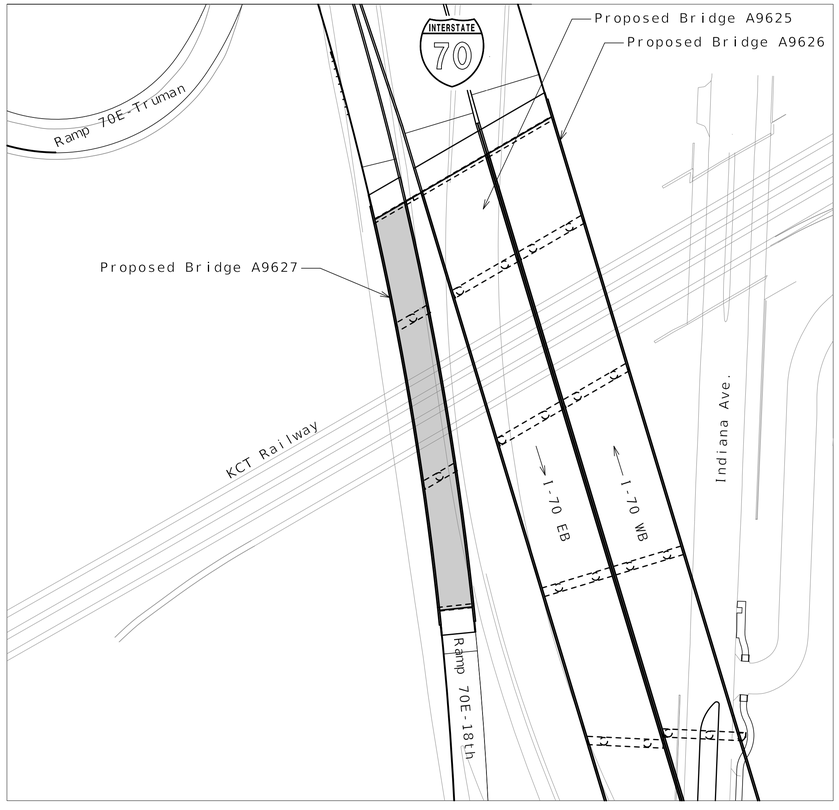
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



LOCATION SKETCH

INDEX OF DRAWINGS

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

BRIDGE: ROUTE RAMP 70E-18TH OVER KCT RAILROAD

RAMP 70E-18TH FROM ROUTE I-670 TO ROUTE 40
ABOUT 1.6 MILES EAST OF ROUTE I-670
BEGINNING STATION 3443+59.43

Detailed MAY 2025
Checked JUN 2025

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

VAN WILLIAM ROBBINS
PE-2017015106
STATE OF MISSOURI
PROFESSIONAL ENGINEER
10-08-25

DATE PREPARED: 09/22/2025
ROUTE: I-70 | STATE: MO
DISTRICT: BR | SHEET NO.: B21-01
COUNTY: JACKSON
JOB NO.: J4I1486D
CONTRACT ID.: 240807-C01
PROJECT NO.:
BRIDGE NO.: A9627

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

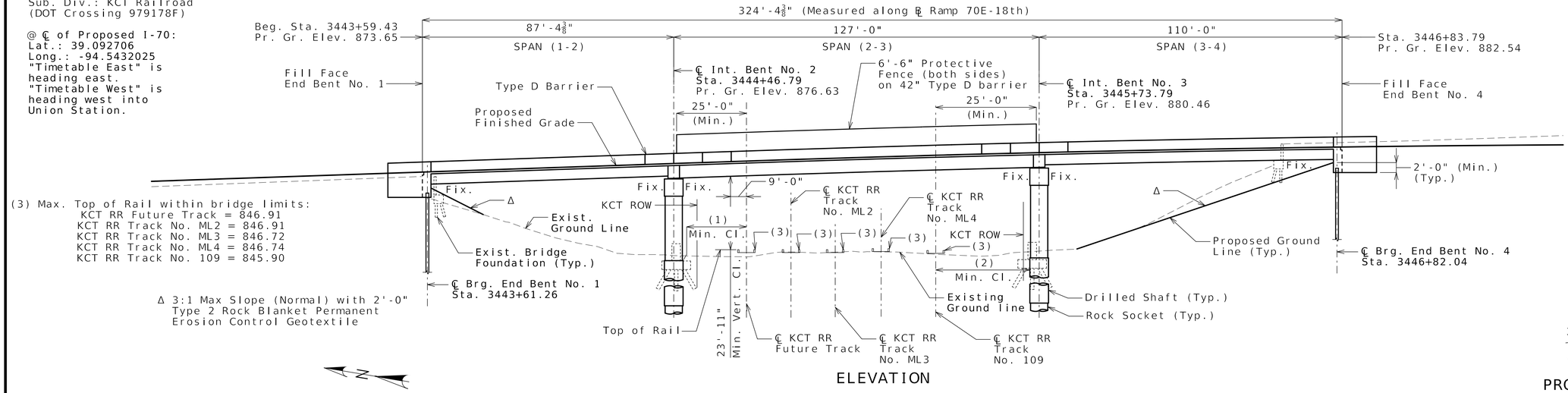
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

KCT Railroad M.P. 4.360
Div: Kansas
Line Segment: 1001
Sub. Div.: KCT Railroad
(DOT Crossing 979178F)

@ ℄ of Proposed I-70:
Lat.: 39.092706
Long.: -94.5432025
"Timetable East" is heading east.
"Timetable West" is heading west into Union Station.

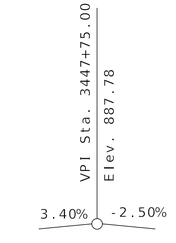
(87.4'-127.0'-110.0') Prestressed Concrete NU Girder Spans



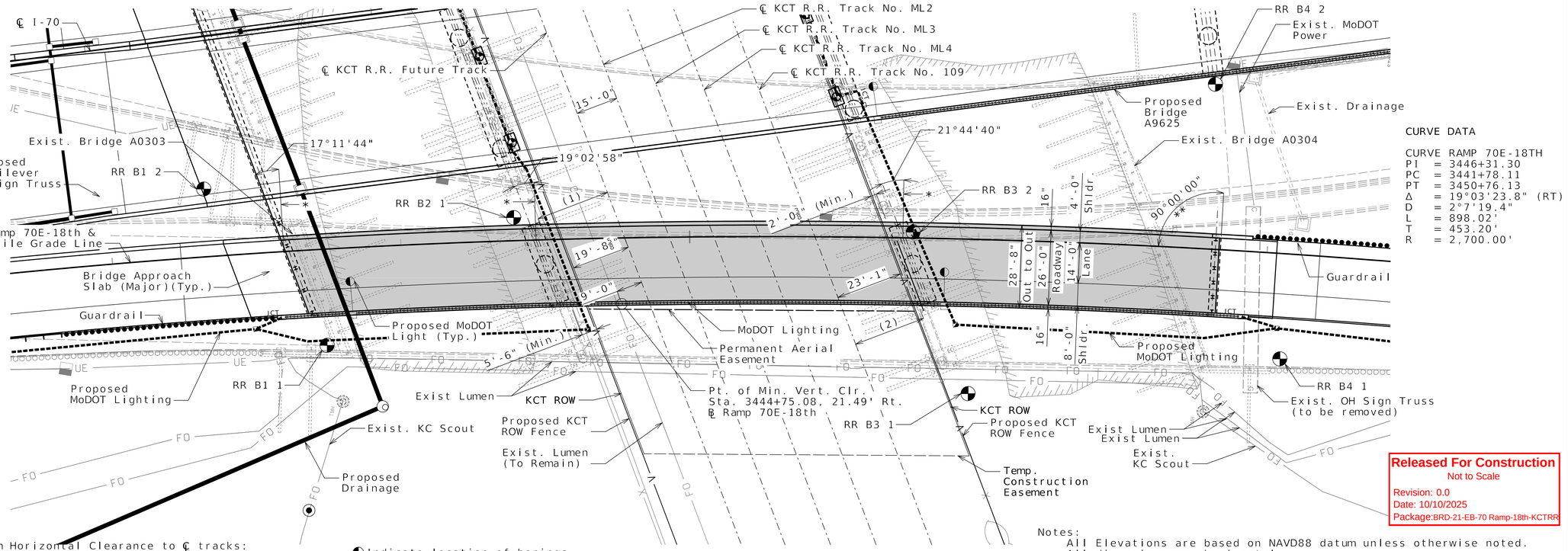
(3) Max. Top of Rail within bridge limits:
KCT RR Future Track = 846.91
KCT RR Track No. ML2 = 846.91
KCT RR Track No. ML3 = 846.72
KCT RR Track No. ML4 = 846.74
KCT RR Track No. 109 = 845.90

Δ 3:1 Max Slope (Normal) with 2'-0" Type 2 Rock Blanket Permanent Erosion Control Geotextile

ELEVATION



PROFILE GRADE



Minimum Horizontal Clearance to ℄ tracks:
(1) 25'-2 3/4"
(2) 25'-1 3/8"

* Radial line to ℄ Ramp 70E-18th
** To local tangent

Indicate location of borings.

PLAN

Notice and Disclaimer Regarding Boring Log Data
The locations of all subsurface borings performed by the design-build team for this structure are shown on the plan sheets for this structure. The logs for all locations indicated are provided on Sheets No. B21-39 thru B21-52. Labrotory test results, rock core photographs and other information obtained at these borings are available in the corresponding Foundation Recommendations Memo prepared by HNTB. By the nature of the exploration process, the information gathered at these borings represents only a small fraction of the total volume of material at the Site. Interpolation between data samples may not be indicative of the nature and extent of the variations that actually exist between sampling locations.

CURVE DATA

CURVE RAMP 70E-18TH
PI = 3446+31.30
PC = 3441+78.11
PT = 3450+76.13
Δ = 19°03'23.8" (RT)
D = 2°7'19.4"
L = 898.02'
T = 453.20'
R = 2,700.00'

Notes:
All Elevations are based on NAVD88 datum unless otherwise noted.
All dimensions are horizontal.
All dimensions in elevation view relative to KCT RR are measured normal to ℄ Tracks.
Bents 1 thru 3 are parallel.
End Bent 4 is normal to ℄ Ramp 70E-18th.
Existing Bridges A0303 and A0304 to be removed in accordance with Sec. 216. Existing structures and foundations shown may not represent what is left in place after removal.
For elevations of drilled shafts and rock sockets, See Sheets No. B21-10 and B21-11.
See Civil Package 6: I-70 Mainline for underpass lighting details.

GENERAL PLAN AND ELEVATION

Released For Construction
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VAN WILLIAM ROBBINS
PE-2017015106
STATE OF MISSOURI
PROFESSIONAL ENGINEER
10-08-25

DATE PREPARED: 09/22/2025
ROUTE: I-70 | STATE: MO
DISTRICT: BR | SHEET NO.: B21-02
COUNTY: JACKSON
JOB NO.: J4I1486D
CONTRACT ID.: 240807-C01
PROJECT NO.:
BRIDGE NO.: A9627

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

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

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

HNTB

Detailed MAY 2025
Checked JUN 2025

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

B_A9627_B21-02_J4I1486D.dgn 11:54:29 AM 9/21/2025

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

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

Neoprene Pads:
Neoprene Bearing Pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:
All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1-1/2", unless otherwise shown.
All reinforcing in the Type D barriers, light blisters, slab, concrete diaphragms and End Bents No. 1 & 4 shall be epoxy coated. Reinforcing steel in Intermediate Bents No. 2 & 3, including rock sockets and drilled shafts, shall be uncoated.

Design Unit Stresses:

Class B Concrete (End Bents below Const. Jt.)	f'c = 3,000 psi
Class B-1 Concrete (Intermediate Bents except Drilled Shafts and Rock Sockets)	f'c = 4,000 psi
Class B-2 Concrete (Drilled Shafts and Rock Sockets)	f'c = 4,000 psi
Class B-2 Concrete (Superstructure, except Prestressed Girders and Type D Barrier)	f'c = 4,000 psi
Class B-1 Concrete (Type D Barrier)	f'c = 4,000 psi
Reinforcing Steel (ASTM A615 Grade 60)	fy = 60,000 psi
Reinforcing Steel (ASTM A615 Grade 75) (Vertical Column, Drilled Shaft, and Rock Socket bars)	fy = 75,000 psi
Structural HP Steel Pile (ASTM A709 Grade 50)	fy = 50,000 psi

For prestressed girder stresses, see Sheets No. B21-18 thru B21-20.

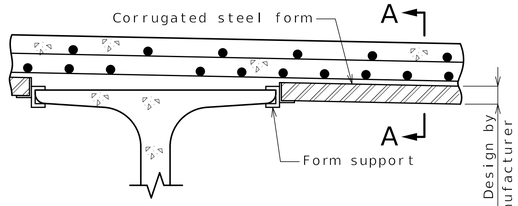
Concrete Protective Coatings:
Concrete and masonry protective coating shall be applied on all exposed concrete and stone areas as noted in the plans in accordance with Sec 711. See Sheet B21-35.

Sacrificial graffiti protective coating shall be applied on all exposed concrete and stone areas as noted in the plans in accordance with Sec 711. See Sheet B21-35.

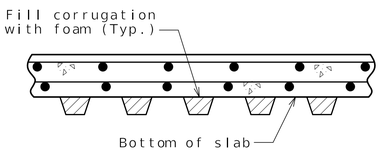
Miscellaneous:
Outline of old work is indicated by light dashed lines. Heavy lines indicate new work U.N.O.

Structural steel for the girder chairs shall be coated with not less than 2 mils of inorganic zinc primer. Scratched or damaged surfaces are to be touched up in the field before concrete is poured. In lieu of coating, the girder chairs may be galvanized in accordance with ASTM A123.

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



STAY-IN-PLACE
CORRUGATED STEEL FORM DETAIL



SECTION A-A

Stay-In-Place Corrugated Steel Form Notes:

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

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

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

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

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

Foundation Data

Type	Design Data		Bent Number 1	2	3	4
Load Bearing Pile	Pile Type and Size		HP12x53	---	---	HP12x53
	Number	ea	5	---	---	6
	Approximate Length Per Each (1)	ft	116	---	---	89
	Pile Point Reinforcement	ea	All	---	---	All
	Min. Galvanized Penetration (Elev.)	ft	830	---	---	830
	Minimum Tip Penetration (Elev.)	ft	---	---	---	---
	Criteria for Min. Tip Penetration		---	---	---	---
	Pile Driving Verification Method		DT	---	---	DT
	Resistance Factor		0.65	---	---	0.65
	Minimum Nominal Axial Compressive Resistance	kip	372	---	---	358
Rock Socket	Number	ea	---	1	1	---
	Layer 1: Foundation Material		---	Limestone	Limestone	---
	Layer 1: Elevation Range	ft	---	757-741	762.5-741	---
	Layer 1: Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	---	28.3	28.3	---
	Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf	---	400	400	---

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

Rock Socket (Drilled Shafts):
Minimum Nominal Axial Compressive Resistance (Side Resistance + Tip Resistance) = Maximum Factored Loads/Resistance Factors.
Thickness of permanent steel casing shall be ½" minimum in accordance with Project AAS. Thicker casing may be required for installation and construction purposes.
Sonic logging testing shall be performed on all drilled shafts and rock sockets.
Drilled shafts shall be constructed in accordance with project Drilled Shaft AAS.

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Revision: 0.0
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Package: BRD-21-EB-70 Ramp-18th-KCTRR

GENERAL NOTES

Detailed MAY 2025
Checked JUN 2025

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

VAN WILLIAM ROBBINS
PE-2017015106
STATE OF MISSOURI
PROFESSIONAL ENGINEER
10-08-25

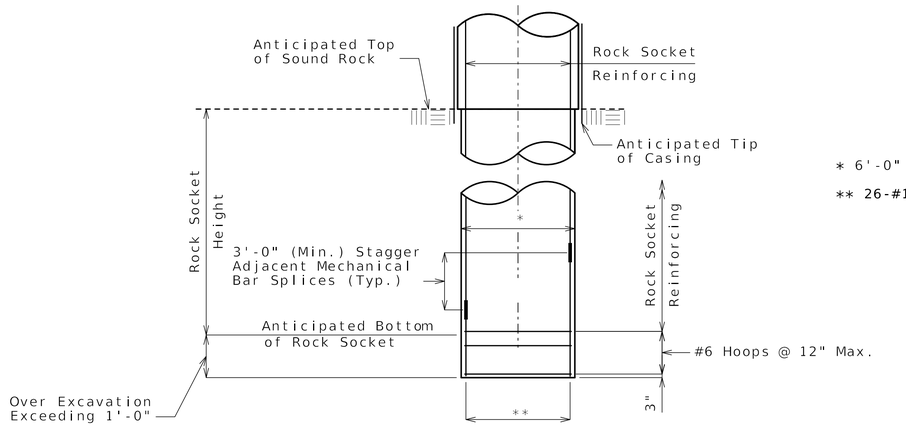
DATE PREPARED 09/22/2025
ROUTE I-70
STATE MO
DISTRICT BR
SHEET NO. B21-03
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

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

HNTB



∗ 6'-0" ∅ Rock Socket

∗∗ 26-#14 Bars

ROCK SOCKET OVER EXCAVATION DETAIL

For Rock Socket Details
see Intermediate Bent Details

CONSTRUCTION NOTES:

1. Any shoring system that impact the Railroad operations and/or support railroad embankment shall be designed and constructed per the Railroad temporary Shoring requirements.
2. Drilled shafts shall be temporarily or permanently cased if excavation falls within the Zone A requirements for temporary shoring.
3. All demolition within the Railroad right-of-way and/or demolition that may impact the Railroad Tracks or operations shall comply within the Railroad demolition requirements.
4. Erection over the Railroad right-of-way shall be designed to cause no interruption to all Railroad operations.
5. The elevation of the existing top-of-rail profile shall be verified before beginning construction. All discrepancies shall be brought to the attention of the Railroad prior to construction.
6. The proposed grade separation project shall not change the quality and/or characteristics of the flow in the Railroad ditches and/or drainage structures.
7. The contractor must submit a proposed method of erosion and sediment control and have the method approved by the Railroad prior to beginning any grading on the project site.
8. For Railroad coordination please refer to the Railroad's Coordination Requirements as part of the Specifications or Special Provisions of the project.
9. Temporary Construction Clearances, including falsework clearances, shall comply with Figure 1.
10. All permanent clearances shall be verified before project closeout.

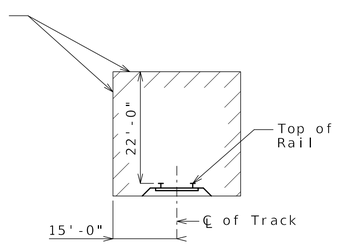


FIGURE 1 - MINIMUM CONSTRUCTION CLEARANCES

(Normal to railroad)

Note:
Refer to executed Maintenance and Construction agreement for flagging and additional other Railroad related requirements.

GENERAL NOTES

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Not to Scale
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Package:BRD-21-EB-70 Ramp-18th-KCTRR

Detailed MAY 2025
Checked JUN 2025

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

VAN WILLIAM ROBBINS
PE-2017015106
STATE OF MISSOURI
PROFESSIONAL ENGINEER
Van W. Robbins
10-08-25

DATE PREPARED
09/22/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	B21-04

COUNTY
JACKSON

JOB NO.
J4I1486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9627

DESCRIPTION	DATE
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270

HNTB

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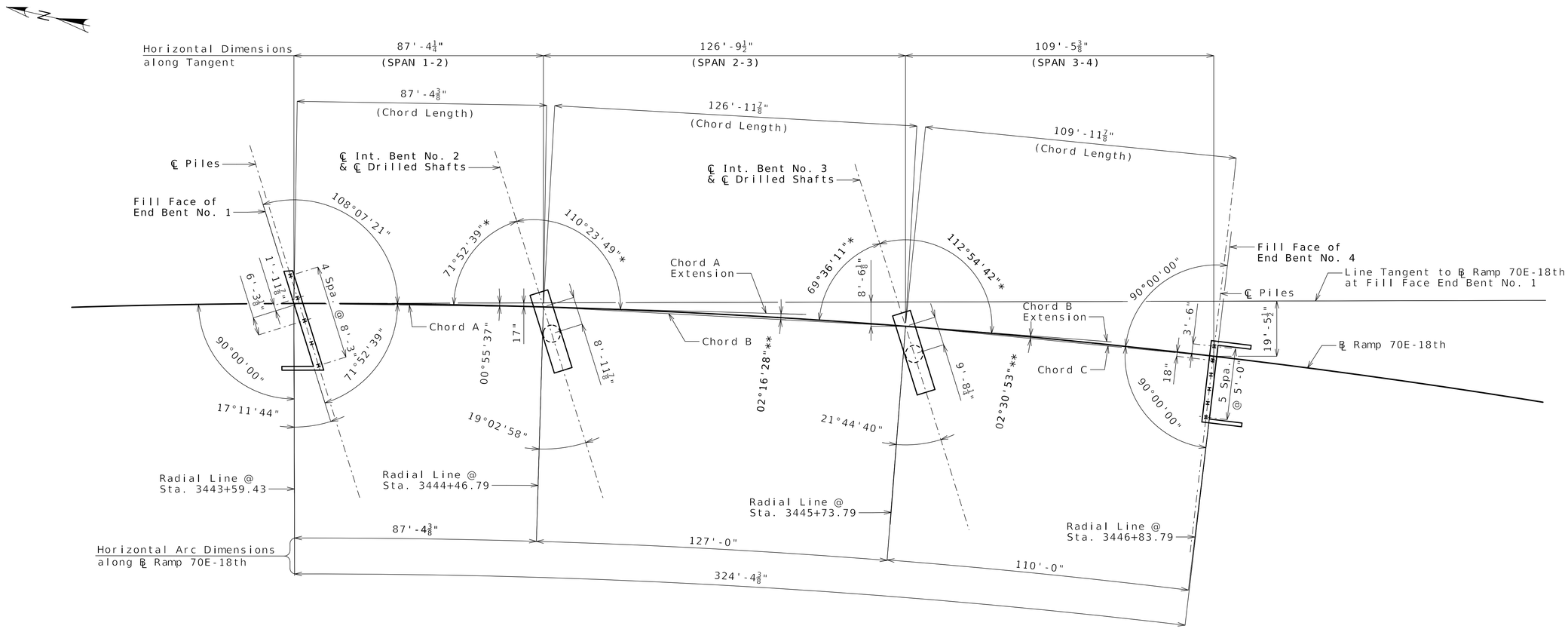

SUBSTRUCTURE LAYOUT

Notes:
All stations are given along ℄ Ramp 70E-18th
All dimensions are horizontal.
* Angle between ℄ Bent and chord.
** Angle between extended chord and chord.

SUBSTRUCTURE LAYOUT

Released For Construction
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GINA D. HORNER PE-30413
STATE OF MISSOURI
PROFESSIONAL ENGINEER
Gina D Horner
10-8-2025

DATE PREPARED 09/22/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	B21-05

COUNTY: JACKSON
JOB NO.: J4I1486D
CONTRACT ID.: 240807-C01
PROJECT NO.:
BRIDGE NO.: A9627

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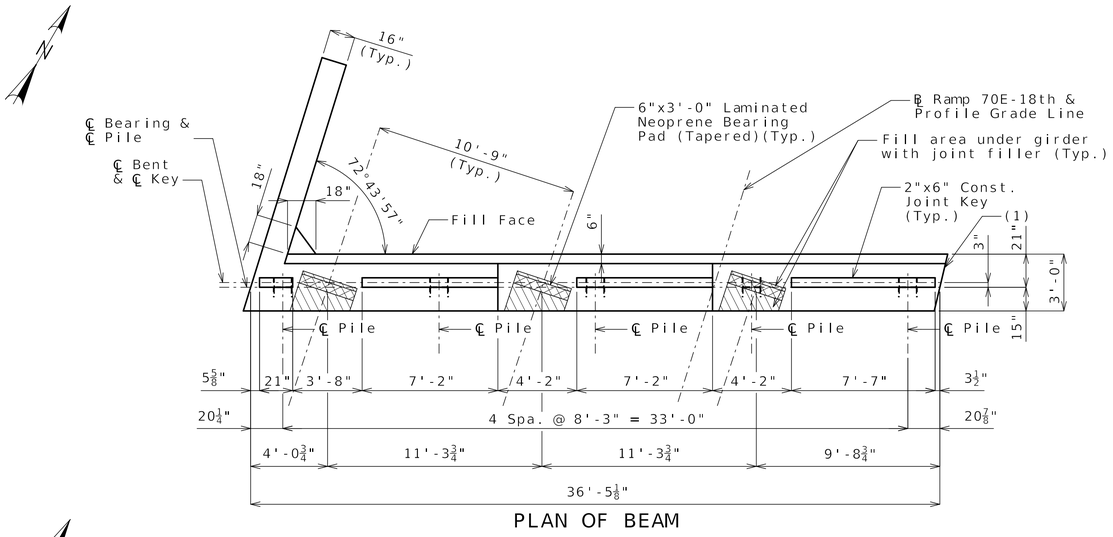
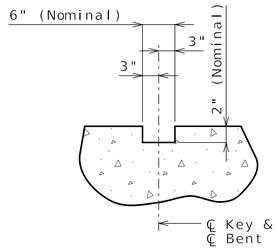
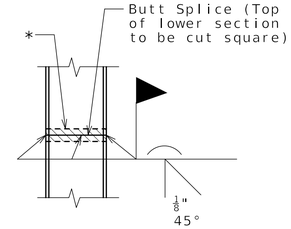


PLAN OF BEAM

(1) Adjacent A9625 (I-70 EB Over KCT, Indiana & 18th) end bent not shown. 1" joint filler required between adjacent concrete faces.

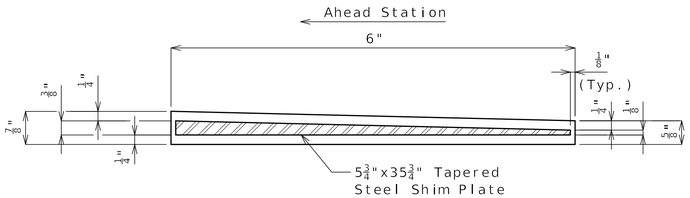


SECTION THRU KEY



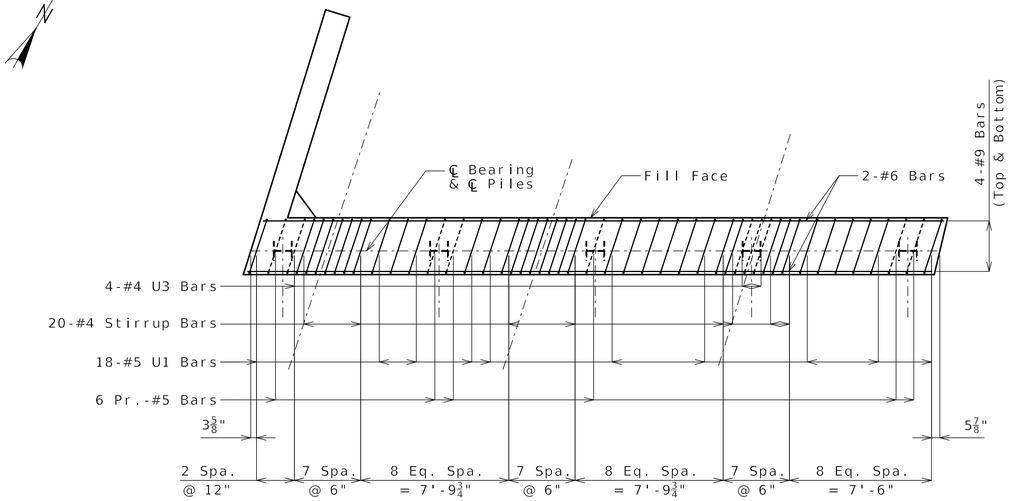
STEEL PILE SPLICE
(If required)

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



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD (TAPERED)

3 Required



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

Notes:
Work this sheet with Sheets No. B21-07 and B21-08.
All U bars and pairs of vertical bars shall be placed along skew.
Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".
For details of bridge approach slab, see Sheet No. B21-37.
For angle of girders relative to ℄ Bent, see Sheet No. B21-17.
Due to the presence of in-situ corrosive soils, provide the following protective measures at End Bent No. 1:
1. Construct a 4-inch minimum "mud slab" below the bottom of the concrete pile cap beam.
2. Construct either:
A. A 12-inch layer of porus backfill material meeting the requirements of Sec 206 between the native soil and the concrete surface. Place separation geotextile per Sec 1011 between the new porus backfill and the native soil.
B. A non-permeable, effectively continuous barrier between the corrosive soil and the fill face of the end bent and wing walls that does not prohibit the performance of the end bent vertical drain.

DETAILS OF END BENT NO. 1

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Detailed MAY 2025
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GINA D. HORNER PE-30413
STATE OF MISSOURI PROFESSIONAL ENGINEER
Gina D Horner
10-8-2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-06
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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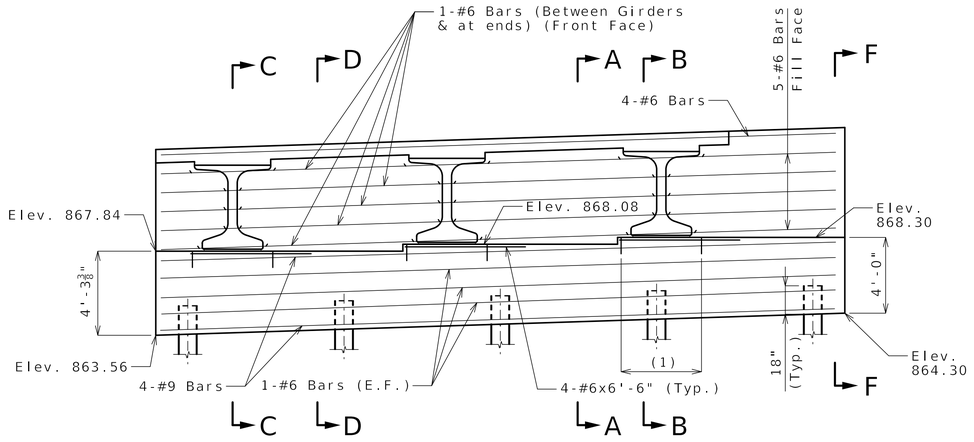
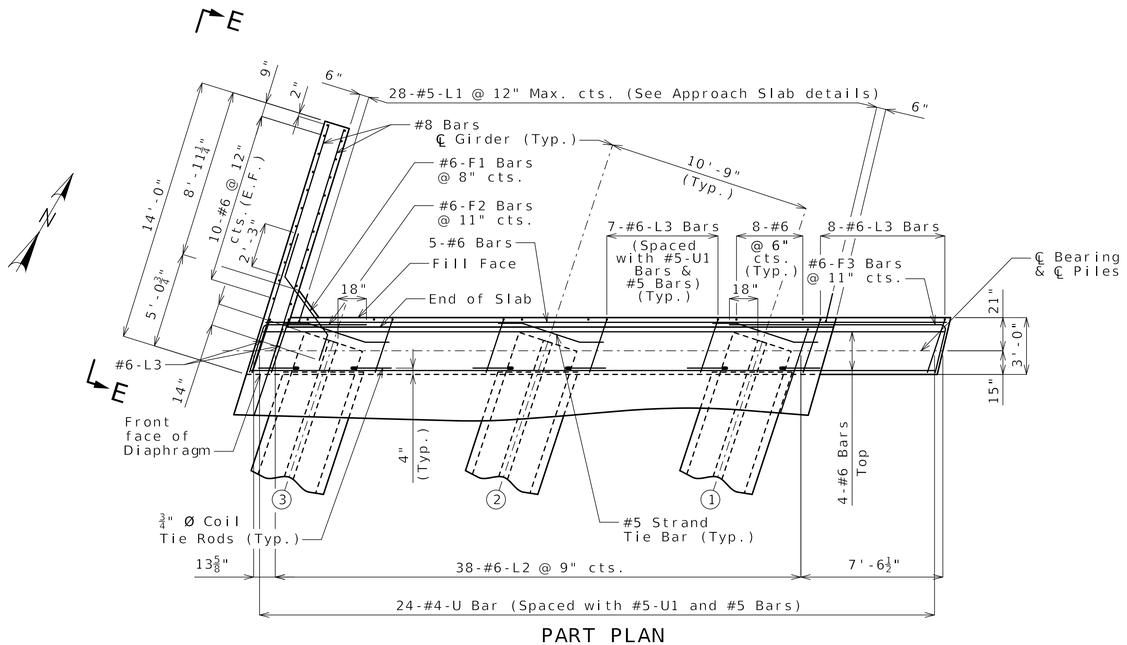
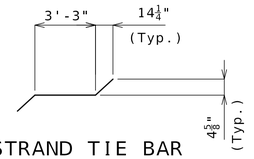


SECTION NEAR END BENT
(Looking Back Station)

(1) 8-#4-U4 Bars @ 6" Spa. under girders. Bars shall be placed normal to ℄ Bent and parallel to beam step. (Typ.)



PART PLAN



#5 STRAND TIE BAR

General Notes:
Work this sheet with Sheets No. B21-06 and B21-08.
For Sections A-A, B-B, C-C, D-D, F-F and Elevation E-E, see Sheet No. B21-08.
For location of coil tie rods, see Sheet No. B21-18.
Strands at end of the girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.
The #6-F bars shall be bent in the field to clear girders.

(X) Denotes girder number

DETAILS OF END BENT NO. 1

Released For Construction
Not to Scale
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Package:BRD-21-EB-70 Ramp-18th-KCTRR

Detailed MAY 2025
Checked JUN 2025

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

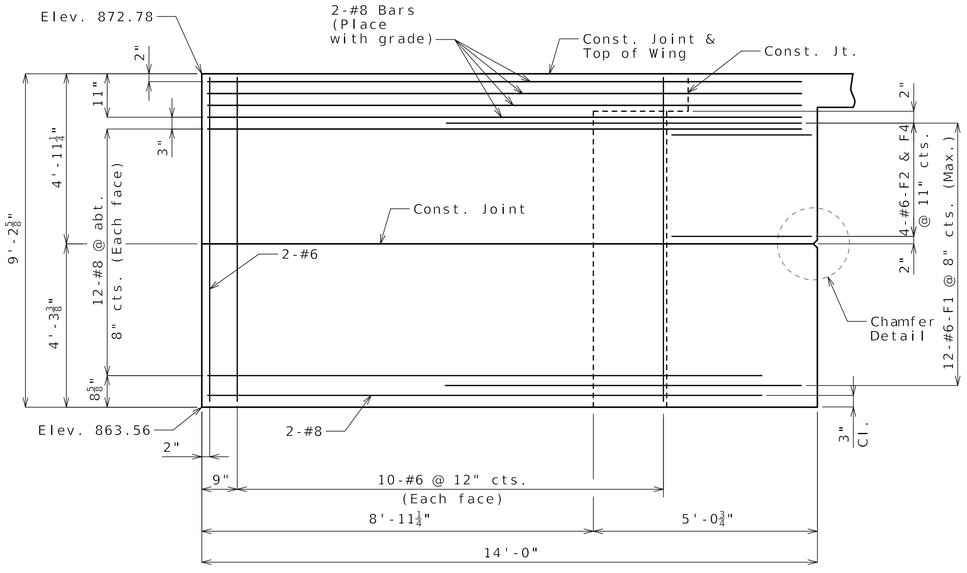
GINA D. HORNER PE-30413
STATE OF MISSOURI PROFESSIONAL ENGINEER
Gina D Horner
10-8-2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-07
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

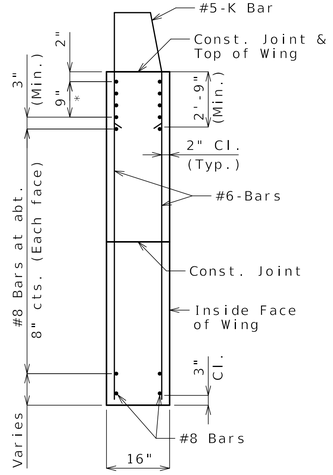
DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

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

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

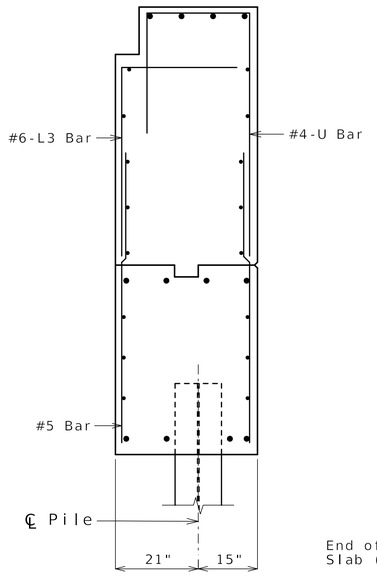


ELEVATION E-E

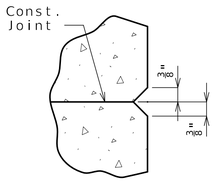


TYPICAL SECTION THRU WING

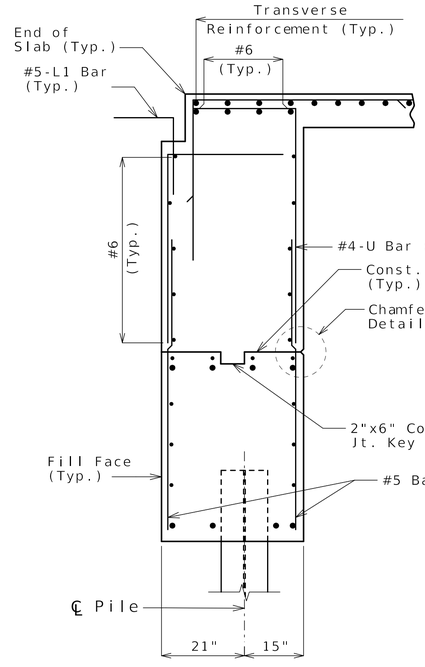
*#8 Bars at 3" cts. (Each face)(Place with grade) See Elevation E-E for number of bars



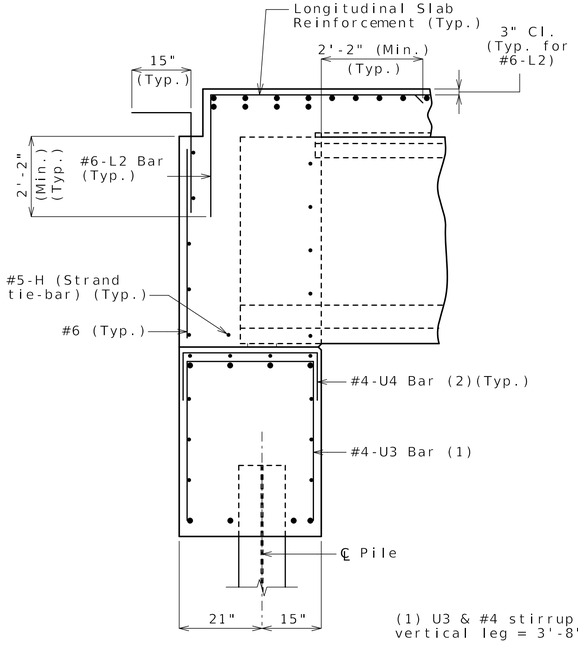
SECTION F-F



CHAMFER DETAIL



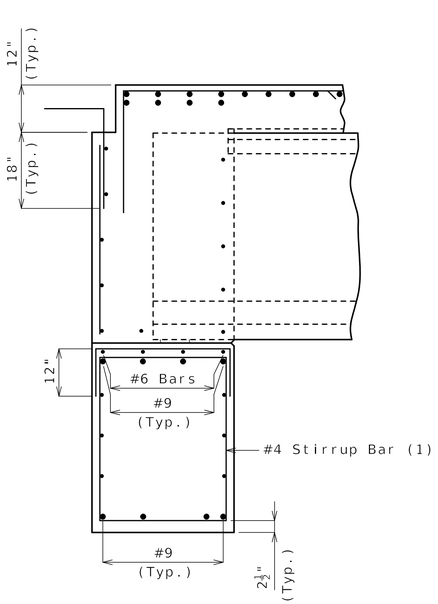
SECTION D-D



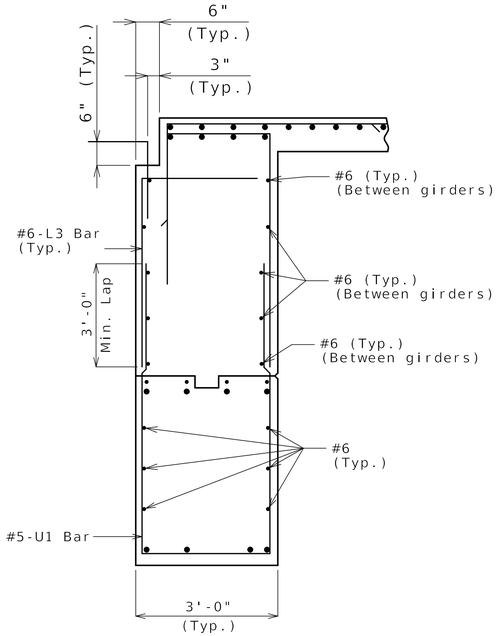
SECTION B-B

(1) U3 & #4 stirrup bar vertical leg = 3'-8"

(2) Bars shall be placed normal to ℄ Bent and parallel to beam step.



SECTION C-C



SECTION A-A

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

General Notes:
Work this sheet with Sheets No. B21-06 and B21-07.
For location of Sections A-A, B-B, C-C, D-D, F-F and Elevation E-E, see Sheet No. B21-07.
For reinforcement of the Type D Barrier, see Sheet No. B21-32.

DETAILS OF END BENT NO. 1

GINA D. HORNER PE-30413
STATE OF MISSOURI PROFESSIONAL ENGINEER
10-8-2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-08
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

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

Detailed MAY 2025
Checked JUN 2025

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

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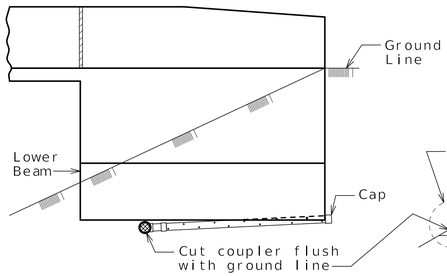
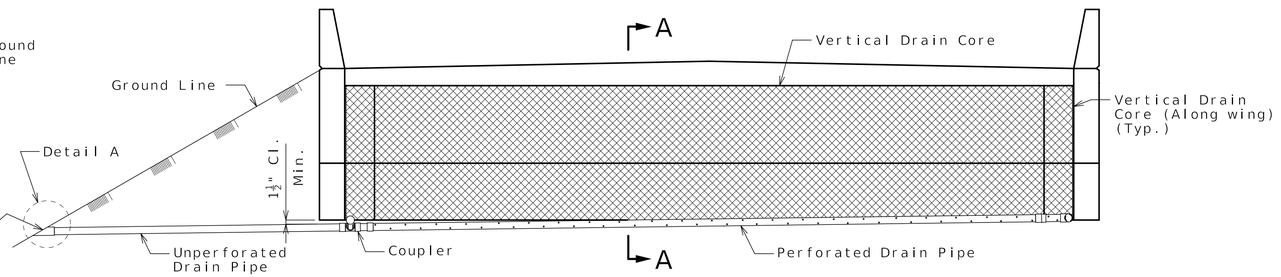
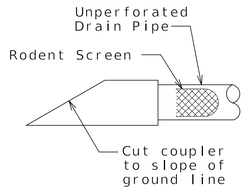


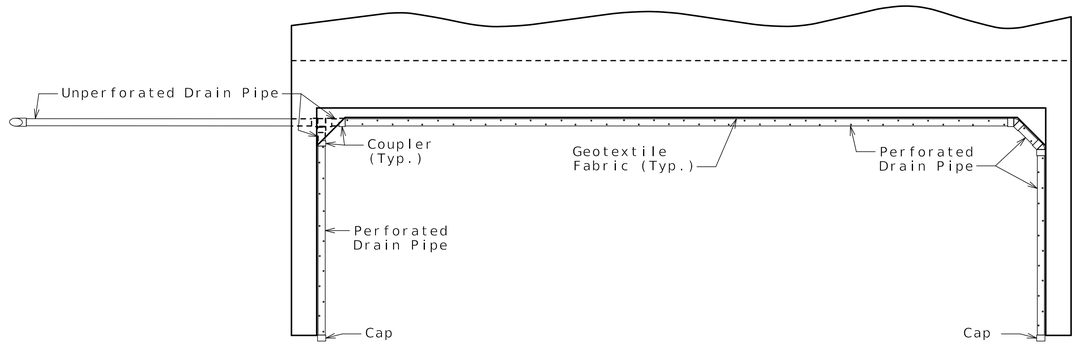
ELEVATION OF WING



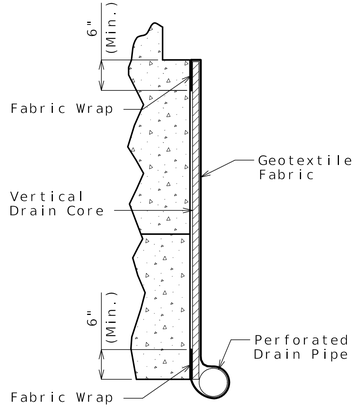
ELEVATION OF END BENT



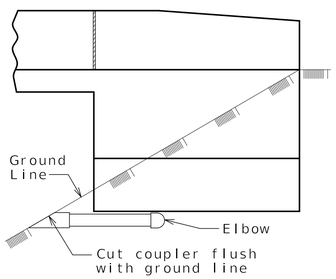
DETAIL A



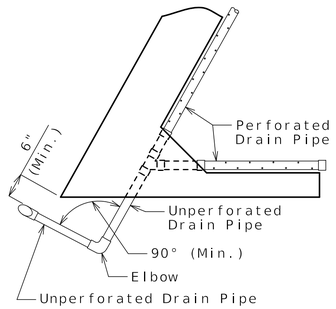
PLAN OF END BENT



PART SECTION A-A
(Section thru wing similar)



ELEVATION OF WING



PART PLAN

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

General Notes:

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

Square end bent shown, skewed end bent similar.

All drain pipe shall be sloped 1 to 2 percent.

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

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

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

Released For Construction
Not to Scale
Revision: 0.0
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VERTICAL DRAIN AT END BENTS

Detailed MAY 2025
Checked JUN 2025

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

GINA D. HORNER PE-30413
STATE OF MISSOURI PROFESSIONAL ENGINEER
Gina D Horner
10-8-2025

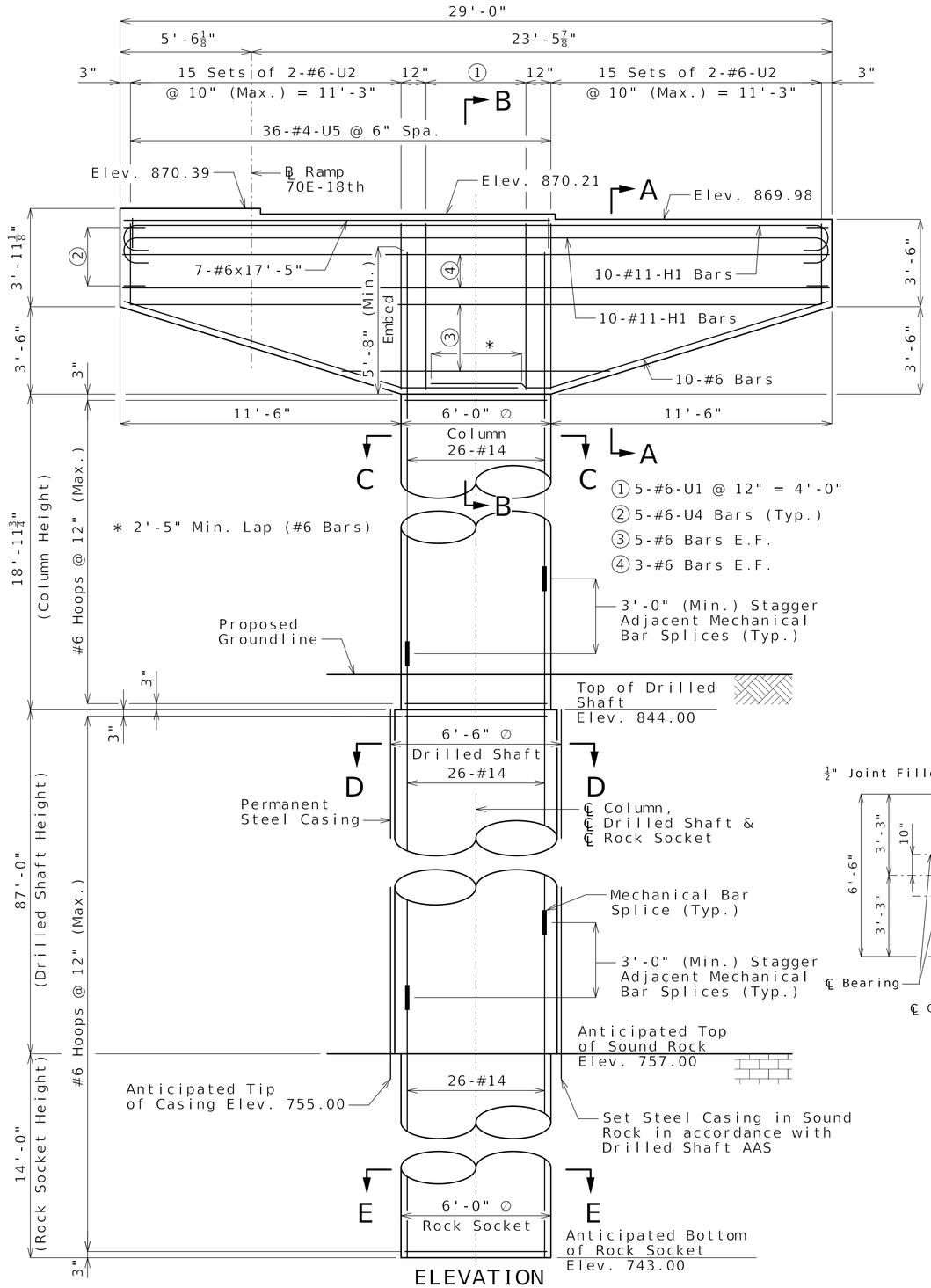
DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-09
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

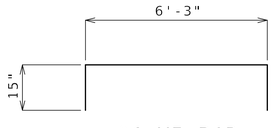
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270

HNTB

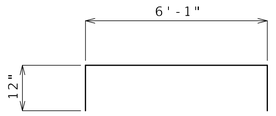


ELEVATION

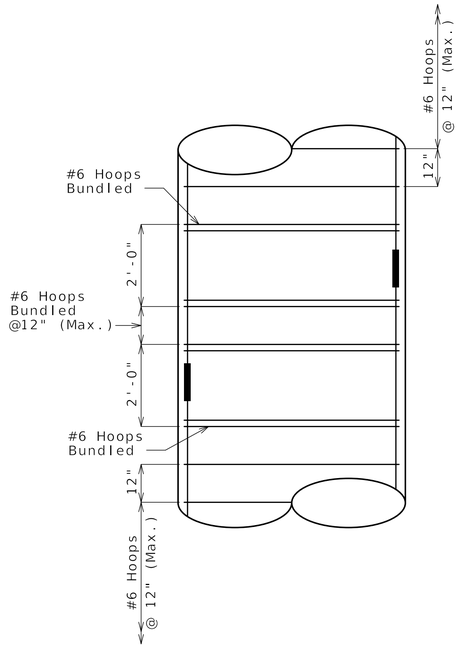
(Girder chairs and beam keys not shown for clarity)



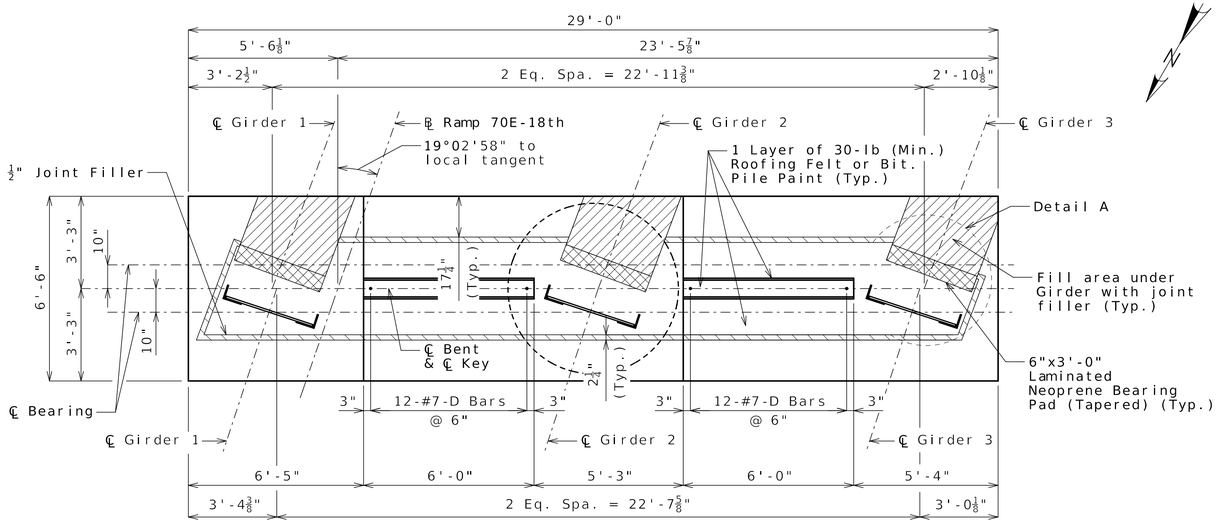
#4-U5 BAR



#6-U4 BAR



MECHANICAL BAR SPLICE/HOOP SPACING DETAIL



PLAN OF CAPBEAM

Notes:
Prior to placing concrete for columns, position of vertical reinforcement shall be verified so as to provide clearance for capbeam reinforcement as applicable.
Work this sheet with Sheets No. B21-11 thru B21-13.
For location of drilled shafts, see Sheet No. B21-05.
For Detail A, see Sheet No. B21-12.
For Sections A-A thru E-E, See Sheet No. B21-13.
For additional joint filler layout details, see Sheet No. B21-24.
For steps 2 inches or more, use 2 1/4"x1/2" joint up vertical face.

DETAILS OF INTERMEDIATE BENT NO.2

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B21-10 of B21-52

WILLIAM JOSEPH STURGEON PE-2014017021
STATE OF MISSOURI PROFESSIONAL ENGINEER
10/8/2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-10
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

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

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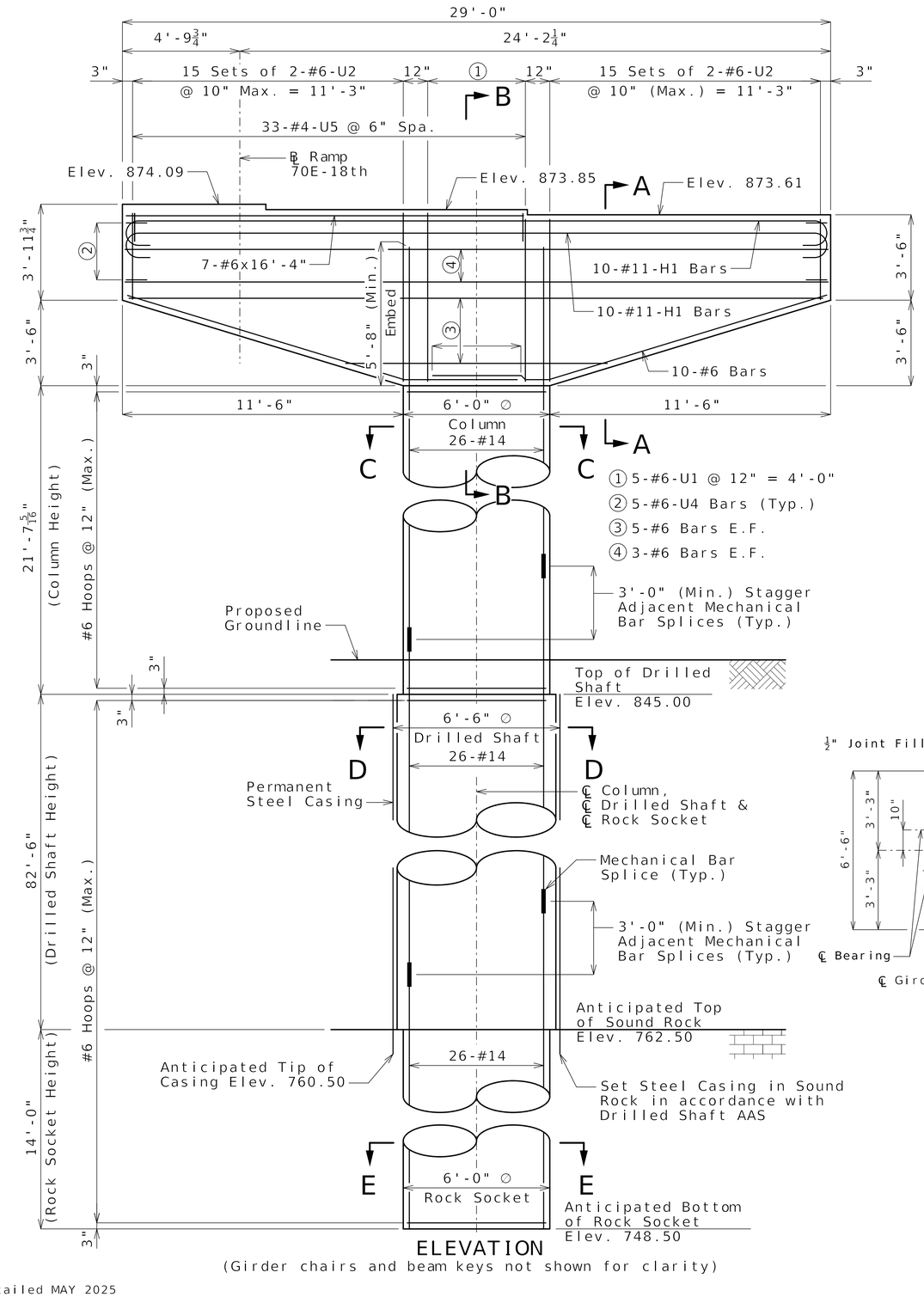
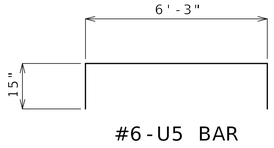


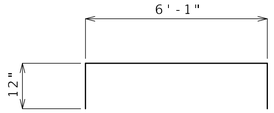
ELEVATION

(Girder chairs and beam keys not shown for clarity)

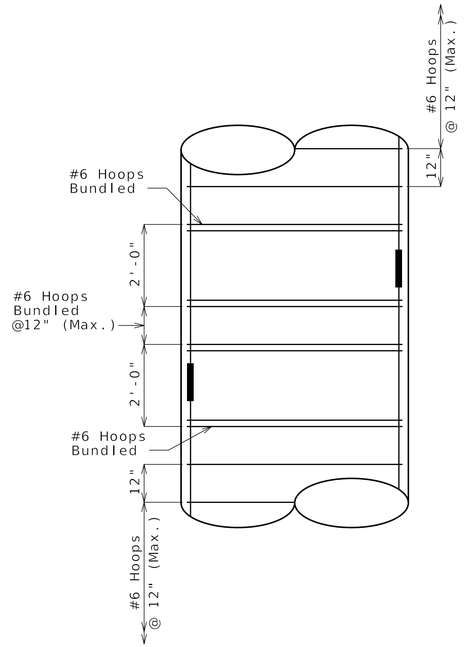
① 5-#6-U1 @ 12" = 4'-0"
② 5-#6-U4 Bars (Typ.)
③ 5-#6 Bars E.F.
④ 3-#6 Bars E.F.



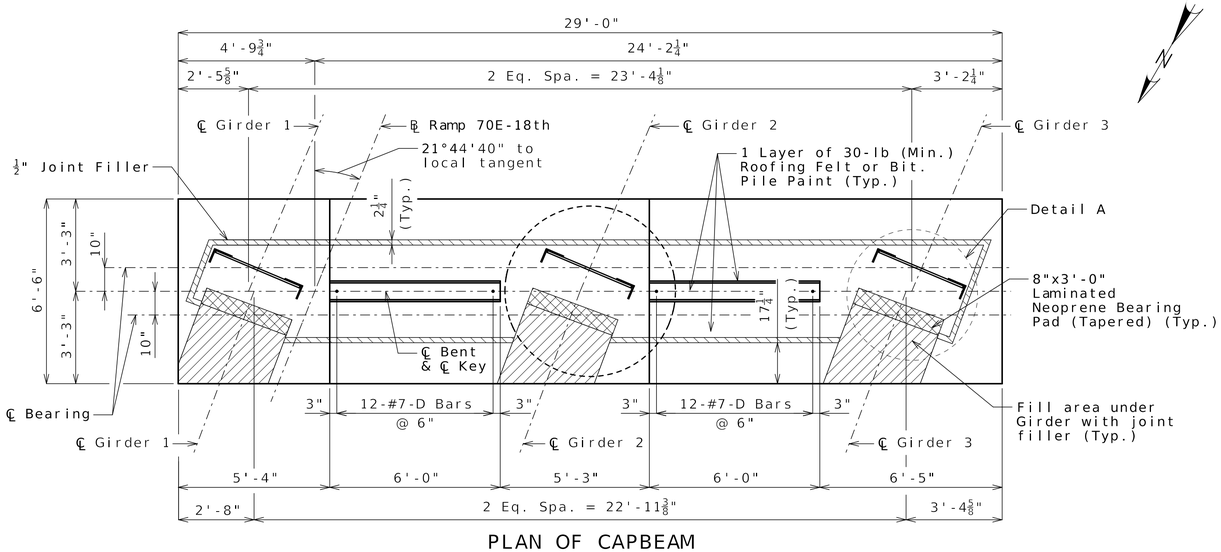
#6-U5 BAR



#6-U4 BAR



MECHANICAL BAR SPLICE/HOOP SPACING DETAIL



PLAN OF CAPBEAM

Notes:
Prior to placing concrete for columns, position of vertical reinforcement shall be verified so as to provide clearance for capbeam reinforcement as applicable.
Work this sheet with Sheets No. B21-10, B21-12 and B21-13.
For location of drilled shafts, see Sheet No. B21-05.
For Detail A, see Sheet No. B21-12.
For Sections A-A thru E-E, see Sheet No. B21-13.
For additional joint filler layout details, see Sheet No. B21-24
For steps 2 inches or more, use a 2 1/4"x1/2" joint filler up vertical face.

DETAILS OF INTERMEDIATE BENT NO.3

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Detailed MAY 2025
Checked JUN 2025

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

WILLIAM JOSEPH STURGEON
PE-2014017021
STATE OF MISSOURI
PROFESSIONAL ENGINEER
10/8/2025

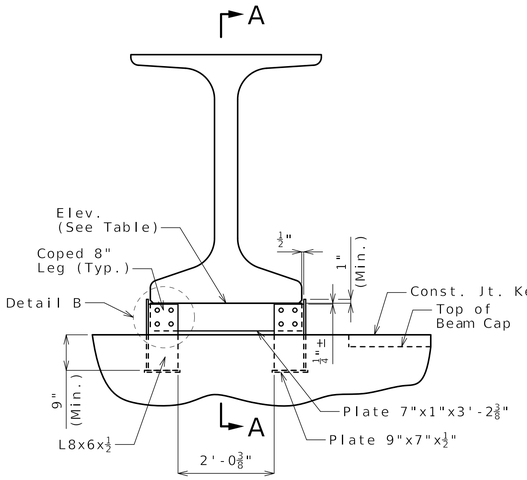
DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-11
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

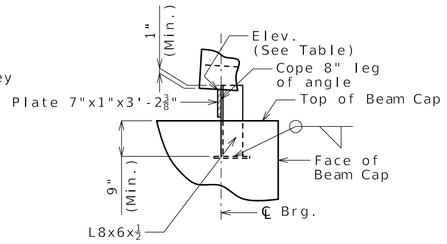
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

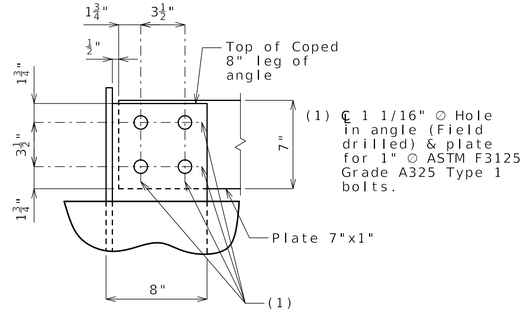
HNTB



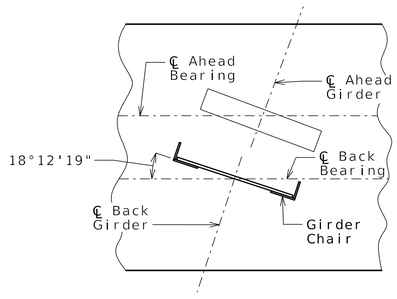
GIRDER CHAIR ELEVATION



PART SECTION A-A

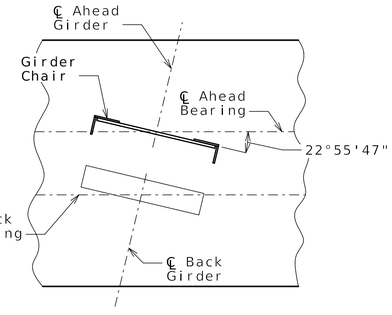


DETAIL B

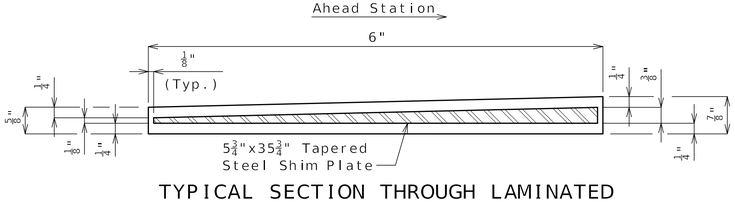


DETAIL A
(Int. Bent 2)

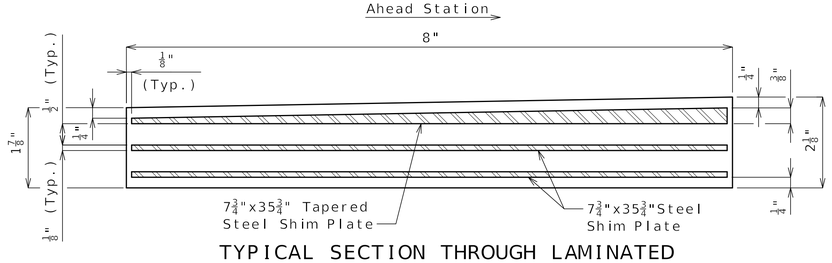
Table of Elevations				
Bent	Bearing	Girder 1	Girder 2	Girder 3
Bent 2	Back	871.23	871.01	870.80
Bent 3	Ahead	875.10	874.86	874.62



DETAIL A
(Int. Bent 3)



TYPICAL SECTION THROUGH LAMINATED
NEOPRENE BEARING PAD (TAPERED)
At Bent 2 (Ahead Bearing)
3 Required



TYPICAL SECTION THROUGH LAMINATED
NEOPRENE BEARING PAD (TAPERED)
At Bent 3 (Back Bearing)
3 Required

Notes:
The required shim plate shall be placed between layers of elastomer and molded together to form an integral unit.
Shop drawings are not required for laminated neoprene bearings on structures without sole plates.

Notes:
Work this sheet with Sheets No. B21-10, B21-11 and B21-13.
Steel for chairs shall be ASTM A709 Grade 36 for angles and ASTM A572 Grade 50 for Plates.
For location of Detail A, see Sheets No. B21-10 & B21-11.

DETAILS OF INTERMEDIATE BENTS

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Detailed MAY 2025
Checked JUN 2025

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

STATE OF MISSOURI
WILLIAM JOSEPH STURGEON
PE-2014017021
PROFESSIONAL ENGINEER
10/8/2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-12
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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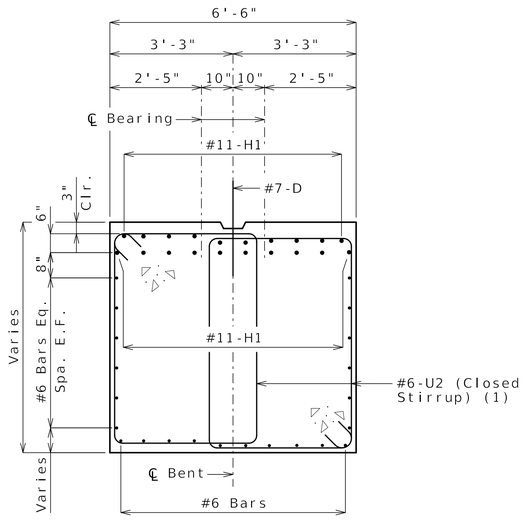
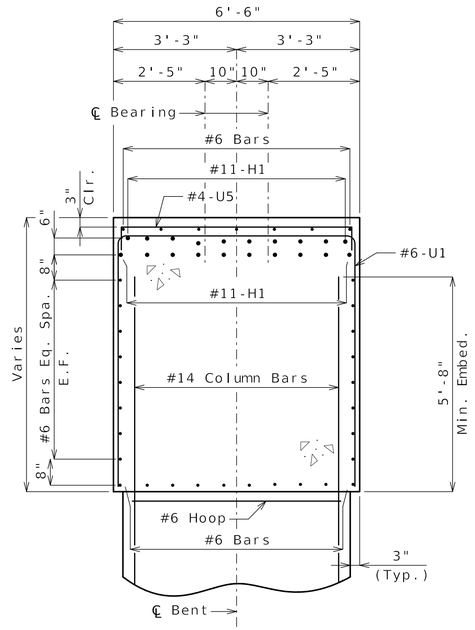
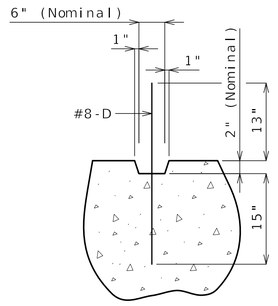


SECTION A-A

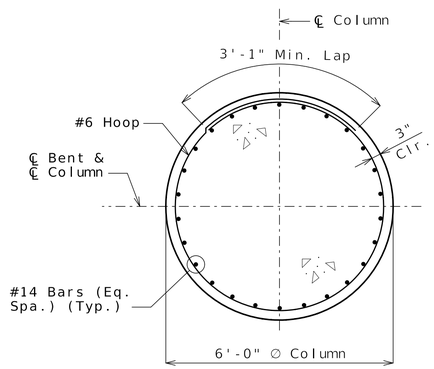
(1) U2 vertical leg varies.



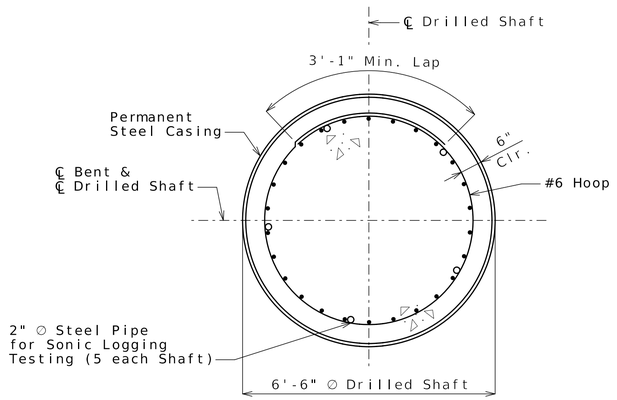
SECTION B-B



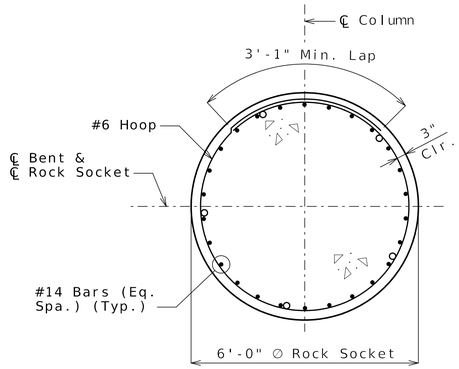
SECTION THRU KEY



SECTION C-C



SECTION D-D



SECTION E-E

Notes:
Work this sheet with Sheets No. B21-10 and B21-12.
Hoop splices shall be staggered around the drilled shaft and rock socket at 90 degree intervals.
Shift #11-H1 bars to provide clearance for girder chairs. Maintain a minimum spacing of 5 1/2" and a maximum spacing of 12" between adjacent bars.

DETAILS OF INTERMEDIATE BENTS

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Detailed MAY 2025
Checked JUN 2025

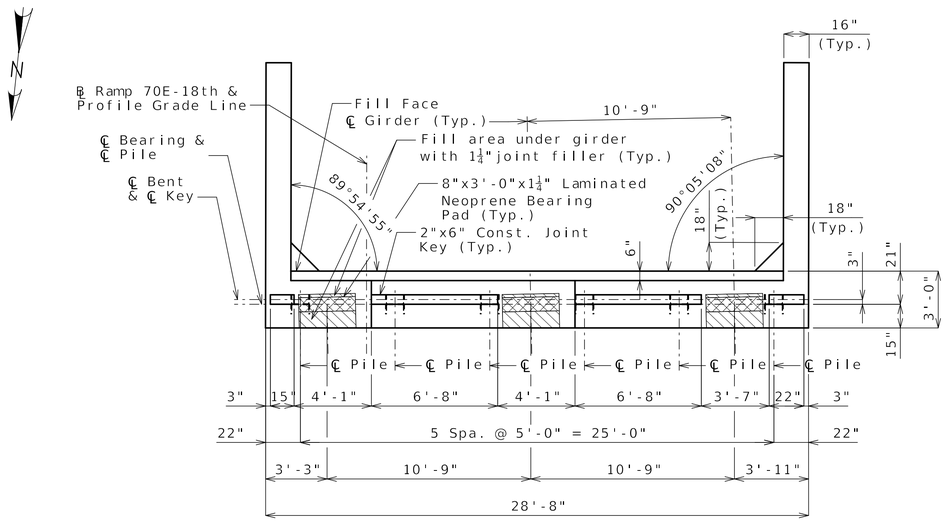
Note: This drawing is not to scale. Follow dimensions.

WILLIAM JOSEPH STURGEON
PE-2014017021
PROFESSIONAL ENGINEER
STATE OF MISSOURI
10/8/2025

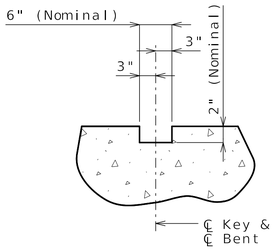
DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-13
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

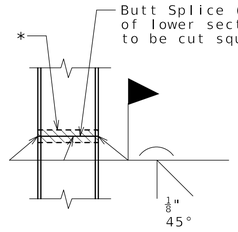
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



PLAN OF BEAM

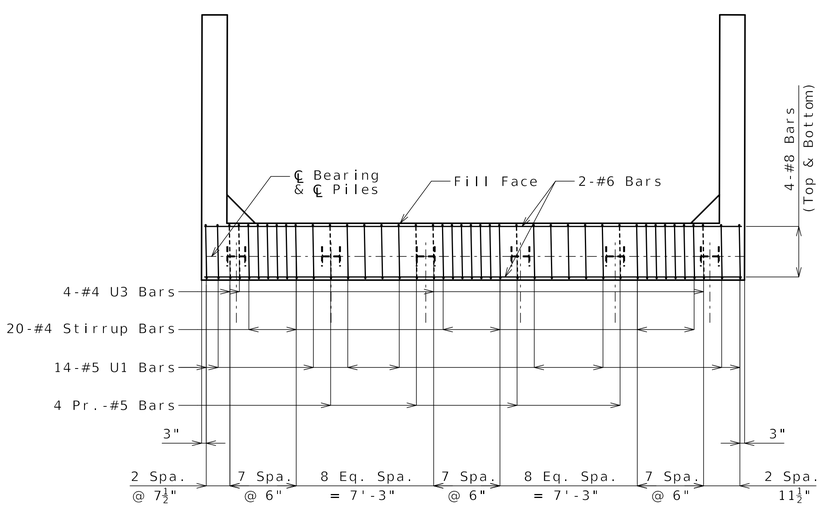


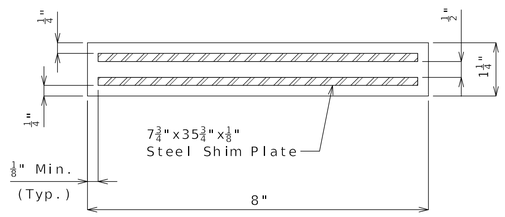
SECTION THRU KEY



STEEL PILE SPLICE
(If required)

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





TYPICAL SECTION THRU
LAMINATED NEOPRENE BEARING PAD
3 Required

Notes:
Due to the presence of in-situ corrosive soils, provide the following protective measures at End Bent No. 4:
1. Construct a 4-inch minimum "mud slab" below the bottom fo the concrete pile cap beam.
2. Construct either:
   A. A 12-inch layer of porous backfill material meeting the requirements of Sec 206 between the native soil and the concrete surface. Place separation geotextile per Sec 1011 between the new porous backfill and the native soil.
   B. A non-permeable, effectively continuous barrier between the corrosive soil and the fill face of the end bent and wing walls that does not prohibit the performance of the end bent vertical drain.

Work this sheet with Sheets No. B21-15 and B21-16.
All U bars and pairs of vertical bars shall be placed along skew.
Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1½".
For details of bridge approach slab, see Sheet No. B21-37.
For angle of girders relative to ℄ Bent, see Sheet No. B21-17.

DETAILS OF END BENT NO. 4

Released For Construction
Not to Scale
Revision: 0.0
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Detailed MAY 2025
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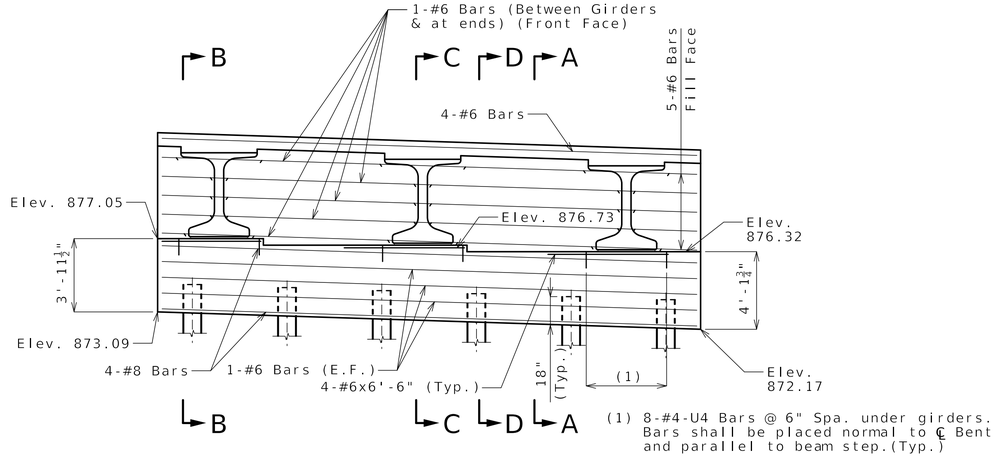
Note: This drawing is not to scale. Follow dimensions.

GINA D. HORNER PE-30413
PROFESSIONAL ENGINEER
STATE OF MISSOURI
Gina D Horner
10-8-2025

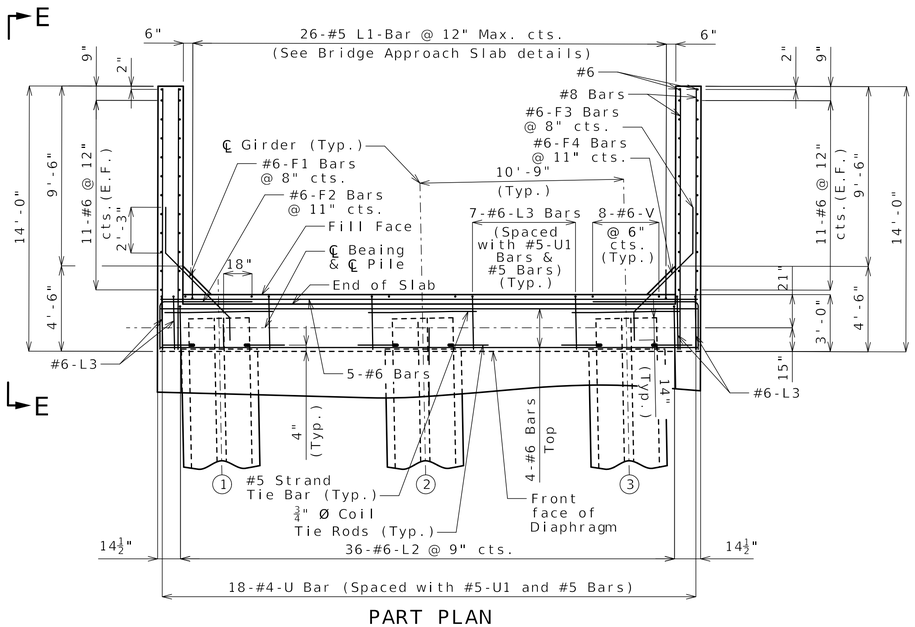
DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-14
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

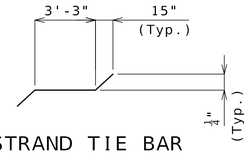
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



SECTION NEAR END BENT



PART PLAN



#5 STRAND TIE BAR

General Notes:

Work this sheet with Sheets No. B21-14 and B21-16.

For Sections A-A, B-B, C-C and D-D and Elevation E-E, see Sheet No. B21-16.

For location of coil tie rods, see Sheet No. B21-20.

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

The #6-F bars shall be bent in the field to clear girders.

Ⓧ Denotes girder number

DETAILS OF END BENT NO. 4

Released For Construction
Not to Scale
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Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Detailed MAY 2025
Checked JUN 2025

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

GINA D. HORNER PE-30413
STATE OF MISSOURI PROFESSIONAL ENGINEER
Gina D Horner
10-8-2025

DATE PREPARED 09/22/2025

ROUTE	STATE
I-70	MO

DISTRICT	SHEET NO.
BR	B21-15

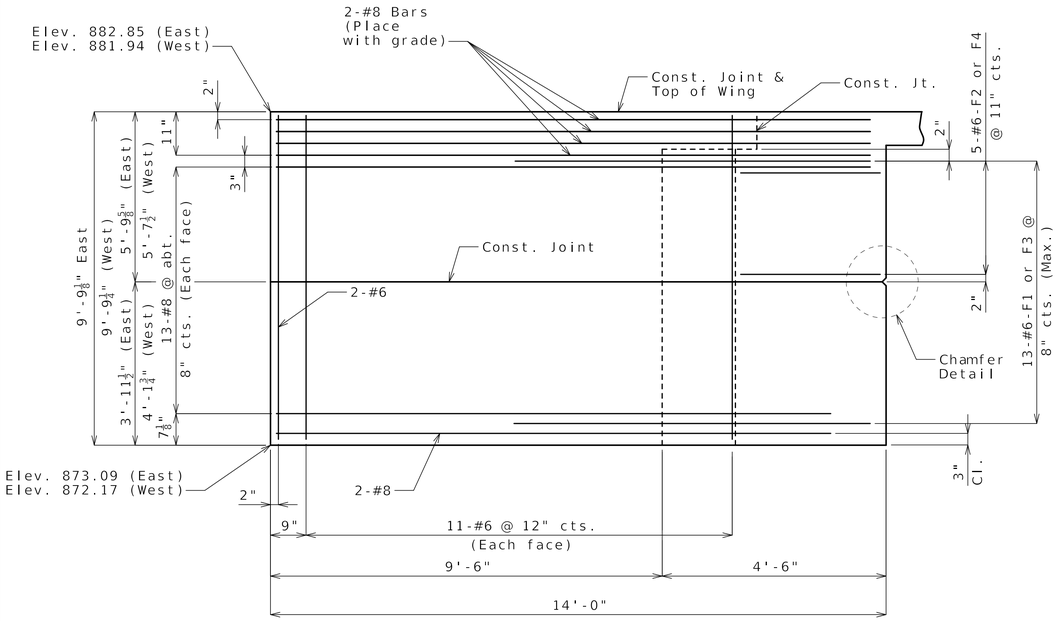
COUNTY: JACKSON
JOB NO.: J4I1486D
CONTRACT ID.: 240807-C01
PROJECT NO.:
BRIDGE NO.: A9627

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

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

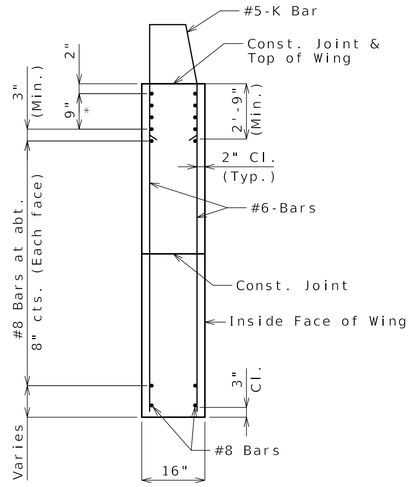
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270

HNTB



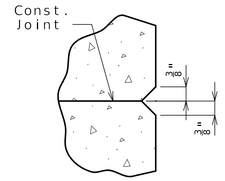
ELEVATION E-E

(East wingwall shown, West wingwall similar except opposite hand)

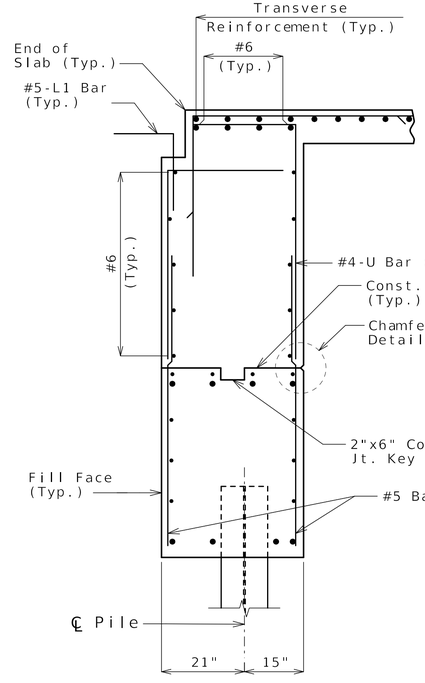


TYPICAL SECTION THRU WING

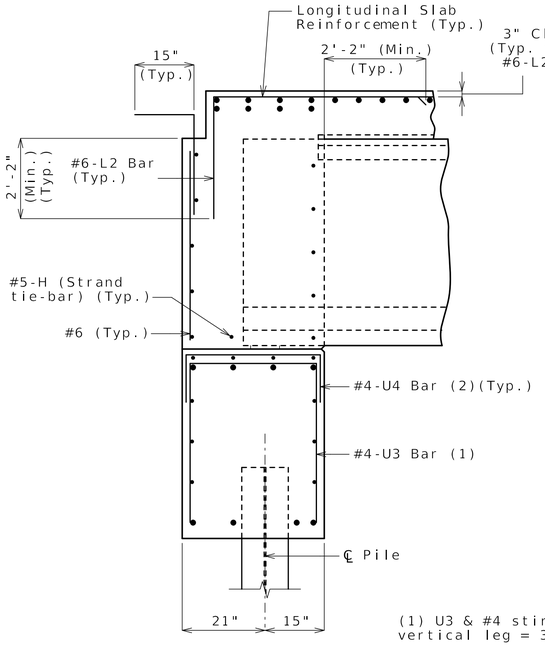
*#8 Bars at 3" cts. (Each face)(Place with grade) See Elevation E-E for number of bars



CHAMFER DETAIL



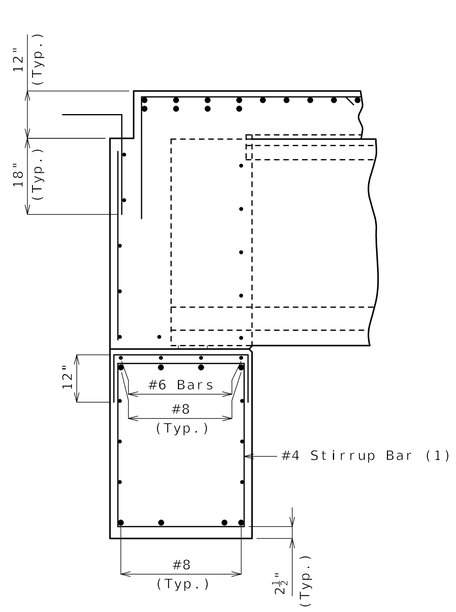
SECTION D-D



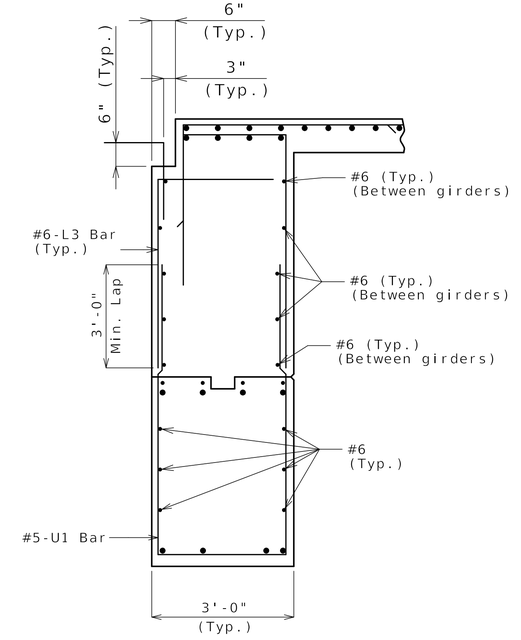
SECTION B-B

(1) U3 & #4 stirrup bar vertical leg = 3'-5"

(2) Bars shall be placed normal to ℄ Bent and parallel to beam step.



SECTION C-C



SECTION A-A

Released For Construction
Not to Scale
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Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

General Notes:
Work this sheet with Sheets No. B21-14 and B21-15.
For location of Sections A-A, B-B, C-C, D-D and Elevation E-E, see Sheet No. B21-15.
For reinforcement of the Type D Barrier, see Sheet No. B21-32.

DETAILS OF END BENT NO. 4

Detailed MAY 2025
Checked JUN 2025

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

GINA D. HORNER PE-30413 PROFESSIONAL ENGINEER STATE OF MISSOURI
Gina D Horner
10-8-2025

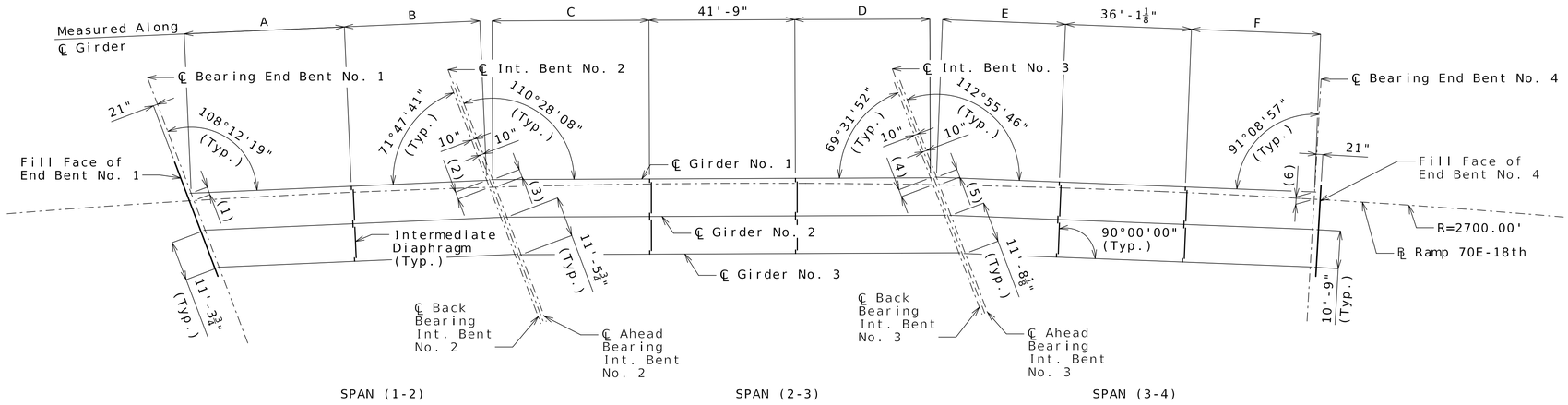
DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-16
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

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

HNTB



(1) 2'-3"
(2) 2'-1 5/8"
(3) 2'-3 3/8"
(4) 2'-1 3/8"
(5) 2'-3 3/4"
(6) 2'-1"

FRAMING PLAN

TABLE OF DIAPHRAGM LOCATION DIMENSIONS						
Girder Number	A	B	C	D	E	F
1	45'-10½"	38'-9¾"	45'-9¼"	37'-9"	36'-1¼"	36'-1⅛"
2	42'-4⅜"	42'-4⅜"	41'-9⅛"	41'-9⅛"	31'-6⅝"	35'-10⅝"
3	38'-9¾"	45'-10½"	37'-9"	45'-9¼"	27'-0"	35'-8⅛"

Notes:
All dimensions are horizontal.
Girders within a span are parallel.
End Bent No. 1, Bent No. 2 and Bent No. 3 are parallel.
For Steel Intermediate Diaphragms, see Sheets No. B21-22 and B21-23.

FRAMING PLAN

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Detailed MAY 2025
Checked JUN 2025

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

STATE OF MISSOURI
KALEB S. HAWK
NUMBER PE-2024007443
PROFESSIONAL ENGINEER
Kaleb S. Hawk
10-8-2025

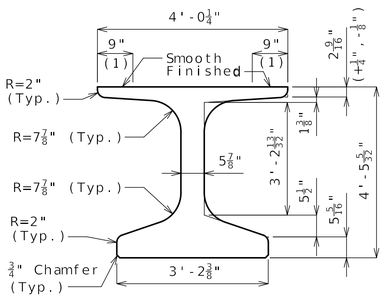
DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-17
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

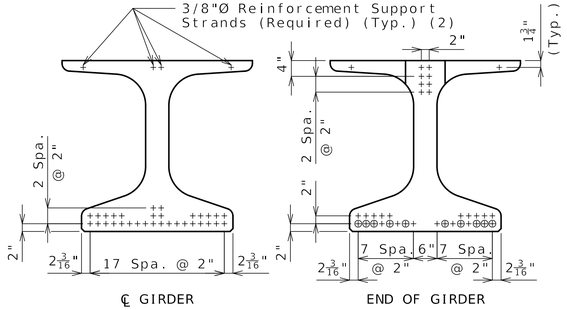
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB

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



DIMENSIONS

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

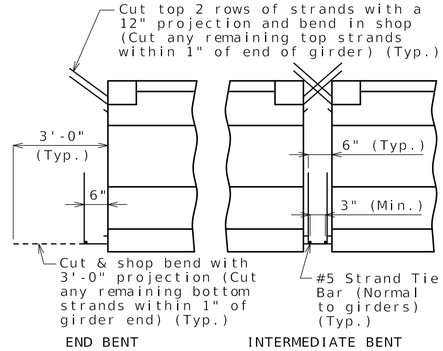


℄ GIRDER END OF GIRDER

STRAND ARRANGEMENT

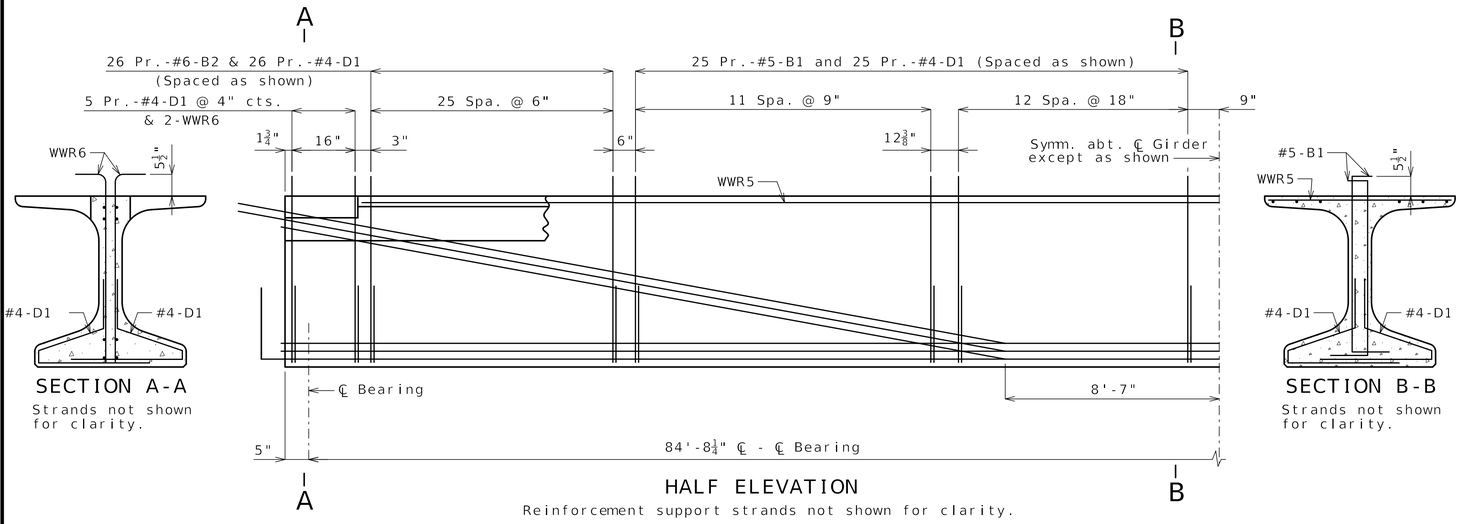
+ Indicates prestressing strand.

○ Indicates cut & shop bend with 3'-0" projection.



END BENT INTERMEDIATE BENT

STRANDS AT GIRDER ENDS



SECTION A-A

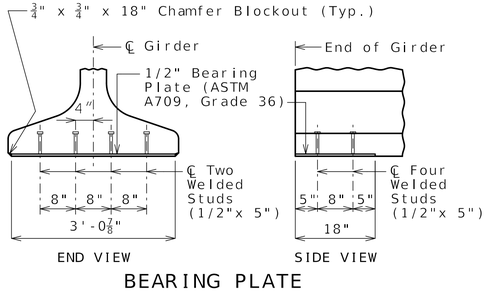
Strands not shown for clarity.

HALF ELEVATION

Reinforcement support strands not shown for clarity.

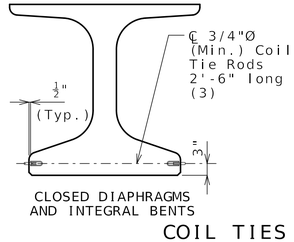
SECTION B-B

Strands not shown for clarity.



END VIEW SIDE VIEW

BEARING PLATE



CLOSED DIAPHRAGMS AND INTEGRAL BENTS

COIL TIES

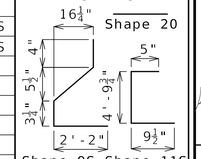
Exclude coil tie at exterior face of exterior girders.

(3) 2'-3" at exterior face of exterior girders at end bents.

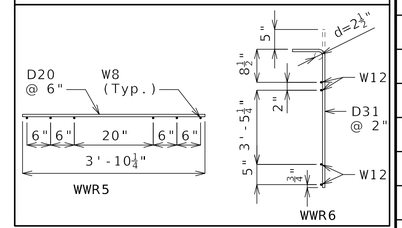
Bill of Reinforcing Steel - Each Girder

No.	Size/ Mark	Length	Shape
100	5 B1	5'-10"	11S
104	6 B2	5'-8"	11S
224	4 D1	4'-0"	9S

Bending Diagrams



Welded Wire Reinforcement - Each Girder



All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be one inch.

All bar reinforcement shall be Grade 60.

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

All B1 and B2 bars shall be epoxy coated.

General Notes:

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

Use 32 strands, 0.6"Ø Grade 270, with an initial prestress force of 1406 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

Exterior and interior girders are the same except: coil ties, top flange blockout, application of bond breaker, holes for steel intermediate diaphragms.

For Girder Camber Diagram, see Sheet No. B21-25.

The 1½"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. B21-22.

For location of coil ties at concrete diaphragms and integral bents, see Sheets No.B21-07 and B21-24.

For additional NU Girder Details, see Sheet No. B21-21.

All dimensions are horizontal.

KALEB S. HAWK NUMBER PE-2024007443
STATE OF MISSOURI PROFESSIONAL ENGINEER
10-8-2025

DATE PREPARED 09/22/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	B21-18

COUNTY JACKSON

JOB NO. J4I1486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9627

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB

Released For Construction
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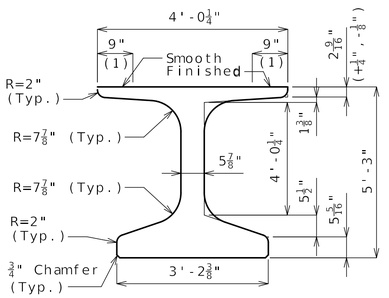
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Detailed MAY 2025
Checked JUN 2025

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

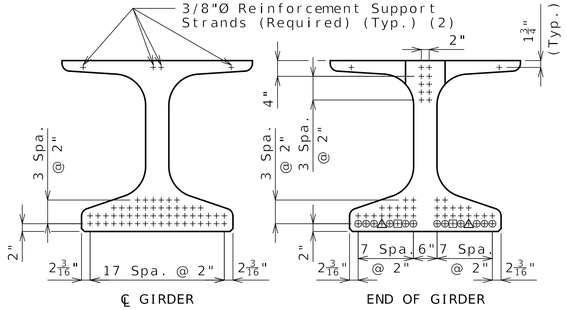
NU-GIRDERS - SPAN (1-2)

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

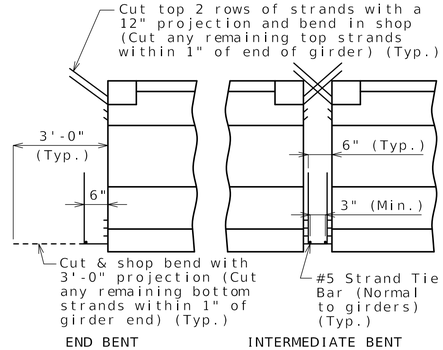


DIMENSIONS

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

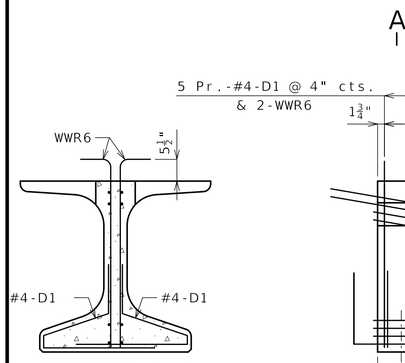


STRAND ARRANGEMENT

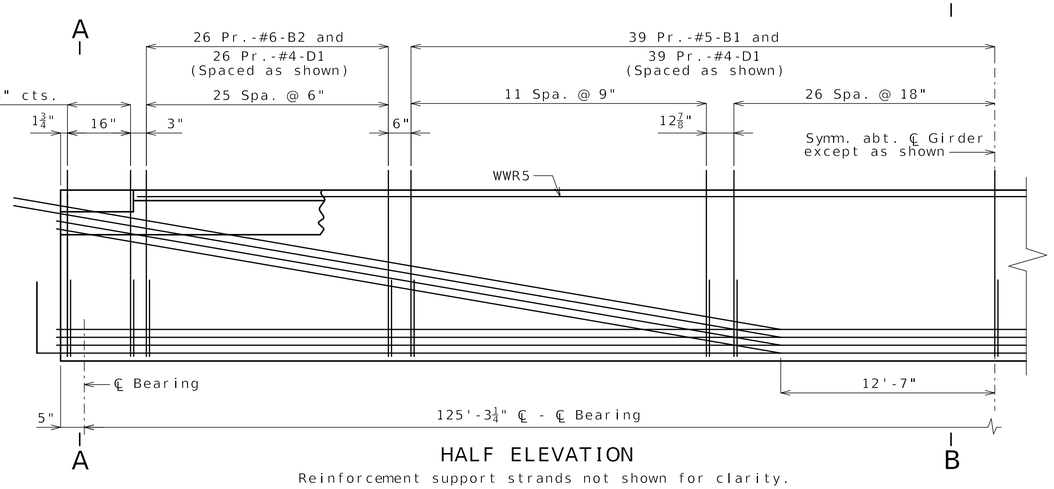


STRANDS AT GIRDER ENDS

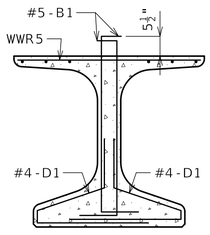
\+ Indicates prestressing strand.
⊕ Indicates cut & shop bend with 3'-0" projection.
△ Indicates strands debonded 3'-0" from each end of girder.
⊞ Indicates strands debonded 6'-0" from each end of girder.



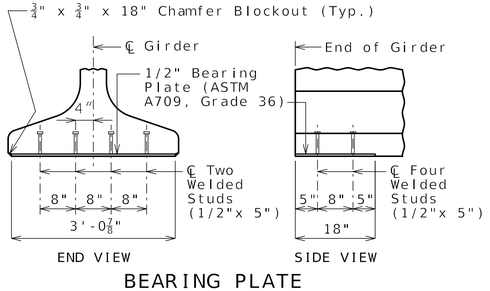
SECTION A-A
Strands not shown for clarity.



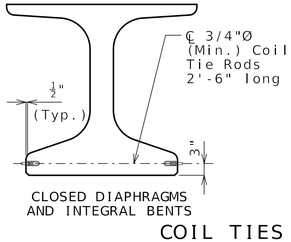
HALF ELEVATION
Reinforcement support strands not shown for clarity.



SECTION B-B
Strands not shown for clarity.



BEARING PLATE

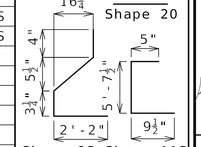


CLOSED DIAPHRAGMS AND INTEGRAL BENTS

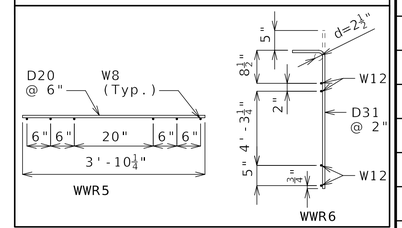
COIL TIES
Exclude coil tie at exterior face of exterior girders.

Bill of Reinforcing Steel - Each Girder			
No.	Size/ Mark	Length	Shape
154	5 B1	6'-8"	11S
104	6 B2	6'-6"	11S
278	4 D1	4'-0"	9S

Bending Diagrams



Welded Wire Reinforcement - Each Girder



All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be one inch.

All bar reinforcement shall be Grade 60.

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

All B1 and B2 bars shall be epoxy coated.

General Notes:

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

Use 54 strands, 0.6"Ø Grade 270, with an initial prestress force of 2373 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

Exterior and interior girders are the same except: coil ties, top flange blockout, application of bond breaker, holes for steel intermediate diaphragms.

For Girder Camber Diagram, see Sheet No. B21-25.

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. B21-23.

For location of coil ties at concrete diaphragms, see Sheet No.B21-24.

For additional NU Girder Details, see Sheet No. B21-21.

All dimensions are horizontal.

KALEB S. HAWK NUMBER PE-2024007443
STATE OF MISSOURI PROFESSIONAL ENGINEER
Kaleb S. Hawk
10-8-2025

DATE PREPARED 09/22/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	B21-19

COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB

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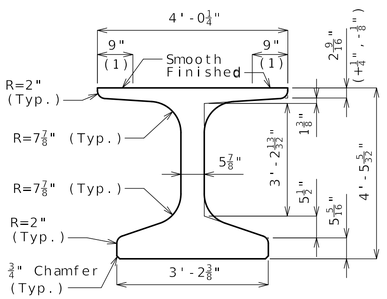
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Detailed MAY 2025
Checked JUN 2025

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

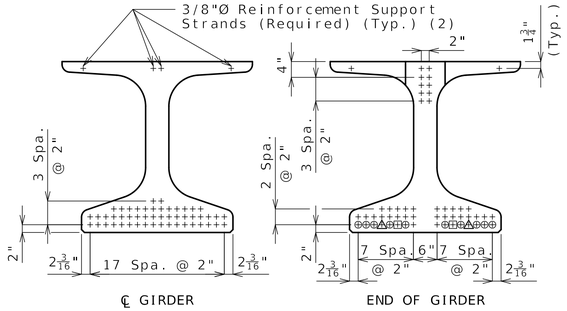
NU-GIRDERS - SPAN (2-3)

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

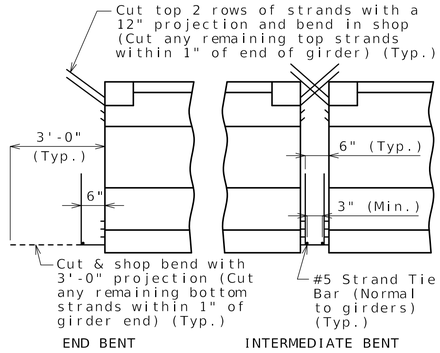


DIMENSIONS

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

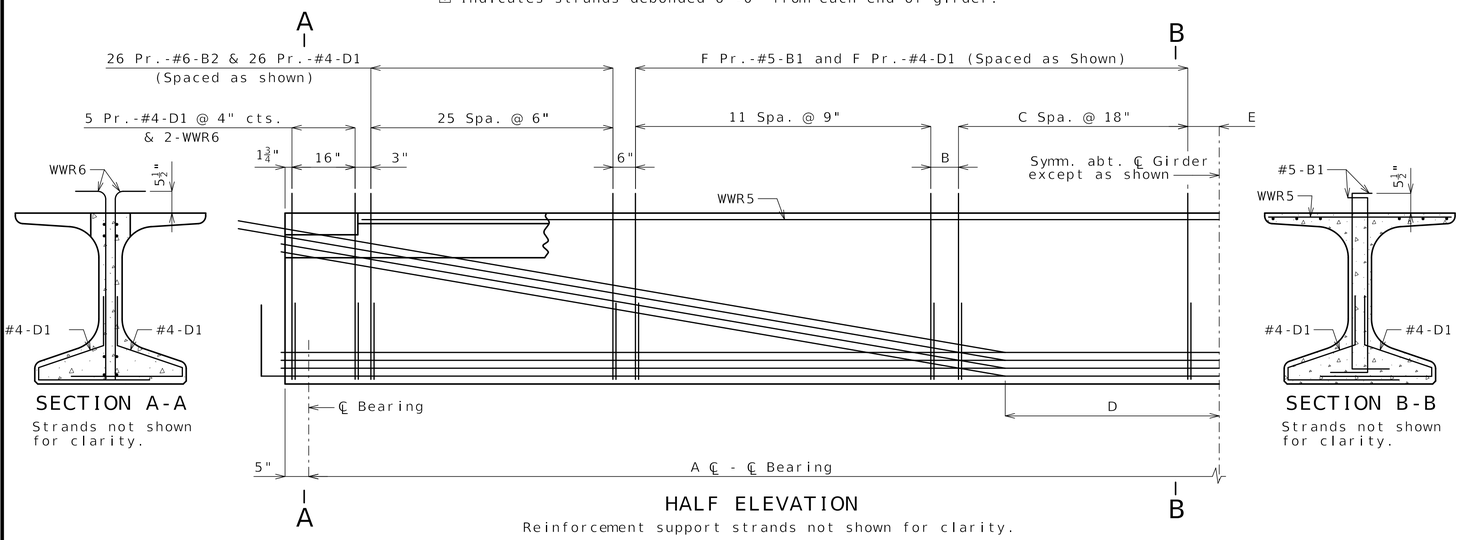


STRAND ARRANGEMENT



STRANDS AT GIRDER ENDS

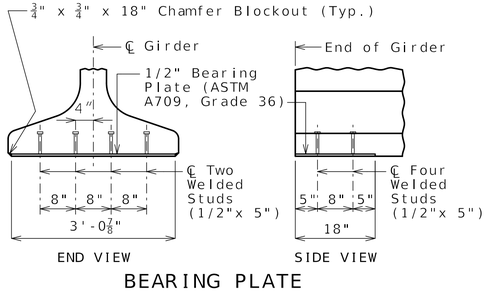
+ Indicates prestressing strand.
⊕ Indicates cut & shop bend with 3'-0" projection.
△ Indicates strands debonded 3'-0" from each end of girder.
⊞ Indicates strands debonded 6'-0" from each end of girder.



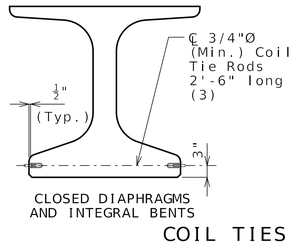
SECTION A-A
Strands not shown for clarity.

HALF ELEVATION
Reinforcement support strands not shown for clarity.

SECTION B-B
Strands not shown for clarity.



BEARING PLATE



CLOSED DIAPHRAGMS AND INTEGRAL BENTS

COIL TIES

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

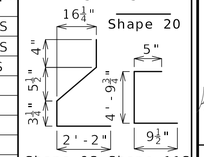
(3) 2'-3" at exterior face of exterior girders at end bents.

TABLE OF VARIABLES								
Girder No.	A	B	C	D	E	F	G	H
1	108'-3½"	10"	20	10'-11"	9"	33	132	256
2	103'-6⅜"	8½"	19	10'-5"	0"	32	126	250
3	98'-9¼"	15⅞"	17	10'-0"	0"	30	118	242

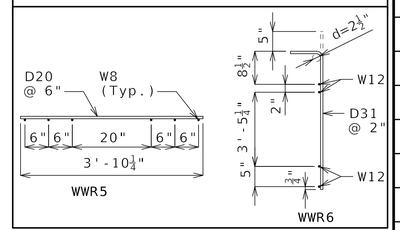
Bill of Reinforcing Steel - Each Girder

No.	Size/ Mark	Length	Shape
G	5 B1	5'-10"	11S
104	6 B2	5'-8"	11S
H	4 D1	4'-0"	9S

Bending Diagrams



Welded Wire Reinforcement - Each Girder



All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be one inch.

All bar reinforcement shall be Grade 60.

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

All B1 and B2 bars shall be epoxy coated.

General Notes:

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

Use 50 strands, 0.6"Ø Grade 270, with an initial prestress force of 2197 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

Exterior and interior girders are the same except: coil ties, top flange blockout, application of bond breaker, holes for steel intermediate diaphragms.

For Girder Camber Diagram, see Sheet No. B21-25.

The 1⅛"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. B21-22.

For location of coil ties at concrete diaphragms and integral bents, see Sheets No.B21-15 and B21-24.

For additional NU Girder Details, see Sheet No. B21-21.

All dimensions are horizontal.

STATE OF MISSOURI
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PROFESSIONAL ENGINEER
Kaleb S. Hawk
10-8-2025

DATE PREPARED 09/22/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	B21-20

COUNTY: JACKSON
JOB NO.: J4I1486D
CONTRACT ID.: 240807-C01
PROJECT NO.:
BRIDGE NO.: A9627

DATE	REV	DESCRIPTION
09/22/25	0	RFC SUBMITTAL

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

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

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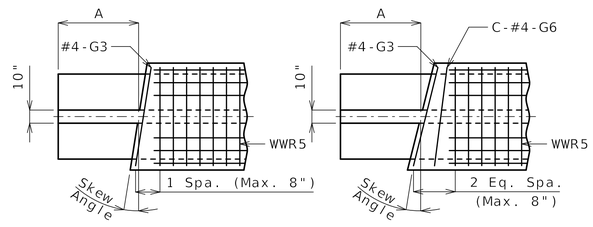
NU-GIRDERS - SPAN (3-4)

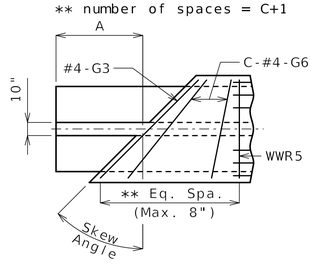
Note: 'C' = zero for Detail 1



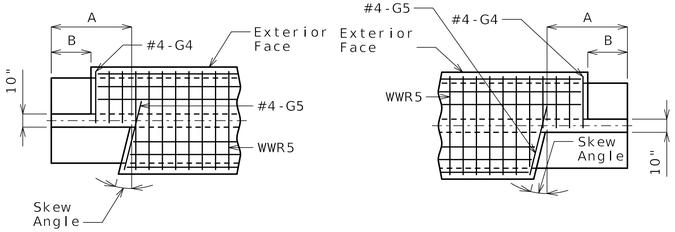
DETAIL 1
(0° to 7° Skew)

DETAIL 2
(>7° to 14° Skew)

** number of spaces = C+1



DETAIL 3
(>14° Skew)



DETAIL 4
(Left exterior girder shown, rotate 180° for right exterior girder)

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

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

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

TABLE OF VARIABLES									
Span No.	Girder No.	Bent No.	Detail	A	B	C	D	E	F
1-2	1-3	1	3	$21\frac{1}{2}$"	---	2	4'-1"	---	Varies
1-2	1	2	4	$15\frac{1}{4}$"	$6\frac{1}{8}$"	---	---	2'-10"	---
1-2	2	2	3	$15\frac{1}{4}$"	---	2	4'-1"	---	Varies
1-2	3	2	4	$15\frac{1}{4}$"	$6\frac{1}{8}$"	---	---	2'-10"	---
2-3	1	2	4	$19\frac{1}{2}$"	$10\frac{1}{4}$"	---	---	2'-11"	---
2-3	2	2	3	$19\frac{1}{2}$"	---	2	4'-2"	---	Varies
2-3	3	2	4	$19\frac{1}{2}$"	$10\frac{1}{4}$"	---	---	2'-11"	---
2-3	1	3	4	$15\frac{3}{4}$"	$6\frac{1}{2}$"	---	---	2'-11"	---
2-3	2	3	3	$15\frac{3}{4}$"	---	2	4'-2"	---	Varies
2-3	3	3	4	$15\frac{3}{4}$"	$6\frac{1}{2}$"	---	---	2'-11"	---
3-4	1	3	4	$18\frac{3}{4}$"	$9\frac{1}{4}$"	---	---	2'-11"	---
3-4	2	3	3	$18\frac{3}{4}$"	---	3	4'-3"	---	Varies
3-4	3	3	4	$18\frac{3}{4}$"	$9\frac{1}{4}$"	---	---	2'-11"	---
3-4	1	4	1	$18\frac{1}{4}$"	---	---	3'-11"	---	---
3-4	2	4	1	$18\frac{1}{4}$"	---	---	3'-11"	---	---
3-4	3	4	1	$18\frac{1}{4}$"	---	---	3'-11"	---	---

Note:
For additional girder notes, see Sheets No. B21-18 thru B21-20.

NU-GIRDER DETAILS

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STATE OF MISSOURI
KALEB S. HAWK NUMBER PE-2024007443
PROFESSIONAL ENGINEER
Kaleb S. Hawk
10-8-2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-21
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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CLARKSON RADMACHER JOINT VENTURE
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CERTIFICATE OF AUTHORITY NO. 001270
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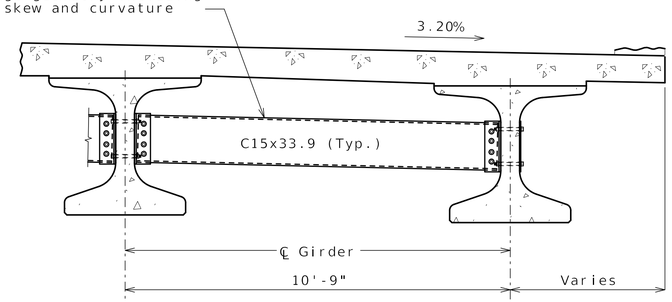
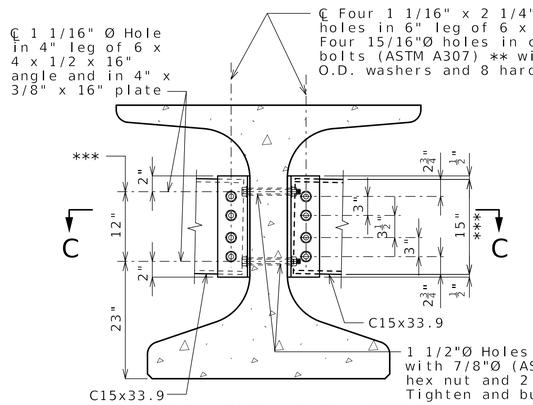
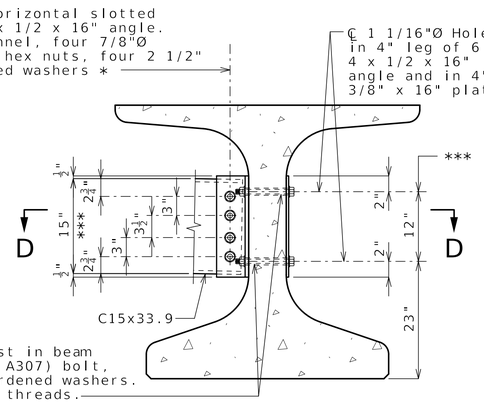
Steel intermediate diaphragm shall accommodate bridge geometry including superelevation, skew and curvature



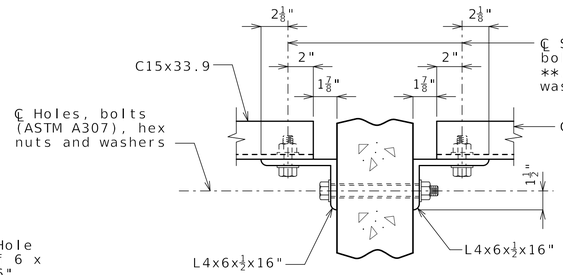
PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS



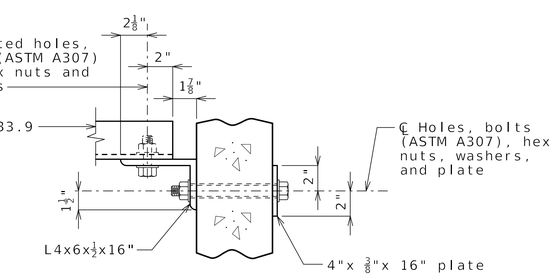
SECTION THRU INT. GIRDER AT DIAPHRAGM



SECTION THRU EXT. GIRDER AT DIAPHRAGM



SECTION C-C



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.

*** Dimensions shown are for a standard diaphragm. Hole locations in prestressed girder shall be modified by the contractor to provide a 1 1/2" clear dimension between the prestressing strand and the edge of the 1 1/2" cast hole. The length of the angle and plates shall be extended and a 2" edge distance shall be maintained. Coordinate holes with prestressed girder manufacturer.

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.

For location of intermediate diaphragms, see Sheet No. B21-17.

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STEEL INTERMEDIATE DIAPHRAGMS-NU 53

Detailed MAY 2025
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Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
KALEB S. HAWK
NUMBER PE-2024007443
PROFESSIONAL ENGINEER
Kaleb S. Hawk
10-8-2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-22
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
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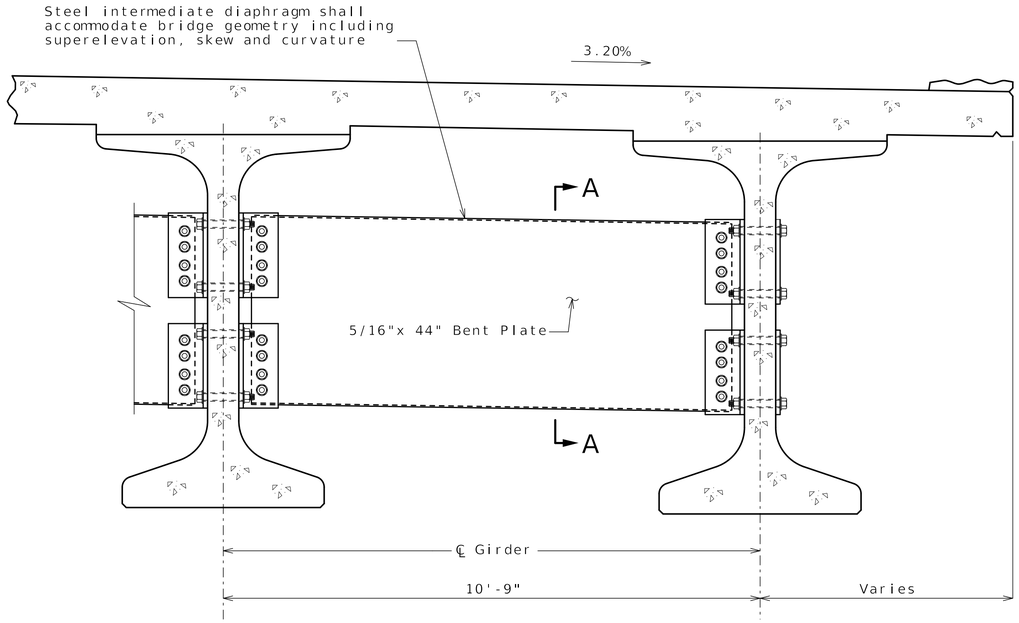
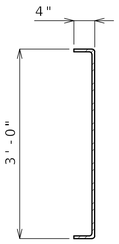
CERTIFICATE OF AUTHORITY NO. 001270

HNTB

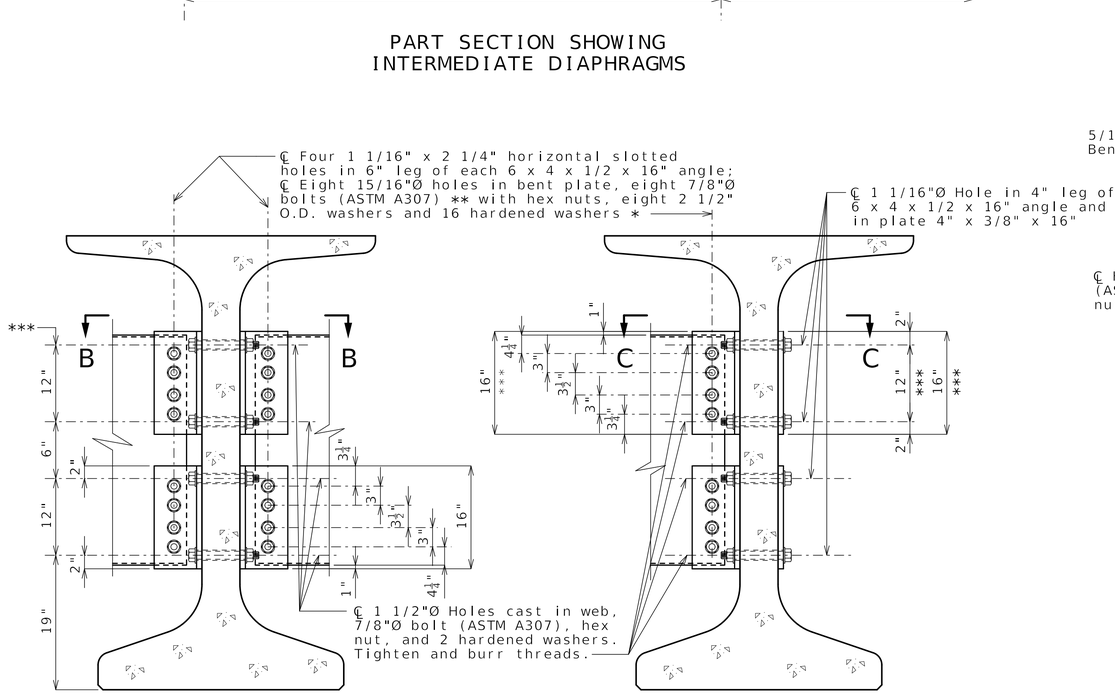


PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS



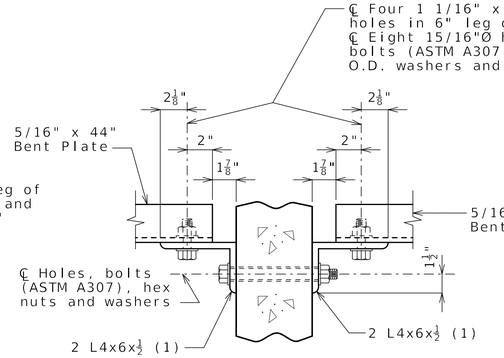
SECTION A-A

(1) Two L4x6x1/2 angles and two 4"x3/8" plates can be combined into single members at the Contractor's option.

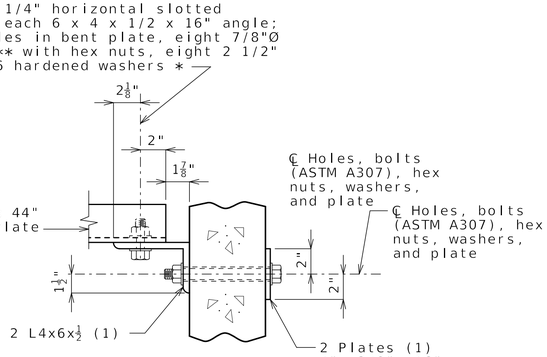


SECTION THRU INT. GIRDER
AT DIAPHRAGM

SECTION THRU EXT. GIRDER
AT DIAPHRAGM



SECTION B-B



SECTION C-C

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.

*** Dimensions shown are for a standard diaphragm. Hole locations in prestressed girder shall be modified by the contractor to provide a 1 1/2" clear dimension between the prestressing strand and the edge of the 1 1/2" cast hole. The length of the angle and plates shall be extended and a 2" edge distance shall be maintained. Coordinate holes with prestressed girder manufacturer.

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.

For location of intermediate diaphragms, see Sheet No. B21-17.

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STEEL INTERMEDIATE DIAPHRAGMS - NU 63

Detailed MAY 2025
Checked JUN 2025

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

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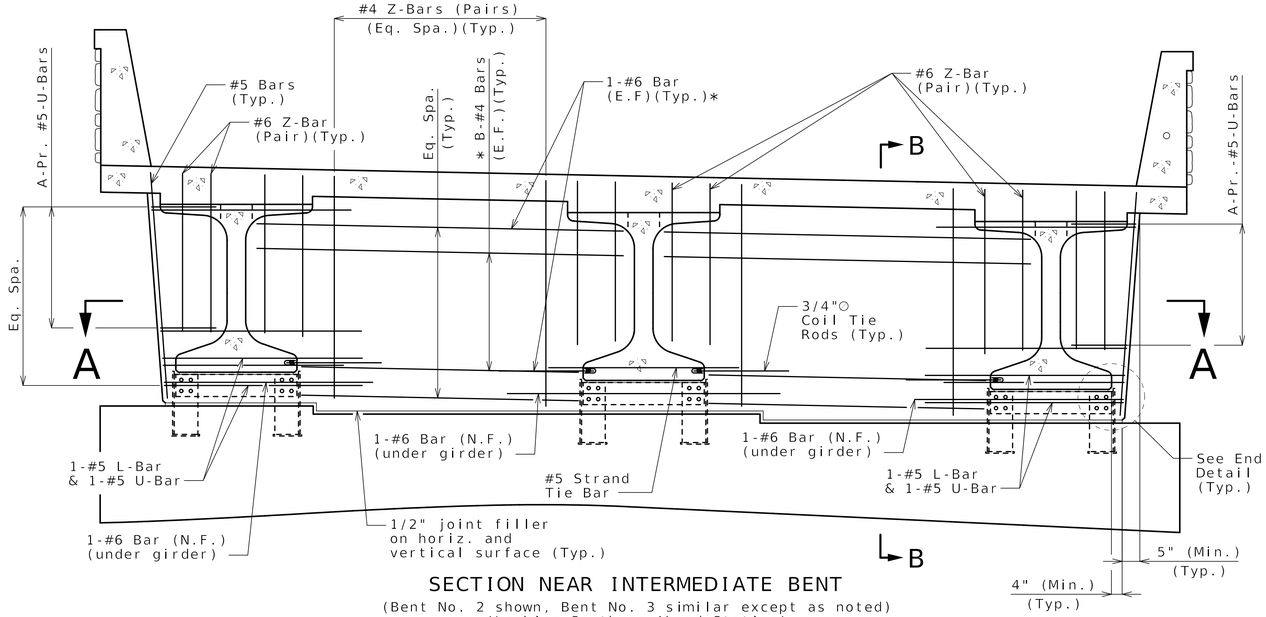
KALEB S. HAWK
NUMBER PE-2024007443
PROFESSIONAL ENGINEER
Kaleb S. Hawk
10-8-2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-23
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

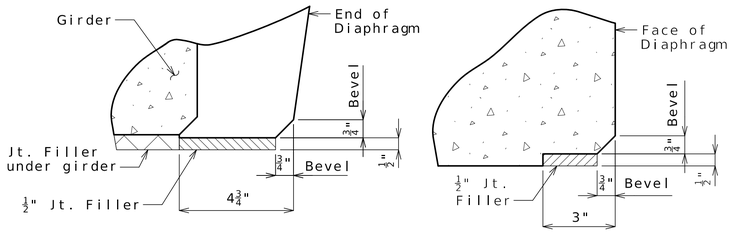
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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



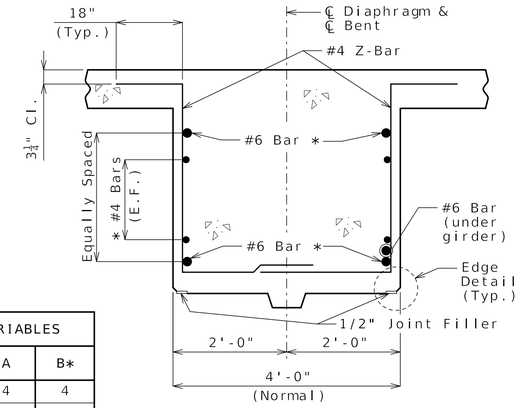
SECTION NEAR INTERMEDIATE BENT

(Bent No. 2 shown, Bent No. 3 similar except as noted)
(Looking South or Ahead Station)



END DETAIL

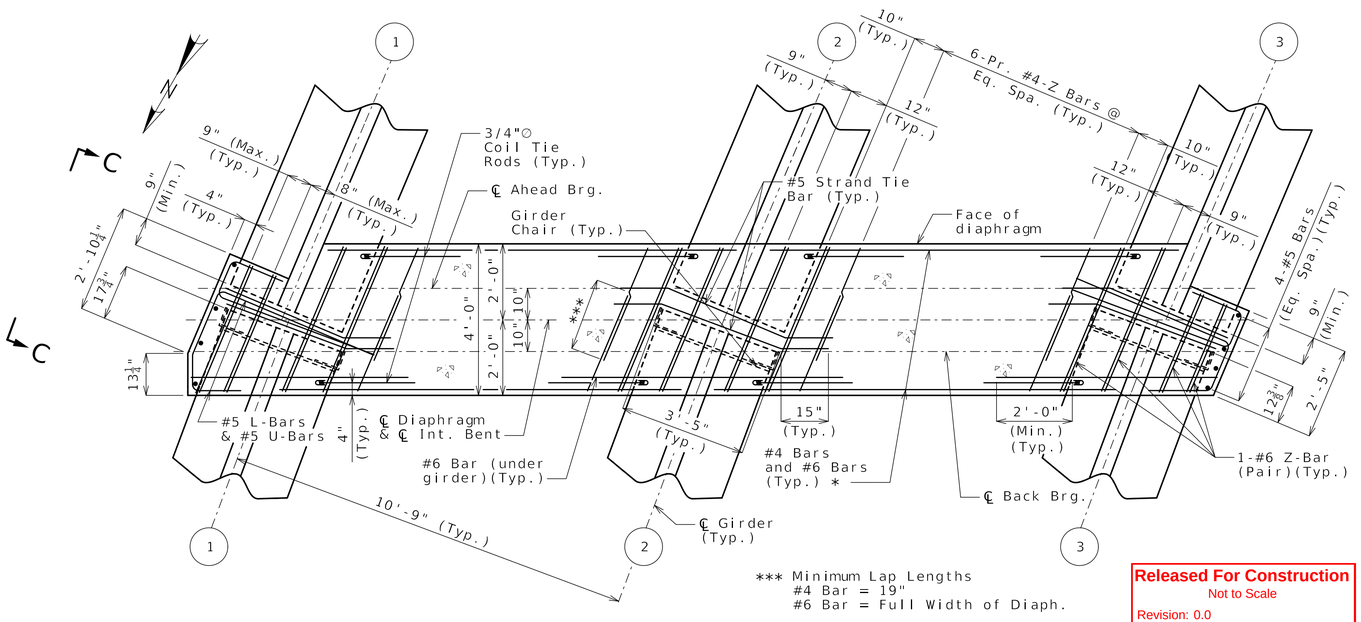
EDGE DETAIL



SECTION B-B

TABLE OF VARIABLES		
Bent No.	A	B*
2	4	4
3	4	4

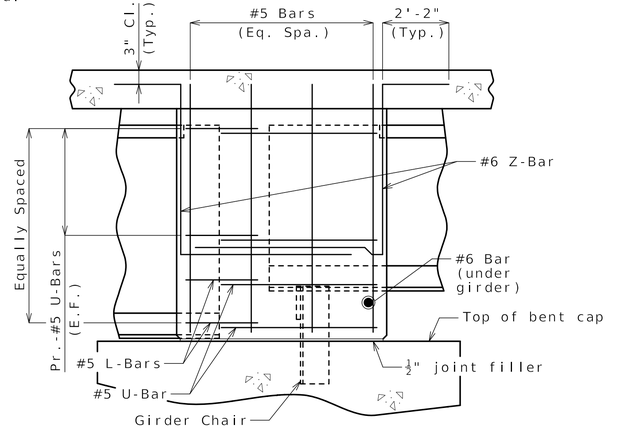
* Adjust horizontal bar length to clear prestressed girders as needed.



SECTION A-A

(Bent No. 3 similar by 180 degree rotation)
Note: This drawing is not to scale. Follow dimensions.

*** Minimum Lap Lengths
#4 Bar = 19"
#6 Bar = Full Width of Diaph.



ELEVATION C-C

Notes:
Diaphragms shall be built vertical.
For location of #5 Strand Tie Bars, see Sheets No. B21-18 thru B21-20.
For location of coil ties, see Sheets No. B21-18 thru B21-20.
For cap beam step geometry, girder chair details, bearing details, bearing location, dowel placement, shear key details, roofing felt details, joint filler details, and notes not shown here, see Sheets No. B21-10 thru B21-11.

(X) Denotes Girder number

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Revision: 0.0
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Package: BRD-21-EB-70 Ramp-18th-KCTRR

CONCRETE DIAPHRAGM AT INTERMEDIATE BENTS

Detailed MAY 2025
Checked JUN 2025

Sheet No. B21-24 of B21-52

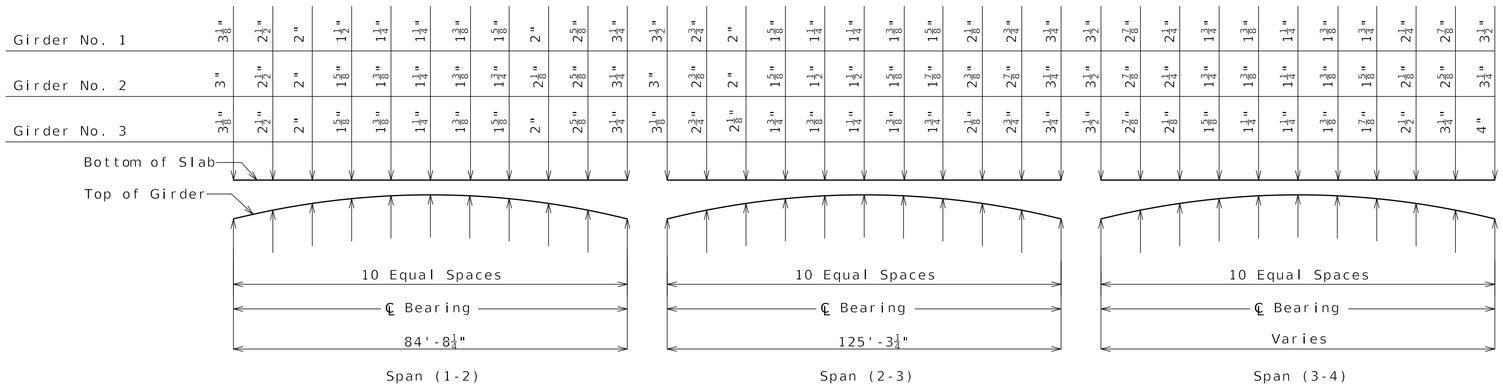
STATE OF MISSOURI
KALEB S. HAWK
NUMBER PE-2024007443
PROFESSIONAL ENGINEER
10-8-2025

DATE PREPARED: 09/22/2025
ROUTE: I-70 | STATE: MO
DISTRICT: BR | SHEET NO.: B21-24
COUNTY: JACKSON
JOB NO.: J4I1486D
CONTRACT ID.: 240807-C01
PROJECT NO.:
BRIDGE NO.: A9627

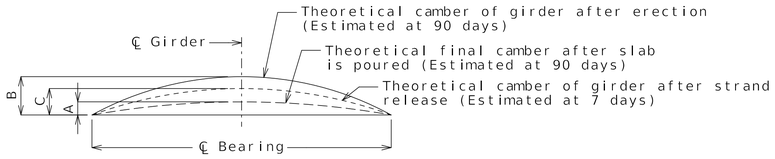
DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

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

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



THEORETICAL SLAB HAUNCHING DIAGRAM



Girder	Span (1-2)			Span (2-3)			Span (3-4)		
	A	B	C	A	B	C	A	B	C
1	1 7/8"	2 5/8"	1 7/8"	4"	6 5/8"	4 5/8"	3 7/8"	6"	4 1/8"
2	1 3/4"	2 5/8"	1 7/8"	3 5/8"	6 5/8"	4 5/8"	3 5/8"	5 3/4"	4"
3	1 7/8"	2 5/8"	1 7/8"	4 1/8"	6 5/8"	4 5/8"	3 7/8"	5 3/8"	3 3/4"

GIRDER CAMBER DIAGRAM

Conversion Factors for Girder Camber (Estimated at 90 days)

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

Note:
If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness, adjustment of the slab haunches, or a raise in grade uniformly throughout the structure shall be necessary.
For ℄ Bearing Lengths, see Sheet No. B21-20.

CAMBER DIAGRAM & THEORETICAL SLAB HAUNCHING DIAGRAM

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Detailed MAY 2025
Checked JUN 2025

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

STATE OF MISSOURI
KALEB S. HAWK
NUMBER PE-2024007443
PROFESSIONAL ENGINEER
Kaleb S. Hawk
10-8-2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-25
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

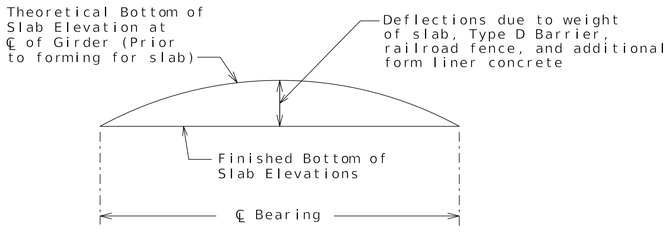
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270

HNTB

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

Girder Number	Span (1-2) (84'-8¼" ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ Brg.
1	873.05	873.36	873.66	873.96	874.26	874.55	874.83	875.11	875.39	875.66	875.93
2	872.82	873.13	873.44	873.75	874.05	874.34	874.62	874.90	875.17	875.44	875.71
3	872.59	872.90	873.21	873.51	873.81	874.10	874.39	874.67	874.95	875.22	875.50
Girder Number	Span (2-3) (125'-3¼" ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ Brg.
1	875.99	876.48	876.96	877.42	877.85	878.25	878.62	878.95	879.25	879.52	879.78
2	875.77	876.27	876.76	877.23	877.67	878.07	878.43	878.75	879.04	879.30	879.54
3	875.55	876.04	876.52	876.98	877.41	877.80	878.16	878.49	878.78	879.05	879.30
Girder Number	Span (3-4) (Varies ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ Brg.
1	879.82	880.13	880.43	880.70	880.94	881.16	881.35	881.52	881.66	881.77	881.87
2	879.58	879.88	880.16	880.41	880.65	880.86	881.04	881.19	881.33	881.44	881.53
3	879.34	879.60	879.86	880.09	880.31	880.50	880.68	880.83	880.96	881.08	881.19

**Elevations are based on a constant slab thickness of 8½" and include allowance for theoretical dead load deflections due to weight of slab (including Type D Barrier, additional form liner concrete, and railroad fence).



TYPICAL SLAB ELEVATIONS DIAGRAM

Notes:
For ℄ Bearing Lengths, see Sheet No. B21-20.

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

THEORETICAL BOTTOM OF SLAB ELEVATIONS

Detailed MAY 2025
Checked JUN 2025

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

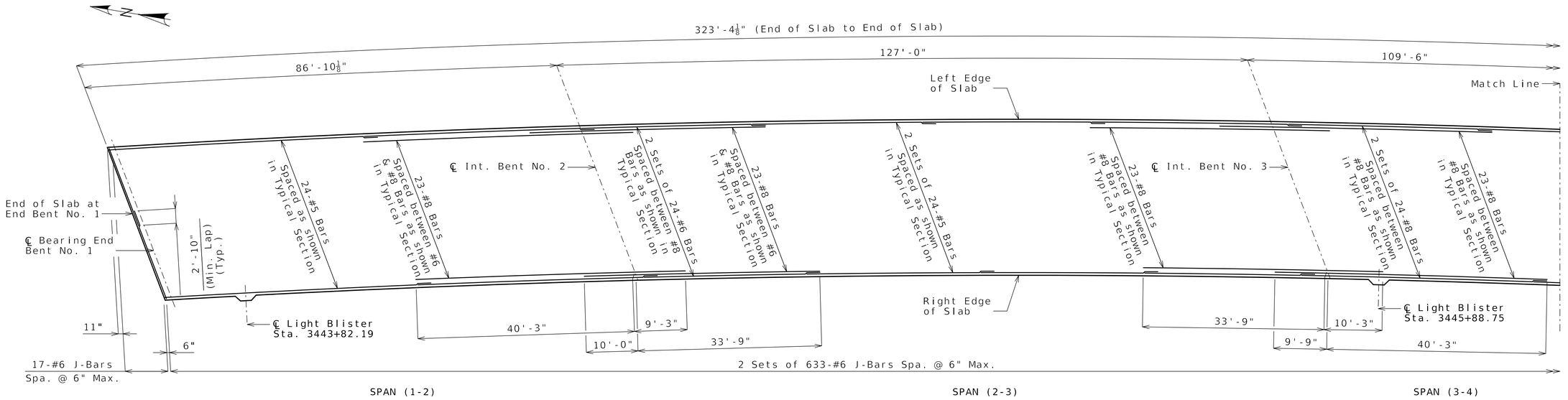
STATE OF MISSOURI
KALEB S. HAWK
NUMBER PE-2024007443
PROFESSIONAL ENGINEER
Kaleb S. Hawk
10-8-2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-26
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

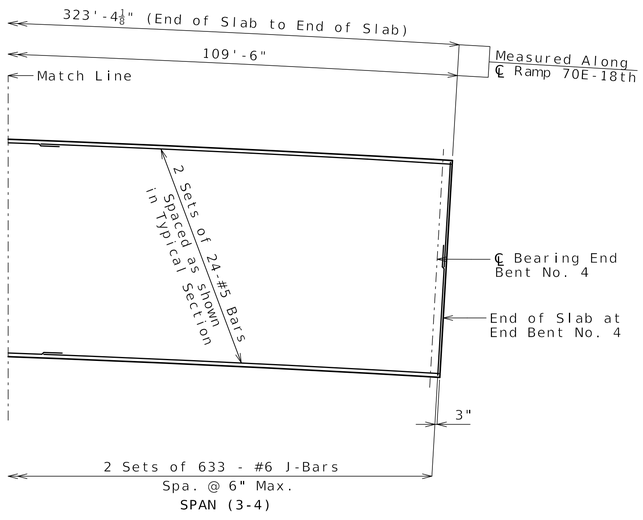
DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

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

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



TOP REINFORCEMENT



Minimum Lap Splices:
Longitudinal
#8 = 4'-9"
#6 = 3'-7"
#5 = 2'-5"

Notes:
Work this sheet with Sheet No. B21-28.
For Typical Section, see Sheet No. B21-29.
For Slab Pouring Sequence, see Sheet No. B21-28.
For Details and Reinforcement of Type D Barrier, see Sheet No. B21-31.
For Theoretical Slab Haunching Diagram and Girder Camber Diagram, see Sheet No. B21-25.
For Theoretical Bottom of Slab Elevations, see Sheet No. B21-26.
Longitudinal slab dimensions are measured horizontally.
For Light Blister reinforcing and details, see Sheet No. B21-33.

SLAB PLAN SHOWING TOP REINFORCEMENT

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Detailed MAY 2025
Checked JUN 2025

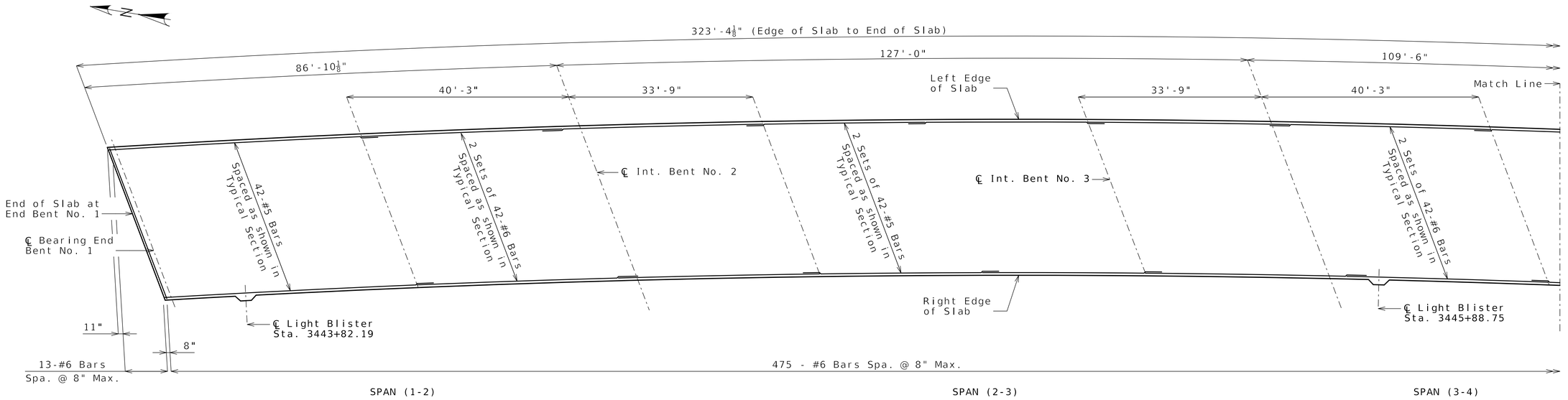
Note: This drawing is not to scale. Follow dimensions.

BENJAMIN LICHTY NUMBER PE-2023038803
STATE OF MISSOURI ★ PROFESSIONAL ENGINEER ★
10-08-2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-27
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

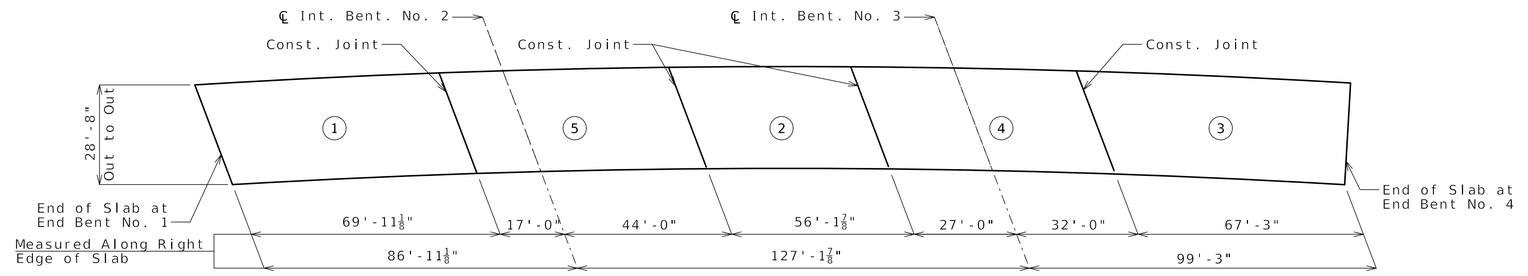
DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

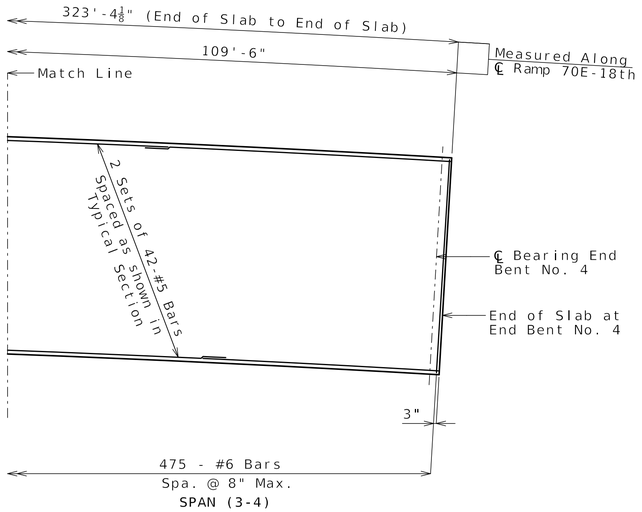
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



BOTTOM REINFORCEMENT

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





	Sequence of Pours					Min. Rate of Pour Cu. Yds./Hr.
	Direction					With Retarder
Basic Sequence	1	5	2	4	3	25
	End to 5	1 to 2	5 to 4	2 to 3	4 to End	
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.						
Alternate A Pours	1		5 + 2		4 + 3	29
	End to 5		1 to 4		2 to End	
Alternate B Pours	1 + 5 + 2			4 + 3		29
	End to 4			2 to End		
Alternate C Pours	1 + 5 + 2 + 4 + 3					29
	End to End					

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

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

SLAB POURING SEQUENCE

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Notes:
Work this sheet with Sheet No. B21-27.

SLAB PLAN SHOWING BOTTOM REINFORCEMENT

Detailed MAY 2025
Checked JUN 2025

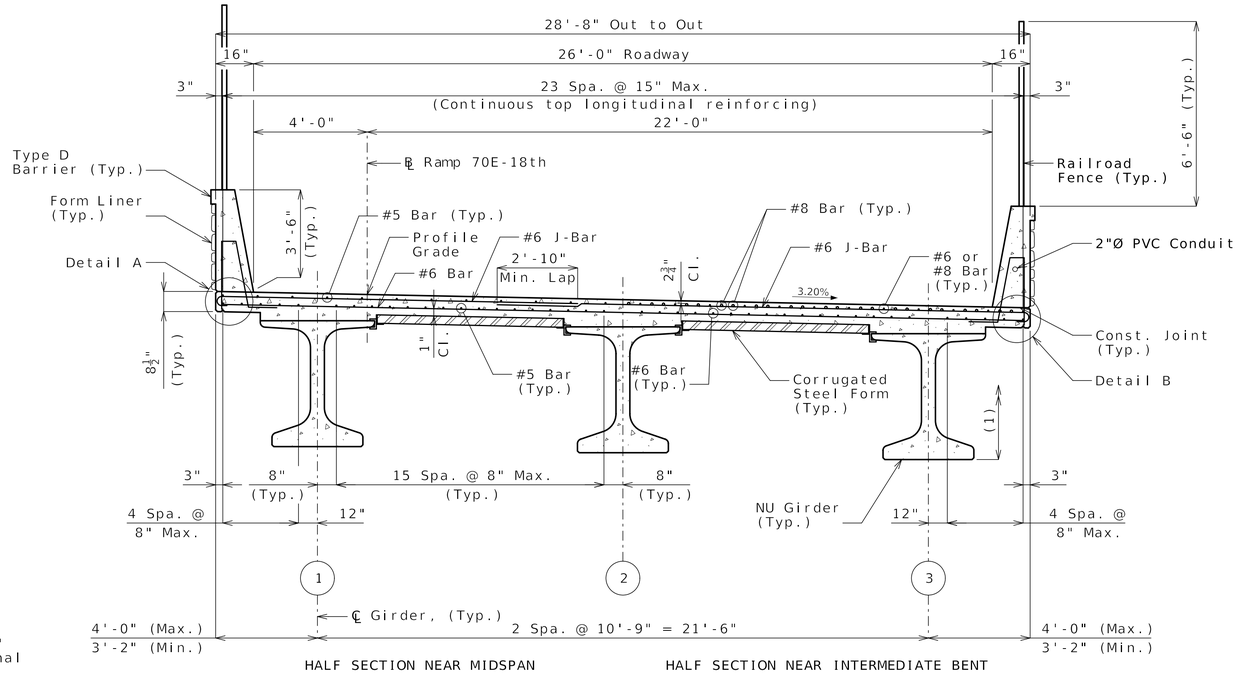
Note: This drawing is not to scale. Follow dimensions.

BENJAMIN LICHTY NUMBER PE-2023038803 PROFESSIONAL ENGINEER STATE OF MISSOURI
10-08-2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-28
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



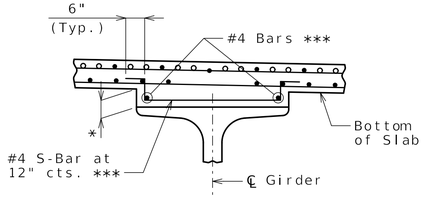
HALF SECTION NEAR MIDSPAN HALF SECTION NEAR INTERMEDIATE BENT

TYPICAL SECTION

(Looking Ahead Sta.)

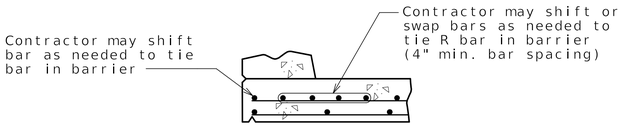
* When dimension is greater than or equal to 5" and the typical haunch reinforcing detail is not used, a single Z-bar with 6" tail dimensions and a single #4 longitudinal bar are required.

(1) Structure Depth (varies by location due to haunch variance)
6'-1 3/4" (to T/Slab at ℄ Girder over Pt. of Min. Vert. Clear)
6'-10 3/4" (Span (2-3) Max. to Profile Grade)

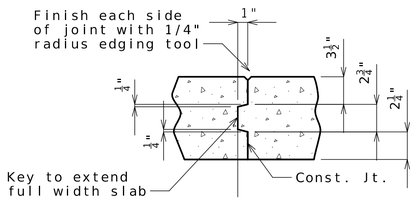


HAUNCH REINFORCING DETAIL

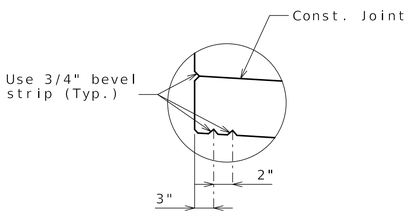
*** Contractor shall provide #4 Bars and #4 S-Bars as necessary where the haunch exceeds 4 inches measured at centerline of beam. See Theoretical Slab Haunching Diagram on Sheet No. B21-25 for haunch thickness.



OPTIMAL SHIFTING TOP BARS AT BARRIER

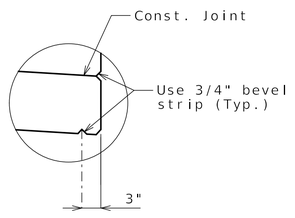


SLAB CONSTRUCTION JOINT



DETAIL A

(High side of slab)



DETAIL B

(Low side of slab)

Notes:
Cant #6 transverse hooked bars as needed to privide clearance.
For Plan of Slab showing Top and Bottom reinforcement, see Sheets No. B21-27 and B21-28.
For reinforcement of Type D Barrier not shown, see Sheet No. B21-31.
For Details of Conduit System on Structure, see Sheet No. B21-36.
For Railroad Fence Details, see Sheet No. B21-34.
For Form Liner and Aesthetic Stain Details not shown, see Sheet No. B21-35.

(X) Denotes girder number.

SLAB DETAILS

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Detailed MAY 2025
Checked JUN 2025

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

BENJAMIN LICHTY NUMBER PE-2023038803 STATE OF MISSOURI PROFESSIONAL ENGINEER
10-08-2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-29
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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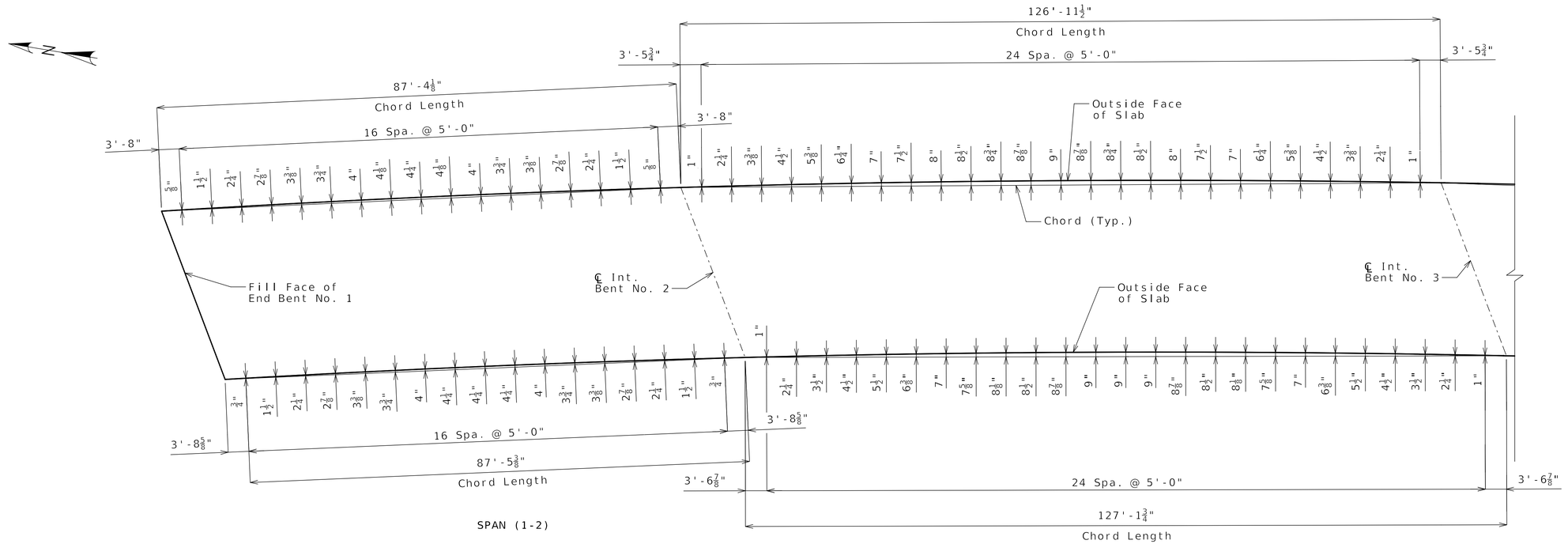
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB

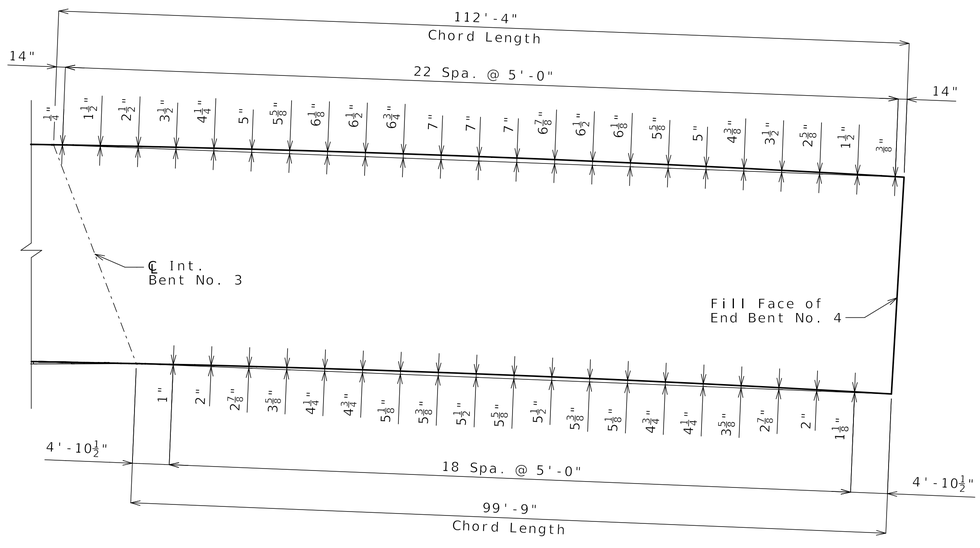


SPAN (1-2)

SPAN (2-3)

PLAN

(℄ Ramp 70E-18th not shown for clarity)



SPAN (3-4)

PLAN

(℄ Ramp 70E-18th not shown for clarity)

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

Notes:
All dimensions are horizontal.

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

SLAB CURVE ORDINATES

Detailed MAY 2025
Checked JUN 2025

Sheet No. B21-30 of B21-52

BENJAMIN LICHTY NUMBER PE-2023038803
STATE OF MISSOURI ★ PROFESSIONAL ENGINEER ★
10-08-2025

DATE PREPARED 09/22/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	B21-30

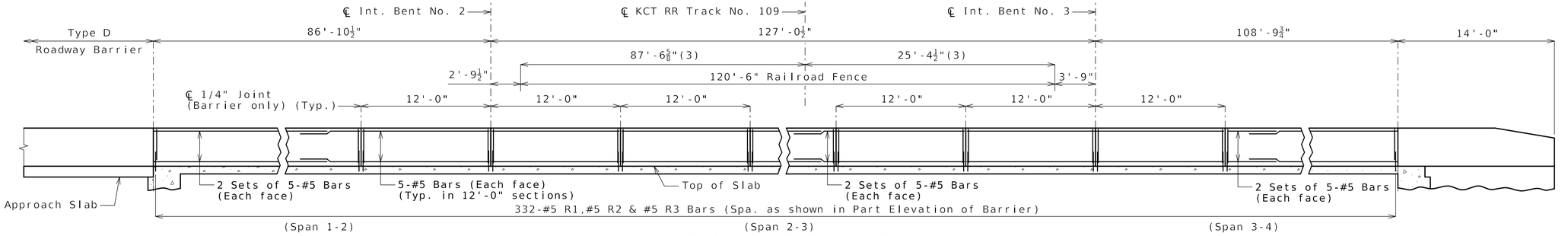
COUNTY: JACKSON
JOB NO.: J4I1486D
CONTRACT ID.: 240807-C01
PROJECT NO.:
BRIDGE NO.: A9627

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

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

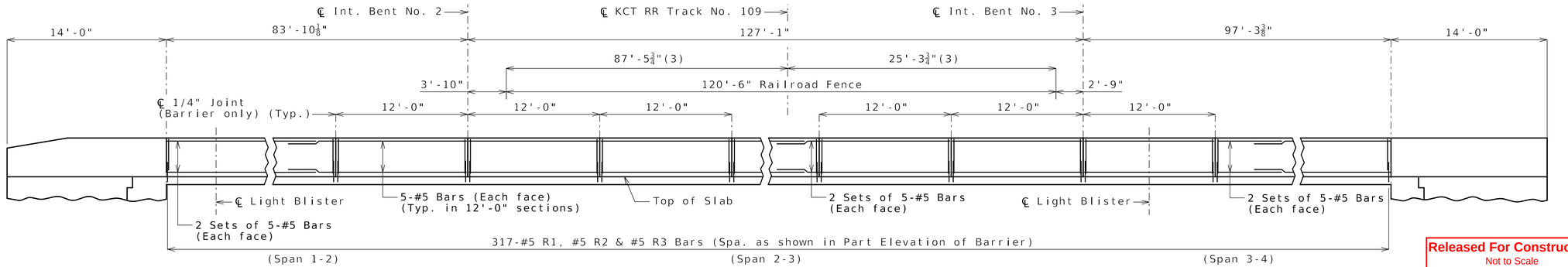
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270

HNTB



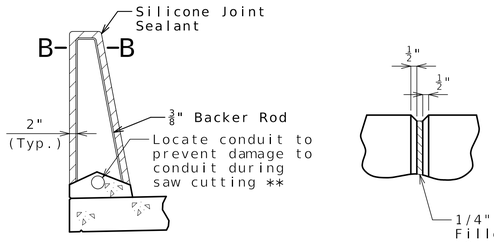
ELEVATION OF LEFT BARRIER

Longitudinal dimensions are horizontal and measured along the outside of slab.



ELEVATION OF RIGHT BARRIER

Longitudinal dimensions are horizontal and measured along the outside of slab.



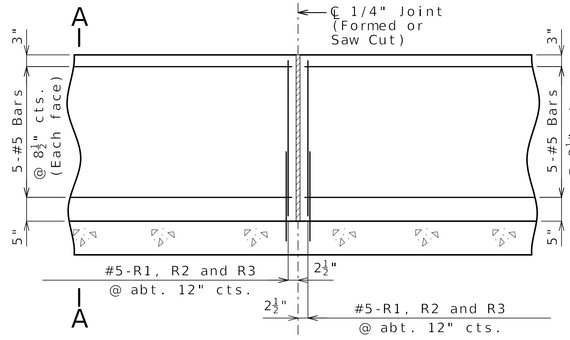
SECTION THRU SAW CUT JOINT

(Form liner and aesthetic details not shown.)

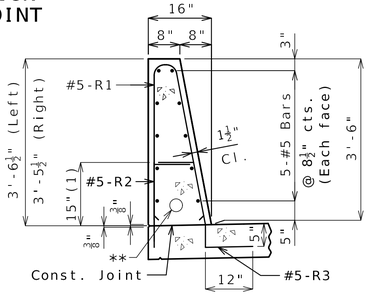
PART ELEVATION AT FORMED JOINT

(3) Measured normal to ℄ KCT RR Track No. 109. Railroad fence extends to KCT ROW and 25 ft beyond ℄ outermost existing or future track at a minimum.

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



PART ELEVATION OF BARRIER

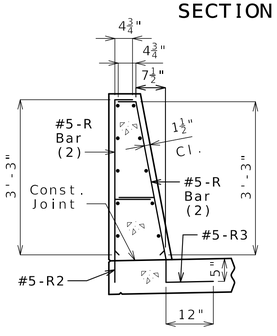


SECTION A-A

(Form liner aesthetic details not shown.)

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

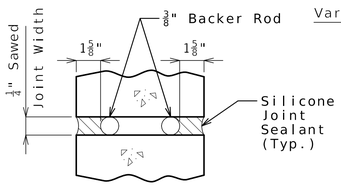
(1) To top of bar



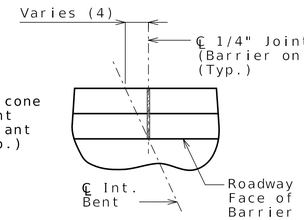
R-BAR PERMISSIBLE ALTERNATE SHAPE

(Form liner aesthetic details not shown.)

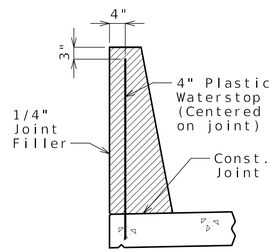
(2) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)



SECTION B-B



PART PLAN SHOWING JOINT LOCATION



WATERSTOP DETAIL

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

General Notes:

** 2" Ø PVC Conduit (Right barrier only) For Details of Conduit System on Structure, see Sheet No. B21-36.

Conventional forming shall 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.

Plastic waterstop shall not be used with saw cut joints.

For Form Liner and Aesthetic Stain details not shown, see Sheet No. B21-35.

For Light Blister details, see Sheet No. B21-33.

For Railroad Fence Details, see Sheet No. B21-34.

TYPE D BARRIER

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

BENJAMIN LICHTY NUMBER PE-2023038803 PROFESSIONAL ENGINEER STATE OF MISSOURI
10-08-2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-31
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

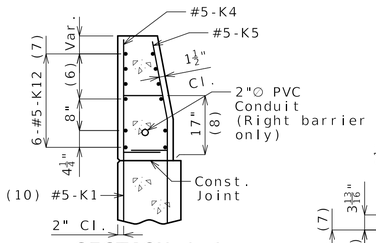
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

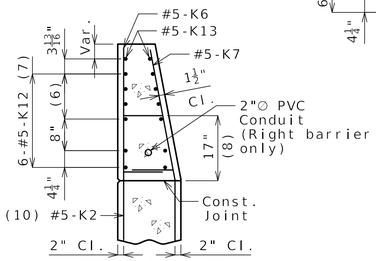
Detailed MAY 2025
Checked JUN 2025

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

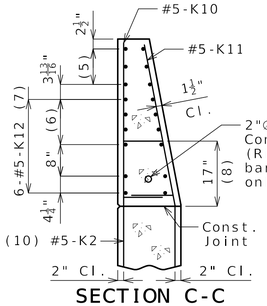
B_A9627_B21-31_J4I1486D.dgn 11:58:37 AM 9/21/2025



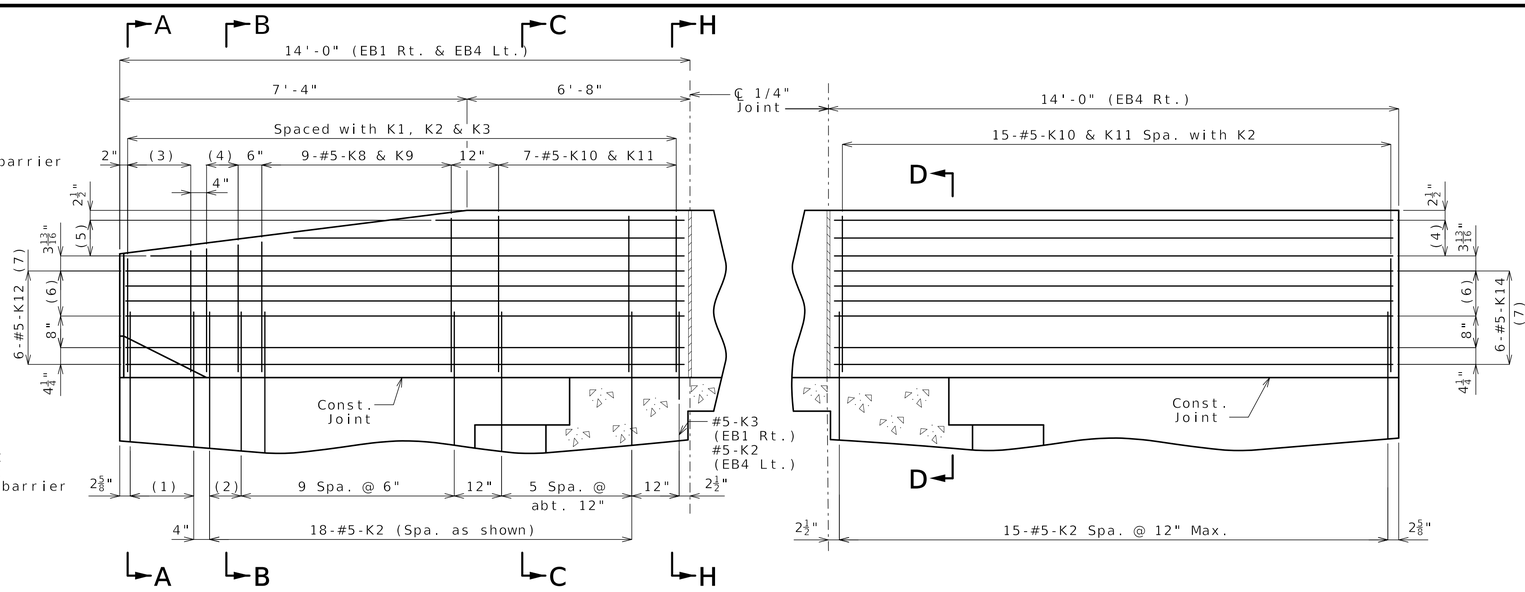
SECTION A-A



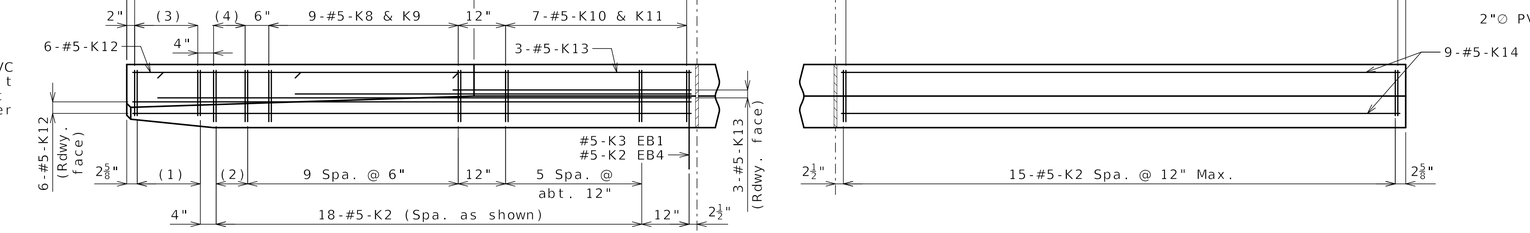
SECTION B-B



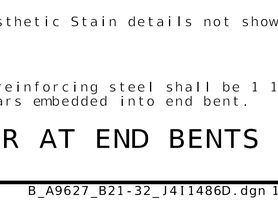
SECTION C-C



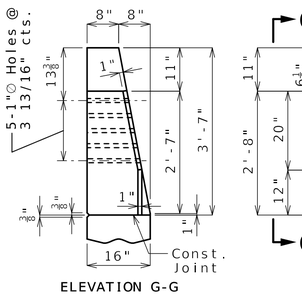
PART ELEVATION



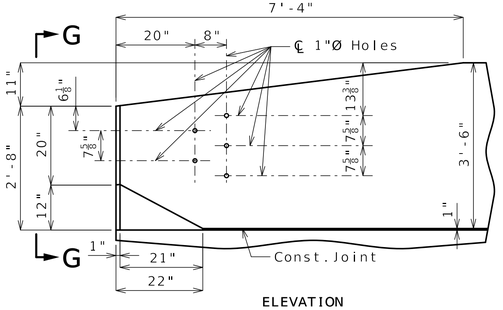
PART PLAN



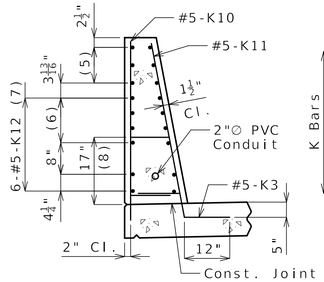
SECTION D-D



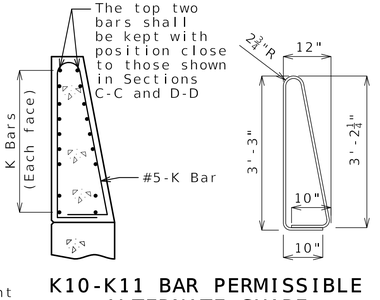
ELEVATION G-G



ELEVATION



SECTION H-H
(EB1 Only)



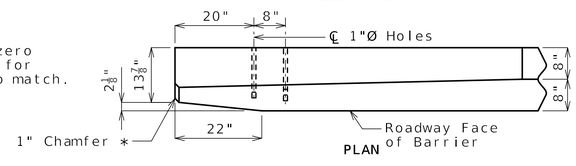
K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

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

All dimensions are out to out.

PVC conduit in right barrier not shown.



PLAN

DETAILS OF GUARD RAIL ATTACHMENT

* Transition to zero at Type A curb for gutter lines to match.

(1) 5-#5-K1 @ 4" cts.

(2) 2 spaces @ 4"

(3) 5-#5-K4 & K5

(4) 3-#5-K6 & K7

(5) 3-#5-K13 or K15 @ 4½" cts., each face

(6) 3 spaces @ 3 13/16"

(7) Spaced as shown, each face

(8) To top of bar

(9) 2 spaces @ 4½"

(10) Minimum embedment into wingwall is 2'-9"

General Notes:

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

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

For Form Liner and Aesthetic Stain details not shown, see Sheet No. B21-35.

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

TYPE D BARRIER AT END BENTS

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Detailed MAY 2025
Checked JUN 2025

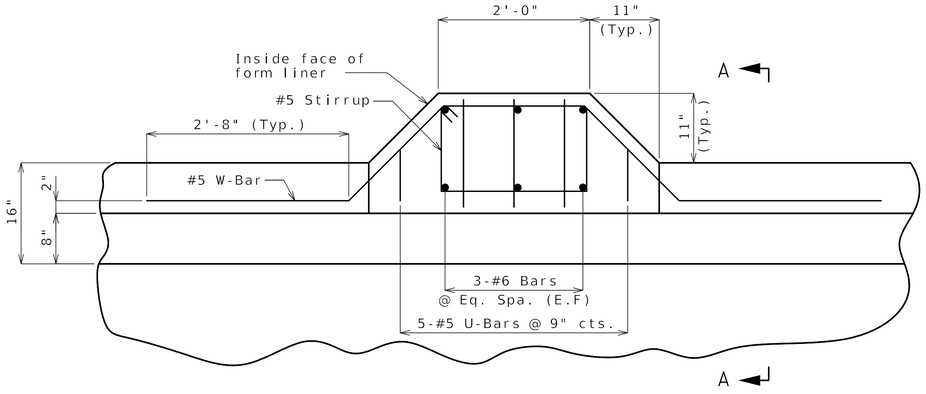
Note: This drawing is not to scale. Follow dimensions.

BENJAMIN LICHTY NUMBER PE-2023038803
PROFESSIONAL ENGINEER ★ STATE OF MISSOURI ★
10-08-2025

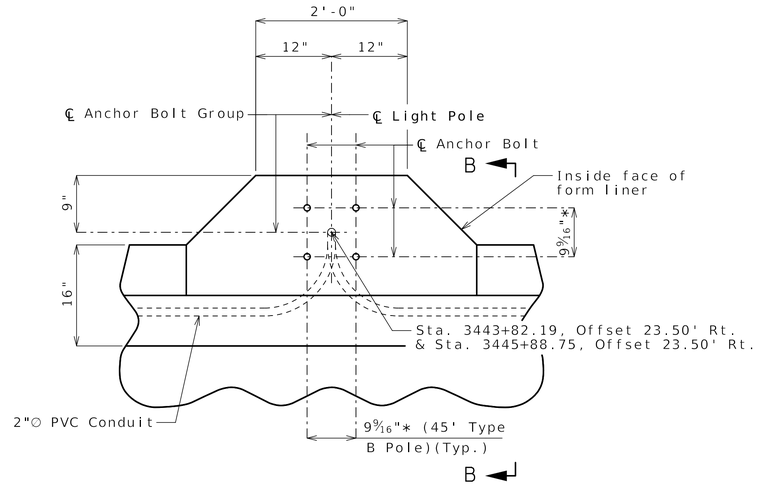
DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-32
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

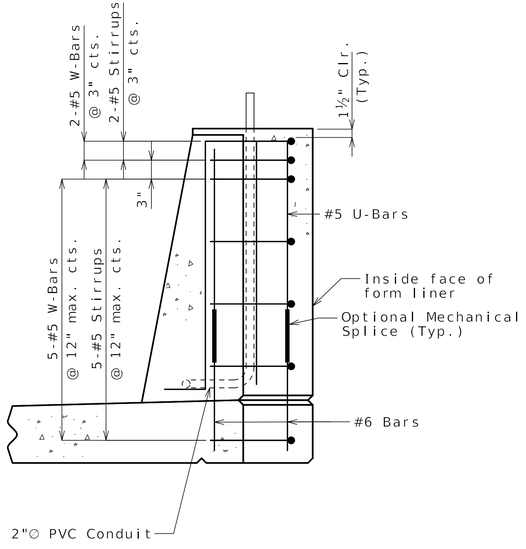
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



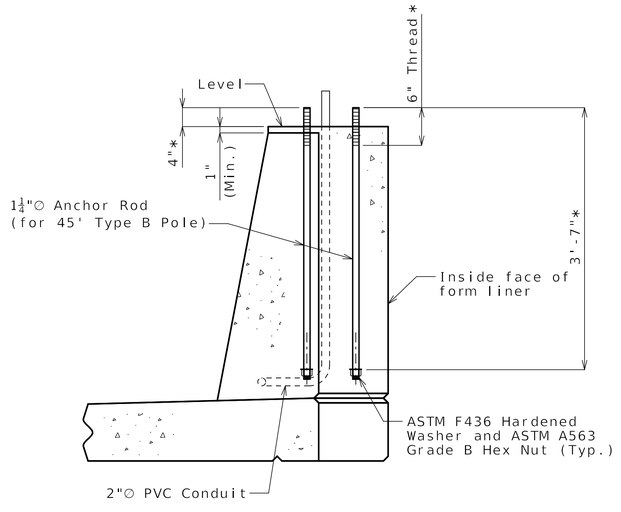
LIGHT POLE MOUNTING PLAN SHOWING REINFORCEMENT



LIGHT POLE MOUNTING PLAN



SECTION A-A



SECTION B-B

Notes:

∗ Contractor shall confirm dimension with light pole manufacturer before setting anchor bolts.

Anchor bolts and nuts shall be ASTM F1554 Grade 55. Anchor bolts, nuts and washers shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C or ASTM B695, Class 55.

Top of light standard supports shall be made horizontal; anchor rods shall be placed vertically.

Contractor has the option to splice vertical bars with mechanical bar splices. Mechanical bar splices shall be in accordance with Sec 710.

For locations of light blister, see Sheets No. B21-27 and B21-28.

For Form Liner and Aesthetic Stain Details not shown, see Sheet No. B21-35.

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

LIGHT BLISTER DETAILS

Detailed MAY 2025
Checked JUN 2025

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

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PROFESSIONAL ENGINEER ★ STATE OF MISSOURI ★
10-08-2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-33
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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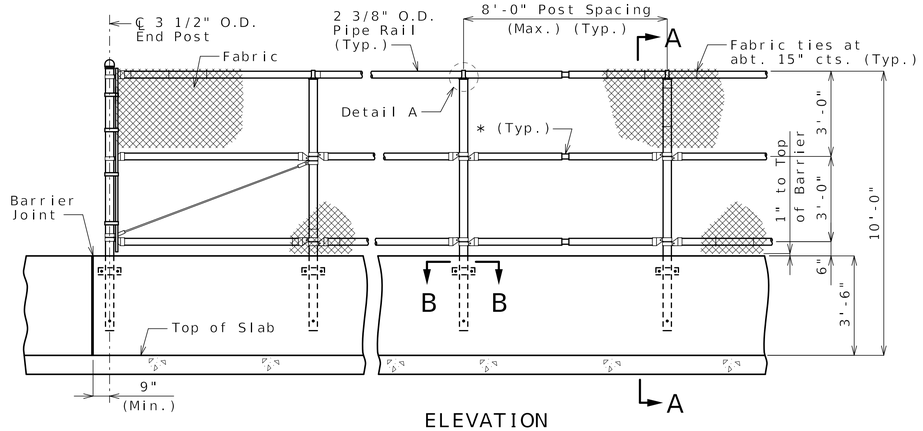
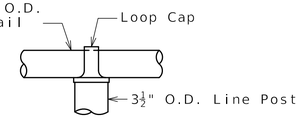
CERTIFICATE OF AUTHORITY NO. 001270

HNTB



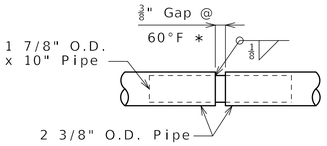
ELEVATION

* 3/8" Gap for splice at about 30'-0" centers with at least one splice gap between pull or end posts.



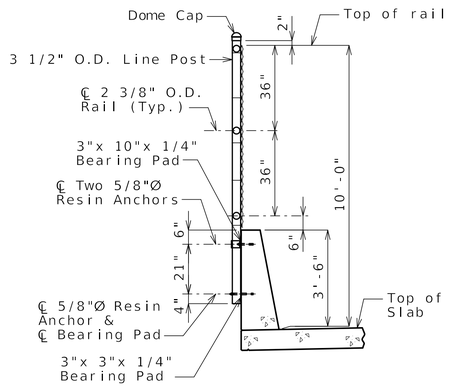
DETAIL A

* 3/8" Gap for splice at about 30'-0" centers with at least one splice gap between pull or end posts.

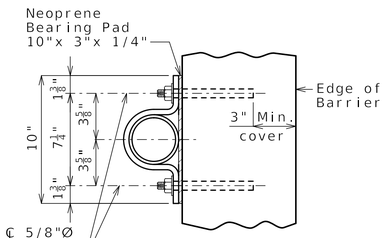


TYPICAL RAIL DETAIL
AT SPLICE GAP

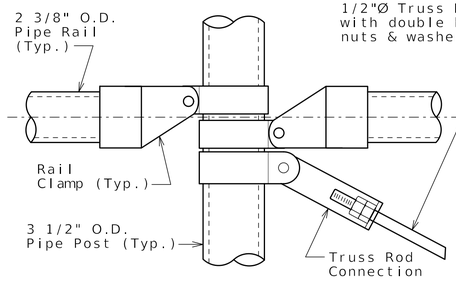
Note: At the contractor's option, manufacturer-approved expansion coupling may be used in lieu of detail shown.



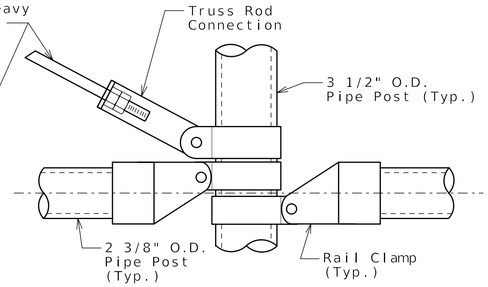
SECTION A-A



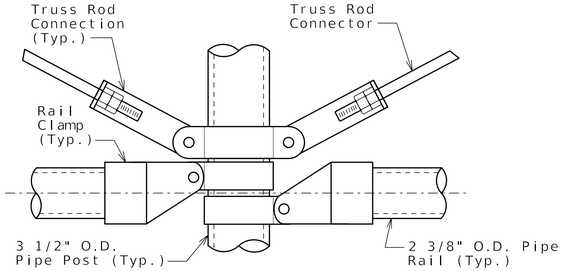
SECTION B-B



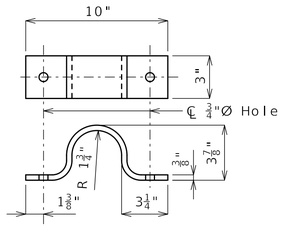
UPPER TRUSS ROD
CONNECTION DETAIL



LOWER TRUSS ROD
CONNECTION DETAIL



DUAL LOWER TRUSS ROD
CONNECTION DETAIL



STRAP DETAIL

GENERAL NOTES:

Fence shall be in accordance with Sec 1043 except all fabric shall have the top and bottom edges knuckled and pipe members shall be in accordance with ASTM F1043, high strength grade (minimum yield = 50 ksi) heavy industrial steel pipe Group 1A.

All posts shall be vertical.

Dimensions of fence are measured horizontally.

The maximum spacing allowed between pull posts and end posts is 100 feet. Post brace and 1/2-inch diameter truss rod are required for panels adjacent to pull post and end posts only. Connect the lower end of truss rod to bottom of pull posts and end posts to which the stretcher bar is attached.

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

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

Steel for truss rods shall be ASTM A709 Grade 36. Steel for post straps shall be ASTM A709 Grade 50. Neoprene bearing pads shall be 50 durometer and shall be in accordance with Sec 716.

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

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

Resin anchors shall be ASTM F1554 Grade 36.

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 inches.

Chain link wire fabric shall be 9 gage minimum, 2-inch diamond mesh.

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

For details of barrier and limits of railroad fence, see Sheet No. B21-31.

Reinforcing steel shall be shifted in the field to clear resin anchors for chain link fence.

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

RAILROAD FENCE DETAILS

Detailed MAY 2025
Checked JUN 2025

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

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10-08-2025
DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-34
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

DATE	DESCRIPTION
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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CLARKSON RADMACHER JOINT VENTURE
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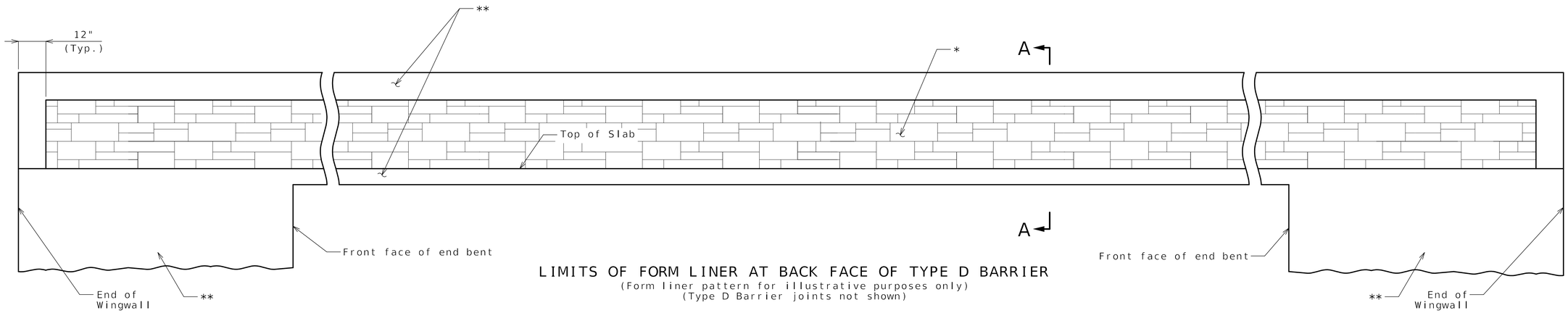


LIMITS OF FORM LINER AT BACK FACE OF TYPE D BARRIER

(Form liner pattern for illustrative purposes only)
(Type D Barrier joints not shown)

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

General Notes:

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

Protective coatings shall be compatible with Aesthetic Concrete Stain.

Concrete Form Liner Notes:

Form liner shall be constructed in accordance with Special Provisions.

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

-Scott System, Inc.: Form liner pattern #167 "Ashlar Stone"

-Fitzgerald Formliners: Form liner pattern #16986 "Ashlar Stone"

-Greenstreak: Form liner pattern #330 "Ashlar Stone"

-Spec Formliners: Form liner pattern #1515 "Ashlar Stone"

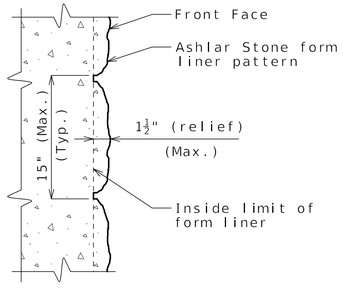
-Customrock: Form liner pattern #12020 "Tollway Ashlar"

-An approved equal

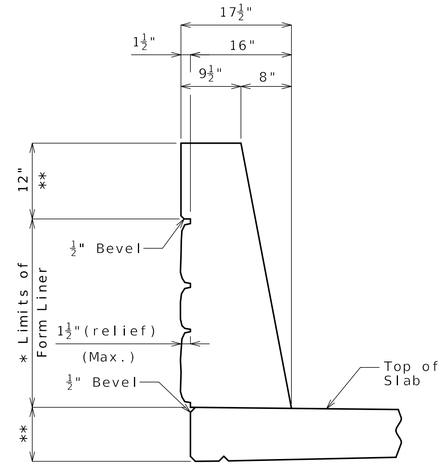
Aesthetic Concrete Stain Notes:

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

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



FORM LINER DETAIL



SECTION A-A

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

FORM LINER AND AESTHETIC STAIN DETAILS

Detailed MAY 2025
Checked JUN 2025

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

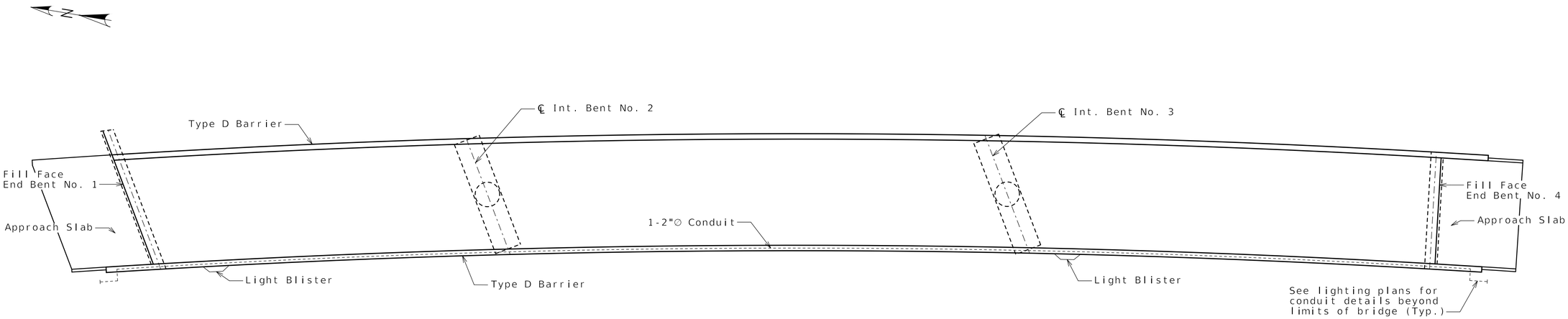
BENJAMIN LICHTY NUMBER PE-2023038803
STATE OF MISSOURI * PROFESSIONAL ENGINEER *
10-08-2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-35
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

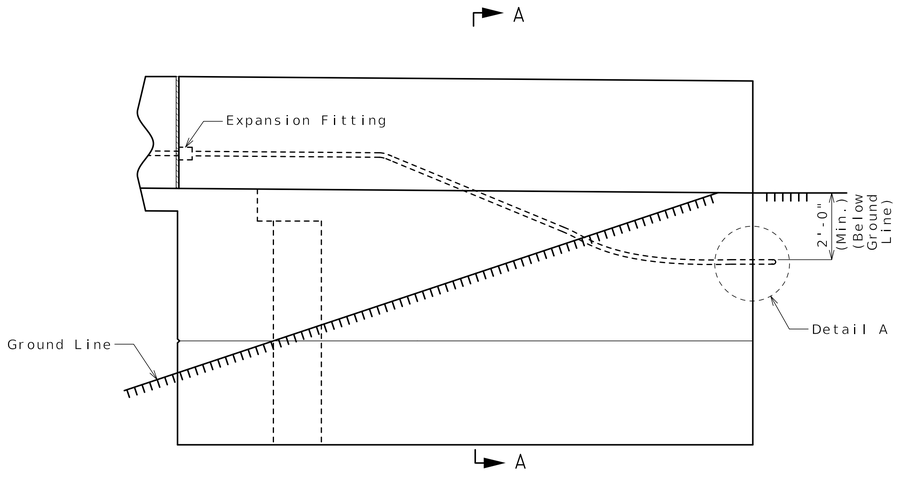
DATE	DESCRIPTION
09/22/25	REV 0 - RFC SUBMITTAL

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

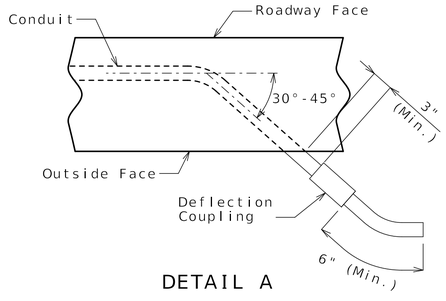
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



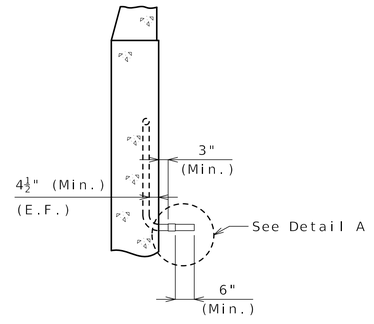
PLAN OF CONDUIT SYSTEM



PART WINGWALL ELEVATION



DETAIL A



PART SECTION A-A

Notes:

All conduit shall be rigid non-metallic schedule 40 heavy wall PVC (polyvinyl chloride plastic) with 3½" minimum cover in barrier and 4½" minimum cover in wingwall. Each section of conduit shall bear the Underwriters laboratories (UL) label.

Shift reinforcing steel in field where necessary to clear conduit.

Expansion fittings shall be placed as shown and set in accordance with the manufacturer's requirements and based on the air temperature at the time of setting given an estimated total movement of 1 inch at filled joints using a maximum temperature range of 120°F and a maximum temperature of 110°F.

The conduit terminations shall be permanent or separable. The terminations and covers shall be of watertight construction and shall meet requirements for NEMA 4X enclosure.

Drainage shall be provided at low points or other critical locations of all conduits in accordance with Sec 707. All conduits shall be sloped to drain where possible.

For additional form liner details not shown see Sheet No. B21-35.

DETAILS OF CONDUIT SYSTEM ON STRUCTURE

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Detailed MAY 2025
Checked JUN 2025

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

BENJAMIN LICHTY NUMBER PE-2023038803
PROFESSIONAL ENGINEER ★ STATE OF MISSOURI ★
10-08-2025

DATE PREPARED 09/22/2025

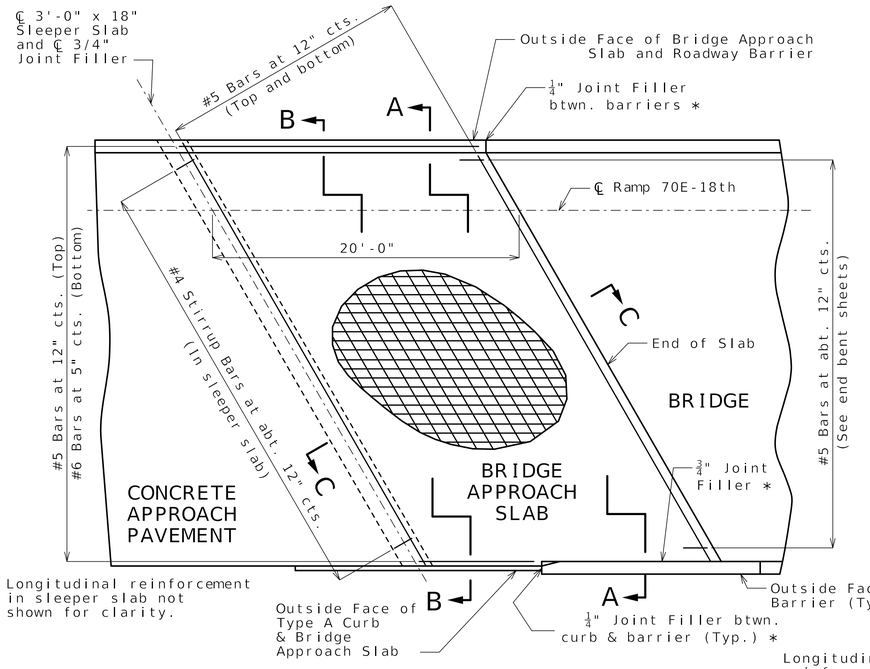
ROUTE	STATE
I-70	MO

DISTRICT	SHEET NO.
BR	B21-36

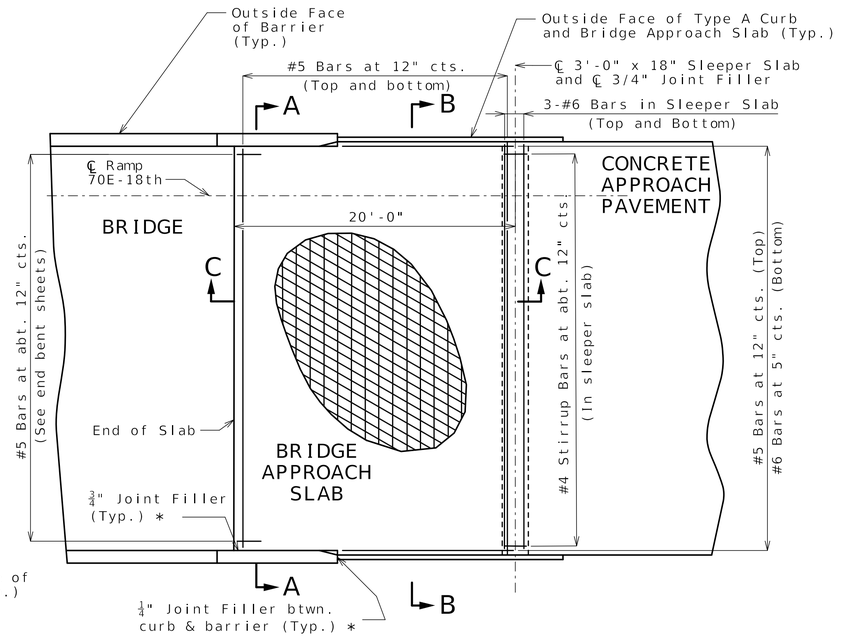
COUNTY: JACKSON
JOB NO.: J4I1486D
CONTRACT ID.: 240807-C01
PROJECT NO.:
BRIDGE NO.: A9627

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

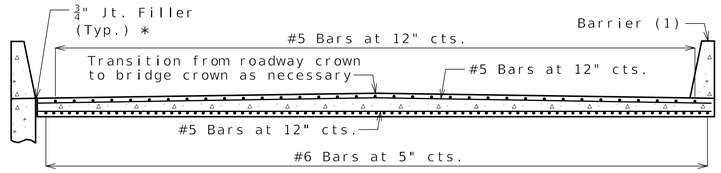
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



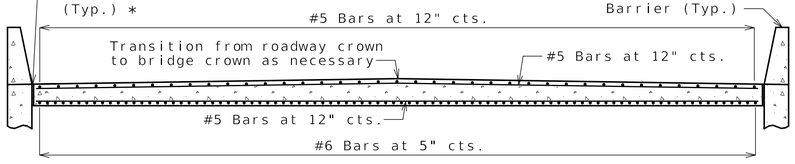
PART PLAN SHOWING REINFORCEMENT AT END BENT NO. 1



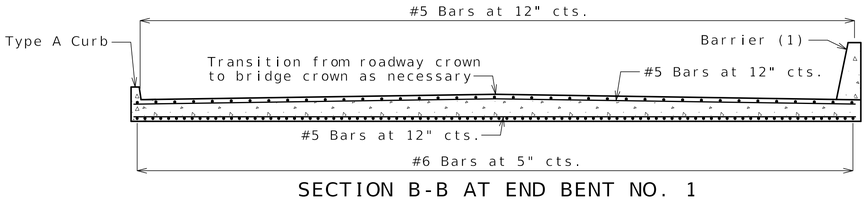
PART PLAN SHOWING REINFORCEMENT AT END BENT NO. 4



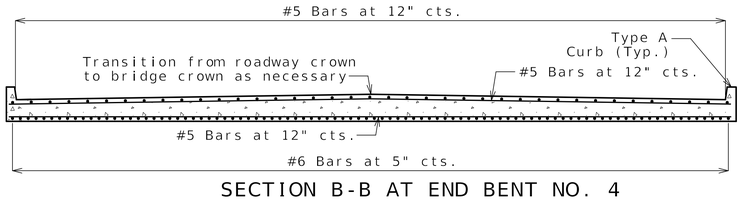
SECTION A-A AT END BENT NO. 1



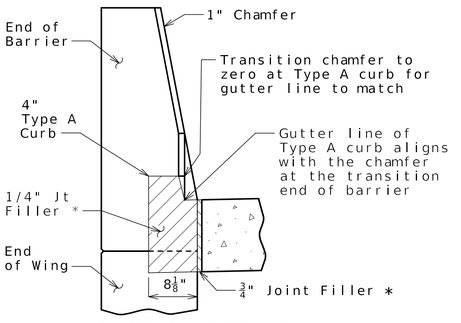
SECTION A-A AT END BENT NO. 4



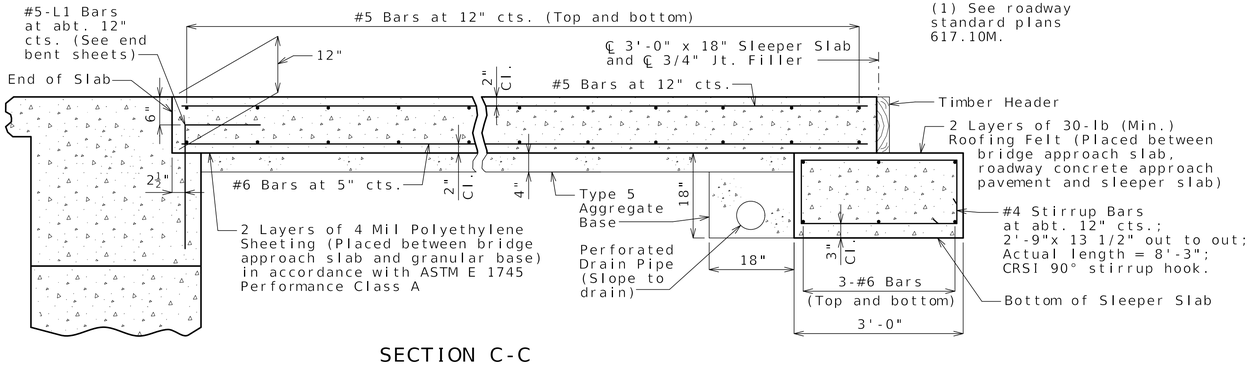
SECTION B-B AT END BENT NO. 1



SECTION B-B AT END BENT NO. 4

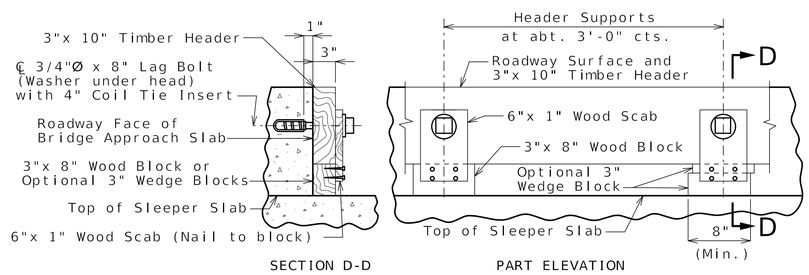


SECTION BETWEEN CURB AND BARRIER



SECTION C-C

(1) See roadway standard plans 617.10M.



DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

BRIDGE APPROACH SLAB (MAJOR)

General Notes:

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

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

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

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

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

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

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

For concrete approach pavement details, see roadway plans.

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

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

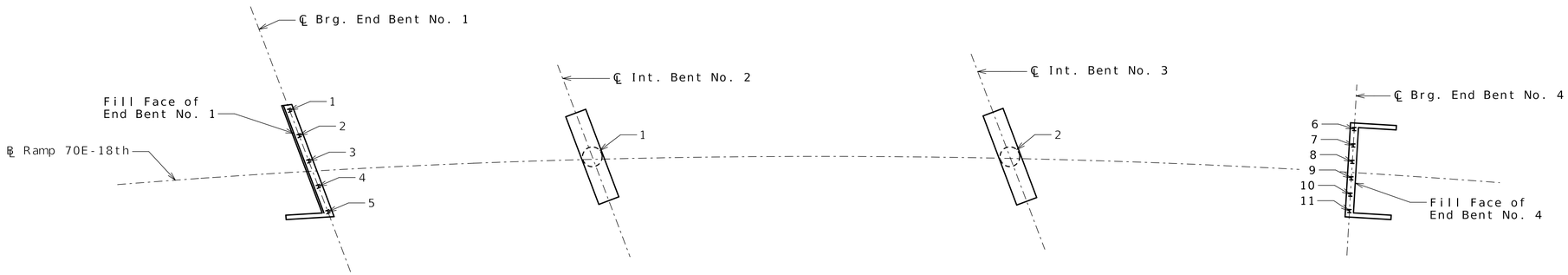
Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-21-EB-70 Ramp-18th-KCTRR

BENJAMIN LICHTY NUMBER PE-2023038803 STATE OF MISSOURI PROFESSIONAL ENGINEER
10-08-2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-37
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



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

As-Built Pile Data

Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 1
1			
2			
3			
4			
5			
			End Bent No. 4
6			
7			
8			
9			
10			
11			

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:

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

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

AS-BUILT PILE AND DRILLED SHAFT DATA

Detailed MAY 2025
Checked JUN 2025

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

GINA D. HORNER PE-30413
PROFESSIONAL ENGINEER
STATE OF MISSOURI
Gina D Horner
10-8-2025

DATE PREPARED 09/22/2025

ROUTE	STATE
I-70	MO

DISTRICT	SHEET NO.
BR	B21-38

COUNTY: JACKSON
JOB NO.: J4I1486D
CONTRACT ID.: 240807-C01
PROJECT NO.:
BRIDGE NO.: A9627

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

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

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

SOIL BORING NUMBER: RR_B1_1

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Eric P.
LOGGED BY Zachary Boyd
SURFACE ELEVATION 865.7'
METHOD Auger, Water Rotary
NORTHING/EASTING 1065602.6 / 2776620.5
DATE STARTED 04/16/2025
DATE COMPLETED 04/16/2025
RIG TYPE CME-550X
TOOLING 3-3/4" Hollow Stem Auger, 3-1/4" Rotary Drill

Groundwater Data	
During Drilling (ft):	N/A
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
										CONCRETE 1.0 / 864.7				
										FILL, brown, stiff, moist, coarse grained, LEAN CLAY with GRAVEL (CL)				
5	3.5 ft		J-1	12	3-4-5 (9)	67		1.0			41-19-22	24.70		
										- becomes reddish brown to gray at 8.5'				
10	8.5 ft		J-2	15	3-6-6 (12)	83		1.5						
15	13.5 ft		J-3	18	5-7-8 (15)	100		2.0						
20	18.5 ft		J-4	16	5-7-8 (15)	89		2.0			42-19-23	27.80		
25	23.5 ft		J-5	15	5-5-7 (12)	83		1.5		- no gravel at 23.5'				
30	28.5 ft		J-6		7-5-5 (10)			1.0		28.5 / 837.2 FILL, dark gray, stiff, moist, fine grained, SANDY LEAN CLAY (CL)				
35	33.5 ft		J-7	15	3-4-4 (8)	83		1.0		33.5 / 832.2 Gray to reddish brown, firm, moist, LEAN CLAY with SILT (CL-ML), iron staining				

SOIL BORING NUMBER: RR_B1_1

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Eric P.
LOGGED BY Zachary Boyd
SURFACE ELEVATION 865.7'
METHOD Auger, Water Rotary
NORTHING/EASTING 1065602.6 / 2776620.5
DATE STARTED 04/16/2025
DATE COMPLETED 04/16/2025
RIG TYPE CME-550X
TOOLING 3-3/4" Hollow Stem Auger, 3-1/4" Rotary Drill

Groundwater Data	
During Drilling (ft):	N/A
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
40	38.5 ft		J-8	16	4-4-4 (8)	89		1.0		Gray to reddish brown, firm, moist, LEAN CLAY with SILT (CL-ML), iron staining	44-20-24	27.30		
45	43.5 ft		J-9	11	3-4-5 (9)	61		1.0		- becomes stiff at 43.5'				
50	48.5 ft		J-10	16	WOH-3-4 (7)	89		0.5		- becomes firm at 48.5'				
55	53.5 ft		J-11	18	WOH-3-4 (7)	100		0.5						
60	58.5 ft		J-12	8	2-4-6 (10)	44		1.0		- becomes stiff at 58.5'	42-20-22	26.00		
65														
70	68.5 ft		J-13	12	4-4-4 (8)	67		1.0		- becomes firm, possible WT, wet at 68.5				

STATE OF MISSOURI
WILLIAM JOSEPH STURGEON
PE-2014017021
PROFESSIONAL ENGINEER
10/8/2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-39
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Notes:
For locations of borings, see Sheet No. B21-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
Checked JUN 2025

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

SOIL BORING NUMBER: RR_B1_1

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065602.6 / 2776620.5
DRILLING FIRM PPI **DRILLER** Eric P.
DATE STARTED 04/16/2025
LOGGED BY Zachary Boyd
DATE COMPLETED 04/16/2025
SURFACE ELEVATION 865.7'
RIG TYPE CME-550X
METHOD Auger, Water Rotary
TOOLING 3-3/4" Hollow Stem Auger, 3-1/4" Rotary Drill

Groundwater Data	
During Drilling (ft):	N/A
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
80	78.5 ft		J-14	6	4-4-3 (7)	33		0.5		Gray to reddish brown, firm, moist, LEAN CLAY with SILT (CL-ML), iron staining				
85														
90	88.5 ft		J-15	17	4-5-7 (12)	94		1.0		- becomes stiff, dark brown to gray at 88.5'				
95														
100	98.5 ft		J-16	18	5-5-6 (11)	100		1.0		98.5 767.2 Dark gray, stiff, moist, FAT CLAY (CH)	67-32-35	42.60		
105														
110	108.5 ft		J-17	11	6-8-10 (18)	61		2.5		- with sand at 108.5' and very stiff				

SOIL BORING NUMBER: RR_B1_1

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065602.6 / 2776620.5
DRILLING FIRM PPI **DRILLER** Eric P.
DATE STARTED 04/16/2025
LOGGED BY Zachary Boyd
DATE COMPLETED 04/16/2025
SURFACE ELEVATION 865.7'
RIG TYPE CME-550X
METHOD Auger, Water Rotary
TOOLING 3-3/4" Hollow Stem Auger, 3-1/4" Rotary Drill

Groundwater Data	
During Drilling (ft):	N/A
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
115	114.8 ft		C-1	60		100	53			Gray to reddish brown, firm, moist, LEAN CLAY with SILT (CL-ML), iron staining		0.2	161.5	308
120	119.8 ft		C-2	60		100	70					0.2	160.4	619
125														
130														
135										98.5 767.2 Dark gray, stiff, moist, FAT CLAY (CH) 136.0 729.7 Limestone, weathered, gray, moderately hard, vuggy, iron staining - 1/2" clay seam at 121.6' 136.0 729.7 Bottom of Boring at 124.8' Boring backfilled with cuttings and patched with asphalt 4/16/25				
140														
145														

WILLIAM JOSEPH STURGEON PE-2014017021 PROFESSIONAL ENGINEER STATE OF MISSOURI

10/8/2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-40
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Notes:
For locations of borings, see Sheet No. B21-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
Checked JUN 2025

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

SOIL BORING NUMBER: RR_B1_2

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065654.5 / 2776672.7
DRILLING FIRM PPI **DRILLER** Eric P.
DATE STARTED 12/02/2024
LOGGED BY Zachary Boyd
DATE COMPLETED 12/02/2024
SURFACE ELEVATION 871.5'
RIG TYPE CME-550
METHOD Mud Rotary, NQ Core
TOOLING 3-3/4" Rotary Drill

Groundwater Data	
During Drilling (ft):	N/A
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
										FILL, brown, stiff to very stiff, moist, LEAN CLAY (CL), iron stain, organics, some gravel				
5	3.5 ft		J-1	7	6-8-8 (16)	39		>4.5			44-20-24	15.2		
10	8.5 ft		J-2	15	2-5-7 (12)	83		2.0						
15	13.5 ft		U-1	20		83		0.5		13.5 858 Reddish brown to brown, soft to firm, moist, LEAN CLAY (CL), organics, iron staining	39-19-20	21.2	107.4	2.54
20	18.5 ft		J-3	12	4-4-6 (10)	67		1.0						
25	23.5 ft		J-4	14	6-10-7 (17)	78		2.0						
30	28.5 ft		U-2	20		83		1.5		30.0 841.5 Dark gray, stiff, moist, LEAN CLAY (CL), organics	47-20-27	23.9	100.9	2.77
35	33.5 ft		J-5	12	11-9-7 (16)	67		1.0						

SOIL BORING NUMBER: RR_B1_2

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065654.5 / 2776672.7
DRILLING FIRM PPI **DRILLER** Eric P.
DATE STARTED 12/02/2024
LOGGED BY Zachary Boyd
DATE COMPLETED 12/02/2024
SURFACE ELEVATION 871.5'
RIG TYPE CME-550
METHOD Mud Rotary, NQ Core
TOOLING 3-3/4" Rotary Drill

Groundwater Data	
During Drilling (ft):	N/A
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
40	38.5 ft		J-6	18	2-2-4 (6)	100		>0.5		Dark gray, stiff, moist, LEAN CLAY (CL), organics	40-20-20	28.7		
45	43.5 ft		U-3	18		75		>0.5		44.5 827 Gray, soft, moist, LEAN CLAY (CL), organics, iron staining				
50	48.5 ft		J-7	18	1-3-3 (6)	100		>0.5						
55	53.5 ft		J-8	18	1-1-3 (4)	100		>0.5						
60	58.5 ft		U-4	12		50		0.5			42-20-22	17.5	107.8	0.51
65														
70	68.5 ft		J-9	17	3-4-6 (10)	94		2.0		- becomes stiff at 68.5'				

STATE OF MISSOURI
WILLIAM JOSEPH STURGEON
PE-2014017021
PROFESSIONAL ENGINEER
10/8/2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-41
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Notes:
For locations of borings, see Sheet No. B21-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
Checked JUN 2025

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

SOIL BORING NUMBER: RR_B1_2

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065654.5 / 2776672.7
DRILLING FIRM PPI **DRILLER** Eric P.
DATE STARTED 12/02/2024
LOGGED BY Zachary Boyd
DATE COMPLETED 12/02/2024
SURFACE ELEVATION 871.5'
RIG TYPE CME-550
METHOD Mud Rotary, NQ Core
TOOLING 3-3/4" Rotary Drill

Groundwater Data	
During Drilling (ft):	N/A
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
80	78.5 ft		J-10	18	2-5-6 (11)	100		2.0		Gray, soft, moist, LEAN CLAY (CL), organics, iron staining				
85														
90	88.5 ft		J-11	18	4-6-7 (13)	100		2.25						
95														
100	98.5 ft		J-12	15	4-6-8 (14)	83		2.5						
105														
110	108.5 ft		J-13	18	6-7-8 (15)	100		1.5		108.0 763.5 Blue-gray, stiff, moist, LEAN CLAY (CL)				

SOIL BORING NUMBER: RR_B1_2

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065654.5 / 2776672.7
DRILLING FIRM PPI **DRILLER** Eric P.
DATE STARTED 12/02/2024
LOGGED BY Zachary Boyd
DATE COMPLETED 12/02/2024
SURFACE ELEVATION 871.5'
RIG TYPE CME-550
METHOD Mud Rotary, NQ Core
TOOLING 3-3/4" Rotary Drill

Groundwater Data	
During Drilling (ft):	N/A
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
115										Blue-gray, stiff, moist, LEAN CLAY (CL) 117.0 754.5				
120	117 ft		C-1	45		100	42			Limestone, highly weathered, light to dark gray, moderately hard, vuggy		0.2	169.5	1269
125	120.8 ft		C-2	60		100	80			125.8 745.7 Bottom of Boring at 125.8' Boring backfilled with cuttings 12/9/2024				
130														
135														
140														
145														

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-42
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Notes:
For locations of borings, see Sheet No. B21-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
Checked JUN 2025

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

HNTB

SOIL BORING NUMBER: RR_B2_1

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065547.0 / 2776680.4
DRILLING FIRM PPI **DRILLER** David Allen
DATE STARTED 12/09/2024
LOGGED BY Pradip Adhikari
DATE COMPLETED 12/12/2024
SURFACE ELEVATION 845'*
RIG TYPE CME-55
METHOD Auger, NQ Core
TOOLING 4-1/2" Continuous Flight Auger

Groundwater Data		
During Drilling (ft):	5.0	▽
After Drilling (ft):	4.5	▼
After __ Hours (ft):		N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
	3.5 ft									FILL, black, moist, LEAN CLAY (CL), silty, trace gravel, cinders				
										6.0 839				
										Brown and gray, firm, moist, LEAN CLAY (CL)				
	8.5 ft		J-1	16	6-5-5 (10)	89		1.5						
10			J-2	18	2-3-3 (6)	100		1.5			36-20-16	28.5		
	13.5 ft		J-3	18	3-3-5 (8)	100		3.5						
15														
	18.5 ft		J-4	18	3-3-4 (7)	100		1.75			38-19-19	26.4		
20														
	23.5 ft		J-5	18	4-5-5 (10)	100		2.75		- stiff below 23.5'				
25										25.8 819.3				
	26.5 ft		U-1	24		100		2.0		Brown and gray, firm, moist, LEAN CLAY with SILT (CL-ML)	37-17-20	21.2	105.1	3.29
	28.5 ft		J-6	18	2-2-3 (5)	100		1.0						
30														
										31.8 813.3				
	33.5 ft		J-7	18	3-4-7 (11)	100		3.0		Brown and gray, stiff, moist, LEAN CLAY (CL), trace sand				
35														
										36.75' becomes silty				

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

HNTB

SOIL BORING NUMBER: RR_B2_1

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065547.0 / 2776680.4
DRILLING FIRM PPI **DRILLER** David Allen
DATE STARTED 12/09/2024
LOGGED BY Pradip Adhikari
DATE COMPLETED 12/12/2024
SURFACE ELEVATION 845'*
RIG TYPE CME-55
METHOD Auger, NQ Core
TOOLING 4-1/2" Continuous Flight Auger

Groundwater Data		
During Drilling (ft):	5.0	▽
After Drilling (ft):	4.5	▼
After __ Hours (ft):		N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
	38.5 ft		J-8	18	4-5-6 (11)	100		2.25		Brown and gray, stiff, moist, LEAN CLAY (CL), trace sand				
40														
	43.5 ft		J-9	18	4-4-5 (9)	100		1.5						
45										46.8 798.3				
										Brownish gray, firm, moist, FAT CLAY (CH), trace sand				
	48.5 ft		J-10	18	3-3-4 (7)	100		1.75			71-24-47	33.5		
50														
	53.5 ft		J-11	18	4-7-9 (16)	100		3.25		- very stiff below 53.5'				
55														
	58.5 ft		J-12	18	5-5-8 (13)	100		4.0						
60														
65														
	68.5 ft		J-13	18	4-5-9 (14)	100		3.5		- gray below 68.5'				
70														

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

WILLIAM JOSEPH STURGEON PE-2014017021 STATE OF MISSOURI PROFESSIONAL ENGINEER
10/8/2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-43
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Notes:
For locations of borings, see Sheet No. B21-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
Checked JUN 2025

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

SOIL BORING NUMBER: RR_B2_1

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065547.0 / 2776680.4
DRILLING FIRM PPI **DRILLER** David Allen
DATE STARTED 12/09/2024
LOGGED BY Pradip Adhikari
DATE COMPLETED 12/12/2024
SURFACE ELEVATION 845'*
RIG TYPE CME-55
METHOD Auger, NQ Core
TOOLING 4-1/2" Continuous Flight Auger

Groundwater Data		
During Drilling (ft):	5.0	▽
After Drilling (ft):	4.5	▼
After __ Hours (ft):		N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
80	78.5 ft		J-14	18	3-4-6 (10)	100		1.5		Brownish gray, firm, moist, FAT CLAY (CH), trace sand				
85	88.3 ft		C-1	52		100	17			- SPT refusal at 88.3'				
										88.3 / 756.7				
90	92.6 ft		C-2	60		100	33			Limestone, thinly bedded, weathered, very fine grained, light gray, moderately hard				
95	97.6 ft		C-3	60		100	68			- slightly weathered, medium bedded below 97'		0.1	170.8	1429
100	102.6 ft		C-4	60		100	70			103.6 / 741.4				
105	107.6 ft		C-5	60		100	56			Shale, medium bedded, weathered, gray, moderately hard		2.5	131.6	241
110										108.3 / 736.7				
										Limestone, medium bedded, weathered, very fine grained, light gray, moderately hard				
										110.8 / 734.2				
										Shale, medium bedded, weathered, gray, moderately hard				

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

SOIL BORING NUMBER: RR_B2_1

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065547.0 / 2776680.4
DRILLING FIRM PPI **DRILLER** David Allen
DATE STARTED 12/09/2024
LOGGED BY Pradip Adhikari
DATE COMPLETED 12/12/2024
SURFACE ELEVATION 845'*
RIG TYPE CME-55
METHOD Auger, NQ Core
TOOLING 4-1/2" Continuous Flight Auger

Groundwater Data		
During Drilling (ft):	5.0	▽
After Drilling (ft):	4.5	▼
After __ Hours (ft):		N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
115			C-5	60		100	45			Shale, medium bedded, weathered, gray, moderately hard				
	117.6 ft		C-6	60		100				112.6 / 732.4				
120			C-7	41		100	85			Shaley limestone, medium bedded, weathered, gray, moderately hard		0.4	168.6	312
										121.0 / 724				
125										Bottom of Boring at 121'				
										Boring backfilled with cuttings 12/12/2024				
130														
135														
140														
145														

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

WILLIAM JOSEPH STURGEON
PE-2014017021
STATE OF MISSOURI
PROFESSIONAL ENGINEER
10/8/2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-44
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-21-EB-70 Ramp-18th-KCTRR

Notes:
For locations of borings, see Sheet No. B21-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B21-44 of B21-52

B_A9627_B21-44_J4I1486D.dgn 12:02:16 PM 9/21/2025

HNTB

SOIL BORING NUMBER: RR_B3_1

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Ray A.
LOGGED BY Trent Shepherd
SURFACE ELEVATION 847.0'
METHOD Auger, Mud Rotary, NQ Core
NORTHING/EASTING 1065381.9 / 2776645.9
DATE STARTED 12/19/2024
DATE COMPLETED 12/20/2024
RIG TYPE CME-55
TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Groundwater Data	
During Drilling (ft): 9.0	▽
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
										FILL, very stiff, dry, SILTY SAND (CL), with fine grained sand and organics				
5	4 ft		J-1	8	2-3-4 (7)	44		>4.5		- % passing 200 = 89.7% at 4'	38-16-22	11.6		
										5.0 842 FILL, brown, very dense, dry, SANDY LEAN CLAY (CL), with fine grained sand and organics				
▽ 10	9 ft		J-2	18	3-3-6 (9)	100		2.5		9.0 838 Dark brown, very stiff, dry, LEAN CLAY (CL)				
	13 ft		U-1	24		100		1.75		13.0 834 Brown, stiff, moist, LEAN CLAY (CL)	44-17-27	23.5	103.7	2.12
15														
20	18 ft		J-3	18	2-4-4 (8)	100		1.0		- becomes firm at 18'				
	23 ft		J-4	14	WOH-WOH-WOH	78		<0.5		- becomes soft at 23', driller notes trace gravel from 23.0 - 29.5'	41-15-26	30.9		
25														
	28 ft		J-5	18	3-4-7 (11)	100		2.5		28.0 819 Gray, very stiff, moist, LEAN CLAY with SILT (CL-ML)				
30														
	33 ft		U-3	24		100		2.75		33.0 814 Brown, stiff, moist, FAT CLAY (CH)	56-18-38	21.7	105.0	2.14
35														

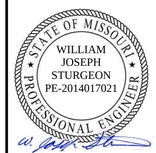
HNTB

SOIL BORING NUMBER: RR_B3_1

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Ray A.
LOGGED BY Trent Shepherd
SURFACE ELEVATION 847.0'
METHOD Auger, Mud Rotary, NQ Core
NORTHING/EASTING 1065381.9 / 2776645.9
DATE STARTED 12/19/2024
DATE COMPLETED 12/20/2024
RIG TYPE CME-55
TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Groundwater Data	
During Drilling (ft): 9.0	▽
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
	38 ft		J-6	18	4-5-9 (14)	100		3.5		Brown, stiff, moist, FAT CLAY (CH)				
40														
	43 ft		U-4	24		100		4.0			53-15-38	21.0	106.6	
45														
	48 ft		J-7	18	4-8-9 (17)	100		4.25		48.0 799 Gray, very stiff, moist, FAT CLAY (CH), with trace coarse grained sand				
50														
	53 ft		J-8	18	4-5-7 (12)	100		2.5		53.0 794 Gray to dark brown, very stiff, moist, FAT CLAY (CH)	59-18-41	22.5		
55														
	58 ft		J-9	18	4-5-6 (11)	100		3.0						
60														
65														
	68 ft		J-10	18	4-4-5 (9)	100		1.0		68.0 779 Brown, firm, moist, LEAN CLAY (CL), with trace gray clay		36.9		
70														



DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-45
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Notes:
For locations of borings, see Sheet No. B21-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
Checked JUN 2025

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

SOIL BORING NUMBER: RR_B3_1

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Ray A.
LOGGED BY Trent Shepherd
SURFACE ELEVATION 847.0'
METHOD Auger, Mud Rotary, NQ Core
NORTHING/EASTING 1065381.9 / 2776645.9
DATE STARTED 12/19/2024
DATE COMPLETED 12/20/2024
RIG TYPE CME-55
TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Groundwater Data	
During Drilling (ft): 9.0	▽
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
75										Brown, firm, moist, LEAN CLAY (CL), with trace gray clay				
										78.0 769				
	78 ft		J-11	18	4-7-19 (26)	100		<0.5		Brown, soft, moist, FAT CLAY (CH), with some gravel				
80										80.4 766.6				
										Shale, soft				
										84.5 762.5				
85										Limestone, slightly weathered, light gray, moderately hard, with healed joints, with lenticular shale				
	87 ft		C-1	34		100	100							
90	89.8 ft		C-2	60		100	100			- becomes fresh at 89.8'		0.8	166.1	1854
95	94.8 ft		C-3	60		100	100							
100	99.8 ft		C-4	60		100	100					0.2	165.4	1406
105	104.8 ft		C-5	60		100	100			- becomes shaly limestone at 105'				
										105.8 741.2				
										Shale, fresh, dark gray, hard				
										108.0 739				

SOIL BORING NUMBER: RR_B3_1

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Ray A.
LOGGED BY Trent Shepherd
SURFACE ELEVATION 847.0'
METHOD Auger, Mud Rotary, NQ Core
NORTHING/EASTING 1065381.9 / 2776645.9
DATE STARTED 12/19/2024
DATE COMPLETED 12/20/2024
RIG TYPE CME-55
TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Groundwater Data	
During Drilling (ft): 9.0	▽
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
110	108 ft		C-5	60		100				Shale, fresh, dark gray, hard		2.2	115.5	802
	109.8 ft		C-6	27		100	74			109.8 737.2				
115										Limestone, slightly weathered, light gray, moderately hard				
										- 6" thick limy shale at 110.8'				
										112.1 734.9				
120										Bottom of Boring at 112.1'				
										Boring backfilled with cuttings 12/20/2024				
125														
130														
135														
140														

WILLIAM JOSEPH STURGEON
PE-2014017021
PROFESSIONAL ENGINEER
STATE OF MISSOURI
10/8/2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-46
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Notes:
For locations of borings, see Sheet No. B21-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
Checked JUN 2025

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

HNTB

SOIL BORING NUMBER: RR_B3_2

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065409.7 / 2776698.0
DRILLING FIRM PPI **DRILLER** Ray A.
DATE STARTED 01/13/2025
LOGGED BY Trent Shepherd
DATE COMPLETED 01/14/2025
SURFACE ELEVATION 844'
RIG TYPE CME-55
METHOD Auger, NQ Core
TOOLING 4-1/2" Continuous Flight Auger

Groundwater Data	
During Drilling (ft): 9.5	▽
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
										FILL, tan, loose, dry, medium grained, WELL-GRADED SAND (SW)				
5	4 ft		J-1	11	2-1-2 (3)	61								
10	9 ft		J-2	15	2-1-3 (4)	83		1.5				24.2		
										9.5 / 834.5				
	13.5 ft		U-1	24		100		2.5		Brown, stiff, moist, LEAN CLAY (CL), with trace sand				
15										13.5 / 830.5				
										Brown, very stiff, moist, LEAN CLAY (CL)	45-22-23	22.4	104.9	1.83
20	18.5 ft		J-3	18	3-3-5 (8)	100		2.5						
	23.5 ft		J-4	18	3-3-3 (6)	100		2.0		- becomes gray at 23.5'		25.1		
25										28.5 / 815.5				
	28.5 ft		U-2	24		100		4.0		Brown to tan, very stiff, moist, LEAN CLAY (CL), with some gravel	44-22-22	15.7		
30										33.5 / 810.5				
	33.5 ft		J-5	18	3-7-4 (11)	100		3.5		Brown to gray, very stiff, moist, LEAN CLAY (CL)				
35														

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

HNTB

SOIL BORING NUMBER: RR_B3_2

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065409.7 / 2776698.0
DRILLING FIRM PPI **DRILLER** Ray A.
DATE STARTED 01/13/2025
LOGGED BY Trent Shepherd
DATE COMPLETED 01/14/2025
SURFACE ELEVATION 844'
RIG TYPE CME-55
METHOD Auger, NQ Core
TOOLING 4-1/2" Continuous Flight Auger

Groundwater Data	
During Drilling (ft): 9.5	▽
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
40	40.5 ft		J-6	18	4-7-9 (16)	100		2.0		Brown to gray, very stiff, moist, LEAN CLAY (CL)				
										- tube attempted, zero recovery at 38.5'				
										40.5 / 803.5				
45										Gray, stiff, wet, FAT CLAY (CH)	52-28-24	26.6		
										- tube attempted, zero recovery at 45.5'				
	48.5 ft													
50	50 ft		J-7	9	15-16-19 (35)	50				Note: Blow counts could be affected from shelby tube that got stuck in the ground from previous attempt				
			J-8	18	4-6-9 (15)	100		4.0		50.5 / 793.5				
										Dark gray, very stiff, moist, FAT CLAY (CH), with trace gravel				
55	53.5 ft		J-9	18	5-5-9 (14)	100		3.0			57-27-30	23.0		
	58.5 ft		J-10	18	5-6-9 (15)	100		3.0						
60														
65														
	68.5 ft		J-11	18	3-4-5 (9)	100		3.0						
70														

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Notes:
For locations of borings, see Sheet No. B21-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B21-47 of B21-52

STATE OF MISSOURI
WILLIAM JOSEPH STURGEON
PE-2014017021
PROFESSIONAL ENGINEER
10/8/2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-47
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

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

HNTB

B_A9627_B21-47_J4I1486D.dgn 12:03:54 PM 9/21/2025

SOIL BORING NUMBER: RR_B3_2

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065409.7 / 2776698.0
DRILLING FIRM PPI **DRILLER** Ray A.
DATE STARTED 01/13/2025
LOGGED BY Trent Shepherd
DATE COMPLETED 01/14/2025
SURFACE ELEVATION 844'
RIG TYPE CME-55
METHOD Auger, NQ Core
TOOLING 4-1/2" Continuous Flight Auger

Groundwater Data	
During Drilling (ft): 9.5	▽
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
80	78.5 ft		J-12	18	7-7-12 (19)	100		1.0		Dark gray, very stiff, moist, FAT CLAY (CH), with trace gravel				
										78.5 765.5				
										Brown to tan, firm, moist, LEAN CLAY (CL), gravelly				
85										85.4 758.6				
	87.3 ft		C-1	33		100	91			Limestone, slightly weathered, light gray, moderately hard, with closely spaced healed joints		0.5	162.2	406
90	90.1 ft		C-2	60		100	100					0.2	162.5	701
95	95.1 ft		C-3	60		100	97			- rock was broken by catcher at 95' - with lenticular shale at 95.1'		0.4	159.3	299
100	100.1 ft		C-4	59		98	98					0.1	165.3	1594
105	105.1 ft		C-5	60		100	100			104.5 739.5 Shale, fresh, gray to dark gray, moderately hard to hard				
110	110.1 ft		C-6	60		100	70			109.1 734.9 Limestone, fresh, light gray, moderately hard 110.1 733.9 Limestone, slightly weathered, light/dark gray, moderately hard		1.1 11.6	156.7 124.1	618 23

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

SOIL BORING NUMBER: RR_B3_2

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065409.7 / 2776698.0
DRILLING FIRM PPI **DRILLER** Ray A.
DATE STARTED 01/13/2025
LOGGED BY Trent Shepherd
DATE COMPLETED 01/14/2025
SURFACE ELEVATION 844'
RIG TYPE CME-55
METHOD Auger, NQ Core
TOOLING 4-1/2" Continuous Flight Auger

Groundwater Data	
During Drilling (ft): 9.5	▽
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
115	112.5 ft		C-6	60		100	70			Shale, weathered, dark gray, moderately hard		7.7	134.8	80
	115.1 ft		C-7	26		100	77			115.1 728.9 Clayey limestone, slightly weathered, gray to light gray, moderately hard		2.1	153.1	109
120										117.3 726.7 Bottom of Boring at 117.3' Boring backfilled with grout 1/14/2025				
125														
130														
135														
140														
145														

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

WILLIAM JOSEPH STURGEON
PE-2014017021
STATE OF MISSOURI
PROFESSIONAL ENGINEER
10/8/2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-48
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package: BRD-21-EB-70 Ramp-18th-KCTRR

Notes:
For locations of borings, see Sheet No. B21-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
Checked JUN 2025

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

SOIL BORING NUMBER: RR_B4_1

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Eric P.
LOGGED BY Zachary Boyd
SURFACE ELEVATION 886.9'
METHOD Water Rotary

NORTHING/EASTING 1065276.4 / 2776669.2
DATE STARTED 04/17/2025
DATE COMPLETED 04/24/2025
RIG TYPE CME-550X
TOOLING 3-1/4" Rotary Drill

Groundwater Data	
During Drilling (ft):	N/A
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
	0 ft									CONCRETE				
										1.0 885.9				
										FILL, dark gray, firm, moist, LEAN CLAY (CL), shaley, trace gravel				
5	3.5 ft		J-1	8	3-3-6 (9)	44		1.0		- rough drilling at 5.5'				
10	8.5 ft		J-2	6	2-2-11 (13)	33		1.5		- becomes stiff with coarse gravel at 9.5'				
										13.0 873.9				
15	13 ft		U-1	12		50		2.0		FILL, brown to gray, stiff, moist, LEAN CLAY with SILT (CL-ML), with gravel	47-18-29	22.30	101.90	1.2455
										- rough drilling at 16'				
20	18.5 ft		J-3	18	4-5-7 (12)	100		1.5						
25	23.5 ft		J-4	18	3-6-12 (18)	100		2.5		- becomes lean to fat and very stiff at 23.5'	50-24-26	19.70		
30	28.5 ft		J-5	18	4-6-9 (15)	100		2.0		- failed shelby tube, becomes reddish brown to gray and stiff at 28.5'				
										33.5 853.4				
35	33.5 ft		J-6	15	3-4-5 (9)	83		1.0		Dark to light gray, stiff, moist, LEAN CLAY with SILT (CL-ML), iron staining				

SOIL BORING NUMBER: RR_B4_1

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Eric P.
LOGGED BY Zachary Boyd
SURFACE ELEVATION 886.9'
METHOD Water Rotary

NORTHING/EASTING 1065276.4 / 2776669.2
DATE STARTED 04/17/2025
DATE COMPLETED 04/24/2025
RIG TYPE CME-550X
TOOLING 3-1/4" Rotary Drill

Groundwater Data	
During Drilling (ft):	N/A
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
40	38.5 ft		J-7	18	3-5-7 (12)	100		1.25		Dark to light gray, stiff, moist, LEAN CLAY with SILT (CL-ML), iron staining	42-21-21	18.70		
										- becomes gray to brown at 38.5'				
45	43.5 ft		J-8	18	3-5-6 (11)	100		1.0						
50	48.5 ft		J-9	18	4-4-5 (9)	100		1.0		- becomes reddish brown to gray at 48.5'				
55	53.5 ft		J-10	18	3-3-3 (6)	100		0.5		- becomes firm at 53.5'				
60	58.5 ft		J-11	18	4-3-5 (8)	100		0.75						
65														
70	68.5 ft		J-12	18	3-4-5 (9)	100		1.0		- becomes gray to brown and stiff at 68.5'				

STATE OF MISSOURI
WILLIAM JOSEPH STURGEON
PE-2014017021
PROFESSIONAL ENGINEER
10/8/2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-49
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Notes:
For locations of borings, see Sheet No. B21-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
Checked JUN 2025

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

HNTB

SOIL BORING NUMBER: RR_B4_1

Page 3 of 4

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Eric P.
LOGGED BY Zachary Boyd
SURFACE ELEVATION 886.9'
METHOD Water Rotary

NORTHING/EASTING 1065276.4 / 2776669.2
DATE STARTED 04/17/2025
DATE COMPLETED 04/24/2025
RIG TYPE CME-550X
TOOLING 3-1/4" Rotary Drill

Groundwater Data	
During Drilling (ft):	N/A
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
80	78.5 ft		J-13	16	5-8-11 (19)	89		2.5		Dark to light gray, stiff, moist, LEAN CLAY with SILT (CL-ML), iron staining - becomes very stiff at 78.5'				
90	88.5 ft		J-14	18	4-6-8 (14)	100		2.0		- becomes stiff at 88.5'				
95	93.5 ft		J-15	18	9-10-14 (24)	100		2.5		- becomes very stiff at 93.5'				
100	100.5 ft		C-1	48		80	25			100.5 786.4 Limestone, highly weathered, light gray to brown, moderately hard - 11" core loss at 101.3' - 1" clay seam at 103'		0.6	159.6	1033
105	105.5 ft		C-2	60		100	95			- becomes slightly weathered, hard at 104.3'				
110	110.5 ft		C-3	60		100	90			- 3" shale seam at 108.3'		3.4	144.1	283

HNTB

SOIL BORING NUMBER: RR_B4_1

Page 4 of 4

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Eric P.
LOGGED BY Zachary Boyd
SURFACE ELEVATION 886.9'
METHOD Water Rotary

NORTHING/EASTING 1065276.4 / 2776669.2
DATE STARTED 04/17/2025
DATE COMPLETED 04/24/2025
RIG TYPE CME-550X
TOOLING 3-1/4" Rotary Drill

Groundwater Data	
During Drilling (ft):	N/A
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
115	115.5 ft		C-3	60		100				Dark to light gray, stiff, moist, LEAN CLAY with SILT (CL-ML), iron staining		1.6	153.4	394
120	120.5 ft		C-4	60		100	100					0.9	158.3	618
125	125.5 ft		C-5	60		100	37							
130			C-6	60		100	90					7.6	115.2	291
135												0.6	159.3	357
140										100.5 786.4 Limestone, highly weathered, light gray to brown, moderately hard - becomes calcareous at 112.5' - 2" shale seam at 117.5' 138.0 748.9 Shale, fresh, dark gray, hard - becomes gray, highly weathered at 122.2' 138.0 748.9 Limey shale, highly weathered, gray to dark gray, soft, vuggy 138.0 748.9 Limestone, weathered, light gray, moderately hard				
145														

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Notes:
For locations of borings, see Sheet No. B21-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
Checked JUN 2025

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

Sheet No. B21-50 of B21-52

STATE OF MISSOURI
WILLIAM JOSEPH STURGEON
PE-2014017021
PROFESSIONAL ENGINEER
10/8/2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-50
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

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

B_A9627_B21-50_J4I1486D.dgn 12:05:34 PM 9/21/2025

SOIL BORING NUMBER: RR_B4_2

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Eric P.
LOGGED BY Zachary Boyd
SURFACE ELEVATION 879'
METHOD Auger, Water Rotary
NORTHING/EASTING 1065319.7 / 2776779.3
DATE STARTED 04/15/2025
DATE COMPLETED 04/22/2025
RIG TYPE CME-550X
TOOLING 3-3/4" Hollow Stem Auger, 3-1/4" Rotary Drill

Groundwater Data	
During Drilling (ft):	N/A
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
										CONCRETE 1.0 878				
										FILL, dark gray, firm, moist, LEAN CLAY with SILT (CL-ML), trace gravel				
5	3.5 ft		J-1	12	3-3-4 (7)	67		1.0						
10	8.5 ft		J-2	12	3-4-5 (9)	67		1.0		- becomes firm to stiff at 8.5'	36-18-18	18.40		
										- becomes reddish brown at 9.5'				
15	13.5 ft		U-1	12		50		2.0		- becomes stiff at 13.5'	39-19-20	26.40	95.60	0.108
20	18.5 ft		J-3	6	42-28-8 (36)	33		3.5		- coarse gravel and very stiff to hard at 18.5'				
										23.5 855.5				
25	23.5 ft		J-4	14	3-5-7 (12)	78		1.5		FILL, reddish brown to gray, stiff, moist, LEAN CLAY (CL), some gravel	50-22-28	25.70		
30	28.5 ft		J-5	8	2-5-7 (12)	44		1.5						
35	33.5 ft		J-6	12	4-7-11 (18)	67		2.5		- becomes very stiff at 33.5'	44-24-20	24.60		

SOIL BORING NUMBER: RR_B4_2

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Eric P.
LOGGED BY Zachary Boyd
SURFACE ELEVATION 879'
METHOD Auger, Water Rotary
NORTHING/EASTING 1065319.7 / 2776779.3
DATE STARTED 04/15/2025
DATE COMPLETED 04/22/2025
RIG TYPE CME-550X
TOOLING 3-3/4" Hollow Stem Auger, 3-1/4" Rotary Drill

Groundwater Data	
During Drilling (ft):	N/A
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
40	38.5 ft		J-7	14	1-5-6 (11)	78		1.5		FILL, reddish brown to gray, stiff, moist, LEAN CLAY (CL), some gravel 38.5 840.5				
										Reddish brown to gray, stiff, moist, LEAN CLAY with SILT (CL-ML)				
45	43.5 ft		J-8	11	WOH-WOH-2 (2)	61		<0.5		- failed tube, very soft, possible WT at 43.5'	47-23-24	30.20		
50	48.5 ft		J-9	15	4-8-10 (18)	83		2.5		- becomes very stiff at 48.5'				
55	53.5 ft		J-10	18	5-7-9 (16)	100		2.5			48-22-26	21.70		
60	58.5 ft		J-11	18	5-8-11 (19)	100		2.5						
65														
70	68.5 ft		J-12	18	6-9-11 (20)	100		3.0			44-20-24	22.00		

WILLIAM JOSEPH STURGEON
PE-2014017021
STATE OF MISSOURI
PROFESSIONAL ENGINEER
10/8/2025

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-51
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 10/10/2025
Package:BRD-21-EB-70 Ramp-18th-KCTRR

Notes:
For locations of borings, see Sheet No. B21-02 and Geotechnical Report.

BORING LOGS

Detailed MAY 2025
Checked JUN 2025

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

SOIL BORING NUMBER: RR_B4_2

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065319.7 / 2776779.3
DRILLING FIRM PPI **DRILLER** Eric P.
DATE STARTED 04/15/2025
LOGGED BY Zachary Boyd
DATE COMPLETED 04/22/2025
SURFACE ELEVATION 879'
RIG TYPE CME-550X
METHOD Auger, Water Rotary
TOOLING 3-3/4" Hollow Stem Auger, 3-1/4" Rotary Drill

Groundwater Data	
During Drilling (ft):	N/A
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
80	78.5 ft		J-13	18	6-9-8 (17)	100		2.5		Reddish brown to gray, stiff, moist, LEAN CLAY with SILT (CL-ML)				
										88.5 790.5				
90	88.5 ft		J-14	18	5-8-10 (18)	100		2.5		Dark gray to gray, very stiff, moist, FAT CLAY (CH)	52-23-29	25.20		
95														
100	98.5 ft		J-15	18	3-8-19 (27)	100		3.5		- gravel at 100'				
										102.6 776.4				
105	102.6 ft		C-1	27		100	0			Limestone, medium bedded, highly weathered, gray, moderately hard, fractured				
	104.9 ft		C-2	60		100	83			- 2" weathered clay seam at 104.9'		0.70	161.00	630
										- 1" clay seam at 105.5'				
										- 2" clay seam at 108.2'				
110	109.9 ft		C-3	60		100	45			- 1" shale seam, fossilized at 110.2'				
										111.9 767.1				
										Shale, thinly bedded, weathered, dark gray				

SOIL BORING NUMBER: RR_B4_2

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Groundwater Data	
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After Drilling (ft):	N/A
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Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
115	114.9 ft		C-3	60		100				Reddish brown to gray, stiff, moist, LEAN CLAY with SILT (CL-ML)		6.80	118.20	340
			C-4	60		100	37							
120	119.9 ft		C-5	60		100	70					1.00	155.30	99
125	124.9 ft		C-6	60		100	95			88.5 790.5		1.10	158.80	110
										Shale, thinly bedded, weathered, dark gray, moderately hard to hard				
130	129.9 ft		C-7	60		100	100			- becomes gray, highly weathered at 114.4'				
										126.0 753				
135										Limey shale, highly weathered, gray, soft				
										126.0 753				
140										Limestone, highly weathered, gray, soft to moderately hard, vuggy		0.40	161.90	527
										- becomes weathered, moderately hard at 124.9'				
145										- becomes slightly weathered at 129.9'				
										134.9 744.1				
										Bottom of Boring at 134.9'				
										Boring backfilled with cuttings and patched with asphalt				

DATE PREPARED 09/22/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B21-52
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9627

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

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Detailed MAY 2025
Checked JUN 2025

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