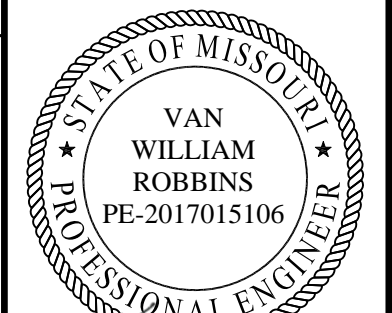


MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

I-70 EB OVER TRUMAN
SEC/SUR 3 TWP 49N RGE 33W

Note:
See Civil Package 2: Early Grading for project reference points and project coordinate points.



Van W. Roll
10-08-25

DATE PREPARED
09/22/2025

ROUTE	STATE
I - 70	MO
DISTRICT	SHEET NO.
BR	B20-01

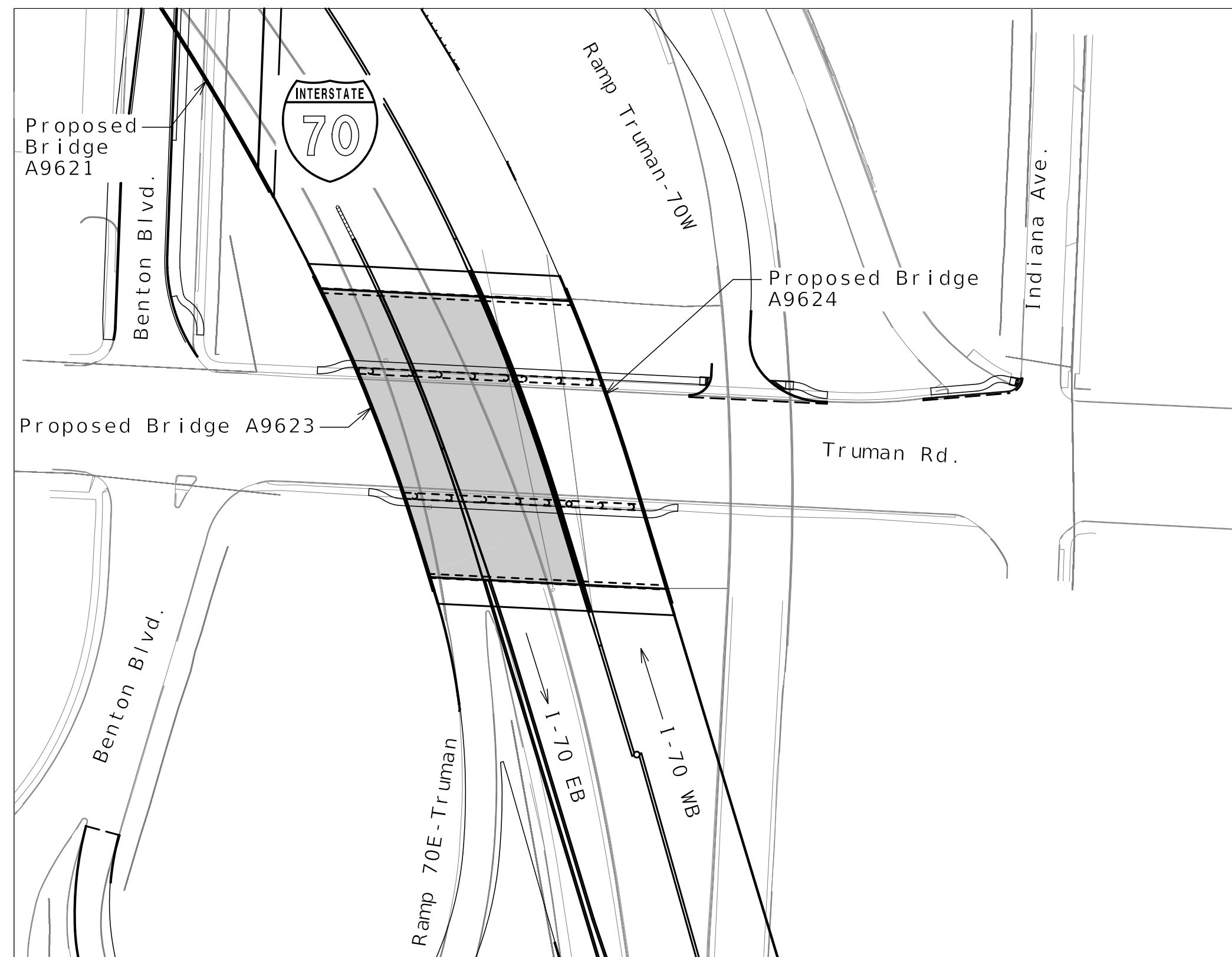
COUNTY
JACKSON

JOB NO.
J411486D

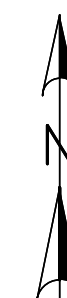
CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9623



LOCATION SKETCH



INDEX OF DRAWINGS

- B20-01 Title Sheet and Index
- B20-02 General Plan and Elevation
- B20-03 General Notes
- B20-04 Substructure Layout
- B20-05 Details of End Bent No. 1
- B20-06 Details of End Bent No. 1
- B20-07 Details of End Bent No. 1
- B20-08 Vertical Drain at End Bents
- B20-09 Details of Intermediate Bent No. 2
- B20-10 Details of Intermediate Bent No. 2
- B20-11 Details of Intermediate Bent No. 3
- B20-12 Details of Intermediate Bent No. 3
- B20-13 Details of Intermediate Bents
- B20-14 Pipe Pile Point Details
- B20-15 Details of End Bent No. 4
- B20-16 Details of End Bent No. 4
- B20-17 Details of End Bent No. 4
- B20-18 Framing Plan
- B20-19 NU-Girders - Span (1-2)
- B20-20 NU-Girders - Span (2-3)
- B20-21 NU-Girders - Span (3-4)
- B20-22 NU-Girder Details
- B20-23 Concrete Diaphragm at Intermediate Bents
- B20-24 Camber Diagram & Theoretical Slab Haunching Diagram
- B20-25 Theoretical Bottom of Slab Elevations
- B20-26 Slab Plan Showing Top Reinforcement
- B20-27 Slab Plan Showing Bottom Reinforcement
- B20-28 Slab Details
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- B20-30 Slab Curve Ordinates
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- B20-35 Light Blister Details
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- B20-39 As-Built Pile Data
- B20-40 Boring Logs
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- B20-54 Boring Logs

DATE	DESCRIPTION
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER JOINT VENTURE

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

BRIDGE: ROUTE I-70 EB OVER TRUMAN ROAD

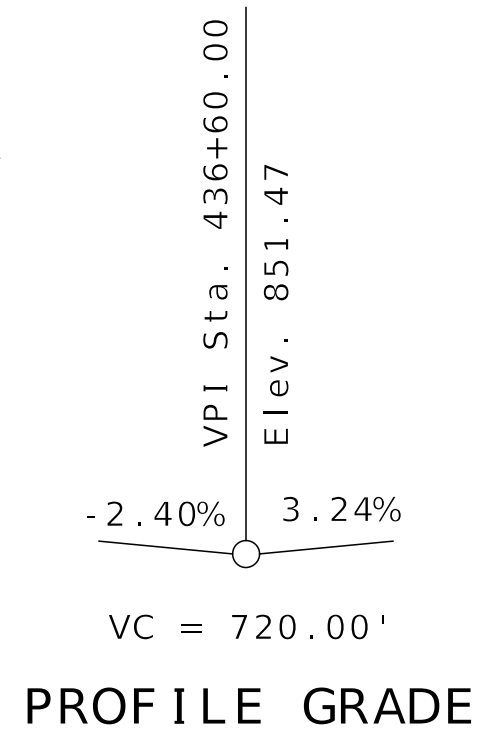
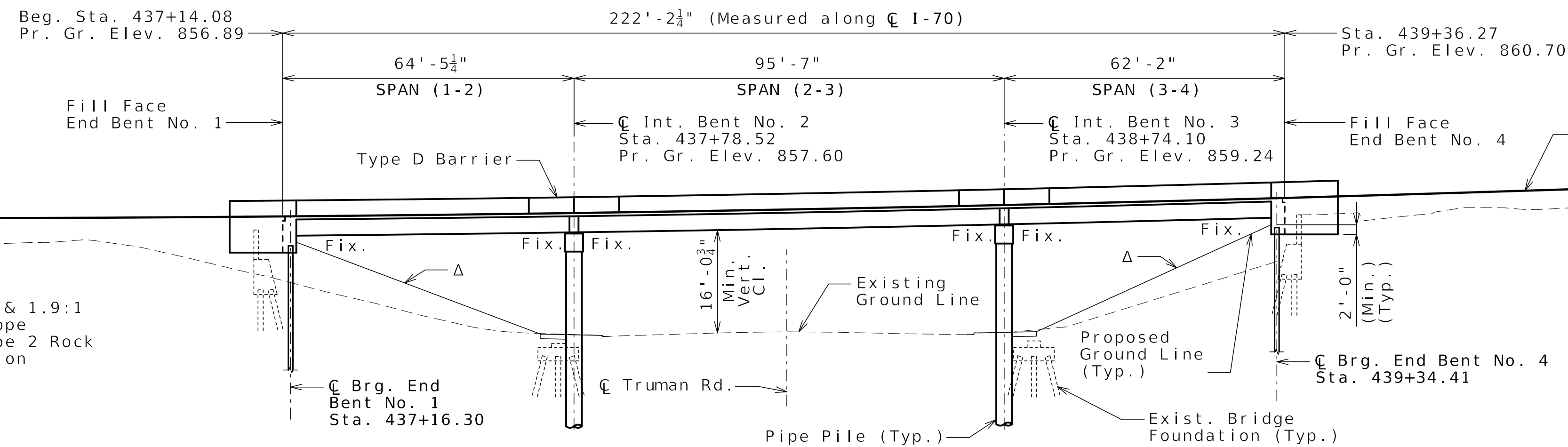
ROUTE I-70 EB FROM ROUTE I-670 TO ROUTE 40
ABOUT 1.5 MILES EAST OF ROUTE I-670
BEGINNING STATION 437+14.08

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B20-01 of B20-54

(64.4'-95.6'-62.2') Prestressed Concrete NU Girder Spans

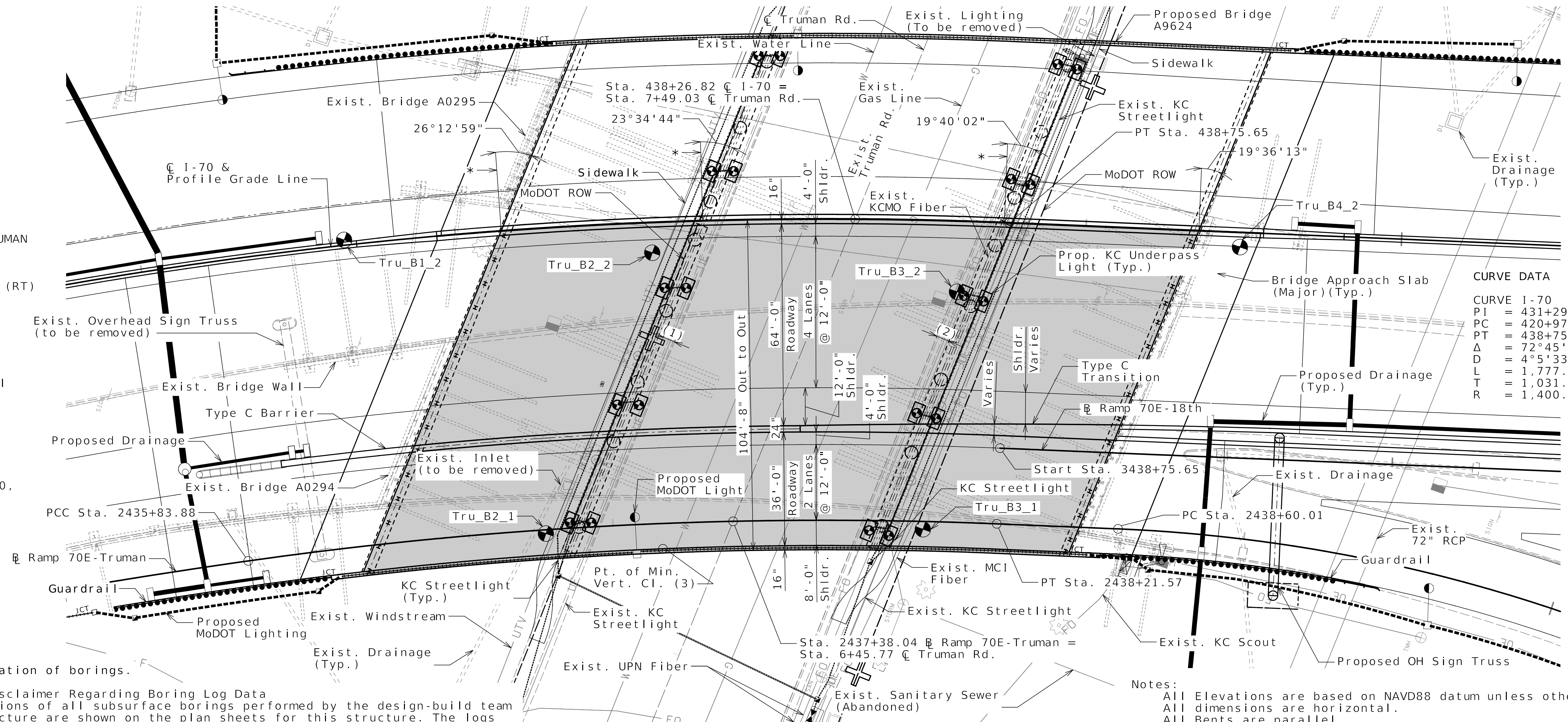


ELEVATION

CURVE DATA
 CURVE RAMP 70E-TRUMAN
 PI = 2437+03.06
 PC = 2435+83.88
 PT = 2438+21.57
 Δ = 10°26'20.5" (RT)
 D = 4°23'31.3"
 L = 237.68'
 T = 119.17'
 R = 1,304.54'

CURVE DATA
 CURVE I-70
 PI = 431+29.21
 PC = 420+97.79
 PT = 438+75.65
 Δ = 72°45'36.2" (RT)
 D = 4°5'33.2"
 L = 1,777.86'
 T = 1,031.42'
 R = 1,400.00'

Minimum Horizontal Clearance to edge of existing lane:
 (1) 3'-9 3/4"
 (2) 4'-1 1/8"
 (3) Sta. 437+64.00, 103.21' Rt. C I-70

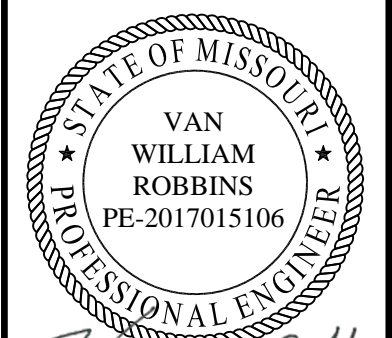


Notice and Disclaimer Regarding Boring Log Data
 The locations of all subsurface borings performed by the design-build team for this structure are shown on the plan sheets for this structure. The logs for all locations indicated are provided on Sheets No. B20-40 thru B20-54. Laboratory test results, rock core photographs and other information obtained at these borings are available in the corresponding Foundation Recommendations Memo prepared by HNTB. By the nature of the exploration process, the information gathered at these borings represents only a small fraction of the total volume of material at the Site. Interpolation between data samples may not be indicative of the nature and extent of the variations that actually exist between sampling locations.

Notes:
 All Elevations are based on NAVD88 datum unless otherwise noted.
 All dimensions are horizontal.
 All Bents are parallel.
 Existing Bridge A0320 to be removed in accordance with Sec. 216.
 Existing structures & foundations shown may not represent what is left in place after removal.
 For pile tip elevations, see Sheets No. B20-09 and B20-11.
 See Civil Package 6: I-70 Mainline for Truman Road typical section and underpass KC Streetlight attachment details.

PLAN
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 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman

GENERAL PLAN AND ELEVATION



Van W. Robbins
 10-08-25
 DATE PREPARED
 09/22/2025
 ROUTE STATE
 I-70 MO
 DISTRICT SHEET NO.
 BR B20-02
 COUNTY
 JACKSON
 JOB NO.
 J411486D
 CONTRACT ID.
 240807-C01
 PROJECT NO.

BRIDGE NO.
 A9623

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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

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

Design Loading:
 Vehicular = HL-93
 Future Wearing Surface = 35 lb/sf
 Earth - 120 lb/cf
 Equivalent Fluid Pressure - 45 lb/cf
 Superstructure: Simply-Supported, non-composite for dead load, Continuous composite for live load.

Design Unit Stresses:
 Class B Concrete (End Bents below Const. Jt.) $f'c = 3,000$ psi
 Class B-1 Concrete (Intermediate Bents Capbeam and Pipe Pile Fill) $f'c = 4,000$ psi
 Class B-2 Concrete (Superstructure, except Prestressed Girders and Type D Barrier) $f'c = 4,000$ psi
 Class B-1 Concrete (Type D Barrier) $f'c = 4,000$ psi
 Reinforcing Steel (ASTM A615 Grade 60) $f_y = 60,000$ psi
 Structural HP Steel Pile (ASTM A709 Grade 50) $f_y = 50,000$ psi
 Welded or Seamless steel shell (pipe) for pile (ASTM A252 Grade 3) $f_y = 45,000$ psi
 For prestressed girder stresses, see Sheets No. B20-19 thru B20-21.

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.

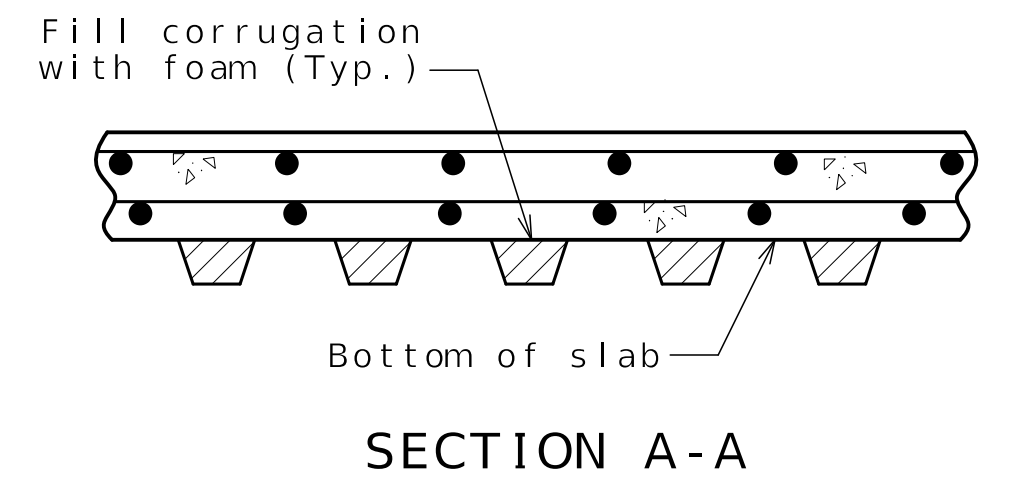
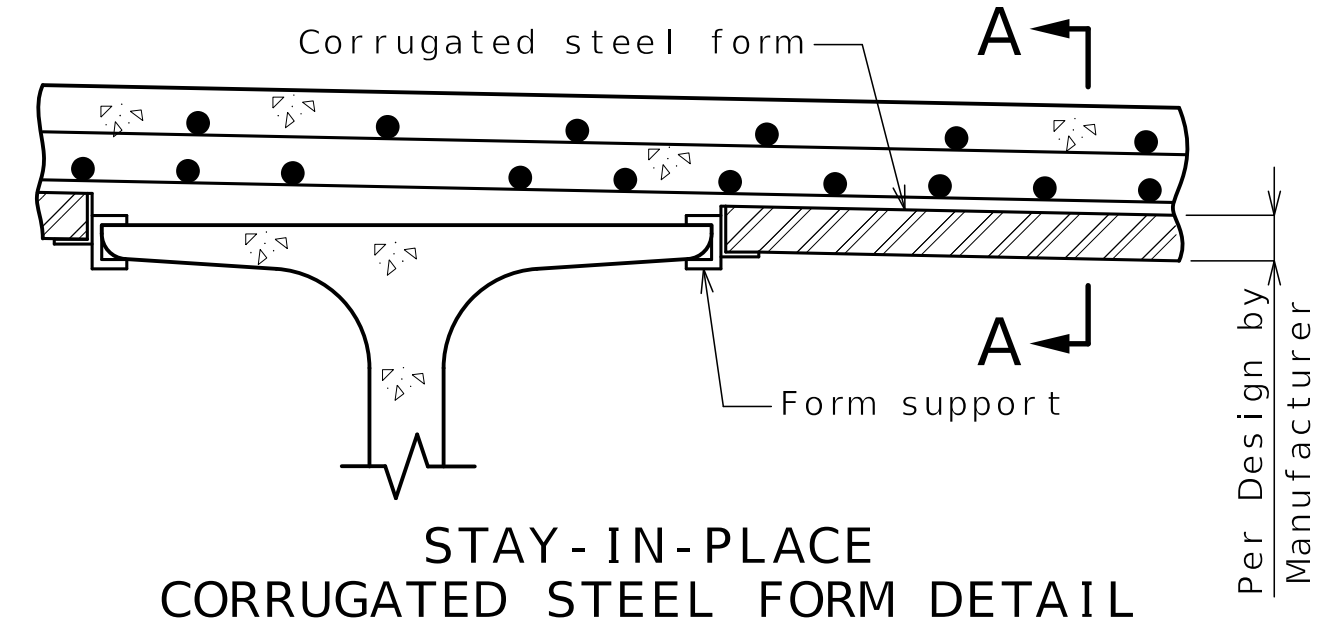
Reinforcing Steel:
 Minimum clearance to reinforcing steel shall be 1-1/2", unless otherwise shown.
 All reinforcing shall be epoxy coated.

Concrete Protective Coatings:
 Concrete and masonry protective coating shall be applied to concrete columns and on all exposed concrete and stone areas as noted in the plans in accordance with Sec 711. See Sheet No. B20-36.

Sacrificial graffiti protective coating shall be applied to concrete columns and on all exposed concrete and stone areas as noted in the plans in accordance with Sec 711. See Sheet No. B20-36.

Miscellaneous:
 Outline of old work is indicated by light dashed lines. Heavy lines indicate new work U.N.O.

Abbreviations:
 E.F. denotes Each Face
 N.F. denotes Near Face
 F.F. denotes Far face
 U.N.O. denotes Unless Noted Otherwise



STAY-IN-PLACE CORRUGATED STEEL FORM DETAIL

SECTION A-A

Stay-In-Place Corrugated Steel Form Notes:

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

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

Form sheets shall not rest directly on the top of girder flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. 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.

Foundation Data					
Type	Design Data	Bent Number			
		1	2	3	4
Load Bearing Pile	Pile Type and Size	HP 12x74	PP Varies(2)	PP Varies(2)	HP 12x74
	Number	ea 15	5	5	15
	Approximate Length Per Each (1)	ft 105	107	108	117
	Pile Point Reinforcement	ea All	All	All	All
	Min. Galvanized Penetration (Elev.)	ft 814	810	810	814
	Minimum Tip Penetration (Elev.)	ft ---	---	---	---
	Criteria for Min. Tip Penetration	---	---	---	---
	Pile Driving Verification Method	DT	DT	DT	DT
	Resistance Factor	0.65	0.65	0.65	0.65
	Minimum Nominal Axial Compressive Resistance	kip 312	2168	2168	287

(1) Pile length is maximum estimated for each bent and includes embedment into concrete at the end bents. Adjust as needed for bottom of concrete variations at each bent.

(2) Pipe pile size shall be 48"Ø x 7/8" or 48"Ø x 3/4" with transitions as shown on Sheets No. B20-09 and B20-11.

RFI 76
 Use 1879 kips if ALL piles in a bent are verified via DT

Load Bearing Piles:
 Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor
 All piles shall be galvanized down to the minimum galvanized penetration (elevation).
 Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.
 The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.
 DT=Dynamic Testing

Debris and rubble was observed during geotechnical boring operations down to elevation 811 at Intermediate Bents 2 & 3, respectively. Additionally, utilities to remain are present in the Truman Road area. Prebore is recommended for Intermediate Bents No. 2 & 3 pipe piles. During pile driving operations, sand shall be placed in annular space around the pile in the prebored hole. Level of sand should be maintained at or near ground line during pile driving.

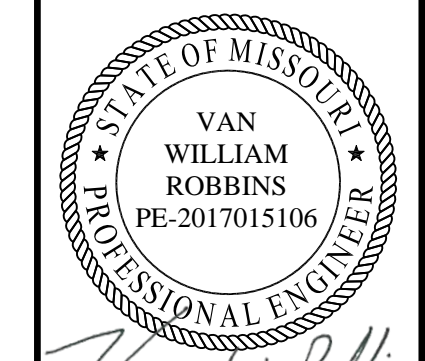
Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman

GENERAL NOTES

Detailed MAY 2025
 Checked JUN 2025

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

Sheet No. B20-03 of B20-54



Van W. Robb
 10-08-25

DATE PREPARED
 09/22/2025

ROUTE STATE
 I-70 MO
 DISTRICT SHEET NO.
 BR B20-03

COUNTY
 JACKSON

JOB NO.
 J411486D

CONTRACT ID.
 240807-C01

PROJECT NO.

BRIDGE NO.
 A9623

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER JOINT VENTURE

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



Gina D. Horner
10-8-2025

DATE PREPARED
09/22/2025

ROUTE STATE
I-70 MO
DISTRICT SHEET NO.
BR B20-04

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

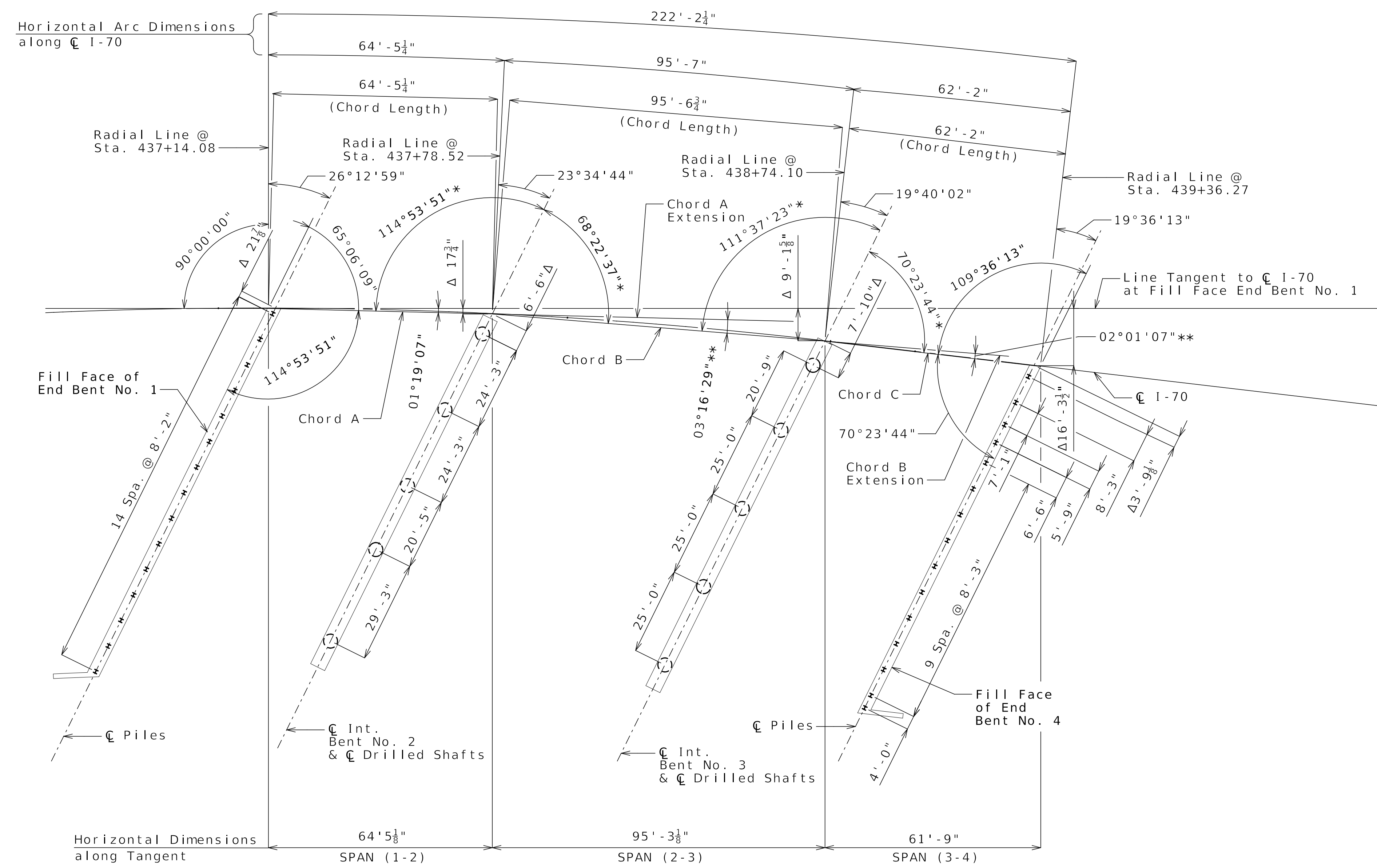
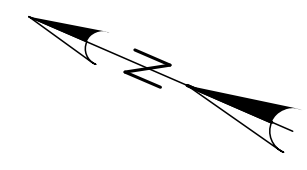
PROJECT NO.
BRIDGE NO.
A9623

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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



SUBSTRUCTURE LAYOUT

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 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman

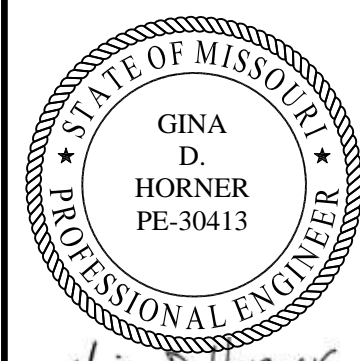
Notes:
 All stations are given along C I-70.
 All dimensions are horizontal.
 * Angle between C Bent and chord.
 ** Angle between extended chord and chord.
 Δ Measured to C I-70

SUBSTRUCTURE LAYOUT

Detailed MAY 2025
 Checked JUN 2025

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

Sheet No. B20-04 of B20-54



GINA D. HORNER
PE-30413

DATE PREPARED
10-8-2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B20-05

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

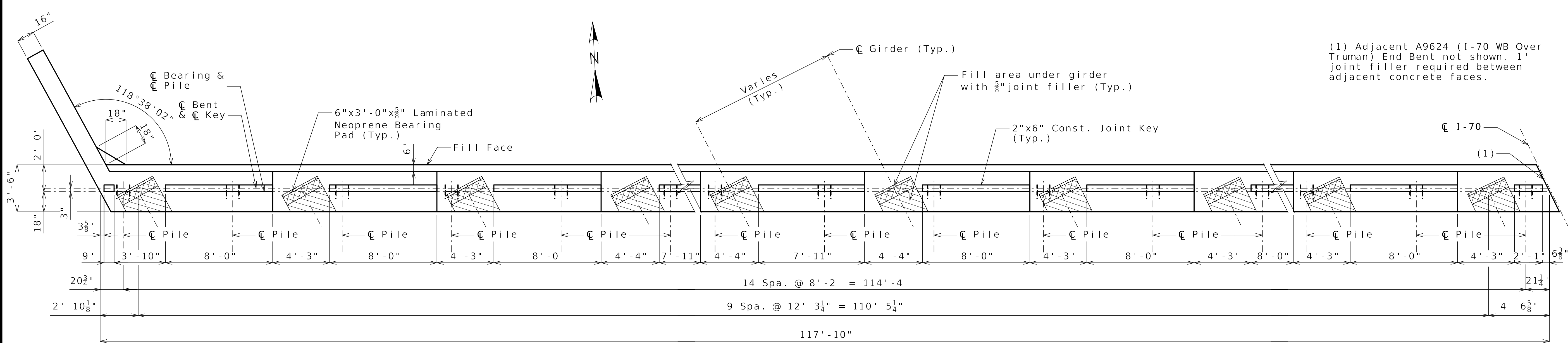
PROJECT NO.

BRIDGE NO.
A9623

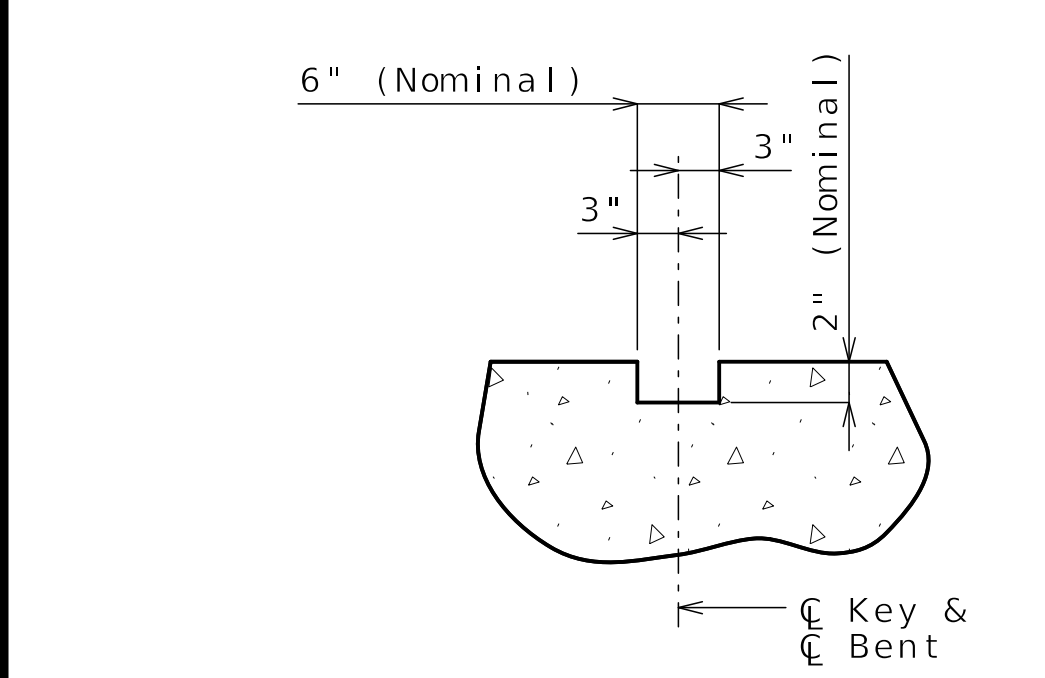
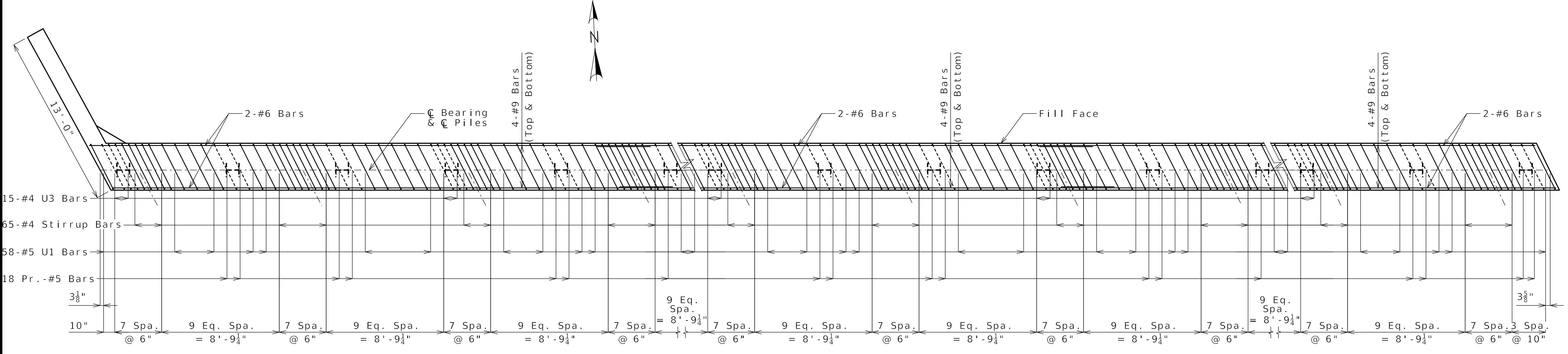
DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

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

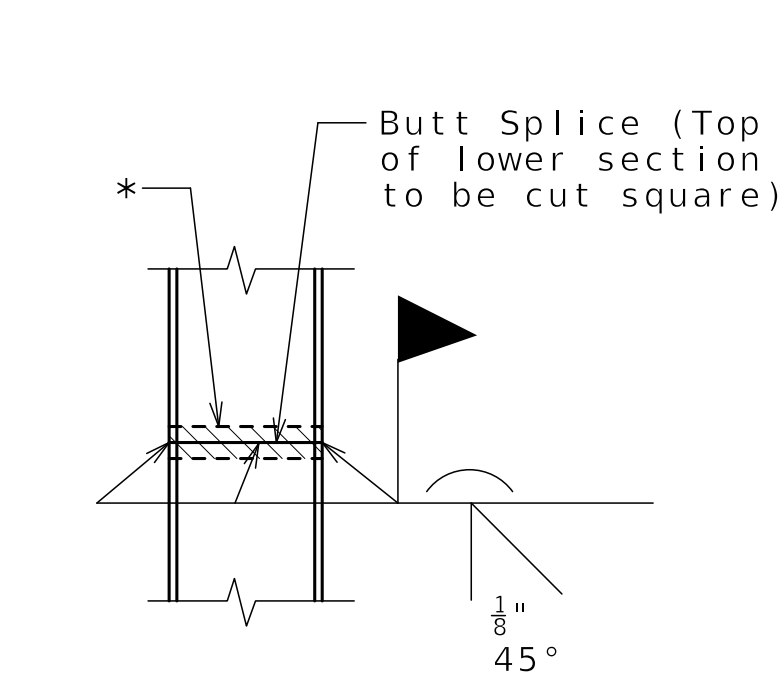
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270
HNTB



PLAN OF BEAM

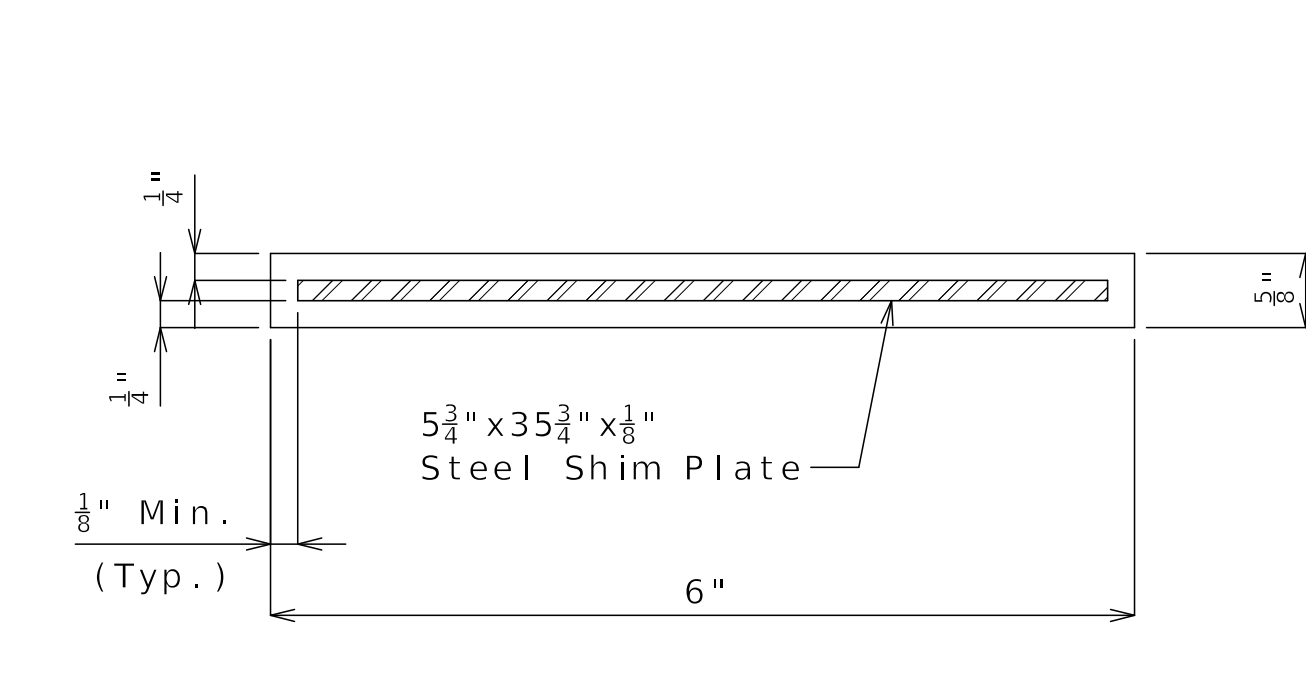


SECTION THRU KEY



STEEL PILE SPLICE (If required)

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



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD

10 Required

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Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

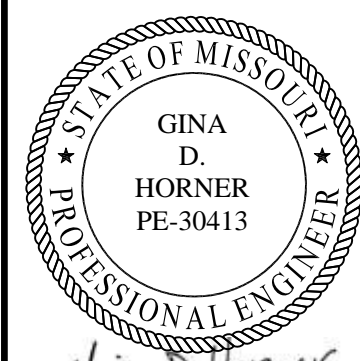
Notes:
Work this sheet with Sheets No. B20-06 and B20-07.
All U bars and pairs of vertical bars shall be placed along skew.
Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".
For angles of girders relative to C Bearing, see Sheet No. B20-18.
For details of bridge approach slab, see Sheet No. B20-38.

DETAILS OF END BENT NO. 1

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B20-05 of B20-54



Gina D. Horner
10-8-2025

DATE PREPARED
09/22/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B20-06

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9623

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE 09/22/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL JEFFERSON CITY, MO 65102

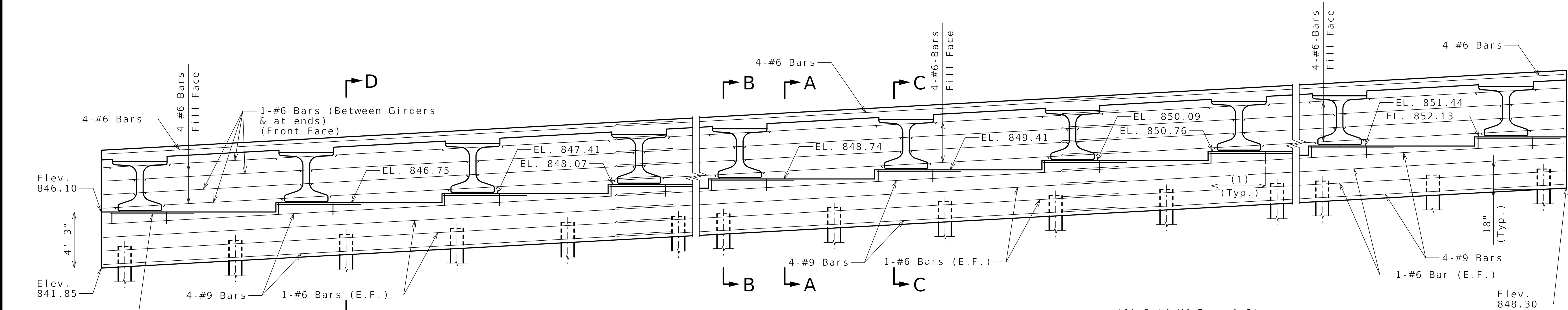
1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY NO. 001270

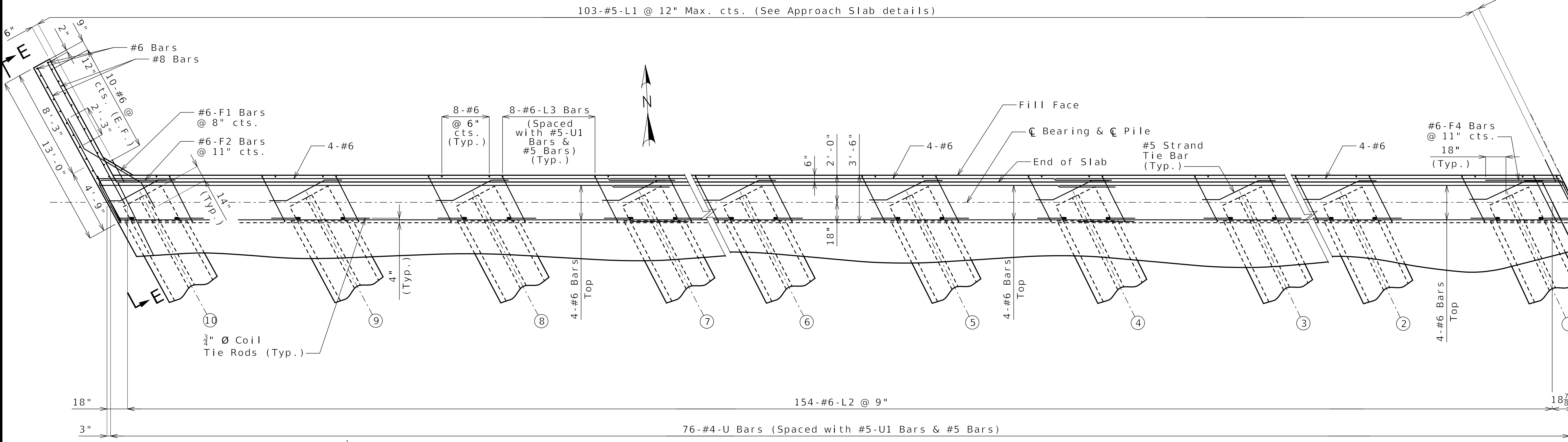
HNTB



SECTION NEAR END BENT

Notes:
Lap Splice for #6 bars = 4'-3" (Min.)
Lap Splice for #9 bars = 6'-5" (Min.)

(1) 9-#4-U4 Bars @ 6" Spa. under girders. Bars shall be placed normal to C Bent and parallel to beam step. (Typ.)



PART PLAN

General Notes:
Work this sheet with Sheets No. B20-05 and B20-07.
For Sections A-A, B-B, C-C and D-D and Elevation E-E, see Sheet No. B20-07.
For location of coil tie rods, see Sheet No. B20-19.
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.
The #6-F bars shall be bent in the field to clear girders.

(X) Denotes girder number

DETAILS OF END BENT NO. 1

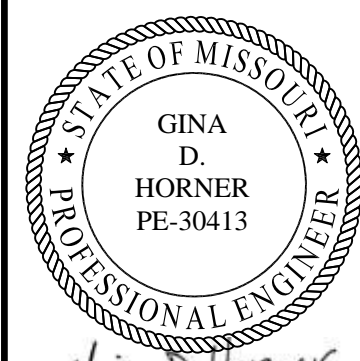
Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

#5 STRAND TIE BAR

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B20-06 of B20-54



Gina D. Horner
PE-30413
10-8-2025

DATE PREPARED
09/22/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B20-07

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

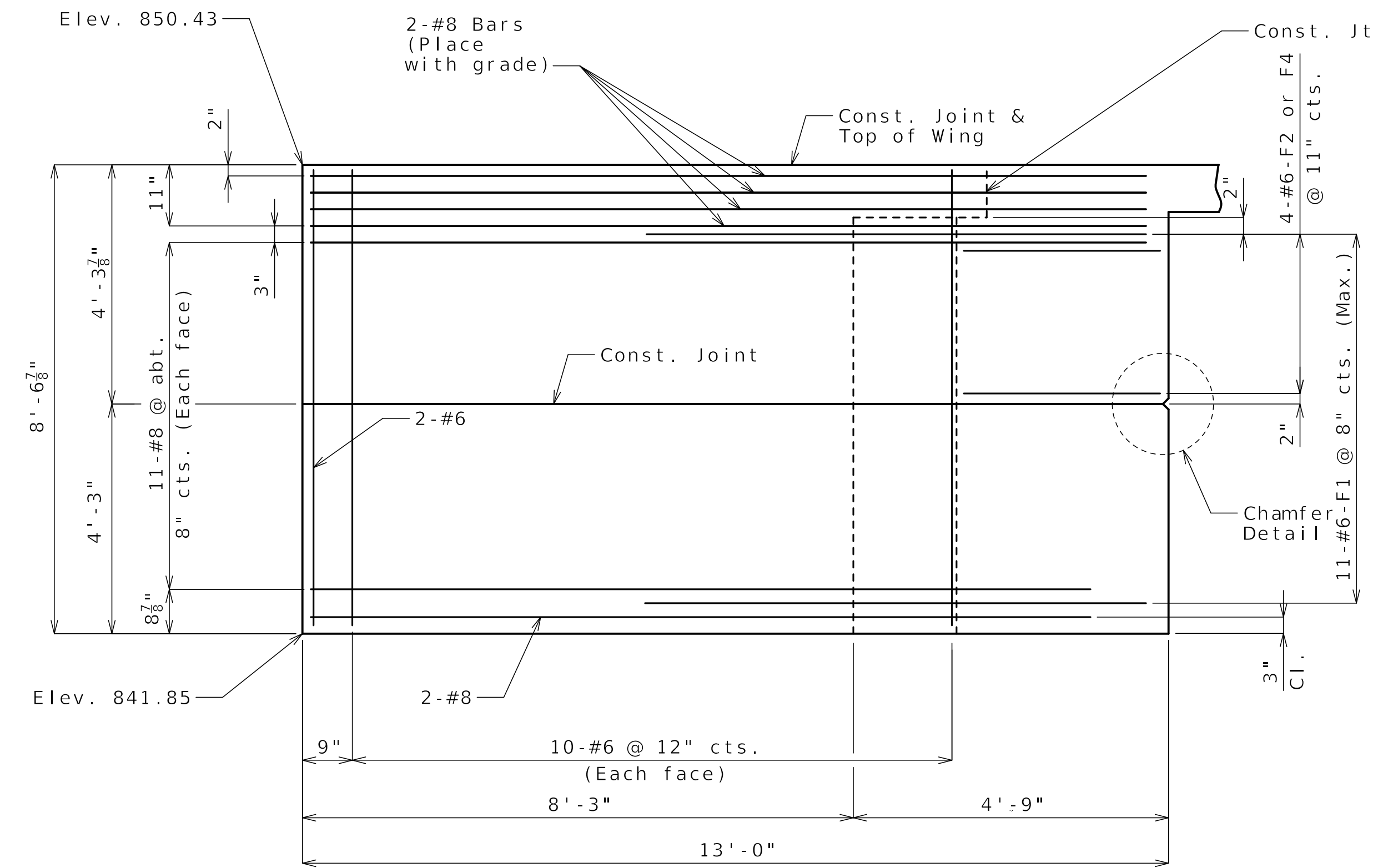
BRIDGE NO. A9623

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

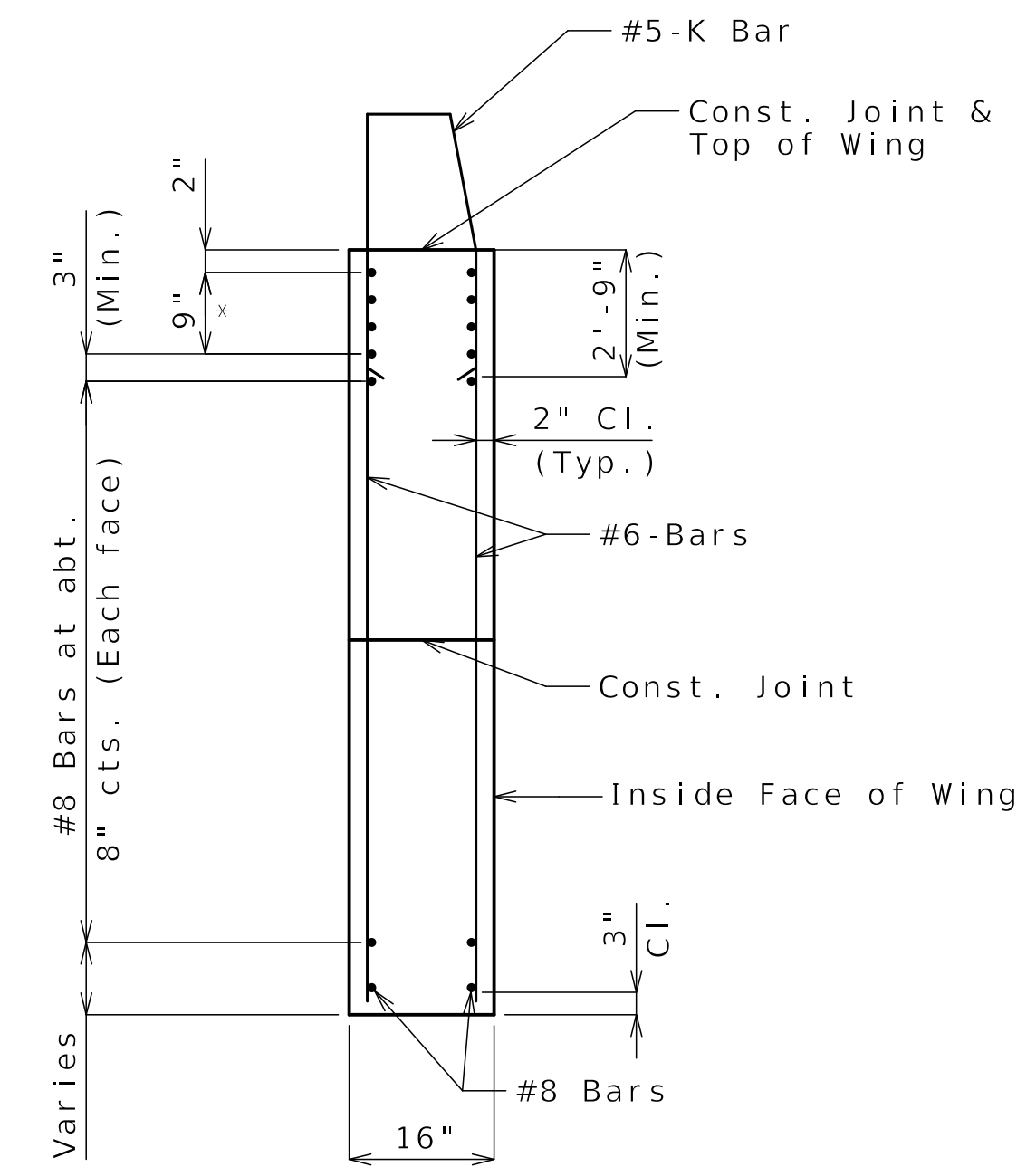
DATE 09/22/25

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

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

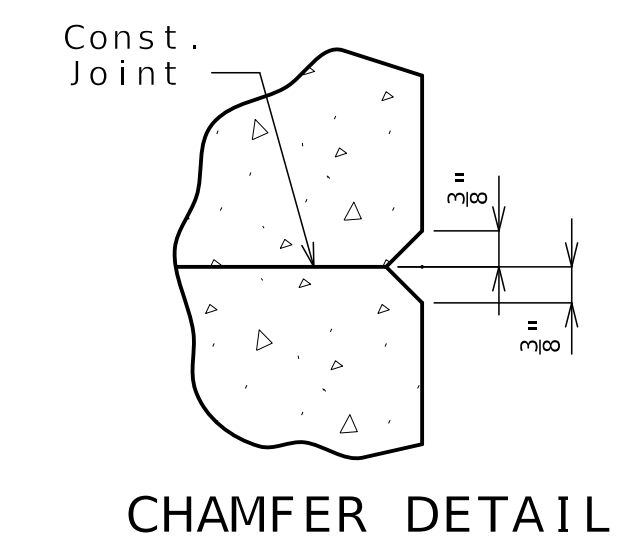


ELEVATION E-E

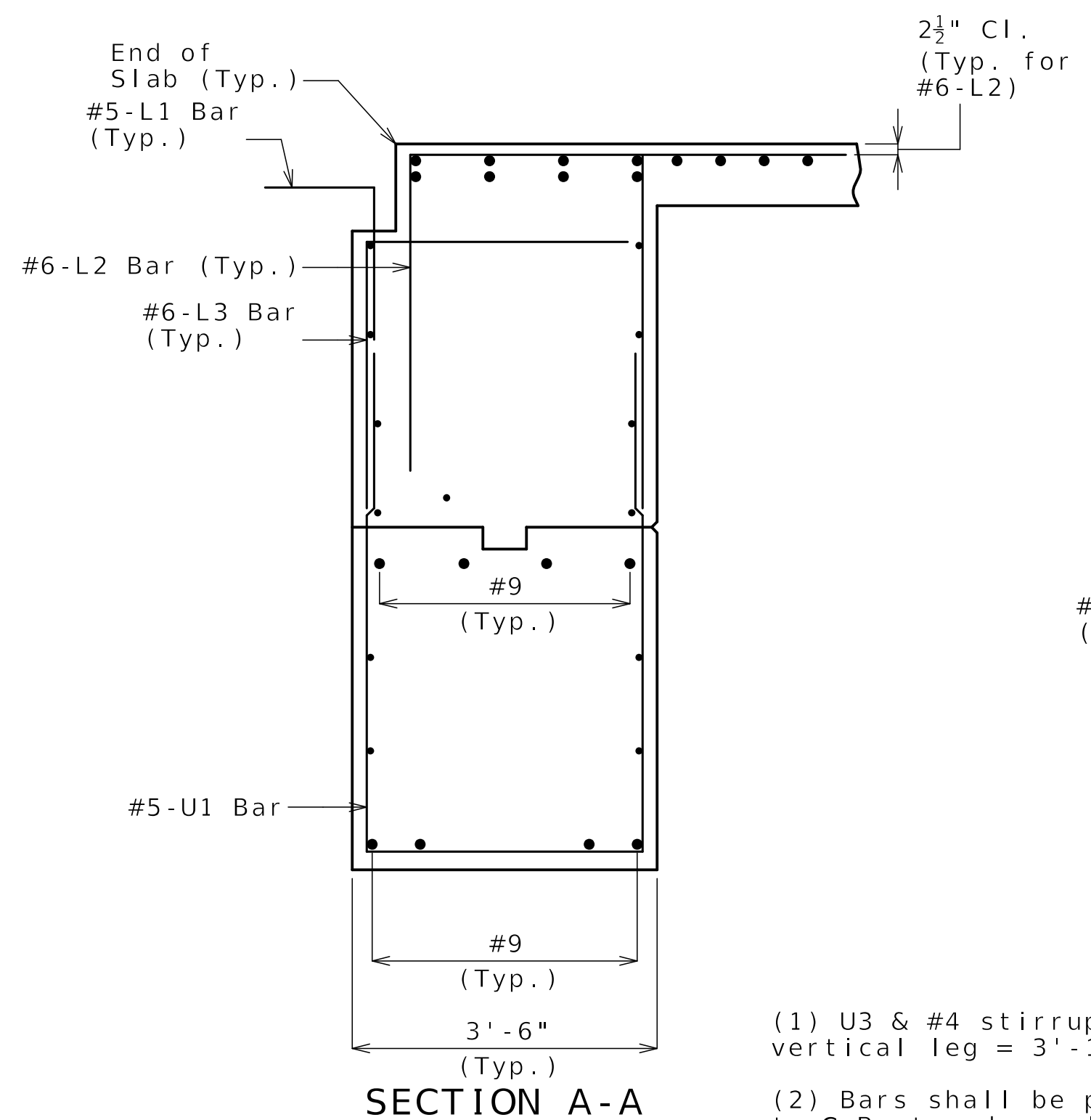


TYPICAL SECTION THRU WING

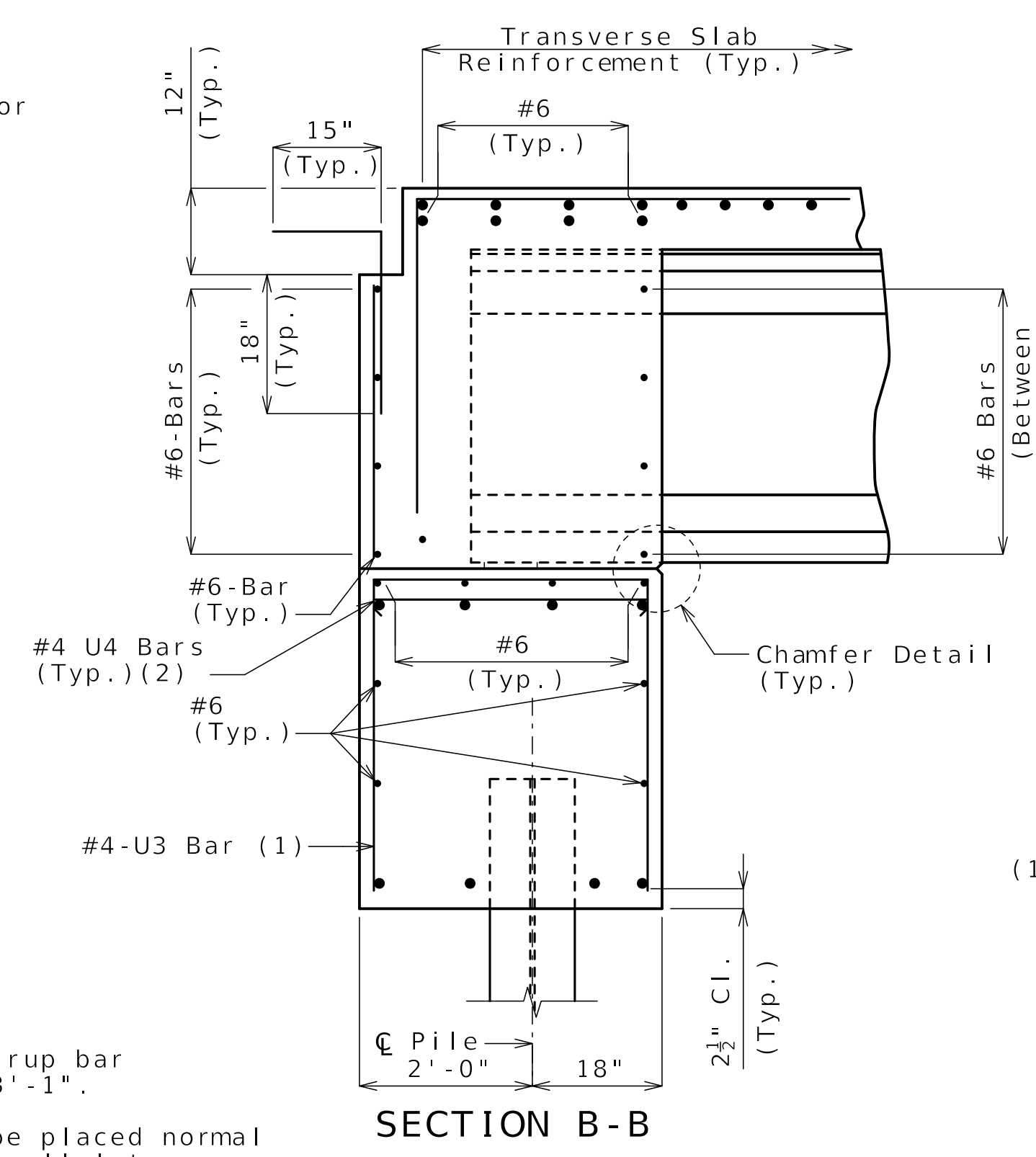
*#8 Bars at 3" cts. (Each face)(Place with grade)
See Elevation E-E for number of bars



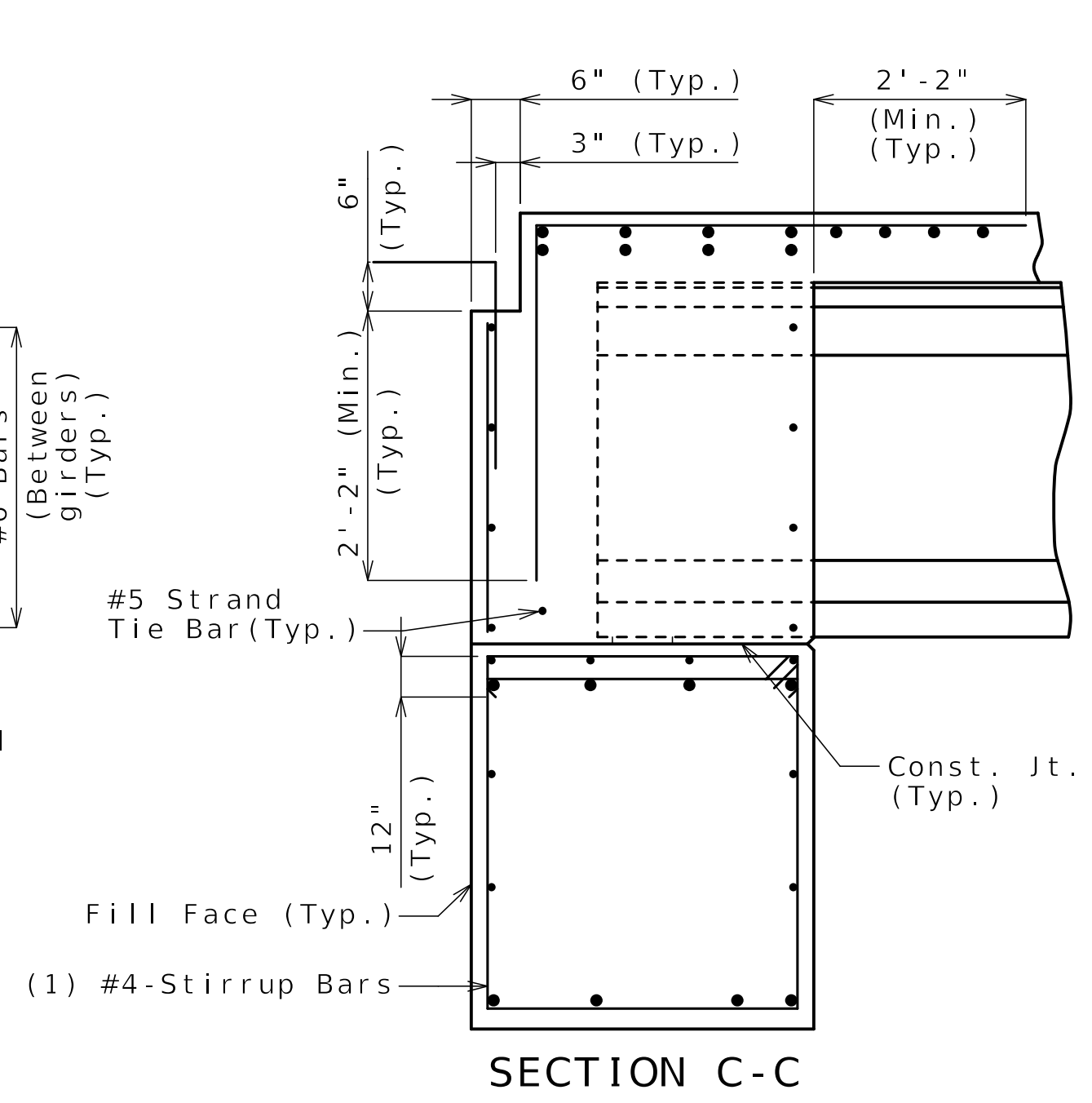
CHAMFER DETAIL



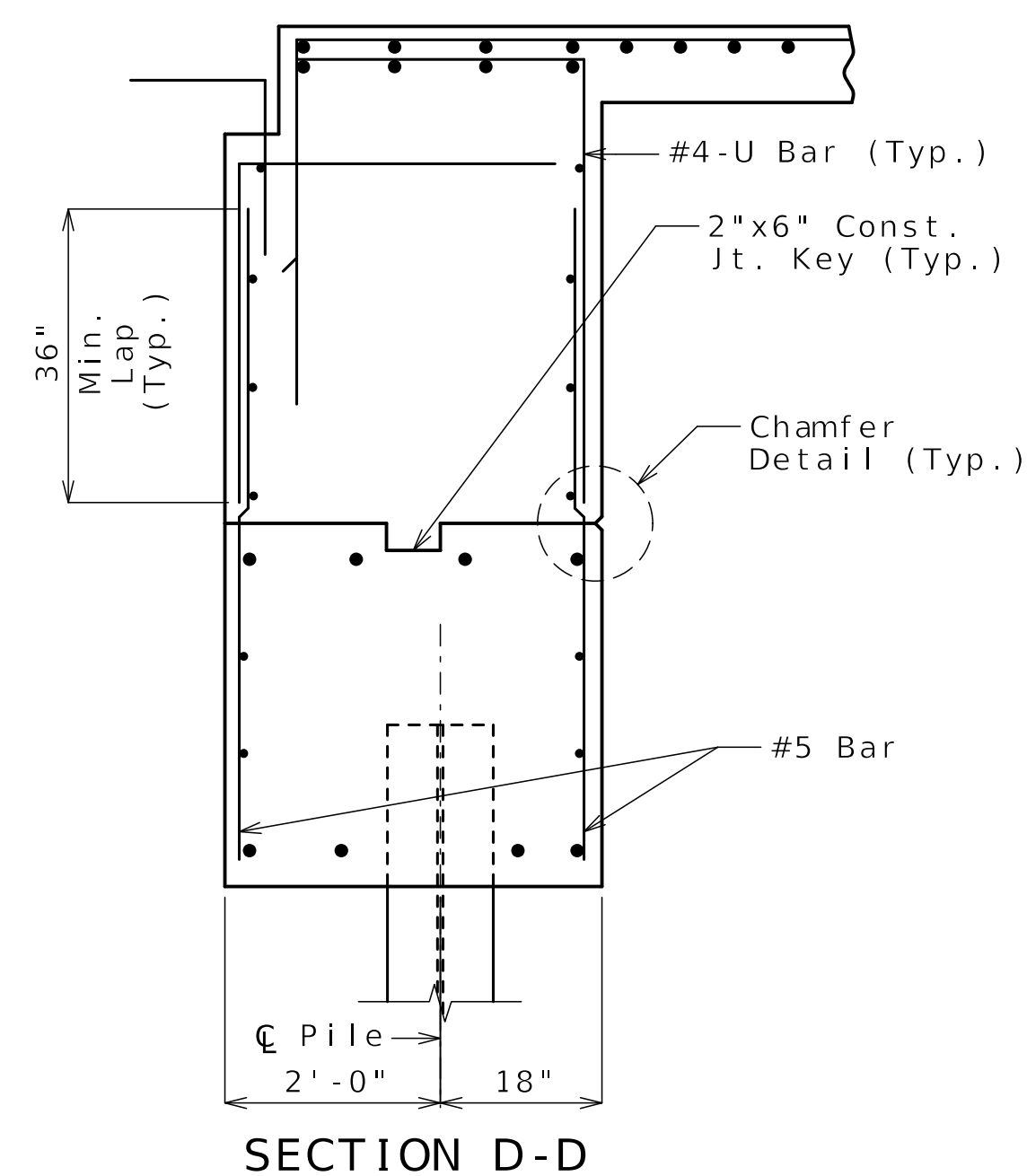
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

General Notes:
Work this sheet with Sheets No. B20-05 and B20-06.
For location of Sections A-A, B-B, C-C, D-D and Elevation E-E, see Sheet No. B20-06.
For reinforcement of the Type D Barrier, see see Sheet No. B20-34.

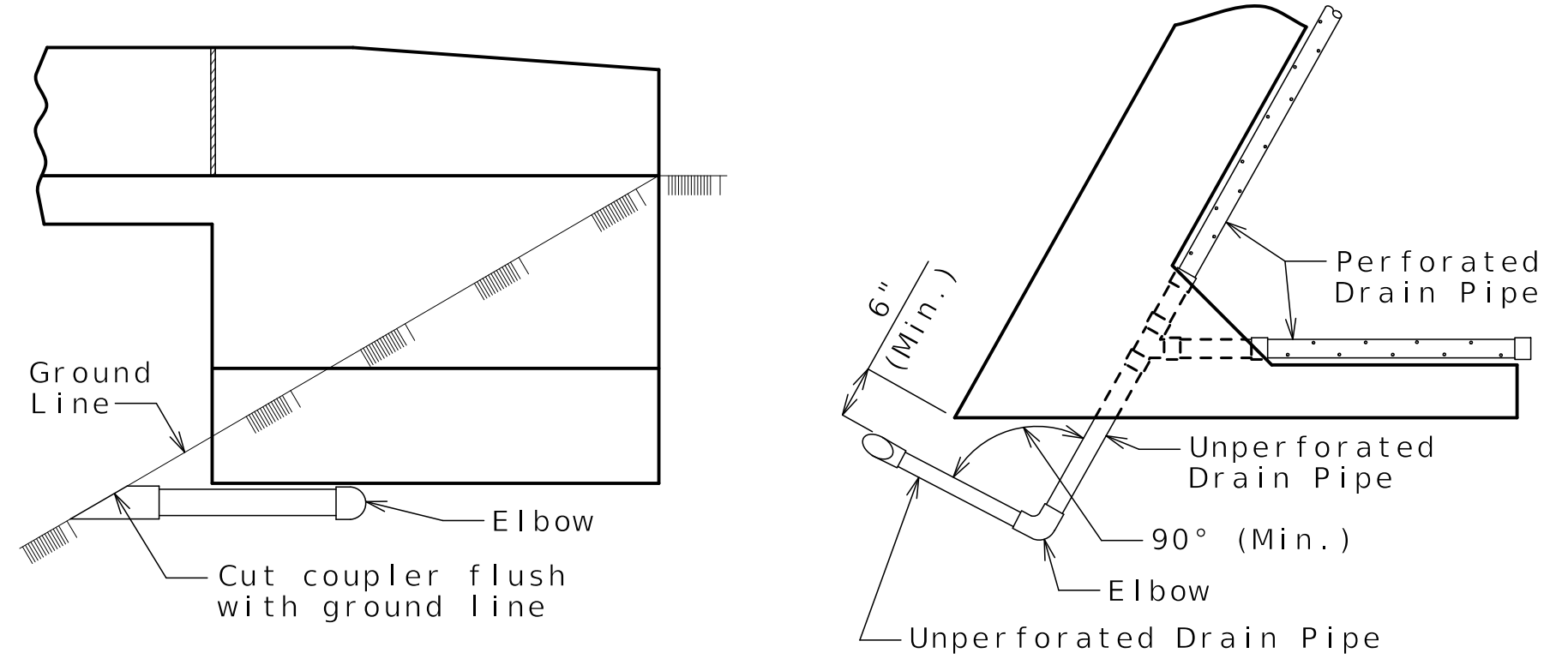
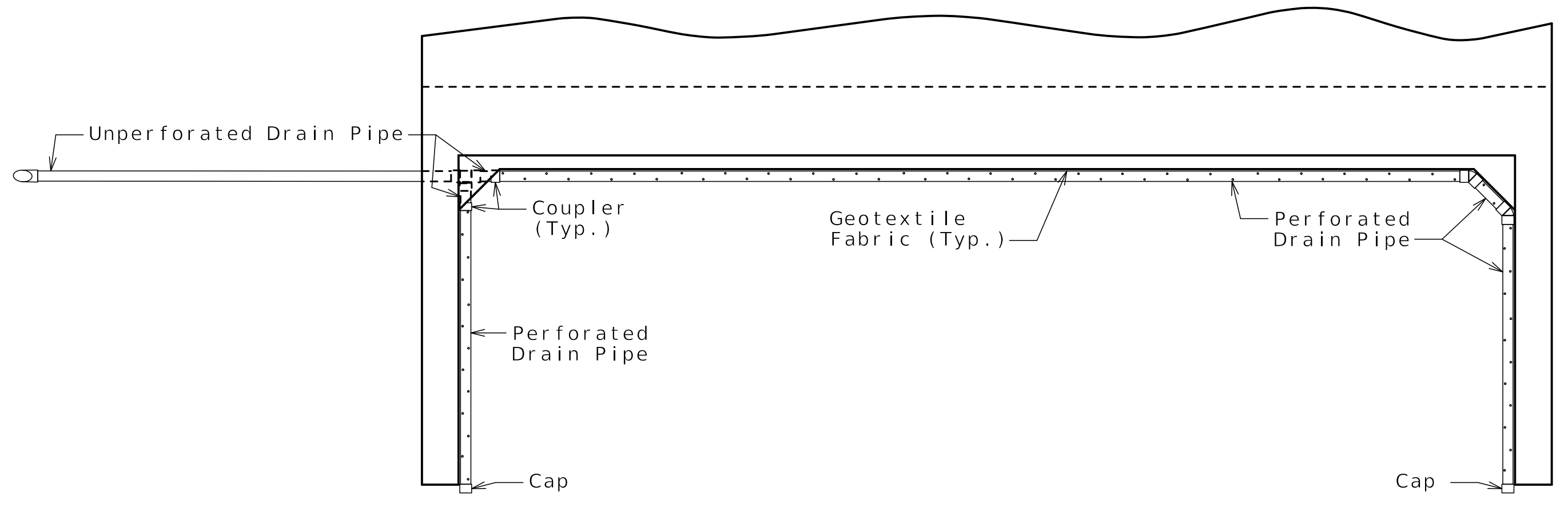
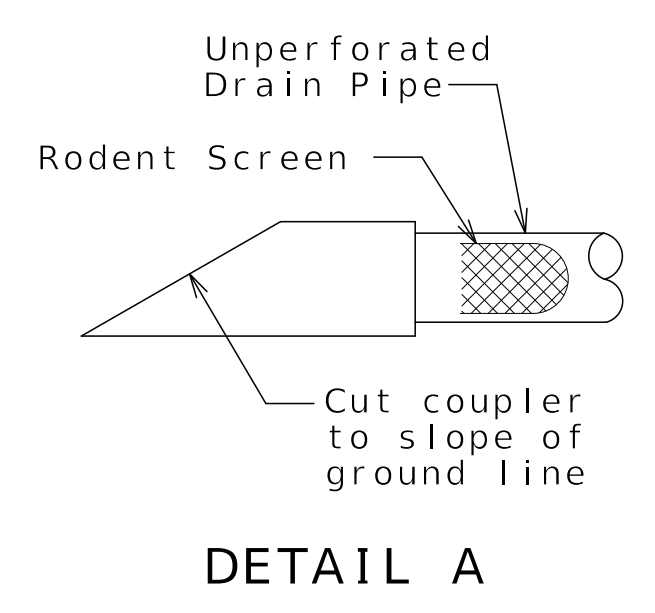
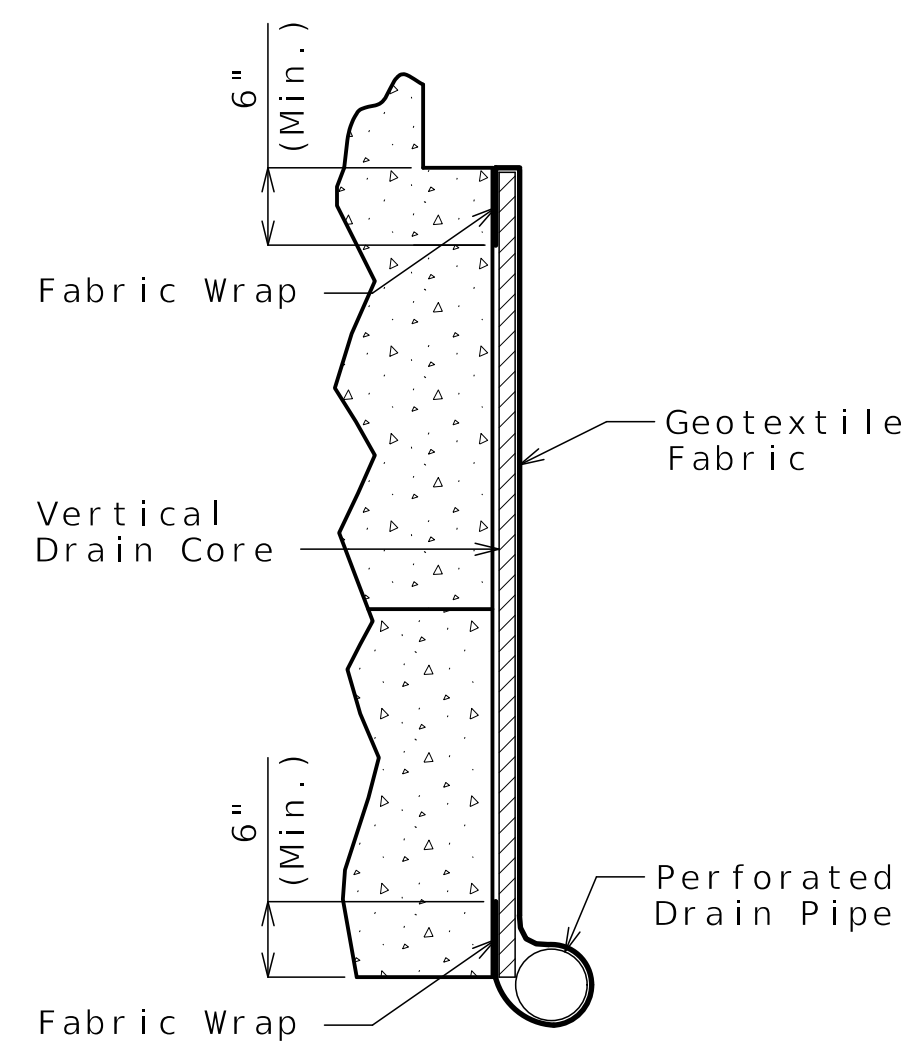
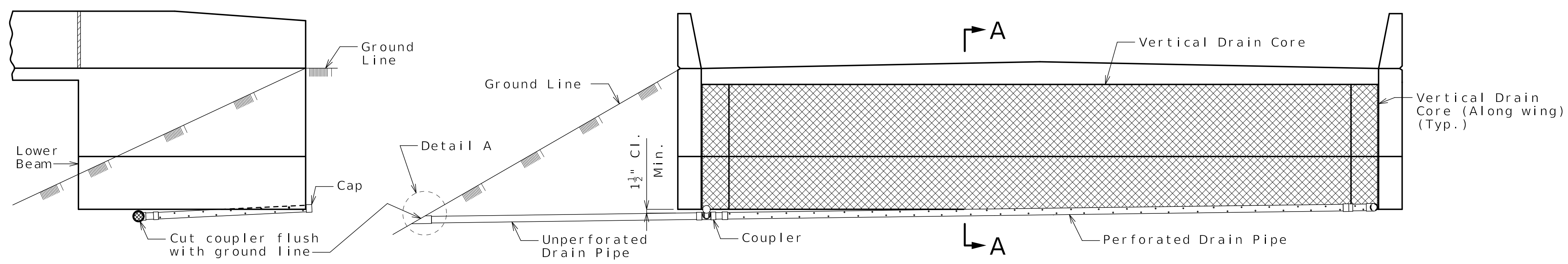
DETAILS OF END BENT NO. 1

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B20-07 of B20-54



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

General Notes:

Details shown are illustrative and not necessarily representative of one or both end bents on this bridge. Construction phasing and bridge geometry will require utilizing a combination of the details shown to construct a vertical drain system that maintains positive flow out and away from the end bents.

Square end bent shown, skewed end bent similar.

All drain pipe shall be sloped 1 to 2 percent.

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

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

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

VERTICAL DRAIN AT END BENTS



Gina D. Horner
10-8-2025

DATE PREPARED
09/22/2025

ROUTE 1-70 STATE MO
DISTRICT BR SHEET NO. B20-08

COUNTY JACKSON
JOB NO. J411486D
CONTRACT ID. 240807-C01
PROJECT NO.

BRIDGE NO. A9623

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

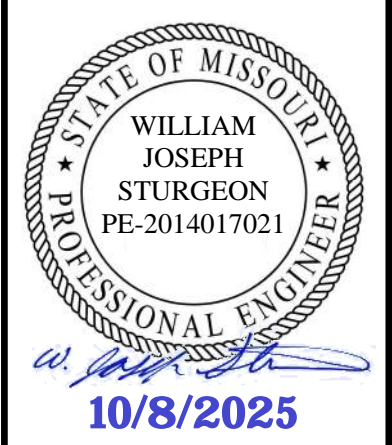
MoDOT

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

CLARKSON RADMACHER
JOINT VENTURE

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





DATE PREPARED 09/22/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B20-09
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9623

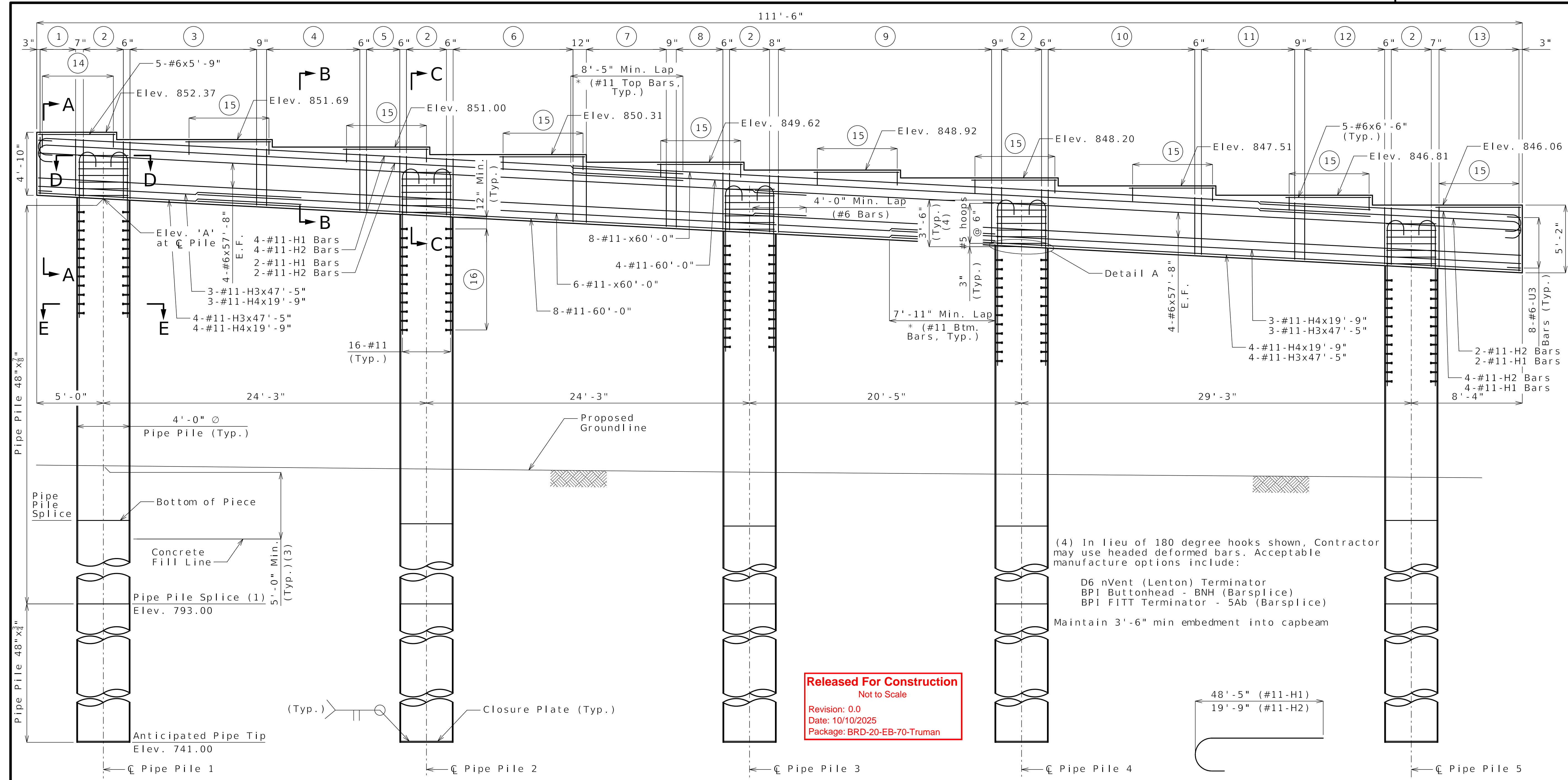
DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER JOINT VENTURE

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



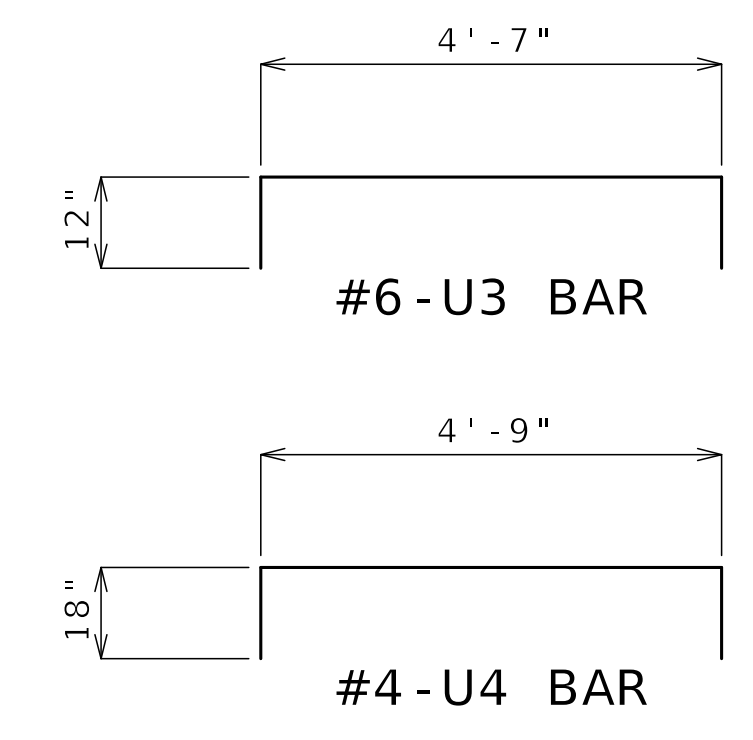
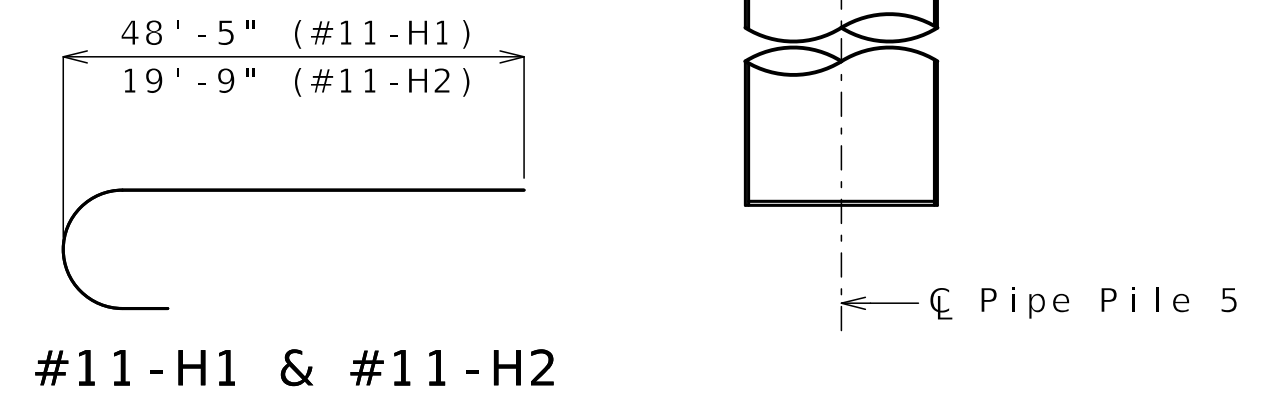
Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

ELEVATION
(Beam keys not shown for clarity)

- (1) Elevation of pipe pile wall thickness transition is the maximum allowed. Depth below ground line of the transition can be increased (the elevation decreased) for constructability.
- (2) See Foundation Data Table on Sheet No. B20-03.
- (3) Concrete shall be placed within pipe pile from bottom of capbeam to 5'-0" minimum below ground line. Fill pipe pile with loose dry sand below this elevation.
- * Alternate location of lap splices between adjacent bars about centerline of bent. Alternate lap splice location not shown.

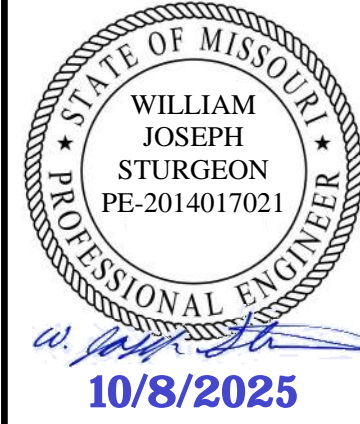
Pile Number	'A'
1	847.24
2	845.79
3	844.35
4	843.13
5	841.39

- (1) 5 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 8" cts.
- (2) 4 Sets of 1-#6-U1 & 2-#6 Hook Bars @ 12" cts.
- (3) 20 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 6" cts.
- (4) 8-#6-U2 @ 12" cts.
- (5) 6 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 6" cts.
- (6) 19 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 6" cts.
- (7) 7-#6-U2 @ 12" cts.
- (8) 8 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 6" cts.
- (9) 17-#6-U2 @ 12" cts.
- (10) 23 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 6" cts.
- (11) 8-#6-U2 @ 12" cts.
- (12) 13 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 6" cts.
- (13) 9 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 9" cts.
- (14) 12-#4-U4 @ 6" Spa.
- (15) 13-#4-U4 @ 6" Spa.
- (16) 12 sets of 16- $\frac{7}{8}$ " ϕ x5" Welded Shear Connectors Spa. @ abt. 8" cts. = 7'-7" Min.



Notes:
Work this sheet with Sheets No. B20-10 thru B20-14.

DETAILS OF INTERMEDIATE BENT NO. 2



DATE PREPARED	09/22/2025
ROUTE	1-70
STATE	MO
DISTRICT	BR
SHEET NO.	B20-10
COUNTY	JACKSON
JOB NO.	J411486D
CONTRACT ID.	240807-C01
PROJECT NO.	

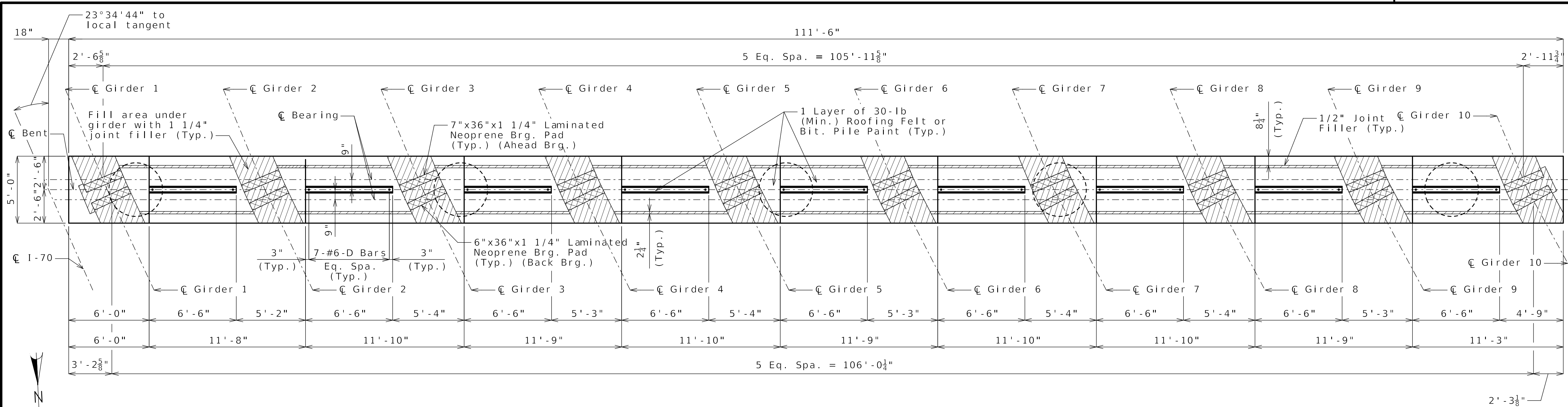
BRIDGE NO. A9623

DESCRIPTION
REV 0 - RFC SUBMITTAL

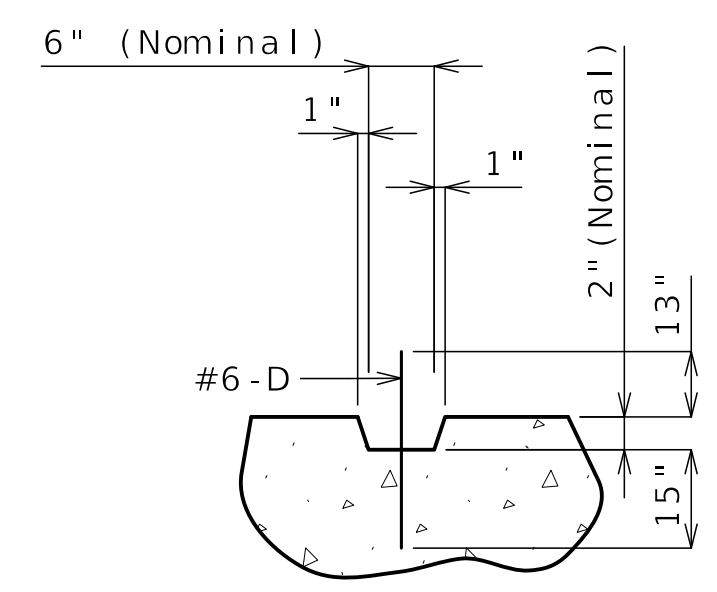
DATE
09/22/25

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

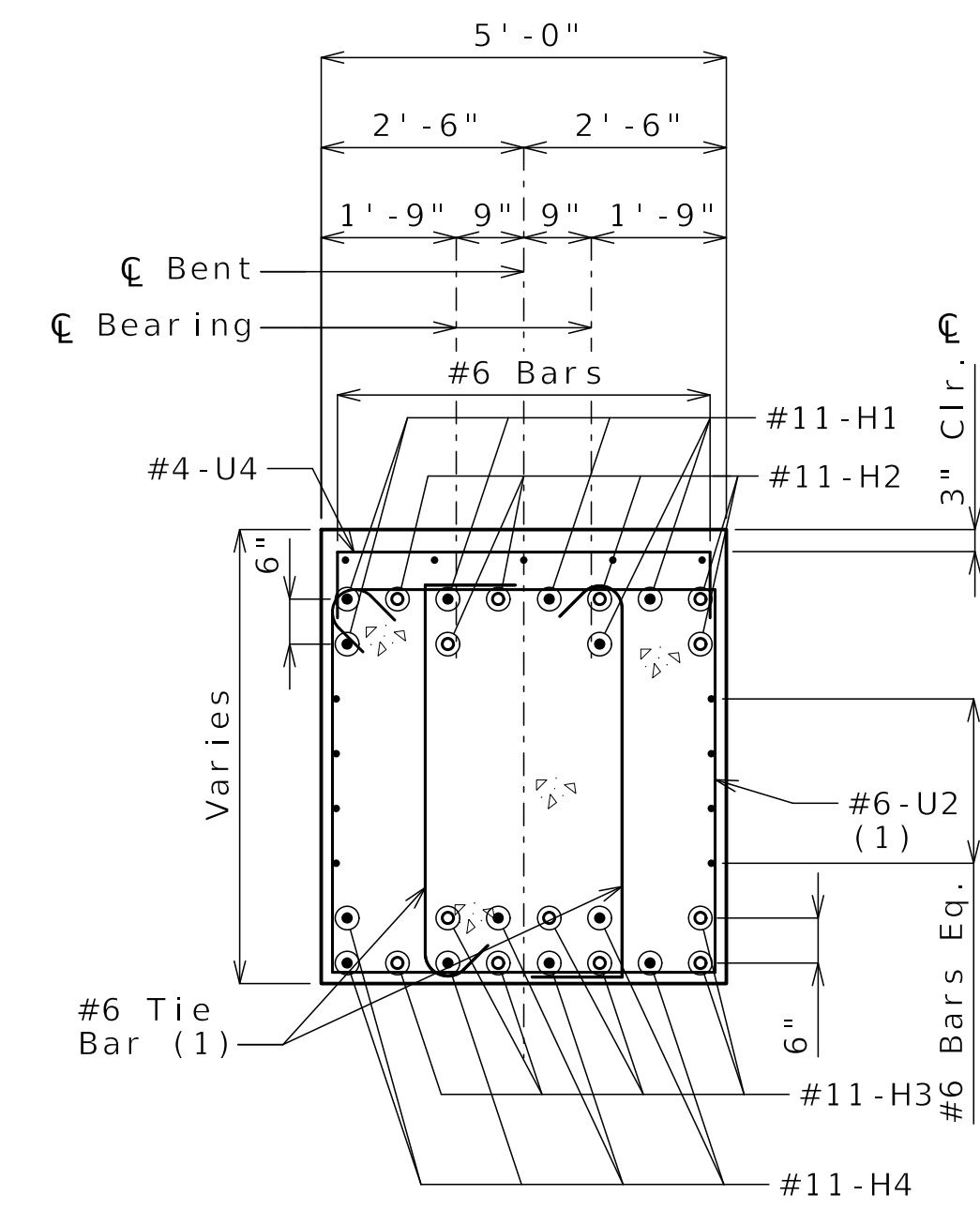
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



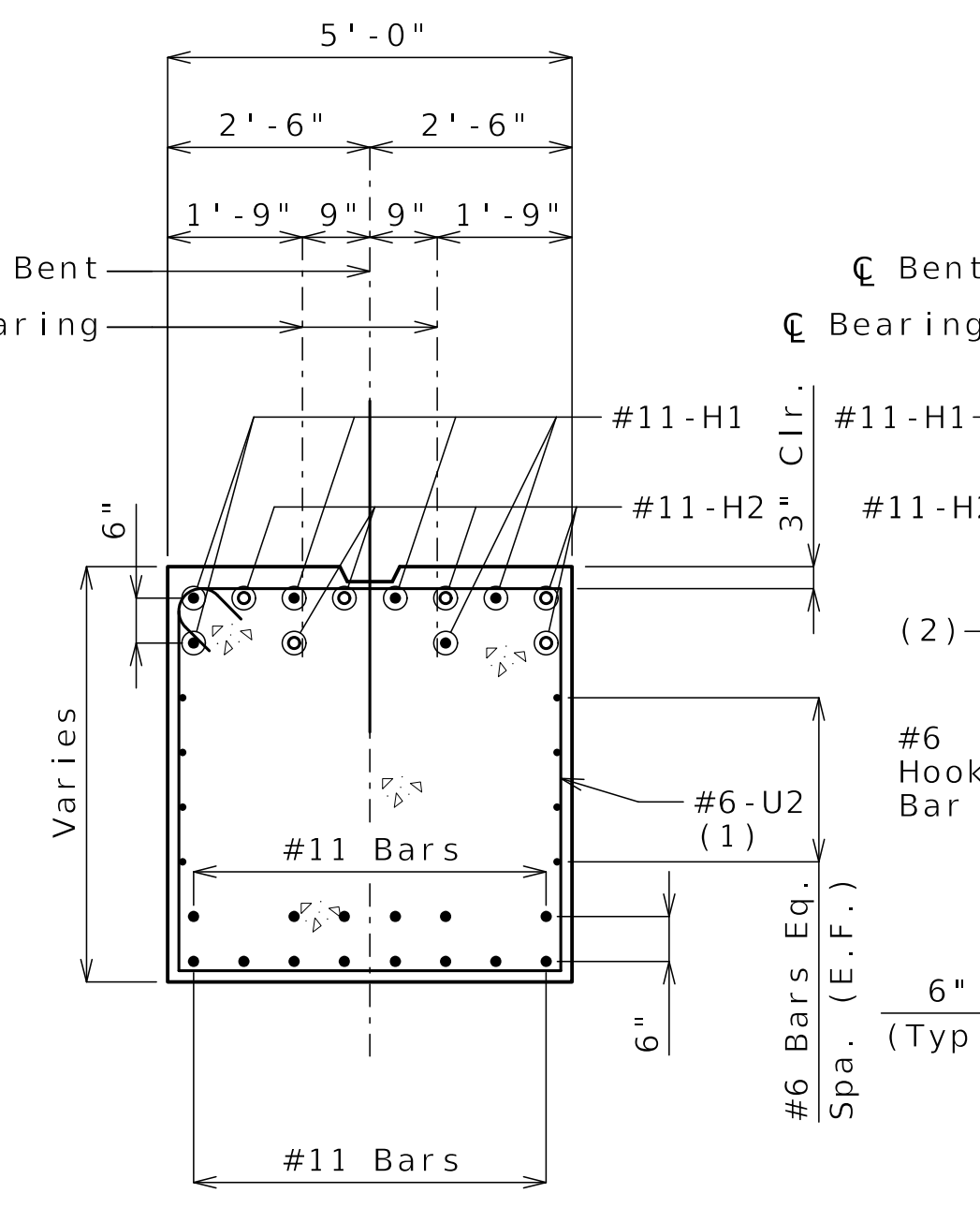
PLAN OF CAPBEAM



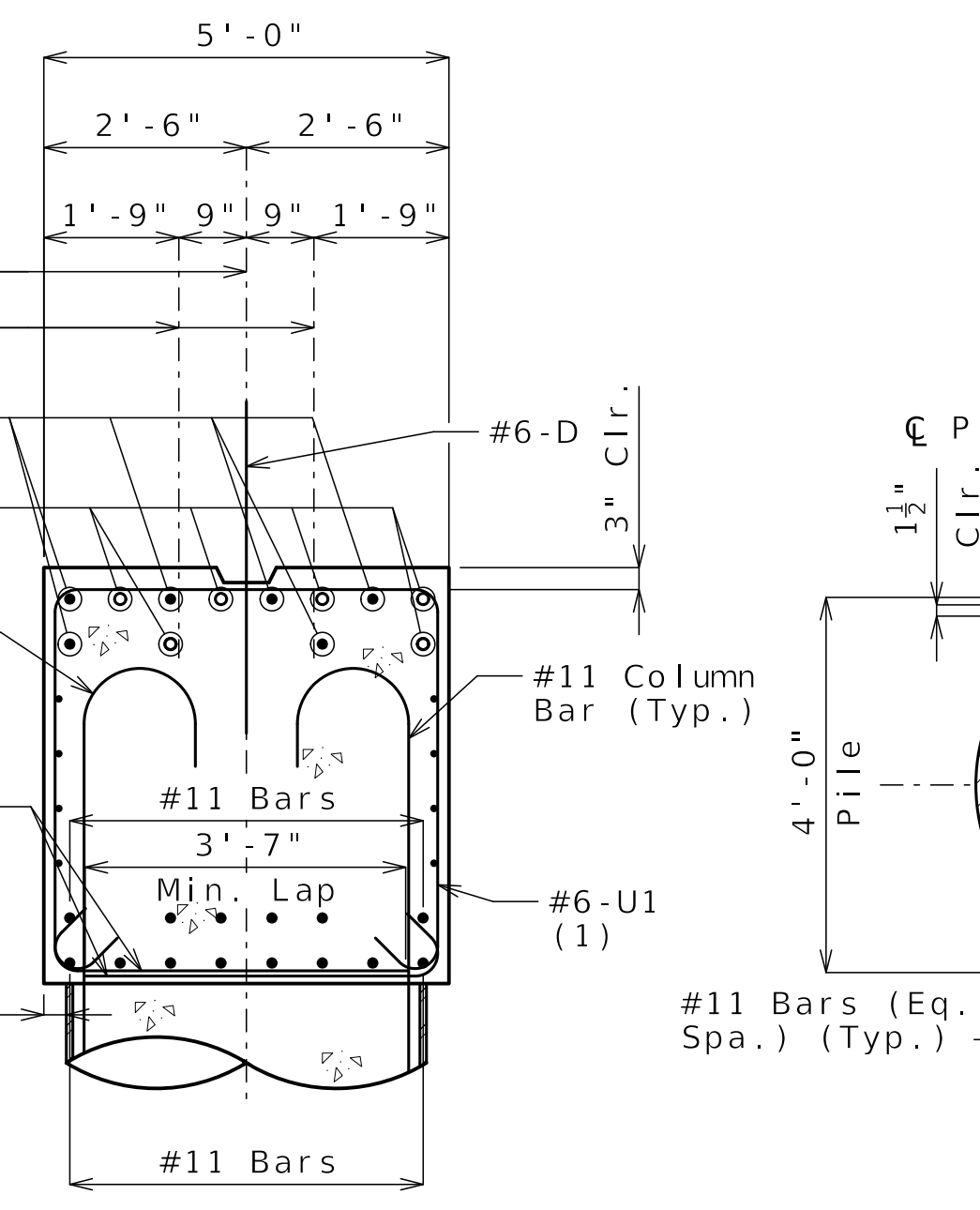
SECTION THRU KEY



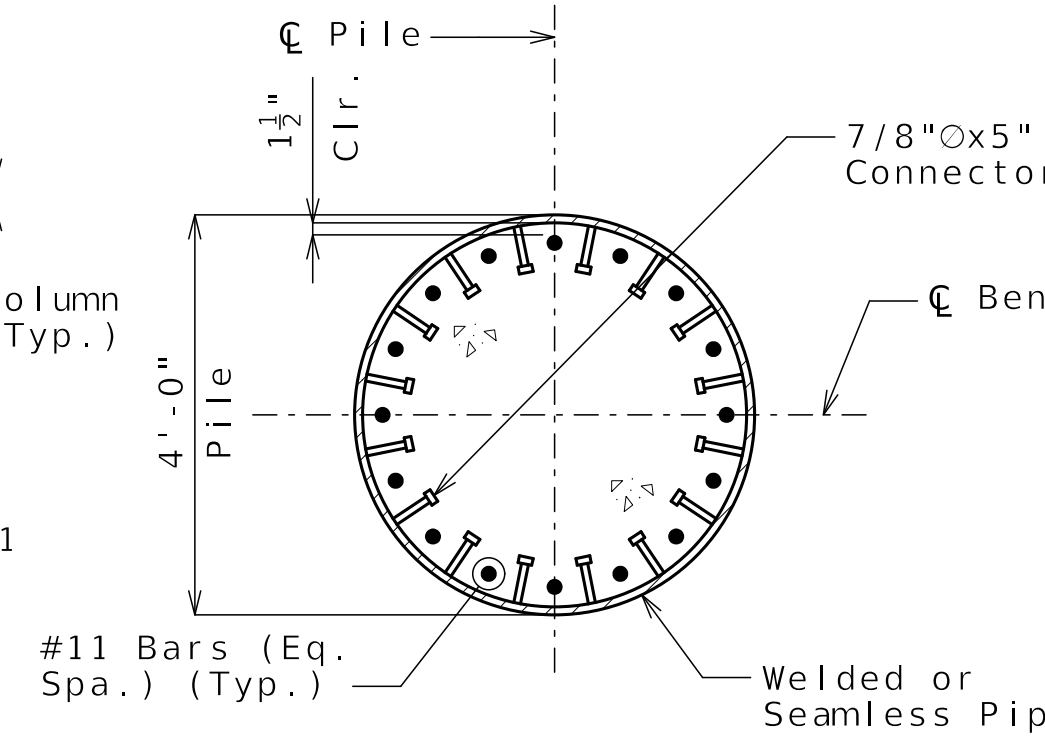
SECTION A-A



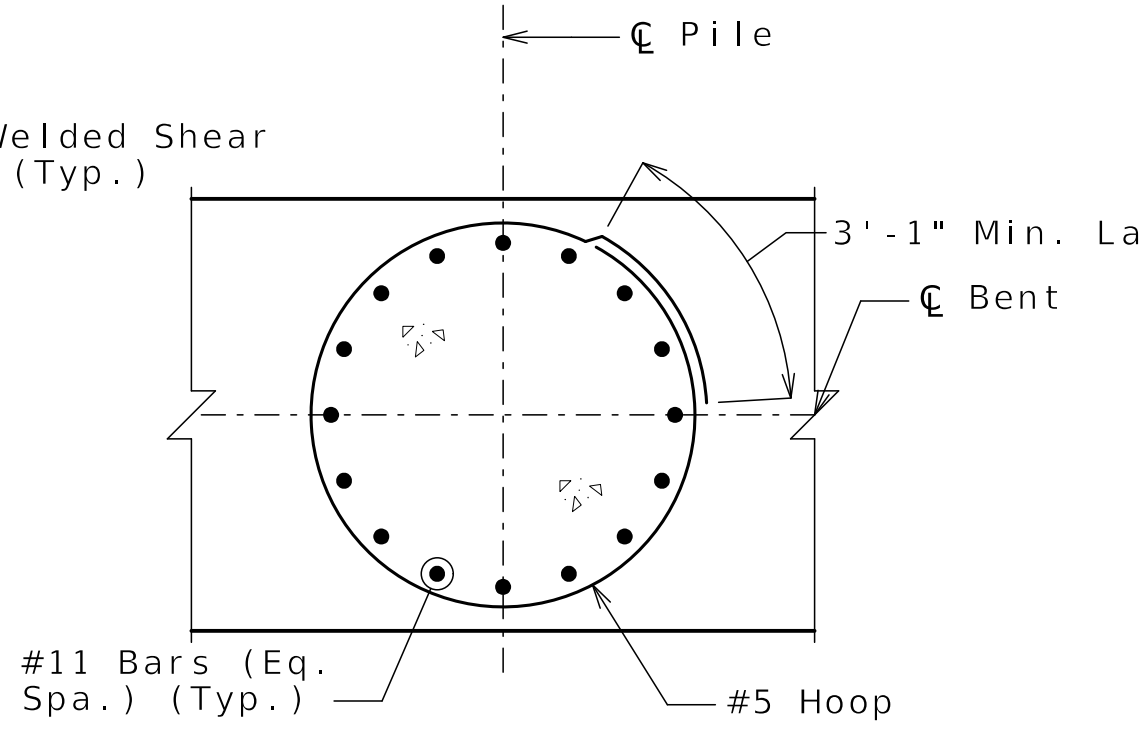
SECTION B-B



SECTION C-C



SECTION E-E



SECTION D-D

(Cap Reinforcing not shown for clarity)

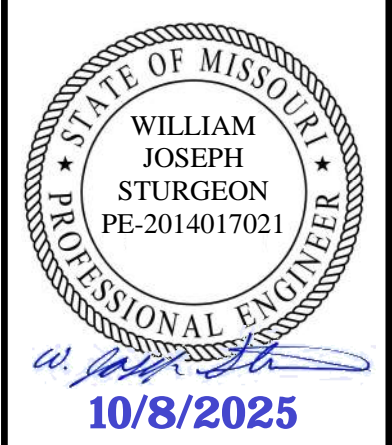
Notes:
 Work this sheet with Sheets No. B20-09 and B20-11 thru B20-14.
 For angle of girders relative to $\text{\O} \text{ Bent}$, see Sheet No. B20-18.
 For additional joint filler layout details, see Sheet No. B20-23.
 For steps 2 inches or more, use 2 1/4x1/2 inch joint filler up vertical face.
 Hoop splices shall be staggered around the column at 90 degree intervals.

(1) U1, U2 & #6 tie bar vertical leg = 4'-2"

(2) See note on Sheet No. B20-09 for alternative to 180 degree hooks.

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

DETAILS OF INTERMEDIATE BENT NO. 2



DATE PREPARED
09/22/2025

ROUTE
I-70

DISTRICT
BR

STATE
MO

SHEET NO.
B20-11

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9623

DESCRIPTION
REV 0 - RFC SUBMITTAL

DATE
09/22/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

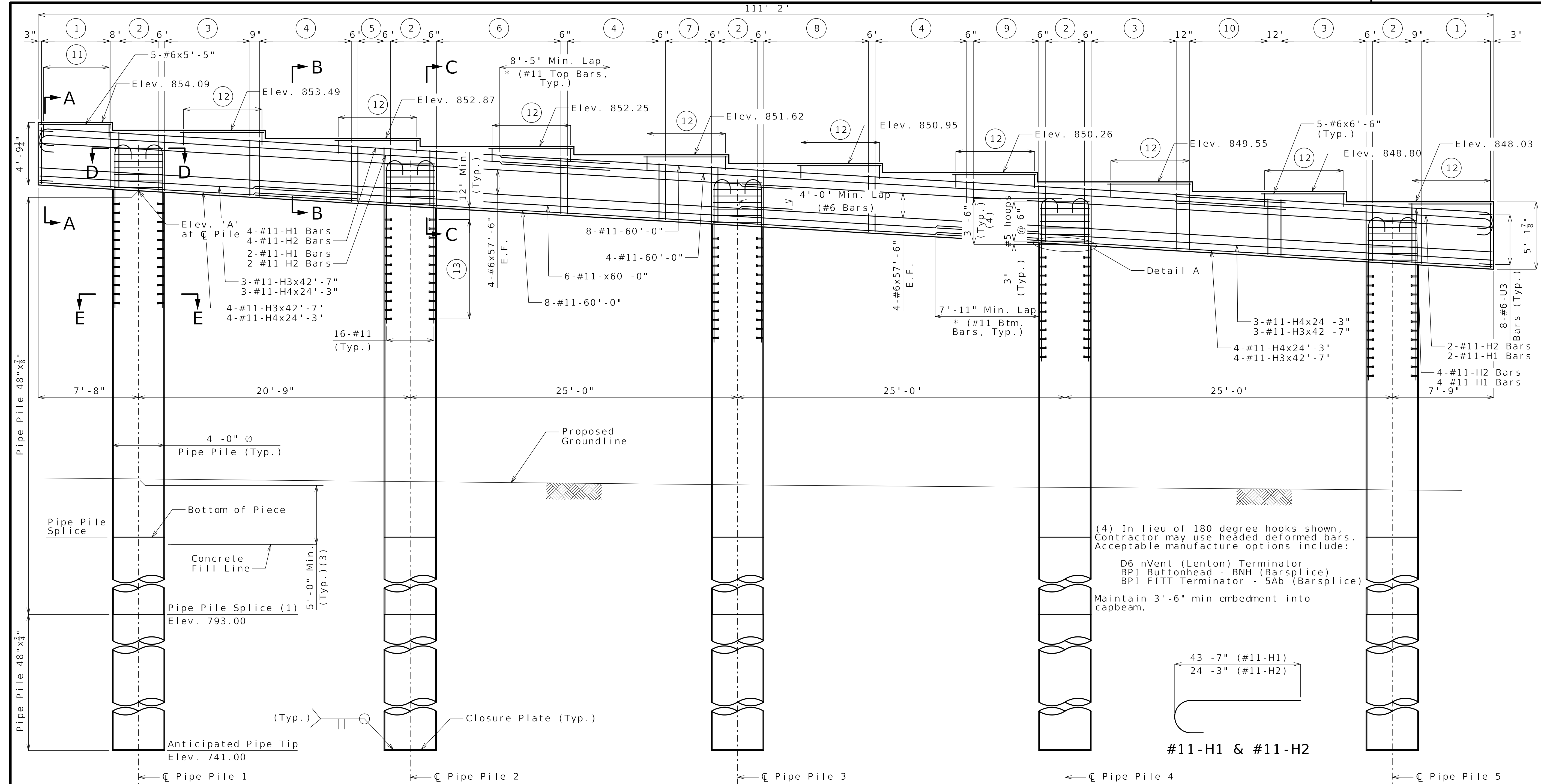
MoDOT

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

CLARKSON RADMACHER JOINT VENTURE

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

HNTB



ELEVATION

- (1) Elevation of pipe pile wall thickness transition is the maximum allowed. Depth below ground line of the transition can be increased (the elevation decreased) for constructability.
- (2) See Foundation Data Table on Sheet No. B20-03.
- (3) Concrete shall be placed within pipe pile from bottom of capbeam to 5'-0" minimum below ground line. Fill pipe pile with loose dry sand below this elevation.

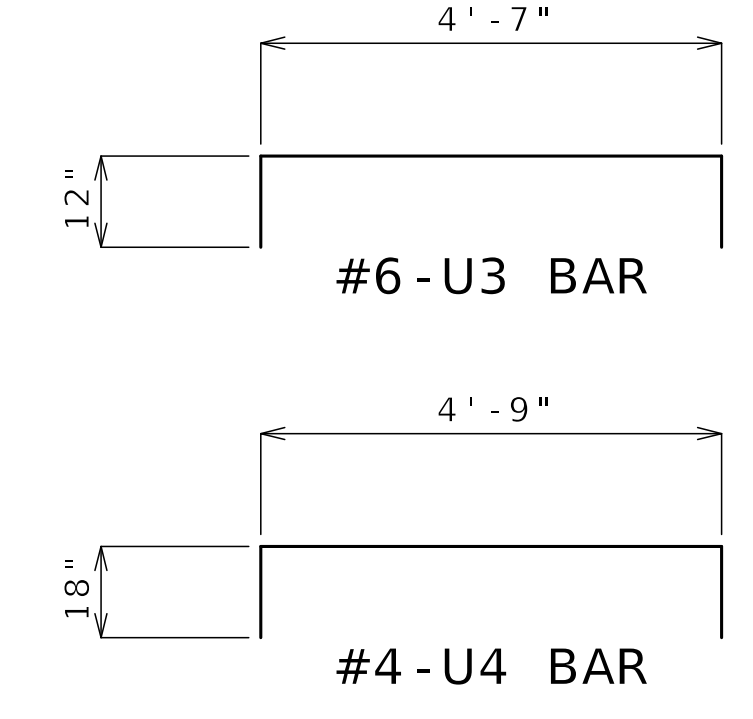
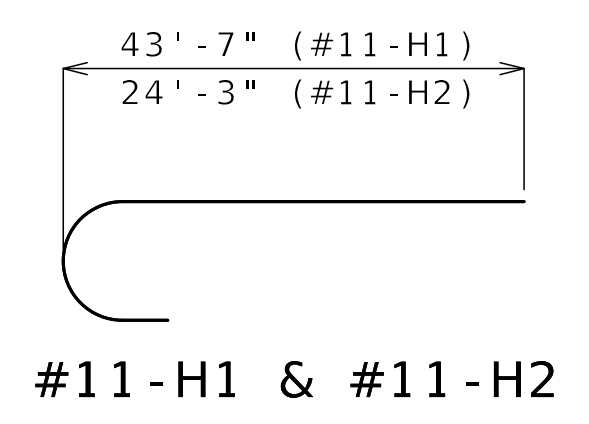
*Alternate location of lap splices between adjacent bars about centerline of bent. Alternate lap splice location not shown.

Pile Number	'A'
1	848.87
2	847.67
3	846.22
4	844.77
5	843.32

- (4) 8 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 9" cts.
- (5) 4 Sets of 1-#6-U1 & 2-#6 Hook Bars @ 12" cts.
- (6) 14 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 6" cts.
- (7) 8-#6-U2 @ 12" cts.
- (8) 5 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 6" cts.
- (9) 20 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 6" cts.
- (10) 8 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 6" cts.
- (11) 17 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 6" cts.
- (12) 7-#6-U2 @ 12" cts.
- (13) 12-#4-U4 @ 6" Spa.
- (14) 13-#4-U4 @ 6" Spa.
- (15) 12 sets of 16-⁷/₈" Ø x5" Welded Shear Connectors Spa. @ abt. 8" cts. = 7'-7" Min.

(4) In lieu of 180 degree hooks shown, Contractor may use headed deformed bars. Acceptable manufacture options include:
D6 nVent (Lenton) Terminator
BPI Buttonhead - BNH (Barsplice)
BPI FITT Terminator - 5Ab (Barsplice)

Maintain 3'-6" min embedment into capbeam.



Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

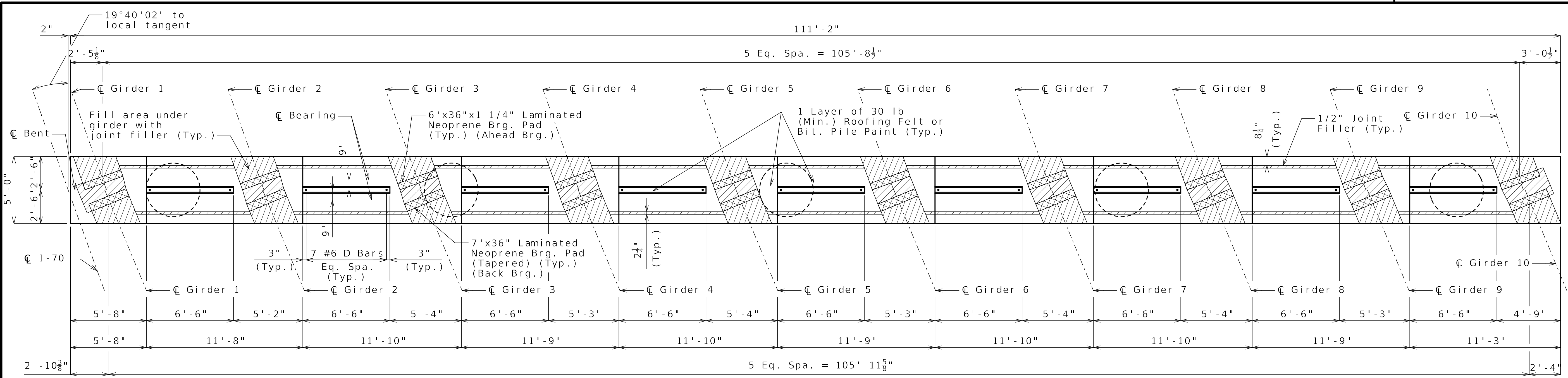
Notes:
Work this sheet with Sheets B20-09, B20-10 and B20-12 thru B20-14.

DETAILS OF INTERMEDIATE BENT NO. 3

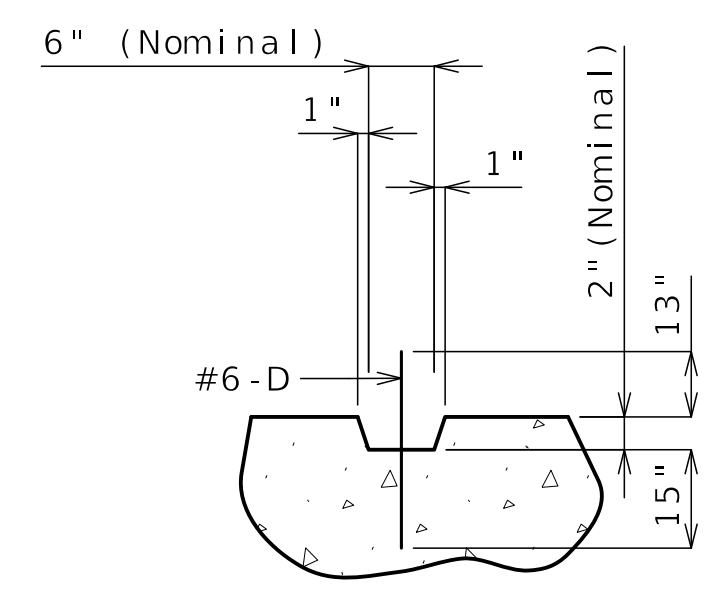
Detailed MAY 2025
Checked JUN 2025

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

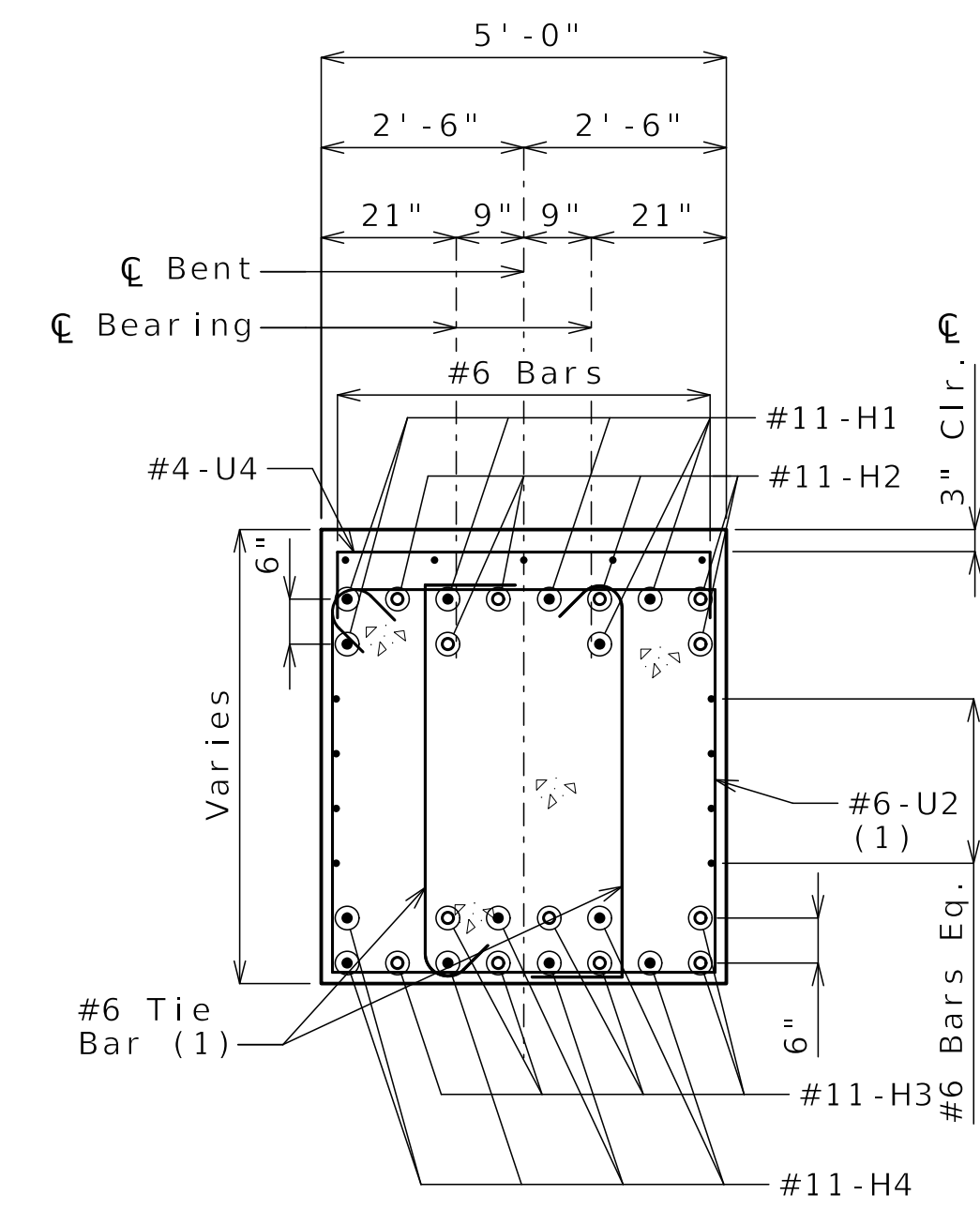
Sheet No. B20-11 of B20-54



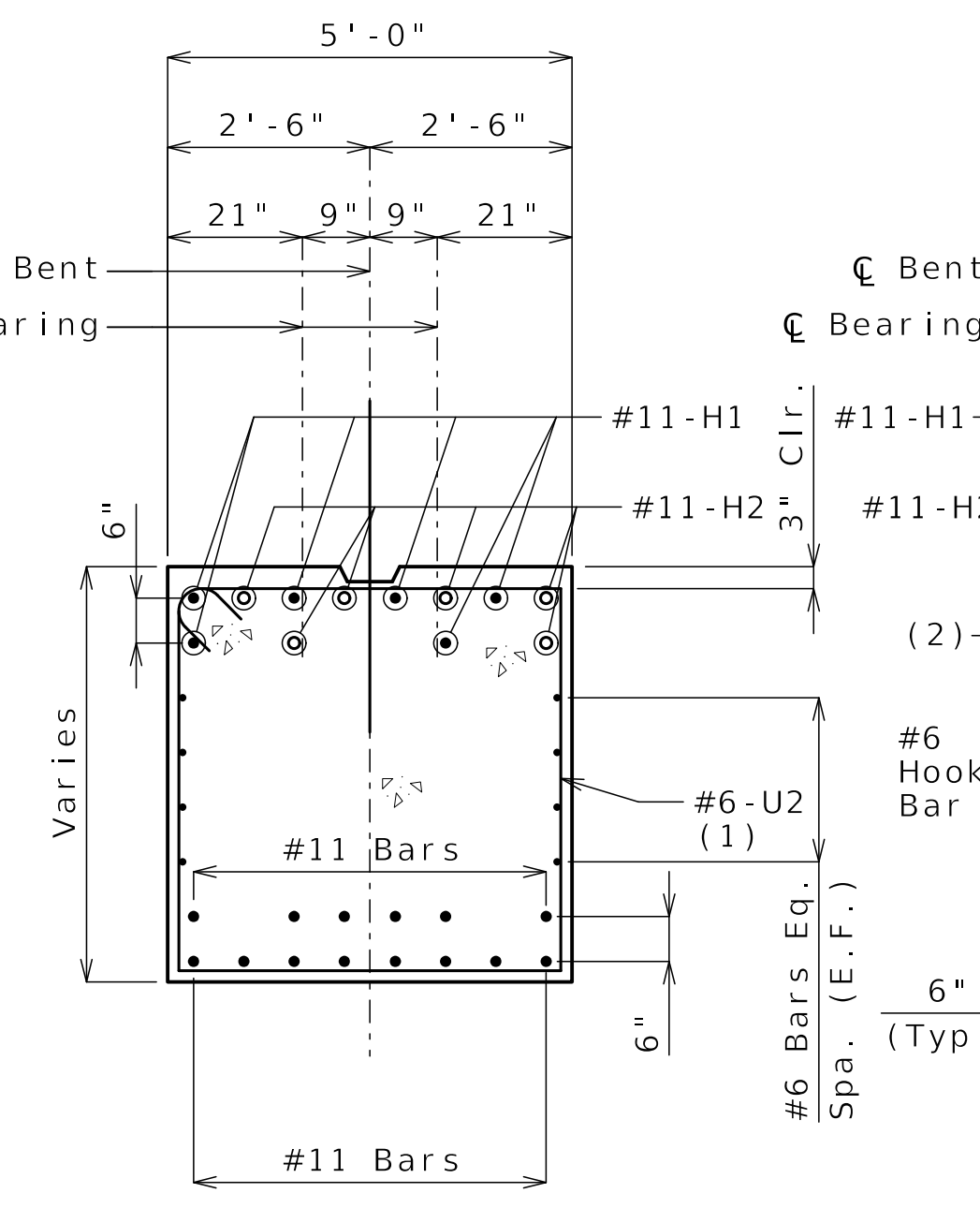
PLAN OF CAPBEAM



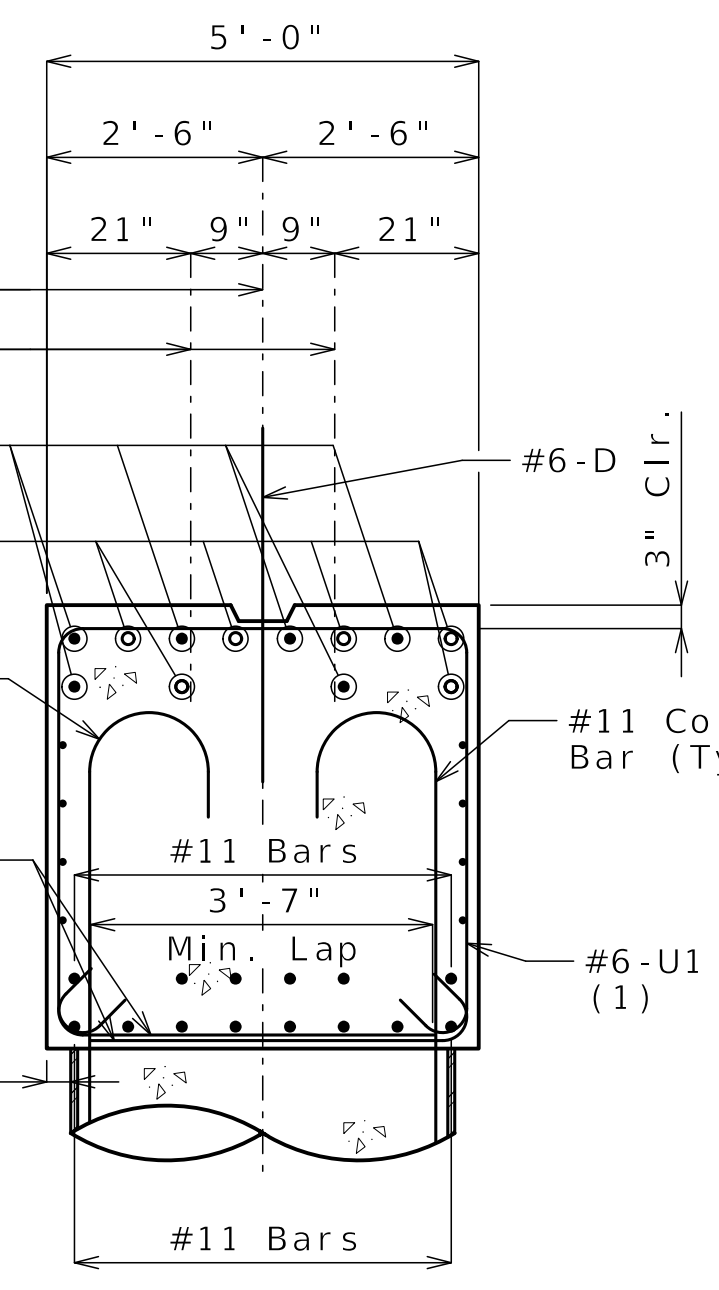
SECTION THRU KEY



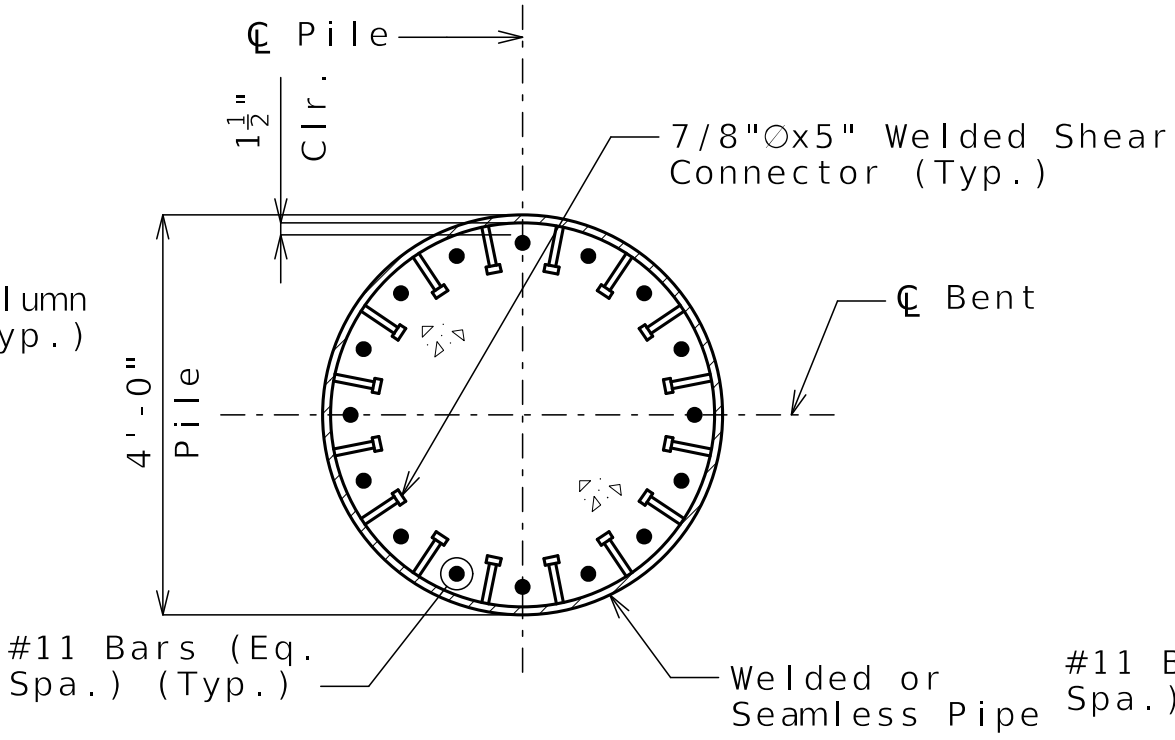
SECTION A-A



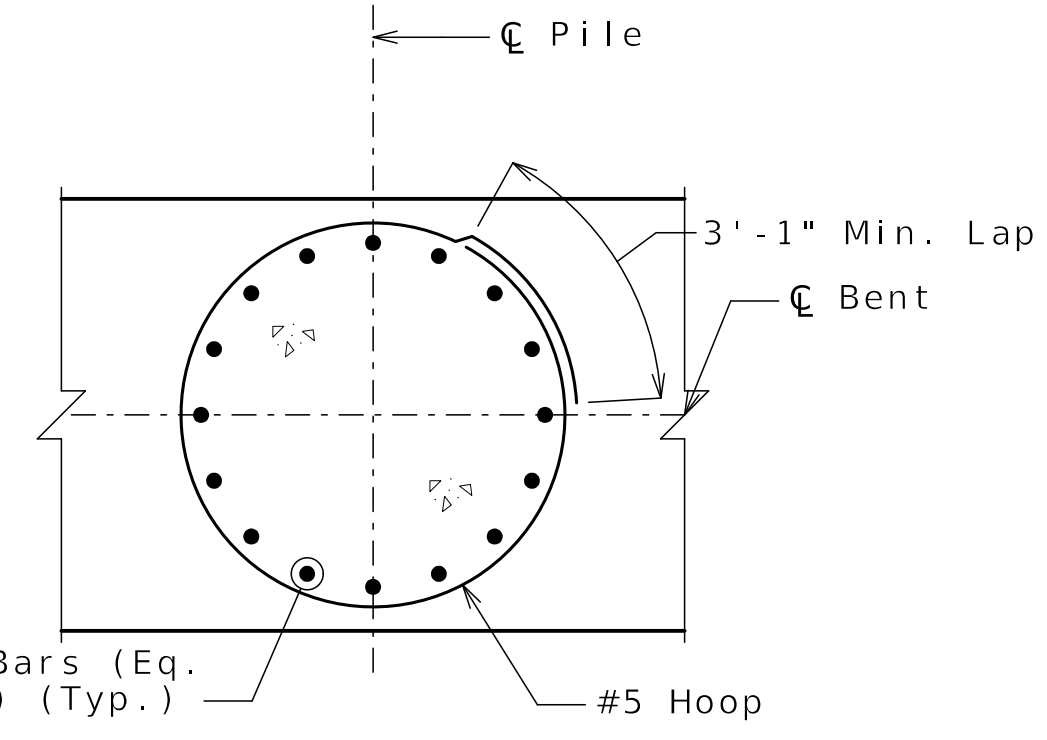
SECTION B-B



SECTION C-C



SECTION E-E



SECTION D-D

(Cap Reinforcing not shown for clarity)

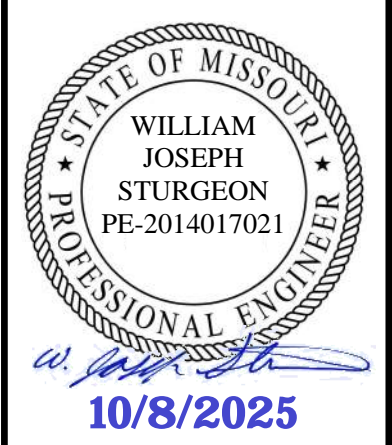
Notes:
 Work this sheet with Sheets No. B20-09 thru B20-11, B20-13 and B20-14.
 For angle of girders relative to C Bent, see Sheet No. B20-18.
 For additional joint filler layout details, see Sheet No. B20-23.
 For steps 2 inches or more, use 2 1/4x1/2 inch joint filler up vertical face.
 Hoop splices to be staggered around the column at 90 degree intervals.

(1) U1, U2 & #6 tie bar vertical leg = 4'-2"

(#5 Hoops not shown for clarity)
 (2) See note on Sheet No. B20-11 for alternative to 180 degree hooks.

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman

DETAILS OF INTERMEDIATE BENT NO. 3



DATE PREPARED 09/22/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B20-12
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9623	

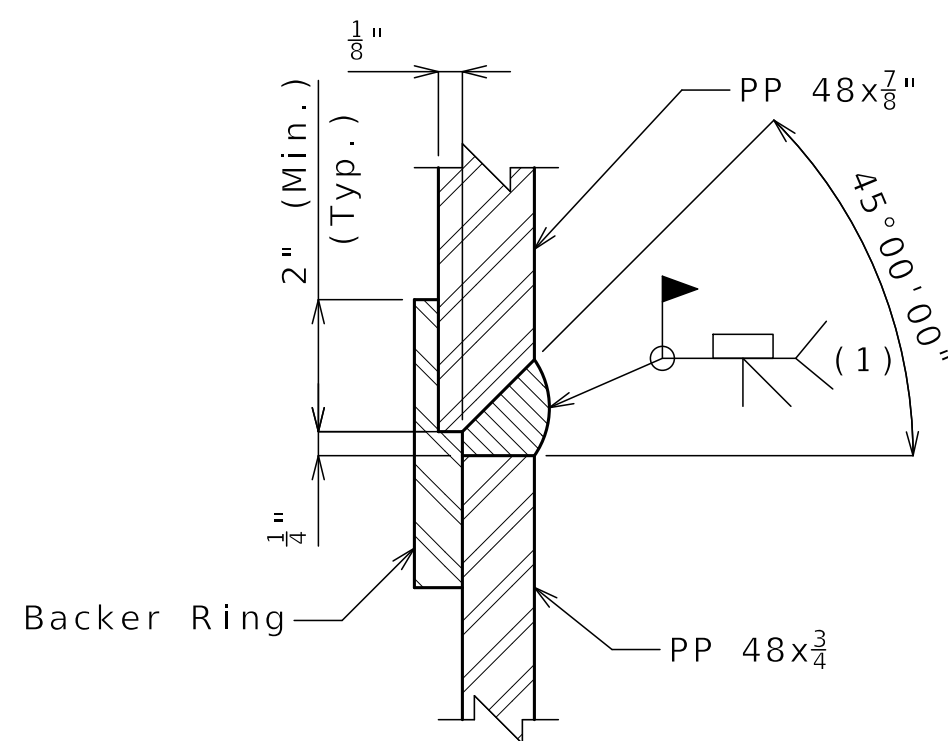
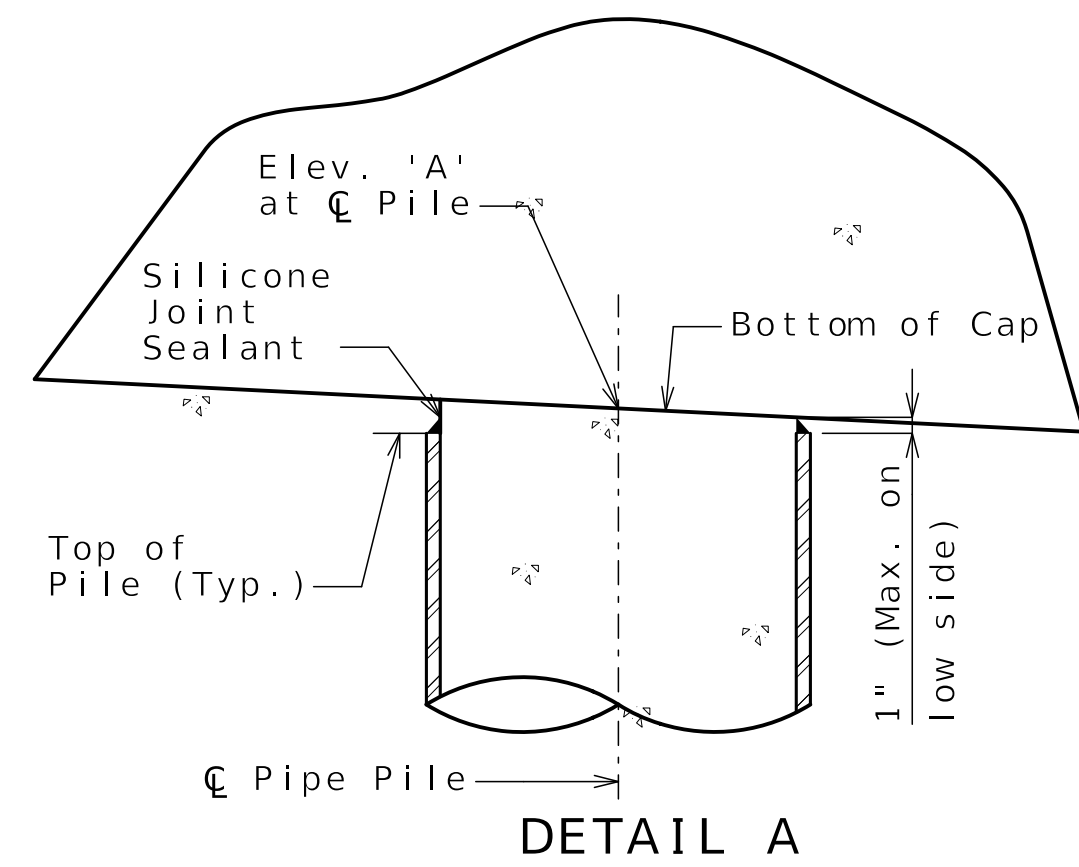
DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

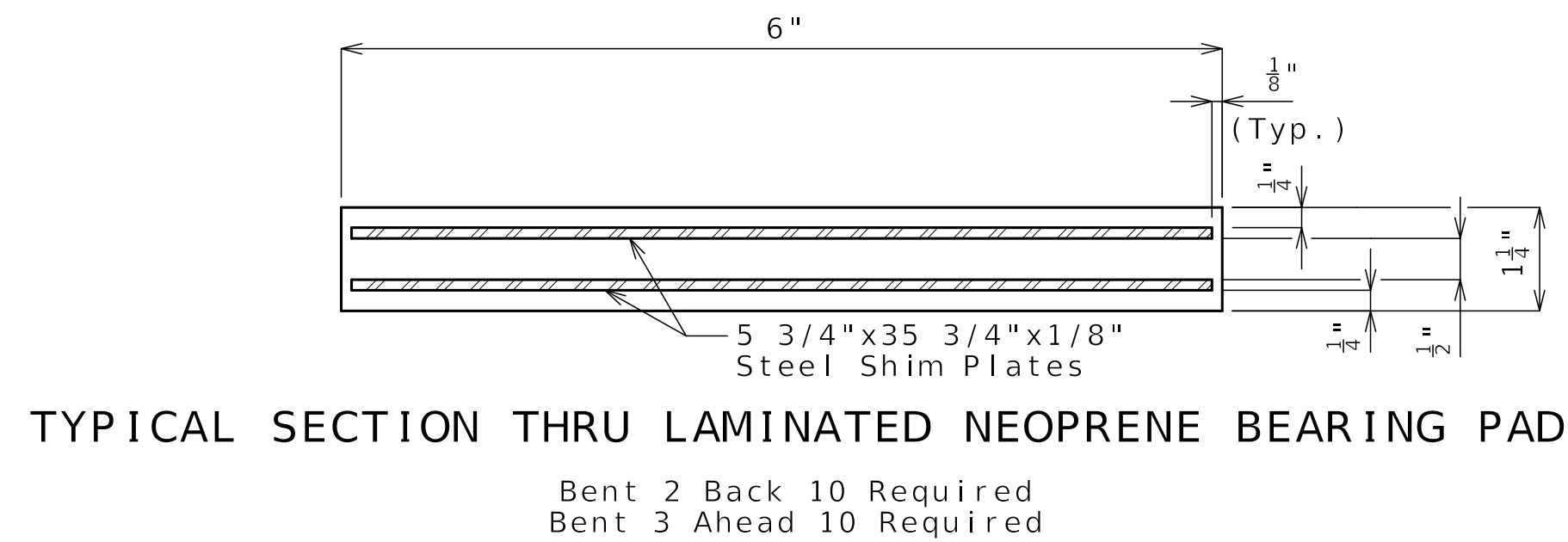
CLARKSON RADMACHER JOINT VENTURE

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

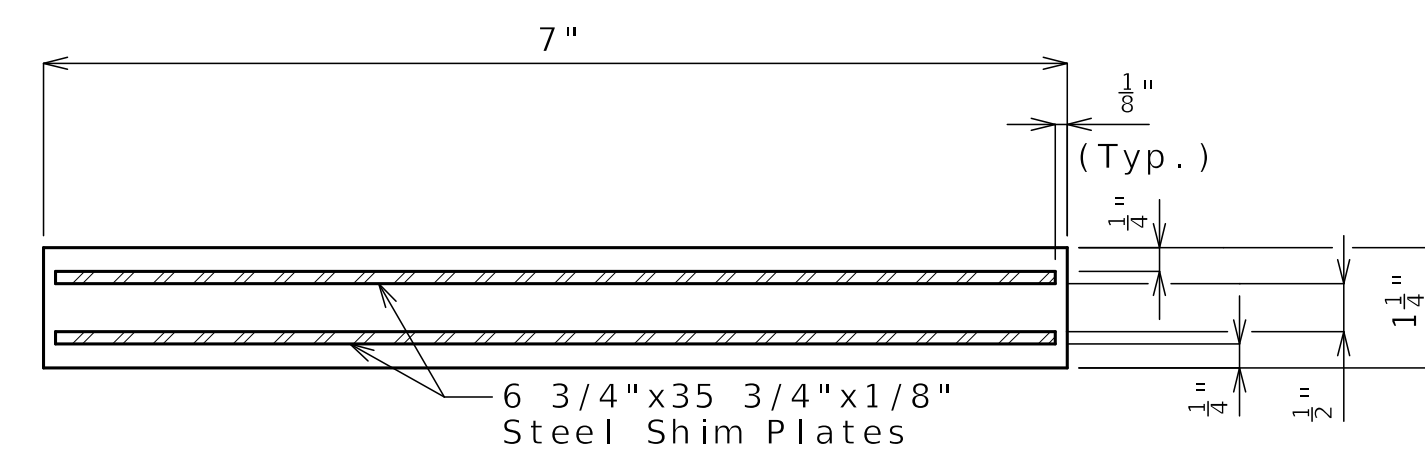


PIPE PILE SPLICE DETAIL

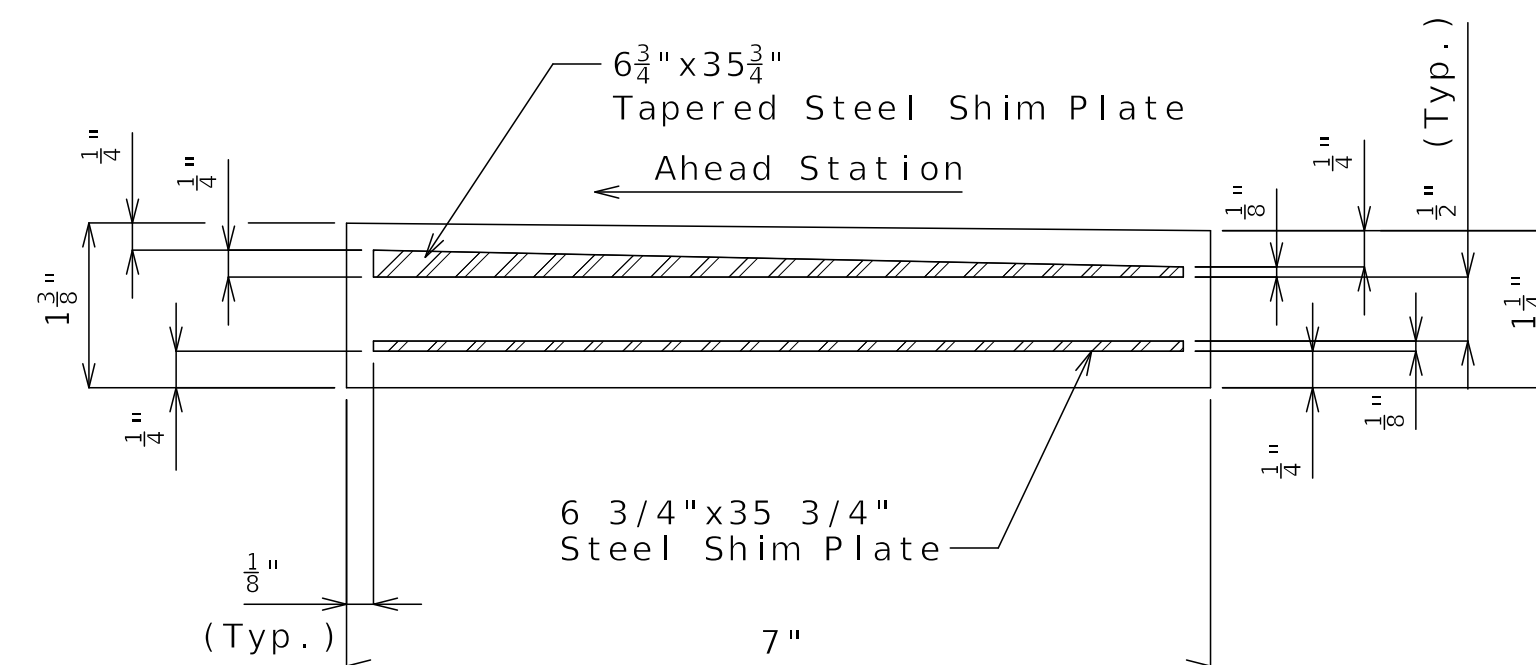
(1) Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD



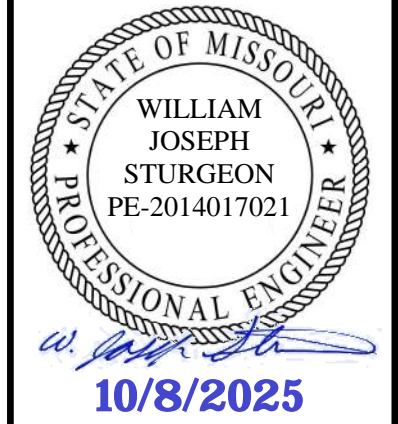
TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD (TAPERED)

Notes:

- Work this sheet with Sheets No. B20-09 thru B20-12 and B20-14.
- Pipe pile shall be closed end.
- The minimum wall thickness of any spot or local area of any type shall not be more than 12.5% under the specified nominal wall thickness.
- The contractor shall determine the pile wall thickness required to avoid damage from all driving activities, but wall thickness shall not be less than the minimum specified.
- Closure plate shall not project beyond the outside diameter of the pipe pile. Satisfactory weldments may be made by beveling tip end of pipe or by use of inside backing rings. In either case, proper gaps shall be used to obtain weld penetration full thickness of pipe.
- Splices for pipe pile shall be made watertight and to the full strength of the pipe above and below the splice to permit hard driving without damage. Pipe damaged during driving shall be replaced.
- Pipe sections used for splicing shall be at least 5 feet in length.
- At the contractor's option, the hooks of vertical bars embedded in the capbeam may be oriented inward or outward as needed to avoid conflict with capbeam reinforcement.
- For location of pipe piles, see Sheet B20-04.
- Shear connectors shall be in accordance with Sec. 712, 1037, and 1080
- For pile point reinforcement details, see Sheet No. B20-14.

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

DETAILS OF INTERMEDIATE BENTS



DATE PREPARED 09/22/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B20-13
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO. A9623

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER JOINT VENTURE

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



DATE PREPARED 09/22/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B20-14
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9623	

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

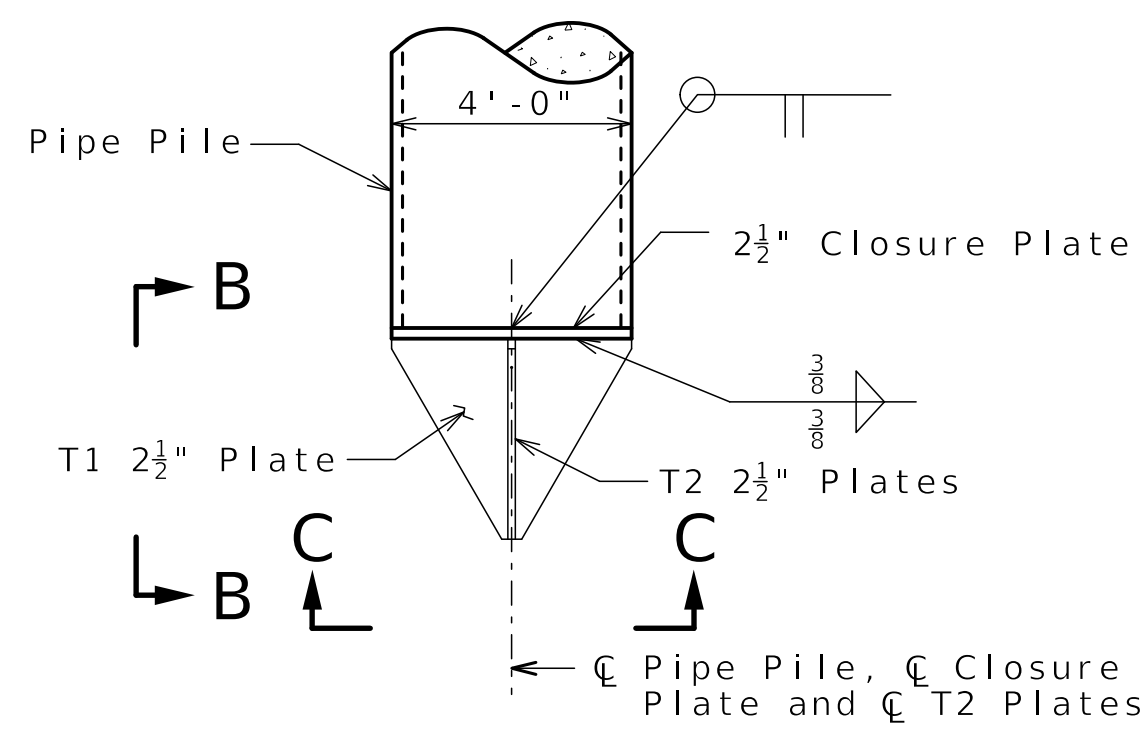
Notes:

Shop drawings are not required for pile point reinforcement.

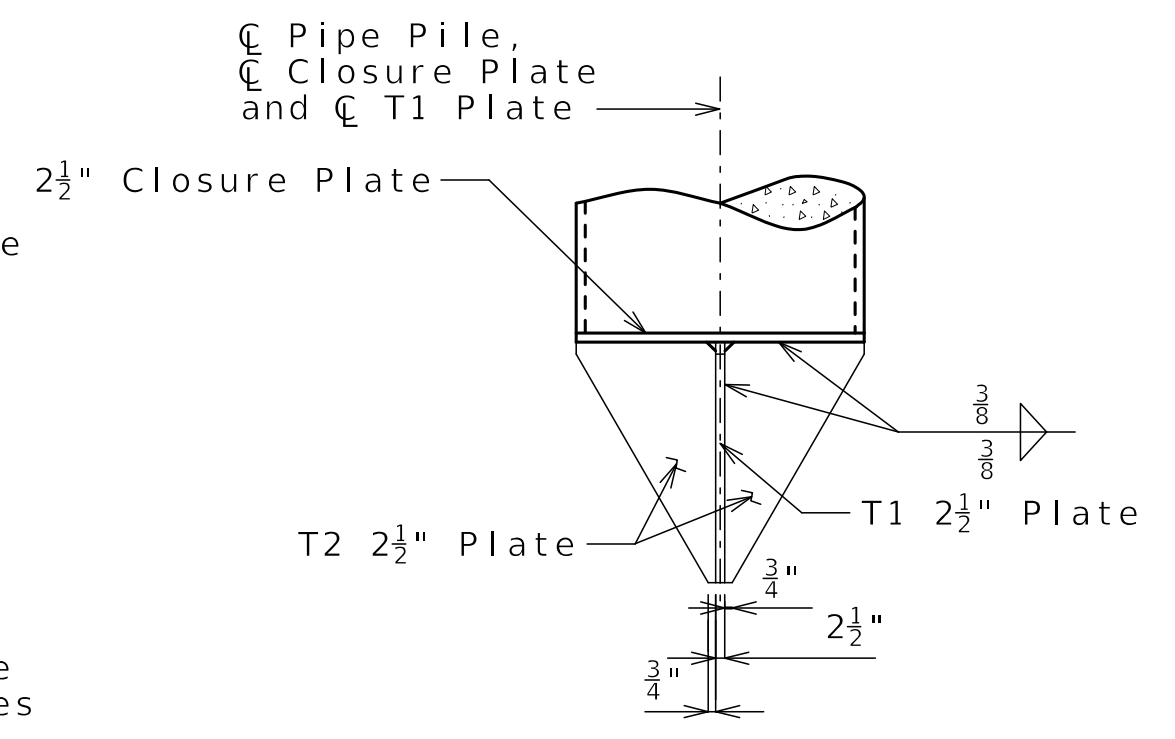
Steel for Closure plate and cruciform pile point reinforcement shall be ASTM A709 Grade 50.

Steel casting for conical pile point reinforcement shall be ASTM A27 Grade 65-35.

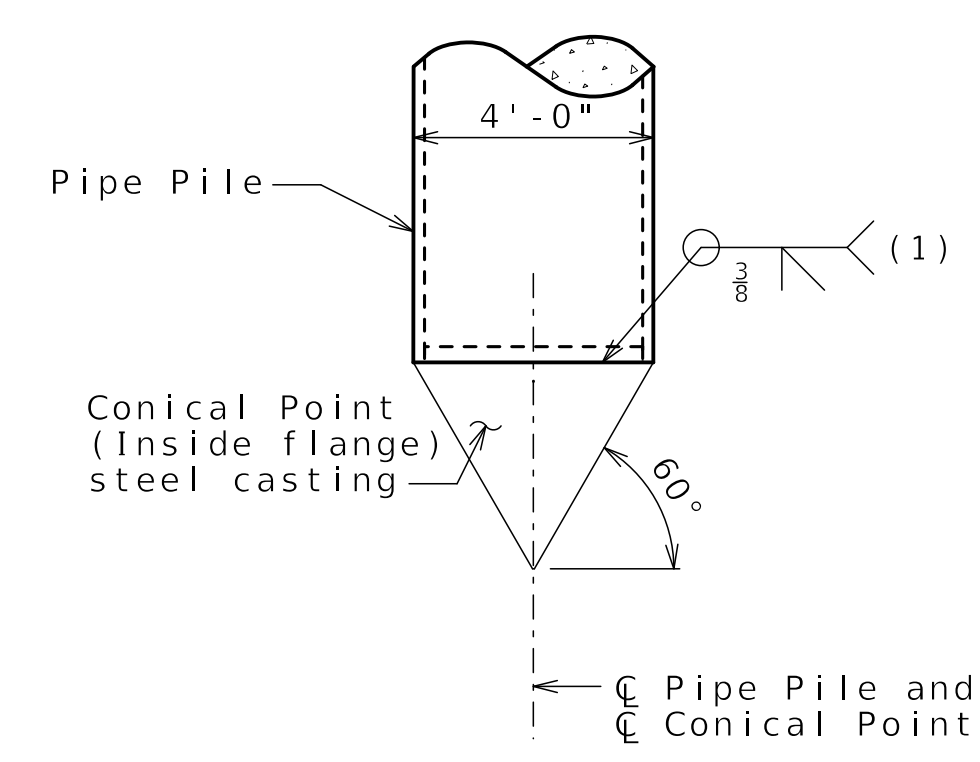
Splices of pipe pile shall be made watertight and to the full strength of the pipe above and below the splice to permit hard driving without damage. Pipe sections used for splicing shall be at least 5 feet in length.



CRUCIFORM PILE POINT

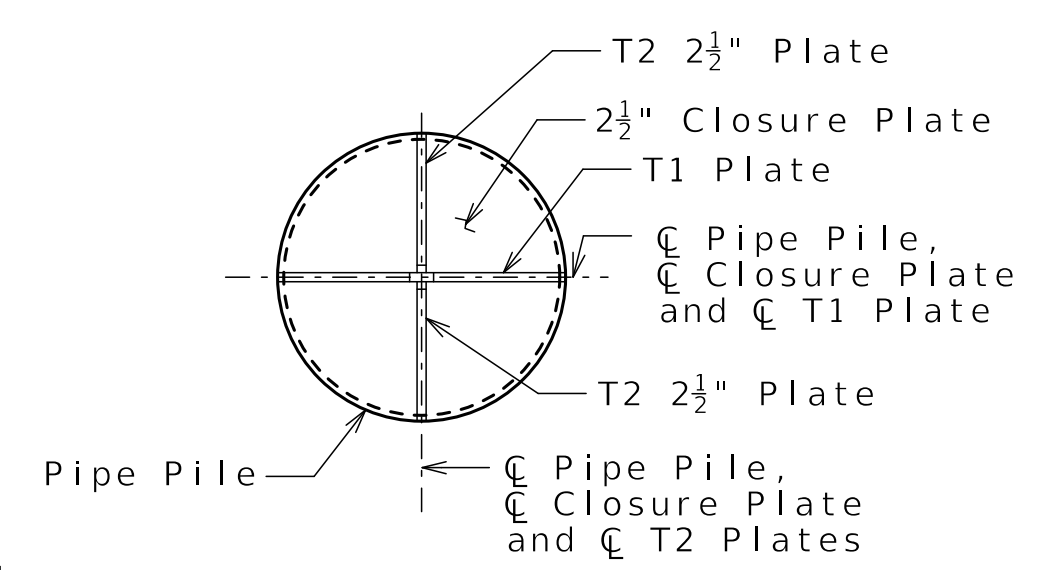
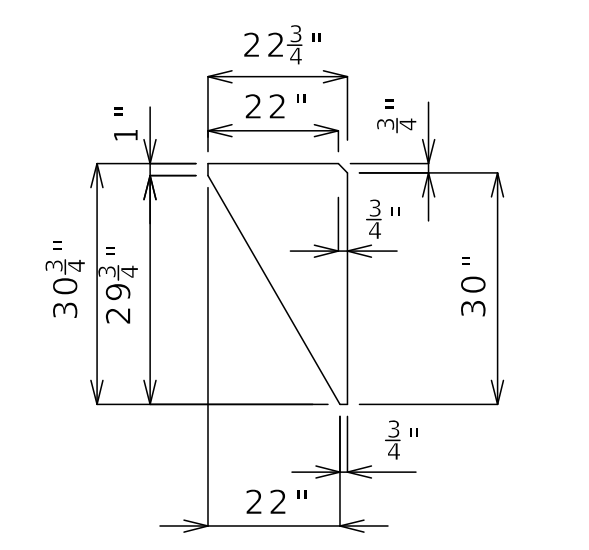
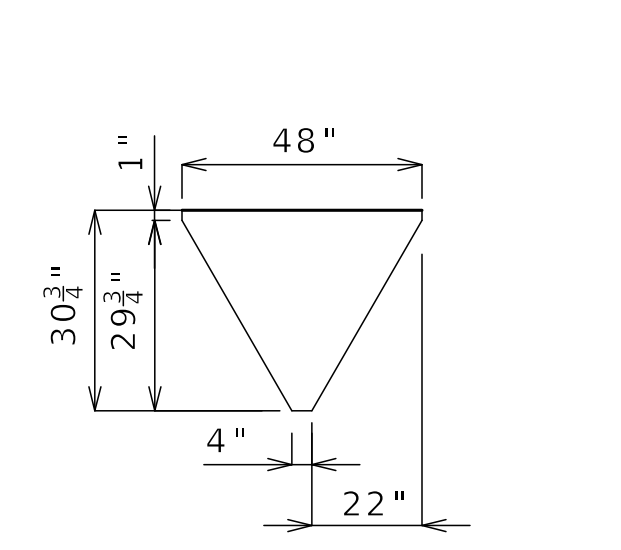


ELEVATION B-B



MANUFACTURED CONICAL PILE POINT
(Omit closure plate)

(1) If the conical pile point is not pre-beveled, place a 3/8" bevel at 40 degrees on the pipe.



SECTION C-C

CRUCIFORM PILE POINT REINFORCEMENT

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

Note: Work this sheet with Sheets No. B20-09 thru B20-13.

PIPE PILE POINT DETAILS

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B20-14 of B20-54

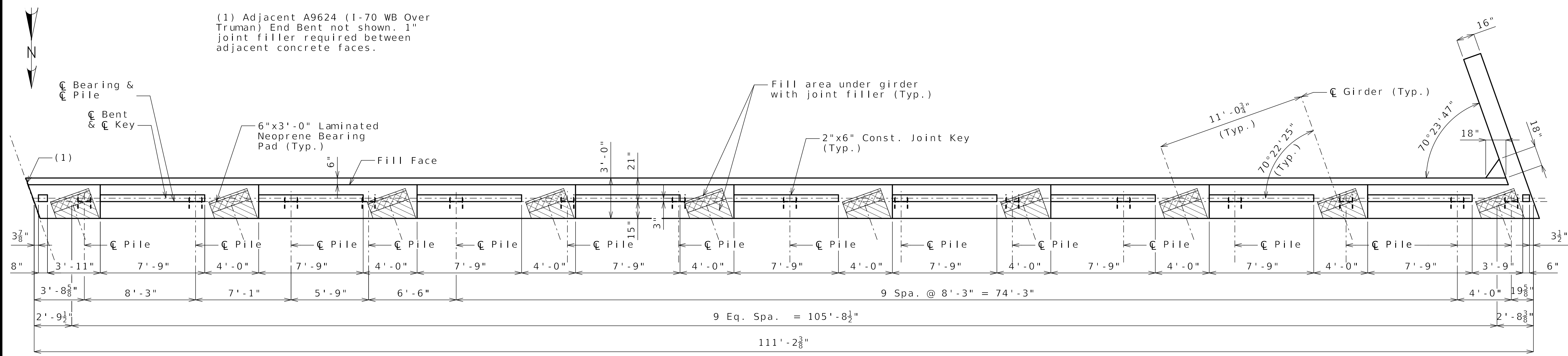
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

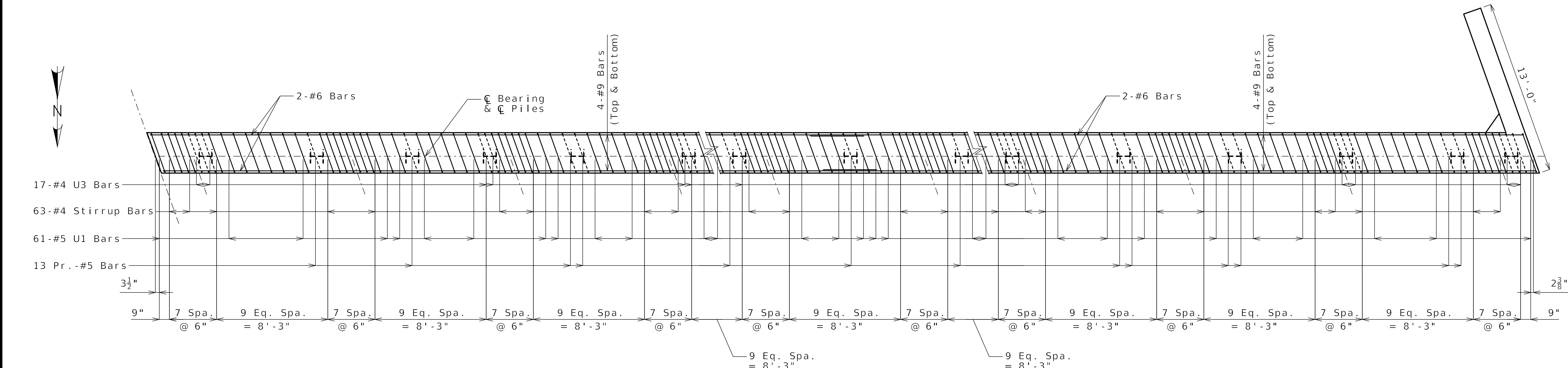
CLARKSON RADMACHER
JOINT VENTURE

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

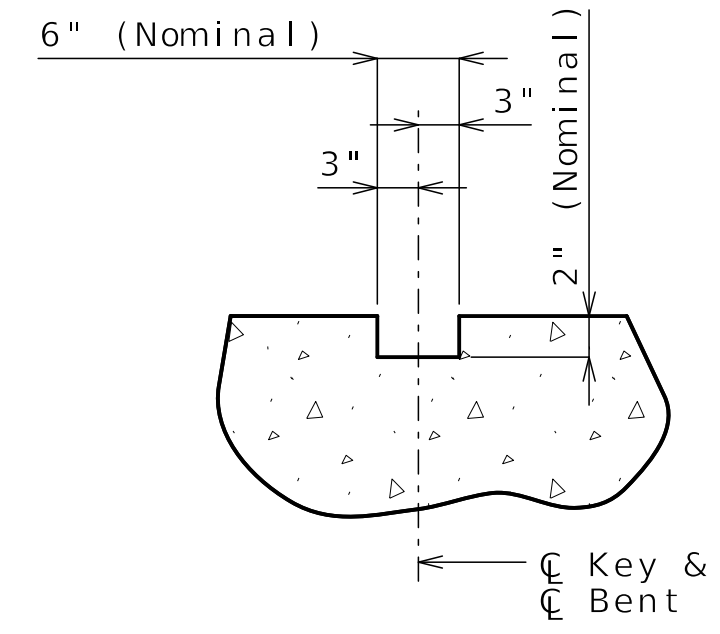
(1) Adjacent A9624 (I-70 WB Over Truman) End Bent not shown. 1" joint filler required between adjacent concrete faces.



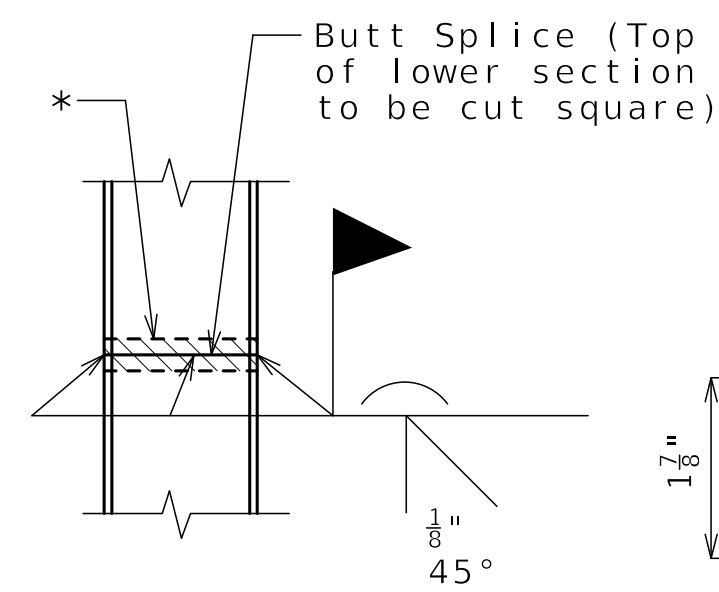
PLAN OF BEAM



PLAN OF BEAM SHOWING REINFORCING
(Key and steps not shown for clarity.)

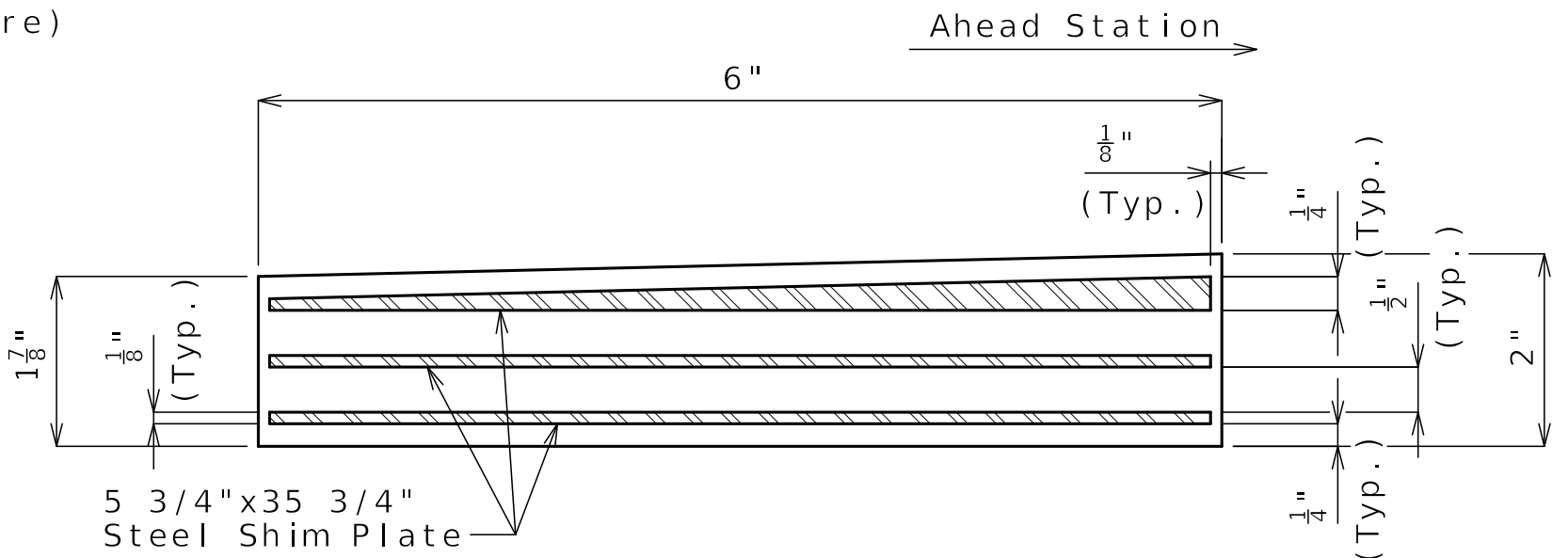


SECTION THRU KEY



STEEL PILE SPLICE
(If required)

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



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD (TAPERED)
10 Required

Notes:
Work this sheet with Sheets No. B20-16 and B20-17.
All U bars and pairs of vertical bars shall be placed along skew.
Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1B 1/2"
For details of bridge approach slab, see Sheet No. B20-38.

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

DETAILS OF END BENT NO. 4



Gina D. Horner
10-8-2025

DATE PREPARED
09/22/2025

ROUTE STATE
I-70 MO
DISTRICT SHEET NO.
BR B20-15

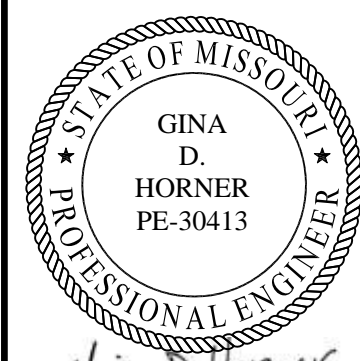
COUNTY
JACKSON
JOB NO.
J411486D
CONTRACT ID.
240807-C01
PROJECT NO.

BRIDGE NO.
A9623

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

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

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



Gina D. Horner
10-8-2025

DATE PREPARED
09/22/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B20-16

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9623

DESCRIPTION
REV 0 - RFC SUBMITTAL

DATE
09/22/25

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

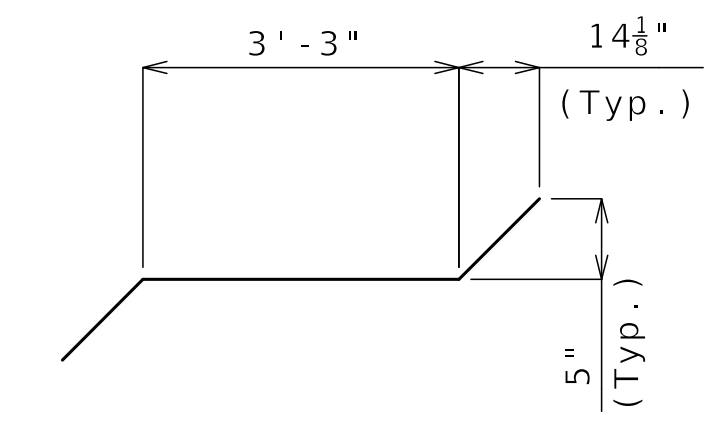
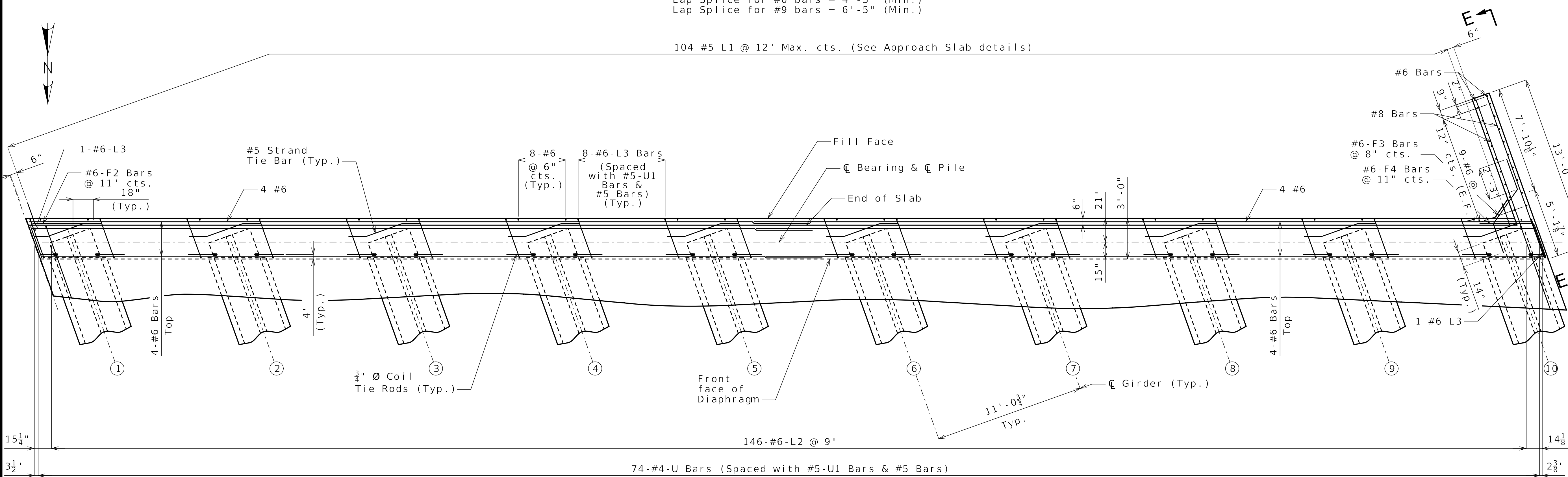
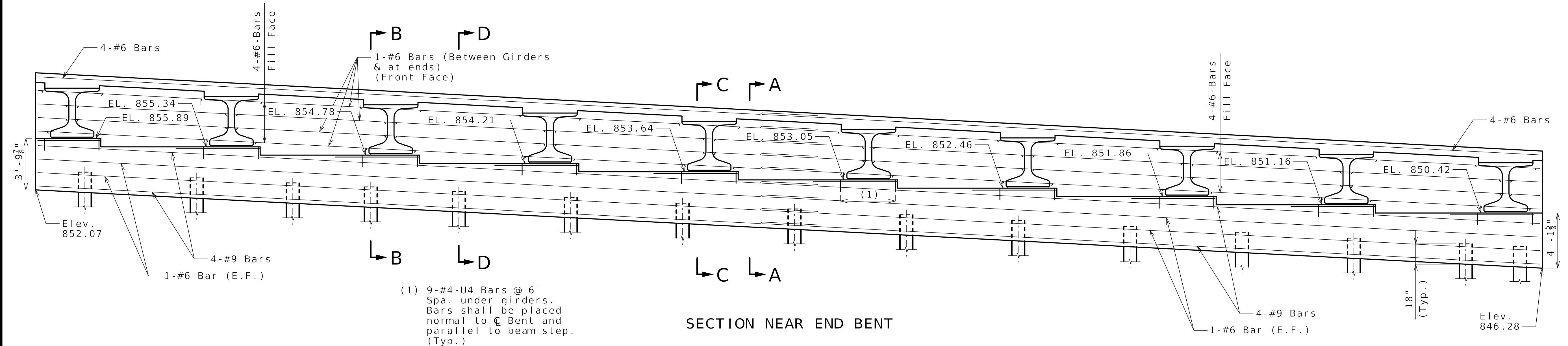
MoDOT

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

CLARKSON
RADMACHER
JOINT VENTURE

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

HNTB



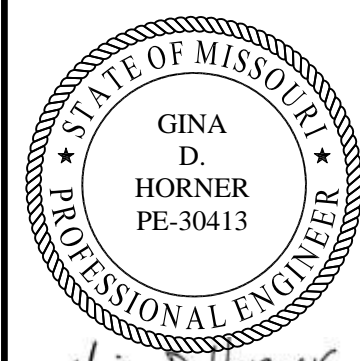
Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

DETAILS OF END BENT NO. 4

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B20-16 of B20-54



Gina D. Horner
10-8-2025

DATE PREPARED
09/22/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B20-17

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9623

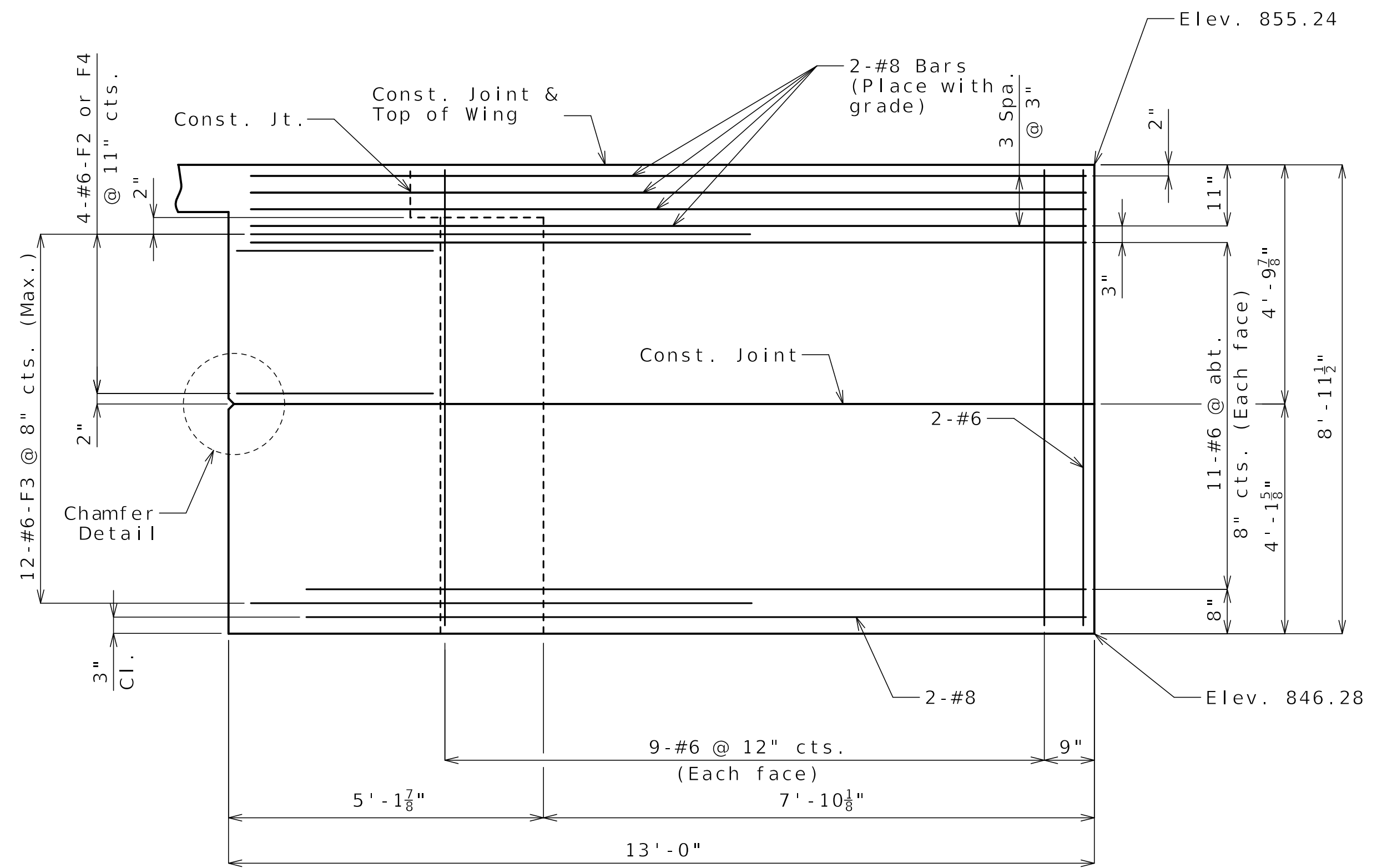
DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

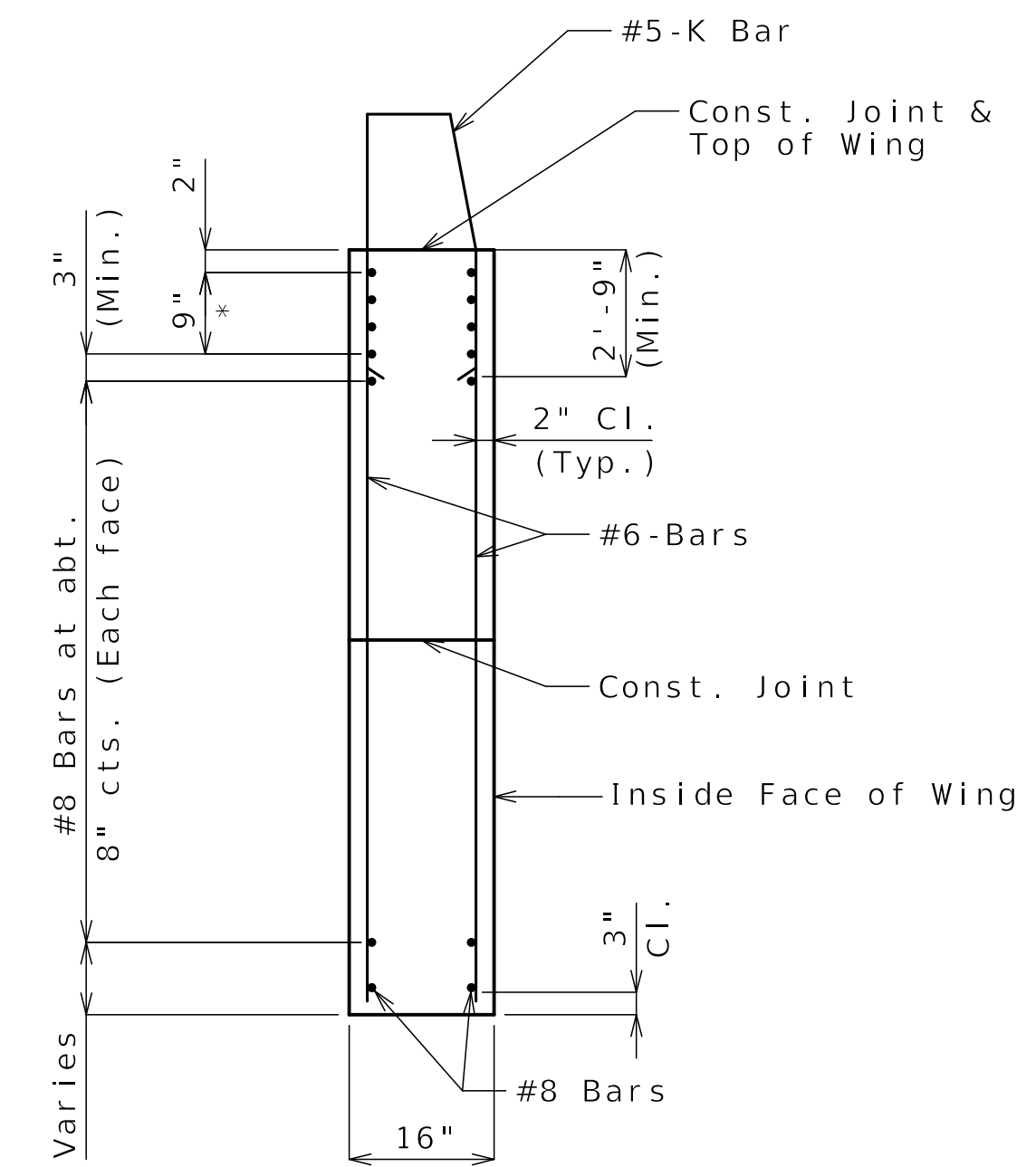
105 WEST CAPITOL JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

HNTB

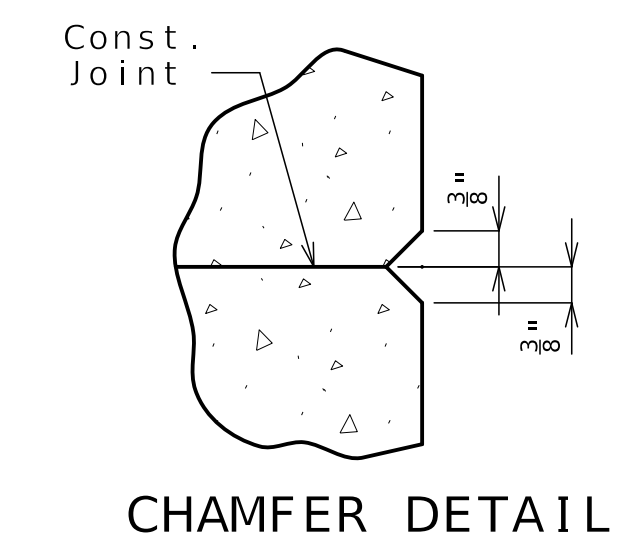


ELEVATION E-E

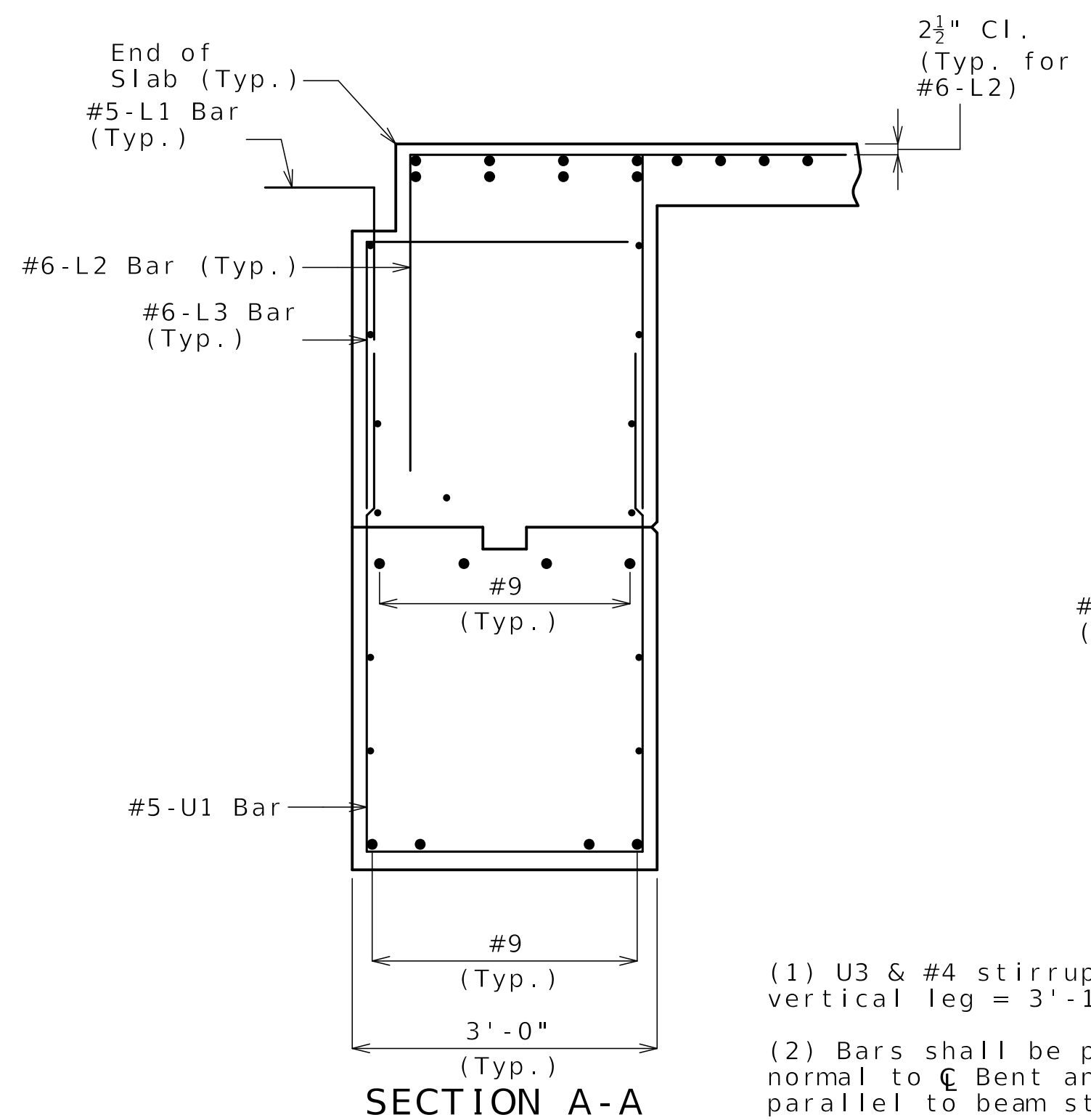


TYPICAL SECTION THRU WING

*#8 Bars at 3" cts. (Each face) (Place with grade) See Elevation E-E for number of bars

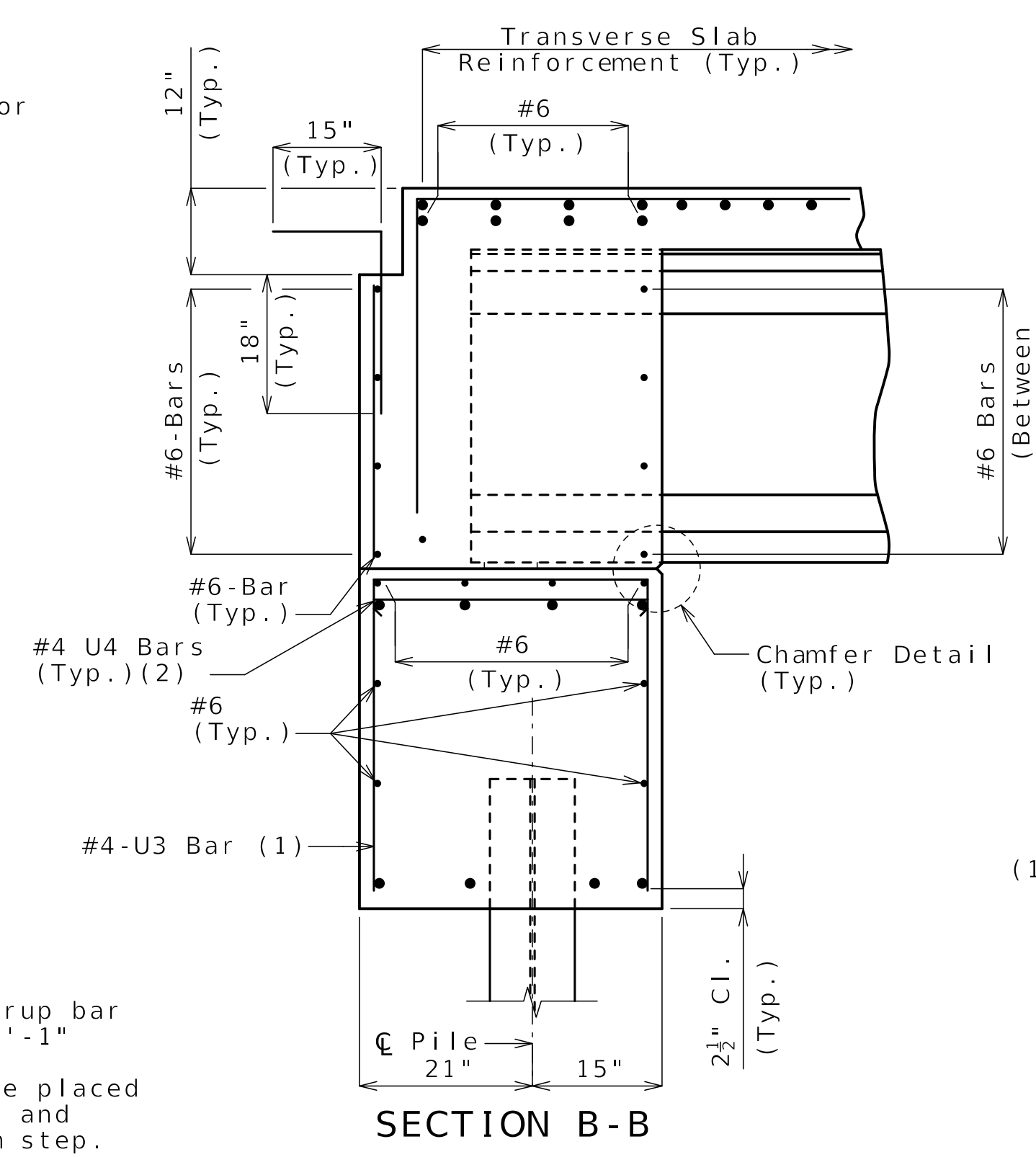


CHAMFER DETAIL

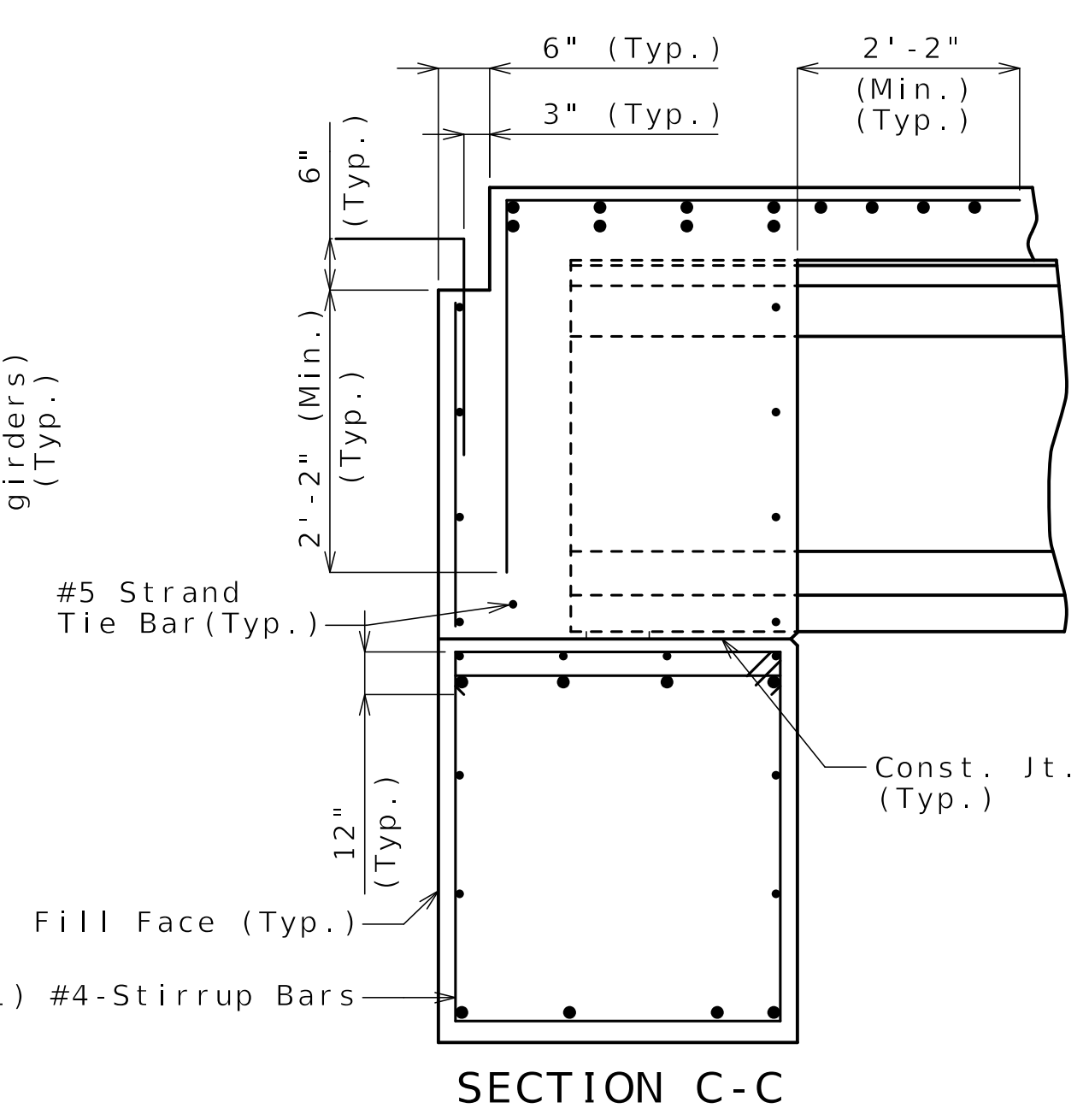


SECTION A-A

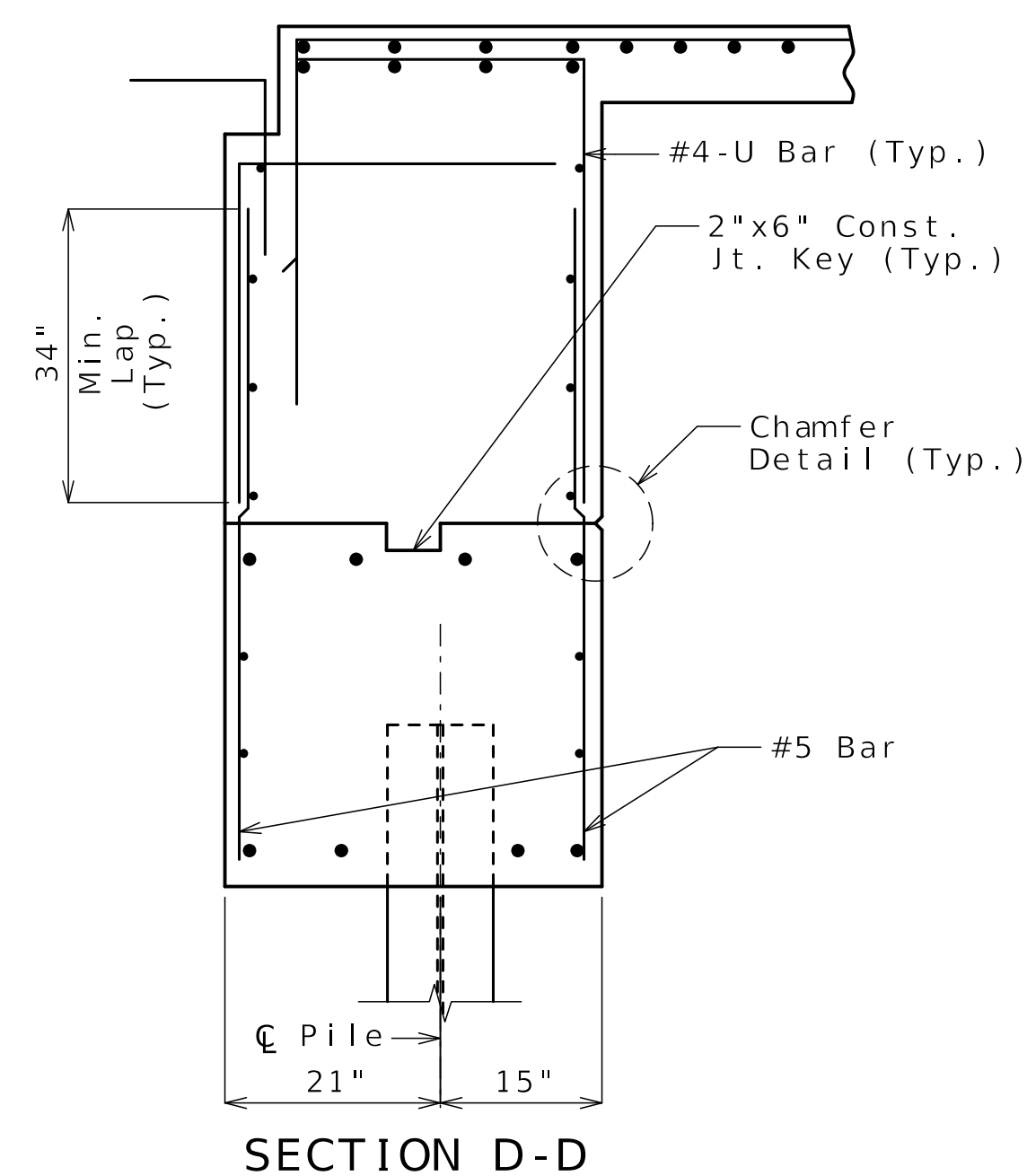
(1) U3 & #4 stirrup bar vertical leg = 3'-1"
(2) Bars shall be placed normal to C Bent and parallel to beam step.



SECTION B-B



SECTION C-C

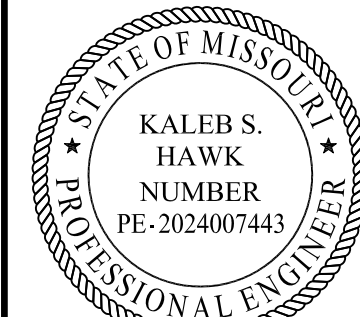


SECTION D-D

General Notes:
Work this sheet with Sheets No. B20-15 and B20-16.
For location of Sections A-A, B-B, C-C, D-D and Elevation E-E, see Sheet No. B20-16.
For reinforcement of the Type D Barrier, see see Sheet No. B20-34.

DETAILS OF END BENT NO. 4

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman



Kaleb S. Hawk
10-8-2025

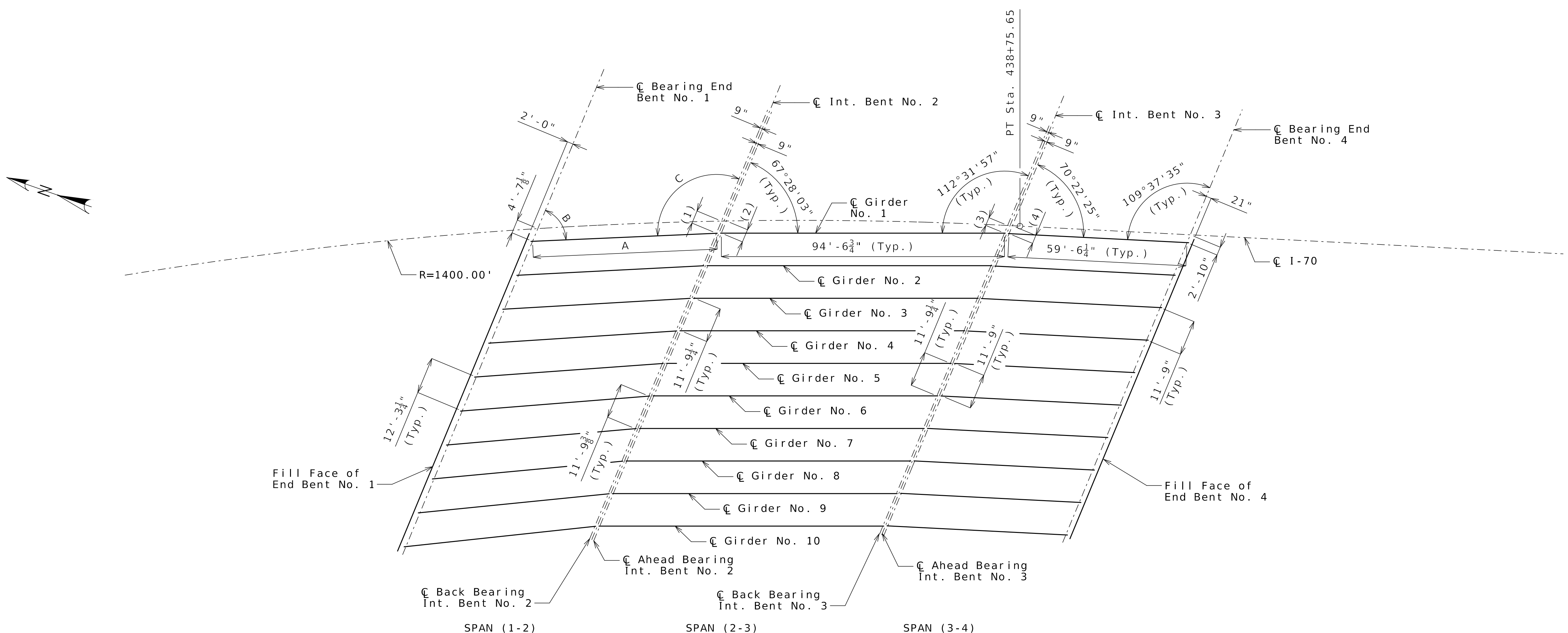
DATE PREPARED
09/22/2025
ROUTE STATE
I-70 MO
DISTRICT SHEET NO.
BR B20-18
COUNTY
JACKSON
JOB NO.
J411486D
CONTRACT ID.
240807-C01
PROJECT NO.

BRIDGE NO.
A9623

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

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

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



- (1) 4' - 4 3/4"
- (2) 4' - 4 3/8"
- (3) 2' - 9 1/4"
- (4) 2' - 10 3/8"

FRAMING PLAN

Girder Number	A
1	61' - 5 3/4"
2	61' - 8 1/4"
3	61' - 10 3/4"
4	62' - 1 3/8"
5	62' - 4"
6	62' - 6 3/8"
7	62' - 9 3/8"
8	63' - 0 1/8"
9	63' - 2 3/8"
10	63' - 5 3/8"

Girder Number	B	C
1	64°57'36"	115°02'24"
2	64°32'50"	115°27'10"
3	64°08'14"	115°51'46"
4	63°43'49"	116°16'11"
5	63°19'33"	116°40'27"
6	62°55'28"	117°04'32"
7	62°31'33"	117°28'27"
8	62°07'49"	117°52'11"
9	61°44'15"	118°15'45"
10	61°20'51"	118°39'09"

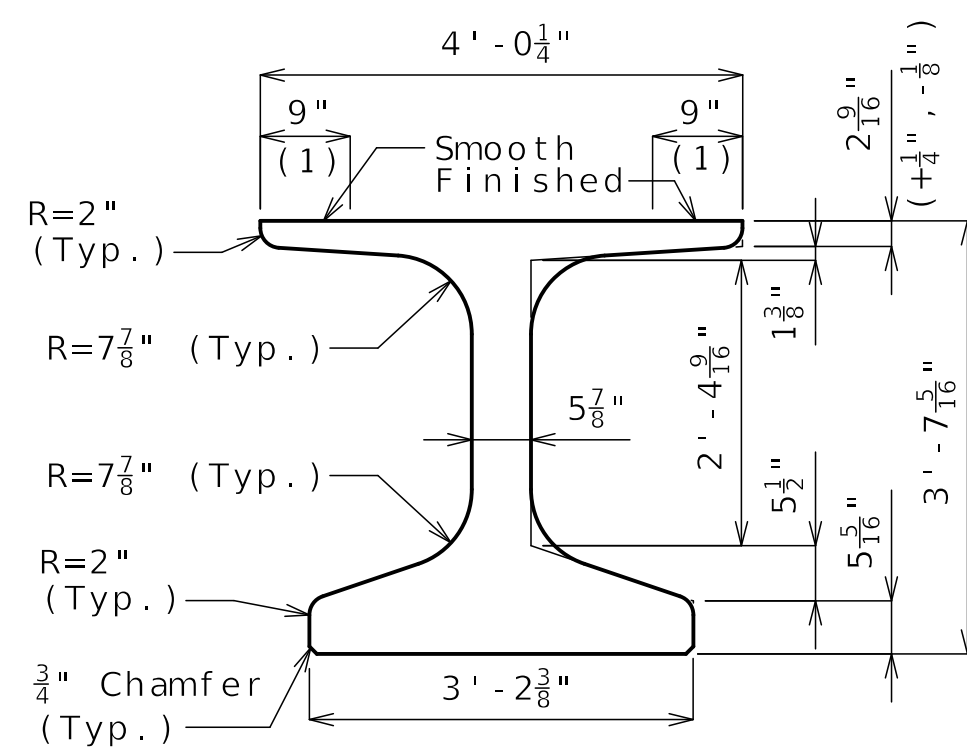
Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

Notes:
All dimensions are horizontal.
All bents are parallel.

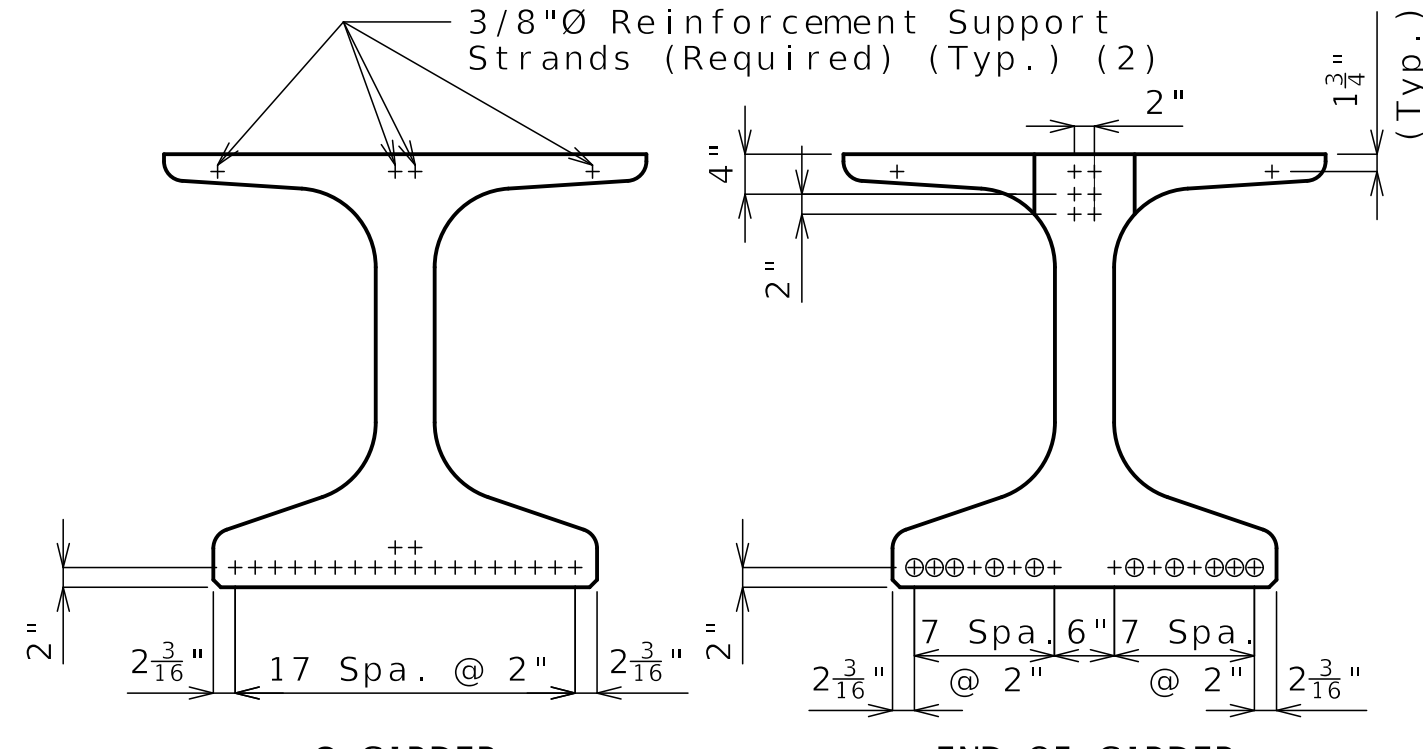
FRAMING PLAN

(1) Fabricator shall apply a bond breaker to this region.

(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.

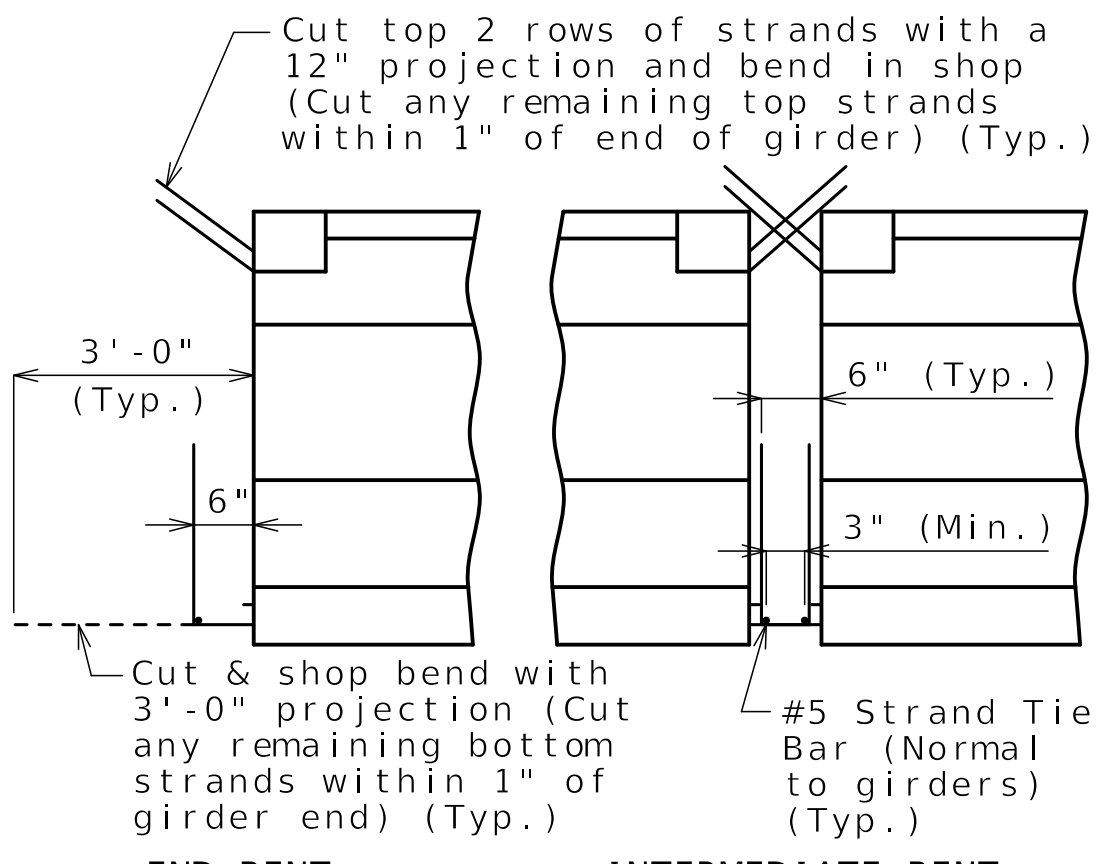


DIMENSIONS



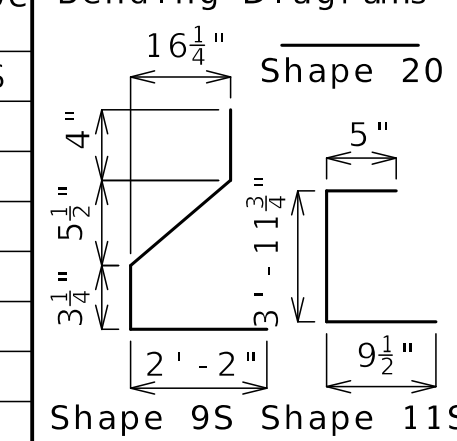
STRAND ARRANGEMENT

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

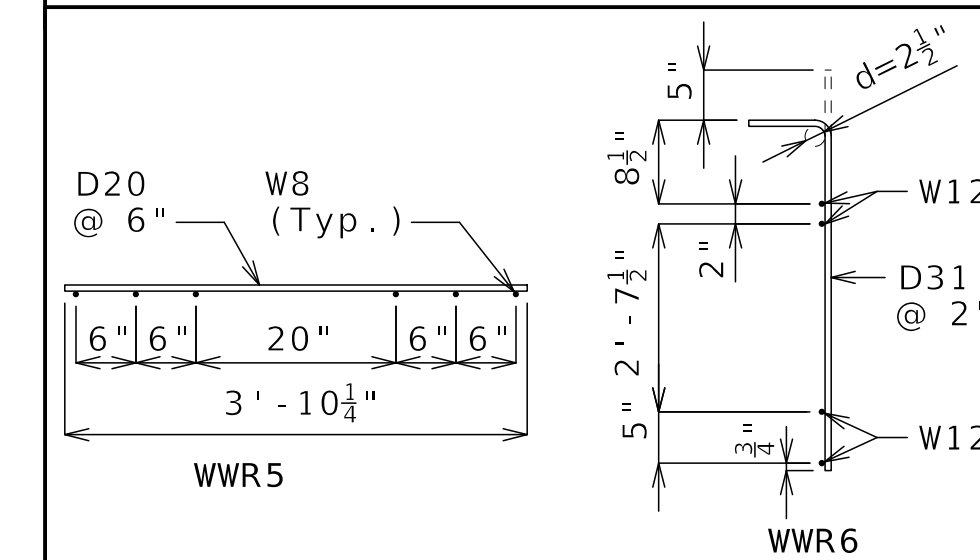


STRANDS AT GIRDER ENDS

Bill of Reinforcing Steel - Each Girder			
No.	Size/Mark	Length	Shape
E	5 B1	5'-0"	11S
F	4 D1	4'-0"	9S



Welded Wire Reinforcement - Each Girder



All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be one inch.

All bar reinforcement shall be Grade 60.

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

All B1 bars shall be epoxy coated.

General Notes:

Concrete for prestressed girders shall be Class A-1 with $f'c = 10000$ psi and $f'ci = 7500$ psi.

Use 20 strands, 0.6"Ø Grade 270, with an initial prestress force of 879 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 blackout, and application of bond breaker.

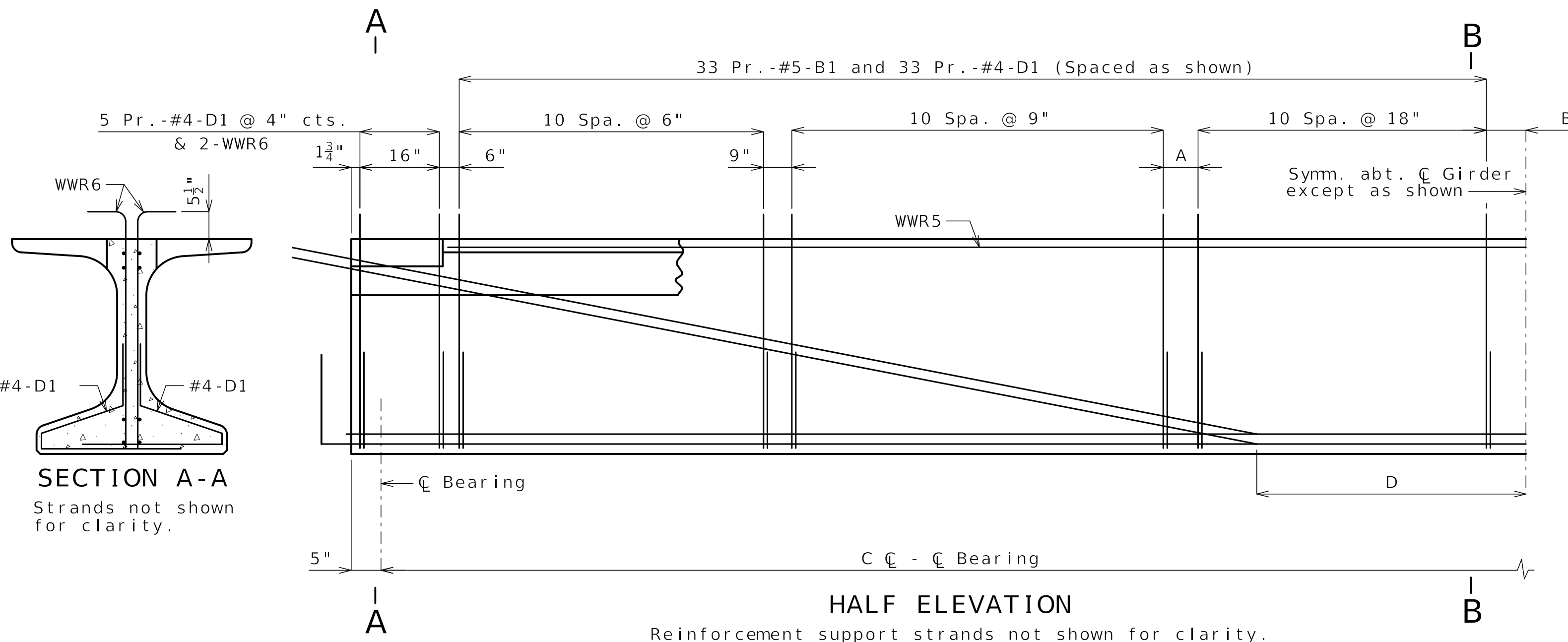
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. B20-24.

For location of coil ties at concrete diaphragms and integral bents, see Sheets No. B20-06 and B20-23.

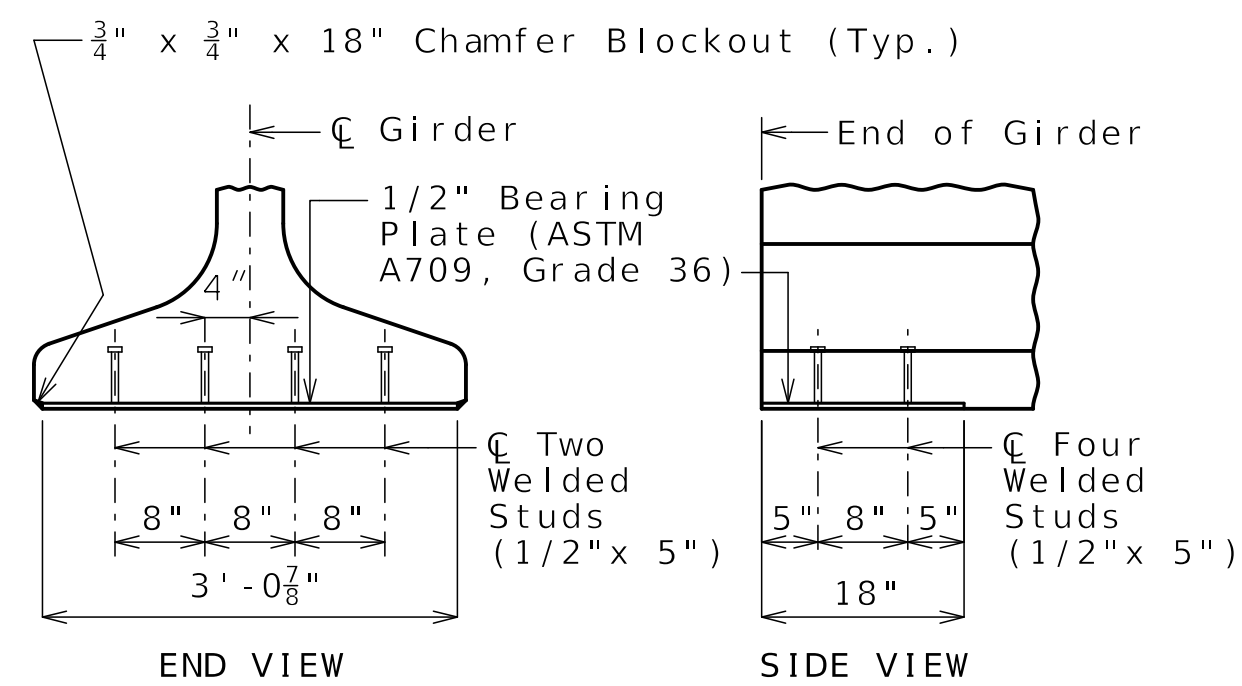
For additional NU Girder Details, see Sheet No. B20-22.

All dimensions are horizontal.

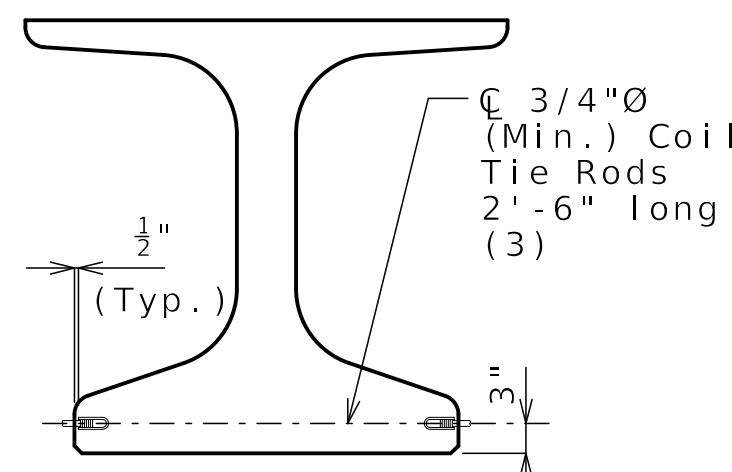


HALF ELEVATION

Reinforcement support strands not shown for clarity.



BEARING PLATE



COIL TIES

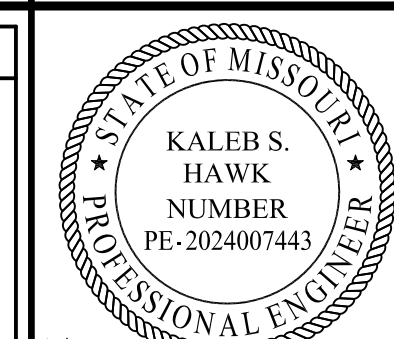
Exclude coil tie at exterior face of exterior girders except at integral end bents.

(3) 2'-3" at exterior face of exterior Girder No. 1 at end bents.

TABLE OF VARIABLES						
Girder No.	A	B	C	D	E	F
1	11 1/8"	0	61'-5 3/4"	6'-3"	130	150
2	12 3/8"	0	61'-8 1/4"	6'-3"	130	150
3	13 5/8"	0	61'-10 3/4"	6'-3"	130	150
4	15"	0	62'-1 3/8"	6'-4"	130	150
5	16 1/4"	0	62'-4"	6'-4"	130	150
6	17 5/8"	0	62'-6 5/8"	6'-4"	130	150
7	9 7/8"	9	62'-9 3/8"	6'-4"	132	152
8	11 1/4"	9	63'-0 1/8"	6'-5"	132	152
9	12 5/8"	9	63'-2 7/8"	6'-5"	132	152
10	14 1/8"	9	63'-5 5/8"	6'-5"	132	152

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

NU-GIRDERS - SPAN (1-2)



Kaleb S. Hawk
10-8-2025

DATE PREPARED
09/22/2025

ROUTE
1-70

STATE
MO

DISTRICT
BR

SHEET NO.
B20-19

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9623

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

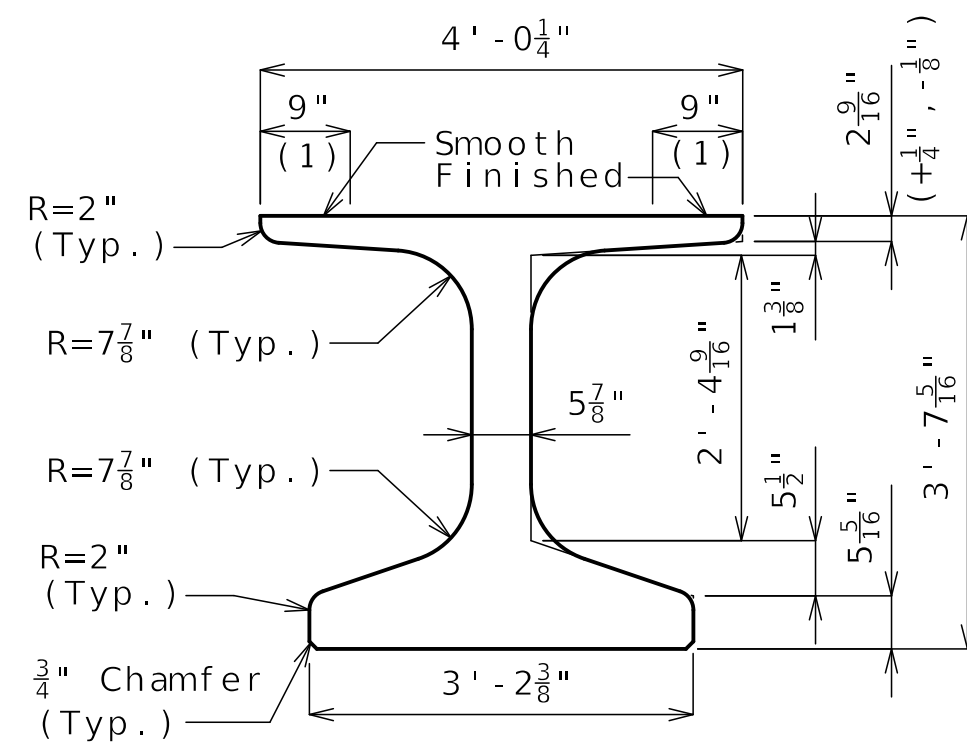
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE

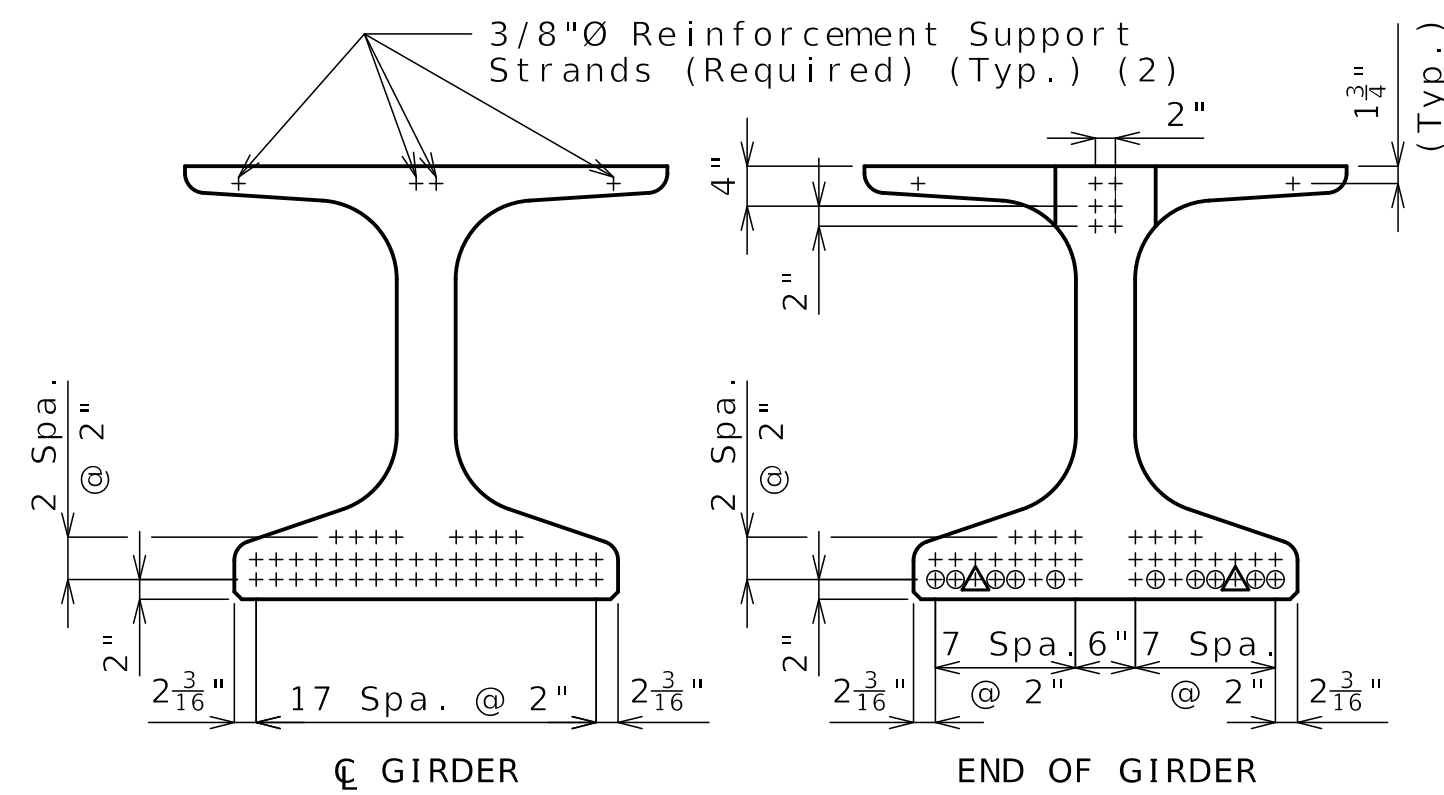
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270

(1) Fabricator shall apply a bond breaker to this region.

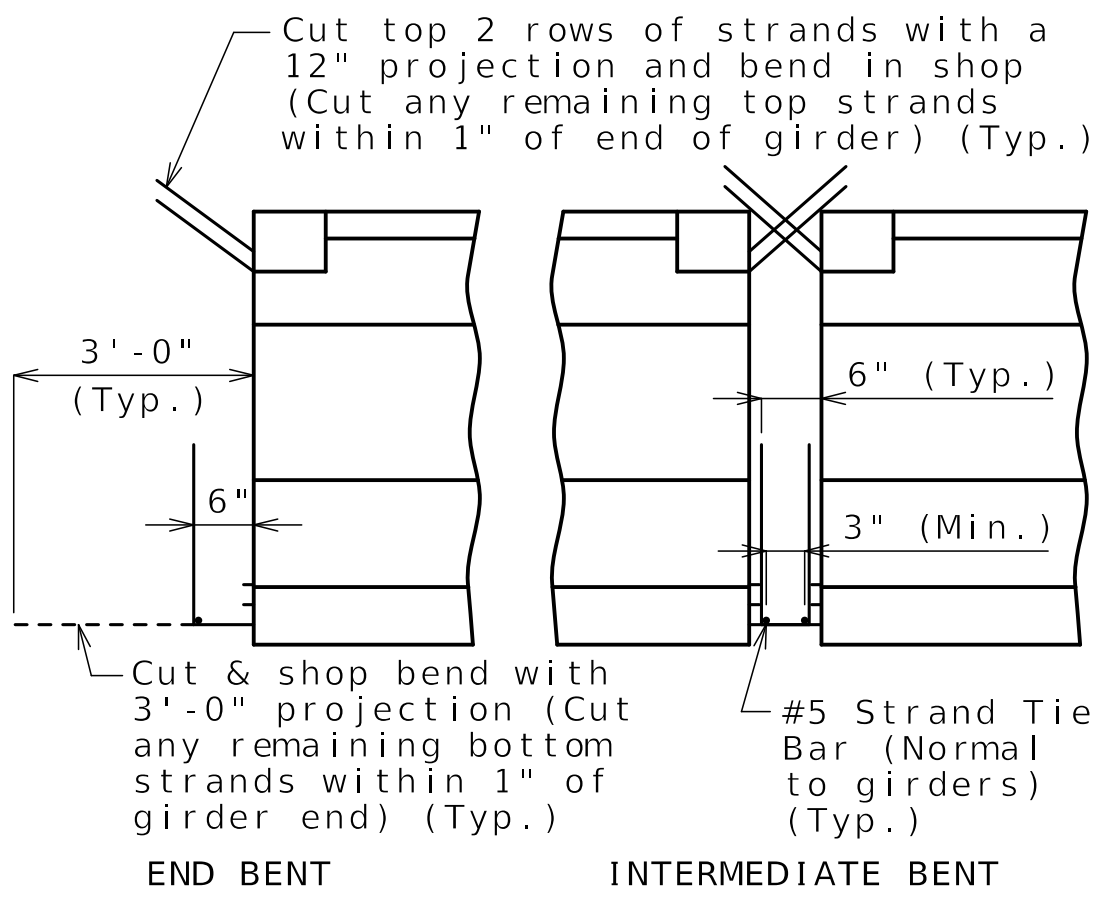
(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about \bar{C} Girder. May be moved laterally in pairs.



DIMENSIONS



STRAND ARRANGEMENT

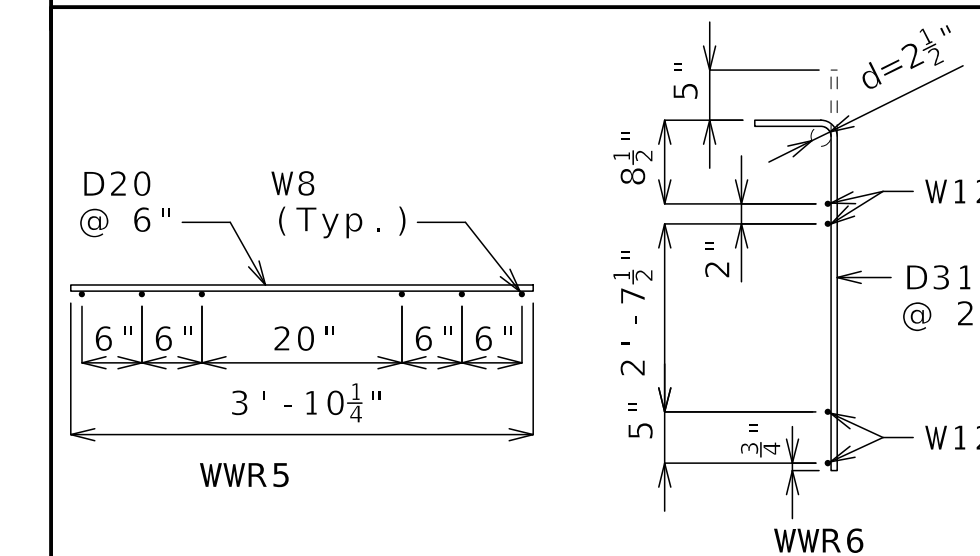


STRANDS AT GIRDER ENDS

+ Indicates prestressing strand.
 O Indicates cut & shop bend with 3'-0" projection.
 Δ Indicates debonded for 5'-0" from end of girder.

Bill of Reinforcing Steel - Each Girder				
No.	Size/Mark	Length	Shape	Bending Diagrams
188	5 B1	5'-0"	11S	Shape 20
208	4 D1	4'-0"	9S	Shape 9S Shape 11S

Welded Wire Reinforcement - Each Girder



All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be one inch.

All bar reinforcement shall be Grade 60.

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

All B1 bars shall be epoxy coated.

General Notes:

Concrete for prestressed girders shall be Class A-1 with $f'c = 10000$ psi and $f'ci = 7500$ psi.

Use 44 strands, 0.6"Ø Grade 270, with an initial prestress force of 1934 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 breakout, and application of bond breaker.

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.

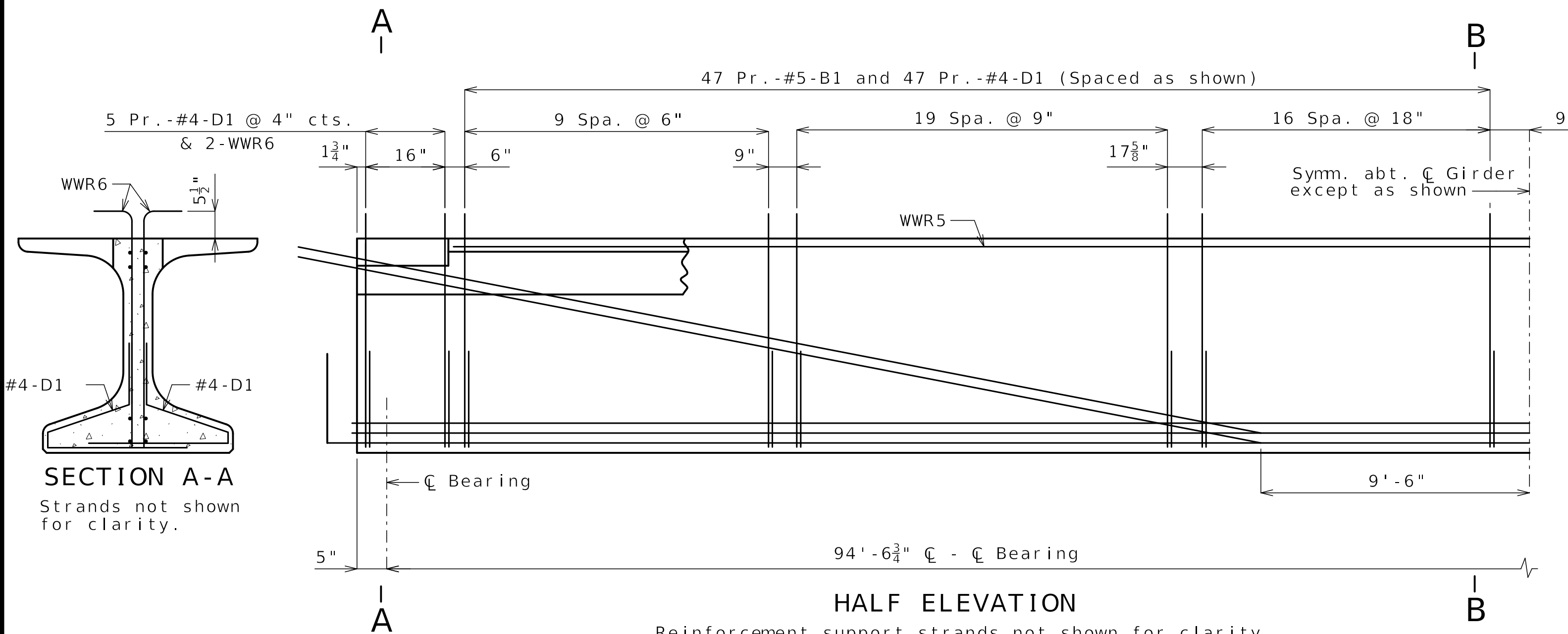
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. B20-24.

For location of coil ties at concrete diaphragms, see Sheet No. B20-23.

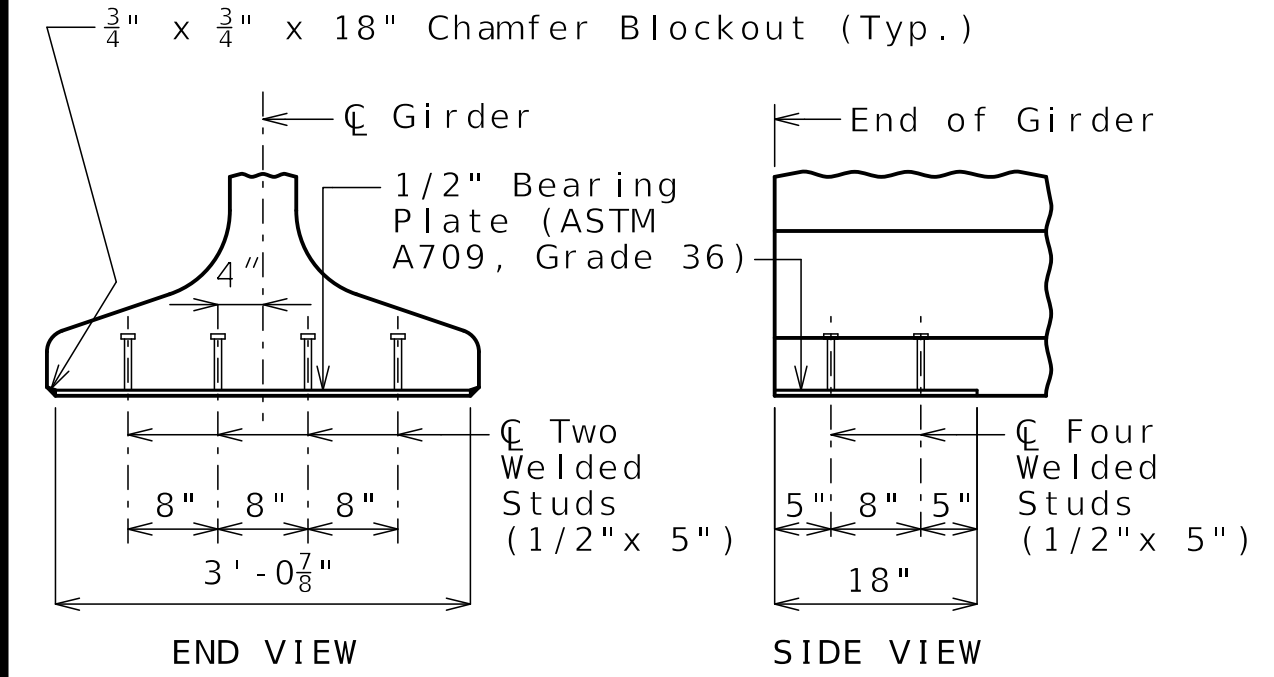
For additional NU Girder Details, see Sheet No. B20-22.

All dimensions are horizontal.

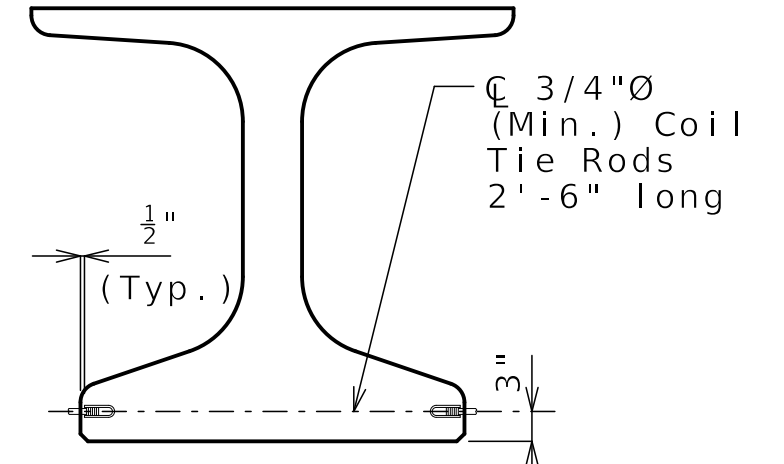


HALF ELEVATION

Reinforcement support strands not shown for clarity.



BEARING PLATE



COIL TIES

Exclude coil tie at exterior face of exterior girders.

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman

Detailed MAY 2025
 Checked JUN 2025

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

Sheet No. B20-20 of B20-54

NU-GIRDERS - SPAN (2-3)

KALEB S. HAWK
 NUMBER PE-202407443
 PROFESSIONAL ENGINEER

DATE PREPARED: 09/22/2025

ROUTE: I-70	STATE: MO
DISTRICT: BR	SHEET NO.: B20-20

COUNTY: JACKSON
 JOB NO.: J411486D
 CONTRACT ID.: 240807-C01
 PROJECT NO.:

BRIDGE NO.: A9623

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

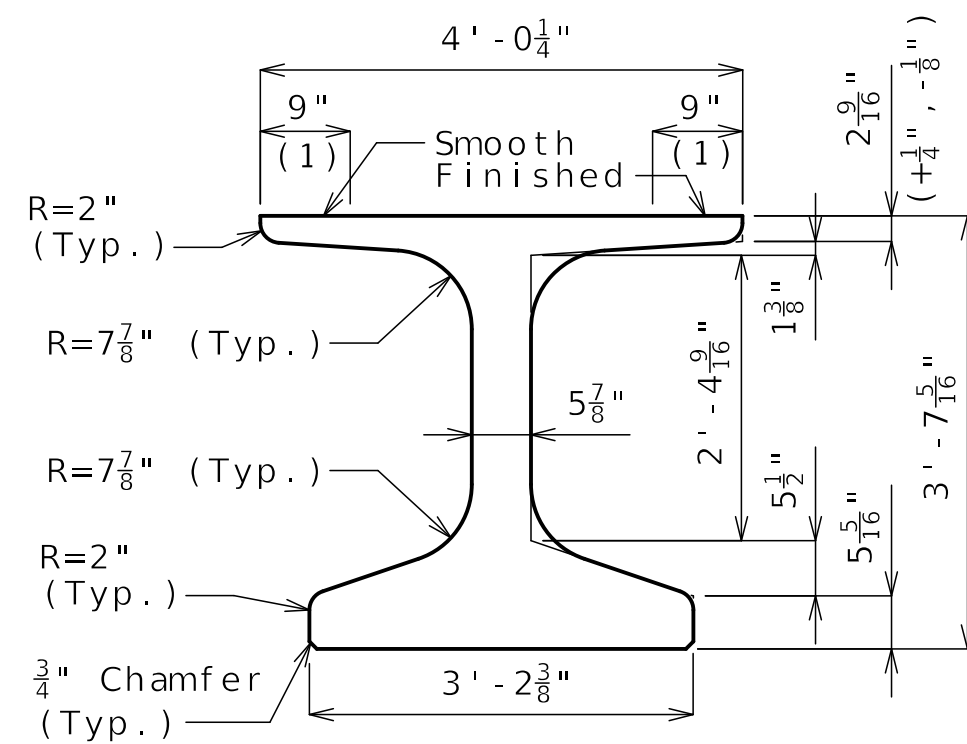
105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE

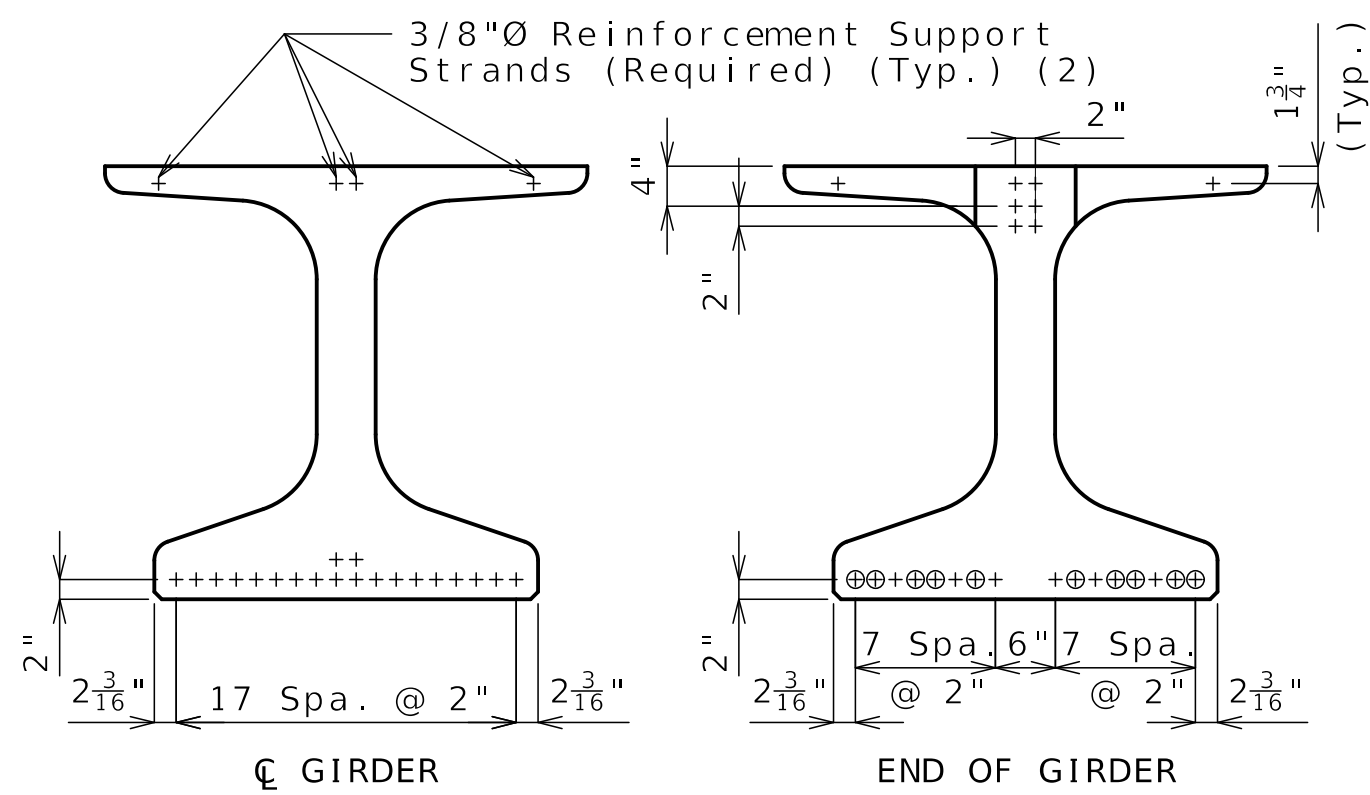
715 KIRK DRIVE
 KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270

(1) Fabricator shall apply a bond breaker to this region.

(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.

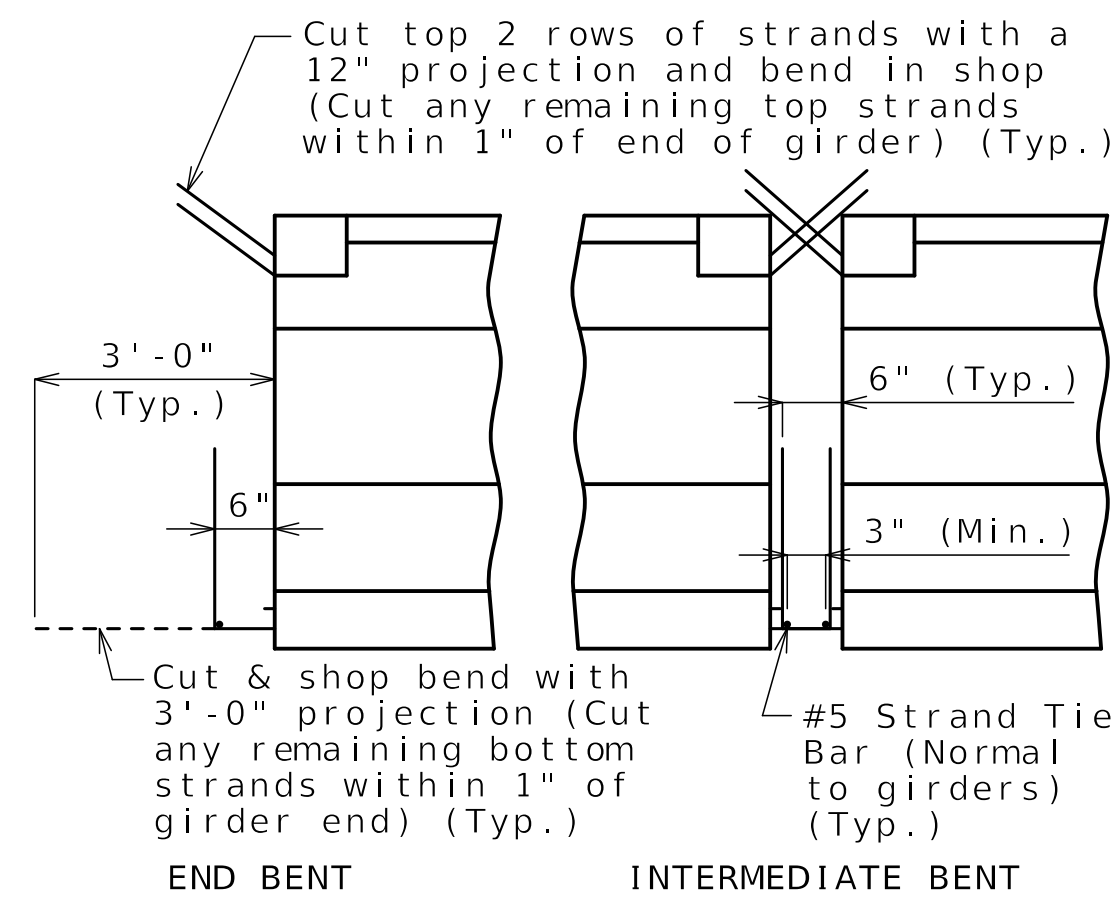


DIMENSIONS



STRAND ARRANGEMENT

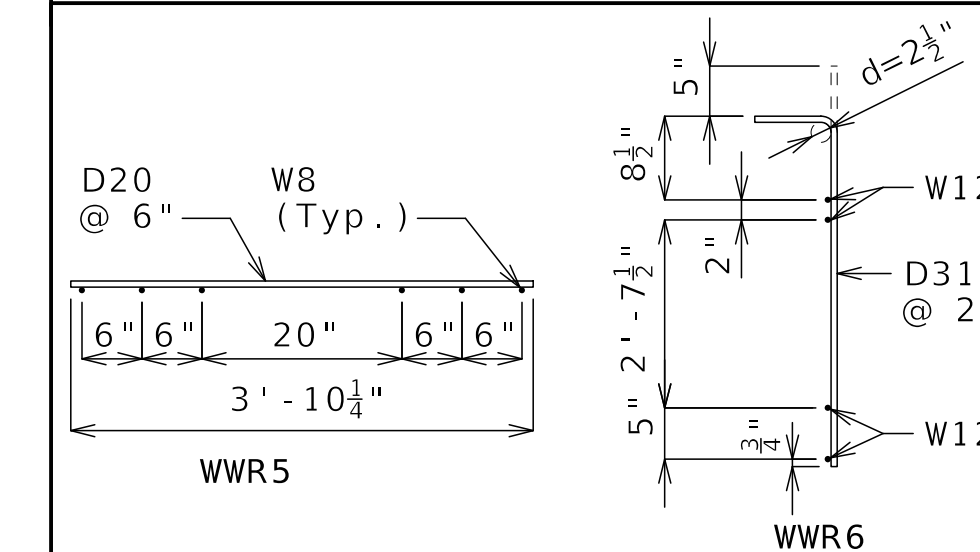
+ Indicates prestressing strand.
 o Indicates cut & shop bend with 3'-0" projection.



STRANDS AT GIRDER ENDS

Bill of Reinforcing Steel - Each Girder				
No.	Size/Mark	Length	Shape	Bending Diagrams
134	5 B1	5'-0"	11S	
154	4 D1	4'-0"	9S	

Welded Wire Reinforcement - Each Girder



All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be one inch.

All bar reinforcement shall be Grade 60.

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

All B1 bars shall be epoxy coated.

General Notes:

Concrete for prestressed girders shall be Class A-1 with $f'c = 10000$ psi and $f'ci = 7500$ psi.

Use 20 strands, 0.6"Ø Grade 270, with an initial prestress force of 879 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 breakout, and application of bond breaker.

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.

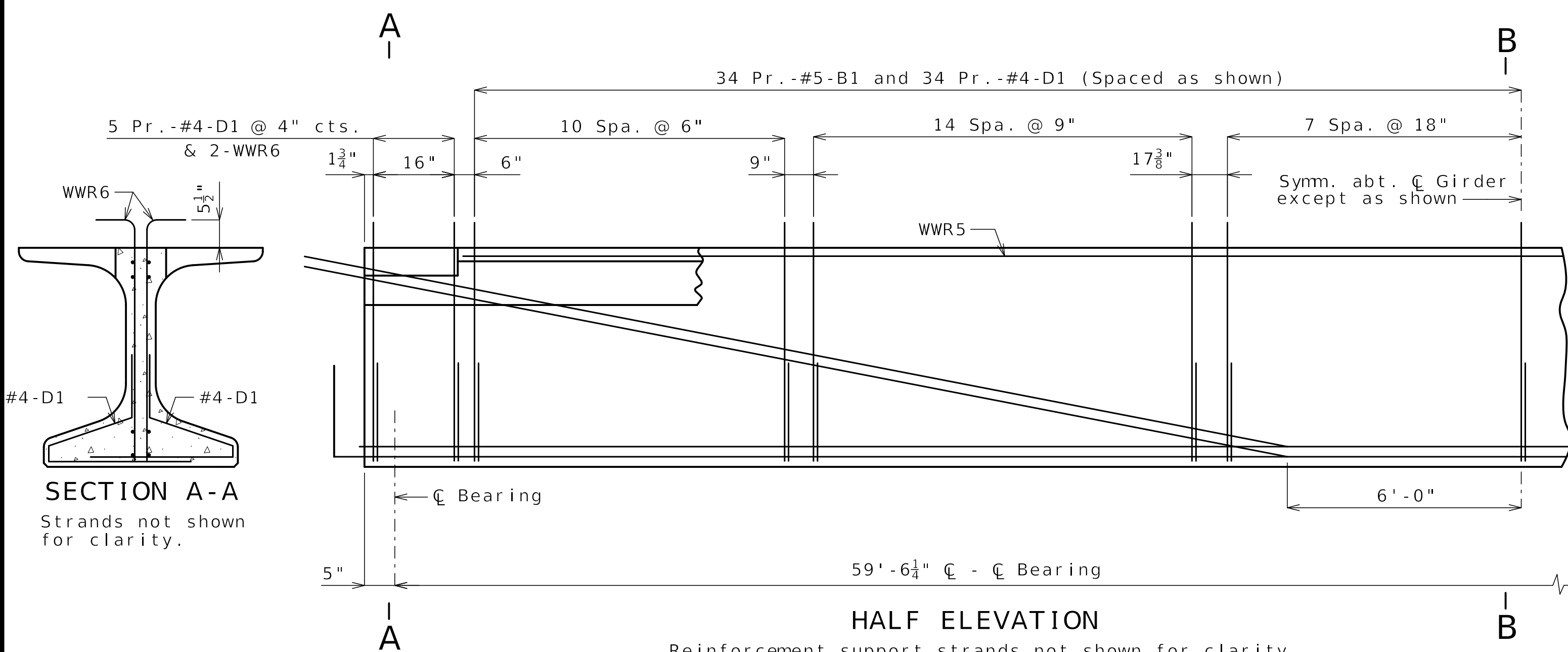
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. B20-24.

For location of coil ties at concrete diaphragms and integral bents, see Sheets No. B20-16 and B20-23.

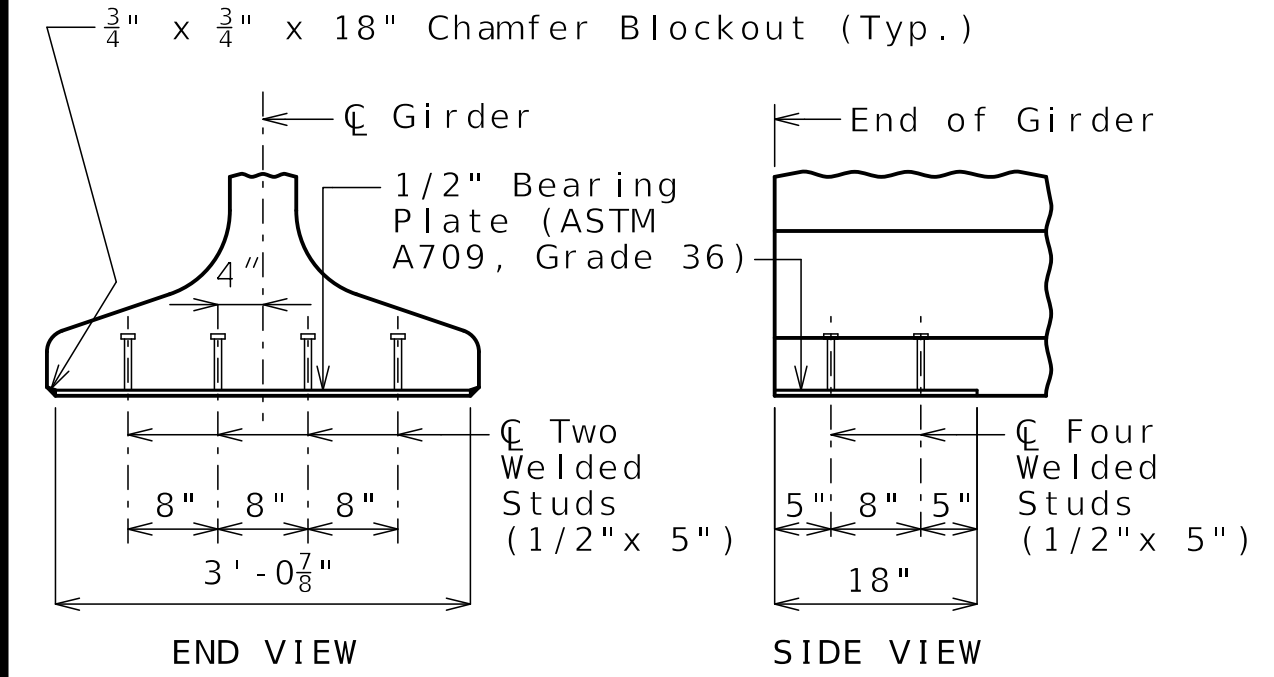
For additional NU Girder Details, see Sheet No. B20-22.

All dimensions are horizontal

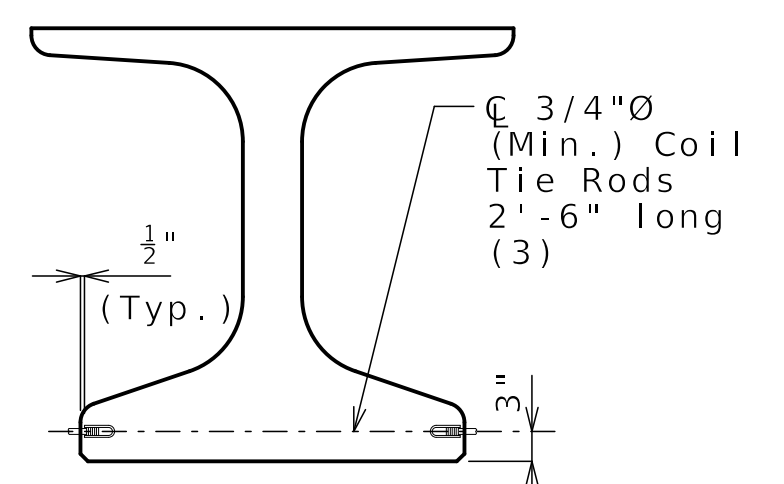


HALF ELEVATION

Reinforcement support strands not shown for clarity.



BEARING PLATE



COIL TIES

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

(3) 2'-3" at exterior face of exterior Girder No. 1 at end bents.

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

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Detailed MAY 2025
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Sheet No. B20-21 of B20-54

NU-GIRDERS - SPAN (3-4)

KALEB S. HAWK
NUMBER
PE-202407443
10-8-2025

DATE PREPARED
09/22/2025

ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B20-21
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9623	

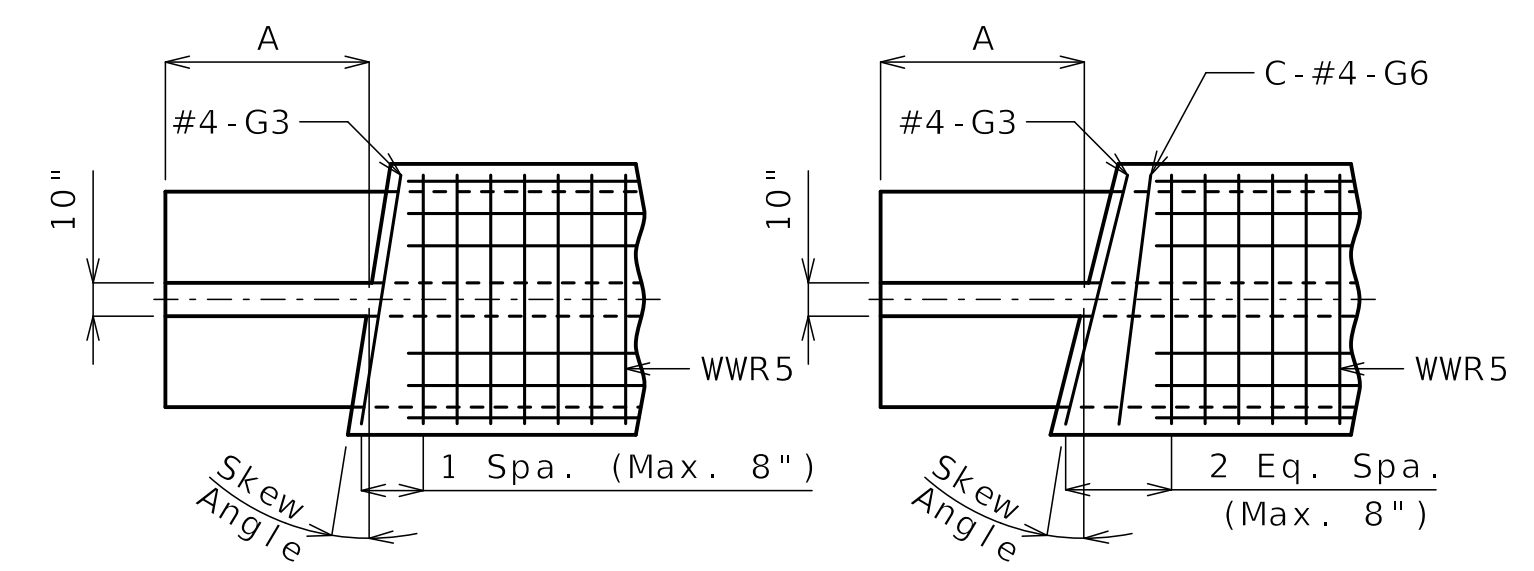
DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270

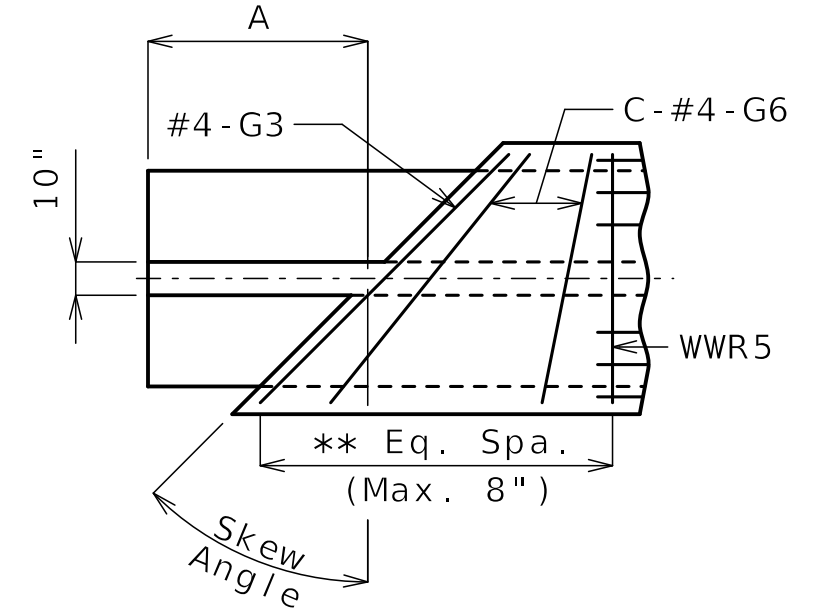
Note: 'C' = zero for Detail 1



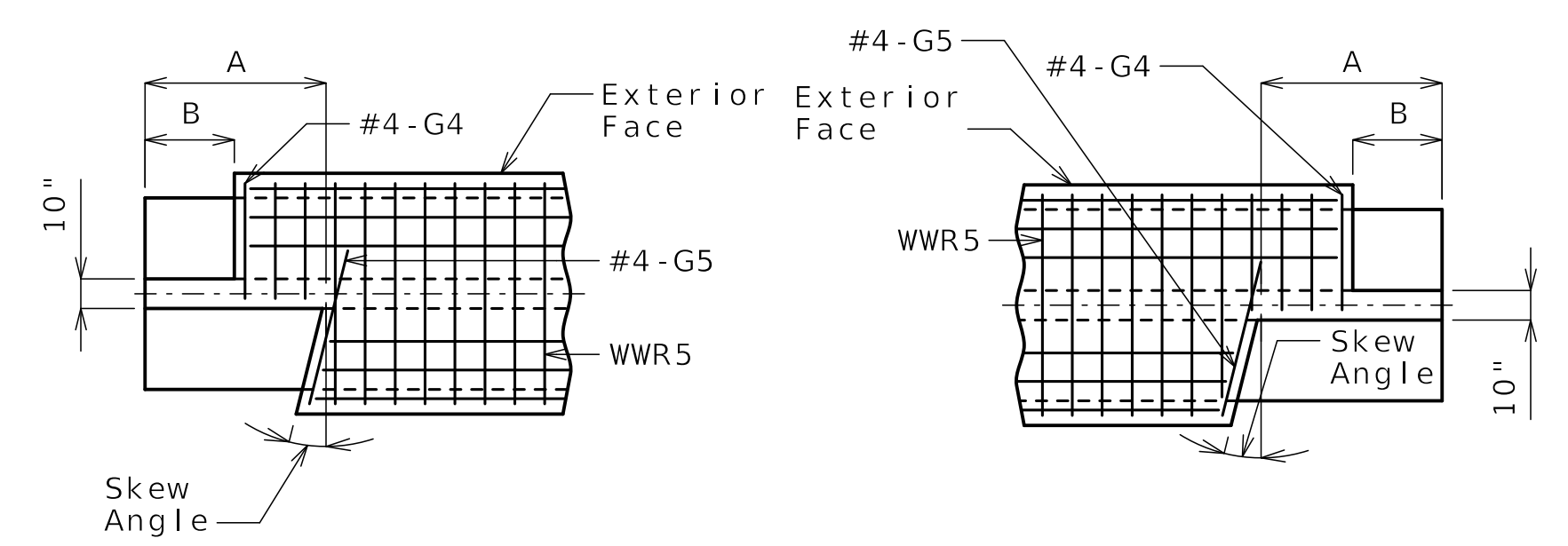
DETAIL 1
(0° to 7° Skew)

DETAIL 2
(>7° to 14° Skew)

** number of spaces = C+1



DETAIL 3
(>14° Skew)



DETAIL 4

(Left exterior girder shown, rotate 180° for right exterior girder)

TOP FLANGE BLOCKOUT DETAILS

(See Table of Variables for detail assignment to specific girders)
(Left advance skew shown, mirror for right advance skew)

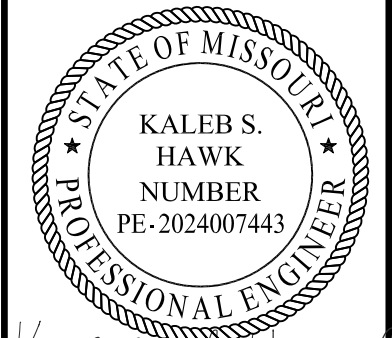
BILL OF REINFORCING STEEL - EACH GIRDER				BENDING DIAGRAMS
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	
2	4 G3	D	20	SHAPE 20
2	4 G4	2'-3"	20	
2	4 G5	E	20	
*	4 G6	F	20	

* Total for each girder is the total value of the two "C" variables per span provided in the Table of Variables

TABLE OF VARIABLES									
Span No.	Girder No.	Bent No.	Detail	A	B	C	D	E	F
1-2	1	1	3	23 ³ / ₄ "	---	3	4'-3"	---	Varies
1-2	2-3	1	3	23 ⁷ / ₈ "	---	3	4'-3"	---	Varies
1-2	4-5	1	3	2'-0"	---	3	4'-3"	---	Varies
1-2	6	1	3	2'-0 ¹ / ₈ "	---	4	4'-3"	---	Varies
1-2	7-8	1	3	2'-0 ¹ / ₈ "	---	4	4'-4"	---	Varies
1-2	9-10	1	3	2'-0 ¹ / ₄ "	---	4	4'-4"	---	Varies
1-2	1	2	4	18 ¹ / ₄ "	7 ¹ / ₂ "	---	---	2'-11"	---
1-2	2	2	3	18 ¹ / ₄ "	---	3	4'-3"	---	Varies
1-2	3-4	2	3	18 ³ / ₈ "	---	3	4'-3"	---	Varies
1-2	5	2	3	18 ¹ / ₂ "	---	3	4'-3"	---	Varies
1-2	6	2	3	18 ¹ / ₂ "	---	4	4'-3"	---	Varies
1-2	7	2	3	18 ⁵ / ₈ "	---	4	4'-4"	---	Varies
1-2	8-9	2	3	18 ³ / ₄ "	---	4	4'-4"	---	Varies
1-2	10	2	4	18 ³ / ₈ "	7 ³ / ₄ "	---	---	3'-0"	---
2-3	1	2	4	19 ¹ / ₂ "	9"	---	---	2'-10"	---
2-3	2-4	2	3	19 ¹ / ₂ "	---	3	4'-2"	---	Varies
2-3	5-9	2	3	19 ⁵ / ₈ "	---	3	4'-2"	---	Varies
2-3	10	2	4	19 ⁵ / ₈ "	9 ¹ / ₈ "	---	---	2'-10"	---
2-3	1	3	4	17 ⁷ / ₈ "	7 ³ / ₈ "	---	---	2'-10"	---
2-3	2	3	3	17 ⁷ / ₈ "	---	3	4'-2"	---	Varies
2-3	3-9	3	3	17 ³ / ₄ "	---	3	4'-2"	---	Varies
2-3	10	3	4	17 ³ / ₄ "	7 ¹ / ₄ "	---	---	2'-10"	---
3-4	1	3	4	19 ¹ / ₄ "	9"	---	---	2'-10"	---
3-4	2-4	3	3	19 ³ / ₈ "	---	2	4'-1"	---	Varies
3-4	5-6	3	3	19 ¹ / ₂ "	---	2	4'-1"	---	Varies
3-4	7-8	3	3	19 ⁵ / ₈ "	---	2	4'-1"	---	Varies
3-4	9	3	3	19 ³ / ₄ "	---	2	4'-1"	---	Varies
3-4	10	3	4	19 ¹ / ₂ "	9 ¹ / ₂ "	---	---	2'-10"	---
3-4	1-3	4	3	18 ¹ / ₄ "	---	2	4'-1"	---	Varies
3-4	4-6	4	3	18 ¹ / ₈ "	---	2	4'-1"	---	Varies
3-4	7	4	3	18"	---	2	4'-1"	---	Varies
3-4	8-9	4	3	17 ⁷ / ₈ "	---	2	4'-1"	---	Varies
3-4	10	4	3	19 ³ / ₄ "	---	2	4'-1"	---	Varies

Notes:
For additional Girder notes, see Sheet No. B20-19 thru B20-21.

NU-GIRDER DETAILS



Kaleb S. Hawk
10-8-2025

DATE PREPARED
09/22/2025

ROUTE 1-70 STATE MO
DISTRICT BR SHEET NO. B20-22

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

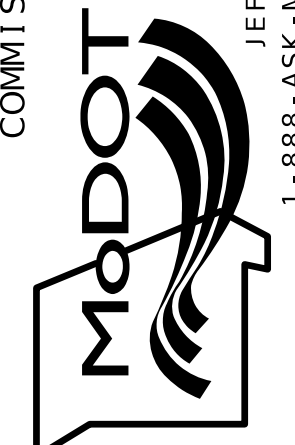
PROJECT NO. A9623

BRIDGE NO. A9623

DESCRIPTION
REV 0 - RFC SUBMITTAL

DATE
09/22/25

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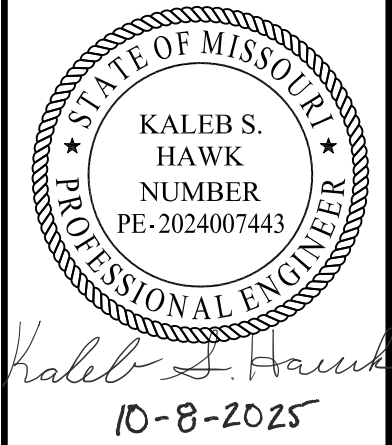
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715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
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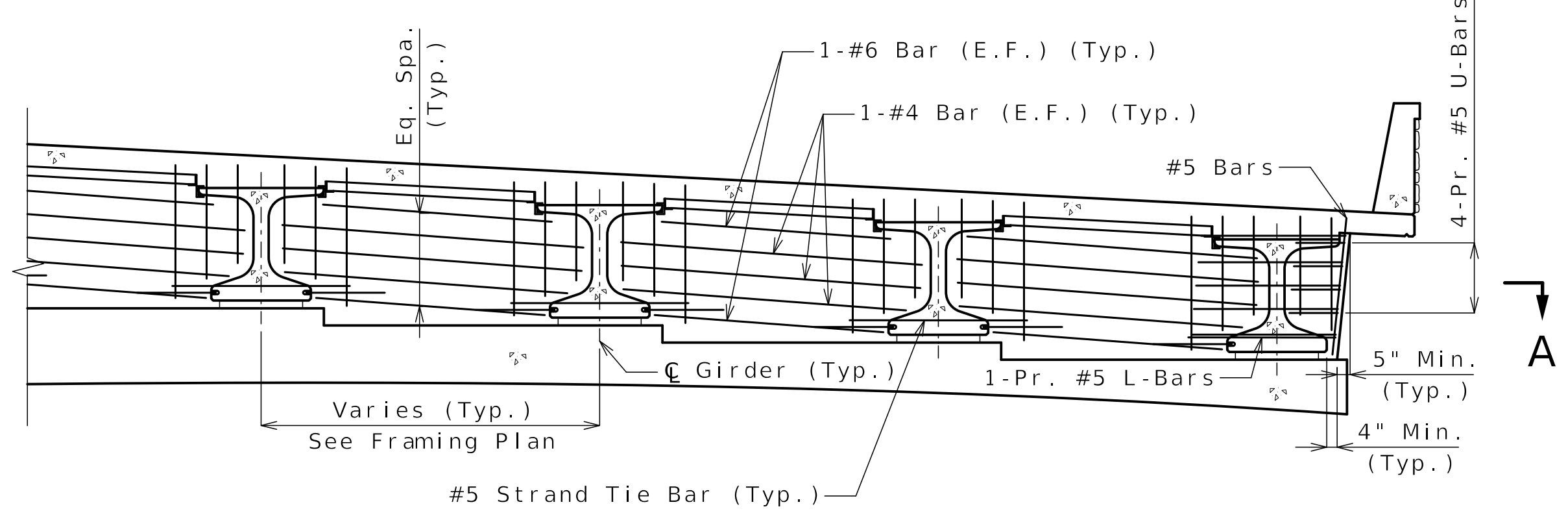
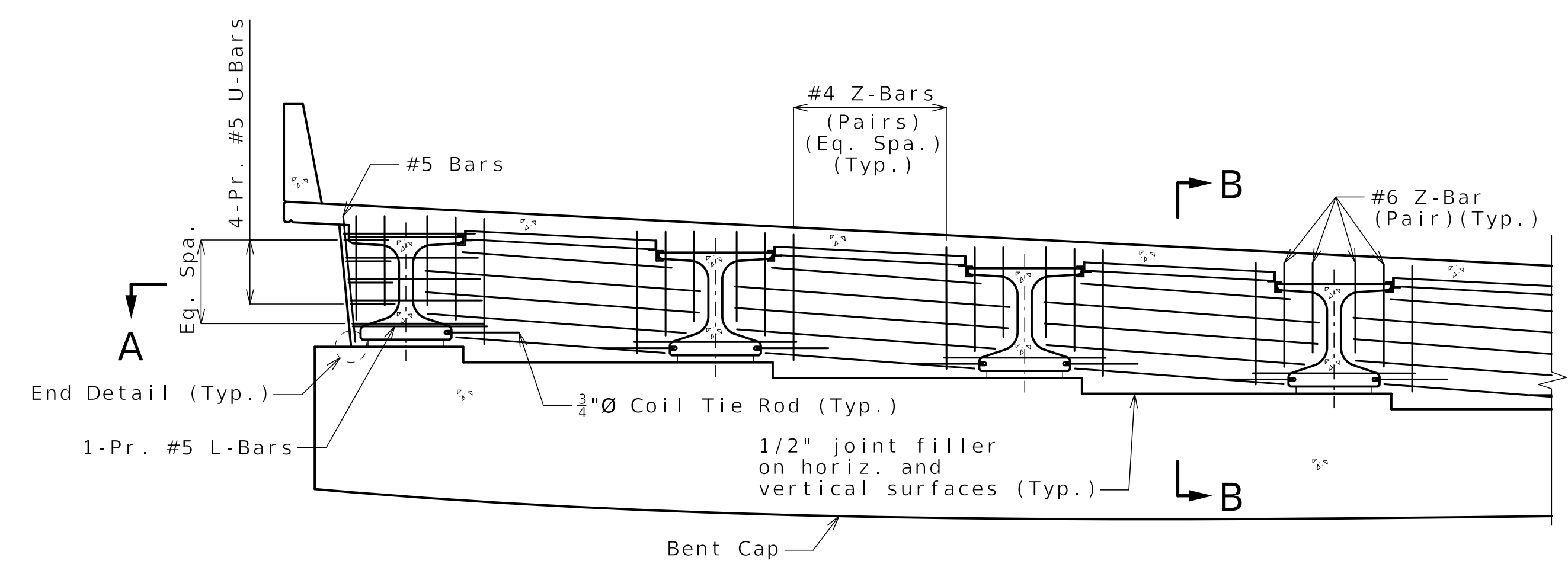
DATE PREPARED
09/22/2025
ROUTE
1-70
STATE
MO
DISTRICT
BR
SHEET NO.
B20-23
COUNTY
JACKSON
JOB NO.
J411486D
CONTRACT ID.
240807-C01
PROJECT NO.

BRIDGE NO.
A9623

DESCRIPTION
REV 0 - RFC SUBMITTAL
DATE
09/22/25

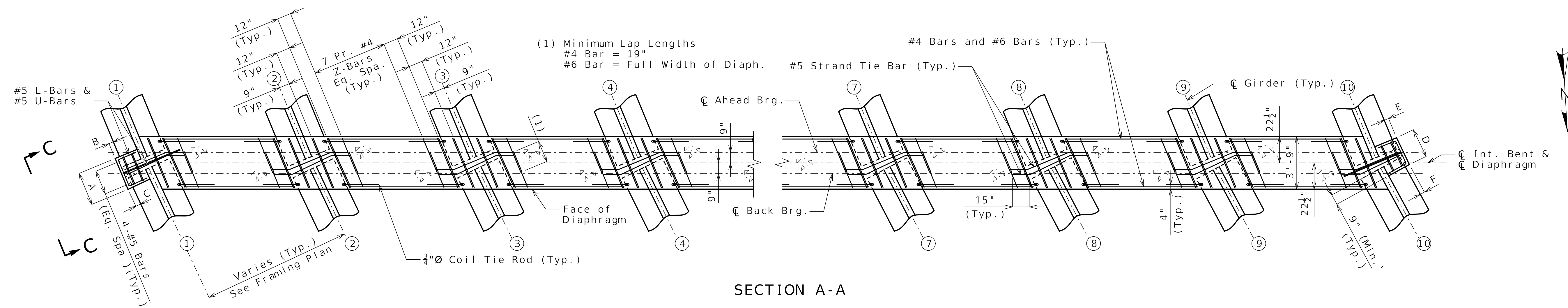
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JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

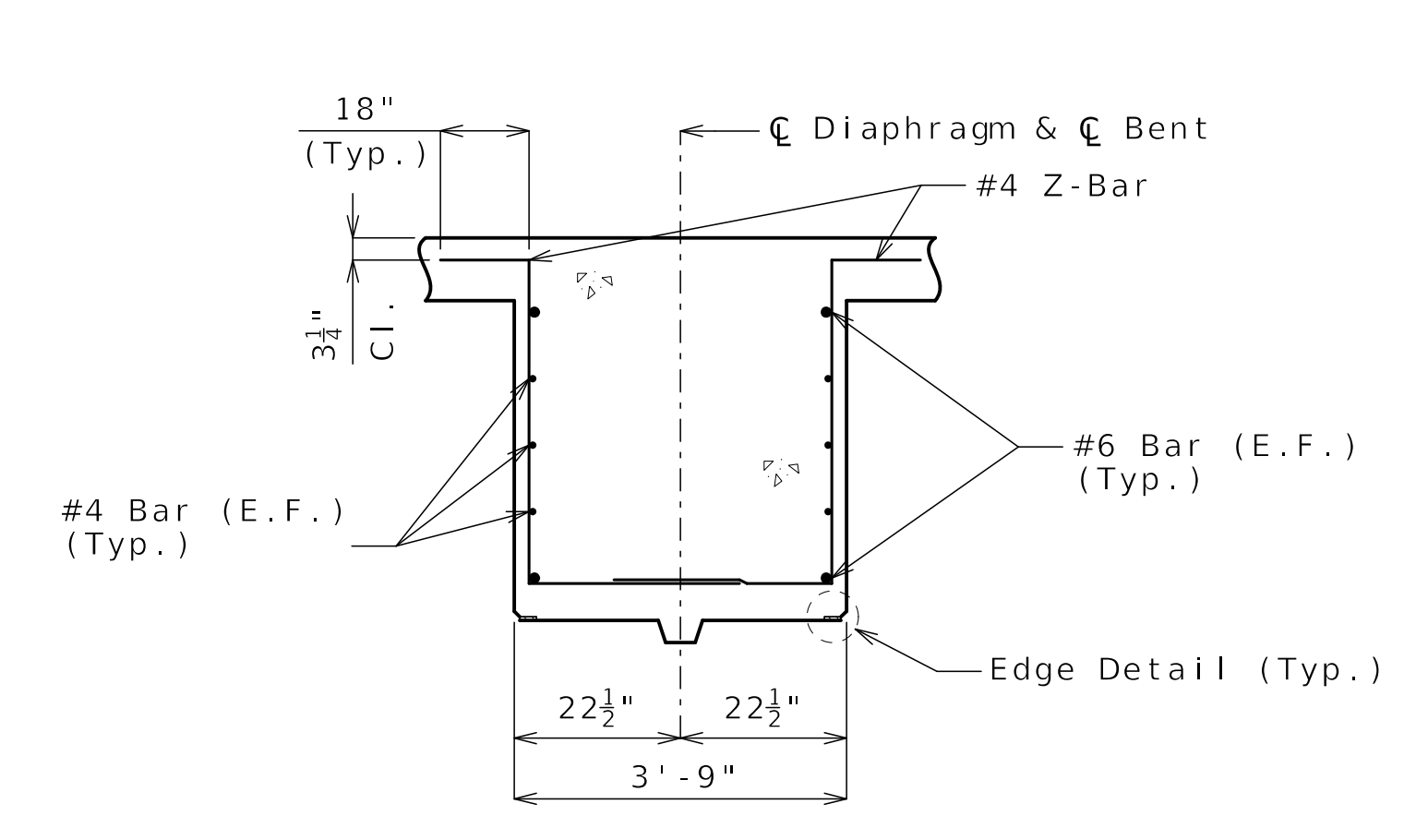


SECTION NEAR INTERMEDIATE BENT
(Intermediate Bent No. 2 Shown, Intermediate Bent No. 3 Similar)
(Normal to Girders)
(Looking Ahead Station)

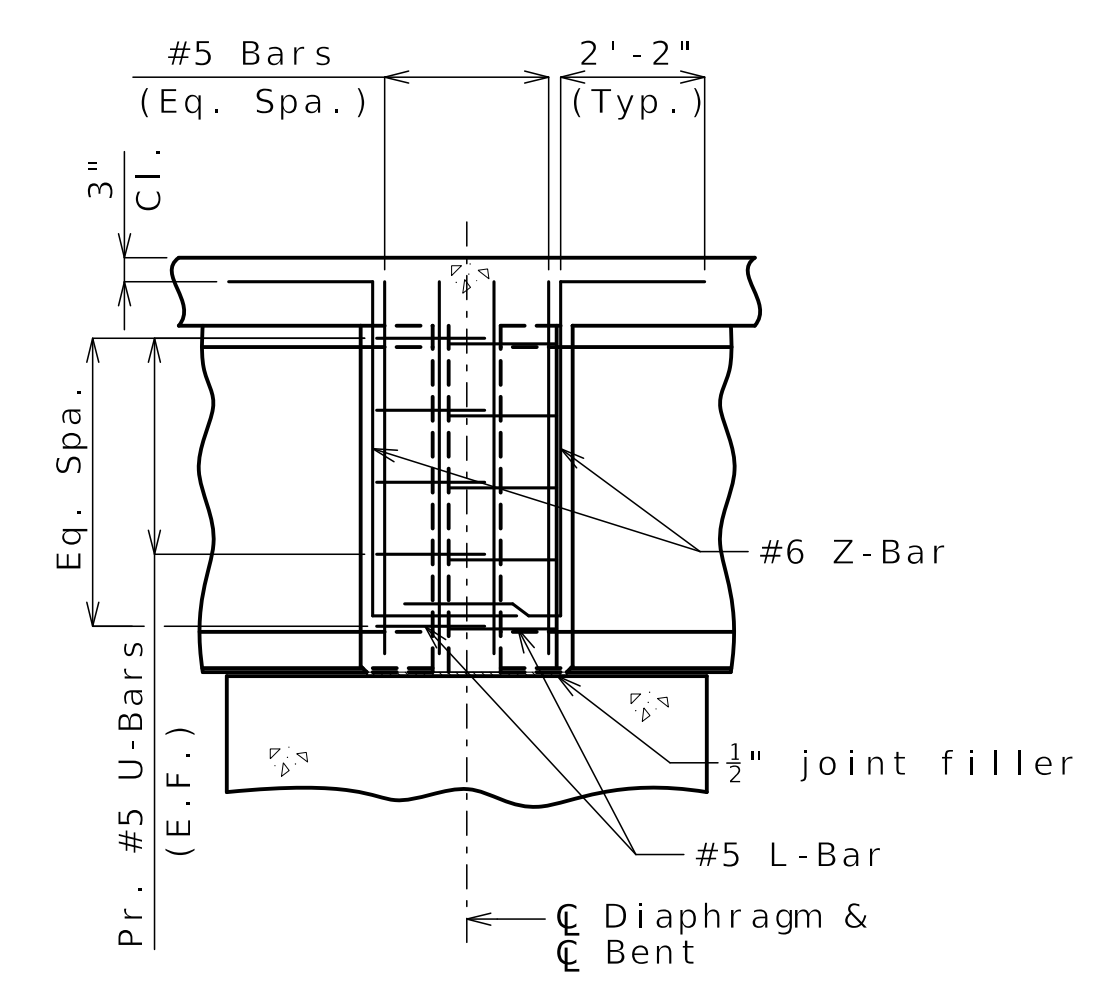
TABLE OF VARIABLES						
Bent No.	A	B	C	D	E	F
2	2'-4 3/4"	4"	4 5/8"	2'-1 1/2"	4"	4"
3	2'-4"	6 1/8"	4"	2'-2 5/8"	4 3/4"	4"



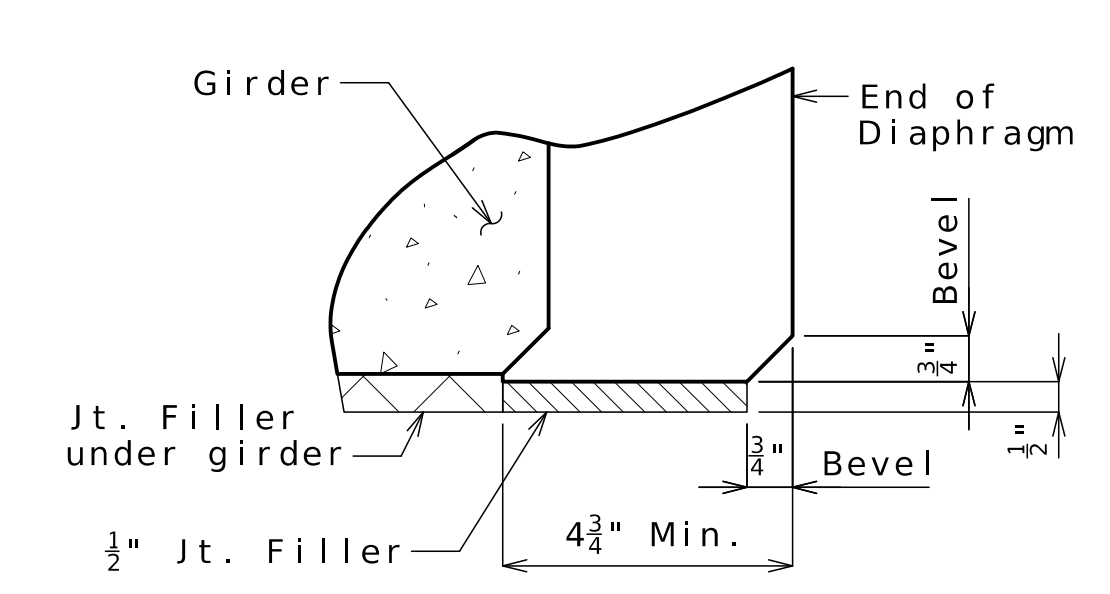
SECTION A-A



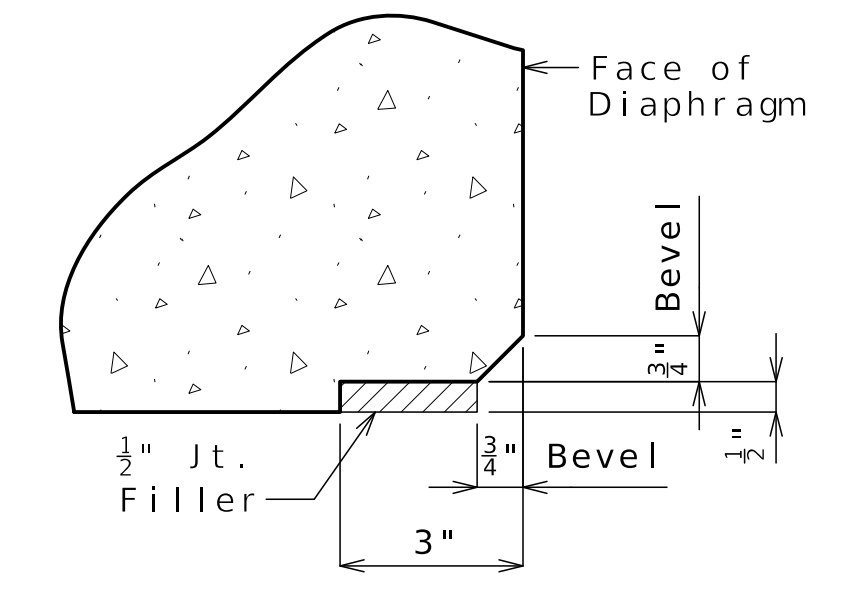
SECTION B-B



ELEVATION C-C



END DETAIL



EDGE DETAIL

Notes:
Diaphragms shall be built vertical.
For location of #5 Strand Tie Bars, see Sheets No. B20-19 thru B20-22.
For location of coil ties, see Sheets No. B20-19 thru B20-22.
For Bearing Details, see Sheets No. B20-10 and B20-12.
For capbeam details, bearing location, dowel placement, shear key details, roofing felt details, joint filler details, see Sheets No. B20-10 and B20-12.

(X) Denotes Girder Number

CONCRETE DIAPHRAGM AT INTERMEDIATE BENTS

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

Sheet No. B20-23 of B20-54



Kaleb S. Hawk
10-8-2025

DATE PREPARED
09/22/2025
ROUTE 1-70 STATE MO
DISTRICT BR SHEET NO. B20-25
COUNTY JACKSON
JOB NO. J411486D
CONTRACT ID. 240807-C01
PROJECT NO.

BRIDGE NO. A9623

DATE	DESCRIPTION
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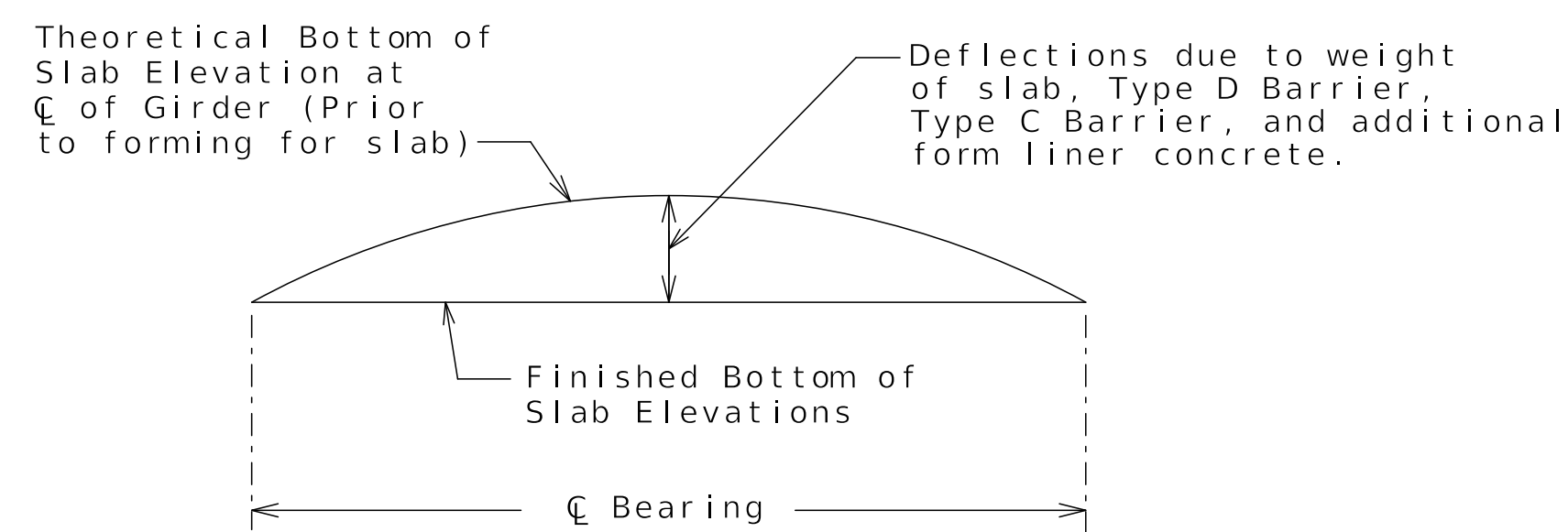
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CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270

Theoretical Bottom of Slab Elevations at Centerline of Girder (Prior to forming for slab)(Estimated at 90 days)**											
Girder Number	Span (1-2) (Varies @ Brg. - @ Brg.)										
	@ Brg.	.25	.50	.75	@ Brg.						
1	855.94	856.09	856.26	856.43	856.62						
2	855.26	855.41	855.58	855.75	855.94						
3	854.58	854.73	854.89	855.06	855.25						
4	853.90	854.05	854.21	854.38	854.56						
5	853.23	853.37	853.53	853.70	853.88						
6	852.56	852.70	852.86	853.02	853.20						
7	851.89	852.03	852.18	852.35	852.52						
8	851.23	851.36	851.51	851.67	851.85						
9	850.57	850.70	850.85	851.00	851.17						
10	849.91	850.03	850.17	850.33	850.50						
Girder Number	Span (2-3) (94'-6 3/4" @ Brg. - @ Brg.)										
	@ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	@ Brg.
1	856.65	856.83	857.02	857.21	857.39	857.57	857.74	857.90	858.06	858.22	858.38
2	855.97	856.17	856.37	856.57	856.77	856.95	857.13	857.30	857.46	857.61	857.77
3	855.28	855.48	855.69	855.90	856.11	856.30	856.48	856.66	856.82	856.99	857.15
4	854.58	854.79	855.01	855.22	855.43	855.63	855.83	856.01	856.18	856.36	856.53
5	853.90	854.09	854.31	854.54	854.75	854.96	855.16	855.35	855.53	855.71	855.90
6	853.22	853.39	853.61	853.84	854.06	854.28	854.48	854.68	854.87	855.06	855.25
7	852.54	852.70	852.89	853.13	853.36	853.58	853.80	854.00	854.20	854.40	854.60
8	851.86	852.02	852.18	852.41	852.65	852.88	853.10	853.32	853.52	853.73	853.94
9	851.19	851.34	851.50	851.68	851.93	852.16	852.38	852.60	852.81	853.01	853.22
10	850.52	850.65	850.79	850.93	851.16	851.40	851.62	851.84	852.05	852.27	852.49
Girder Number	Span (3-4) (59'-6 1/4" @ Brg. - @ Brg.)										
	@ Brg.	.25	.50	.75	@ Brg.						
1	858.41	858.75	859.10	859.45	859.81						
2	857.80	858.16	858.53	858.89	859.26						
3	857.19	857.57	857.94	858.32	858.70						
4	856.57	856.96	857.35	857.74	858.13						
5	855.94	856.34	856.75	857.15	857.55						
6	855.30	855.72	856.14	856.55	856.97						
7	854.65	855.09	855.52	855.95	856.38						
8	853.99	854.44	854.90	855.34	855.78						
9	853.28	853.72	854.19	854.63	855.07						
10	852.54	852.98	853.43	853.89	854.33						

**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 Type D Barrier, Type C Barrier, and additional form liner concrete).



TYPICAL SLAB ELEVATIONS DIAGRAM

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Date: 10/10/2025
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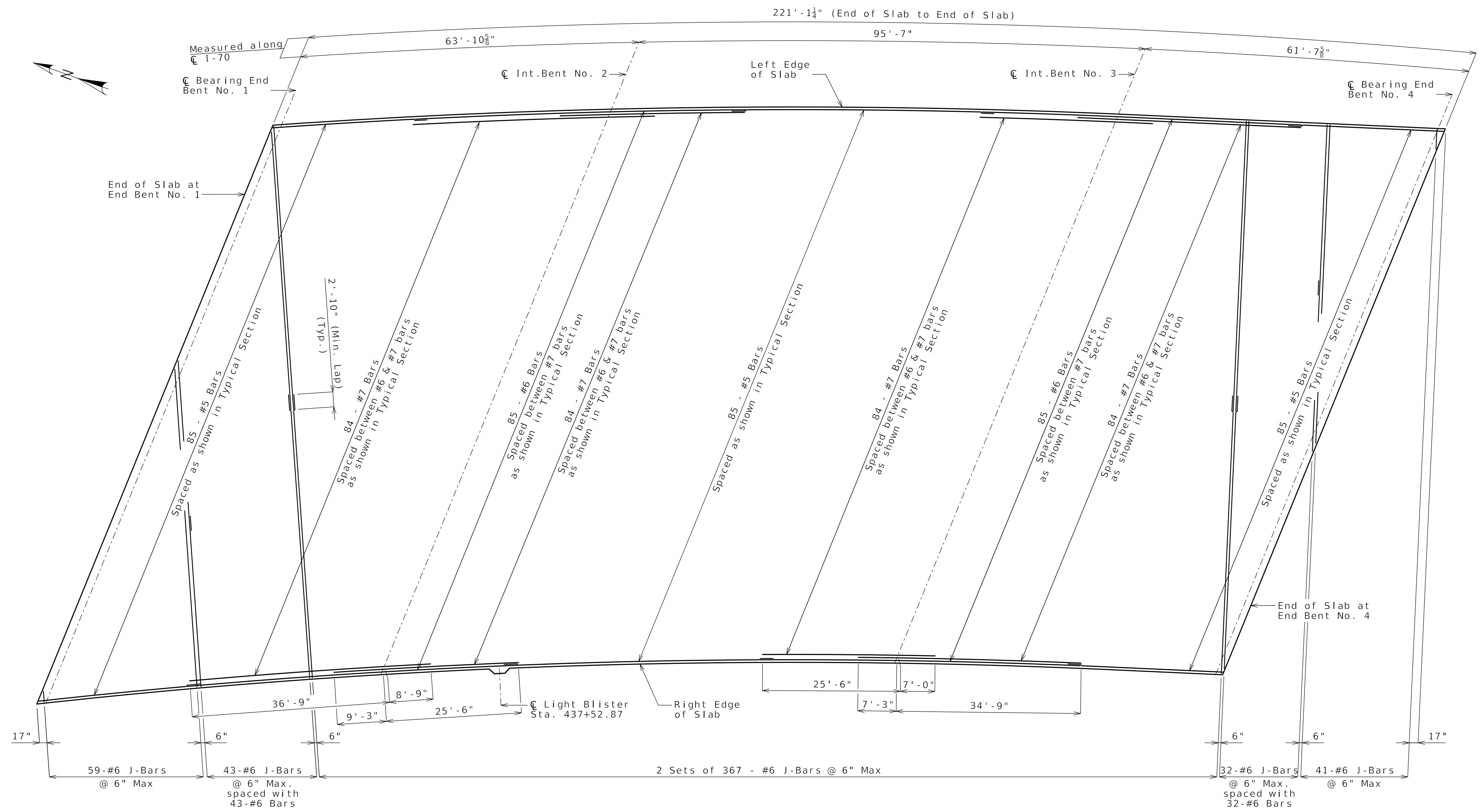
Notes:
For CL Bearing lengths, see Sheets No. B20-19 thru B20-21.

THEORETICAL BOTTOM OF SLAB ELEVATIONS

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B20-25 of B20-54



TOP REINFORCEMENT

Minimum Lap Splices:
 Longitudinal
 #5 = 2'-5"
 #6 = 3'-7"

Notes:
 Work this sheet with Sheet No. B20-27.
 For Typical Section, see Sheet No. B20-29.
 For Slab Pouring Sequence, see Sheet No. B20-28.
 For details and reinforcement of Type D Barrier, see Sheet No. B20-31.
 For details and reinforcement of Type C Barrier, see Sheets No. B20-32 and B20-33.
 For Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. B20-24.
 For Theoretical Bottom of Slab Elevations, see Sheet No. B20-25.
 Longitudinal slab dimensions are measured horizontally.
 For Light Blister Reinforcing and Details, see Sheet No. B20-35.

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 Package: BRD-20-EB-70-Truman

SLAB PLAN SHOWING TOP REINFORCEMENT



Benjamin Lichty
 10-08-2025

DATE PREPARED 09/22/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B20-26
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9623

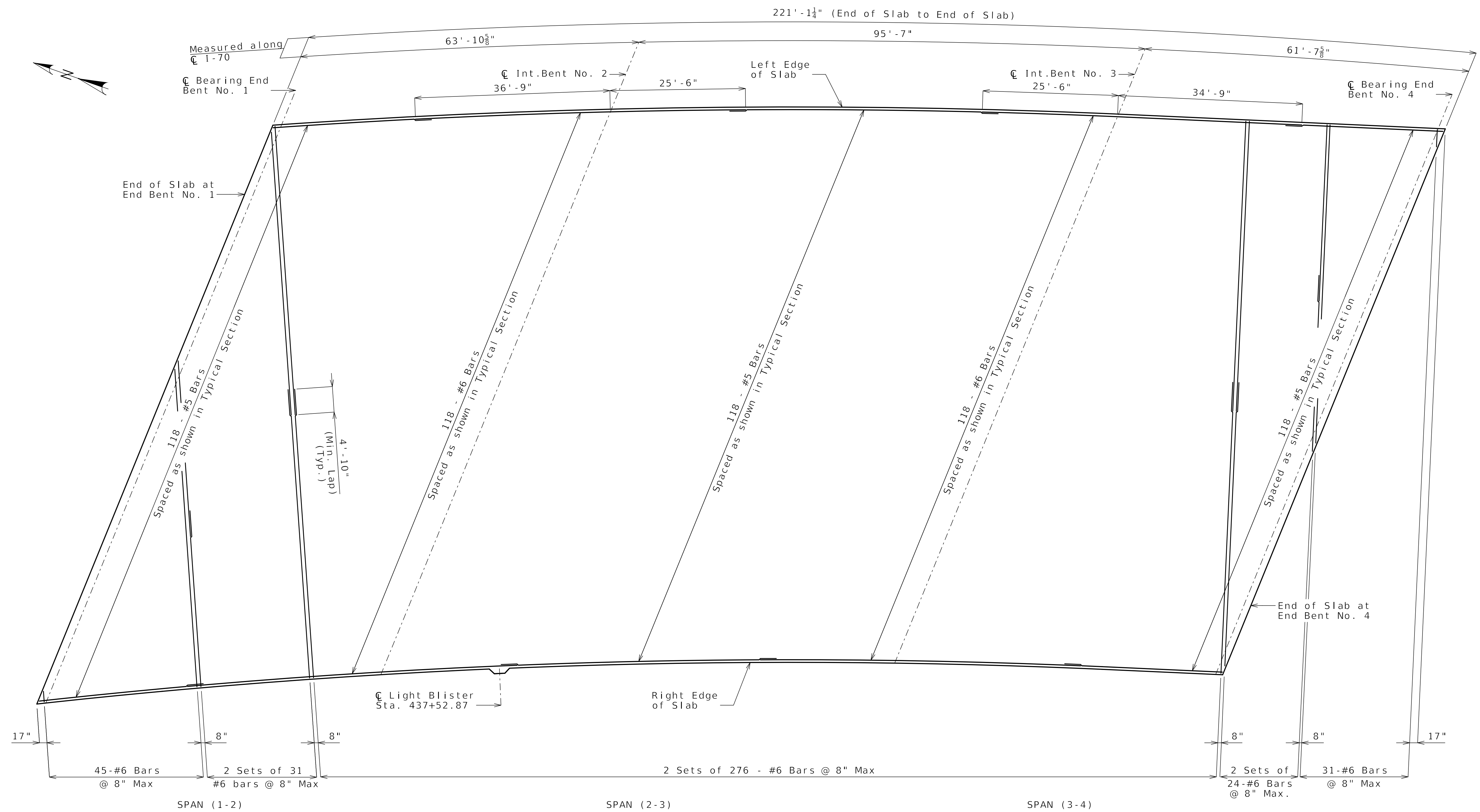
DATE	DESCRIPTION
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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CLARKSON RADMACHER JOINT VENTURE

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



BOTTOM REINFORCEMENT

Minimum Lap Splices:
 Longitudinal
 #5 = 3'-0"
 #6 = 3'-7"

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 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman

Notes:
 Work this sheet with Sheet No. B20-26.
SLAB PLAN SHOWING BOTTOM REINFORCEMENT

Detailed MAY 2025
 Checked JUN 2025

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

Sheet No. B20-27 of B20-54



10-08-2025

DATE PREPARED 09/22/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B20-27
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9623

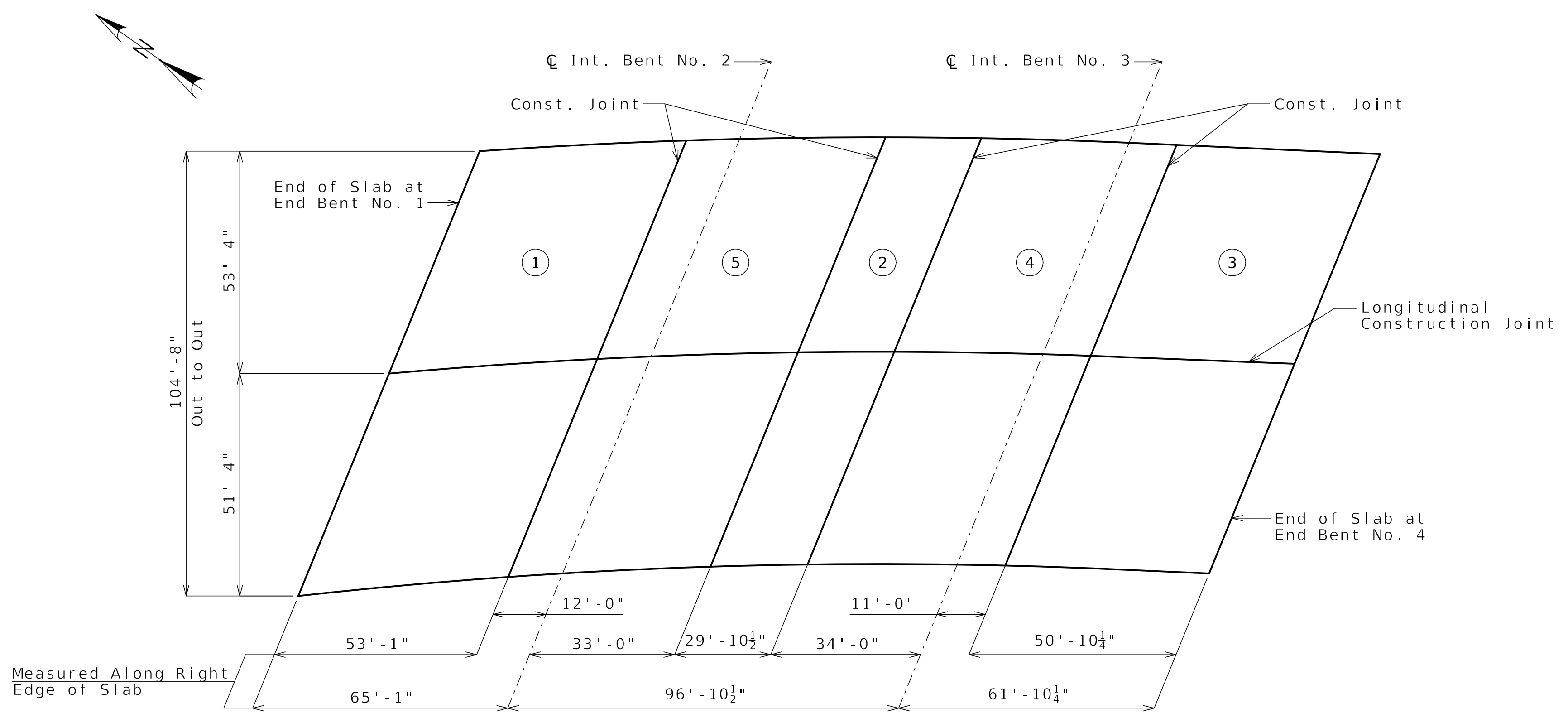
DATE	DESCRIPTION
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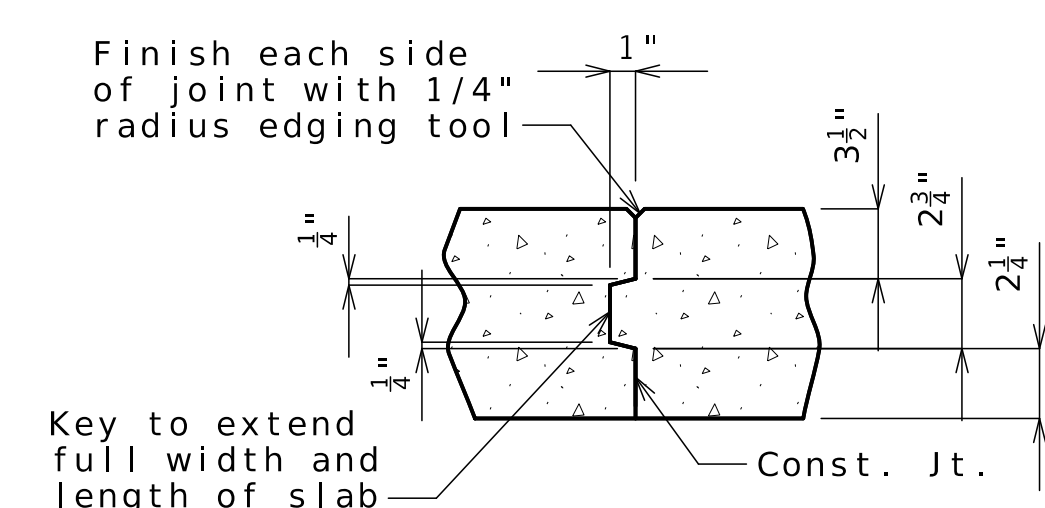
105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER
 JOINT VENTURE

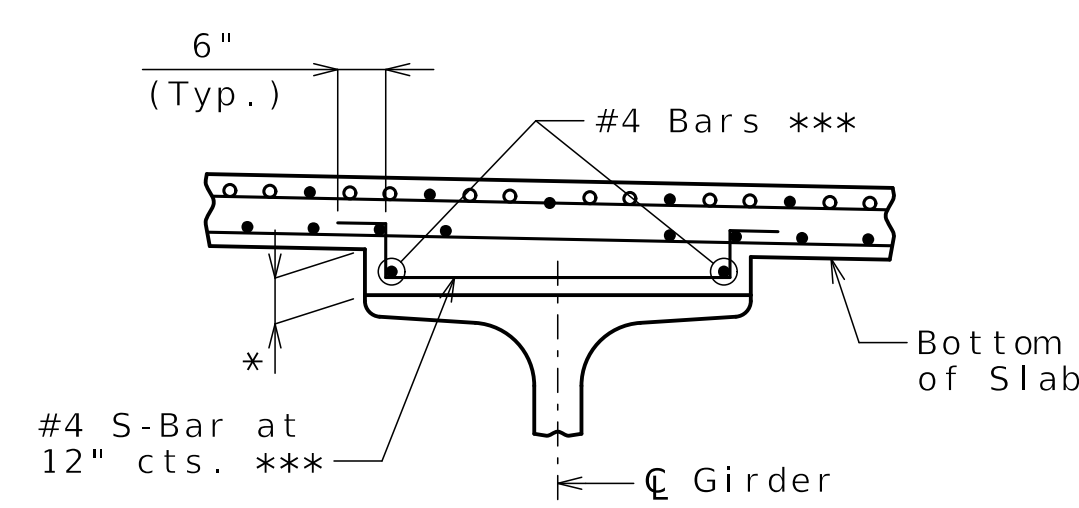
715 KIRK DRIVE
 KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY
 NO. 001270



SLAB POURING SEQUENCE



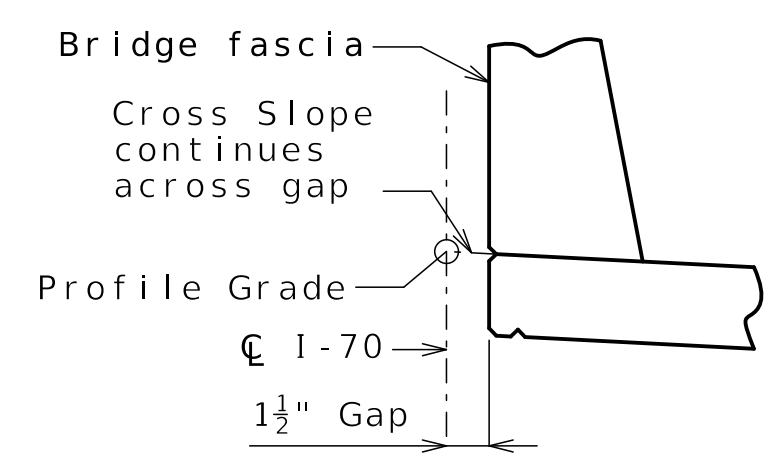
SLAB CONSTRUCTION JOINT



HAUNCH REINFORCING DETAIL
(Prestressed Girders)

* When dimension is greater than or equal to 5" and the typical haunch reinforcing detail is not used, a single Z-bar with 6" tail dimensions and a single #4 longitudinal bar are required.

*** Contractor shall provide #4 Bars and #4 S-Bars as necessary where the haunch exceeds 4 inches measured at centerline of girder. See Theoretical Slab Haunching Diagram on Sheet No. B20-24 for haunch thickness.



PROFILE GRADE DETAIL

Note: Bridge cross slope is set radial to C 1-70.

Note: For additional slab details and notes, see Sheet B20-29.

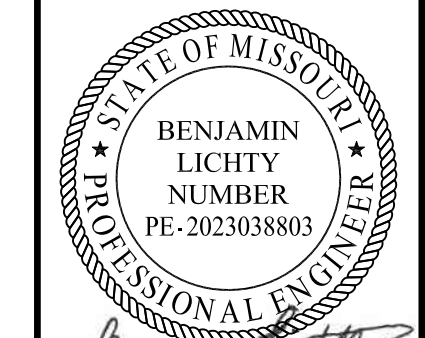
	Sequence of Pours					Min. Rate of Pour Cu. Yds./Hr.
	Direction					
Basic Sequence	1	5	2	4	3	28*
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.						
Alternate A Pours	1	5 + 2	4 + 3	2 to End		40
Alternate B Pours	1 + 5 + 2	1 to 4	4 + 3	2 to End		40
Alternate C Pours	1 + 5 + 2 + 4 + 3 End to End					40

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

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

* A minimum finishing rate of 20 LF/HR shall be maintained.

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Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman



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10-08-2025

DATE PREPARED
09/22/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B20-28

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9623

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER JOINT VENTURE

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



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10-08-2025

DATE PREPARED
09/22/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B20-29

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9623

DESCRIPTION
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DATE
09/22/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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105 WEST CAPITOL JEFFERSON CITY, MO 65102

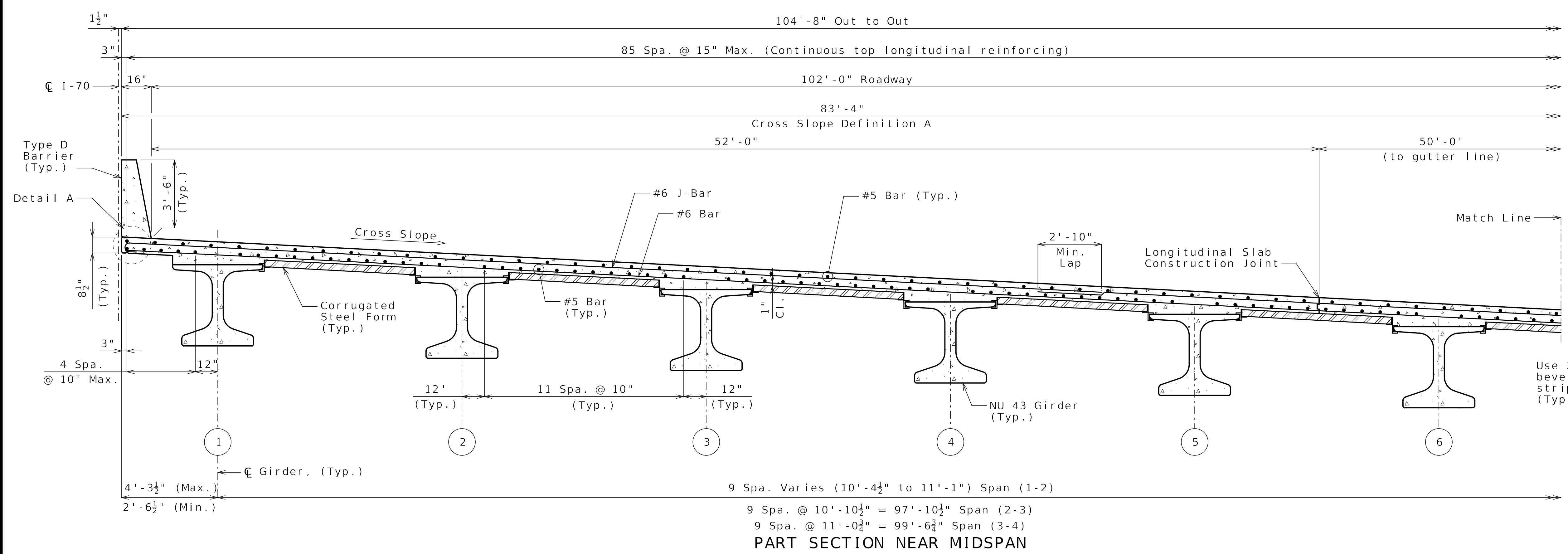
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CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE KANSAS CITY, MO 64105-1310

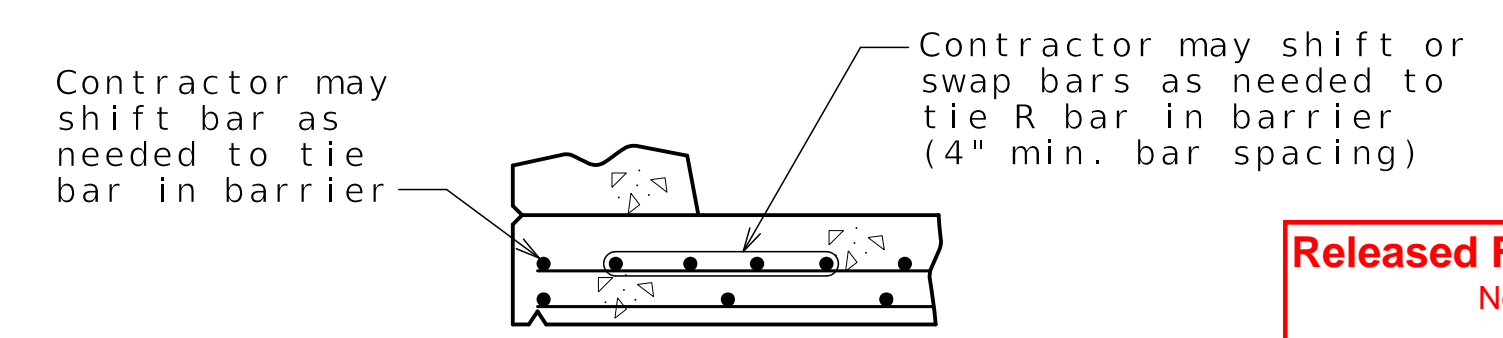
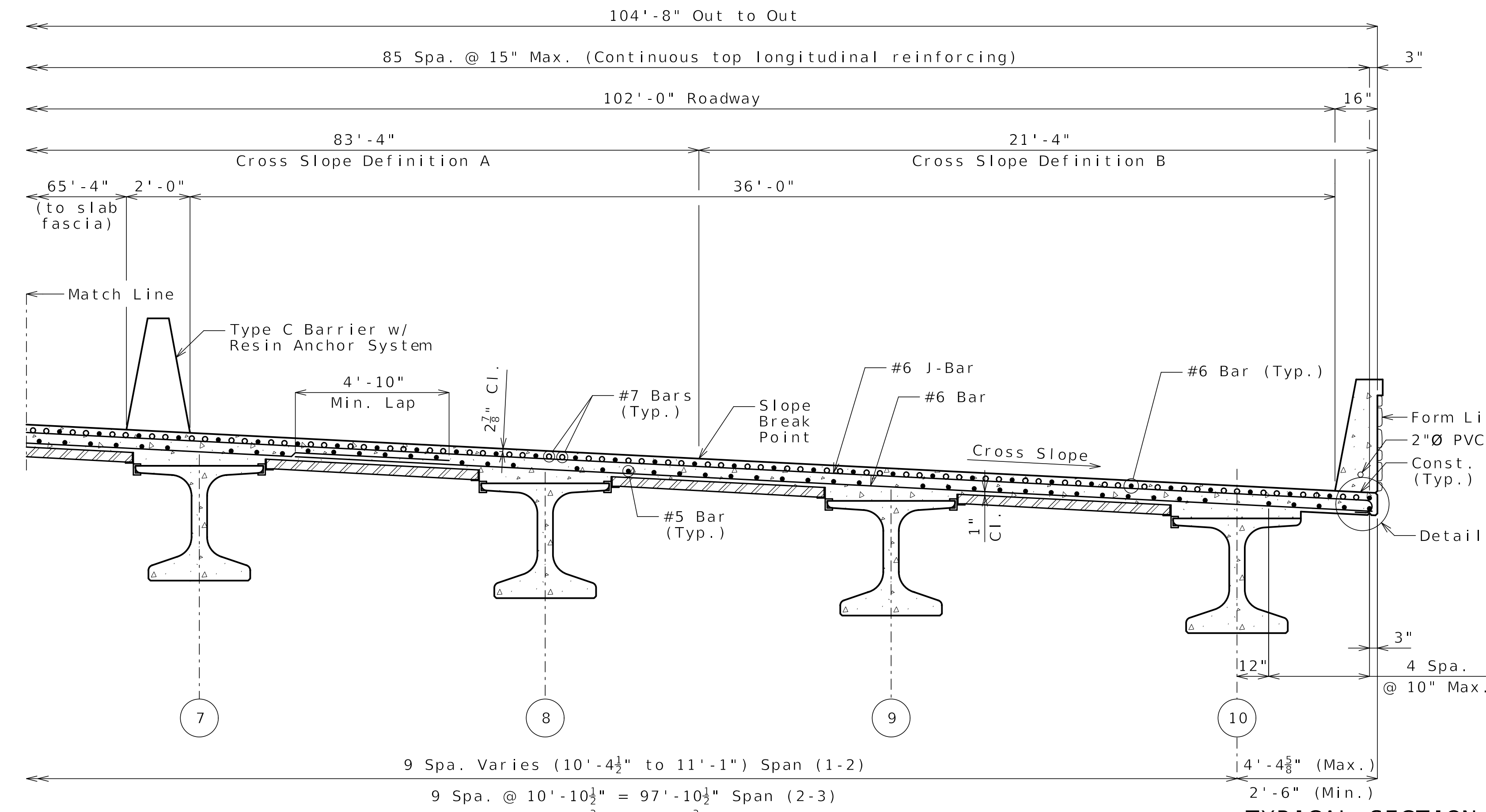
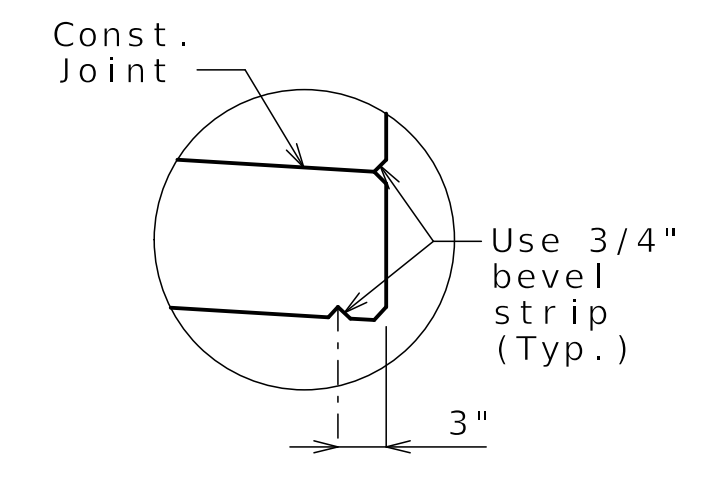
CERTIFICATE OF AUTHORITY NO. 001270

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SLAB SUPERELEVATION TABLE

Sta.	Cross Slope Definition	
	A	B
Begin Bridge	5.80%	5.80%
437+64.00	5.80%	5.80%
437+83.21	5.60%	5.60%
439+37.00	4.00%	5.60%



OPTIONAL SHIFTING TOP BARS AT BARRIER

Notes:
For additional slab details, see Sheet No. B20-28.
Cant #6 transverse hooked bars as needed to provide clearance.
For Plan of Slab showing Top and Bottom Reinforcement, see Sheets No. B20-26 and B20-27.
For reinforcement of Type D barrier not shown, see Sheet No. B20-31.
For reinforcement details of Type C barrier not shown, see Sheets No. B20-32 and B20-33.
For Details of Conduit System on Structure, see Sheet No. B20-37.
For Form Liner and Aesthetic Stain Details not shown, see Sheet No. B20-36.

(X) Denotes girder number.

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SLAB DETAILS

Detailed MAY 2025
Checked JUN 2025

PART SECTION NEAR INTERMEDIATE BENT

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

TYPICAL SECTION

(Looking ahead station)
Sheet No. B20-29 of B20-54



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10-08-2025

DATE PREPARED
09/22/2025

ROUTE STATE
1-70 MO

DISTRICT SHEET NO.
BR B20-30

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9623

DESCRIPTION
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DATE
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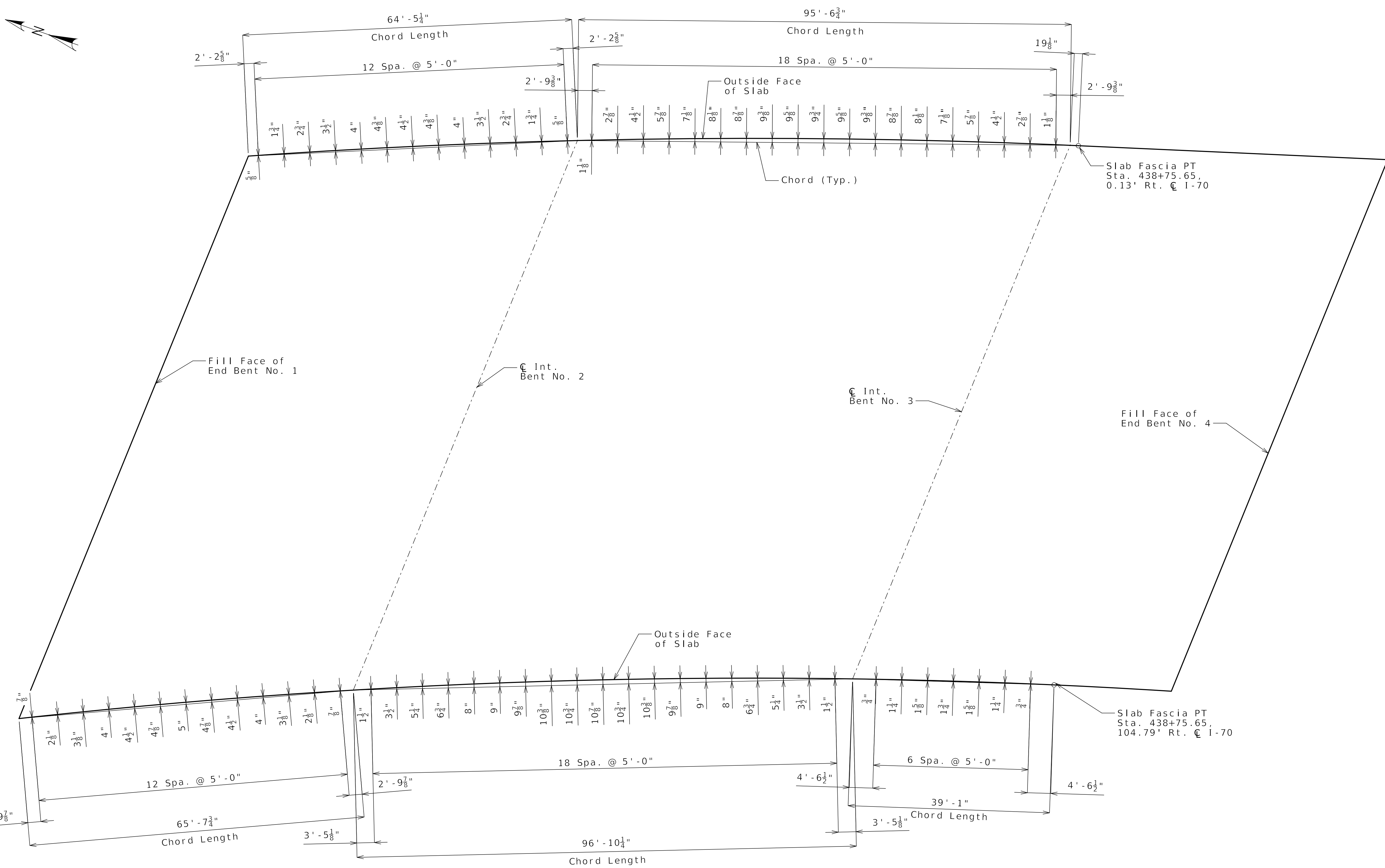
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CLARKSON
RADMACHER
JOINT VENTURE

715 KIRK DRIVE
KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY
NO. 001270

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Notes:
All dimensions are horizontal.
All bents are parallel.

PLAN
(I-70 not shown for clarity)

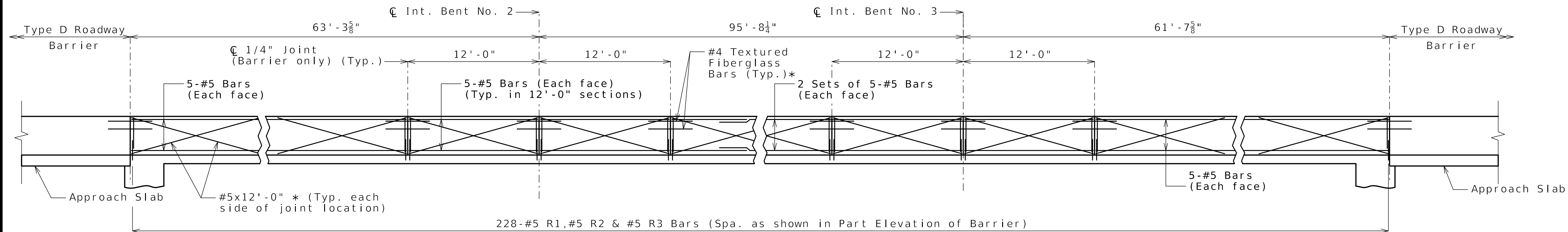
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Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

SLAB CURVE ORDINATES

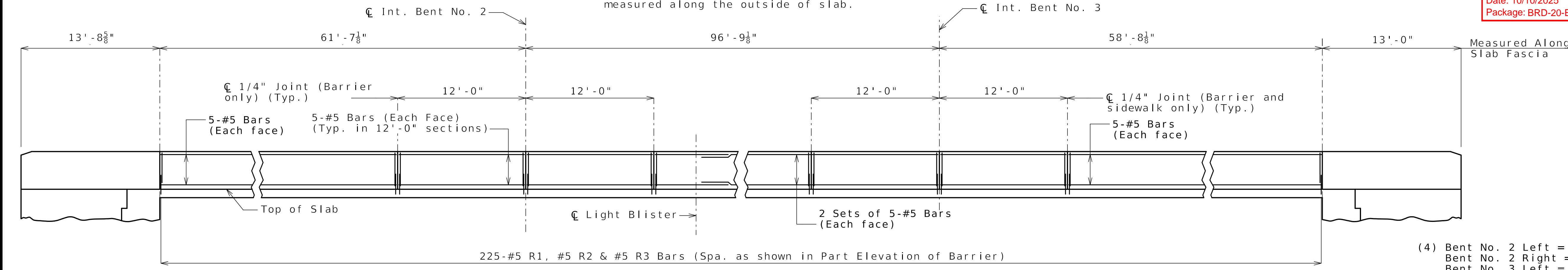
Detailed MAY 2025
Checked JUN 2025

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

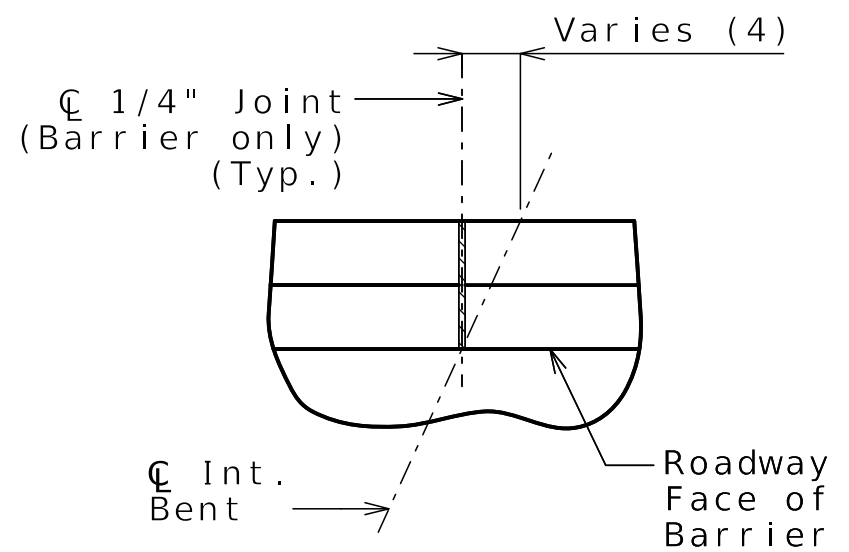
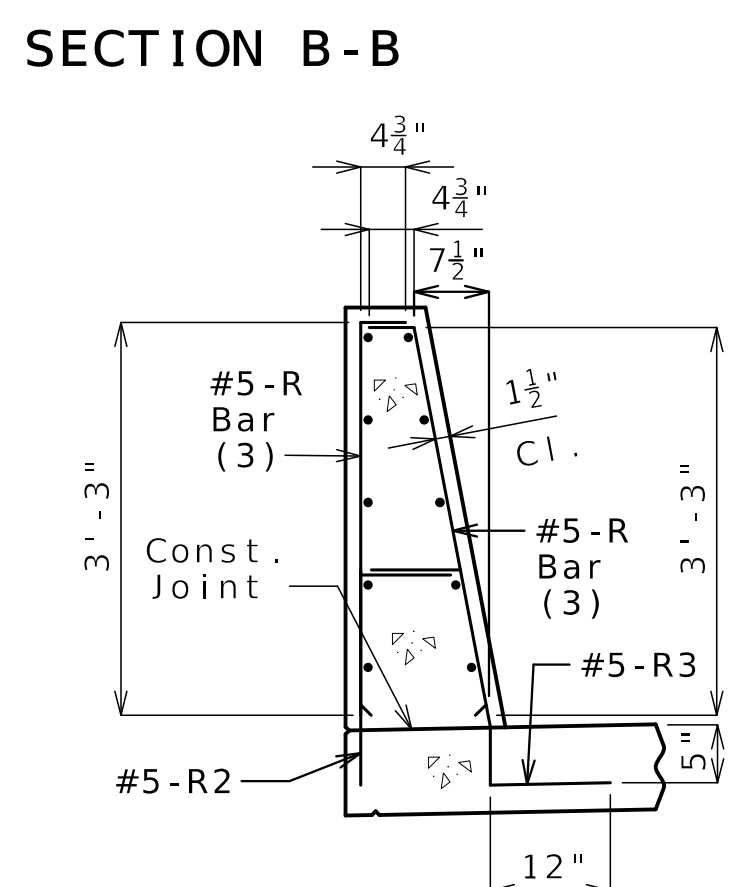
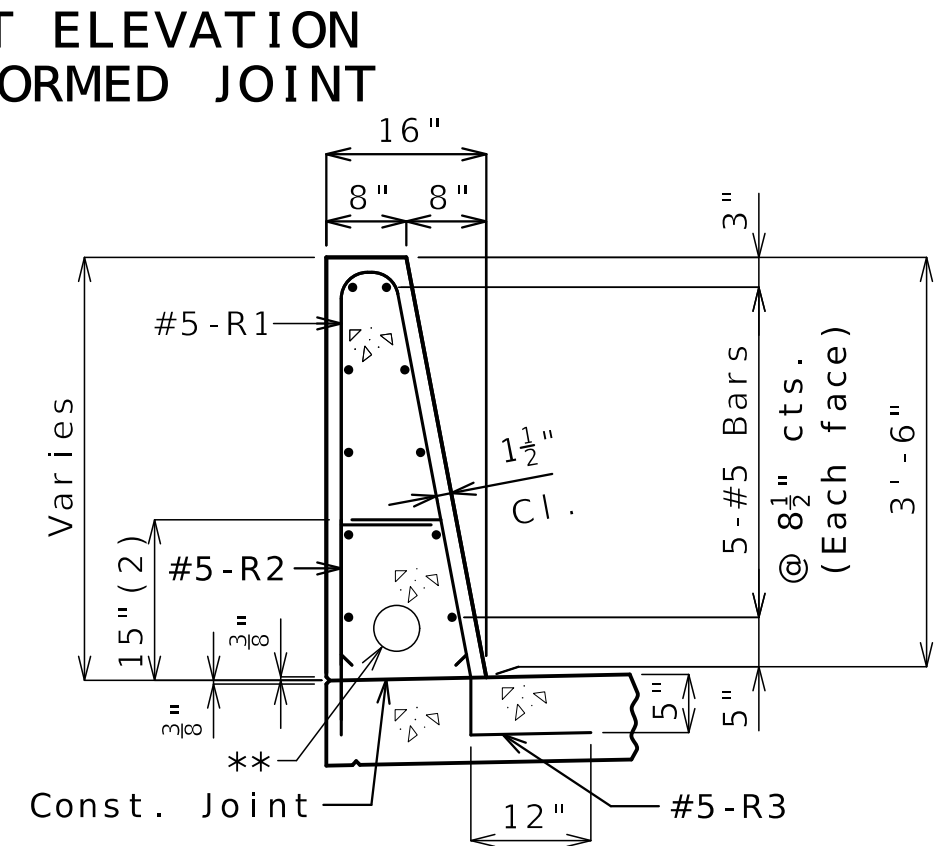
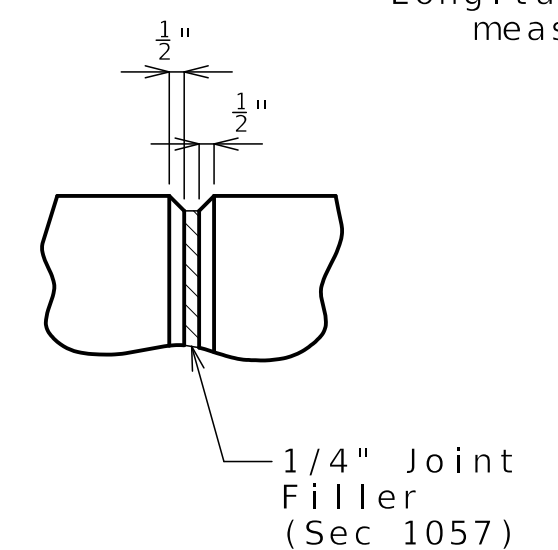
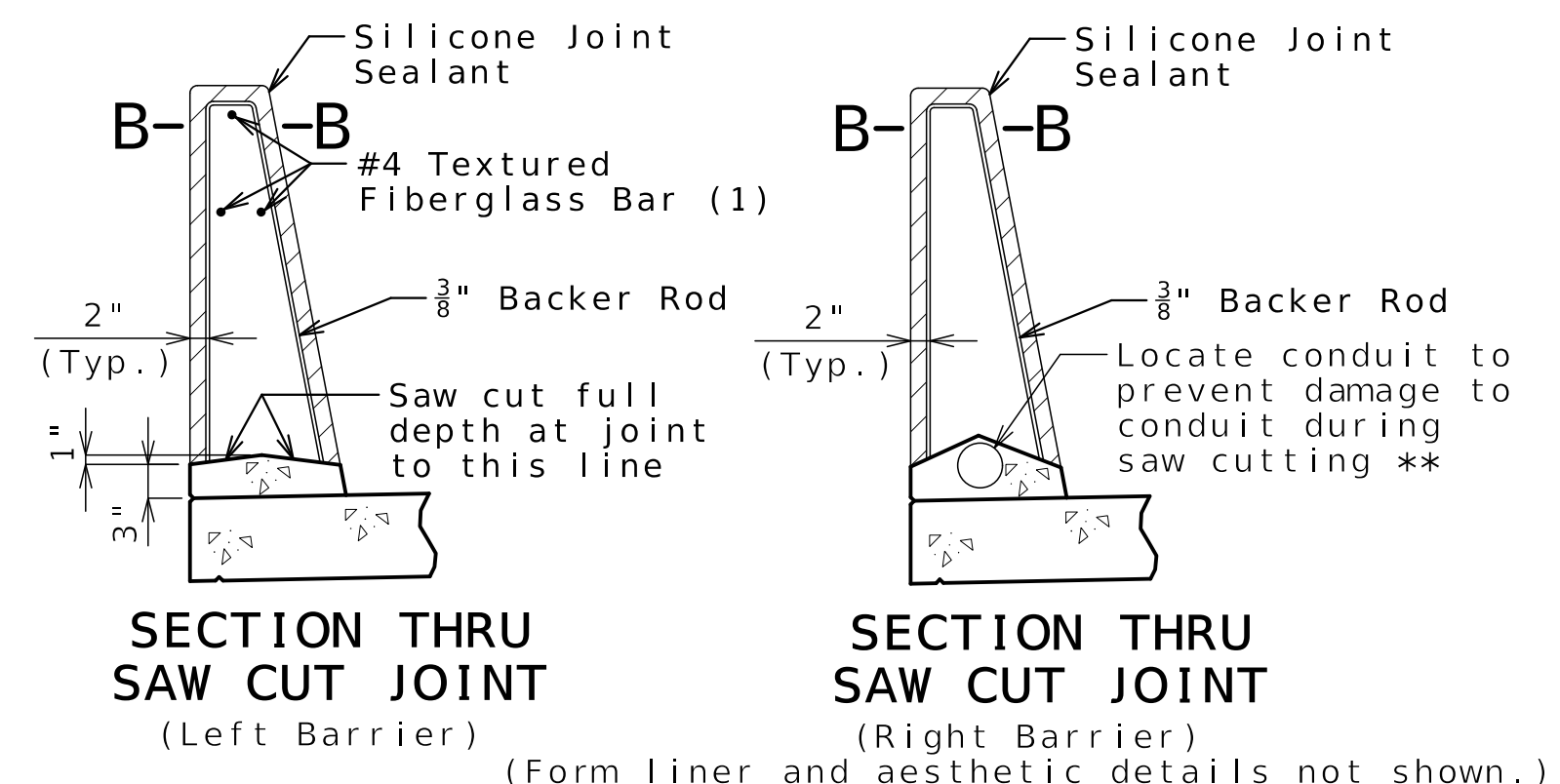
Sheet No. B20-30 of B20-54



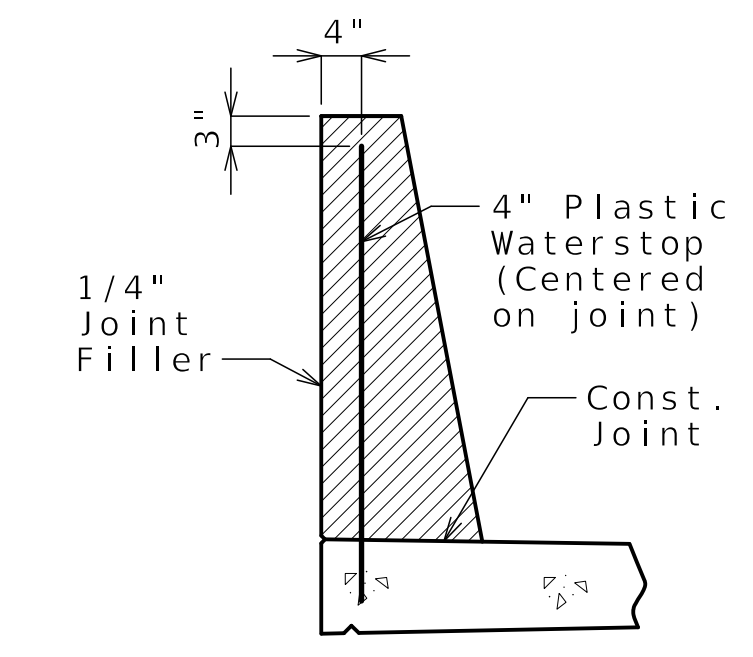
ELEVATION OF LEFT BARRIER
Longitudinal dimensions are horizontal and measured along the outside of slab.



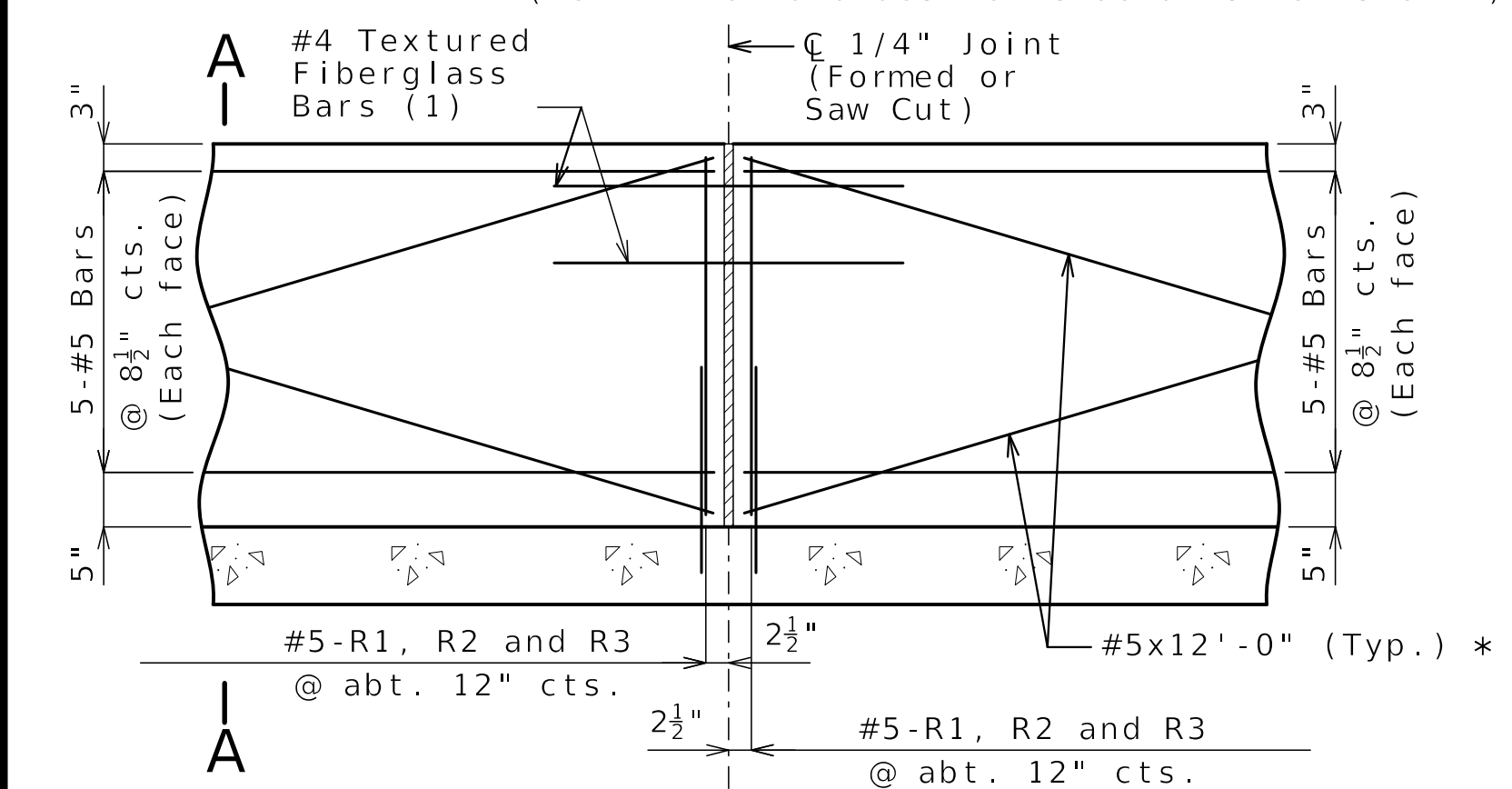
ELEVATION OF RIGHT BARRIER
Longitudinal dimensions are horizontal and measured along the outside of slab.



PART PLAN SHOWING JOINT LOCATION



WATERSTOP DETAIL
Plastic waterstop shall be placed in formed joints on lower side of superelevation.



PART ELEVATION OF BARRIER
(1) Four feet long, centered on joint, left barrier slip-formed option only

SECTION A-A
(Form liner aesthetic details on right barrier not shown.)
Use a minimum lap of 3'-1" for #5 horizontal barrier bars.
(2) To top of bar

R-BAR PERMISSIBLE ALTERNATE SHAPE
(Form liner aesthetic details on right barrier not shown.)
(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

General Notes:

- * Left barrier slip-formed option only.
- ** 2" Ø PVC Conduit (Right barrier only) For Details of Conduit System on Structure, see Sheet No. B20-37.
- Conventional forming or slip forming may be used with left barrier. Conventional forming shall be used with right barrier. 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.

- 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.
- Plastic waterstop shall not be used with saw cut joints.
- For Form Liner and Aesthetic Stain details of right barrier not shown, see Sheet No. B20-36.
- For Light Blister details, see Sheet No. B20-35.

TYPE D BARRIER

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- (4) Bent No. 2 Left = 7"
- Bent No. 2 Right = 7 5/8"
- Bent No. 3 Left = 5 3/4"
- Bent No. 3 Right = 6 1/4"



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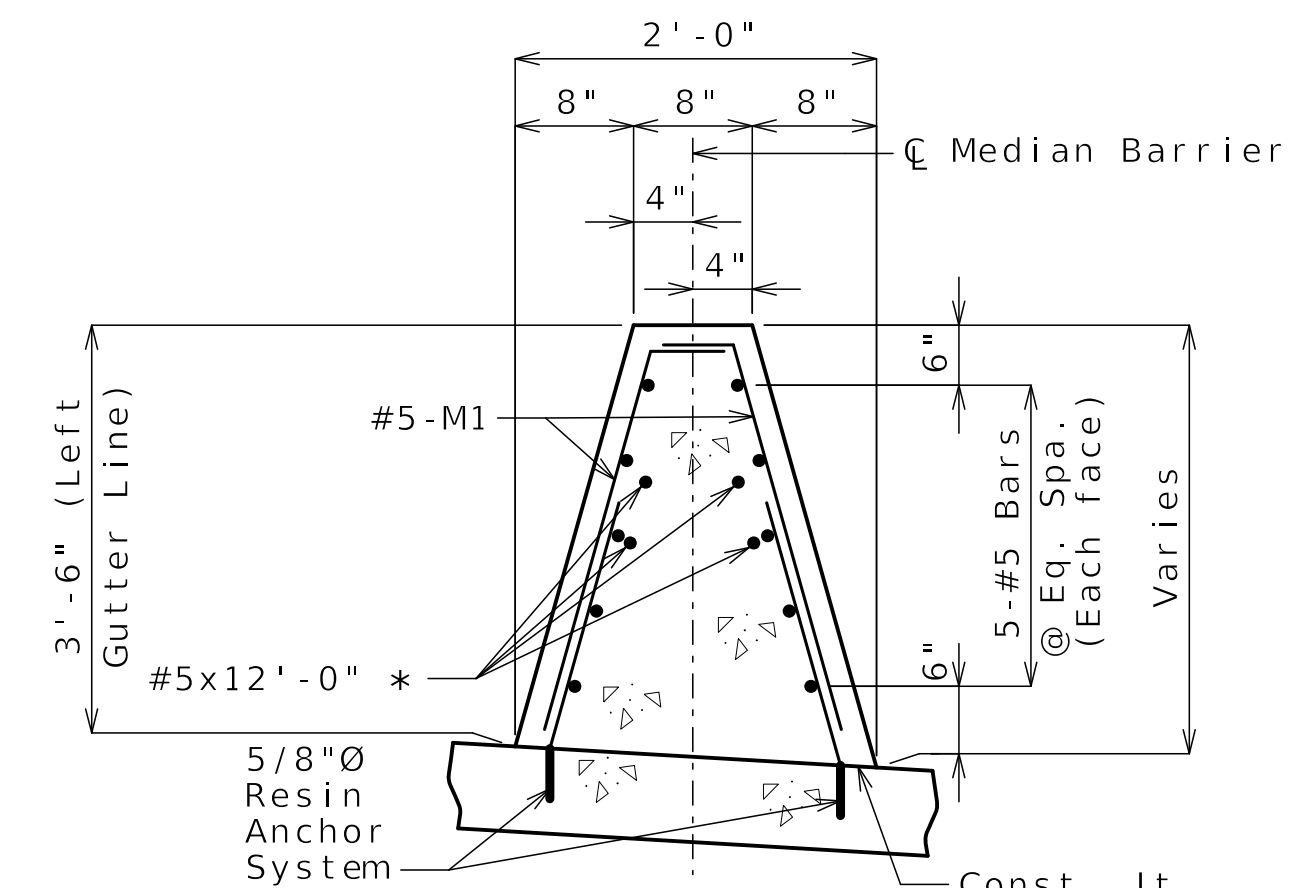
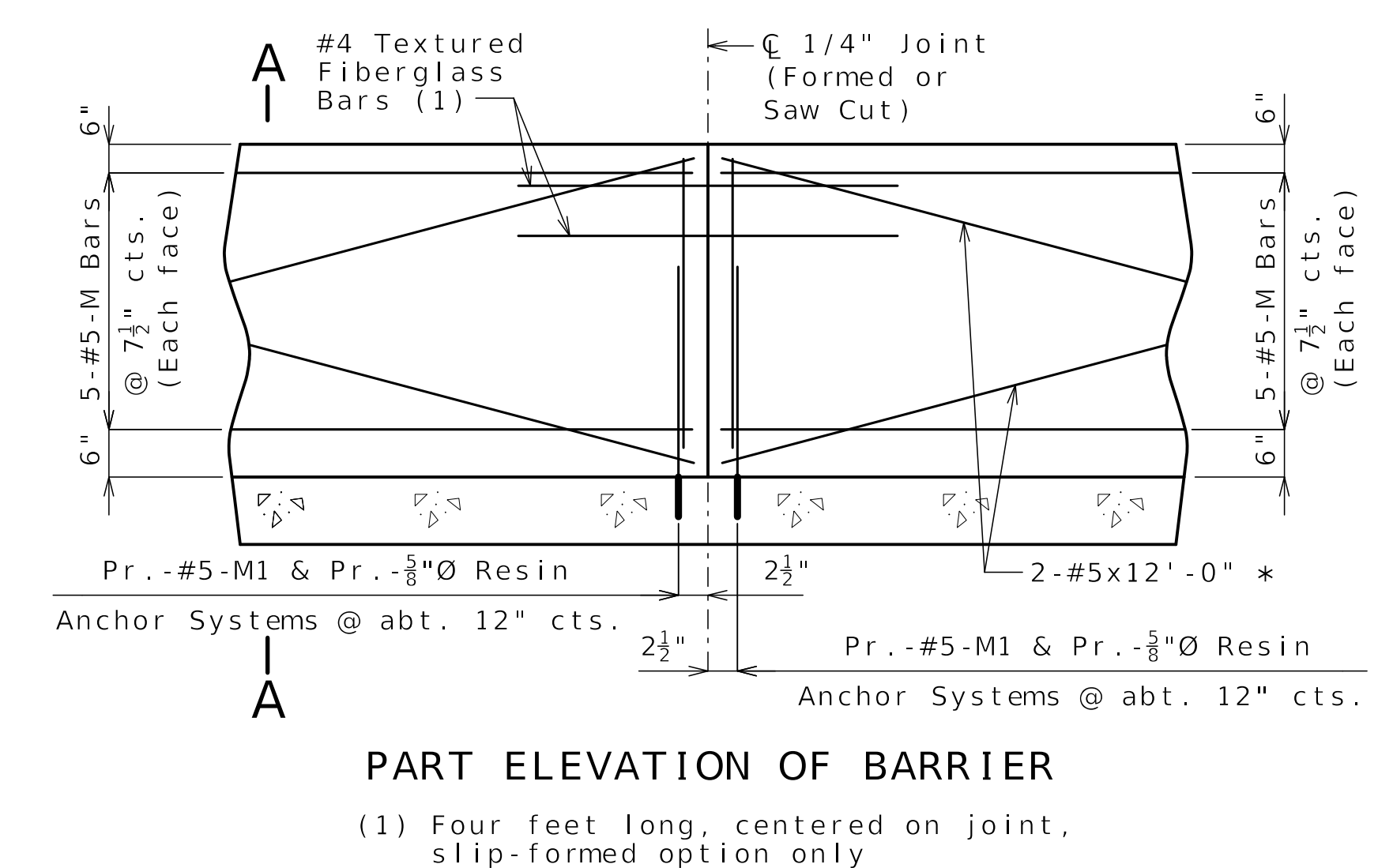
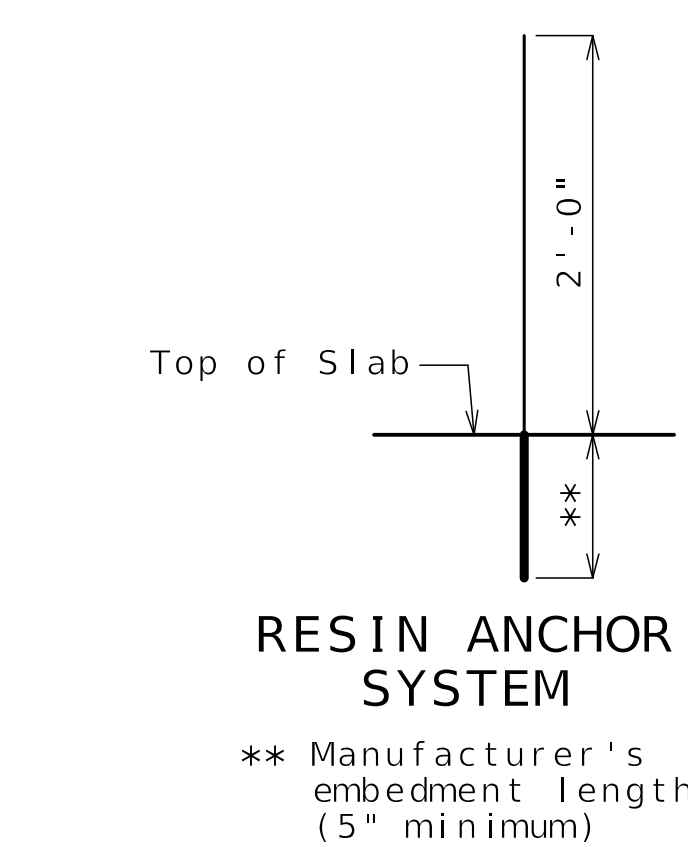
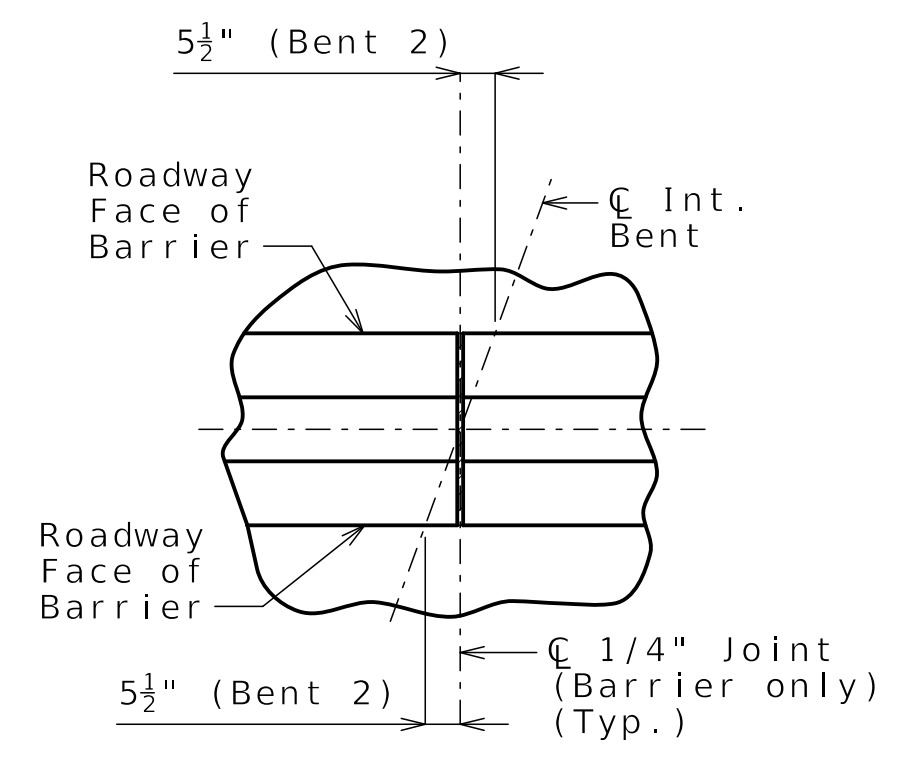
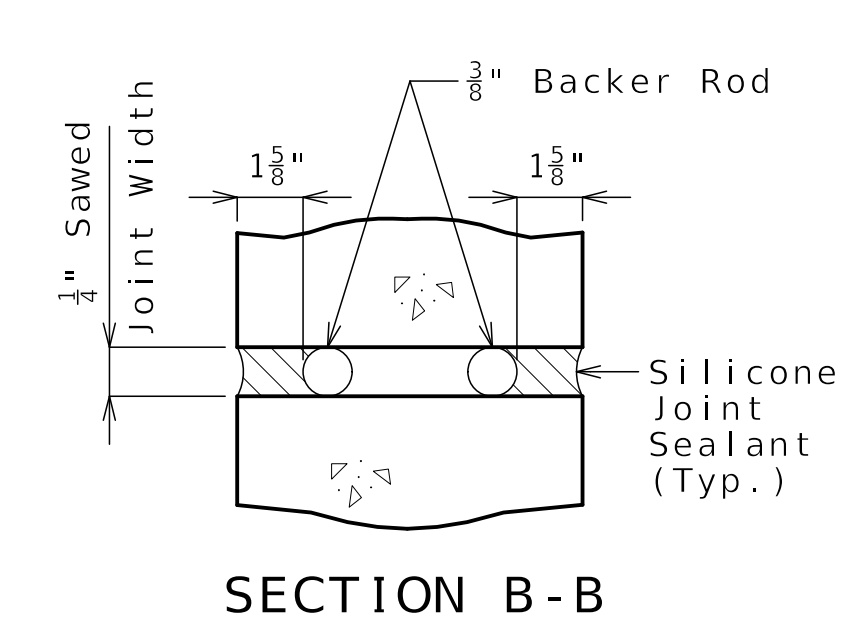
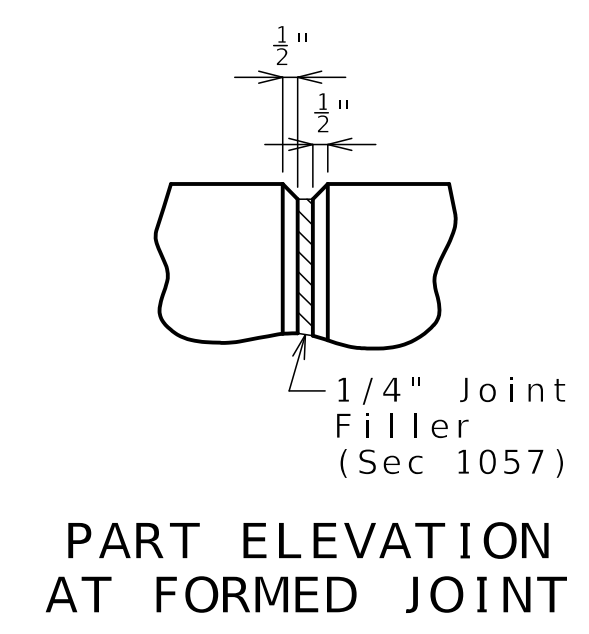
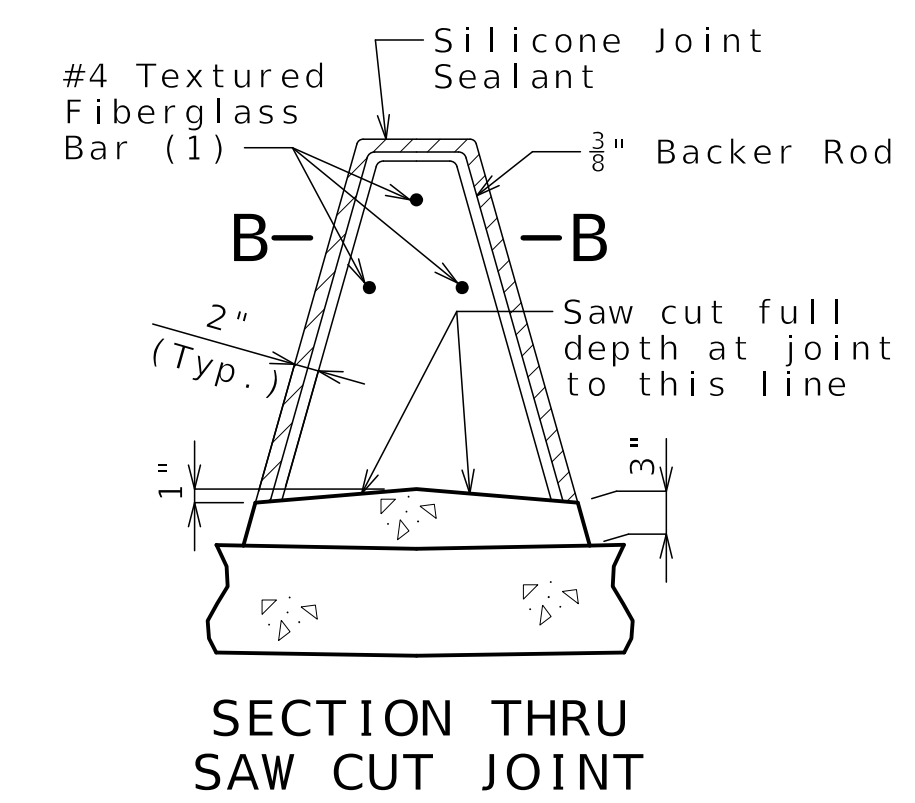
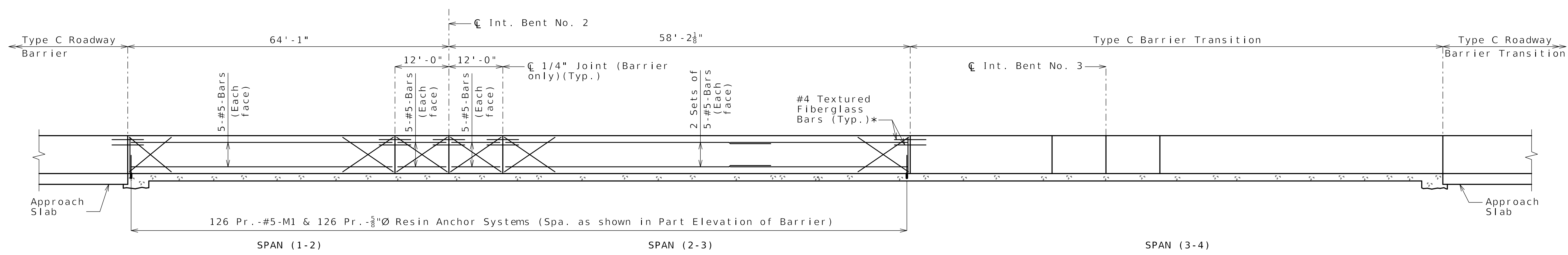
DATE PREPARED 09/22/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B20-31
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9623

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

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



General Notes:
 Work this sheet with Sheet No. B20-33.

* 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 with 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.

Concrete in the 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 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.

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

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

The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5 inches.

An epoxy coated #5 Grade 60 reinforcing bar shall be substituted for the 5/8-inch diameter threaded rod.

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 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman

TYPE C BARRIER



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ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B20-32
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9623

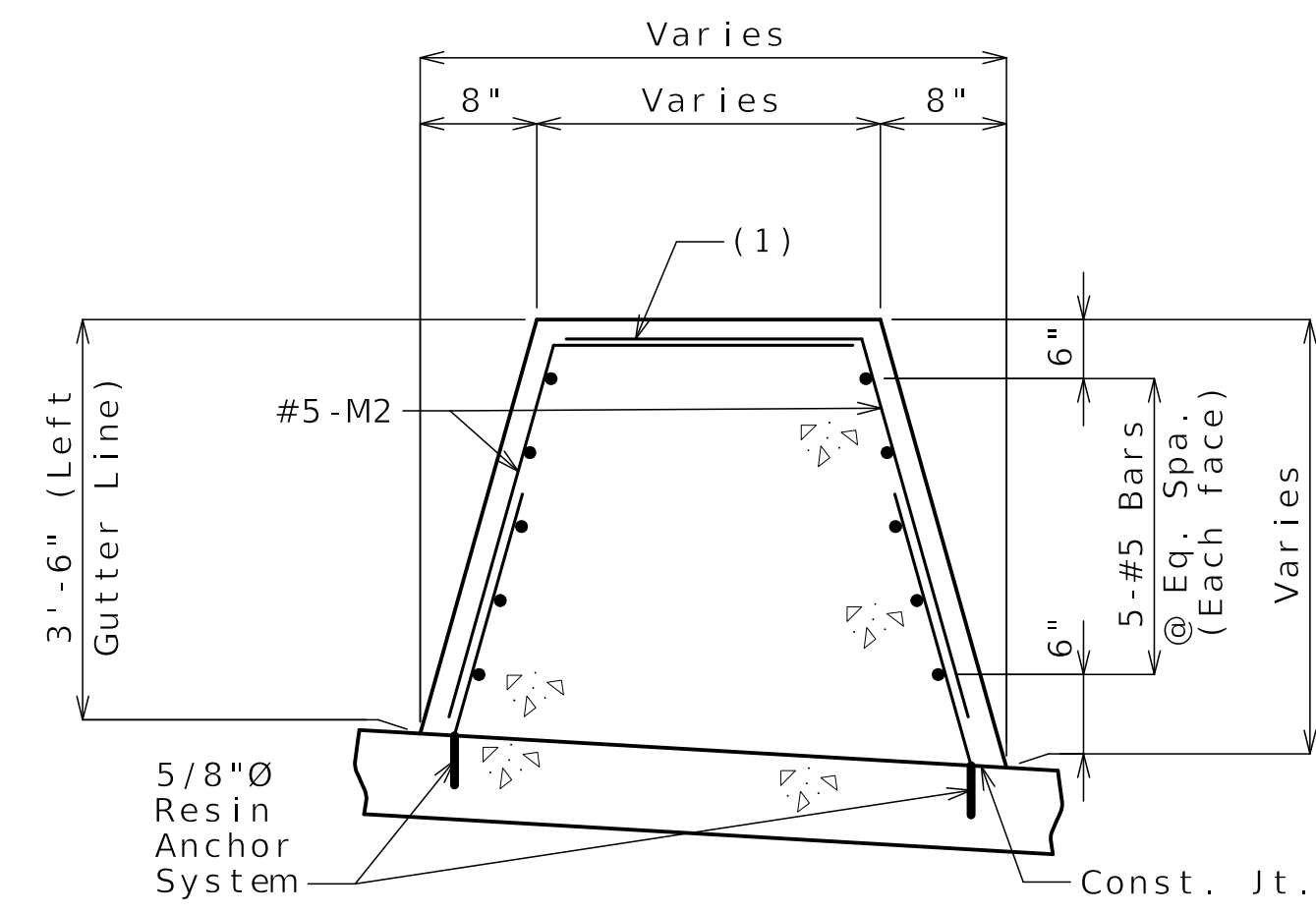
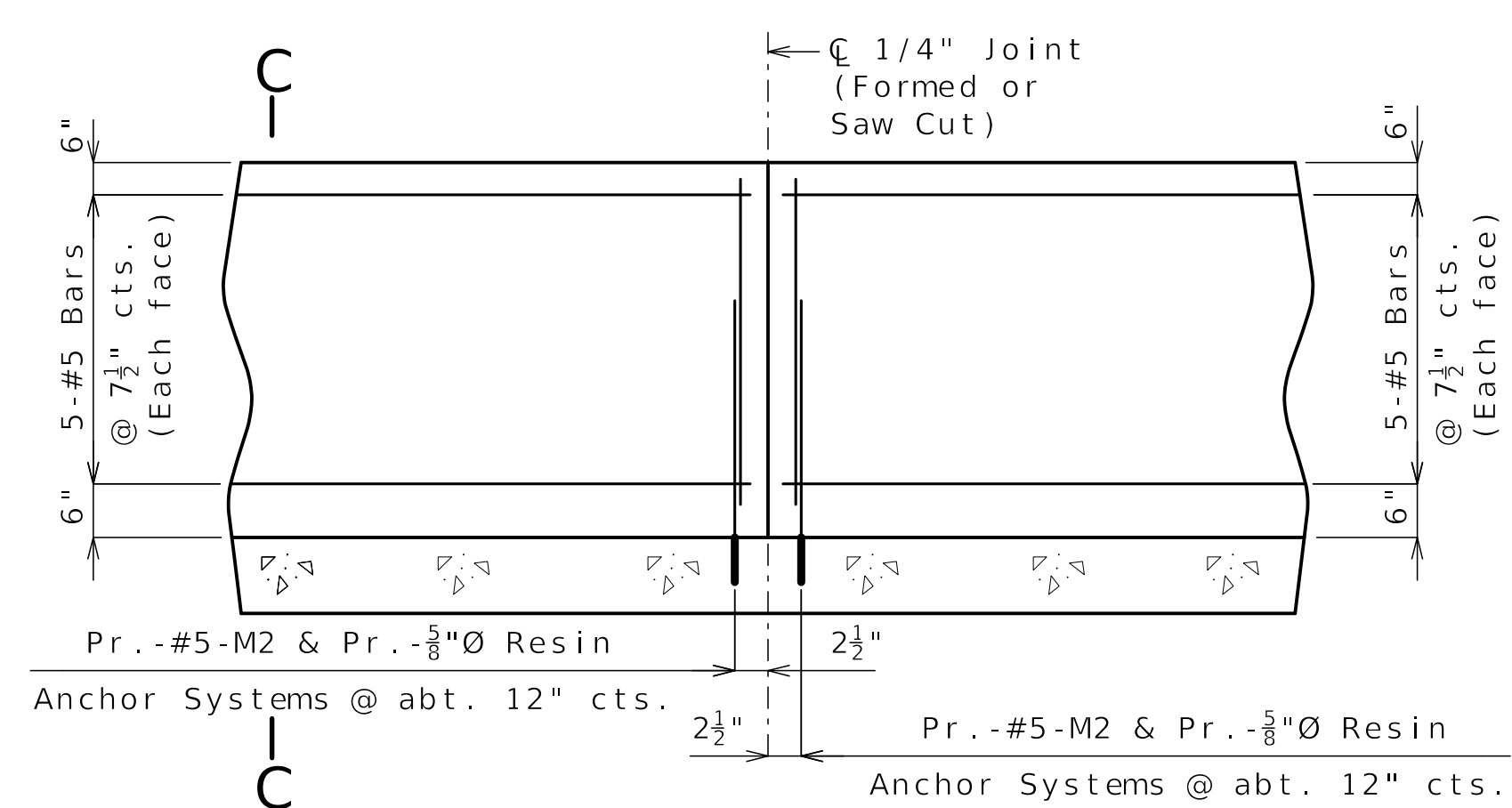
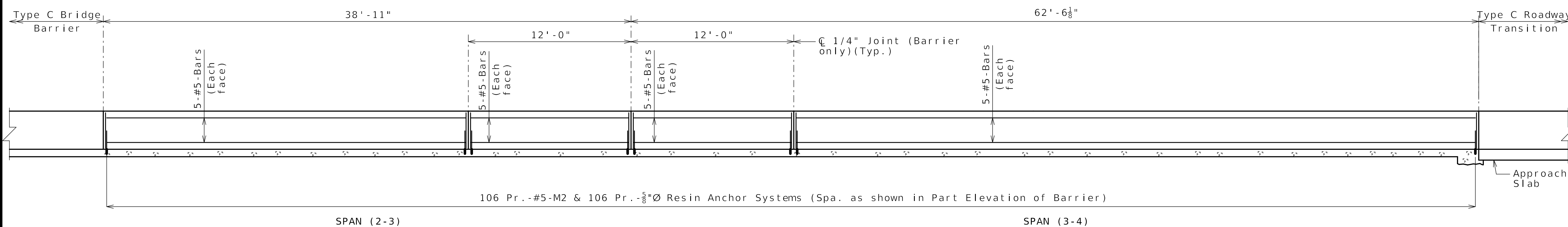
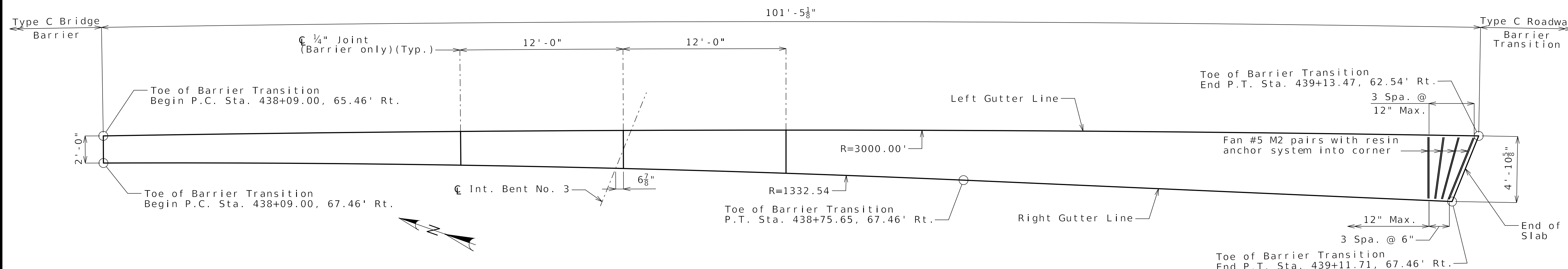
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REV 0 - RFC SUBMITTAL	09/22/25

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CLARKSON RADMACHER
 JOINT VENTURE

715 KIRK DRIVE
 KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY
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(1) Lap shall be full width of top of Type C transition minus concrete cover. Variable length bar legs can be fabricated as one length and cut in the field. Epoxy coating shall be repaired per Sec 1036.

Note:
 Work this sheet with Sheet No. B20-32.
 Conventional forming shall be used for barrier transition.

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 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman



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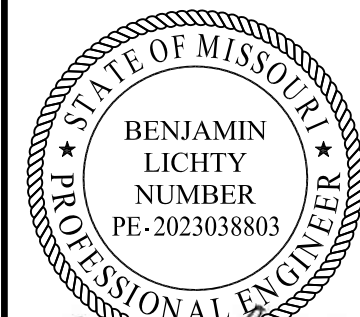
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DISTRICT BR	SHEET NO. B20-33
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
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CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE
 KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270
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DATE PREPARED 09/22/2025	
ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B20-34
COUNTY JACKSON	
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CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO. A9623

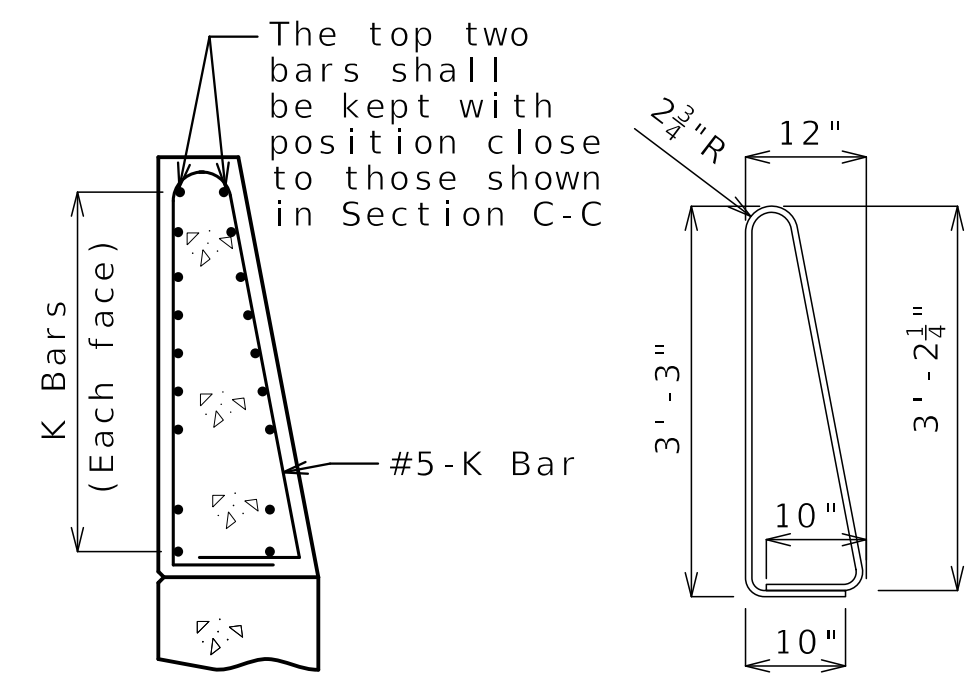
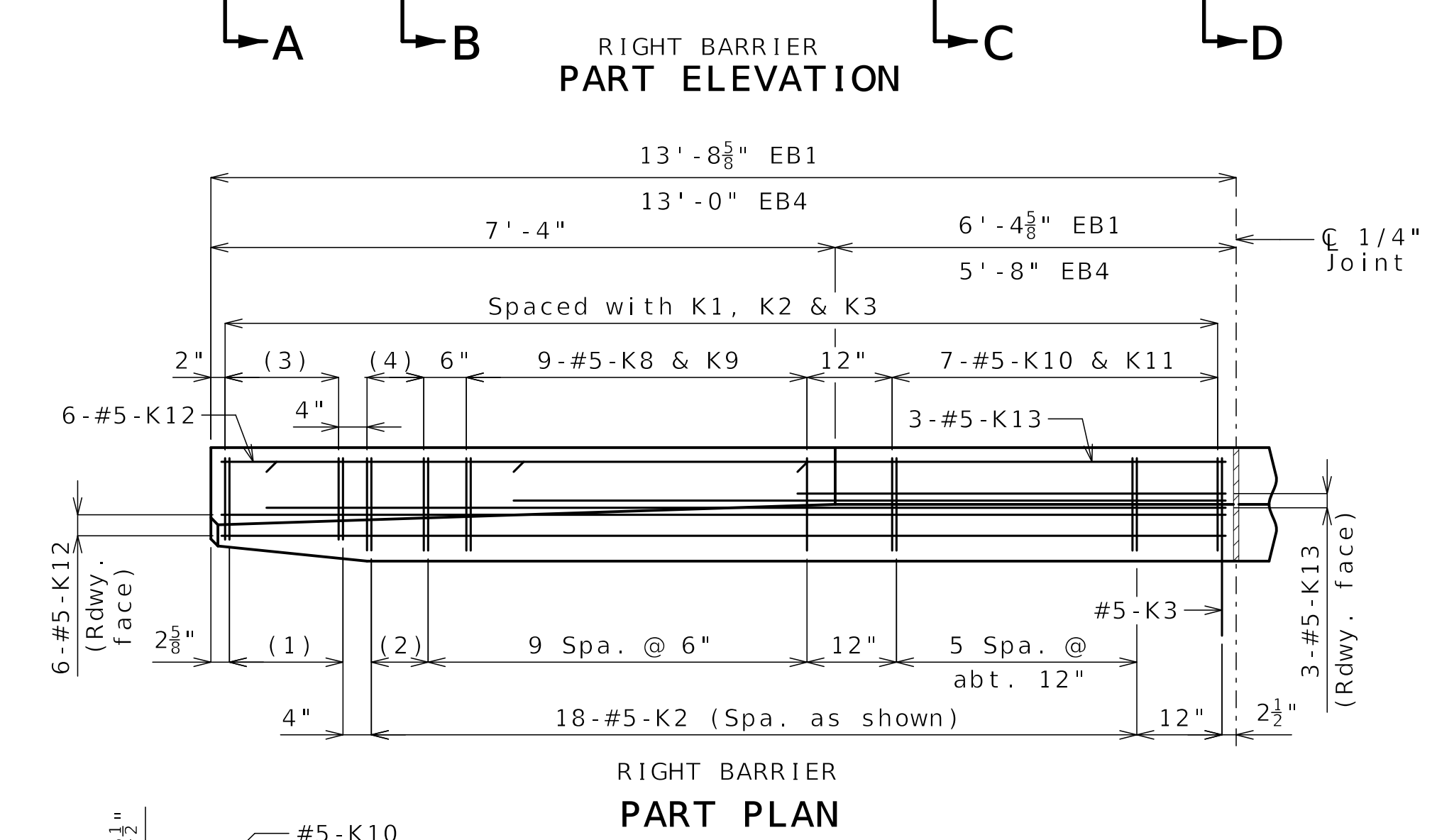
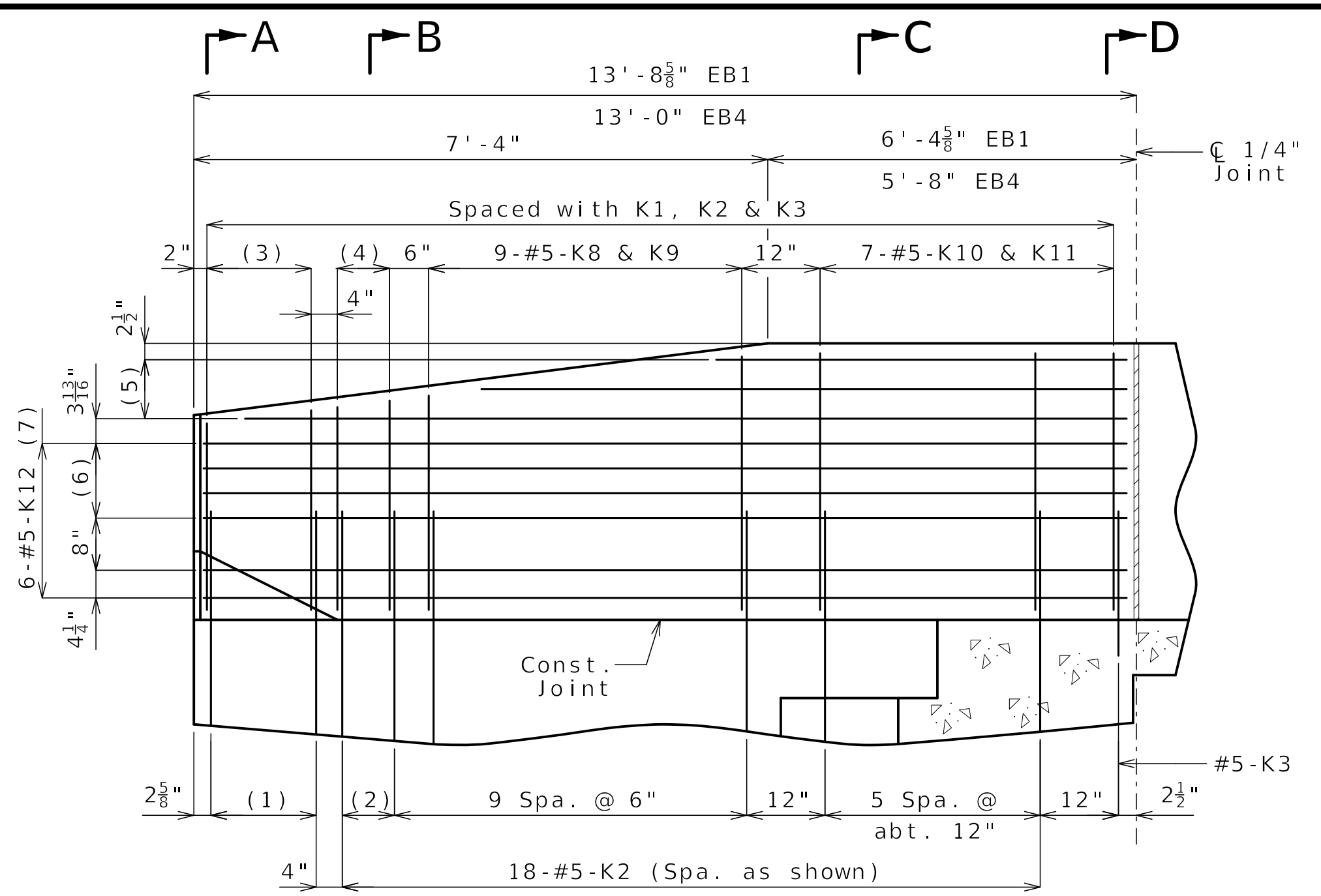
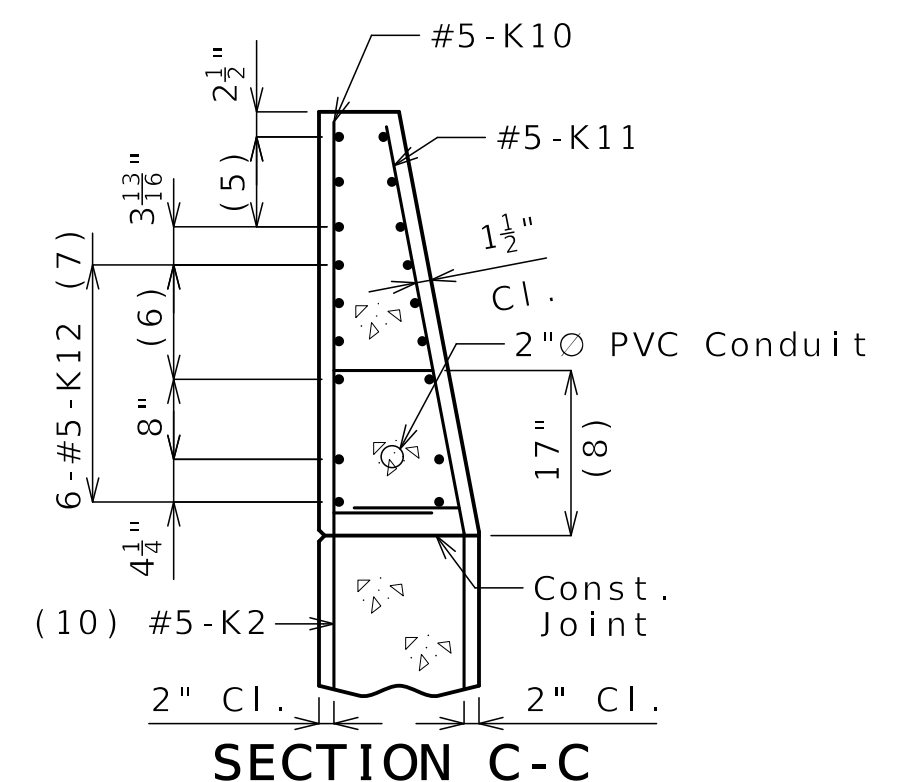
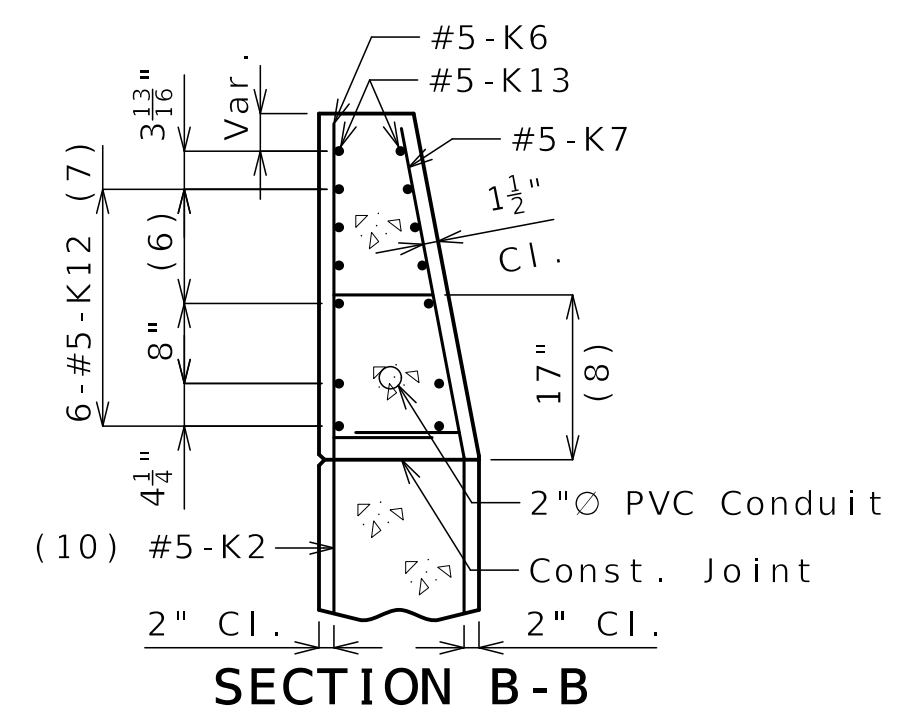
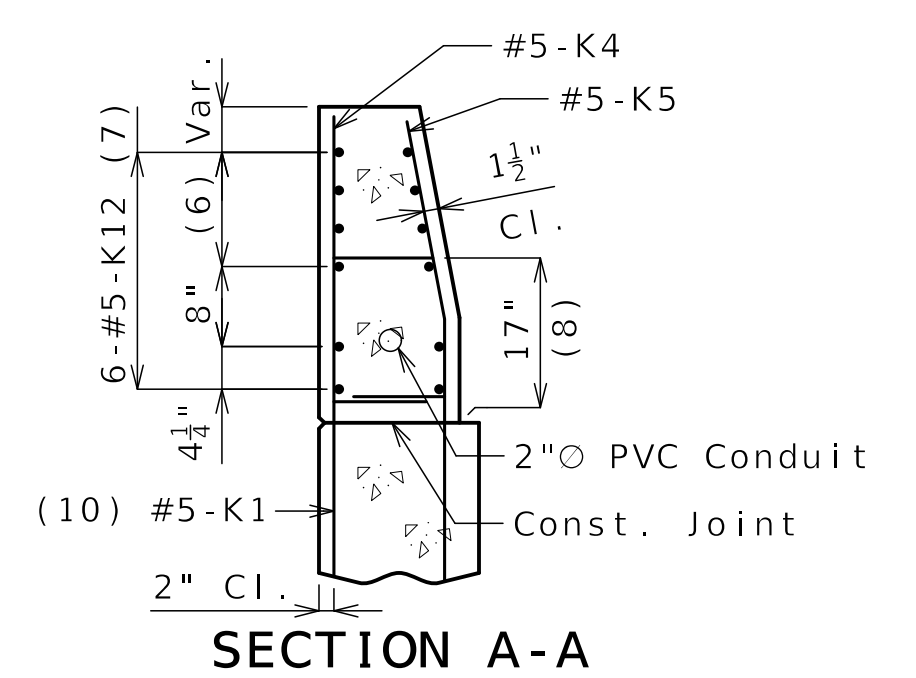
DESCRIPTION	DATE
REV 0 - RFC SUBMITTAL	09/22/25

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CLARKSON RADMACHER
JOINT VENTURE

715 KIRK DRIVE
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CERTIFICATE OF AUTHORITY
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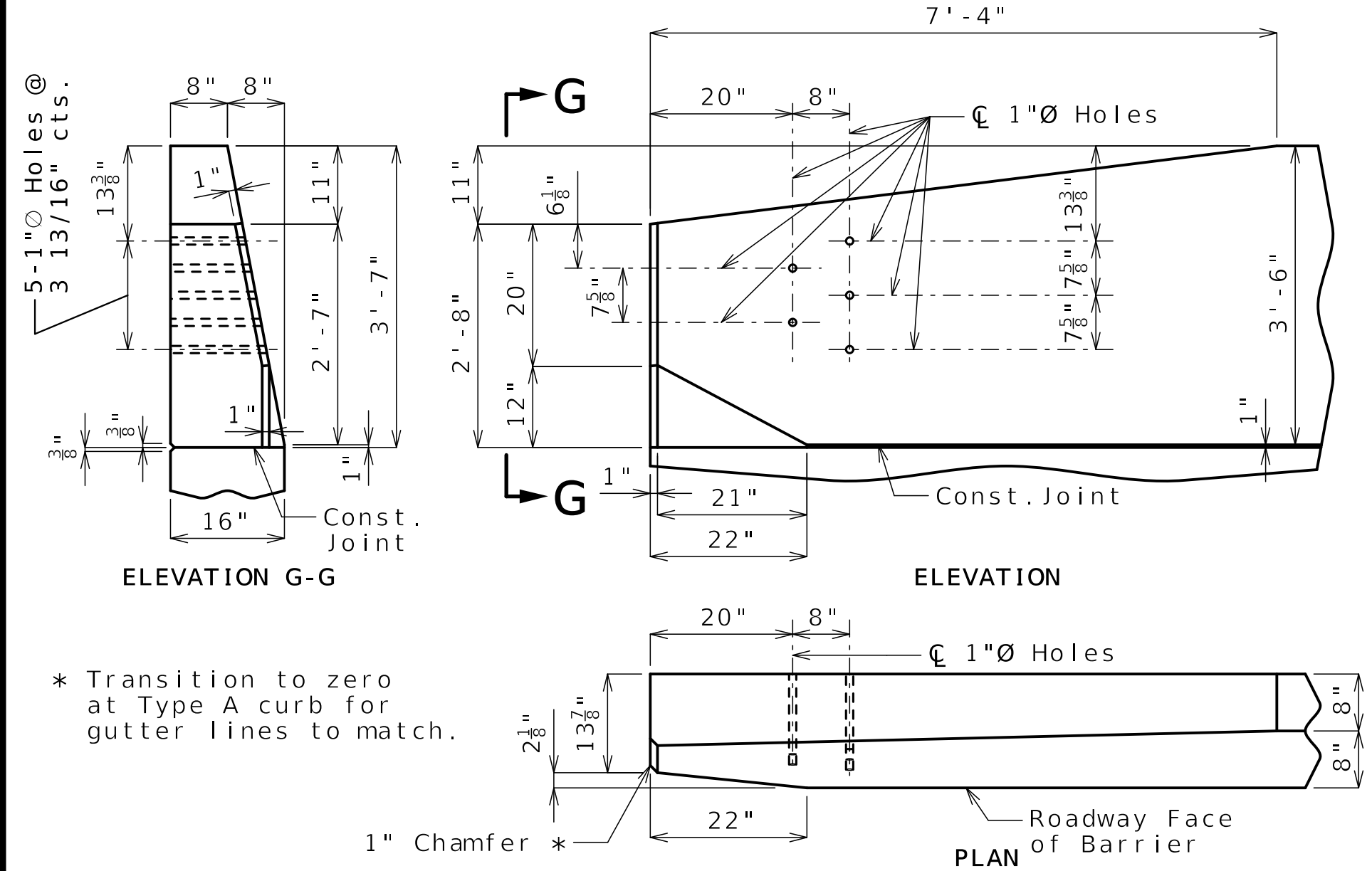
K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

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

All dimensions are out to out.

PVC conduit in barrier not shown.

- (1) 5-#5-K1 @ 4" cts.
- (2) 2 spaces @ 4"
- (3) 5-#5-K4 & K5
- (4) 3-#5-K6 & K7
- (5) 3-#5-K13 or K15 @ 4 1/2" cts., each face
- (6) 3 spaces @ 3 1/8"
- (7) Spaced as shown, each face
- (8) To top of bar
- (9) 2 spaces @ 4 1/2"
- (10) Minimum embedment into wingwall is 2'-9"



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.

For Form Liner and Aesthetic Stain details of right barrier not shown, see Sheet No. B20-36.

EB1 denotes End Bent No. 1
EB4 denotes End Bent No. 4

Reinforcing Steel:

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

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Date: 10/10/2025
Package: BRD-20-EB-70-Truman

TYPE D BARRIER AT END BENTS

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B20-34 of B20-54



Benjamin Lichty
10-08-2025

DATE PREPARED
09/22/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B20-35

COUNTY
JACKSON

JOB NO.
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CONTRACT ID.
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PROJECT NO.

BRIDGE NO.
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DESCRIPTION
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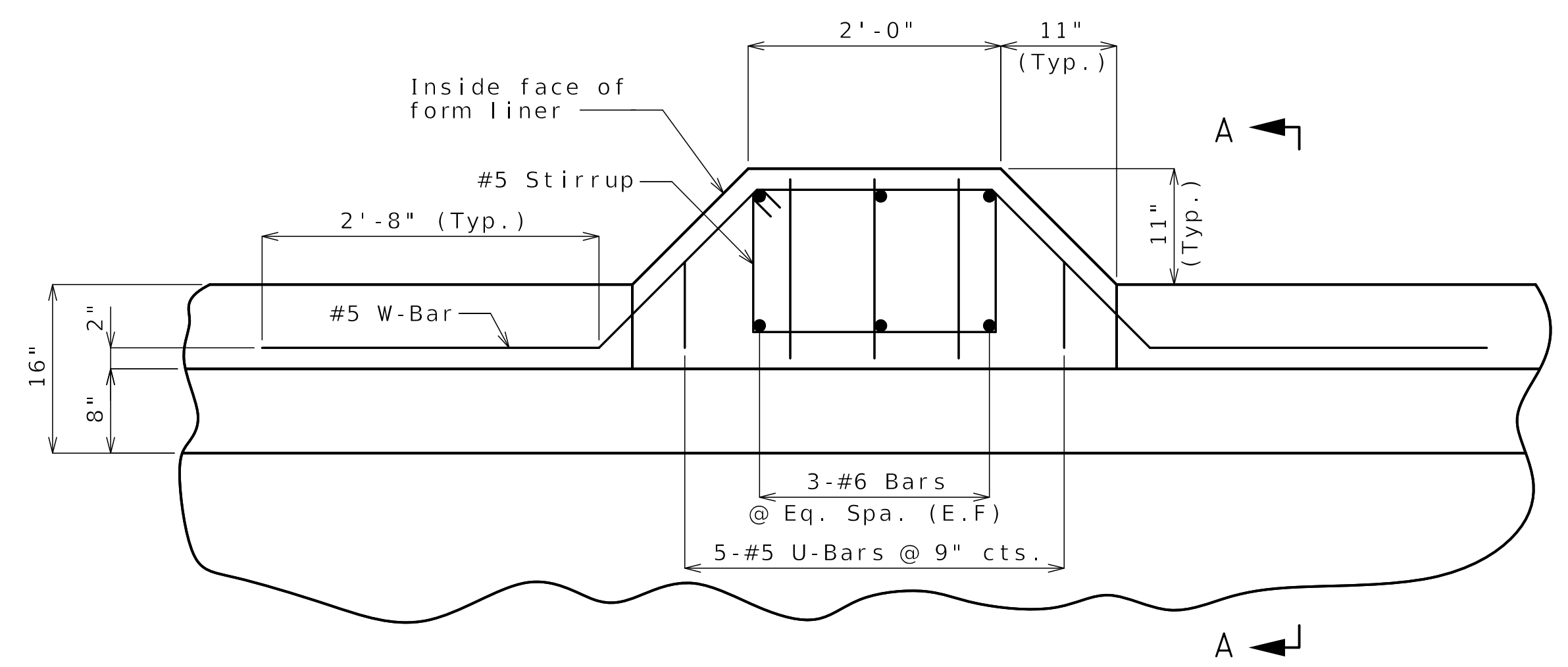
MoDOT

CLARKSON
RADMACHER
JOINT VENTURE

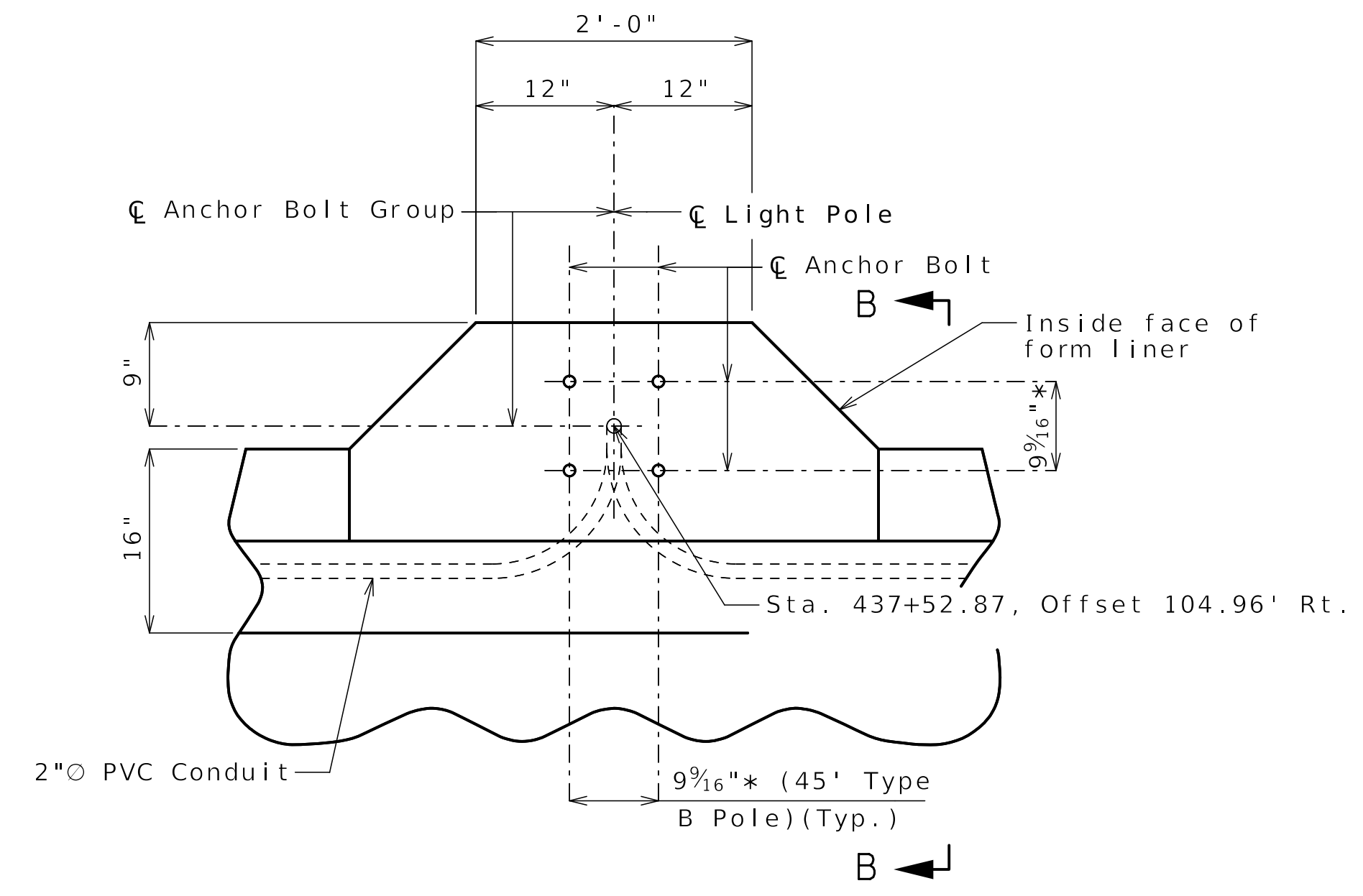
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310

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NO. 001270

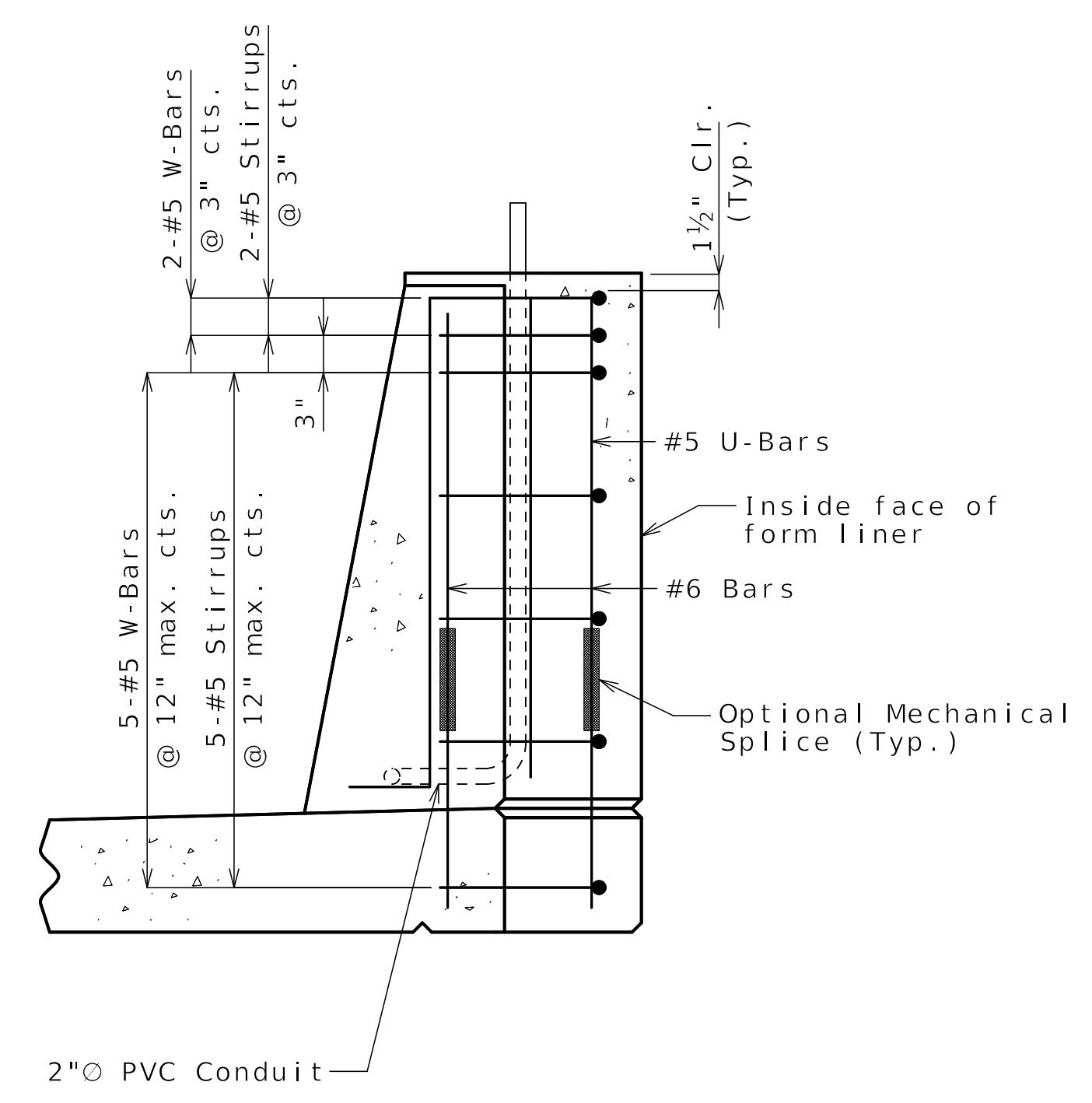
HNTB



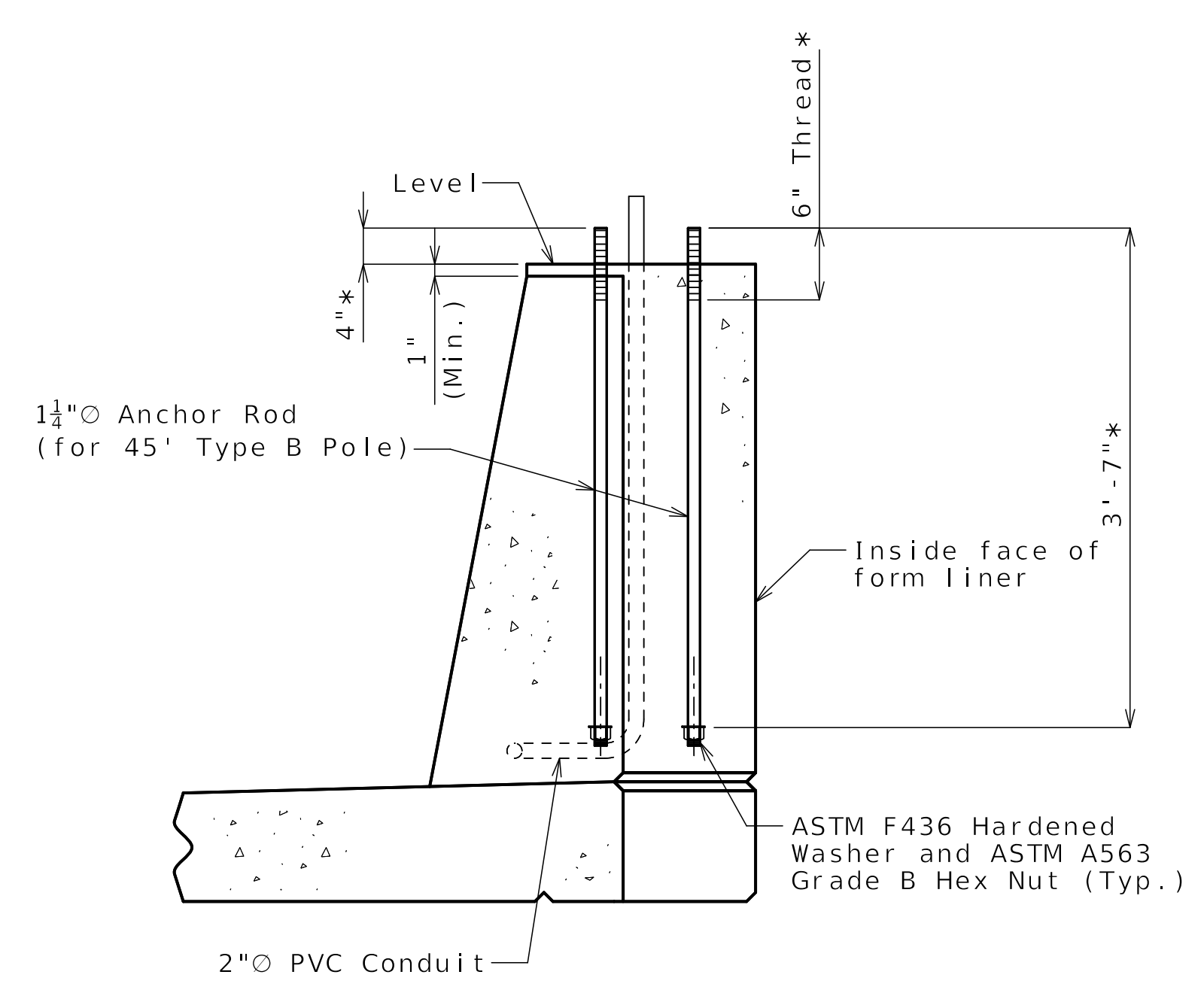
LIGHT POLE MOUNTING PLAN SHOWING REINFORCEMENT



LIGHT POLE MOUNTING PLAN



SECTION A-A

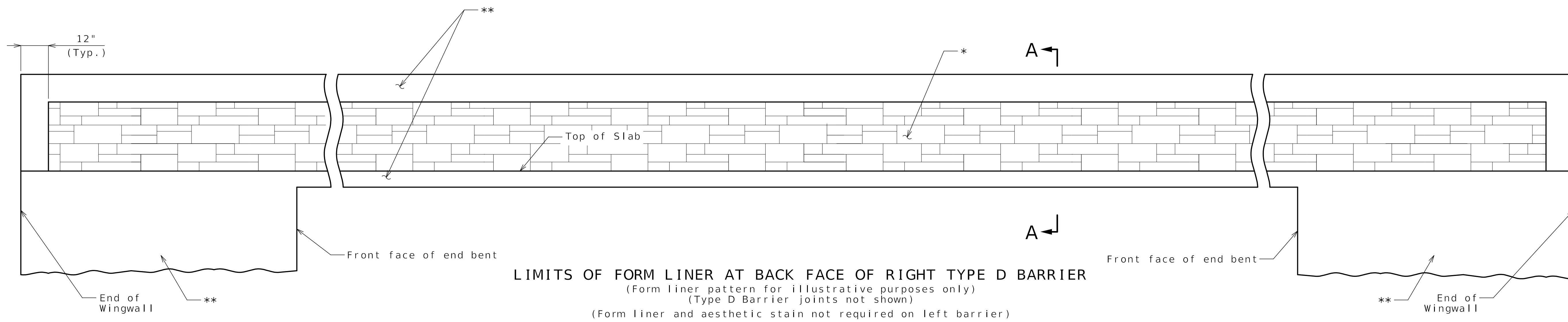


SECTION B-B

Notes:
 * Contractor shall confirm dimension with light pole manufacturer before setting anchor bolts.
 Anchor bolts and nuts shall be ASTM F1554 Grade 55. Anchor bolts, nuts and washers shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C or ASTM B695, Class 55.
 Top of light standard supports shall be made horizontal; anchor rods shall be placed vertically. Contractor has the option to splice vertical bars with mechanical bar splices. Mechanical bar splices shall be in accordance with Sec 710.
 For locations of light blister, see Sheets No. B20-26 and B20-27.
 For Form Liner and Aesthetic Stain Details not shown, see Sheet No. B20-36.

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 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman

LIGHT BLISTER DETAILS



LIMITS OF FORM LINER AT BACK FACE OF RIGHT TYPE D BARRIER
 (Form liner pattern for illustrative purposes only)
 (Type D Barrier joints not shown)
 (Form liner and aesthetic stain not required on left barrier)

Form Liner and Aesthetic Concrete Stain for bridges are not a part of the base contract and are not yet contracted for this Project with MoDOT.

General Notes:

**Concrete and masonry protective coating and sacrificial graffiti protective coating shall be applied in accordance with Sec 711 to surfaces to receive form liner treatment and as noted in details on this sheet.

Protective coatings shall be compatible with Aesthetic Concrete Stain.

Concrete Form Liner Notes:

Form liner shall be constructed in accordance with Special Provisions.

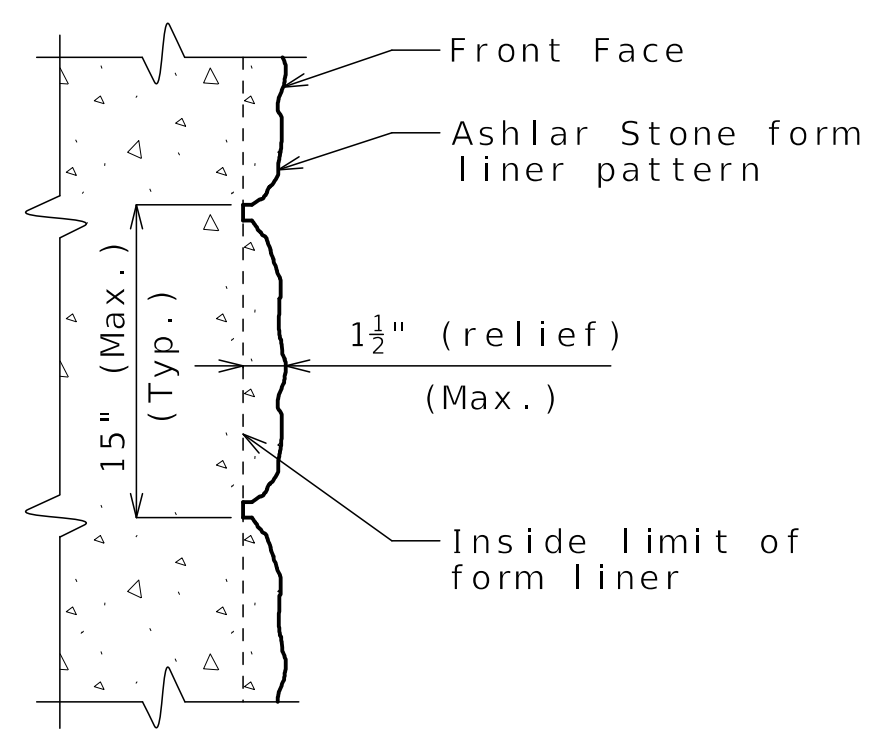
The following is a list of form liner manufacturers and types which may be used. Depth of relief for all form liner patterns shall vary up to 1 1/2". The height of any single "stone" shall be 15" maximum.

- 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

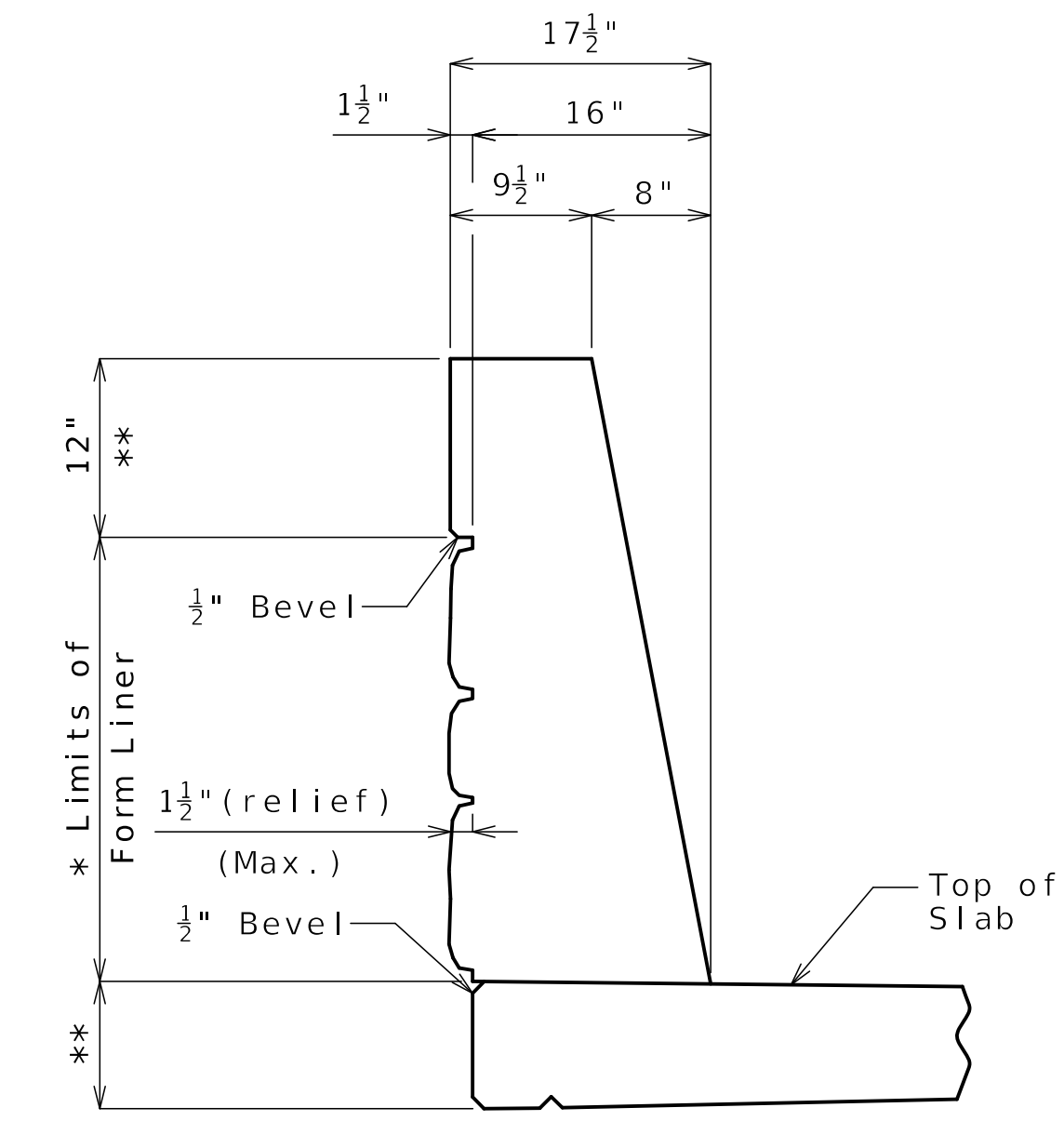
Aesthetic Concrete Stain Notes:

* Surface to receive Aesthetic Concrete Stain. The color shall be Federal Standard #37150.

Aesthetic Concrete Stain shall be applied in accordance with Sec 711 as shown in the plans.



FORM LINER DETAIL



SECTION A-A

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman



Benjamin Lichty
 10-08-2025

DATE PREPARED
 09/22/2025

ROUTE STATE
 I-70 MO

DISTRICT SHEET NO.
 BR B20-36

COUNTY
 JACKSON

JOB NO.
 J411486D

CONTRACT ID.
 240807-C01

PROJECT NO.

BRIDGE NO.
 A9623

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

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

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





Benjamin Lichty
10-08-2025

DATE PREPARED
09/22/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B20-37

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9623

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE

09/22/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

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

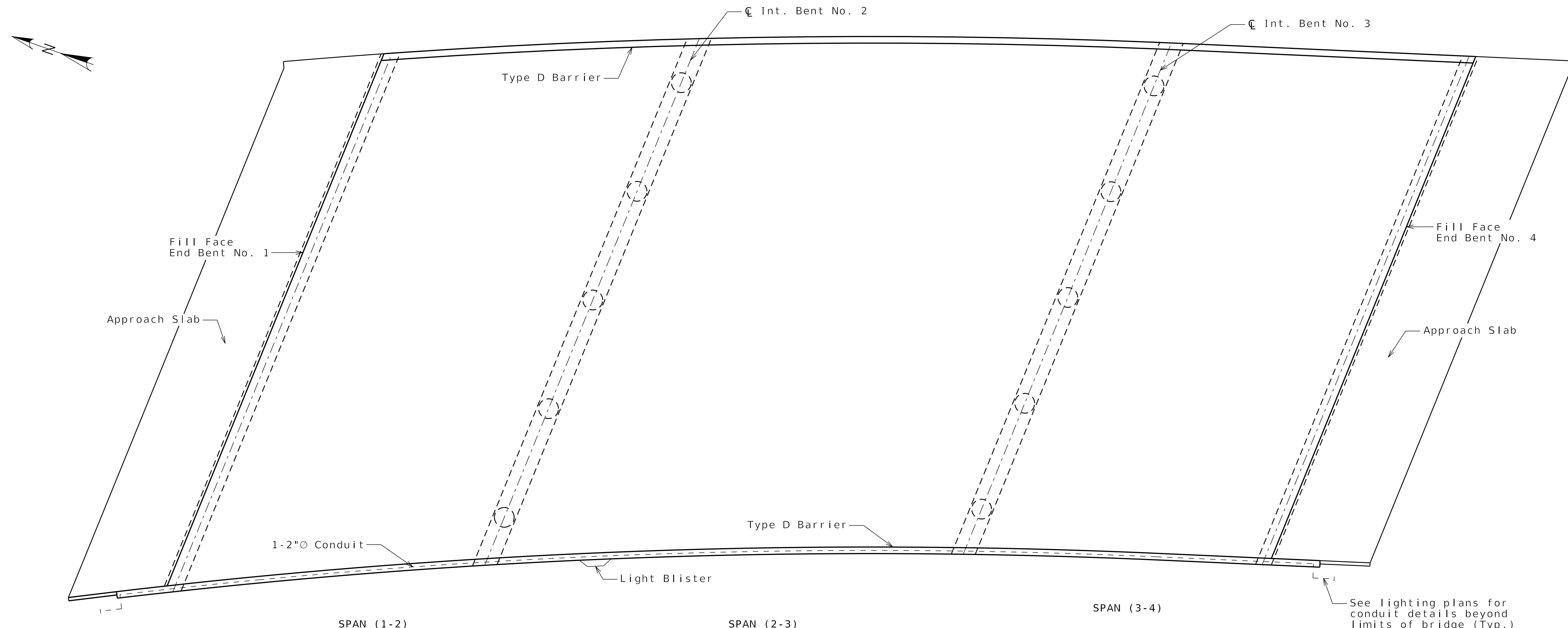
MoDOT

CLARKSON RADMACHER JOINT VENTURE

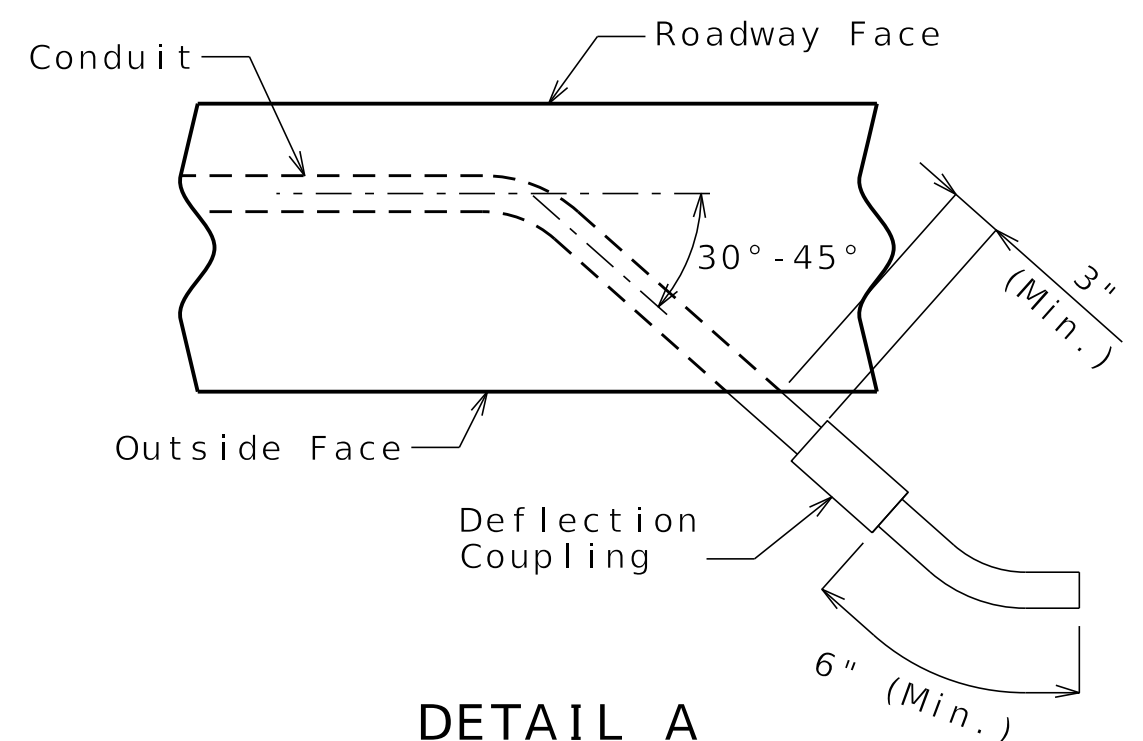
715 KIRK DRIVE KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY NO. 001270

HNTB



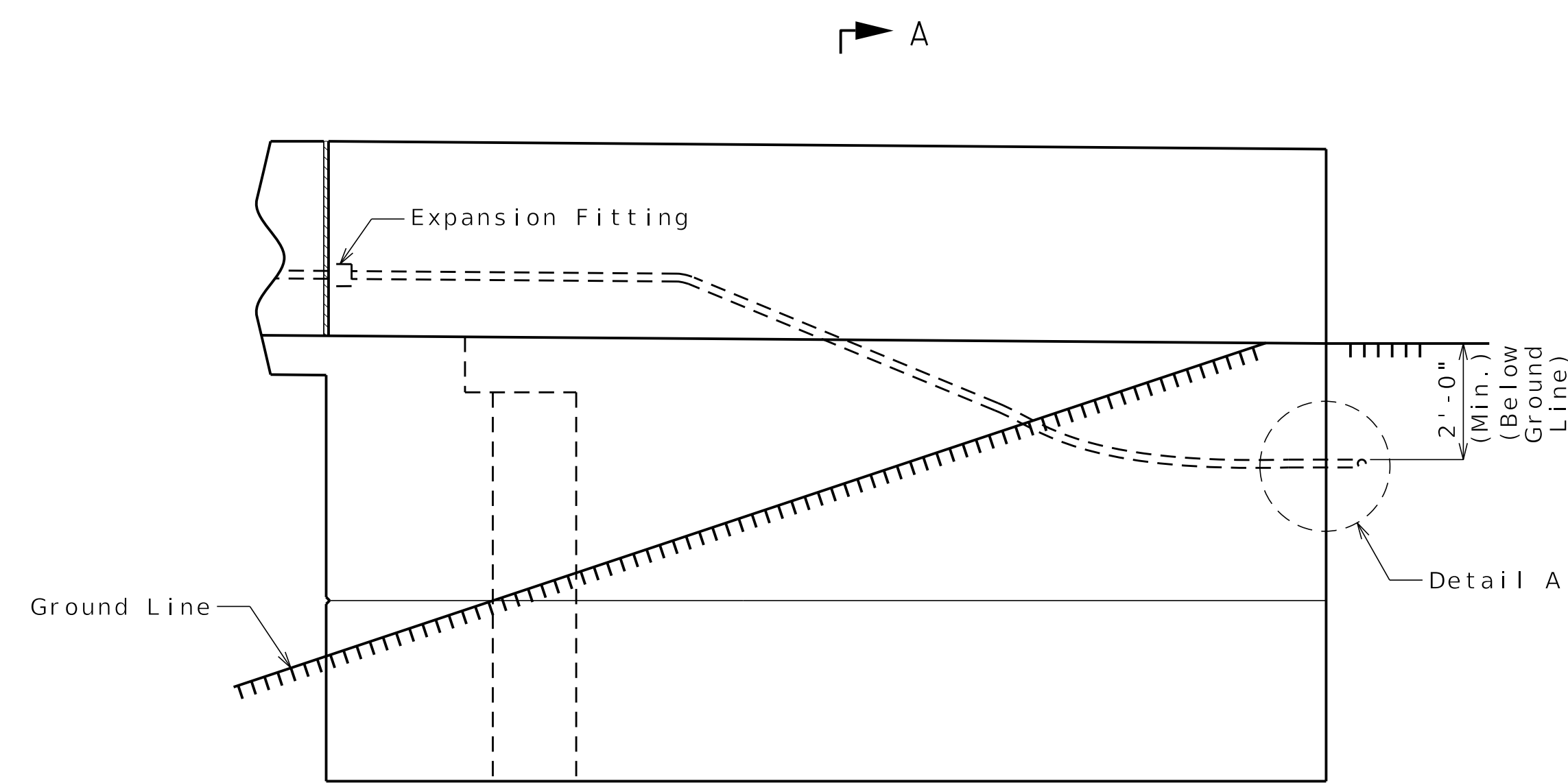
PLAN OF CONDUIT SYSTEM



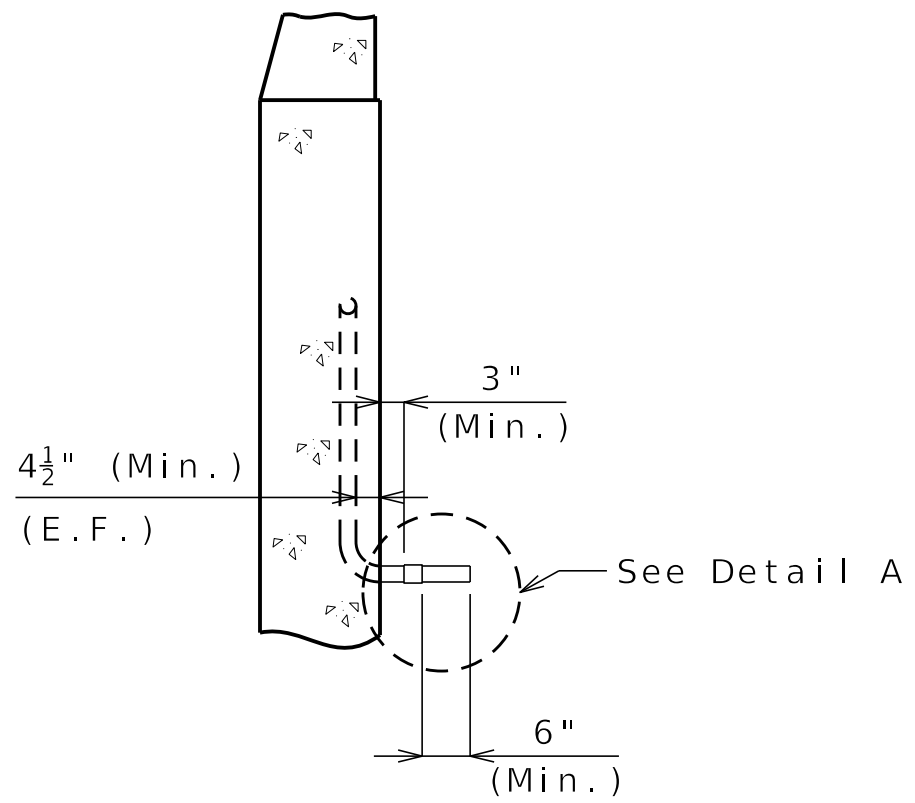
DETAIL A

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

Notes:
All conduit shall be rigid non-metallic schedule 40 heavy wall PVC (polyvinyl chloride plastic) with 3½" minimum cover in barrier and 4½" minimum cover in wingwall. Each section of conduit shall bear the Underwriters laboratories (UL) label.
Shift reinforcing steel in field where necessary to clear conduit.
Expansion fittings shall be placed as shown and set in accordance with the manufacturer's requirements and based on the air temperature at the time of setting given an estimated total movement of 1 inch at filled joints using a maximum temperature range of 120°F and a maximum temperature of 110°F.
The conduit terminations shall be permanent or separable. The terminations and covers shall be of watertight construction and shall meet requirements for NEMA 4X enclosure.
Drainage shall be provided at low points or other critical locations of all conduits in accordance with Sec 707. All conduits shall be sloped to drain where possible.
For additional form liner details not shown see Sheet No. B20-36.

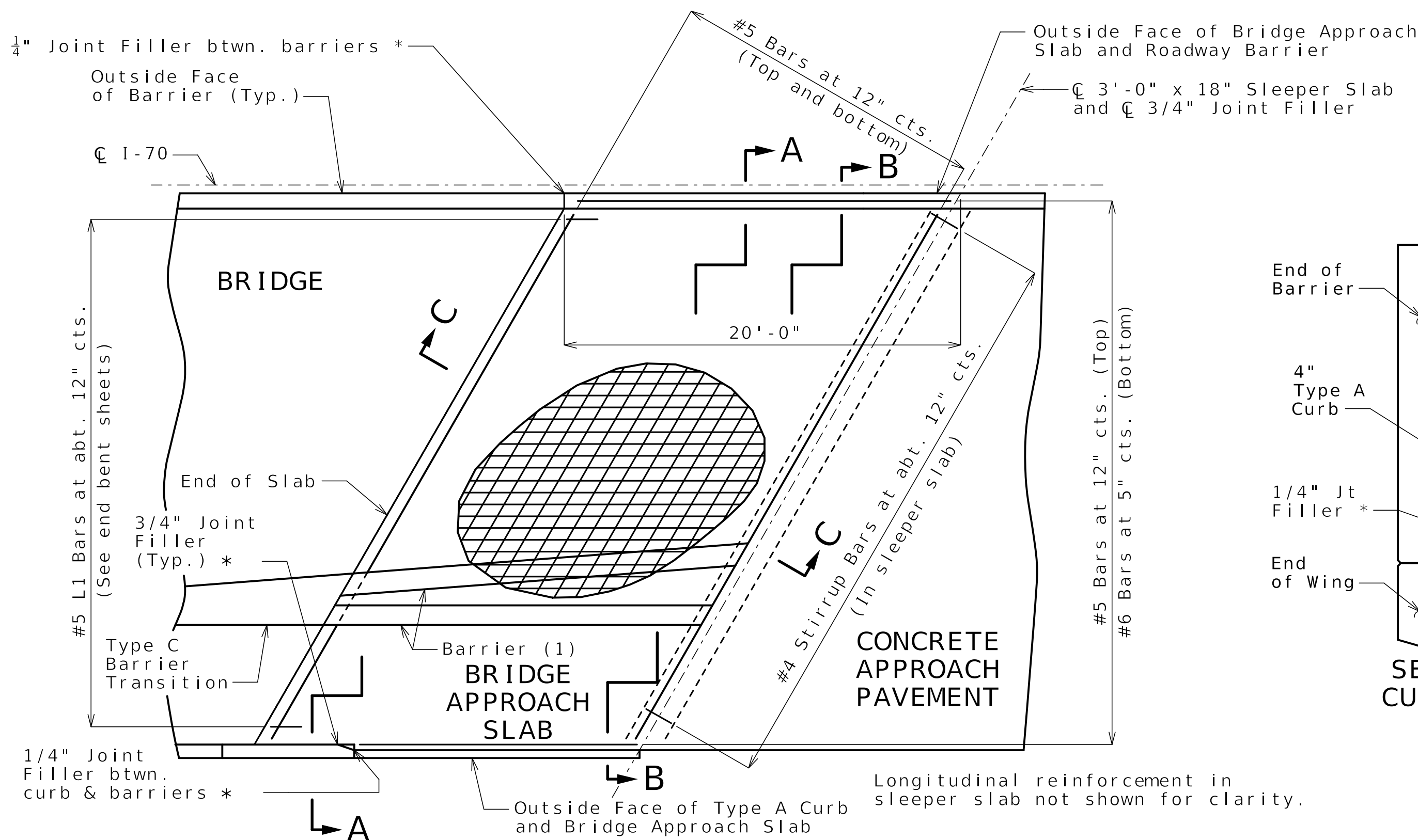


PART WINGWALL ELEVATION

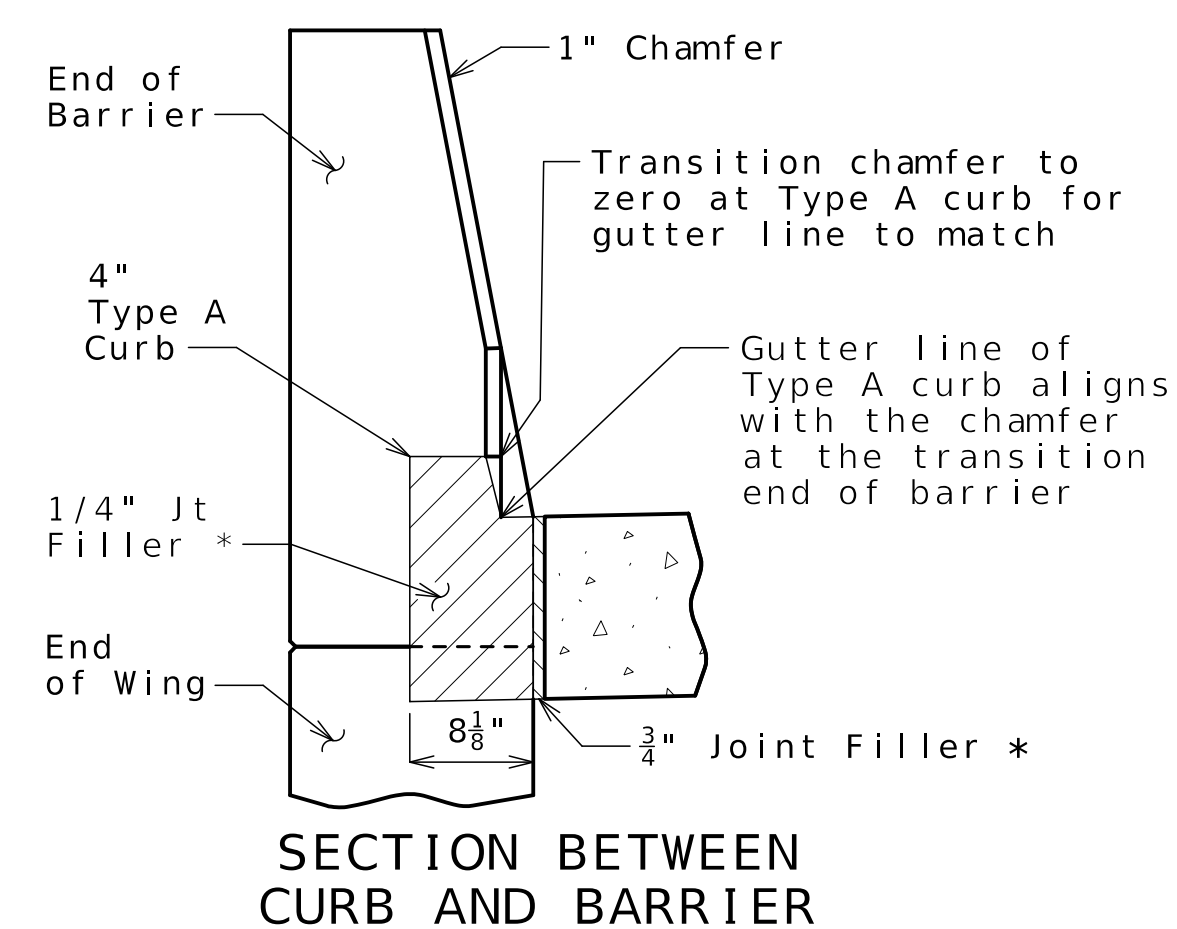


PART SECTION A-A

DETAILS OF CONDUIT SYSTEM ON STRUCTURE



PART PLAN SHOWING REINFORCEMENT
(End Bent No. 4 shown, End Bent No. 1 similar as shown in sections)



SECTION BETWEEN CURB AND BARRIER

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 29 inches for #5 bars and 44 inches for #6 bars, or by mechanical bar splice.

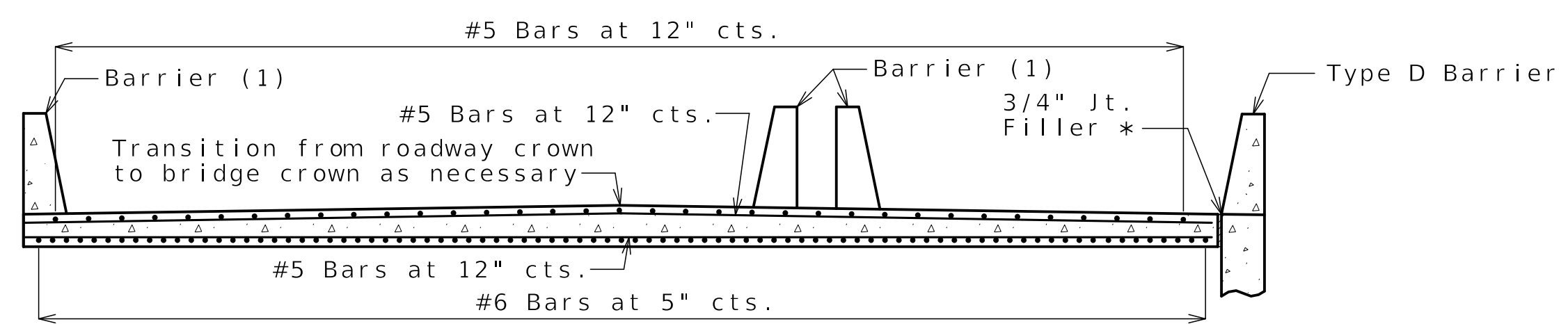
All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

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

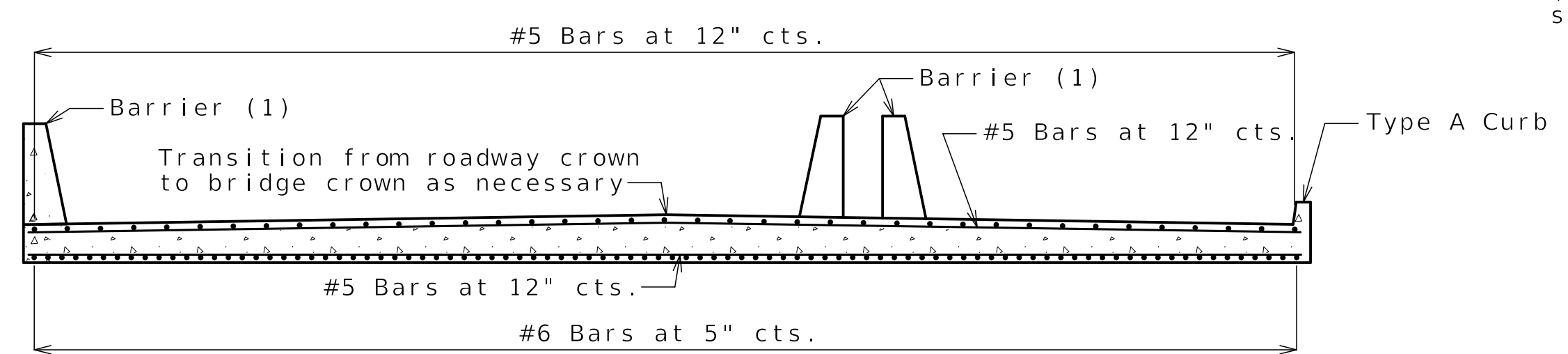
For concrete approach pavement details, see roadway plans.

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

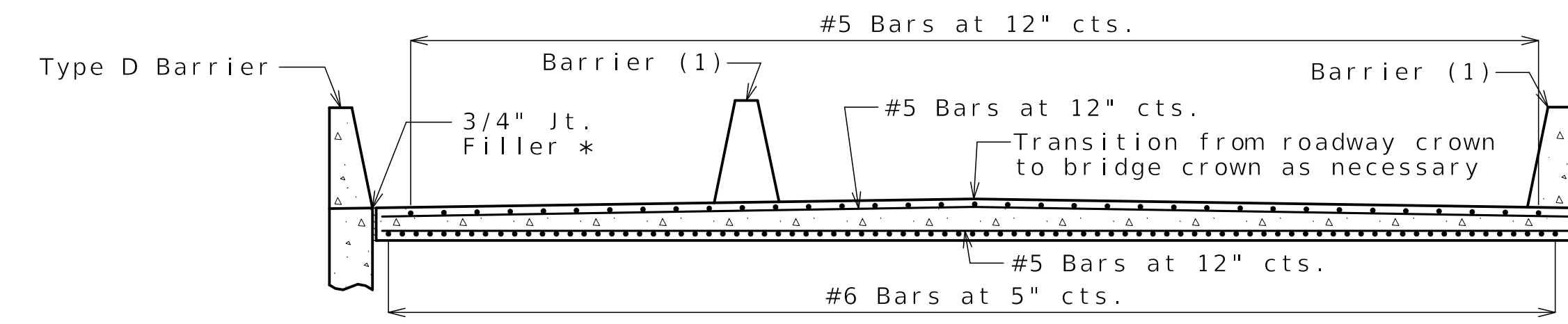
* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.



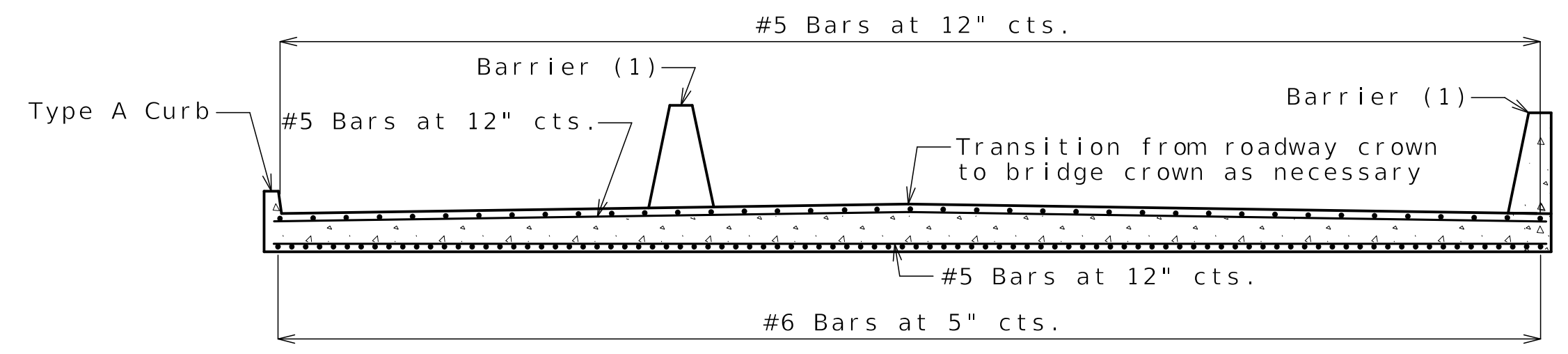
SECTION A-A AT END BENT NO. 4



SECTION B-B AT END BENT NO. 4



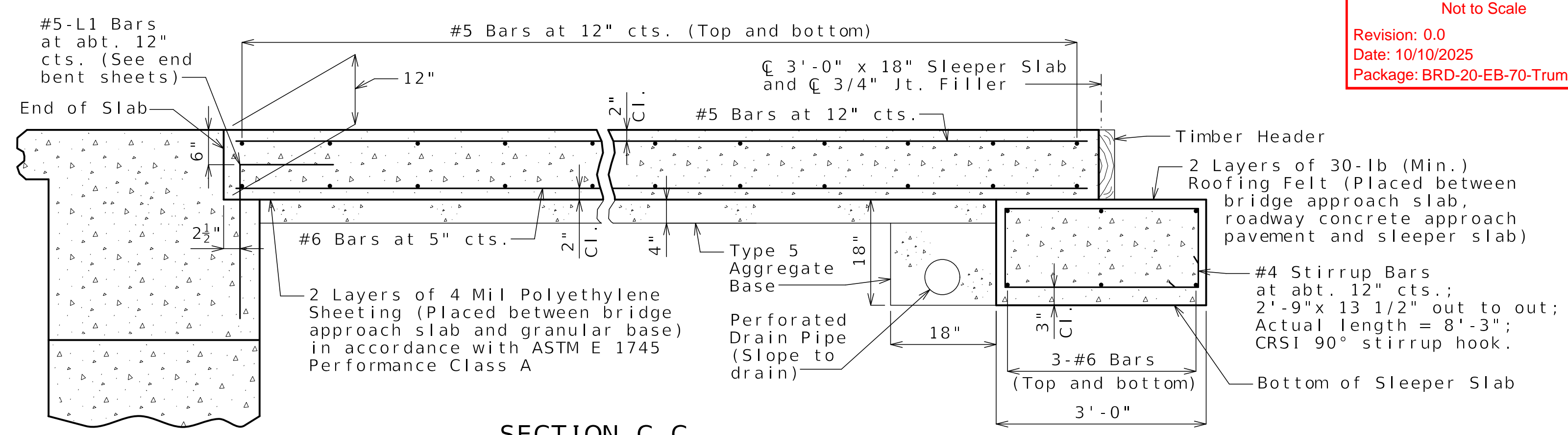
SECTION A-A AT END BENT NO. 1



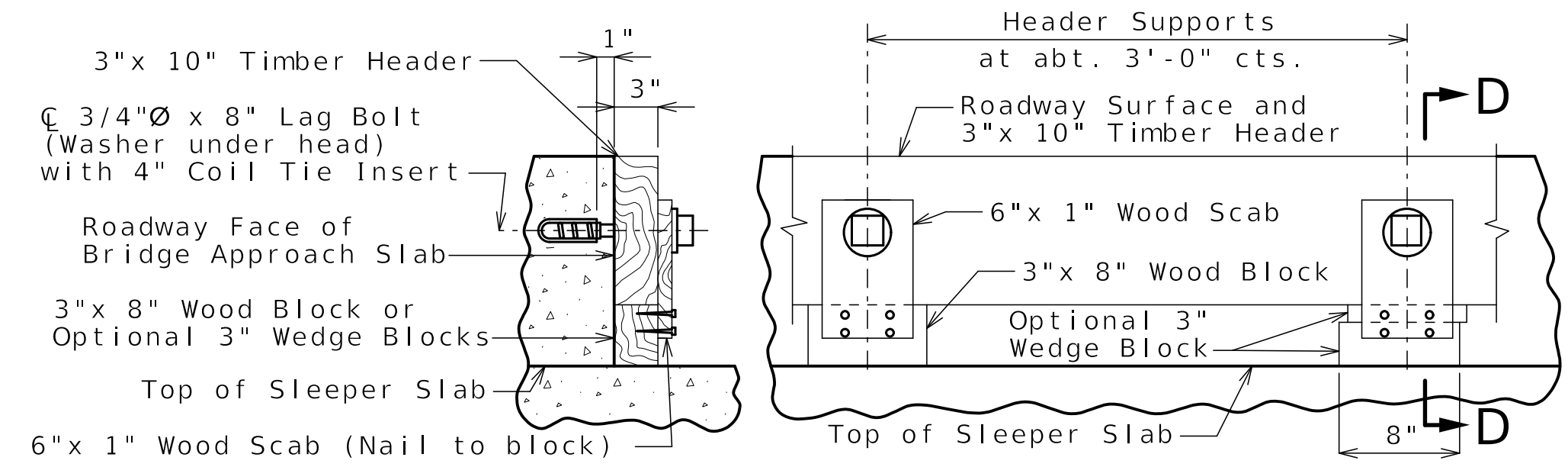
SECTION B-B AT END BENT NO. 1

(1) See roadway standard plans 617.10M.

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman



SECTION C-C



SECTION D-D PART ELEVATION

DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

BRIDGE APPROACH SLAB (MAJOR)

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B20-38 of B20-54



Benjamin Lichty
DATE PREPARED
10-08-2025

09/22/2025

ROUTE 1-70 STATE MO
DISTRICT BR SHEET NO. B20-38

COUNTY JACKSON
JOB NO. J411486D
CONTRACT ID. 240807-C01
PROJECT NO.

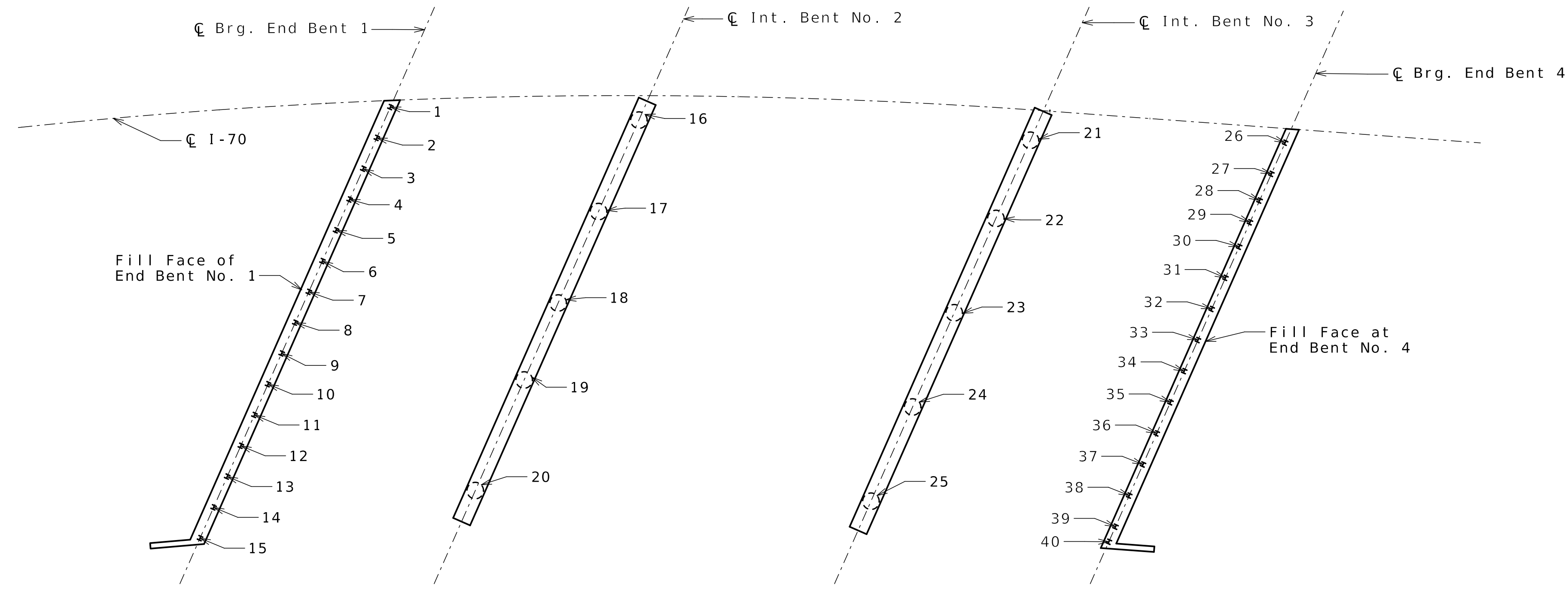
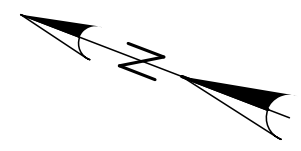
BRIDGE NO. A9623

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

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

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





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

PART PLAN SHOWING PILE NUMBERING FOR RECORDING AS-BUILT PILE

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nominal Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in)	Actual End of Drive Blow Count (blows/in)	Remarks
End Bent No. 1					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
Intermediate Bent No. 2					
16					
17					
18					
19					
20					

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nominal Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in)	Actual End of Drive Blow Count (blows/in)	Remarks
Intermediate Bent No. 3					
21					
22					
23					
24					
25					
End Bent No. 4					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					

Note: This sheet to be completed by design-builder.

AS-BUILT PILE DATA

GINA D. HORNER
 PE-30413

Gina D. Horner
 10-8-2025

DATE PREPARED 09/22/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B20-39
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9623	

DESCRIPTION
 REV 0 - RFC SUBMITTAL

DATE
 09/22/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER
 JOINT VENTURE

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



SOIL BORING NUMBER: Tru_B1_2

Page 1 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066306.2 / 2776516.1
DRILLING FIRM PPI **DRILLER** Eric P. **DATE STARTED** 11/15/2024
LOGGED BY Zachary Boyd **DATE COMPLETED** 11/20/2024
SURFACE ELEVATION 850.3' **RIG TYPE** CME-550
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/2" Continuous Flight Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
										Visual Classification and Remarks						
3.5 ft		J-1	6	7-11-8 (19)	33			2.0			FILL, dark brown, stiff, moist, lean clay, organics, some gravel					
8.5 ft		J-2	12	3-9-9 (18)	67			3.0		9.5	840.8					
13.5 ft		J-3	10	15-9-11 (20)	56			3.0			FILL, dark gray to brown, stiff to very stiff, moist, lean clay, organics, some gravel					
18.5 ft		U-1	23			96		1.5		18.5	831.8					
23.5 ft		J-4	14	2-4-6 (10)	78			1.0			Brown to gray, firm to stiff, moist, LEAN CLAY (CL), some organics, iron staining	39-19-20	20.4	105.2	2.91	
28.5 ft		U-2	24			100		1.0								
33.5 ft		J-5	18	1-3-4 (7)	100			0.5			- becomes reddish brown to gray at 33.5'					



SOIL BORING NUMBER: Tru_B1_2

Page 2 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066306.2 / 2776516.1
DRILLING FIRM PPI **DRILLER** Eric P. **DATE STARTED** 11/15/2024
LOGGED BY Zachary Boyd **DATE COMPLETED** 11/20/2024
SURFACE ELEVATION 850.3' **RIG TYPE** CME-550
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/2" Continuous Flight Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
										Visual Classification and Remarks						
38.5 ft		J-6	18	1-1-2 (3)	100			<0.5		38.5	811.8					
43.5 ft		U-3	23			96		0.5			Reddish brown, soft, moist, LEAN CLAY (CL), some organics					
48.5 ft		J-7	18	2-3-5 (8)	100			0.5								
53.5 ft		J-8	18	1-2-5 (7)	100			0.5		53.5	796.8					
58.5 ft		U-4	24			100		1.0			Gray to reddish brown, soft, moist, FAT CLAY (CH), with some organics	60-18-42	26.9	98.4	1.84	
68.5 ft		J-9	18	1-4-4 (8)	100			1.5			- becomes stiff to firm at 68.5'					

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman

Notes:
 For locations of borings, see Sheet No. B20-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
 Checked JUN 2025

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

Sheet No. B20-40 of B20-54



DATE PREPARED 09/22/2025	
ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B20-40
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9623	

DESCRIPTION
 REV 0 - RFC SUBMITTAL

DATE
 09/22/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER JOINT VENTURE

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



SOIL BORING NUMBER: Tru_B1_2
Page 5 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066306.2 / 2776516.1
DRILLING FIRM PPI **DRILLER** Eric P. **DATE STARTED** 11/15/2024
LOGGED BY Zachary Boyd **DATE COMPLETED** 11/20/2024
SURFACE ELEVATION 850.3' **RIG TYPE** CME-550
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/2" Continuous Flight Auger, 3-3/4" Rotary Drill

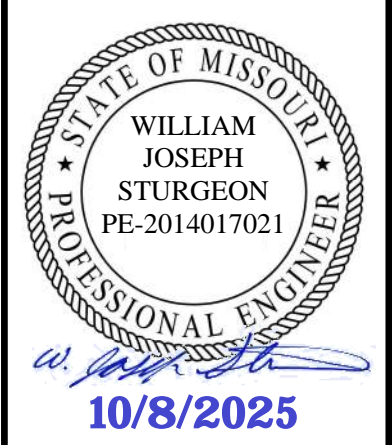
Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
										Visual Classification and Remarks					
145										Brown to tan, very dense, moist, WELL-GRADED SAND (SW)					
150	48.5 ft	X	J-17	0	21-21-25 (46)	0				150.0	700.3				
										Bottom of Boring at 150'					
										Boring backfilled with bentonite chips and cuttings 11/20/2024					
155															
160															
165															
170															



SOIL BORING NUMBER: Tru_B2_1
Page 1 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066215.3 / 2776449.2
DRILLING FIRM PPI **DRILLER** Ray A. **DATE STARTED** 12/03/2024
LOGGED BY Trent Shepherd **DATE COMPLETED** 12/04/2024
SURFACE ELEVATION 831.4' **RIG TYPE** CME-55
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
										Visual Classification and Remarks					
5	4.5 ft	X	J-1	18	2-1-2 (3)	100		0.5							
10	9.5 ft		U-1	24		100		0.5		9.5	821.9				
15	13 ft	X	J-2	18	WOH-WOH-WOH	100		0.5							
20	18 ft		U-2	24		100		0.5							
25	23 ft	X	J-3	18	4-3-4 (7)	100		0.75		23.0	808.4				
30	28 ft		U-3	24		100		0.5							
33	33 ft	X	J-4	18	x-3-4 (7)	100		0.5							



DATE PREPARED 09/22/2025	
ROUTE I - 70	STATE MO
DISTRICT BR	SHEET NO. B20 - 42
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807 - C01	
PROJECT NO.	
BRIDGE NO. A9623	

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER JOINT VENTURE

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

Notes:
For locations of borings, see Sheet No. B20-02 and Geotechnical Report.

BORING LOGS



SOIL BORING NUMBER: Tru_B2_1

Page 2 of 5

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1066215.3 / 2776449.2
 DRILLING FIRM PPI DRILLER Ray A. DATE STARTED 12/03/2024
 LOGGED BY Trent Shepherd DATE COMPLETED 12/04/2024
 SURFACE ELEVATION 831.4' RIG TYPE CME-55
 METHOD Auger/Mud Rotary/NQ Core TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
										Visual Classification and Remarks					
38 ft		J-5	18	1-2-3 (5)	100			0.75			Brown, soft, moist, LEAN CLAY with SILT (CL-ML)	38.0		793.4	
40 ft											Brown, firm, moist, LEAN CLAY with SILT (CL-ML)				
43 ft		J-4	24			100		2.0				41-16-25	23.1	103.3	1.6
48 ft		J-6	18	4-3-5 (8)	100			2.0							
53 ft		J-7	18	3-3-3 (6)	100			1.5							
58 ft		J-8	18	x-x-3 (3)	100			0.5			- becomes soft at 58'	36-18-18	28.2		
68 ft		J-9	18	2-3-4 (7)	100			1.0			Dark brown, firm, moist, LEAN CLAY with SILT (CL-ML), with organics as shells, organic odor	68.0		763.4	
70 ft												70.0		761.4	

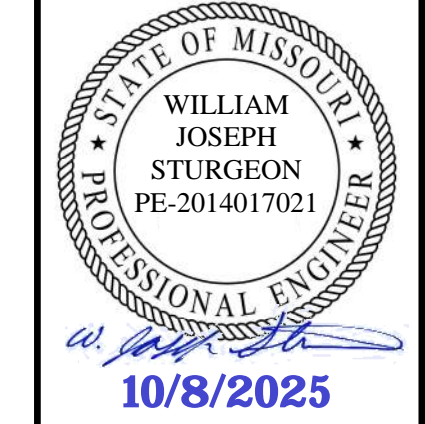


SOIL BORING NUMBER: Tru_B2_1

Page 3 of 5

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1066215.3 / 2776449.2
 DRILLING FIRM PPI DRILLER Ray A. DATE STARTED 12/03/2024
 LOGGED BY Trent Shepherd DATE COMPLETED 12/04/2024
 SURFACE ELEVATION 831.4' RIG TYPE CME-55
 METHOD Auger/Mud Rotary/NQ Core TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
										Visual Classification and Remarks					
75 ft											Dark brown, firm, moist, LEAN CLAY with SILT (CL-ML), with organics as shells, organic odor				
78 ft		J-10	18	4-4-6 (10)	100			1.5			- becomes stiff at 78'				
86 ft												86.0		745.4	
88 ft		J-11	17	14-26-31 (57)	94			2.5			Brown to tan, dense, moist, fine to coarse grained, WELL-GRADED SAND (SW)	88.5		742.9	
90 ft											Tan, dense, moist, fine to coarse grained, SANDY GRAVEL (SW-GW)				
98 ft		J-12	15	14-26-36 (62)	83						- clay seam at 89'	98.0		733.4	
100 ft											Tan to brown, very dense, moist, fine grained, WELL-GRADED SAND (SW), with trace gravel				



DATE PREPARED		09/22/2025	
ROUTE	STATE	1 - 70 MO	
DISTRICT	SHEET NO.	BR B20-43	
COUNTY			
JACKSON			
JOB NO.			
J411486D			
CONTRACT ID.			
240807-C01			
PROJECT NO.			
BRIDGE NO.			
A9623			

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER JOINT VENTURE

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

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman

Notes:
 For locations of borings, see Sheet No. B20-02 and Geotechnical Report.

BORING LOGS



SOIL BORING NUMBER: Tru_B2_1

Page 4 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066215.3 / 2776449.2
DRILLING FIRM PPI **DRILLER** Ray A. **DATE STARTED** 12/03/2024
LOGGED BY Trent Shepherd **DATE COMPLETED** 12/04/2024
SURFACE ELEVATION 831.4' **RIG TYPE** CME-55
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab								
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)					
108 ft			J-13	12	14-24-32 (56)	67														
110																				
115																				
118 ft			J-14	15	13-13-16 (29)	83														
120																				
125																				
128 ft			J-15	16	11-15-24 (39)	89														
130																				
135																				
138 ft			J-16	16	8-16-23 (39)	89														



SOIL BORING NUMBER: Tru_B2_1

Page 5 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066215.3 / 2776449.2
DRILLING FIRM PPI **DRILLER** Ray A. **DATE STARTED** 12/03/2024
LOGGED BY Trent Shepherd **DATE COMPLETED** 12/04/2024
SURFACE ELEVATION 831.4' **RIG TYPE** CME-55
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab								
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)					
145																				
148 ft			J-17	14	8-16-24 (40)	78														
150																				
155																				
160																				
165																				
170																				



DATE PREPARED	09/22/2025
ROUTE	1 - 70
STATE	MO
DISTRICT	BR
SHEET NO.	B20 - 44
COUNTY	JACKSON
JOB NO.	J411486D
CONTRACT ID.	240807 - C01
PROJECT NO.	
BRIDGE NO.	A9623

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-20-EB-70-Truman

Notes:
For locations of borings, see Sheet No. B20-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B20-44 of B20-54



SOIL BORING NUMBER: Tru_B2_2

Page 5 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066212.7 / 2776544.3
DRILLING FIRM PPI **DRILLER** Ray A. **DATE STARTED** 12/02/2024
LOGGED BY Trent Shepherd **DATE COMPLETED** 12/03/2024
SURFACE ELEVATION 830.7' **RIG TYPE** CME-55
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab								
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)					
138 ft																				
140		X	J-16	15	10-20-24 (44)	83														
145																				
148 ft		X	J-17	18	8-15-13 (28)	100														
150																				
155																				
160																				
165																				



SOIL BORING NUMBER: Tru_B3_1

Page 1 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066103.0 / 2776489.7
DRILLING FIRM PPI **DRILLER** Ray A. **DATE STARTED** 12/16/2024
LOGGED BY Trent Shepherd **DATE COMPLETED** 12/16/2024
SURFACE ELEVATION 830.5' **RIG TYPE** CME-55
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/2" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab								
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)					
4 ft																				
5		X	J-1	15	2-4-4 (6)	83		2.5												
9 ft		X	J-2	18	x-2-2 (4)	100		<0.5												
10																				
13 ft			U-1	22		92		0.5												
15																				
18 ft		X	J-3	18	WOH-WOH-WOH	100		<0.5												
20																				
23 ft			U-2	22		92		<0.5												
25																				
28 ft		X	J-4	18	2-3-4 (7)	100		1.0												
30																				
33 ft			U-3	24		100		1.0												



DATE PREPARED	09/22/2025
ROUTE	1-70
STATE	MO
DISTRICT	BR
SHEET NO.	B20-47
COUNTY	JACKSON
JOB NO.	J411486D
CONTRACT ID.	240807-C01
PROJECT NO.	
BRIDGE NO.	A9623

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER JOINT VENTURE

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

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman

Notes:
 For locations of borings, see Sheet No. B20-02 and Geotechnical Report.

BORING LOGS



SOIL BORING NUMBER: Tru_B3_2

Page 3 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066117.5 / 2776564.3
DRILLING FIRM PPI **DRILLER** Ray A. **DATE STARTED** 12/11/2024
LOGGED BY Trent Shepherd **DATE COMPLETED** 12/16/2024
SURFACE ELEVATION 830* **RIG TYPE** CME-55
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
										Visual Classification and Remarks						
75																
78 ft		J-11	18	3-5-6 (11)	100		1.75			78.0	752	43-20-23	29.1			
80										Blue-gray, stiff, moist, LEAN CLAY with SILT (CL-ML), with organics as shells						
85																
88 ft		J-12	9	15-19-22 (41)	50					85.7	744.3					
90										Tan, dense, wet, coarse grained, POORLY GRADED SAND (SP)						
95																
98 ft		J-13	7	29-21-15 (36)	39											
100																

* Survey not possible due to boring location. Coordinates estimated from visual inspection. Elevation estimated from contour map.



SOIL BORING NUMBER: Tru_B3_2

Page 4 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066117.5 / 2776564.3
DRILLING FIRM PPI **DRILLER** Ray A. **DATE STARTED** 12/11/2024
LOGGED BY Trent Shepherd **DATE COMPLETED** 12/16/2024
SURFACE ELEVATION 830* **RIG TYPE** CME-55
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

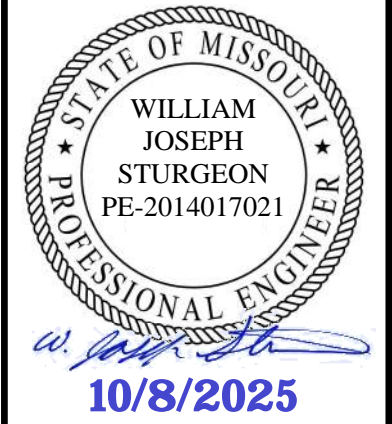
Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
										Visual Classification and Remarks						
108		J-14	14	22-16-13 (29)	78					108.0	722					
110										Coarse grained, subrounded, river bed SAND						
110.5										108.5	721.5					
115										Tan, medium dense, wet, fine grained, SANDY GRAVEL (SW-GW), with trace coarse gravel						
										- 3' thick limestone boulder encountered at 113'						
118		J-15	12	11-13-12 (25)	67					118.0	712					
120										Tan, medium dense, wet, fine to medium grained, WELL-GRADED SAND (SW)						
125										- becomes fine-grained at 125'						
128		J-16	17	22-20-21 (41)	94					128.8	701.2					
130										Gray, dense, moist, fine grained, SILTY SAND (SM), bagged separately						
135																
138 ft		J-17	17	12-16-21 (37)	94											

* Survey not possible due to boring location. Coordinates estimated from visual inspection. Elevation estimated from contour map.

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman

Notes:
 For locations of borings, see Sheet No. B20-02 and Geotechnical Report.

BORING LOGS



DATE PREPARED 09/22/2025	
ROUTE I - 70	STATE MO
DISTRICT BR	SHEET NO. B20 - 51
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807 - C01	
PROJECT NO.	
BRIDGE NO. A9623	

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER
 JOINT VENTURE

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



SOIL BORING NUMBER: Tru_B3_2

Page 5 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066117.5 / 2776564.3
DRILLING FIRM PPI **DRILLER** Ray A. **DATE STARTED** 12/11/2024
LOGGED BY Trent Shepherd **DATE COMPLETED** 12/16/2024
SURFACE ELEVATION 830' * **RIG TYPE** CME-55
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
											Visual Classification and Remarks				
145											Gray, dense, moist, fine grained, SILTY SAND (SM), bagged separately				
148 ft			J-18	18	20-20-21 (41)	100					149.5				680.5
150											Bottom of Boring at 149.5'				
											Boring backfilled with cuttings 12/16/2024				

* Survey not possible due to boring location. Coordinates estimated from visual inspection. Elevation estimated from contour map.



SOIL BORING NUMBER: Tru_B4_2

Page 1 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066037.5 / 2776607.1
DRILLING FIRM PPI **DRILLER** Eric P. **DATE STARTED** 11/26/2024
LOGGED BY Zachary Boyd **DATE COMPLETED** 12/03/2024
SURFACE ELEVATION 856.6' **RIG TYPE** CME-55
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/2" Continuous Flight Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
											Visual Classification and Remarks				
											1.0				855.6
5	3.5 ft		J-1	12	6-8-20 (28)	67		2.0			FILL, brown, very stiff, moist, LEAN CLAY with GRAVEL, organics				
10	8.5 ft		J-2	14	3-5-5 (10)	78		2.0			43-17-26	21.8			
											- becomes dark brown and stiff at 8.5'				
15	13.5 ft		U-1	21		88		3.0			14.0		105.8	2.3	842.6
											FILL, dark gray to brown, stiff to very stiff, moist, LEAN CLAY, organics				
20	18.5 ft		J-3	14	3-8-8 (16)	78		2.0							
											- becomes dark reddish brown at 23.5'				
25	23.5 ft		J-4	13	5-6-11 (17)	72		2.0			44-18-26	21.0			
											- becomes dark reddish brown at 23.5'				
30	28.5 ft		J-5	16	12-10-9 (19)	89		2.0							829.1
											FILL, dark gray, stiff to very stiff, moist, fat clay with gravel				
	33.5 ft		U-2	24		100		0.5			41-19-22	27.6	96.5	0.96	
											- becomes soft at 33.5'				

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman

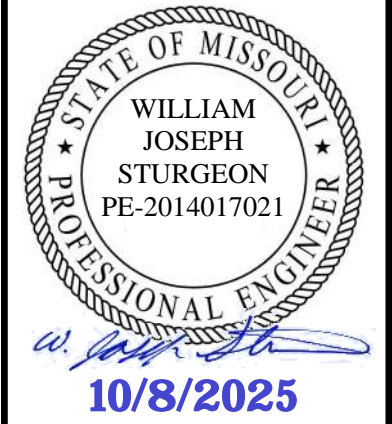
Notes:
 For locations of borings, see Sheet No. B20-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
 Checked JUN 2025

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

Sheet No. B20-52 of B20-54



DATE PREPARED 09/22/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B20-52
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9623

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER
 JOINT VENTURE

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



SOIL BORING NUMBER: Tru_B4_2

Page 2 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066037.5 / 2776607.1
DRILLING FIRM PPI **DRILLER** Eric P. **DATE STARTED** 11/26/2024
LOGGED BY Zachary Boyd **DATE COMPLETED** 12/03/2024
SURFACE ELEVATION 856.6' **RIG TYPE** CME-550
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/2" Continuous Flight Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
35			U-2	24		100		0.5				41-19-22	27.6	96.5	0.98
FILL, dark gray, stiff to very stiff, moist, fat clay with gravel															
37.5															
Brown to gray, soft to firm, moist, LEAN CLAY (CL)															
38.5		J-6		18	WOH-WOH-1 (1)	100		0.5							
43.5			U-3	21		88		0.5							
48.5			J-7	16	1-1-2 (3)	89		0.5				35-21-14	31.5		
Dark gray, soft, moist, LEAN CLAY (CL), iron staining															
53.5			J-8	18	WOH-1-1 (2)	100		<0.5							
58.5			U-4	24		100		0.5				38-19-19	30.7	91.0	
68.5			J-9	14	2-4-6 (10)	78		1.0							
- becomes light gray, firm to stiff at 68.5'															

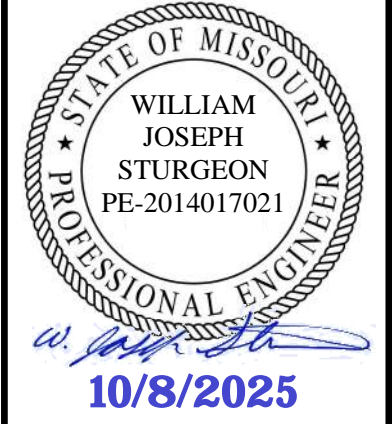


SOIL BORING NUMBER: Tru_B4_2

Page 3 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066037.5 / 2776607.1
DRILLING FIRM PPI **DRILLER** Eric P. **DATE STARTED** 11/26/2024
LOGGED BY Zachary Boyd **DATE COMPLETED** 12/03/2024
SURFACE ELEVATION 856.6' **RIG TYPE** CME-550
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/2" Continuous Flight Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
Dark gray, soft, moist, LEAN CLAY (CL), iron staining															
78.5			J-10	18	4-4-5 (9)	100		1.0				48-15-33	25.4		
- becomes light gray to tan at 78.9'															
88.5			J-11	18	2-5-5 (10)	100		1.0							
98.5			J-12	18	4-4-6 (10)	100		1.25							



DATE PREPARED 09/22/2025	
ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B20-53
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9623	

DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER JOINT VENTURE

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

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-20-EB-70-Truman

Notes:
 For locations of borings, see Sheet No. B20-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
 Checked JUN 2025

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

Sheet No. B20-53 of B20-54

