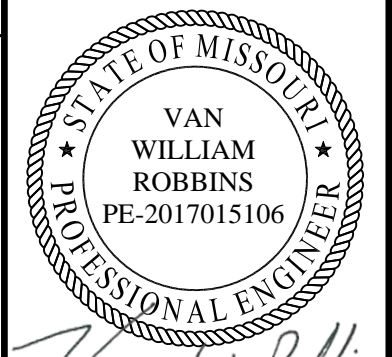


MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

I-70 EB OVER VAN BRUNT
SEC/SUR 14 TWP 49N RGE 33W

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



Van W. Robbins
10-08-25

DATE PREPARED
09/22/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B22-01

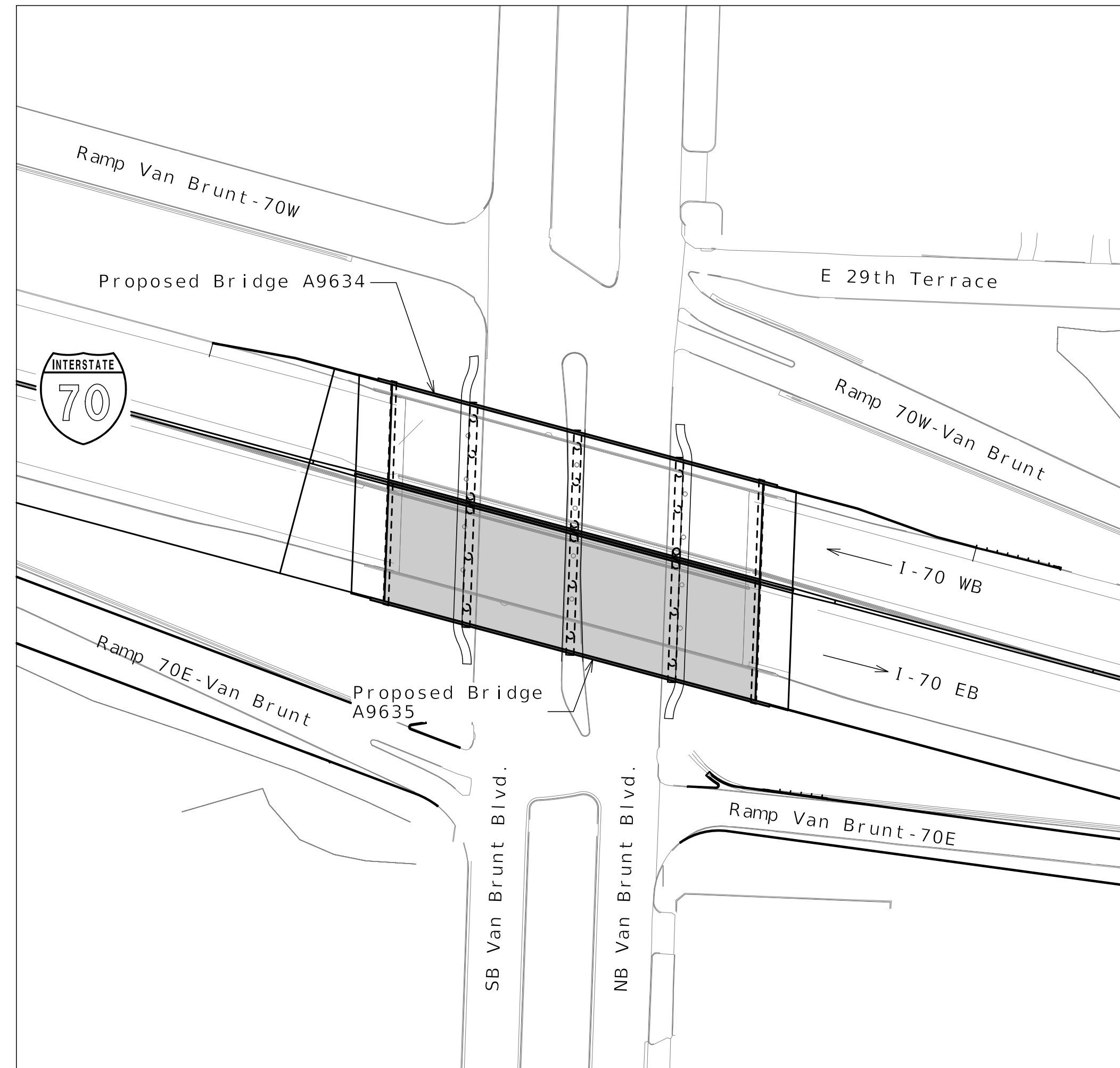
COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9635



LOCATION SKETCH

INDEX OF DRAWINGS

- B22-01 Title Sheet and Index
- B22-02 General Plan and Elevation
- B22-03 General Notes
- B22-04 Substructure Layout
- B22-05 Details of End Bent No. 1
- B22-06 Details of End Bent No. 1
- B22-07 Details of End Bent No. 1
- B22-08 Vertical Drain at End Bents
- B22-09 Details of Intermediate Bents
- B22-10 Details of Intermediate Bents
- B22-11 Details of Intermediate Bents
- B22-12 Details of End Bent No. 5
- B22-13 Details of End Bent No. 5
- B22-14 Details of End Bent No. 5
- B22-15 Framing Plan
- B22-16 Spread Box Beams - Span (1-2)
- B22-17 Spread Box Beams - Span (2-3)
- B22-18 Spread Box Beams - Span (3-4)
- B22-19 Spread Box Beams - Span (4-5)
- B22-20 Concrete Diaphragm at Intermediate Bents
- B22-21 Slab Drains
- B22-22 Camber Diagram & Theoretical Slab Haunching Diagram
- B22-23 Theoretical Bottom of Slab Elevations
- B22-24 Slab Plan Showing Top Reinforcement
- B22-25 Slab Plan Showing Bottom Reinforcement
- B22-26 Slab Details
- B22-27 Type D Barrier
- B22-28 Type D Barrier at End Bents
- B22-29 Light Blister and Sign Mount Details
- B22-30 Details of Conduit System on Structure
- B22-31 Form Liner and Aesthetic Stain Details
- B22-32 Bridge Approach Slab (Major)
- B22-33 As-Built Pile and Drilled Shaft Data
- B22-34 Boring Logs
- B22-35 Boring Logs
- B22-36 Boring Logs
- B22-37 Boring Logs
- B22-38 Boring Logs
- B22-39 Boring Logs



DESCRIPTION	DATE
REV 0 - RFC SUBMITTAL	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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-22-EB70-Van Brunt

BRIDGE: ROUTE I-70 EB OVER VAN BRUNT BLVD.

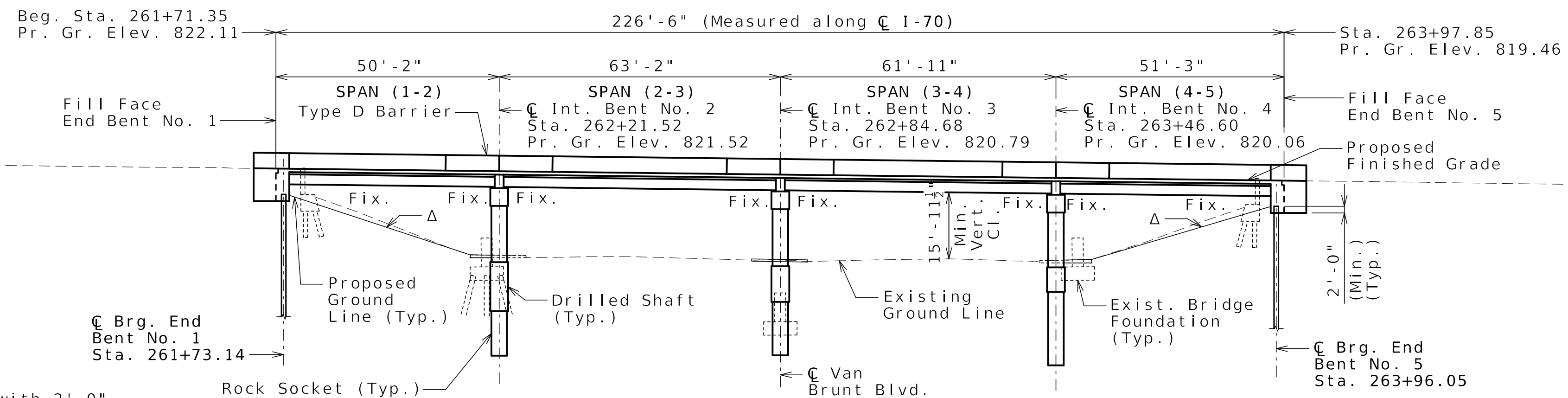
ROUTE I-70 EB FROM ROUTE I-670 TO ROUTE 40
ABOUT 3.8 MILES EAST OF ROUTE I-670
BEGINNING STATION 261+71.35

Detailed MAY 2025
Checked JUN 2025

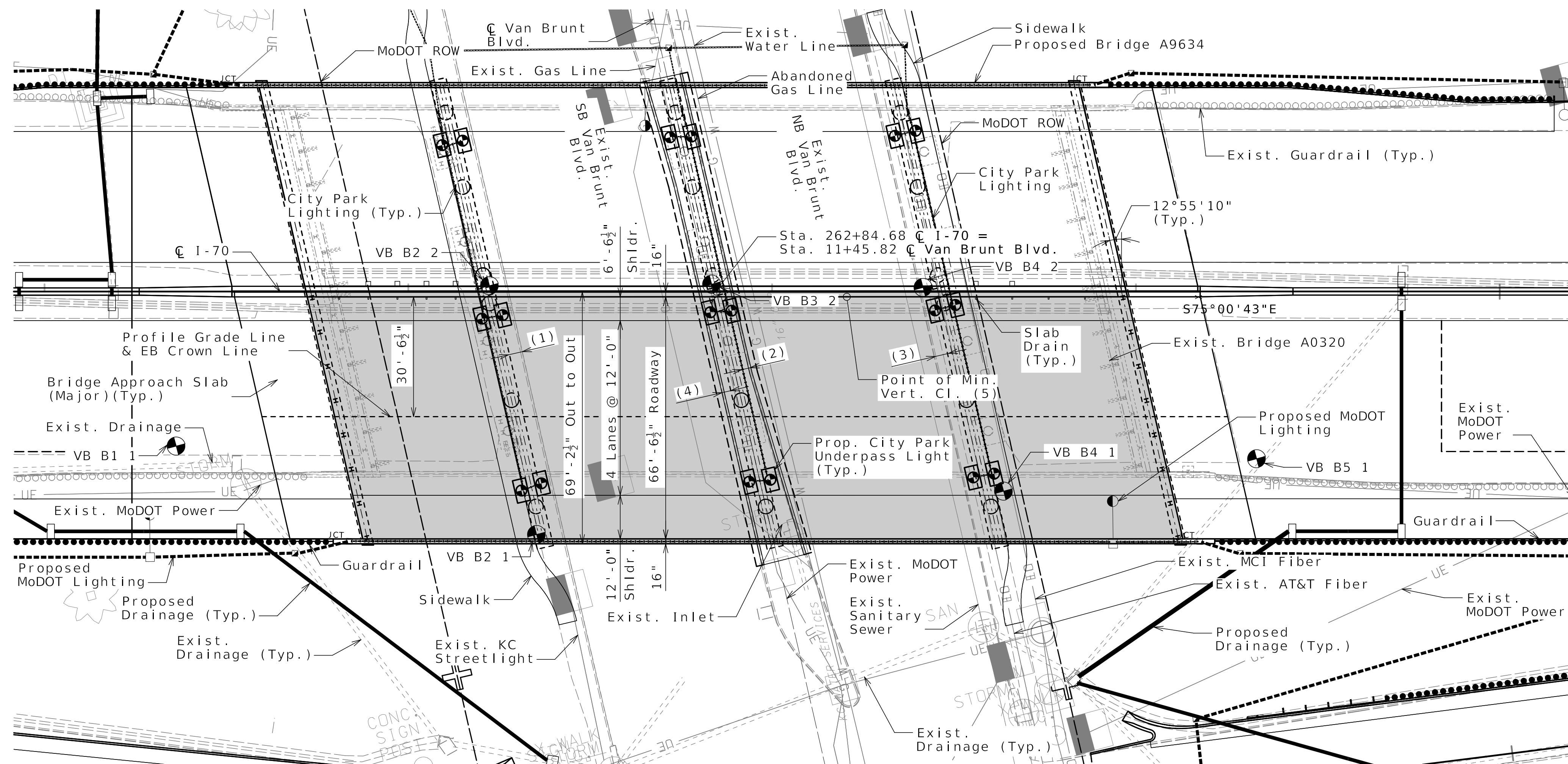
Note: This drawing is not to scale. Follow dimensions.

Sheet No. B22-01 of B22-39

(50.2'-63.2'-61.9'-51.3') Prestressed Concrete Spread Box Beam Spans



Δ 2.5:1 Max Slope (Normal) with 2'-0" Type 2 Rock Blanket with Permanent Erosion Control Geotextile



(5) Sta. 263+22.58, 2.00' Rt. C I-70

Minimum Horizontal Clearance to edge of existing lane:

- (1) 3'-6 3/4"
- (2) 2'-2 7/8"
- (3) 3'-8 3/4"
- (4) 2'-4 7/8"

⊙ Indicates location of borings.

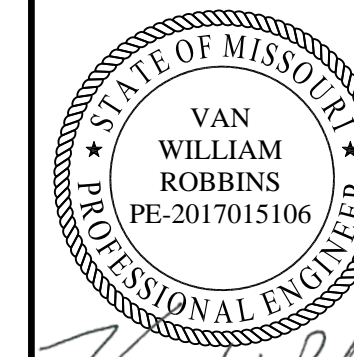
Notice and Disclaimer Regarding Boring Log Data
 The locations of all subsurface borings performed by the design-build team for this structure are shown on the plan sheets for this structure. The logs for all locations indicated are provided on Sheets No. B22-34 thru B22-39. Laboratory test results, 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.

PLAN

Released For Construction
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 Date: 10/10/2025
 Package: BRD-22-EB70-Van Brunt

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 elevations of drilled shafts and rock sockets, see Sheet No. B22-09.
 See Civil Package 6: I-70 Mainline for Van Brunt Blvd. typical section and underpass lighting details.

GENERAL PLAN AND ELEVATION



Van W. Roll
 10-08-25

DATE PREPARED
 09/22/2025

ROUTE STATE
 I-70 MO

DISTRICT SHEET NO.
 BR B22-02

COUNTY
 JACKSON

JOB NO.
 J411486D

CONTRACT ID.
 240807-C01

PROJECT NO.

BRIDGE NO.
 A9635

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

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, $S_{a1} \leq 0.15$
 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 except Drilled Shafts and Rock Sockets) $f'_c = 4,000$ psi
 Class B-2 Concrete (Drilled Shafts and Rock Sockets) $f'_c = 4,000$ psi
 Class B-2 Concrete (Superstructure, except Prestressed Beams, 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
 For prestressed beam stresses, see Sheets No. B22-16 thru B22-19.

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 in the Type D barriers, light blisters, slab, concrete diaphragms, End Bents No. 1 and 5 and Intermediate Bents No. 2 thru 4 shall be epoxy coated. Reinforcing in the rock sockets and drilled shaft shall be uncoated.

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. B22-31.

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. B22-31.

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

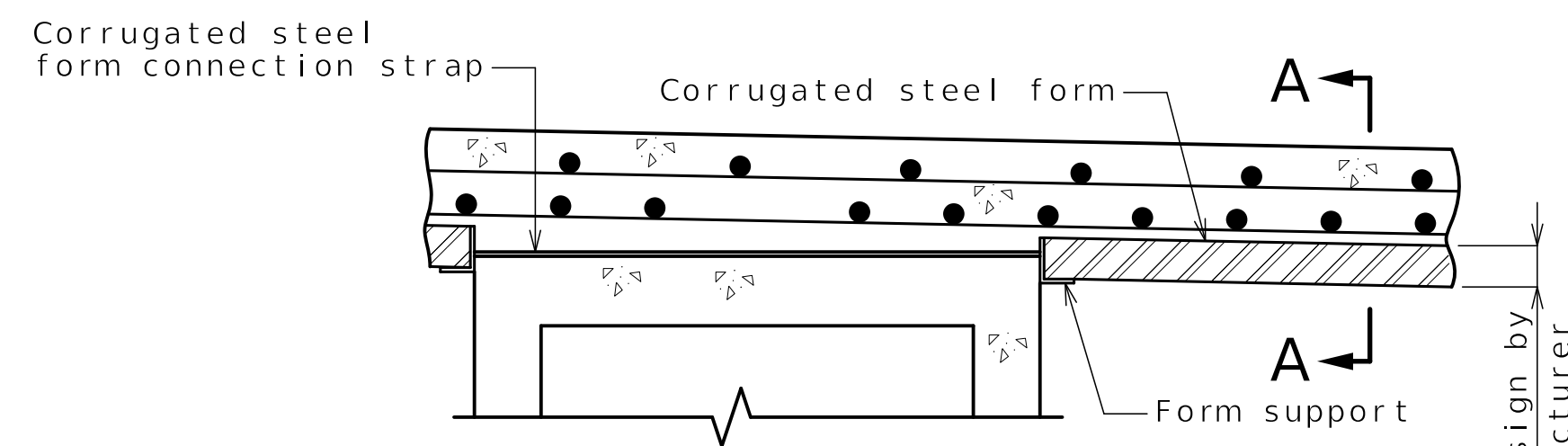
Abbreviations:
 E.F. denotes Each Face
 N.F. denotes Near Face
 F.F. denotes Far face
 U.N.O. denotes Unless Noted Otherwise

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

Foundation Data							
Type	Design Data	Bent Number					
		1	2	3	4	5	
Load Bearing Pile	Pile Type and Size	HP12x53	---	---	---	HP12x53	
	Number	ea	8	---	---	8	
	Approximate Length Per Each (1)	ft	29	---	---	18	
	Pile Point Reinforcement	ea	All	---	---	---	
	Min. Galvanized Penetration (Elev.)	ft	Full Length	---	---	Full Length	
	Minimum Tip Penetration (Elev.)	ft	800	---	---	797	
	Criteria for Min. Tip Penetration		Min. Embed.	---	---	Min. Embed.	
	Pile Driving Verification Method		DF	---	---	N/A	
Resistance Factor		0.40	---	---	---	0.50	
Minimum Nominal Axial Compressive Resistance	kip	492	---	---	---	393	
Rock Socket	Number	ea	---	3	3	3	---
	Foundation Material		---	Shale	Shale	Shale	---
	Elevation Range	ft	---	788-785	791-785	793.5-783	---
	Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	---	9.0	9.0	9.0	---
	Foundation Material		---	Limestone	Limestone	Limestone	---
	Elevation Range	ft	---	785-767	785-767	783-767	---
	Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	---	35.0	35.0	35.0	---
	Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf	---	400	400	400	---

Detailed MAY 2025
 Checked JUN 2025

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



STAY-IN-PLACE CORRUGATED STEEL FORM DETAIL

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 beam. 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 beam 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 beam loading.

Load Bearing Piles:
 Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor.
 End Bent No. 1 HP piles are anticipated to be driven to refusal on rock. Review all borings for depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702. When pile refusal on rock occurs, as approved by the engineer, the minimum nominal axial compressive resistance is verified and no additional pile driving verification method is required.
 Prebore piles at End Bent No. 5 to elevation 797.

At End Bent No. 5 verify the bottom of prebore is clean and contains no loose rubble. Set pile and seat with backhoe bucket or equivalent method. Prebore shall be backfilled with Class B concrete for bottom 5 ft. Backfill remaining length of prebore per Sec 702. After prebore is complete and if hole integrity cannot be maintained until pile is set and concrete placed, use pile driving criteria for End Bent No. 1.

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.

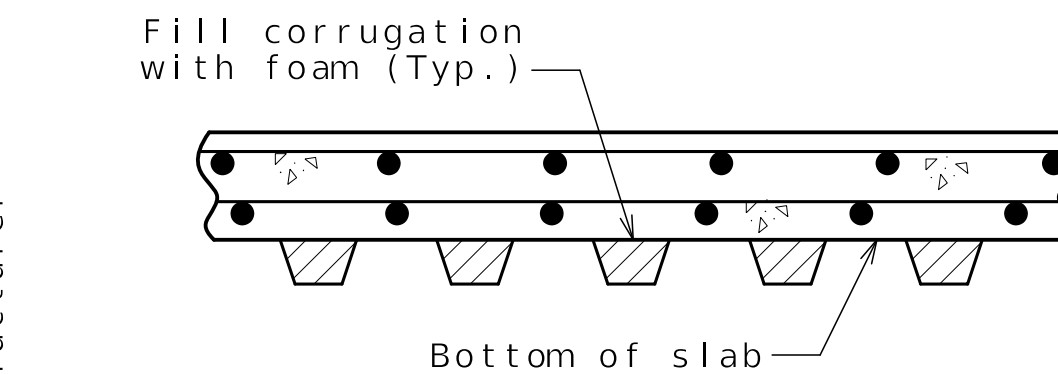
The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

DF = FHWA-modified Gates Dynamic Pile Formula

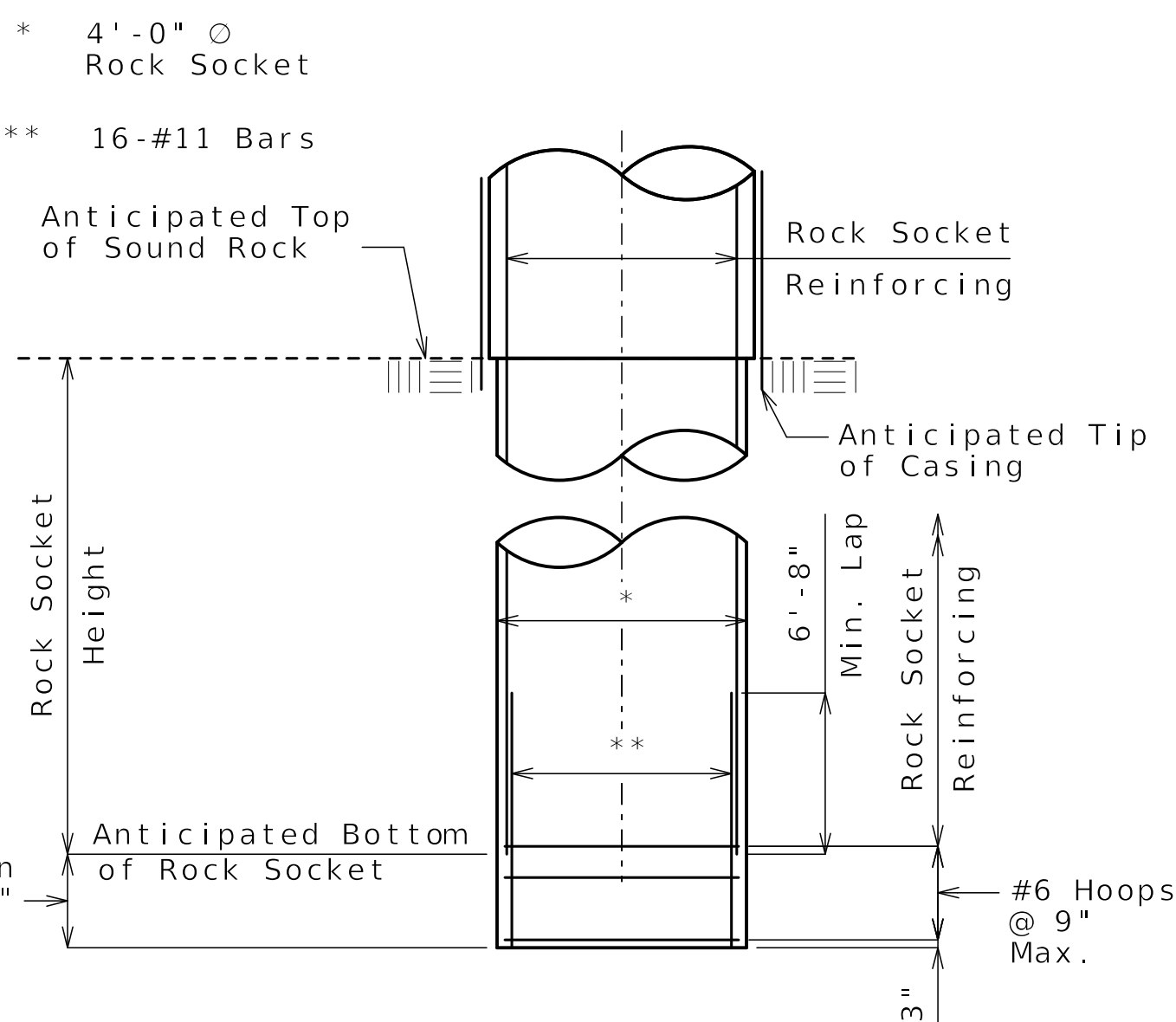
Rock Socket (Drilled Shafts):
 Minimum Nominal Axial Compressive Resistance (Side Resistance + Tip Resistance) = Maximum Factored Loads/Resistance Factors

Thickness of permanent steel casing shall be in accordance with Project AAS. Sonic logging testing shall be performed on all drilled shafts and rock sockets.

Drilled shafts shall be constructed in accordance with project Drilled Shaft AAS. Rock socket length is controlled by lateral design for Bent No. 3.



SECTION A-A

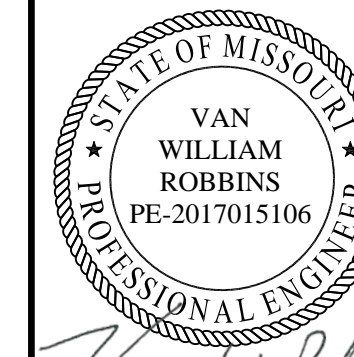


ROCK SOCKET OVER EXCAVATION DETAIL

For Rock Socket Details see Intermediate Bent Details

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 Not to Scale
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 Date: 10/10/2025
 Package: BRD-22-EB70-Van Brunt

GENERAL NOTES



Van W. Robbins
 10-08-25

DATE PREPARED
 09/22/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B22-03

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9635

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

DATE 09/22/25

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE 09/22/25

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE 09/22/25

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DATE 09/22/25

DESCRIPTION

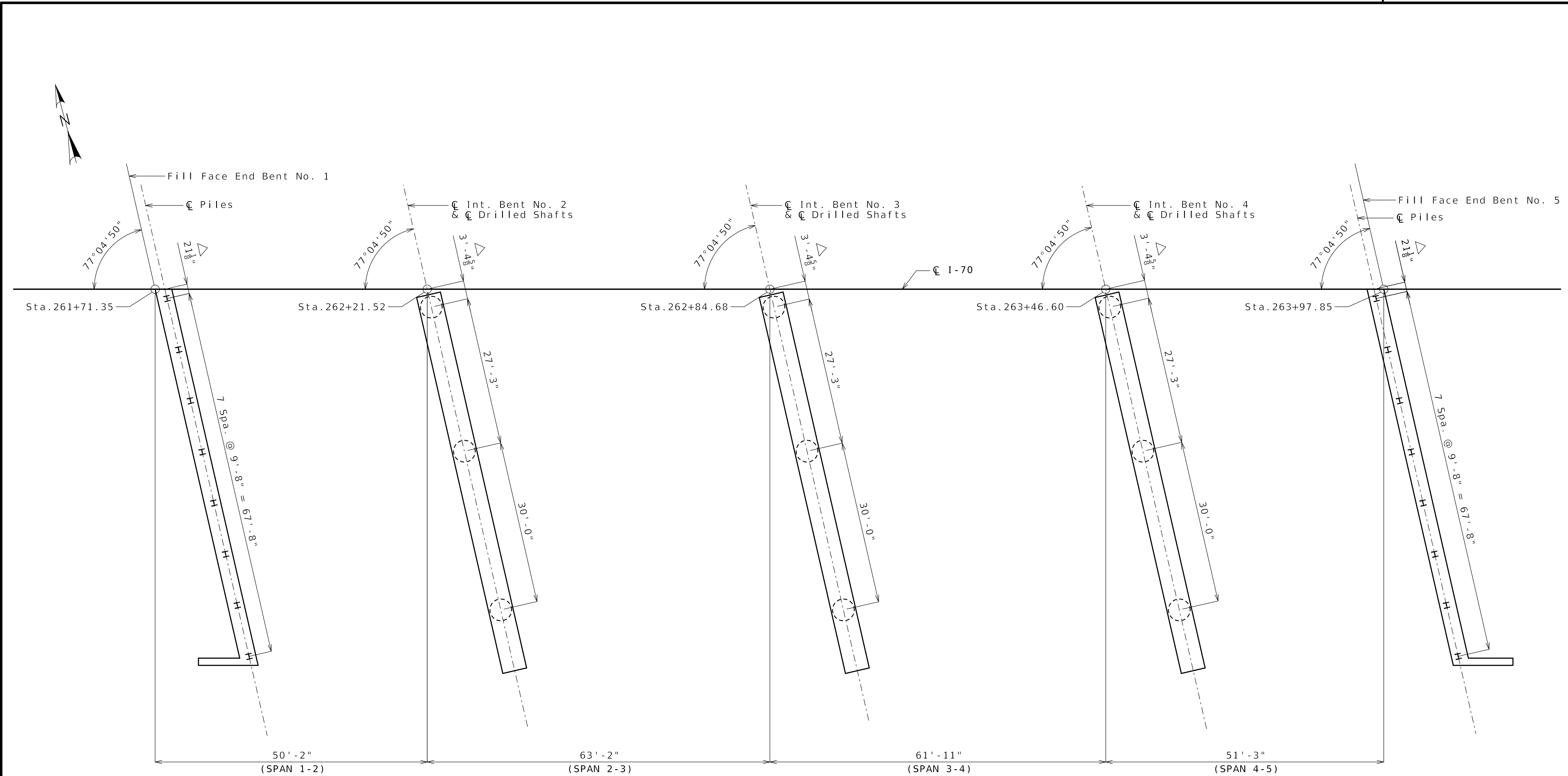
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DATE 09/22/25

DESCRIPTION

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SUBSTRUCTURE LAYOUT

Detailed MAY 2025
Checked JUN 2025

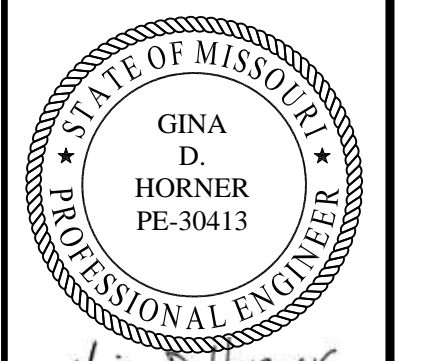
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Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-22-EB70-Van Brunt

Sheet No. B22-04 of B22-39

Notes:
△ Measured to C I-70
All dimensions are horizontal.

SUBSTRUCTURE LAYOUT



Gina D. Horner
10-8-2025

DATE PREPARED
09/22/2025

ROUTE STATE
1-70 MO
DISTRICT SHEET NO.
BR B22-04

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

BRIDGE NO.
A9635

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

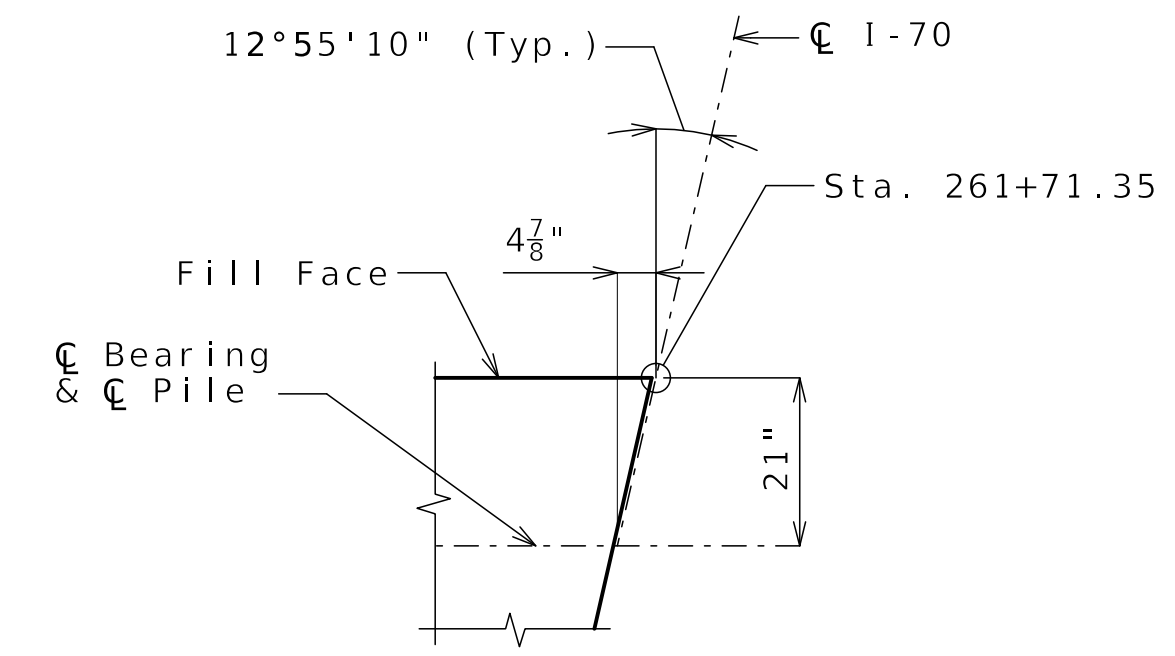
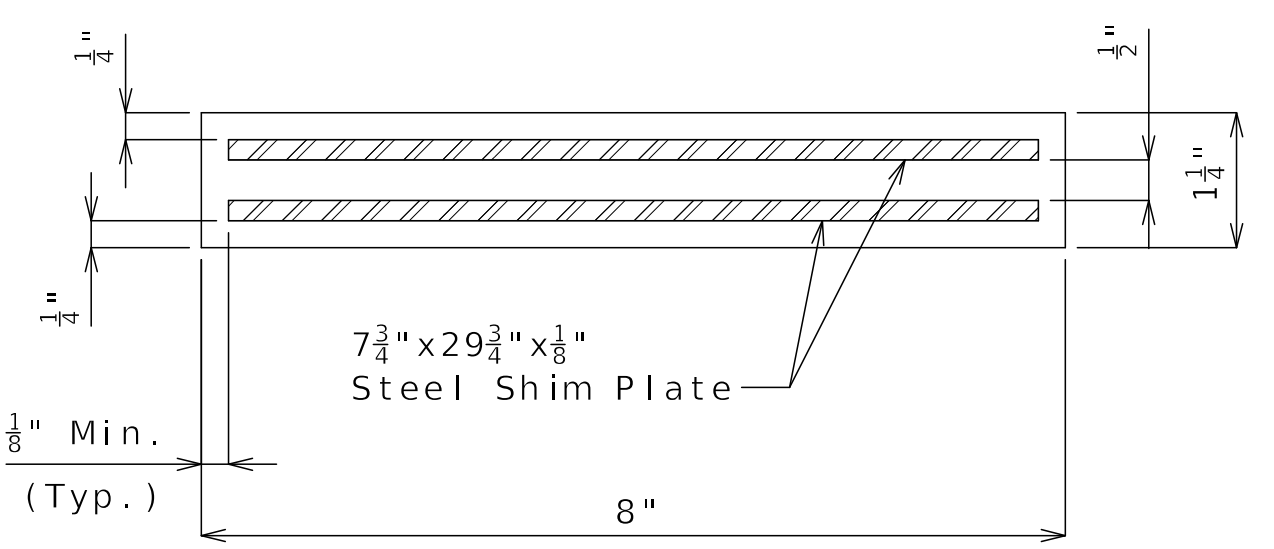
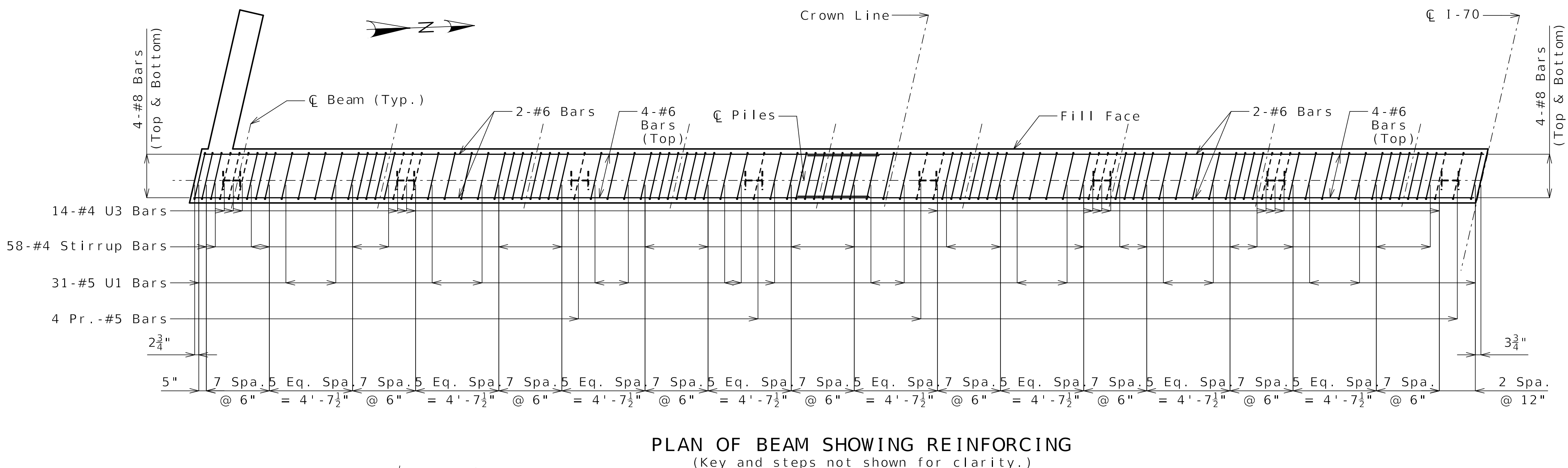
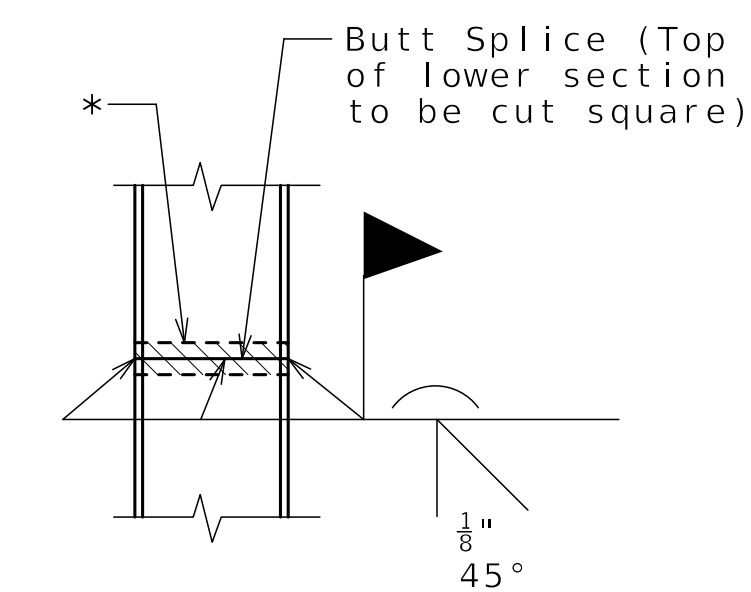
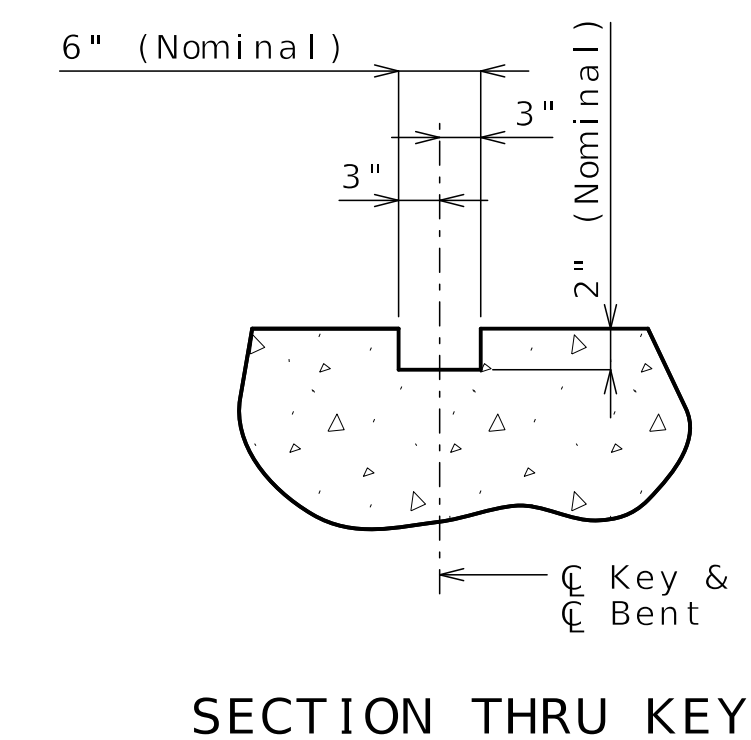
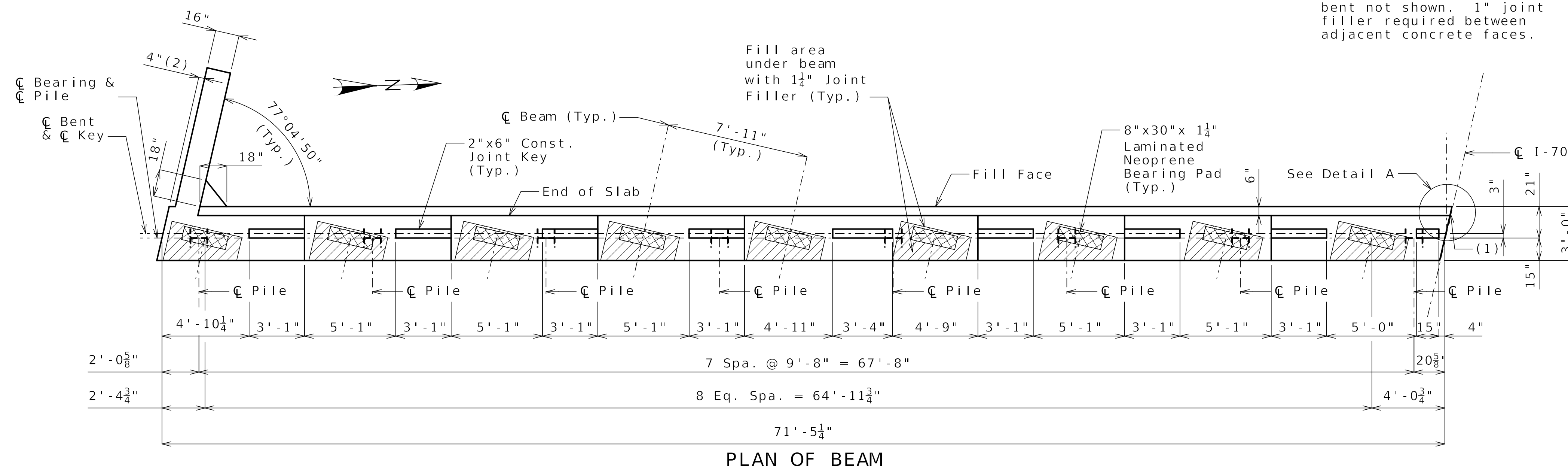
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER
JOINT VENTURE

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

(2) Slope normal to bridge fascia to drain.

(1) Adjacent A9634 (I-70 WB Over Van Brunt) end bent not shown. 1" joint filler required between adjacent concrete faces.



Notes:
 Work this sheet with Sheets No. B22-06 and B22-07.
 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 details of bridge approach slab, see Sheet No. B22-32.



DATE PREPARED: 09/22/2025
 ROUTE: I-70
 STATE: MO
 DISTRICT: BR
 SHEET NO.: B22-05
 COUNTY: JACKSON
 JOB NO.: J411486D
 CONTRACT ID.: 240807-C01
 PROJECT NO.:

BRIDGE NO.: A9635

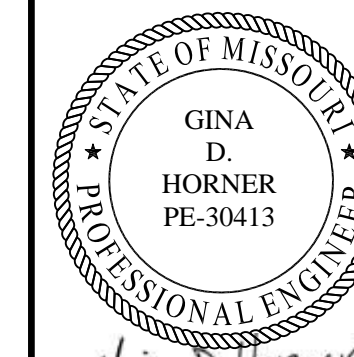
DATE	DESCRIPTION
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 105 WEST CAPITOL JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270
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 Not to Scale
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 Date: 10/10/2025
 Package: BRD-22-EB70-Van Brunt

DETAILS OF END BENT NO. 1



Gina D. Horner
10-8-2025

DATE PREPARED
09/22/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B22-06

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9635

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

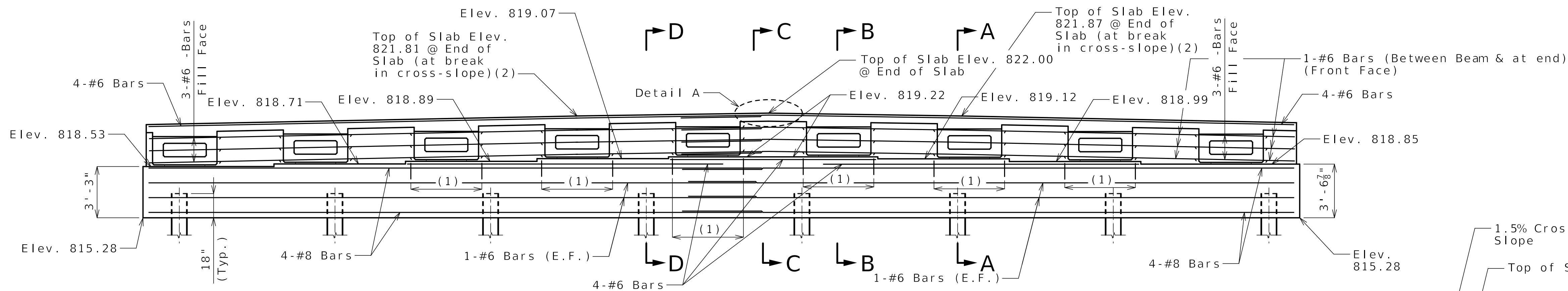
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

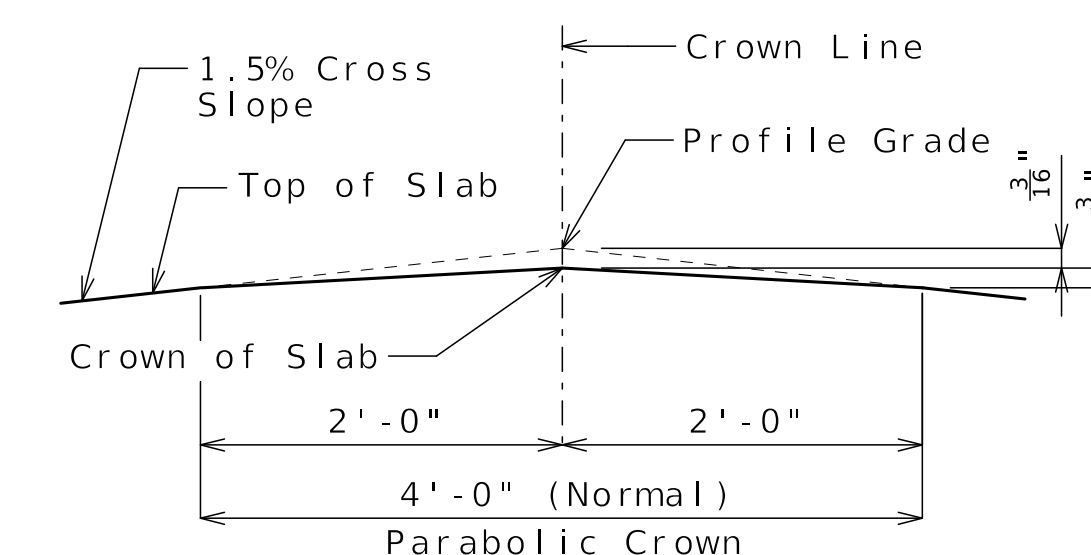
(2) See Sheet No. B22-26 for cross-slope break locations.



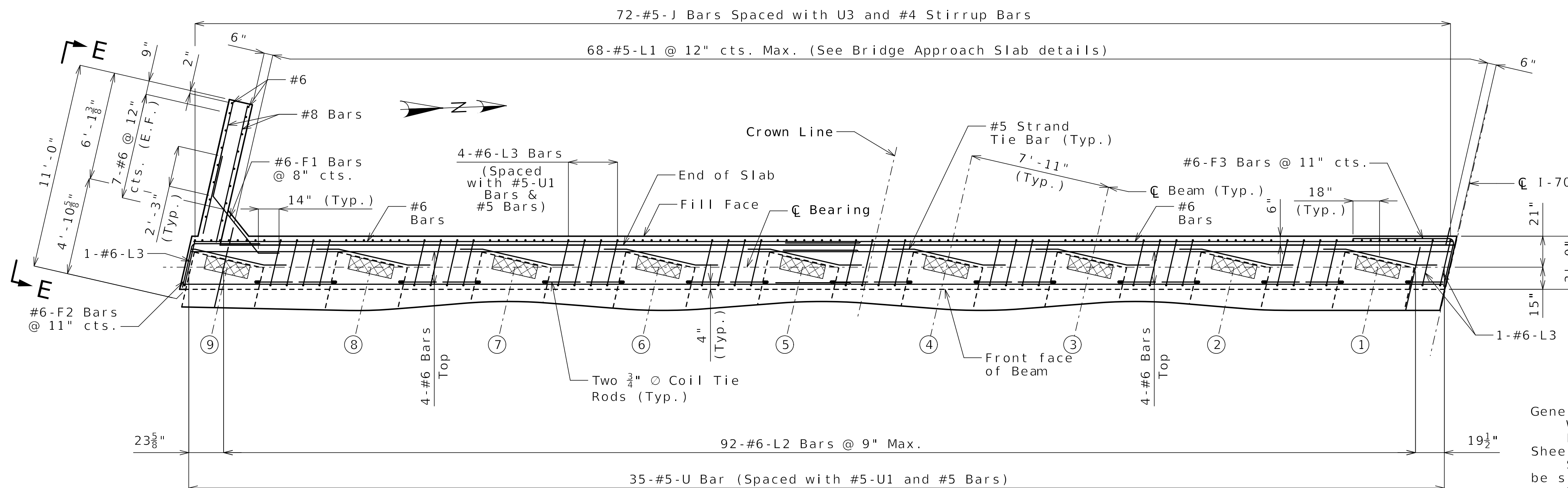
SECTION NEAR END BENT
(Looking Back Station)

Lap Splice for #6 bars = 4'-3" (Min.)
Lap Splice for #8 bars = 5'-8" (Min.)

(1) 8-#4-U4 (spaced with #4-U3 and #4 Stirrup Bars). Bars shall be placed normal to \bar{C} Bent and parallel to beam step.



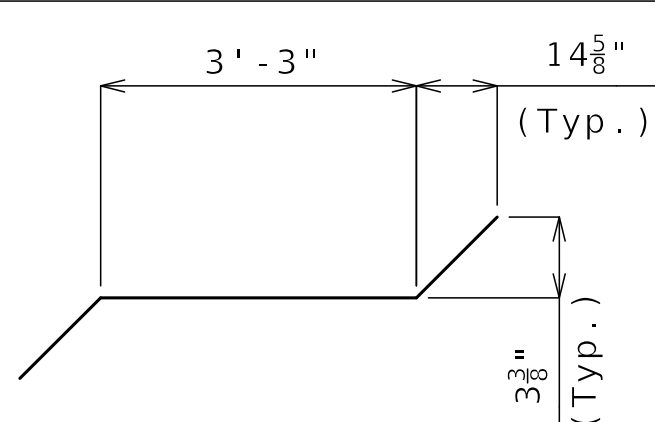
DETAIL "A"



PART PLAN

General Notes:
Work this sheet with Sheets No. B22-05 and B22-07.
For Sections A-A, B-B, C-C, D-D and Elevation E-E, see Sheet No. B22-07.
Splices for the capbeam top and bottom #8 bars shall be staggered.
Strands at end of the beams 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 beams.
For location of coil tie rods, see Sheet No. B22-16.

(X) Denotes beam number.



#5 STRAND TIE BAR

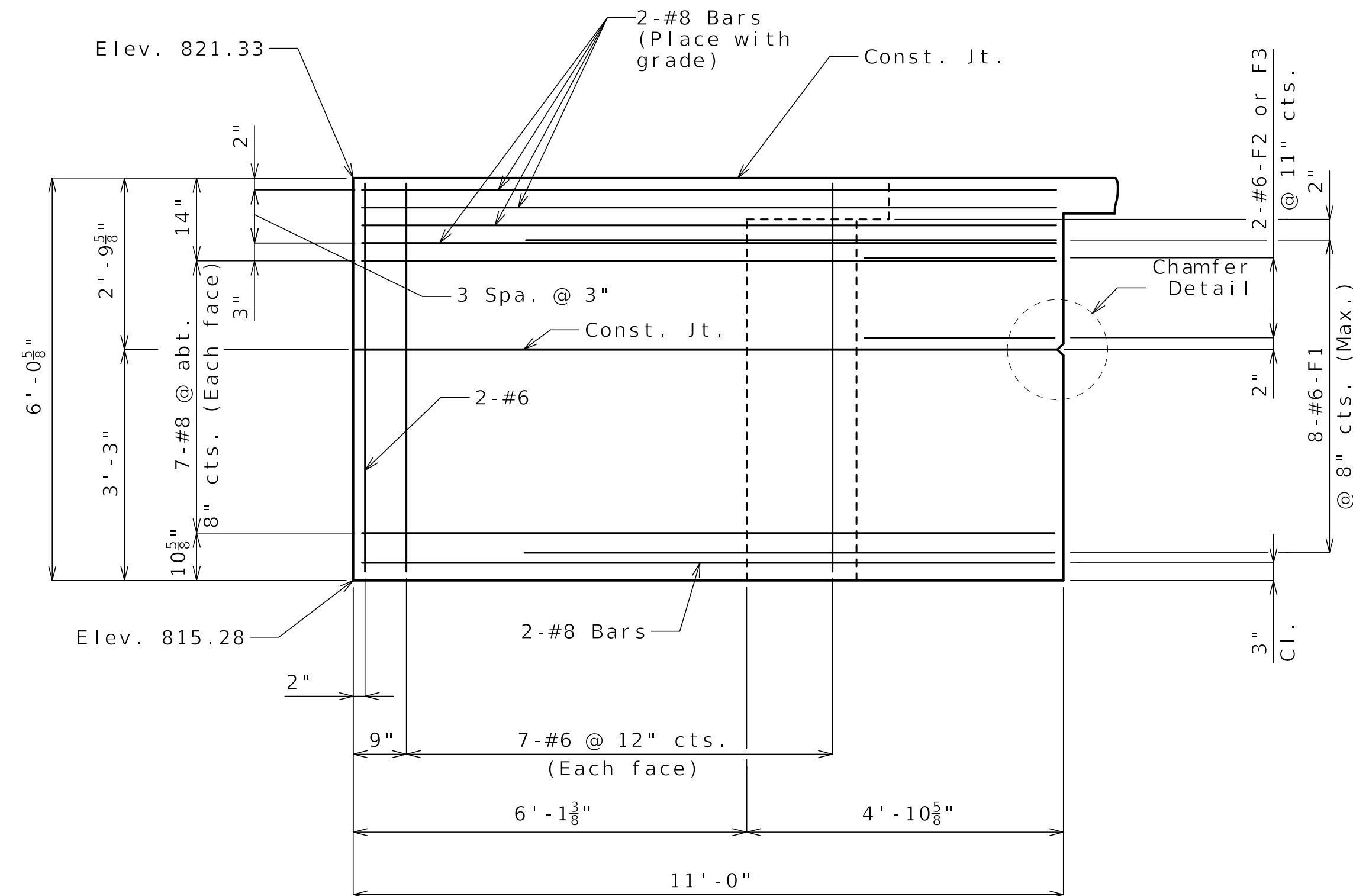
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Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-22-EB70-Van Brunt

DETAILS OF END BENT NO. 1

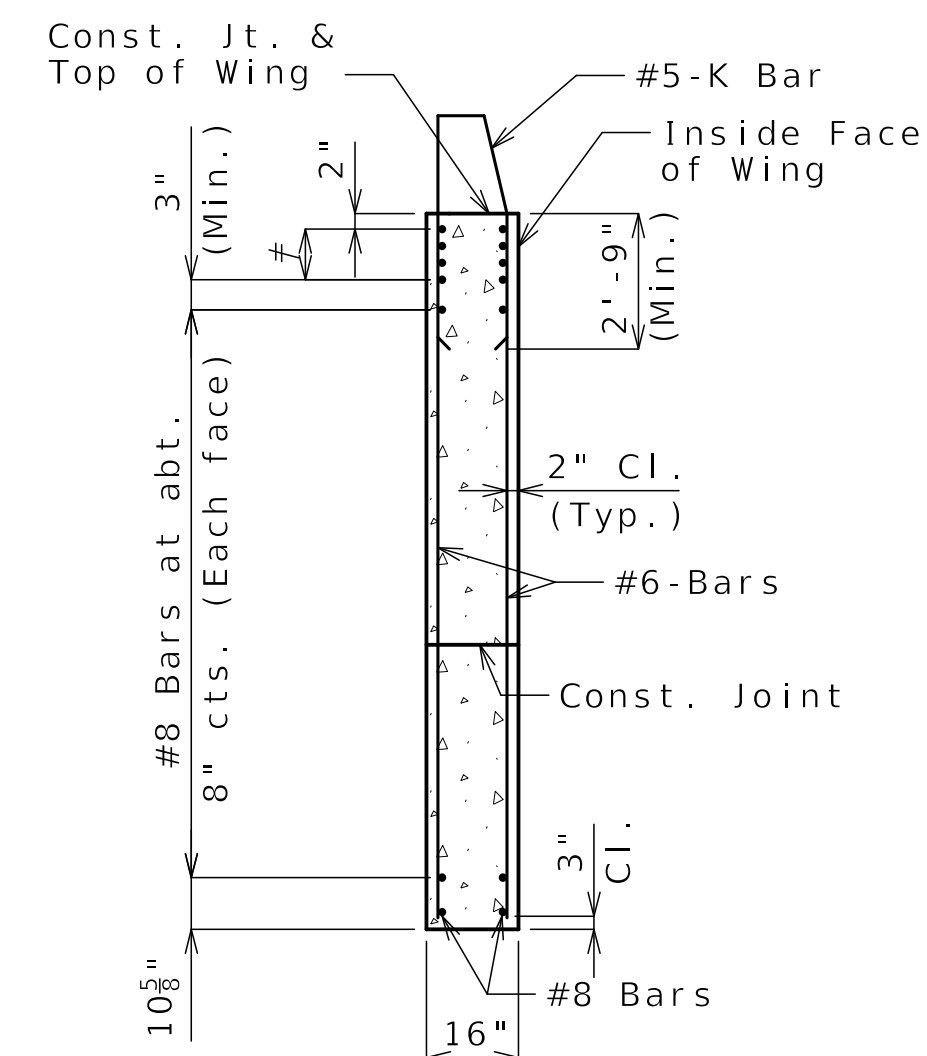
Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B22-06 of B22-39

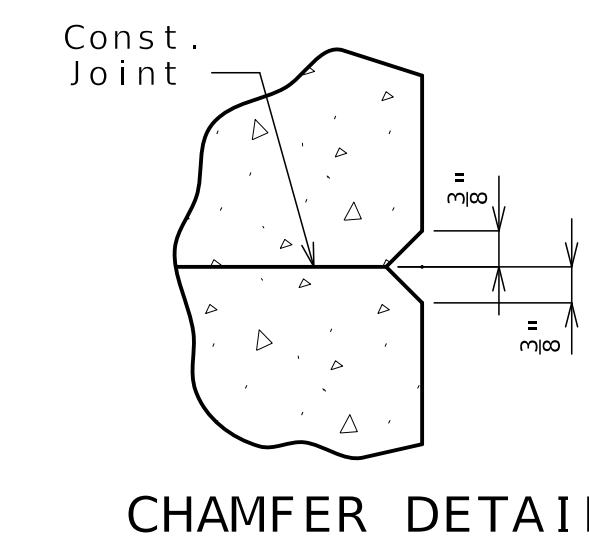


ELEVATION E-E



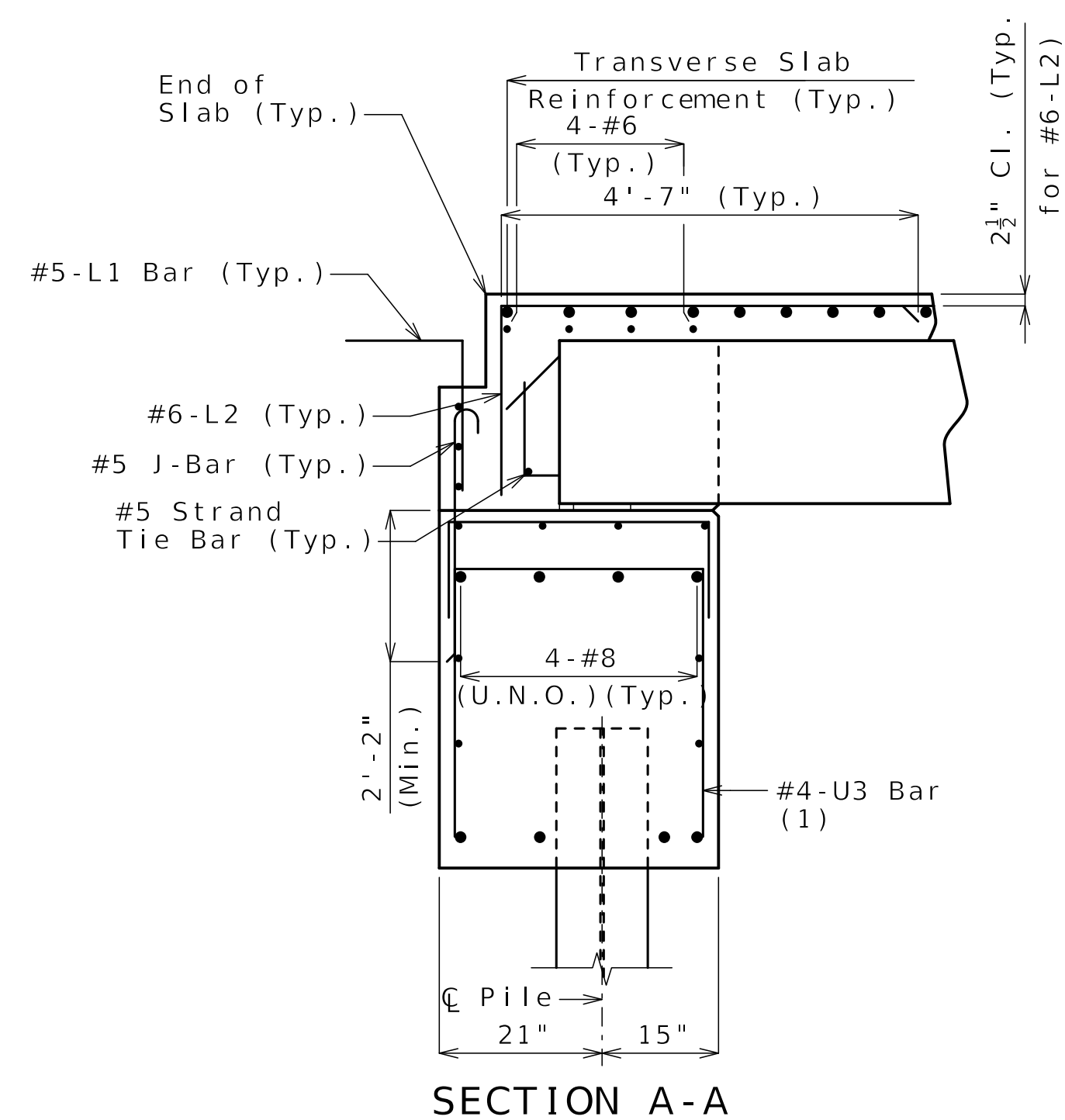
TYPICAL SECTION THRU WING

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

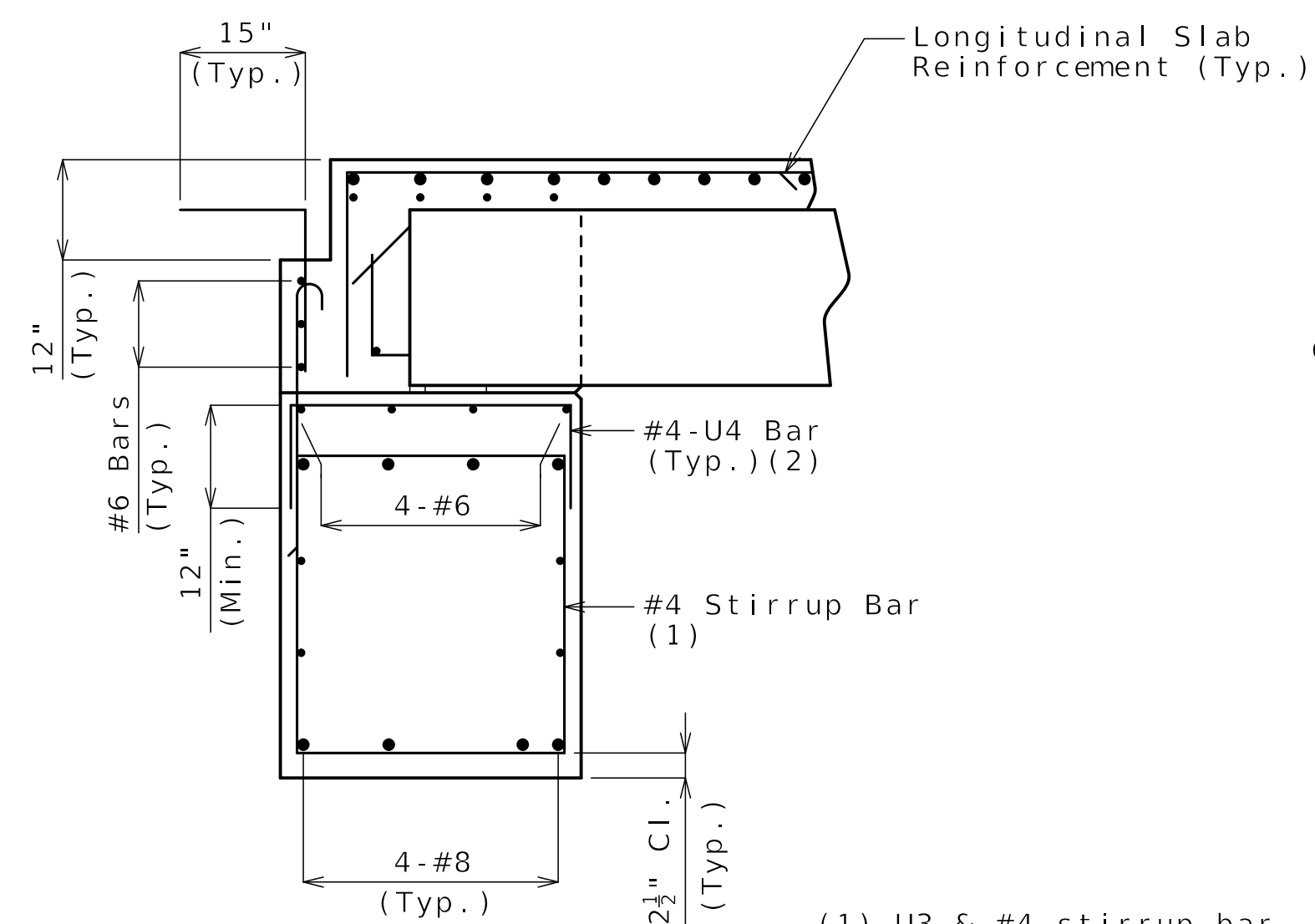


CHAMFER DETAIL

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-22-EB70-Van Brunt



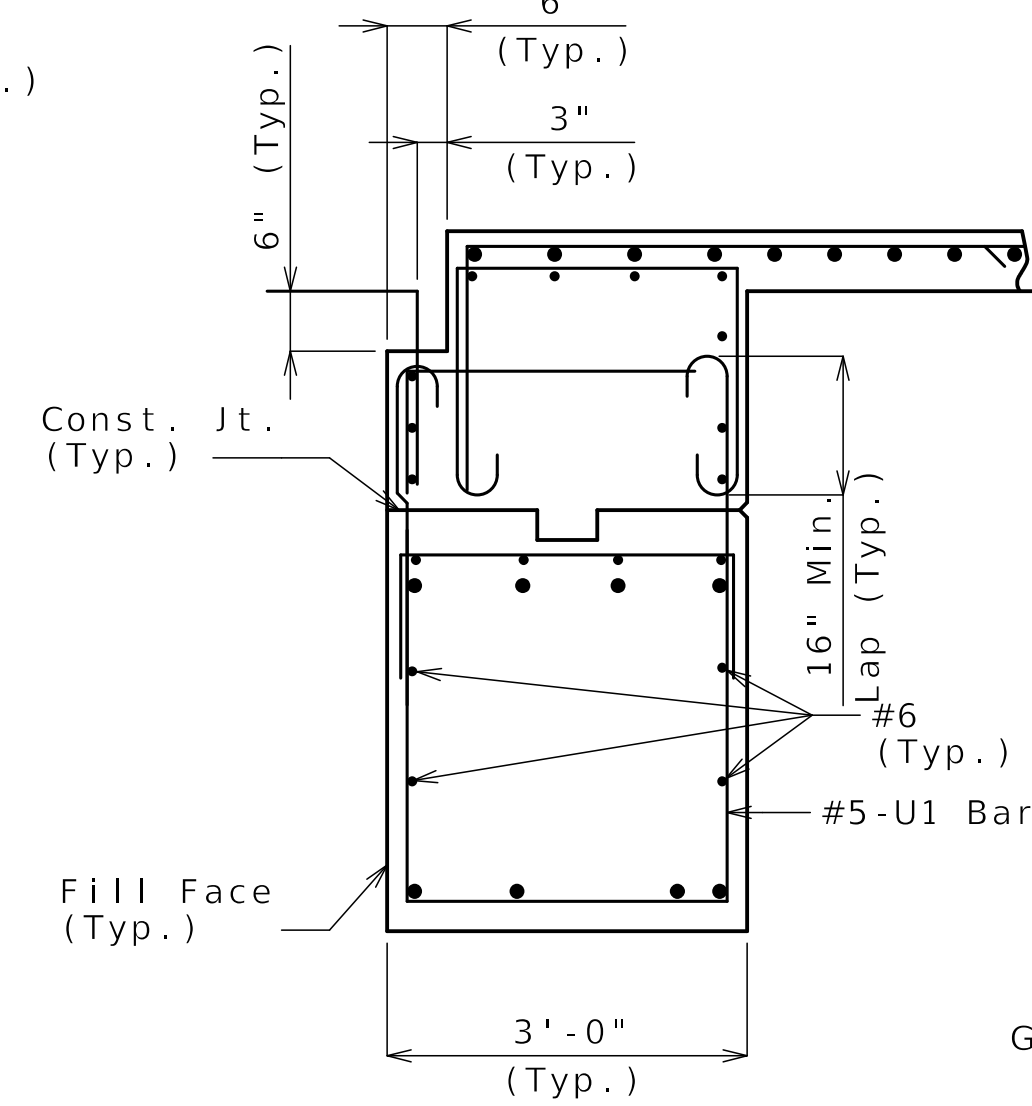
SECTION A-A



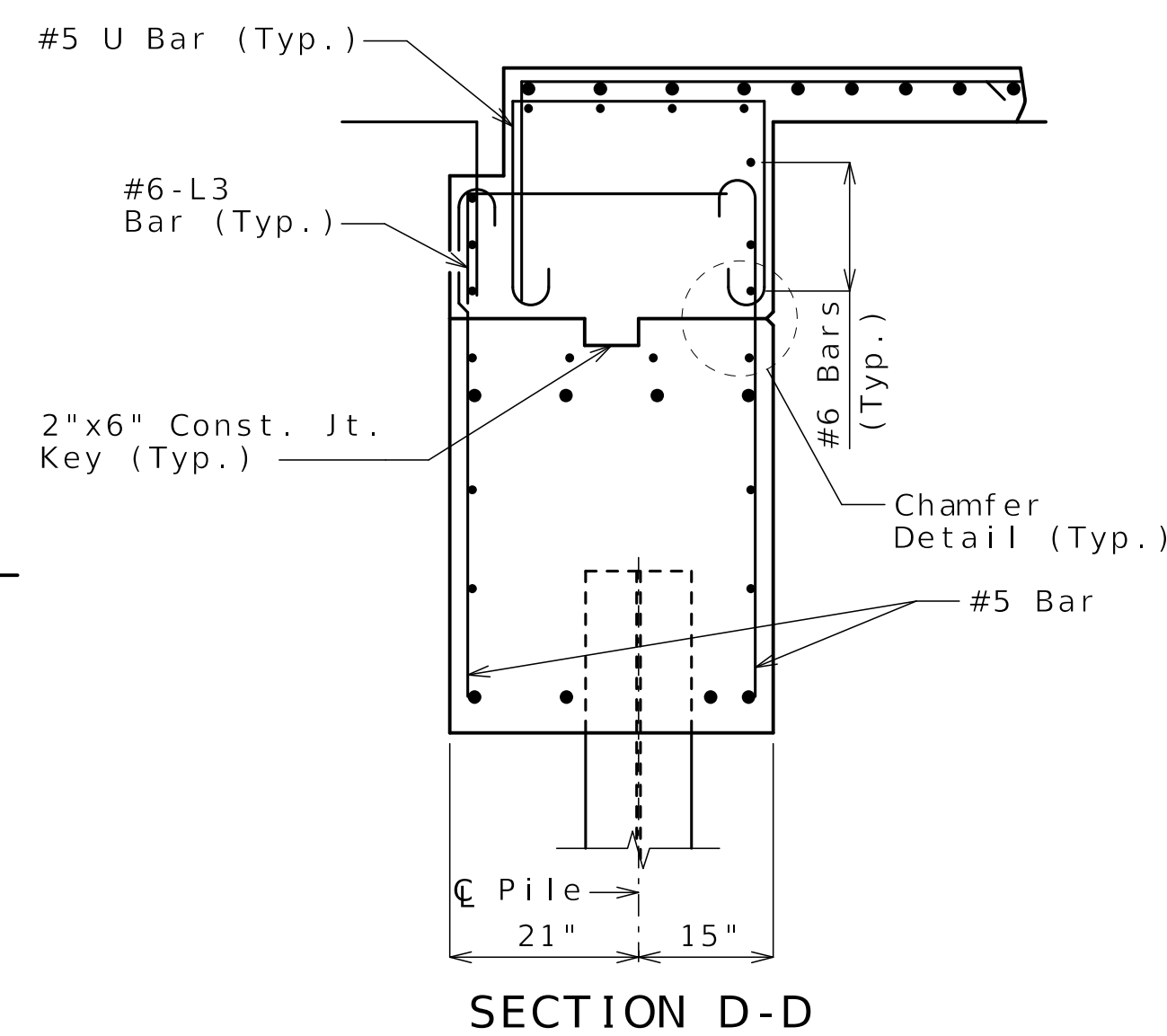
SECTION B-B

(1) U3 & #4 stirrup bar vertical leg = 2'-10"

(2) Bars shall be placed normal to \bar{C} Bent and parallel to beam step.



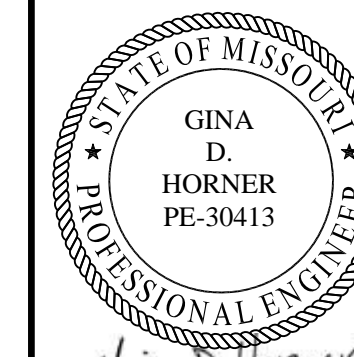
SECTION C-C



SECTION D-D

General Notes:
Work this sheet with Sheets No. B22-05 and B22-06.
For location of Sections A-A, B-B, C-C, D-D, and Elevation E-E, see Sheet No. B22-06.
For reinforcement of the Type D Barrier, see Sheet No. B22-27.

DETAILS OF END BENT NO. 1



Gina D. Horner
10-8-2025

DATE PREPARED
09/22/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B22-07

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9635

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

DATE 09/22/25

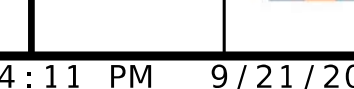
DATE 10/10/2025

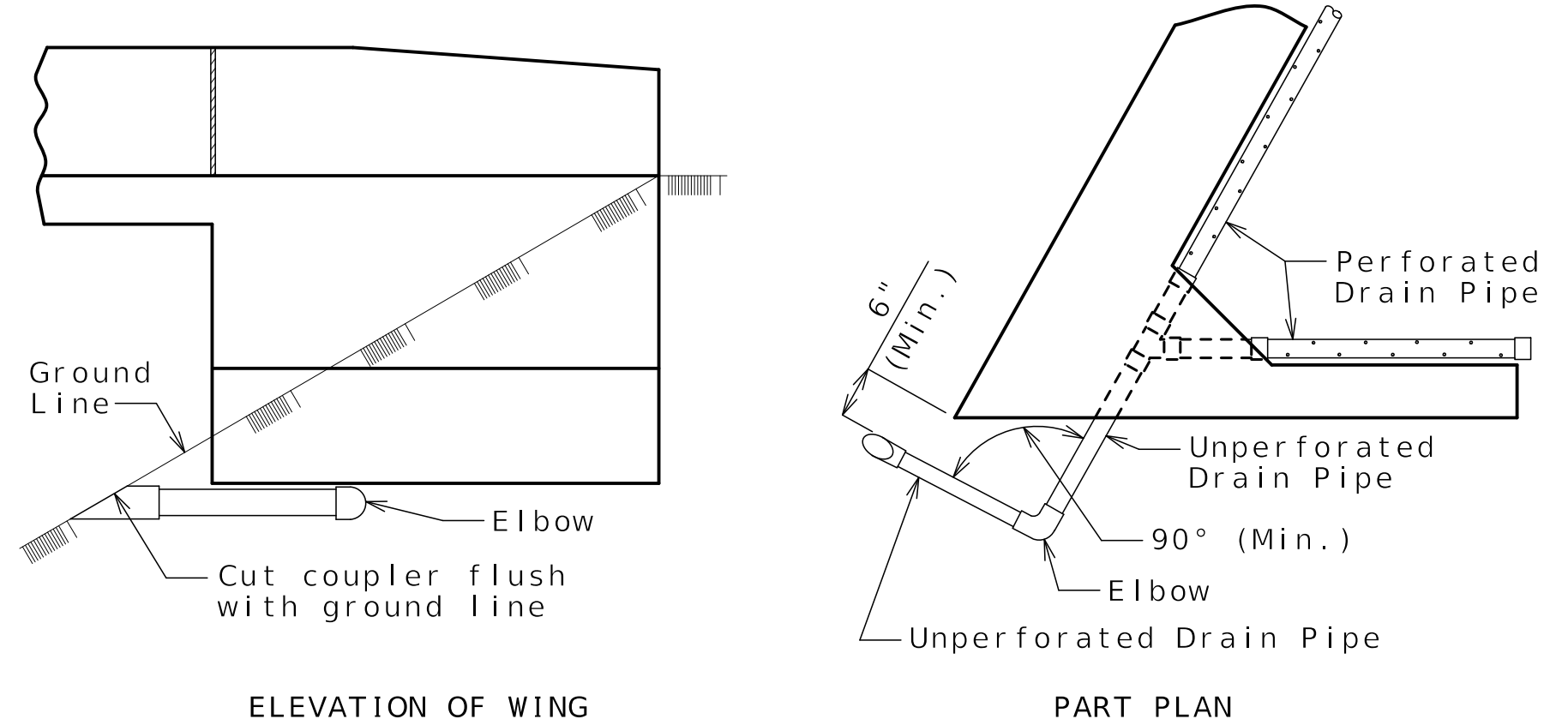
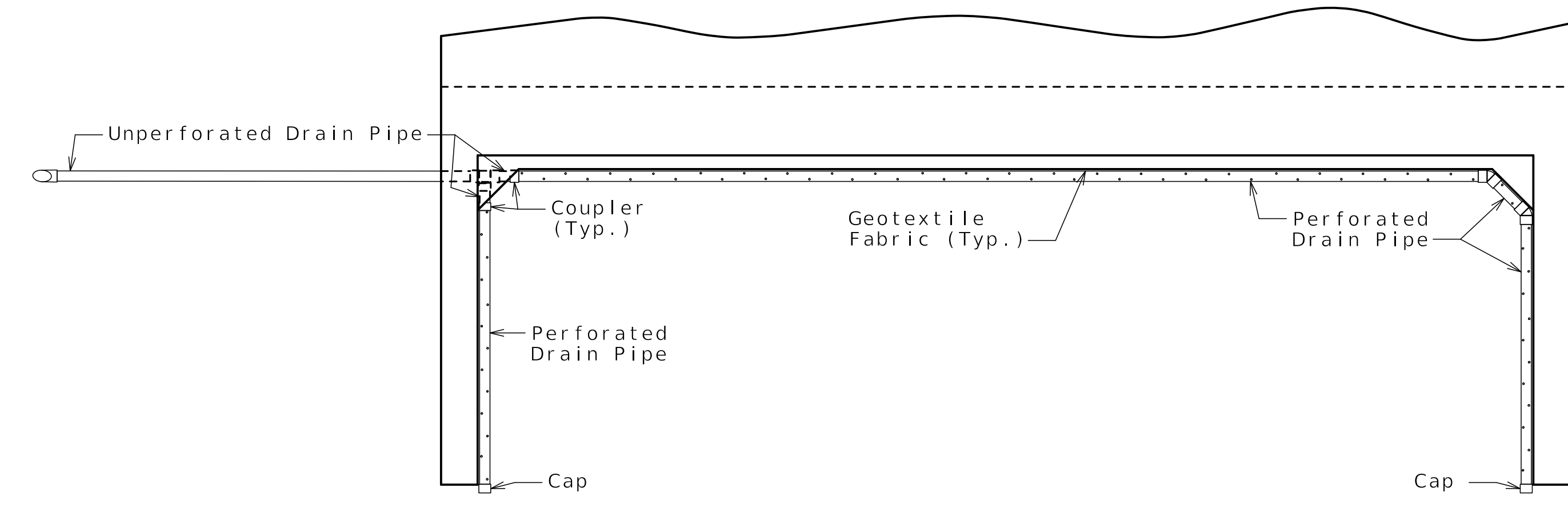
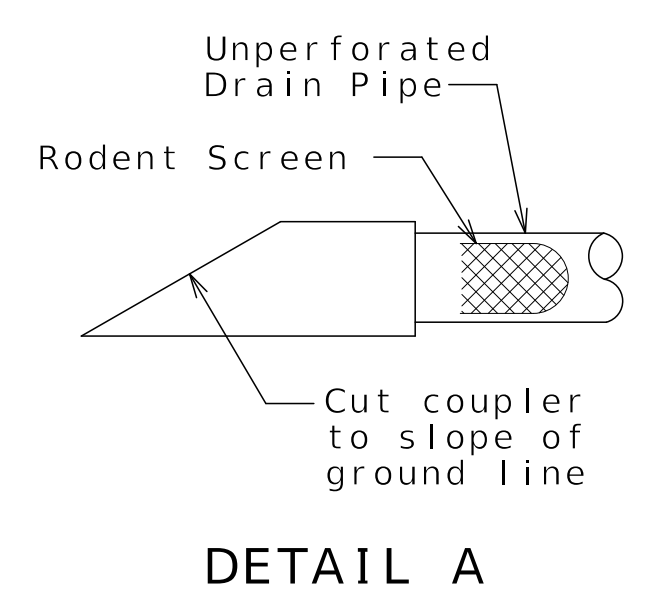
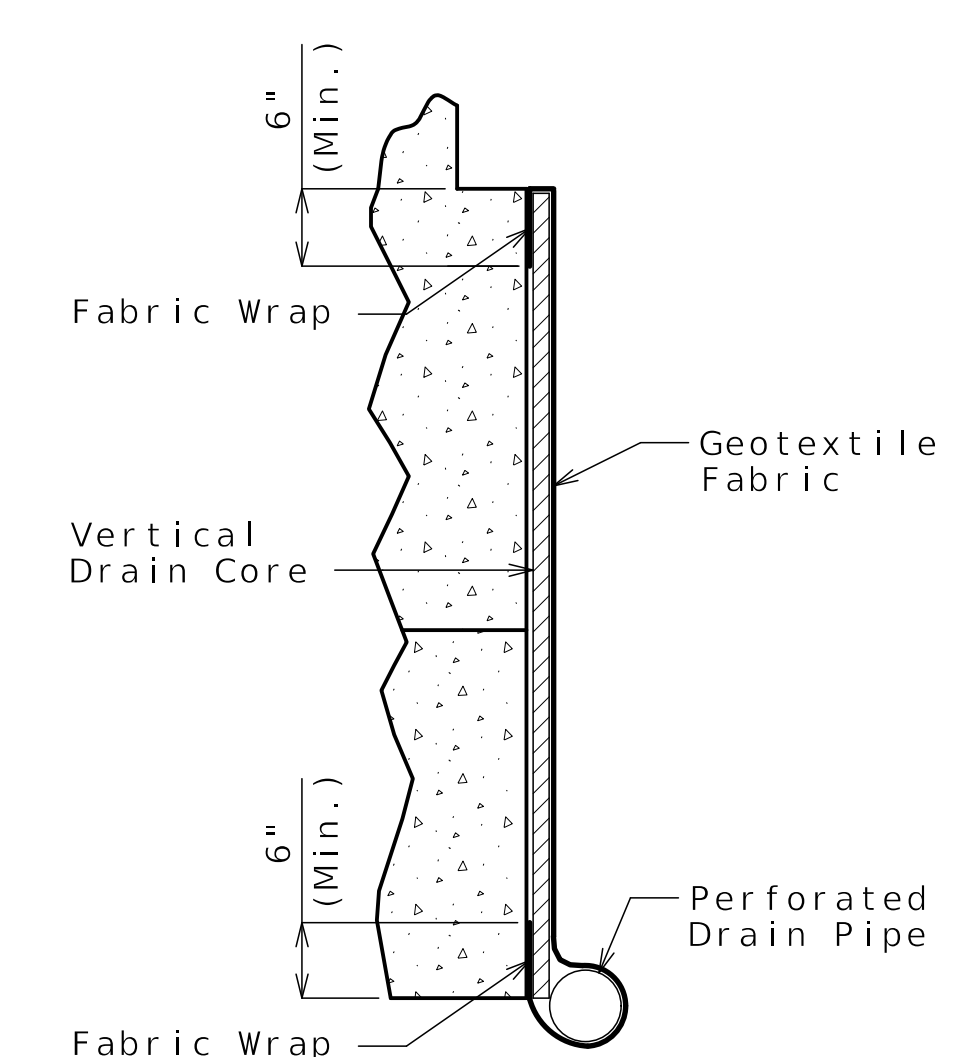
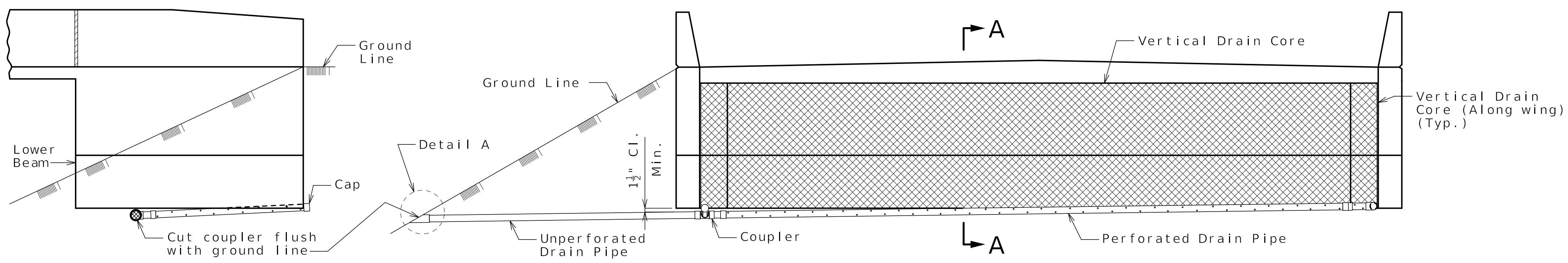
PACKAGE: BRD-22-EB70-Van Brunt

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





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.

VERTICAL DRAIN AT END BENTS

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Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-22-EB70-Van Brunt

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B22-08 of B22-39



Gina D. Horner
10-8-2025

DATE PREPARED 09/22/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B22-08
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9635

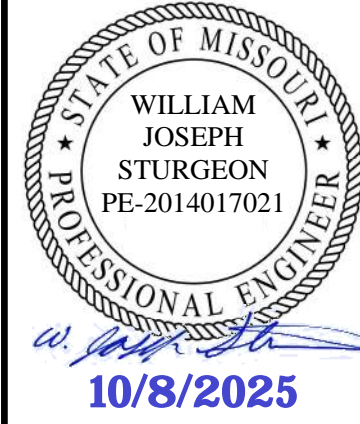
DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

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. B22-09
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO. A9635

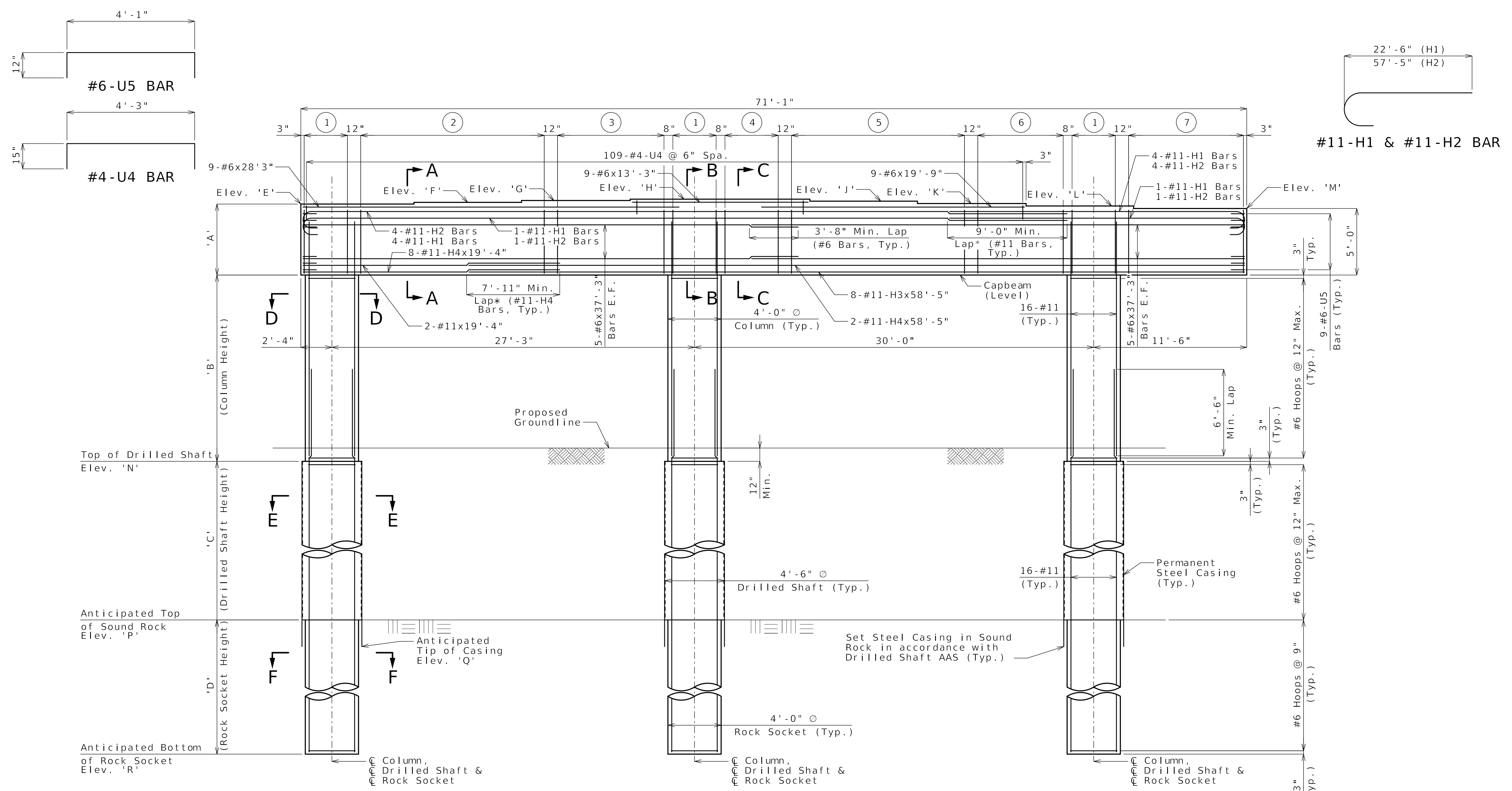
DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

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 4-#6-U1 @ 13" = 3'-3"
- ② 15-#6-U3 @ Eq. Spa. = 13'-9¹/₂"
- ③ 13 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 8" = 8'-0"
- ④ 6 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 8" = 4'-0"
- ⑤ 14-#6-U3 @ 12" = 13'-0"
- ⑥ 11 Sets of 1-#6-U2 & 2-#6 Tie Bars @ Eq. Spa. = 6'-5"
- ⑦ 10-#6-U3 @ Eq. Spa. = 8'-7¹/₂"

TABLE OF VARIABLES

Bent	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'L'	'M'	'N'	'P'	'Q'	'R'
2	5'-3 ⁷ / ₈ "	12'-8 ³ / ₄ "	12'-0"	10'-0"	818.05	818.19	818.33	818.42	818.27	818.10	817.92	817.73	800.0	788.0	786.0	778.0
3	5'-4 ¹ / ₈ "	12'-11 ¹ / ₈ "	8'-0"	13'-0"	817.33	817.46	817.60	817.69	817.55	817.37	817.19	816.99	799.0	791.0	789.0	778.0
4	5'-4"	12'-3 ³ / ₄ "	5'-6"	15'-6"	816.60	816.74	816.87	816.97	816.82	816.64	816.46	816.27	799.0	793.5	791.5	778.0

Notes:
 * Alternate location of lap splices between adjacent bars about centerline of bent. Alternate lap splice not shown.
 Work this sheet with Sheets No. B22-10 and B22-11.
 Prior to placing concrete for columns, position of vertical reinforcement shall be verified so as to provide clearance for capbeam reinforcement as applicable.
 For location of drilled shafts, see Sheet No. B22-04.
 For Sections A-A thru F-F, see Sheet No. B22-11.
 For Optional Drilled Shaft Detail and Rock Socket Over Excavation Detail, see Sheet No. B22-03.

Released For Construction
Not to Scale

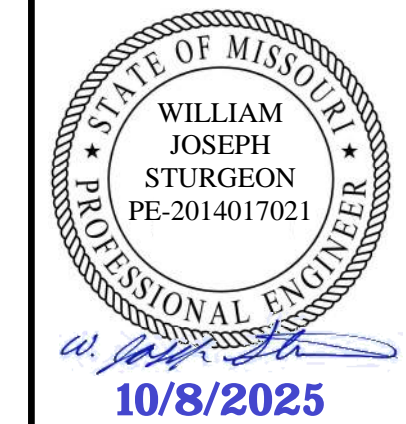
Revision: 0.0
Date: 10/10/2025
Package: BRD-22-EB70-Van Brunt

DETAILS OF INTERMEDIATE BENTS

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B22-09 of B22-39



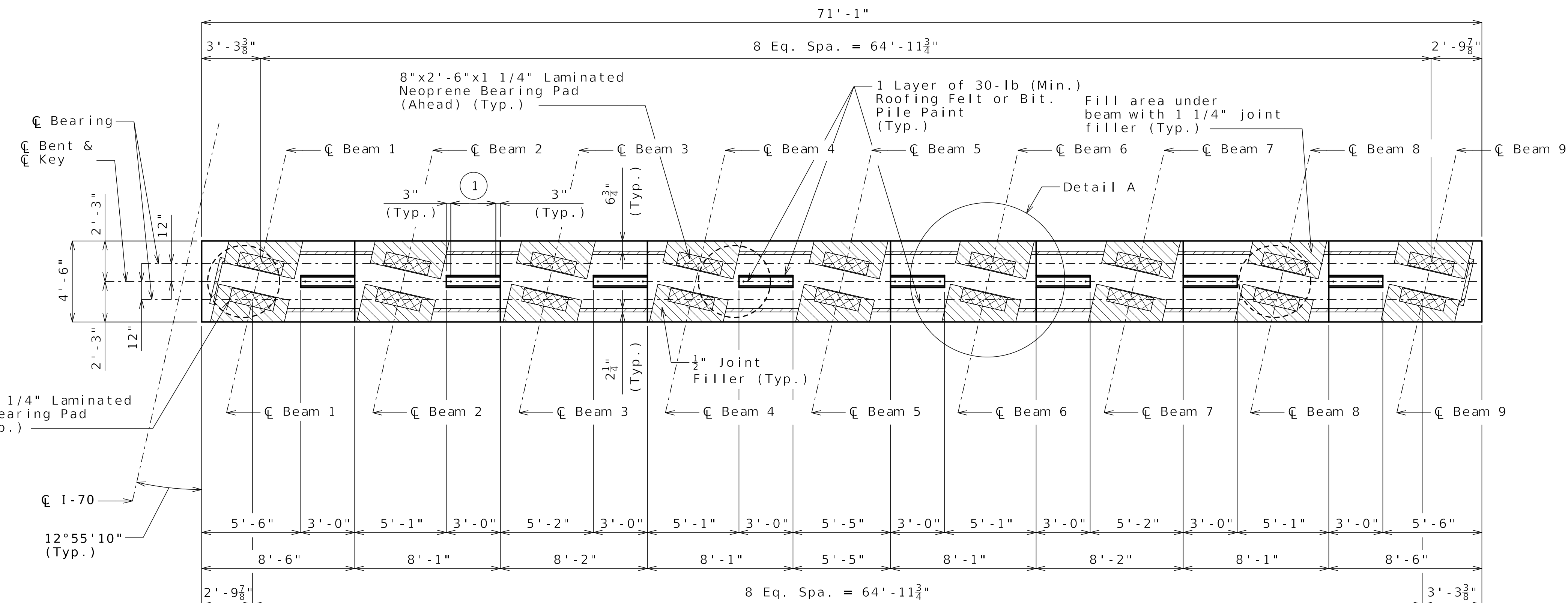
DATE PREPARED 09/22/2025	
ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B22-10
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO. A9635

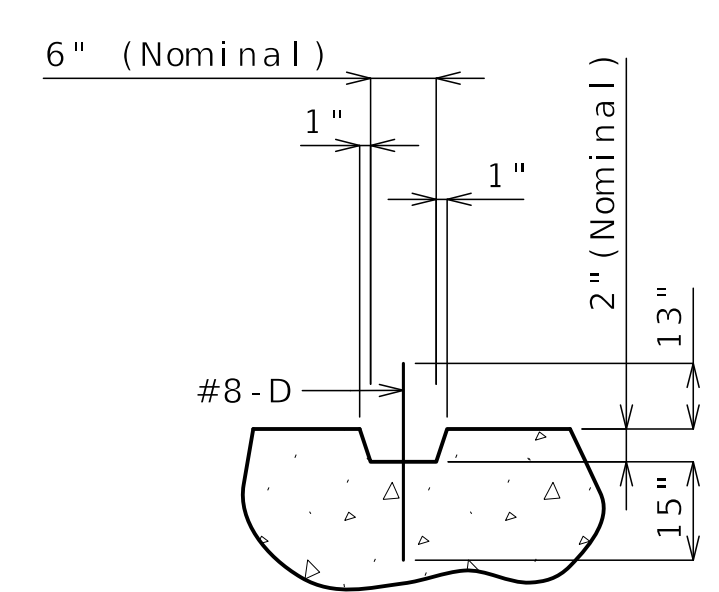
DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

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

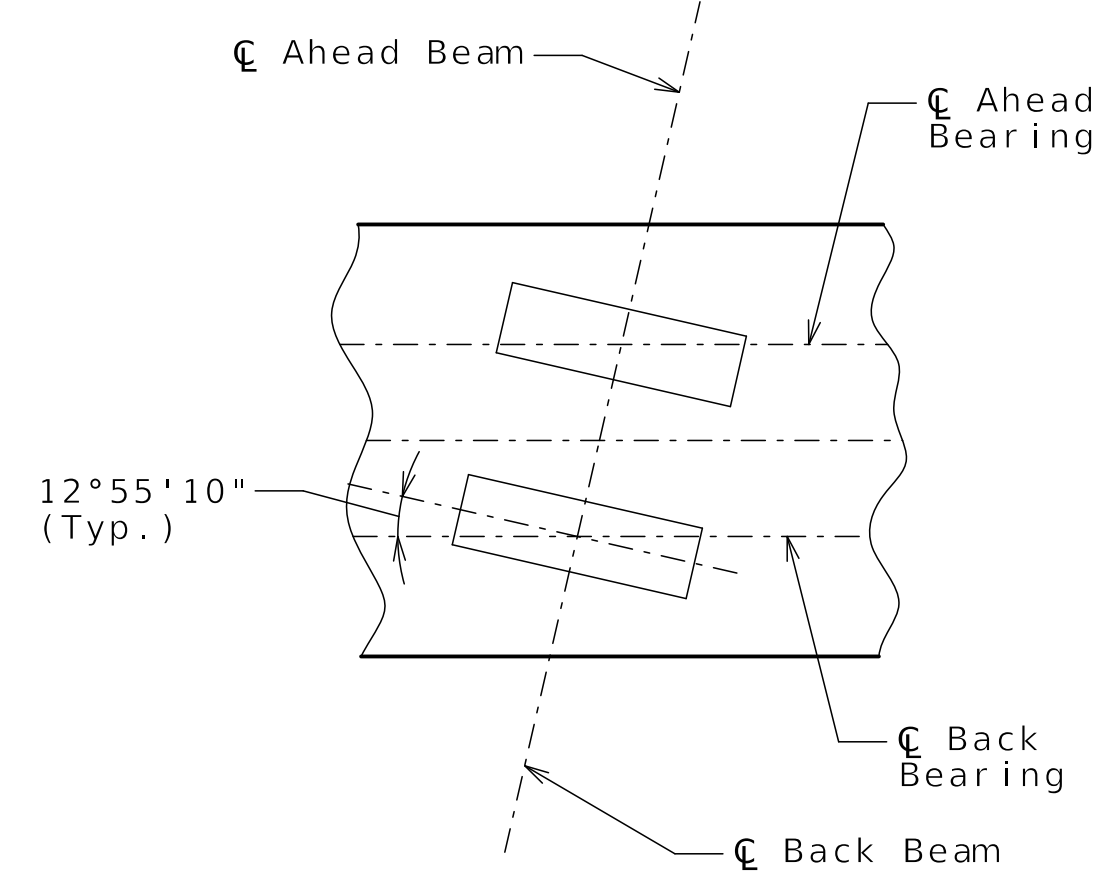
CLARKSON RADMACHER JOINT VENTURE	715 KIRK DRIVE KANSAS CITY, MO 64105-1310
HNTB	CERTIFICATE OF AUTHORITY NO. 001270



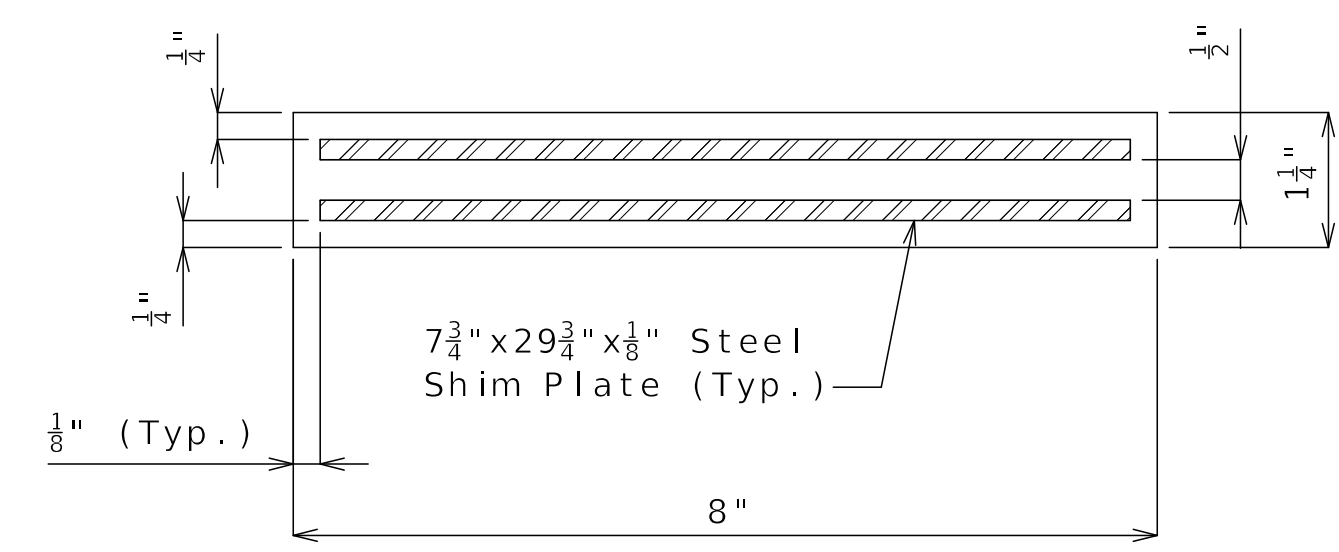
PLAN OF CAPBEAM



SECTION THRU KEY



DETAIL A

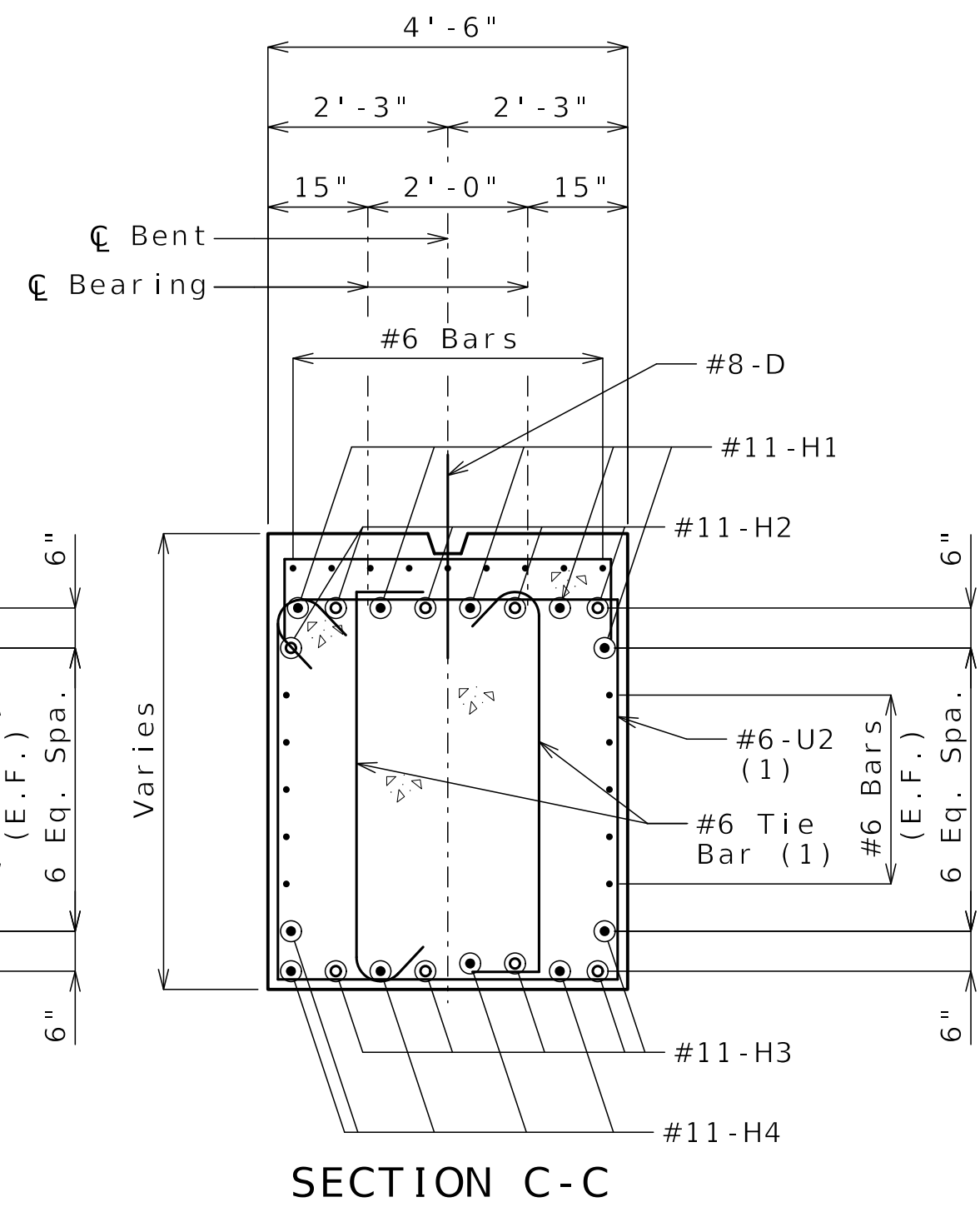
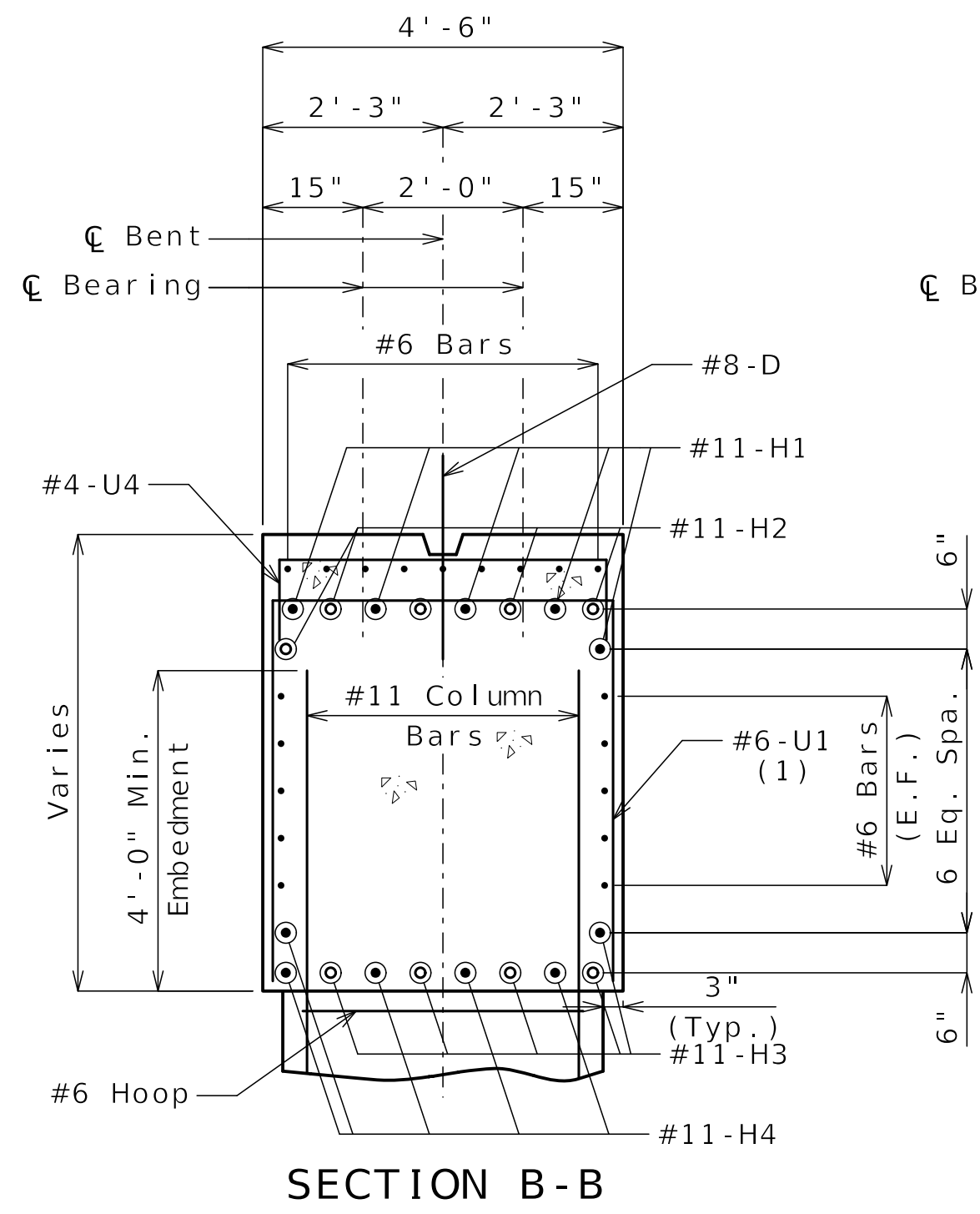
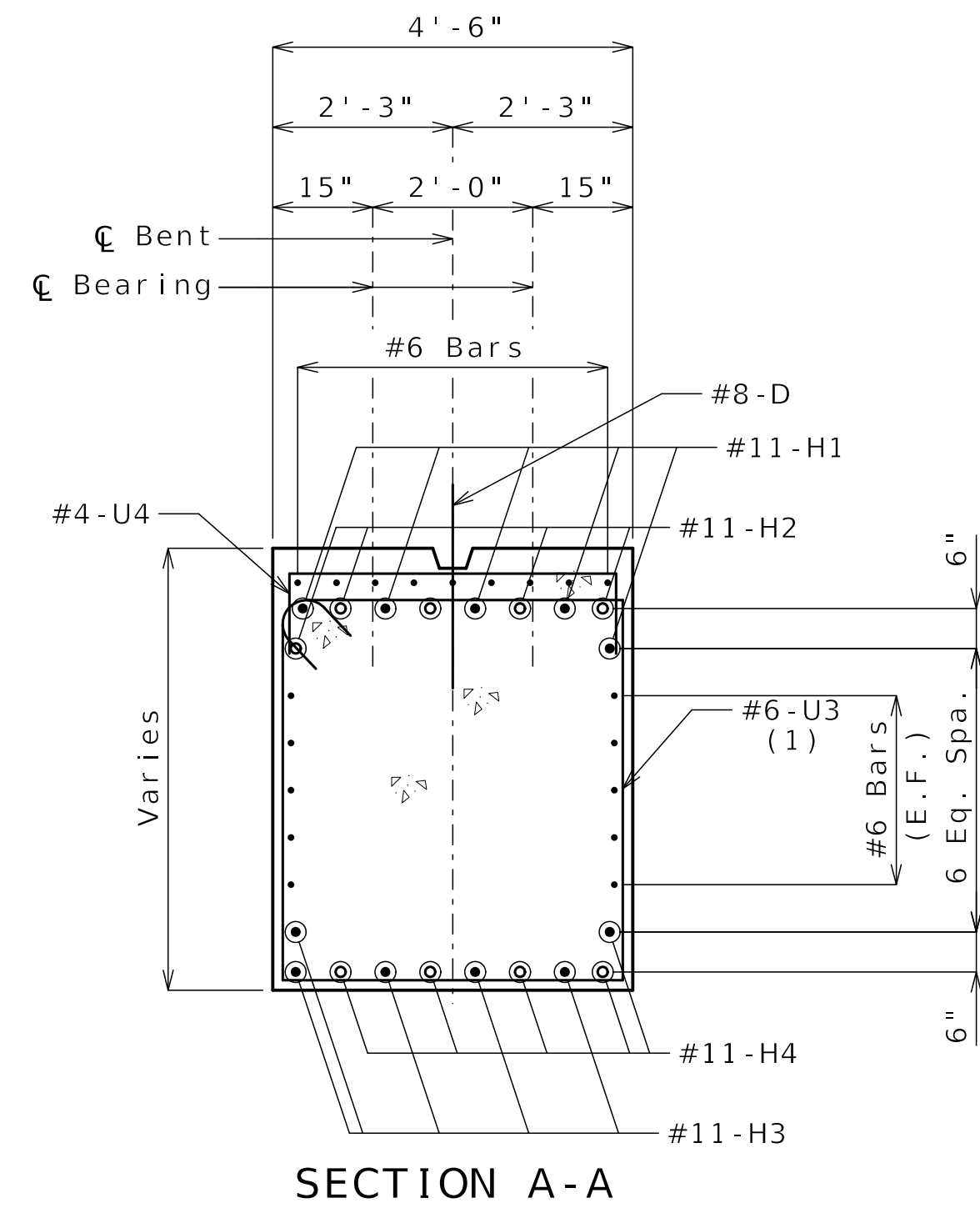


TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD
18 Required per Bent

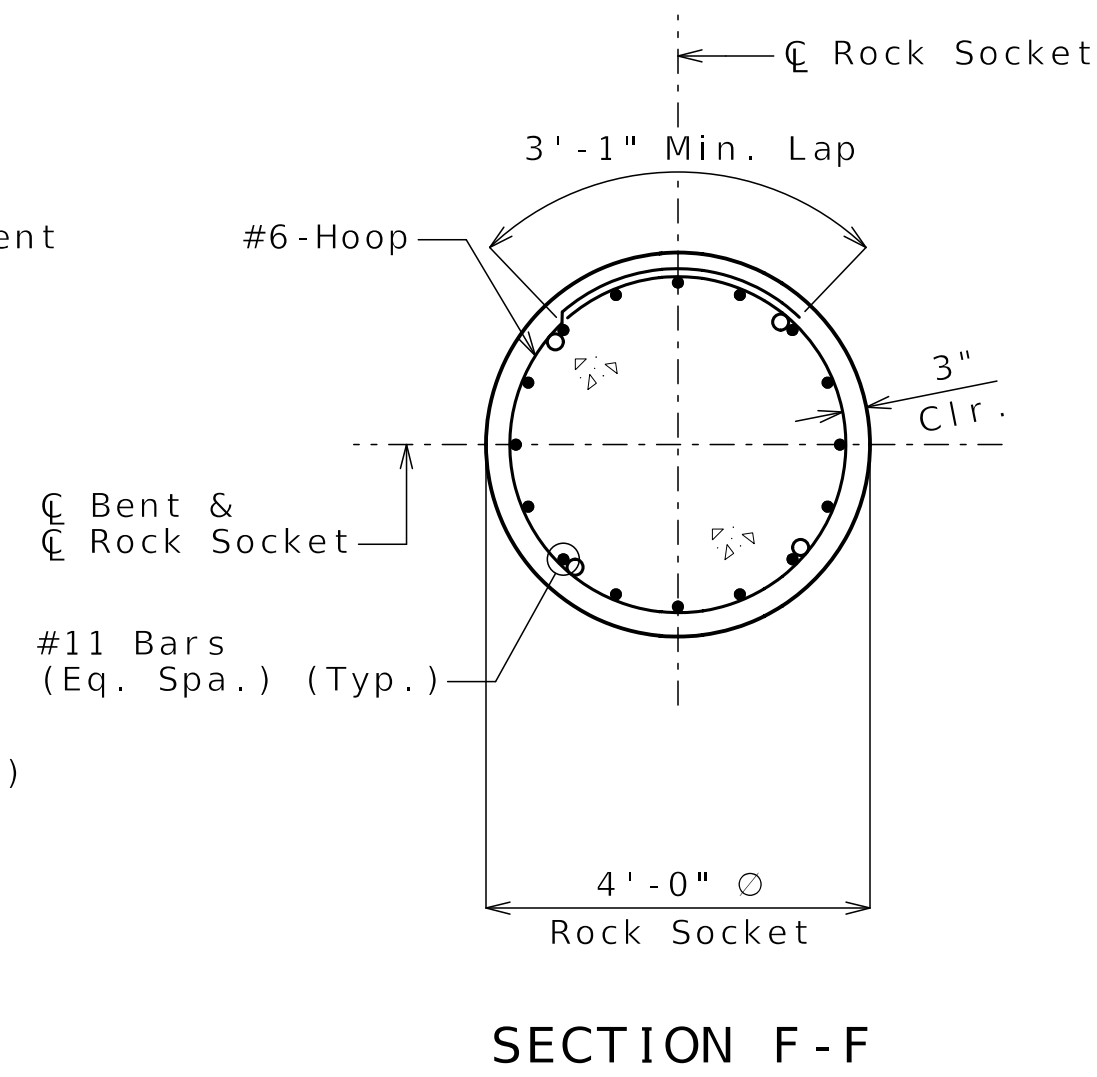
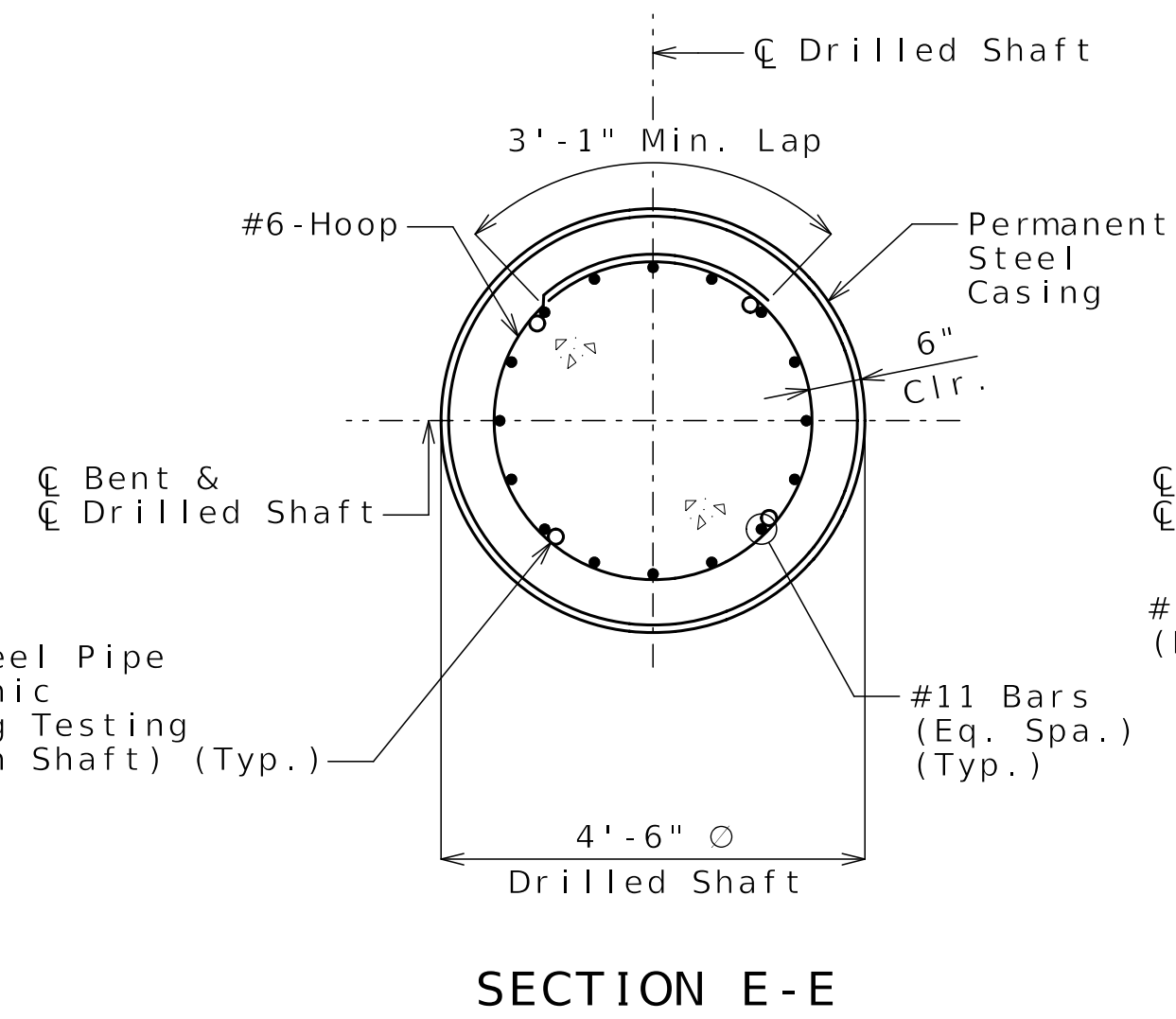
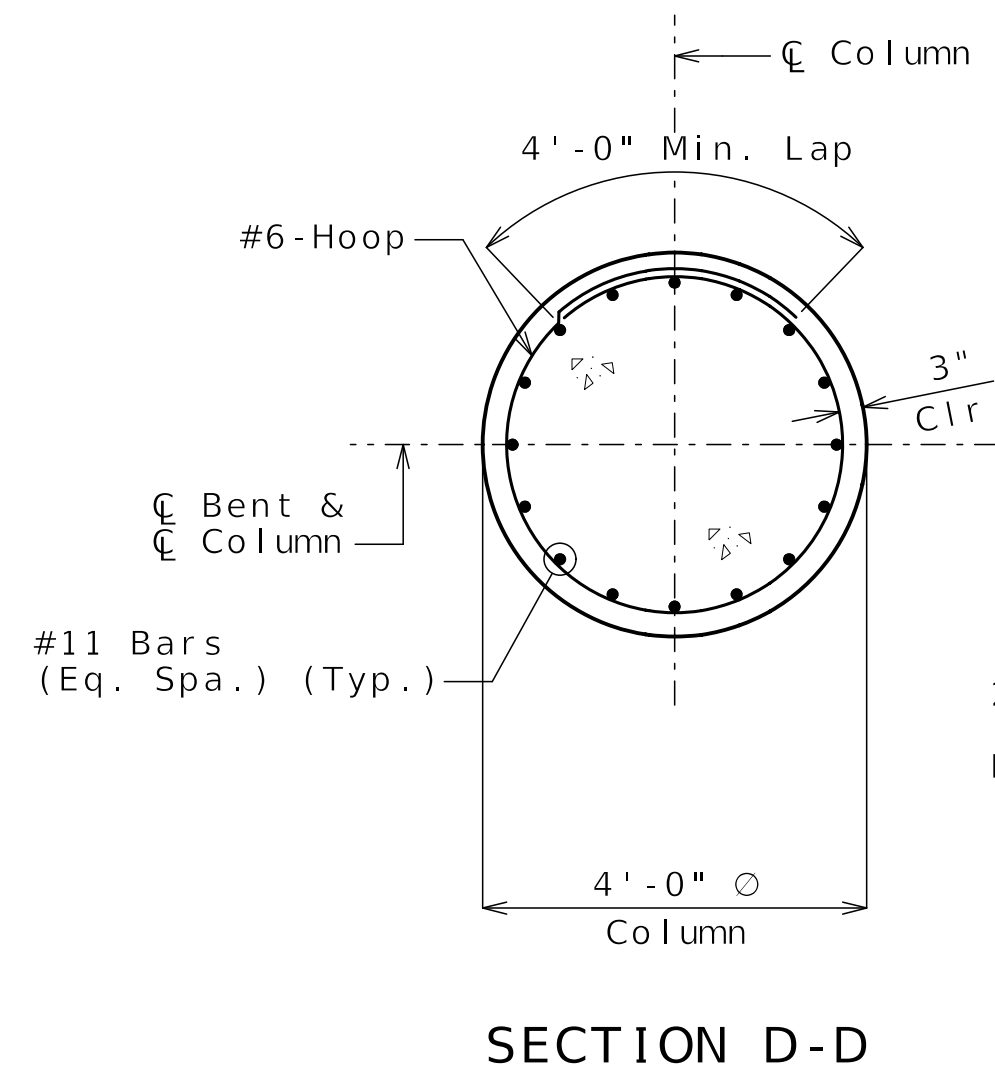
Notes:
Work this sheet with Sheets No. B22-09 and B22-11.
For additional details of joint filler, see Sheet No. B22-20.
For steps 2 inches or more, use 2 1/4"x1/2" joint filler up vertical face.

DETAILS OF INTERMEDIATE BENTS

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-22-EB70-Van Brunt



(1) U1,U2, U3 & #6 tie bar vertical leg = 4'-9"



Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-22-EB70-Van Brunt

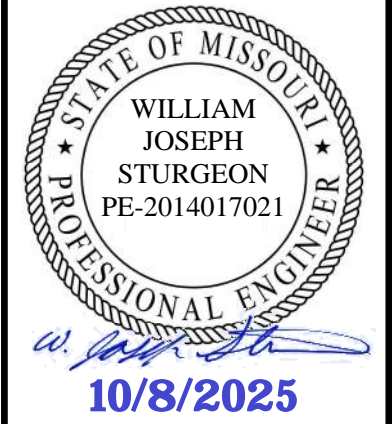
Notes:
Work this sheet with Sheets No. B22-09 and B22-10.
Hoop splices shall be staggered around the drilled shaft and rock socket at 90 degree intervals.

DETAILS OF INTERMEDIATE BENTS

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B22-11 of B22-39



DATE PREPARED 09/22/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B22-11
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9635

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

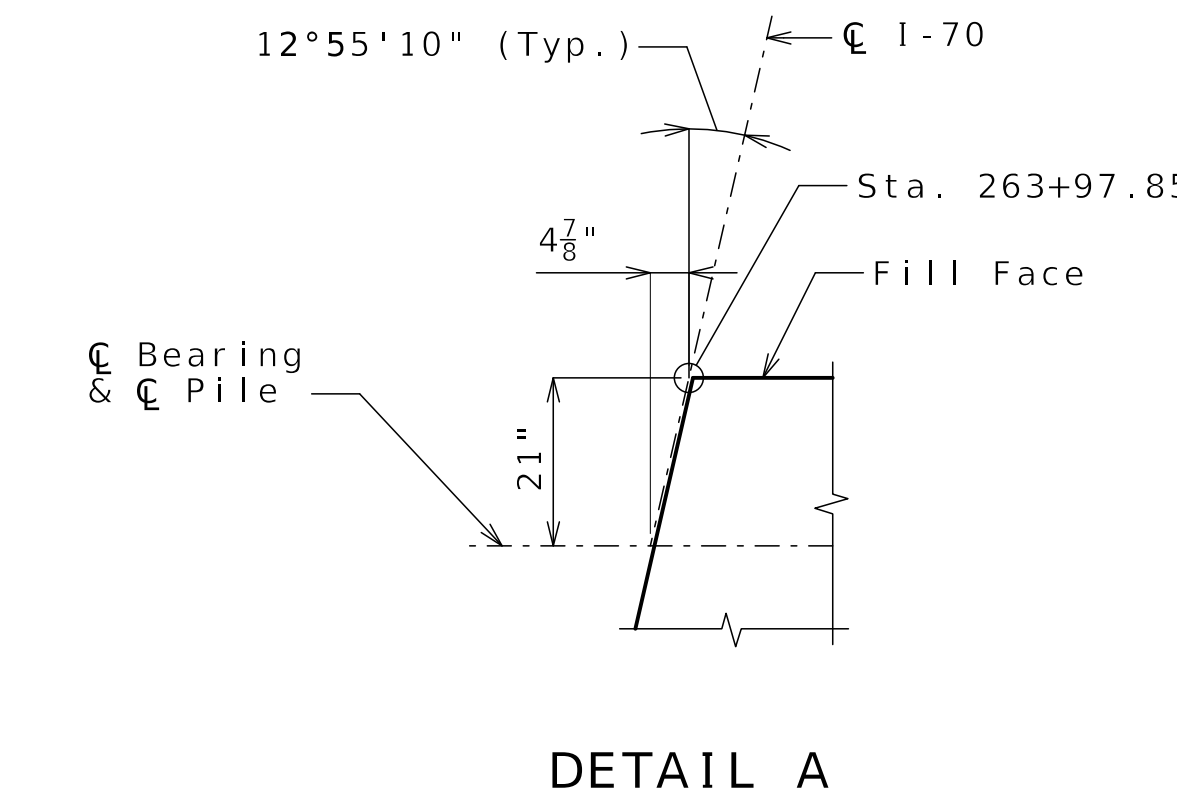
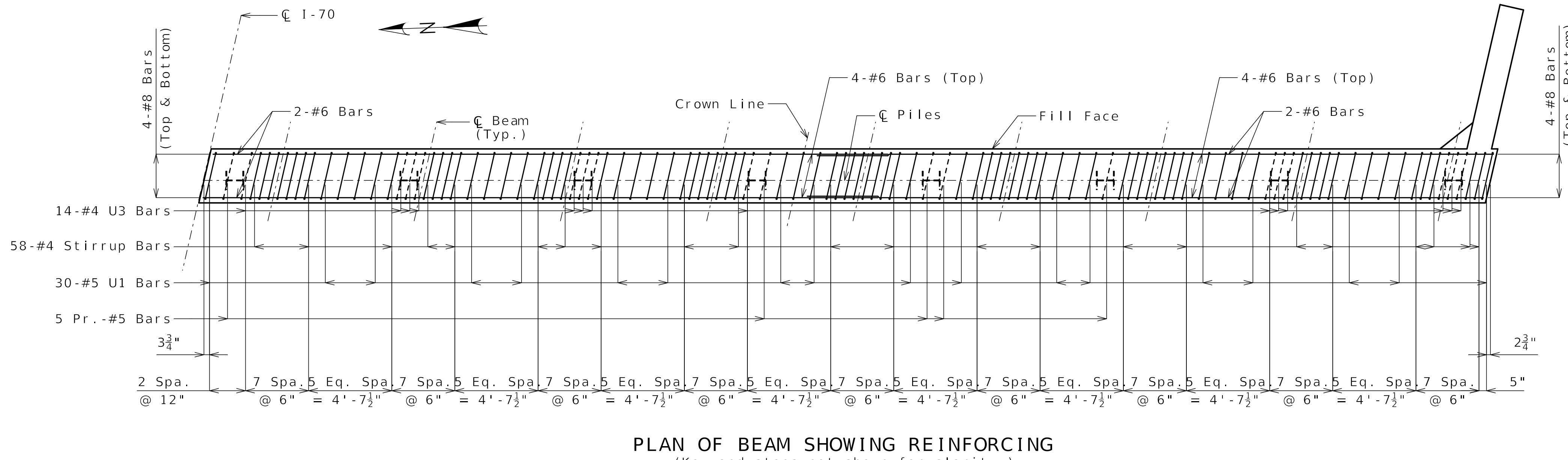
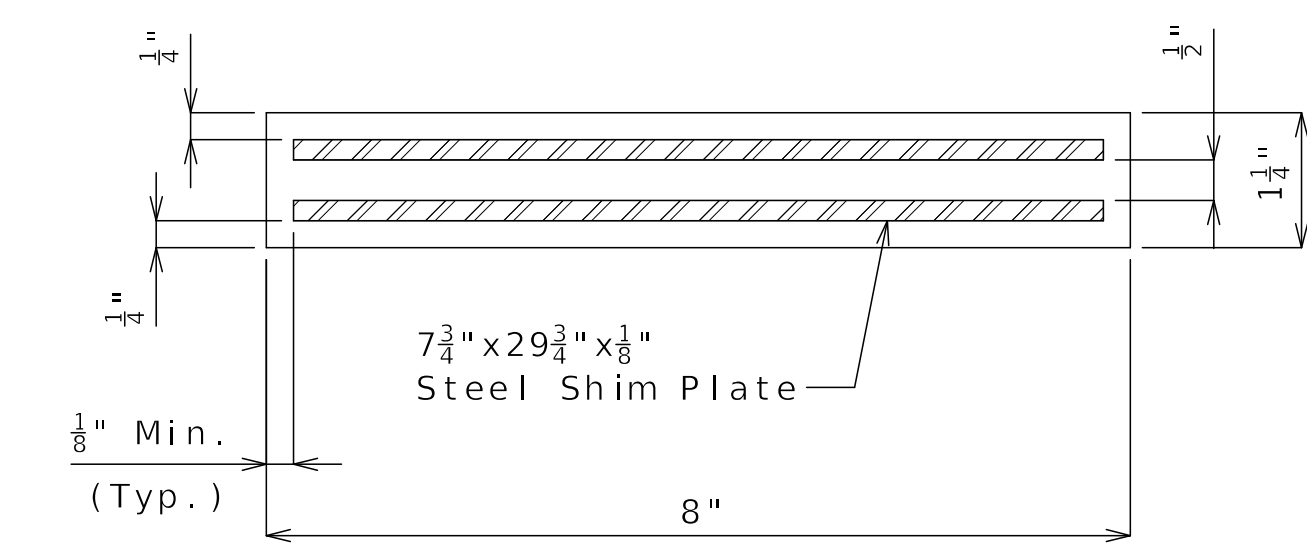
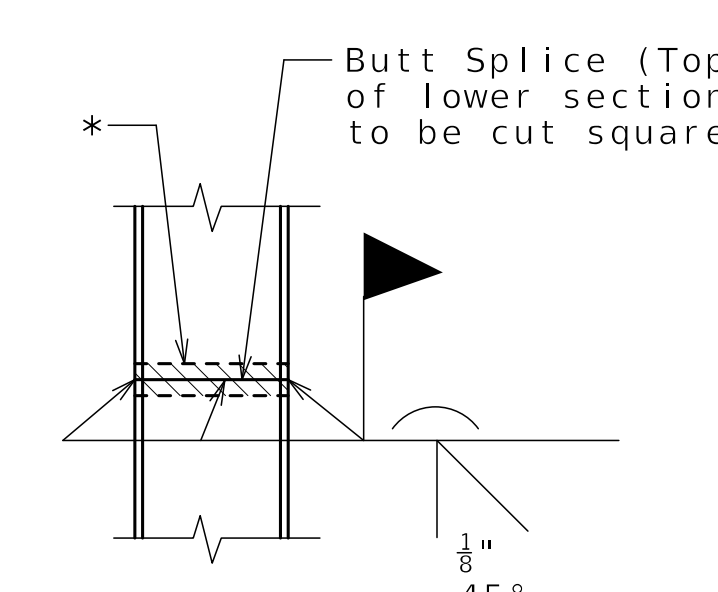
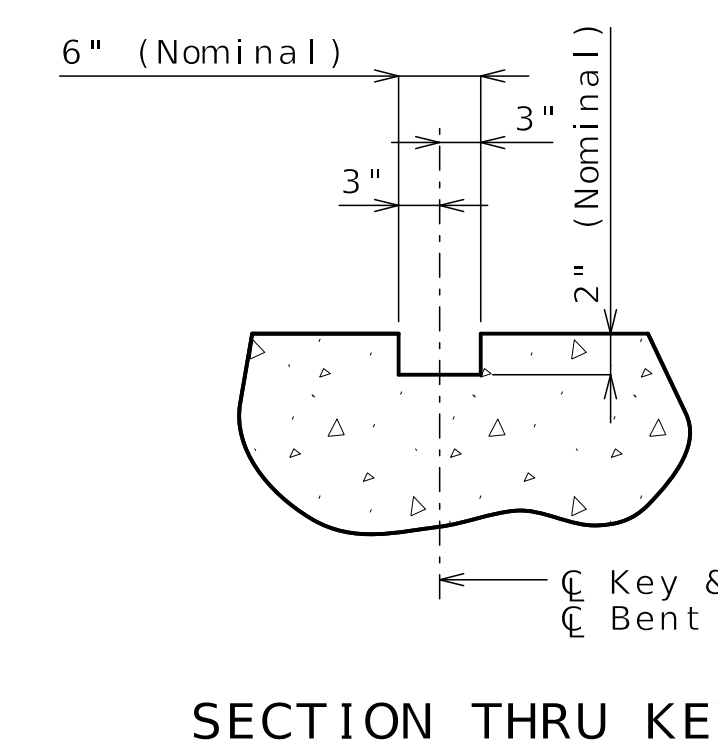
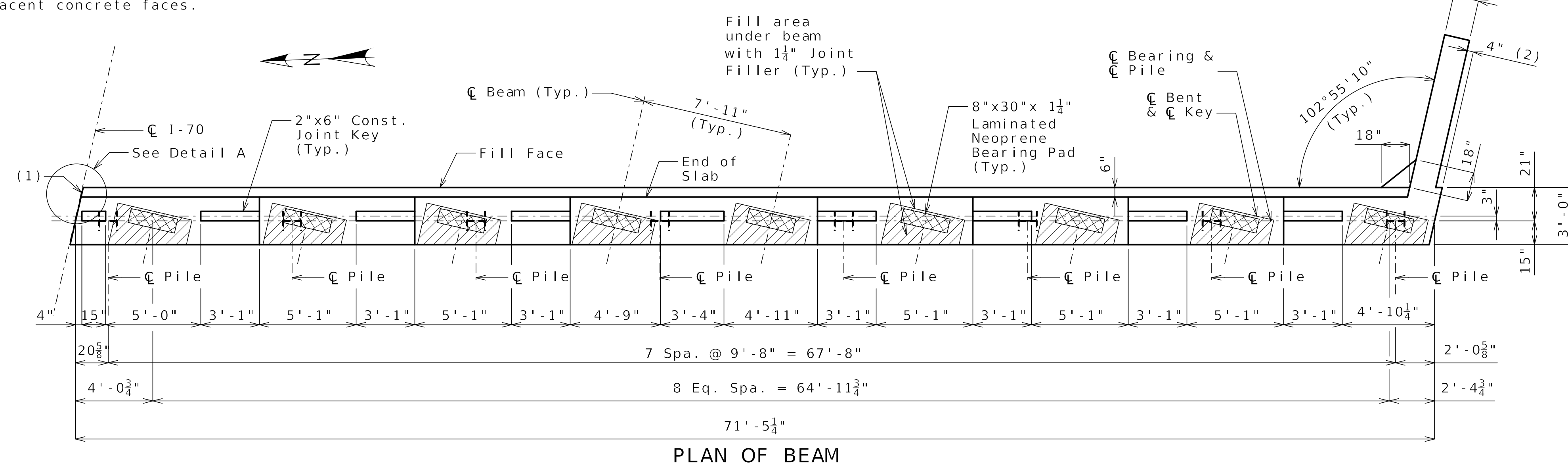
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER
JOINT VENTURE

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

(1) Adjacent A9634 (I-70 WB Over Van Brunt) end bent not shown. 1" joint filler required between adjacent concrete faces.

(2) Slope normal to bridge fascia to drain.

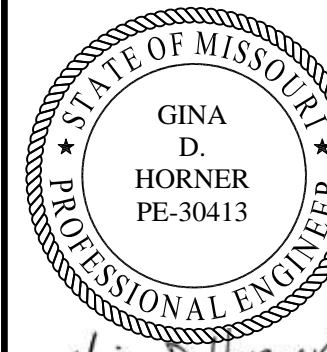


Notes:
 Work this sheet with Sheets No. B22-13 and B22-14.
 All U bars and pairs of vertical bars shall be placed along skew.
 Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".
 For details of bridge approach slab, see Sheet No. B22-32.

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-22-EB70-Van Brunt

DETAILS OF END BENT NO. 5

DATE PREPARED: 09/22/2025 ROUTE: I-70 DISTRICT: BR COUNTY: JACKSON JOB NO.: J411486D CONTRACT ID.: 240807-C01 PROJECT NO.: BRIDGE NO.: A9635	
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 	



Gina D. Horner
10-8-2025

DATE PREPARED
09/22/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B22-14

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9635

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE 09/22/25

DATE 10/10/2025

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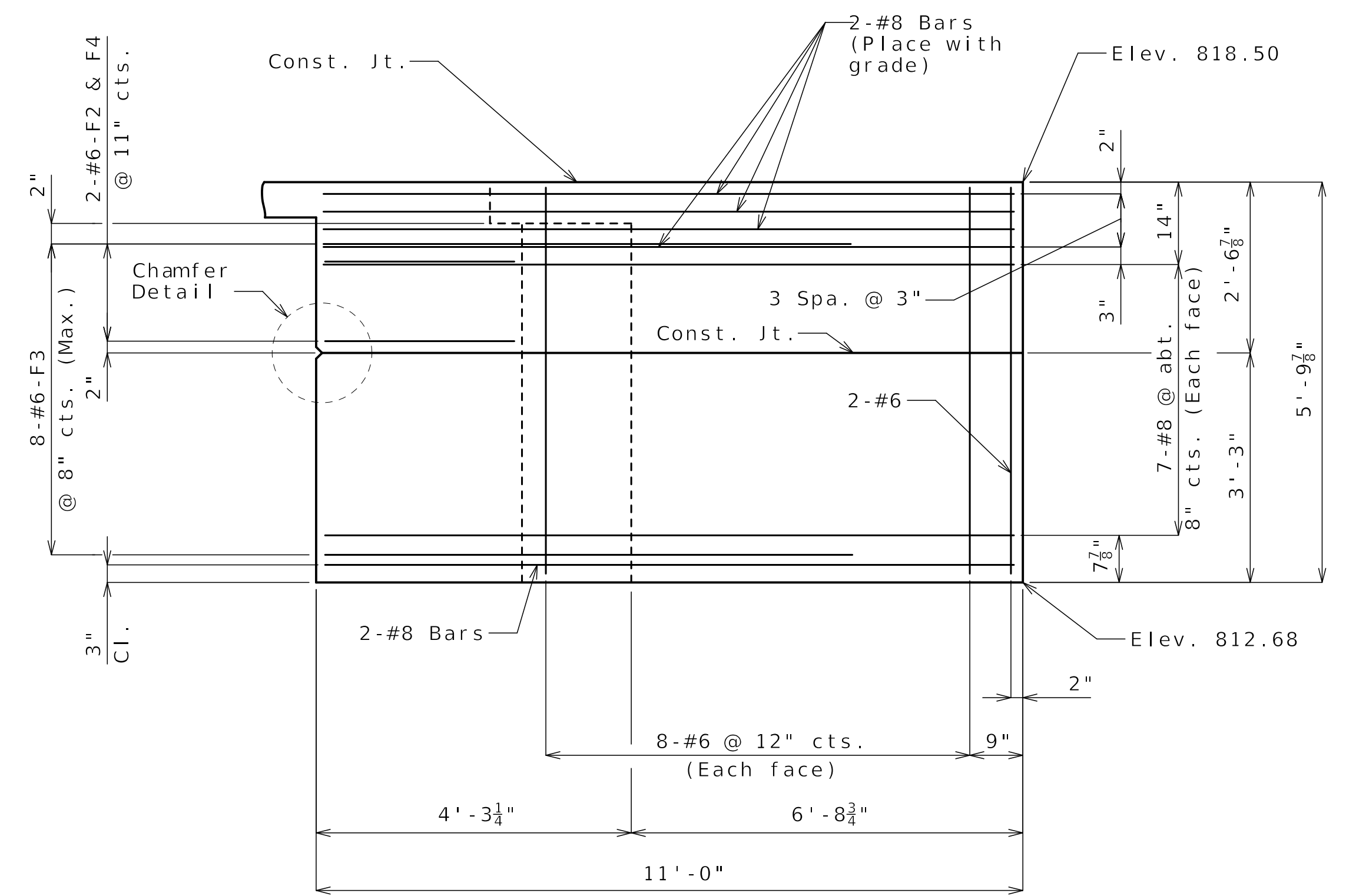
DATE 10/10/2025

DATE 10/10/2025

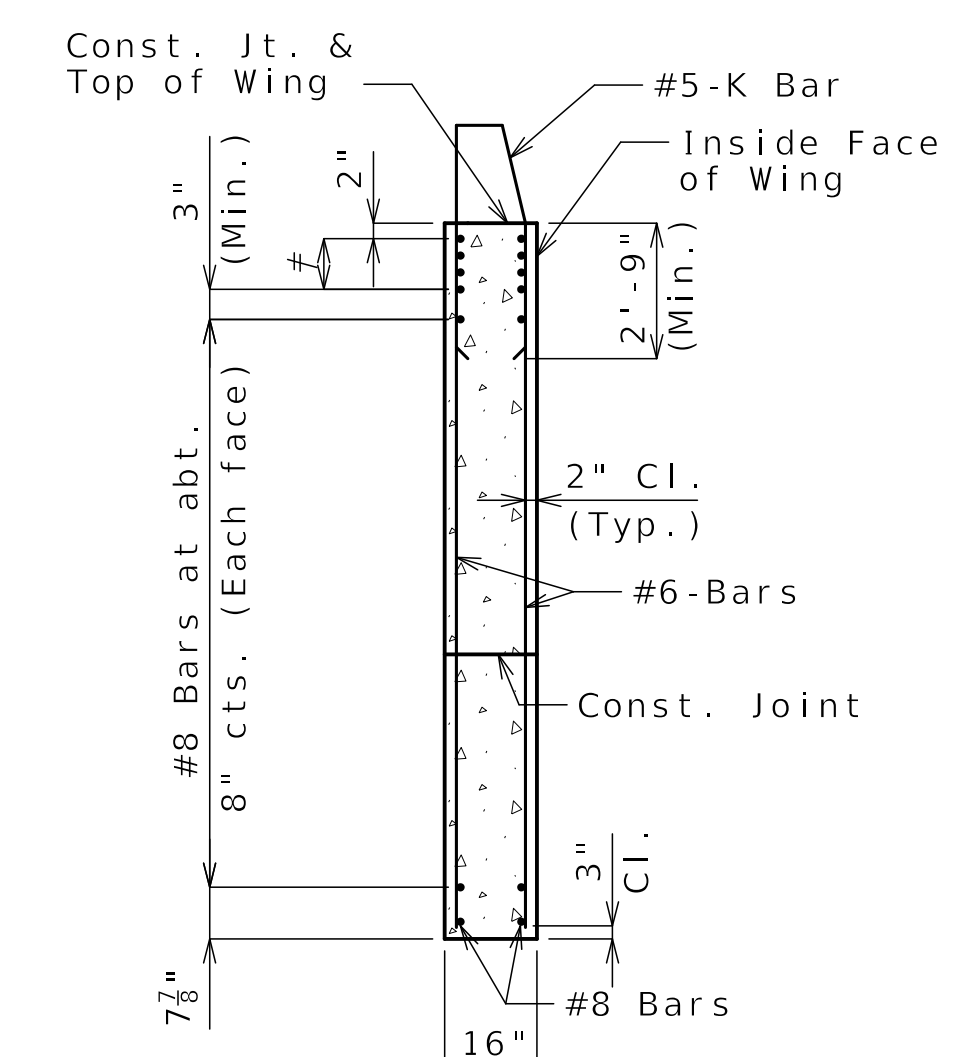
DATE 10/10/2025

DATE 10/10/2025

DATE 10/10/2025

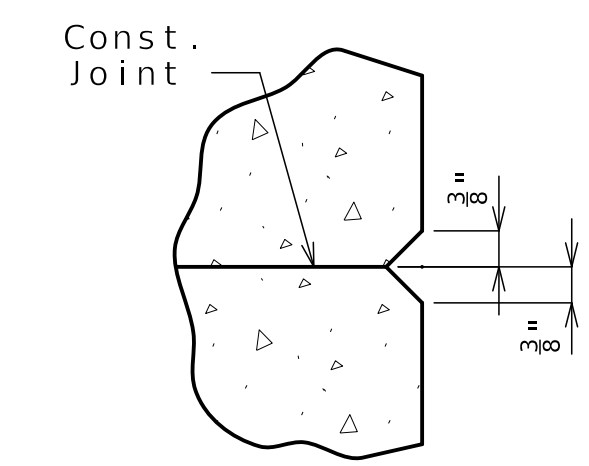


ELEVATION E-E



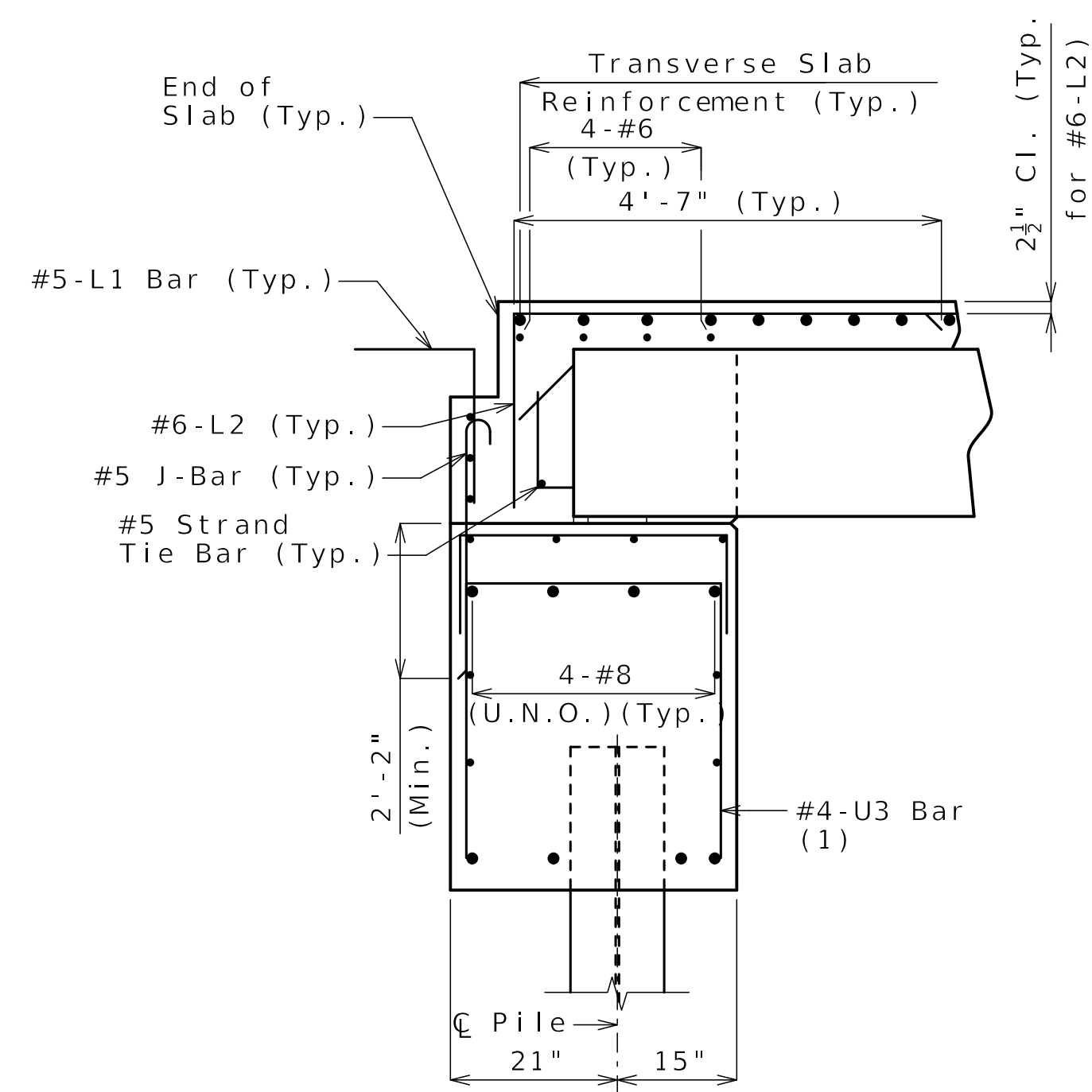
TYPICAL SECTION THRU WING

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

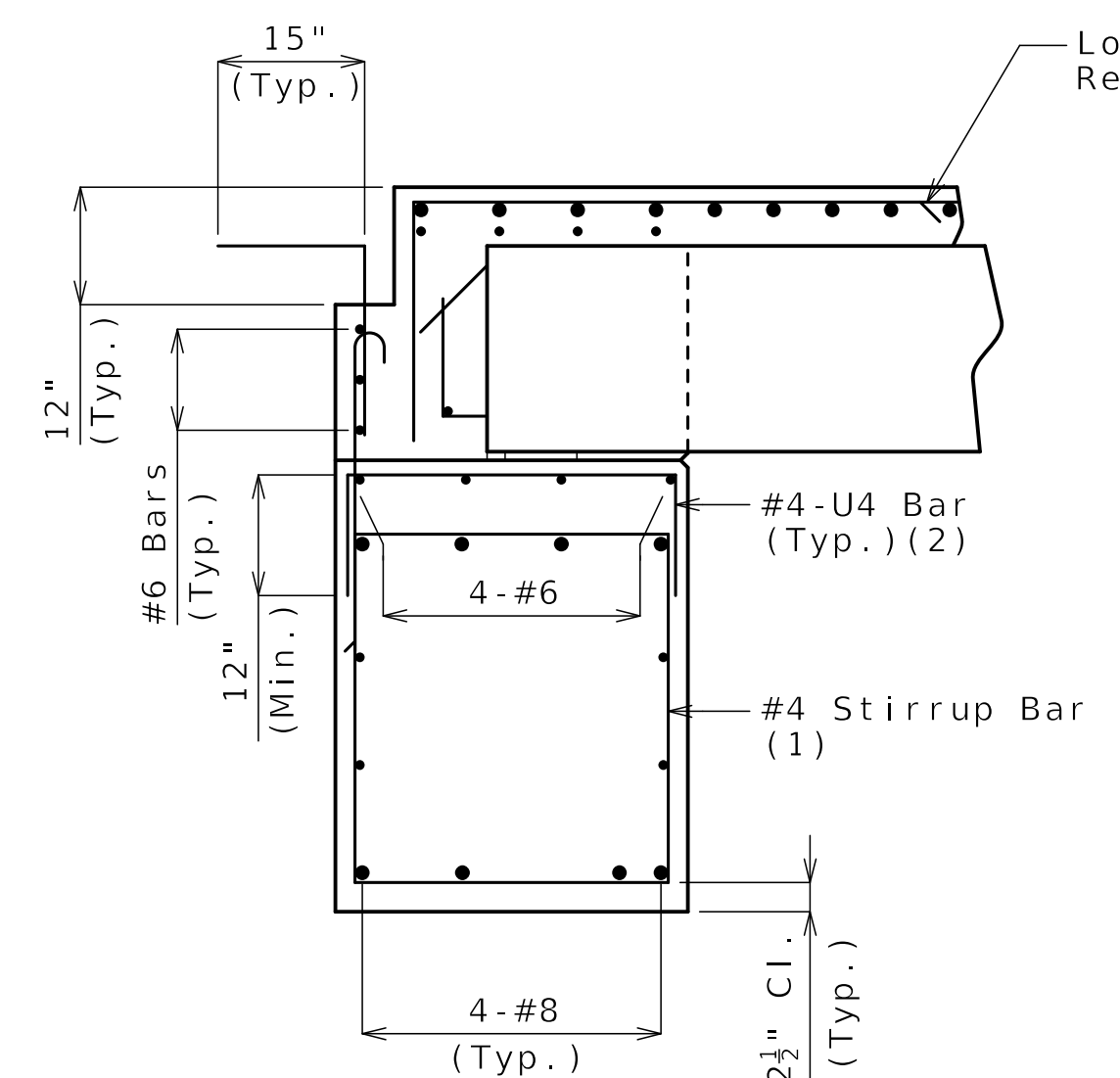


CHAMFER DETAIL

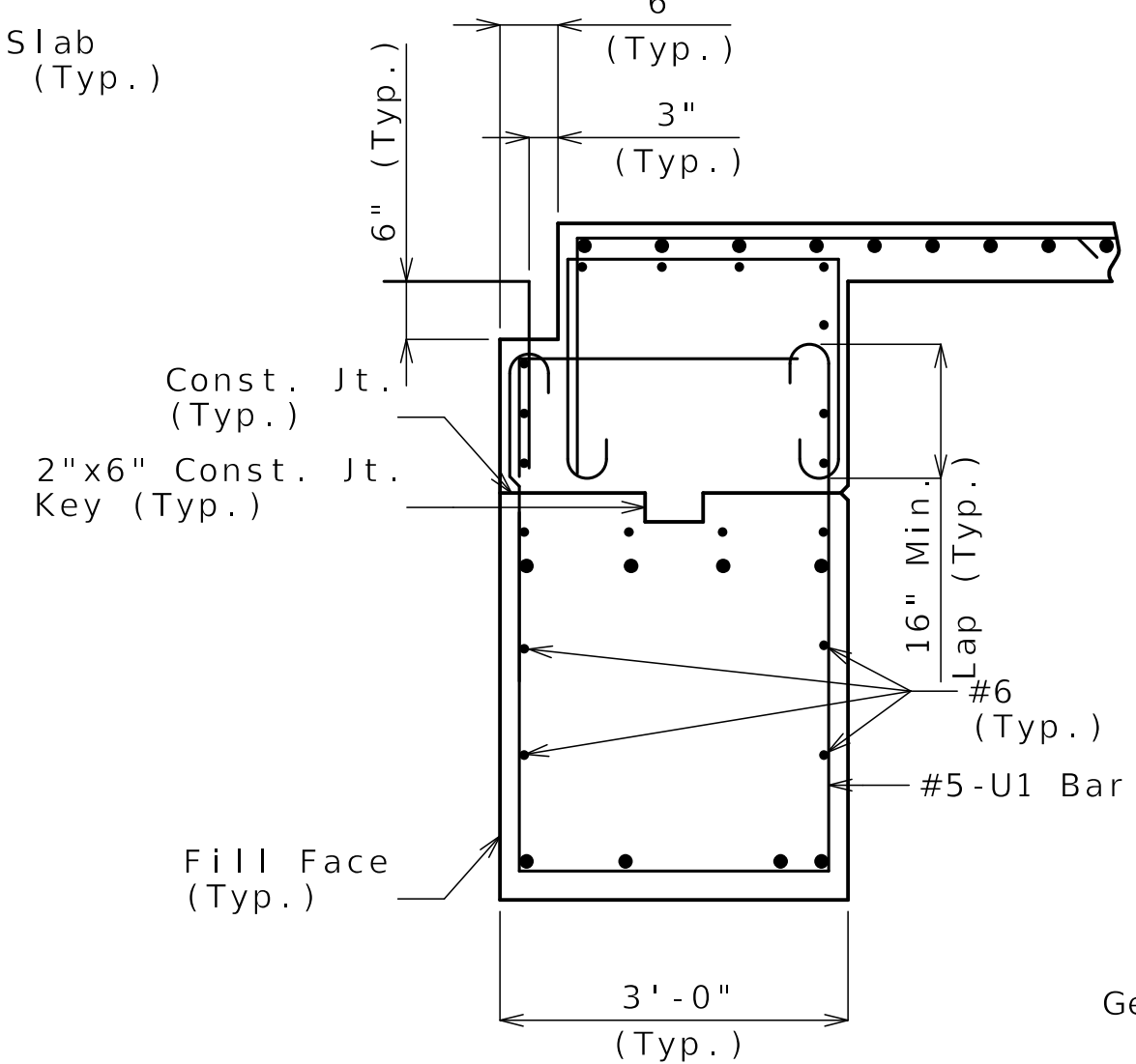
Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-22-EB70-Van Brunt



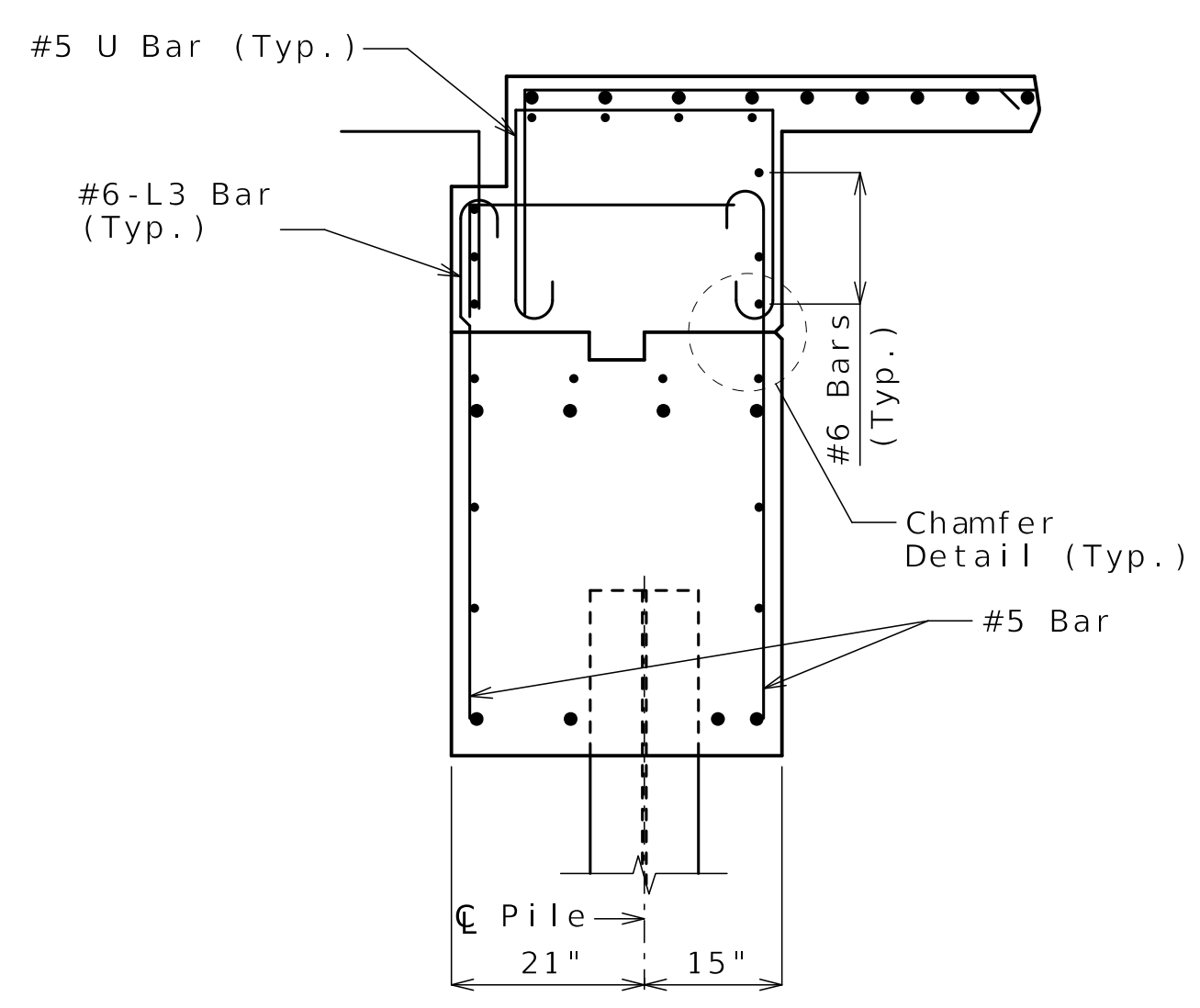
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

- (1) U3 & #4 stirrup bar vertical leg = 2'-10"
- (2) Bars shall be placed normal to ϕ Bent and parallel to beam step.

General Notes:
Work this sheet with Sheets No. B22-12 and B22-13.
For location of Sections A-A, B-B, C-C, D-D and Elevation E-E, see Sheet No. B22-13.
For reinforcement of the Type D Barrier, see Sheet No. B22-27.

DETAILS OF END BENT NO. 5

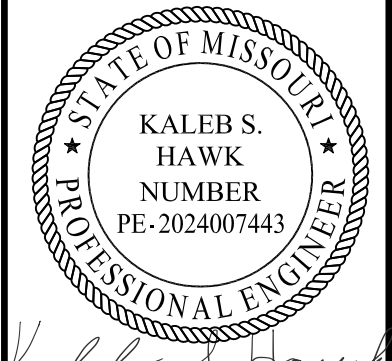
Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B22-14 of B22-39

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

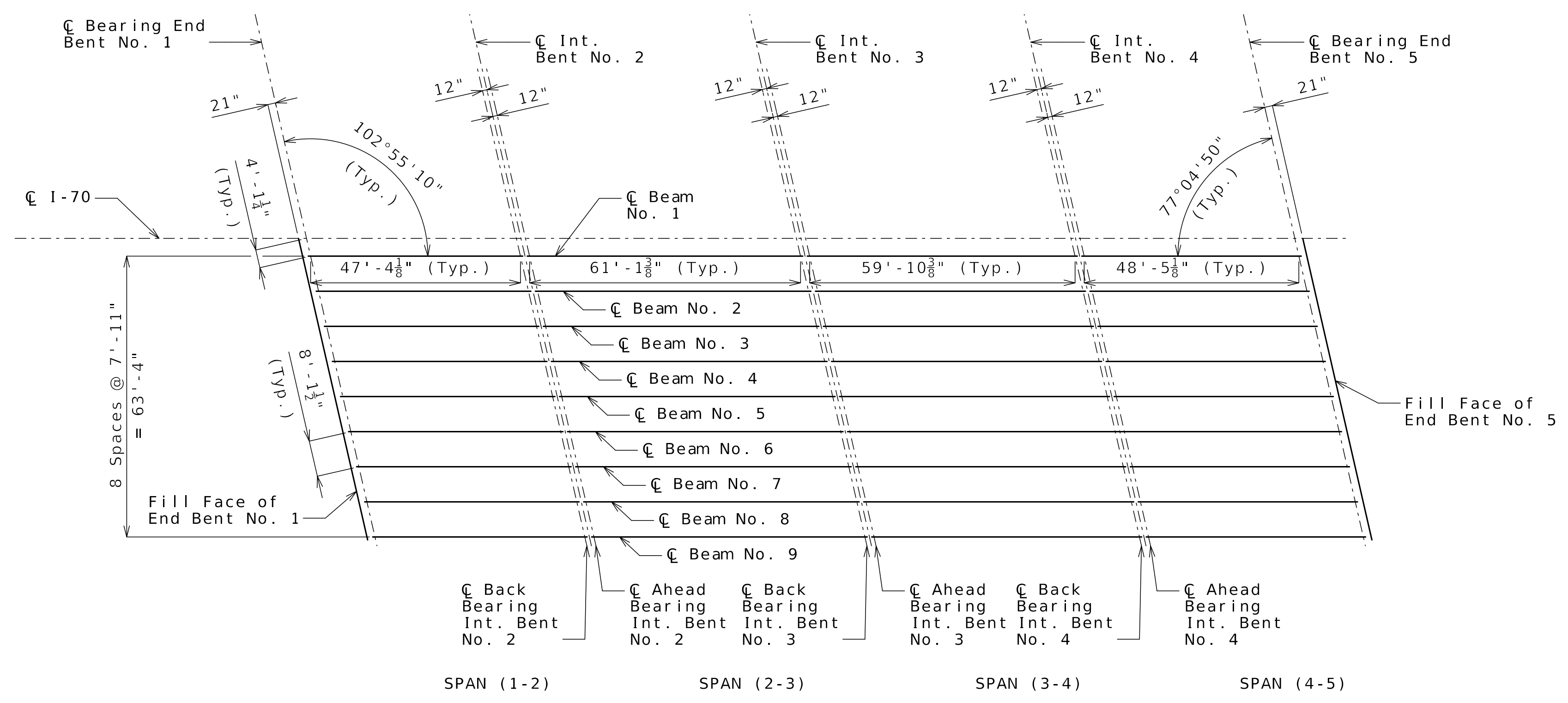
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



Kaleb S. Hawk
10-8-2025

DATE PREPARED 09/22/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B22-15
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9635



FRAMING PLAN

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-22-EB70-Van Brunt

FRAMING PLAN

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B22-15 of B22-39

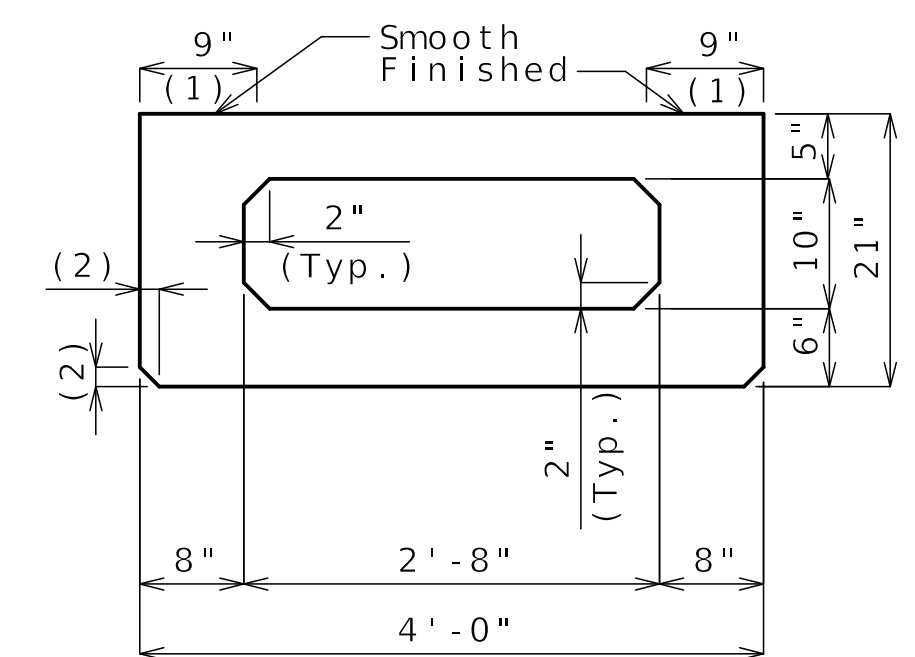
DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

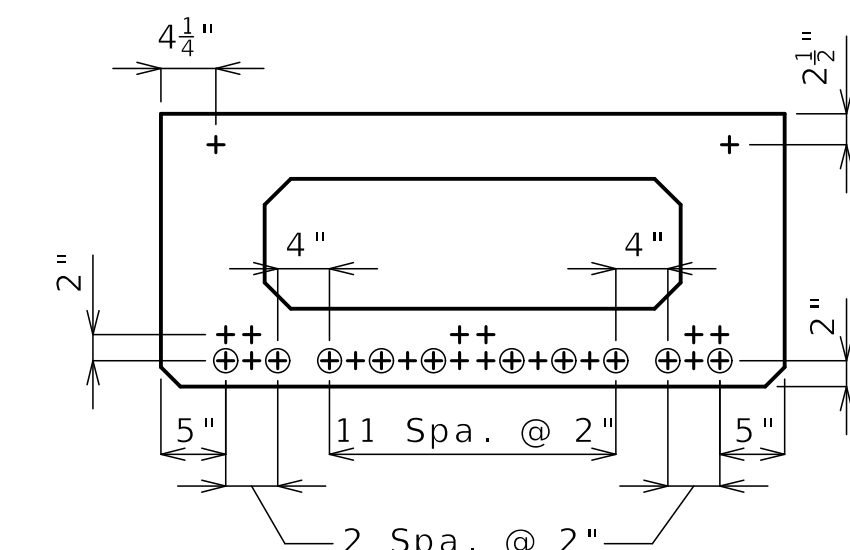
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER
JOINT VENTURE

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



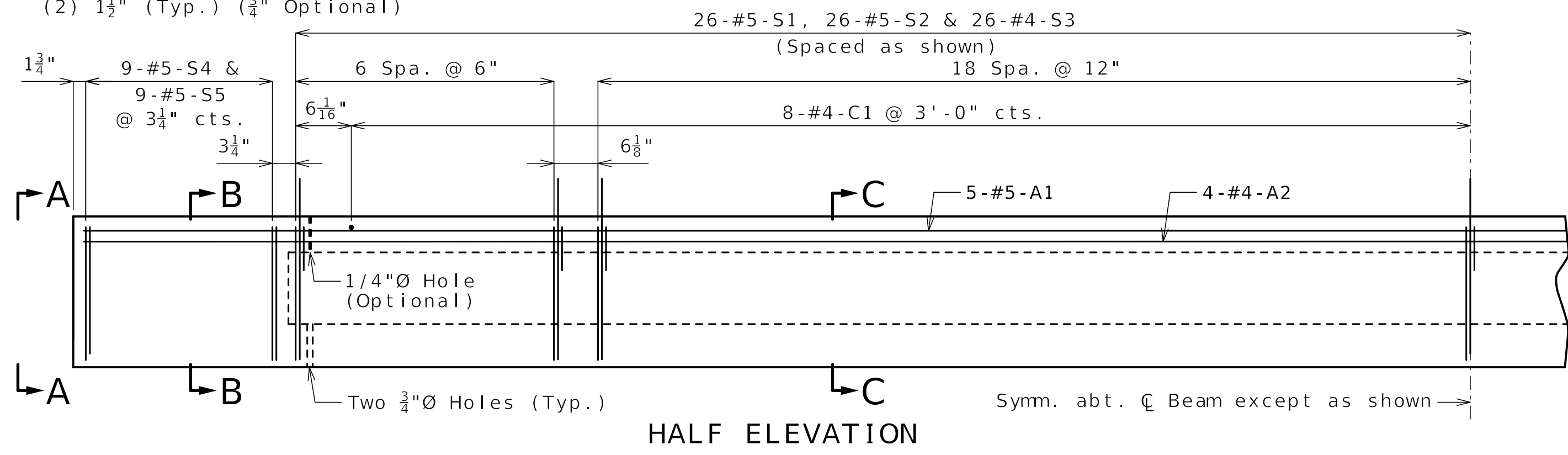
DIMENSIONS



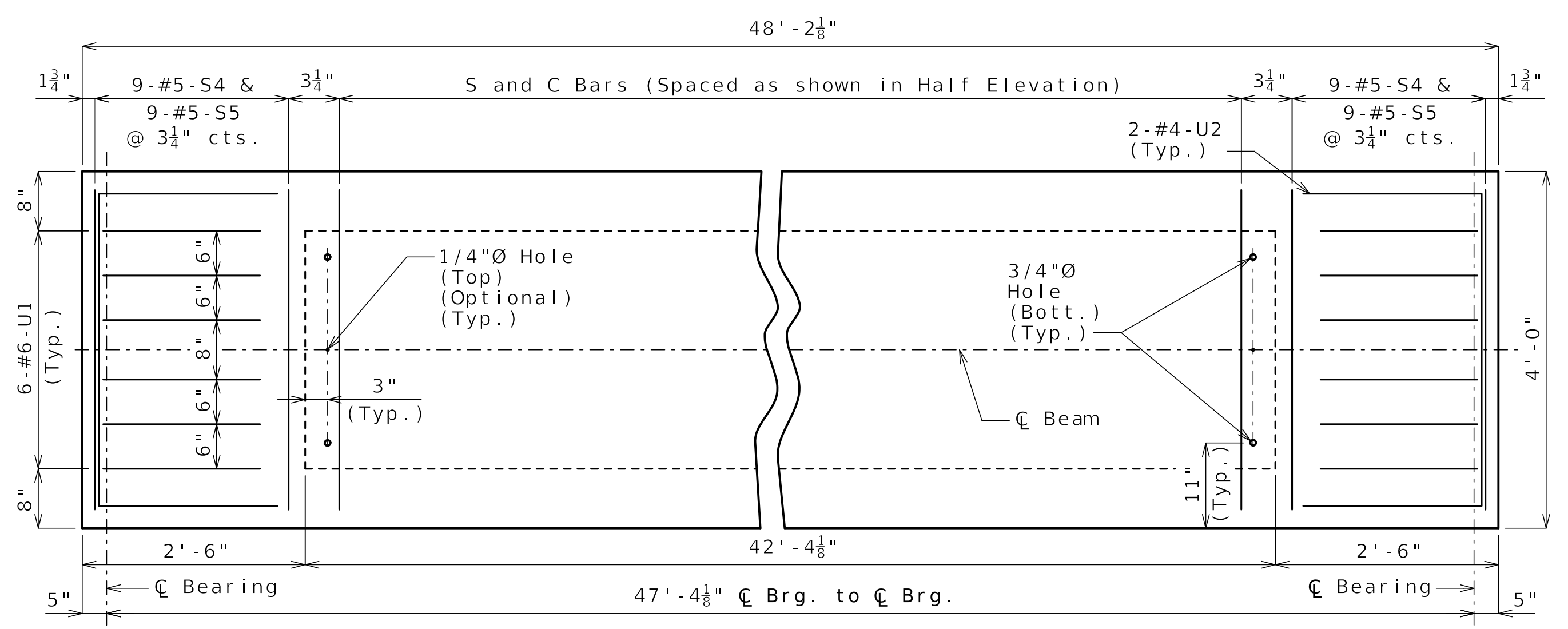
STRAND ARRANGEMENT

All strands are fully bonded unless otherwise noted.
 + Indicates prestressing strand.
 O Indicates cut and shop bend with 2'-0" projection.

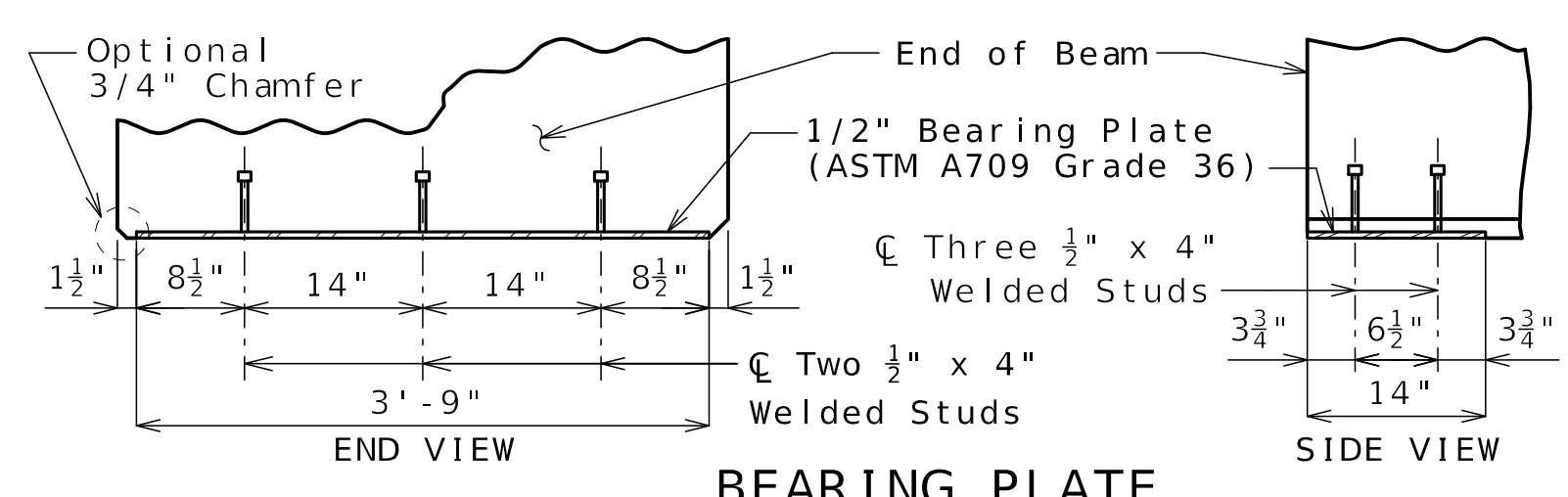
- (1) Fabricator shall apply a bond breaker to the region.
- (2) 1 1/2" (Typ.) (3/4" Optional)



HALF ELEVATION



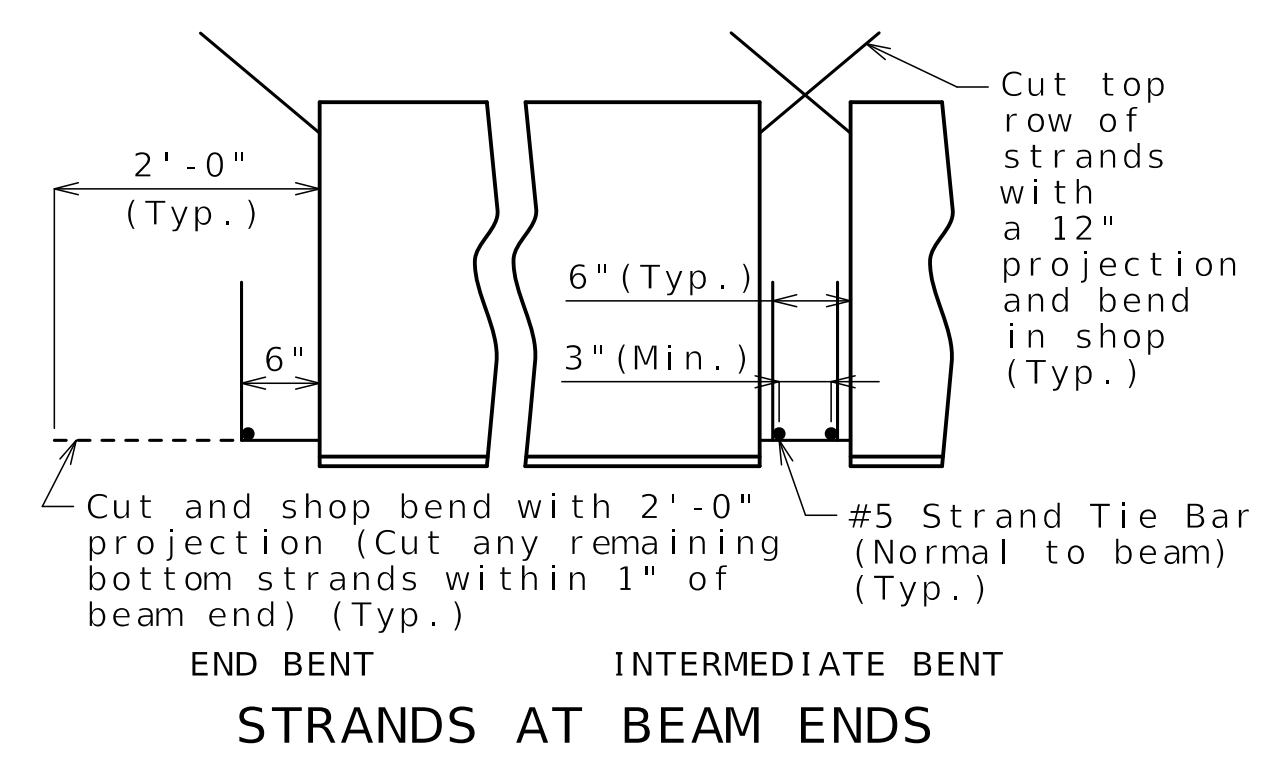
PART PLAN



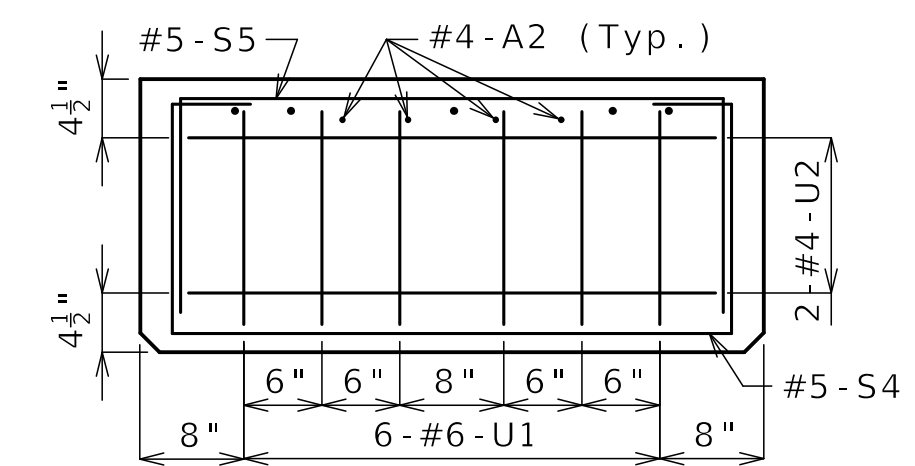
BEARING PLATE

Detailed MAY 2025
 Checked JUN 2025

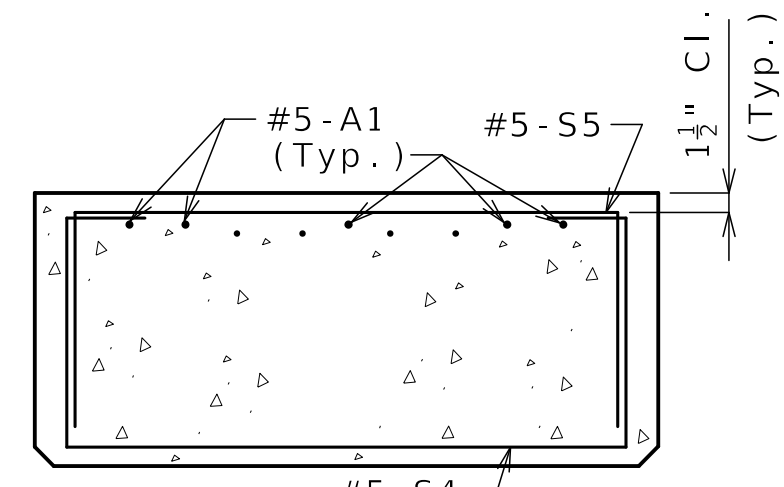
Note: This drawing is not to scale. Follow dimensions.



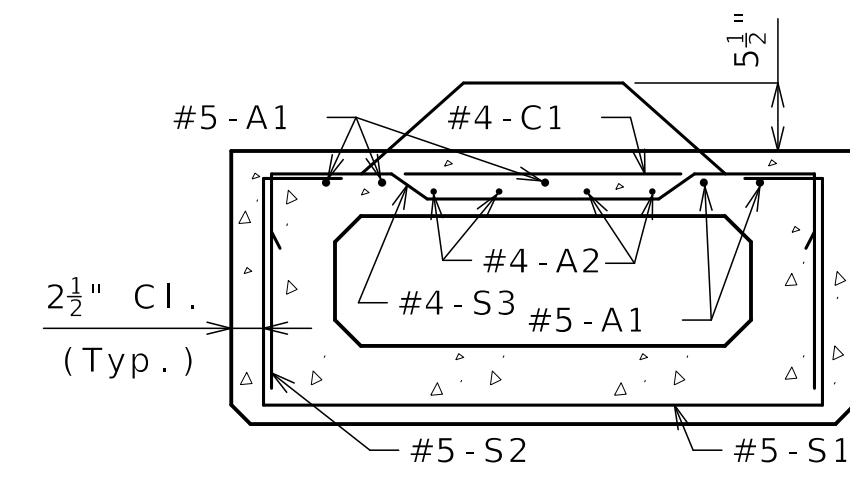
STRANDS AT BEAM ENDS



ELEVATION A-A

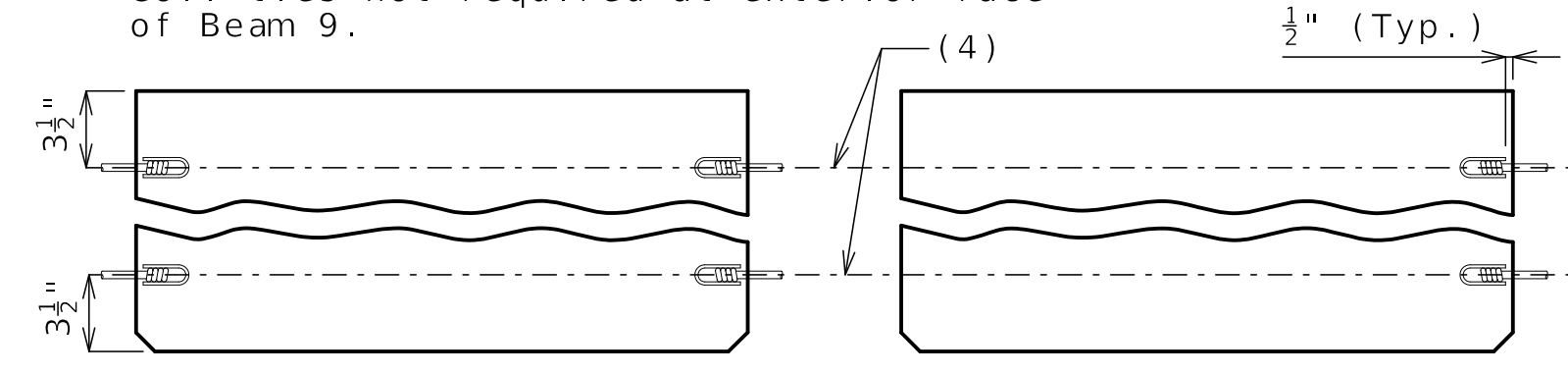


SECTION B-B



SECTION C-C

- (4) 3/4 inch (Min.) Coil Tie Rods 2'-6" Long (1'-10" at exterior face of Beam 1). Coil ties not required at exterior face of Beam 9.



COIL TIES

BILL OF REINFORCING STEEL - EACH BEAM				BENDING DIAGRAM	
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE		
5	5 A1	47'-11"	20	3'-7" 3'-5 3/4"	
4	4 A2	47'-11"	20	6" 2'-0"	
15	4 C1	3'-7"	20	18 1/2" 2'-0"	
51	5 S1	7'-3"	10S	(S1, S4) (U2)	
51	5 S2	6'-9"	51S	21" 3'-7"	
51	4 S3	4'-6"	50S	17 3/4" 17 3/4"	
18	5 S4	7'-3"	10S	(U1) (S5)	
18	5 S5	6'-4"	10S	SHAPE 10S	
				SHAPE 20	
12	6 U1	4'-7"	10S	10" 2 1/4" 18" 2 1/4"	
4	4 U2	7'-4"	10S	SHAPE 50S	
				SHAPE 51S	

All dimensions are out to out. Use symmetry for dimensions not shown.

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

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

Minimum clearance to reinforcing shall be one inch, unless otherwise shown.

All reinforcement shall be Grade 60.
 All S2 bars shall be epoxy coated.

General Notes:

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

Use 26 strands, 0.6 inch Grade 270, with an initial prestress force of 1142 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

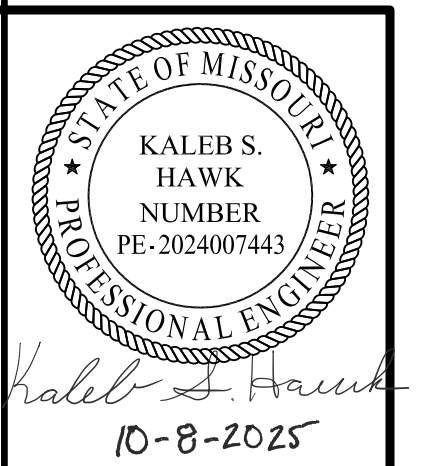
Exterior and interior beams are the same except: coil ties, coil inserts for slab drains.

For Beam Camber Diagram, see Sheet No. B22-22.

For location of coil inserts at slab drains, see Sheet No. B22-21.

For location of coil ties at end bents and concrete bent diaphragms, see Sheets No. B22-06 and B22-20.

All dimensions are horizontal.



DATE PREPARED 09/22/2025	
ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B22-16
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO. A9635

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

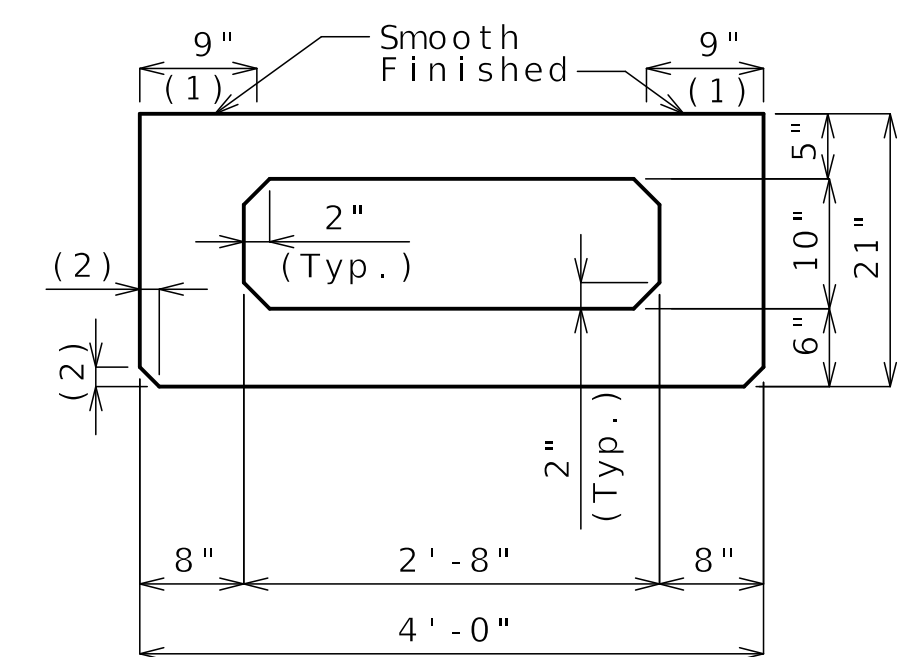
105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE

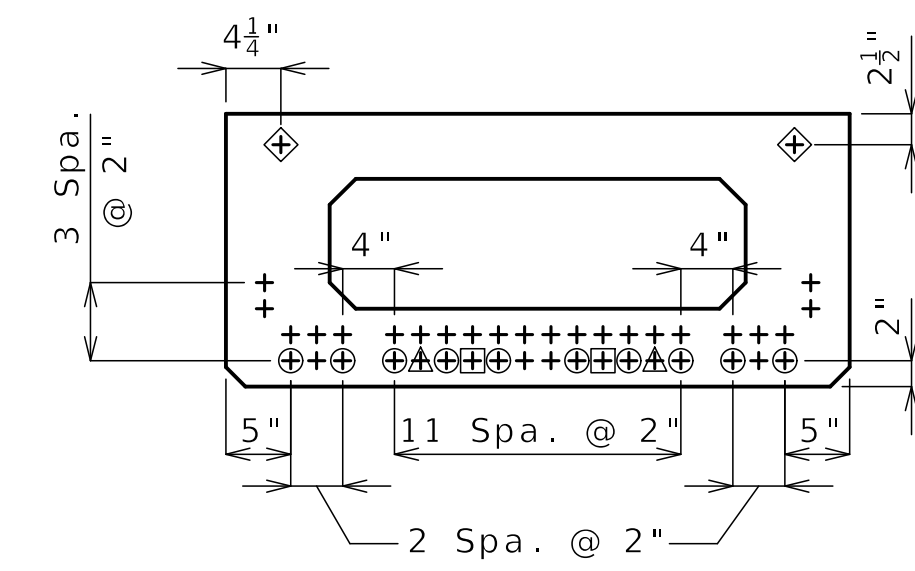
715 KIRK DRIVE
 KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY
 NO. 001270

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-22-EB70-Van Brunt

SPREAD BOX BEAMS - SPAN (1-2)



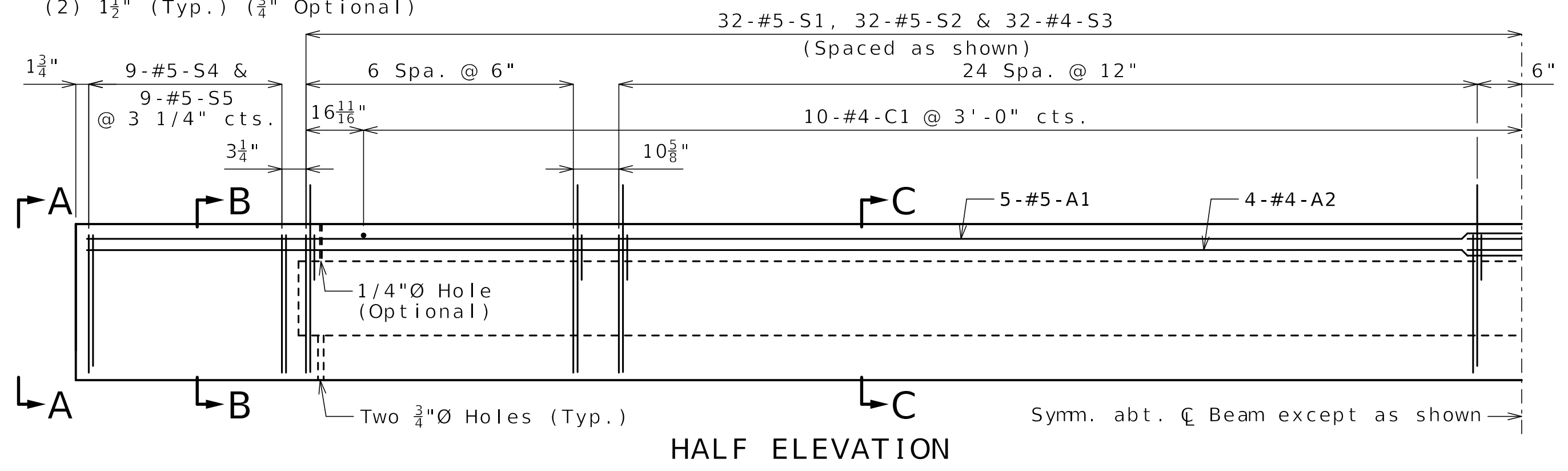
DIMENSIONS



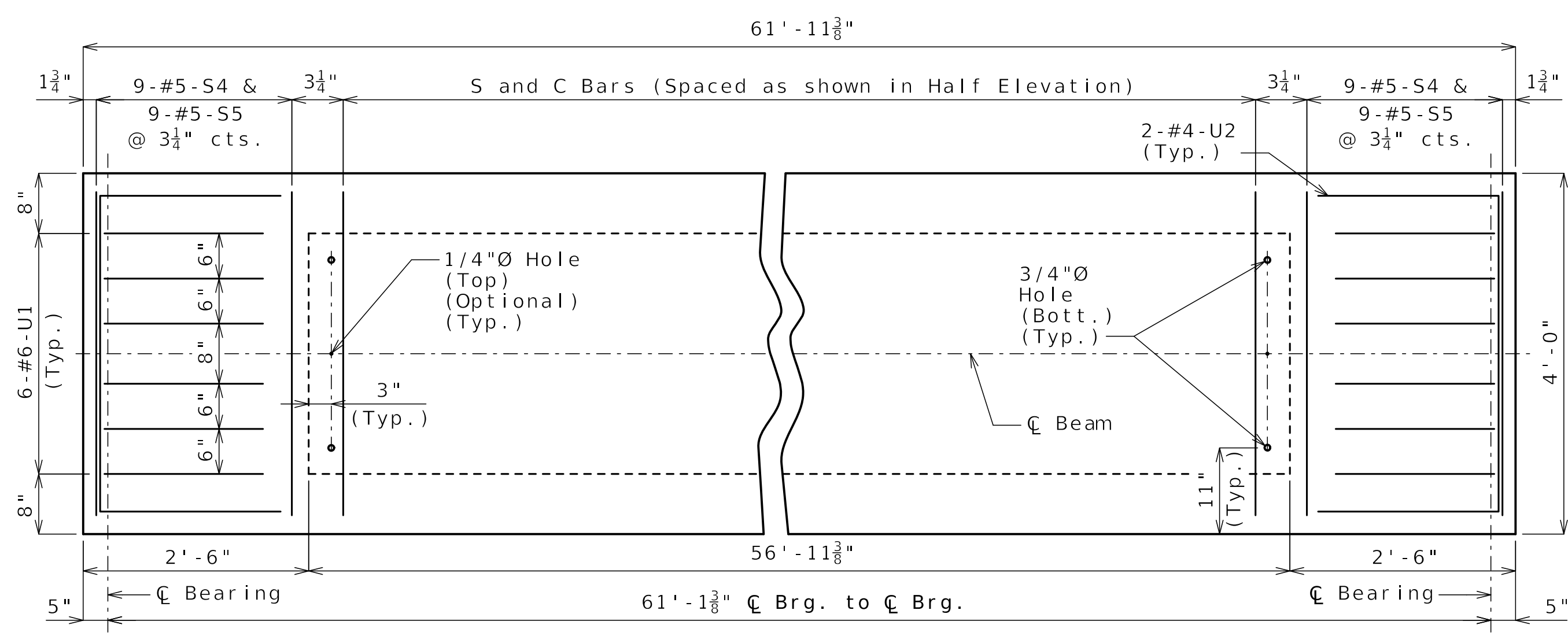
STRAND ARRANGEMENT

All strands are fully bonded unless otherwise noted.
 + Indicates prestressing strand.
 O Indicates cut and shop bend with 2'-0" projection.
 Δ Indicates debonded for 3'-0" from end of beam.
 □ Indicates debonded for 6'-0" from end of beam.
 ◇ Indicates debonded for 20'-0" at centerline of beam.

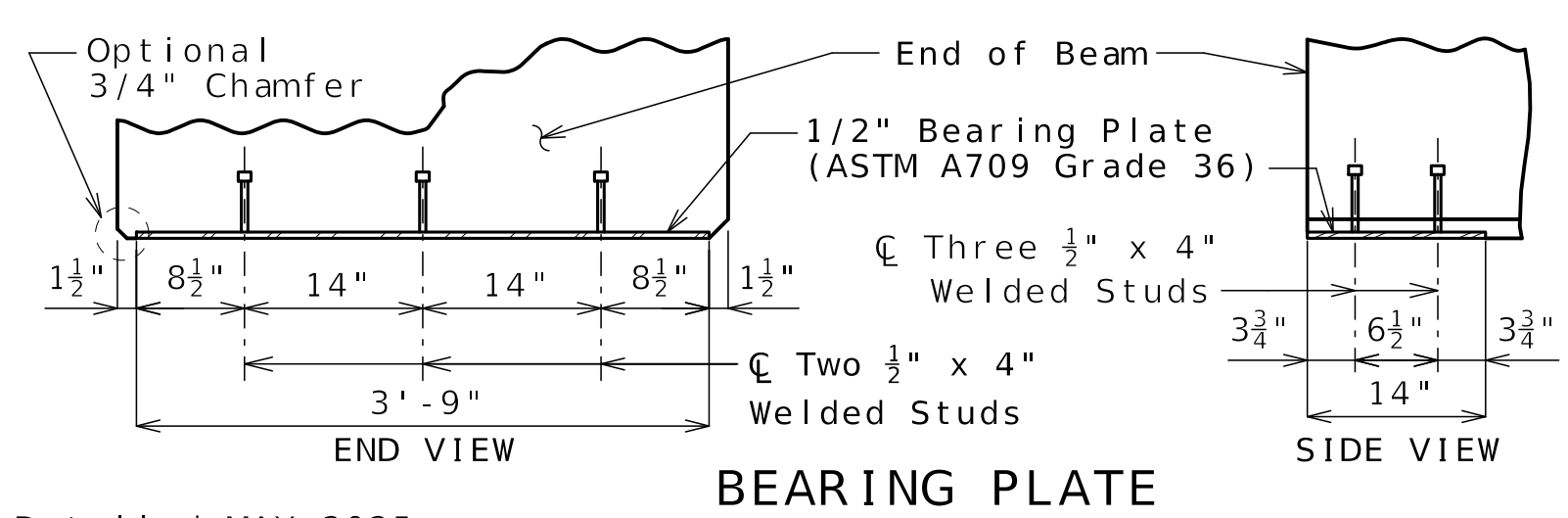
- (1) Fabricator shall apply a bond breaker to the region.
- (2) 1 1/2" (Typ.) (3/4" Optional)



HALF ELEVATION



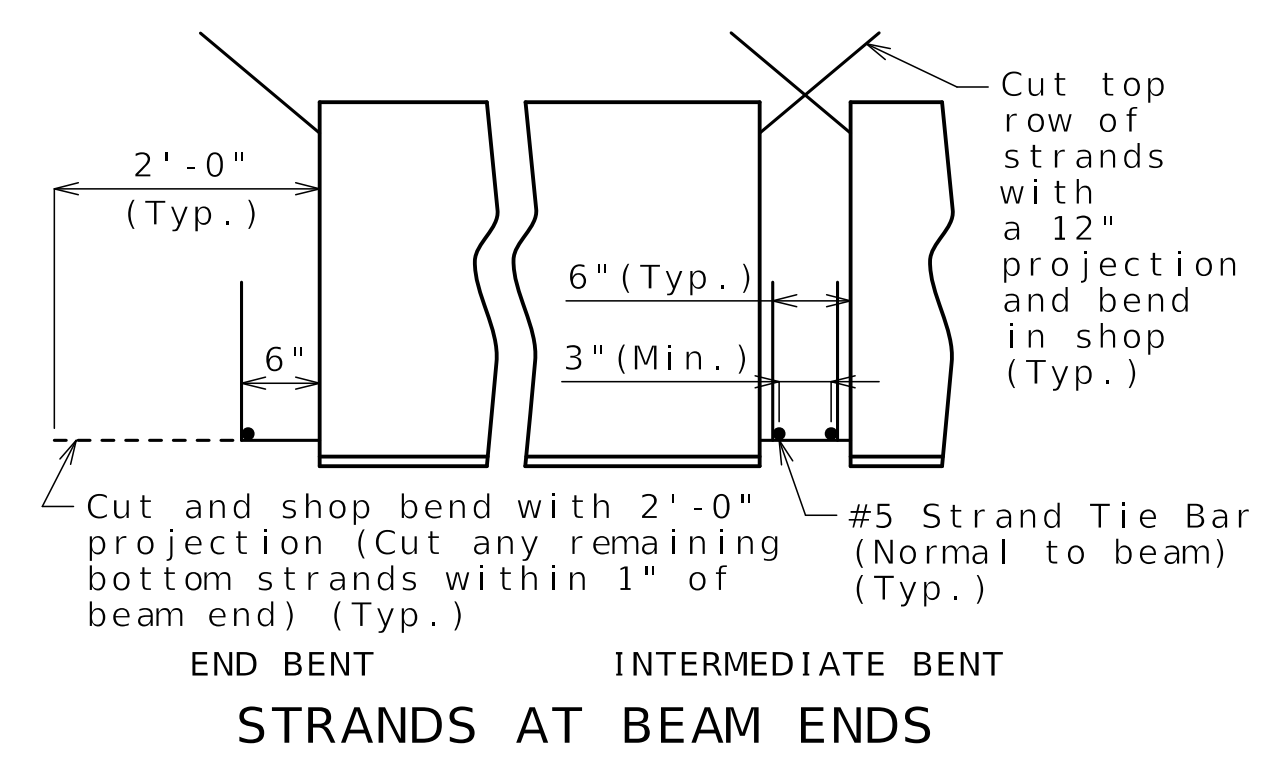
PART PLAN



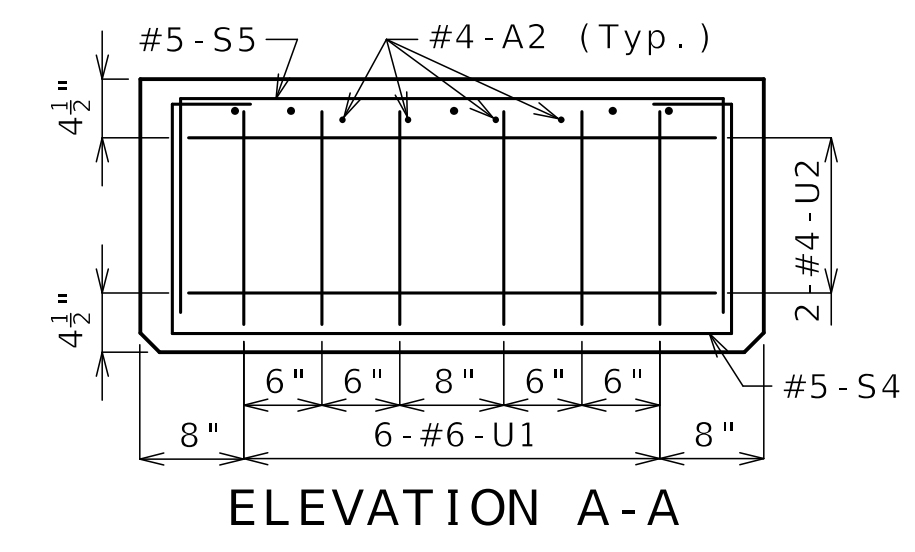
BEARING PLATE

Detailed MAY 2025
 Checked JUN 2025

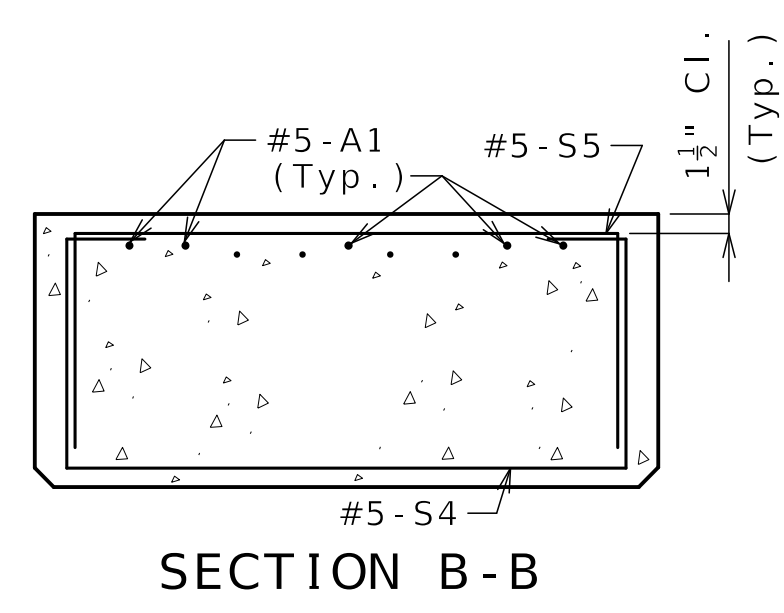
Note: This drawing is not to scale. Follow dimensions.



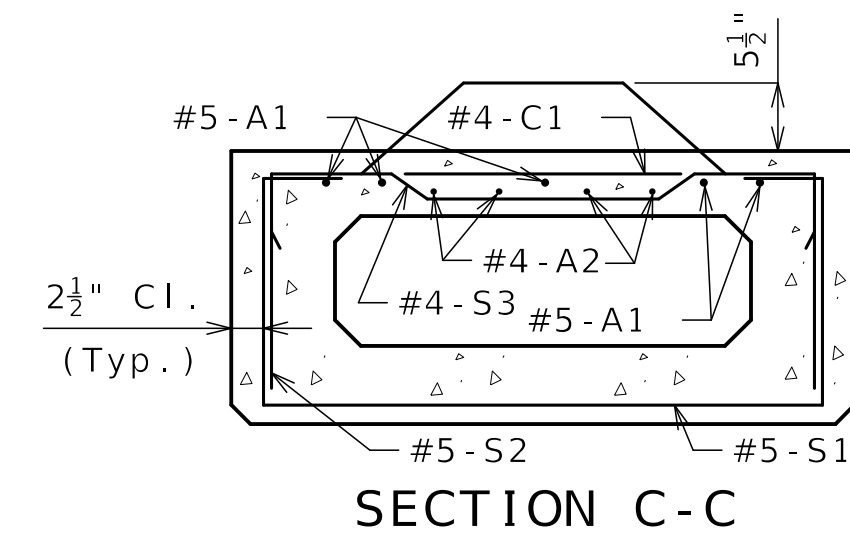
STRANDS AT BEAM ENDS



ELEVATION A-A

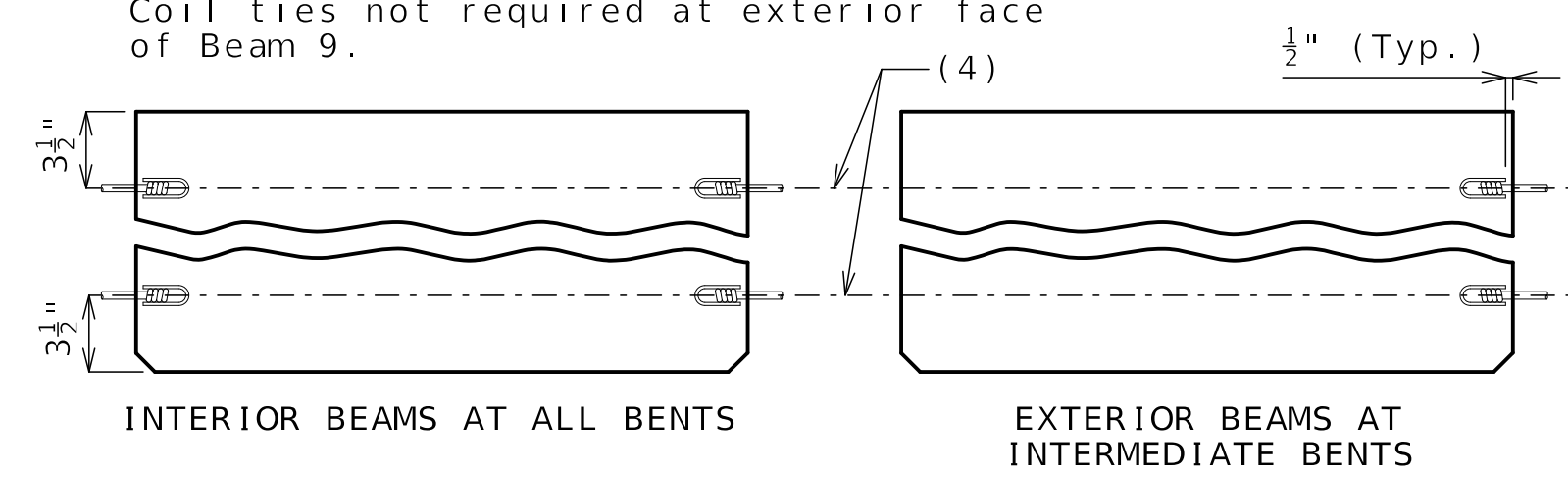


SECTION B-B



SECTION C-C

- (4) 3/4" (Min.) Coil Tie Rods 2'-6" Long (1'-10" at exterior face of Beam 1). Coil ties not required at exterior face of Beam 9.



COIL TIES

BILL OF REINFORCING STEEL - EACH BEAM				BENDING DIAGRAM	
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE		
10	5 A1	32'-10"	20		
8	4 A2	32'-4"	20		
19	4 C1	3'-7"	20		
64	5 S1	7'-3"	10S		
64	5 S2	6'-9"	51S		
64	4 S3	4'-6"	50S		
18	5 S4	7'-3"	10S		
18	5 S5	6'-4"	10S		
12	6 U1	4'-7"	10S		
4	4 U2	7'-4"	10S		

All dimensions are out to out. Use symmetry for dimensions not shown.

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

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

Minimum clearance to reinforcing shall be one inch, unless otherwise shown.

All reinforcement shall be Grade 60.
 All S2 bars shall be epoxy coated.

General Notes:

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

Use 42 strands, 0.6"Ø Grade 270, with an initial prestress force of 1846 kips.

Pretensioned members shall be in accordance with Sec 1029.

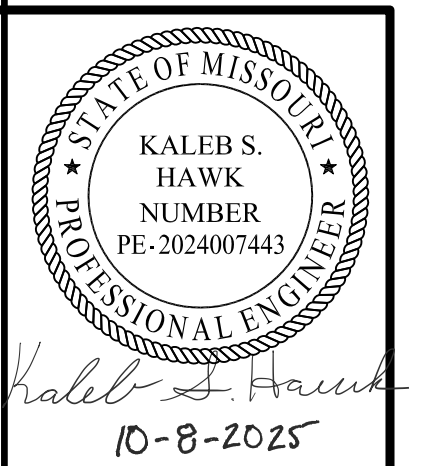
Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior beams are the same except: coil ties, coil inserts for slab drains.

For Beam Camber Diagram, see Sheet No. B22-22.

For location of coil ties at concrete bent diaphragms, see Sheet No. B22-20.

All dimensions are horizontal.



DATE PREPARED 09/22/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B22-17
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9635	

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

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

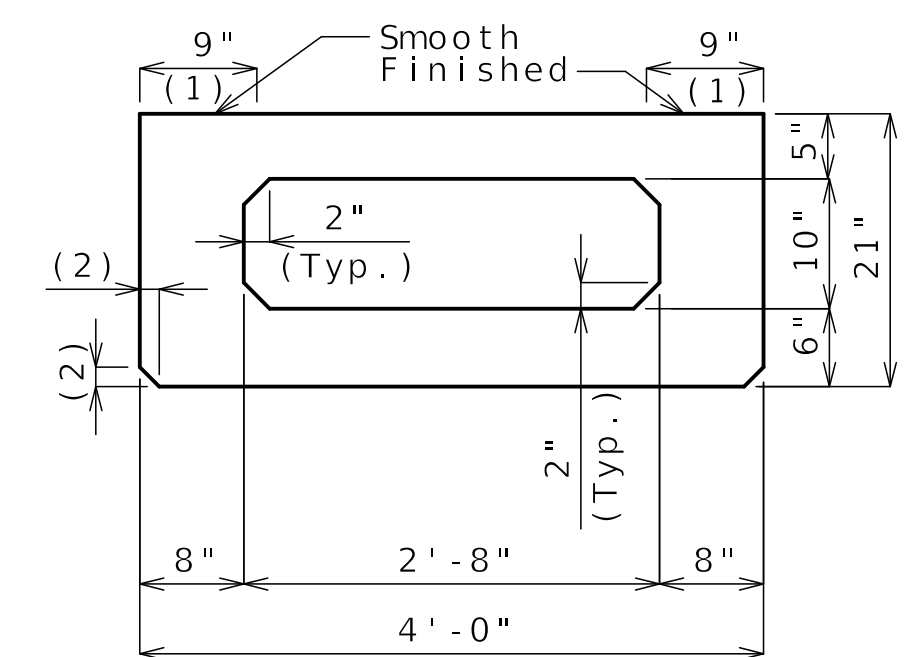
CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270

HNTB

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-22-EB70-Van Brunt

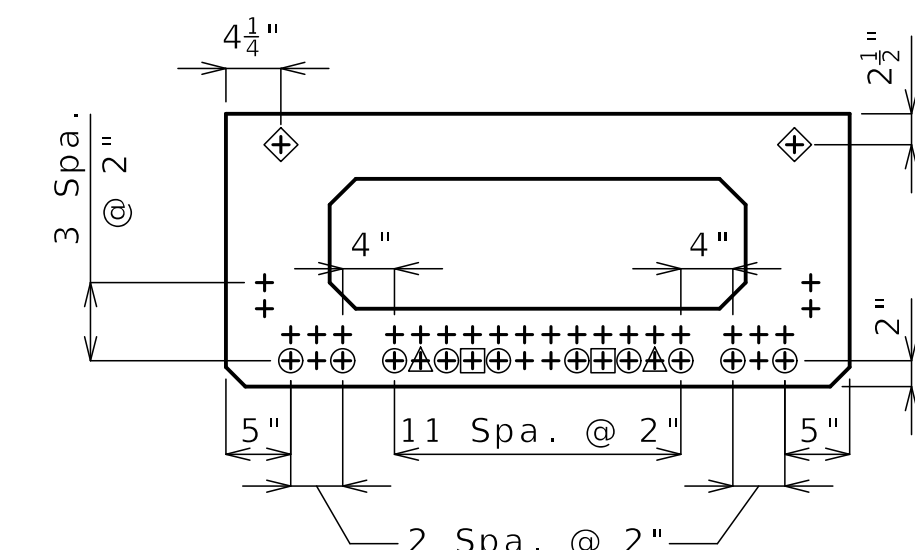
SPREAD BOX BEAMS - SPAN (2-3)

Sheet No. B22-17 of B22-39



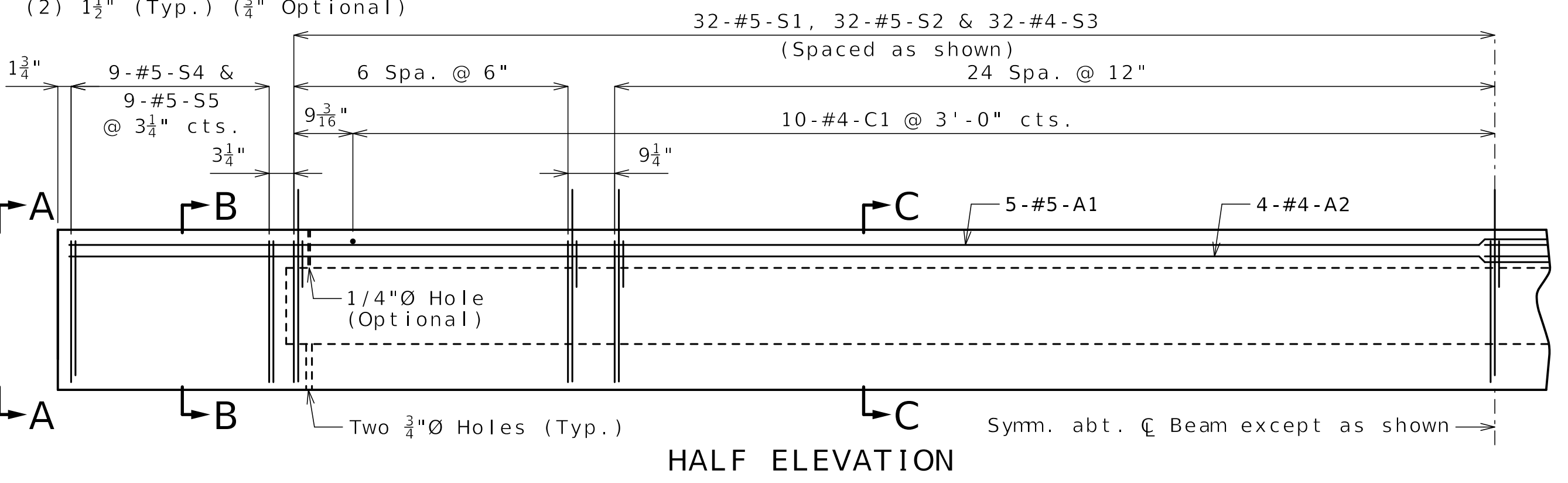
DIMENSIONS

- (1) Fabricator shall apply a bond breaker to the region.
- (2) 1 1/2" (Typ.) (3/4" Optional)

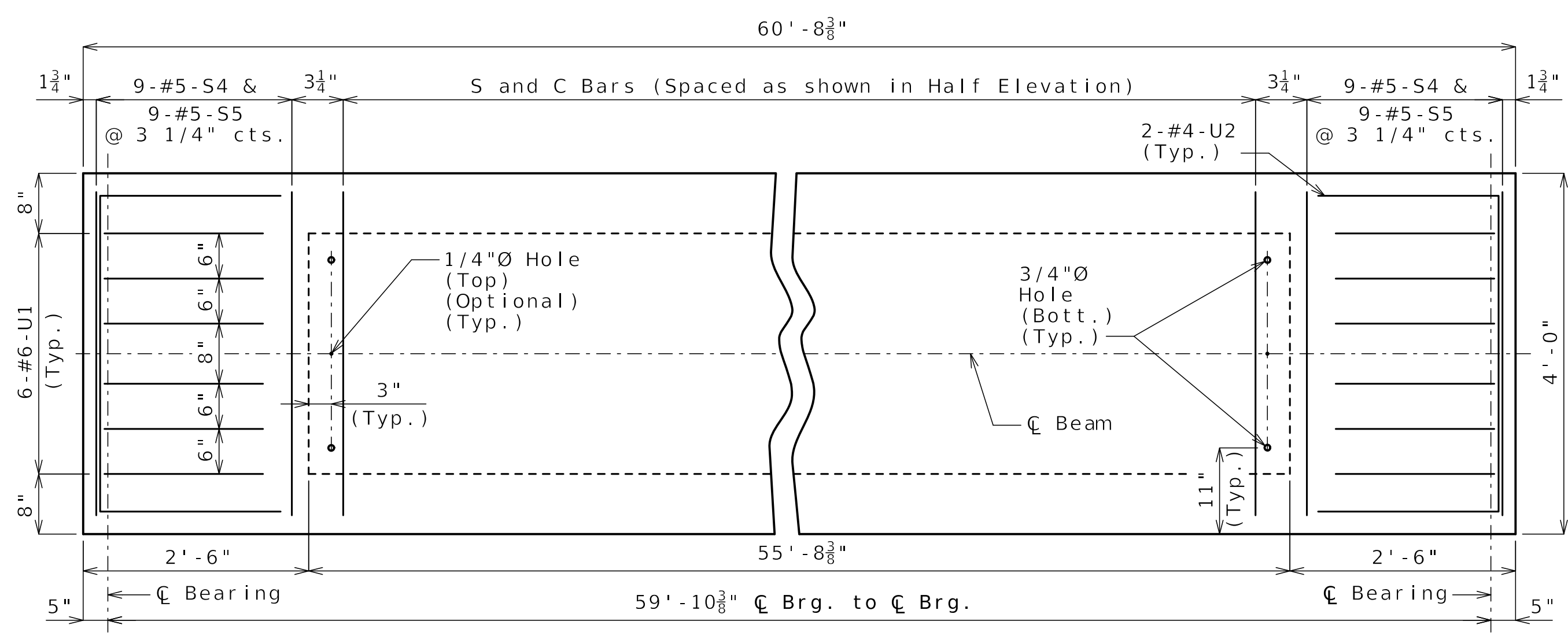


STRAND ARRANGEMENT

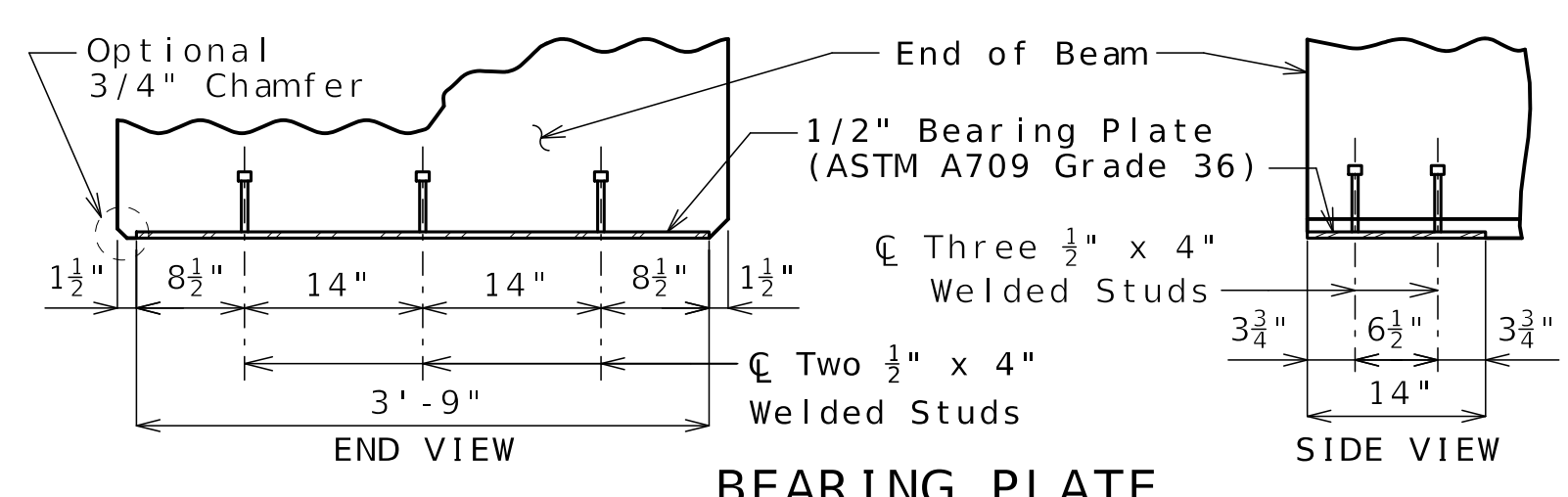
- All strands are fully bonded unless otherwise noted.
- + Indicates prestressing strand.
 - Indicates cut and shop bend with 2'-0" projection.
 - △ Indicates debonded for 3'-0" from end of beam.
 - Indicates debonded for 6'-0" from end of beam.
 - ◇ Indicates debonded for 20'-0" at centerline of beam.



HALF ELEVATION

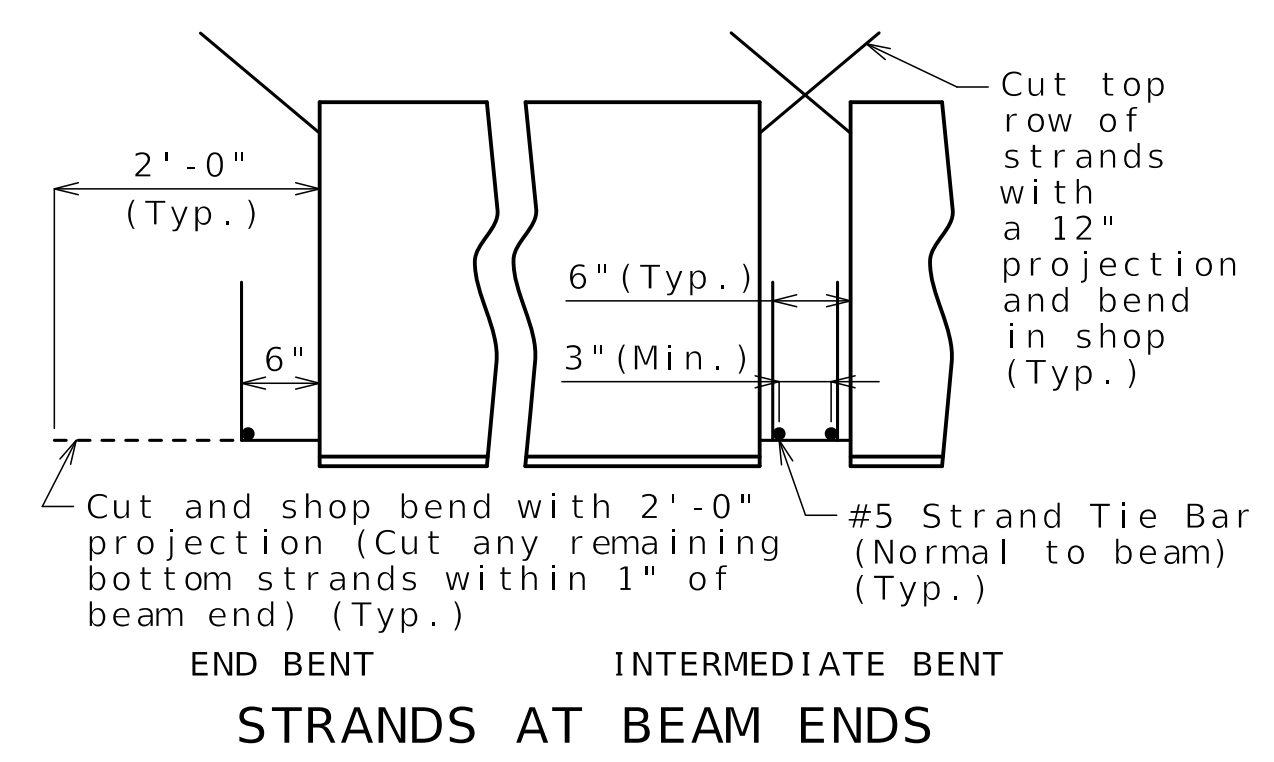


PART PLAN

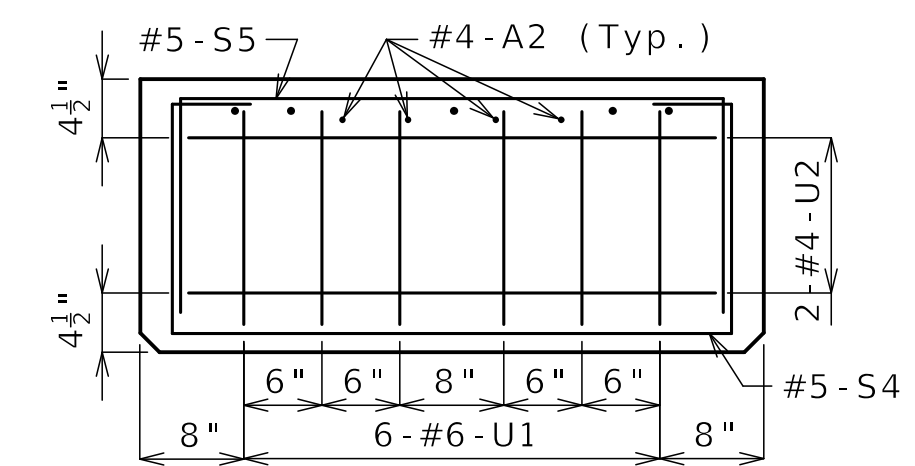


BEARING PLATE

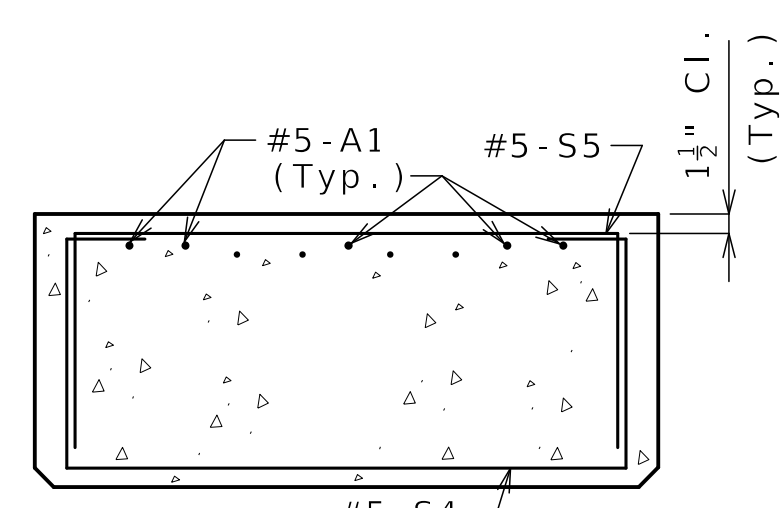
Note: This drawing is not to scale. Follow dimensions.



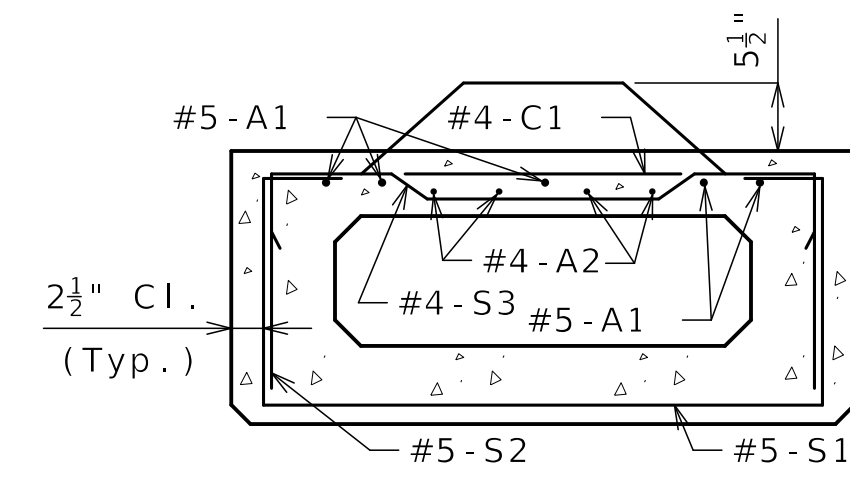
STRANDS AT BEAM ENDS



ELEVATION A-A

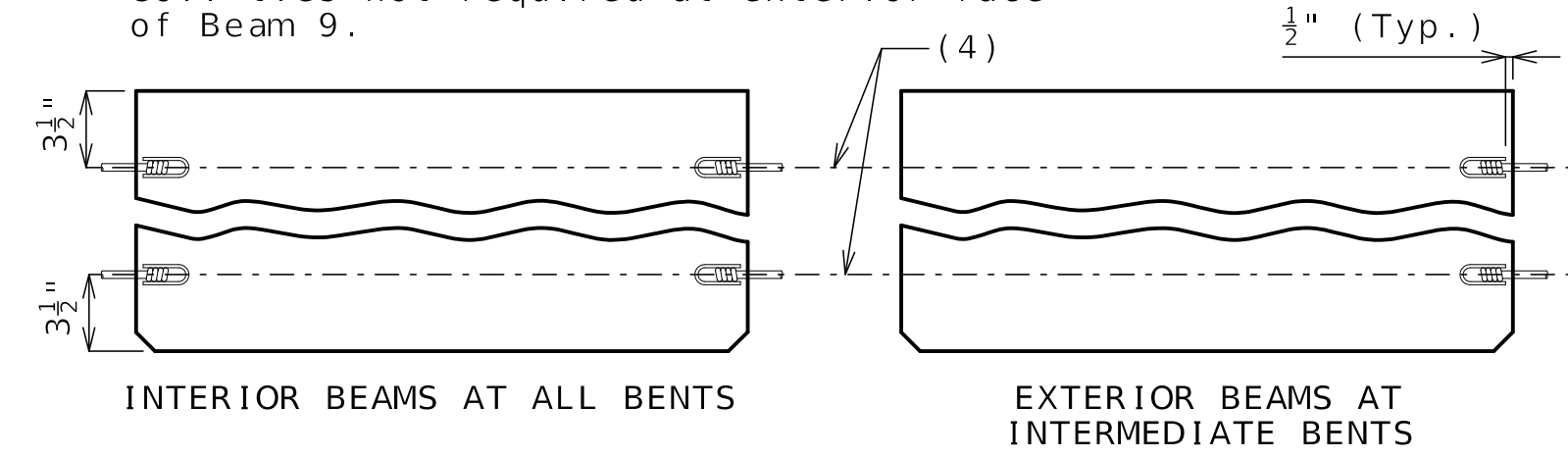


SECTION B-B



SECTION C-C

- (4) 3/4" (Min.) Coil Tie Rods 2'-6" Long (1'-10" at exterior face of Beam 1). Coil ties not required at exterior face of Beam 9.



COIL TIES

BILL OF REINFORCING STEEL - EACH BEAM				BENDING DIAGRAM	
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE		
10	5 A1	32'-3"	20		
8	4 A2	31'-10"	20		
19	4 C1	3'-7"	20		
63	5 S1	7'-3"	10S		
63	5 S2	6'-9"	51S		
63	4 S3	4'-6"	50S		
18	5 S4	7'-3"	10S		
18	5 S5	6'-4"	10S		
12	6 U1	4'-7"	10S		
4	4 U2	7'-4"	10S		

All dimensions are out to out. Use symmetry for dimensions not shown.

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

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

Minimum clearance to reinforcing shall be one inch, unless otherwise shown.

All reinforcement shall be Grade 60. All S2 bars shall be epoxy coated.

General Notes:

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

Use 42 strands, 0.6" Grade 270, with an initial prestress force of 1846 kips.

Pretensioned members shall be in accordance with Sec 1029.

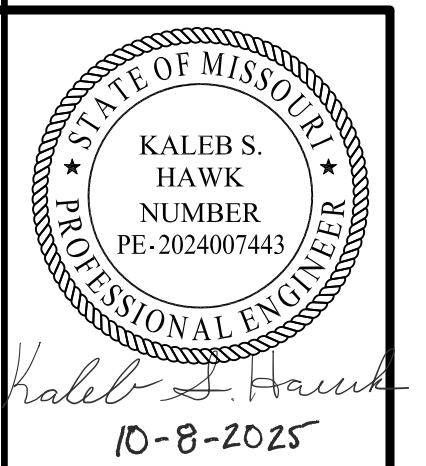
Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior beams are the same except: coil ties, coil inserts for slab drains.

For Beam Camber Diagram, see Sheet No. B22-22.

For location of coil ties at concrete bent diaphragms, see Sheet No. B22-20.

All dimensions are horizontal.



DATE PREPARED
09/22/2025
ROUTE 1-70 STATE MO
DISTRICT BR SHEET NO. B22-18
COUNTY JACKSON
JOB NO. J411486D
CONTRACT ID. 240807-C01
PROJECT NO.

BRIDGE NO. A9635

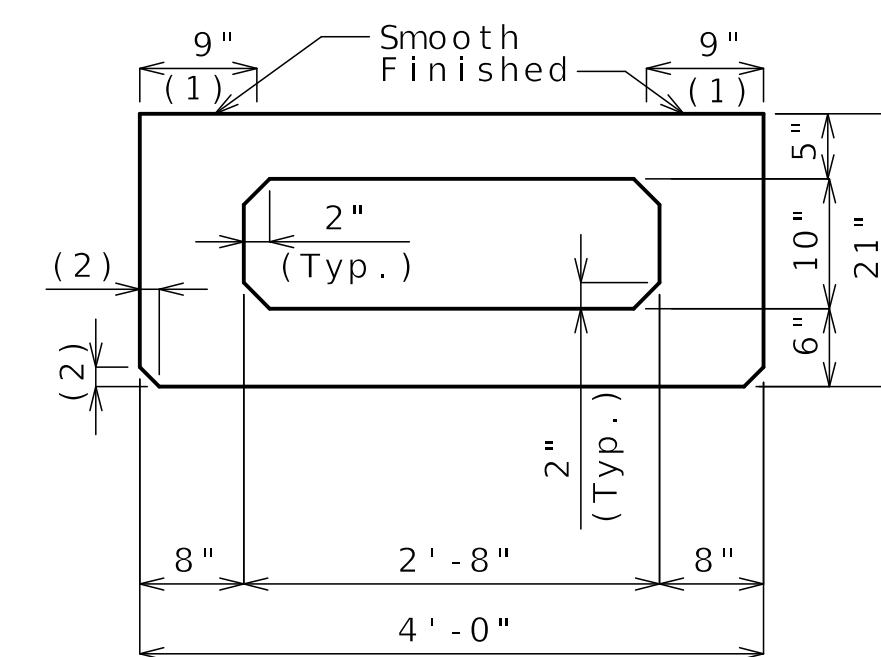
DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

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

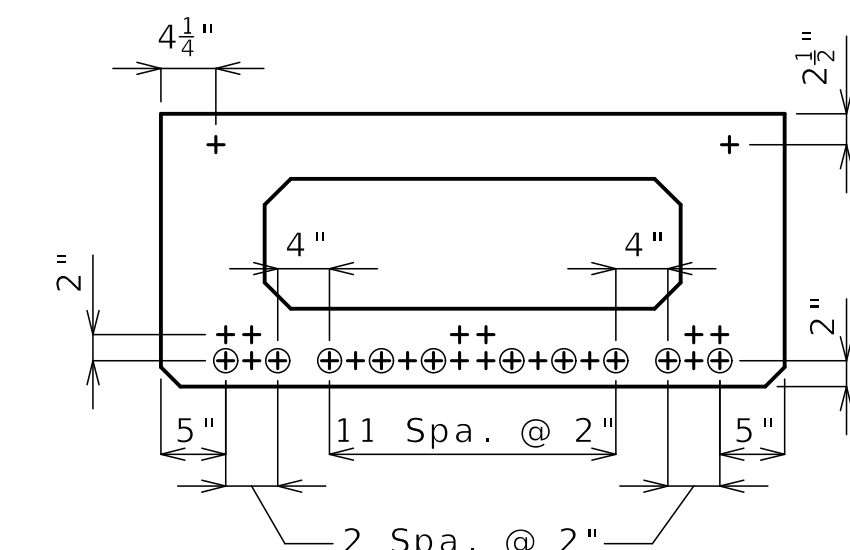
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-22-EB70-Van Brunt

SPREAD BOX BEAMS - SPAN (3-4)



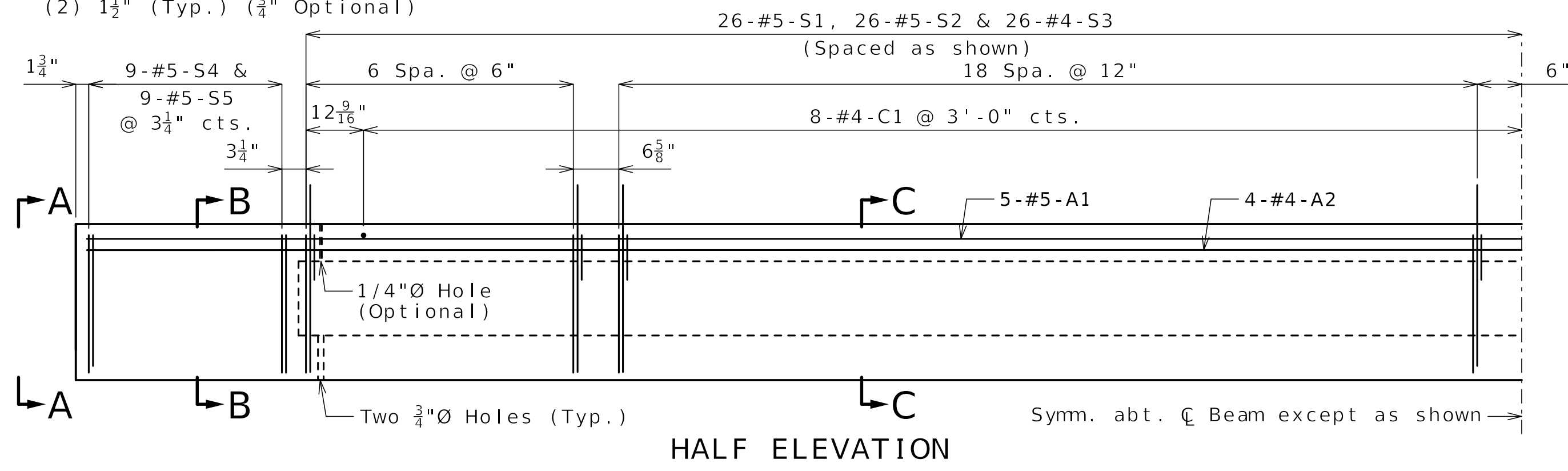
DIMENSIONS



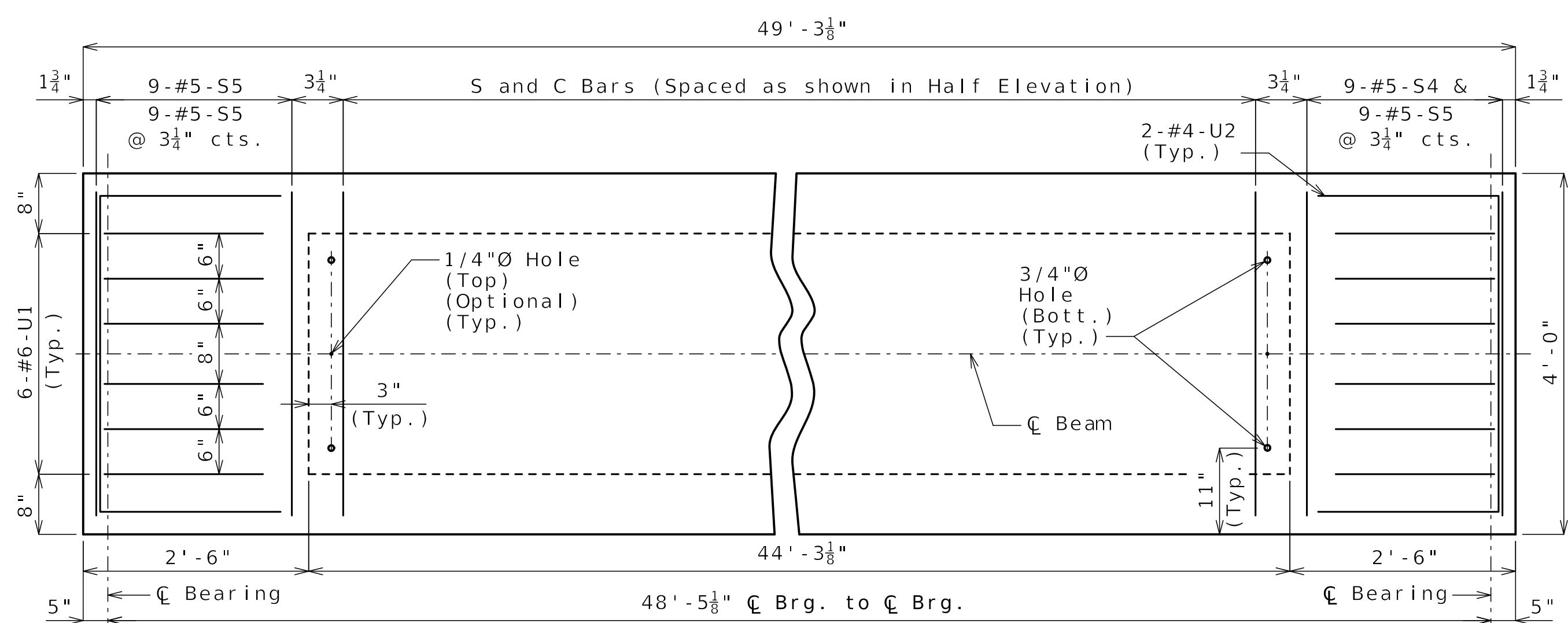
STRAND ARRANGEMENT

All strands are fully bonded unless otherwise noted.
 + Indicates prestressing strand.
 O Indicates cut and shop bend with 2'-0" projection.

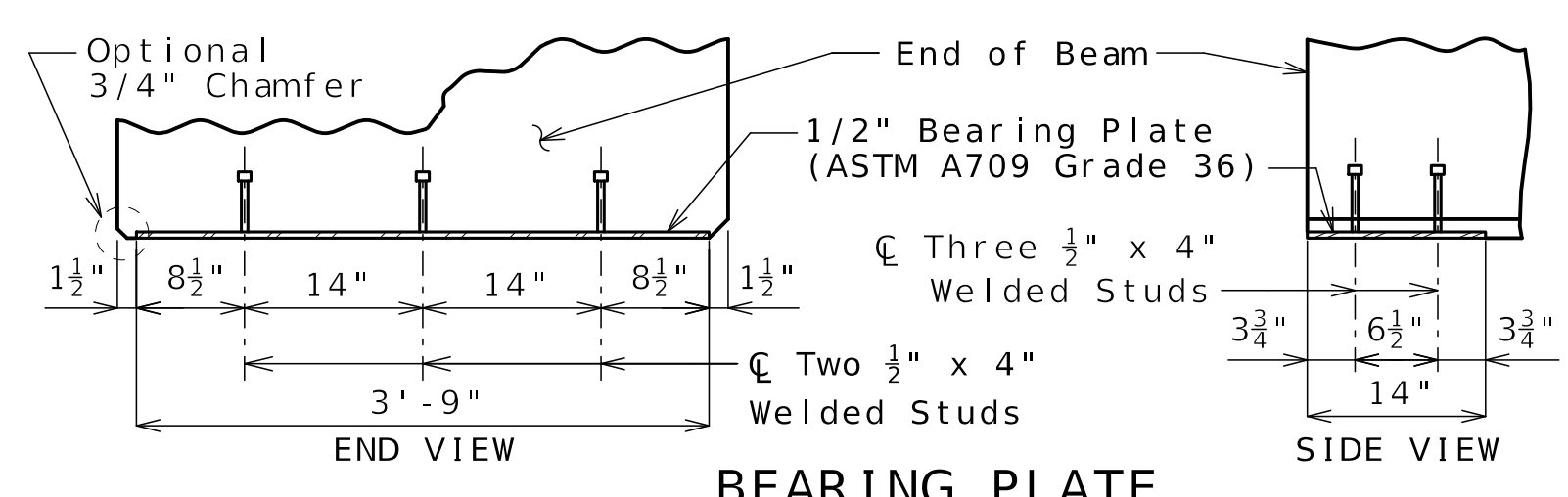
- (1) Fabricator shall apply a bond breaker to the region.
- (2) 1 1/2" (Typ.) (3/4" Optional)



HALF ELEVATION



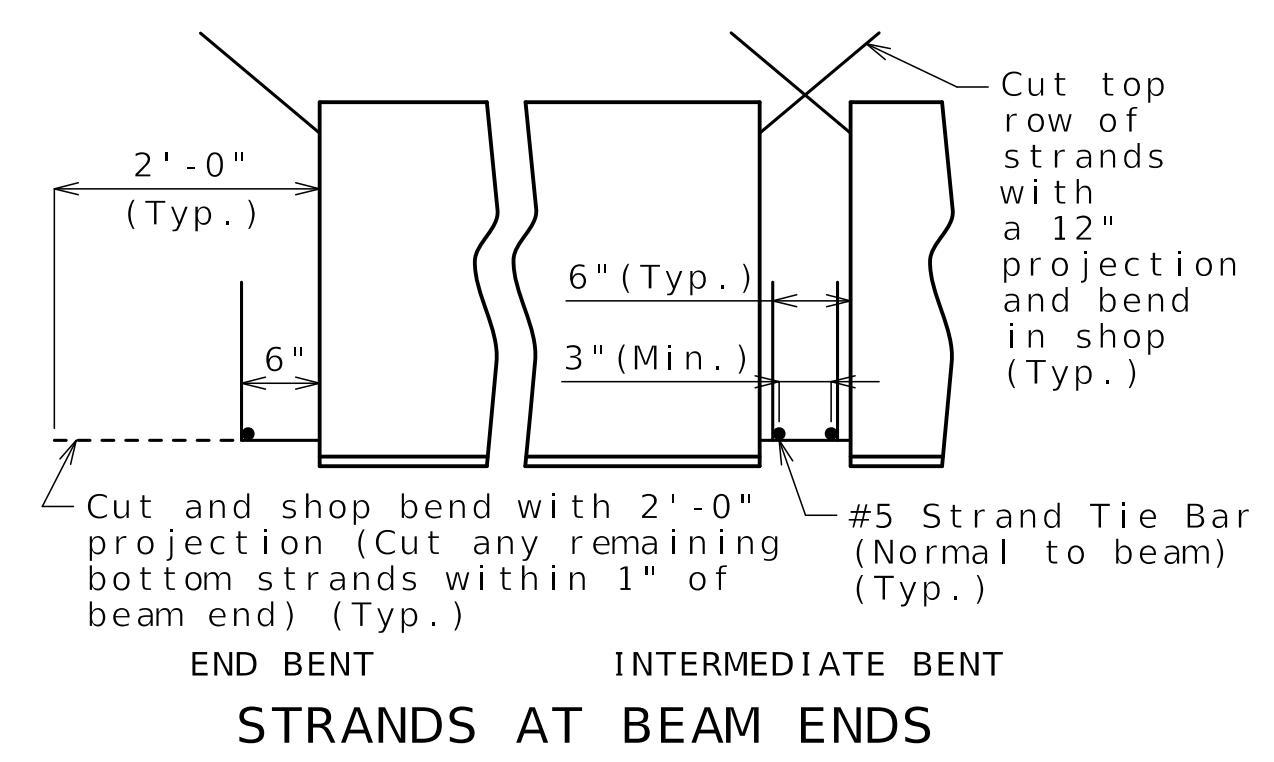
PART PLAN



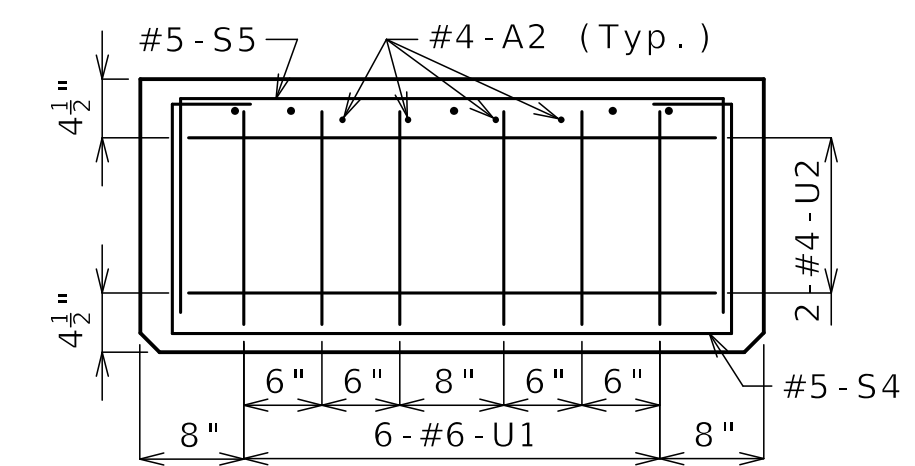
BEARING PLATE

Detailed MAY 2025
 Checked JUN 2025

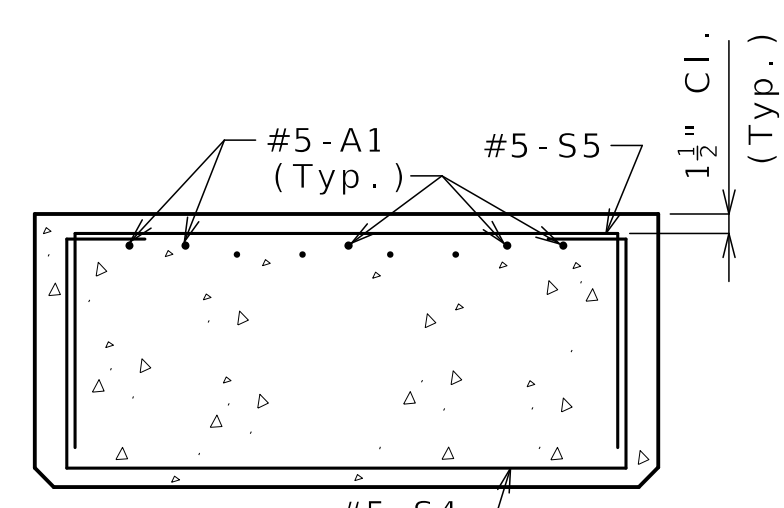
Note: This drawing is not to scale. Follow dimensions.



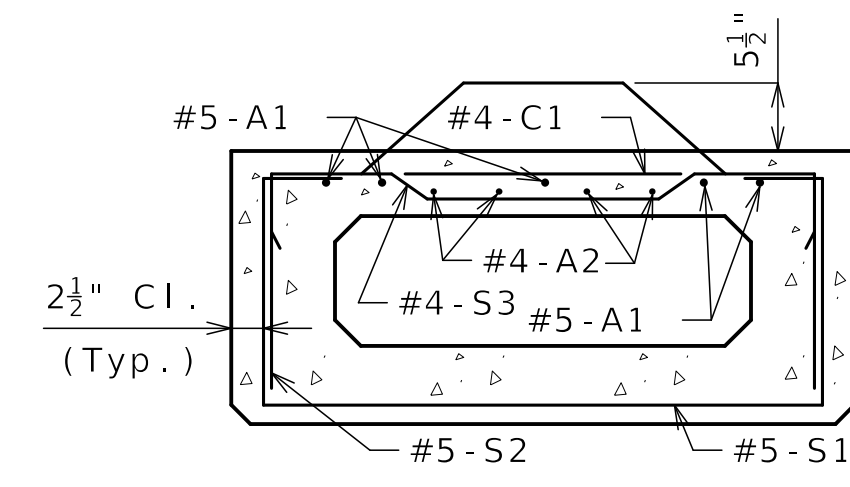
STRANDS AT BEAM ENDS



ELEVATION A-A

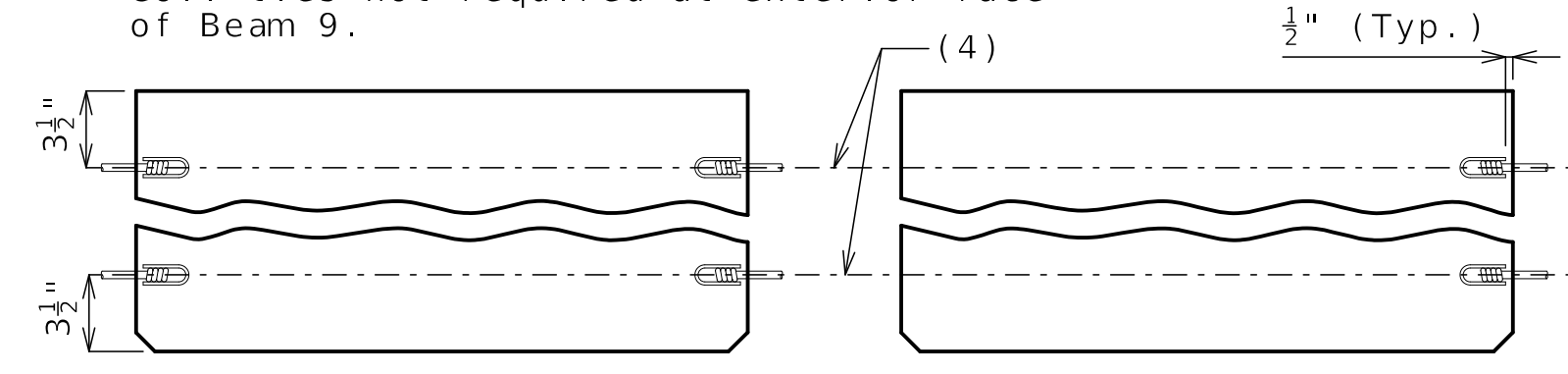


SECTION B-B



SECTION C-C

- (4) 3/4" (Min.) Coil Tie Rods 2'-6" Long (1'-10" at exterior face of Beam 1). Coil ties not required at exterior face of Beam 9.



COIL TIES

BILL OF REINFORCING STEEL - EACH BEAM				BENDING DIAGRAM	
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE		
5	5 A1	49'-0"	20		
4	4 A2	49'-0"	20		
15	4 C1	3'-7"	20		
52	5 S1	7'-3"	10S		
52	5 S2	6'-9"	51S		
52	4 S3	4'-6"	50S		
18	5 S4	7'-3"	10S		
18	5 S5	6'-4"	10S		
12	6 U1	4'-7"	10S		
4	4 U2	7'-4"	10S		

All dimensions are out to out. Use symmetry for dimensions not shown.

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

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

Minimum clearance to reinforcing shall be one inch, unless otherwise shown.

All reinforcement shall be Grade 60.
 All S2 bars shall be epoxy coated.

General Notes:

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

Use 26 strands, 0.6"Ø Grade 270, with an initial prestress force of 1142 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

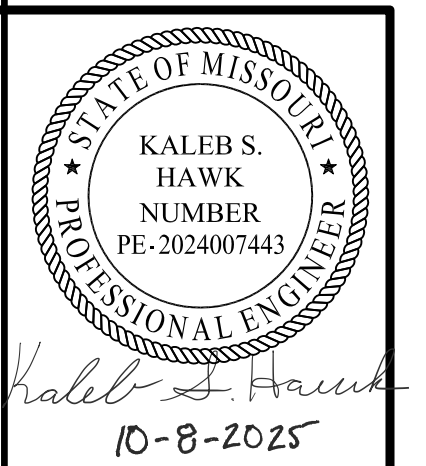
Exterior and interior beams are the same except: coil ties, coil inserts for slab drains.

For Beam Camber Diagram, see Sheet No. B22-22.

For location of coil inserts at slab drains, see Sheet No. B22-21.

For location of coil ties at end bents and concrete bent diaphragms, see Sheets No. B22-13 and B22-20.

All dimensions are horizontal.



DATE PREPARED
 09/22/2025
 ROUTE 1-70 STATE MO
 DISTRICT BR SHEET NO. B22-19
 COUNTY JARVIS
 JOB NO. J411486D
 CONTRACT ID. 240807-C01
 PROJECT NO.

BRIDGE NO. A9635

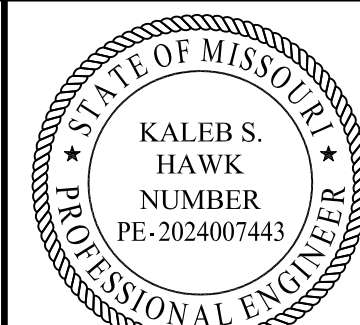
DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

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

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-22-EB70-Van Brunt

SPREAD BOX BEAMS - SPAN (4-5)



Kaleb S. Hawk
10-8-2025

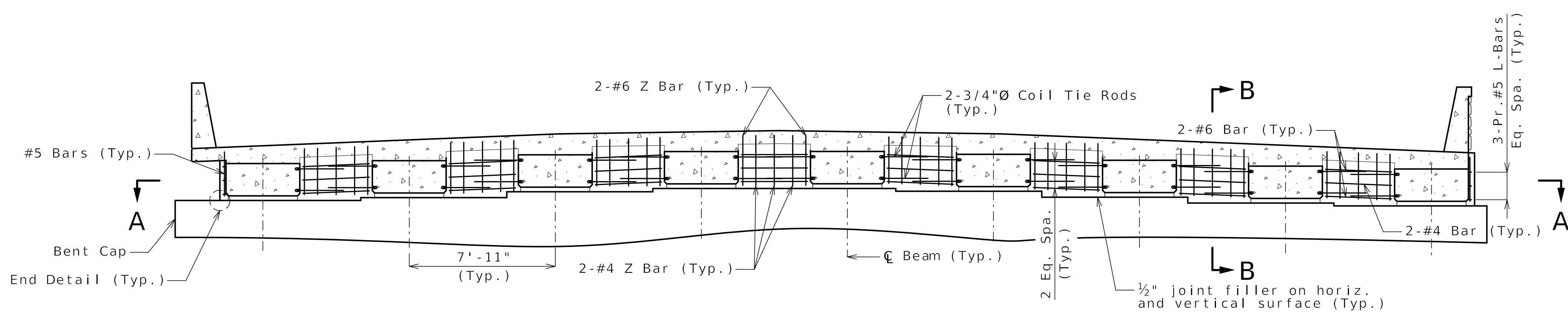
DATE PREPARED 09/22/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B22-20
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO. A9635

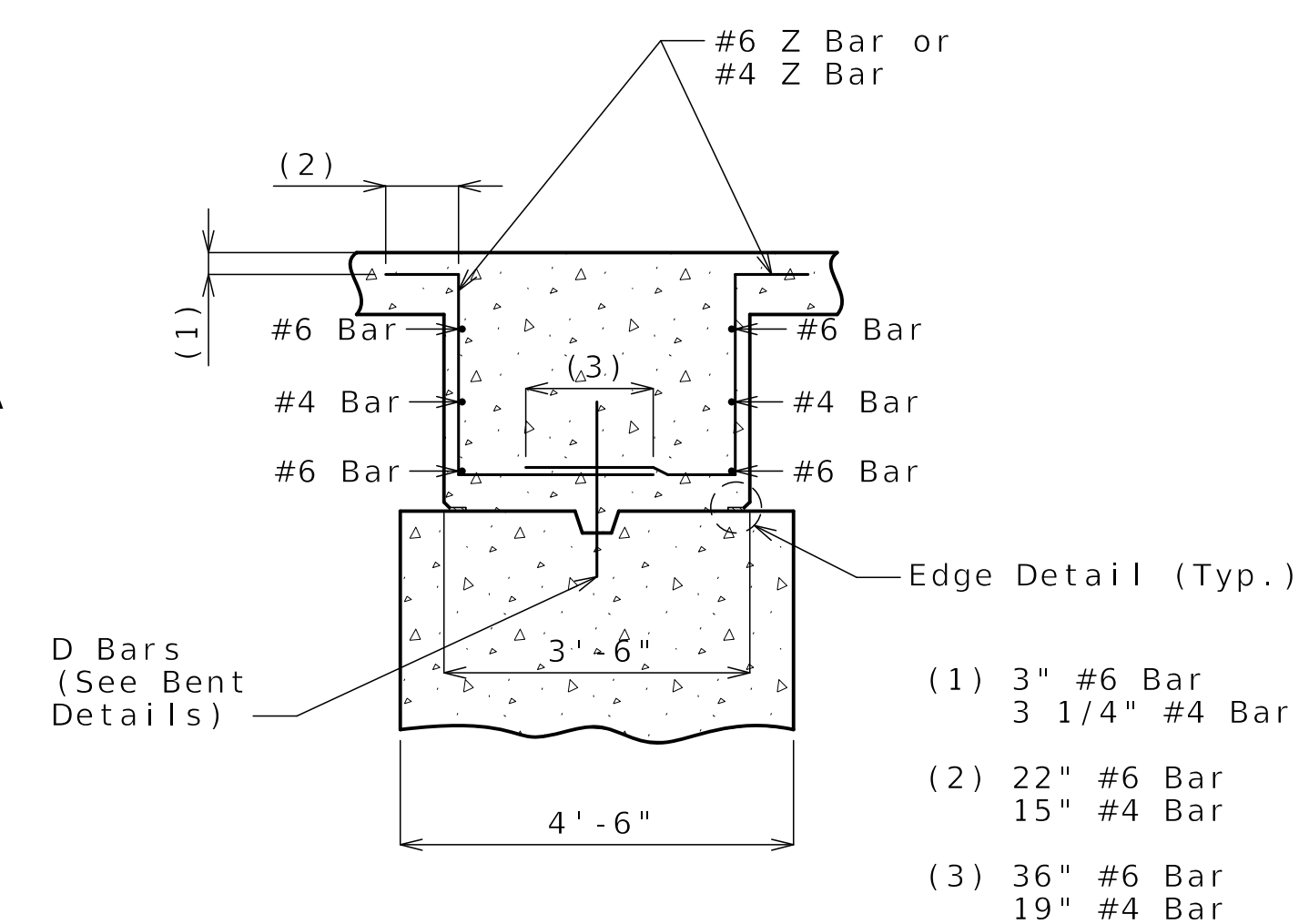
DESCRIPTION	DATE
REV 0 - RFC SUBMITTAL	09/22/25

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

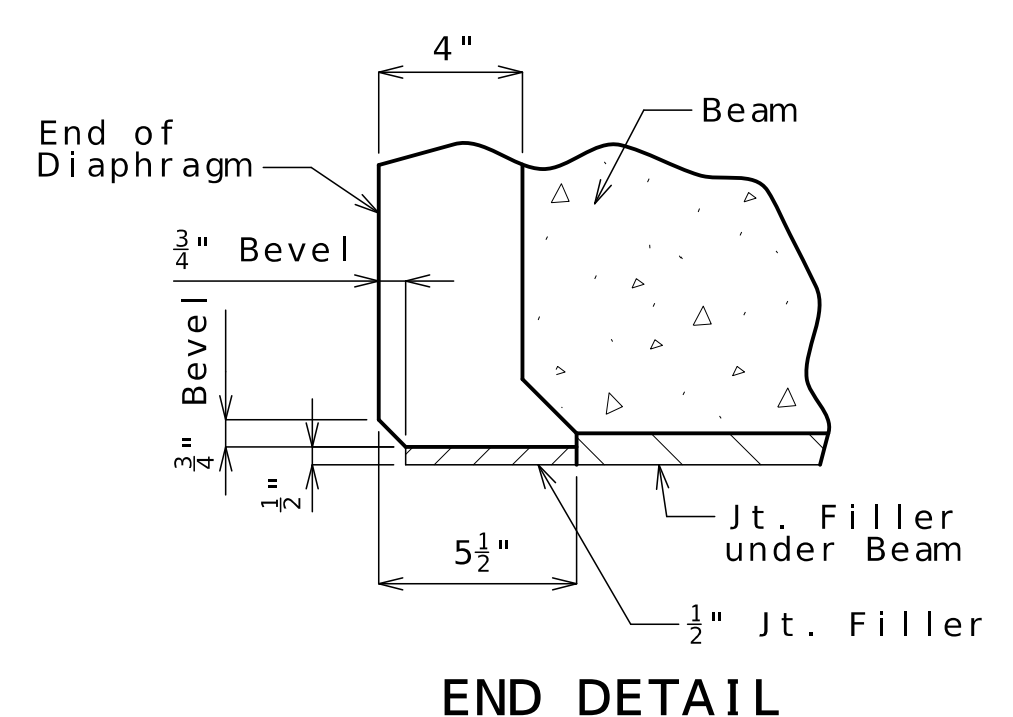
CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE
 KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY
 NO. 001270
HNTB



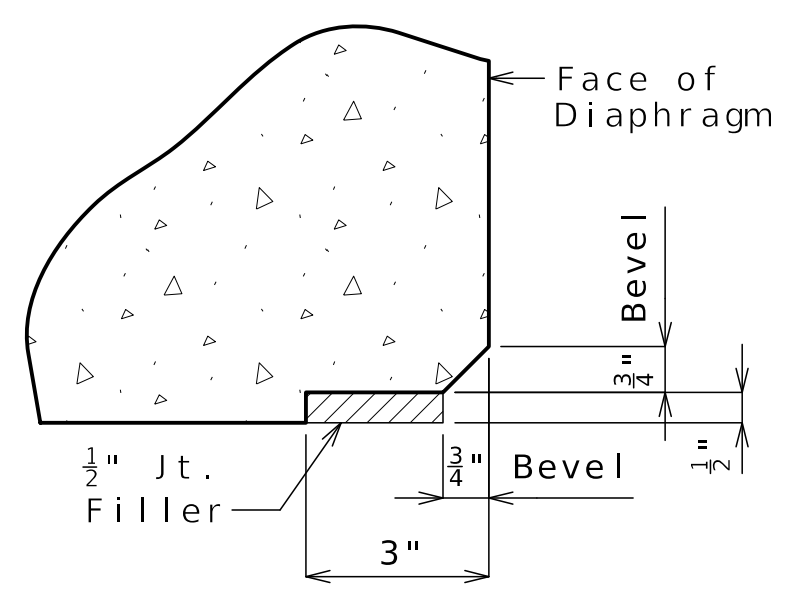
SECTION NEAR INTERMEDIATE BENT
(Normal to C I-70)



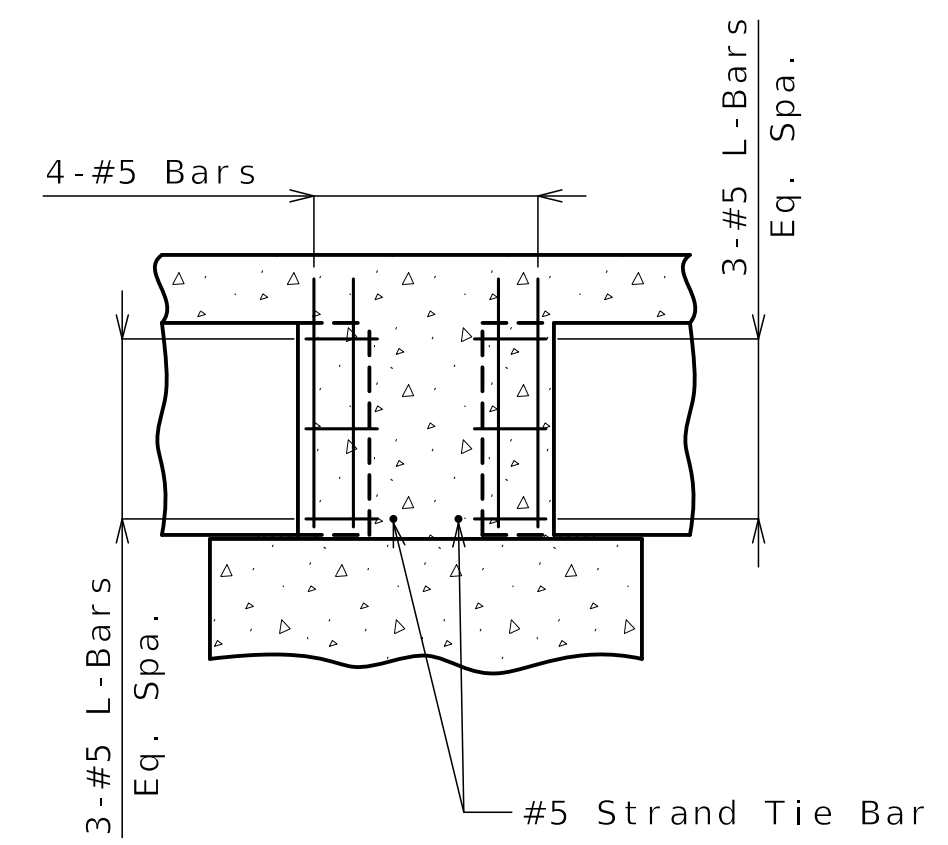
SECTION B-B



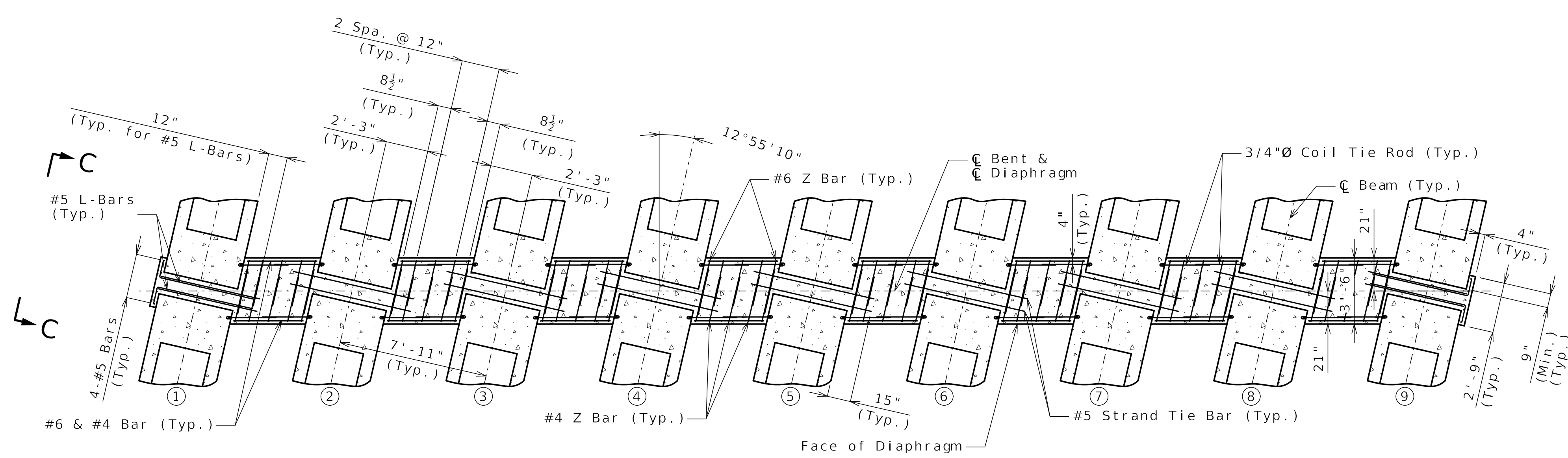
END DETAIL



EDGE DETAIL



PART ELEVATION C-C



SECTION A-A

Notes:
 Diaphragms shall be built vertical.
 For location of #5 Strand Tie Bars, see Sheets No. B22-16 thru B22-19.
 For location of coil ties, see Sheets No. B22-16 thru B22-19.
 For Cap beam geometry, bearing location, bearing details, dowel placement, shear key details, roofing felt details, joint filler details, see Sheets No. B22-09 thru B22-11.
 (X) Denotes Beam number.

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 Revision: 0.0
 Date: 10/10/2025
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CONCRETE DIAPHRAGM AT INTERMEDIATE BENTS

Detailed MAY 2025
 Checked JUN 2025

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

Sheet No. B22-20 of B22-39

General Notes:

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

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

For slab drain locations see Sheet No. B22-25.

Reinforcing steel shall be shifted to clear drains.

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

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

All 1/2"Ø bolts shall be ASTM A307.

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

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

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

The bolts required to attach the slab drain bracket assembly to the prestressed beam shall be supplied by the prestressed beam fabricator.

Notes for Steel Drain:

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

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

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

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

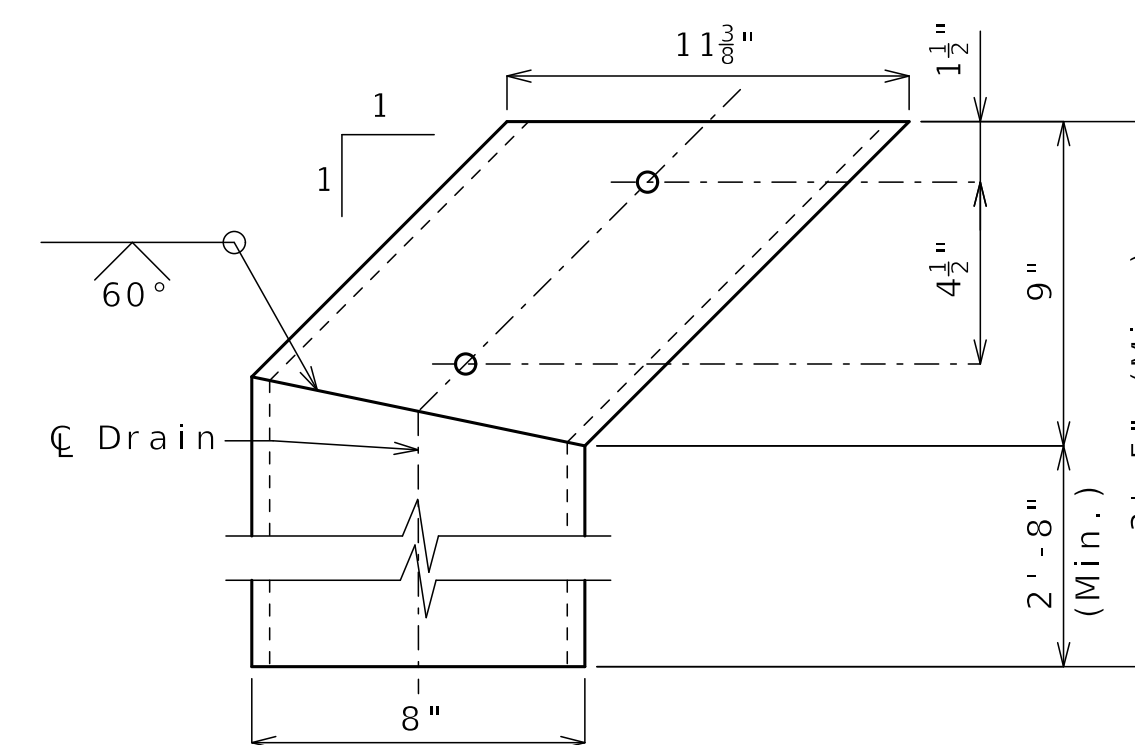
The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

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

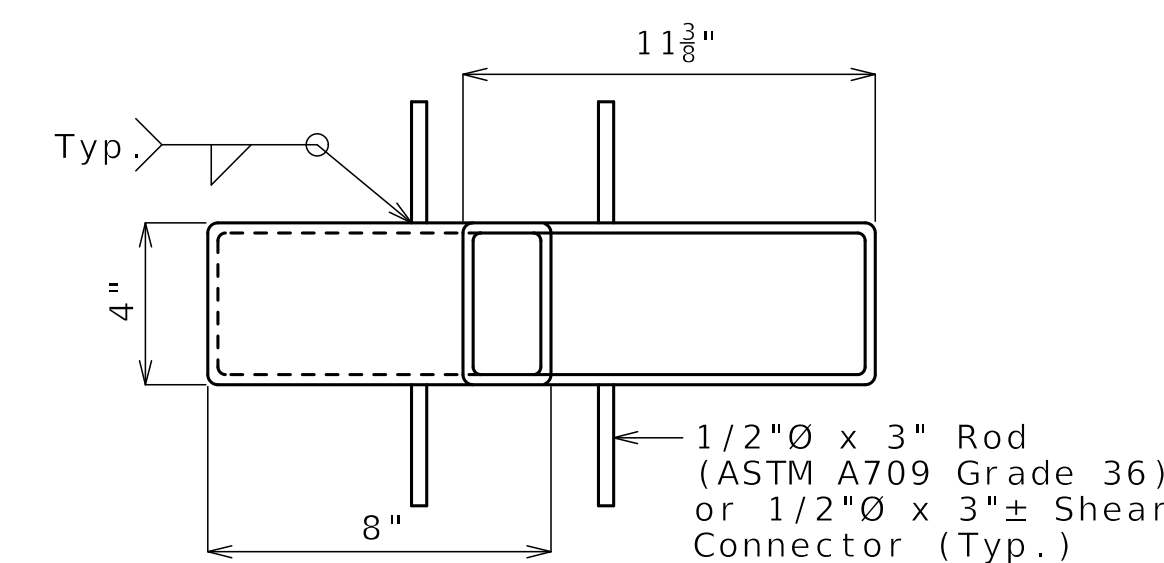
The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall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

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

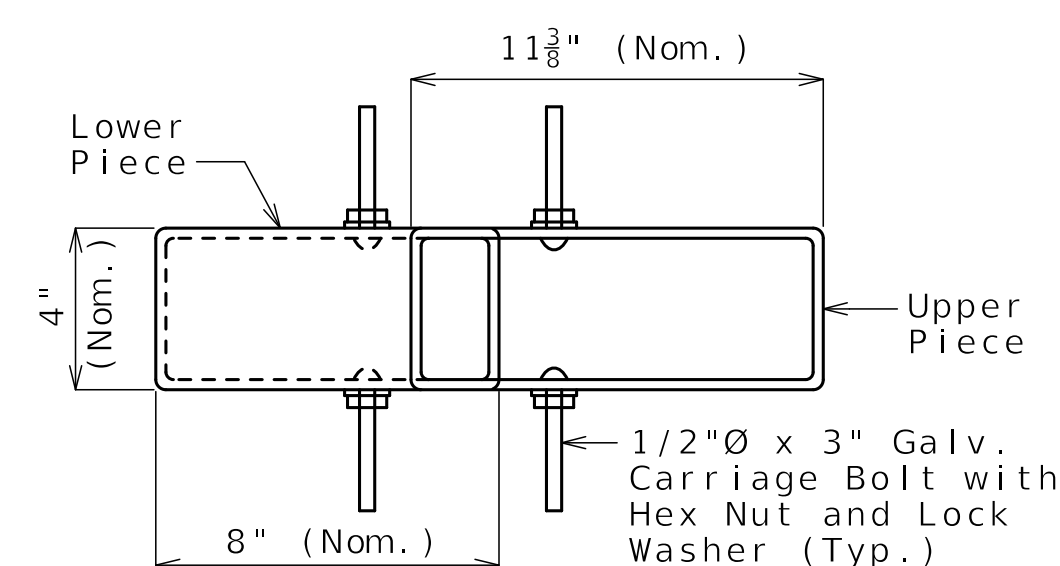
Both upper and lower drain pieces shall be rigidly connected to each other. Drain flow shall not be obstructed. Approval of the engineer is required.



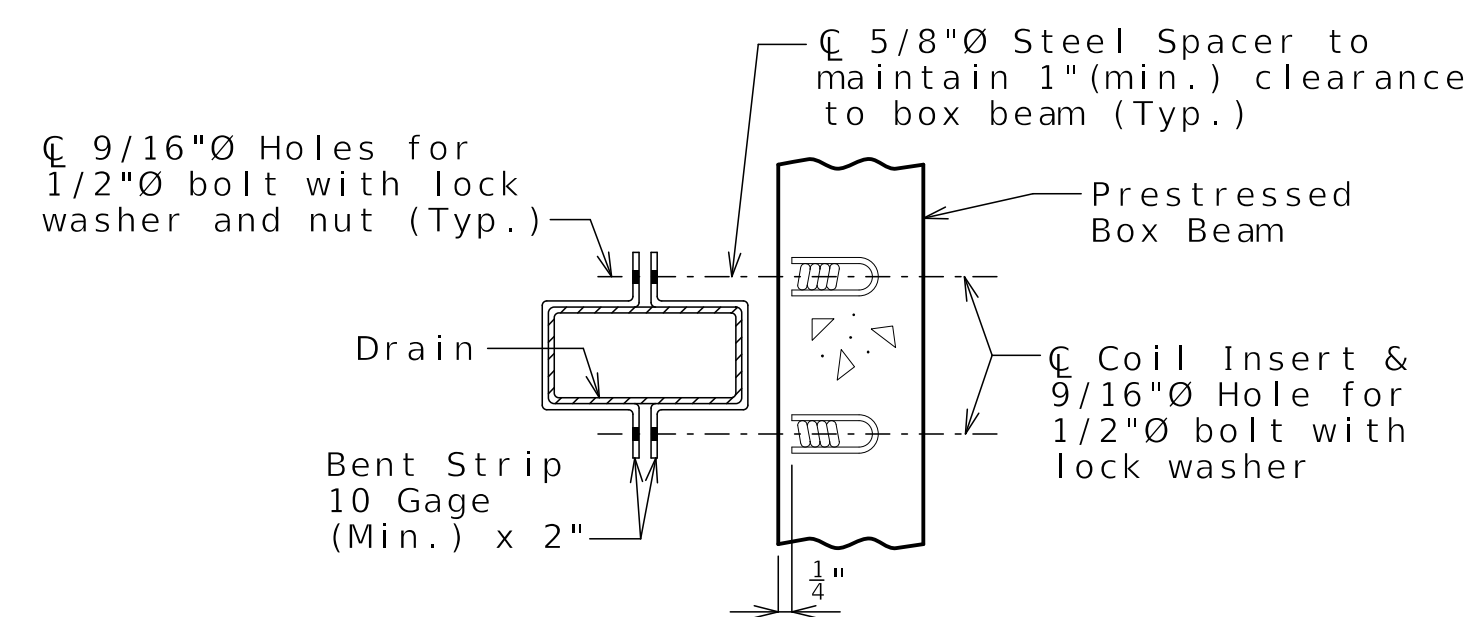
ELEVATION OF DRAIN



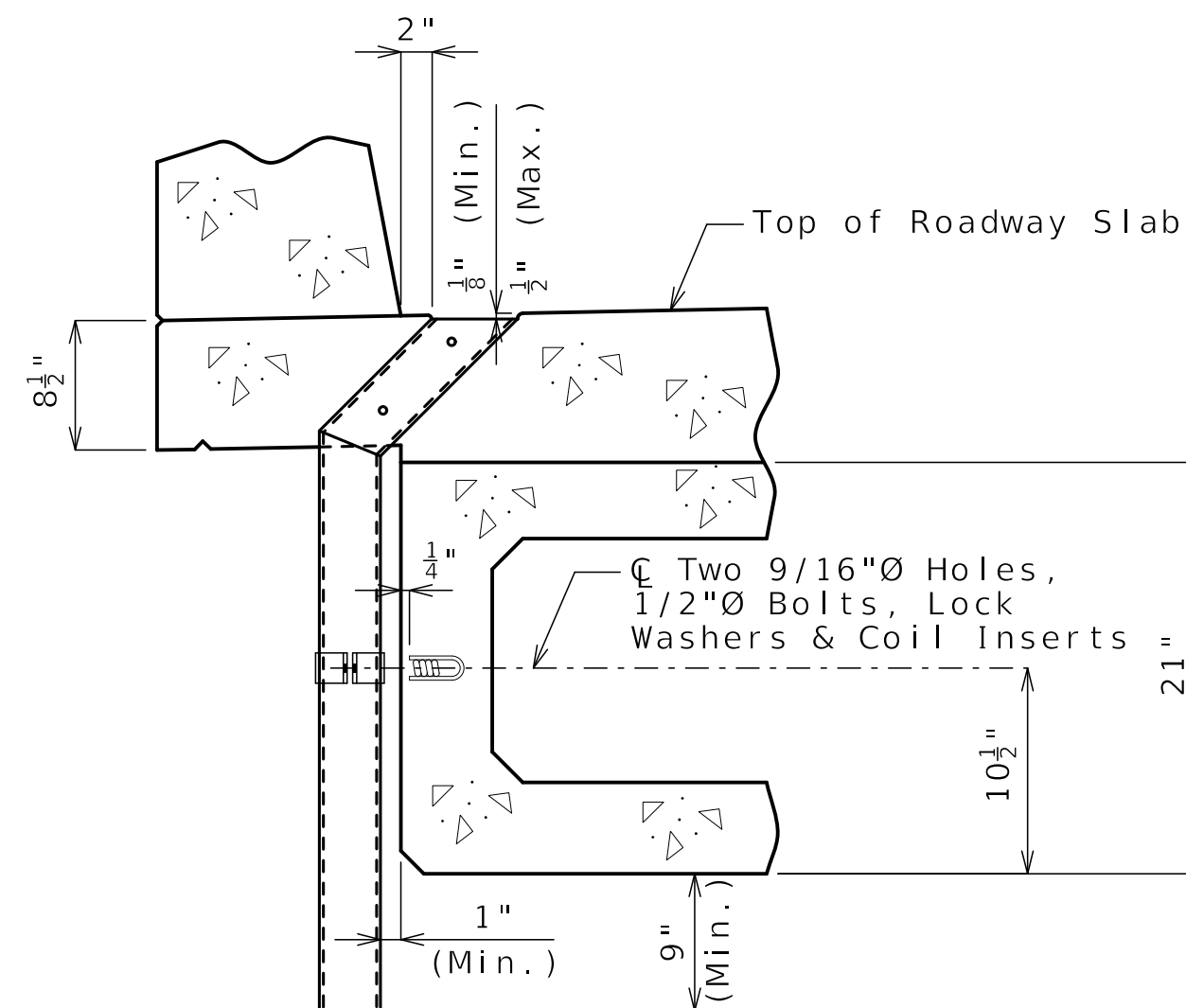
PLAN OF STEEL DRAIN OPTION



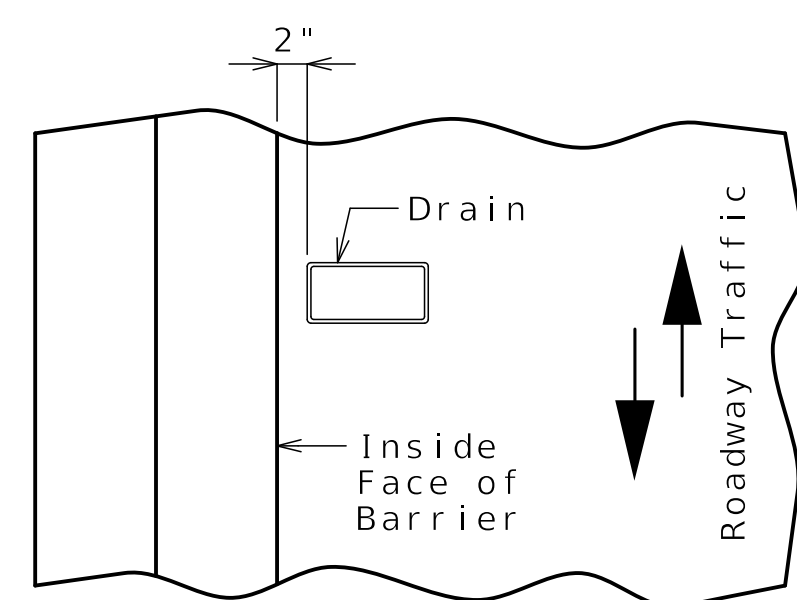
PLAN OF FRP DRAIN OPTION



PART SECTION SHOWING BRACKET ASSEMBLY

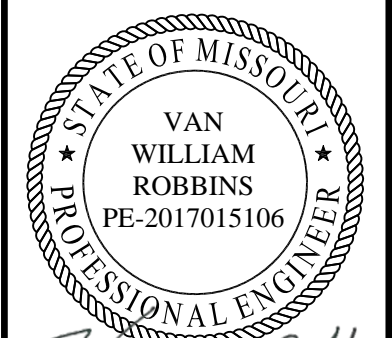


PART SECTION NEAR DRAIN



PART PLAN OF SLAB AT DRAIN

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Van W. Roll
10-08-25

DATE PREPARED 09/22/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B22-21
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9635	

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

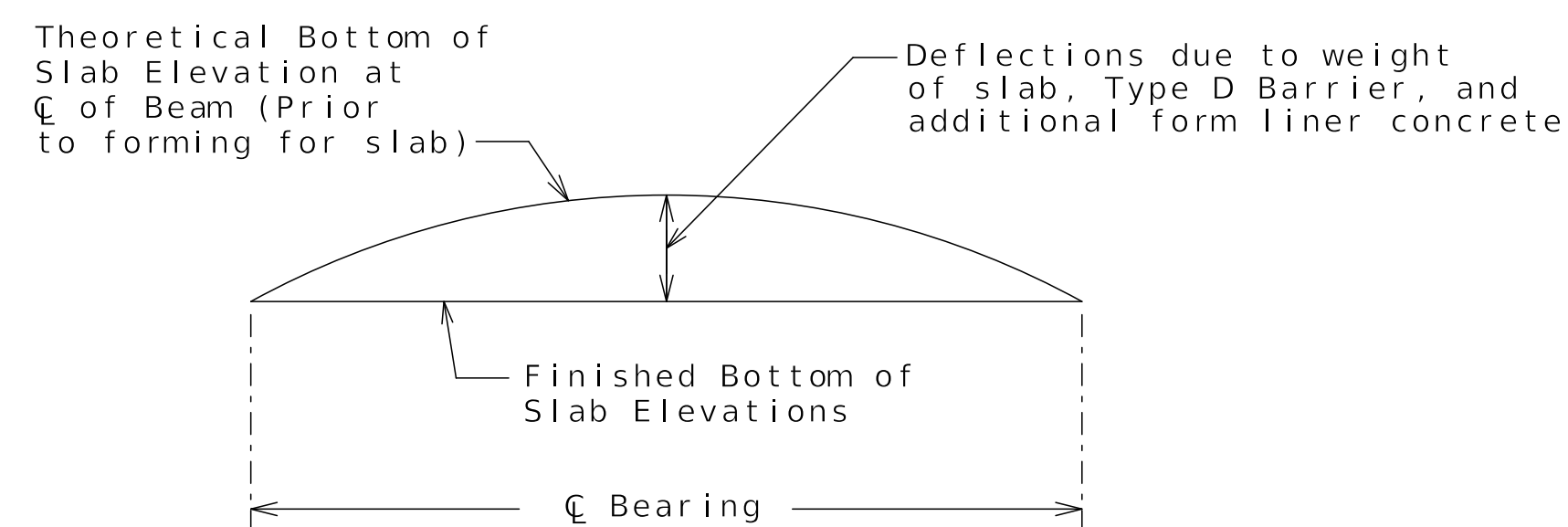
CLARKSON RADMACHER JOINT VENTURE

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

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

Beam Number	Span (1-2) (47'-4 1/8" C Brg. - C Brg.)				
	C Brg.	.25	.50	.75	C Brg.
1	820.87	820.77	820.64	820.49	820.32
2	821.01	820.90	820.78	820.63	820.45
3	821.15	821.04	820.92	820.76	820.59
4	821.24	821.14	821.02	820.86	820.69
5	821.23	821.13	821.00	820.85	820.68
6	821.09	820.99	820.86	820.71	820.54
7	820.91	820.81	820.69	820.53	820.36
8	820.73	820.63	820.51	820.35	820.18
9	820.55	820.44	820.32	820.17	820.00
Beam Number	Span (2-3) (61'-1 3/8" C Brg. - C Brg.)				
	C Brg.	.25	.50	.75	C Brg.
1	820.29	820.21	820.07	819.85	819.58
2	820.43	820.35	820.20	819.99	819.72
3	820.57	820.48	820.34	820.12	819.85
4	820.67	820.58	820.44	820.22	819.95
5	820.65	820.57	820.43	820.21	819.94
6	820.51	820.43	820.29	820.07	819.80
7	820.34	820.25	820.11	819.89	819.62
8	820.16	820.07	819.93	819.71	819.44
9	819.98	819.87	819.72	819.51	819.26
Beam Number	Span (3-4) (59'-10 3/8" C Brg. - C Brg.)				
	C Brg.	.25	.50	.75	C Brg.
1	819.55	819.46	819.32	819.11	818.85
2	819.69	819.60	819.46	819.25	818.99
3	819.83	819.74	819.60	819.39	819.13
4	819.93	819.84	819.70	819.49	819.23
5	819.91	819.83	819.69	819.48	819.21
6	819.77	819.69	819.55	819.34	819.07
7	819.60	819.51	819.37	819.16	818.90
8	819.42	819.33	819.19	818.98	818.72
9	819.24	819.13	818.98	818.78	818.54
Beam Number	Span (4-5) (48'-5 1/8" C Brg. - C Brg.)				
	C Brg.	.25	.50	.75	C Brg.
1	818.83	818.73	818.60	818.44	818.26
2	818.97	818.86	818.74	818.58	818.40
3	819.10	819.00	818.87	818.72	818.54
4	819.20	819.10	818.97	818.82	818.64
5	819.19	819.09	818.96	818.80	818.62
6	819.05	818.95	818.82	818.66	818.48
7	818.87	818.77	818.64	818.49	818.31
8	818.69	818.59	818.46	818.31	818.13
9	818.51	818.40	818.27	818.12	817.95

**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 and additional form liner concrete).



TYPICAL SLAB ELEVATIONS DIAGRAM

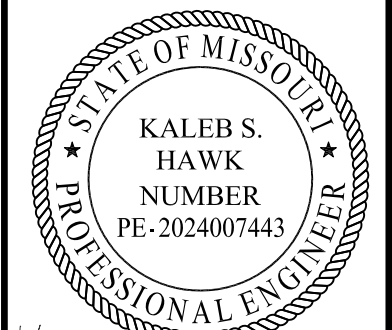
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Date: 10/10/2025
Package: BRD-22-EB70-Van Brunt

THEORETICAL BOTTOM OF SLAB ELEVATIONS

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B22-23 of B22-39



Kaleb S. Hawk
10-8-2025

DATE PREPARED
09/22/2025
ROUTE
I-70
STATE
MO
DISTRICT
BR
SHEET NO.
B22-23
COUNTY
JACKSON
JOB NO.
J411486D
CONTRACT ID.
240807-C01
PROJECT NO.

BRIDGE NO.
A9635

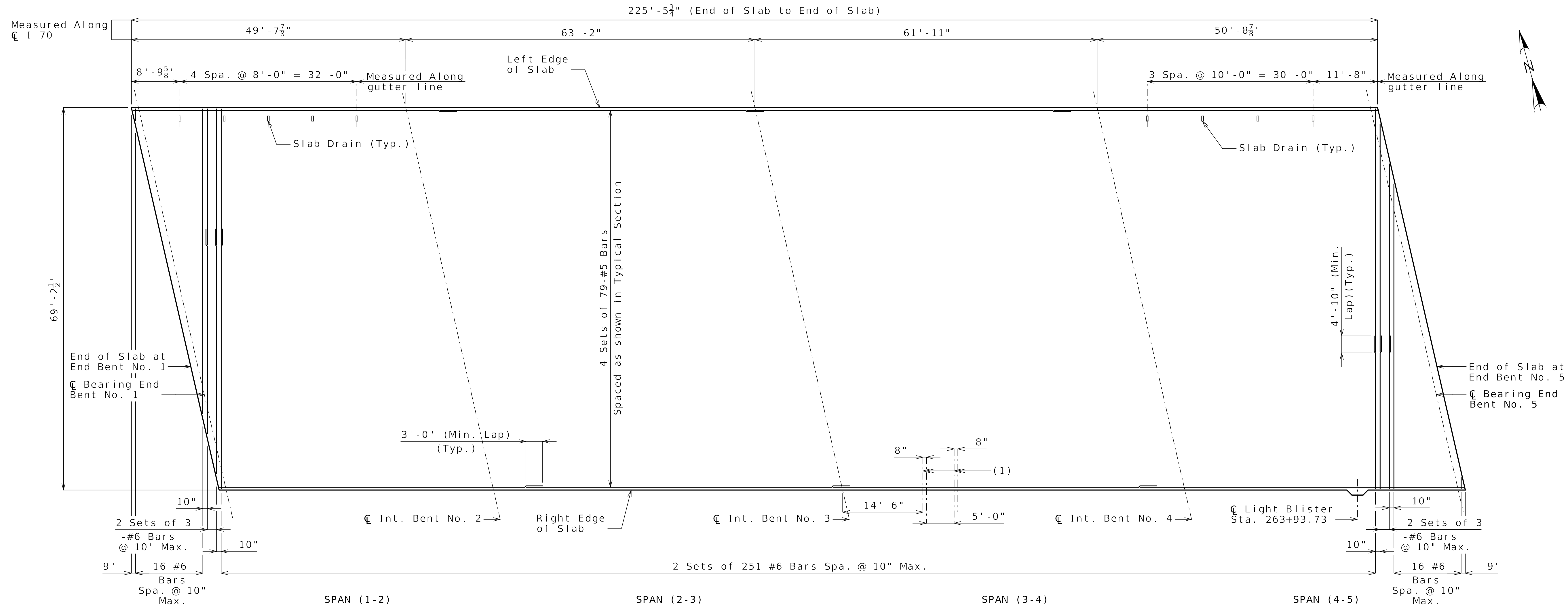
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JEFFERSON CITY, MO 65102
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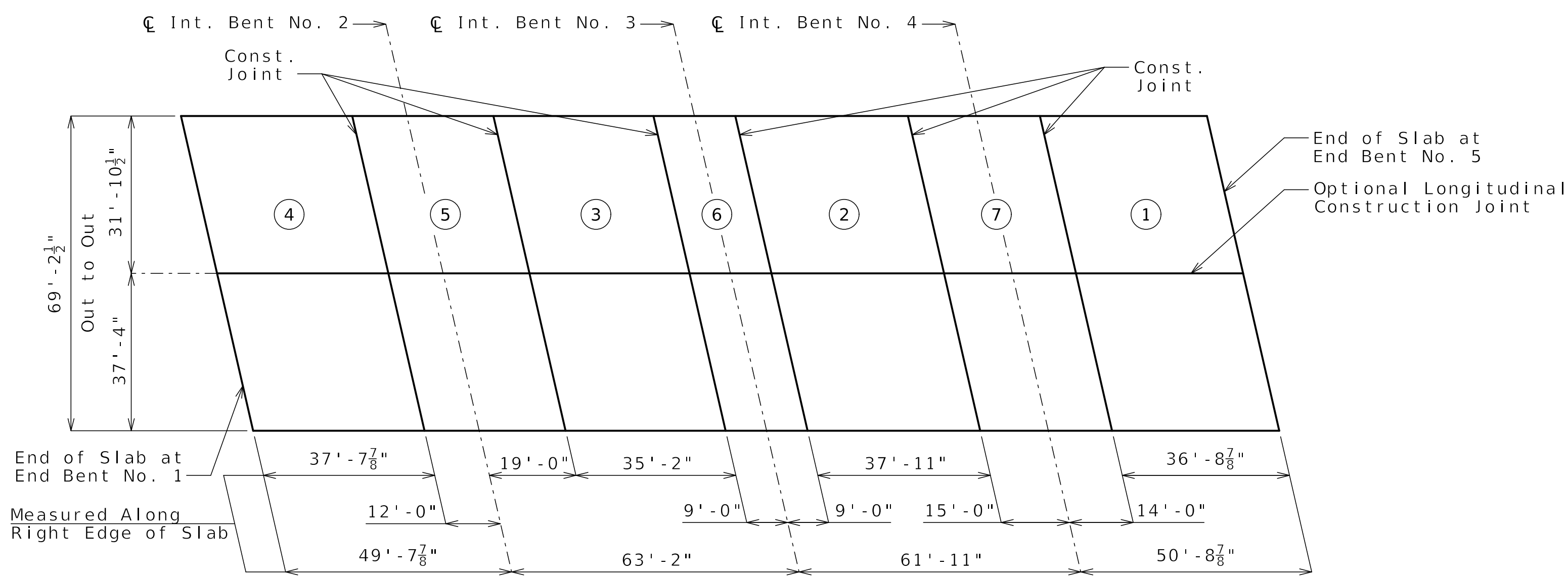
CLARKSON RADMACHER JOINT VENTURE

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



BOTTOM REINFORCEMENT

(1) Sign Mount Anchors on Type D barrier. See Sheet No. B22-29 for sign mount details.



SLAB POURING SEQUENCE

	Sequence of Pours							Min. Rate of Pour Cu. Yds./Hr.	
	Direction								
Basic Sequence	1	7	2	6	3	5	4	25*	
	Either Direction								
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.									
Alternate A Pours	1	7 + 2	6 + 3	5 + 4					34
	End to 7	1 to 6	2 to 5	3 to End					
Alternate B Pours	1 + 7 + 2	6 + 3	5 + 4					34	
	End to 6	2 to 5	3 to End						
Alternate C Pours	1 + 7 + 2	6 + 3 + 5 + 4						34	
	End to 6	2 to End							
Alternate D Pours	1 + 7 + 2 + 6 + 3 + 5 + 4							34	
	End to End								

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

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

*A minimum finishing rate of 20 LF/HR shall be maintained, otherwise the optional longitudinal construction joint shall be required.

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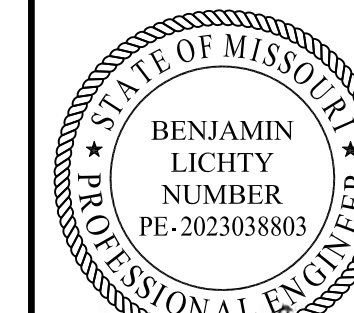
Notes:
Work this sheet with Sheet No. B22-24.

SLAB PLAN SHOWING BOTTOM REINFORCEMENT

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B22-25 of B22-39



Benjamin Lichty

10-08-2025

DATE PREPARED
09/22/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B22-25

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9635

DESCRIPTION

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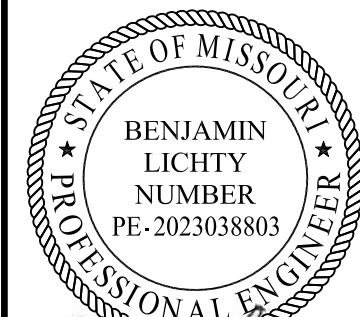
DESCRIPTION

DATE

DESCRIPTION

DATE

DESCRIPTION



10-08-2025

DATE PREPARED
09/22/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B22-26

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9635

DESCRIPTION

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105 WEST CAPITOL JEFFERSON CITY, MO 65102

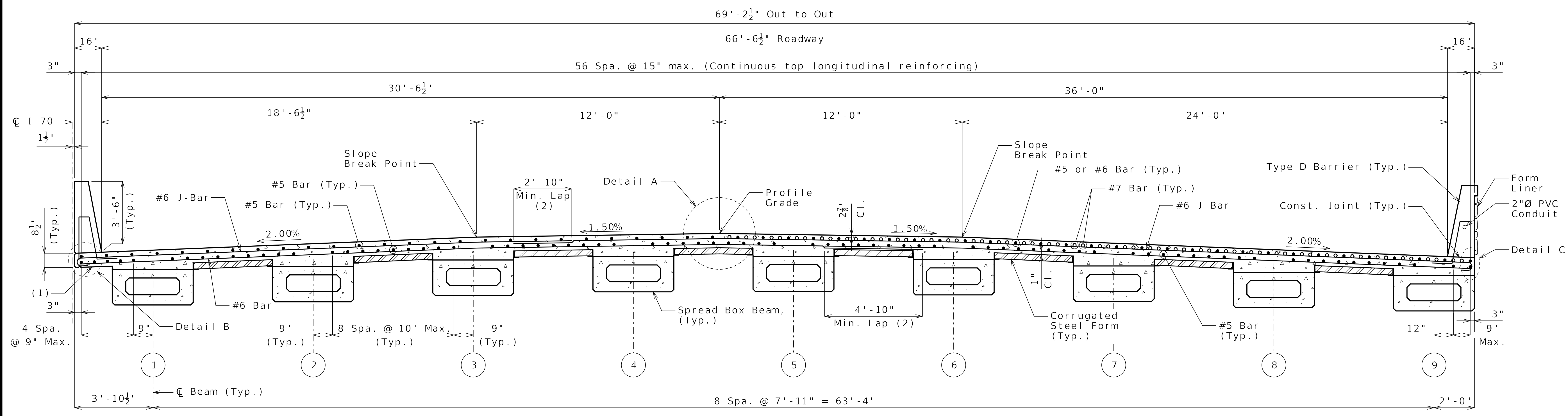
1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY NO. 001270

HNTB



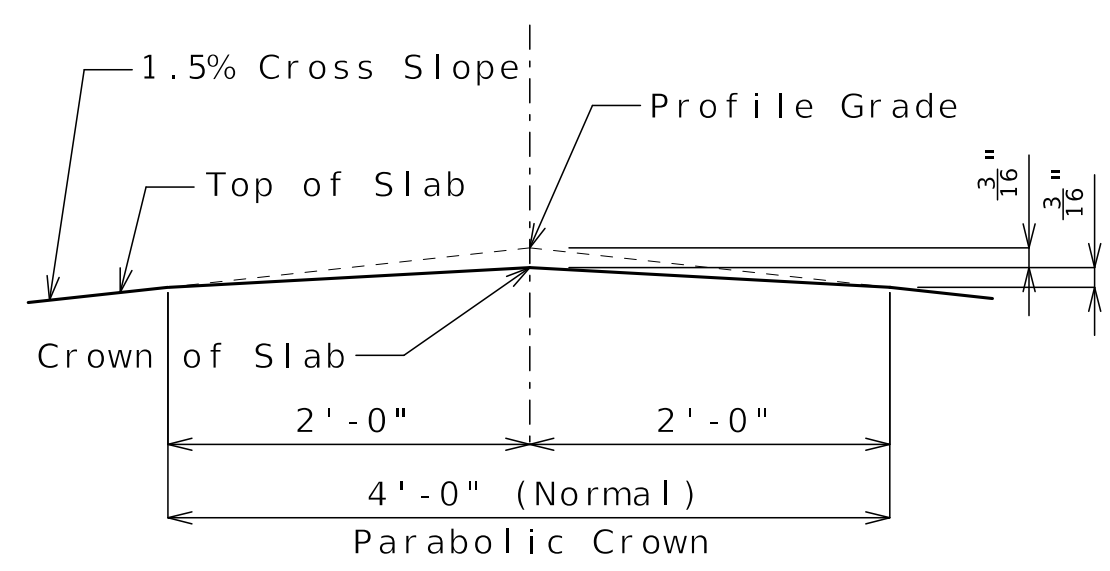
HALF SECTION NEAR MIDSPAN

TYPICAL SECTION

HALF SECTION NEAR INTERMEDIATE BENT

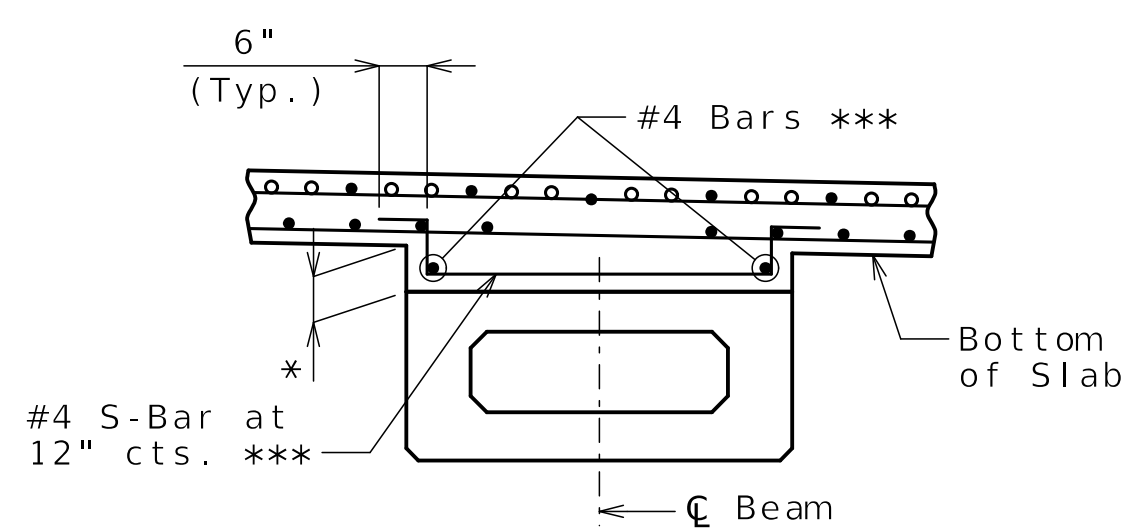
(1) Slab drains in Span (1-2) and Span (4-5) not shown. See Sheets No. B22-21 and B22-25 for details and locations.

(2) Additional lap locations can be added needed to accommodate cross slope breaks.



DETAIL A

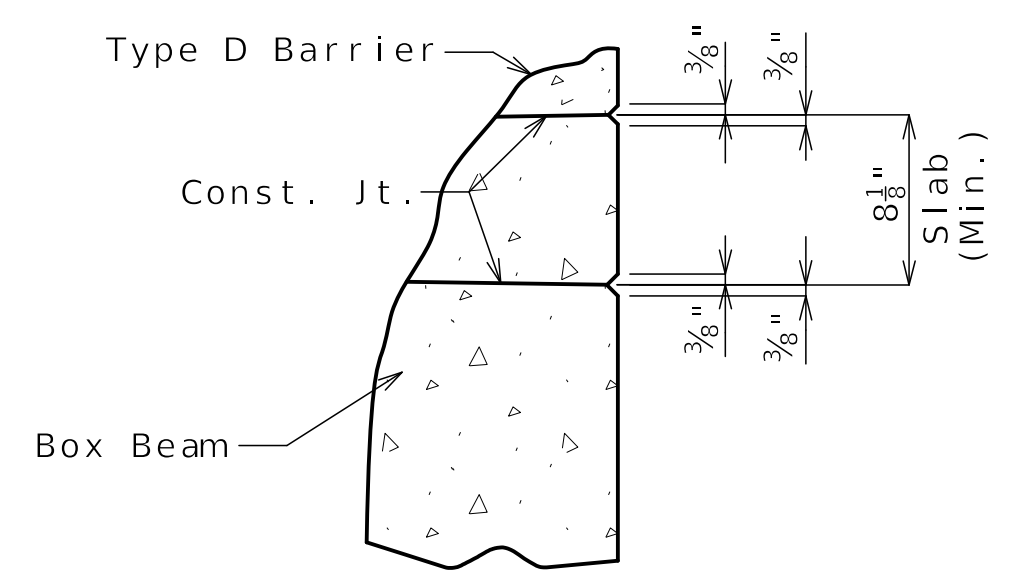
(Crown is located 32'-0" right of CL I-70)



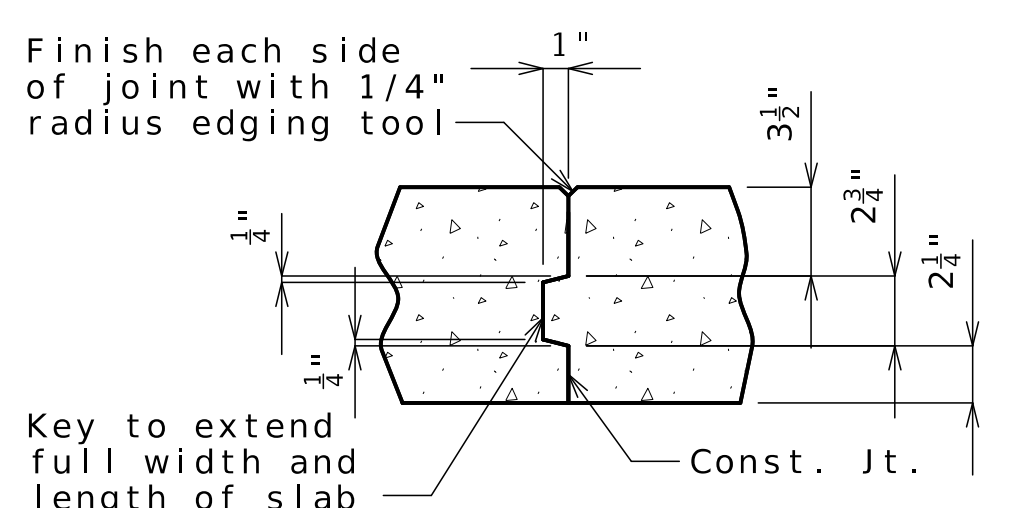
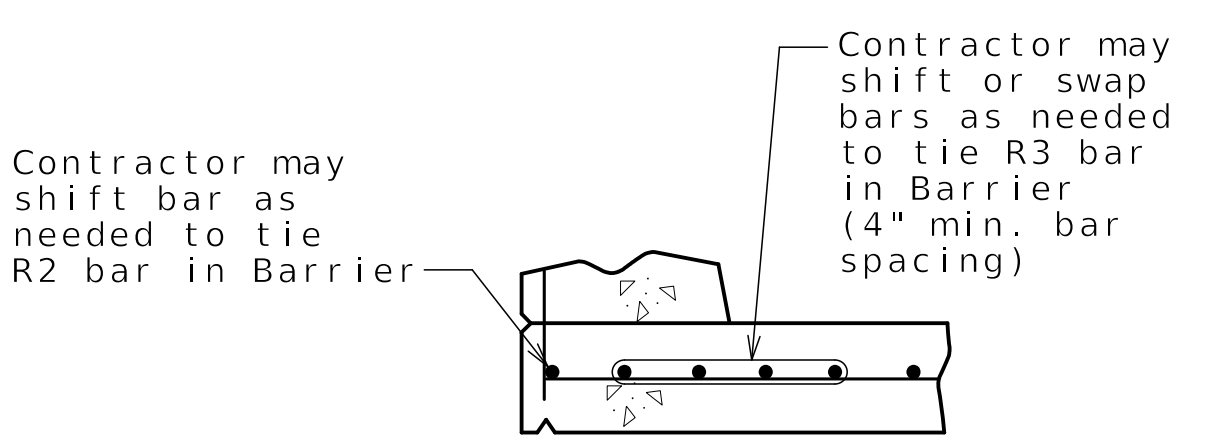
HAUNCH REINFORCING DETAIL

* 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.

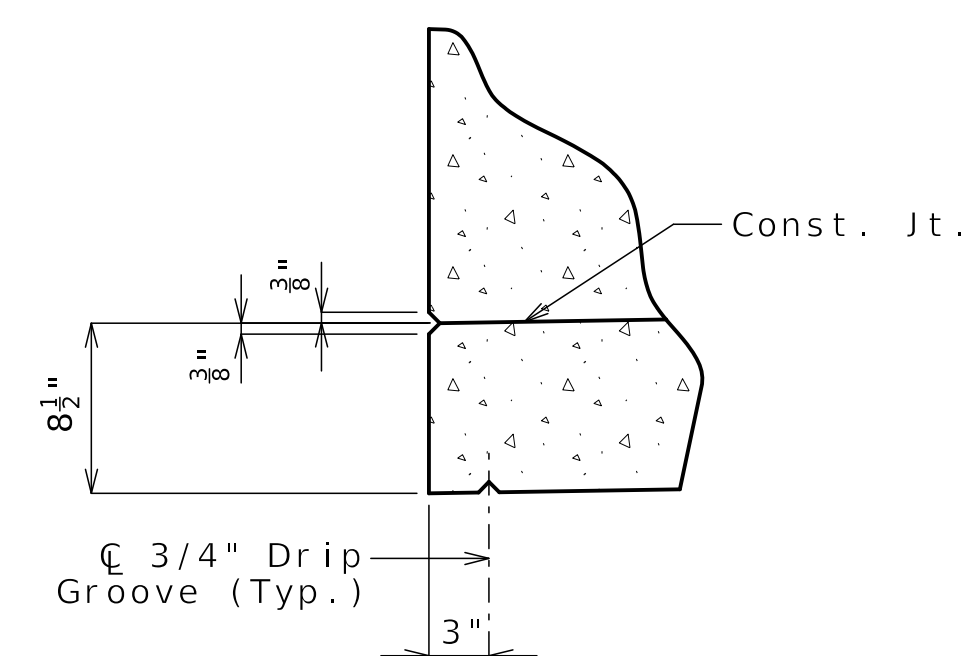
*** Contractor shall provide #4 Bars and #4 S-Bars as necessary where the haunch exceeds 4 inches measured at centerline of beam. See Theoretical Slab Haunching Diagram on Sheet No. B22-22 for haunch thickness.



DETAIL C



SLAB CONSTRUCTION JOINT



DETAIL B

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Notes:
Cant #6 transverse hooked bars as needed to provide clearance.
For Slab Plan showing Top and Bottom Reinforcement, see Sheets No. B22-24 thru B22-25.
For reinforcement of Type D Barrier not shown, see Sheets No. B22-27 thru B22-28.
For Details of Conduit System on Structure, see Sheet No. B22-30.
For Form Liner and Aesthetic Stain Details not shown, see Sheet No. B22-31.

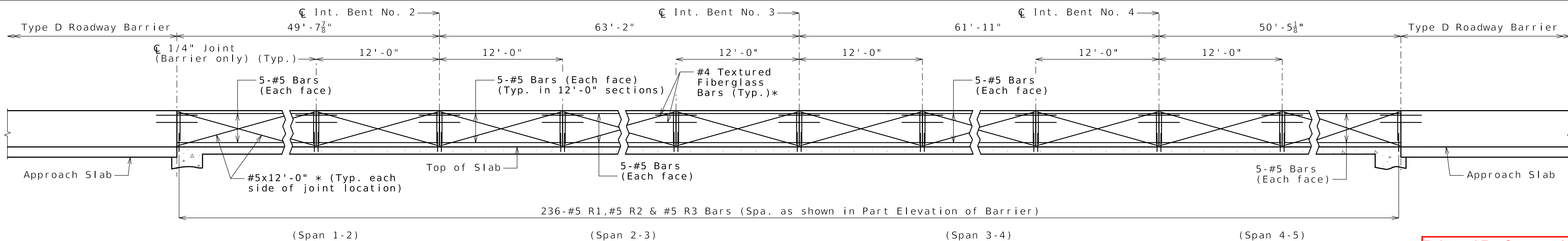
(X) Denotes beam number.

SLAB DETAILS

Detailed MAY 2025
Checked JUN 2025

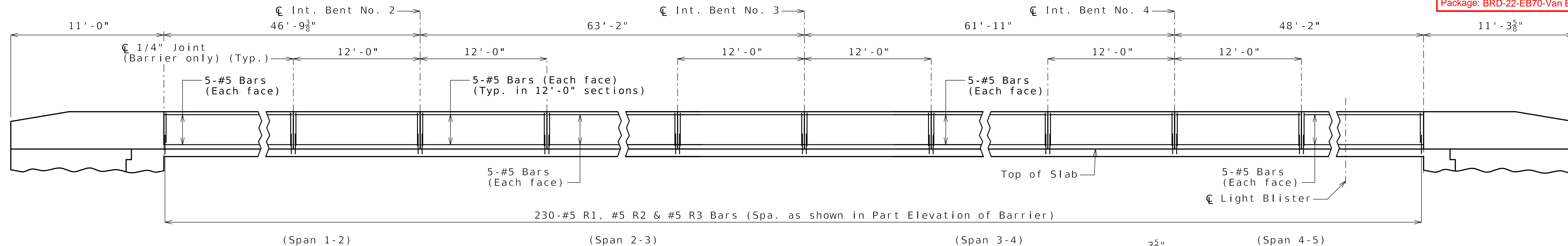
Note: This drawing is not to scale. Follow dimensions.

Sheet No. B22-26 of B22-39

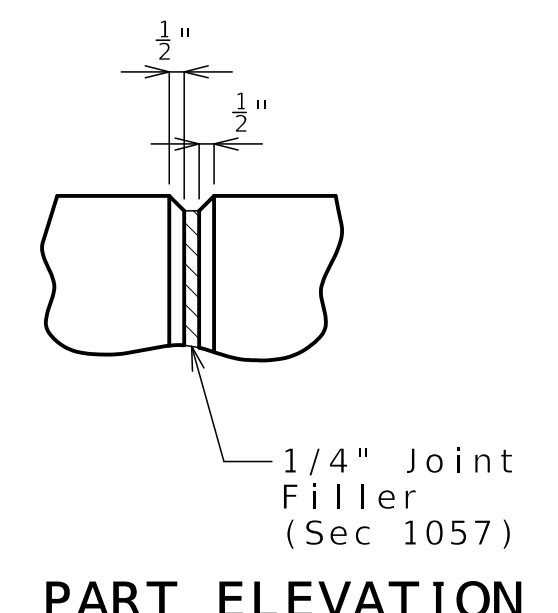
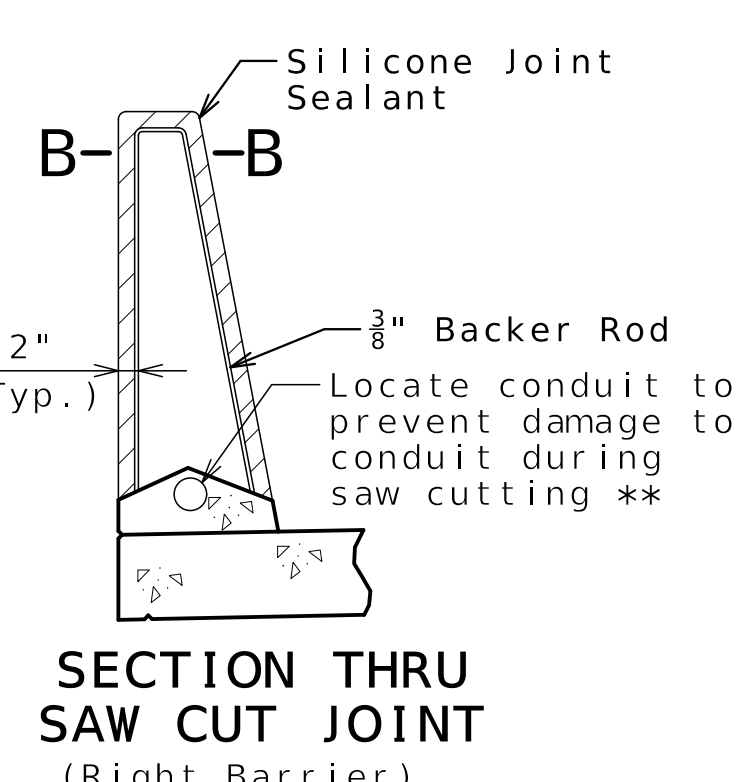
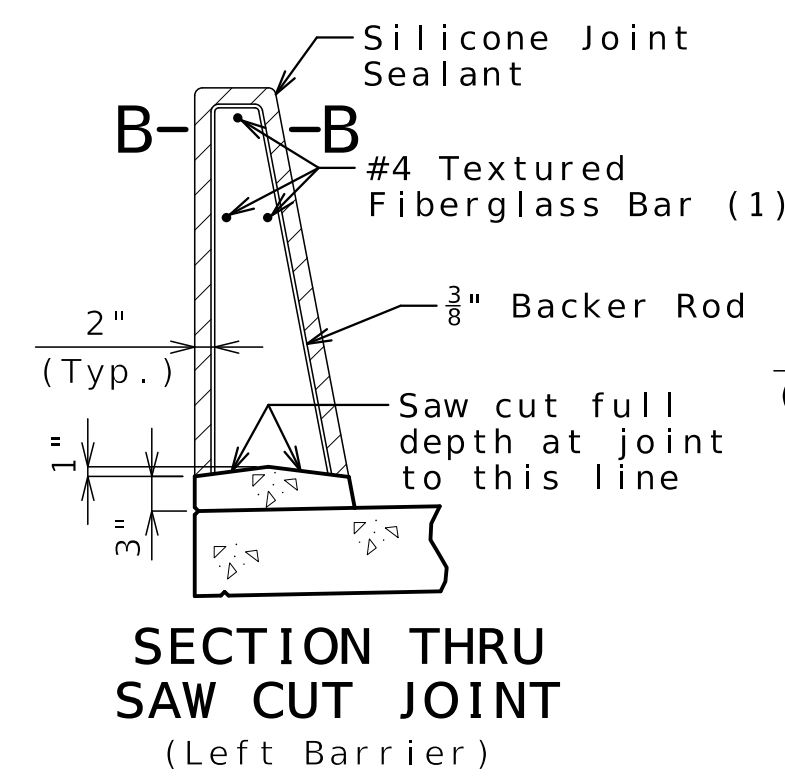


ELEVATION OF LEFT BARRIER
 Longitudinal dimensions are horizontal and measured along the outside of slab.

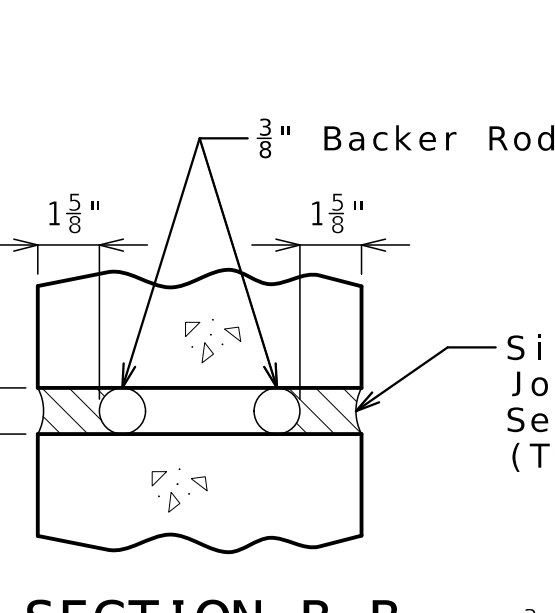
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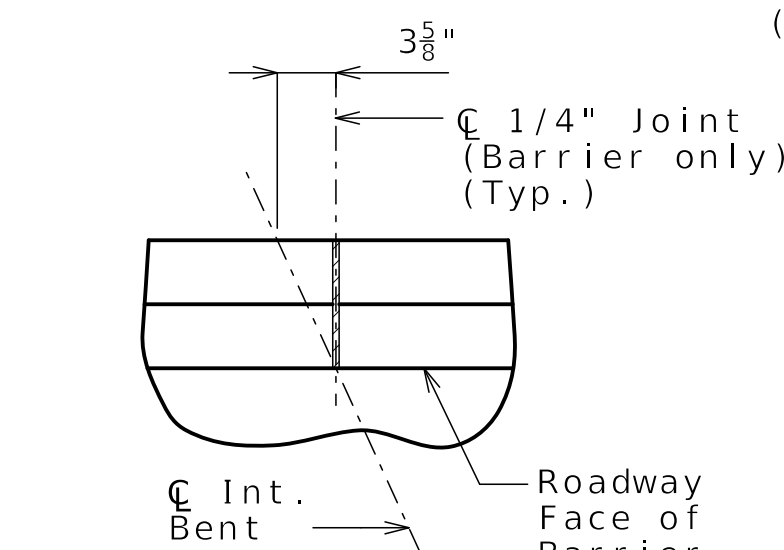
ELEVATION OF RIGHT BARRIER
 Longitudinal dimensions are horizontal and measured along the outside of slab.



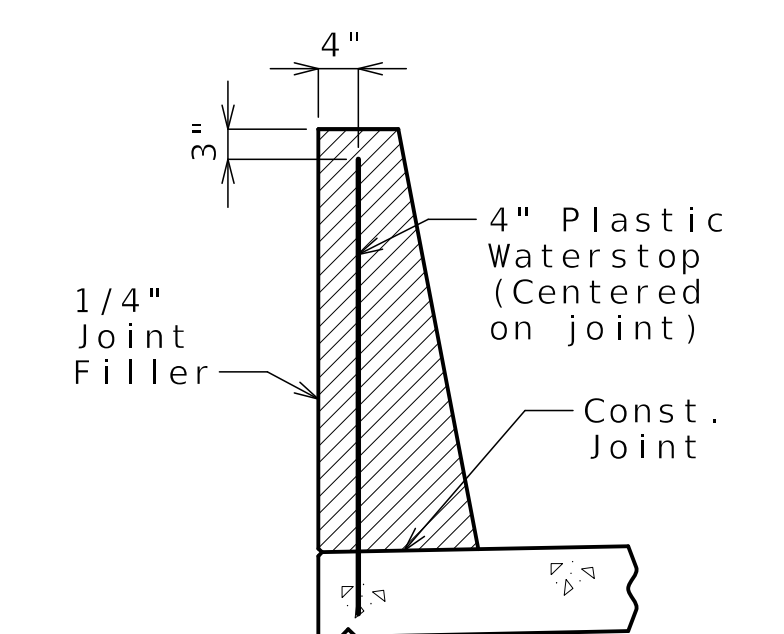
SECTION A-A
 (Form liner aesthetic details on right barrier not shown.)
 Use a minimum lap of 3'-1" for #5 horizontal barrier bars.
 (2) To top of bar



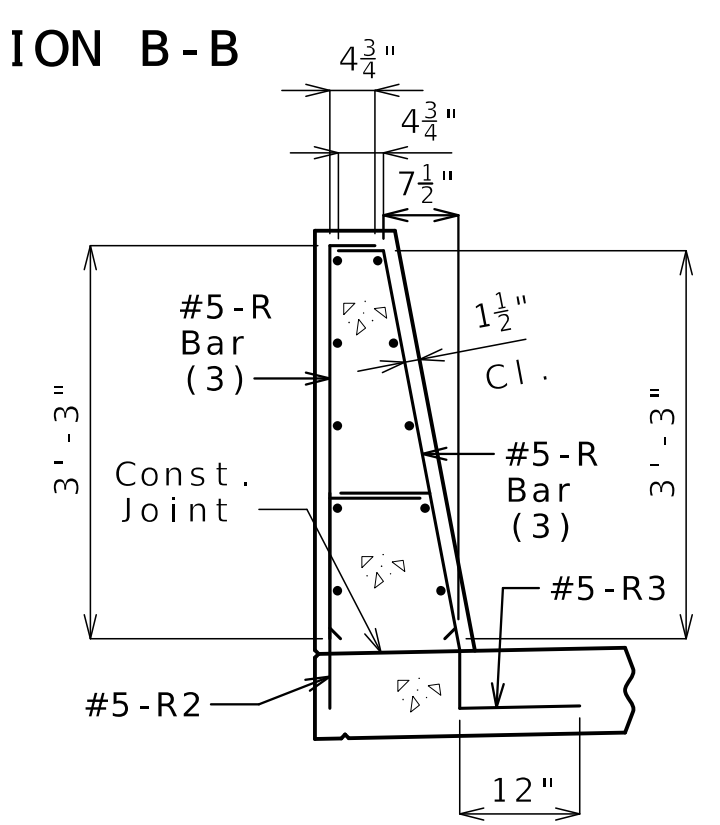
SECTION B-B



PART PLAN SHOWING JOINT LOCATION



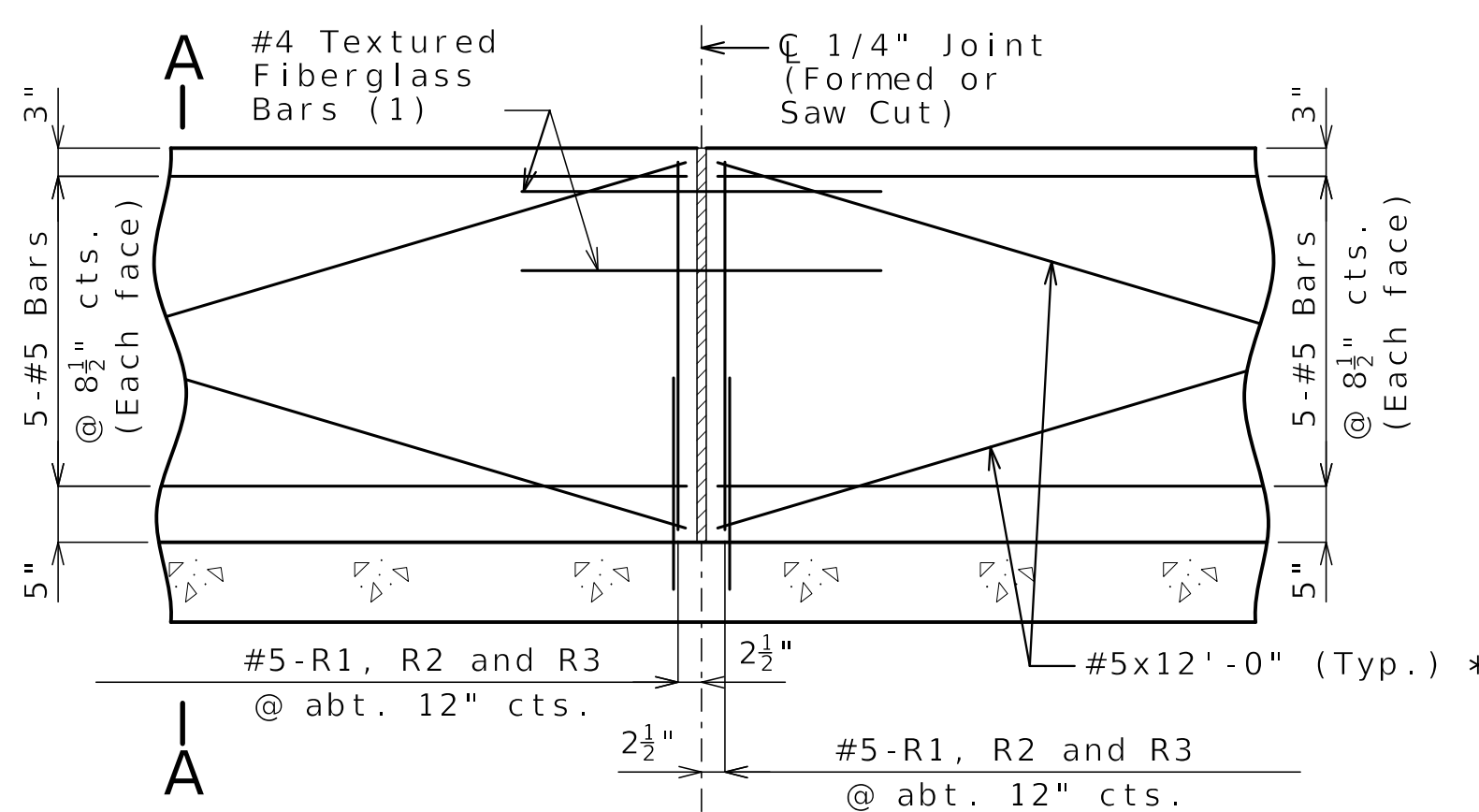
WATERSTOP DETAIL
 Plastic waterstop shall be placed in formed joints on lower side of superelevation.



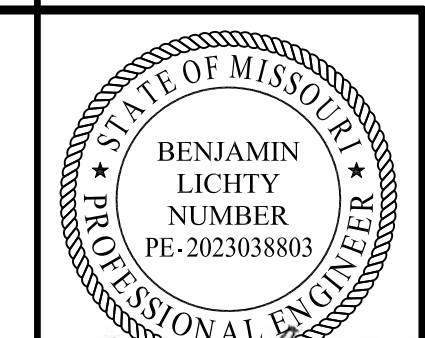
R-BAR PERMISSIBLE ALTERNATE SHAPE
 (Form liner aesthetic details on right barrier not shown.)
 (3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

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. B22-30.
- 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. B22-31.
- For Light Blister details, see Sheet No. B22-29.



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



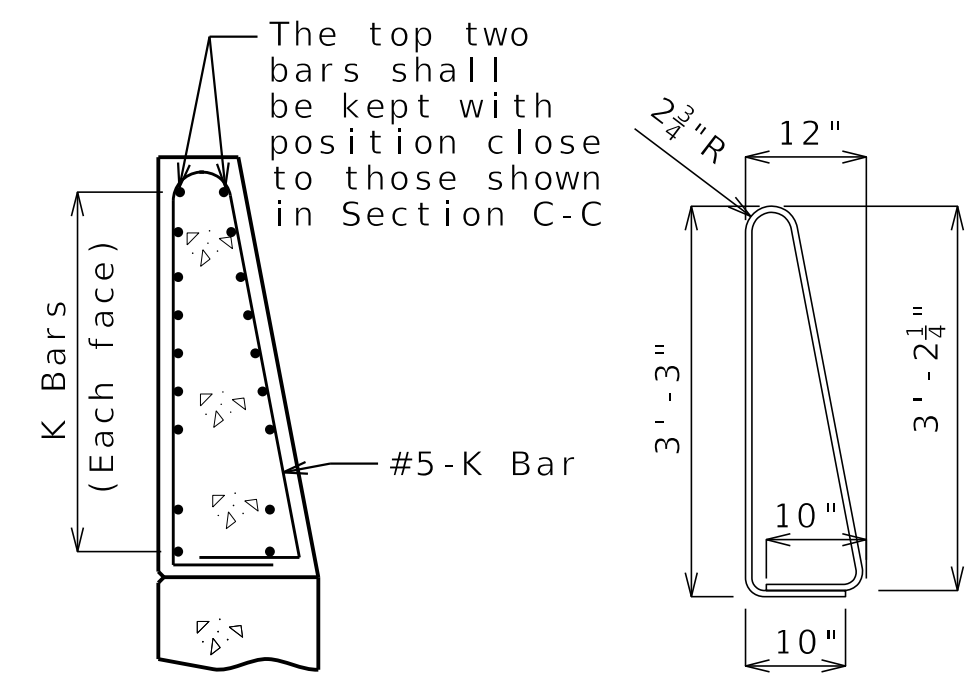
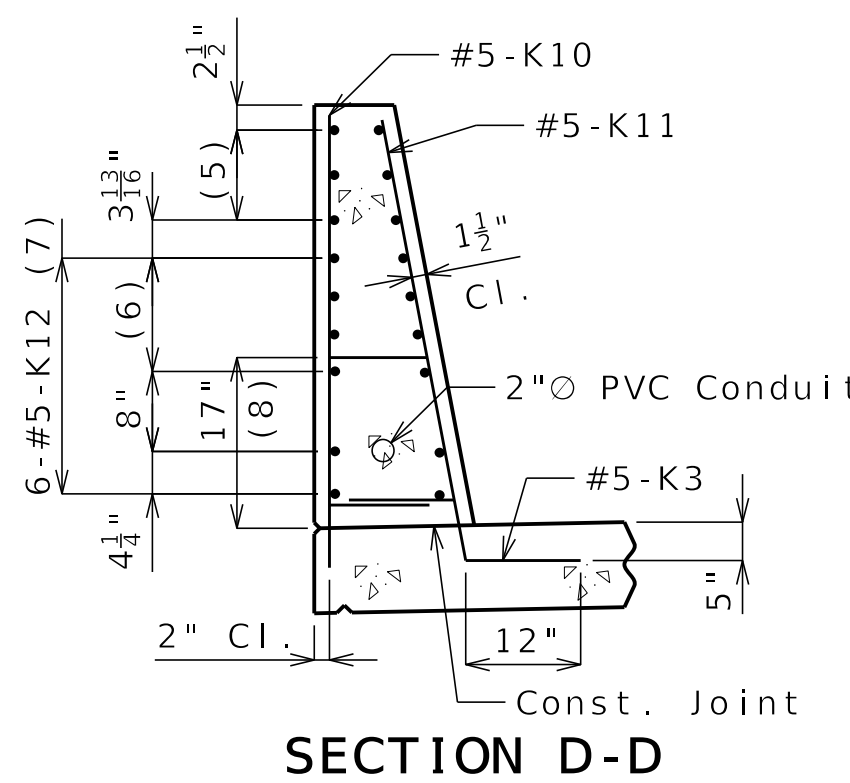
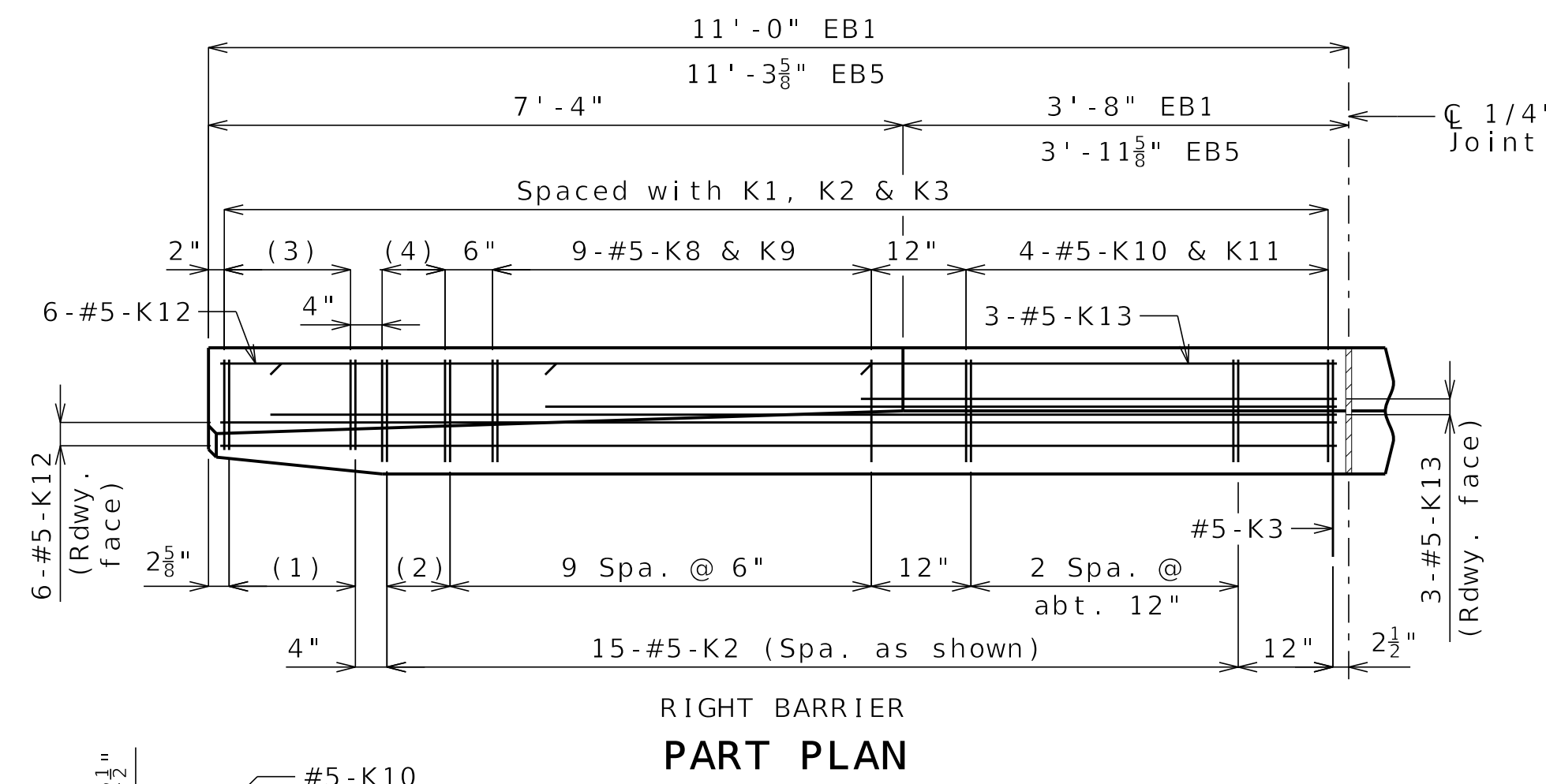
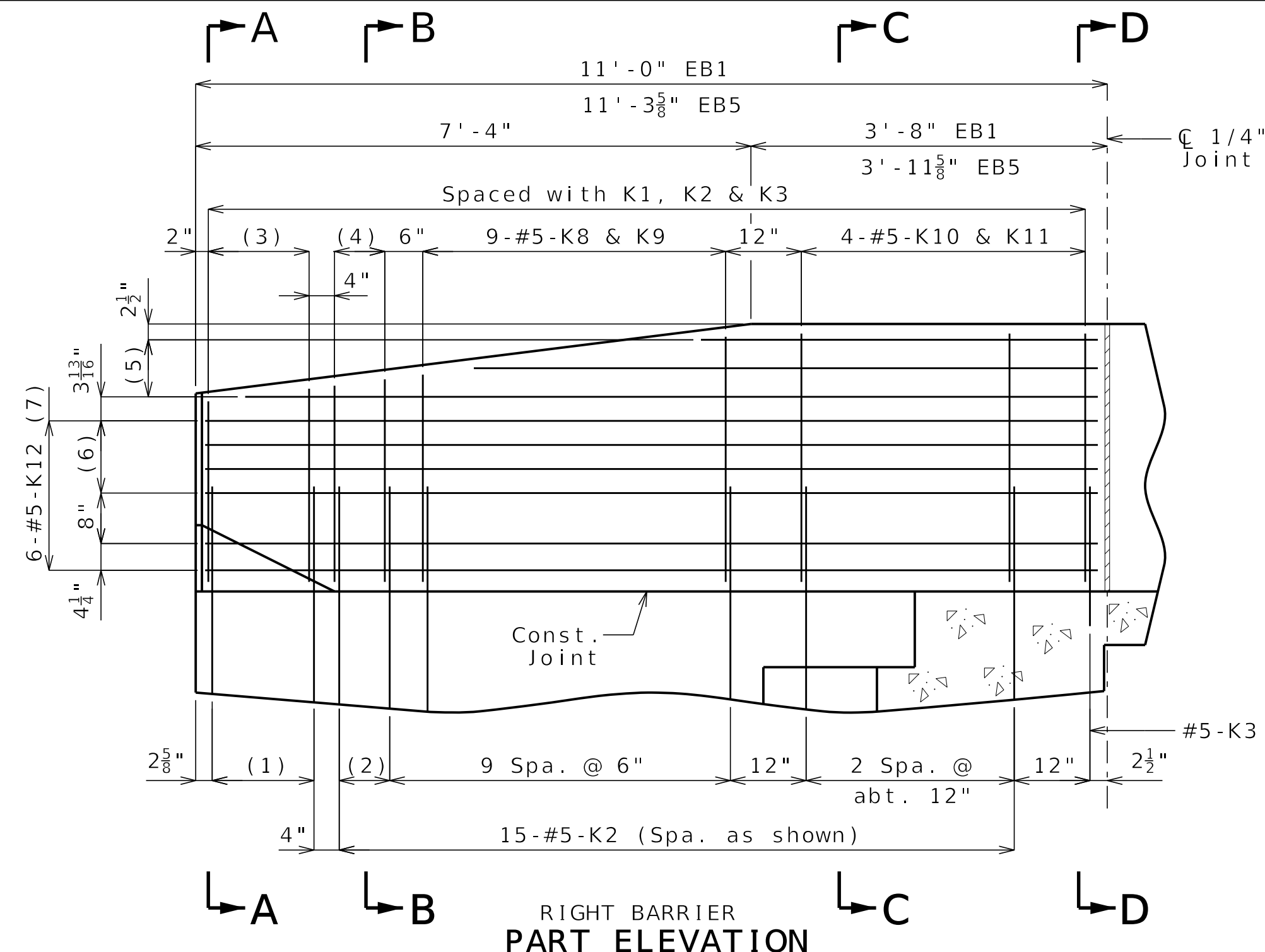
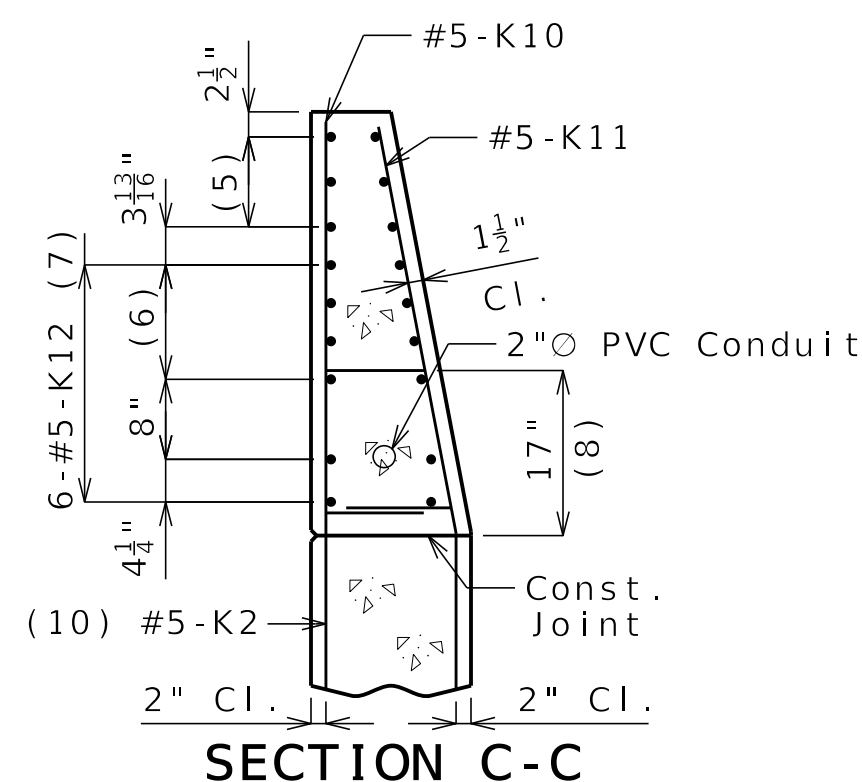
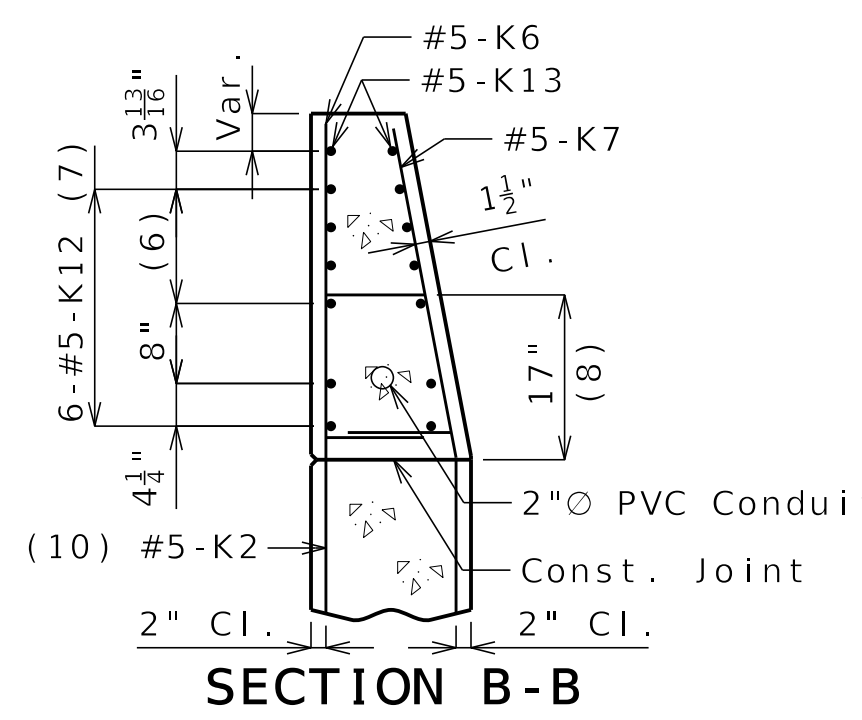
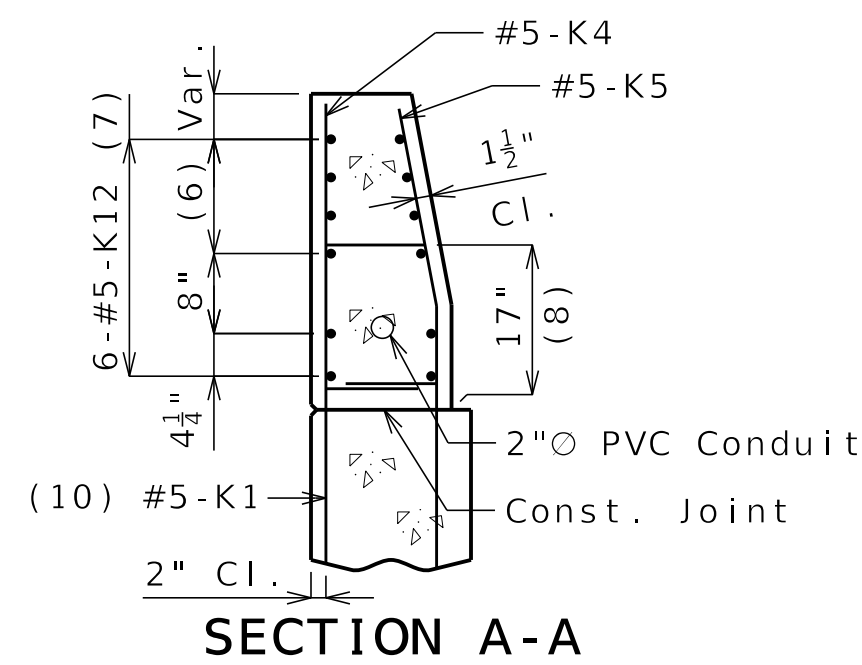
Benjamin Lichty
 10-08-2025
 DATE PREPARED
 09/22/2025
 ROUTE 1-70 STATE MO
 DISTRICT BR SHEET NO. B22-27
 COUNTY JACKSON
 JOB NO. J411486D
 CONTRACT ID. 240807-C01
 PROJECT NO.

BRIDGE NO. A9635

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

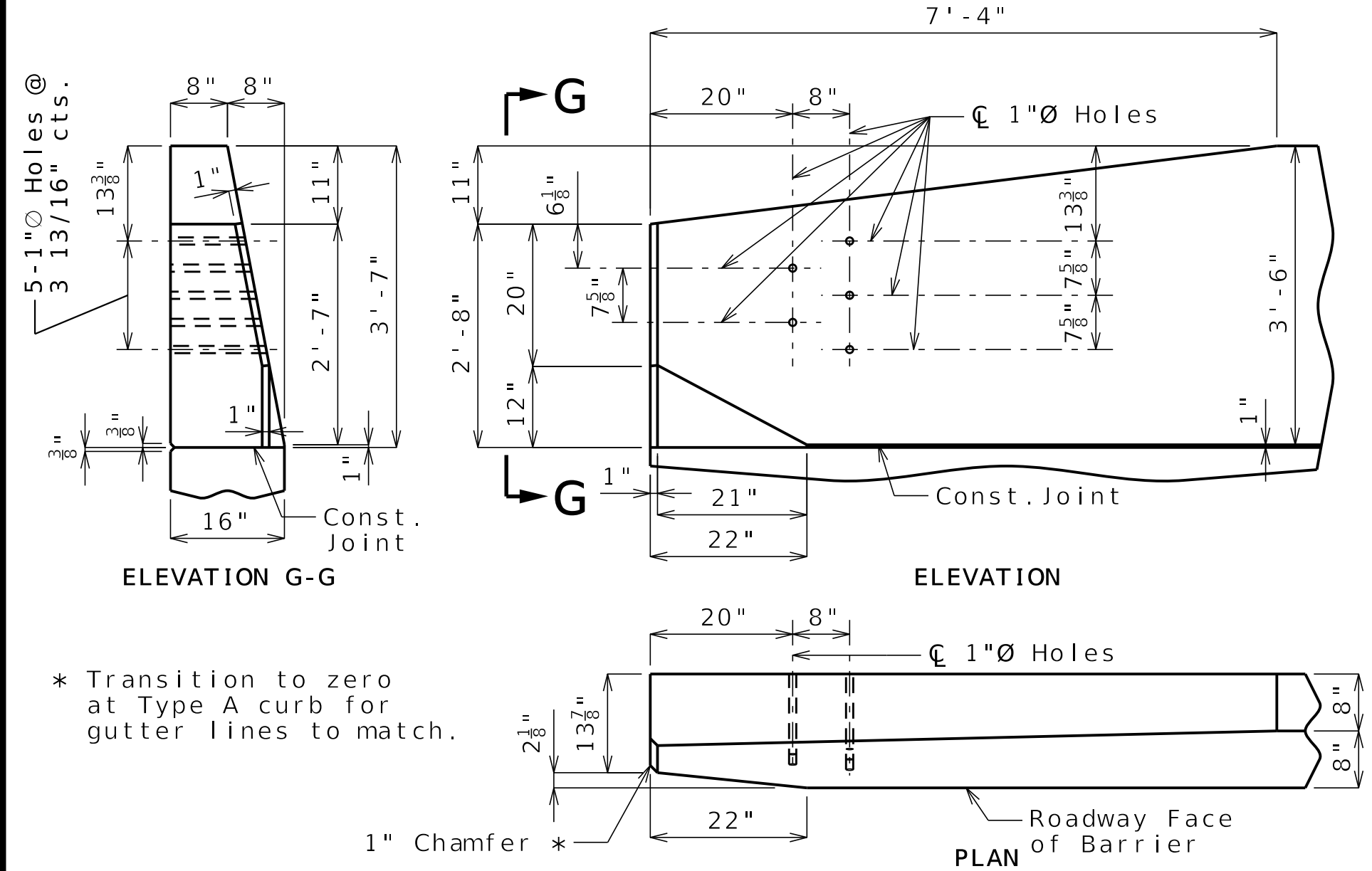
CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270
HNTB



K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)
 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 1/4" 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 wingall is 2'-9"



DETAILS OF GUARD RAIL ATTACHMENT

General Notes:

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617.

For Form Liner and Aesthetic Stain details of right barrier not shown, see Sheet No. B20-31.

EB1 denotes End Bent No. 1
 EB5 denotes End Bent No. 5

Reinforcing Steel:

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

Released For Construction
 Not to Scale

Revision: 0.0
 Date: 10/10/2025
 Package: BRD-22-EB70-Van Brunt

TYPE D BARRIER AT END BENTS



Benjamin Lichty
 10-08-2025

DATE PREPARED 09/22/2025	
ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B22-28
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9635

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

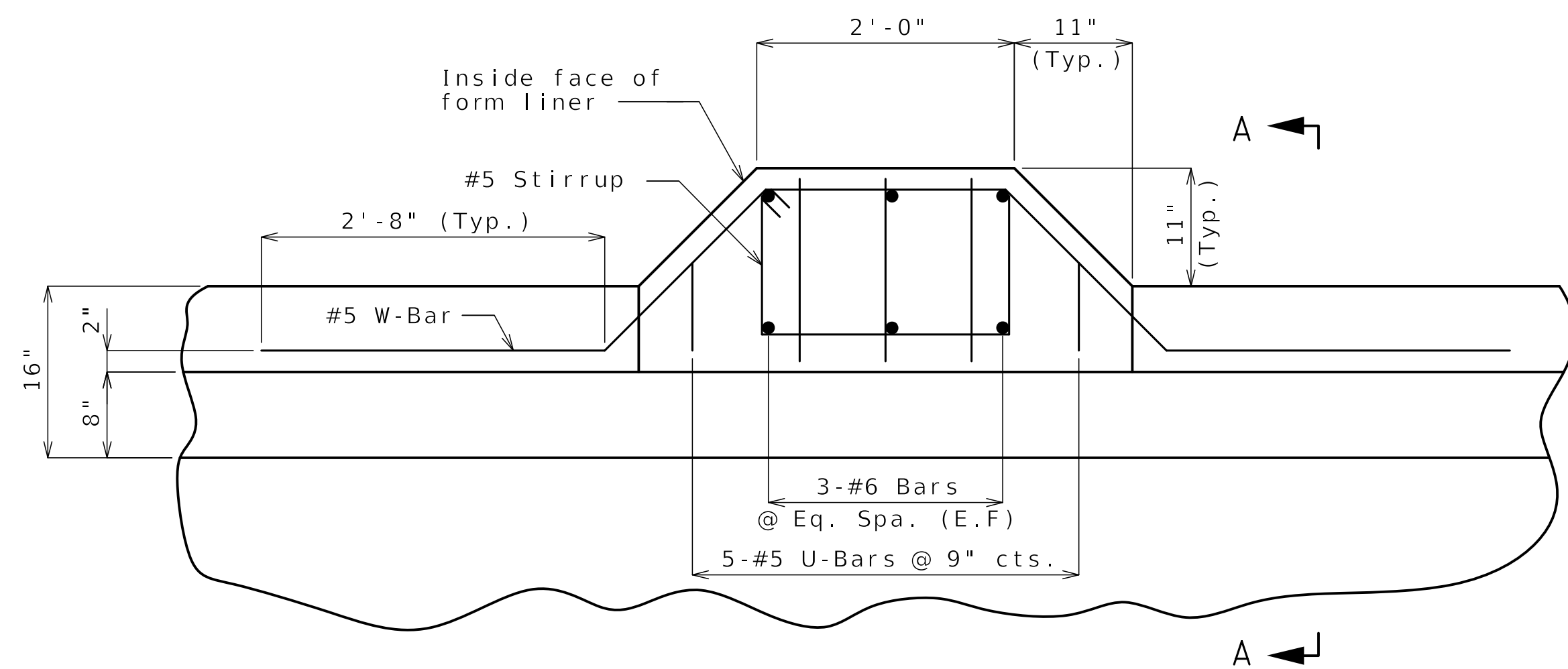
CLARKSON RADMACHER
 JOINT VENTURE

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

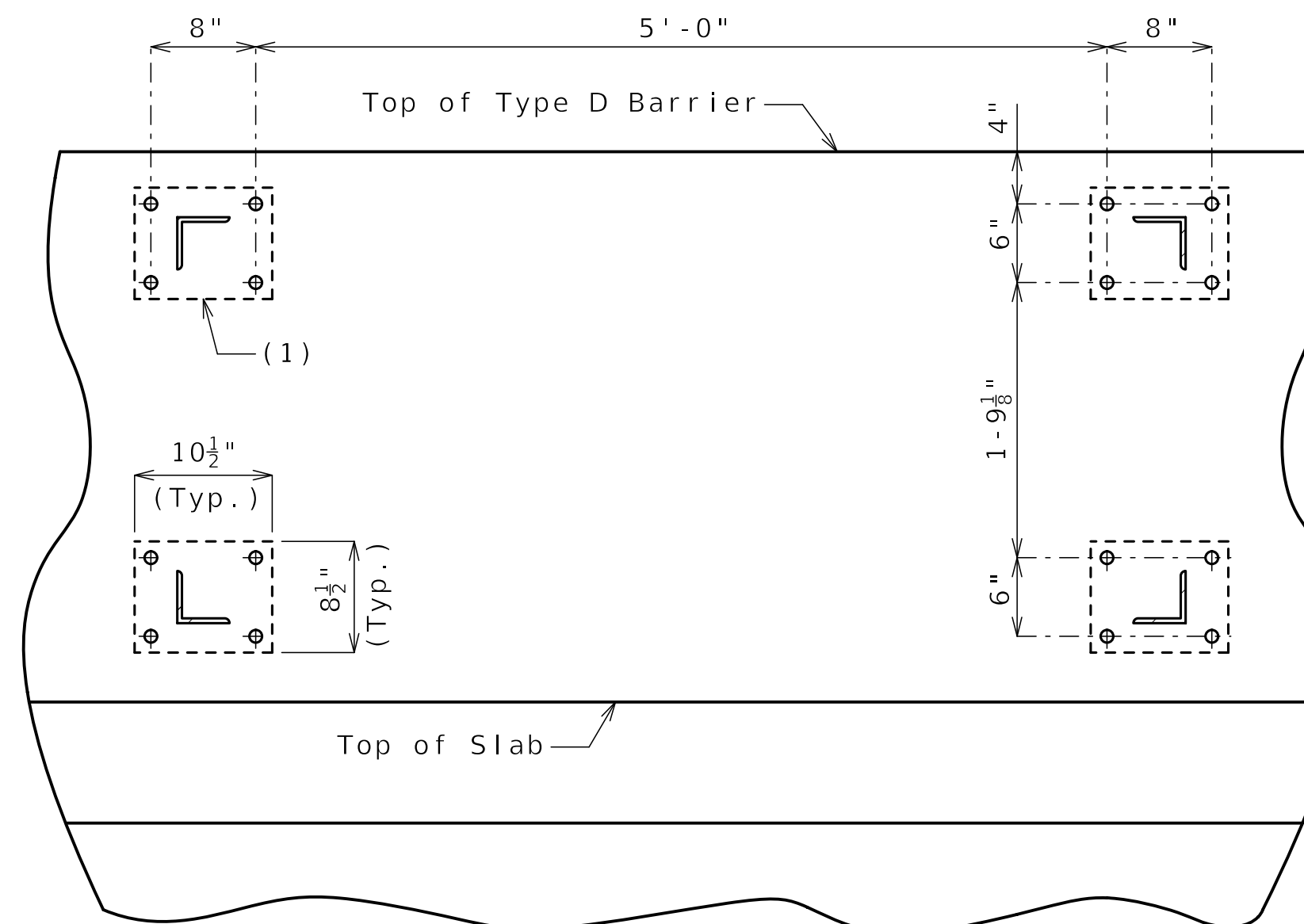
Detailed MAY 2025
 Checked JUN 2025

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

Sheet No. B22-28 of B22-39

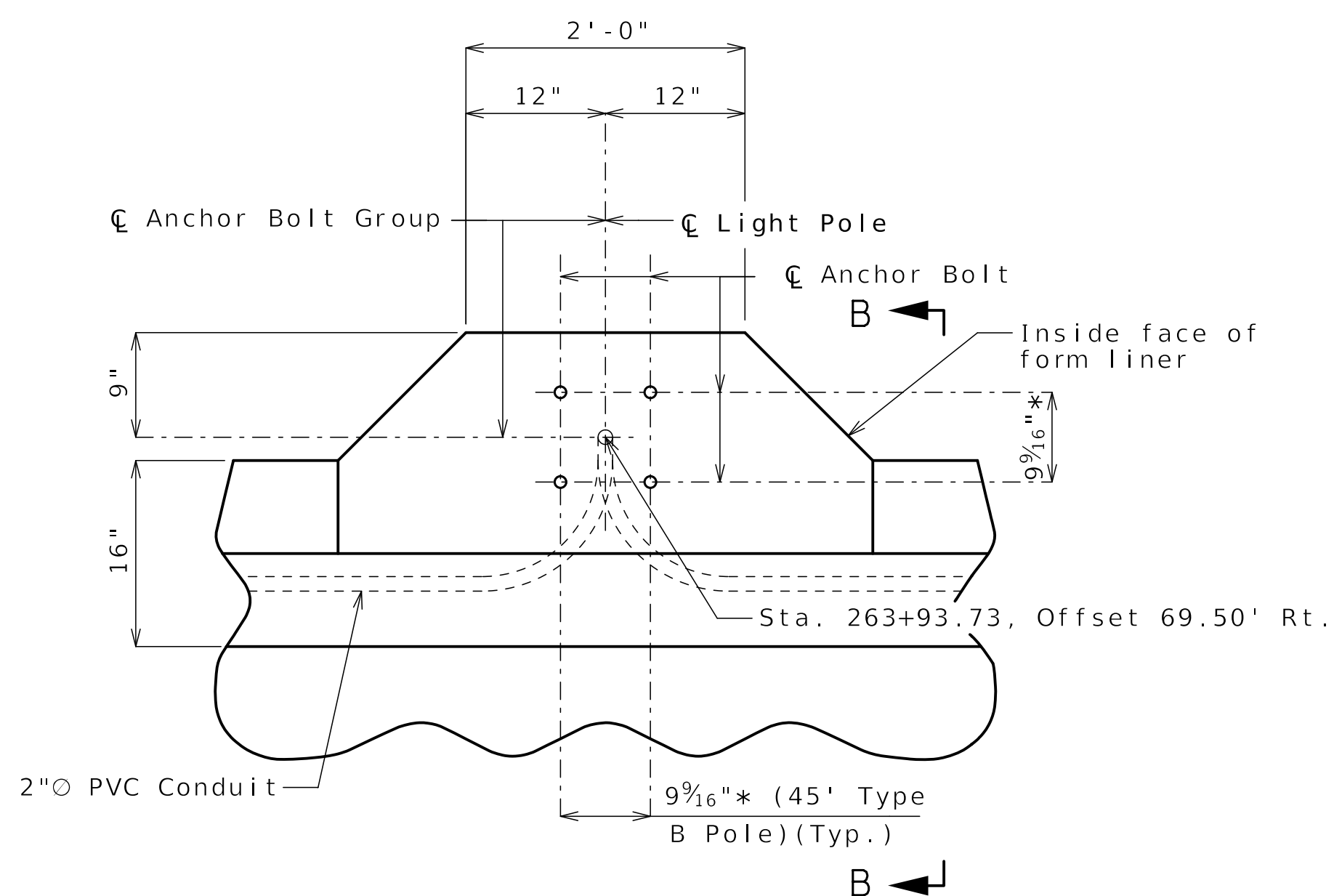


LIGHT POLE MOUNTING PLAN SHOWING REINFORCEMENT



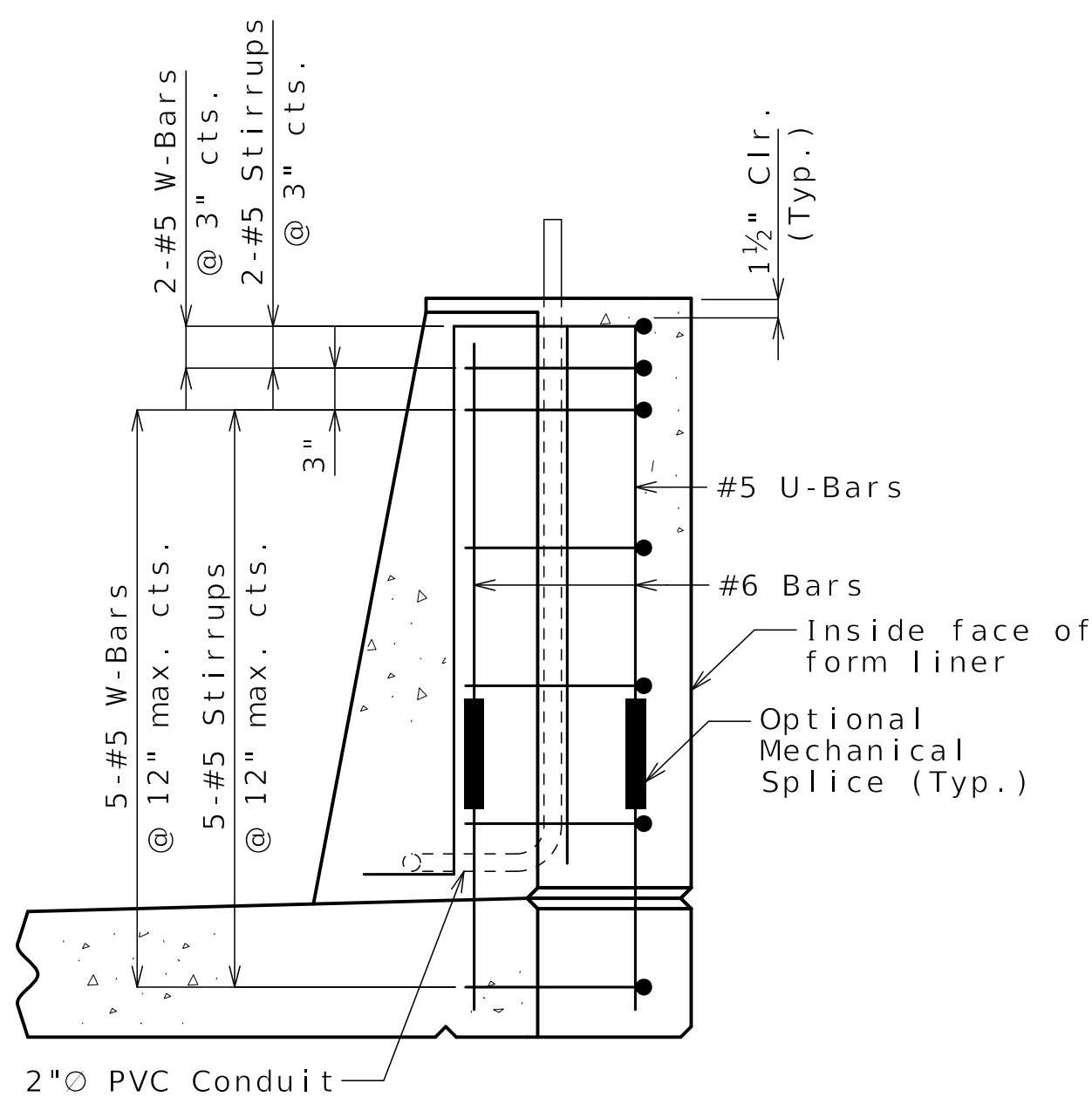
SIGN MOUNT ANCHOR LAYOUT
(Form liner not shown)

(1) Area of barrier not to receive form liner treatment (Typ.). Minimum area shall be equal to area of existing sign mount plates.

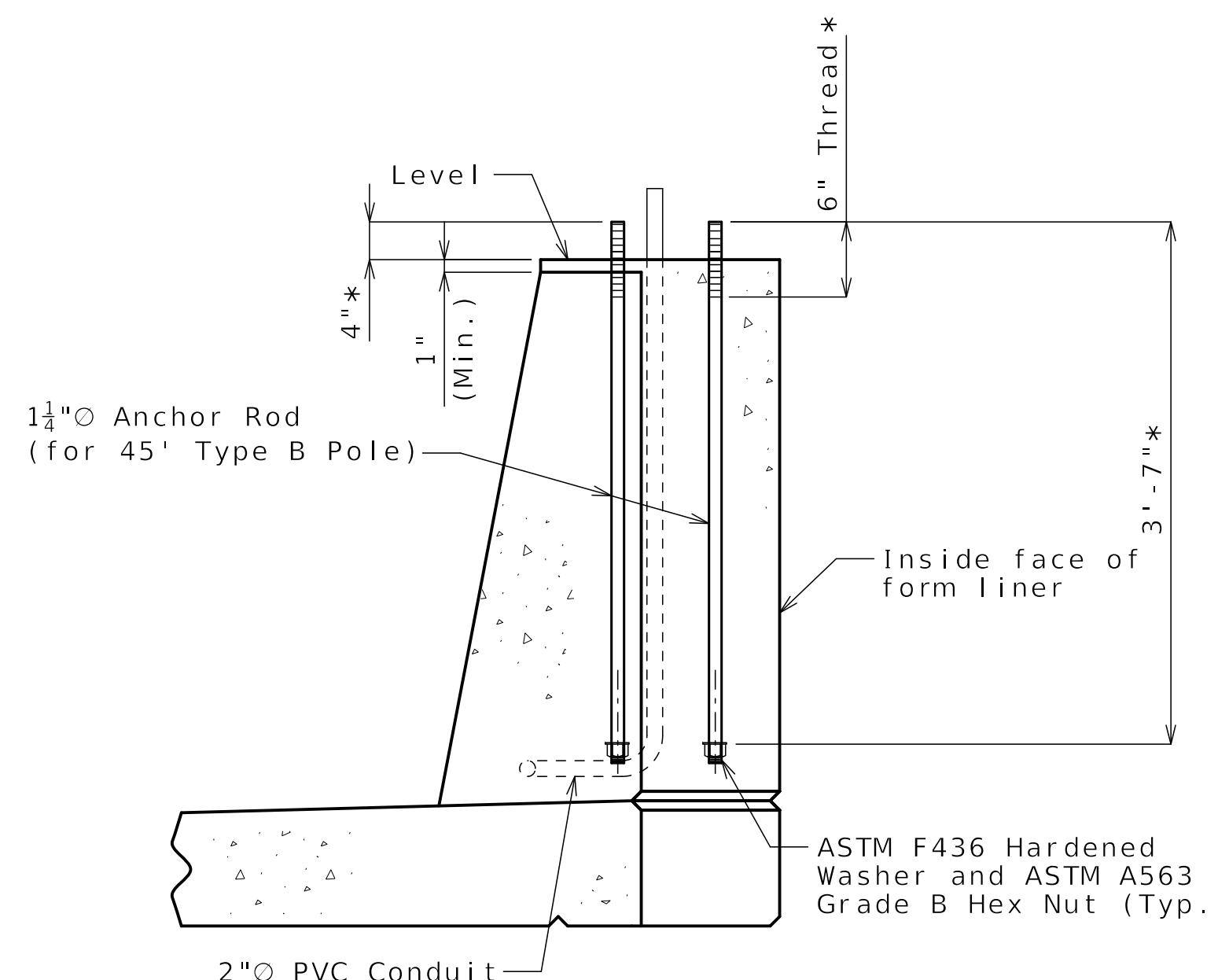


LIGHT POLE MOUNTING PLAN

Sign Support Notes:
Relocate existing sign support from existing bridge barrier to back of Type D barrier.
Dimensions of the sign support anchor layout are based on existing plans. Contractor shall verify dimensions in field before beginning work.
Anchors shall be a drilled cone expansion or a cast-in-place wing type threaded insert. The minimum ultimate pullout capacity for these anchors shall be 2700 lbs in f'c = 4000 psi concrete. Lead anchors will not be permitted. Holes in the barrier for anchors shall not be drilled until the concrete is at least 7 days old.
For location of sign mount anchors, see Sheet No. B22-25.
For form liner and aesthetic details not shown, see Sheet No. B22-31.



SECTION A-A

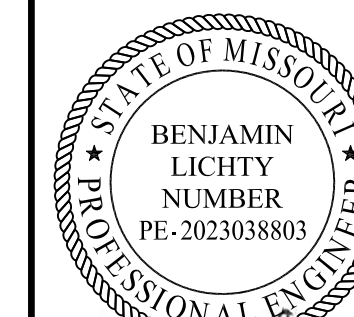


SECTION B-B

LIGHT BLISTER AND SIGN MOUNT DETAILS

Light Blister 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. B22-24 and B22-25.
For Form Liner and Aesthetic Stain Details not shown, see Sheet No. B22-31.

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-22-EB70-Van Brunt



Benjamin Lichty
10-08-2025

DATE PREPARED
09/22/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B22-29

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9635

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



Benjamin Lichty
10-08-2025

DATE PREPARED
09/22/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B22-30

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9635

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)

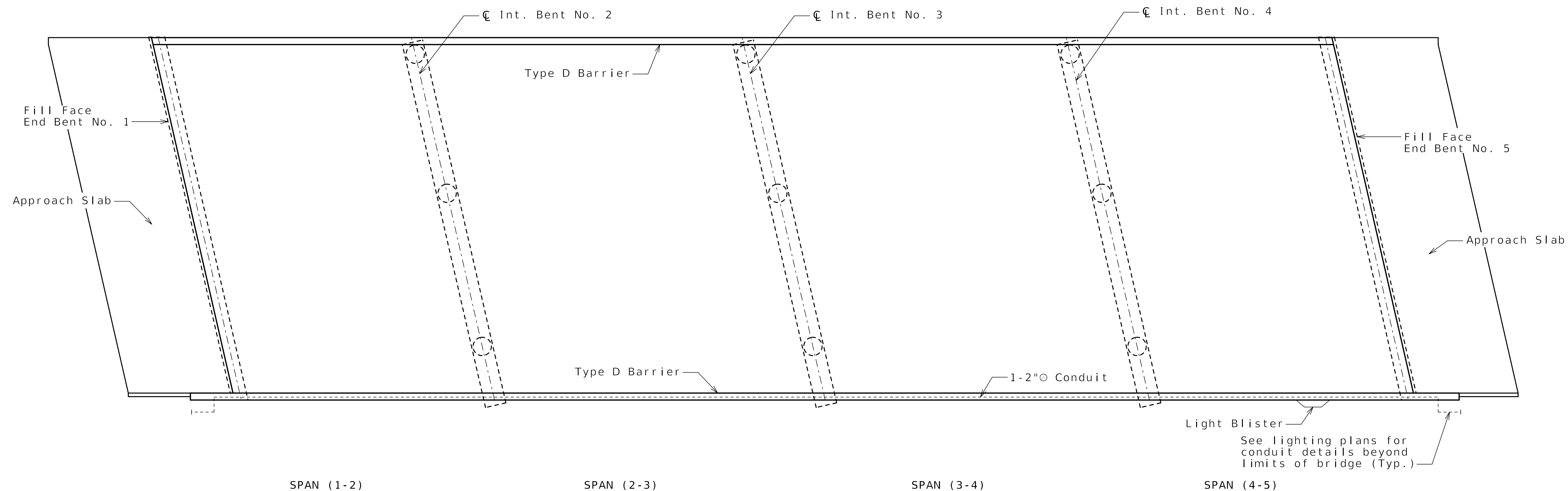
MoDOT

CLARKSON RADMACHER JOINT VENTURE

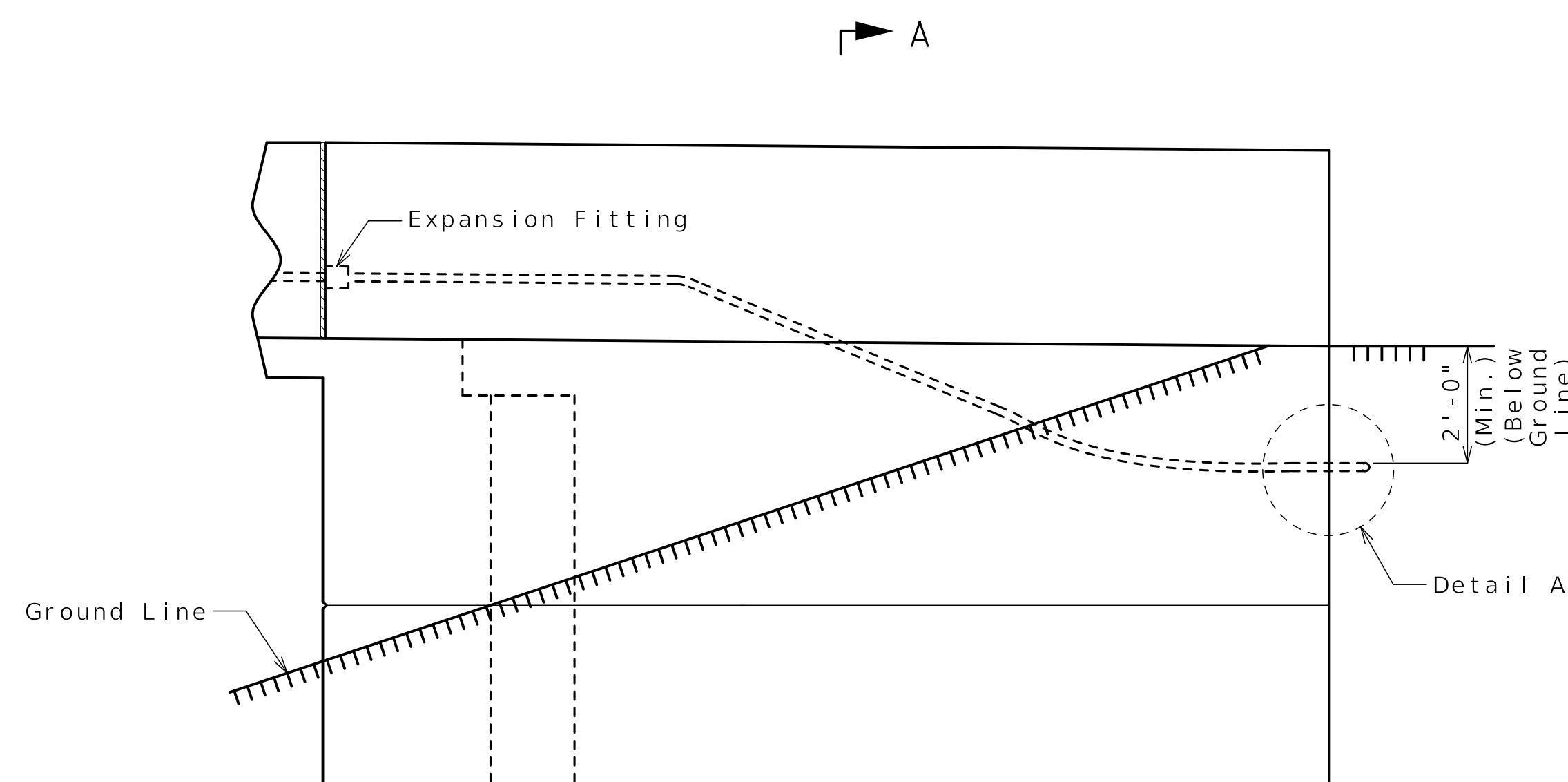
715 KIRK DRIVE KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY NO. 001270

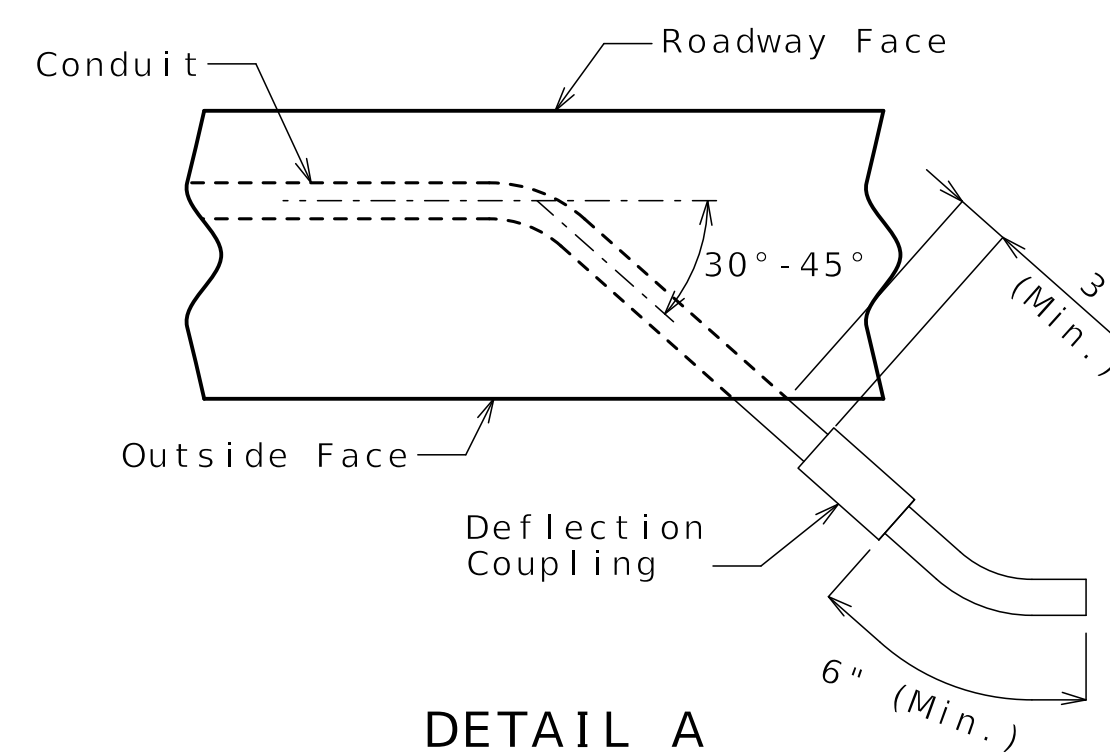
HNTB



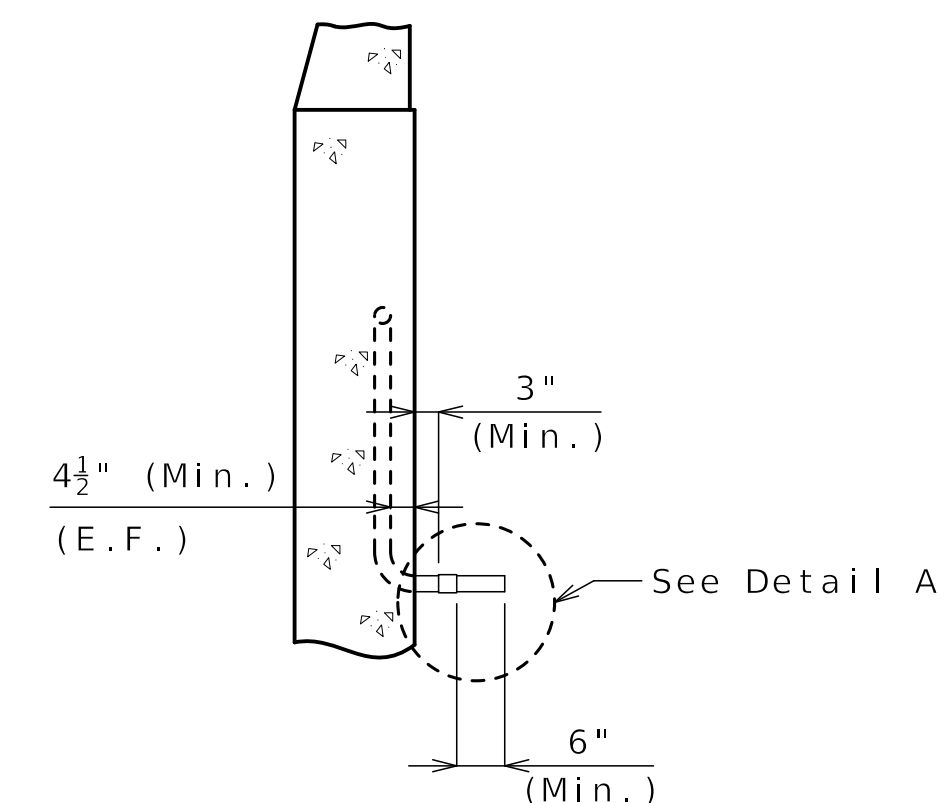
PLAN OF CONDUIT SYSTEM



PART WINGWALL ELEVATION



DETAIL A

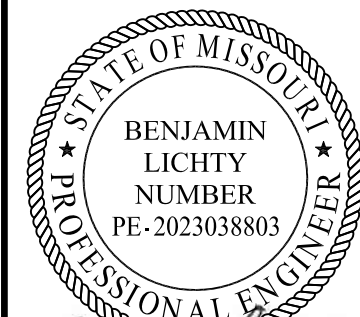


PART SECTION A-A

Notes:
 All conduit shall be rigid non-metallic schedule 40 heavy wall PVC (polyvinyl chloride plastic) with 3 1/2" minimum cover in barrier and 4 1/2" 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. B22-31.

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 10/10/2025
 Package: BRD-22-EB70-Van Brunt

DETAILS OF CONDUIT SYSTEM ON STRUCTURE



Benjamin Lichty
10-08-2025

DATE PREPARED
09/22/2025

ROUTE STATE
1-70 MO

DISTRICT SHEET NO.
BR B22-31

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9635

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)

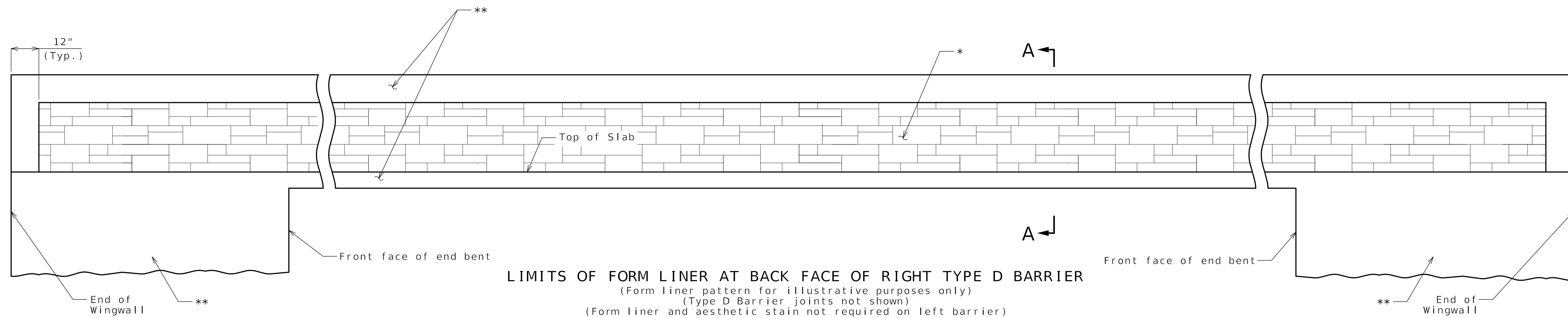
MoDOT

CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY NO. 001270

HNTB



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.

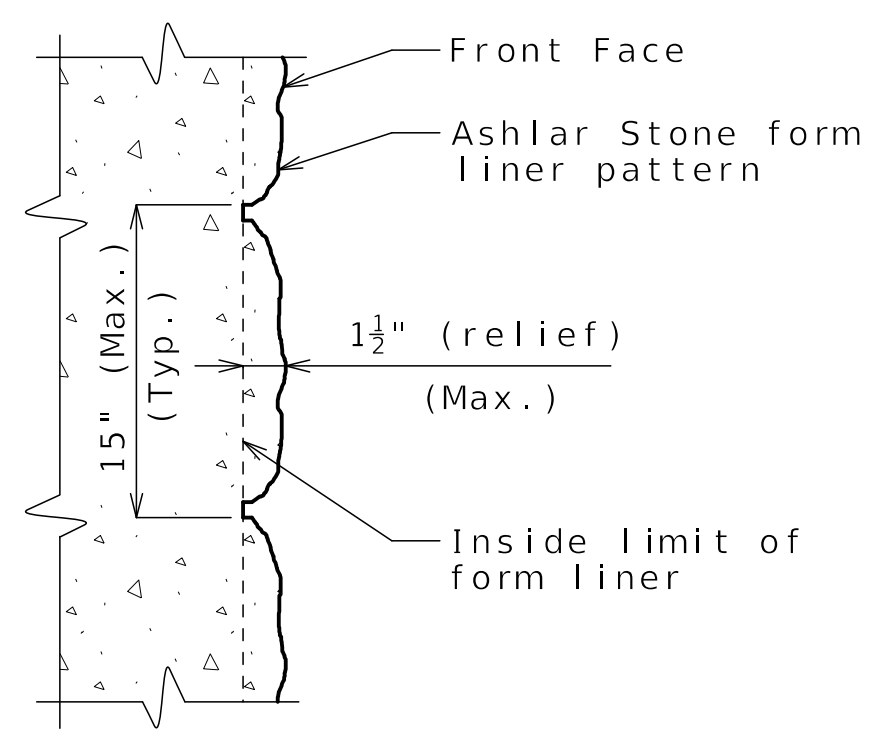
The following is a list of form liner manufacturers and types which may be used. Depth of relief for all form liner patterns shall vary up to 1 1/2". The height of any single "stone" shall be 15" maximum.

- 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

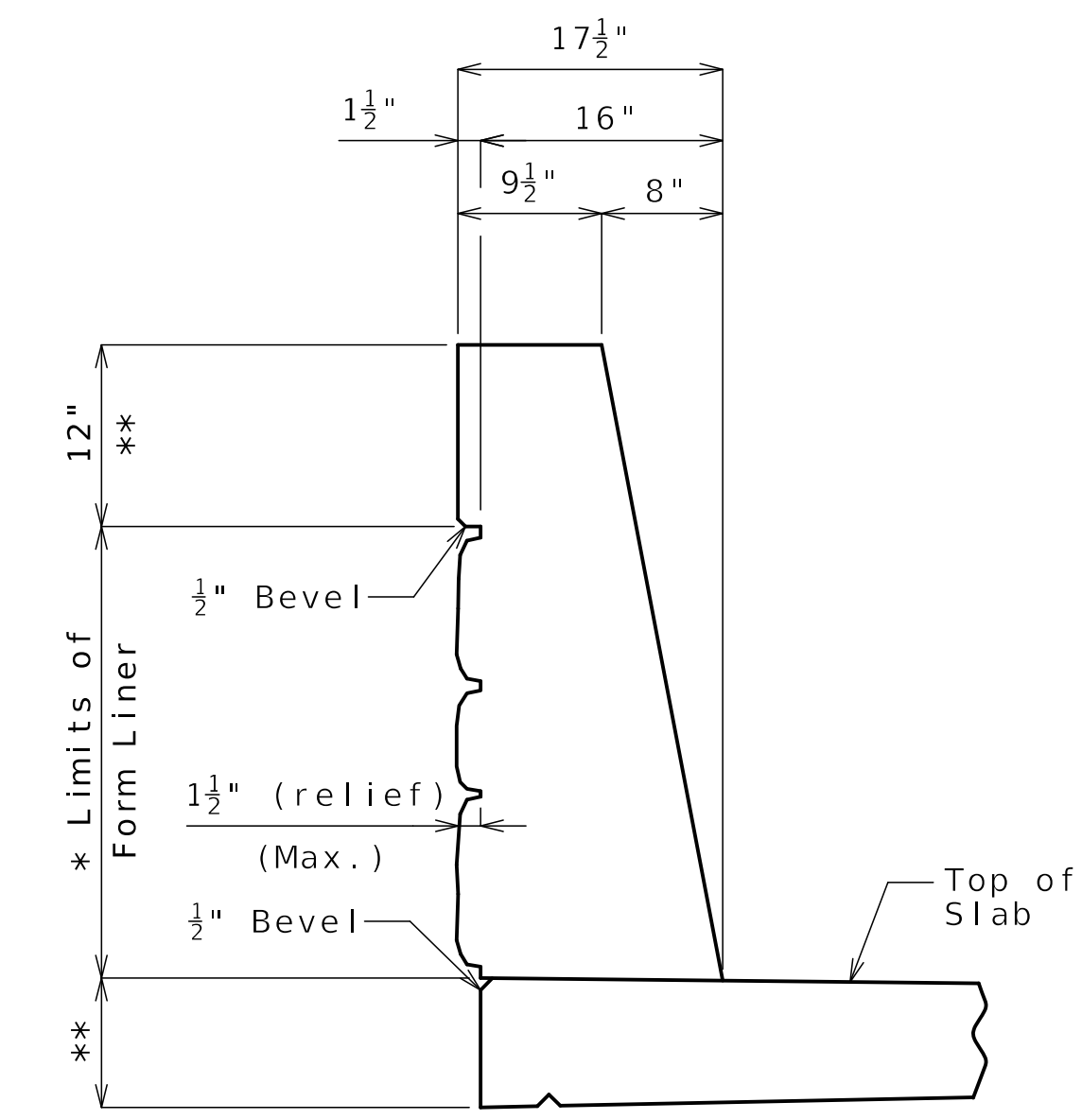
Aesthetic Concrete Stain Notes:

* 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

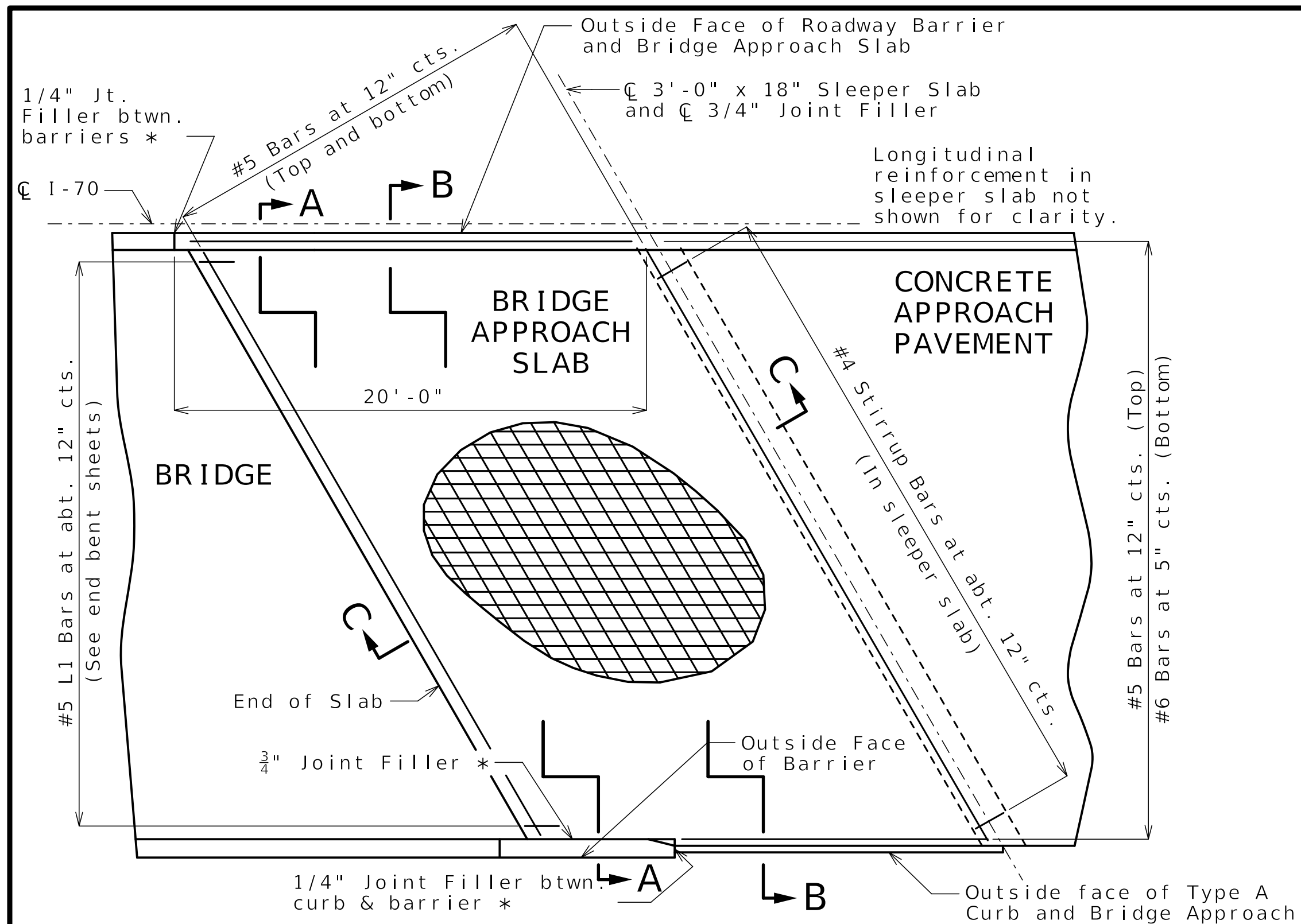
Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-22-EB70-Van Brunt

FORM LINER AND AESTHETIC STAIN DETAILS

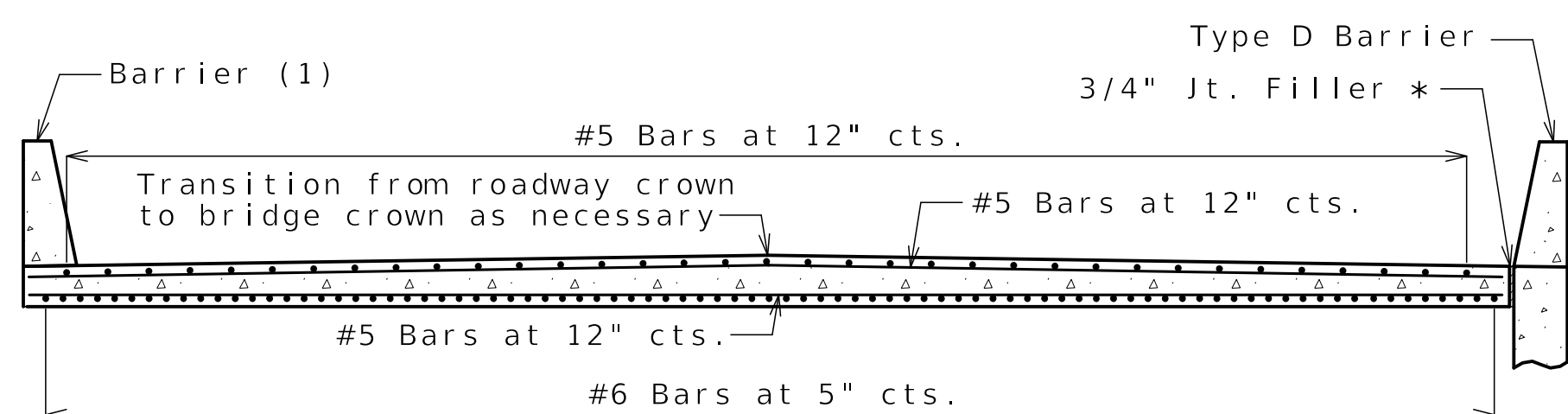
Detailed MAY 2025
Checked JUN 2025

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

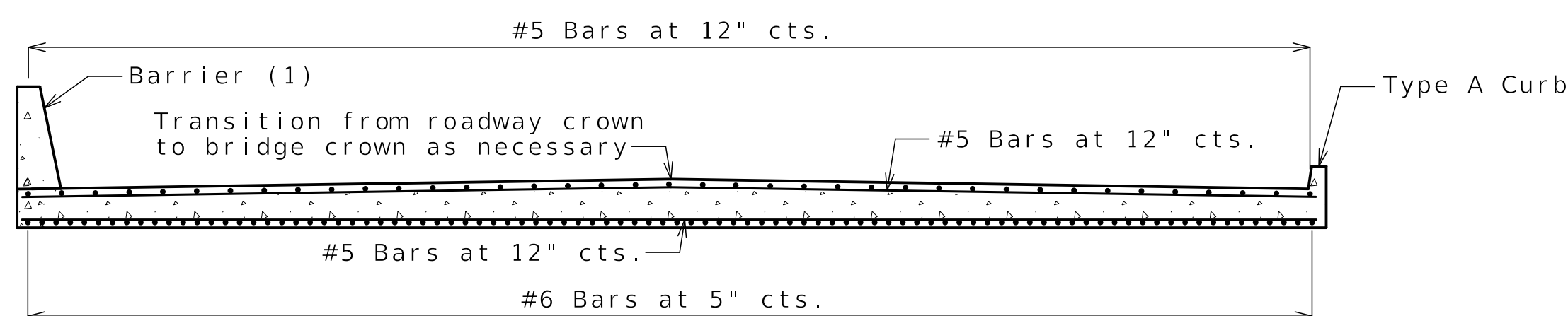
Sheet No. B22-31 of B22-39



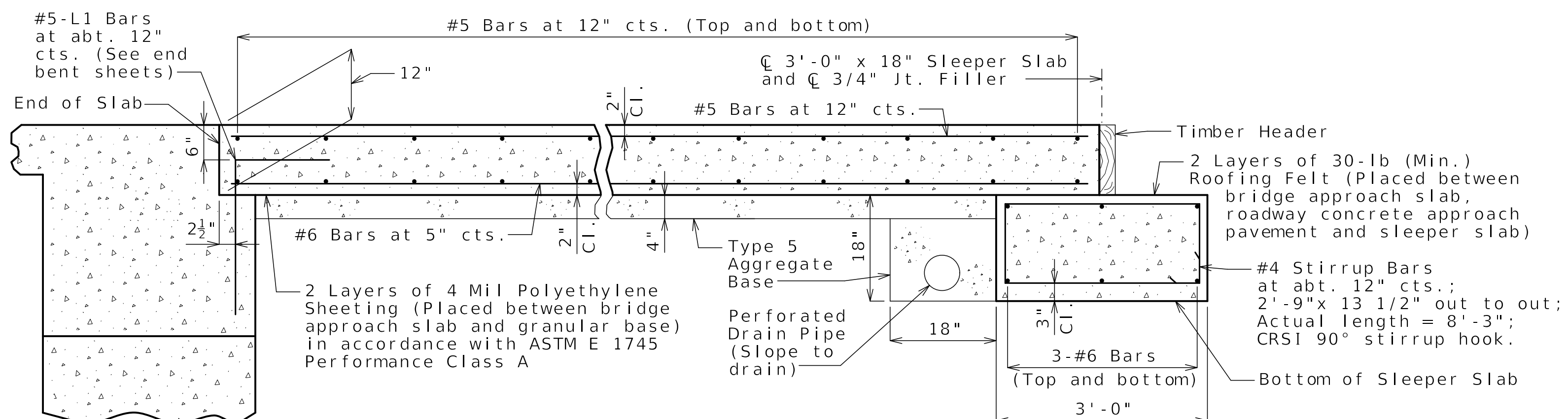
PART PLAN SHOWING REINFORCEMENT



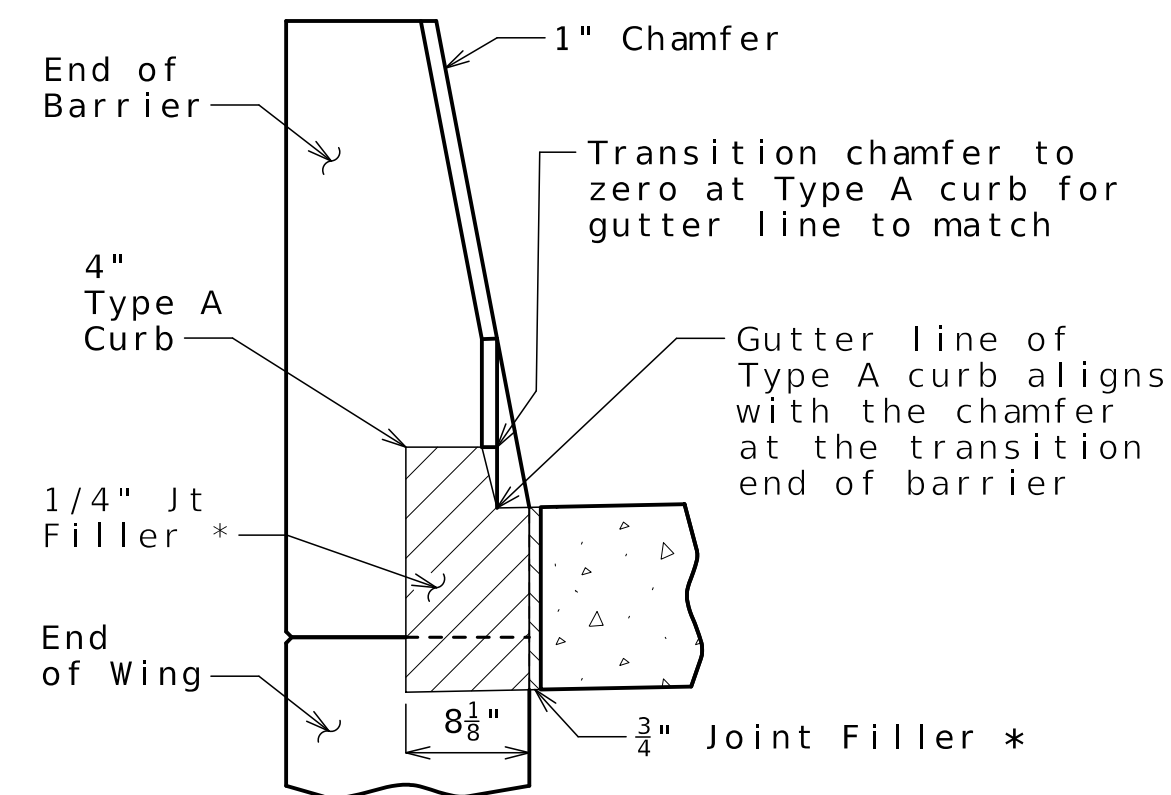
SECTION A-A
(End Bent No. 5 shown, End Bent No. 1 opposite hand)



SECTION B-B
(End Bent No. 5 shown, End Bent No. 1 opposite hand)



SECTION C-C



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.

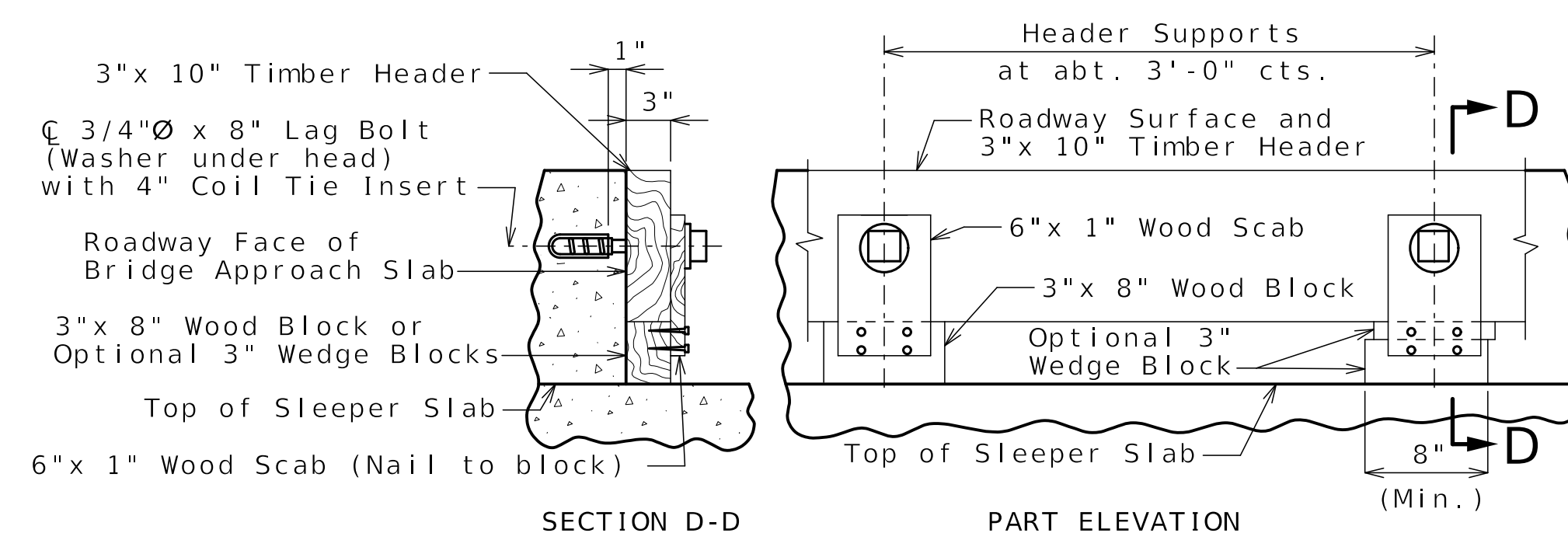
The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 29 inches for #5 bars and 44 inches for #6 bars, or by mechanical bar splice.

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.

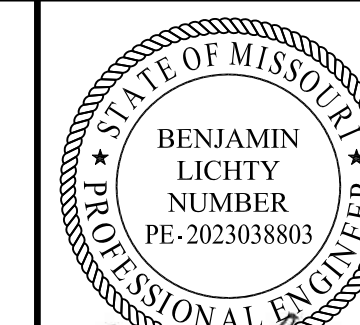
* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.



SECTION D-D PART ELEVATION
DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

BRIDGE APPROACH SLAB (MAJOR)



Benjamin Lichty

10-08-2025

DATE PREPARED

09/22/2025

ROUTE STATE

I-70 MO

DISTRICT SHEET NO.

BR B22-32

COUNTY

JACKSON

JOB NO.

J411486D

CONTRACT ID.

240807-C01

PROJECT NO.

BRIDGE NO.

A9635

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

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105 WEST CAPITOL JEFFERSON CITY, MO 65102

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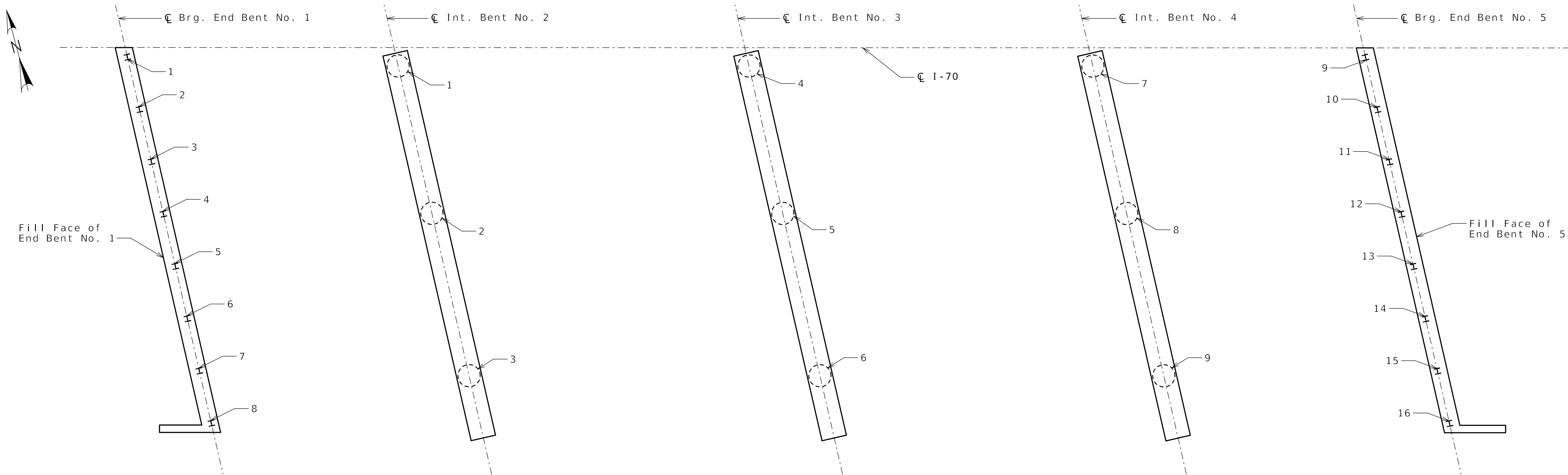


CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY NO. 001270

HNTB



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

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 1
1			
2			
3			
4			
5			
6			
7			
8			
			End Bent No. 5
9			
10			
11			
12			
13			
14			
15			
16			

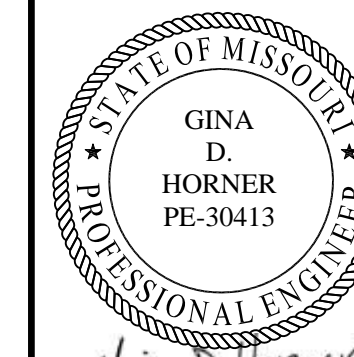
As-Built Drilled Shaft Data			
Shaft No.	Top of Sound Rock (Elev.)	Tip of Casing (Elev.)	Remarks
			Intermediate Bent No. 2
1			
2			
3			
			Intermediate Bent No. 3
4			
5			
6			
			Intermediate Bent No. 4
7			
8			
9			

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

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-22-EB70-Van Brunt

AS-BUILT PILE AND DRILLED SHAFT DATA



Gina D. Horner
10-8-2025

DATE PREPARED
09/22/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B22-33

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9635

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

DATE 09/22/25

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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



SOIL BORING NUMBER: VB_B3_2

Page 1 of 2

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1057725.0 / 2783116.9
DRILLING FIRM PPI **DRILLER** Ray A. **DATE STARTED** 03/04/2025
LOGGED BY Cameron Dupont **DATE COMPLETED** 03/04/2025
SURFACE ELEVATION 801* **RIG TYPE** CME-55
METHOD Auger, Water Rotary, NQ Core **TOOLING** 3-3/4" Tricone, 1-1/2" AWJ

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)			
0.3									CONCRETE									
3.0									Brown, soft to firm, moist, LEAN CLAY (CL), trace organics			41-20-21	27.3	97.7	1.4			
9.0									Shale, thinly bedded, highly weathered, dark gray, soft to moderately hard									
15.5									- becomes green-gray, limey									
19.0									Limestone, highly weathered to weathered, gray-green, soft to moderately hard, some clay									
20.0									Limestone, slightly weathered, gray, hard, laminated shale seams throughout									
20.0									- becomes fresh to slightly weathered at 20'									
34.5									Shale, dark gray, moderately hard, limey									

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



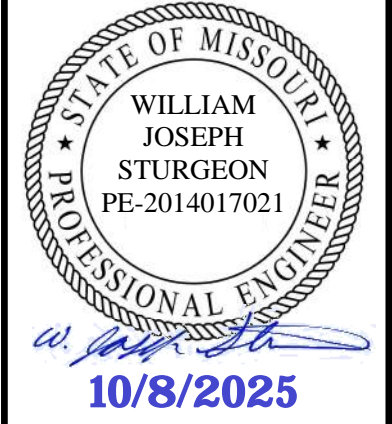
SOIL BORING NUMBER: VB_B3_2

Page 2 of 2

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1057725.0 / 2783116.9
DRILLING FIRM PPI **DRILLER** Ray A. **DATE STARTED** 03/04/2025
LOGGED BY Cameron Dupont **DATE COMPLETED** 03/04/2025
SURFACE ELEVATION 801* **RIG TYPE** CME-55
METHOD Auger, Water Rotary, NQ Core **TOOLING** 3-3/4" Tricone, 1-1/2" AWJ

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)			
38.5									Shale, dark gray, moderately hard, limey			6.8	116.1	306				
40.0									Limestone, fresh, gray, hard									
40.0									Bottom of Boring at 40'									
									Boring backfilled and patched with asphalt 3/3/25									

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



DATE PREPARED 09/22/2025	
ROUTE 1 - 70	STATE MO
DISTRICT BR	SHEET NO. B22 - 37
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807 - C01	
PROJECT NO.	
BRIDGE NO. A9635	

DATE	DESCRIPTION
09/22/25 <td>REV 0 - RFC SUBMITTAL</td>	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-22-EB70-Van Brunt

Notes:
For locations of borings, see Sheet No. B22-02 and Geotechnical Report.

BORING LOGS

