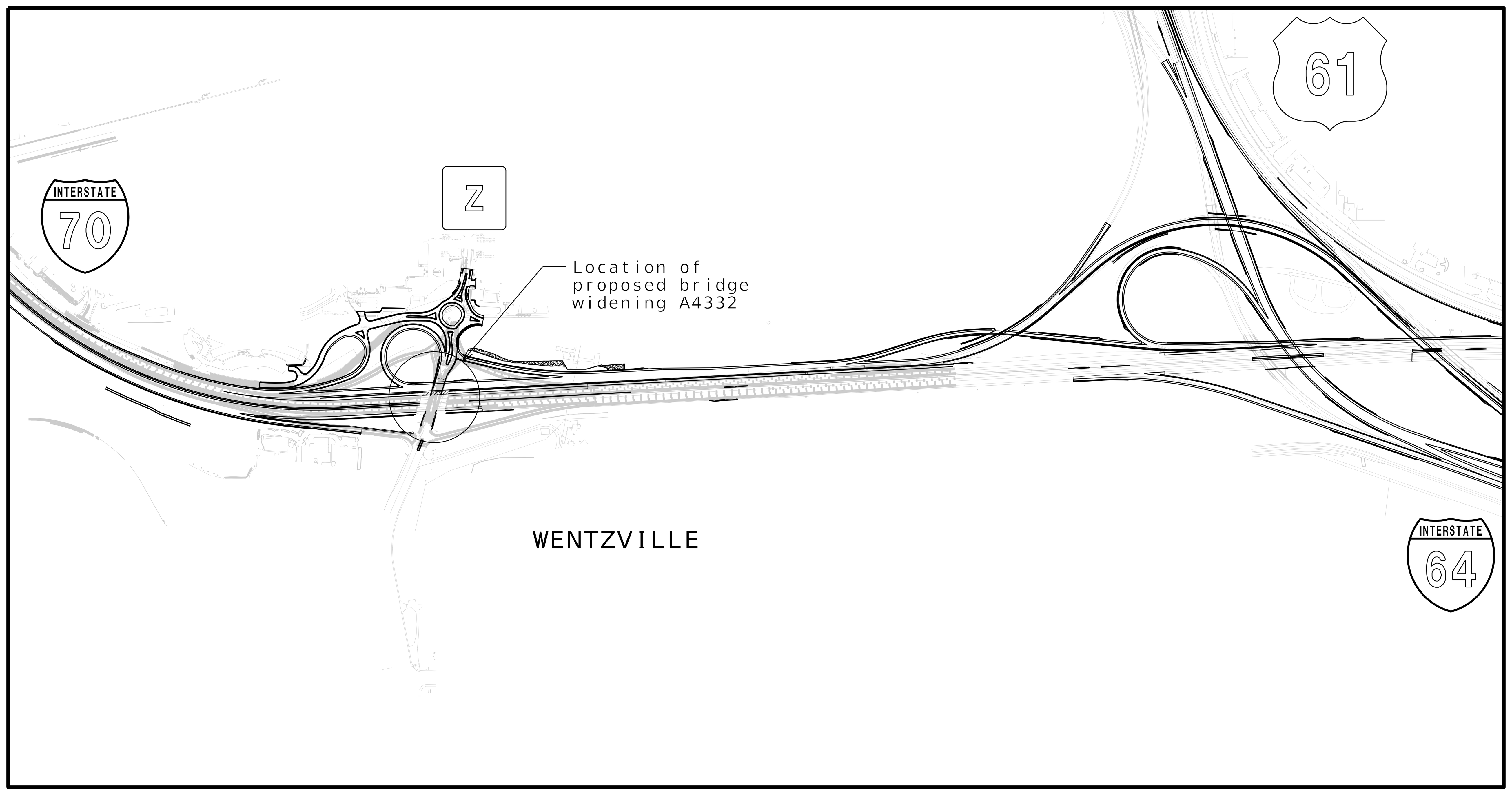
SEC/SUR 25 TWP 47N RGE 1E

U.I.P. REHABILITATE & WIDEN EXISTING (43' - 60' - 36') PRESTRESSED CONCRETE I-GIRDER SPANS



LOCATION MAP

N

INDEX OF DRAWINGS

BRIDGE: ROUTE I-70 WB OVER ROUTE Z

ROUTE I-70 FROM WENTZVILLE PKWY TO ROUTE 61
ABOUT 1.1 MILES EAST OF WENTZVILLE PKWY
BEGINNING STATION 1233+61.00 +/- MATCH EXISTING

TITLE SHEET AND INDEX OF DRAWINGS

Designed JUL 2025
Detailed JUL 2025
Checked JUL 2025

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

B_A43232_001_JST0020_TITLE.dgn 9:23:06 AM 9/2/2025

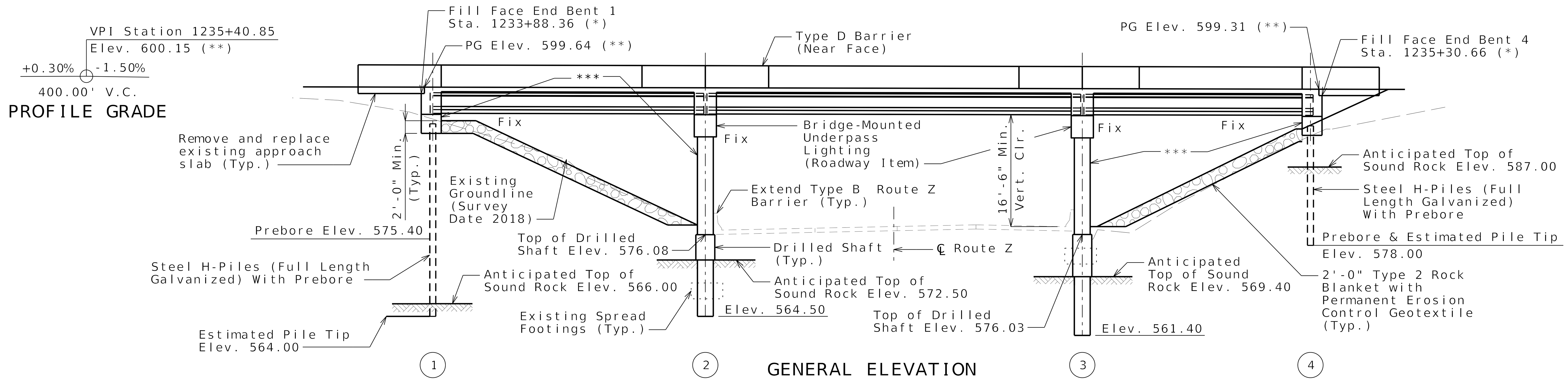
STATE OF MISSOURI
David J. Glastetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	A43232-1
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

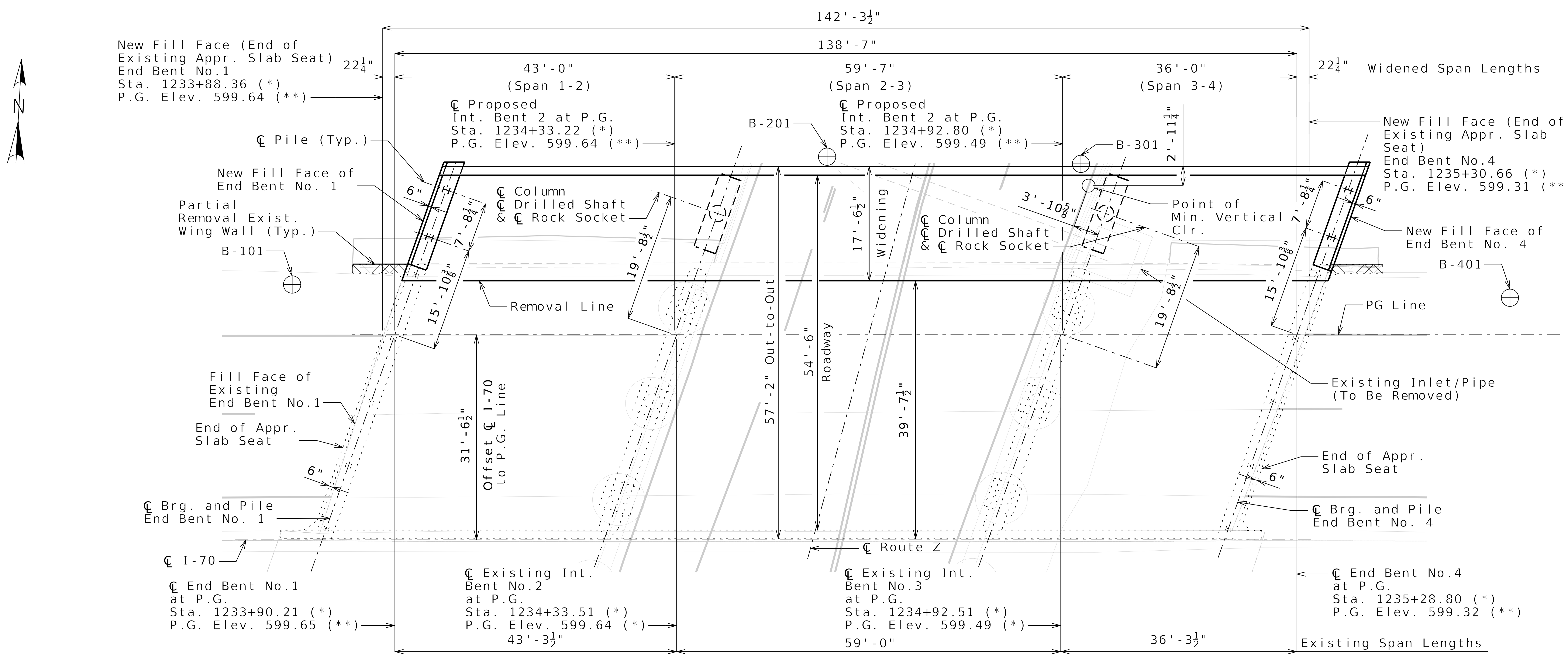
DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
IMPROVE 70 ALLIANCE
HNTB
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270
Bartlett & West

U.I.P. REHABILITATE & WIDEN EXISTING (43' - 60' - 36') CONTINUOUS PRESTRESSED CONCRETE I-GIRDER SPANS



GENERAL ELEVATION



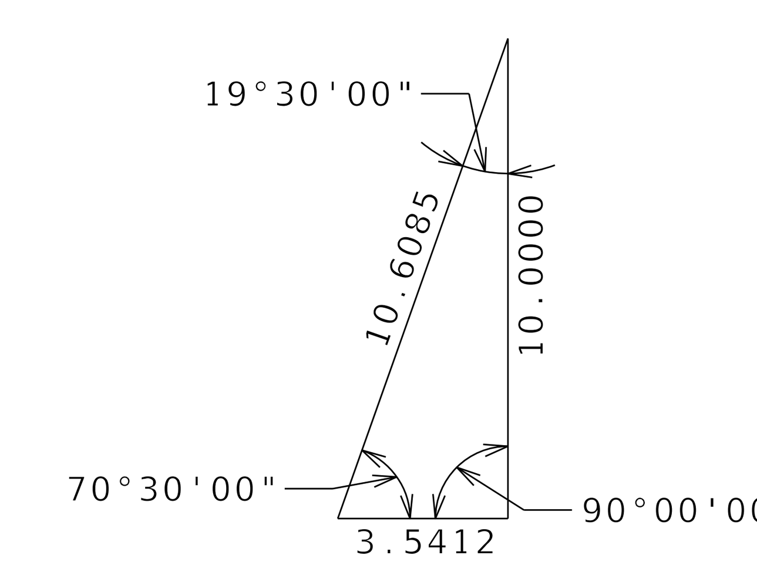
PLAN

Bridge A43202 not shown for clarity

(*) Stationning along Proposed Profile Grade Line.

(**) P.G. Elevations shall match existing. Elevations are extrapolated from field survey elevations along removal line using as-built deck cross slope information.

*** All exposed substructure elements shall be coated with Protective coating for concrete bents and piers (Epoxy) in accordance with Sec 711.



⊕ Indicates location of pre-award borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown above. Selected borings are depicted in profile on Sheet No. 32. The logs, laboratory test results, rock core photographs and other information obtained at these borings are available in the geotechnical memorandum prepared by HNTB for this structure.

Detailed JUL 2025
Checked JUL 2025

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

GENERAL PLAN AND ELEVATION

STATE OF MISSOURI
David J. Glasstetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE: I-70	STATE: MO
DISTRICT: BR	SHEET NO.: A43232-2
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

DESCRIPTION
DATE

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

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

Bartlett & West

09/18/2025
Released for Construction

IMPROVE 70 ALLIANCE

Foundation Data

Type	Design Data		Bent Number 1	2	3	4
Load Bearing Pile	Pile Type and Size		HP12x53	--	--	HP12x53
	Number	ea	2	--	--	2
	Approximate Length Per Each	ft	30	--	--	16
	Pile Point Reinforcement	ea	2	--	--	2
	Min. Galvanized Penetration (Elev.)	ft	Full Length	--	--	Full Length
	Pile Driving Verification Method		WEAP	--	--	WEAP
	Resistance Factor		0.5	--	--	0.5
	Minimum Nominal Axial Compressive Resistance	kip	396	--	--	396
Rock Socket	Number	ea	--	1	1	--
	Layer 1 Foundation Material		--	Limestone	Limestone	--
	Layer 1 Elevation Range	ft	--	571.5-564.5	568.4-561.4	--
	Layer 1 Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	--	22.4	22.4	--
	Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf	--	400	400	--

WEAP = Wave Equation Analysis of Piles

Load Bearing Pile:

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

Rock Socket (Drilled Shafts):

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

Foundation inspection Hole required at Int. Bent No. 2 only.

Driven Piles:

All piles shall be galvanized full length.

Manufactured pile point reinforcement shall be used on all piles in this structure.

Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.

Prebore for piles at End Bents No. 1 and No. 4 to elevations 575.40 and 578.00, respectively.

Roadway fill shall be completed to the final roadway section and up to the elevation of the bottom of the concrete beam within the limits of the structure and for not less than 25 feet in the back of the fill face of the end bents before any piles are driven for any bents falling within the embankment section.

Prebore holes shall be backfilled with sand (or other approved material), in accordance with Sec 702, before piles are driven to bearing.

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.

General Notes:

Design Specifications:

2002 AASHTO LFD Standard Specification for Highway Bridges (17th Ed.) (Superstrucutre)
2020 AASHTO LRFD Bridge Design Specifications (9th Ed.) (Substructure)
Seismic Performance Category A

Design Loading:

Vehicular = HS20 Modified & Military 24,000 lb Tandem Axle (1983) (New and Existing Girders)
Vehicular = HL-93 (Substructure)
Future Wearing Surface = 15 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 (Substructure)	f'c = 3,000 psi
Class B-2 Concrete (Drilled Shafts & Rock Sockets)	f'c = 4,000 psi
Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Class B-2 Concrete (Superstructure, except Prestressed Girders and Barrier)	f'c = 4,000 psi
Reinforcing Steel (ASTM A706 Grade 60)	fy = 60,000 psi
Structural Steel HP Pile (ASTM A709 Grade 50)	fy = 50,000 psi

For prestressed girder stresses, see Sheets No. 18 thru 20.

Neoprene Pads:

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

Pile Protective Coatings:

Piles shall be galvanized in accordance with Sec 702 and Sec. 1081.

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.

MBS Refers to mechanical bar splices. Mechanical bar splices shall be in accordance with Sec 706 or 710

All exposed substructure elements will contain epoxy coated reinforcing.

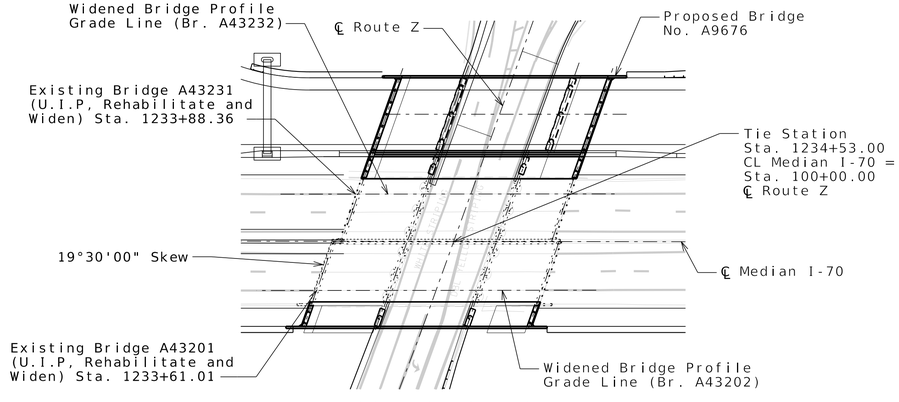
Traffic Handling:

Vertical clearance for Route Z traffic during construction shall be 15 ft. minimum over all lanes of live traffic as shown in each phase of the Maintenance of Traffic plans.

For traffic phasing during construction, see Maintenance of Traffic Plans.

Concrete Protective Coatings:

Protective coating for concrete bents and piers (Epoxy) shall be applied to all exposed substructure surfaces and in accordance with Sec 711.



LOCATION SKETCH

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

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/2/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. A43232-3
COUNTY ST. CHARLES
JOB NO. JST0020
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A43232

DESCRIPTION | DATE

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

IMPROVE 70 ALLIANCE

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

Bartlett & West 601 MONROE ST. SUITE 201 - JEFFERSON CITY, MO 65101 PHONE: 573.635.2748 CERTIFICATE OF AUTHORITY NO. 000107 - ENGINEERING WWW.BARTLETTWEST.COM

Detailed JUL 2025
Checked JUL 2025

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

GENERAL NOTES (1 OF 2)

B_A43232_002A_JST0020_GEN-1.dgn 9:24:19 AM 9/2/2025

General Notes (cont.):

Bridge Deck:

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC4 and a finish type I, II, or III.

Slab shall be cast-in-place. Precast prestressed panels will not be permitted in lieu of stay-in-place corrugated steel forms.

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

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

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

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

Miscellaneous:

High strength bolts, nuts and washers will be sampled for quality assurance as specified in Sec 106.

Roadway surfacing adjacent to bridge ends shall match new bridge wearing surface (roadway item).

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

Contractor shall verify all dimensions in field before finalizing shop drawings.

Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for plain bars and 30 diameters, for deformed bars unless otherwise noted.

Detailed JUL 2025
Checked JUL 2025

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

GENERAL NOTES (2 OF 2)

09/18/2025 Released for Construction

STATE OF MISSOURI
David J. Glastetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/2/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. A43232-4
COUNTY ST. CHARLES
JOB NO. JST0020
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A43232

DESCRIPTION
DATE

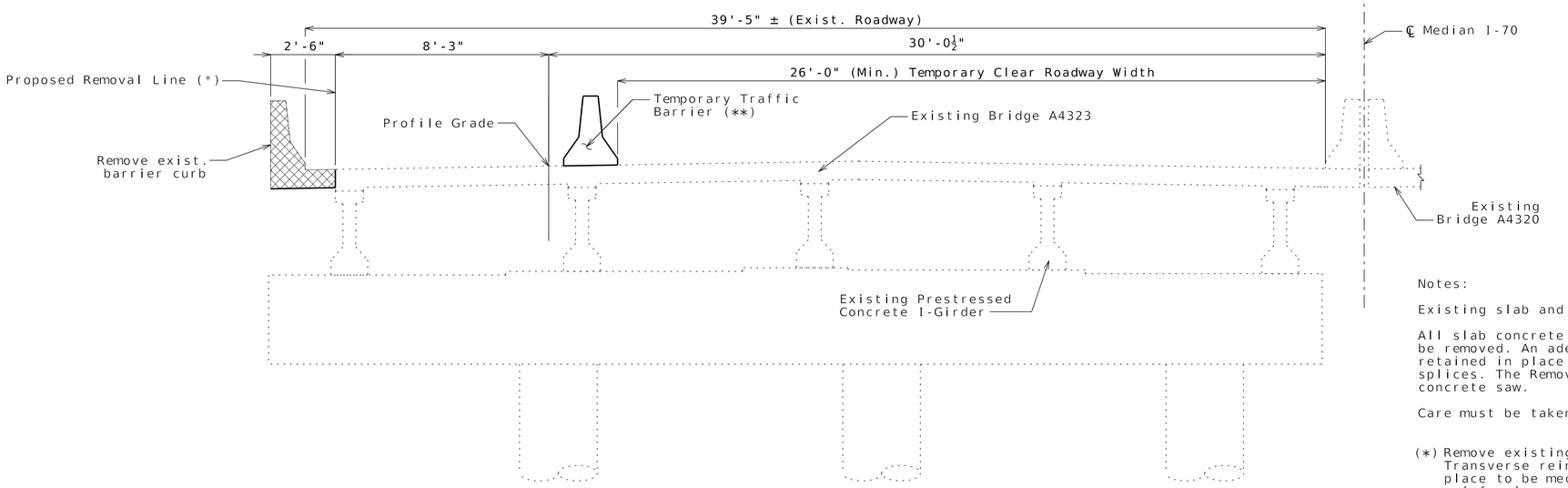
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

Bartlett & West

B_A43232_003_JST0020_GEN-2.dgn 9:24:24 AM 9/2/2025

09/18/2025
Released for Construction



EXISTING TYPICAL SECTION SHOWING REMOVAL

Notes:

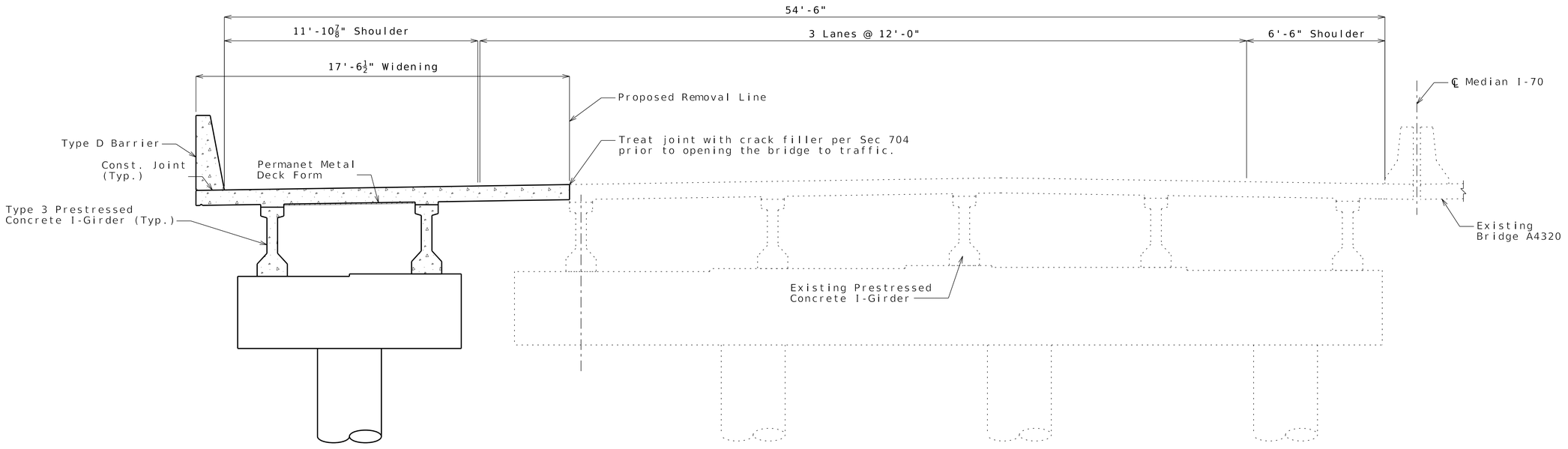
Existing slab and barrier to be removed as shown.

All slab concrete and longitudinal steel in removal area shall be removed. An adequate length of transverse steel shall be retained in place to facilitate the attachment of mechanical splices. The Removal line shall be marked and sawcut with a concrete saw.

Care must be taken not to cut the existing concrete girders.

(*) Remove existing deck to Removal Line. Existing Transverse reinforcing to be cleaned and remain in place to be mechanically spliced with new reinforcing.

(**) Temporary Traffic Barrier shall not be attached to the bridge. For placement during phasing, see Maintenance of Traffic Plans.



TYPICAL SECTION SHOWING WIDENING

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

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/2/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	A43232-5

COUNTY
ST. CHARLES

JOB NO.
JST0020

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A43232

DESCRIPTION	DATE

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

IMPROVE 70 ALLIANCE

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

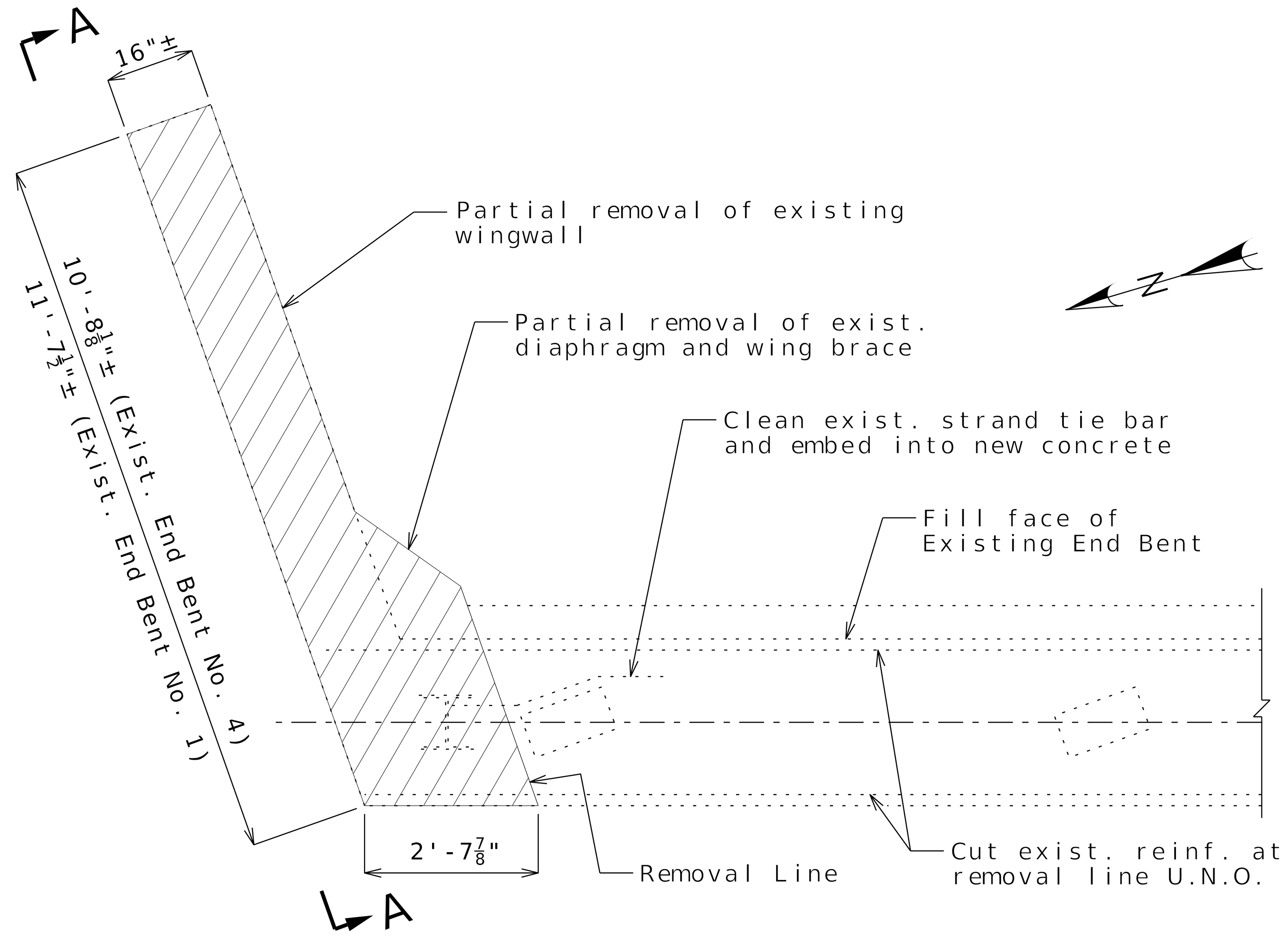
Bartlett & West
601 MONROE ST. SUITE 201 - JEFFERSON CITY, MO 65101
PHONE: (573) 634-2448
CERTIFICATE OF AUTHORITY NO. 000157 - ENGINEERING
WWW.BARTLETTWEST.COM

Detailed JUL 2025
Checked JUL 2025

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

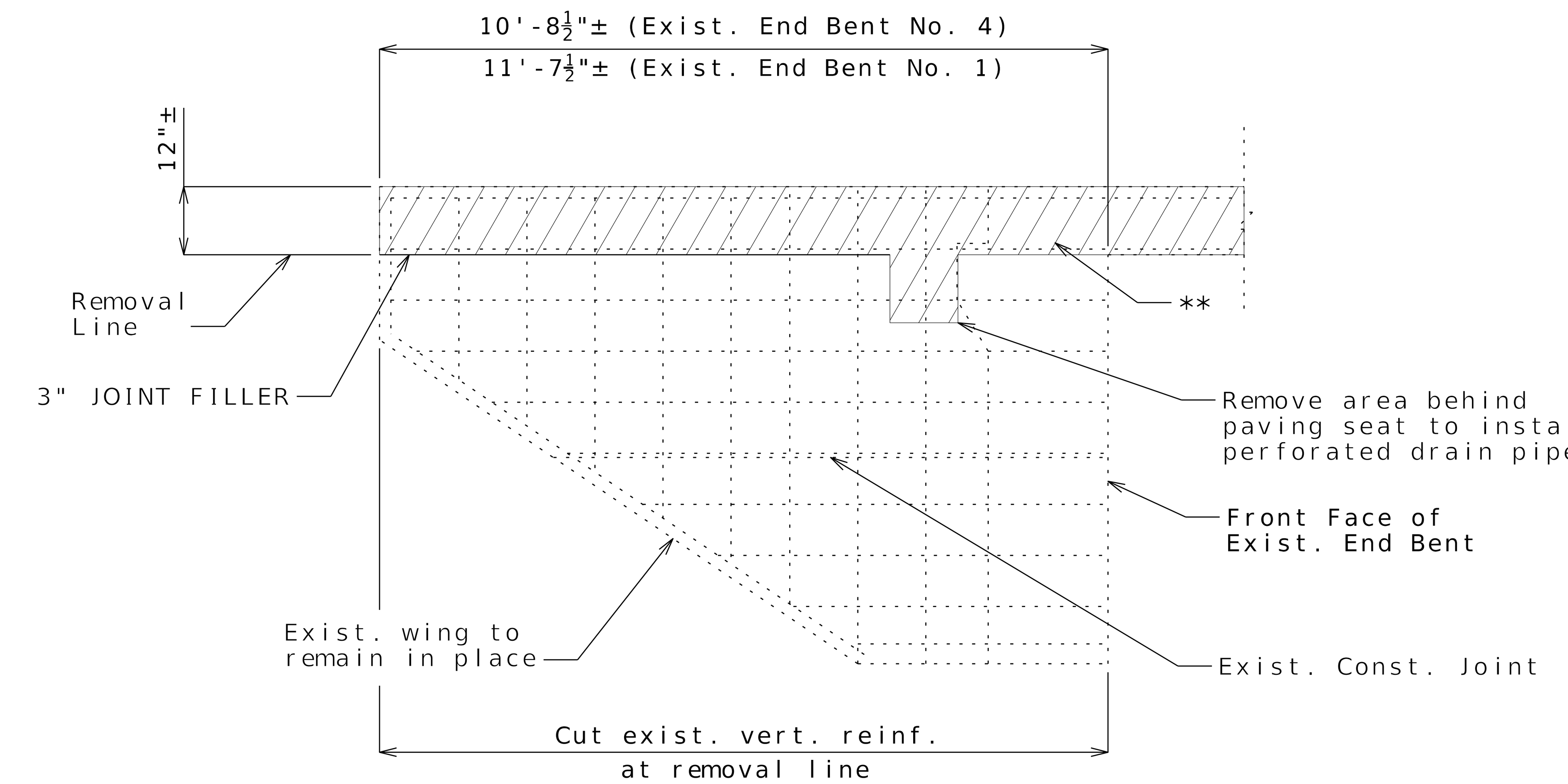
PHASING AND REMOVAL PLAN

B_A43232_003A_JST0020_STAGECOSNT.dgn 9:24:27 AM 9/2/2025



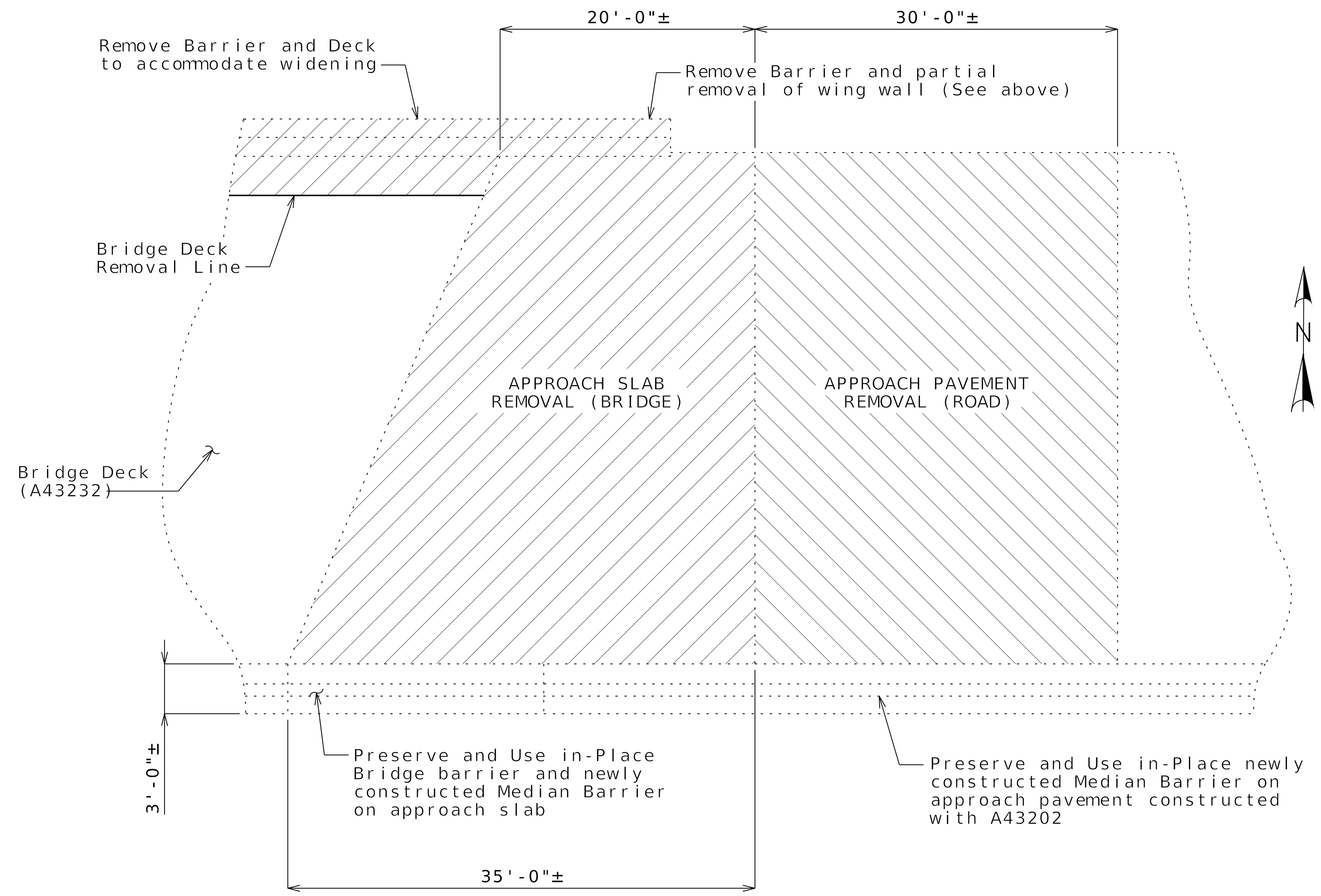
PART PLAN OF EXISTING END BENT

(End Bent No. 4 shown, End Bent No. 1 similar, U.N.O.)



ELEVATION A-A

(**) Coordinate partial removal of existing wingwalls with the installation of vertical drain at end bents.



APPROACH SLAB REMOVAL DETAILS

(End Bent No. 4 shown, End Bent No. 1 similar)

Notes:

▨ Denotes Removal

Outline of work is indicated by light dashed lines.

Contractor shall verify all dimensions in the field before ordering new material.

Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete as shown.

U.N.O. - Denotes Unless Noted Otherwise.

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

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. A43232-6
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

DESCRIPTION

DATE

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

IMPROVE 70 ALLIANCE

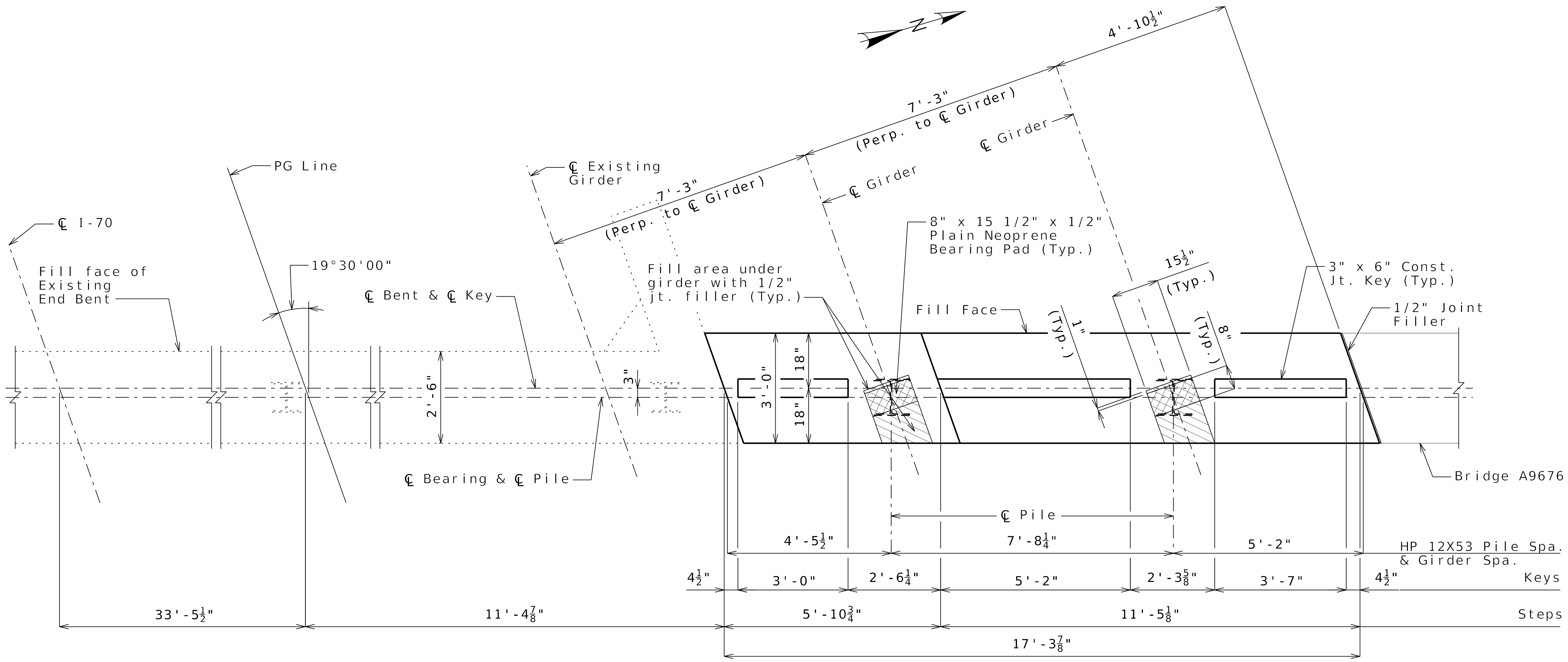
HNTB
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270

Bartlett & West

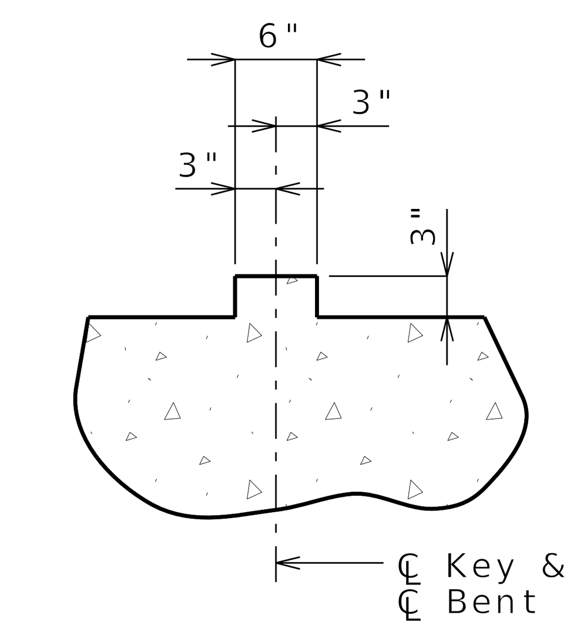
END BENT AND APPROACH SLAB REMOVAL DETAILS

Detailed JUN 2025
Checked JUN 2025

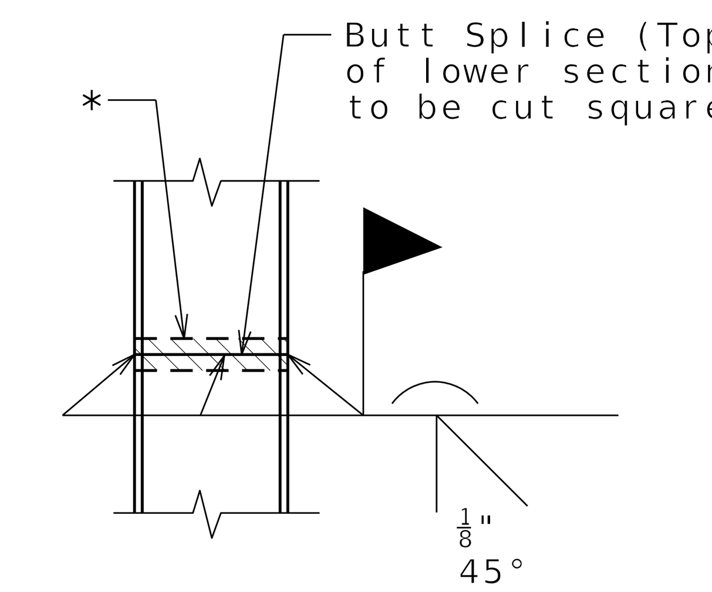
Note: This drawing is not to scale. Follow dimensions.



PLAN OF BEAM

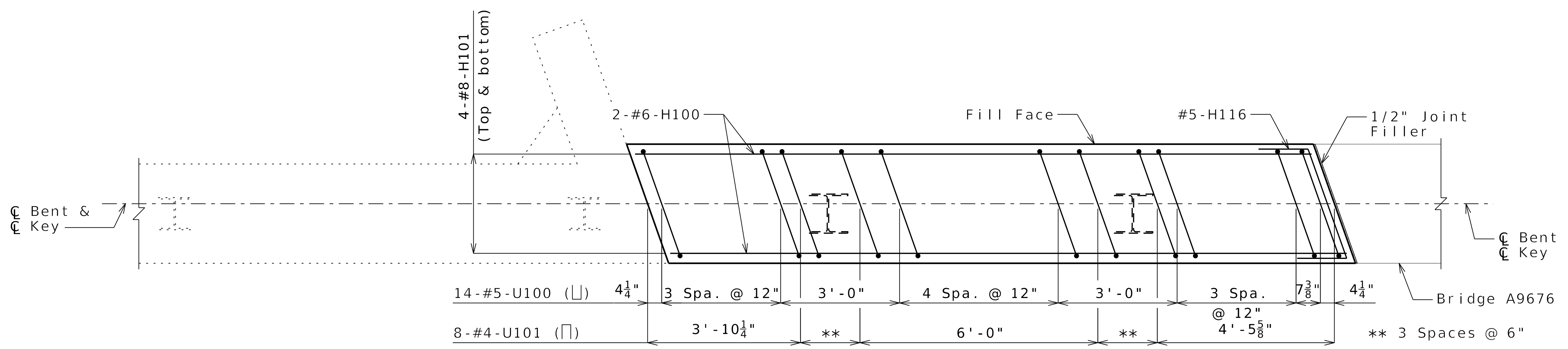


SECTION THRU KEY



STEEL PILE SPLICE
(If required)

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



PLAN OF BEAM SHOWING REINFORCEMENT
Keys not shown for clarity.

General Notes:

Work this sheet with Sheets No. 8 and 9.

All U bars and pairs of V bars shall be placed parallel to skewed steps.

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

DETAILS OF END BENT NO. 1

Detailed JUL 2025
Checked JUL 2025

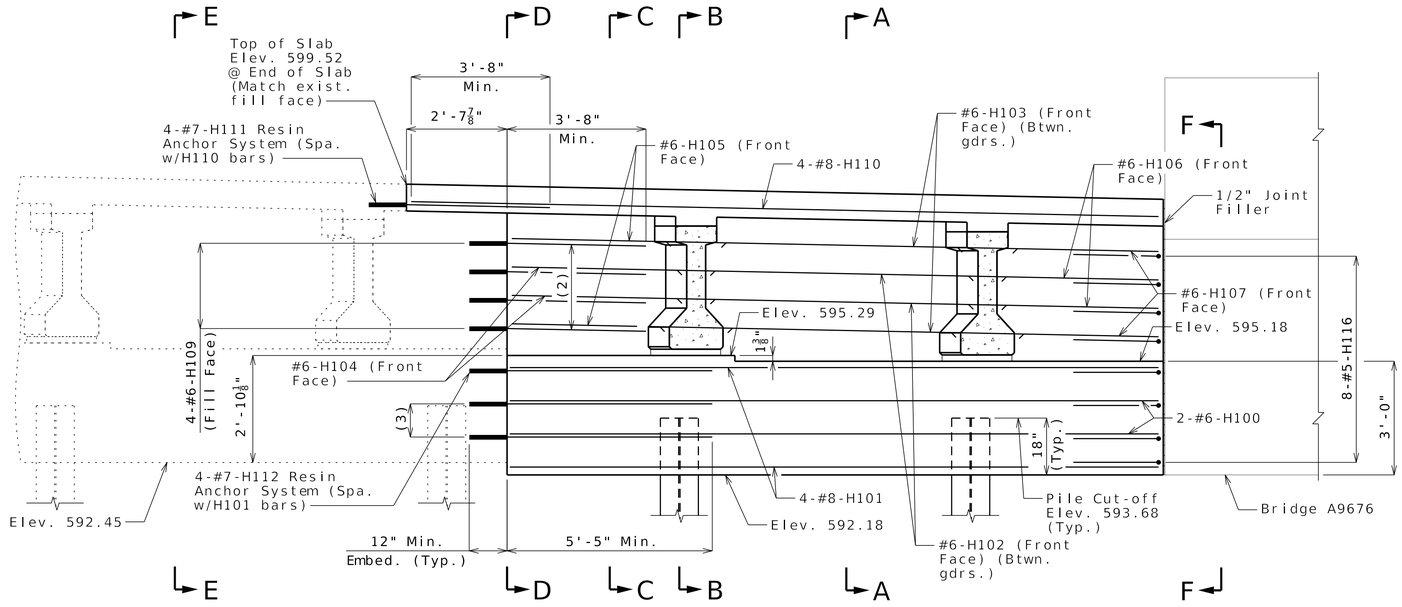
Note: This drawing is not to scale. Follow dimensions.

DATE PREPARED	9/2/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	A43232-7
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

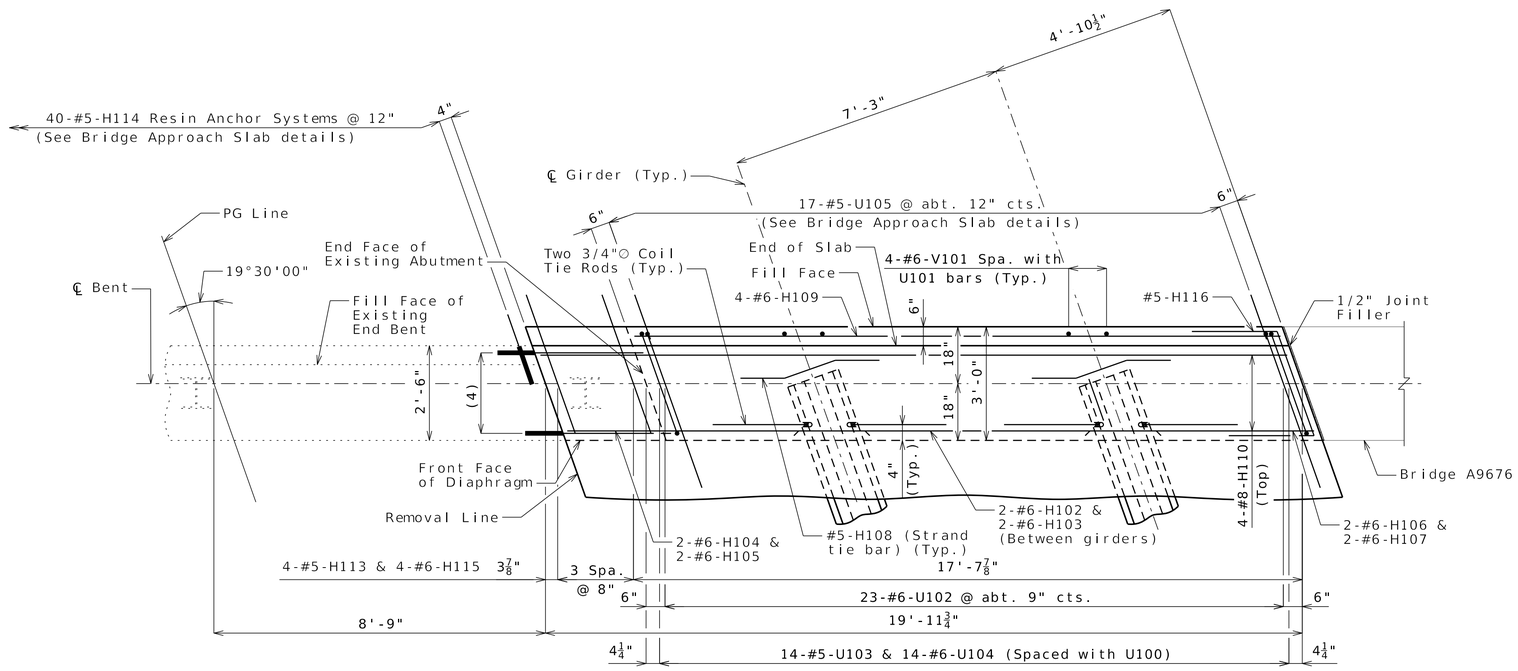
DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
IMPROVE 70 ALLIANCE
HNTB
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
Bartlett & West

B_A43232_004_JST0020_BENT1-1.dgn 9:24:31 AM 9/2/2025



SECTION NEAR END BENT
(Slab Reinforcing with MBS not shown for clarity.)



PART PLAN

(2) 4-#7-H111 Resin Anchor System (E.F) (Spa. w/H109 bars)

(3) 2-#7-H112 Resin Anchor System (E.F.) (Spa. w/H100 bars)

(4) 4-#7-H111 Resin Anchor System (Top) (Spa. w/H110 bars)

General Notes:

Work this sheet with Sheets No. 7 and 9.

For Sections A-A, B-B & C-C and Elevations D-D & E-E, see Sheet No. 9.

The U bars shall be placed parallel to skewed steps.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.

For location of coil tie rods and #5-H108 (strand tie bar), see Sheet No. 18.

For details of vertical drain at end bents, see Sheet No. 11.

For details of bridge approach slab, see Sheet No. 27.

For Partial Wingwall Removal details, see Sheet No. 6.

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

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

All Elevations shown are based on profile grade elevations taken from the as-built plans and shall be field verified by the Contractor.

Contractor has the option to preserve existing transverse reinforcing bars over the diaphragm or to use the epoxy resin anchor systems (H111) shown.

DETAILS OF END BENT NO. 1

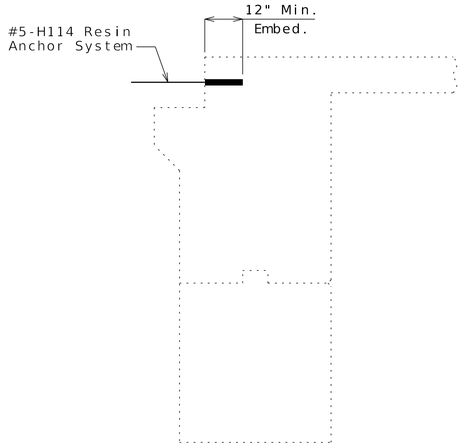
STATE OF MISSOURI
David J. Glastetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/2/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. A43232-8
COUNTY ST. CHARLES
JOB NO. JST0020
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A43232

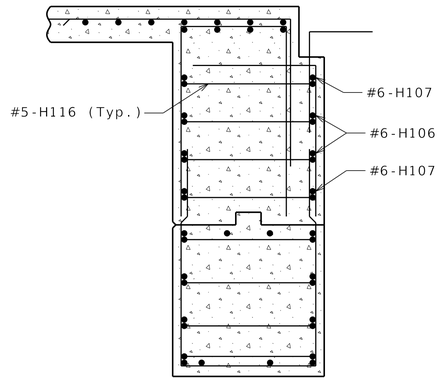
DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
IMPROVE 70 ALLIANCE
HNTB 715 KIRK DRIVE KANSAS CITY, MO 64105-1310 CERTIFICATE OF AUTHORITY NO. 001270
Bartlett & West 601 MONROE ST. SUITE 201 - JEFFERSON CITY, MO 65101 PHONE: 573-893-1370 CERTIFICATE OF AUTHORITY NO. 000107 - ENGINEERING WWW.BARTLETTWEST.COM

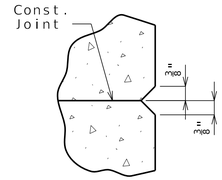
09/18/2025
Released for Construction



SECTION E-E



SECTION F-F

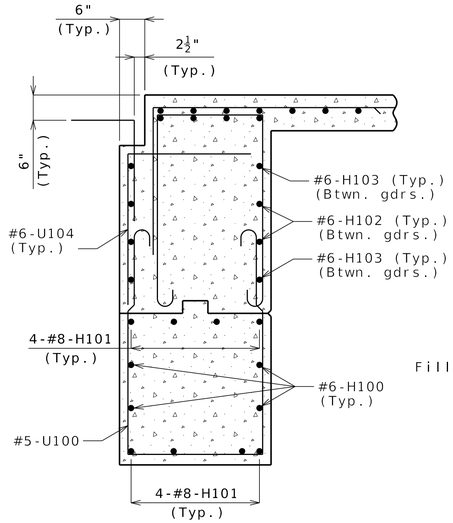


CHAMFER DETAIL

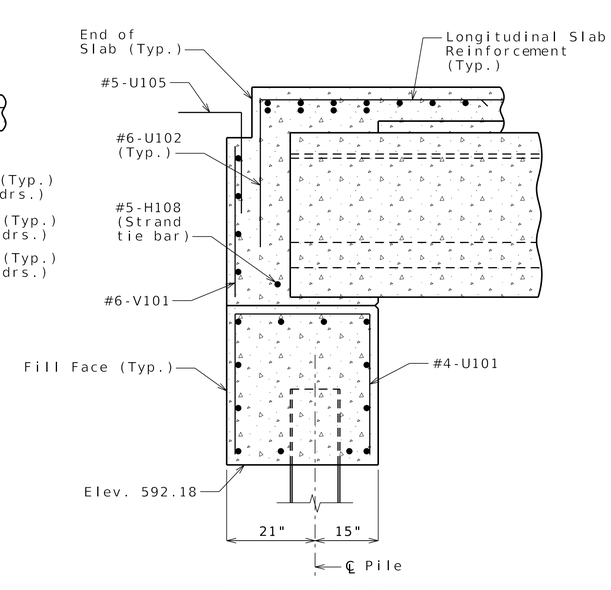
General Notes:

Work this sheet with Sheets No. 7 and 8.

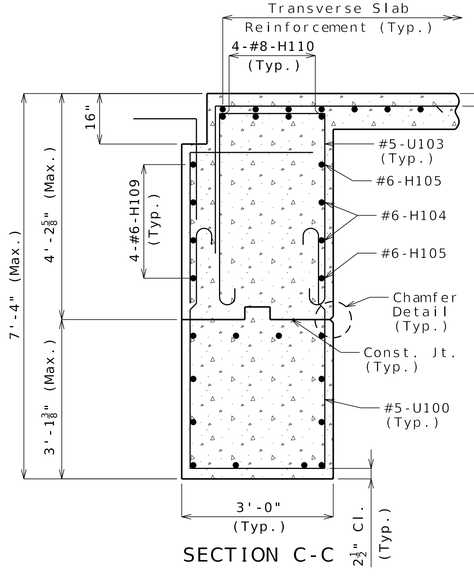
For reinforcement of the barrier, see Sheet No. 26.



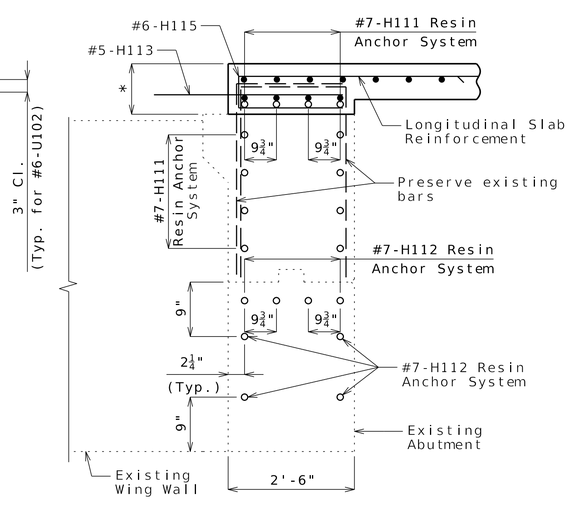
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

∗ Contractor to verify existing depth

DETAILS OF END BENT NO. 1

STATE OF MISSOURI
David J. Glastetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

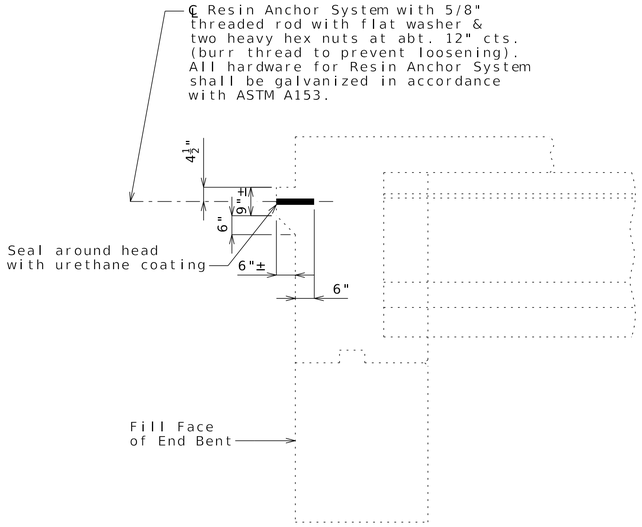
DATE PREPARED 9/2/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	A43232-9

COUNTY: ST. CHARLES
JOB NO.: JST0020
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A43232

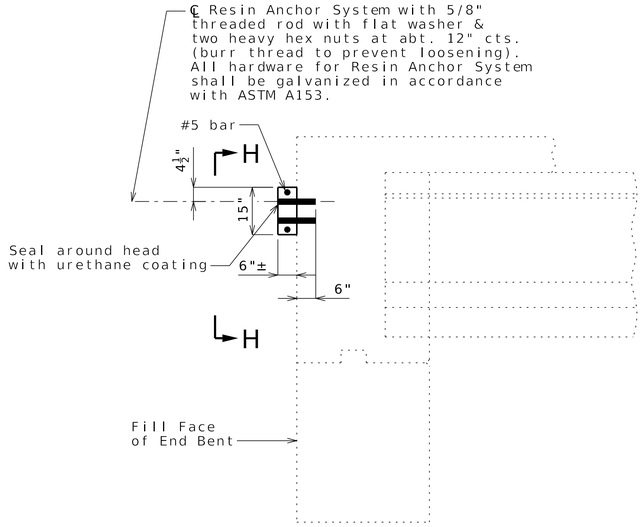
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
HNTB
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
Bartlett & West
601 MONROE ST., SUITE 201 - JEFFERSON CITY, MO 65101
PHONE: 573-634-2488
CERTIFICATE OF AUTHORITY NO. 000107 - ENGINEERING
WWW.BARTLETTWEST.COM



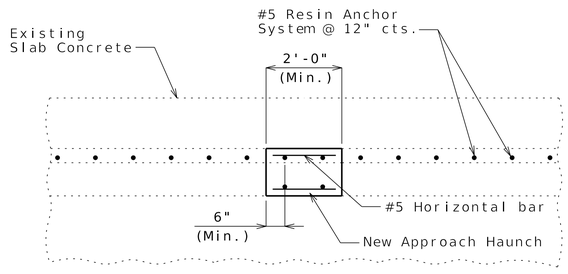
SECTION THRU END BENT WITH APPROACH HAUNCH REPAIR

(End Bent No.1 shown, End Bent No.4 similar)



SECTION THRU END BENT WITH APPROACH HAUNCH REPLACEMENT

(End Bent No.1 shown, End Bent No.4 similar)



ELEVATION H-H

(End Bent No.1 shown, End Bent No.4 similar)

Notes:

Remove and replace deteriorated sections of approach notch as designated by the engineer and in accordance with details shown.

Minimum length of replacement shall be 2'-0" as shown.

Removal of concrete shall be in accordance with Sec 216.

Concrete for approach notch replacement shall be Class B-1.

46 - 5/8" threaded rods along End Bent No. 1 and End Bent No. 4 = 92 total

DETAILS OF END BENT NO. 1

STATE OF MISSOURI
David J. Glastetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/2/2025

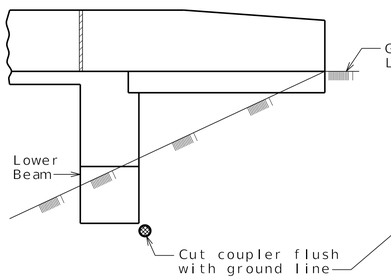
ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	A43232-10

COUNTY: ST. CHARLES
JOB NO.: JST0020
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A43232

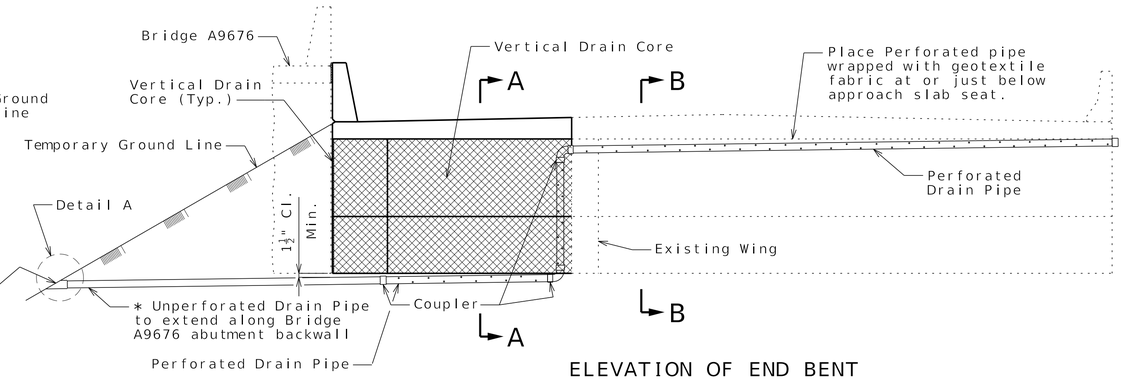
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
HNTB 715 KIRK DRIVE KANSAS CITY, MO 64105-1310 CERTIFICATE OF AUTHORITY NO. 001270
Bartlett & West 601 MONROE ST., SUITE 201 - JEFFERSON CITY, MO 65101 PHONE: 573-634-2488 CERTIFICATE OF AUTHORITY NO. 000107 - ENGINEERING

09/18/2025
Released for Construction

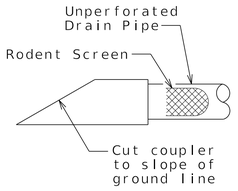


ELEVATION OF WING

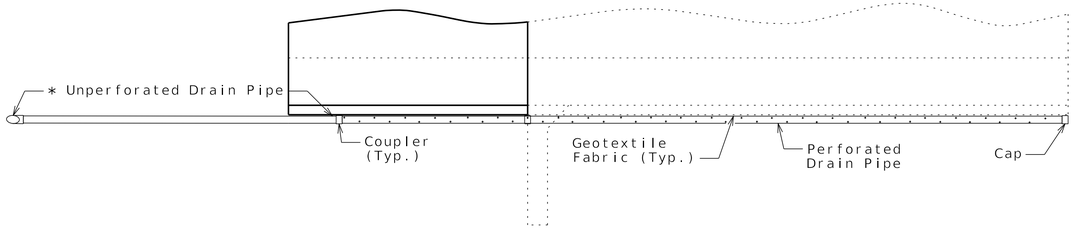


ELEVATION OF END BENT
(Looking Up Station)
(End Bent No. 1 shown, End Bent No. 4 similar)

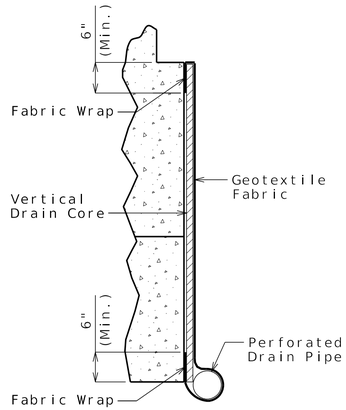
* Contractor has the option to connect Bridge A9676 perforated pipe to this pipe and use as drain.



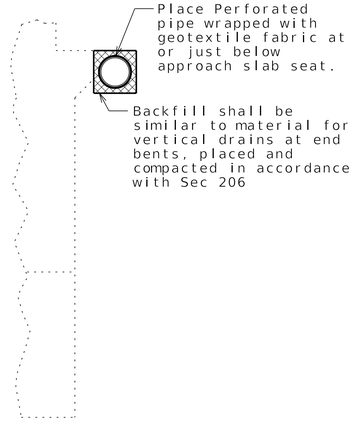
DETAIL A



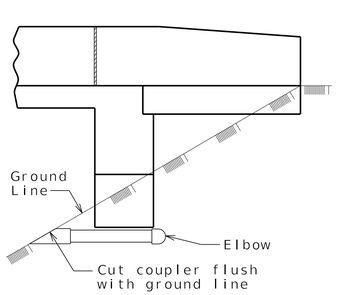
PLAN OF END BENT



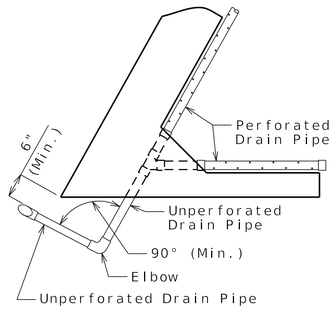
PART SECTION A-A
(Section thru wing similar)



PART SECTION B-B



ELEVATION OF WING



PART PLAN

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

General Notes:

Vertical Drain pipe construction to coordinate with Bridge A9676.

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

(Squared end bent shown, skewed end bent similar)

STATE OF MISSOURI
David J. Glastetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/2/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. A43232-11
COUNTY ST. CHARLES
JOB NO. JST0020
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A43232

DESCRIPTION | DATE

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

IMPROVE 70 ALLIANCE

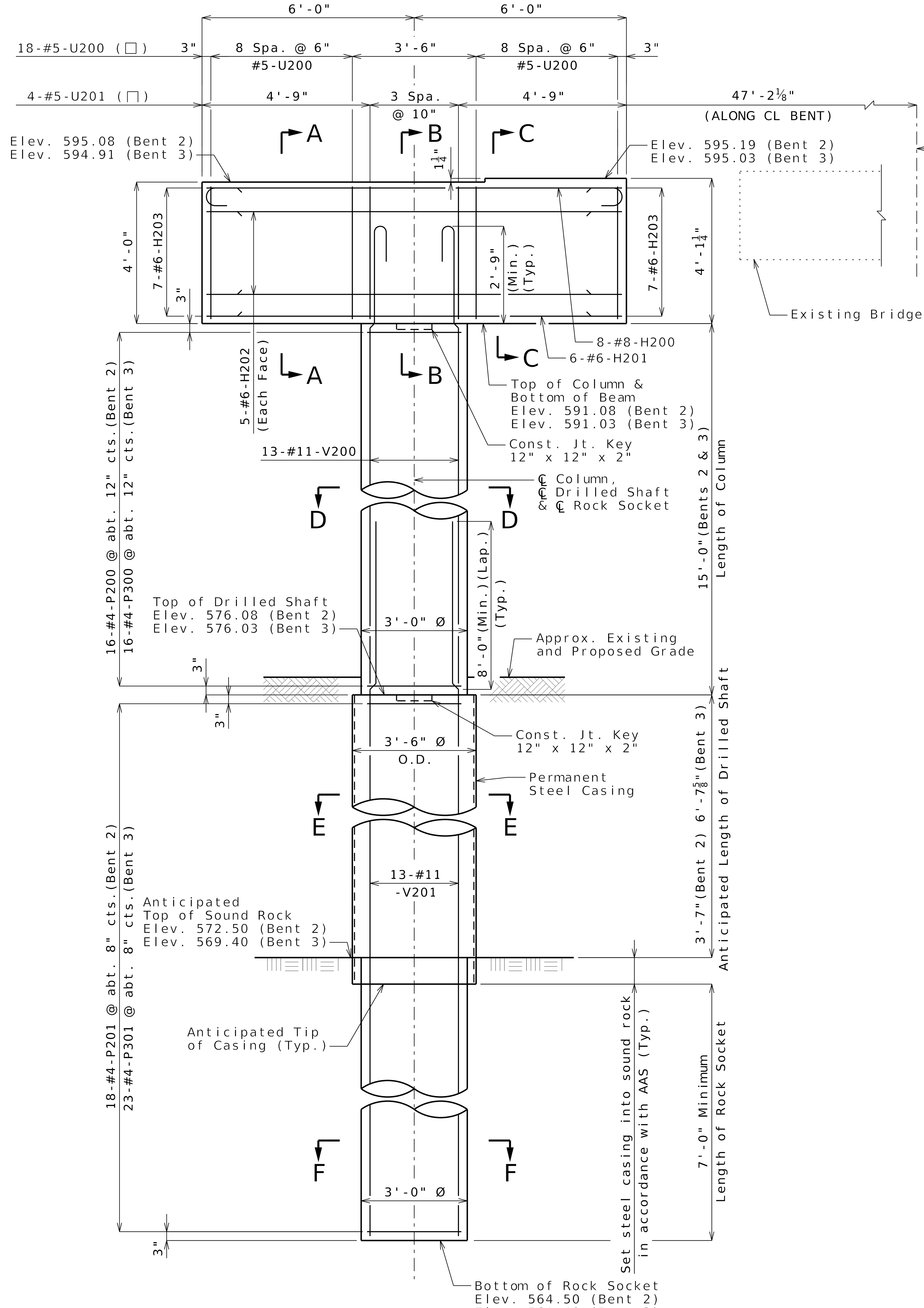
HNTB
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270

Bartlett & West
601 MONROE ST., SUITE 201 - JEFFERSON CITY, MO 65101
PHONE: 573-635-2446
CERTIFICATE OF AUTHORITY NO. 000107 - ENGINEERING
WWW.BARTLETTWEST.COM

Detailed JUL 2025
Checked JUL 2025

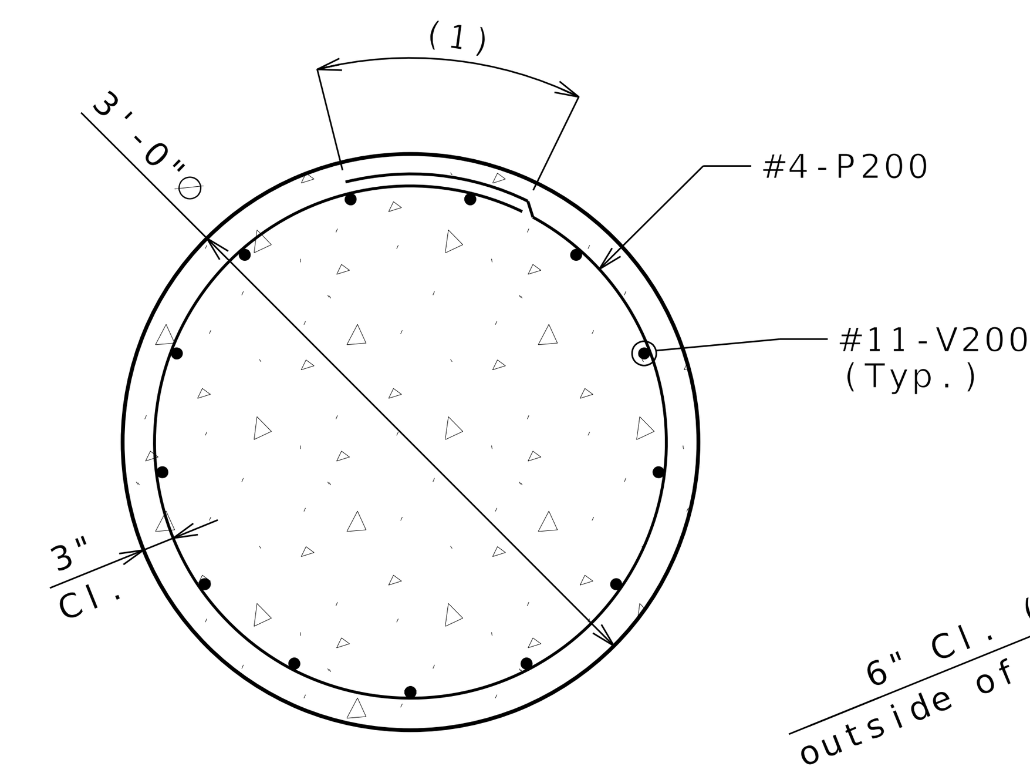
Note: This drawing is not to scale. Follow dimensions.

B_A43232_007_JST0020_DRAINVERT.dgn 9:24:42 AM 9/2/2025

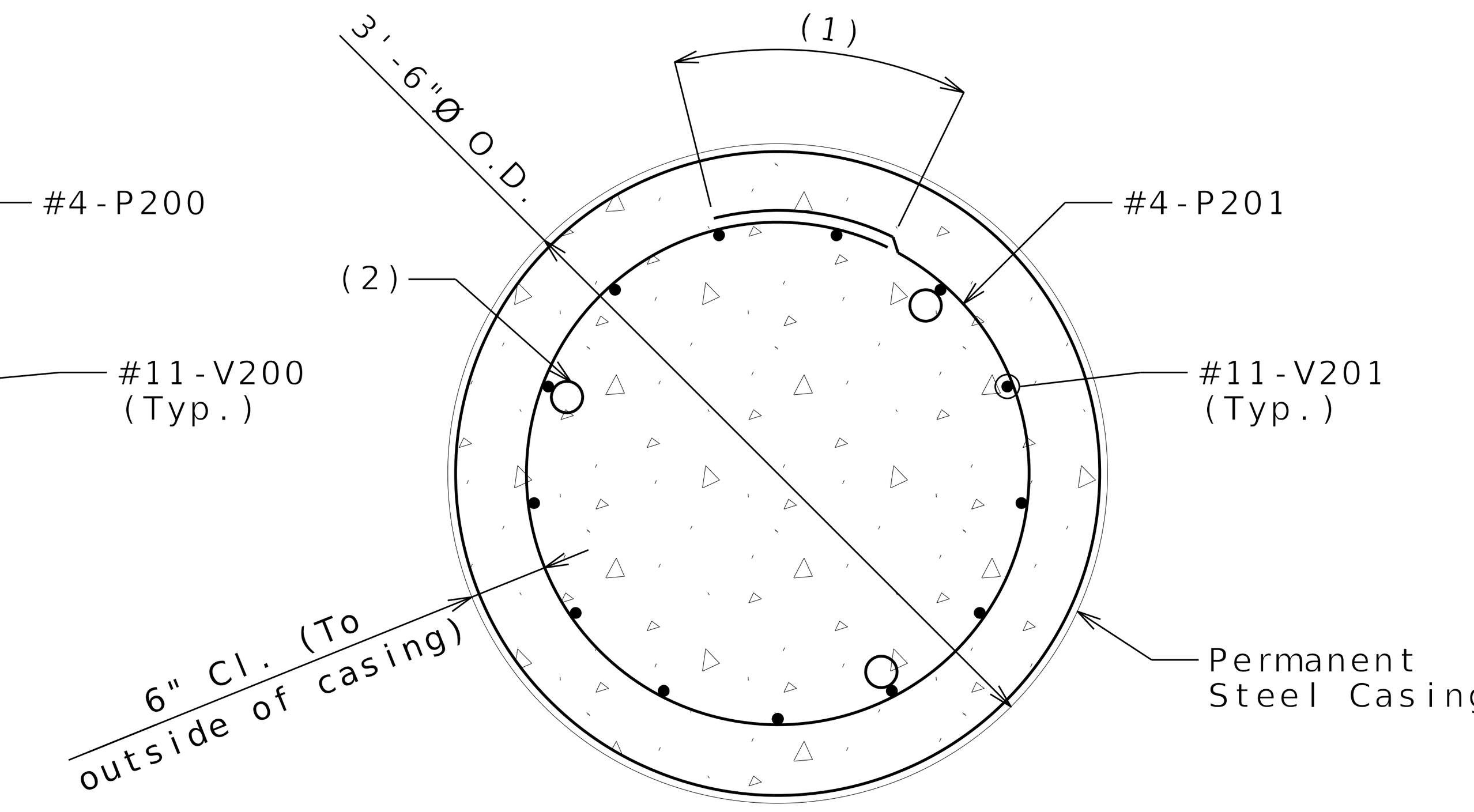


ELEVATION

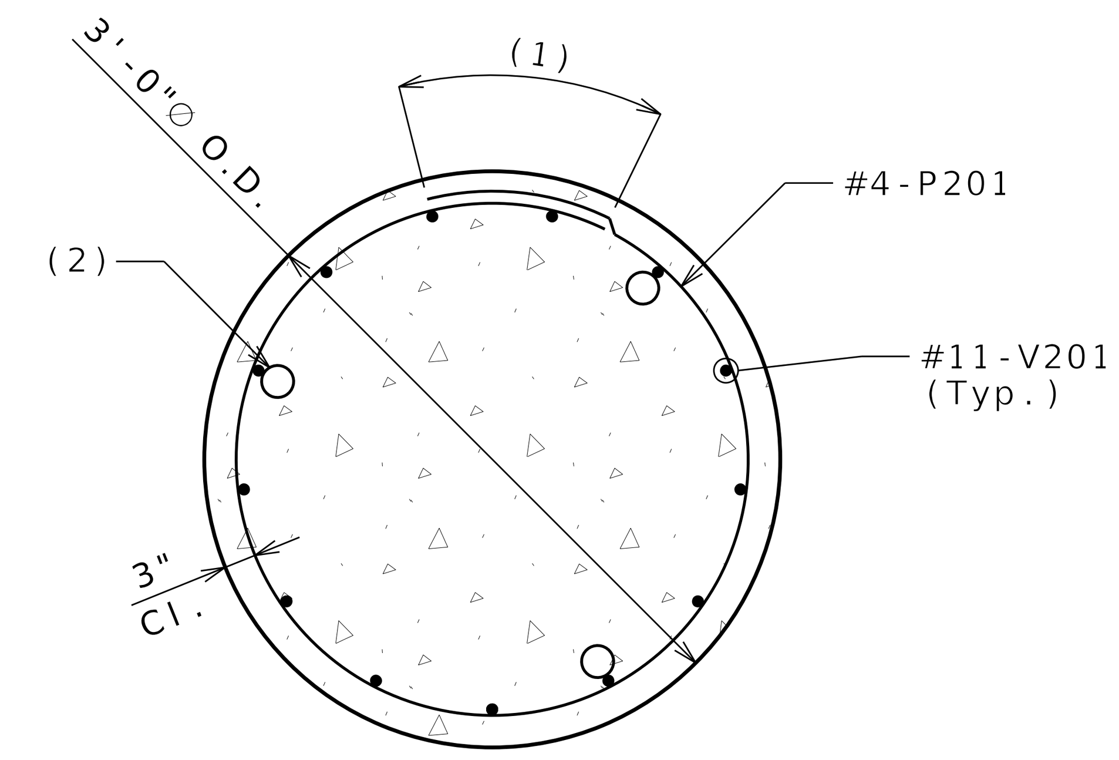
Beam keys not shown for clarity.



SECTION D-D



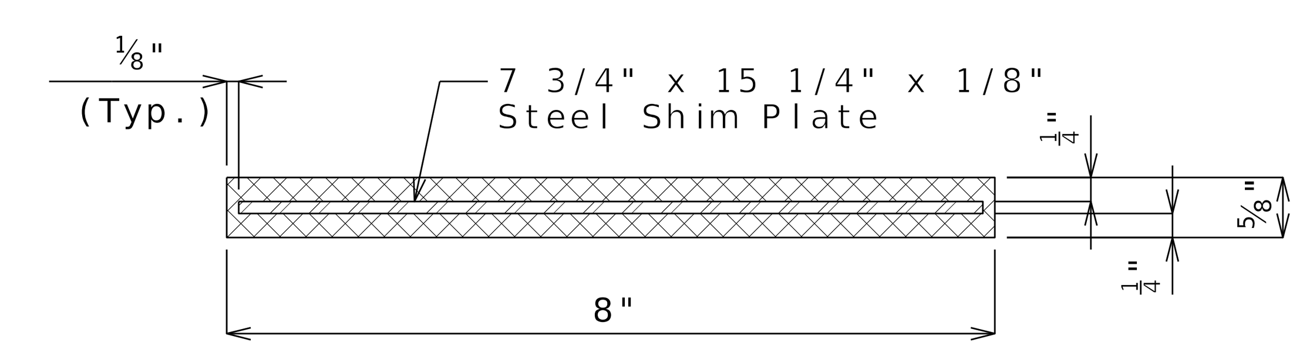
SECTION E-E



SECTION F-F

(1) 2'-10" Min. Lap (#4-P200 & #4-P201) (Stagger adjacent bar splices)

(2) 2"Ø Steel Pipe for sonic logging testing (3 each shaft)



SECTION THRU LAMINATED NEOPRENE BEARING PAD

General Notes:

Drilled shafts shall be constructed and inspected in accordance with the Bridge Geotechnical Memo and the project Drilled Shaft Construction AAS.

Work this sheet with Sheet No. 13.

At the contractor's option, the hooks of vertical bars embedded in the beam cap may be oriented inward or outward.

Thickness of permanent steel casing shall be in accordance with Drilled Shaft Construction AAS.

An additional 4 feet has been added to V-bar lengths and additional 6-#4-P201 bars have been added for possible change in drilled shaft or rock socket length. The additional V-bar length shall be cut off or included in the reinforcement lap if not required. The P bars shall be spaced similarly to that shown in Elevation, if required, or a lesser spacing if not required but not less than 6-inch centers.

The tip of casing shall not extend into the rock socket elevation range reported in the Foundation Data table without approval by the engineer.

Bar marks are shown for Bent 2, using "200" series bar marks. Bent 3 is similar, except use "300" series bar marks.

DETAILS OF INTERMEDIATE BENT NO. 2 & 3

Detailed JUL 2025
Checked JUL 2025

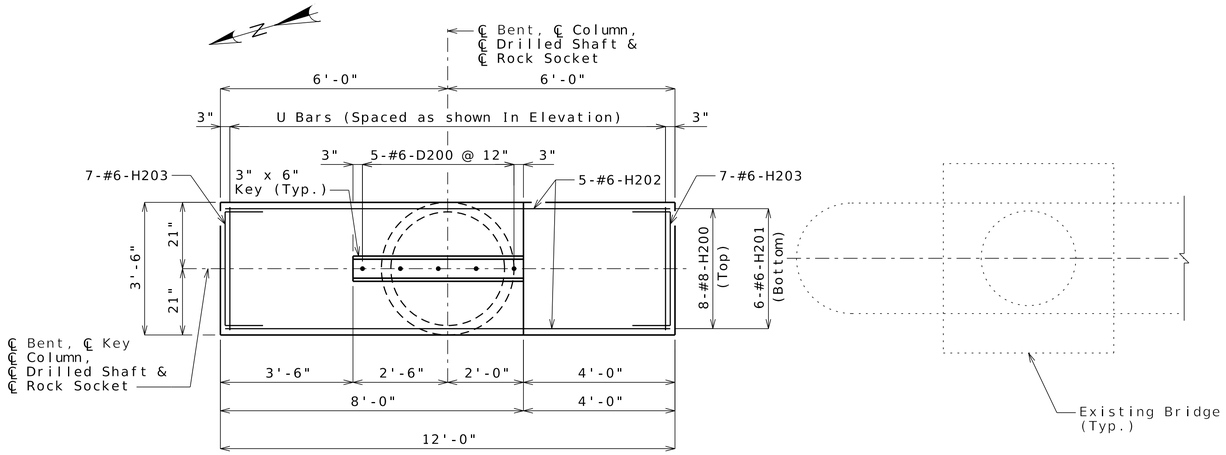
Note: This drawing is not to scale. Follow dimensions.

DATE PREPARED	9/2/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	A43232-12
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

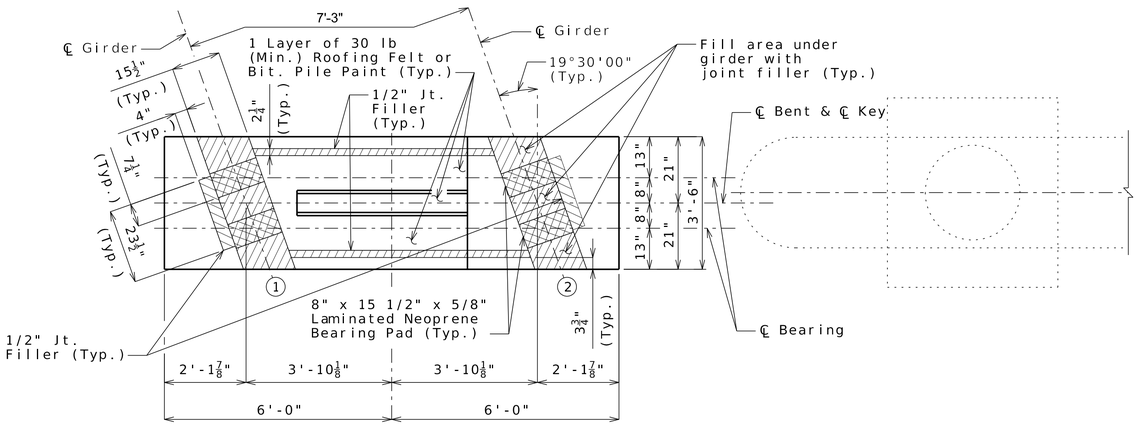
DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
IMPROVE 70 ALLIANCE
HNTB
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
Bartlett & West

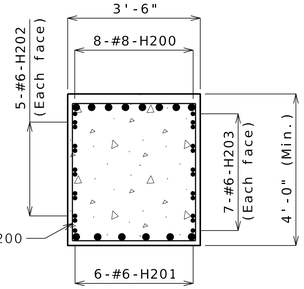
09/18/2025
Released for Construction



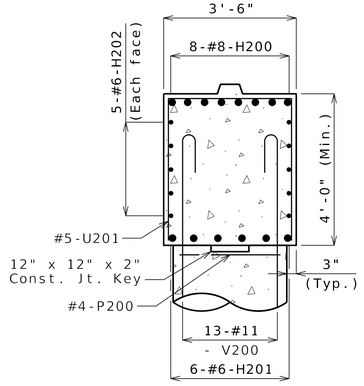
PLAN SHOWING REINFORCEMENT



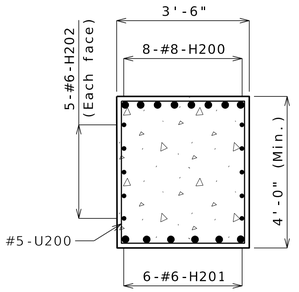
PLAN OF BEAM



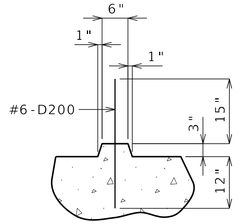
SECTION A-A



SECTION B-B



SECTION C-C



SECTION THRU KEY

General Notes:

Work this sheet with Sheet No. 12.

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

Bar marks are shown for Bent 2, using "200" series bar marks. Bent 3 similar, except use "300" series bar marks.

DETAILS OF INTERMEDIATE BENT NO. 2 & 3

Detailed JUL 2025
Checked JUL 2025

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

STATE OF MISSOURI
David J. Glastetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/2/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. A43232-13
COUNTY ST. CHARLES
JOB NO. JST0020
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A43232

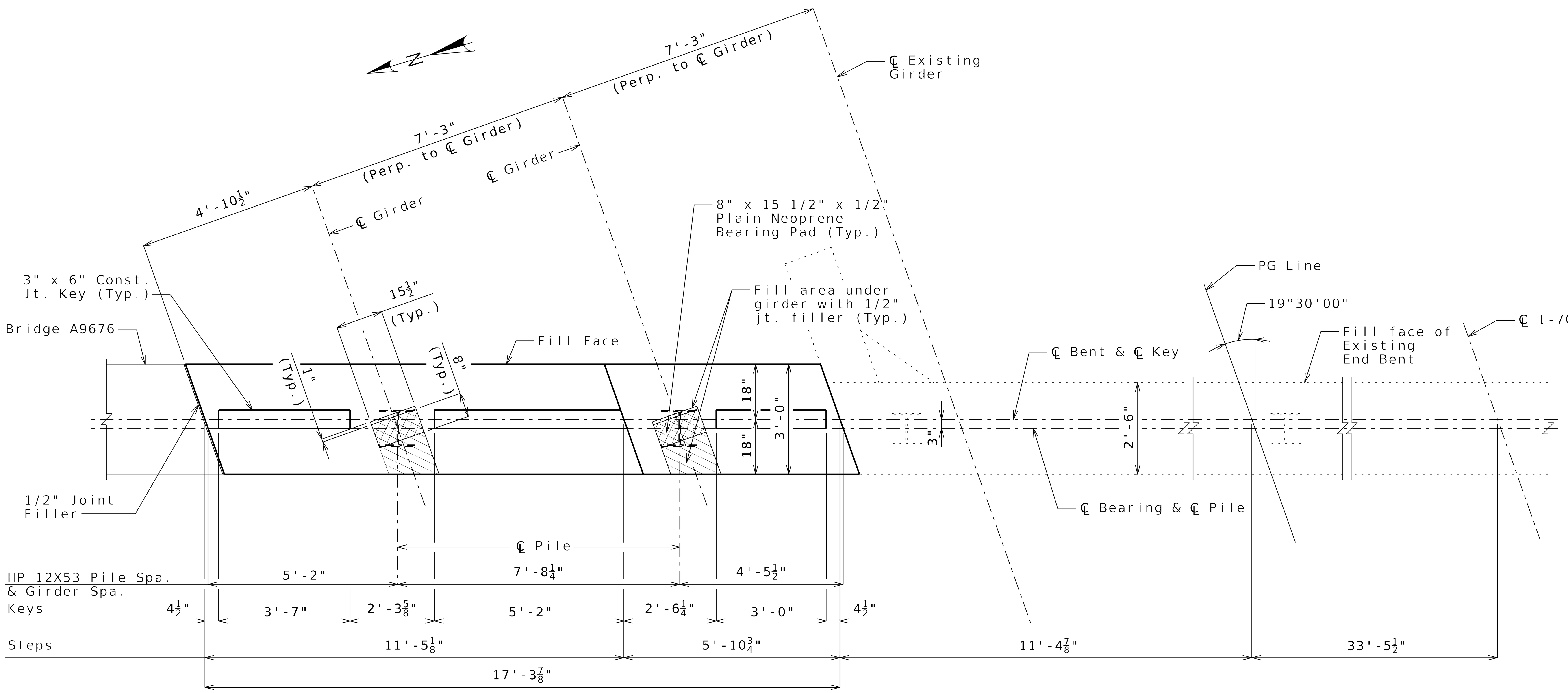
DESCRIPTION | DATE

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

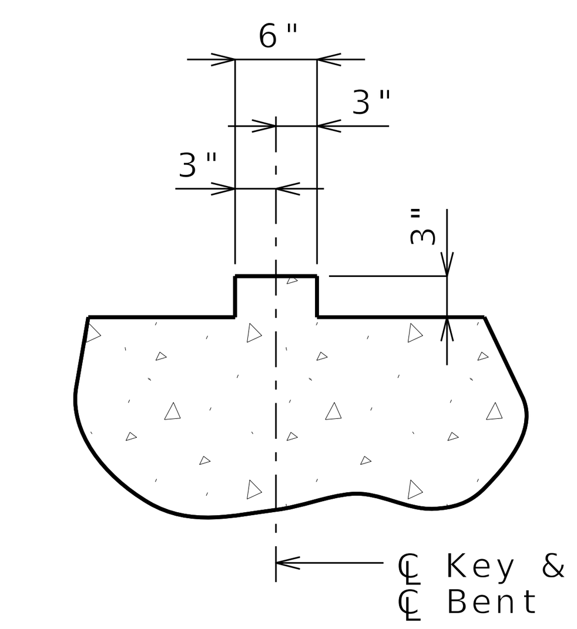
HNTB
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 000270

Bartlett & West
601 MONROE ST., SUITE 201 - JEFFERSON CITY, MO 65101
PHONE: 573-634-2488
CERTIFICATE OF AUTHORITY NO. 000107 - ENGINEERING
WWW.BARTLETTWEST.COM

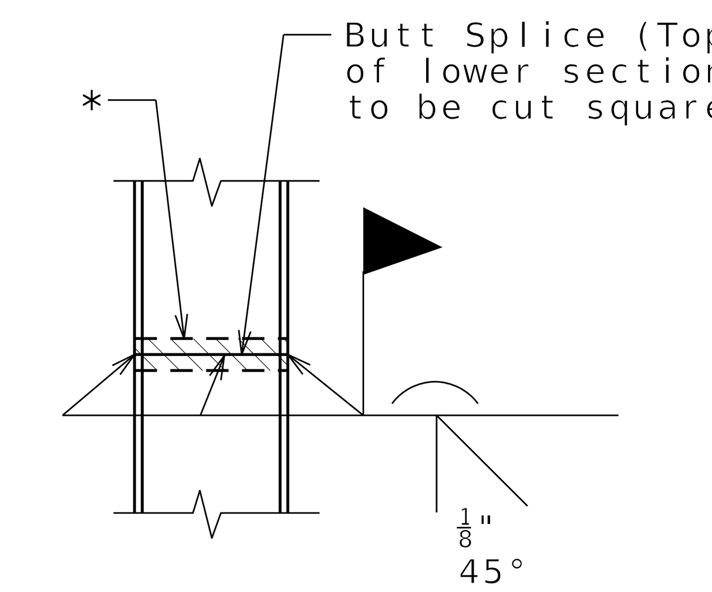
Released for Construction
09/18/2025



PLAN OF BEAM

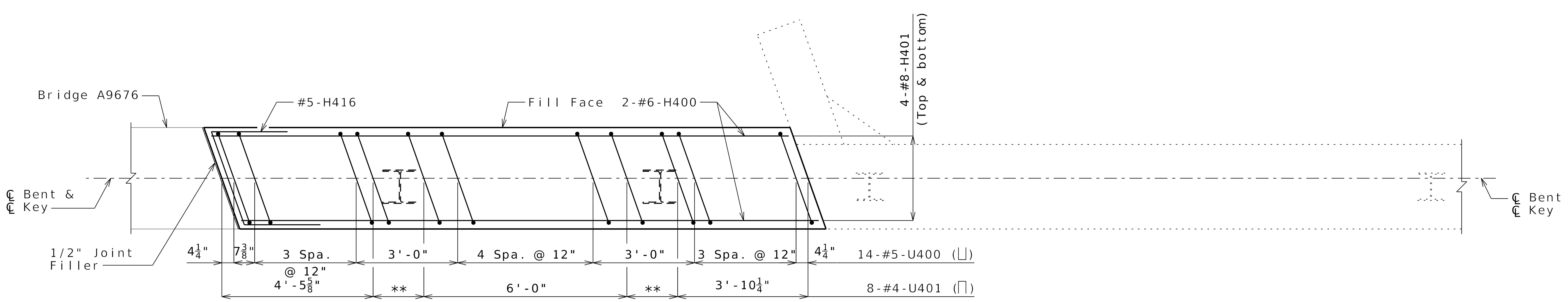


SECTION THRU KEY



STEEL PILE SPLICE
(If required)

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



PLAN OF BEAM SHOWING REINFORCEMENT
Keys not shown for clarity.

** 3 Spaces @ 6"

General Notes:

Work this sheet with Sheets No. 15 and 16.

All U bars and pairs of V bars shall be placed parallel to skewed steps.

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

DETAILS OF END BENT NO. 4

Detailed JUL 2025
Checked JUL 2025

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

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

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. A43232-14
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

DESCRIPTION
DATE

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

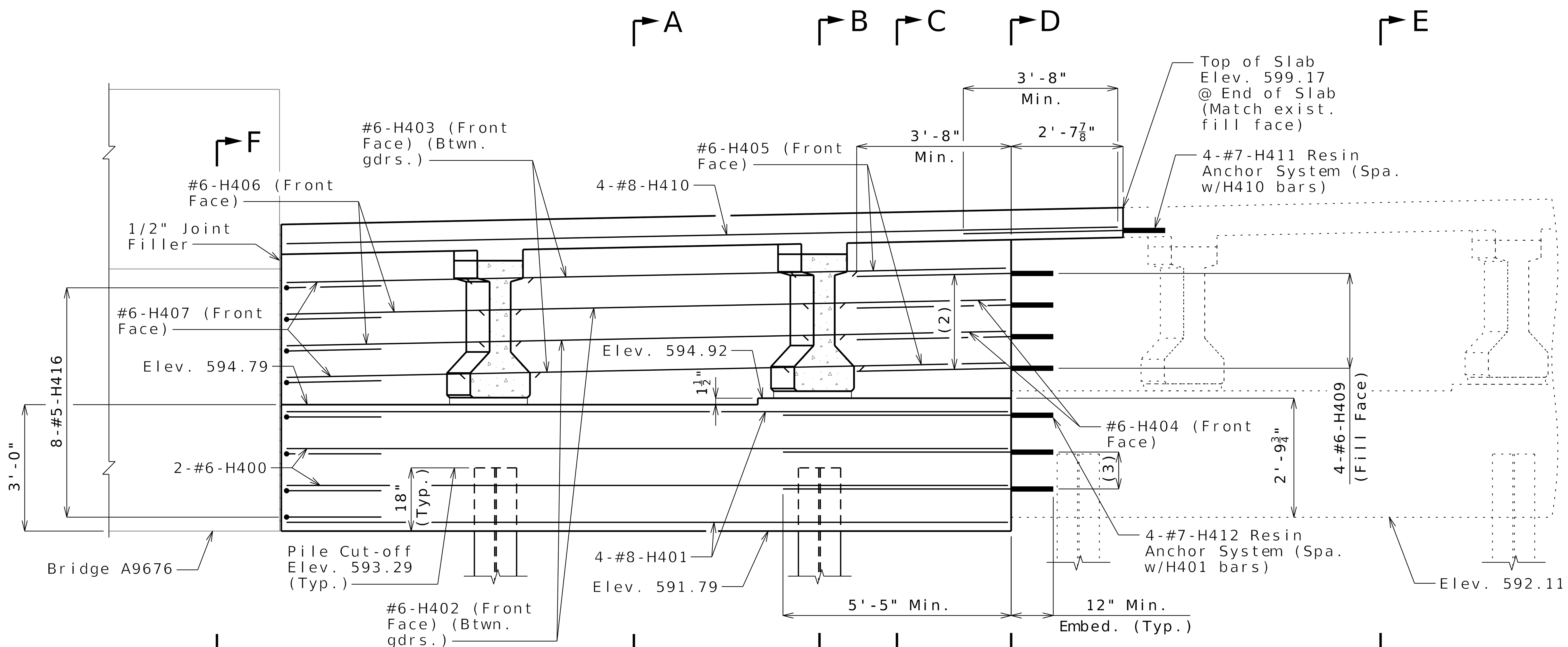
MoDOT

IMPROVE 70 ALLIANCE

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

Bartlett & West

B_A43232_014_JST0020_BENT4-1.dgn 9:24:49 AM 9/2/2025

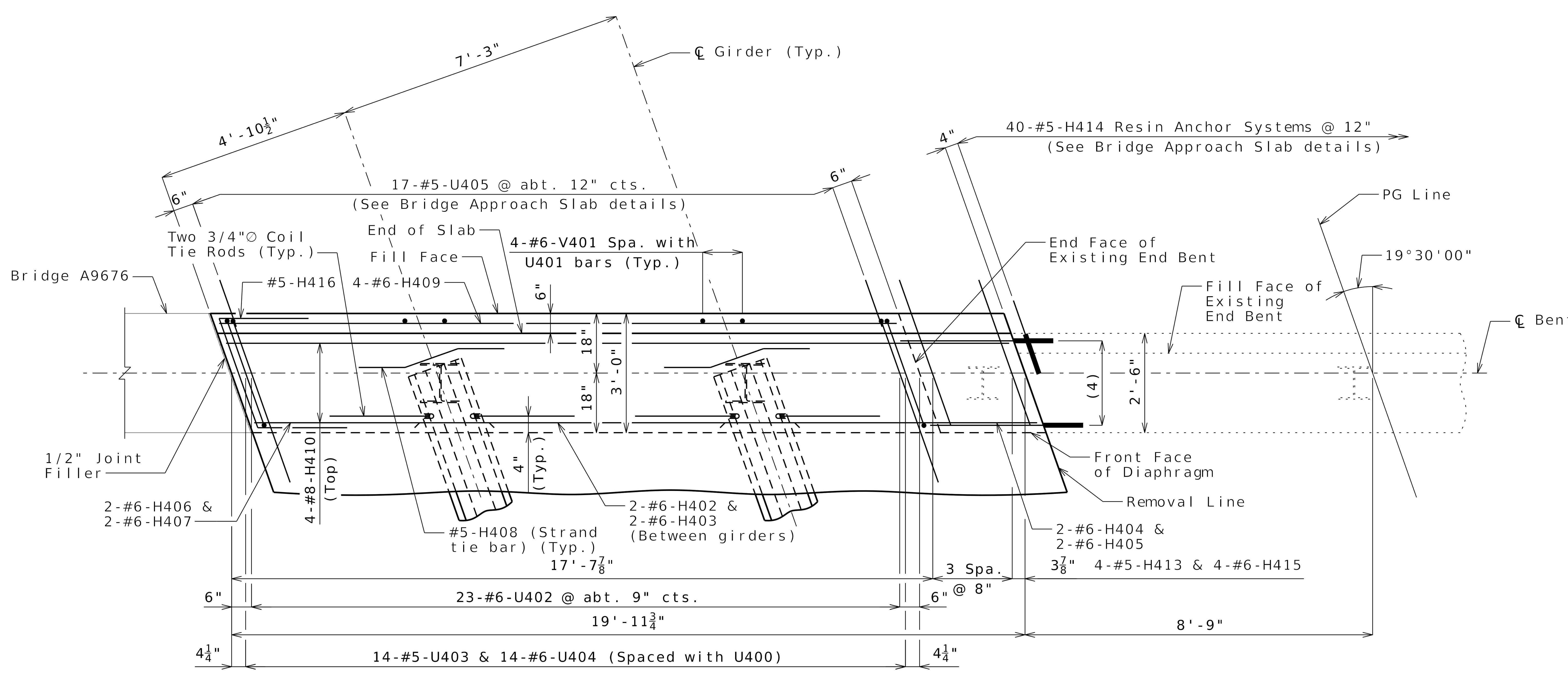


SECTION NEAR END BENT
(Slab Reinforcing with MBS not shown for clarity.)

(2) 4-#7-H411 Resin Anchor System (E.F) (Spa. w/H409 bars)

(3) 2-#7-H412 Resin Anchor System (E.F.) (Spa. w/H400 bars)

(4) 4-#7-H411 Resin Anchor System (Top) (Spa. w/H410 bars)



PART PLAN

General Notes:

Work this sheet with Sheets No. 14 & 16.

For Sections A-A, B-B & C-C and Elevations D-D & E-E, see Sheet No. 16.

The U bars shall be placed parallel to skewed steps.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.

For location of coil tie rods and #5-H408 (strand tie bar), see Sheet No. 20.

For details of vertical drain at end bents, see Sheet No. 11.

For details of bridge approach slab, see Sheet No. 27.

For Partial Wingwall Removal details, see Sheet No. 6.

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

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

All Elevations shown are based on profile grade elevations taken from the as-built plans and shall be field verified by the Contractor.

Contractor has the option to preserve existing transverse reinforcing bars over the diaphragm or to use the epoxy resin anchor systems (H411) shown.

Detailed JUL 2025
Checked JUL 2025

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

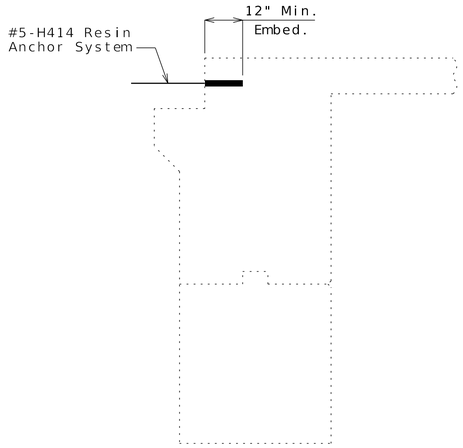
DETAILS OF END BENT NO. 4

DATE PREPARED	
9/2/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. A43232-15
COUNTY ST. CHARLES	
JOB NO. JST0020	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A43232	

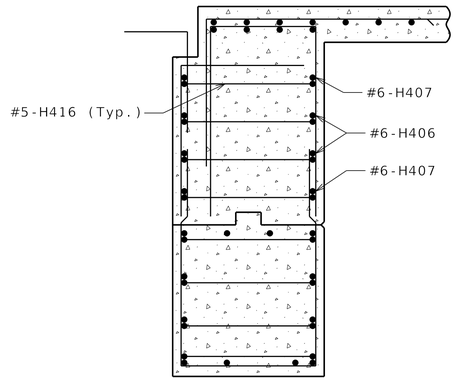
DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
IMPROVE 70 ALLIANCE
HNTB 715 KIRK DRIVE KANSAS CITY, MO 64105-1310 CERTIFICATE OF AUTHORITY NO. 001270
Bartlett & West

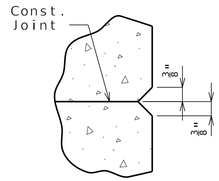
09/18/2025
Released for Construction



SECTION E-E



SECTION F-F

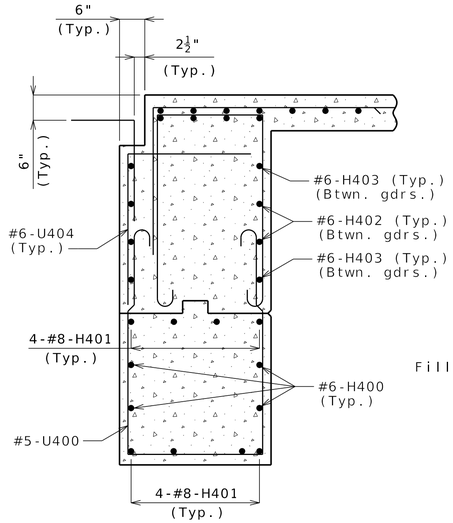


CHAMFER DETAIL

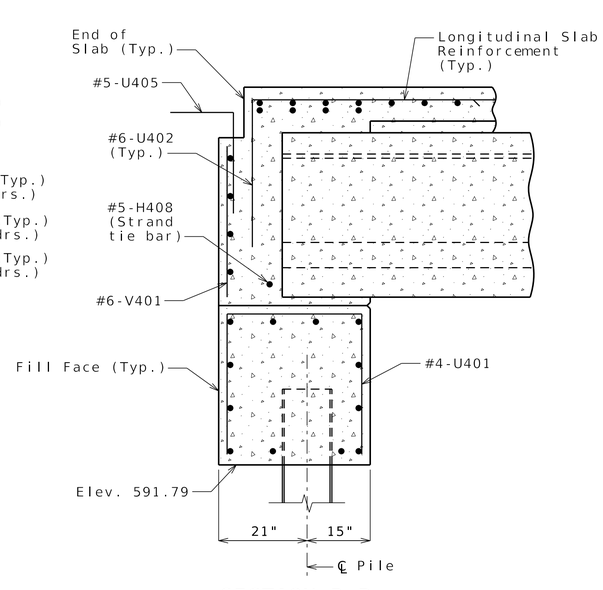
General Notes:

Work this sheet with Sheets No. 14 and 15.

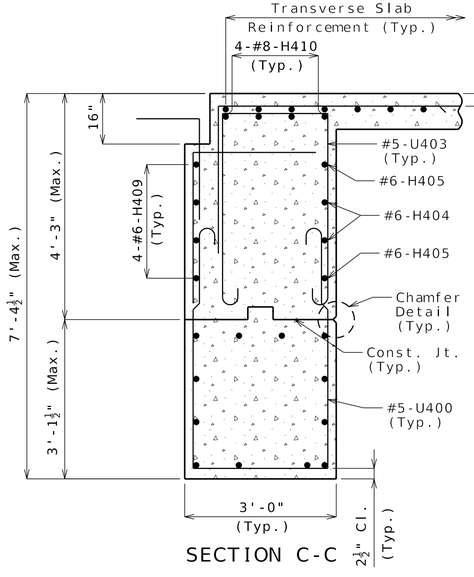
For reinforcement of the barrier, see Sheet No. 26.



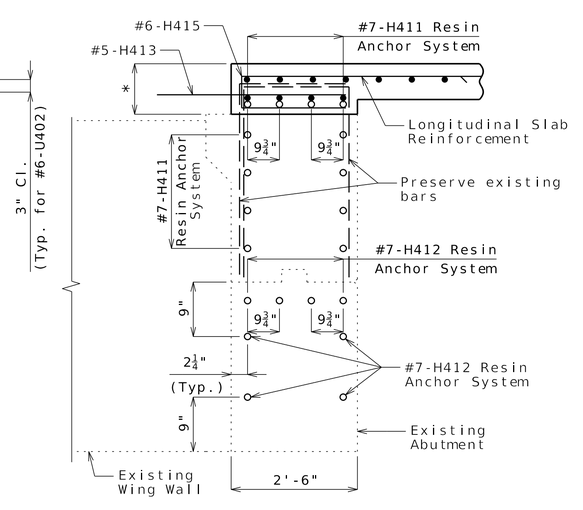
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

∗ Contractor to verify existing depth

DETAILS OF END BENT NO. 4

Detailed JUL 2025
Checked JUL 2025

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

B_A43232_016_JST0020_BENT4-3.dgn 9:24:55 AM 9/2/2025

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

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/2/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	A43232-16

COUNTY
ST. CHARLES

JOB NO.
JST0020

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A43232

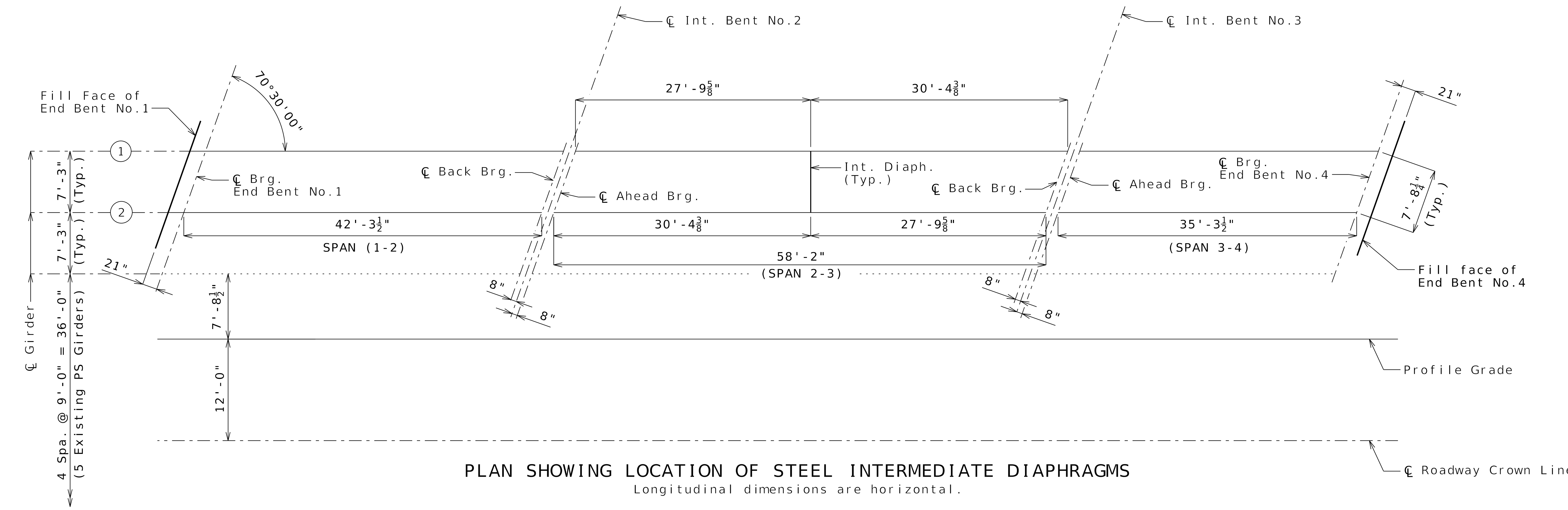
DESCRIPTION	DATE

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

IMPROVE 70 ALLIANCE

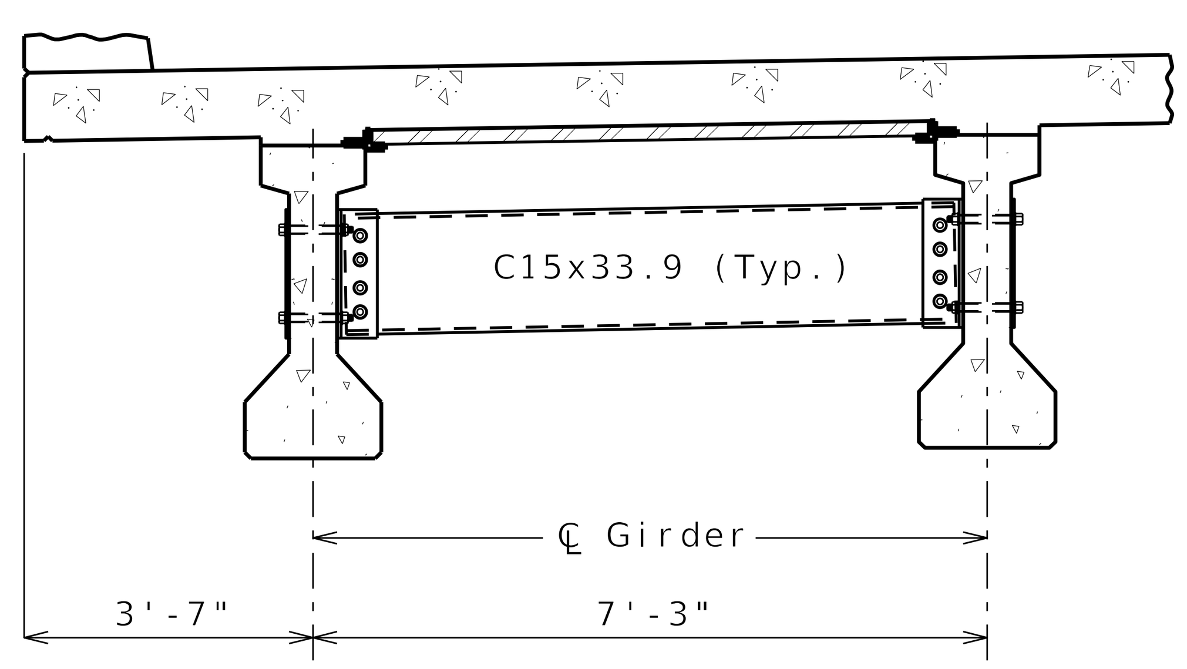
HNTB
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 000270

Bartlett & West
601 MONROE ST., SUITE 201 - JEFFERSON CITY, MO 65101
PHONE: (573) 634-2488
CERTIFICATE OF AUTHORITY NO. 000107 - ENGINEERING
WWW.BARTLETTWEST.COM

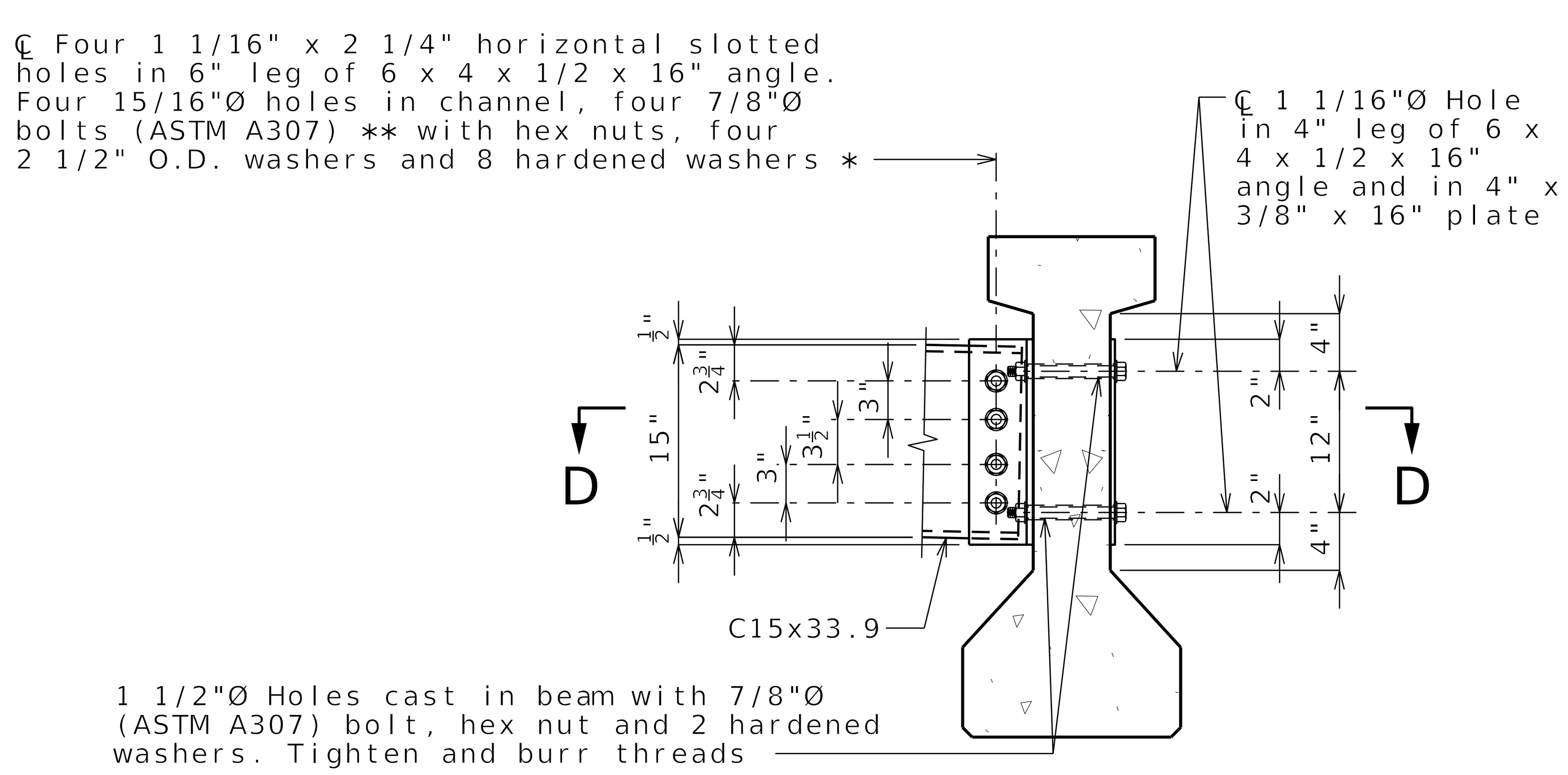


PLAN SHOWING LOCATION OF STEEL INTERMEDIATE DIAPHRAGMS

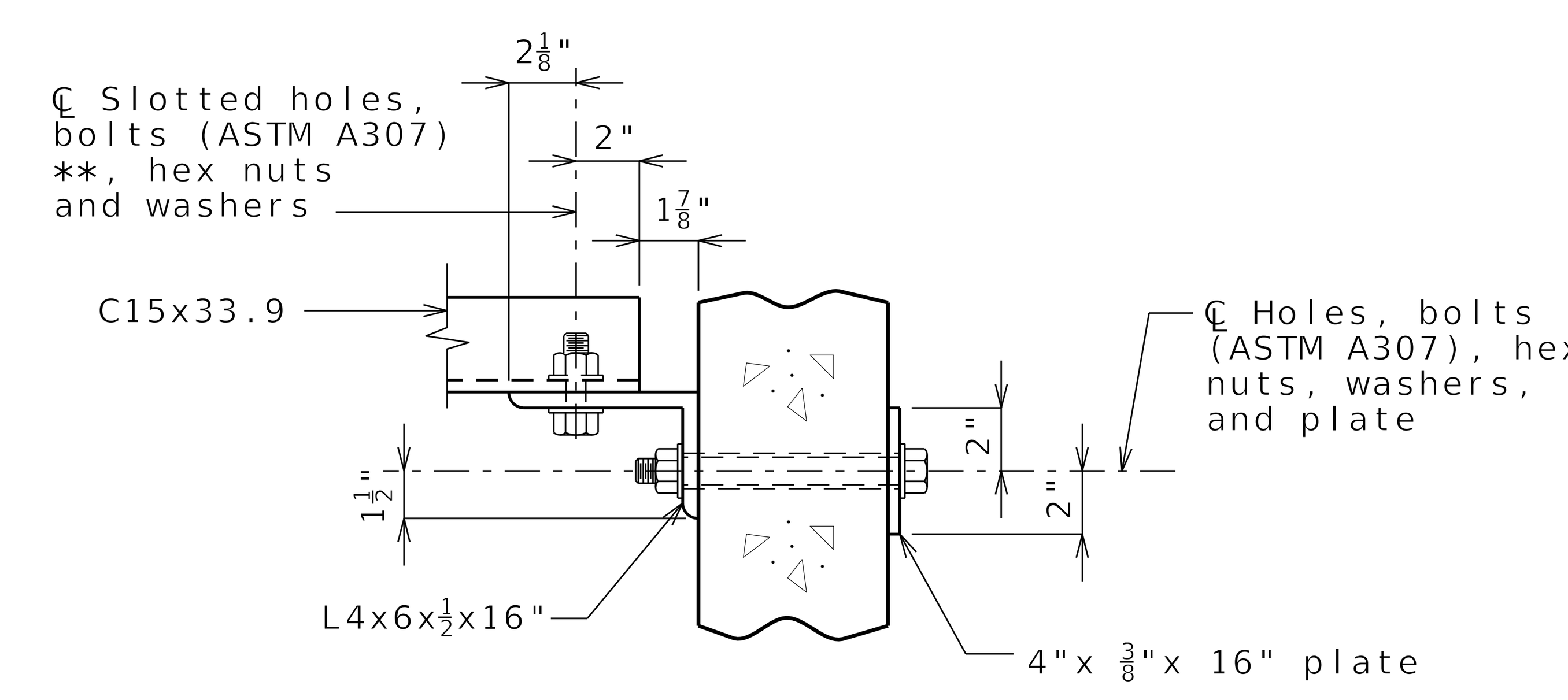
Longitudinal dimensions are horizontal.



PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS



SECTION THRU GIRDER AT DIAPHRAGM



SECTION D-D

STEEL DIAPHRAGM NOTES:

* In lieu of 2 1/2" outside diameter washers, contractor may substitute a 3/16" (Min. thickness) plate with four 15/16" Ø holes and one hardened washer per bolt.

** Bolts shall be tightened to provide a tension of one-half that specified in Sec 712 for high strength bolt installation. ASTM F3125 Grade A325 Type 1 bolts may be substituted for and installed in accordance with the requirements for the specified ASTM A307 bolts.

All diaphragm materials including bolts, nuts, and washers shall be galvanized.

Fabricated structural steel shall be ASTM A709 Grade 36 except as noted.

Shop drawings will not be required for steel intermediate diaphragms and angle connections.

Detailed JUL 2025
Checked JUL 2025

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

GIRDER LAYOUT

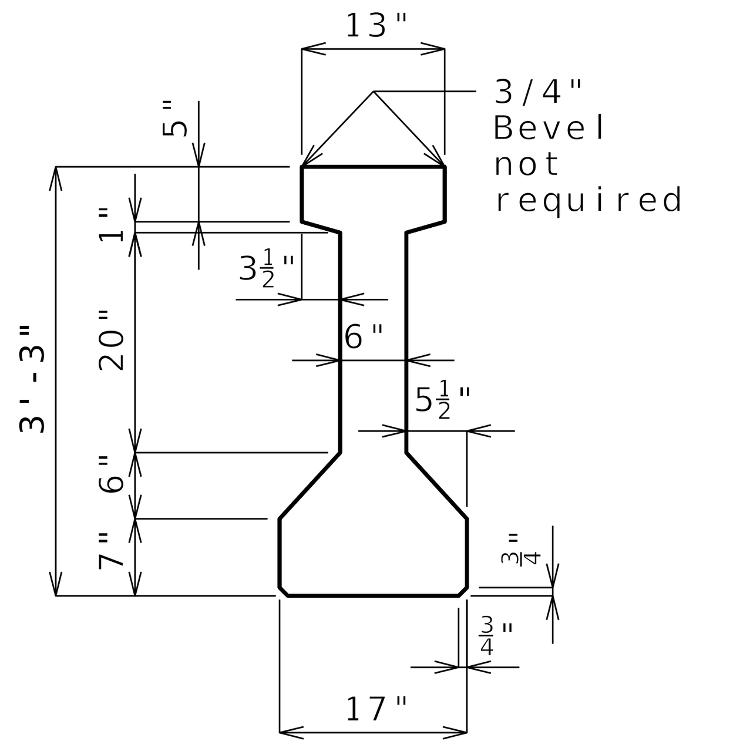
STATE OF MISSOURI
David J. Glastetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	A43232-17
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

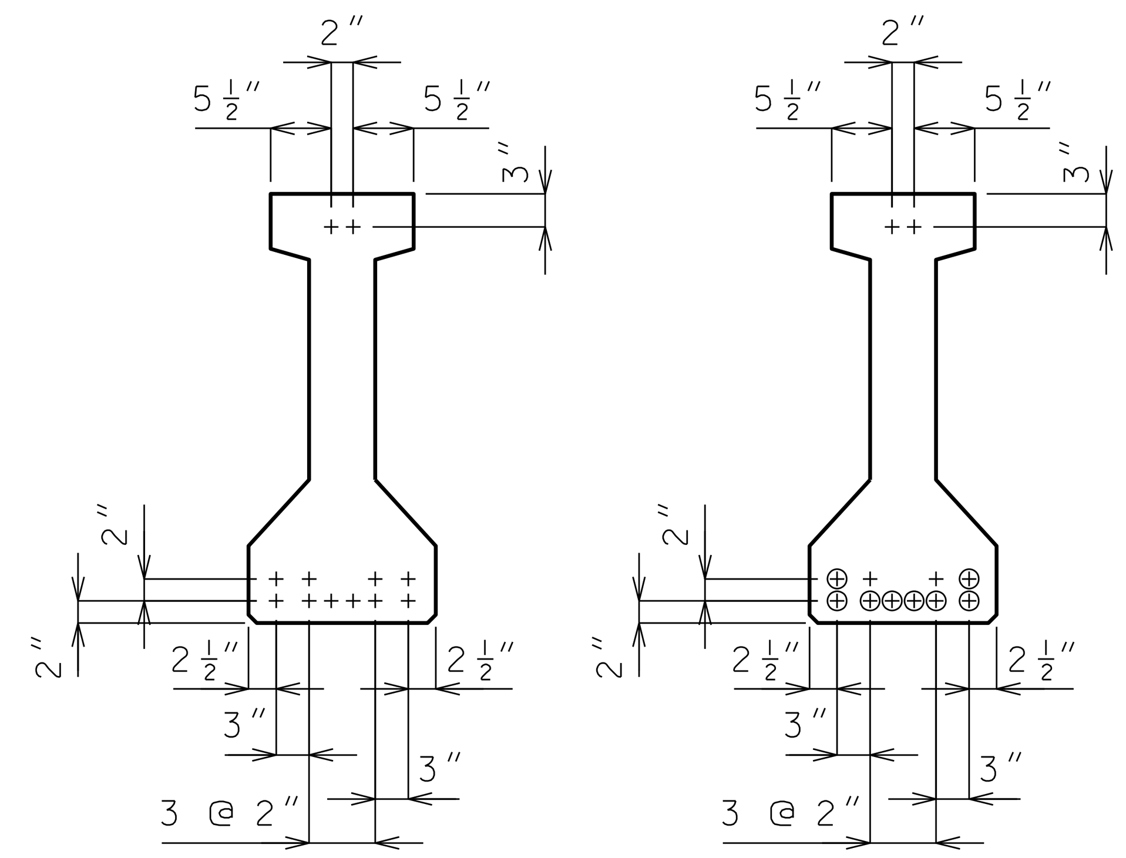
DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
IMPROVE 70 ALLIANCE
HNTB
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270
Bartlett & West

B_A43232_017_JST0020_GIRLAY.dgn 9:24:57 AM 9/2/2025



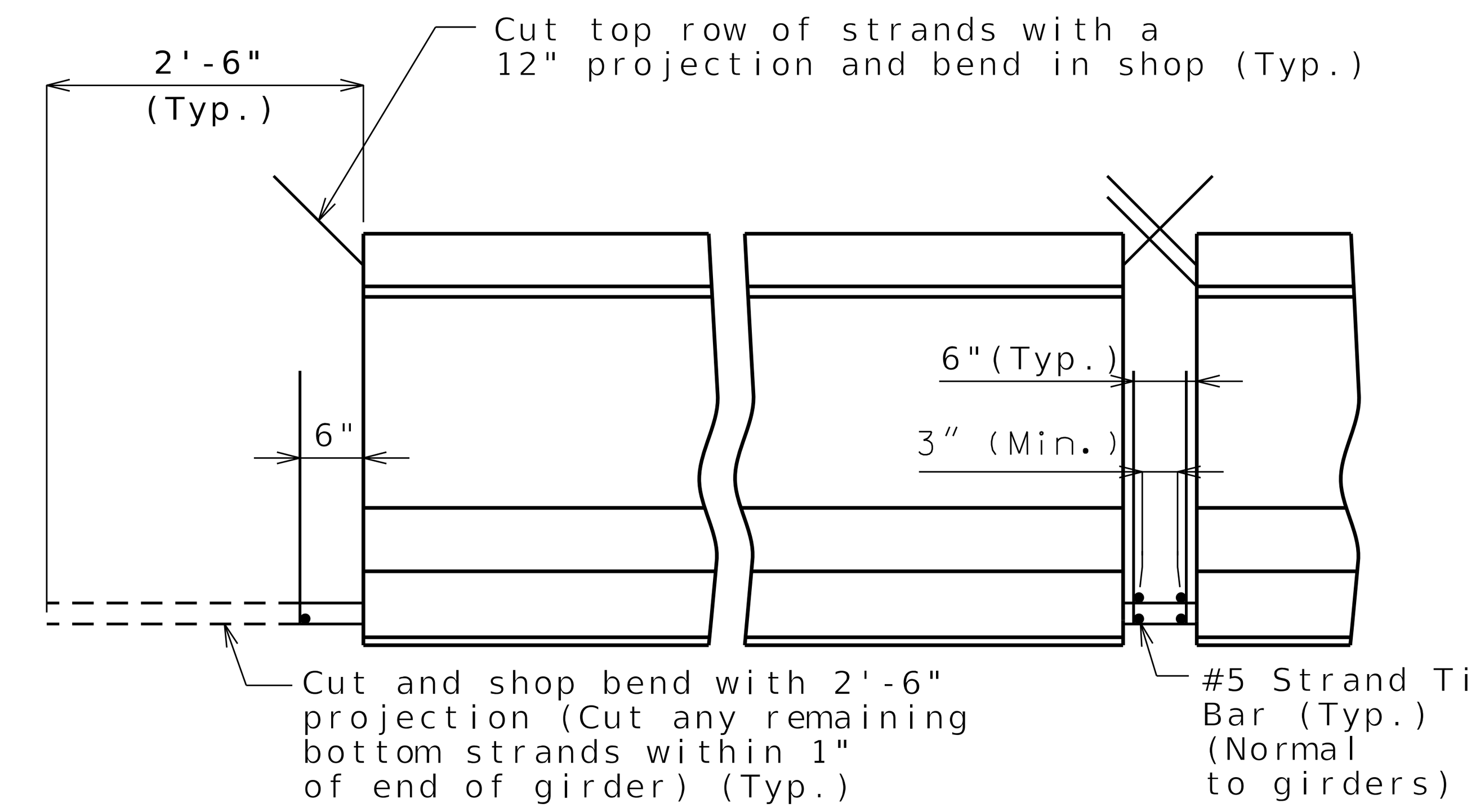
DIMENSIONS



STRAND ARRANGEMENT

\+ Indicates prestressing strand.

○ Indicates cut & shop bend with 2'-6" projection.

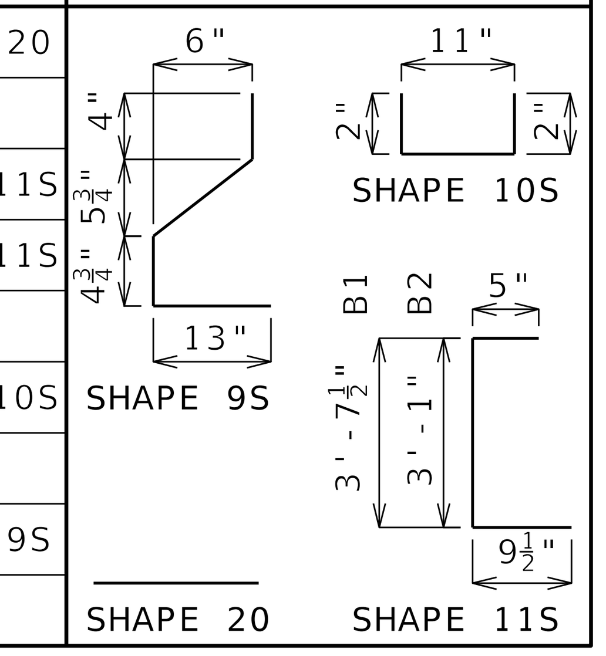


STRANDS AT GIRDER ENDS

BILL OF REINFORCING STEEL - EACH GIRDER

NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE
2	6 A1	42'-10"	20
86	5 B1	4'-7"	11S
16	6 B2	4'-0"	11S
51	4 C1	13"	10S
102	4 D1	2'-5"	9S

BENDING DIAGRAM



All dimensions are out to out.

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

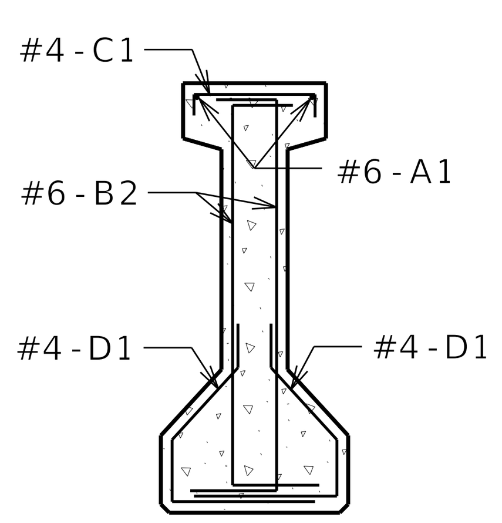
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be one inch.

All reinforcement shall be Grade 60.

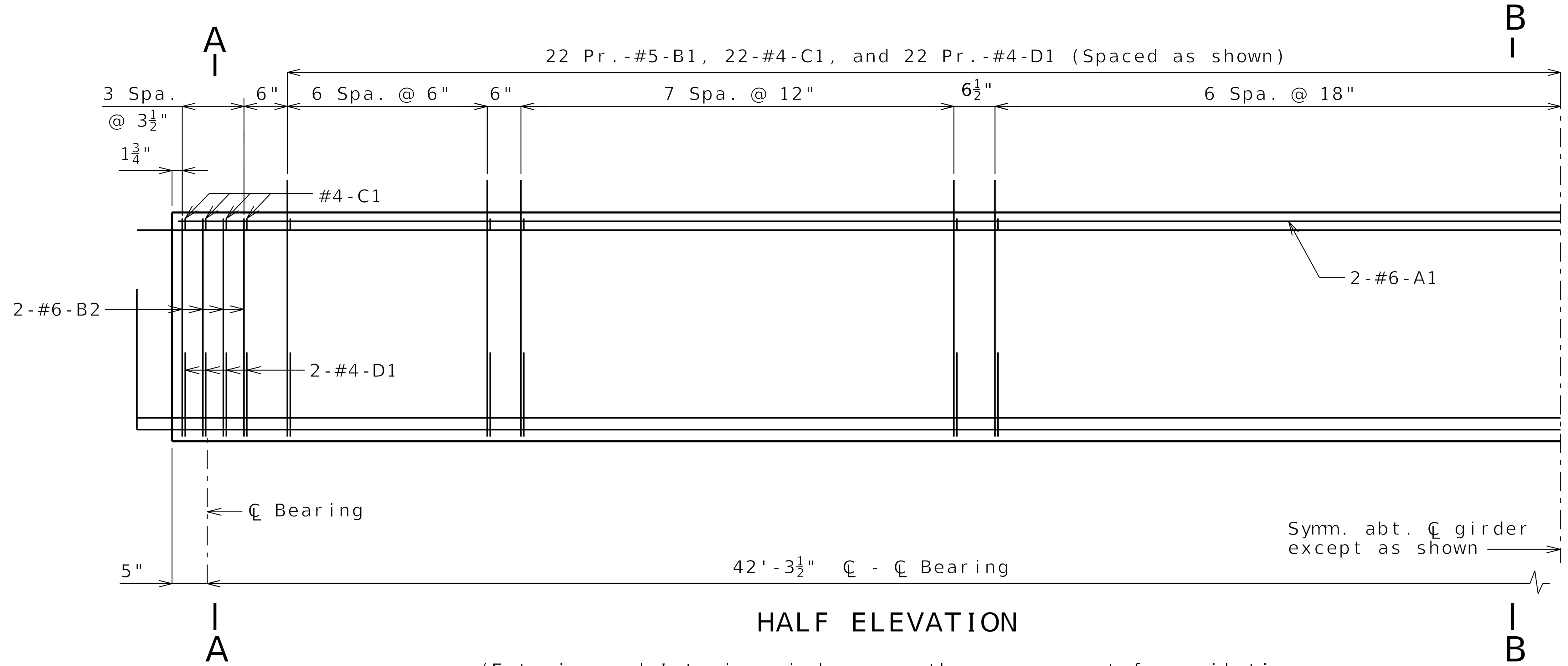
The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



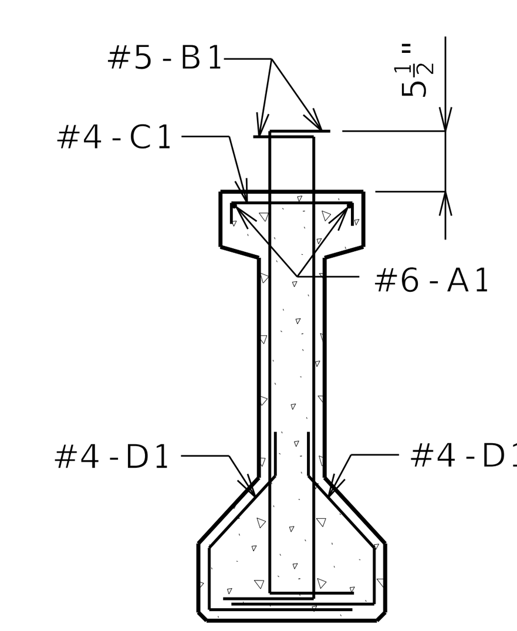
SECTION A-A

Strands not shown for clarity.



HALF ELEVATION

(Exterior and Interior girders are the same except for coil ties and coil inserts for slab drains.)



SECTION B-B

Strands not shown for clarity.

General Notes:

Concrete for prestressed girders shall be Class A-1 with f'c = 6,000 psi and f'ci = 4,500 psi.

Use 12 strands, 0.6"Ø Grade 270, with an initial prestress force of 528 kips.

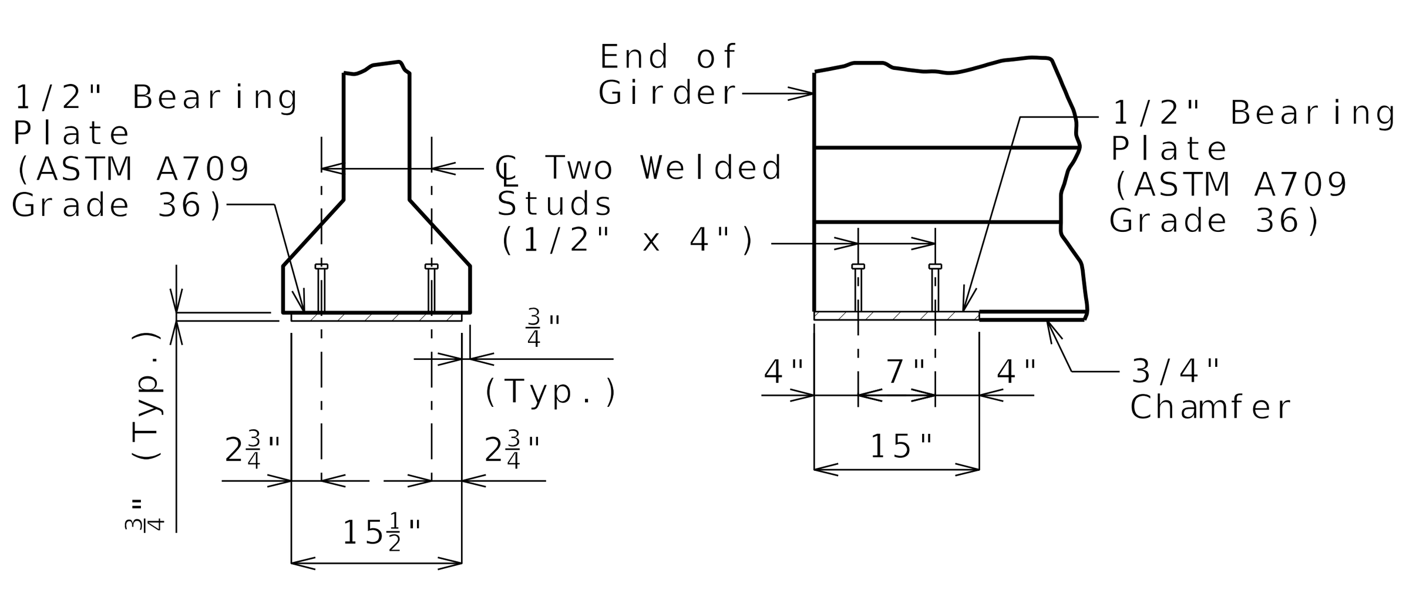
Pretensioned members shall be in accordance with Sec 1029.

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

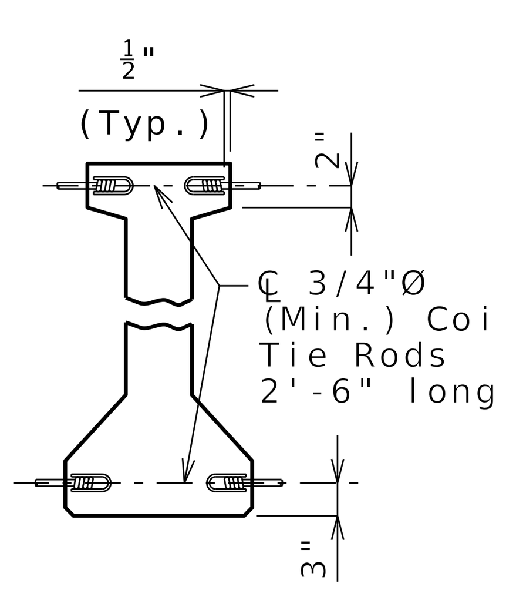
For Girder Camber Diagram, see Sheet No. 23.

For location of coil inserts at slab drains, see Sheet No. 22.

For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 8 and 21.



BEARING PLATE



COIL TIES

Exclude coil tie at intermediate bent diaphragms as shown on Sheet No. 21.

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

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE: I-70	STATE: MO
DISTRICT: BR	SHEET NO.: A43232-18
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

IMPROVE 70 ALLIANCE

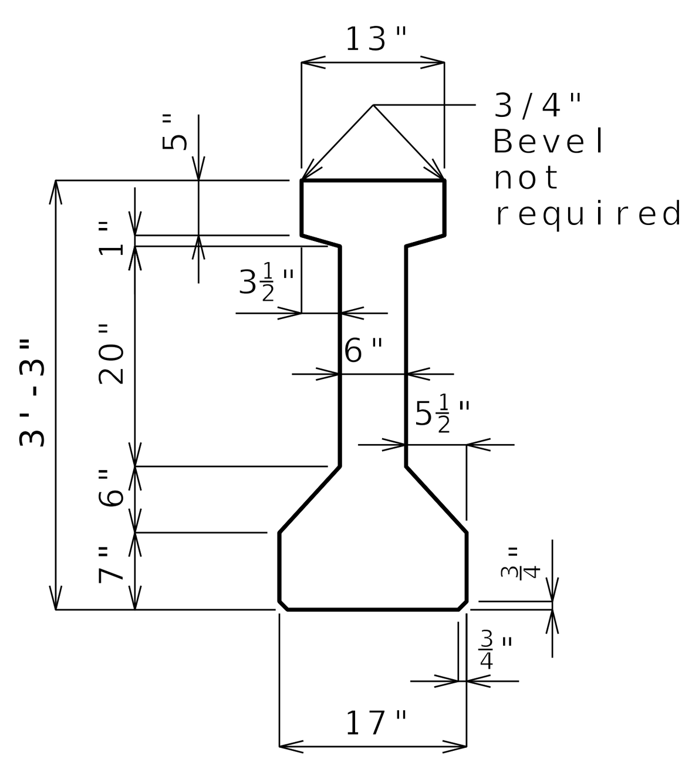
HNTB
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270

Bartlett & West

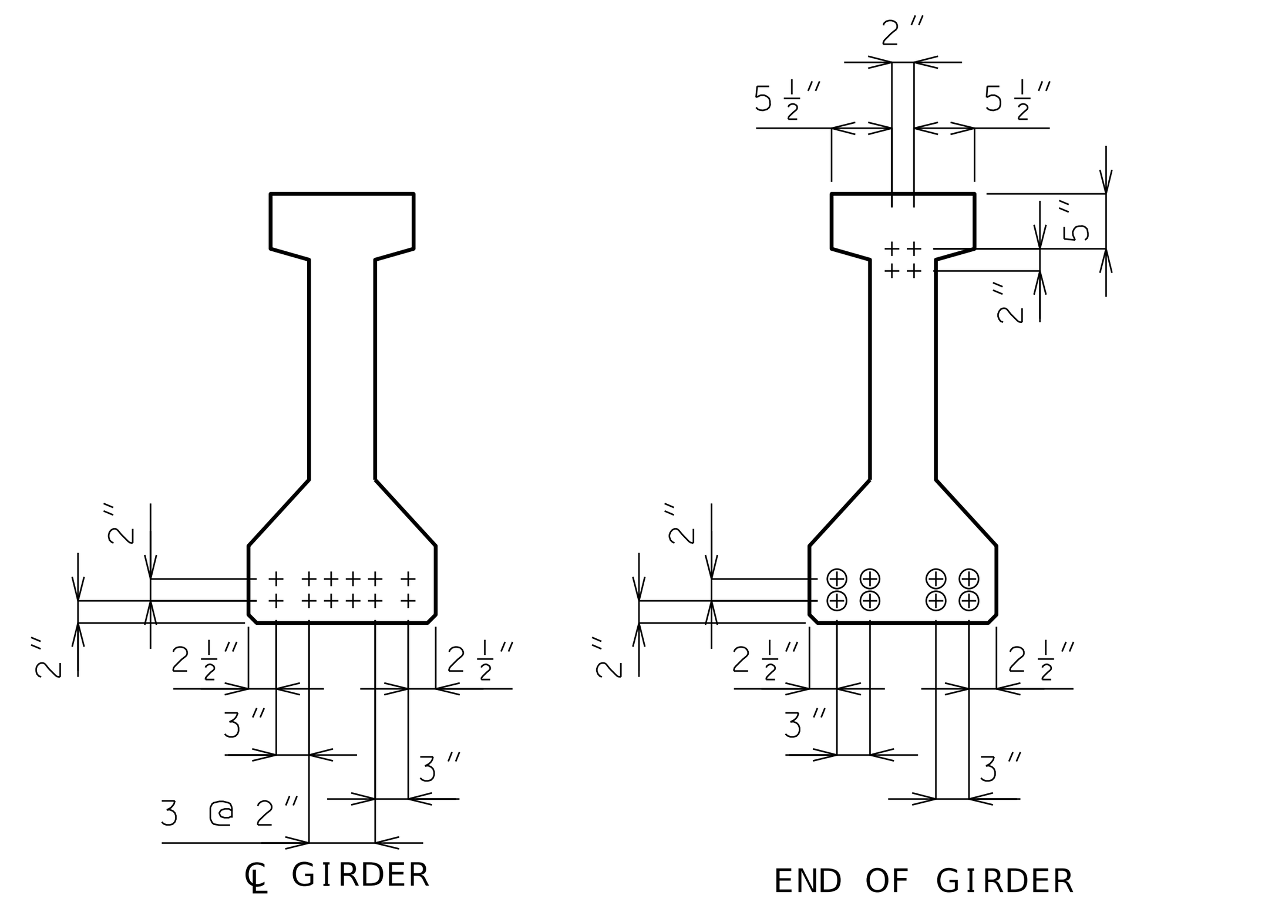
I- GIRDERS - SPAN (1-2)

Detailed JUL 2025
Checked JUL 2025

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



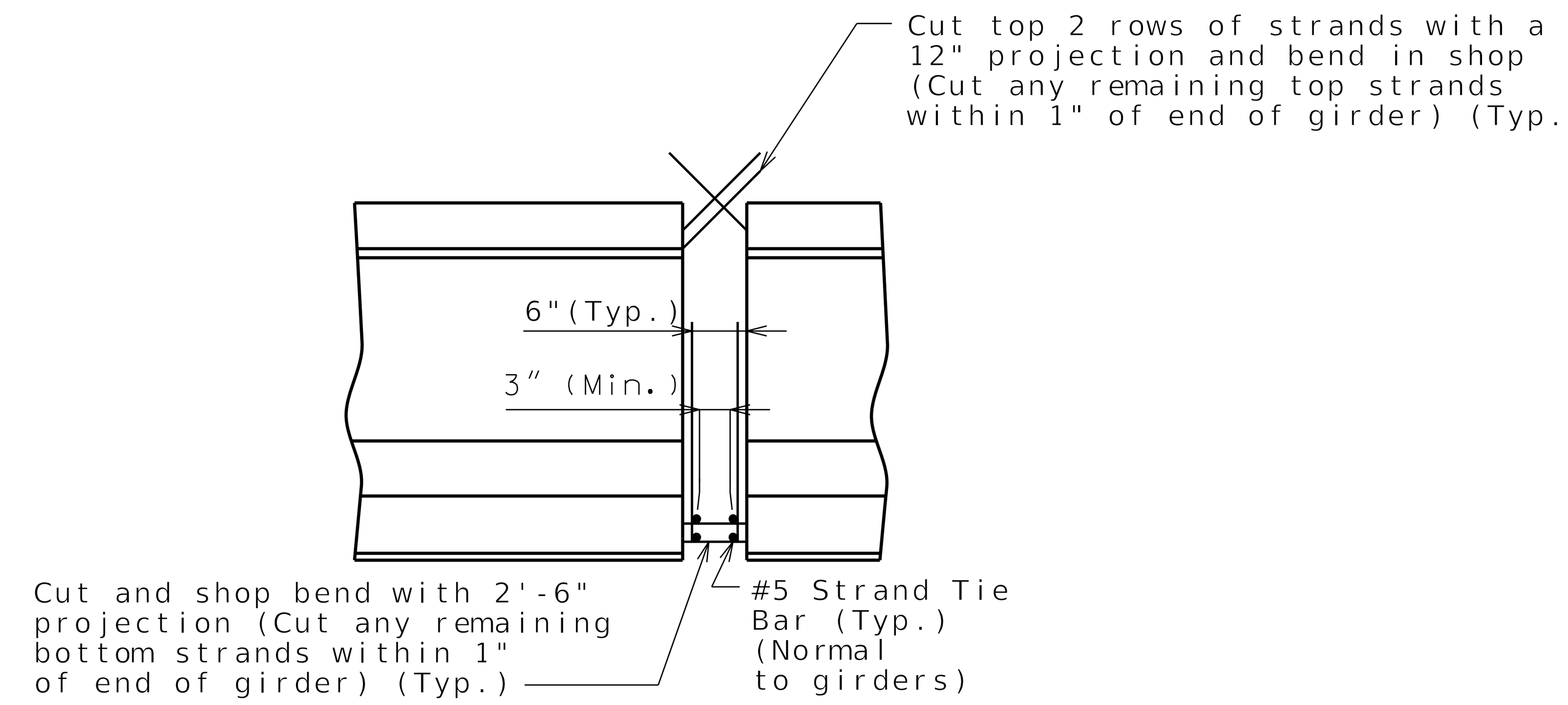
DIMENSIONS



STRAND ARRANGEMENT

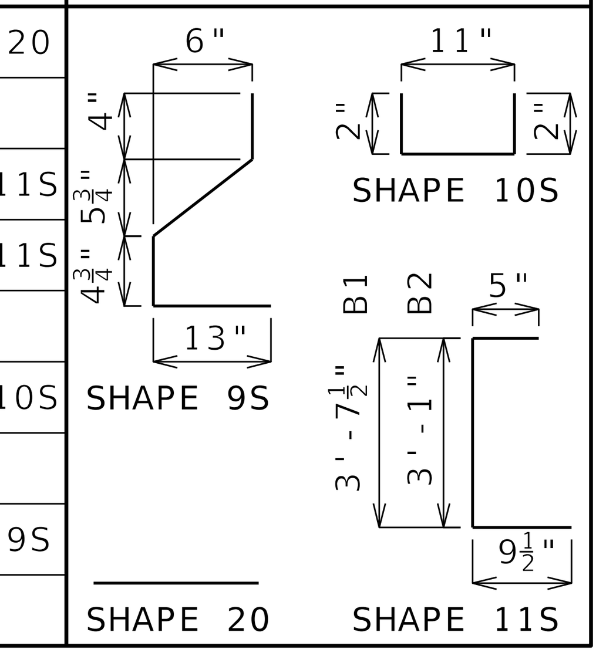
+ Indicates prestressing strand.

○ Indicates cut & shop bend with 2'-6" projection.



STRANDS AT GIRDER ENDS

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
2	6 A1	58'-8"	20	
138	5 B1	4'-7"	11S	
16	6 B2	4'-0"	11S	
77	4 C1	13"	10S	
154	4 D1	2'-5"	9S	



All dimensions are out to out.

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

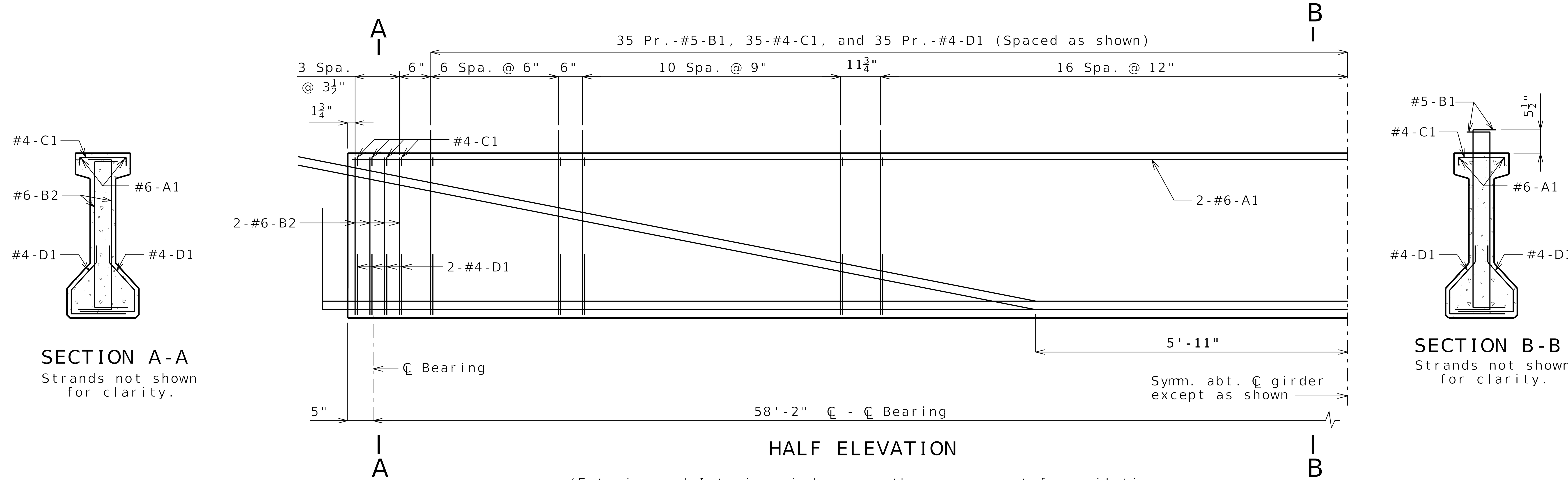
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be one inch.

All reinforcement shall be Grade 60.

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

All B1 bars shall be epoxy coated.



SECTION A-A

Strands not shown for clarity.

HALF ELEVATION

(Exterior and Interior girders are the same except for coil ties and holes for steel intermediate diaphragms.)

SECTION B-B

Strands not shown for clarity.

General Notes:

Concrete for prestressed girders shall be Class A-1 with f'c = 6,000 psi and f'ci = 4,500 psi.

Use 12 strands, 0.6"Ø Grade 270, with an initial prestress force of 528 kips.

Pretensioned members shall be in accordance with Sec 1029.

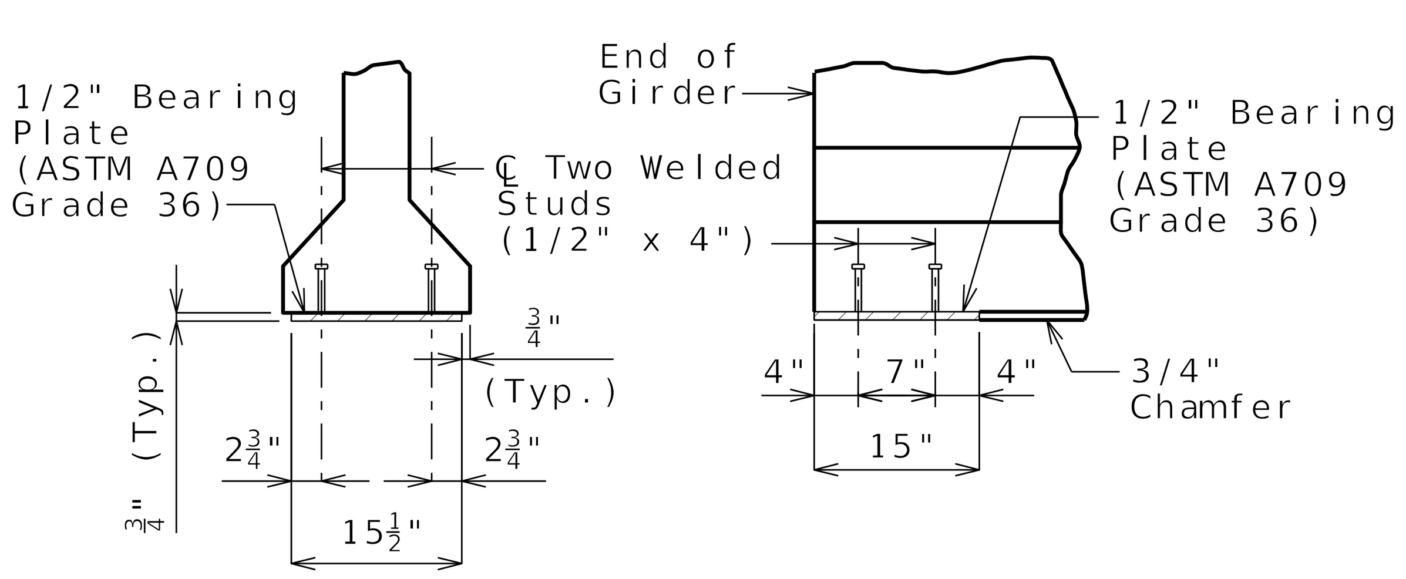
Fabricator shall be responsible for location and design of lifting devices.

For Girder Camber Diagram, see Sheet No. 23.

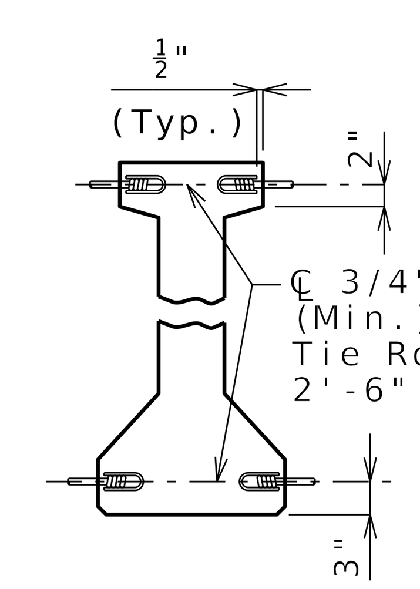
The 1 1/2"Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 17.

For location of coil inserts at slab drains, see Sheet No. 22.

For location of coil ties at concrete diaphragms, see Sheet No. 21.



BEARING PLATE



COIL TIES

Exclude coil tie at intermediate bent diaphragms as shown on Sheet No. 21.

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

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	A43232-19
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

IMPROVE 70 ALLIANCE

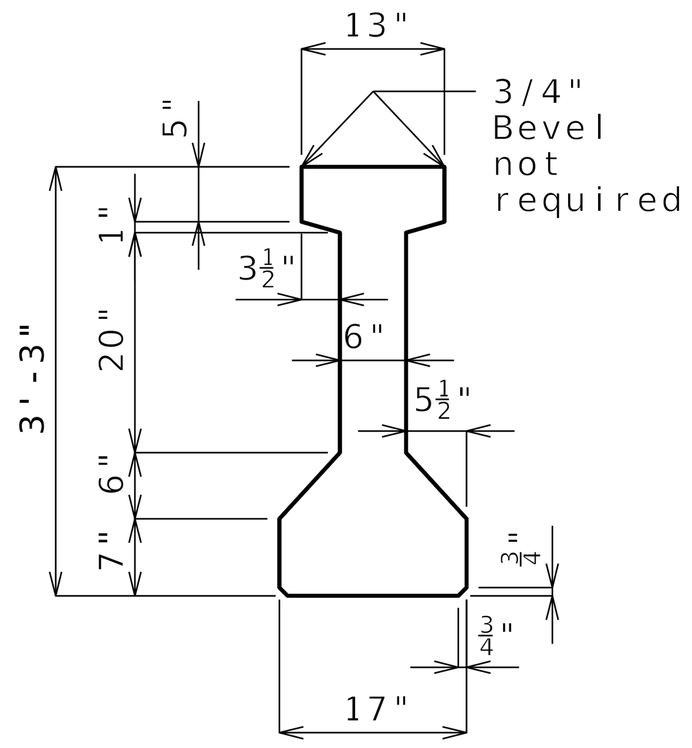
HNTB 715 KIRK DRIVE KANSAS CITY, MO 64105-1310 CERTIFICATE OF AUTHORITY NO. 001270

Bartlett & West

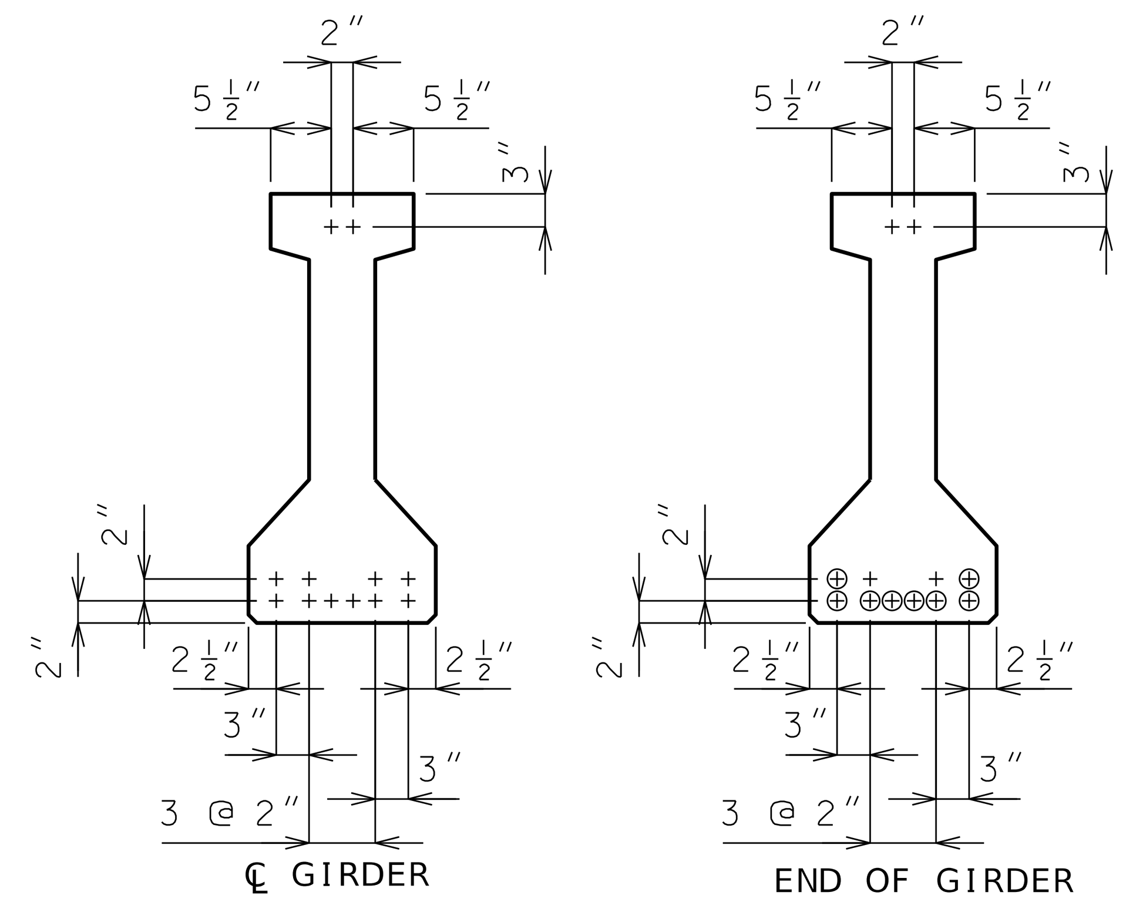
I- GIRDERS - SPAN (2-3)

Detailed JUL 2025
Checked JUL 2025

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



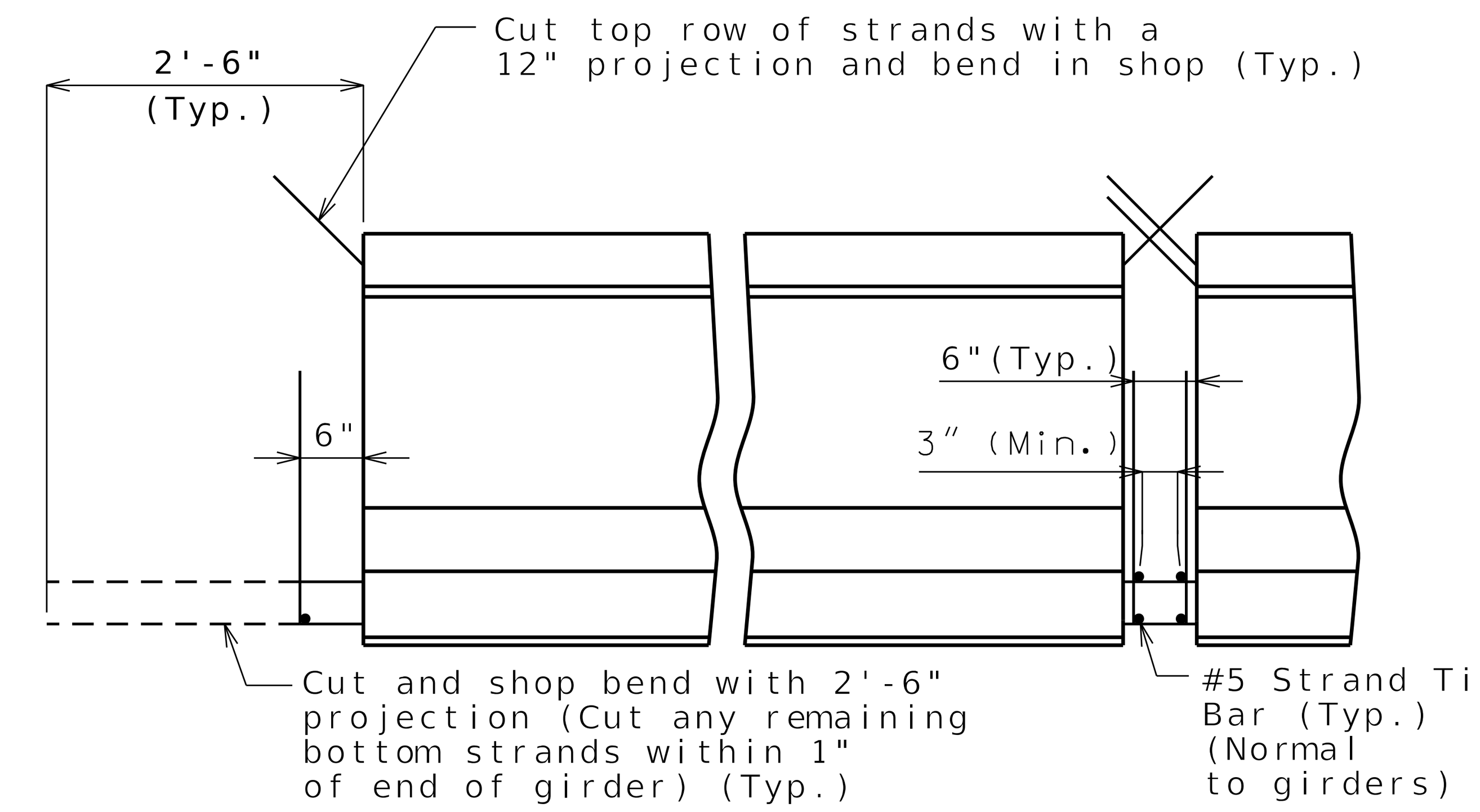
DIMENSIONS



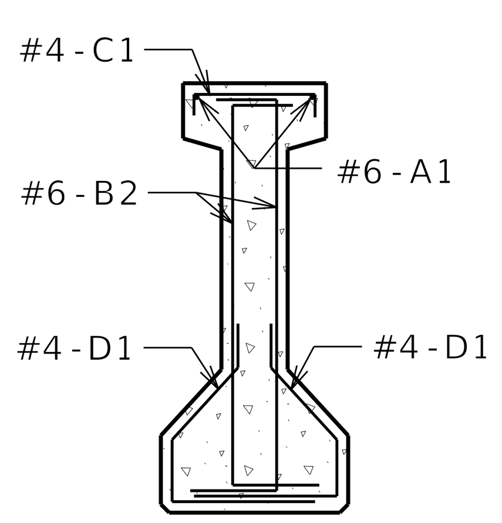
STRAND ARRANGEMENT

+ Indicates prestressing strand.

○ Indicates cut & shop bend with 2'-6" projection.

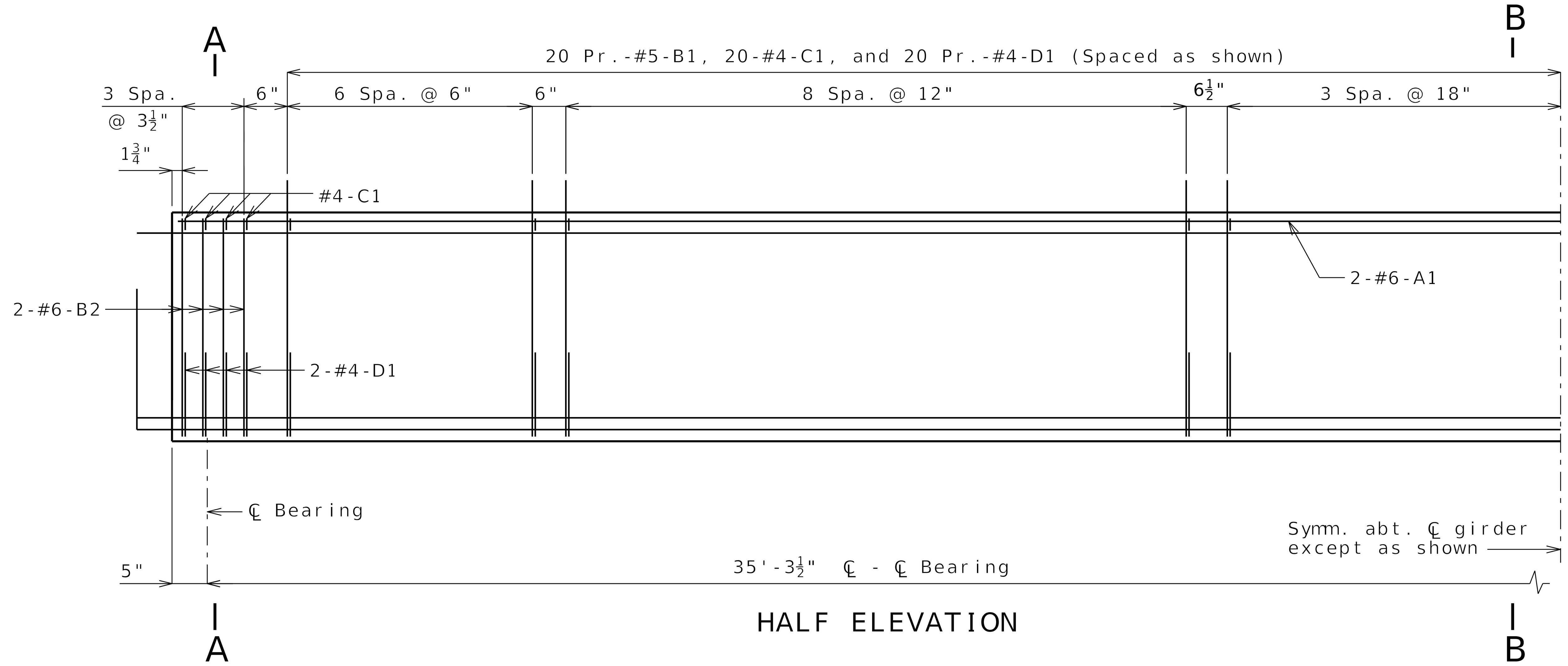


STRANDS AT GIRDER ENDS



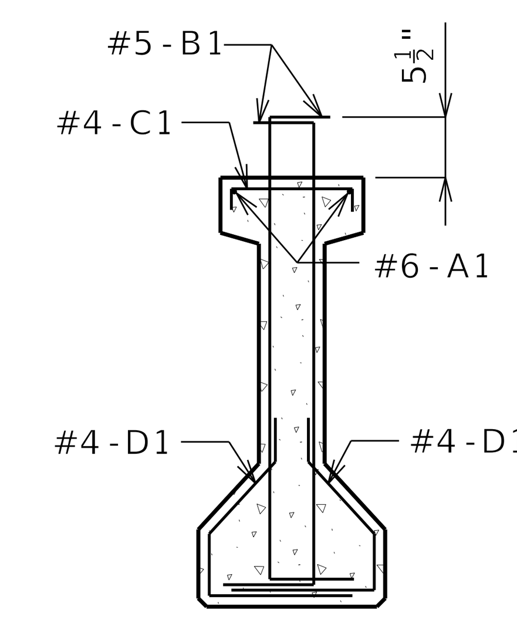
SECTION A-A

Strands not shown for clarity.



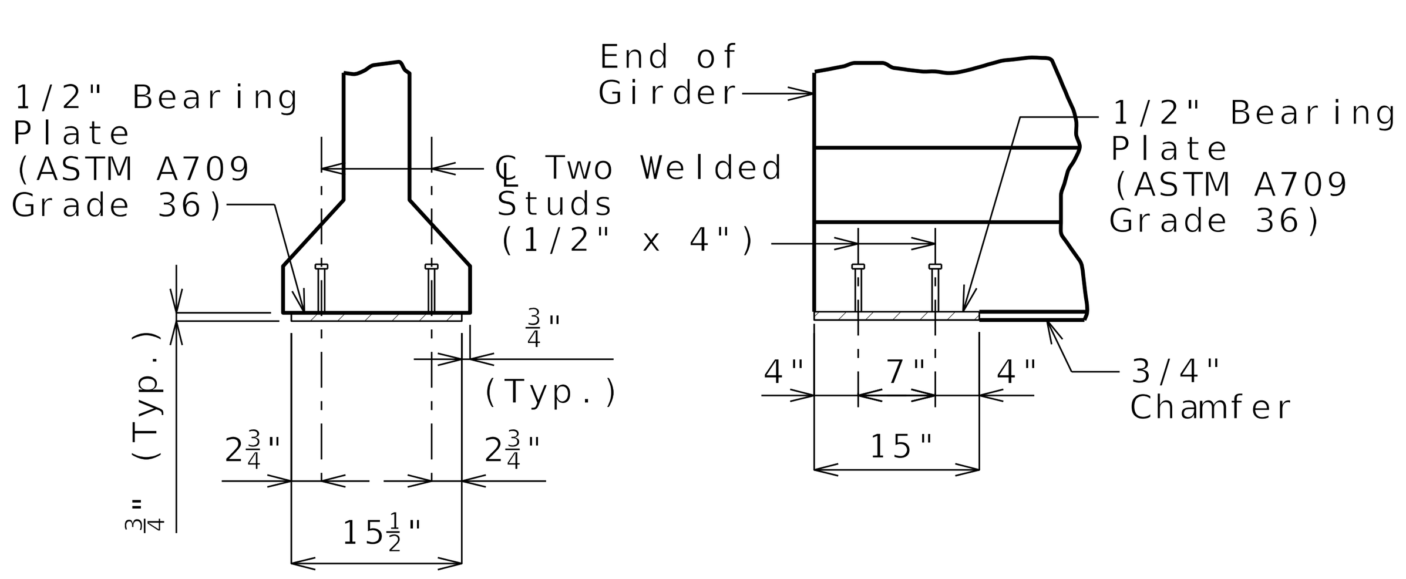
HALF ELEVATION

(Exterior and Interior girders are the same except for coil ties and coil inserts for slab drains.)

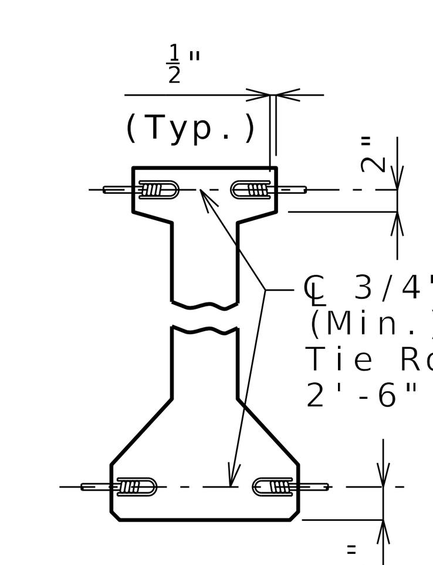


SECTION B-B

Strands not shown for clarity.



BEARING PLATE

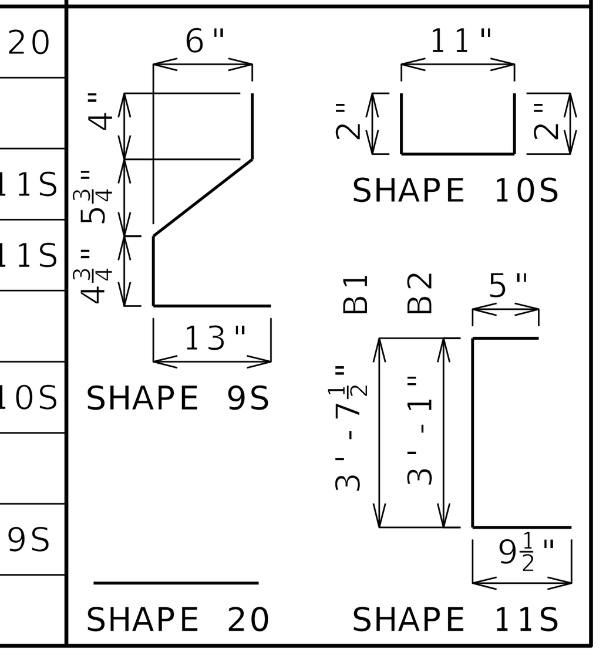


COIL TIES

Exclude coil tie at intermediate bent diaphragms as shown on Sheet No. 21.

BILL OF REINFORCING STEEL - EACH GIRDER			
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE
2	6 A1	35'-10"	20
78	5 B1	4'-7"	11S
16	6 B2	4'-0"	11S
47	4 C1	13"	10S
94	4 D1	2'-5"	9S

BENDING DIAGRAM



All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be one inch.

All reinforcement shall be Grade 60.

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

All B1 bars shall be epoxy coated.

General Notes:

Concrete for prestressed girders shall be Class A-1 with f'c = 6,000 psi and f'ci = 4,500 psi.

Use 12 strands, 0.6"Ø Grade 270, with an initial prestress force of 528 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

For Girder Camber Diagram, see Sheet No. 23.

For location of coil inserts at slab drains, see Sheet No. 22.

For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 15 and 21.

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

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	A43232-20
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

IMPROVE 70 ALLIANCE

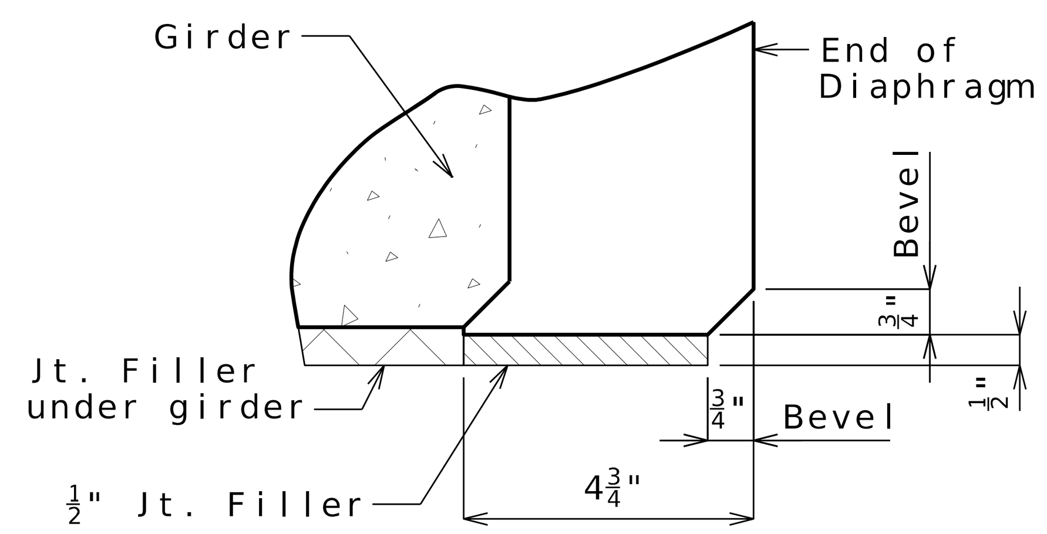
HNTB
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270

Bartlett & West

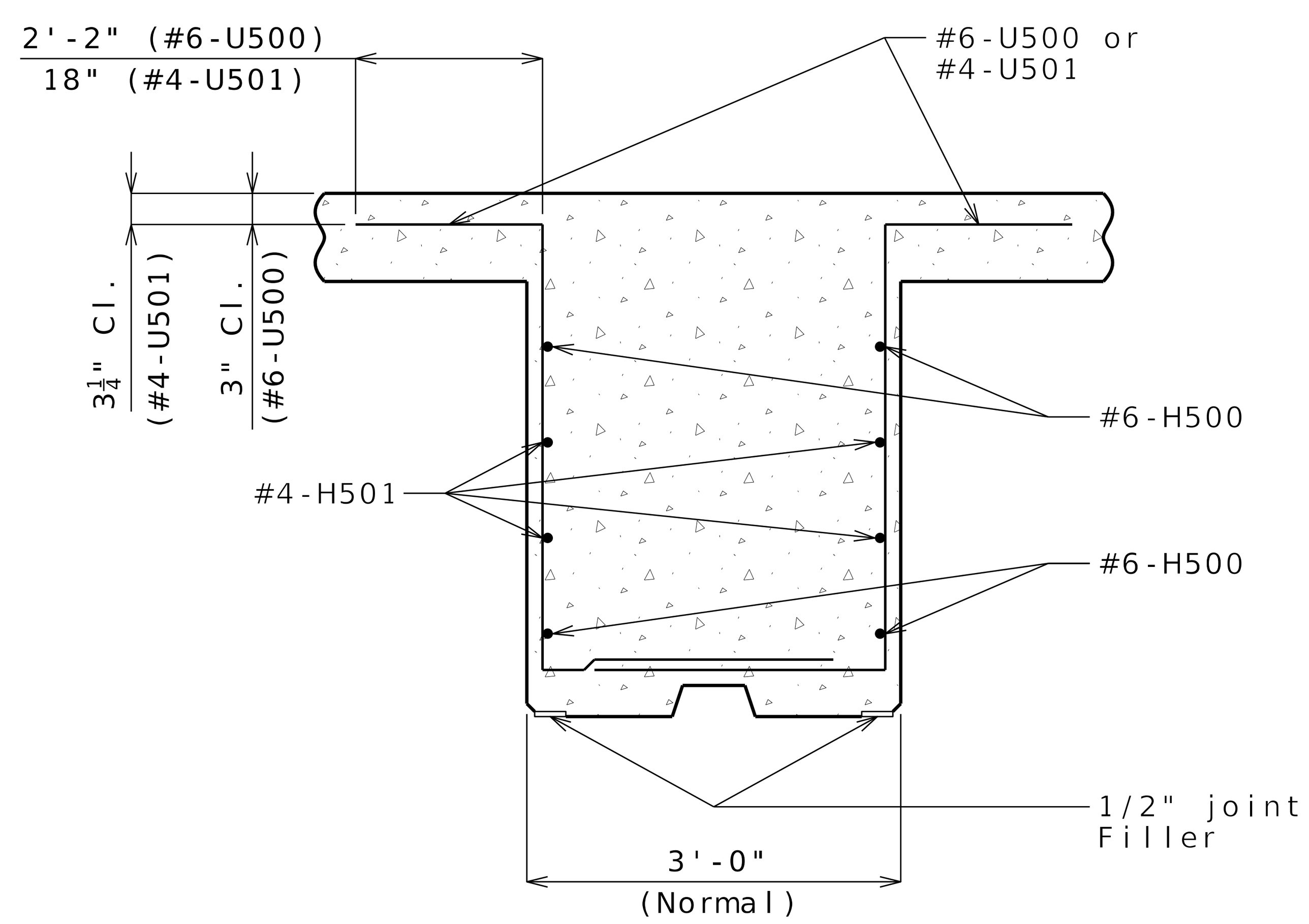
Detailed JUL 2025
Checked JUL 2025

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

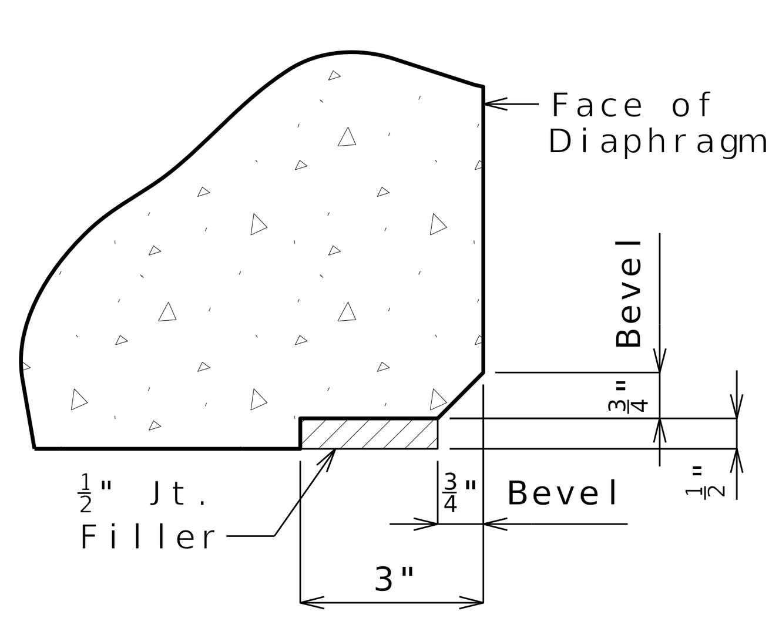
I- GIRDERS - SPAN (3-4)



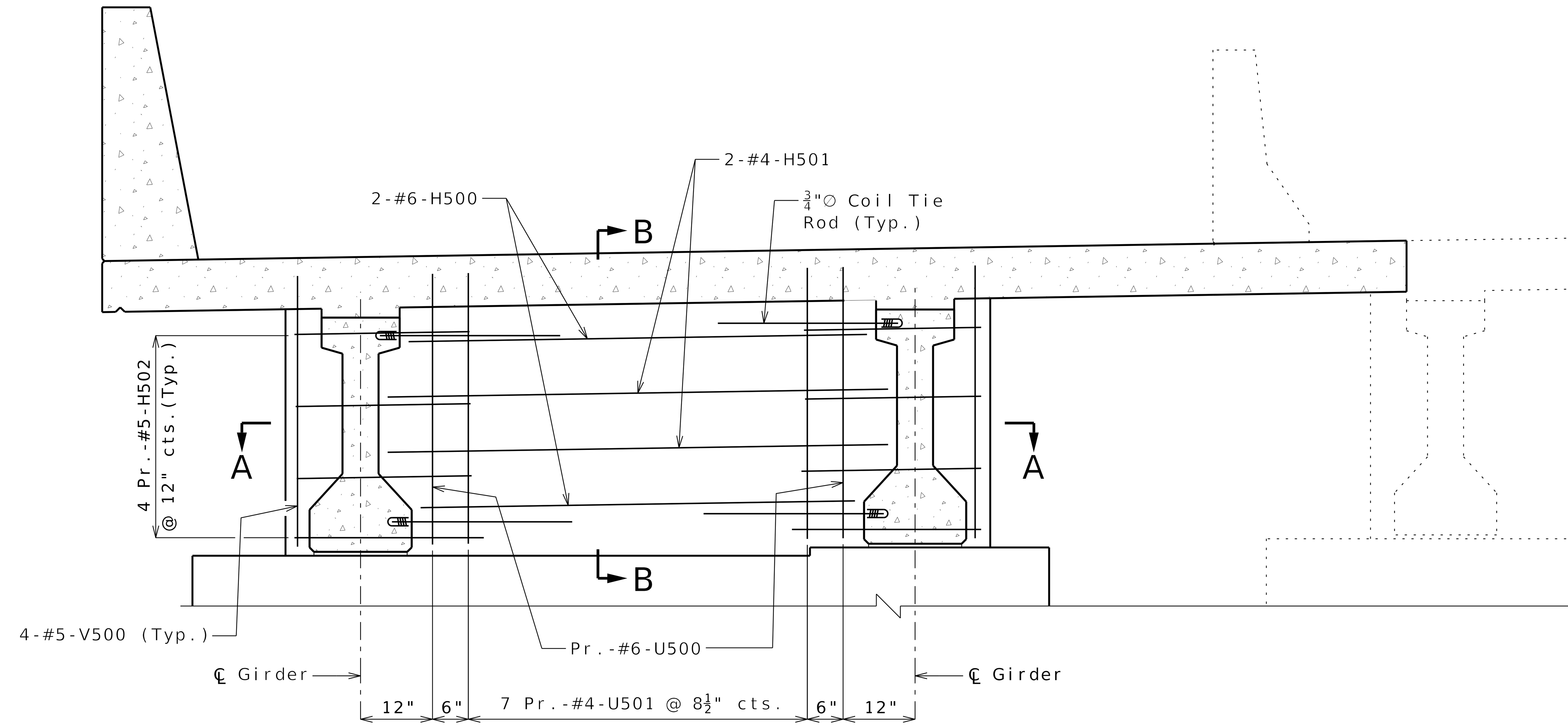
END DETAIL



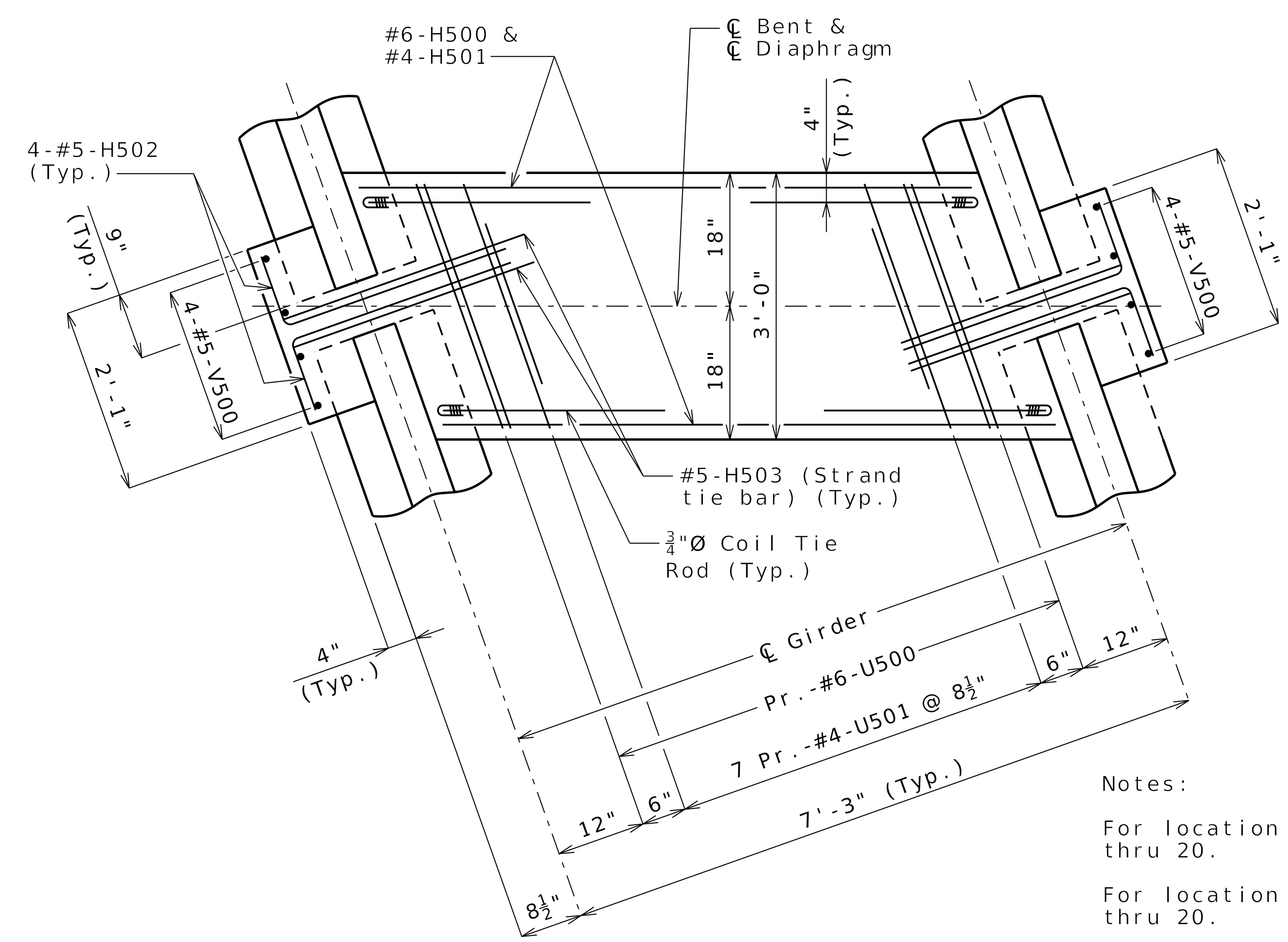
SECTION B-B



EDGE DETAIL



SECTION NEAR INTERMEDIATE BENT
Normal to ℄ Structure



SECTION A-A

Notes:

For location and number of Strand Tie Bars, see Sheets No. 18 thru 20.

For location and details of Coil Tie Rods, see Sheets No. 18 thru 20.

Diaphragms at intermediate bents shall be built vertical.

All U-bars in diaphragms are to be placed parallel to ℄ Roadway.

See Details of Intermediate Bents for shear key, dowel placement, and joint filler details not shown here.

CONCRETE DIAPHRAGM AT INTERMEDIATE BENTS

Detailed JUL 2025
Checked JUL 2025

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

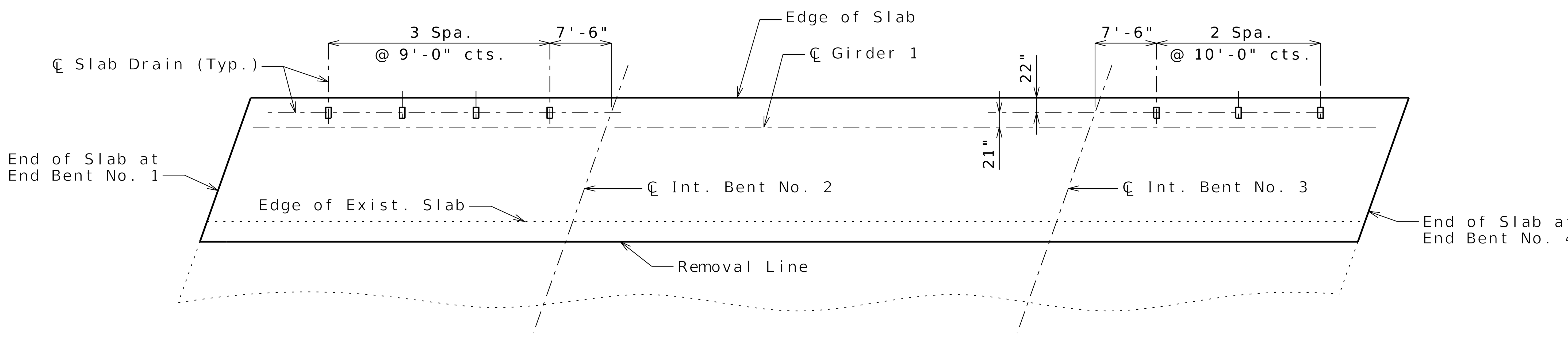
STATE OF MISSOURI
David J. Glastetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	A43232-21
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

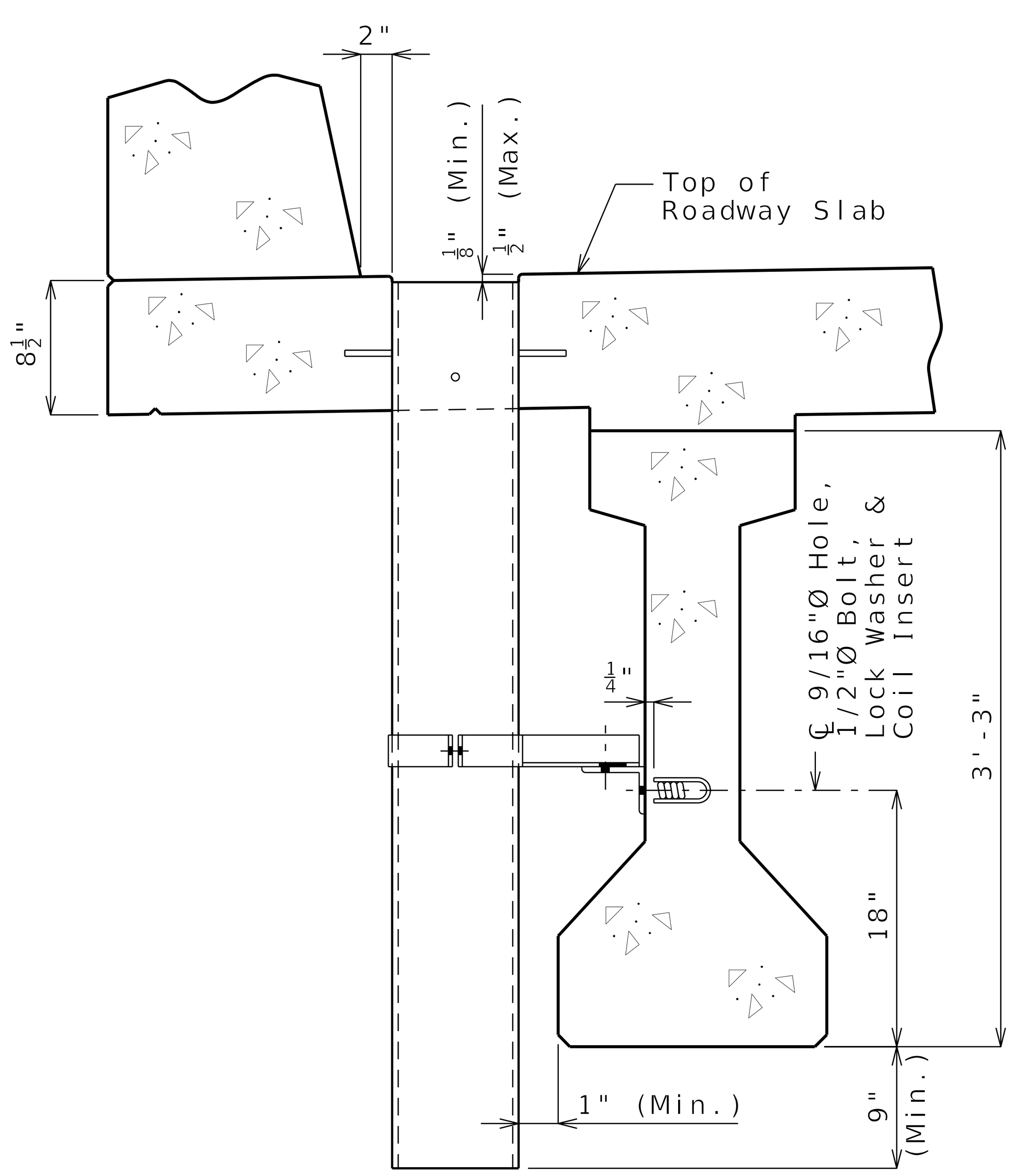
DESCRIPTION

DATE

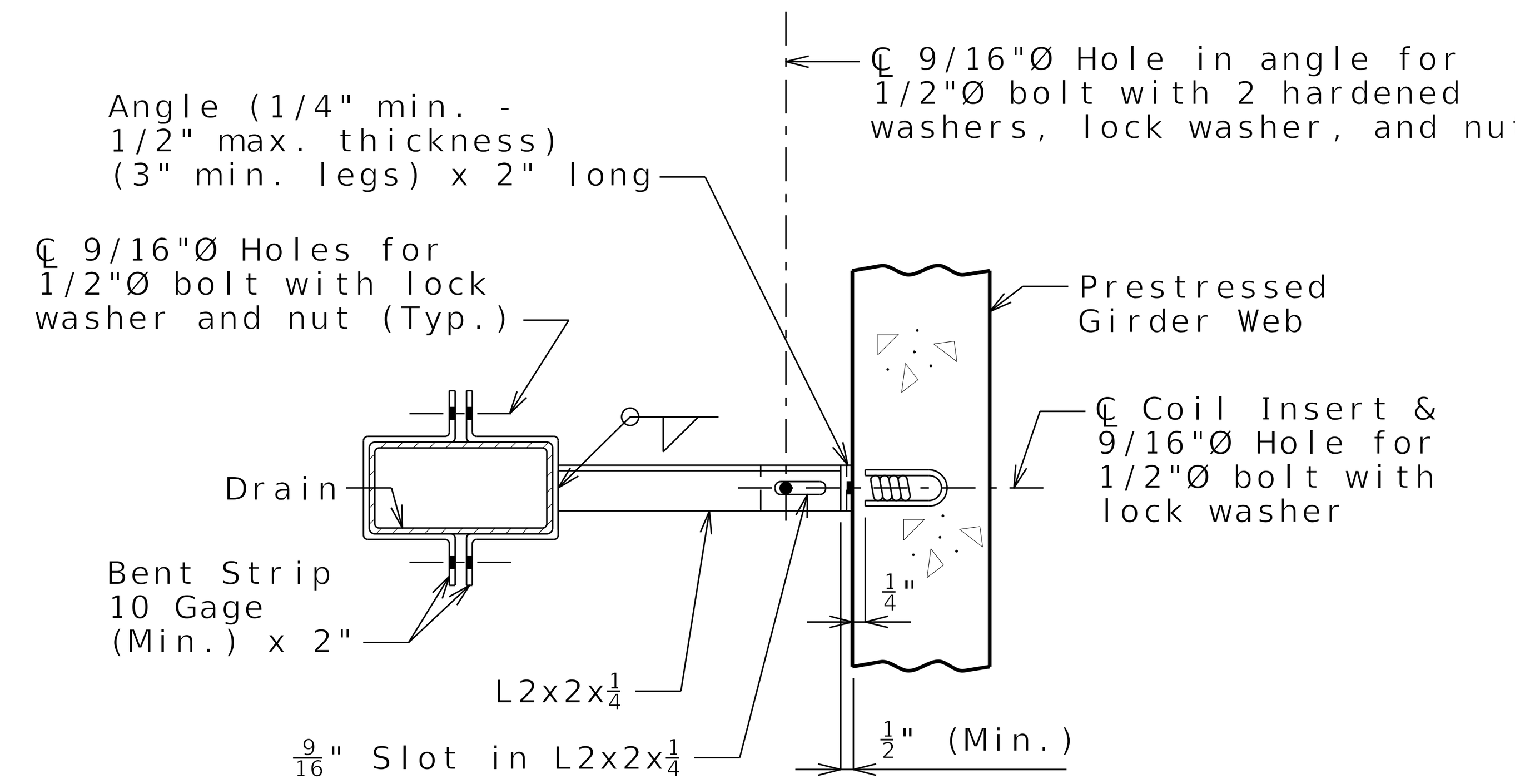
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
IMPROVE 70 ALLIANCE
HNTB
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
Bartlett & West



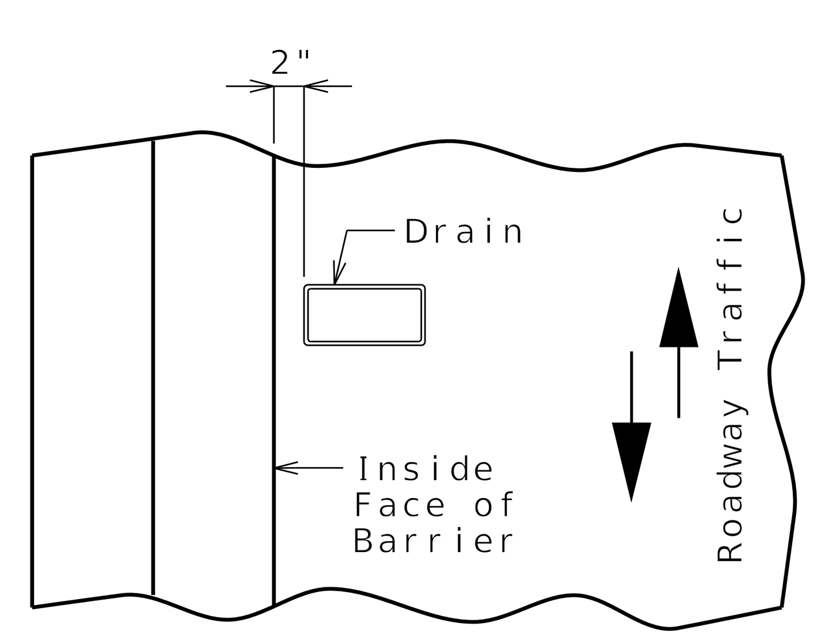
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



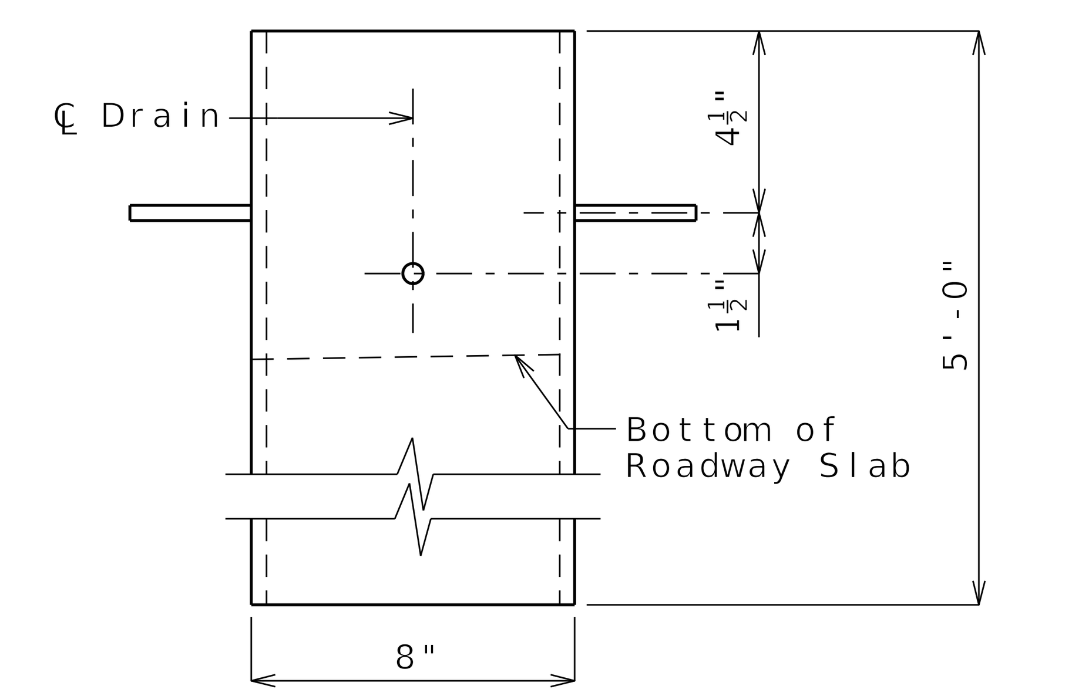
PART SECTION NEAR DRAIN



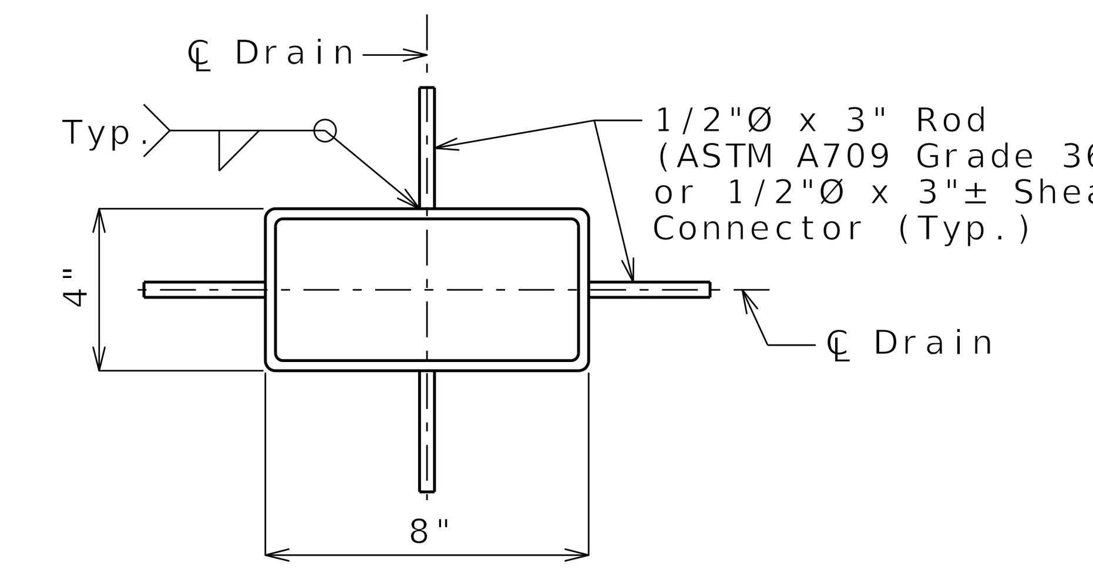
PART SECTION SHOWING BRACKET ASSEMBLY



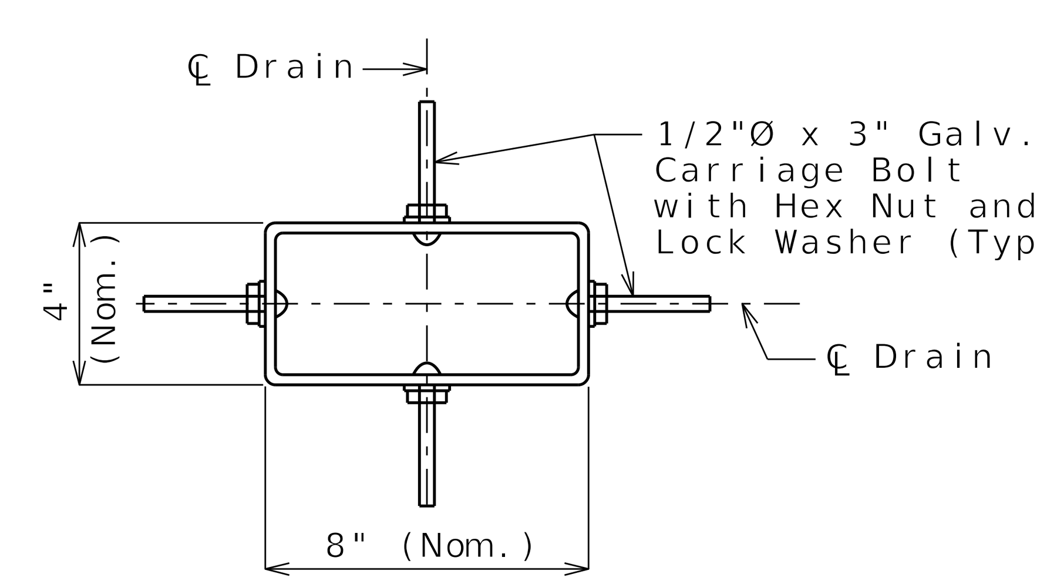
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

General Notes:

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

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

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

Reinforcing steel shall be shifted to clear drains.

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

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

All 1/2"Ø bolts shall be ASTM A307.

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

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

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

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

Coil insert locations in prestressed girders shall be modified by fabricator to provide 1 1/2" clear between the prestressing strand and the edge of the coil insert.

Notes for Steel Drain:

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

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

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

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

Minimum reinforced wall thickness shall be 1/4 inch.

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

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

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

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

STATE OF MISSOURI
David J. Glastetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	A43232-22
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

DESCRIPTION | DATE

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

IMPROVE 70 ALLIANCE

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

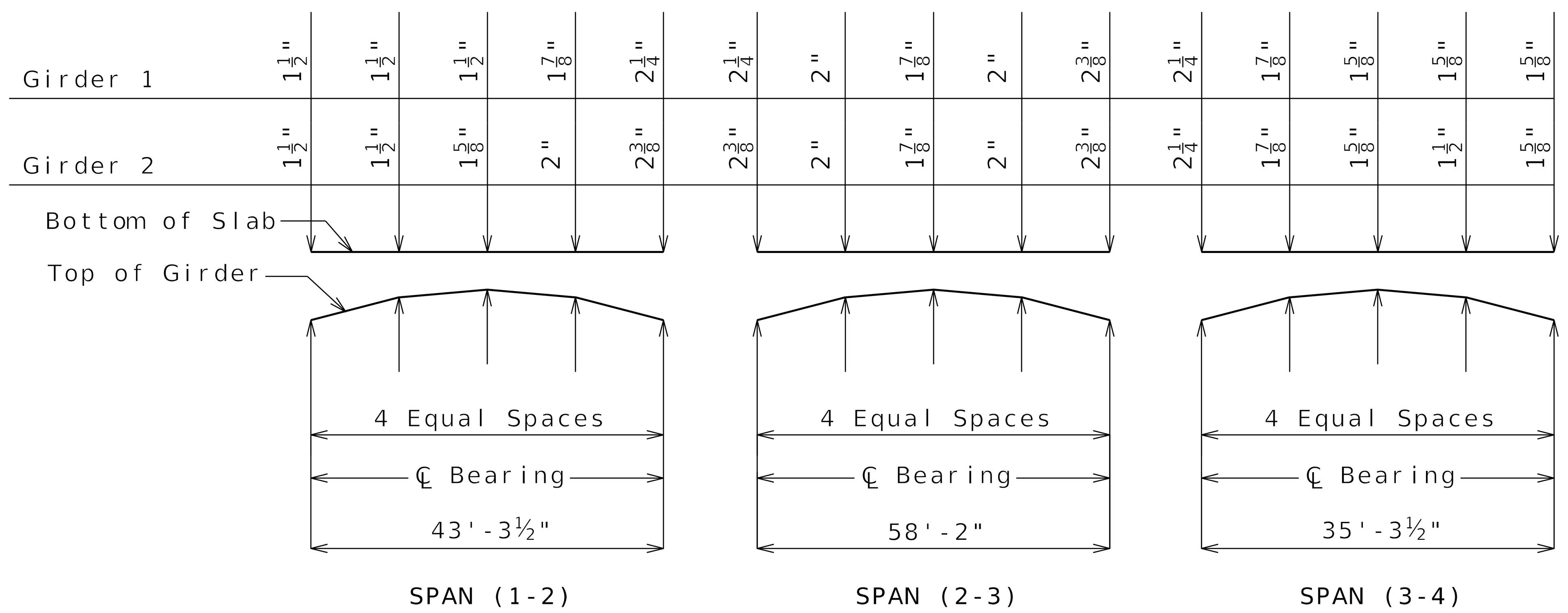
Bartlett & West

SLAB DRAINS

Detailed JUL 2025
Checked JUL 2025

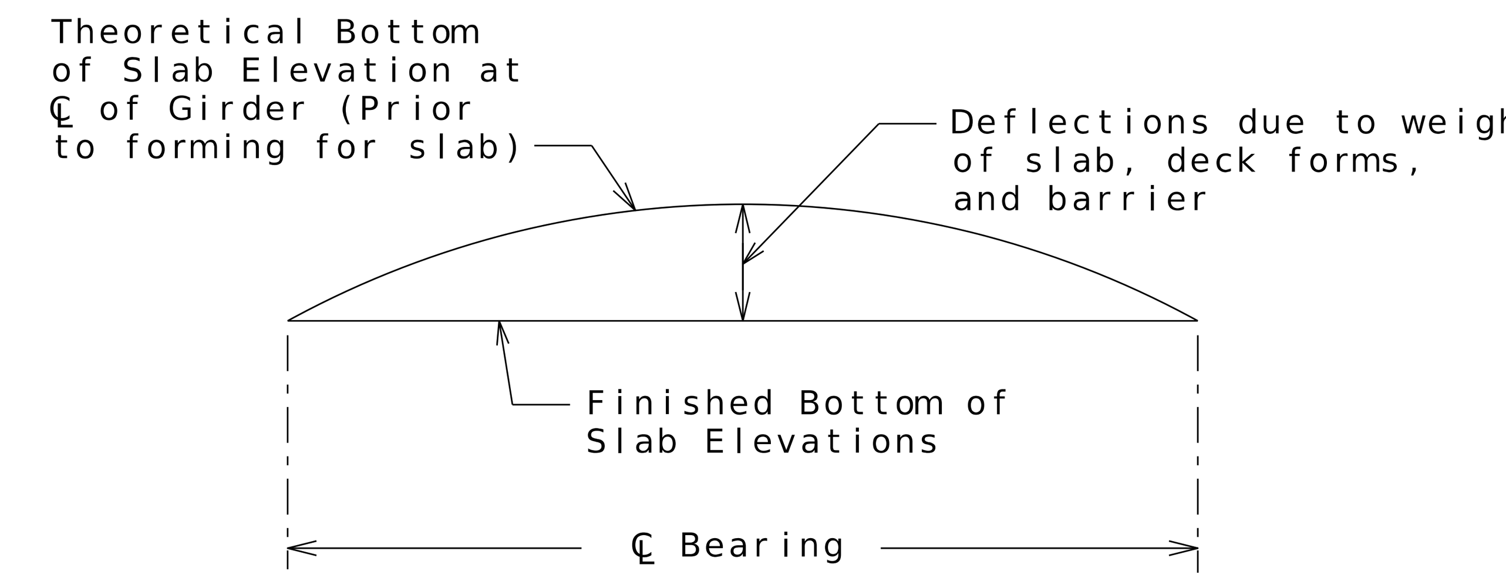
Note: This drawing is not to scale. Follow dimensions.

B_A43232_023_JST0020_DRAINSLAB.dgn 9:25:09 AM 9/2/2025

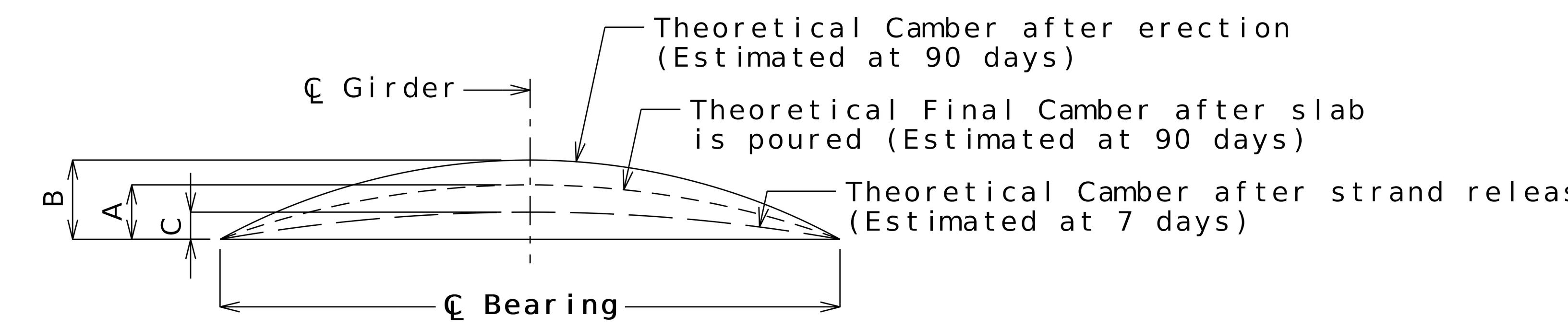


THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

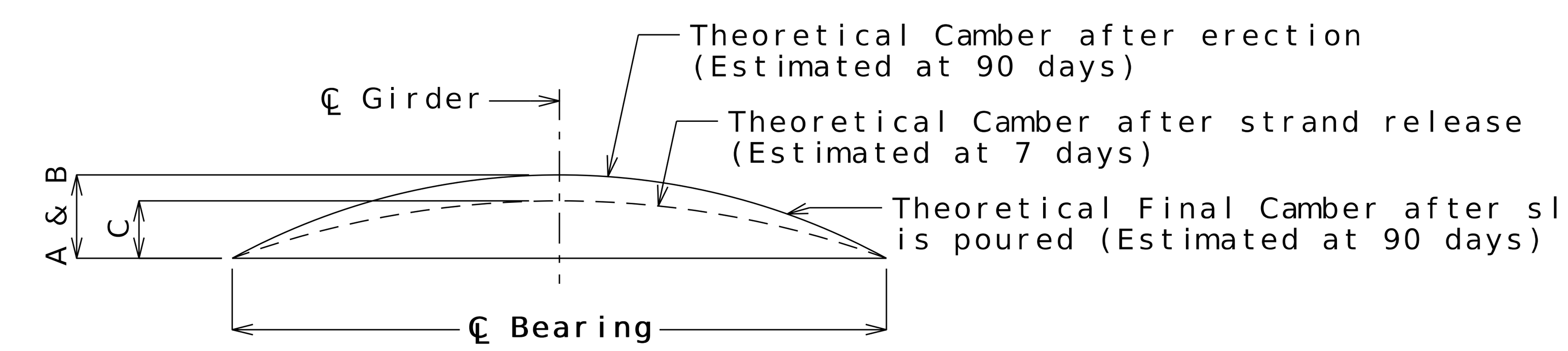
If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness, an adjustment of the slab haunches shall be necessary. The haunch shall be limited to ensure the projecting girder reinforcement is embedded into the slab at least 2 inches.



TYPICAL SLAB ELEVATIONS DIAGRAM



Girder	Span (1-2)			Span (2-3)		
	A	B	C	A	B	C
1	½"	¾"	⅜"	1"	1⅝"	⅞"
2	½"			1"		



Girder	Span (3-4)		
	A	B	C
1	½"	½"	⅜"
2	½"		

GIRDER CAMBER DIAGRAM

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

0.25 pt. = 0.7125 x 0.5 pt.

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

Girder Number	Span (1-2) (43'-3½" ℄ Brg. - ℄ Brg.)					Span (2-3) (58'-2" ℄ Brg. - ℄ Brg.)					Span (3-4) (35'-3½" ℄ Brg. - ℄ Brg.)				
	℄ Brg.	.25	.50	.75	℄ Brg.	℄ Brg.	.25	.50	.75	℄ Brg.	℄ Brg.	.25	.50	.75	℄ Brg.
1	598.60	598.61	598.62	598.60	598.57	598.57	598.60	598.58	598.52	598.41	598.40	598.37	598.33	598.28	598.22
2	598.71	598.73	598.73	598.72	598.69	598.69	598.72	598.70	598.64	598.53	598.52	598.49	598.45	598.41	598.35

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 deck forms) and barrier.

Detailed JUL 2025
Checked JUL 2025

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

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

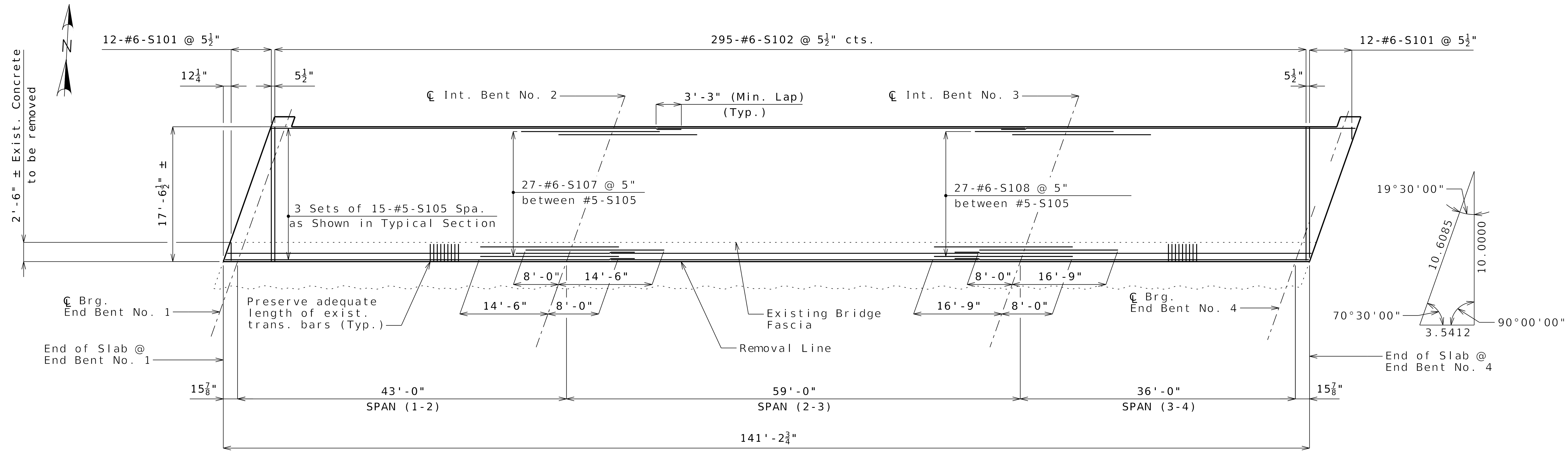
STATE OF MISSOURI
David J. Glastetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	A43232-23
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

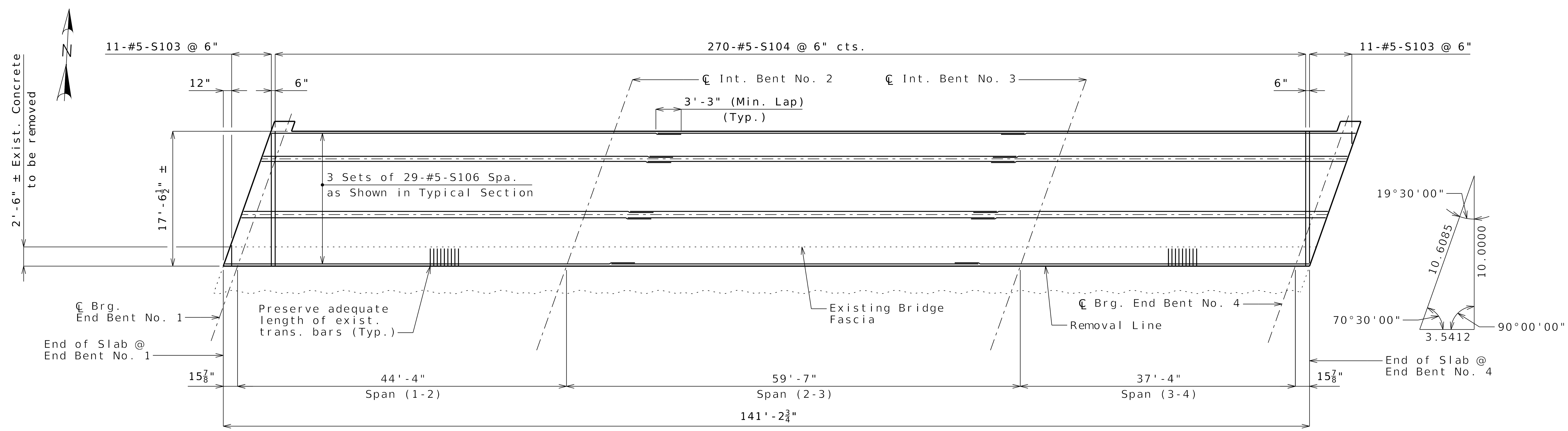
DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
IMPROVE 70 ALLIANCE
HNTB
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270
Bartlett & West

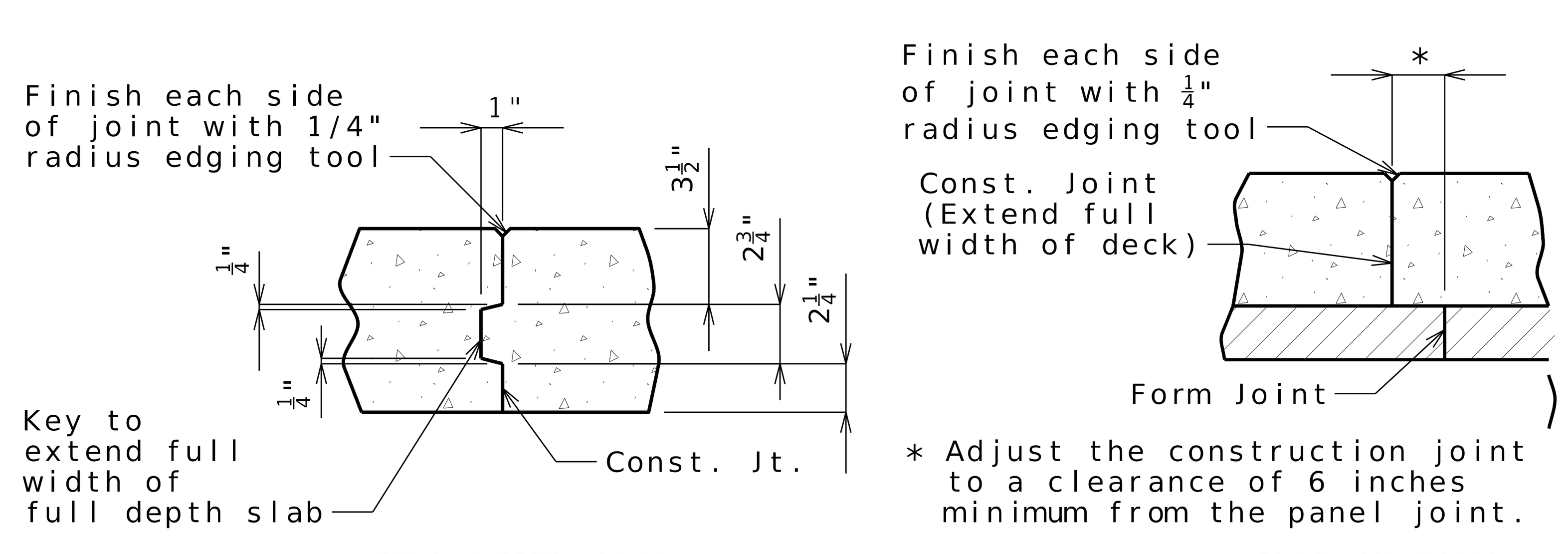
B_A43232_024_JST0020_THEO.dgn 9:25:12 AM 9/2/2025



TOP REINFORCING PLAN



BOTTOM REINFORCING PLAN



SLAB CONSTRUCTION JOINT

Notes:

Longitudinal slab dimensions are measured horizontally.

For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 25.

For Details and Reinforcement of Type D Barrier not shown, see Sheet No. 26.

For Theoretical Slab Haunching Diagram, see Sheet No. 23.

For Theoretical Bottom of Slab Elevations, see Sheet No. 23.

For details and locations of Slab Drains, see Sheet No. 22.

PLAN OF SLAB SHOWING REINFORCEMENT

Detailed JUL 2025
Checked JUL 2025

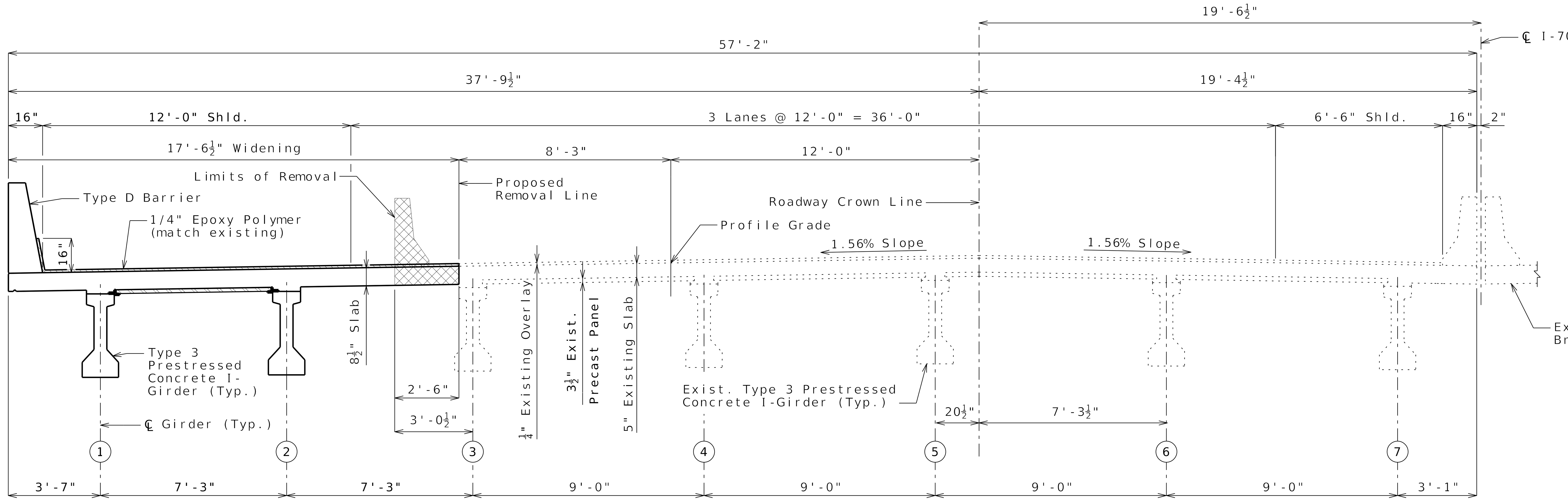
Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
David J. Glastetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

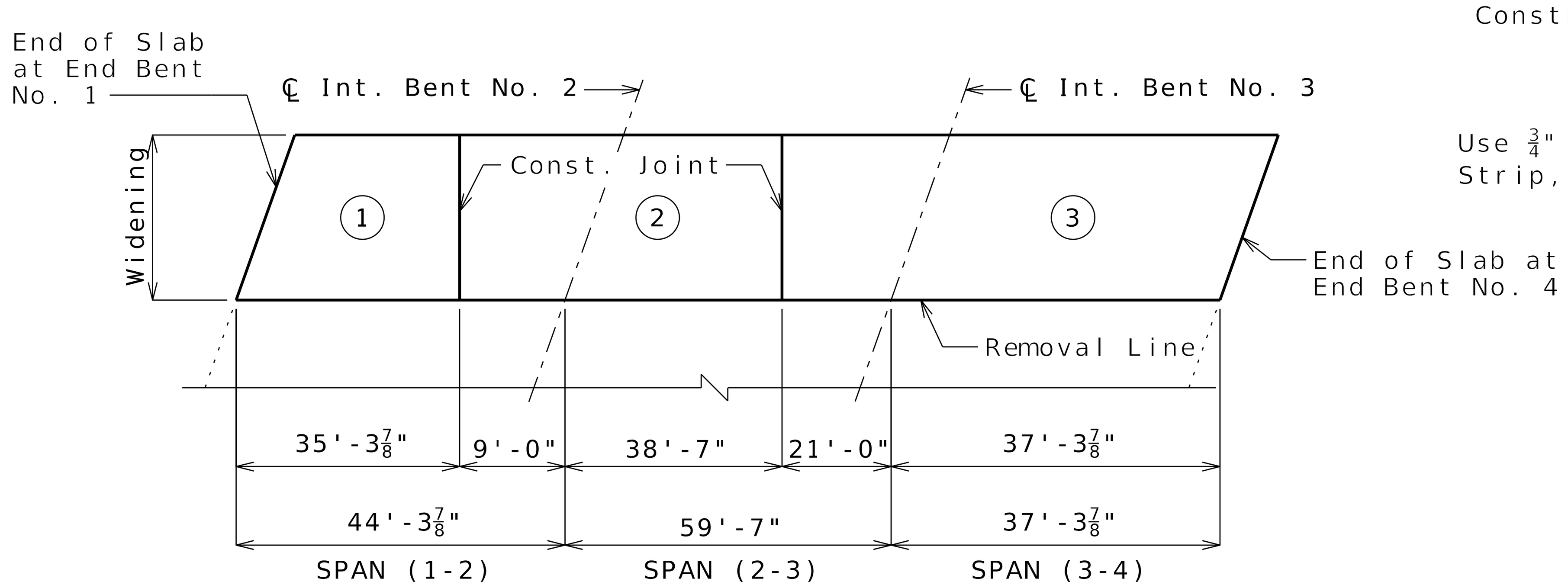
DATE PREPARED	9/2/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	A43232-24
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232
DESCRIPTION	
DATE	

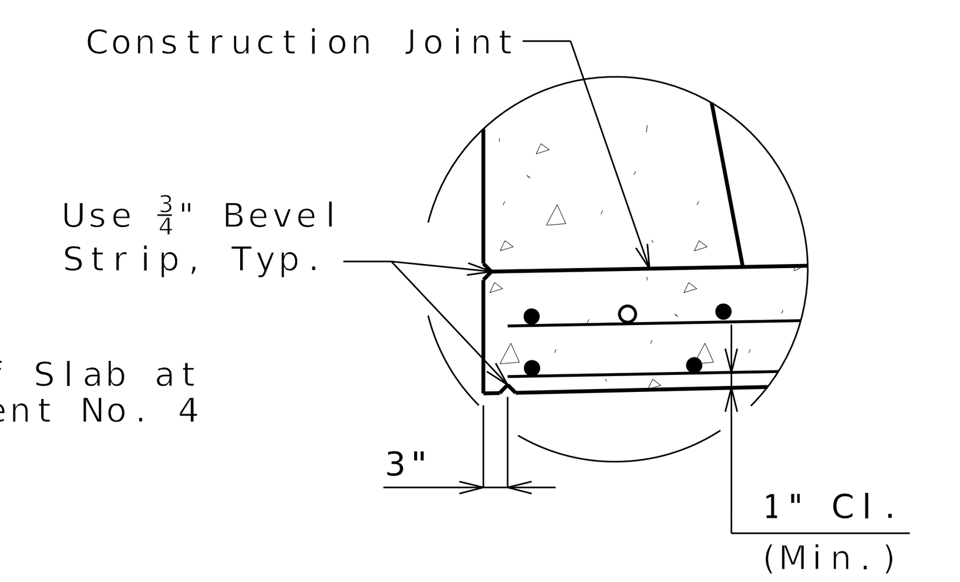
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
IMPROVE 70 ALLIANCE
HNTB
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
Bartlett & West

B_A43232_025_JST0020_SLABREINF.dgn 9:25:14 AM 9/2/2025



TYPICAL SECTION THRU SLAB





DETAIL "A"

Notes: Contractor may shift bars as necessary to tie in barrier bars.

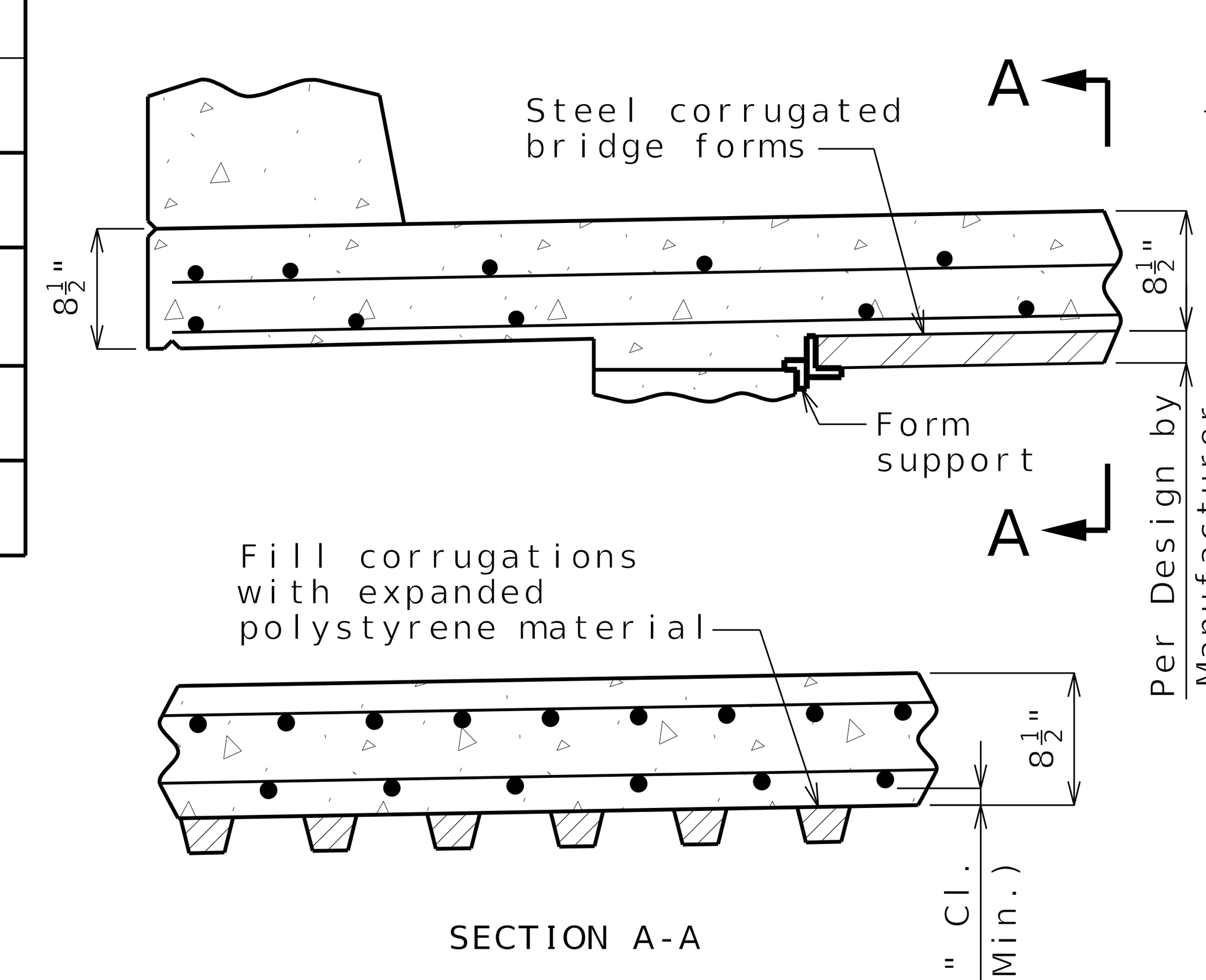
	Sequence of Pours			Min. Rate of Pour Cu. Yds./Hr.
	Direction			With Retarder
Basic Sequence	1 End to 2	2 1 to 3	3 2 to End	25
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.				
Alternate A Pours	1 + 2 End to 5		3 2 to End	25
Alternate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

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.

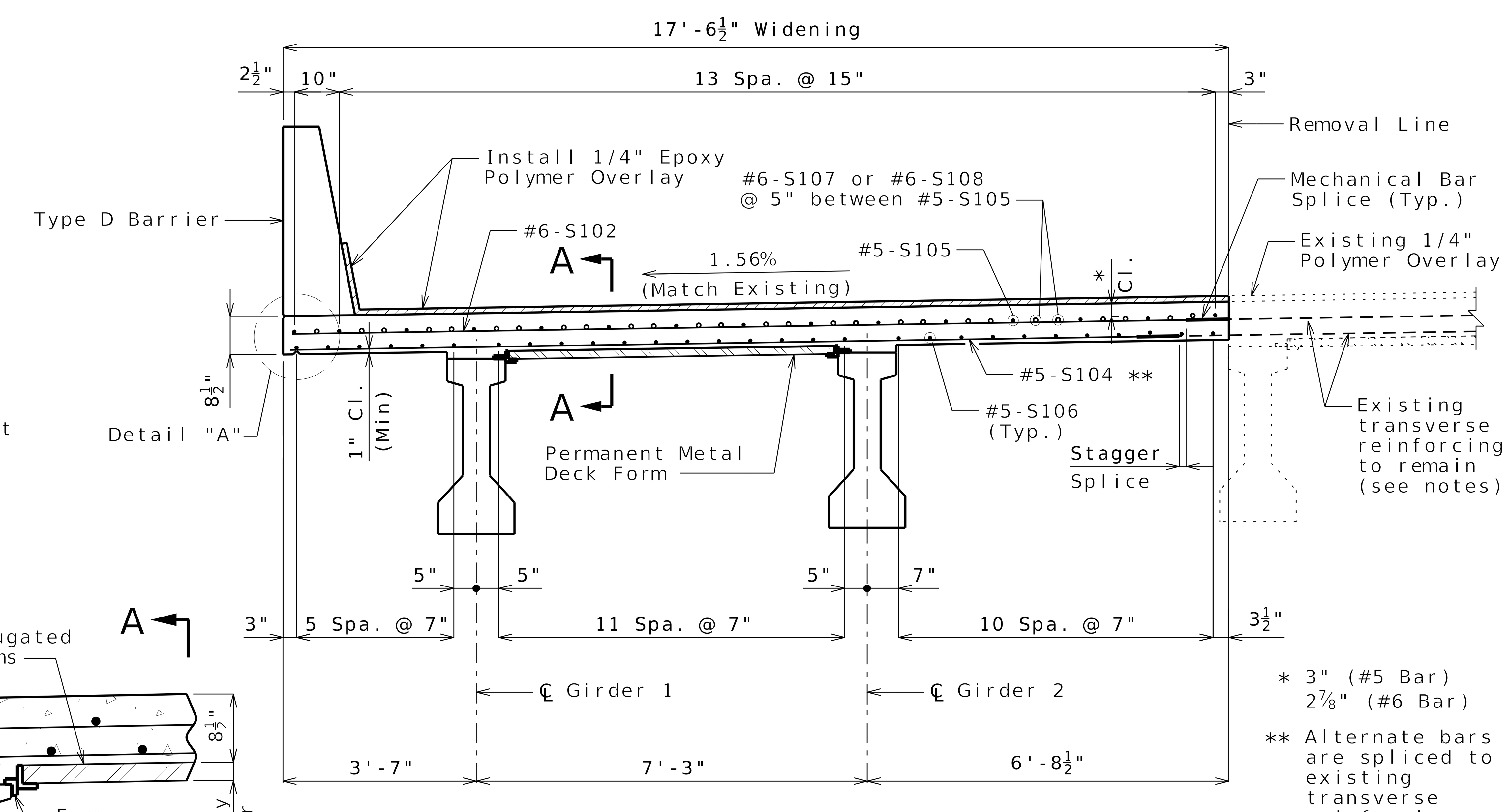
The concrete diaphragm at the Intermediate bents and Integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

Install new diaphragm between proposed girders within Span (2-3). No permanent diaphragm will be installed between proposed and existing girders. Contractor to ensure stability of proposed girders during deck pour.

SLAB POURING SEQUENCE



STAY-IN-PLACE FORM DETAILS



WIDENING SECTION THRU SLAB
SECTION NEAR INTERMEDIATE BENT

Notes:

Type D Barrier reinforcement not shown for clarity.

Adequate length of existing transverse reinforcement shall be retained for mechanical bar splices. All concrete and pack rust to be removed prior to splicing to new reinforcement.

For metal deck form notes, see General Notes.

For slab plan showing reinforcement, Slab Construction Joint, and additional notes, see Sheet No. 24.

Mechanical bar splices shall be in accordance with Sec 710. Estimated 446 splices required.

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

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. A43232-25
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

DESCRIPTION
DATE

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

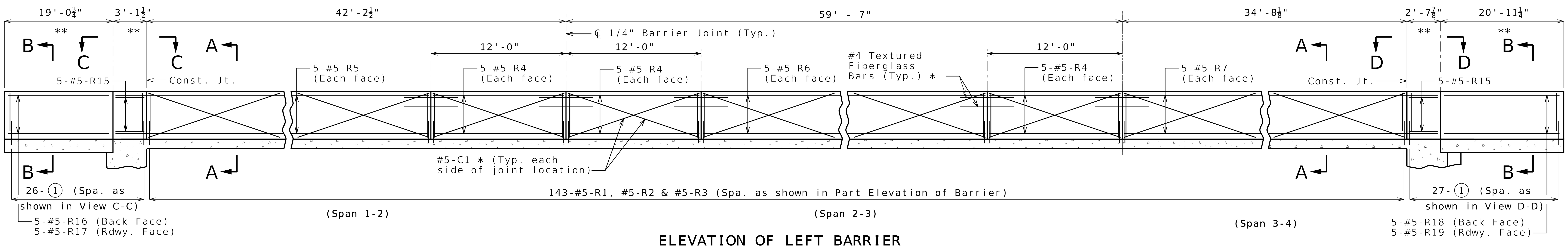
MoDOT

IMPROVE 70 ALLIANCE

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

Bartlett & West

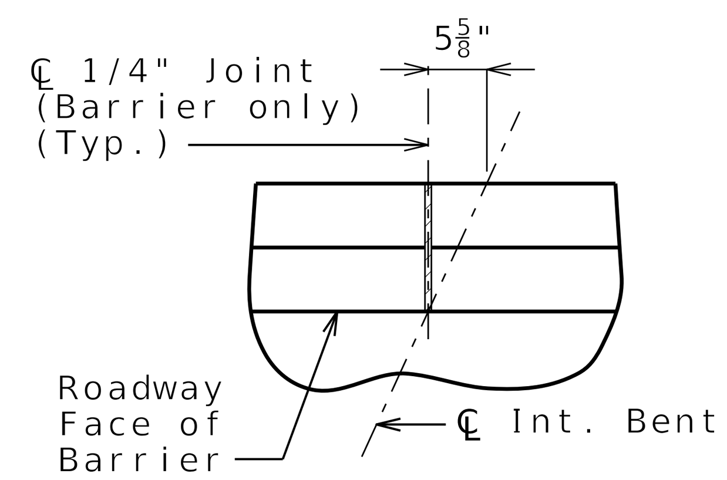
SLAB DETAILS



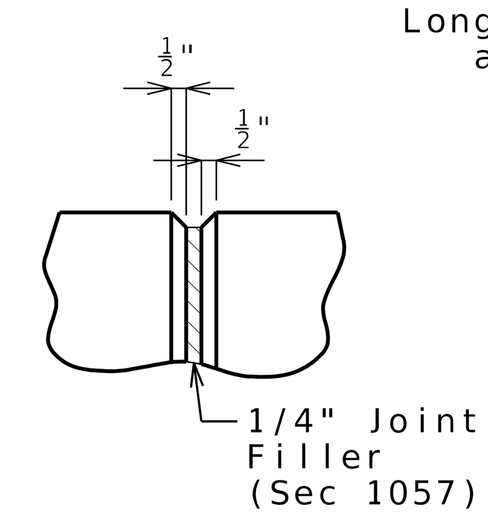
ELEVATION OF LEFT BARRIER

Longitudinal dimensions are horizontal and measured along Roadway Face.
** Conventional forming only

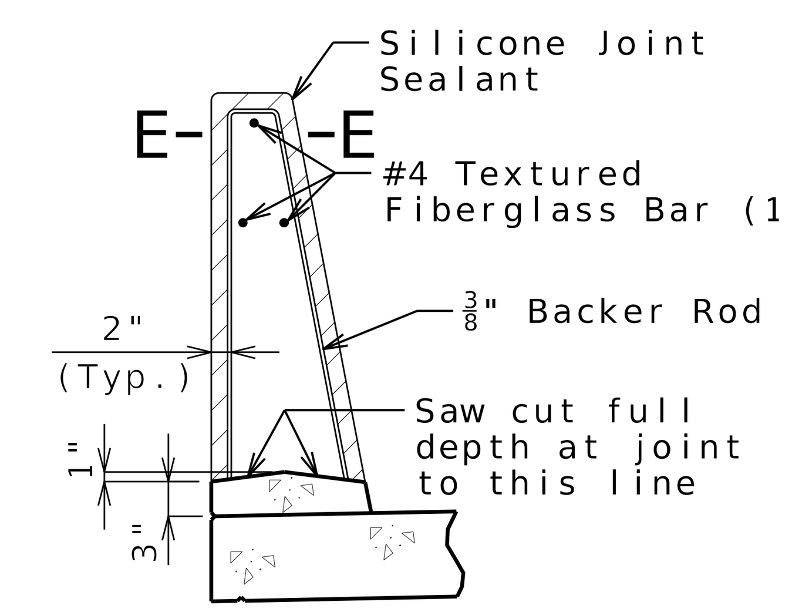
(1) #5-R11, #5-R12, #5-R13, & #5-R14



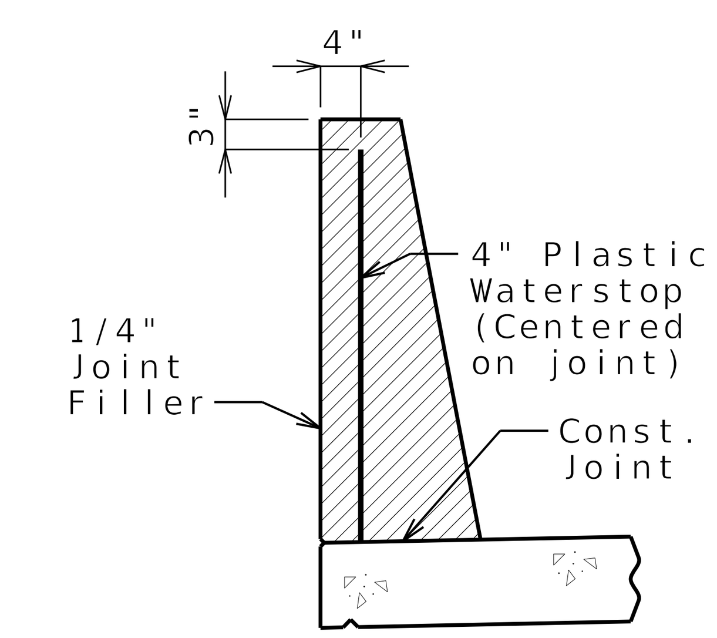
PART PLAN SHOWING JOINT LOCATION



PART ELEVATION AT FORMED JOINT

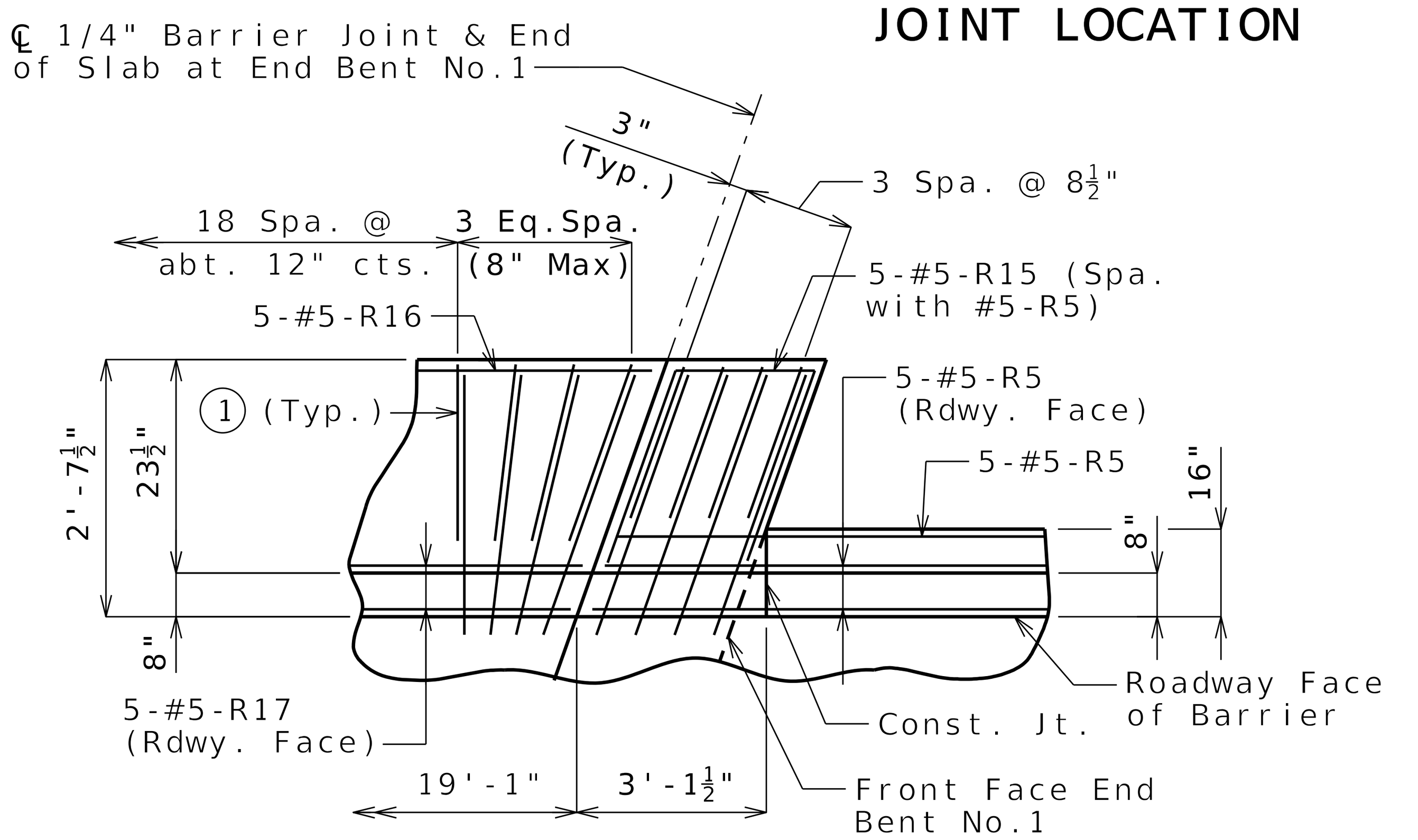


SECTION THRU SAW CUT JOINT

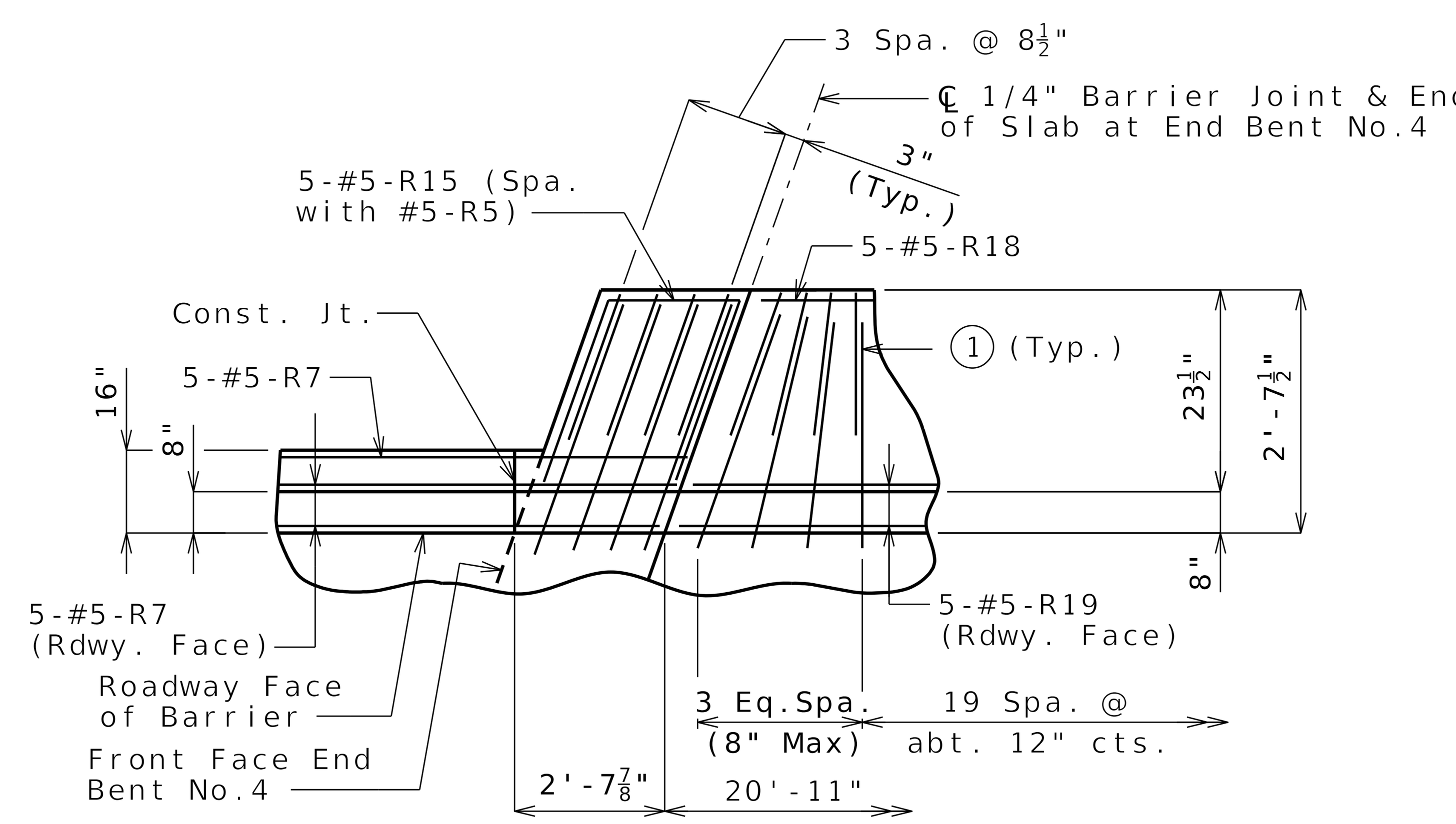


WATERSTOP DETAIL

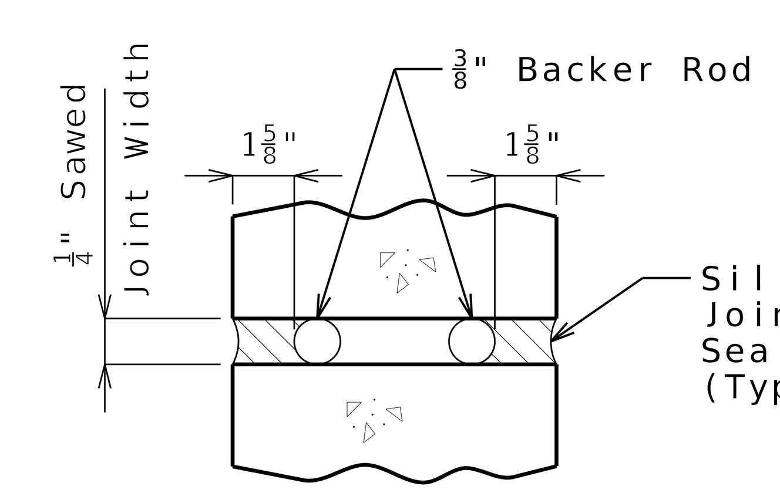
Plastic waterstop shall be placed in all formed joints.



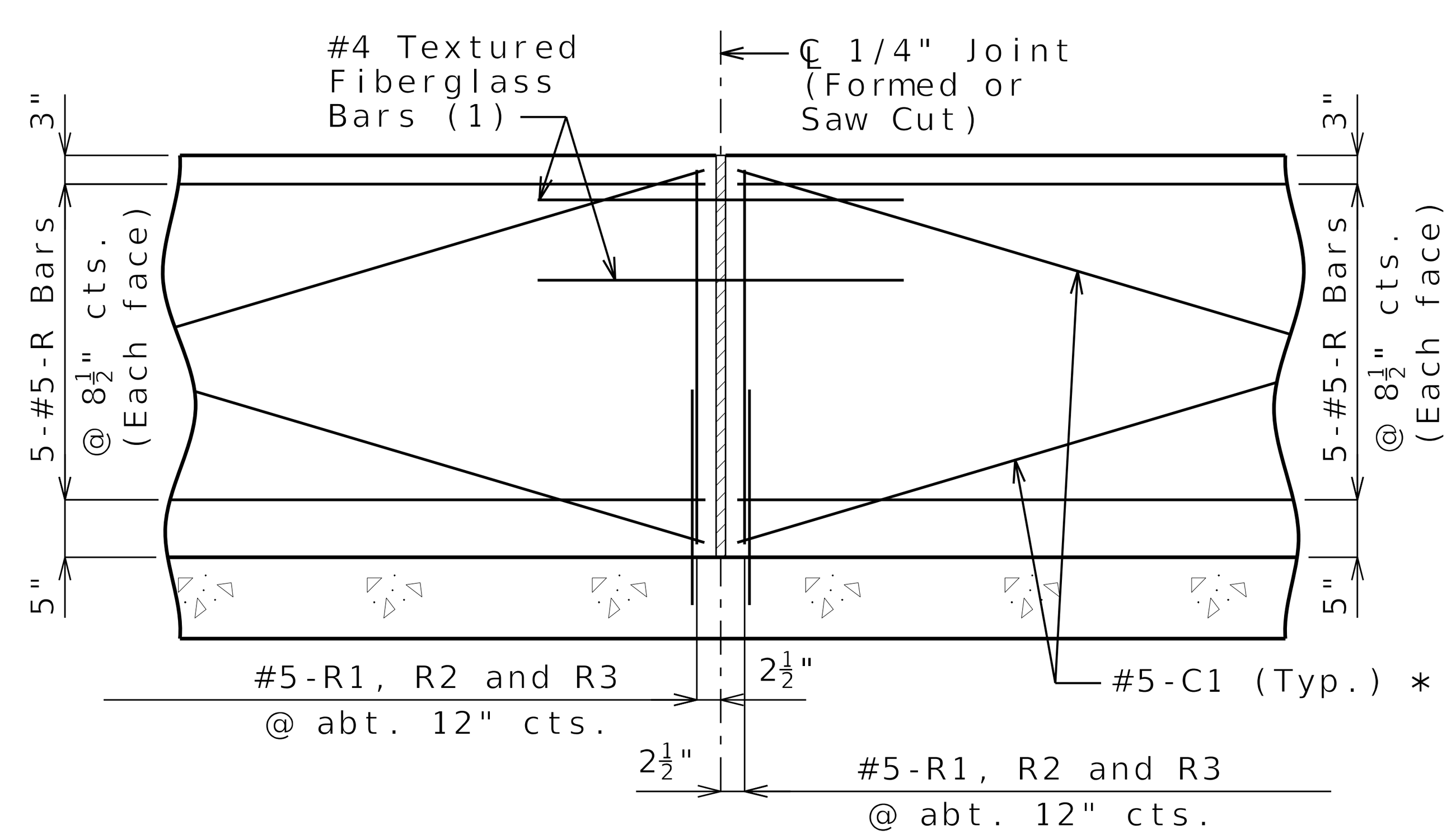
VIEW C-C



VIEW D-D

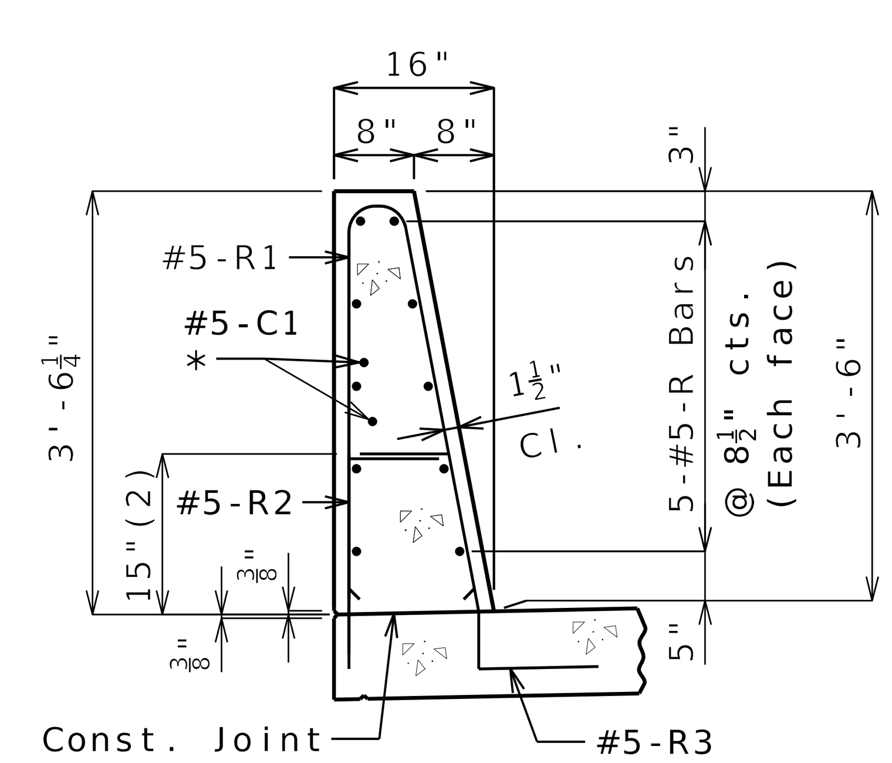


SECTION E-E



PART ELEVATION OF BARRIER

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

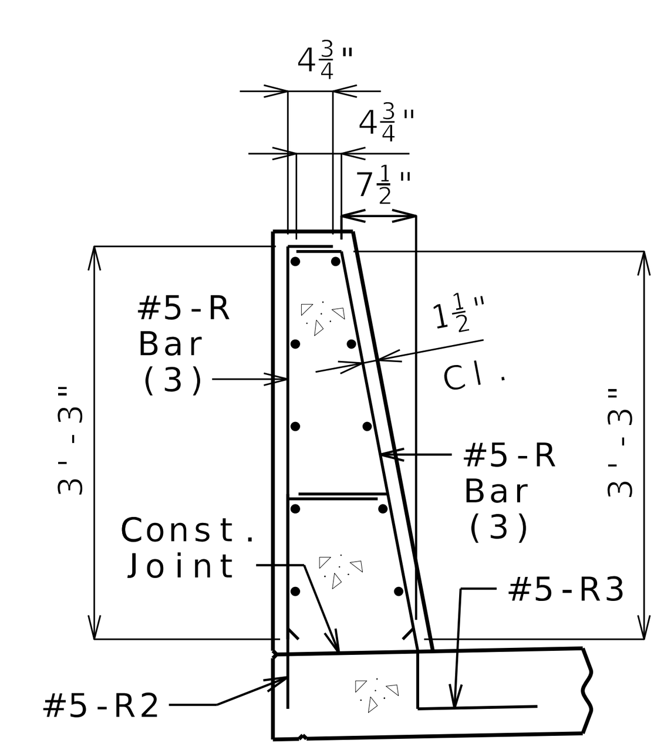


SECTION A-A

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

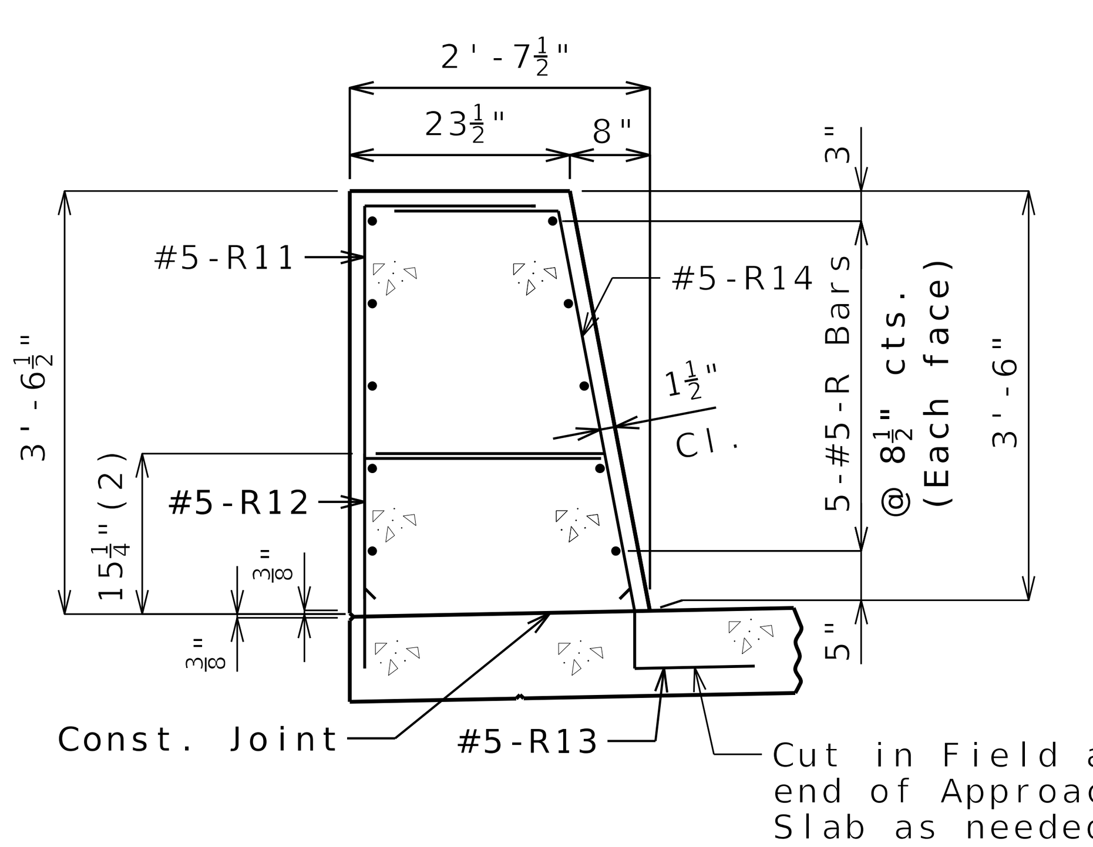
The cross-sectional area above the slab is 3.52 square feet.

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

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



SECTION B-B

General Notes:

* Slip-formed option only.

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

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

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

Concrete in barrier shall be Class B-1.

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

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.

TYPE D BARRIER

Detailed JUL 2025
Checked JUL 2025

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

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

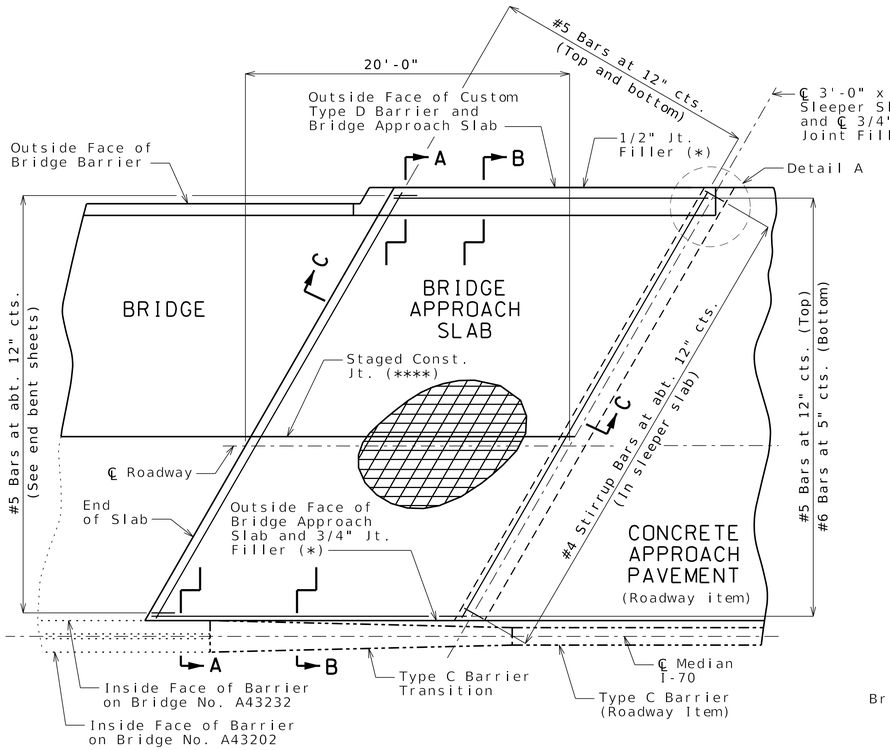
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. A43232-26
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

DESCRIPTION
DATE

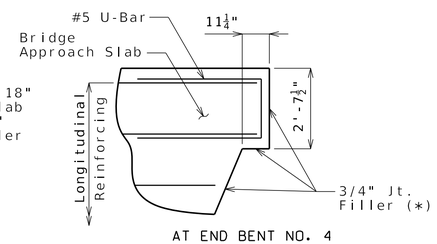
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
MoDOT
IMPROVE 70 ALLIANCE
HNTB 715 KIRK DRIVE KANSAS CITY, MO 64105-1310 CERTIFICATE OF AUTHORITY NO. 001270
Bartlett & West

09/18/2025
Released for Construction

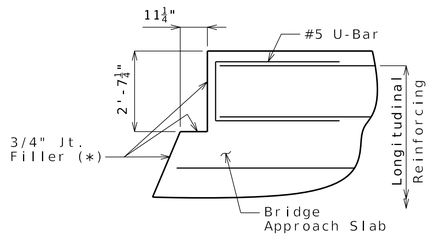


PART PLAN SHOWING REINFORCEMENT

Longitudinal reinforcement in sleeper slab not shown for clarity.
(End Bent No. 4 shown, End Bent No. 1 similar, U.N.O.)



AT END BENT NO. 4



AT END BENT NO. 1

DETAIL A

All reinforcing shown top and bottom.
Transverse Reinforcing and Concrete Appr. Pavement not shown for clarity.

General Notes:

Existing bridge approach slab to be completely removed (Roadway Item).

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

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

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

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

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #5 bars 29" or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710. Estimated 38 splices per slab.

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

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

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

For concrete approach pavement details, see roadway plans.

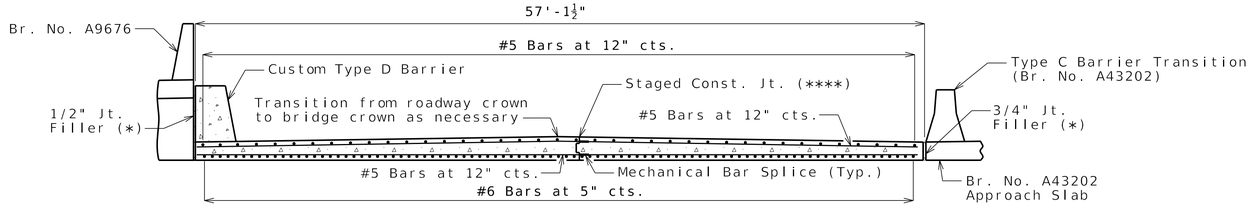
For Type C Barrier Transition Details, see Bridge A43202 Plans.

Coordinate construction of approach slab of Bridge No. A43232 with Bridge No. A43202.

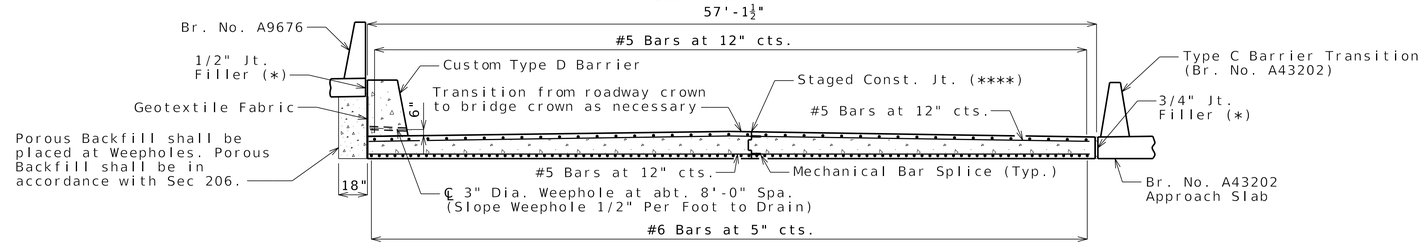
(*) Seal joint between vertical faces of Bridge No. A43232 approach slab and wing or Bridge No. A43202 approach slab with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

(***) Contractor to field verify depth of existing approach slab notch.

(****) See roadway plans for traffic handling to place staged construction joint in each approach slab.

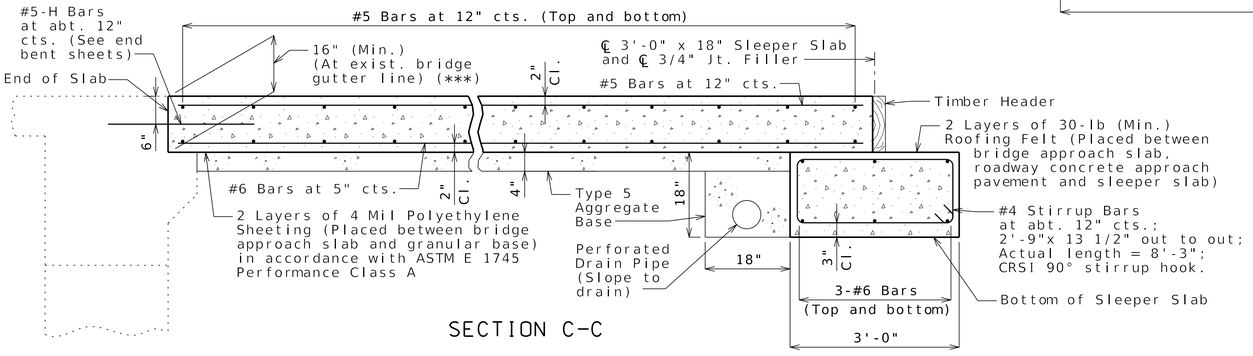


SECTION A-A

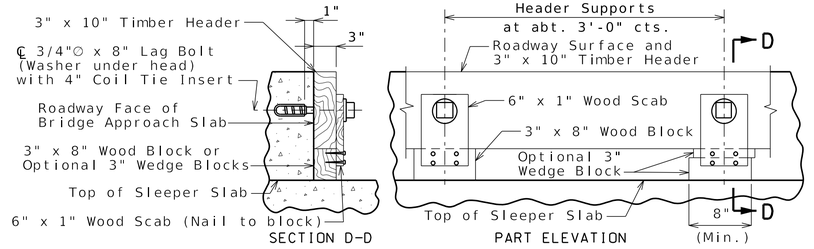


SECTION B-B

CONSTRUCTION JOINT DETAIL



SECTION C-C



DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

BRIDGE APPROACH SLAB (MAJOR)

STATE OF MISSOURI
David J. Glastetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	A43232-27
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

DESCRIPTION | DATE

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

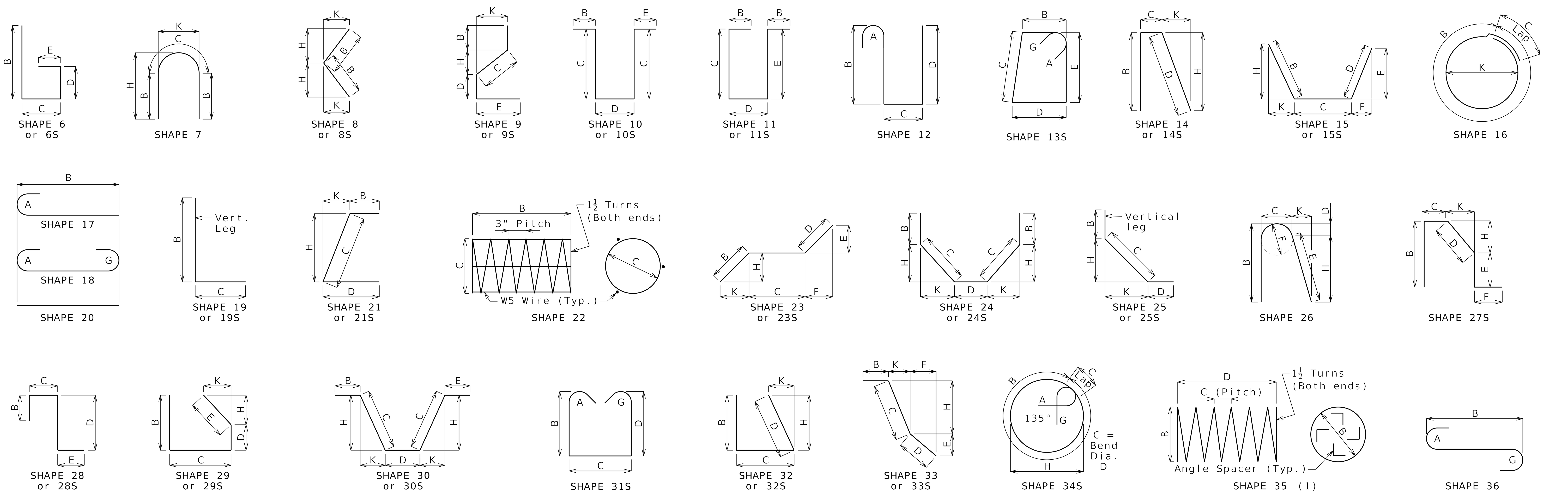
HNTB
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270

Bartlett & West
601 MONROE ST, SUITE 201 - JEFFERSON CITY, MO 65101
PHONE: 573-893-4336 FAX: 573-893-8950
CERTIFICATE OF AUTHORITY NO. 000107 - ENGINEERING
WWW.BARTLETTWEST.COM

Detailed JUL 2025
Checked JUL 2025

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

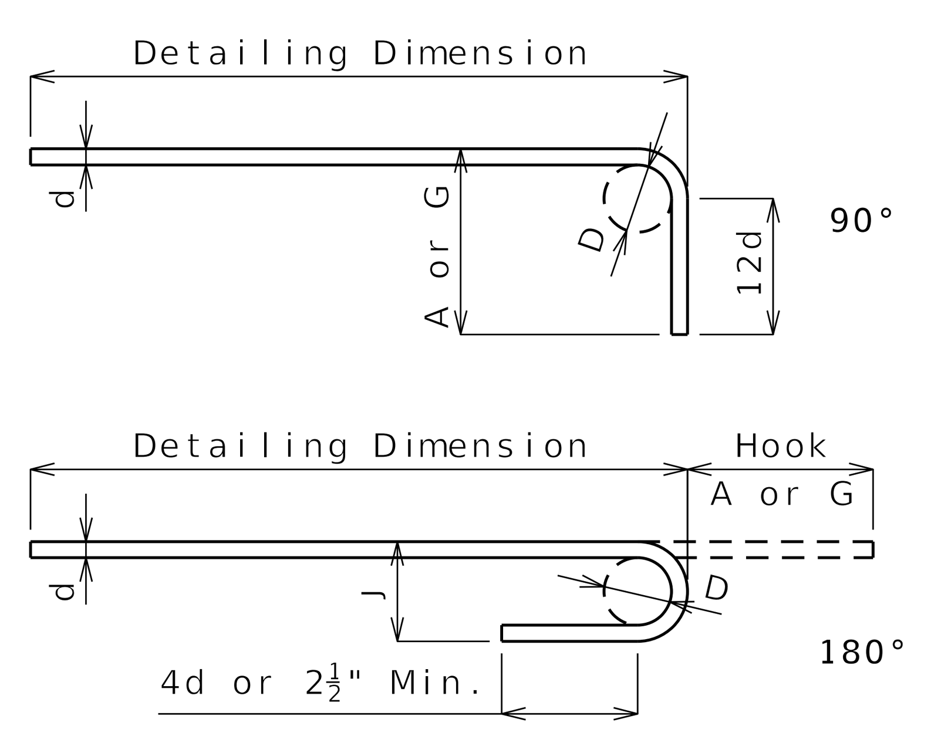
B_A43232_030_JST0020_BRAPPSL.dgn 9:25:22 AM 9/2/2025



Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes

Size	Case	D	A or G 90°	A or G 180°	J 180°
#4	1	3"	8"	6"	4"
#5	1	$3\frac{3}{4}$"	10"	7"	5"
#6	1	$4\frac{1}{2}$"	12"	$8\frac{1}{4}$"	6"
#7	2	$5\frac{1}{4}$"	14"	$9\frac{3}{4}$"	7"
	3	7"	15"	$11\frac{1}{2}$"	$8\frac{3}{4}$"
#8	2	6"	16"	11"	8"
	3	8"	17"	$13\frac{1}{4}$"	10"
#9	1	$9\frac{1}{2}$"	$19\frac{1}{2}$"	$15\frac{1}{2}$"	$11\frac{3}{4}$"
#10	1	$10\frac{3}{4}$"	22"	$17\frac{1}{2}$"	$13\frac{1}{4}$"
#11	1	12"	$24\frac{1}{2}$"	$19\frac{1}{2}$"	$14\frac{7}{8}$"
#14	1	$18\frac{1}{4}$"	$31\frac{1}{4}$"	$27\frac{1}{2}$"	$21\frac{5}{8}$"
#18	1	24"	$41\frac{1}{2}$"	$36\frac{1}{4}$"	$28\frac{1}{2}$"

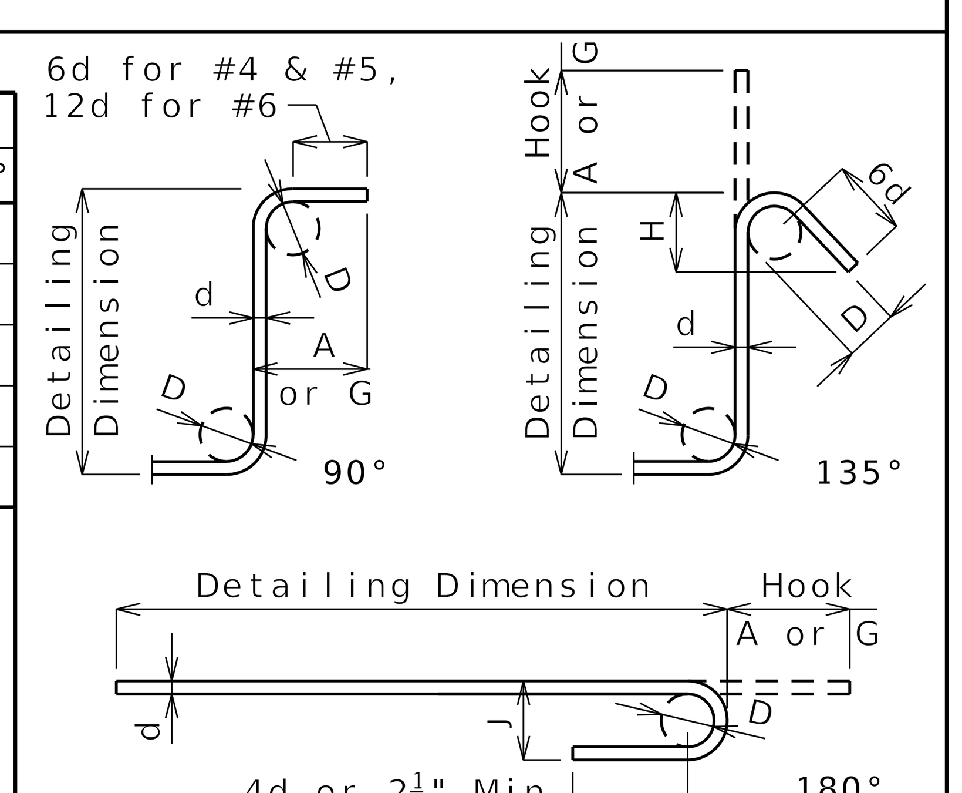


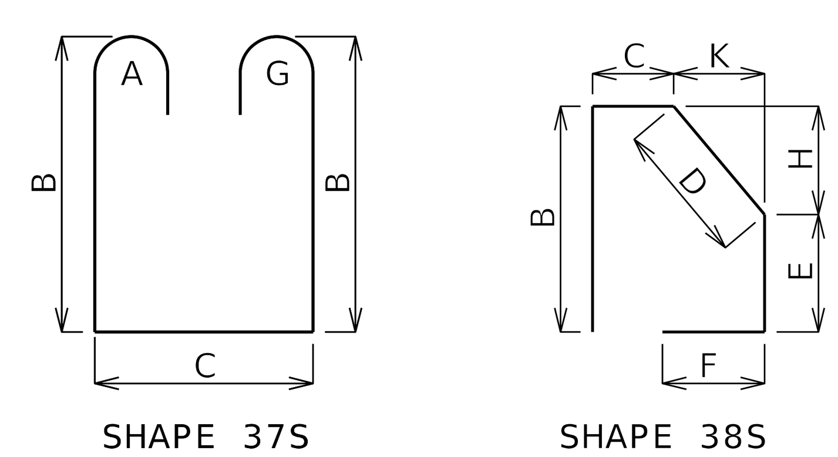
Stirrup Pin Bend Shapes (S)

Size	Case	D	A or G 90°	A or G 135°	A or G 180°	H 135°	J 180°
#4	2	2"	$4\frac{1}{2}$"	$4\frac{1}{2}$"	5"	$2\frac{7}{8}$"	3"
	3	3"	5"	$5\frac{1}{4}$"	6"	3"	4"
#5	2	$2\frac{1}{2}$"	$5\frac{3}{4}$"	$5\frac{3}{4}$"	$5\frac{3}{4}$"	$3\frac{5}{8}$"	$3\frac{3}{4}$"
	3	$3\frac{3}{4}$"	$6\frac{1}{4}$"	$6\frac{1}{2}$"	7"	$3\frac{7}{8}$"	5"
#6	1	$4\frac{1}{2}$"	12"	$7\frac{3}{4}$"	$8\frac{1}{4}$"	$4\frac{5}{8}$"	6"

Applicable for all grades of steel.

Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.





BENDING DIAGRAMS

(1) Shall be a deformed or plain spiral bar or wire.

Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spirals. Length and weight of column spirals do not include splices or spacers.

Notes:

All dimensions are out to out.

Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.

Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.

Hooks and bends shall be in accordance with the procedures as shown on this sheet.

Detailed JUL 2025
Checked JUL 2025

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

BAR BENDING DIAGRAMS

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

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	A43232-28
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

DESCRIPTION

DATE

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

IMPROVE 70 ALLIANCE

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

Bartlett & West

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	Codes SH	Codes V	B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
		End Bent No. 1													
4	6 H100	Beam	E	20		16 11.75							17 0	17 0	102
8	8 H101	Beam	E	20		16 11.75							17 0	17 0	363
2	6 H102	Diaphragm	E	20		6 9.75							6 10	6 10	21
2	6 H103	Diaphragm	E	20		5 10.00							5 10	5 10	18
2	6 H104	Diaphragm	E	20		3 10.25							3 10	3 10	12
2	6 H105	Diaphragm	E	20		3 4.50							3 5	3 5	10
2	6 H106	Diaphragm	E	20		4 6.75							4 7	4 7	14
2	6 H107	Diaphragm	E	20		4 1.00							4 1	4 1	12
2	5 H108	Strand Tie	E	23		15.13	17.00	15.13	5.00	14.25	5.00	14.25	3 11	3 11	8
4	6 H109	Diaphragm	E	20		16 11.75							17 0	17 0	102
4	8 H110	Diaphragm	E	20		19 7.50							19 8	19 8	210
12	7 H111	Diaphragm *	E	20		4 8.00							4 8	4 8	114
8	7 H112	Beam *	E	20		6 5.00							6 5	6 5	105
4	5 H113	Diaphragm	E	20		4 1.00							4 1	4 1	17
40	5 H114	Diaphragm *	E	20		3 0.00							3 0	3 0	125
4	6 H115	Diaphragm	E	6		5 1.00	11.00	2 3.00					8 3	7 11	48
8	5 H116	Beam/Diaphragm	E	21		2 3.00	2 9.88	2 3.00			2 8.00	11.25	7 4	7 0	58
14	5 U100	Beam	E	31S		4 6.50	2 11.00	4 6.50					12 11	12 8	185
8	4 U101	Beam	E	10S			2 8.00	2 11.00					8 3	8 1	43
23	6 U102	Diaphragm	E	19S		3 4.50	4 9.00						8 2	8 0	276
14	5 U103	Diaphragm	E	31S		3 9.50	2 5.00	3 9.50					10 11	10 8	156
14	6 U104	Diaphragm	E	19S		2 5.50	2 10.00						5 4	5 2	109
17	5 U105	Diaphragm	E	19S		2 4.00	15.00						3 7	3 6	62
8	6 V101	Diaphragm	E	20		2 5.50							2 6	2 6	30
		End Bent No. 4													
4	6 H400	Beam	E	20		16 11.75							17 0	17 0	102
8	8 H401	Beam	E	20		16 11.75							17 0	17 0	363
2	6 H402	Diaphragm	E	20		6 9.75							6 10	6 10	21
2	6 H403	Diaphragm	E	20		5 10.00							5 10	5 10	18
2	6 H404	Diaphragm	E	20		3 10.25							3 10	3 10	12
2	6 H405	Diaphragm	E	20		3 4.50							3 5	3 5	10
2	6 H406	Diaphragm	E	20		4 6.75							4 7	4 7	14
2	6 H407	Diaphragm	E	20		4 1.00							4 1	4 1	12
2	5 H408	Strand Tie	E	23		15.13	17.00	15.13	5.00	14.25	5.00	14.25	3 11	3 11	8
4	6 H409	Diaphragm	E	20		16 11.75							17 0	17 0	102
4	8 H410	Diaphragm	E	20		19 7.50							19 8	19 8	210
12	7 H411	Diaphragm *	E	20		4 8.00							4 8	4 8	114
8	7 H412	Beam *	E	20		6 5.00							6 5	6 5	105
4	5 H413	Diaphragm	E	20		4 1.00							4 1	4 1	17
40	5 H414	Diaphragm *	E	20		3 0.00							3 0	3 0	125
4	6 H415	Diaphragm	E	6		5 1.00	11.00	2 3.00					8 3	7 11	48
8	5 H416	Beam/Diaphragm	E	21		2 3.00	2 9.88	2 3.00			2 8.00	11.25	7 4	7 0	58
14	5 U400	Beam	E	31S		4 6.50	2 11.00	4 6.50					12 11	12 8	185
8	4 U401	Beam	E	10S			2 8.00	2 11.00					8 3	8 1	43
23	6 U402	Diaphragm	E	19S		3 4.50	4 9.00						8 2	8 0	276
14	5 U403	Diaphragm	E	31S		3 9.50	2 5.00	3 9.50					10 11	10 8	156
14	6 U404	Diaphragm	E	19S		2 5.50	2 10.00						5 4	5 2	109
17	5 U405	Diaphragm	E	19S		2 4.00	15.00						3 7	3 6	62
8	6 V401	Diaphragm	E	20		2 5.50							2 6	2 6	30

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	Codes SH	Codes V	B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
		Int. Bent No. 2													
5	6 D200	Key	E	20		2 6.00							2 6	2 6	19
8	8 H200	Beam	E	18		11 8.00							13 6	13 6	288
6	6 H201	Beam	E	20		11 8.00							11 8	11 8	105
10	6 H202	Beam	E	20		11 8.00							11 8	11 8	175
14	6 H203	Beam	E	10			12.00	3 1.75					5 2	4 10	102
16	4 P200	Column	E	16		7 10.25	2 10.00					2 6.00	10 8	10 7	113
24	4 P201	Drilled Shaft		16		7 10.25	2 10.00					2 6.00	10 8	10 7	170
18	5 U200	Beam	E	13S		3 3.00	3 9.00	3 3.00	3 9.00				14 11	14 7	274
4	5 U201	Beam	E	10S			3 9.00	3 3.00					10 9	10 6	44
13	11 V200	Column	E	17		17 9.00							19 4	19 4	1335
13	11 V201	Drilled Shaft		20		23 5.38							23 5	23 5	1617
		Int. Bent No. 3													
5	6 D300	Key	E	20		2 6.00							2 6	2 6	19
8	8 H300	Beam	E	18		11 8.00							13 6	13 6	288
6	6 H301	Beam	E	20		11 8.00							11 8	11 8	105
10	6 H302	Beam	E	20		11 8.00							11 8	11 8	175
14	6 H303	Beam	E	10			12.00	3 1.75					5 2	4 10	102
16	4 P300	Column	E	16		7 10.25	2 10.00					2 6.00	10 8	10 7	113
29	4 P301	Drilled Shaft		16		7 10.25	2 10.00					2 6.00	10 8	10 7	205
18	5 U300	Beam	E	13S		3 3.00	3 9.00	3 3.00	3 9.00				14 11	14 7	274
4	5 U301	Beam	E	10S			3 9.00	3 3.00					10 9	10 6	44
13	11 V300	Column	E	17		17 9.00							19 4	19 4	1335
13	11 V301	Drilled Shaft		20		26 6.00							26 6	26 6	1830

Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

For bending diagrams and steel reinforcing totals, see Sheet No. 28.

Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.
SH = Required shape, see bending diagrams.
V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

All bars shall be Grade 60.

* Resin Anchor System

Detailed JUL 2025
Checked JUL 2025

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

BILL OF REINFORCING STEEL (1 OF 2)

STATE OF MISSOURI
David J. Glastetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/2/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. A43232-29
COUNTY ST. CHARLES
JOB NO. JST0020
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A43232
DESCRIPTION
DATE

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

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

Bartlett & West

B_A43232_032_JST0020_BIILREINF-1.dgn 9:25:27 AM 9/2/2025

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	Codes SH	Codes V	B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
		Int. Diaphragm													
8	6 H500	Diaphragm	E	20		5 11.00							5 11	5 11	71
8	4 H501	Diaphragm	E	20		6 9.00							6 9	6 9	36
32	5 H502	Diaphragm	E	19S		2 7.00	12.00						3 7	3 6	117
16	5 H503	Strand Tie	E	20		2 10.00							2 10	2 10	47
8	6 U500	Diaphragm	E	28S			2 2.00	3 7.00	2 7.00				8 4	8 0	96
28	4 U501	Diaphragm	E	28S			18.00	3 7.00	2 4.00				7 5	7 3	136
16	5 V500	Diaphragm	E	20		3 10.00							3 10	3 10	64
		Slab													
24	6 S101	Slab	E	20	2	2 6.00							2 6	2 6	
		Increment = 15½"				16 10.00							16 10	16 10	348
295	6 S102	Slab	E	20		17 5.00							17 5	17 5	7717
22	5 S103	Slab	E	20	2	2 2.00							2 2	2 2	
		Increment = 17"				16 3.00							16 3	16 3	211
270	5 S104	Slab	E	20		17 5.00							17 5	17 5	4905
45	5 S105	Slab	E	20		49 3.00							49 3	49 3	2312
87	5 S106	Slab	E	20		49 3.00							49 3	49 3	4469
27	6 S107	Slab	E	20		22 6.00							22 6	22 6	912
27	6 S108	Slab	E	20		24 9.00							24 9	24 9	1004
		Barrier													
18	5 C1	Slip Form	E	20		12 0.00							12 0	12 0	225
143	5 R1	Barrier	E	26S		3 3.00	5.50	2.25	3 1.38	5.50	3 0.75	6.75	6 10	6 9	1007
143	5 R2	Barrier	E	19S		20.50	9.50						2 6	2 5	360
143	5 R3	Barrier	E	27S			9.50	15.25	5.00	12.00	15.00	3.00	3 6	3 4	497
30	5 R4	Barrier	E	20		11 9.00							11 9	11 9	368
10	5 R5	Barrier	E	20		31 7.00							31 7	31 7	329
10	5 R6	Barrier	E	20		35 4.00							35 4	35 4	369
10	5 R7	Barrier	E	20		37 1.00							37 1	37 1	387
53	5 R11	Barrier	E	19S		3 3.00	19.50						4 11	4 9	263
53	5 R12	Barrier	E	19S		2 0.25	2 0.50						4 1	4 0	221
53	5 R13	Barrier	E	27S			2 0.50	15.25	8.50	12.00	15.00	3.00	5 0	4 10	267
53	5 R14	Barrier	E	14S			19.50	3 3.75			3 3.00	7.50	4 11	4 10	267
10	5 R15	Barrier	E	21S		21.50	2 4.63	21.50			2 3.00	9.50	6 0	5 9	60
5	5 R16	Barrier	E	20		19 8.00							19 8	19 8	103
5	5 R17	Barrier	E	20		18 10.00							18 10	18 10	98
5	5 R18	Barrier	E	20		19 9.00							19 9	19 9	103
5	5 R19	Barrier	E	20		20 5.00							20 5	20 5	106
		Totals													
	4														375
	4		E												484
	5		E												19013
	6		E												12456
	7		E												439
	8		E												1723
	11														3448
	11		E												2671
		TOTAL													3823
		TOTAL	E												36786
														TOTAL	40609
		MBS Totals													
140		#4 To #5													
76		#5 To #5													
306		#5 To #6													

Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

For bending diagrams and steel reinforcing totals, see Sheet No. 28.

Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.
SH = Required shape, see bending diagrams.
V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

All bars shall be Grade 60.

Detailed JUL 2025
Checked JUL 2025

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

BILL OF REINFORCING STEEL (2 OF 2)

State of Missouri — David J. Glastetter — Number PE-2000150018 — Professional Engineer

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/2/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. A43232-30
COUNTY ST. CHARLES
JOB NO. JST0020
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A43232

DESCRIPTION | DATE

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

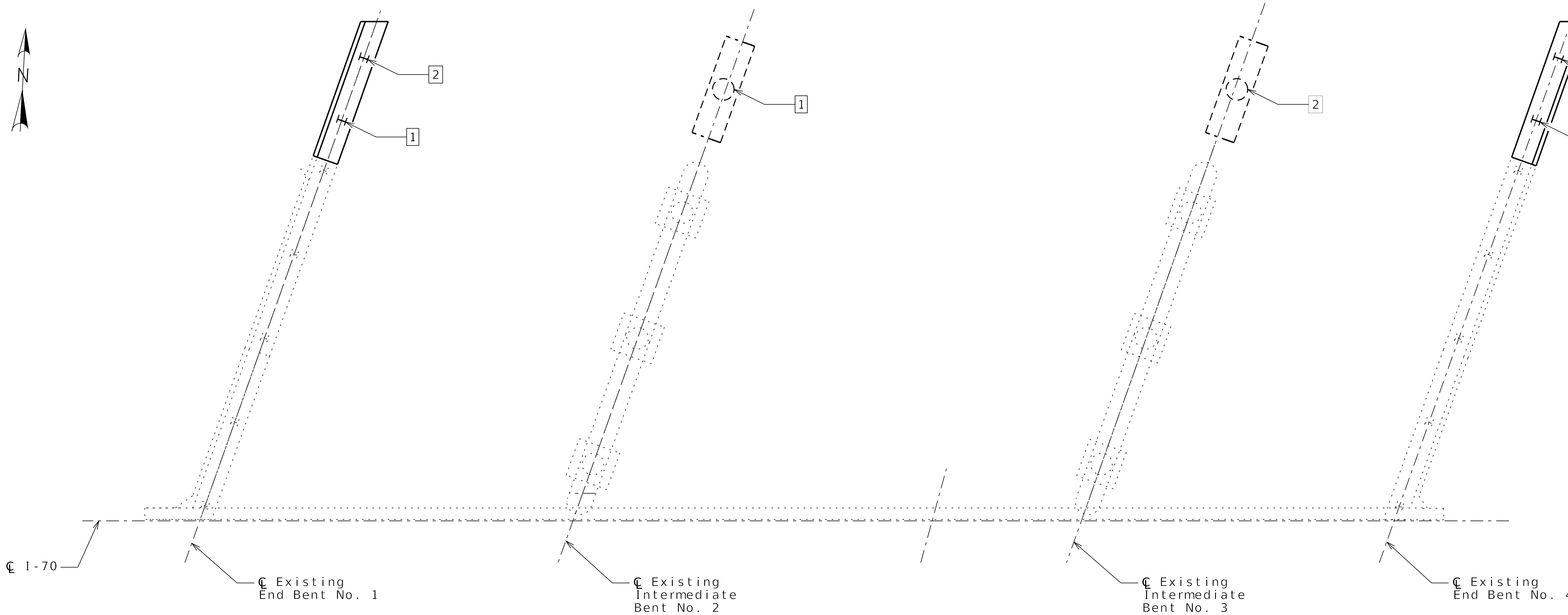
IMPROVE 70 ALLIANCE

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

Bartlett & West

B_A43232_033_JST0020_BIILREINF-2.dgn 9:25:29 AM 9/2/2025

09/18/2025 Released for Construction



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

As-Built Pile Data

Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
					End Bent No.1
1					
2					

As-Built Pile Data

Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No.4
3			
4			

As-Built Drilled Shaft Data

Shaft No.	Top of Sound Rock (Elev.)	Tip of Casing (Elev.)	Bottom of Rock Socket (Elev.)	Remarks
				Intermediate Bent No.2
1				
				Intermediate Bent No.3
2				

Note:
For End Bent No. 1, indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal
D. PDA test pile
E. Minimum tip elevation controlled
(Use when actual blow count is less then PDA blow count due to minimum tip elevation requirement. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating actual value is higher than PDA value.

For End Bent No. 4 and Intermediate Bents, Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal

This sheet to be completed by the design-builder.

Detailed JUL 2025
Checked JUL 2025

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

AS-BUILT PILE AND DRILLED SHAFT DATA

STATE OF MISSOURI
David J. Glastetter
NUMBER
PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	A43232-31
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

DESCRIPTION

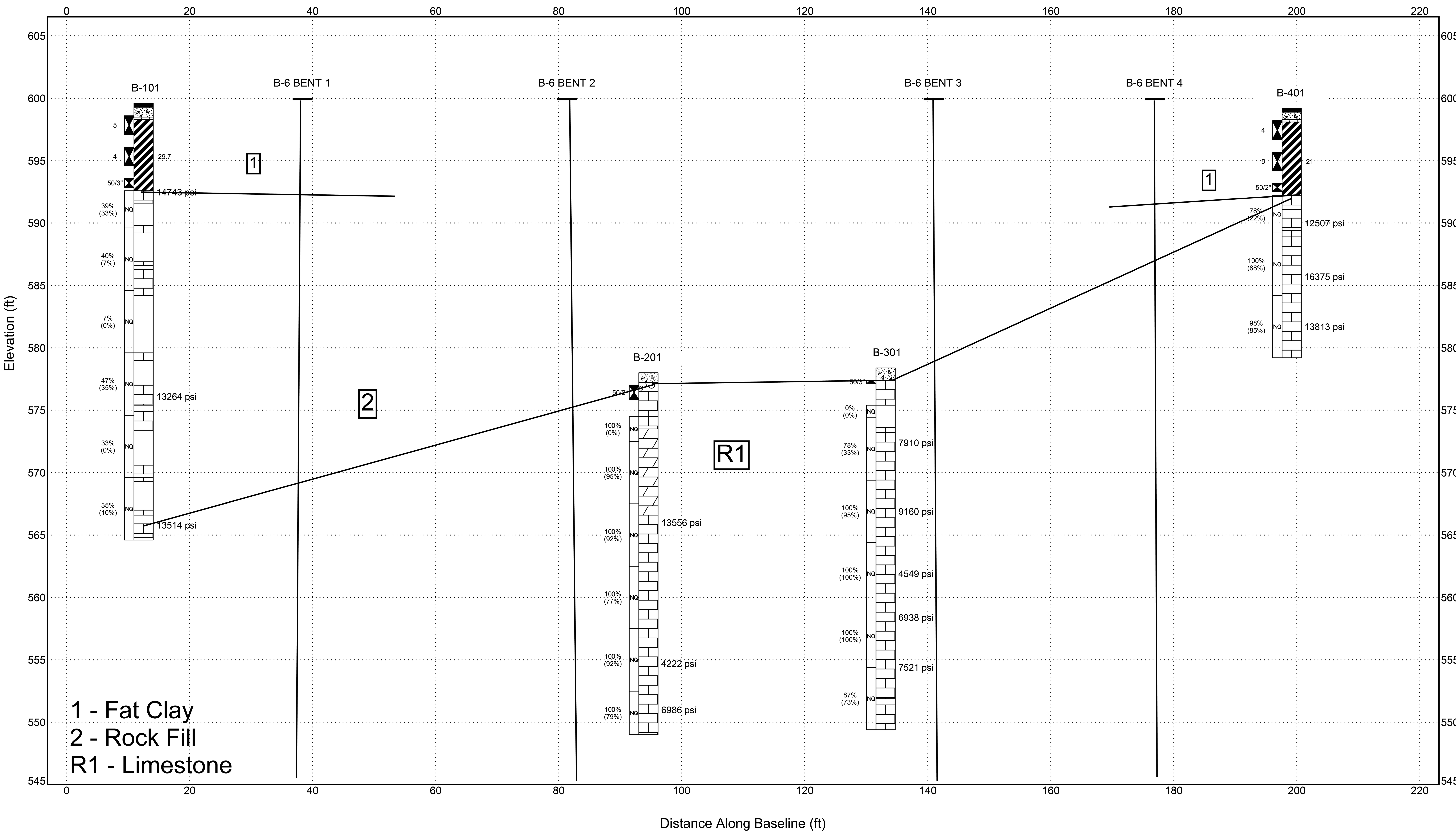
DATE

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

IMPROVE 70 ALLIANCE

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

Bartlett & West



Note: For locations of borings, see Sheet No. 2.

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

Detailed JUL 2025
Checked JUL 2025

BORING DATA (1 OF 2)

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

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	A43232-32
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

DESCRIPTION

DATE

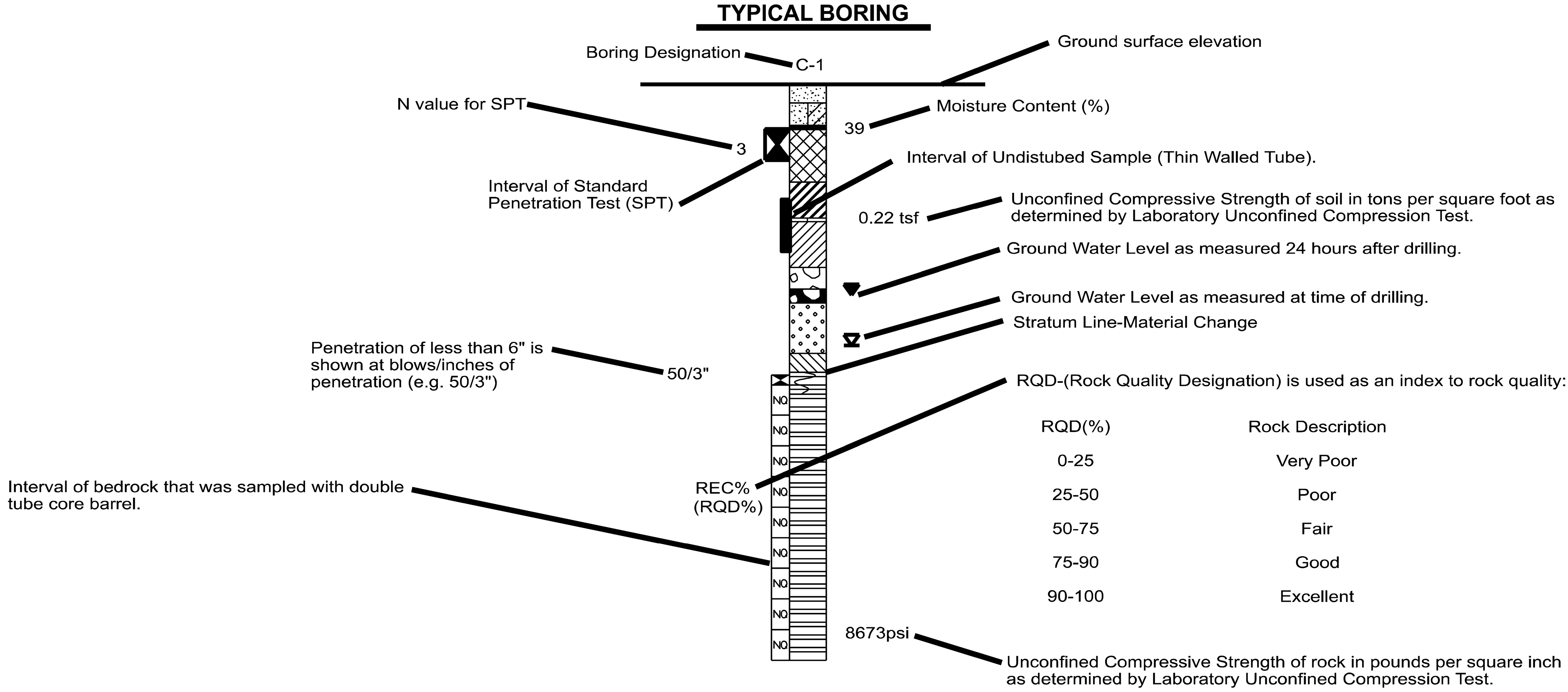
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

Bartlett & West
601 MONROE ST. SUITE 201 - JEFFERSON CITY, MO 65101
PHONE 573-634-3181
CERTIFICATE OF AUTHORITY NO. 000167 - ENGINEERING
WWW.BARTLETTWEST.COM

Released for Construction
09/18/2025

TYPICAL BORING



RQD(%)	Rock Description
0-25	Very Poor
25-50	Poor
50-75	Fair
75-90	Good
90-100	Excellent

KEY TO BORING LOG SYMBOLS

LITHOLOGIC SYMBOLS
(Unified Soil Classification System)

- Lean Clay (CL)
- Fat Clay (CH)
- Lean to Fat Clay
- Low Plastic Silt (ML)
- Poorly Graded Sand (SP)
- Well Graded Sand (SW)
- Clayey Sand (SC)
- Poorly Graded Gravel (GP)
- Boulders
- Clayey Gravel (GC)
- Gravel with Fat Clay (GP-GC)
- Asphalt
- Fill
- Topsoil
- Concrete
- Peat
- Poorly Graded Sand with Clayey Sand (SP-SC)

LITHOLOGIC SYMBOLS
(Rock)

- Coal
- Dolomite
- Limestone
- Sandstone
- Shale
- Gypsum
- Weathered Limestone
- Weathered Shale
- Gypsiferous Shale

SAMPLER SYMBOLS

- Auger Cuttings
- Grab
- Modified California Sampler
- NQ Rock Core
- NX Core Barrel
- Standard Penetration Test
- Shelby Tube

DRILLING METHODS

- Core Barrel
- Hollow Stem Auger
- Rotary
- Solid Stem Auger

ABBREVIATIONS

HSA	-	Hollow Stem Auger
SSA	-	Solid Stem Auger
ST	-	Shelby Tube
SPT	-	Standard Penetration Test
NATD	-	None At Time of Drilling
N/A	-	Not Available

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

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	A43232-33
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

DESCRIPTION
DATE

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

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

Bartlett & West

Note: For locations of borings, see Sheet No. 2.

Detailed JUL 2025
Checked JUL 2025

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

BORING DATA (2 OF 2)

B_A43232_037_JST0020_BORDATA-2.dgn 9:26:10 AM 9/2/2025

SURVEY CONTROL POINTS

BENCHMARK 100
74 /5/8x24_ROD_W/CAP
SIGN POST 13.85'; WATER VALVE 25.82'; TOP END OF 24" R.C.P. 36.56'; NORTH EDGE OF ASPHALT ROUNDABOUT 12.64'
NORTH = 1081423.367
EAST = 723104.330
ELEV.= 599.597

BENCHMARK 113
74 /5/8x24_ROD_W/CAP
HANDHOLE 15.63'; GAS VALVE 8.92'; TELEPHONE PEDESTAL 28.64'
NORTH = 1078977.686
EAST= 728186.747
ELEV.= 623.007

BENCHMARK 114
74 /5/8x24_ROD_W/CAP
SOUTH EDGE OF ASPHALT ROAD 7.06'; MAG NAIL IN UTILITY POLE 67.06'; MAG NAIL IN UTILITY POLE 33.91'; R.O.W. MARKER 22.61'
NORTH = 1082531.641
EAST= 727818.620
ELEV.= 633.117

BENCHMARK 115
74 /5/8x24_ROD_W/CAP
SOUTH EDGE OF ASPHALT ROAD 10.29'; WATER VALVE 46.55'; SANITARY MANHOLE LID 45.03'
NORTH = 1082444.293
EAST= 729392.876
ELEV.= 619.994

BENCHMARK 116
74 /5/8x24_ROD_W/CAP
END OF GUARDRAIL 99.61'; NW CORNER OF INLET 46.74'; DELINEATOR POST 81.56'
NORTH = 1082653.370
EAST = 723222.089
ELEV.= 605.972

BENCHMARK 200
75 -BM 2IN SQ CUT
TELEPHONE PEDESTAL 16.50'; GAS VALVE 8.93'; GAS VALVE 26.64'
NORTH = 1078971
EAST= 728573
ELEV.= 613.97

BENCHMARK 208
75 BM 2IN SQ CUT
MAG NAIL IN FOGLINE 25.36'; END OF GUARDRAIL 35.16'; MAG NAIL IN FOGLINE 36.66'
NORTH = 1082525
EAST= 721080
ELEV.= 597.57

BENCHMARK 209
75 -BM 2IN SQ CUT
DELINEATOR POST 49.12'; STEEL POWER POLE 8.06'; MODOT TRAFFIC SIGNAL HANDHOLE 2.77'
NORTH = 1082558
EAST= 721763
ELEV.= 599.72

BENCHMARK 210
74 /5/8x24_ROD_W/CAP
MAG NAIL IN FOGLINE 21.21'; MAG NAIL IN TOP OF GUARD POST 4.37'; MAG NAIL IN FOGLINE 35.59'
NORTH = 1082628.386
EAST= 722867.362
ELEV.= 604.348

BENCHMARK 211
75 -BM 2IN SQ CUT
MAG NAIL IN FOGLINE 47.15'; MAG NAIL IN FOGLINE 55.27'; HANDHOLE 47.66'
NORTH = 1082667
EAST= 723955
ELEV.= 602.59

BENCHMARK 212
75 -BM 2IN SQ CUT
MAG NAIL IN FOGLINE 29.27'; DELINEATOR POST 59.52'; MILE MARKER SIGN 134.28'
NORTH = 1082716
EAST = 724964
ELEV.= 610.96

BENCHMARK 213
75 -BM 2IN SQ CUT
SOUTH EDGE OF ASPHALT ROAD 2.23'; MAG NAIL IN FOGLINE 28.03'; MAG NAIL IN FOGLINE 28.01'
NORTH = 1082709
EAST= 726010
ELEV.= 622.86

BENCHMARK 214
75 -BM 2IN SQ CUT
MAG NAIL IN FOGLINE 23.60'; DELINEATOR POST 61.55'; MAG NAIL IN FOGLINE 28.60'
NORTH = 1082643
EAST= 727148
ELEV.= 631.52

BENCHMARK 215
74 /5/8x24_ROD_W/CAP
SOUTH EDGE OF ASPHALT ROAD 18.25'; UTILITY POLE 62.86'; TELEPHONE PEDESTAL 69.92'
NORTH = 1082500.421
EAST= 728168.824
ELEV.= 626.184

BENCHMARK 216
75 -BM 2IN SQ CUT
TELEPHONE PEDESTAL 1.68'; NW CORNER OF RETAINING WALL 21.61'; GAS METER 27.91'
NORTH = 1082415
EAST= 729223
ELEV.= 616.20

BENCHMARK 217
75 -BM 2IN SQ CUT
TELEPHONE MARKER 8.99'; GAS LINE MARKER 17.87'; TOP BACK OF CURB FOR PARKING LOT 56.21'
NORTH = 1082396
EAST= 730135
ELEV.= 612.21

BENCHMARK 220
75 -BM 2IN SQ CUT
WATER VALVE 11.37'; FIRE HYDRANT 24.50'; STORM MANHOLE LID 16.22'
NORTH = 1080588
EAST= 726887
ELEV.= 602.07

BENCHMARK 228
75 -BM 2IN SQ CUT
MAG NAIL IN FOGLINE 12.34'; SW CORNER OF STORM GRATE 36.44'; MAG NAIL IN FOGLINE 37.14'
NORTH = 1084862
EAST= 722908
ELEV.= 656.76

BENCHMARK 229
74 /5/8x24_ROD_W/CAP
MAG NAIL IN FOGLINE 17.55'; MAG NAIL IN FOGLINE 39.12'; END OF GUARDRAIL 68.70'
NORTH = 1083775.980
EAST= 723240.823
ELEV.= 619.275

Detailed JUL 2025
Checked JUL 2025

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

STATE OF MISSOURI
David J. Glastetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/2/2025	
ROUTE: I-70	STATE: MO
DISTRICT: BR	SHEET NO.: A43232-34
COUNTY: ST. CHARLES	
JOB NO.: JST0020	
CONTRACT ID.:	
PROJECT NO.:	
BRIDGE NO.: A43232	

DESCRIPTION
DATE

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

IMPROVE 70 ALLIANCE

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

Bartlett & West

ALL PROJECT COORDINATES HAVE BEEN PROJECTED FROM THE MISSOURI STATE PLANE COORDINATE (SPC) SYSTEM OF 1983 USING AN AVERAGE PROJECT PROJECTION (GRID TO GROUND) FACTOR. TO GET BACK TO STATE PLANE COORDINATES, MULTIPLY THE PROJECT COORDINATES BY THE AVERAGE GRID FACTOR AS SHOWN IN THE "REFERENCE CONTROL INFORMATION" PORTION OF THIS TABLE.

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	MISSOURI STATE PLANE, EAST ZONE
HORIZONTAL DATUM	NAD83 (2011)
VERTICAL DATUM	NAVD88
GEOID MODEL	GEOID 18
ELEVATIONS DETERMINED BY	BARTLETT & WEST USED OPUS SOLUTIONS FOR THE HORIZONTAL COORDINATES AND HELD THE OPUS VERTICAL ELEVATION FOR PRIMRARY CONTROL POINTS 1 THRU 3. A DIGITAL LEVEL LOOP WAS USED FOR THE REMAINING PRIMARY CONTROL POINTS, AND VERTICAL CONTROL POINTS
PROJECT PROJECTION FACTOR	1.0000878

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MISSOURI COORDINATE SYSTEM OF 1983
CONTROL STATION	MISSOURI CORS
DESIGNATION	MODOT OFALLON CORS ARP
CORS_ID	MOOF
PID	DM4688
LATITUDE	N38°45′14.06179″
LONGITUDE	W91°41′44.78025″
NORTHING (M)	324131.153
EASTING (M)	232983.488
ZONE	EAST
PROJECT AVERAGE GRID FACTOR	0.99991221

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

PROJECT NORTHING X AVERAGE GRID FACTOR
= STATE PLANE NORTHING
PROJECT EASTING X AVERAGE GRID FACTOR
= STATE PLANE EASTING

EXAMPLE: CONTROL POINT #___
N _______.____ X _._________ = N _______.___
E _______.____ X _._________ = E _______.___

LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND) NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)	DESCRIPTION	GPK POINT ID
PROJECT CONTROL POINTS								
	STA 1272+83.75	I-70	1286.86' RT.	1081423.367	723104.330	599.60	74 /5/8x24_ROD_W/CAP	BM-100
	STA 41+40.91	I-64	626.94' RT.	1078977.686	728186.747	623.01	74 /5/8x24_ROD_W/CAP	BM-113
	STA 1320+80.05	I-70	129.99' RT.	1082531.641	727818.620	633.12	74 /5/8x24_ROD_W/CAP	BM-114
	STA 1336+56.72	I-70	125.22' RT.	1082444.293	729392.876	620.00	74 /5/8x24_ROD_W/CAP	BM-115
	STA 1274+58.72	RAMP 70E-64E	57.46' LT.	1082653.370	723222.089	605.97	74 /5/8x24_ROD_W/CAP	BM-116
	STA 44+49.76	I-64	394.74' RT.	1078971	728573	613.97	75 -BM 2IN SQ CUT	BM-200
	STA 1253+21.17	I-70	78.18' RT.	1082525	721080	597.57	75 BM 2IN SQ CUT	BM-208
	STA 1260+04.89	I-70	81.53' RT.	1082558	721763	599.72	75 -BM 2IN SQ CUT	BM-209
	STA 1271+12.53	RAMP 70E-64E	6.49' RT.	1082628.386	722867.362	604.35	74 /5/8x24_ROD_W/CAP	BM-210
	STA 389+85.81	US-61 S	98.77' LT.	1082667	723955	602.59	75 -BM 2IN SQ CUT	BM-211
	STA 1292+13.84	I-70	73.52' RT.	1082716	724964	610.96	75 -BM 2IN SQ CUT	BM-212
	STA 1302+63.42	I-70	57.72' RT.	1082709	726010	622.86	75 -BM 2IN SQ CUT	BM-213
	STA 1313+59.87	RAMP 61S-70E	22.92' LT.	1082643	727148	631.52	75 -BM 2IN SQ CUT	BM-214
	STA 1324+31.47	I-70	140.70' RT.	1082500.421	728168.824	626.19	74 /5/8x24_ROD_W/CAP	BM-215
	STA 1334+88.64	I-70	164.71' RT.	1082415	729223	616.20	75 -BM 2IN SQ CUT	BM-216
	STA 1344+00.30	I-70	130.222' RT	1082396	730135	612.21	75 -BM 2IN SQ CUT	BM-217
	STA 21+33.02	I-64	225.33' RT.	1080588	726887	602.07	75 -BM 2IN SQ CUT	BM-220
	STA 364+97.19	US-61	64.17' RT.	1084862	722908	656.76	75 -BM 2IN SQ CUT	BM-228
	STA 376+31.63	US-61 S	59.50' RT.	1083775.980	723240.823	619.28	74 /5/8x24_ROD_W/CAP	BM-229

STATE OF MISSOURI
David J. Glastetter
NUMBER PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/2/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	A43232-35
COUNTY	ST. CHARLES
JOB NO.	JST0020
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A43232

DESCRIPTION	DATE

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

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

Bartlett & West

09/18/2025 Released for Construction

SURVEY CONTROL DATA

Detailed JUL 2025
Checked JUL 2025

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

B_A43232_039_JST0020_SURV-2.dgn 9:26:14 AM 9/2/2025