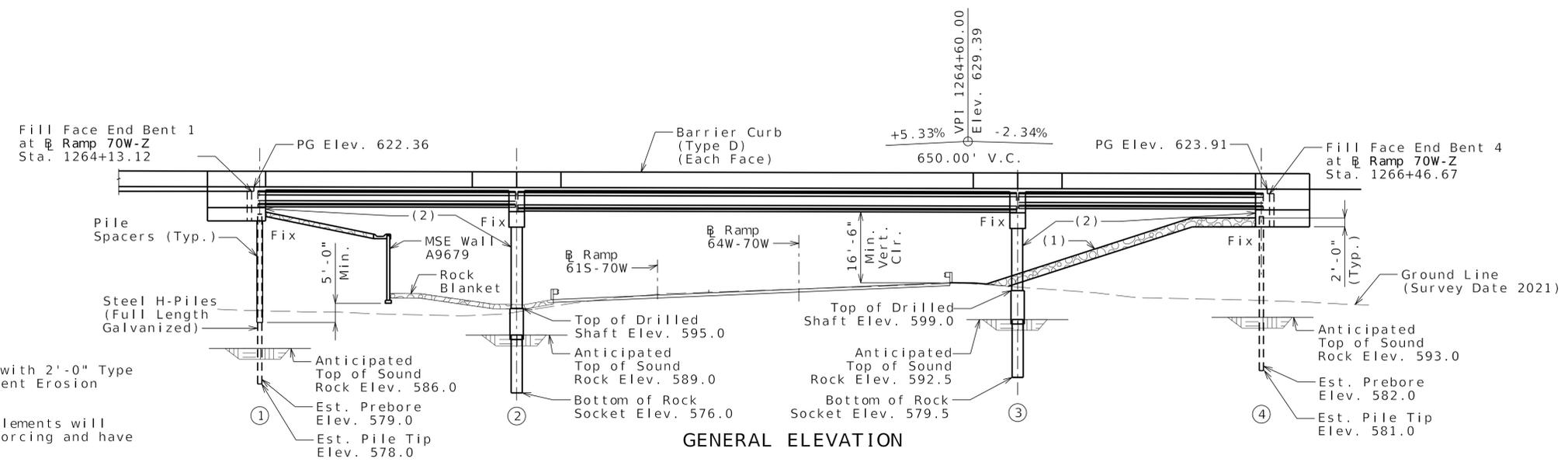


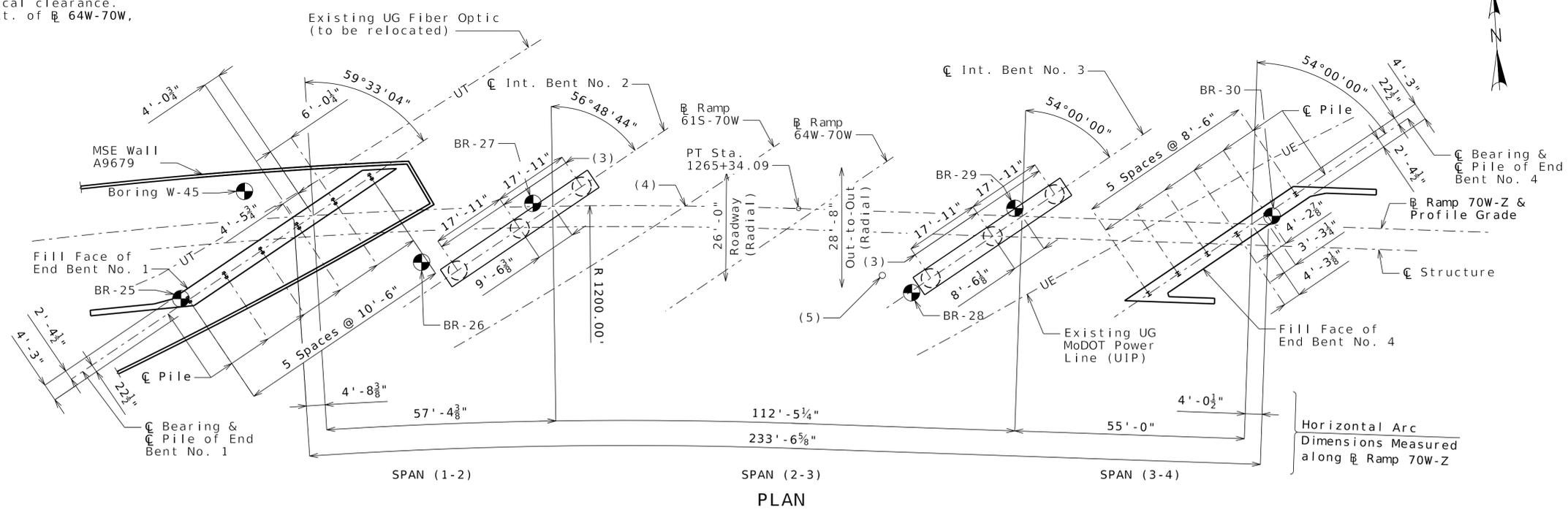


(58' - 113' - 55') PRESTRESSED CONCRETE NU-GIRDER SPANS



- (1) 2:1 (Max.) Slope (Normal) with 2'-0" Typ 2 Rock Blanket with Permanent Erosion Control Geotextile. (Typ.)
- (2) All exposed substructure elements will contain epoxy coated reinforcing and have epoxy protective coating.
- (3) Column, Drilled Shaft & Rock Socket
- (4) Tie Sta. 1265+06.99 @ 70W-Z = Sta. 1264+58.60 @ 61S-70W
- (5) Point of minimum vertical clearance. Offsets: 21'-11 1/2" Rt. of @ 64W-70W, 15'-3" Rt. of @ 70W-Z

Curve Ramp 70W-Z  
 PI 1262+96.91  
 PC 1260+53.20  
 PT 1265.34.09  
 Δ 22°57'38.1" (RT)  
 D 4°46'28.7"  
 L 480.89' (ARC)  
 T 243.71'  
 R 1,200.00'



⊙ Indicates location of post-award borings.  
 Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown above. These borings are depicted in profile on Sheet No. 39-43. The logs, laboratory test results, rock core photographs and other information obtained at these borings are available in the geotechnical memorandum prepared by HNTB for this structure.

Notes:  
 All bents are parallel.  
 For General Notes and Foundation Data, see Sheet No. 3.  
 For span lengths, stationing, profile grade elevations and skew angles along @ Ramp 70W-Z & PG Line, see Sheet No. 4.



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED  
 12/19/2025

ROUTE STATE  
 I - 70 MO

DISTRICT SHEET NO.  
 BR A9678-02

COUNTY  
 ST. CHARLES

JOB NO.  
 JST0020

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
 A9678

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



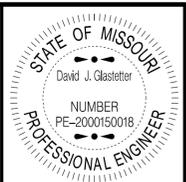
HNTB  
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310  
 CERTIFICATE OF AUTHORITY NO. 001270

ERK-Moen  
 Civil Engineering Design  
 13823 Barre Parkway Dr. Phone: 314-294-3100  
 Suite 200 MO 63021 Missouri Certificate of Authority: 061578









THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED  
12/19/2025

ROUTE STATE  
I - 70 MO

DISTRICT SHEET NO.  
BR A9678-06

COUNTY  
ST. CHARLES

JOB NO.  
JST0020

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
A9678

PILE NO.	CUT-OFF ELEV.
1	616.65
2	616.12
3	615.59
4	615.06
5	614.53
6	614.00

Pile No.	Cut-Off Elev.
1	616.65
2	616.12
3	615.59
4	615.06
5	614.53
6	614.00

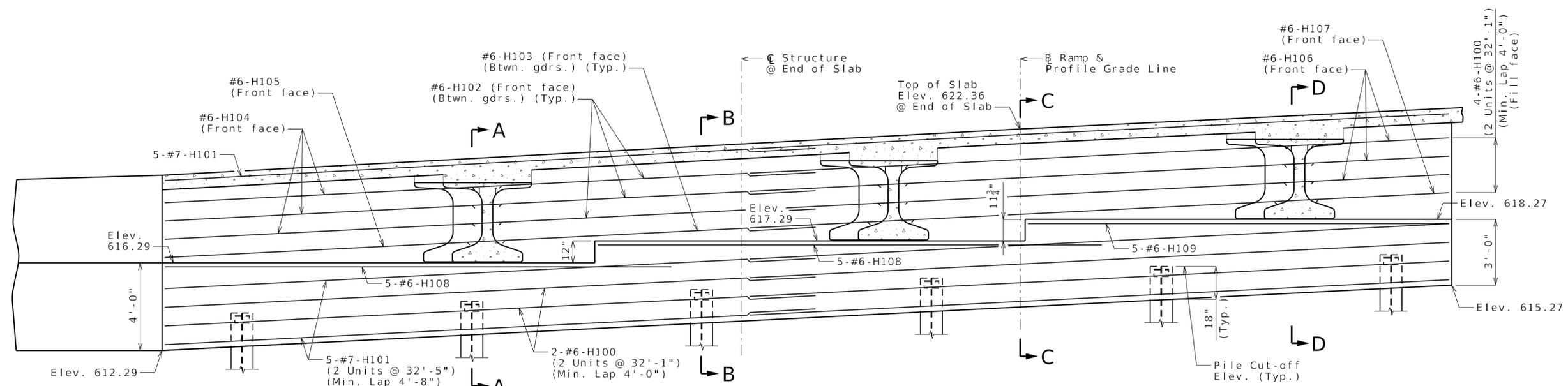
Note: For pile numbers, see Sheet No. 38.

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

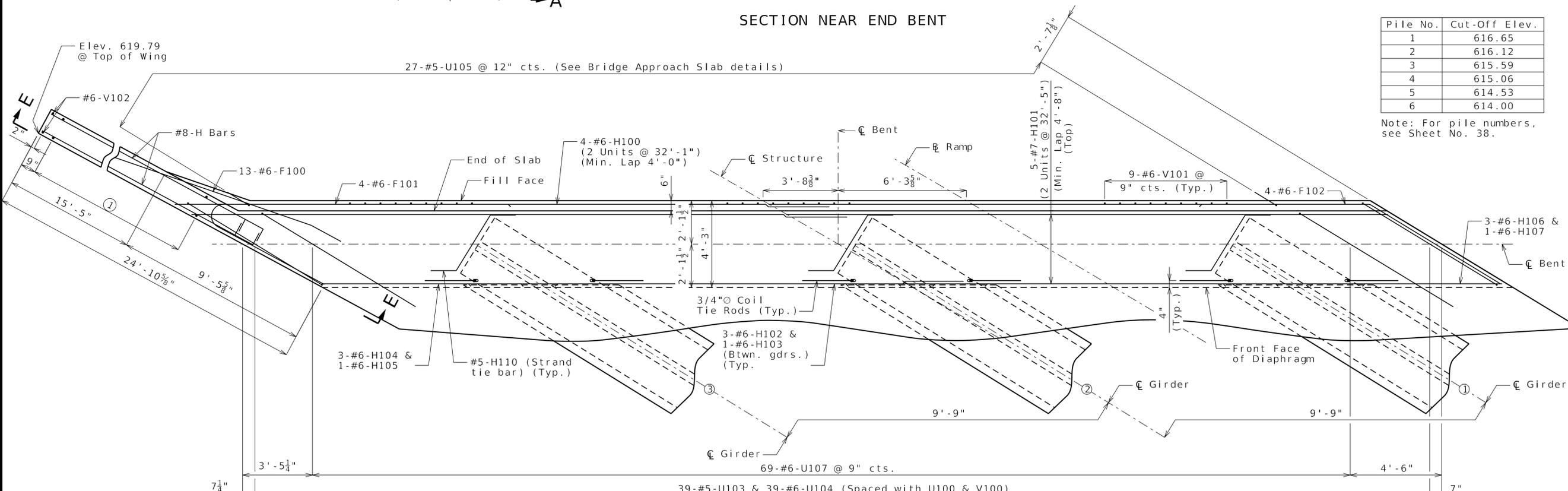


HNTB  
715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
CERTIFICATE OF AUTHORITY NO. 001270

ERK-Moen  
Civil Engineering Design  
13823 Barre Parkway Dr. Phone 314-294-3100  
Suite 200 MO 63021 Missouri Certificate of Authority: 061578



SECTION NEAR END BENT



PART PLAN

① 18-#6-V103 @ 12" cts. (Each face)

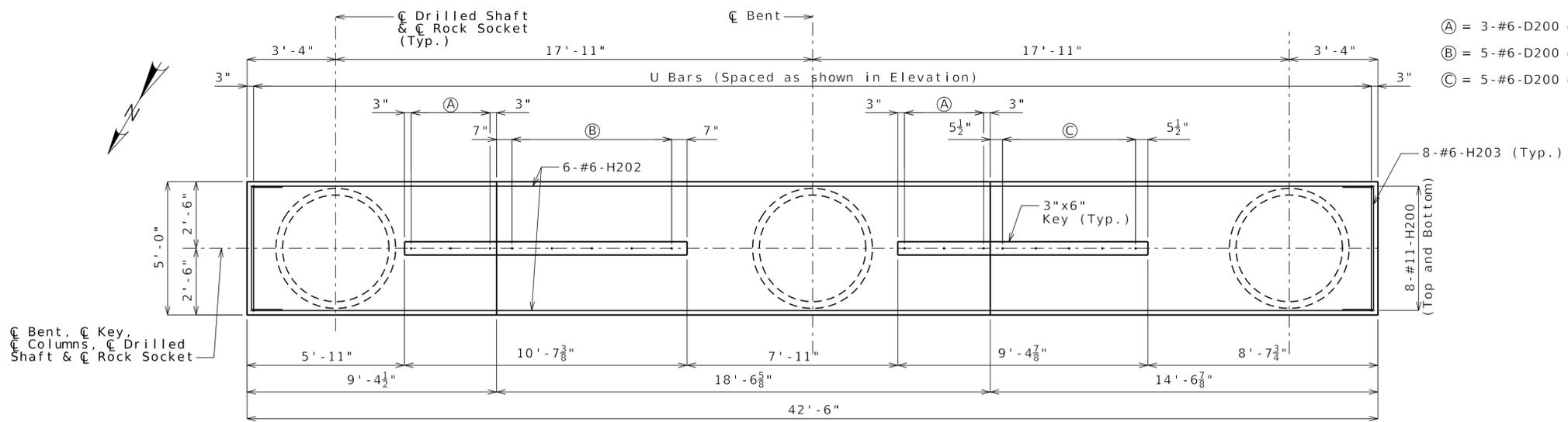
Notes:  
Work this sheet with Sheets No. 5 & 7.  
For Section A-A, B-B, C-C & D-D and Elevation E-E, see Sheet No. 7.  
The #6-F100 bars shall be bent in the field to clear girders.  
The U bars shall be placed parallel to skewed steps.  
All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.  
For location of coil tie rods and #5-H110 (strand tie bars), see Sheet No. 19.  
For details of vertical drain at end bents, see Sheet No. 8.  
For details of bridge approach slab, see Sheet No. 34.



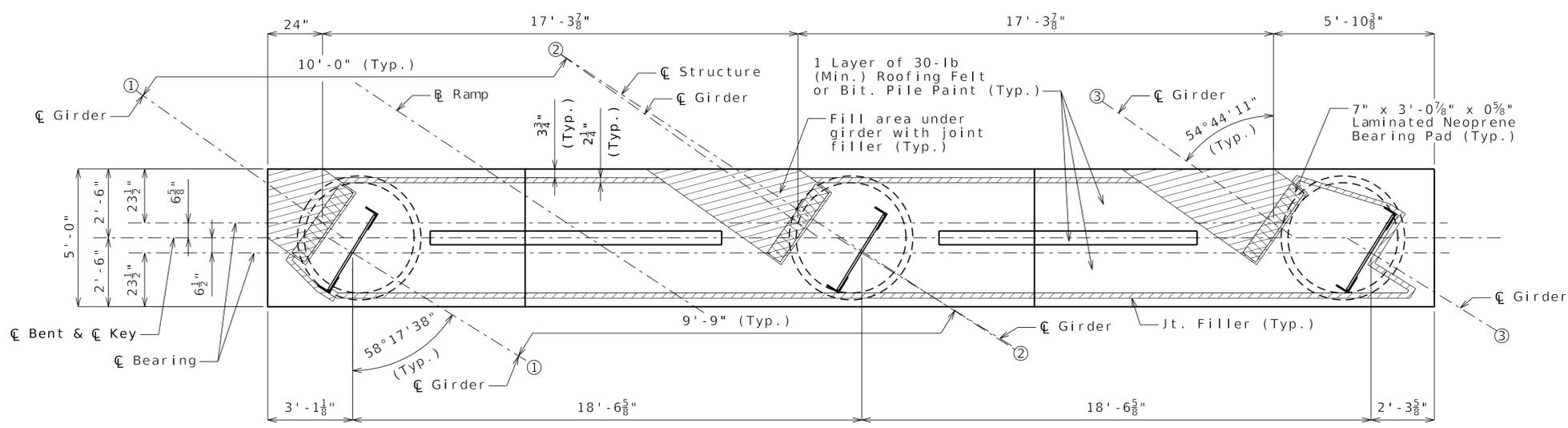




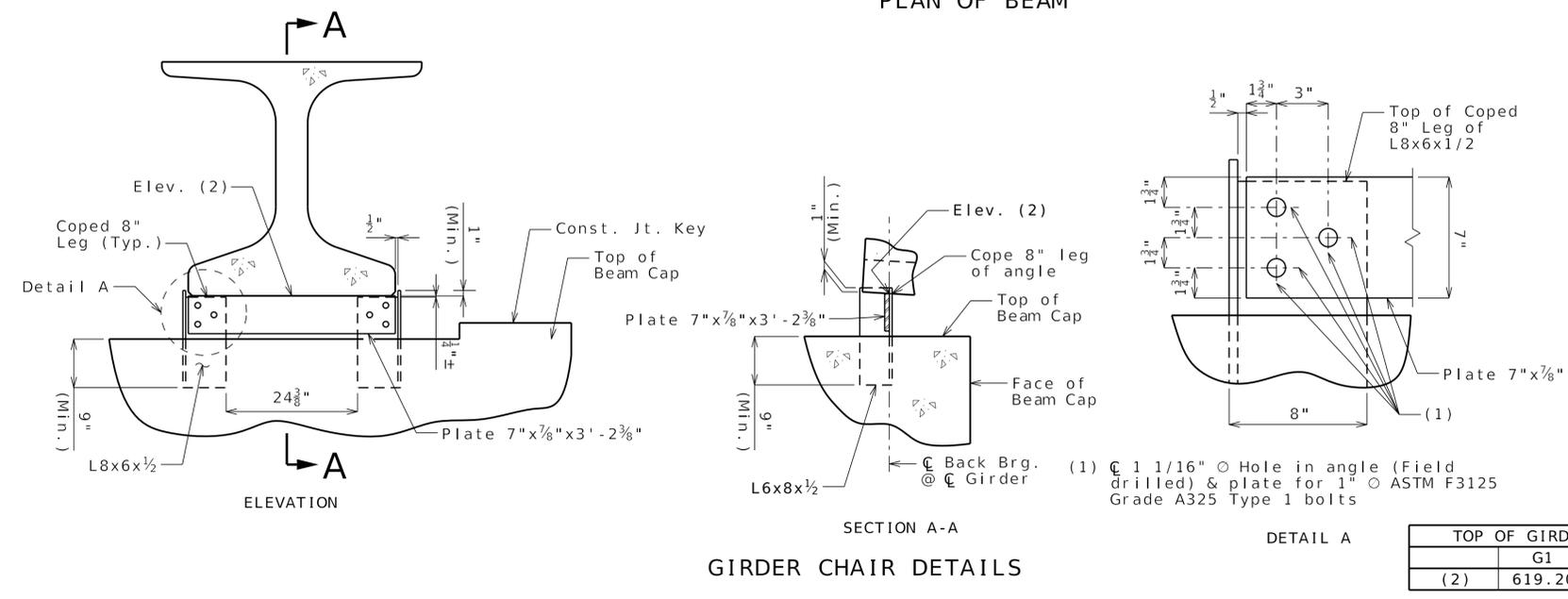


- (A) = 3-#6-D200 @ abt. 18" cts.
- (B) = 5-#6-D200 @ abt. 18" cts.
- (C) = 5-#6-D200 @ abt. 15" cts.

PLAN SHOWING REINFORCEMENT



PLAN OF BEAM



GIRDER CHAIR DETAILS

General Notes:  
 Work this sheet with Sheets No. 9 and 11.  
 For steps 2 inches or more, use 2 1/4 x 1/2-inch joint filler up vertical face.  
 Structural steel for the girder chairs shall be coated with not less than 2 mils of inorganic zinc primer. Scratched or damaged surfaces are to be touched up in the field before concrete is poured. In lieu of coating, the girder chairs may be galvanized in accordance with ASTM A123.  
 Steel for chairs shall be ASTM A709 Grade 36.  
 Reinforcing steel shall be shifted to clear chairs.

TOP OF GIRDER CHAIR ELEV.		
(1)	G1	G2
(2)	619.20	618.31
	G3	617.37

DETAILS OF INT BENT NO. 2

Detailed Oct. 2025  
Checked Oct. 2025

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

Sheet 10 of 45



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 12/19/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. A9678-10
COUNTY ST. CHARLES	
JOB NO. JST0020	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9678	

DATE	DESCRIPTION

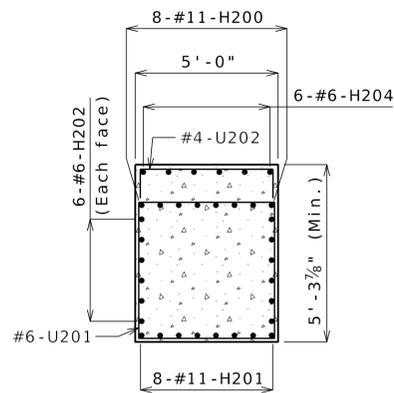
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

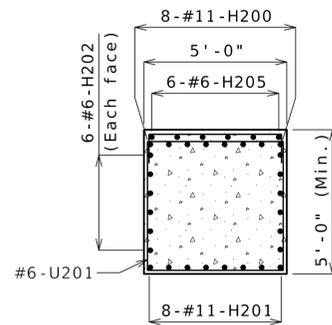


HNTB  
715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
CERTIFICATE OF AUTHORITY  
NO. 001270

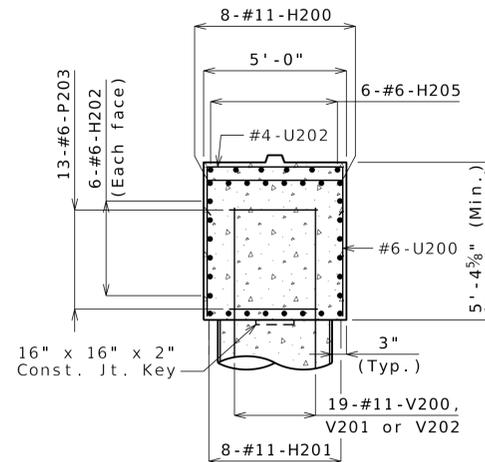
ERK-Moen  
Civil Engineering Design  
13823 Barre Parkway Dr.  
Suite 200  
St. Louis, MO 63021  
Phone: 314-294-3100  
Fax: 314-294-3101  
Missouri Certificate of Authority: 061578



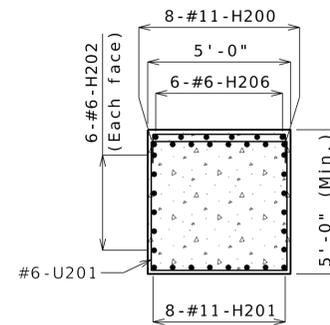
SECTION A-A



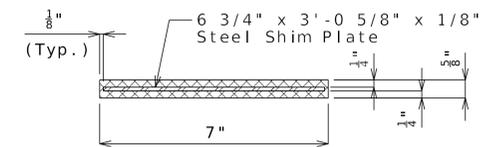
SECTION B-B



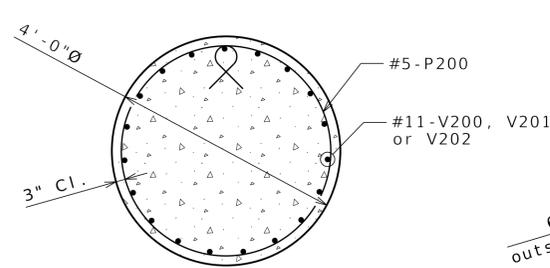
SECTION C-C



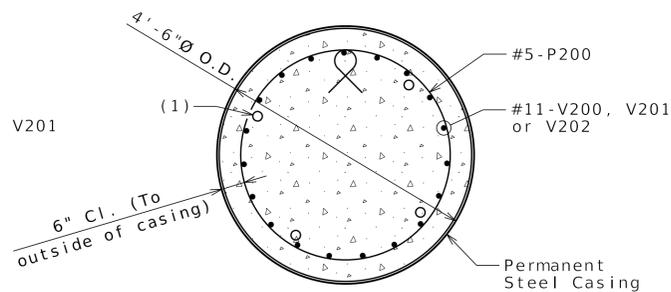
SECTION D-D



SECTION THRU LAMINATED NEOPRENE BEARING PAD

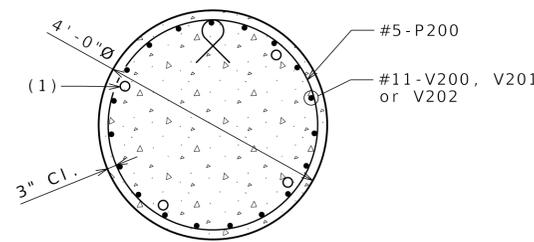


SECTION E-E

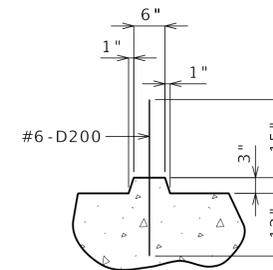


SECTION F-F

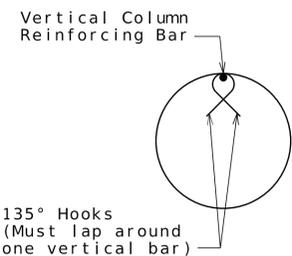
(1) 2"Ø Steel Pipe for sonic logging testing (4 each shaft)



SECTION G-G



SECTION THRU KEY



135° Hooks (Must lap around one vertical bar)

SEISMIC STIRRUP BAR (#5-P200)

Note: Seismic stirrups hooks shall be staggered around the column at about one-third of the hoop circumference.

General Notes:

Work this sheet with Sheets No. 9 and 10.

DETAILS OF INT BENT NO. 2



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 12/19/2025

ROUTE I-70 STATE MO  
DISTRICT BR SHEET NO. A9678-11

COUNTY ST. CHARLES

JOB NO. JST0020

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9678

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

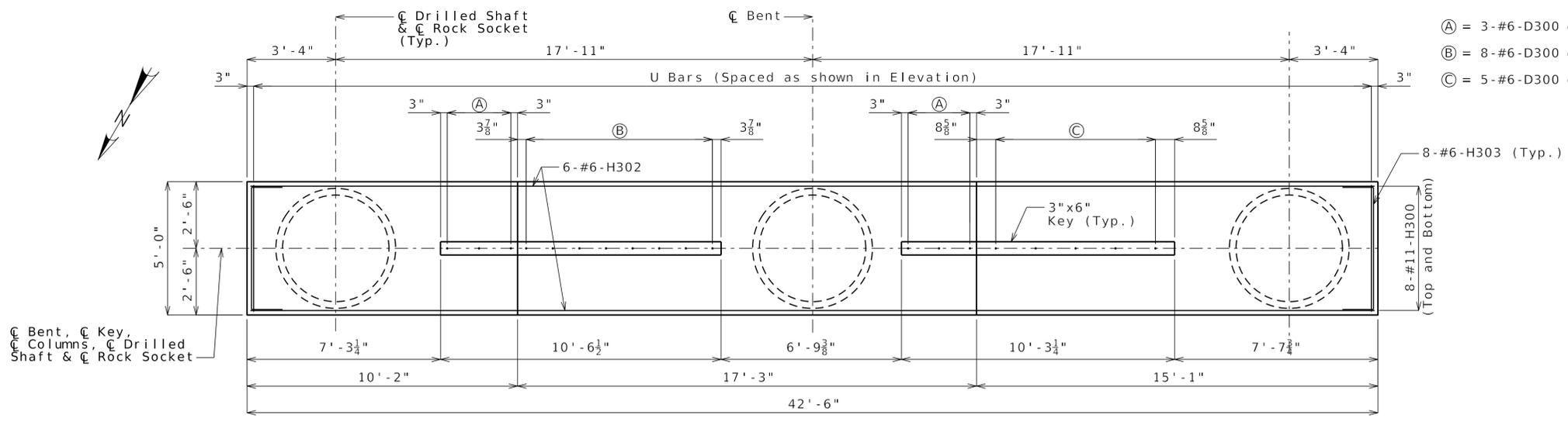
105 WEST CAPITOL JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)



HNTB  
715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
CERTIFICATE OF AUTHORITY NO. 001270

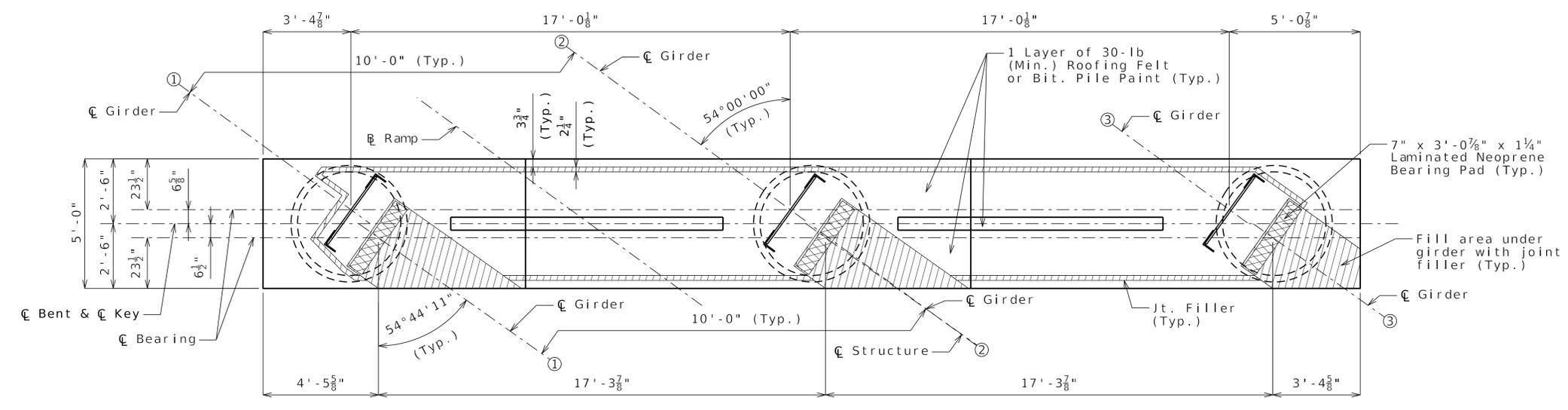
ERK Moen  
Civil Engineering Design  
13823 Barre Parkway Dr. Phone 314-294-3100  
Suite 200 MO 63021 Missouri Certificate of Authority: 061578



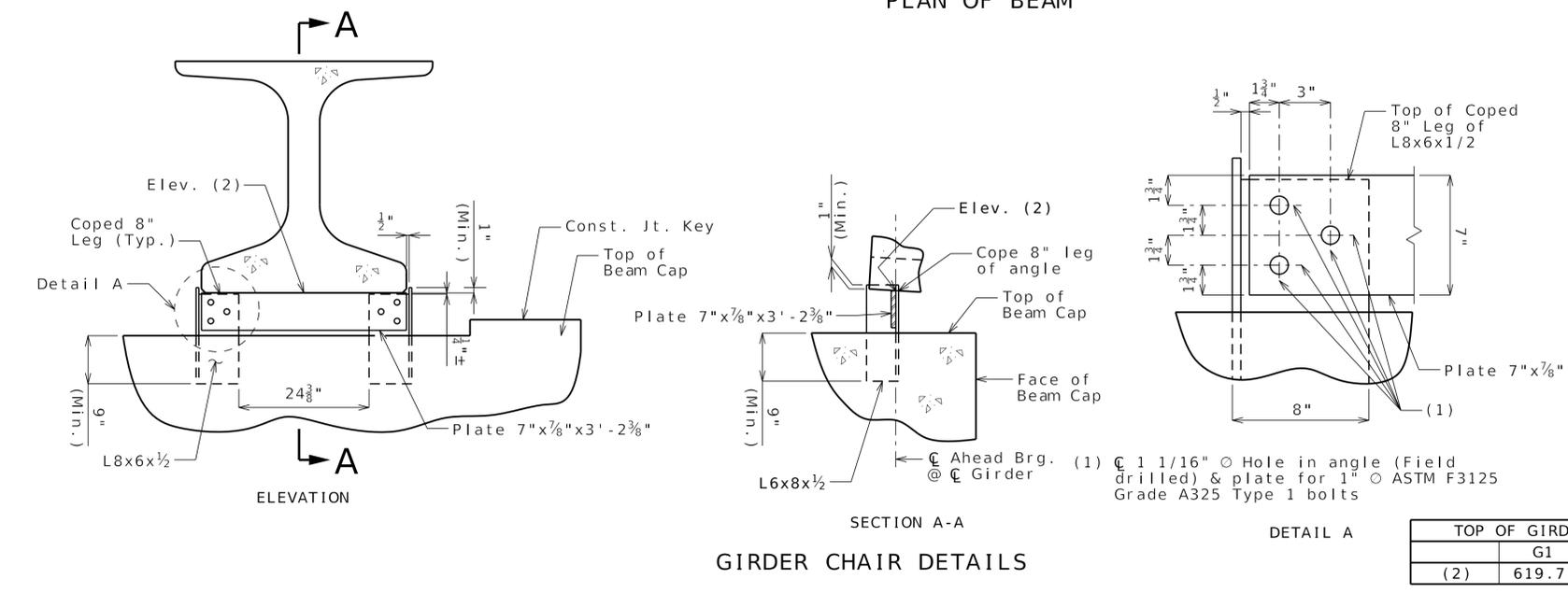


- (A) = 3-#6-D300 @ abt. 15" cts.
- (B) = 8-#6-D300 @ abt. 12" cts.
- (C) = 5-#6-D300 @ abt. 18" cts.

PLAN SHOWING REINFORCEMENT



PLAN OF BEAM



GIRDER CHAIR DETAILS

General Notes:  
 Work this sheet with Sheets No. 12 and 14.  
 For steps 2 inches or more, use 2 1/4 x 1/2-inch joint filler up vertical face.  
 Structural steel for the girder chairs shall be coated with not less than 2 mils of inorganic zinc primer. Scratched or damaged surfaces are to be touched up in the field before concrete is poured. In lieu of coating, the girder chairs may be galvanized in accordance with ASTM A123.  
 Steel for chairs shall be ASTM A709 Grade 36.  
 Reinforcing steel shall be shifted to clear chairs.

TOP OF GIRDER CHAIR ELEV.		
(1)	G1	G2
(2)	619.71	619.44
	G3	619.05

DETAILS OF INT BENT NO. 3

Detailed Oct. 2025  
Checked Oct. 2025

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

Sheet 13 of 45



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 12/19/2025

ROUTE	STATE
I - 70	MO
DISTRICT	SHEET NO.
BR	A9678-13
COUNTY	
ST. CHARLES	
JOB NO.	
JST0020	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
A9678	

DATE	DESCRIPTION

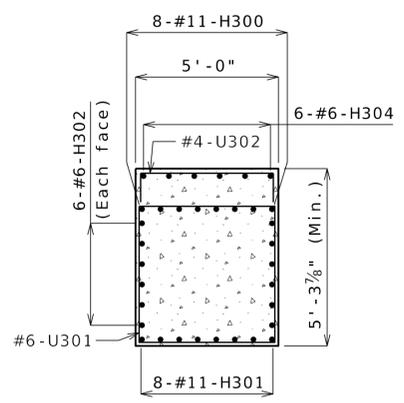
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

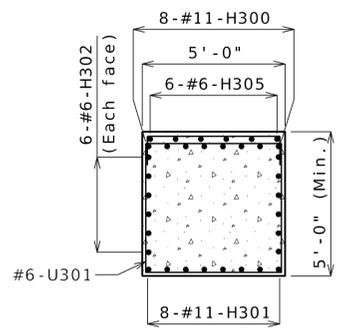


HNTB  
715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
CERTIFICATE OF AUTHORITY NO. 001270

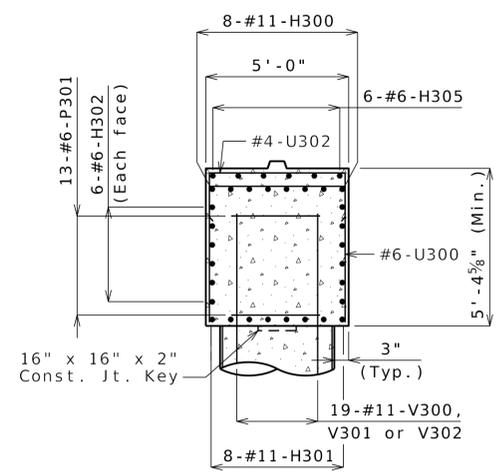
ERK-Moen  
Civil Engineering Design  
13823 Barre Parkway Dr. Phone: 314-294-3100  
Suite 200, MO 63021  
Missouri Certificate of Authority: 061576



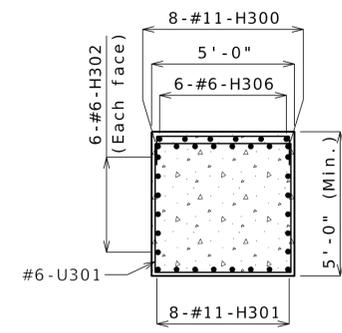
SECTION A-A



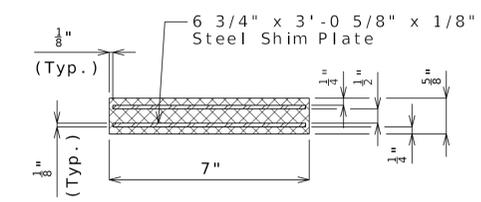
SECTION B-B



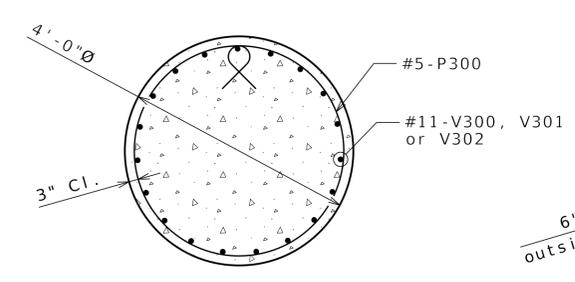
SECTION C-C



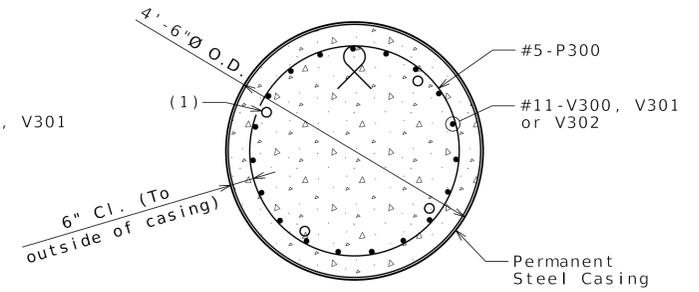
SECTION D-D



SECTION THRU LAMINATED NEOPRENE BEARING PAD

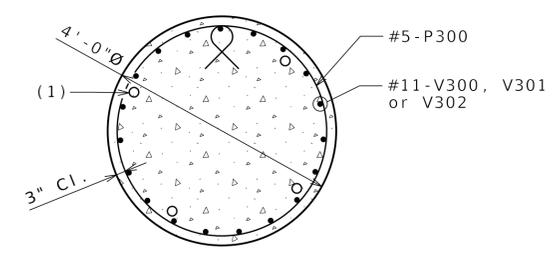


SECTION E-E

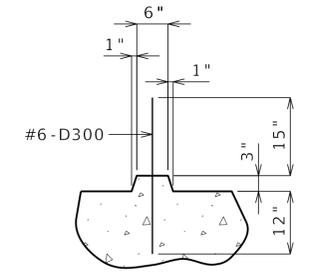


SECTION F-F

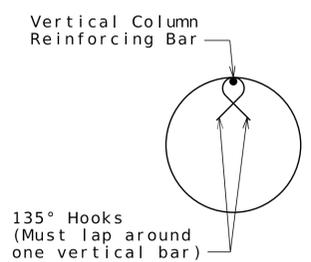
(1) 2"Ø Steel Pipe for sonic logging testing (4 each shaft)



SECTION G-G



SECTION THRU KEY



SEISMIC STIRRUP BAR (#5-P300)

Note: Seismic stirrups hooks shall be staggered around the column at about one-third of the hoop circumference.



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED  
12/19/2025

ROUTE I-70 STATE MO  
DISTRICT BR SHEET NO. A9678-14

COUNTY ST. CHARLES  
JOB NO. JST0020  
CONTRACT ID.

PROJECT NO.  
BRIDGE NO. A9678

DATE	DESCRIPTION

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



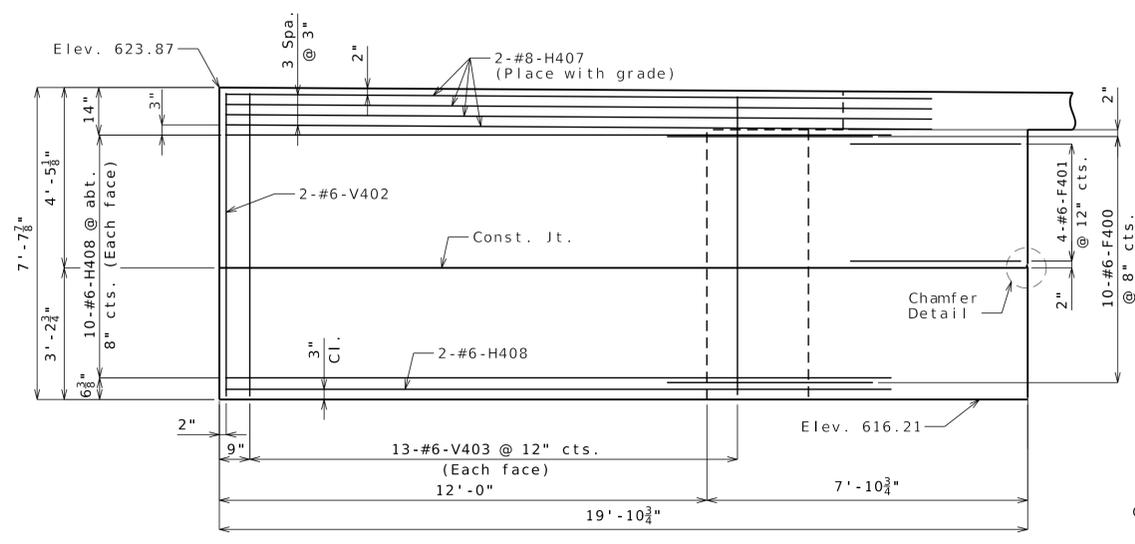
715 KIRK DRIVE KANSAS CITY, MO 64105-1310  
 CERTIFICATE OF AUTHORITY NO. 001270  
  
 13823 Barre Parkway Dr. Phone 314-294-3100  
 Suite 200 MO 63021  
 Missouri Certificate of Authority: 061578  
  
 Civil Engineering Design

General Notes:  
Work this sheet with Sheets No. 12 and 13.

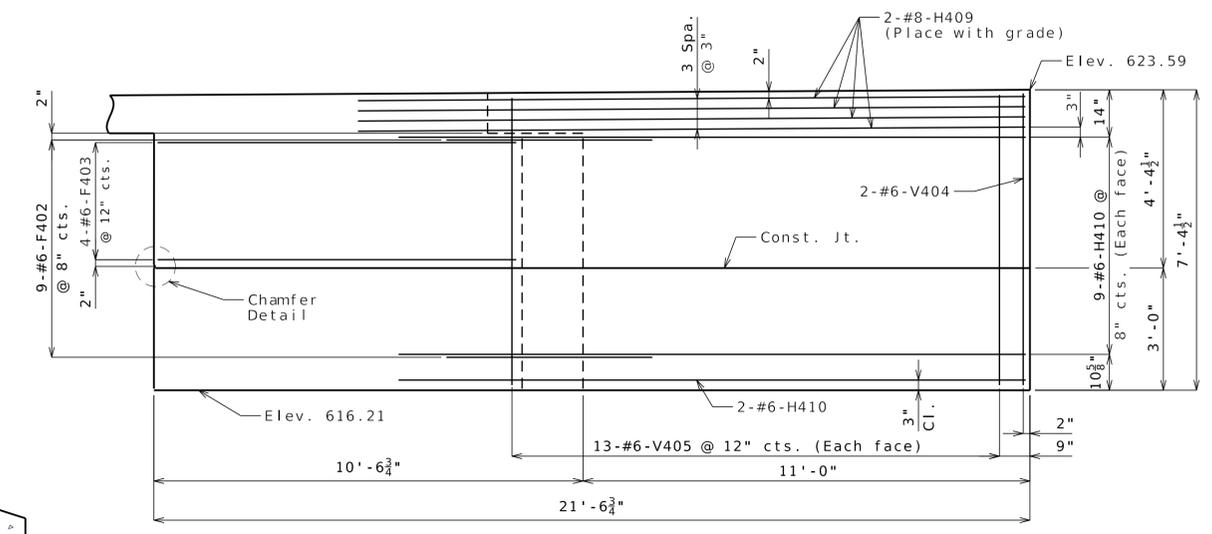
DETAILS OF INT BENT NO. 3



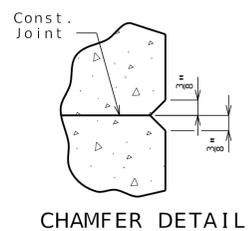




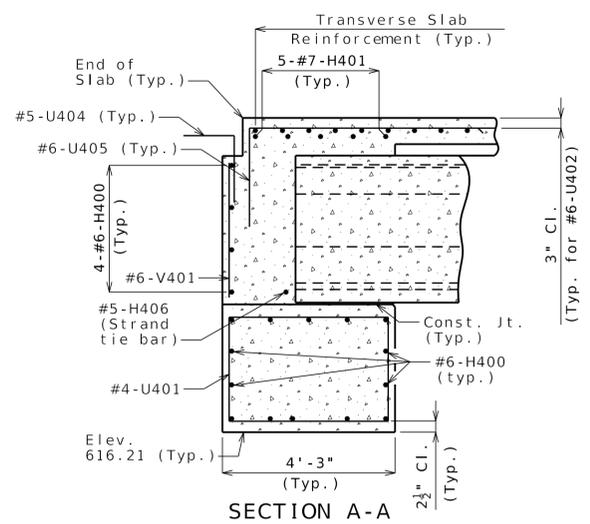
ELEVATION D-D



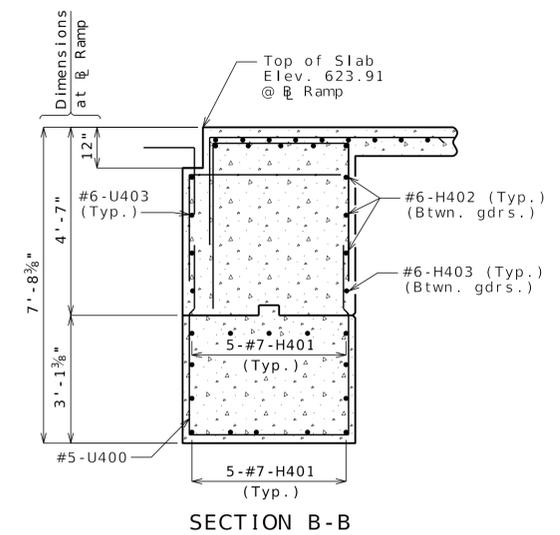
ELEVATION E-E



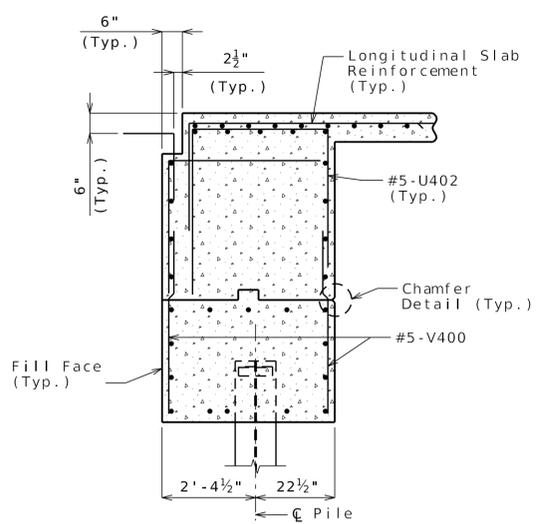
CHAMFER DETAIL



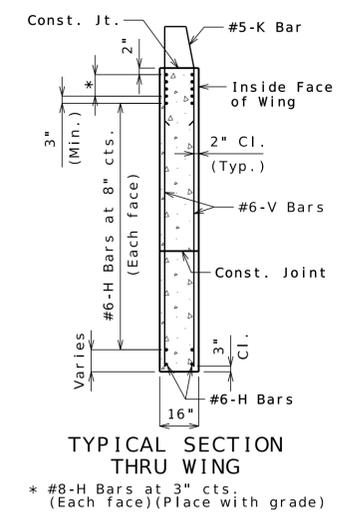
SECTION A-A



SECTION B-B



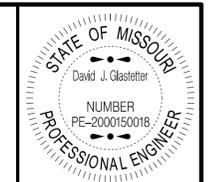
SECTION C-C



TYPICAL SECTION THRU WING

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

General Notes:  
Work this sheet with Sheets No. 15 & 16.  
For reinforcement of the barrier, see Sheet No. 32 & 33.



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED  
12/19/2025

ROUTE I-70 STATE MO  
DISTRICT BR SHEET NO. A9678-17

COUNTY ST. CHARLES  
JOB NO. JST0020  
CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9678

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



HNTB  
715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
CERTIFICATE OF AUTHORITY NO. 001270

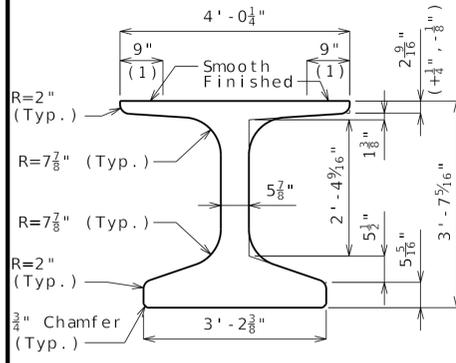
ERK-Moen  
Civil Engineering Design  
13823 Barre Parkway Dr. Phone: 314-294-3100  
Suite 205 MO 63021  
Missouri Certificate of Authority: 061578



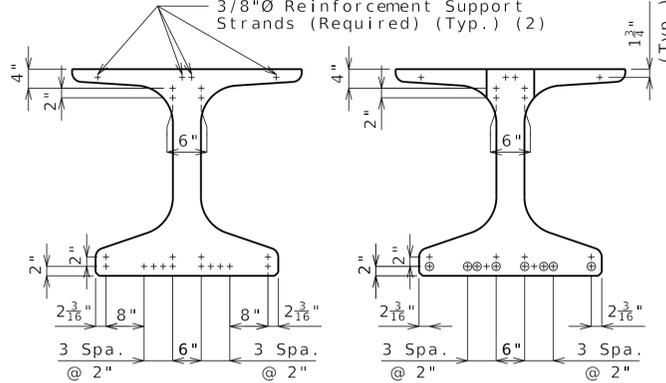
12/29/2025  
Released for Construction

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

(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about  $\bar{C}$  Girder. May be moved laterally in pairs.

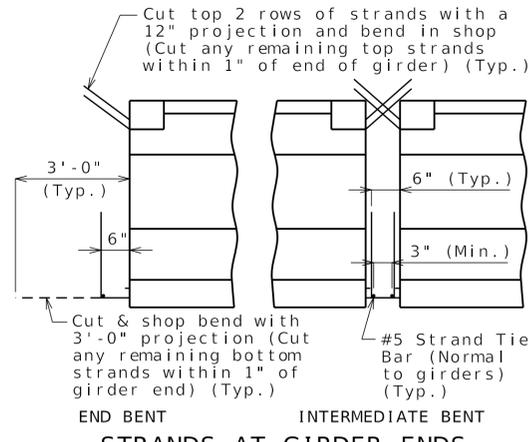


**DIMENSIONS**

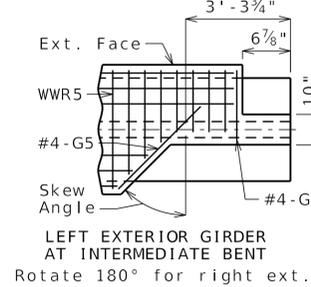
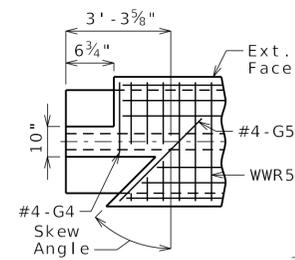


**C GIRDER  
STRAND ARRANGEMENT**

+ Indicates prestressing strand.      o Indicates cut & shop bend with 3'-0" projection.

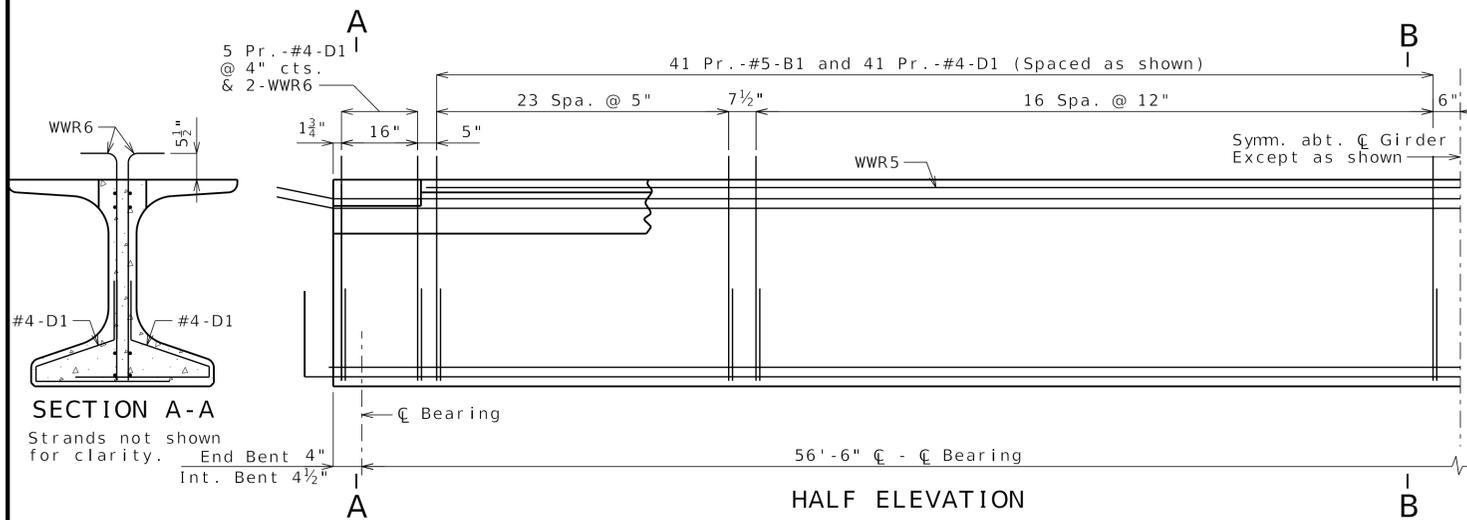
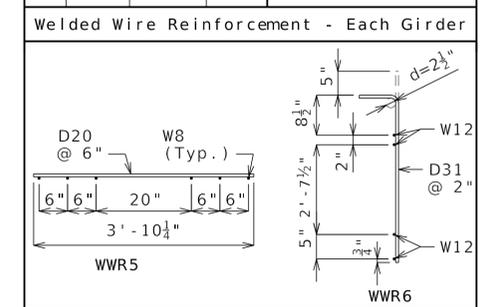


**END BENT      INTERMEDIATE BENT  
STRANDS AT GIRDER ENDS**

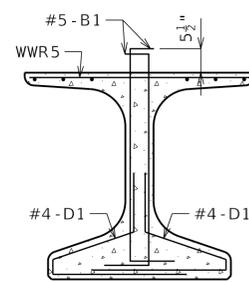


**Bill of Reinforcing Steel - Each Girder**

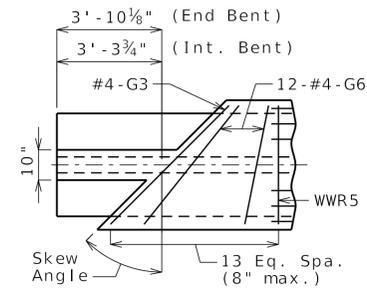
No.	Size/Mark	Length	Shape	Bending Diagrams
164	5 B1	5'-0"	11S	
184	4 D1	4'-0"	9S	
2	4 G3	7'-1 3/8"	20	
2	4 G4	2'-3"	20	
2	4 G5	4'-11 1/4"	20	
24	4 G6	Varies	20	



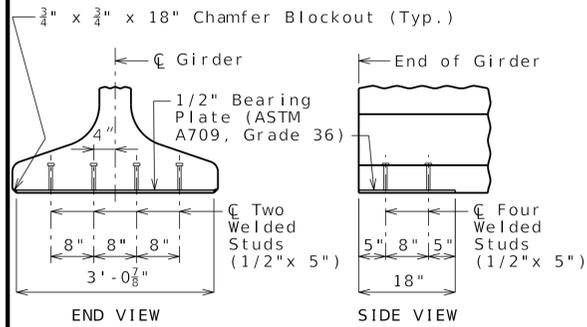
**HALF ELEVATION**  
Reinforcement support strands not shown for clarity.



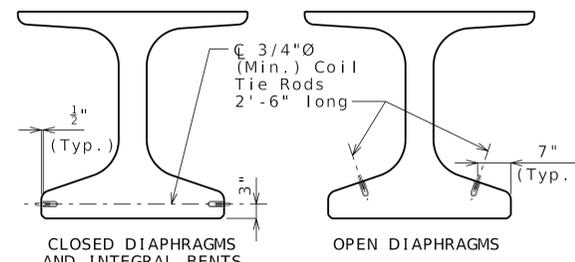
**SECTION B-B**  
Strands not shown for clarity.



**TOP FLANGE BLOCKOUT**  
Mirror for right advanced.



**BEARING PLATE**

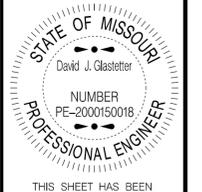


**COIL TIES**  
Exclude coil tie at exterior face of exterior girders except at integral end bents.

All dimensions are out to out.  
Hooks and bends shall be in accordance with the CRS1 Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.  
Actual bar lengths are measured along centerline of bar to the nearest inch.  
Minimum clearance to reinforcing shall be one inch.  
All bar reinforcement shall be Grade 60.  
The two D1 bars may be furnished as one bar at the fabricator's option.  
All B1 bars shall be epoxy coated.  
G4 and G5 not required for interior girders. Half no. of G3, G4, G5 and G6 not required for ext. girders of end spans.

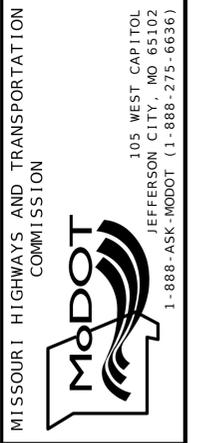
**General Notes:**  
Concrete for prestressed girders shall be Class A-1 with  $f'c = 8000$  psi and  $f'ci = 6500$  psi.  
Use 18 strands, 0.6"Ø Grade 270, with an initial prestress force of 791 kips.  
Pretensioned members shall be in accordance with Sec 1029.  
Fabricator shall be responsible for location and design of lifting devices.  
Exterior and interior girders are the same except: coil ties, top flange blockout, application of bond breaker, coil inserts for slab drains.  
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength.  
Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. 25.  
For location of coil inserts at slab drains, see Sheet No. 24.  
For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 6, 16, 22 & 23.



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.  
DATE PREPARED: 12/19/2025  
ROUTE: I-70 STATE: MO  
DISTRICT: BR SHEET NO.: A9678-19  
COUNTY: ST. CHARLES  
JOB NO.: JST0020  
CONTRACT ID.:  
PROJECT NO.:  
BRIDGE NO.: A9678

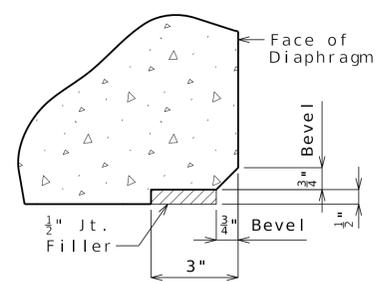
DATE	DESCRIPTION



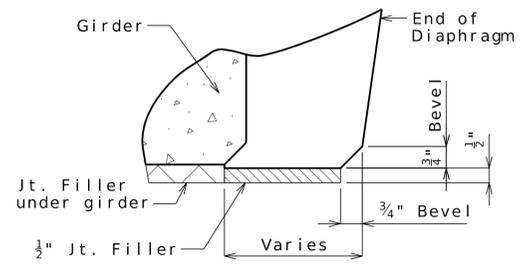
715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
CERTIFICATE OF AUTHORITY  
NO. 001270  
**HNTB**  
Civil Engineering Design  
13823 Barre Parkway Dr.  
Suite 200 MO 63021  
Phone: 314-934-3100  
Missouri Certificate of Authority: 061578



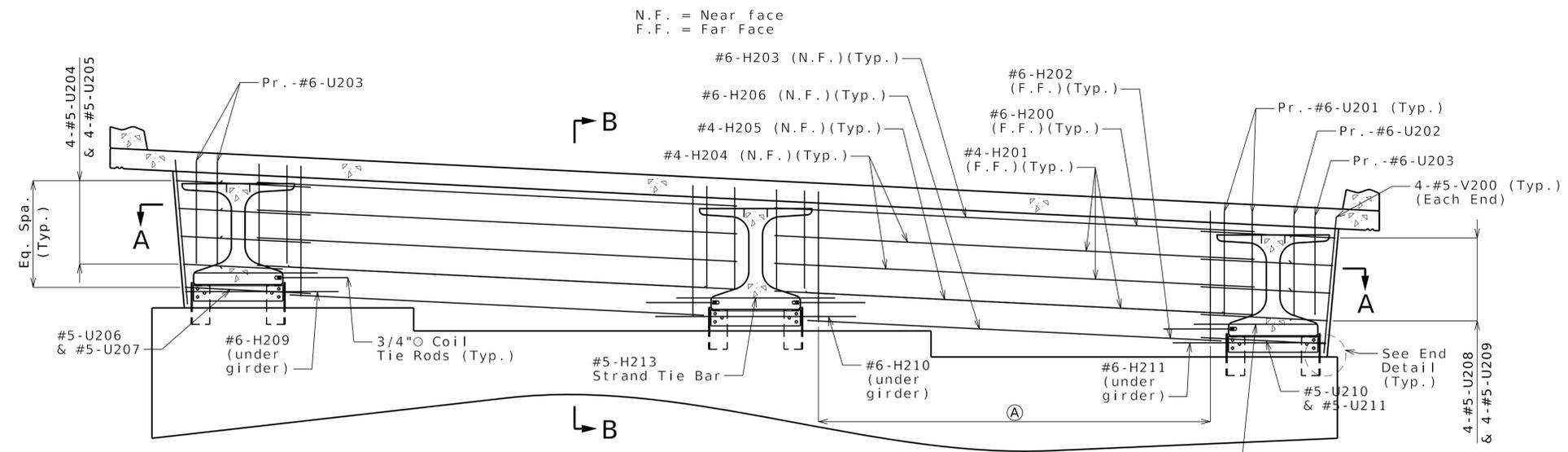




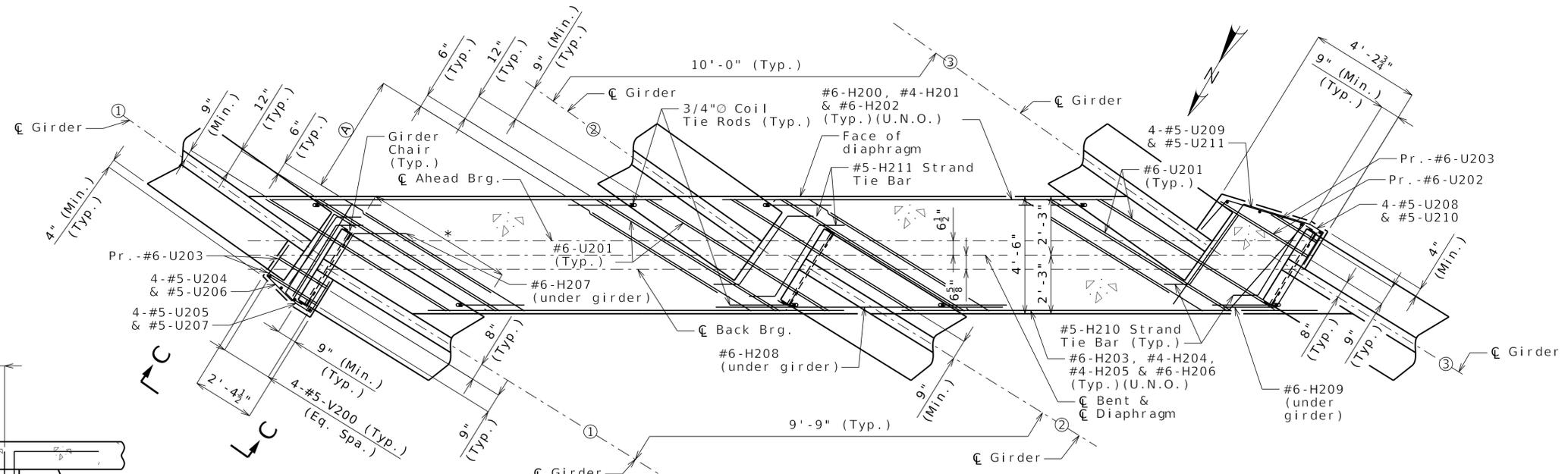
EDGE DETAIL



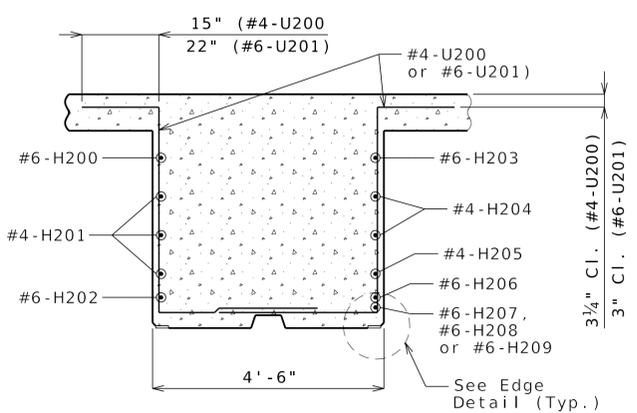
END DETAIL



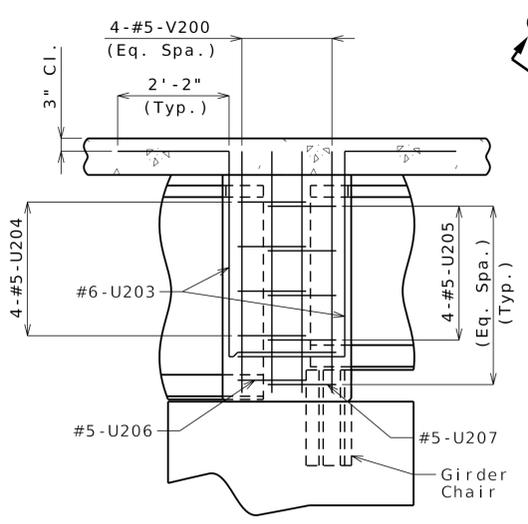
SECTION NEAR INTERMEDIATE BENT NO. 2  
 (Looking Ahead Station)



SECTION A-A



SECTION B-B



ELEVATION C-C

Ⓐ 6 Pr.-#4-U200 @ abt. 12" cts. (Typ.)  
 \* Minimum Lap Lengths  
 #4 Bar = 19"  
 #6 Bar = Full Width of Diaph.

STATE OF MISSOURI  
 David J. Glasletter  
 NUMBER PE-200150018  
 PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 12/19/2025

ROUTE I-70 STATE MO

DISTRICT BR SHEET NO. A9678-22

COUNTY ST. CHARLES

JOB NO. JST0020

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9678

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

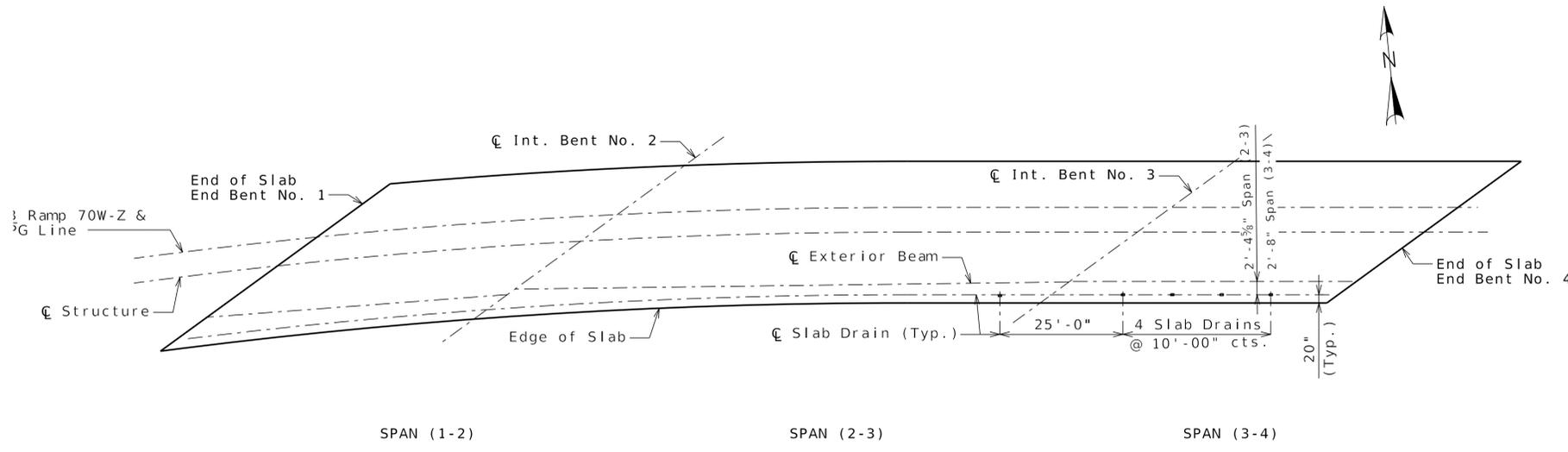
IMPROVE 70 ALLIANCE

HNTB  
 715 KIRK DRIVE  
 KANSAS CITY, MO 64105-1310  
 CERTIFICATE OF AUTHORITY NO. 001270

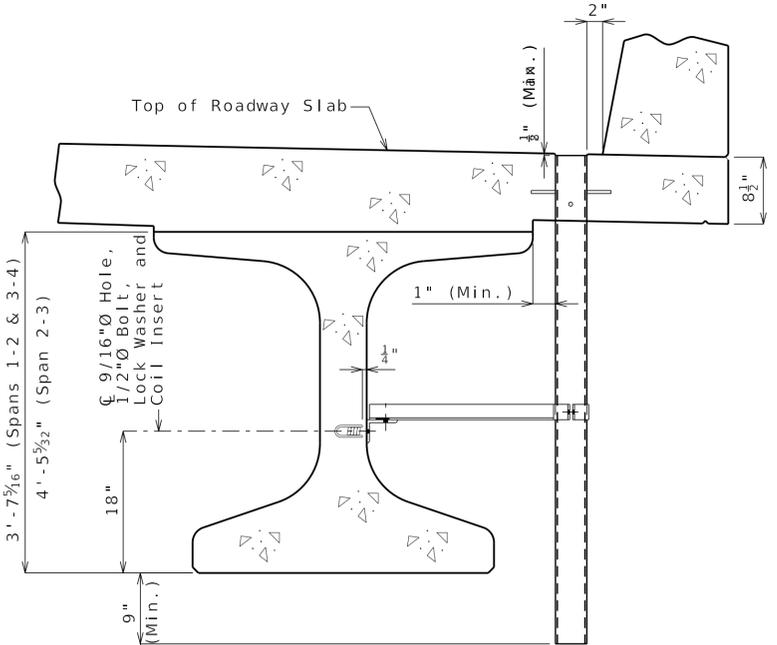
ERK-Moen  
 Civil Engineering Design  
 13823 Barre Parkway Dr. Phone 314-934-3100  
 Suite 205 MO 63021  
 Missouri Certificate of Authority: 061578



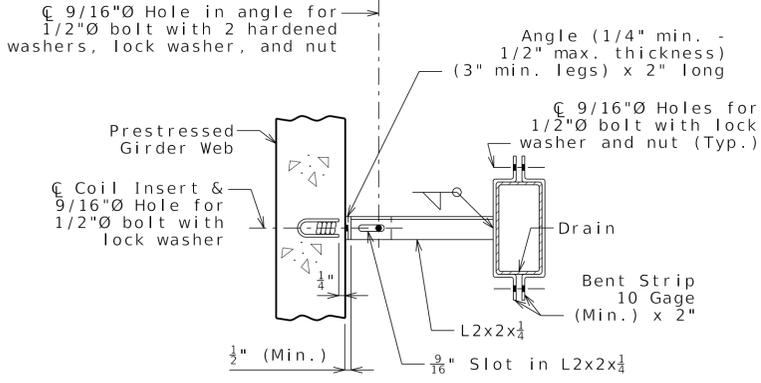
12/29/2025  
 Released for Construction



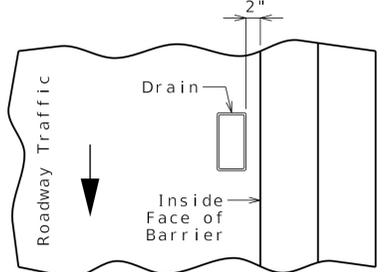
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



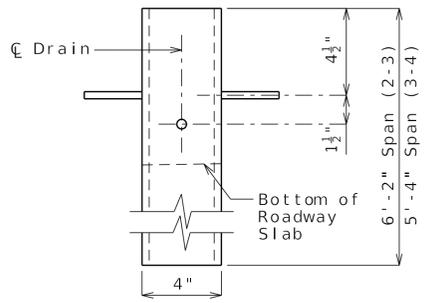
PART SECTION NEAR DRAIN



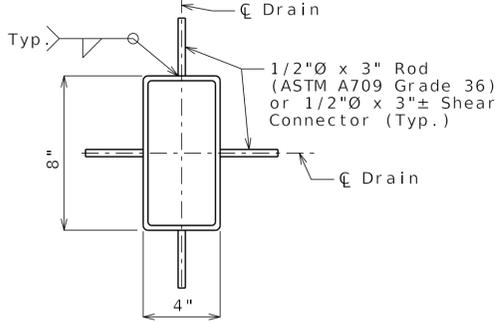
PART SECTION SHOWING BRACKET ASSEMBLY



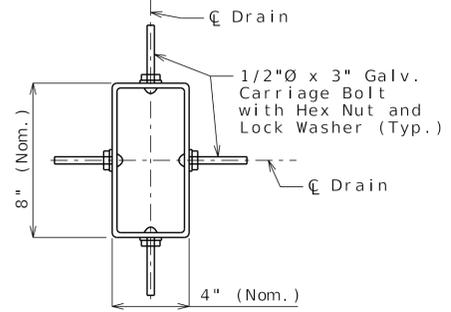
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

**General Notes:**

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

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

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

Reinforcing steel shall be shifted to clear drains.

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

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

All 1/2"Ø bolts shall be ASTM A307.

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

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

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

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

**Notes for Steel Drain:**

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

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

**Notes for FRP Drain:**

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

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

Minimum reinforced wall thickness shall be 1/4 inch.

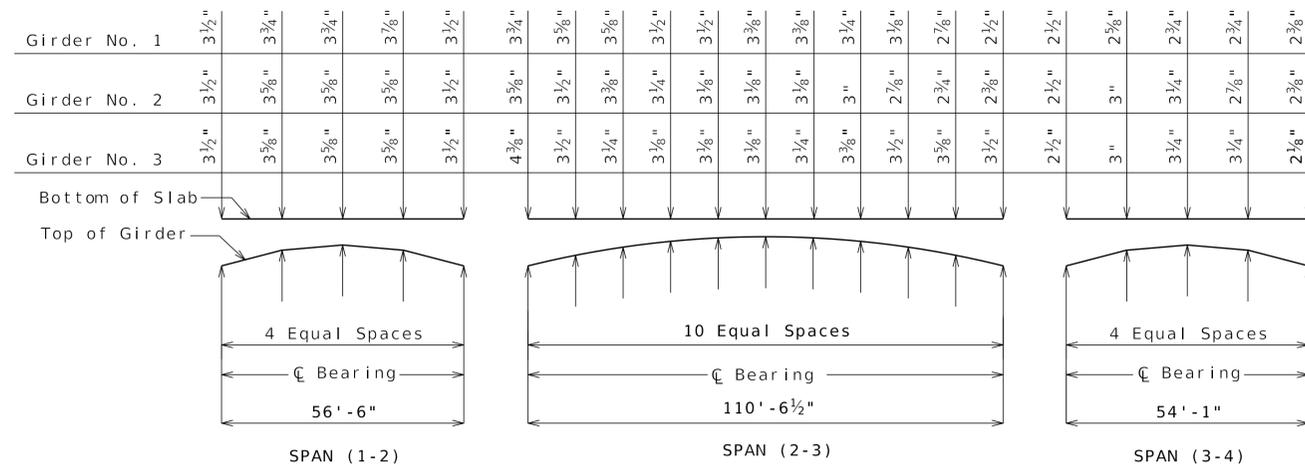
The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

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

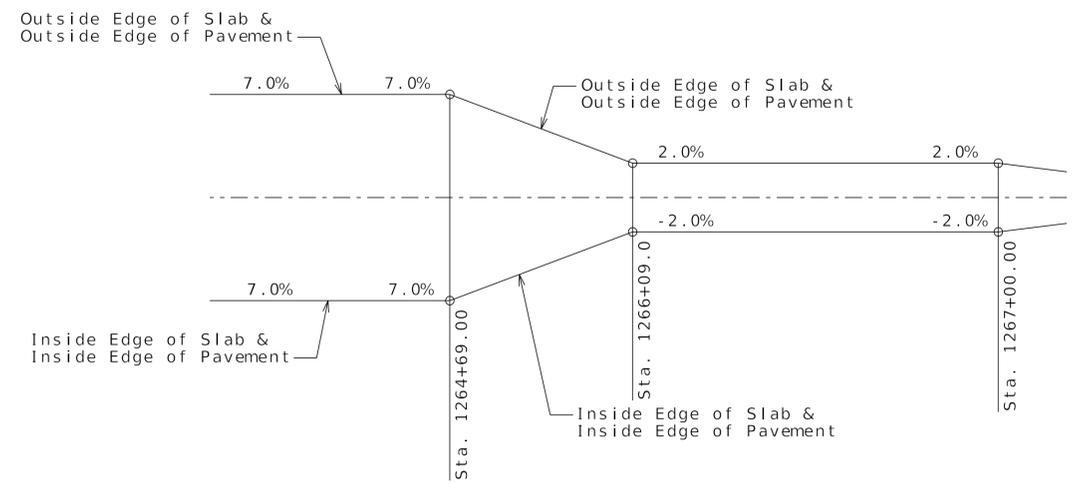
The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall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

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

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.	
DATE PREPARED <b>12/19/2025</b>	
ROUTE <b>I - 70</b>	STATE <b>MO</b>
DISTRICT <b>BR</b>	SHEET NO. <b>A9678-24</b>
COUNTY <b>ST. CHARLES</b>	
JOB NO. <b>JST0020</b>	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. <b>A9678</b>	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
HNTB 715 KIRK DRIVE KANSAS CITY, MO 64105-1310 CERTIFICATE OF AUTHORITY NO. 001270	
ERK Moen Civil Engineering Design 13823 Barre Parkway Dr. Suite 205 MO 63021 Phone: 314-294-3100 Missouri Certificate of Authority: 061578	



THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

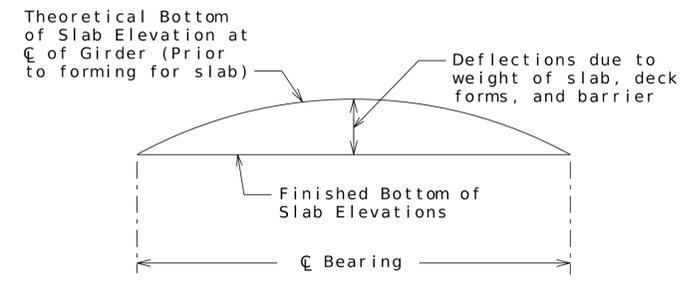


SUPERELEVATION TABLE

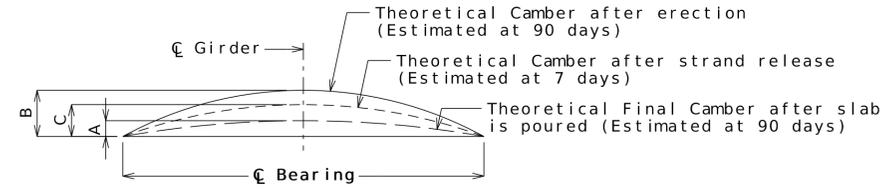
Theoretical Bottom of Slab Elevations at Centerline of Girder (Prior to forming for slab) (Estimated at 90 days)

Girder Number	Span (1-2) (56'-6" C Brg. - C Brg.)										
	C Brg.	0.25	0.50	0.75	C Brg.						
1	622.21	622.47	622.71	622.93	623.10						
2	621.23	621.51	621.77	622.00	622.21						
3	620.24	620.53	620.80	621.05	621.27						
Girder Number	Span (2-3) (110'-6 1/2" C Brg. - C Brg.)										
	C Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	C Brg.
1	623.09	623.25	623.40	623.52	623.62	623.69	623.72	623.72	623.68	623.62	623.54
2	622.27	622.47	622.67	622.84	622.99	623.12	623.21	623.26	623.29	623.28	623.25
3	621.40	621.59	621.81	622.03	622.23	622.40	622.55	622.66	622.75	622.81	622.85
Girder Number	Span (3-4) (54'-1" C Brg. - C Brg.)										
	C Brg.	0.25	0.50	0.75	C Brg.						
1	623.53	623.49	623.45	623.38	623.27						
2	623.26	623.29	623.30	623.25	623.17						
3	622.86	622.97	623.05	623.09	623.03						

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



TYPICAL SLAB ELEVATIONS DIAGRAM



GIRDER CAMBER DIAGRAM

Girder	Span (1-2)			Span (2-3)			Span (3-4)		
	A	B	C	A	B	C	A	B	C
Exterior	1/8"	3/8"	1/4"	1 3/8"	4"	2 1/4"	0"	1/4"	1/8"
Interior	1/8"			1 1/2"			0"		

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

- 0.1 pt. = 0.314 x 0.5 pt.
- 0.2 pt. = 0.593 x 0.5 pt.
- 0.3 pt. = 0.813 x 0.5 pt.
- 0.4 pt. = 0.952 x 0.5 pt.
- 0.25 pt. = 0.7125 x 0.5 pt.

If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness, and adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. The haunch shall be limited to ensure the projecting girder reinforcement is embedded into the slab at least 2 inches.

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

Note: This drawing is not to scale. Follow dimensions. Sheet 25 of 45

STATE OF MISSOURI  
David J. Glasletter  
NUMBER PE-2000150018  
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 12/19/2025

ROUTE I-70 STATE MO  
DISTRICT BR SHEET NO. A9678-25  
COUNTY ST. CHARLES  
JOB NO. JST0020  
CONTRACT ID.  
PROJECT NO.  
BRIDGE NO. A9678

DESCRIPTION  
DATE

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

IMPROVE 70 ALLIANCE

HNTB  
715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
CERTIFICATE OF AUTHORITY NO. 001270

ERK Moen  
Civil Engineering Design  
13623 Barre Parkway Dr. Phone 314-294-3100  
Suite 205 MO 63021  
Missouri Certificate of Authority: 061578





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DATE PREPARED  
12/19/2025

ROUTE STATE  
I-70 MO  
DISTRICT SHEET NO.  
BR A9678-28

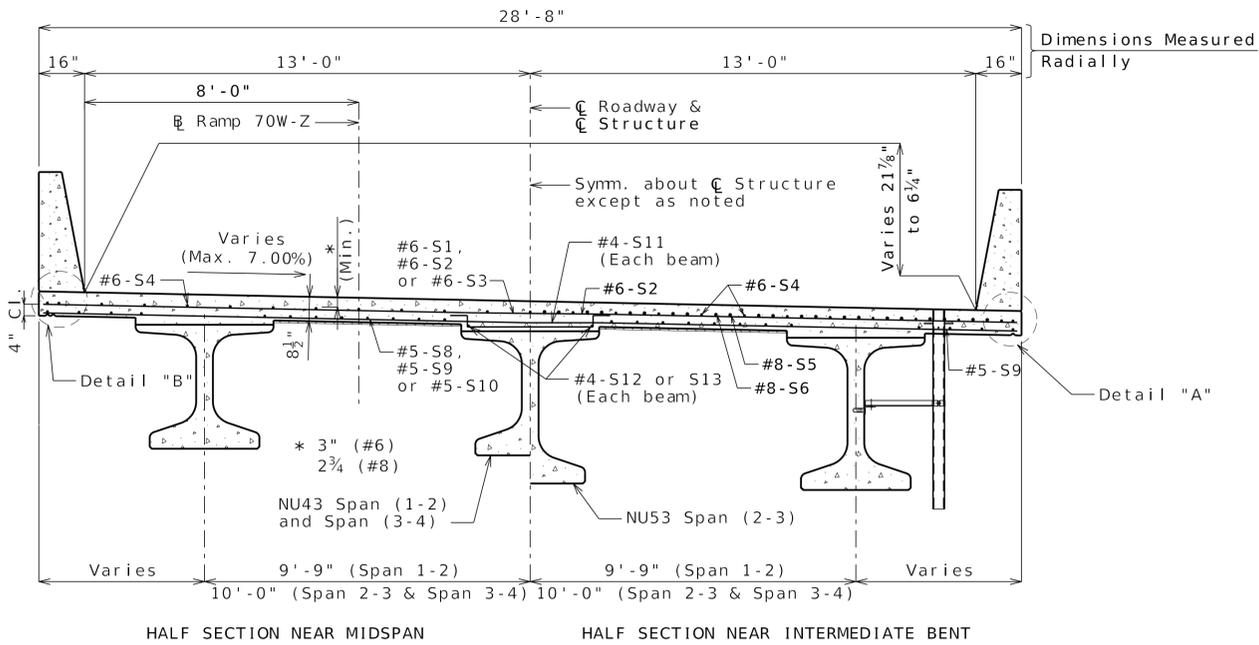
COUNTY  
ST. CHARLES  
JOB NO.  
JST0020  
CONTRACT ID.

PROJECT NO.  
BRIDGE NO.  
A9678

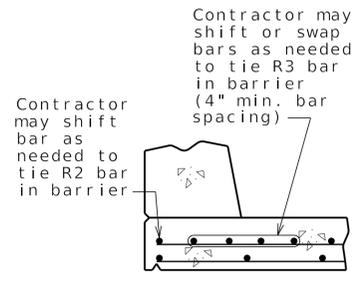
DATE	DESCRIPTION

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

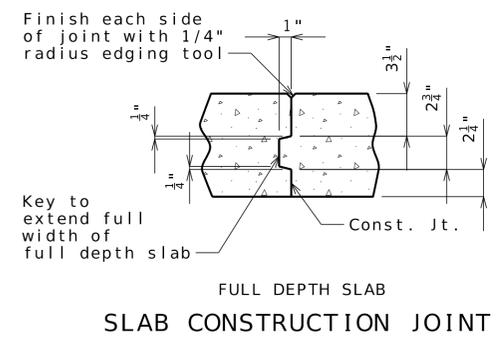
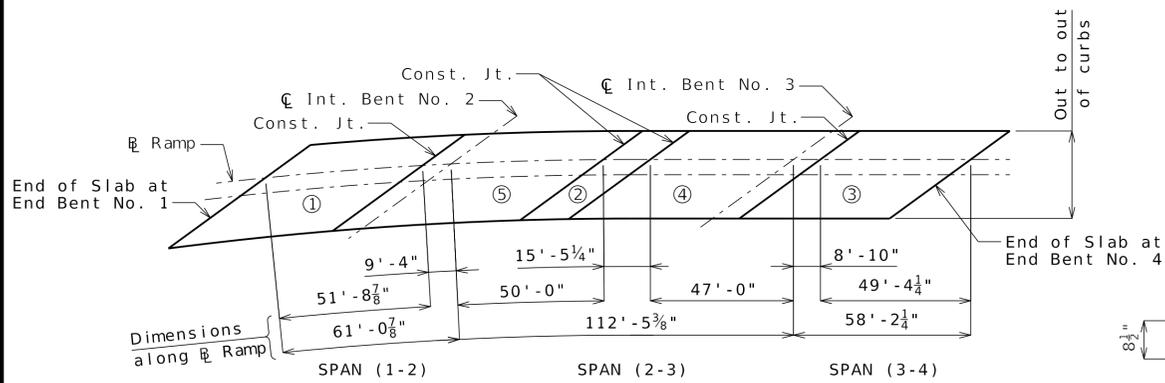
715 KIRK DRIVE KANSAS CITY, MO 64105-1310  
 13823 Barre Parkway Dr. Phone 314-294-3100  
 Suite 200 MO 63021  
  
 HNTB  
  
 ERK Moen  
 Civil Engineering Design  
 Certificate of Authority  
 No. 001270  
 Missouri Certificate of Authority: 061578



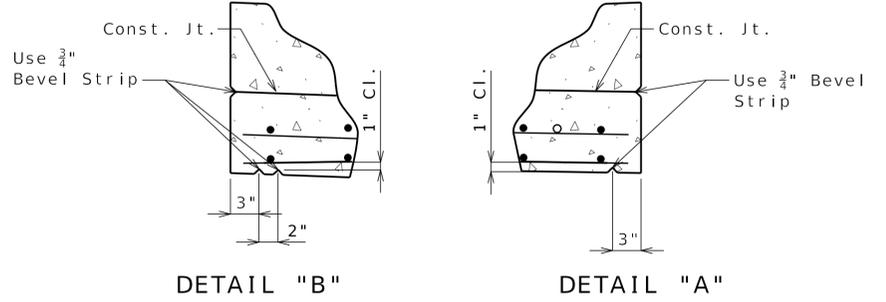
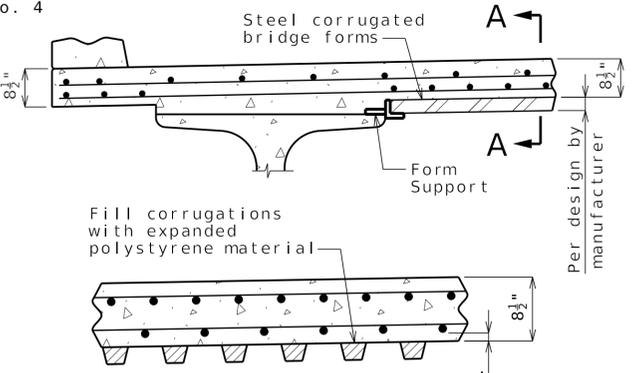
TYPICAL SECTION THRU SLAB  
(Shown normal to Ramp)



OPTIONAL SHIFTING TOP BARS AT BARRIER



FULL DEPTH SLAB  
SLAB CONSTRUCTION JOINT



Notes:  
 Barrier reinforcement not shown for clarity.  
 For Plan of Slab Showing Reinforcement and additional notes, see Sheet No. 32.  
 For metal deck form notes, see General Notes.  
 For stay-in-place form notes, see Sheet No. 3.  
 Contractor may shift bars as necessary to tie in barrier bars.

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

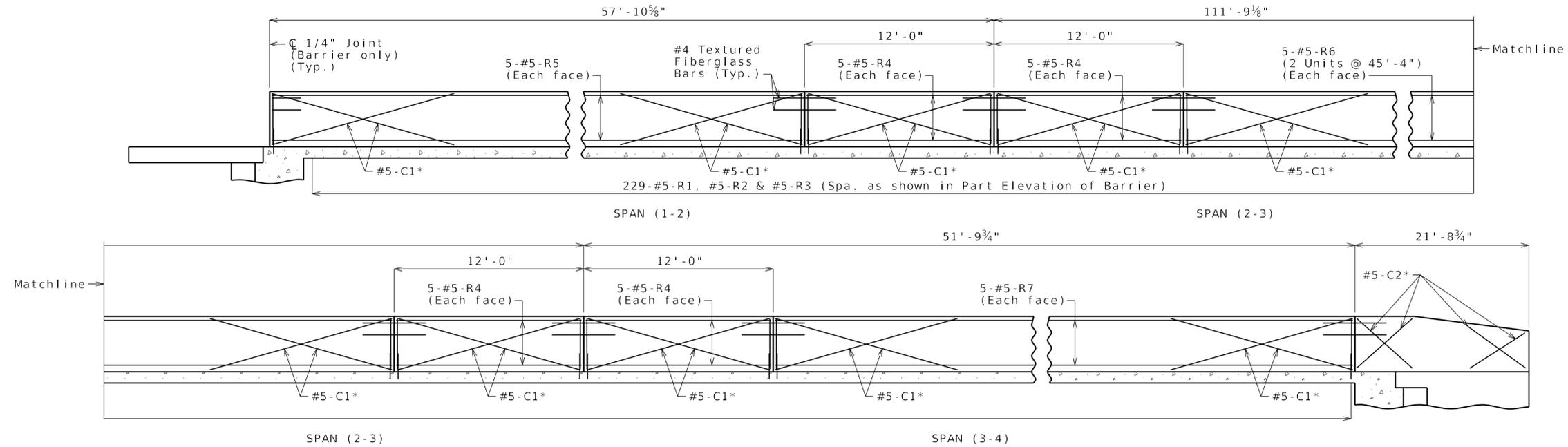
SLAB POURING SEQUENCE

The contractor shall pour and satisfactorily finish the slab pours at the rate given. Retarder, if used, shall be an approved type and retard the set of concrete to 2.5 hours.

SLAB DETAILS

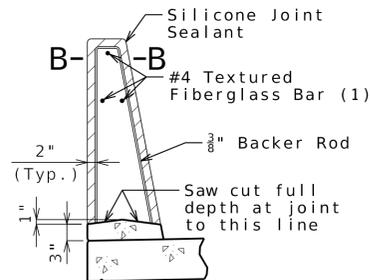


12/29/2025  
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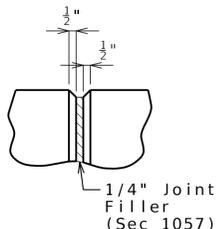


**ELEVATION OF BARRIER**

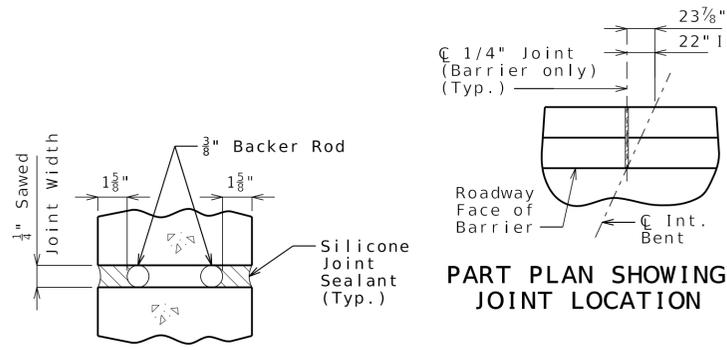
Longitudinal dimensions are horizontal.



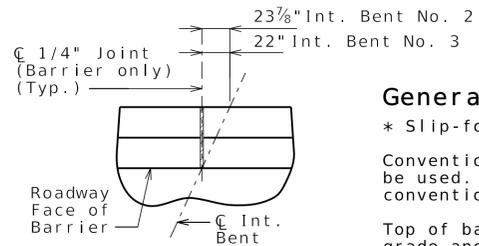
**SECTION THRU SAW CUT JOINT**



**PART ELEVATION AT FORMED JOINT**



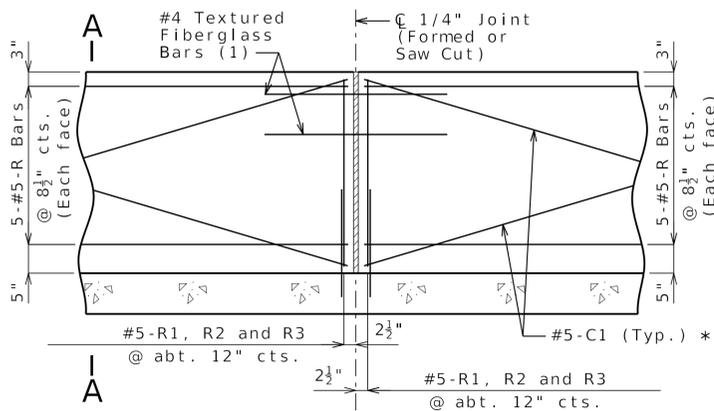
**SECTION B-B**



**PART PLAN SHOWING JOINT LOCATION**

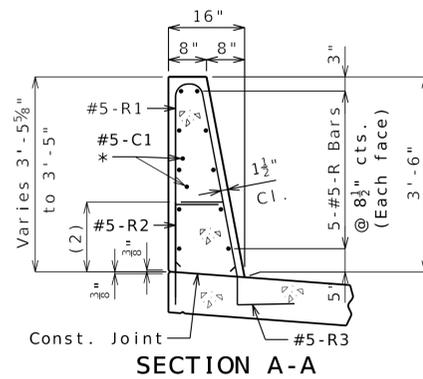
**General Notes:**

- \* 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.
- Concrete in barrier shall be Class B-1.
- Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617.
- Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides.
- Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.



**PART ELEVATION OF BARRIER**

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

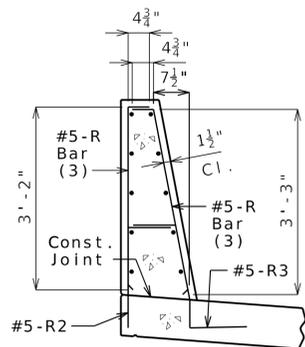


**SECTION A-A**

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

The cross-sectional area above the slab varies from 3.50 square feet to 3.47 square feet.

(2) Varies 14 3/8" to 13 3/4" to top of bar



**R-BAR PERMISSIBLE ALTERNATE SHAPE**

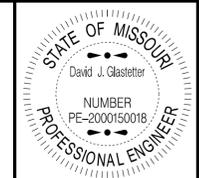
(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

**LEFT TYPE D BARRIER**

Detailed Oct. 2025  
Checked Oct. 2025

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

Sheet 30 of 45



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED  
**12/19/2025**

ROUTE STATE  
**I - 70 MO**

DISTRICT SHEET NO.  
**BR A9678-30**

COUNTY  
**ST. CHARLES**

JOB NO.  
**JST0020**

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
**A9678**

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

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



715 KIRK DRIVE KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY NO. 001270

**HNTB**

**ERK-Moen**

Civil Engineering Design

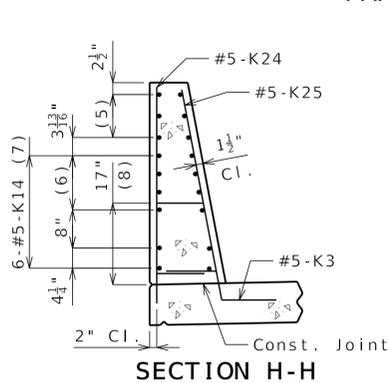
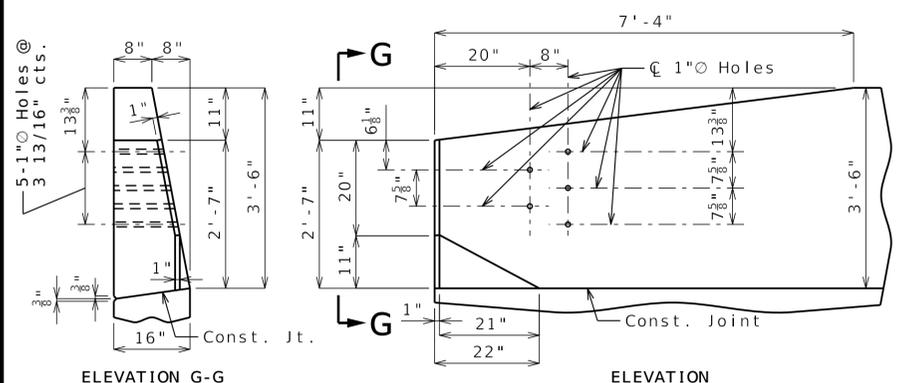
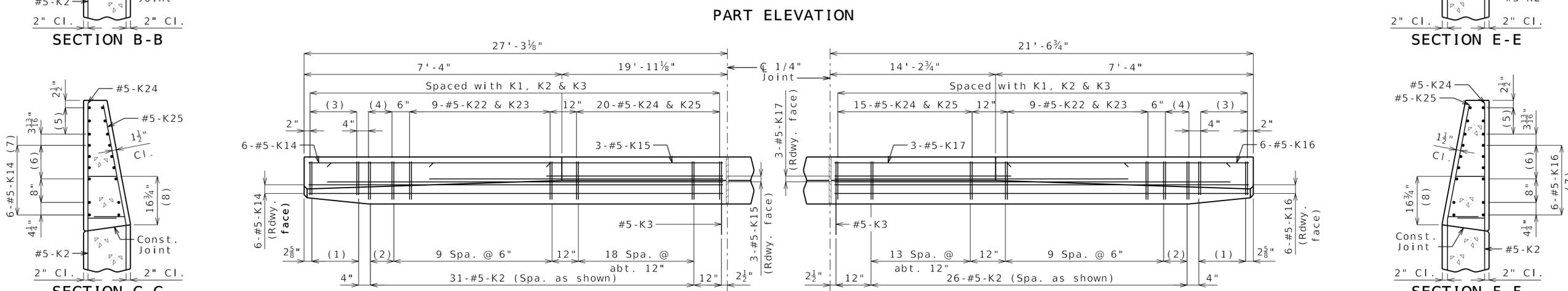
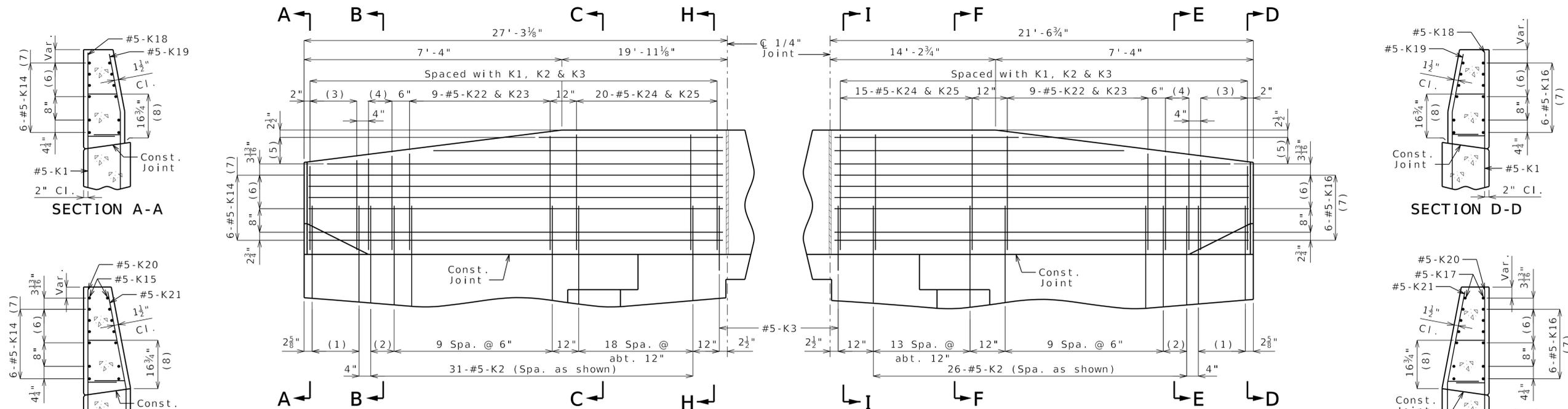
13823 Barre Parkway Dr. Phone 314-234-3100

St. Louis, MO 63021 Missouri Certificate of Authority: 061578

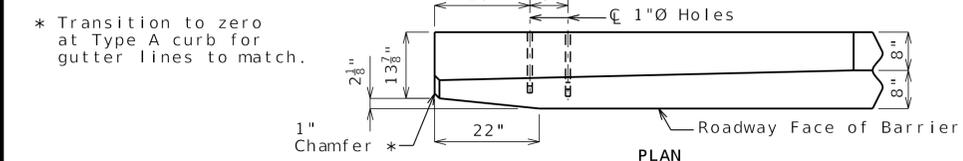
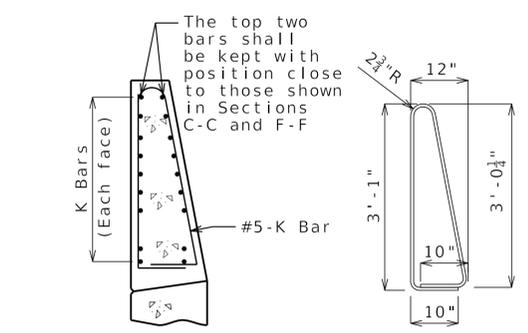
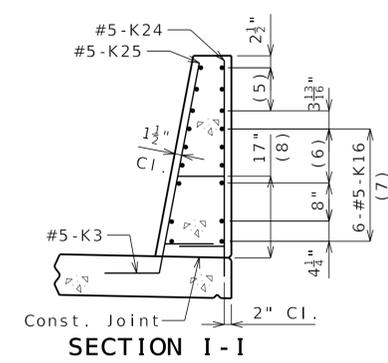




12/29/2025  
 Released for Construction



- (1) 5-#5-K1 @ 4" cts.
- (2) 2 spaces @ 4"
- (3) 5-#5-K18 & K19
- (4) 3-#5-K20 & K21
- (5) 3-#5-K15 or K17 @ 4 1/2" cts., each face
- (6) 3 spaces @ 3 13/8"
- (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. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

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



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 12/19/2025

ROUTE: I-70 STATE: MO

DISTRICT: BR SHEET NO.: A9678-33

COUNTY: ST. CHARLES

JOB NO.: JST0020

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.: A9678

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

**MoDOT**

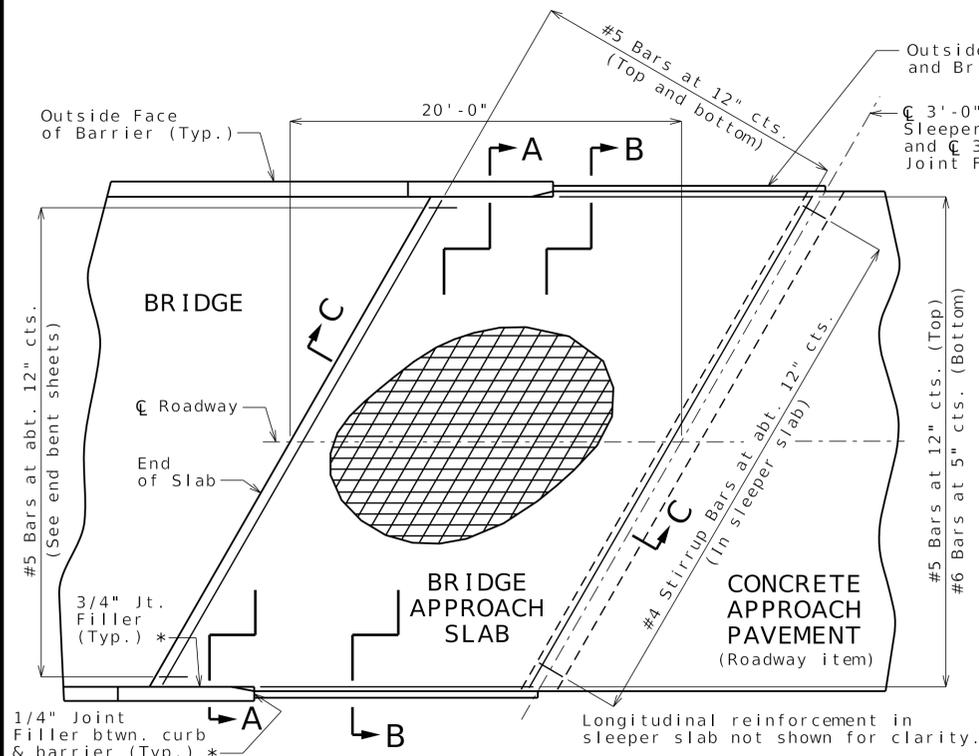
105 WEST CAPITOL JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOT (1-888-275-6636)



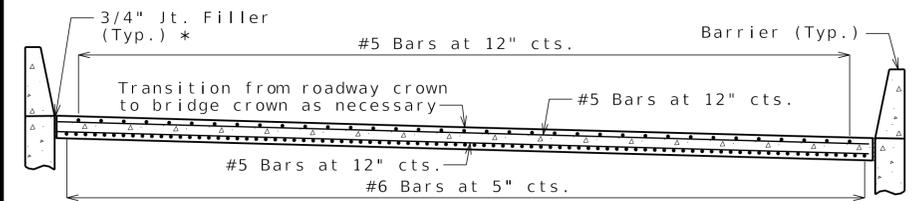
**HNTB** 715 KIRK DRIVE KANSAS CITY, MO 64105-1310

**ERK-Moen** Civil Engineering Design 1323 Barrows Parkway Dr. Suite 205 MO 63021 Phone: 314-294-3100

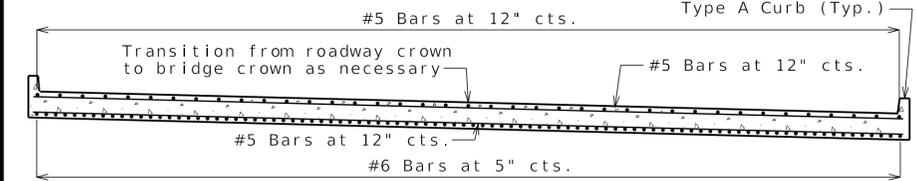
12/29/2025  
Released for Construction



PART PLAN SHOWING REINFORCEMENT

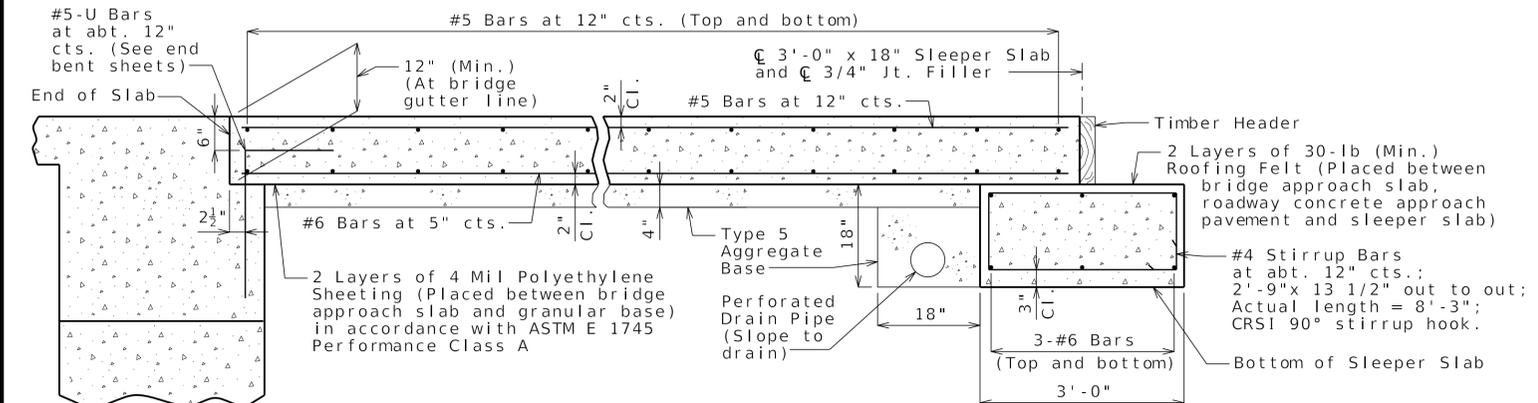


SECTION A-A

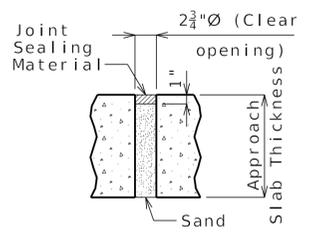


SECTION B-B

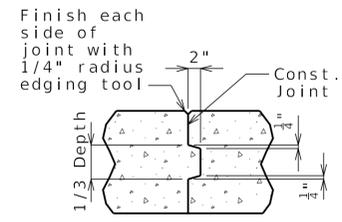
With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



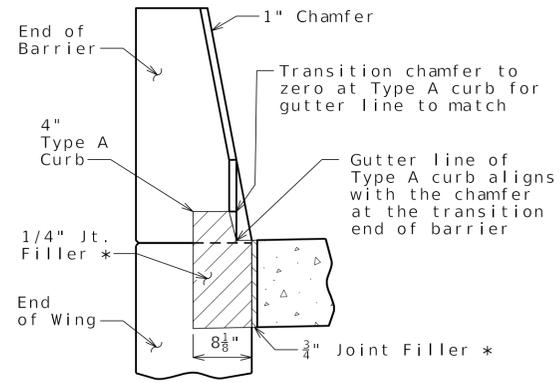
SECTION C-C



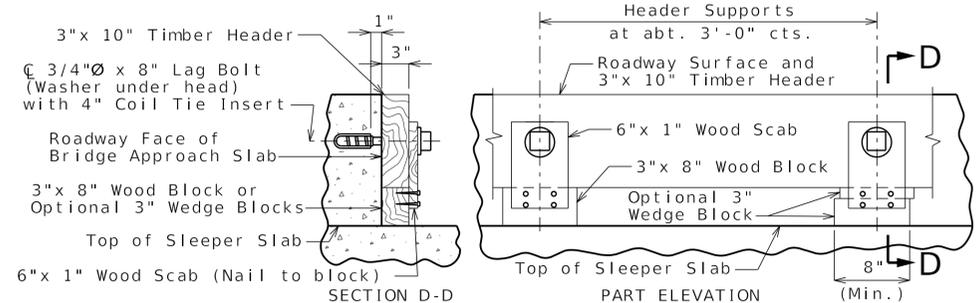
UNDERSEAL ACCESS HOLE DETAIL  
(If required)



CONSTRUCTION JOINT DETAIL



SECTION BETWEEN CURB AND BARRIER



DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

**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  $f_y = 60,000$  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.

Mechanical bar splices shall be in accordance with Sec 710.

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

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.

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

\* 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.



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED  
12/19/2025

ROUTE I-70 STATE MO

DISTRICT BR SHEET NO. A9678-34

COUNTY ST. CHARLES

JOB NO. JST0020

CONTRACT ID.

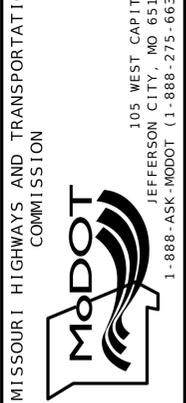
PROJECT NO.

BRIDGE NO. A9678

DESCRIPTION

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



715 KIRK DRIVE KANSAS CITY, MO 64105-1310  
CERTIFICATE OF AUTHORITY NO. 001270





12/29/2025  
Released for Construction

No. Req.	Size/Mark	Location	Dimensions										Nom. Length ft in.	Actual Length ft in.	Weight lb						
			Codes			B	C	D	E	F	H	K									
			C	SH	V	ft in.															
SUBSTRUCTURE																					
		INT. BENT NO. 2																			
16	6 D200	BEAM	20		2	3.000							2	3	2	3	54				
8	11 H200	BEAM	18		42	3.000							45	6	45	6	1934				
8	11 H201	BEAM	20		42	3.000							42	3	42	3	1796				
12	6 H202	BEAM	20		42	3.000							42	3	42	3	762				
16	6 H203	BEAM	10 S				15.000	4	9.000				7	3	6	11	166				
6	6 H204	BEAM	20		9	0.000							9	0	9	0	81				
6	6 H205	BEAM	20		18	3.000							18	3	18	3	164				
6	6 H206	BEAM	20		14	3.000							14	3	14	3	128				
15	6 U200	BEAM	10 S				4	7.000	4	9.000			13	11	13	7	306				
28	6 U201	BEAM	13 S		4	9.000	4	7.000	4	9.000	4	7.000	20	0	19	6	820				
33	4 U202	BEAM	10 S				12.000	4	9.000				6	9	6	7	145				
240	5 P200	SHAFT	34 S		11	0.000	4	4.500					12	0	12	0	3004				
39	6 P201	BEAM	34 S		11	0.000	4	4.500					12	6	12	6	732				
19	11 V200	SHAFT	20		45	1.000							45	1	45	1	4551				
19	11 V201	SHAFT	20		44	2.000							44	2	44	2	4458				
19	11 V202	SHAFT	20		43	2.000							43	2	43	2	4358				
INT. BENT NO. 3																					
23	6 D300	BEAM	20		2	3.000							2	3	2	3	78				
8	11 H300	BEAM	18		42	3.000							45	6	45	6	1934				
8	11 H301	BEAM	20		42	3.000							42	3	42	3	1796				
12	6 H302	BEAM	20		42	3.000							42	3	42	3	762				
16	6 H303	BEAM	10 S				15.000	4	9.000				7	3	6	11	166				
6	6 H304	BEAM	20		9	11.000							9	11	9	11	89				
6	6 H305	BEAM	20		17	0.000							17	0	17	0	153				
6	6 H306	BEAM	20		14	10.000							14	10	14	10	134				
15	6 U300	BEAM	10 S				4	7.000	4	9.000			13	11	13	7	306				
28	6 U301	BEAM	13 S		4	9.000	4	7.000	4	9.000	4	7.000	20	0	19	6	820				
28	4 U302	BEAM	10 S				4	7.000	4	9.000			13	11	13	9	257				
228	5 P300	SHAFT	34 S		11	9.000	4	4.500					12	9	12	9	3032				
39	6 P301	BEAM	34 S		11	9.000	4	4.500					13	3	13	3	776				
19	11 V300	SHAFT	20		42	5.000							42	5	42	5	4282				
19	11 V301	SHAFT	20		42	0.000							42	0	42	0	4240				
19	11 V302	SHAFT	20		41	7.000							41	7	41	7	4198				
SUPERSTRUCTURE																					
END BENT NO. 1																					
13	6 F100	WING BRACE	E 23 S		20.000	13	6.000	20.000	3.250	19.750	3.250	19.750	16	10	16	10	329				
4	6 F101	DIAPHRAGM	E 21 S			16	4.000	8	3.000				7	9.250	14	4.375	24	7	24	7	148
4	6 F102	DIAPHRAGM	E 21 S			7	6.000	8	5.000				4	4.125	7	2.000	15	11	15	11	96
16	6 H100	BEAM & DIAPHRAGM	E 20		32	1.000							32	1	32	1	771				
30	7 H101	BEAM & DIAPHRAGM	E 20		32	5.000							32	5	32	5	1988				
6	6 H102	DIAPHRAGM	E 20		16	9.000							16	9	16	9	151				
2	6 H103	DIAPHRAGM	E 20		11	7.000							11	7	11	7	35				
3	6 H104	DIAPHRAGM	E 20		9	10.000							9	10	9	10	44				
1	6 H105	DIAPHRAGM	E 20		7	3.000							7	3	7	3	11				
3	6 H106	DIAPHRAGM	E 20		9	4.000							9	4	9	4	42				
1	6 H107	DIAPHRAGM	E 20		6	9.000							6	9	6	9	10				
10	6 H108	BEAM	E 20		23	0.000							23	0	23	0	345				
5	6 H109	BEAM	E 20		19	3.000							19	3	19	3	145				
3	5 H110	STRAND TIE	E 23 S		15.000	3	2.375	15.000	12.750	7.875	12.750	7.875	5	8	5	7	17				
8	8 H111	WING	E 6		20	10.000	12.000						21	10	21	5	457				
28	8 H112	WING	E 6		19	10.000	12.000						20	10	20	5	1526				
25	5 U100	BEAM	E 10 S			6	8.000	7	8.000				21	0	20	9	541				
31	4 U101	BEAM	E 13 S		7	8.000	2	8.000	7	8.000	2	8.000	21	5	21	2	438				
8	4 U102	BEAM	E 10 S			2	8.000	7	8.000				13	0	12	10	69				
39	5 U103	DIAPHRAGM	E 10 S			3	9.000	7	8.000				15	2	14	11	607				
39	6 U104	DIAPHRAGM	E 19 S		2	10.000	7	8.000					10	6	10	4	605				
27	5 U105	DIAPHRAGM	E 19 S		2	0.000	15.000						3	3	3	2	89				
39	4 U106	BEAM	E 10 S			12.000	7	8.625					9	9	9	7	250				
69	6 U107	DIAPHRAGM	E 19 S		2	8.000	9	0.000					11	8	11	6	1192				

No. Req.	Size/Mark	Location	Dimensions										Nom. Length ft in.	Actual Length ft in.	Weight lb				
			Codes			B	C	D	E	F	H	K							
			C	SH	V	ft in.													
28	5 V100	BEAM	E 20		6	8.000							6	8	6	8	195		
27	6 V101	DIAPHRAGM	E 20		3	2.000							3	2	3	2	128		
2	6 V102	WING	E 20		7	2.000							7	2	7	2	22		
36	6 V103	WING	E 20		7	3.000							7	3	7	3	392		
INCR=0 1/4 IN																			
INT. BENT NO. 2																			
2	6 H200	DIAPHRAGM	E 20		15	0.000							15	0	15	0	45		
6	4 H201	DIAPHRAGM	E 20		15	0.000							15	0	15	0	60		
2	6 H202	DIAPHRAGM	E 20		11	2.000							11	2	11	2	34		
2	6 H203	DIAPHRAGM	E 20		16	0.000							16	0	16	0	48		
4	4 H204	DIAPHRAGM	E 20		16	0.000							16	0	16	0	43		
2	4 H205	DIAPHRAGM	E 20		11	6.000							11	6	11	6	15		
2	6 H206	DIAPHRAGM	E 20		11	6.000							11	6	11	6	35		
1	6 H207	DIAPHRAGM	E 21		2	0.000	3	6.000				2	11.750	22	12.5	5	6	1	8
1	6 H208	DIAPHRAGM	E 20		11	1.000							11	1	11	1	17		
1	6 H209	DIAPHRAGM	E 21		2	1.000	3	5.000				2	10.875	21	5.00	5	6	1	8
4	5 H210	STRAND TIE	E 21 S		15.000	3	3.000					2	7.875	22	5.00	4	6	2	17
2	5 H211	STRAND TIE	E 23 S		15.000	3	3.000	15.000	12.250	8.625	12.250	8.625	5	9	5	8	12		
24	4 U200	DIAPHRAGM	E 28 S				15.000	4	8.000	4	10.000		10	9	10	7	170		
16	6 U201	DIAPHRAGM	E 28 S				22.000	3	7.000	8	0.000		13	5	13	1	314		
2	6 U202	DIAPHRAGM	E 28 S				22.000	3	7.000	4	0.000		9	5	9	1	27		
6	6 U203	DIAPHRAGM	E 28 S				22.000	3	7.000	2	1.000		7	6	7	2	65		
4	5 U204	DIAPHRAGM	E 21 S		18.000	15.000	4	5.000				14.875	3	5.00	7	2	6	11	29
4	5 U205	DIAPHRAGM	E 38 S		16.750	7.750	7.000	3	7.000	12.000	1.625	6.875	7	2	6	11	29		
1	5 U206	DIAPHRAGM	E 21 S		16.375	4	5.000					15.875	3	5.00	7	6	6		
1	5 U207	DIAPHRAGM	E																

















