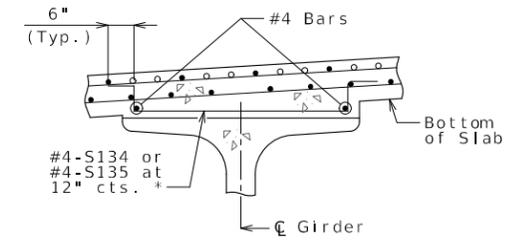
DETAIL B



OPTIONAL SHIFTING TOP BARS AT BARRIER



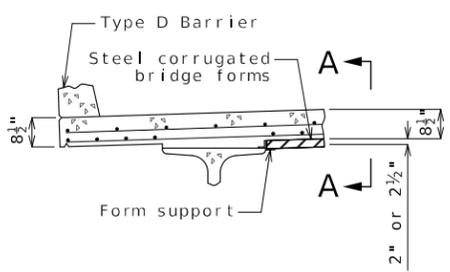
SLAB CONSTRUCTION JOINT



HAUNCH REINFORCING DETAIL

* #4-S134 and #4-S135 Hairpin bars may be placed at an angle to meet clearances.

- Notes:
- For reinforcement of barrier not shown, see Sheets No. 99 and 100.
 - For Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 79.
 - For Theoretical Bottom of Slab Elevations, see Sheet No. 82.
 - For Plan of Slab Showing Reinforcement, see Sheet No. 83 and 84.
 - For Slab Pouring Sequence, see Sheet No. 93.
 - (1) 3/8" (#5), 2 3/4" (#8)
 - (2) #7-S115 (over each Girder flange over Bent No. 2)
 - (3) #5-S116 bundled with #6 bars in overhang; See Sheet No. 83 for locations and spacing.
 - (4) Double drip groove along right side of slab from Sta. 173+46.43 to Sta. 176+39.32 and left side of slab from Sta. 176+39.32 to Sta. 178+18.18.



STAY-IN-PLACE FORM DETAILS

General Notes:

Corrugated steel bridge deck forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of 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 girders. 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. All steel fabrication and construction shall be in accordance with Sec's 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.

Detailed: Oct. 2025
 Checked: Oct. 2025

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

Sheet No. 89 of 132 Revised 03-11-2026

SLAB SECTION & DETAILS - UNIT 1

THOMAS M. GREER
 NUMBER PE-201800009
 PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN STAMPED, SEALED AND DATED ELECTRONICALLY.

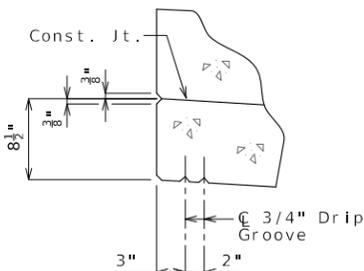
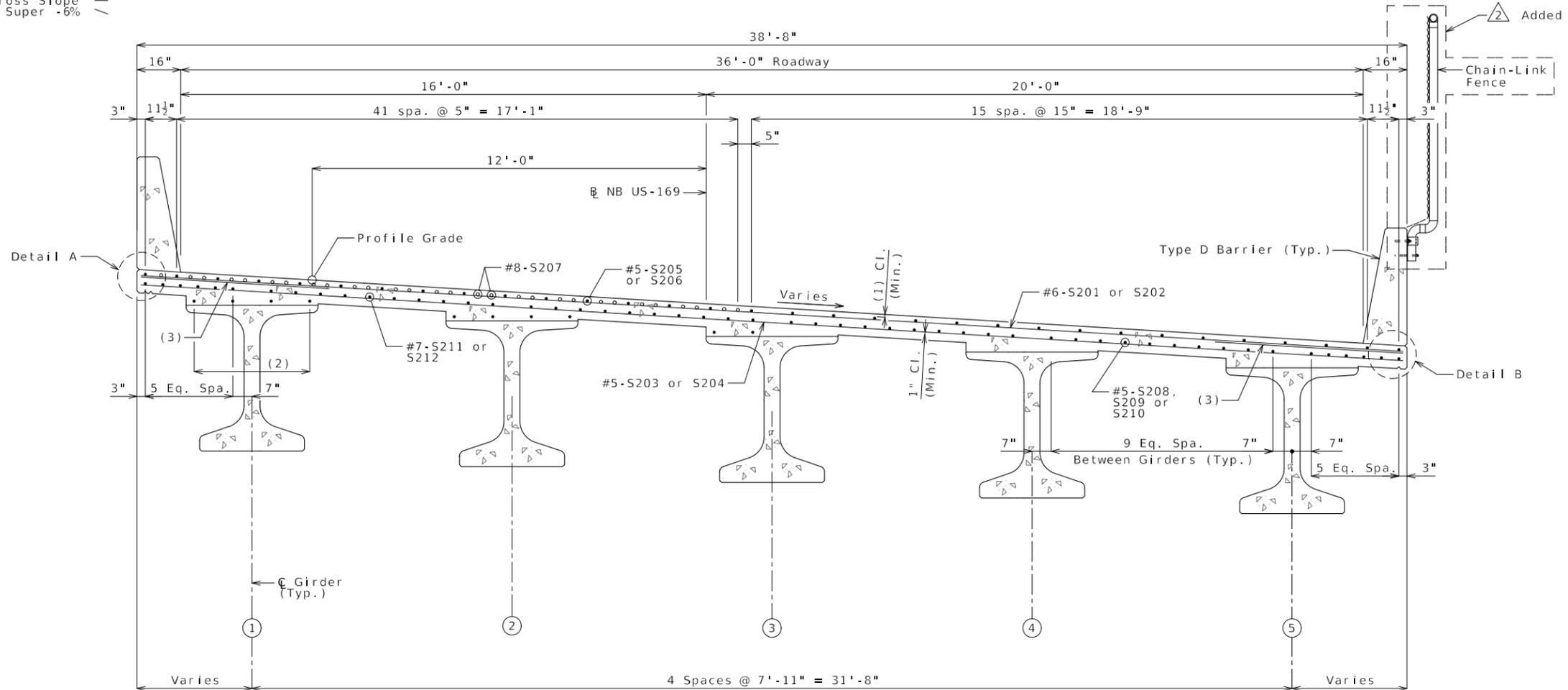
DATE	
DATE PREPARED 3/10/2026	
ROUTE 169	STATE MO
DISTRICT BR	SHEET NO. 89
COUNTY CLAY	
JOB NO. JKU0099	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9606	
DATE 03-11-26	DESCRIPTION Addendum 2

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

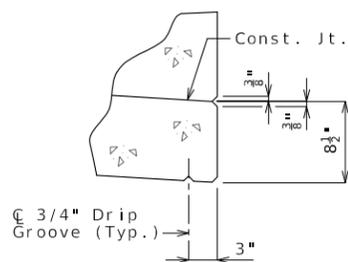
105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

Burns & McDonnell Engineering Co., Inc.
 9400 Ward Parkway
 Kansas City, Missouri 64114
 816-333-9400
 Certificate of Authority
 No. : 000165
 BmC Project No. 154749

SUPERELEVATION DATA
 Sta. 176+39.32, 0% Cross Slope
 Sta. 178+55.32, Full Super -6%



DETAIL A

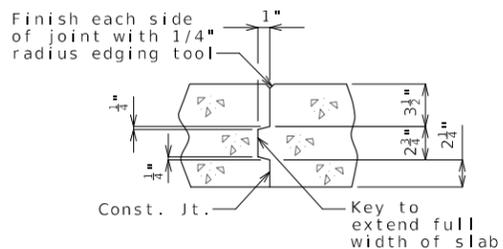


DETAIL B

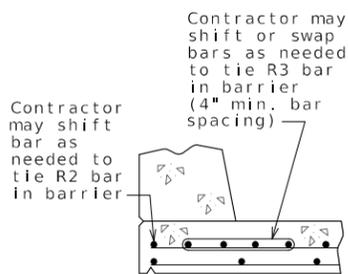
PART SECTION NEAR INTERIOR BENT

SECTION THRU SLAB

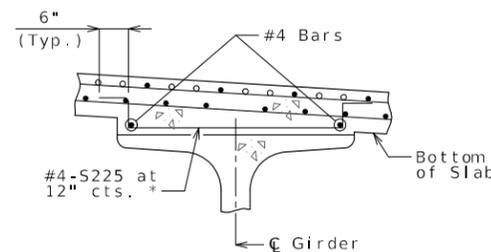
PART SECTION NEAR MIDSPAN



SLAB CONSTRUCTION JOINT



OPTIONAL SHIFTING TOP BARS AT BARRIER



HAUNCH REINFORCING DETAIL
 * #4-S225 Hairpin bars may be placed at an angle to meet clearances.

Notes:

- For Stay-In-Place Form Notes and Details, see Sheet No. 89.
- For reinforcement of barrier not shown, see Sheet No. 101.
- For Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 80.
- For Theoretical Bottom of Slab Elevations, see Sheet No. 82.
- For Plan of Slab Showing Reinforcement, see Sheet No. 85.
- For Slab Pouring Sequence, see Sheet No. 94.
- (1) 3 1/8" (#5), 2 3/4" (#8)
- (2) #7-S213 (over each Girder flange over Bent No. 6)
- (3) #5-S214 bundled with #6 bars in overhang; See Sheet No. 85 for locations and spacing



DATE	
DATE PREPARED 3/11/2026	
ROUTE 169	STATE MO
DISTRICT BR	SHEET NO. 90
COUNTY CLAY	
JOB NO. JKU0099	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9606	

DATE	DESCRIPTION
03-11-26	Addendum 2

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

Burns & McDonnell Engineering Co., Inc.
 9400 Ward Parkway
 Kansas City, Missouri 64114
 816-333-9400
 Certificate of Authority
 No. : 000165
 BmCd Project No. 154749

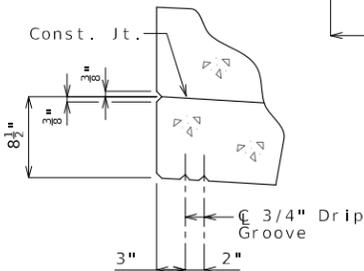
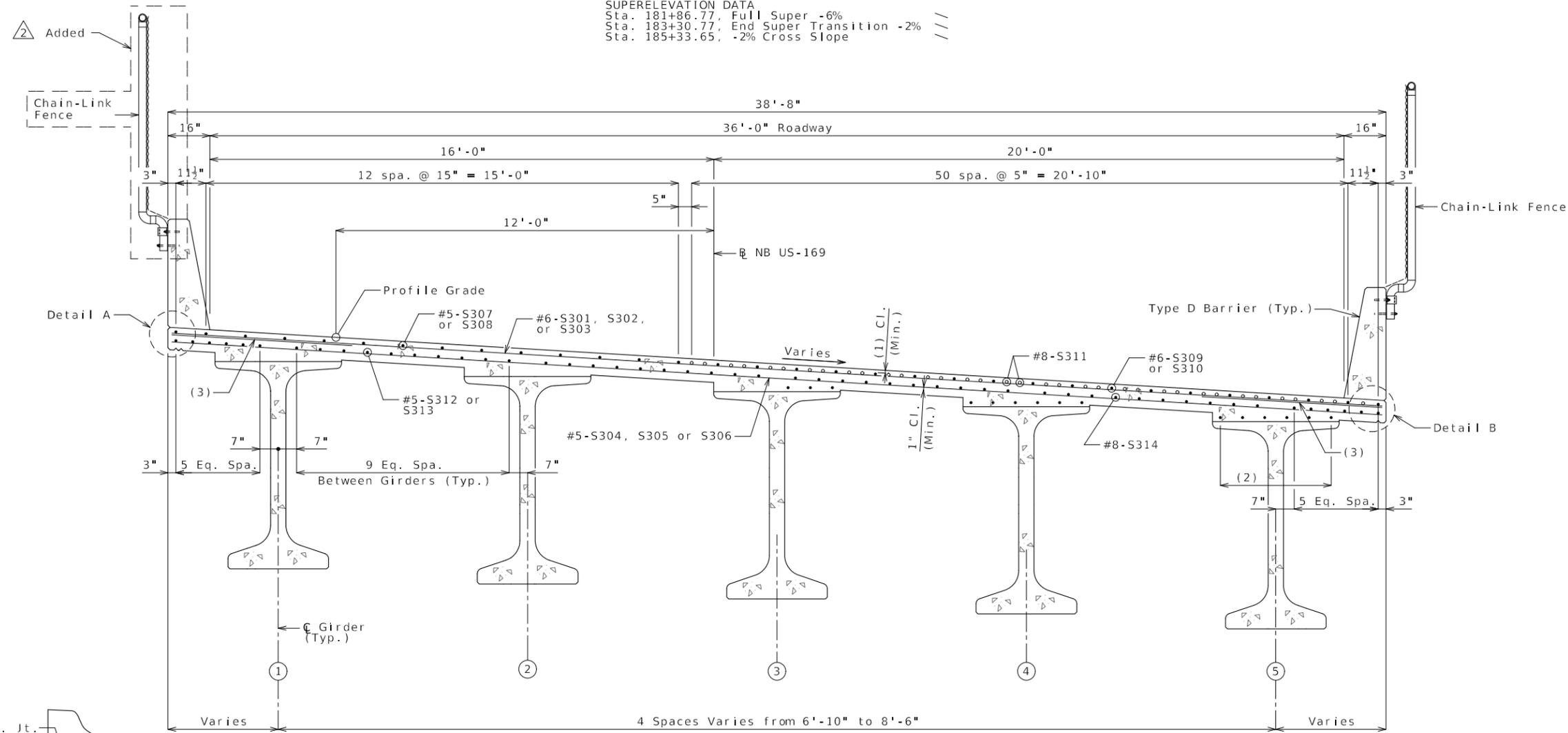
Detailed: Oct. 2025
 Checked: Oct. 2025

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

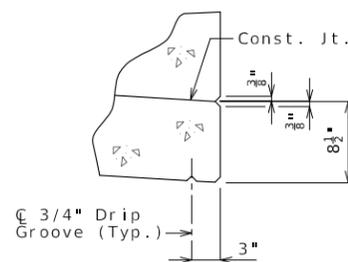
Sheet No. 90 of 132 Revised 03-11-2026

SLAB SECTION & DETAILS - UNIT 2

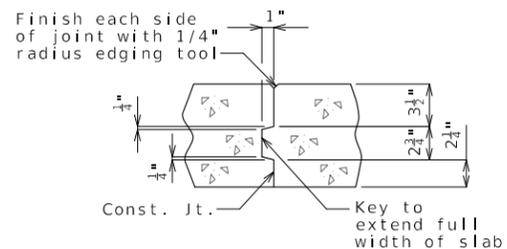
SUPERELEVATION DATA
 Sta. 181+86.77, Full Super -6%
 Sta. 183+30.77, End Super Transition -2%
 Sta. 185+33.65, -2% Cross Slope



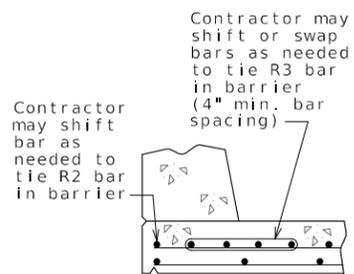
DETAIL A



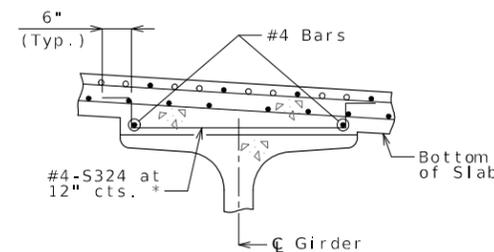
DETAIL B



SLAB CONSTRUCTION JOINT



OPTIONAL SHIFTING TOP BARS AT BARRIER



HAUNCH REINFORCING DETAIL
 * #4-S324 Hairpin bars may be placed at an angle to meet clearances.

- Notes:
- For Stay-In-Place Form Notes and Details, see Sheet No. 89.
 - For reinforcement of barrier not shown, see Sheet No. 102.
 - For Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 81.
 - For Theoretical Bottom of Slab Elevations, see Sheet No. 82.
 - For Plan of Slab Showing Reinforcement, see Sheets No. 86 & 87.
 - For Slab Pouring Sequence, see Sheet No. 95.
 - (1) 3 3/8" (#5), 3" (#6), 2 3/4" (#8)
 - (2) #7-S315 (over each Girder flange over Bent No. 8)
 - (3) #5-S316 bundled with #6 bars in overhang; See Sheet No. 86 for locations and spacing

Detailed: Oct. 2025
 Checked: Oct. 2025

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

Sheet No. 91 of 132 Revised 03-11-2026

SLAB SECTION & DETAILS - UNIT 3

c:\bmc_d_l\lib\pw_connect\trn\d0121694\B_A9606_091_KU0099_R002.dgn 9:06:46 AM 3/10/2026

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

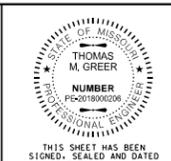
105 WEST CAPITOL JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

9400 Ward Parkway Kansas City, Missouri 64114 816-333-9400
 Certificate of Authority No. : 000165
 BMCd Project No. 154749

DATE PREPARED: 3/10/2026
 ROUTE: 169 STATE: MO
 DISTRICT: BR SHEET NO.: 91
 COUNTY: CLAY
 JOB NO.: JKU0099
 CONTRACT ID.:
 PROJECT NO.:
 BRIDGE NO.: A9606

DESCRIPTION: Addendum 2
 DATE: 03-11-26

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



DATE	
DATE PREPARED	3/11/2026
ROUTE	169
STATE	MO
DISTRICT	BR
SHEET NO.	100
COUNTY	CLAY
JOB NO.	JKU0099
CONTRACT ID.	

PROJECT NO.	
BRIDGE NO.	A9606

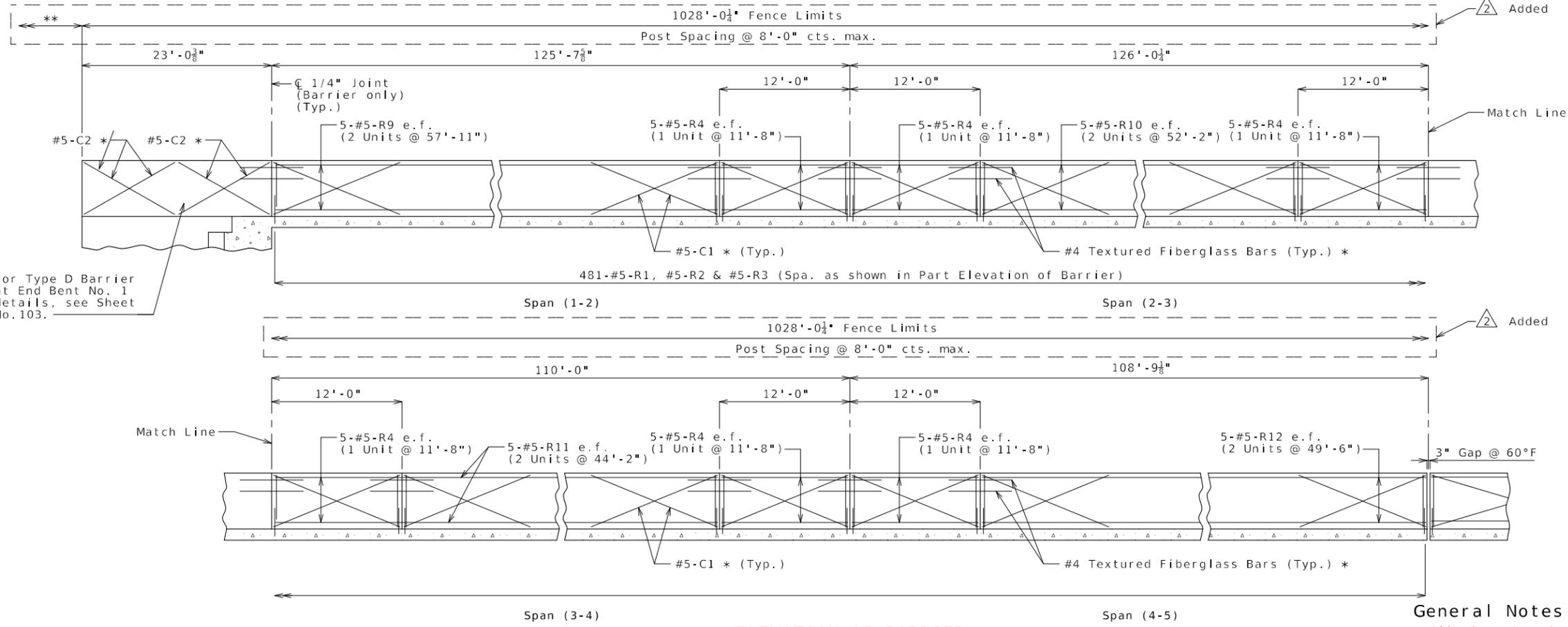
DESCRIPTION	Addendum 2
DATE	03-11-26

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

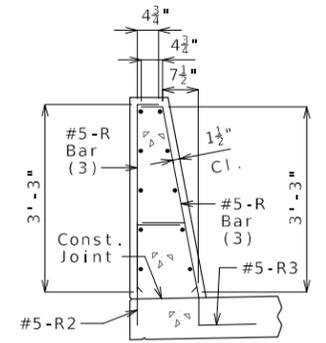
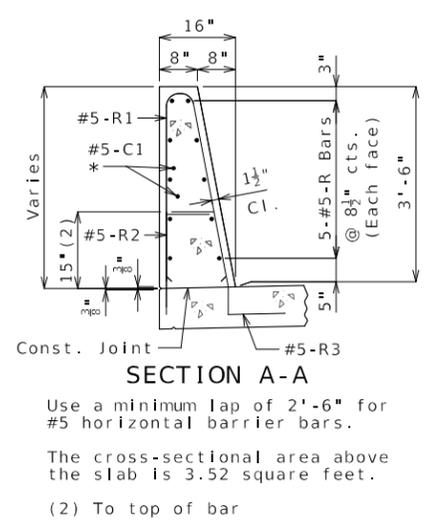
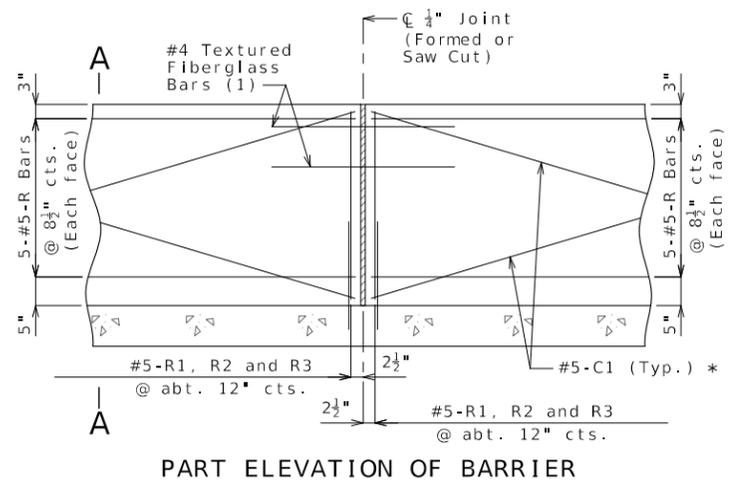
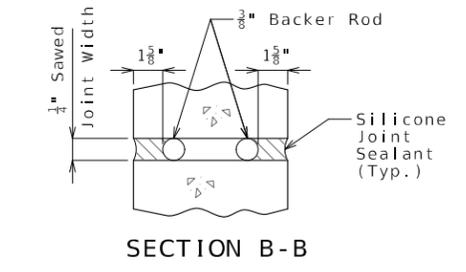
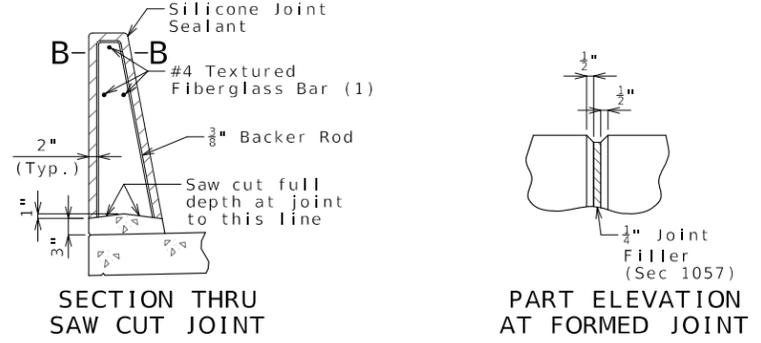
Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400
Certificate of Authority
No. : 000165
BMcD Project No. 154749

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



General Notes:

- * Slip-formed option only.
- Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.
- Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.
- All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.
- Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type D Barrier per linear foot.
- Concrete in barrier shall be Class B-1.
- Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing for Right Barrier.
- 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. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.
- Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.
- For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.
- For chain-link fence details, see Sheets No. 104A and 104B.



Added

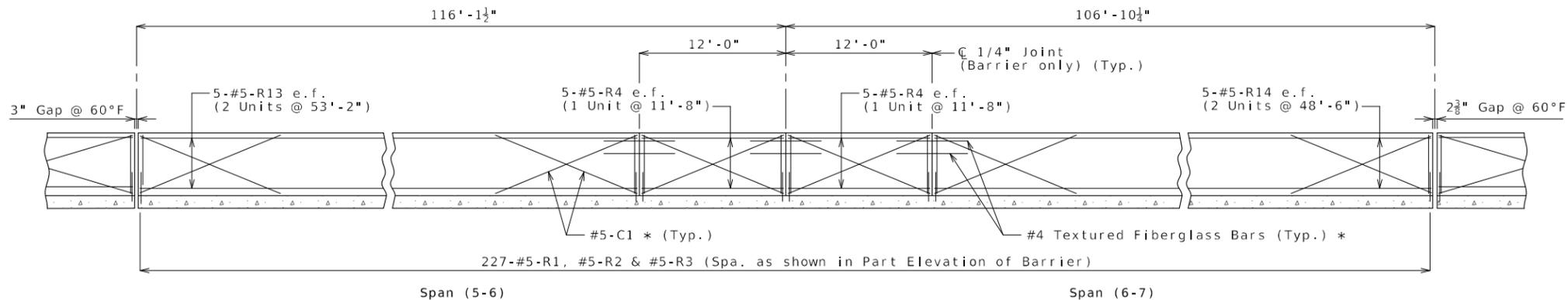
** For fence limits off bridge, see "Moment Slab Details" on structure A9617 plans.

RIGHT TYPE D BARRIER - UNIT 1

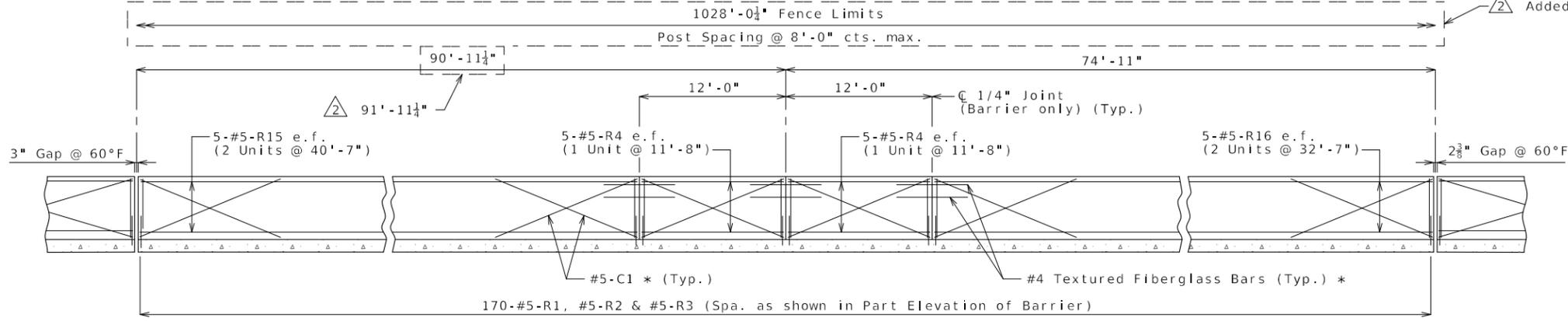
Detailed: Oct. 2025
Checked: Oct. 2025

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

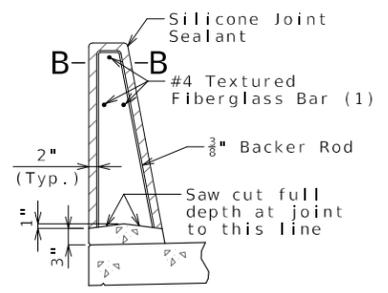
Sheet No. 100 of 132 Revised 03-11-2026



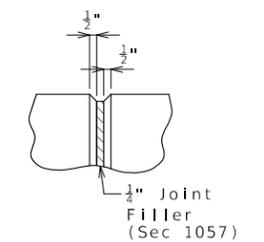
ELEVATION OF LEFT BARRIER
Longitudinal dimensions are horizontal.



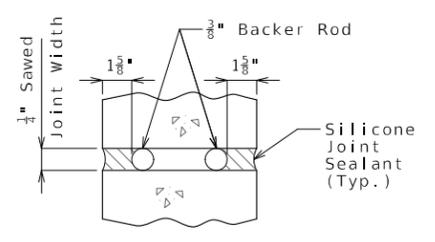
ELEVATION OF RIGHT BARRIER
Longitudinal dimensions are horizontal.



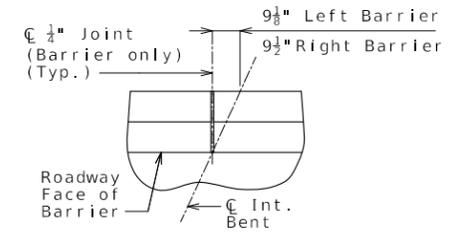
SECTION THRU SAW CUT JOINT



PART ELEVATION AT FORMED JOINT



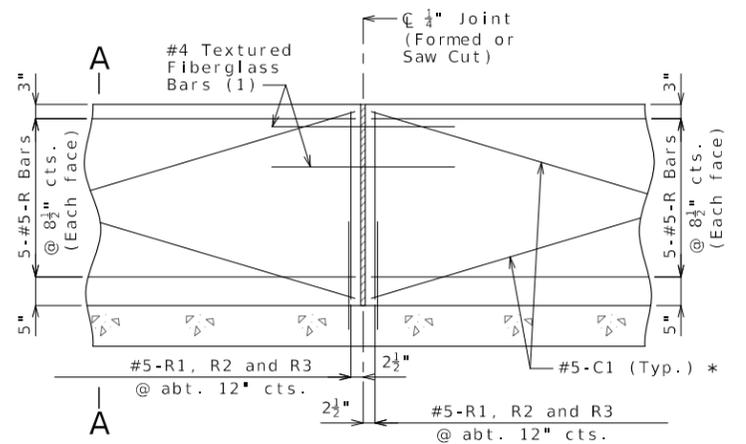
SECTION B-B



PART PLAN SHOWING JOINT LOCATION

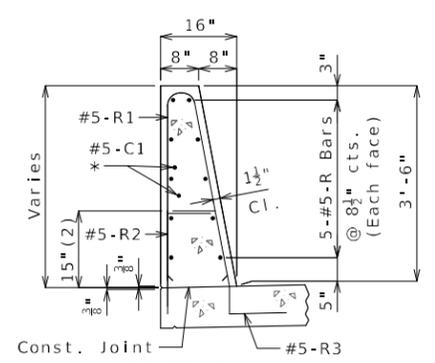
General Notes:

- * Slip-formed option only.
- Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.
- Top of barrier shall be built parallel to grade and barrier joints normal to grade.
- All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.
- Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type D Barrier per linear foot.
- Concrete in barrier shall be Class B-1.
- Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of slab for Left Barrier and end of wing to end of wing for Right Barrier.
- 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. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.
- Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.
- For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.



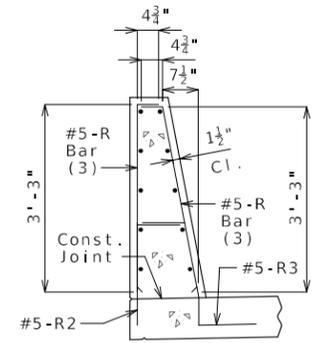
PART ELEVATION OF BARRIER

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



SECTION A-A

- Use a minimum lap of 2'-6" for #5 horizontal barrier bars.
- The cross-sectional area above the slab is 3.52 square feet.
- (2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

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

Added For chain-link fence details, see Sheets No. 104A and 104B.

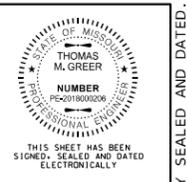
TYPE D BARRIER - UNIT 2

Detailed: Oct. 2025
Checked: Oct. 2025

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

Sheet No. 101 of 132

Revised 03-11-2026



DATE	
DATE PREPARED 3/10/2026	
ROUTE 169	STATE MO
DISTRICT BR	SHEET NO. 101
COUNTY CLAY	
JOB NO. JKU0099	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9606	

DATE	DESCRIPTION
03-11-26	Addendum 2

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

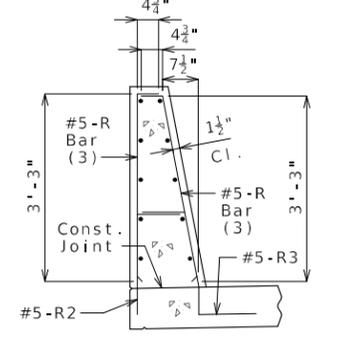
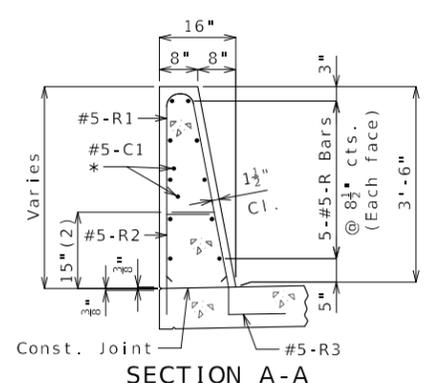
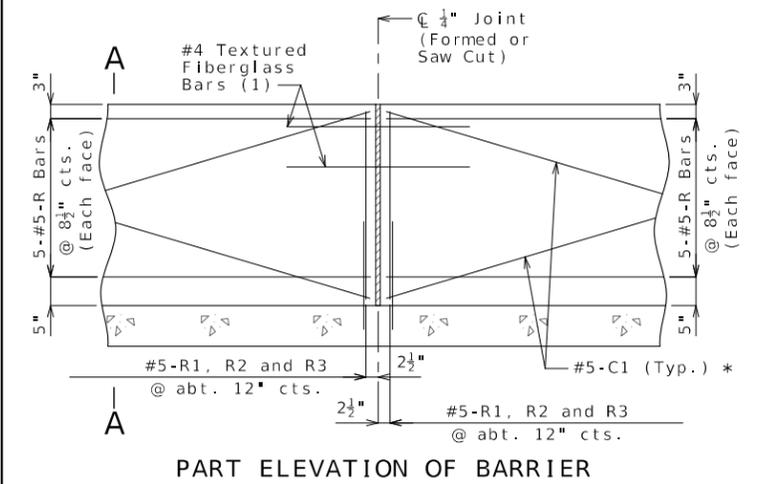
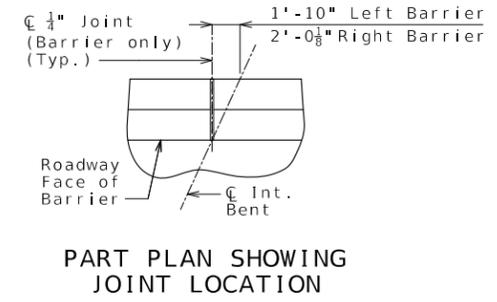
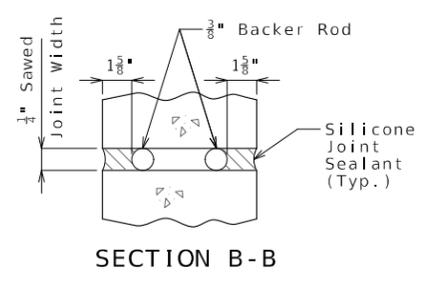
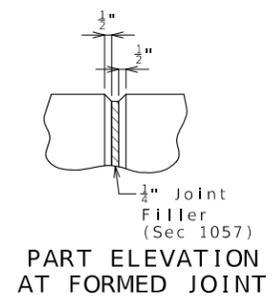
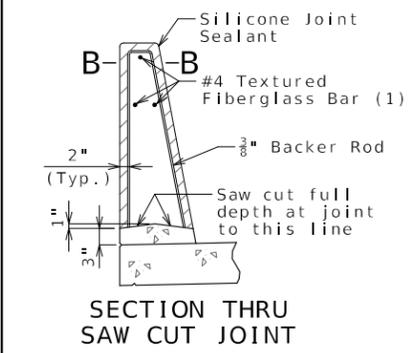
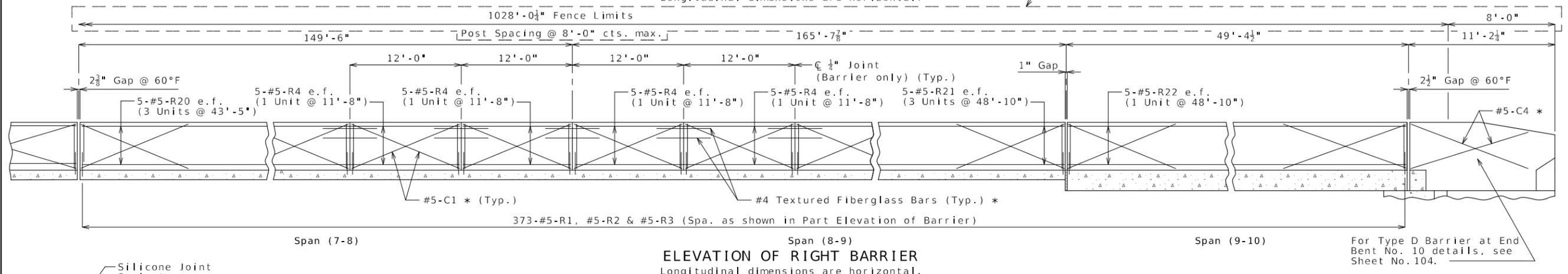
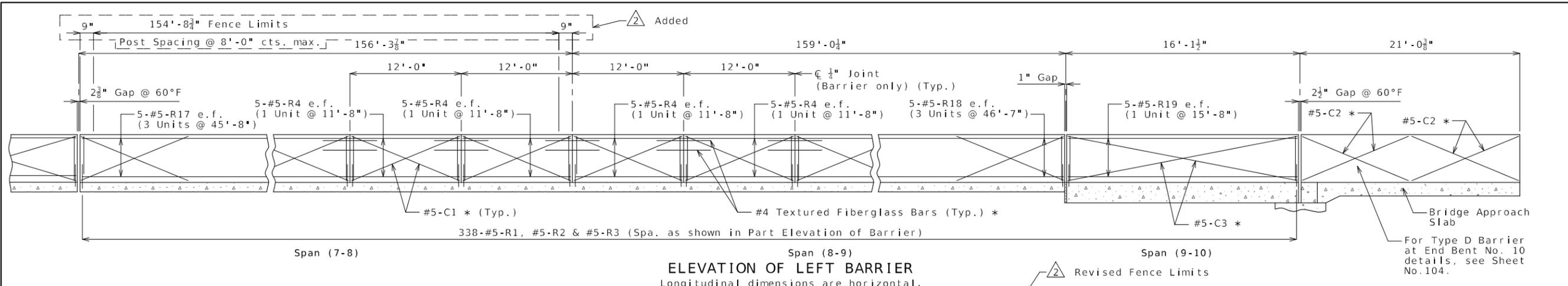
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

Burns & McDonnell Engineering Co., Inc.

9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400

Certificate of Authority
No. : 000165
BMcD Project No. 154749

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



General Notes:

- * Slip-formed option only.
- Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.
- Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.
- All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.
- Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type D Barrier per linear foot.
- Concrete in barrier shall be Class B-1.
- Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of slab for Left Barrier and end of wing to end of wing for Right Barrier.
- 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. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.
- Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.
- For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

Detailed: Oct. 2025
Checked: Oct. 2025

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

Sheet No. 102 of 132

TYPE D BARRIER - UNITS 3 & 4

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

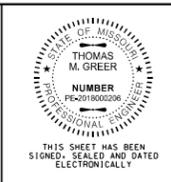
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ROUTE 169	STATE MO
DISTRICT BR	SHEET NO. 102
COUNTY CLAY	
JOB NO. JKU0099	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9606	
DATE 03-11-26	DESCRIPTION Addendum 2

Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400

Certificate of Authority
No. : 000165
BMcD Project No. 154749

Added Sheet No. 104B

Revised 03-11-2026



DATE	
DATE PREPARED 3/10/2026	
ROUTE 169	STATE MO
DISTRICT BR	SHEET NO. 103
COUNTY CLAY	
JOB NO. JKU0099	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9606	

DATE	DESCRIPTION
03-11-26	Addendum 2

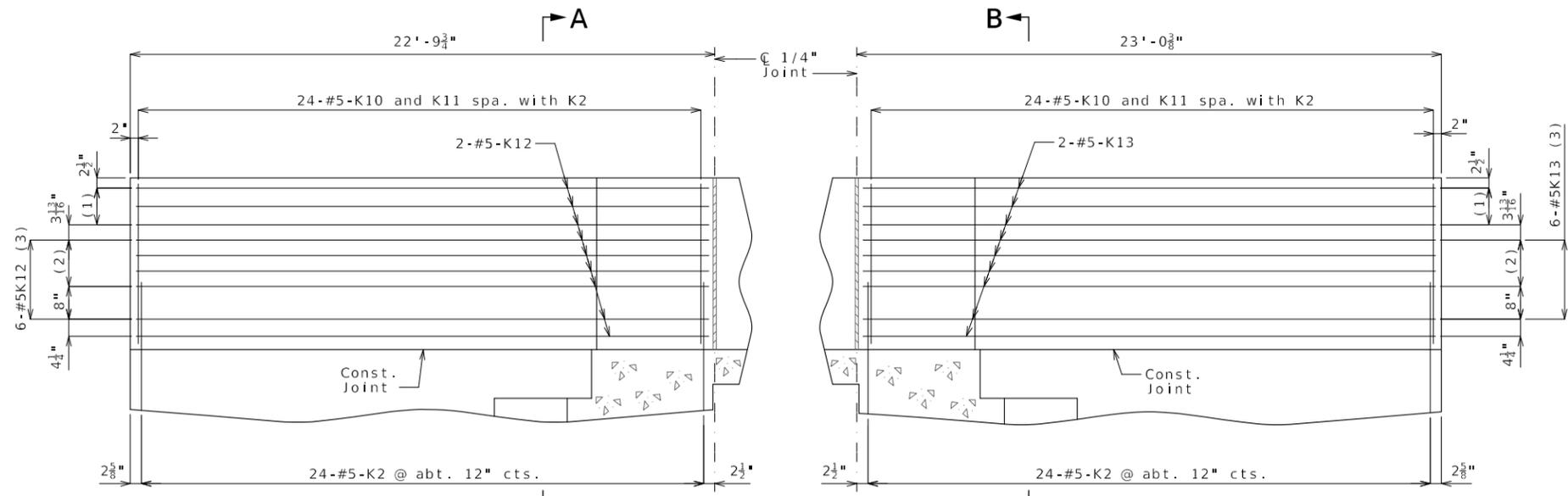
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400

Certificate of Authority
No. : 000165
BMcD Project No. 154749

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

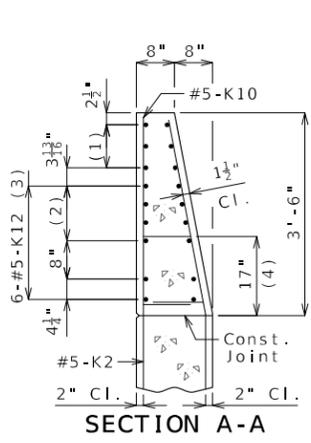


Looking at Roadway Face of Left Barrier

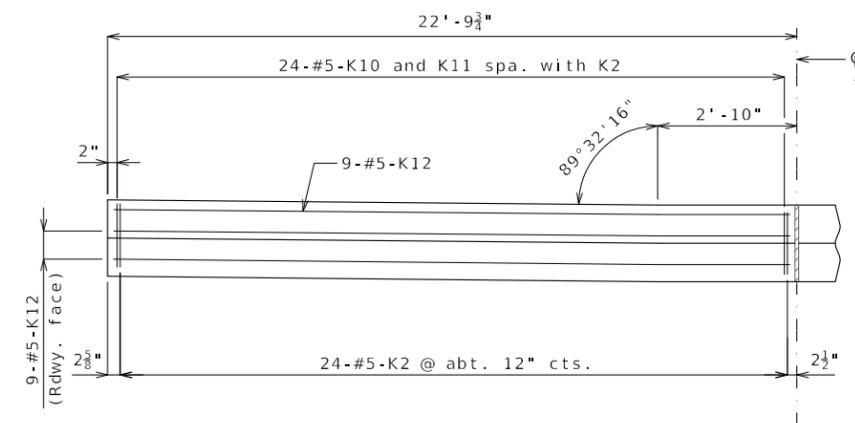
Looking at Roadway Face of Right Barrier

PART ELEVATION

(Fence not shown for clarity. See Sheets No. 100, 104A and 104B). 2 Added

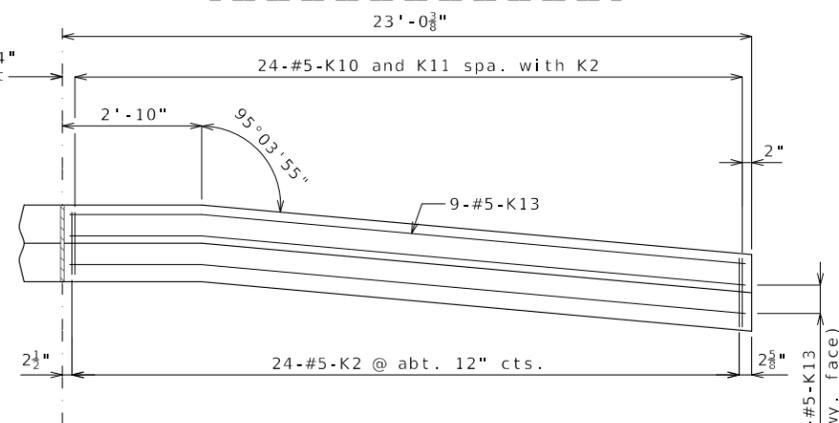


SECTION A-A

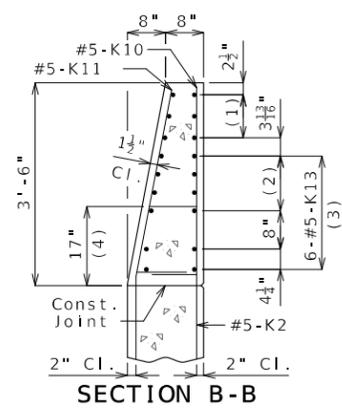


Left Barrier

PART PLAN

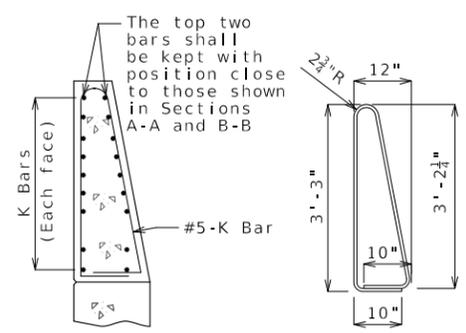


Right Barrier



SECTION B-B

- (1) 3-#5-K12 or K13 @ 4 1/2" cts., each face
- (2) 3 spaces @ 3 1/8"
- (3) Spaced as shown, each face
- (4) To top of bar



K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE
(Other K bars not shown for clarity)

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. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Reinforcing Steel:

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

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

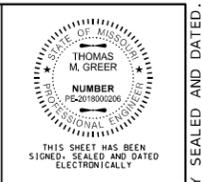
All dimensions are out to out.

TYPE D BARRIER AT END BENT NO. 1

Detailed: Oct. 2025
Checked: Oct. 2025

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

Sheet No. 103 of 132 2 Revised 03-11-2026



DATE	
DATE PREPARED 3/11/2026	
ROUTE 169	STATE MO
DISTRICT BR	SHEET NO. 104
COUNTY CLAY	
JOB NO. JKU0099	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9606	

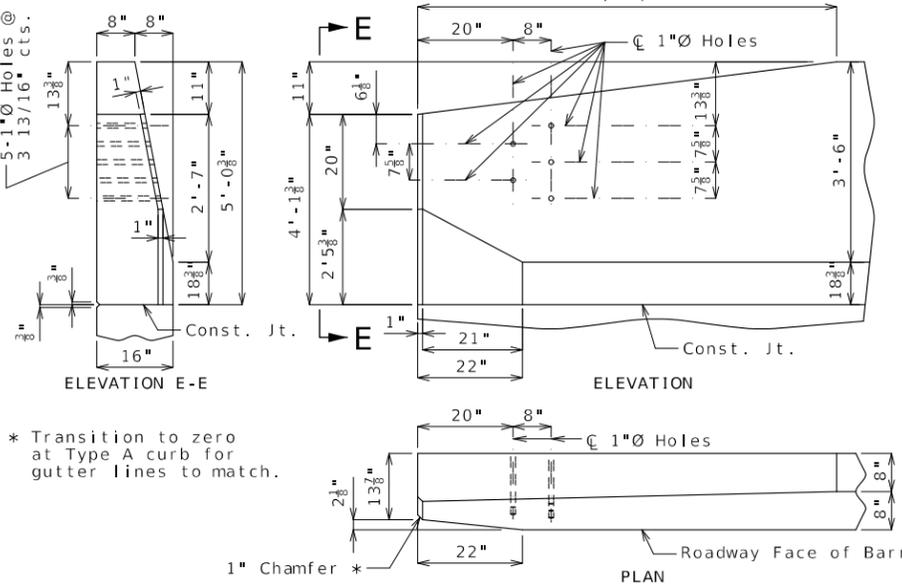
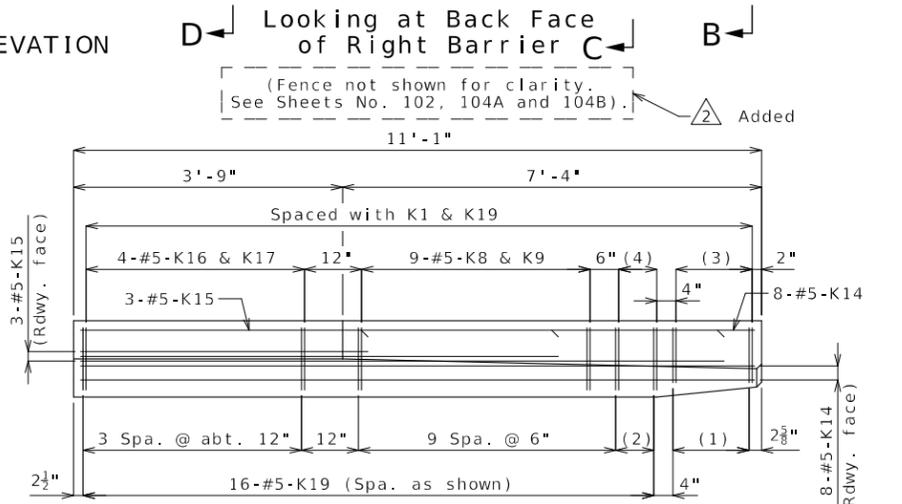
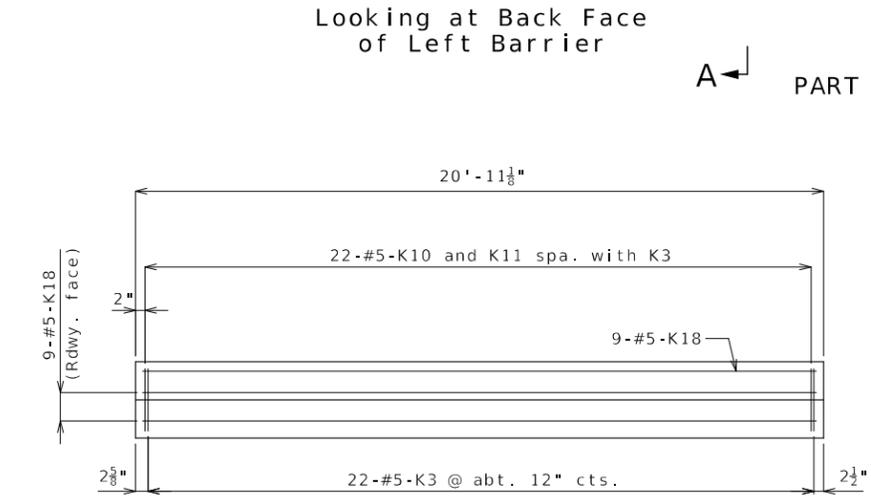
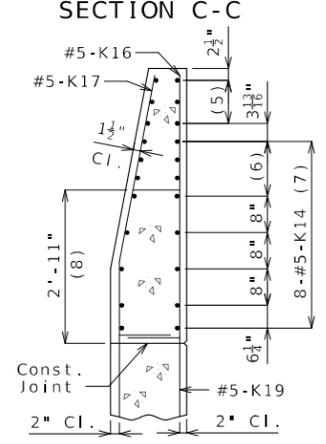
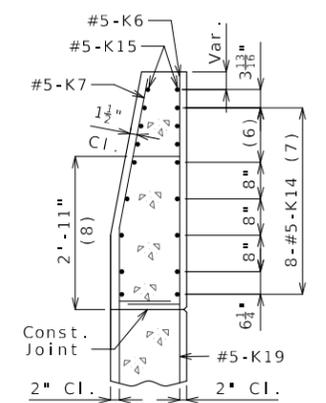
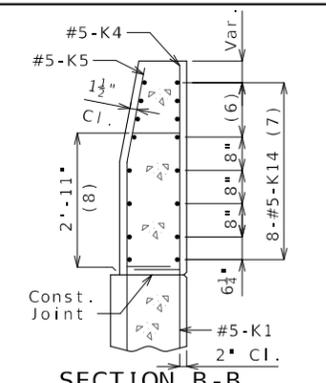
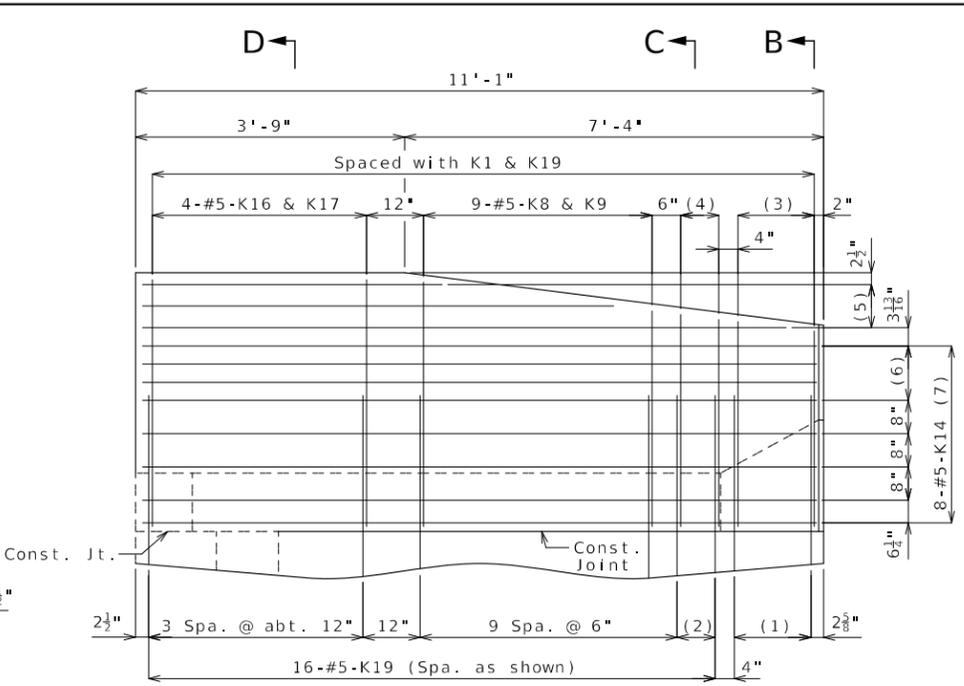
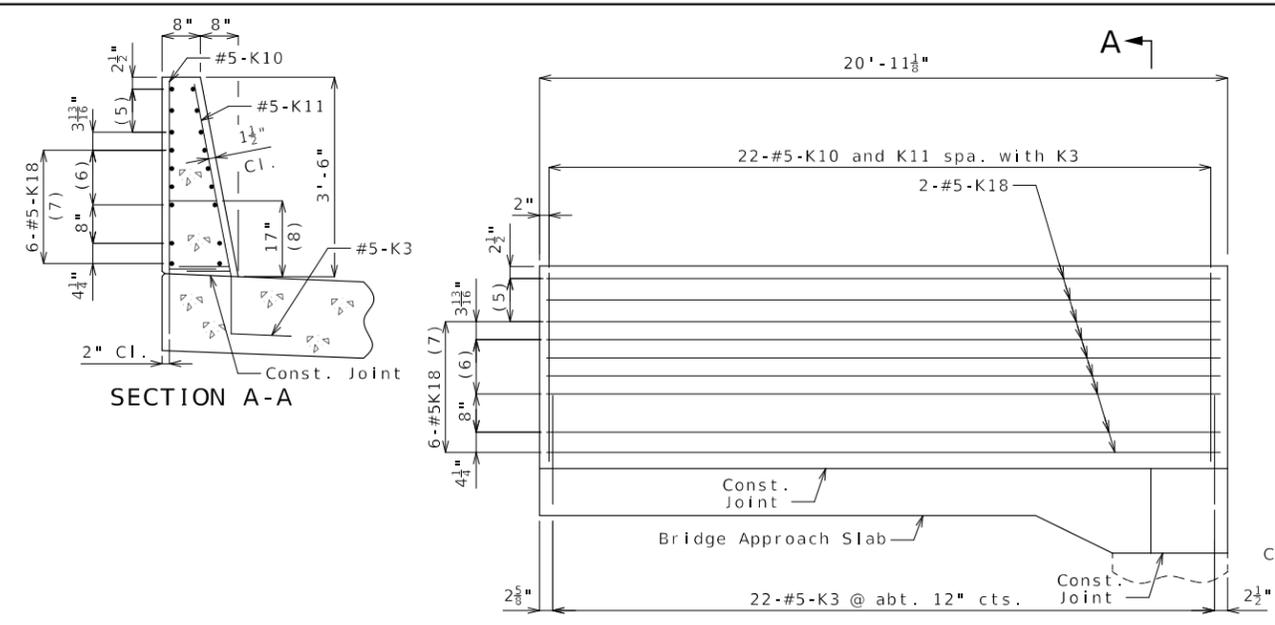
DATE	DESCRIPTION
03-11-26	Addendum 2

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400
Certificate of Authority
No. : 000165
BlcD Project No. 154749

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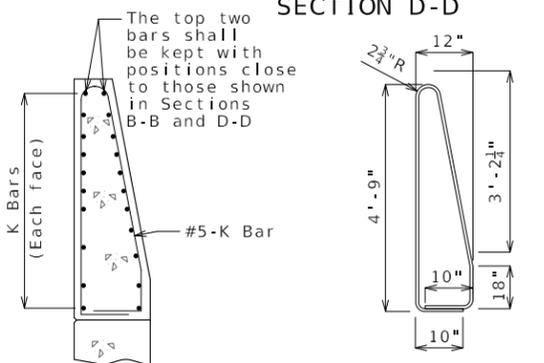


- General Notes:**
- Reinforcing Steel:**
- (1) 5-#5-K1 @ 4" cts.
 - (2) 2 spaces @ 4"
 - (3) 5-#5-K4 & K5
 - (4) 3-#5-K6 & K7
 - (5) 3-#5-K15 or K18 @ 4 1/2" cts., each face
 - (6) 3 Spaces @ 3 1/8"
 - (7) Spaced as shown, each face
 - (8) To top of bar

General Notes:

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

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



K16-K17 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

The K16-K17 bar combination may be furnished as one bar as shown, at the contractor's option.

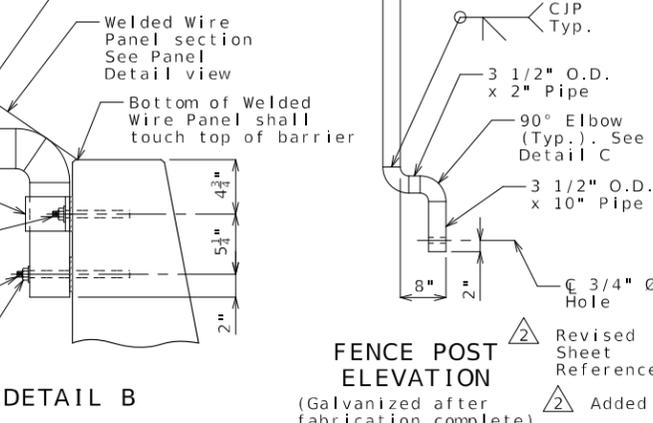
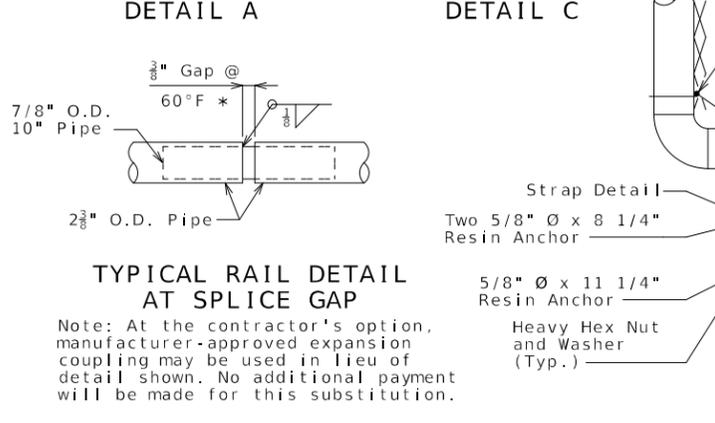
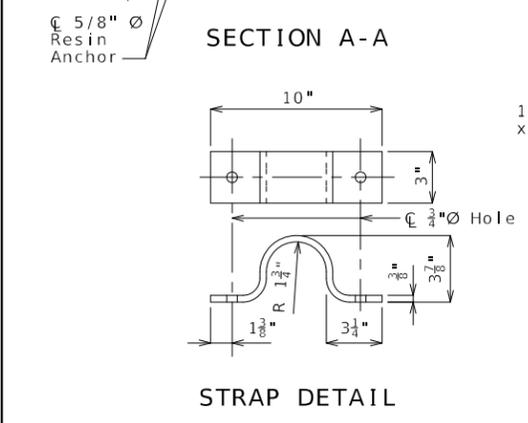
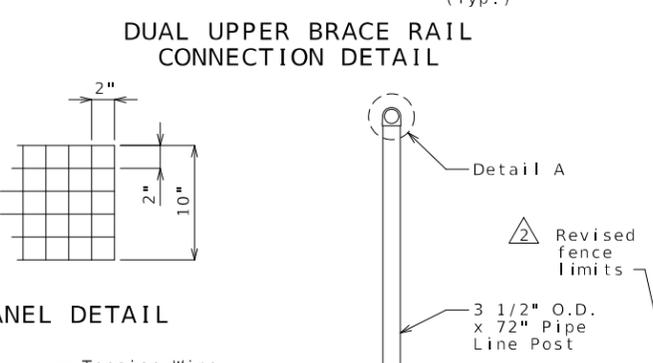
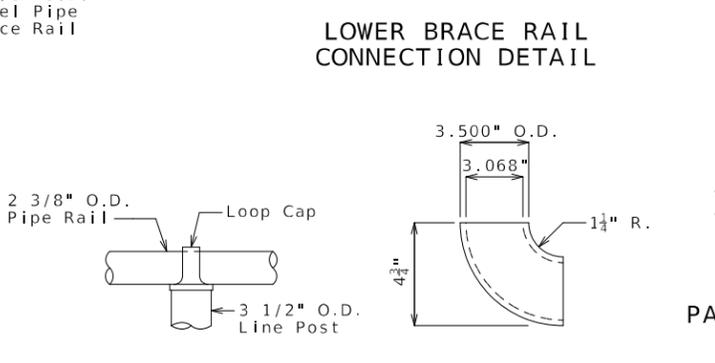
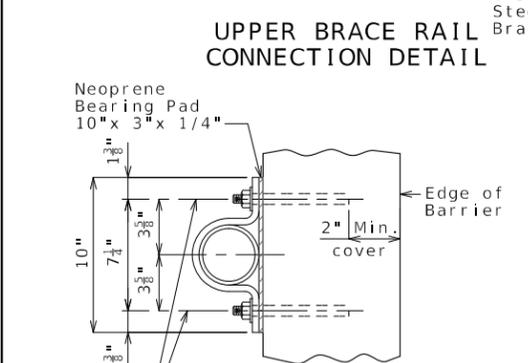
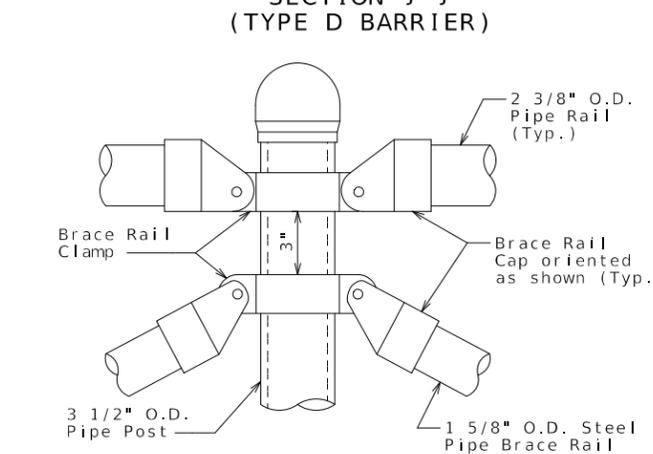
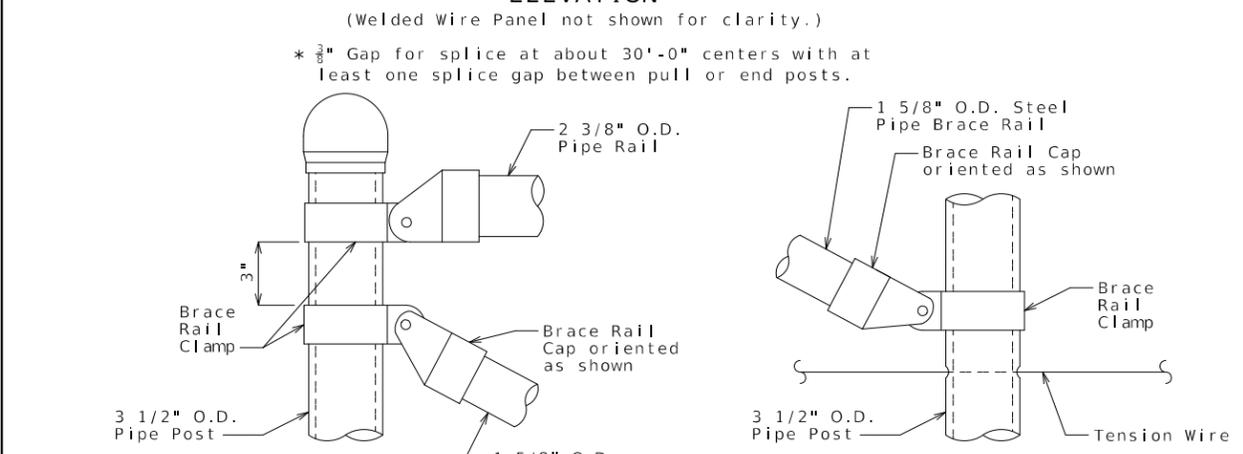
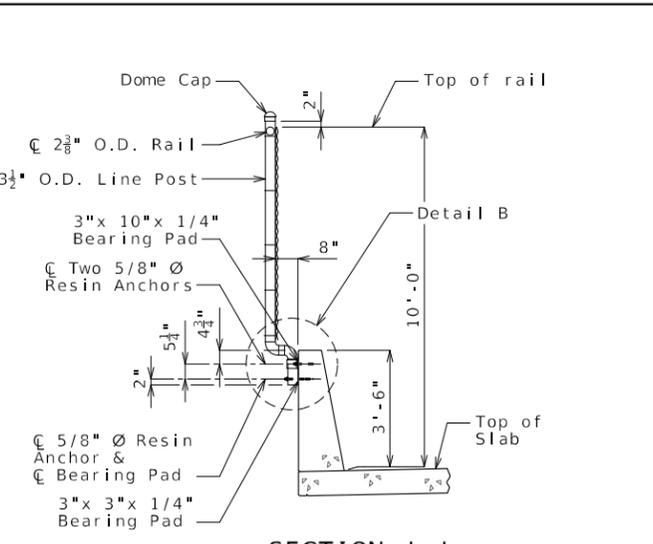
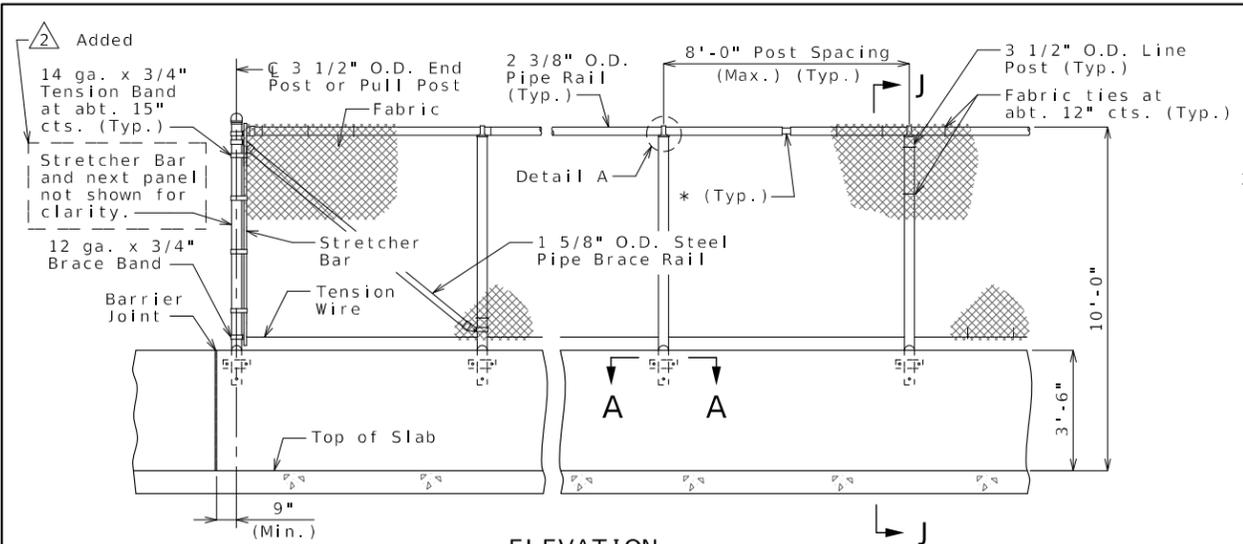
All dimensions are out to out.

Detailed: Oct. 2025
Checked: Oct. 2025

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

Sheet No. 104 of 132

TYPE D BARRIER AT END BENT NO. 10



GENERAL NOTES:
Chain link fence shall be in accordance with Sec 1043 except all fabric shall have the top and bottom edges knuckled and pipe members shall be in accordance with ASTM F1083, Schedule 40, regular grade (minimum yield = 30 ksi).

All posts shall be vertical.
Payment for furnishing, galvanizing and erecting the fence and frame complete in place will be considered completely covered by the contract unit price for (78 in.) Chain-Link Railroad Fence (Structures) per linear foot.

Dimensions of chain link railroad fence are measured horizontally.
The maximum spacing allowed between pull posts and end posts is 100 feet. Post brace and Steel Pipe Brace Rail are required for panels adjacent to pull post and end posts only. Connect the upper end of brace rail to top of pull posts and end posts to which the stretcher bar is attached.

Rail clamps, dome cap, loop caps, bands, tie wires, stretcher bars and brace rail caps shall be in accordance with the manufacturer's recommendations. The brace rail and brace rail connections shall have a minimum capacity of 2000 pounds. Dome cap, loop caps, and brace rail caps shall fit tightly.

Expansion joints shall be placed in the horizontal pieces at not more than 30-foot centers and at all joint filler locations in the barrier with a minimum gap of 3/8 inch at 60 degrees F.

Steel for post straps shall be ASTM A709 Grade 50. Neoprene bearing pads shall be 50 durometer and shall be in accordance with Sec 716.

Tension Wire shall be Type II, ASTM A824 and A817, 7 gauge, with Class 4 zinc coating. Position Tension Wires in center of diamonds in Chain Link as close as possible. Secure Tension Wire to Brace Band bolt at each end. Secure Chain Link to Tension Wires at 24" spacing with 12 gauge zinc coated hog rings (ASTM F626). Tie Tension Wire to intermediate Posts with minimum 9 gauge zinc coated wire (ASTM F626), with 3 wraps around the Tension Wire at each end of the tie wire.

Welded Wire panel is made of 0.122 inch diameter wire, at 2 inch spacing in each direction (cut to 10 inch wide from larger panels). Use 12 gauge minimum hog rings (ASTM F626) to secure panels to each other two places at joints between sections, to each post, and to tension wire or chain link at 24 inch spacing.

Brace Rail is galvanized 1-5/8" O.D. steel pipe, cut to fit securely in Brace Rail Caps. Secure chain link fabric to Brace Rails with 9 gauge zinc coated wire (ASTM F626) at 24" spacing.

Contractor shall submit complete detailed shop drawings in accordance with Sec 1080.

All straps, anchors, hex nuts and washers shall be galvanized in accordance with ASTM A123 and Sec 1081.

All steel components of the fence including purchased parts, hardware, and fabricated components, shall be galvanized.

Resin anchors shall be ASTM F1554 Grade 36.

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

Cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for (78 in.) Chain-Link Railroad Fence (Structures).

The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor systems shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 6 1/2 inches.

(78 in.) Chain-Link Railroad Fence (Structures) will be measured to the nearest linear foot for each structure, measured along the centerline fence from end of fence to end of fence including fence on moment slab.

Chain link wire fabric shall be 9 gauge minimum, 2-inch diamond mesh, 75" in height.

Fabric ties shall be 9 gauge minimum zinc coated wire (ASTM F626).

The chain link fence shall be built in accordance with Sec 607 and Sec 1043.

For details of barrier and limits of fence, see Sheets No. 100 thru 104.
Work this sheet with Sheet No. 104B.

Detailed: Oct. 2025
Checked: Oct. 2025

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

Sheet No. 104A of 132 Revised 03-11-2026

CHAIN LINK RAILROAD FENCE DETAILS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

Burns & McDonnell Engineering Co., Inc. 9400 Ward Parkway Kansas City, Missouri 64114 816-333-9400 Certificate of Authority No. : 000165 Bmcd Project No. 154749

THOMAS M. GREER NUMBER PE-201800020

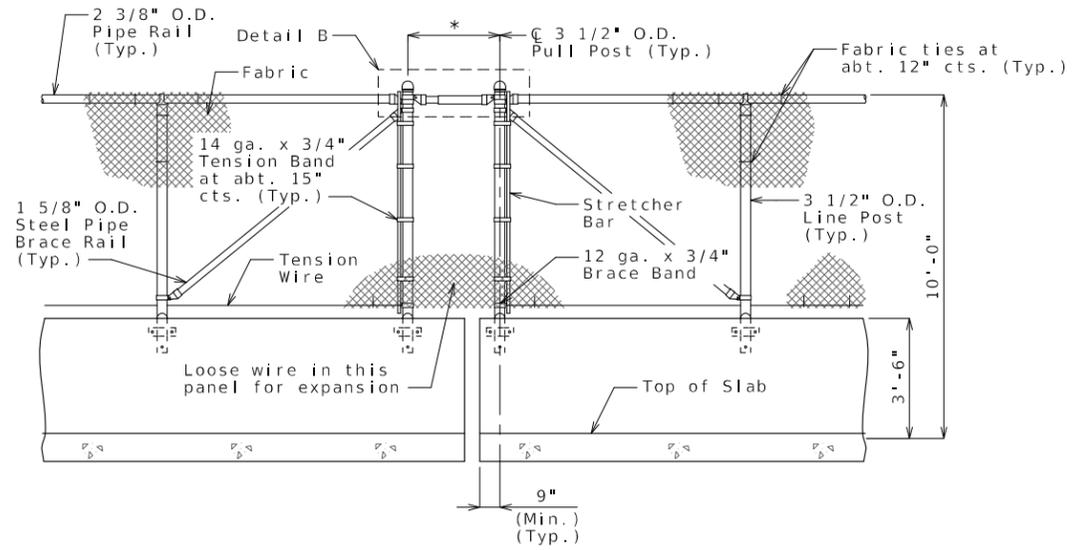
DATE PREPARED 3/10/2026

ROUTE 169 STATE MO DISTRICT BR SHEET NO. 104A COUNTY CLAY JOB NO. JKU0099 CONTRACT ID. PROJECT NO. BRIDGE NO. A9606

DESCRIPTION Addendum 2

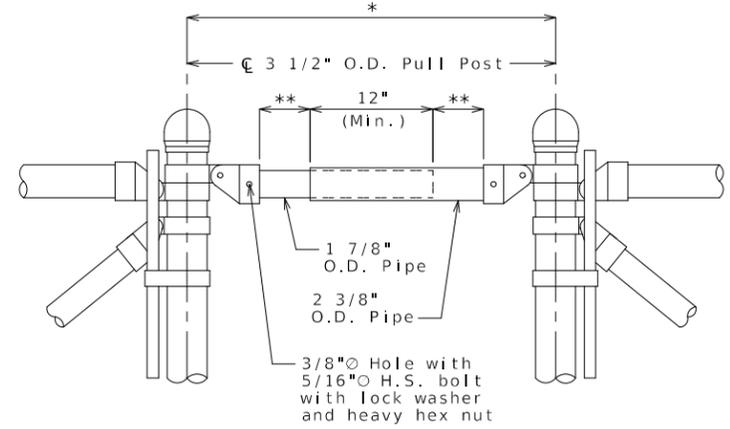
DATE 03-11-26

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ELEVATION AT EXPANSION GAP
 (Welded Wire Panel not shown for clarity.)

- * 3'-2" at Bent No. 5.
- 3'-0" at Bents No. 7 & 9,
- End Bent No. 10, Approach Slab Joint,
- and Moment Slab Expansion Joints.



DETAIL B

- ** 4" Min. gap at 60°F at Bent No. 5
- 3" Min. gap at 60°F at Bents No. 7 & 9,
- End Bent No. 10, Approach Slab Joint,
- and Moment Slab Expansion Joints.

GENERAL NOTES:

Work this sheet with Sheet No. 104A.
 See Sheet No. 104A for additional General Notes and Details.



DATE	
DATE PREPARED	
ROUTE	STATE
169	MO
DISTRICT	SHEET NO.
BR	104B
COUNTY	
CLAY	
JOB NO.	
JKU0099	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
A9606	

DATE	DESCRIPTION
03-11-26	Addendum 2

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
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9400 Ward Parkway
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 816-333-9400

Certificate of Authority
 No. : 000165
 BMcD Project No. 154749

Sheet Added 03-11-2026

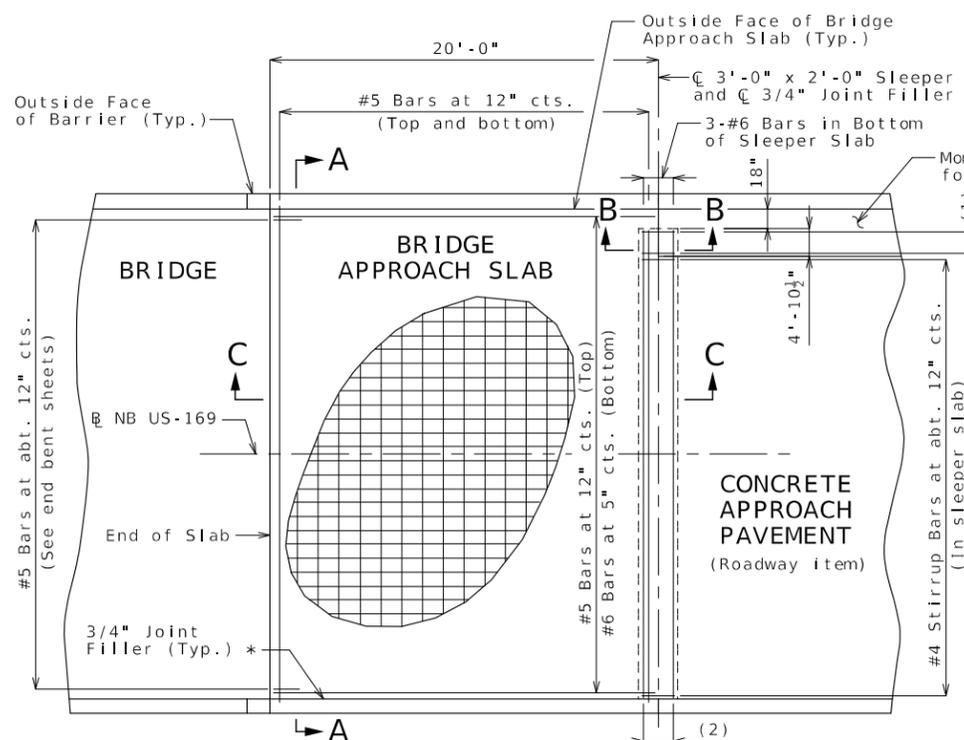
Detailed: Oct. 2025
 Checked: Oct. 2025

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

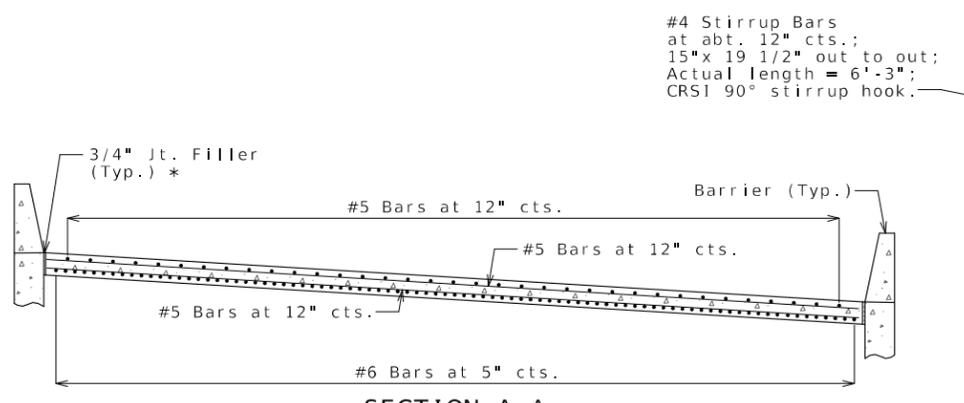
Sheet No. 104B of 132

CHAIN LINK RAILROAD FENCE DETAILS

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

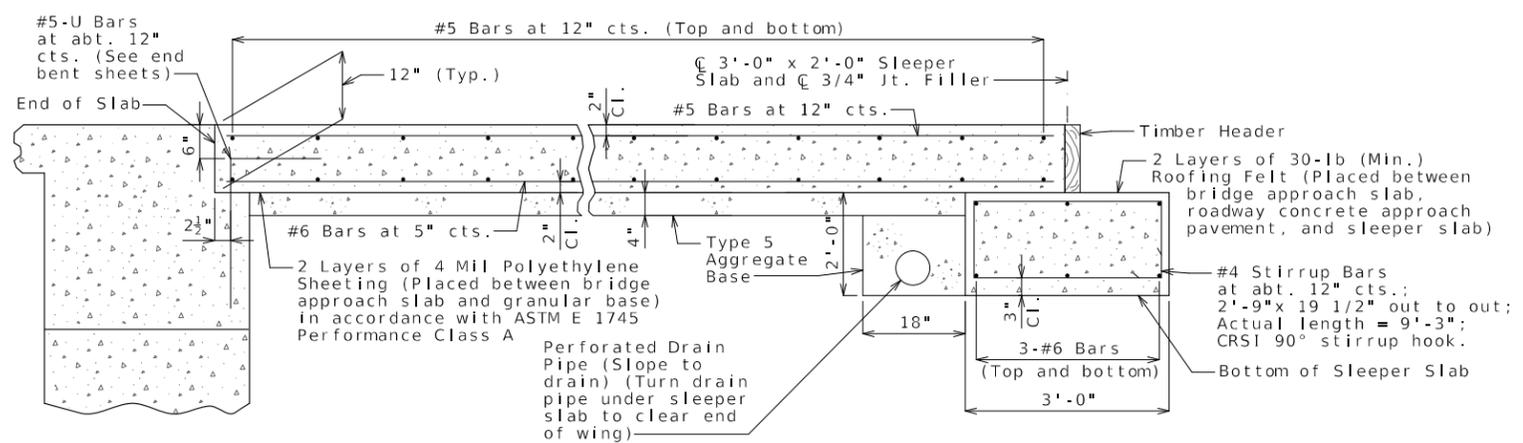


PART PLAN SHOWING REINFORCEMENT



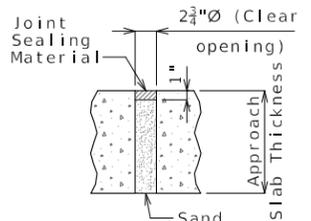
SECTION A-A

Added (Fence not shown for clarity. See Sheets No. 100, 104A and 104B).



SECTION C-C

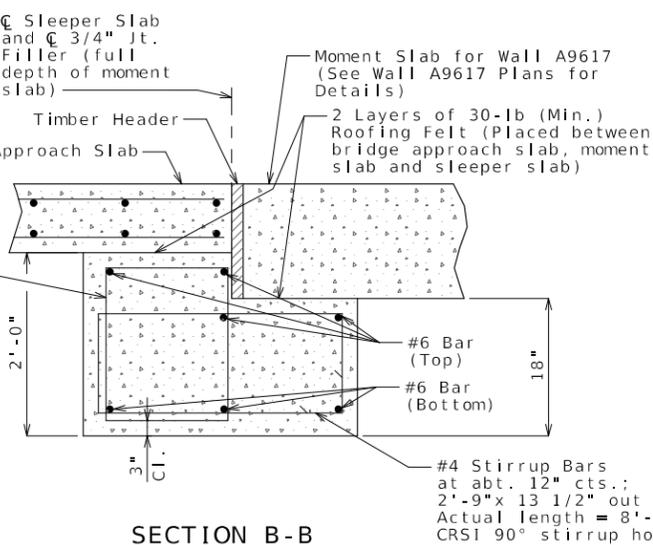
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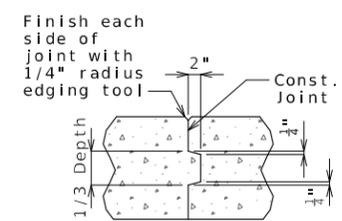
UNDERSEAL ACCESS HOLE DETAIL

(If required)

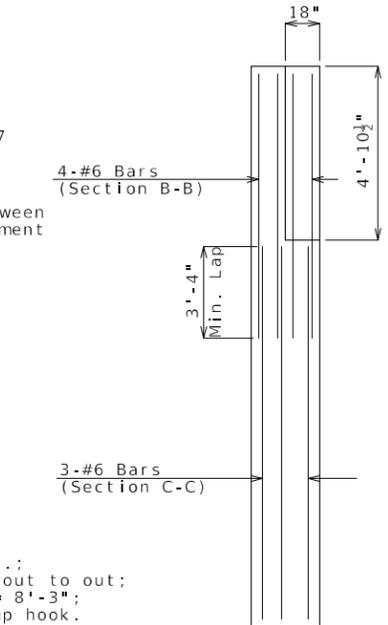
- (1) Pr.-#4 StIRRUP Bars at abt. 12" cts. (In sleeper slab) (See Section B-B)
- (2) See Sleeper Slab Top Reinforcing Plan Detail.



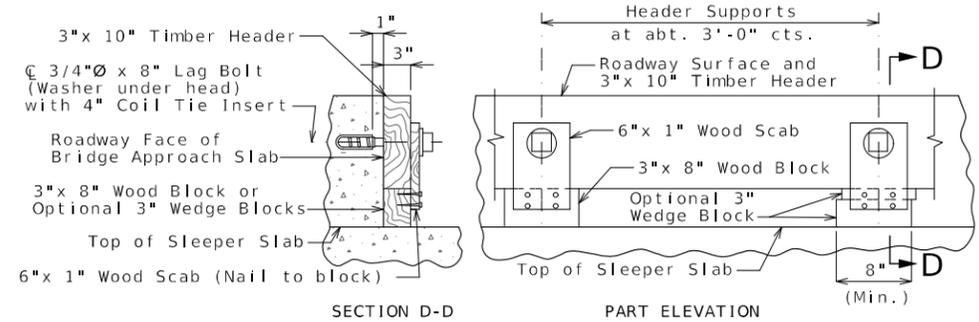
SECTION B-B



CONSTRUCTION JOINT DETAIL



SLEEPER SLAB TOP REINFORCING PLAN



SECTION D-D PART ELEVATION DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

BRIDGE APPROACH SLAB (MAJOR) - END BENT NO. 1

General Notes:

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

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

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.

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

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 24 inches for #5 bars and 40 inches for #6 bars, or by mechanical bar splice.

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

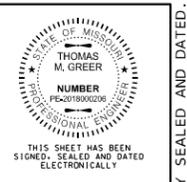
The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

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

For concrete approach pavement details, see roadway plans.

Payment for furnishing all materials, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, 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 (Major) per square yard.

* 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.



DATE	
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169	MO
DISTRICT	SHEET NO.
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PROJECT NO.	
BRIDGE NO.	
A9606	

DATE	DESCRIPTION
03-11-26	Addendum 2

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

Burns & McDonnell Engineering Co., Inc.

9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400

Certificate of Authority
No. : 000165
BMcD Project No. 154749

Detailed: Oct. 2025
Checked: Oct. 2025

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General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
 2023 AASHTO Guide Specifications for LRFD Seismic Bridge Design (3rd Ed.)
 Seismic Design Category = A (Seismic Zone - 1)
 Design earthquake response spectral acceleration coefficient at 1.0 second period,
 $S_u < 0.15 = 0.084$
 Acceleration Coefficient (effective peak ground acceleration coefficient), $A = 0.053$

The MSE wall designer shall show on the shop drawings the limits of soil reinforcement and stations where changes in length and/or size of soil reinforcement occur. All details of the soil reinforcement placement around all appurtenances located behind, on top of, or passing through the soil reinforced wall volume such as parapets with anchorage slabs, coping, foundations, and utilities, etc., shall be addressed. Modifications to the design of these appurtenances to accommodate a particular system shall be submitted to the Engineer.

Design Loading:

For strength limit state and extreme event limit state, the wall designer to confirm that the minimum Capacity to Demand Ratio (CDR) for bearing, sliding, overturning, eccentricity, and internal stability is greater than or equal to 1.0. MSE wall designer shall include this note on shop drawings.

For Extreme Event I limit state, the wall designer shall design wall for $\gamma_{EQ} = 0.5$

Unit weight, cohesion and friction angle for various fill materials for design shall be as shown in the geotechnical report or as recommended by the lightweight fill supplier. See Roadway plans.

$\Phi_b = 34^\circ$ and Unit weight, $\gamma_b = 110$ pcf for retained existing gravity wall backfill material to be retained by the MSE Wall Systems with Lightweight Fill.

$\Phi_b = 32^\circ$ and Unit weight, $\gamma_b = 115$ pcf for retained levee fill material to be retained by the MSE Wall Systems with Lightweight Fill.

$\Phi_b = 34^\circ$ and Unit weight, $\gamma_b = 30$ pcf for retained Class II lightweight fill material to be retained by the MSE Wall Systems with Lightweight Fill.

$\Phi_b = 34^\circ$ and Unit weight, $\gamma_b = 36$ pcf for retained Class III lightweight fill material to be retained by the MSE Wall Systems with Lightweight Fill.

For unimproved foundation ground, factored bearing resistance is 10.9 ksf for strength limit state and factored bearing resistance is 15.1 ksf for extreme event limit state.

The maximum applied factored bearing stress for the strength and extreme event limit state(s) at the foundation level shall be shown on the shop drawings and shall be less than the factored bearing resistance.

Factored bearing resistance shall not be greater than the values as shown on the plans. Lightweight fill shall be considered in bearing resistance as necessary. See Roadway plans.

Use default values for the pullout friction factor, F , in accordance with LRFD figure 11.10.6.3.2-2 and default value for scale effect correction factor, α , in accordance with LRFD table 11.10.6.3.2-1 unless MoDOT has pre-approved a higher value for a specific product. For approved steel strips not shown in LRFD figure 11.10.6.3.2-2, use $F \leq 2.0$ at zero depth and $F \leq \tan \Phi$ at 20 feet depth and Φ design = 34° . F and α values shall be shown on the shop drawings.

Design Unit Stresses:

All concrete for leveling pad and moment slab shall be Class B or B-1 with $f'_c = 4000$ psi.

The minimum compressive strength of concrete for precast modular panel shall be 4,000 psi in accordance with Sec 1052.

Excavation:

Excavation quantities and pay items are given on the roadway plans. Excavation quantities are based on limits of lightweight fill defined in roadway cross sections. Plan excavation quantities will be paid regardless of any actual quantities.

The MSE wall system shall be built vertical.

The MSE wall system shall be built in accordance with Sec 720 except lightweight fill shall be used in place of Select Granular Backfill for Structural Systems. See Job Special Provisions for Lightweight Cellular Concrete Fill.

The MSE wall system shall be a precast modular panel.

The cost of joint filler and joint seal, complete in place, will be considered completely covered by the contract unit price for MSE Wall Systems with Lightweight Fill.

Panel, concrete block and moment slab reinforcement shall be epoxy coated.

A filter cloth meeting the requirements for a Separation Geotextile material shall be placed between the lightweight fill and the backfill being retained by the mechanically stabilized earth wall system.

The lightweight fill material supplier shall be recommended in writing by the manufacturer of the proprietary wall system.

The cost of the lightweight fill within the limits noted in these plans, complete in place, will be considered completely covered by the contract unit price for MSE Wall Systems with Lightweight Fill.

For lightweight fill placement soil reinforcement shall be supported on galvanized reinforcing stakes (or approved equivalent) on 4 foot centers. 6 inches minimum cover over soil reinforcement shall be provided between cold joints of adjacent fill lift layers. Thickness of lift layers and minimum curing times between subsequent lifts shall be indicated in the manufacturer's design plans. Heavy construction equipment or other unusual loading of the Lightweight Fill shall not be permitted until it has attained the specified compressive strength.

The contractor shall be solely responsible to coordinate construction of the wall with bridge and roadway construction and ensure that the bridge and roadway construction, resulting or existing obstructions, shall not impact the construction or performance of the wall. Soil reinforcement shall be designed and placed to avoid damage by pile driving, guardrail post installation, utility and sign foundations. (See Roadway and Bridge plans.)

Minimum 18" wide non-woven geotextile (geomembrane) strips shall be centered at vertical and horizontal joints of panel. Geotextile material shall be adhered to back face of panel using a high strength construction adhesive compound supplied by the manufacturer. All edges of each fabric strip shall provide a positive seal. A minimum 18" overlap shall be provided between spliced filter fabric.

Aluminized soil reinforcement shall have edges coated with coating material per manufacturer.

Soil reinforcement shall be spaced to avoid drain system behind wall.

All steel soil reinforcements shall be separated from other metallic elements by at least 3 inches.

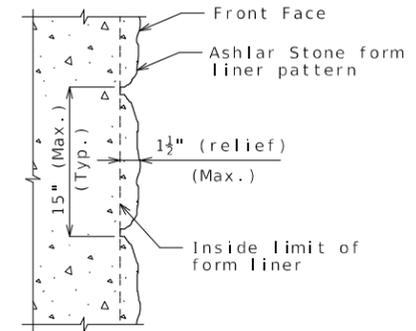
The splay angle should be less than 15° and tensile capacity of splayed reinforcement shall be reduced by the cosine of the splay angle. Soil reinforcement shall clear the obstruction by at least 3 inches.

No reinforcement shall be left unconnected to the wall face or arbitrarily cut/bent in the field to avoid the obstruction.

Where interference between the vertical obstruction and the soil reinforcement is unavoidable, the design of the wall near the obstruction may be modified using one of the alternatives in FHWA-NHI-10-024, Section 5.4.2. Show detail layout on the drawings. For wall designs with horizontal obstructions in reinforced soil mass, see FHWA-NHI-10-024, Section 5.4.3.

Contractor to field verify all dimensions including existing wall A7619 dimensions. Field verified information regarding the existing wall A7619 shall be delivered to the engineer and the Commission's geotechnical engineer. The Contractor shall make any necessary adjustments to wall design dimensions as approved by the Engineer. The Contractor is responsible for verifying that the MSE Wall Systems with Lightweight Fill are adequate for all field conditions encountered during construction. Plan quantities will be paid regardless of actual dimensions of MSE wall system installed.

Contractor shall take all necessary precautions to contain lightweight fill material and prevent any discharge, migration, or spillage onto adjacent railroad property.



FORM LINER DETAIL (PRECAST MODULAR PANEL WALL)

Notes for Form Liners:

The cost of form liners for MSE wall systems, complete in place, will be considered completely covered by the contract unit price for MSE Wall Systems with Lightweight Fill.

Form liner shall be constructed in accordance with Special Provisions.

The following is a list of form liner manufacturers and types which may be used. Depth of relief for all form liner patterns shall vary up to 1 1/2". The height of any single 'stone' shall be 15" maximum.

- Scott System, Inc.: Form liner pattern #167 "Ashlar Stone"
- Fitzgerald Formliners: Form liner pattern #16986 "Ashlar Stone"
- Greenstreak: Form liner pattern #330 "Ashlar Stone"
- Spec Formliners: Form liner pattern #1515 "Ashlar Stone"
- Customrock: Form liner pattern #12020 "Tollway Ashlar"
- An approved equal

Revised 03-11-2026

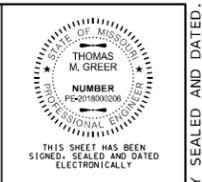
GENERAL NOTES

Detailed: Oct. 2025
 Checked: Oct. 2025

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

Sheet No. 3 of 8

DATE	
DATE PREPARED 3/11/2026	
ROUTE 169	STATE MO
DISTRICT BR	SHEET NO. 3
COUNTY CLAY	
JOB NO. JKU0099	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9617	
DATE 03-11-26	DESCRIPTION Addendum 2
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
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DATE	
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ROUTE	STATE
169	MO
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PROJECT NO.	
BRIDGE NO.	
A9617	

DATE	DESCRIPTION
03-11-26	Addendum 2

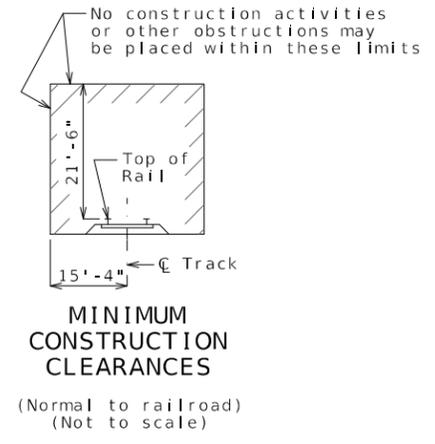
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

Burns & McDonnell Engineering Co., Inc.

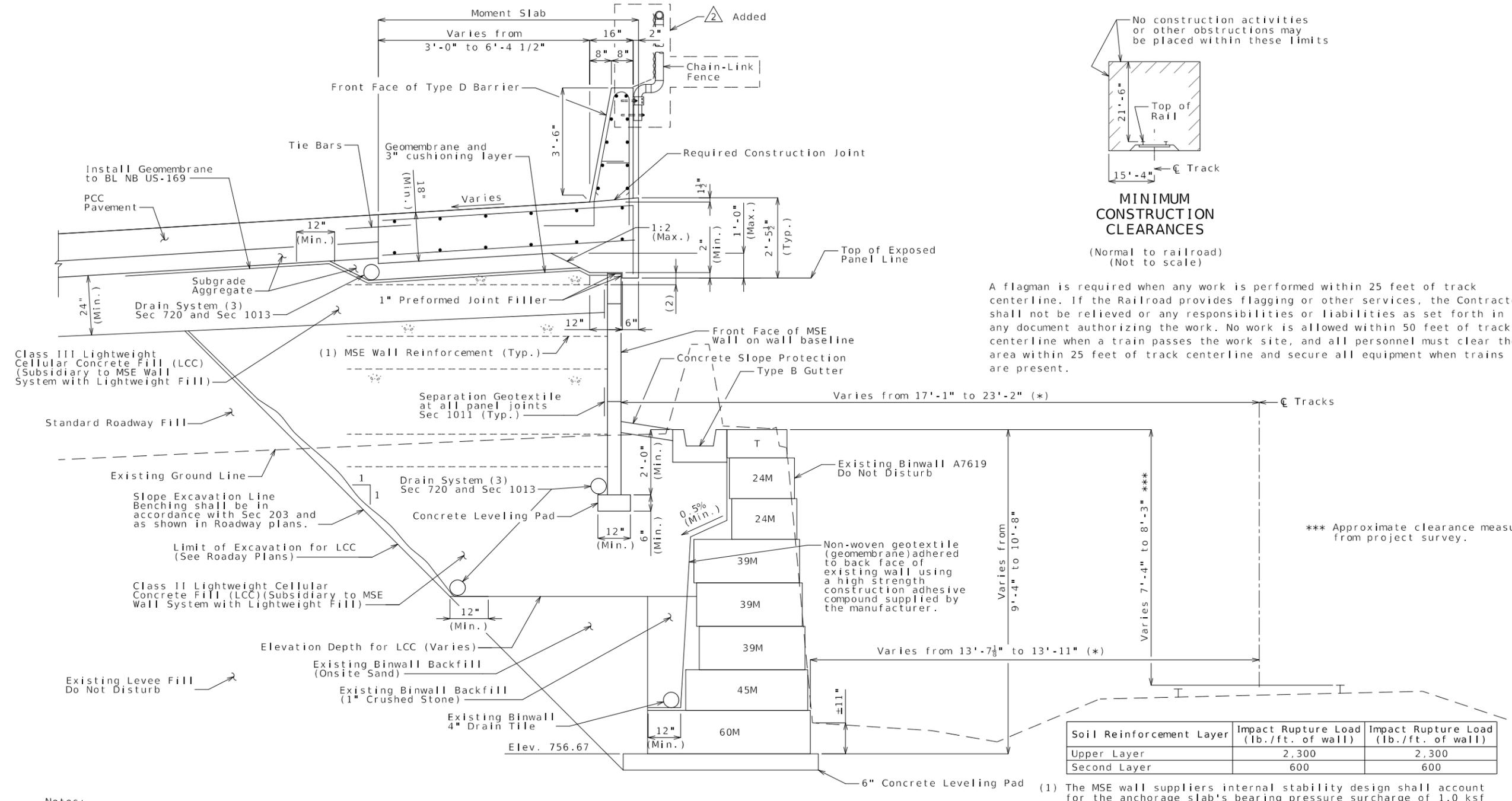
9400 Ward Parkway
Kansas City, Missouri 64114
816-333-9400

Certificate of Authority
No. : 000165
BMcD Project No. 154749



MINIMUM CONSTRUCTION CLEARANCES
(Normal to railroad)
(Not to scale)

A flagman is required when any work is performed within 25 feet of track centerline. If the Railroad provides flagging or other services, the Contractor shall not be relieved of any responsibilities or liabilities as set forth in any document authorizing the work. No work is allowed within 50 feet of track centerline when a train passes the work site, and all personnel must clear the area within 25 feet of track centerline and secure all equipment when trains are present.



Soil Reinforcement Layer	Impact Rupture Load (lb./ft. of wall)	Impact Rupture Load (lb./ft. of wall)
Upper Layer	2,300	2,300
Second Layer	600	600

- The MSE wall suppliers internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and corresponding horizontal force with respect to reinforcement layer location and load type.
- Topmost layer of reinforcement shall be fully covered with lightweight fill, as approved by the wall manufacturer, before placement of the Separation Geotextile.
- Minimum 6" diameter perforated PVC or PE pipe.

Manufacturer shall show drain details on design plans to be submitted as shown on MoDOT MSE wall plans and/or roadway plans.

Pipe shall slope to drain and outlet as directed by the engineer. Pipe drop to existing Binwall drain allowed.

Contractor shall modify the drain details as shown if it will improve flow as may be the case for stepped leveling pad, and for an uneven ground line (approval of the engineer required).

TYPICAL SECTION THRU PRECAST MODULAR PANEL WALL
(* Perpendicular to RR Tracks)

Material Properties Used in Design				
Lightweight Fill		Active Force Computations		Foundation
Φ_r	γ_r (pcf)	Φ°	γ (pcf)	Φ_r

MSE Wall designer shall include table on shop drawings and provide values used in the design computations. Effects of cohesion shall be ignored unless approved by the engineer.

- Notes:
- Furnish and install geomembrane in accordance with Special Provisions.
 - See Sheet No. 5 for Moment Slab Details and Limits of Chain-Link Fence on Moment Slab.
 - See Bridge Sheets "Chain Link Railroad Fence Details" for fence details.

Show range of acceptable theta (θ) angle on shop drawings which must be consistent with design computations and proposed construction of wall. Show active force computation properties ($\Phi^\circ = \Phi_r$ and $\gamma = \gamma_r$ or $\Phi^\circ = \Phi_b$ and $\gamma = \gamma_b$) on shop drawings and in design computations. Coordination between wall designer (manufacturer) and contractor is required before shop drawing submittal.

Detailed: Oct. 2025
Checked: Oct. 2025

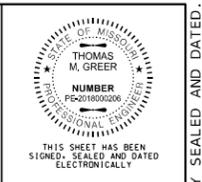
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 4 of 8

Revised 03-11-2026

DETAILS FOR MSE WALL

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



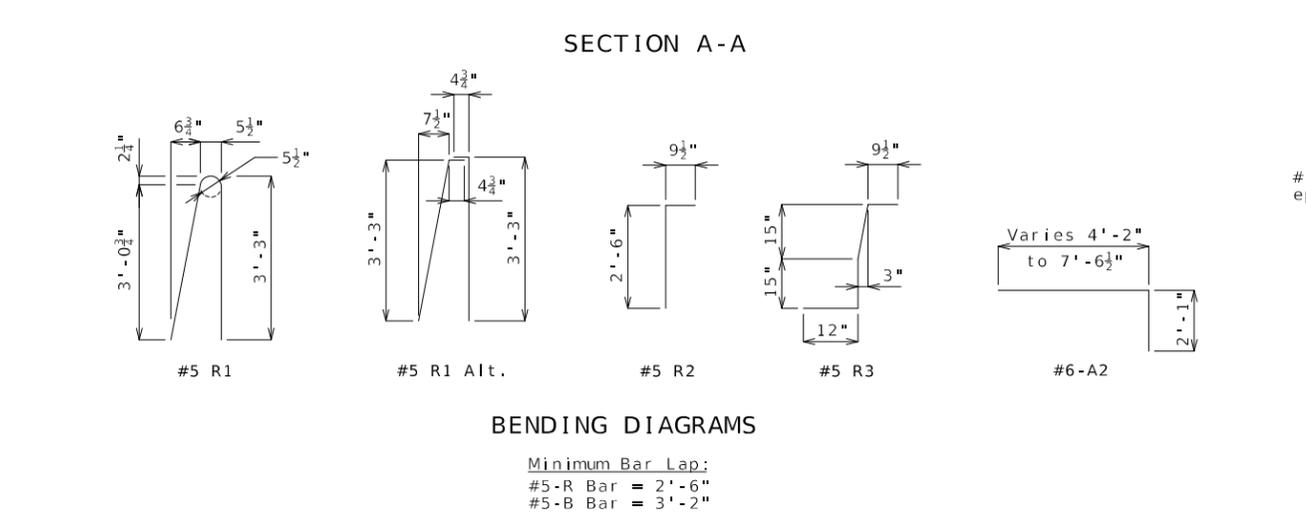
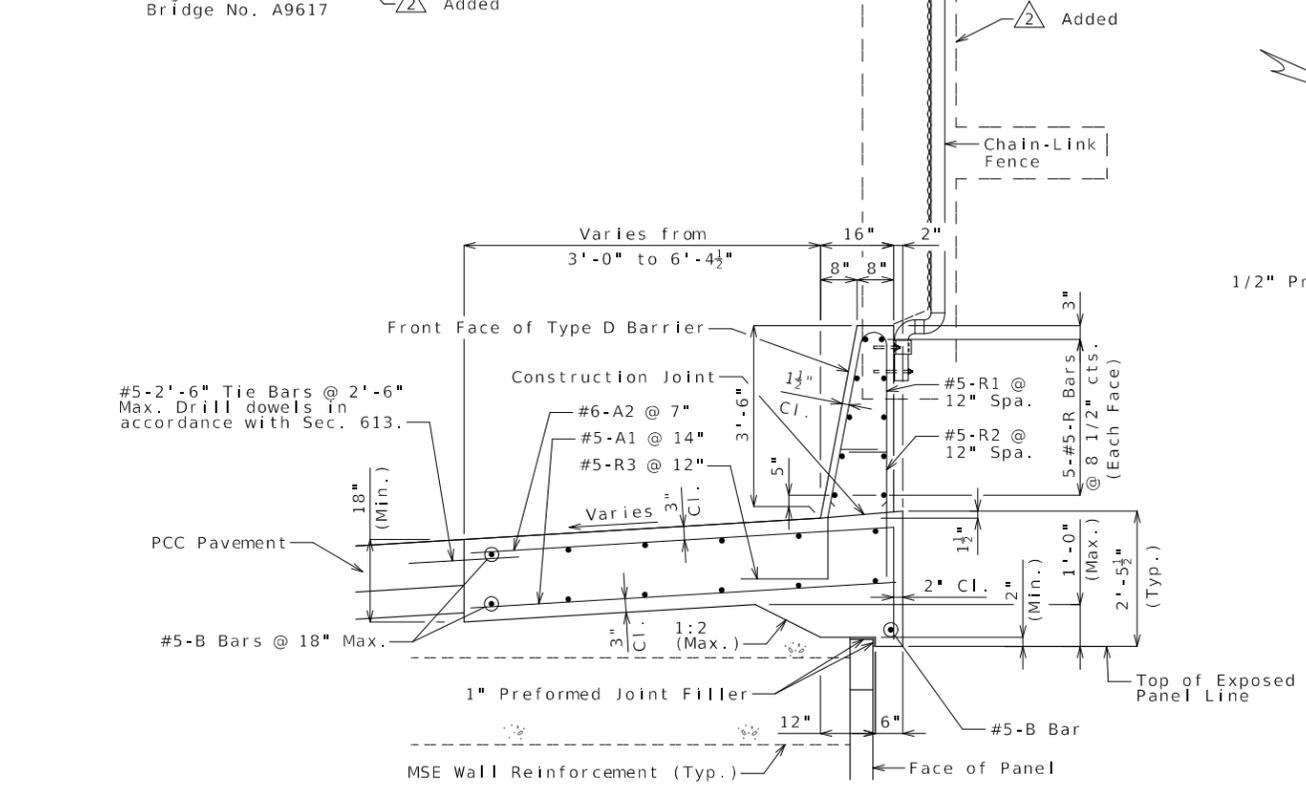
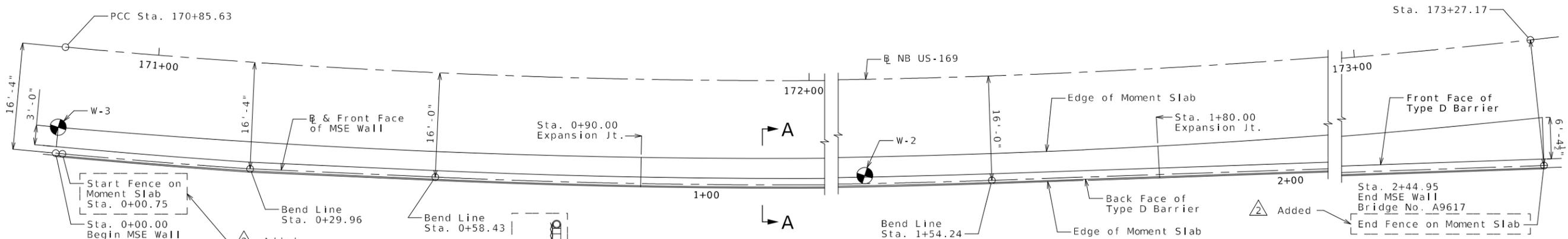
DATE	
DATE PREPARED 3/10/2026	
ROUTE 169	STATE MO
DISTRICT BR	SHEET NO. 5
COUNTY CLAY	
JOB NO. JKU0099	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9617	

DATE	DESCRIPTION
03-11-26	Addendum 2

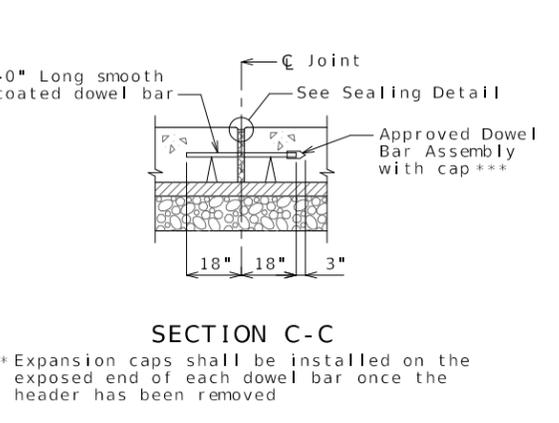
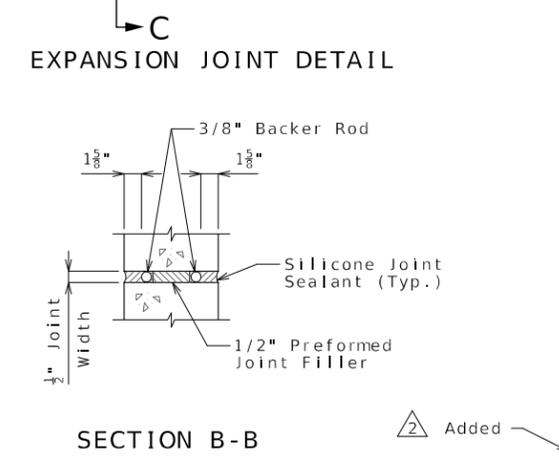
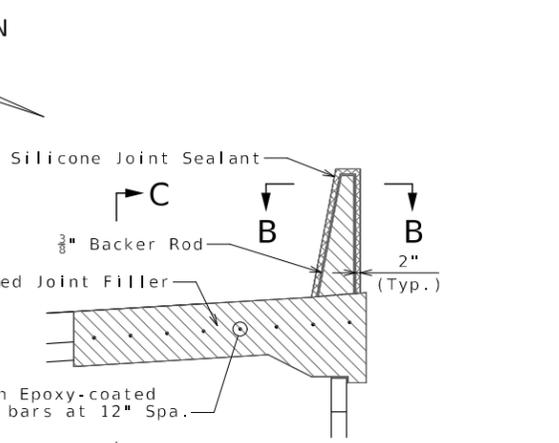
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Checked: Oct. 2025
Note: This drawing is not to scale. Follow dimensions.



***Expansion caps shall be installed on the exposed end of each dowel bar once the header has been removed

NOTES:

Sawed construction joints shall be spaced to match concrete pavement joints. See Standard Plans for Joint Detail. If construction joints are not aligned, provide bond breaker between moment slab and adjacent pavement.

The Contractor has the option to slip-form the barrier. In which case, additional reinforcement may be tied to the upper two thirds of the reinforcing cage to provide bracing. For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

See Roadway plans for cross-slope, roadway elevations, and other roadway geometric details.

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

Concrete in slab and barrier shall be Class B-1.

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

See Bridge Sheet "Approach Slab (Major)-End Bent 1" for details of bridge approach slab and sleeper slab at end of moment slab.

For Concrete Traffic Barrier Delineation details see Std. Plan 903.03.

All Reinforcement shall be grade 60 epoxy coated.

No direct payment will be made for reinforcing steel.

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

Payment for furnishing all material, equipment, tools, labor and other incidental work as shown on this sheet for construction of the moment slab and Type D barrier shall be completely covered by the contract unit price for Concrete Traffic Barrier Type D (Moment Slab) per linear foot (Roadway Item).

See Bridge Sheets "Chain-Link Railroad Fence Details" for fence details and notes.

Payment for furnishing all material, galvanizing, equipment, tools, erection, labor and any other incidental work for chain-link fence and frame on moment slab, and resin anchor system, complete in place, will be considered completely covered by the contract unit price for (78 in.) Chain-Link Railroad Fence (Structures) per linear foot.

△ Added

SLAB SEALING DETAIL

MOMENT SLAB DETAILS