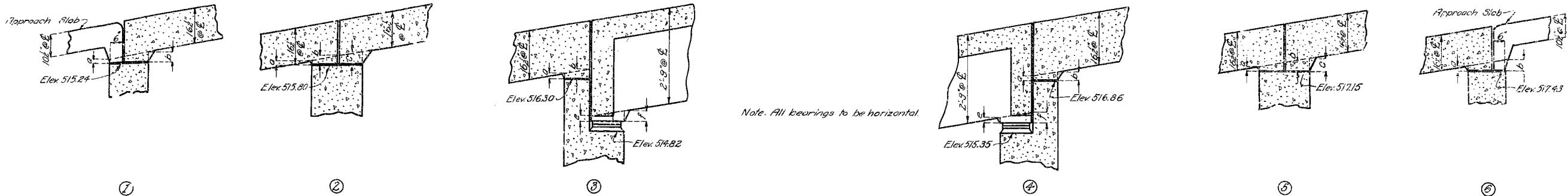




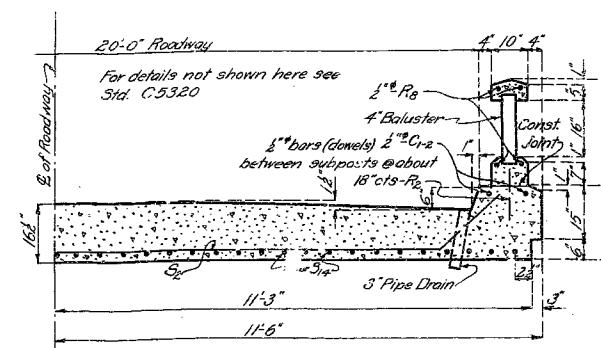


# MISSOURI STATE HIGHWAY DEPARTMENT

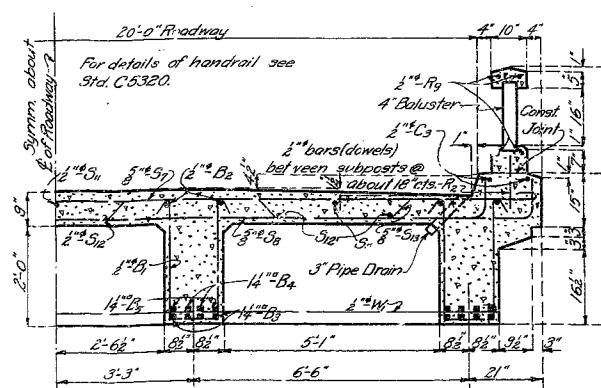
Fed. Road Dist. No.	State	Fed. Aid Proj. No.	Fiscal Year	Sheet No.	Total Sheets
5	MO.	R49-57	192		



DETAILS OF BEARINGS  
SHOWING HAUNCHES



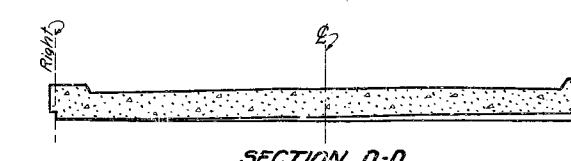
HALF SECTION THRU SLAB SPANS  
AT RIGHT ANGLES TO \$ ROADWAY



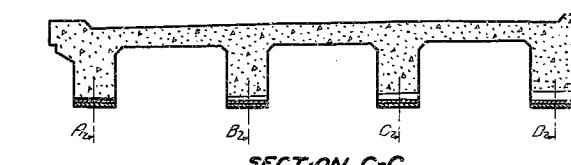
SECTION A-A

Note: The above section shows reinforcing in square part of deck girder span.

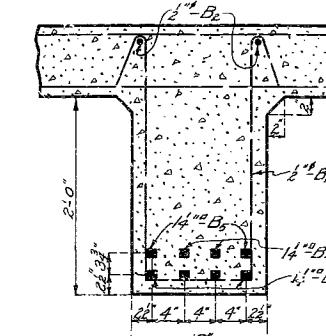
Drawn Oct 1925 By A.R.D.  
Checked Nov 1925 By J.I.



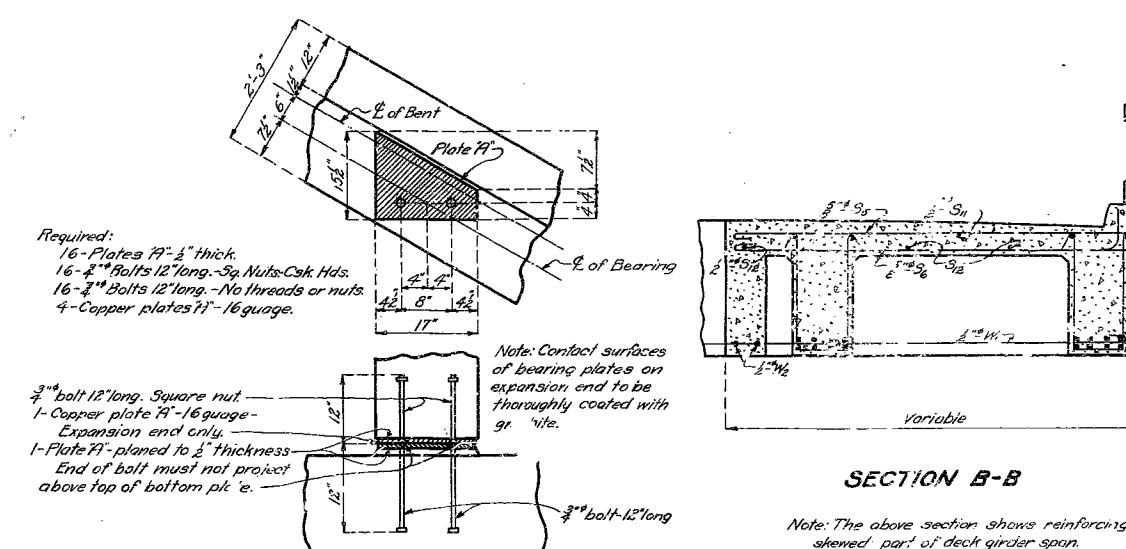
SECTION D-D



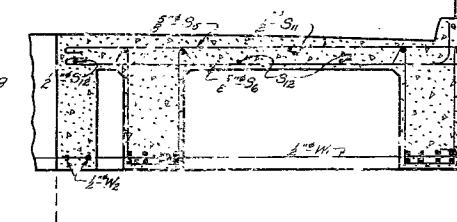
SECTION C-C



DETAILS OF GIRDERS

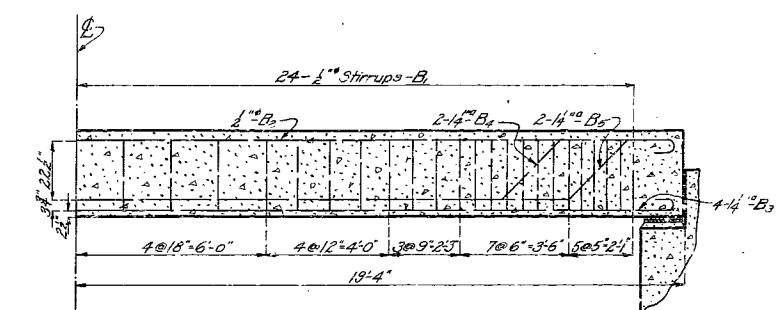


DETAIL OF BEARING PLATES



SECTION B-B

Note: The above section shows reinforcing in skewed part of deck girder span.



GIRDER REINFORCEMENT

Note: Construction joints in deck girder slab permitted only longitudinally midway between girders. Provide keys.

## BRIDGE OVER MISSOURI PACIFIC R.R. TRACKS

STATE ROAD FROM ANNAPOLIS TO DES ARCS  
ABOUT 2 MILES SOUTH OF ANNAPOLIS  
PROJECT NO. R49-57 STA. 58+04.7

IRON COUNTY

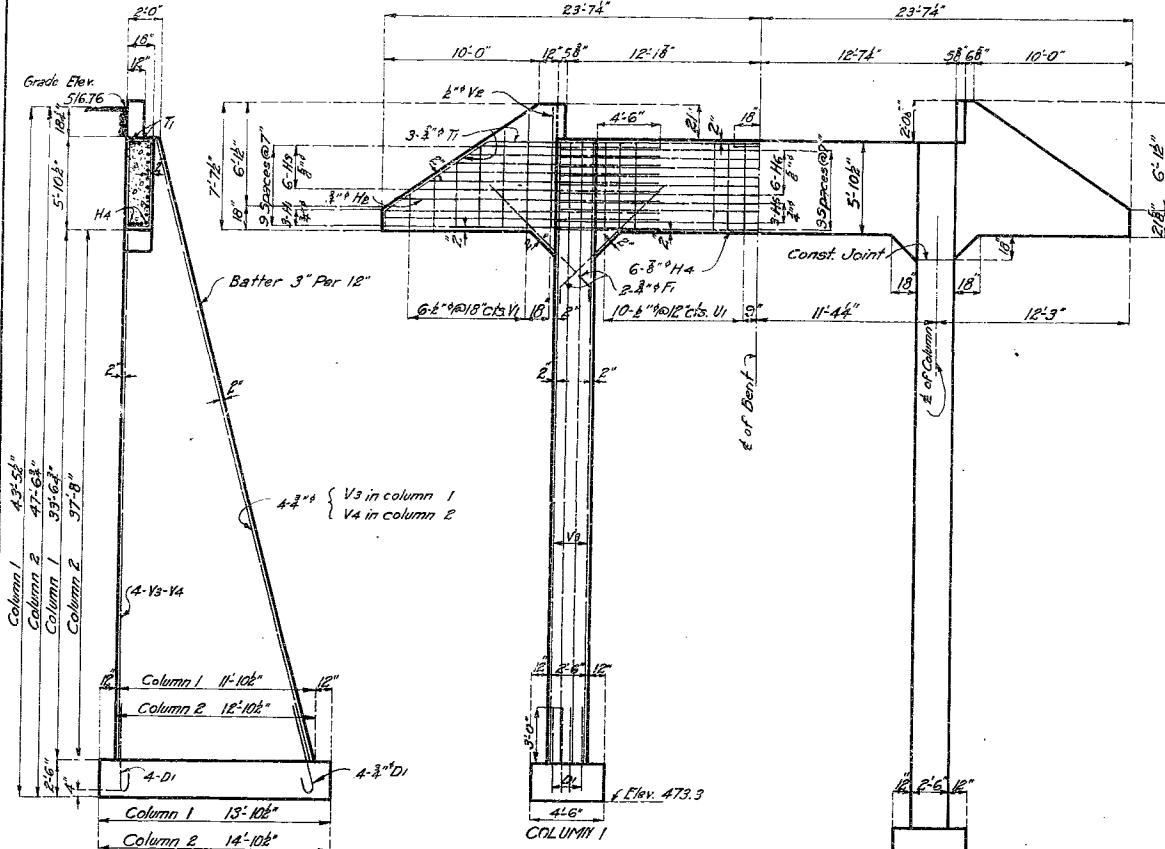
Submittal by  
J. C. Ladd  
Approved by  
J. C. Ladd  
Date  
11/8/25

Std C-5320

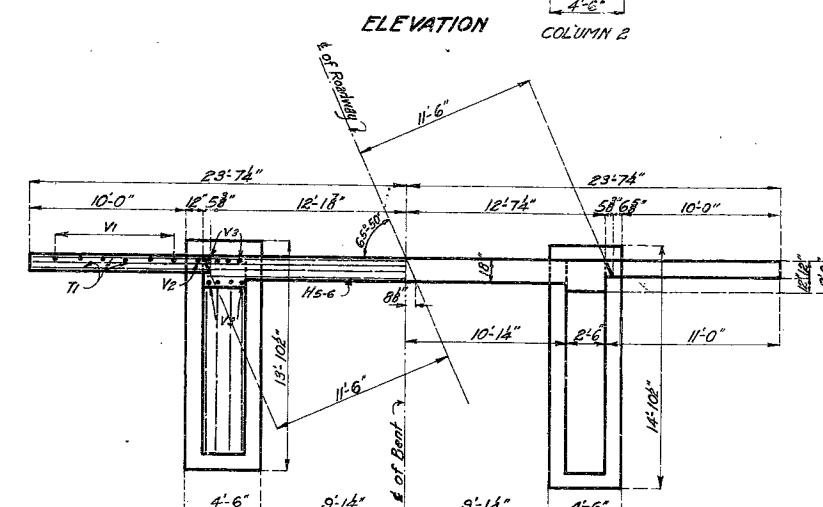
G-878

# MISSOURI STATE HIGHWAY DEPARTMENT

FED ROAD LINE NO.	STATE PROJ. NO.	FED AID FISCAL YEAR	NO.	PICTURE SHEET	TOTAL SHEET
5	MO. R49-57	192			

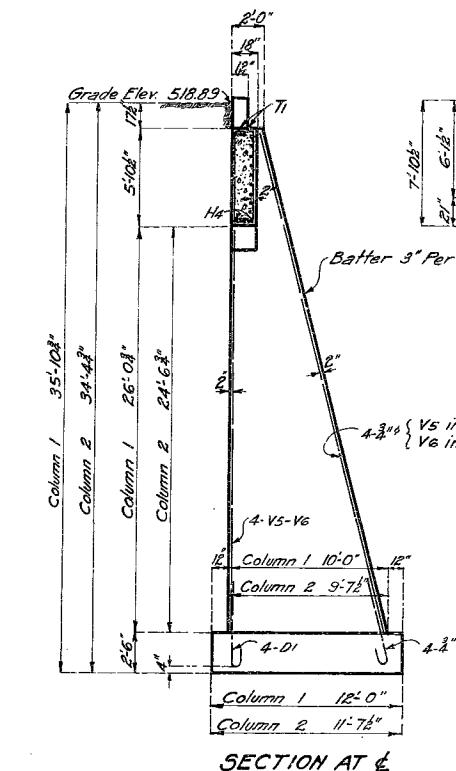


SECTION AT A  
At right angles to face of bent.

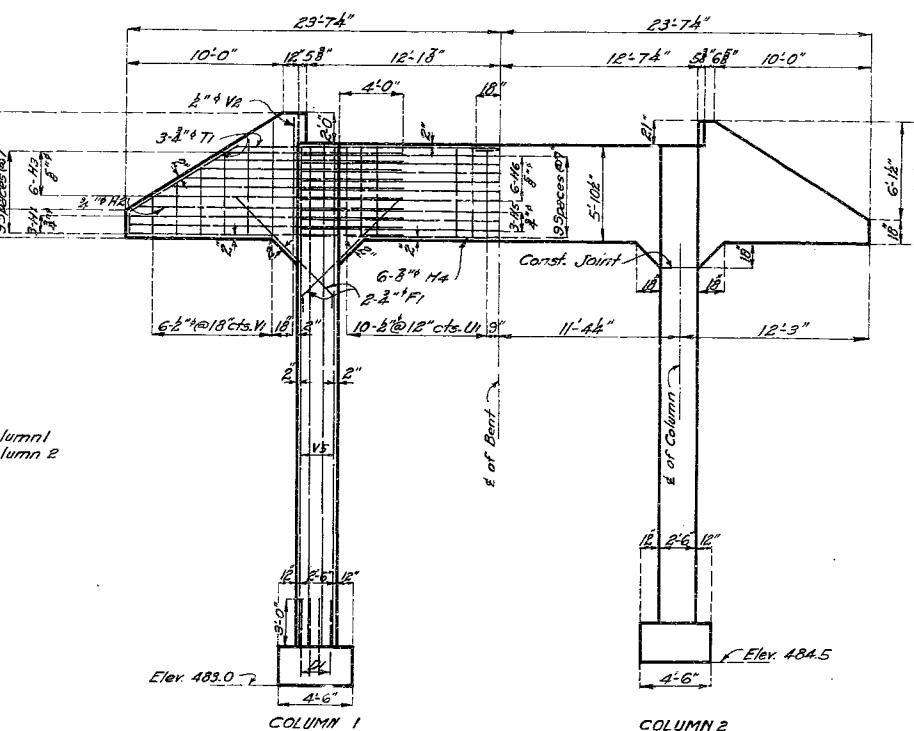


PLAN  
DETAILS OF END BENT NO. 1

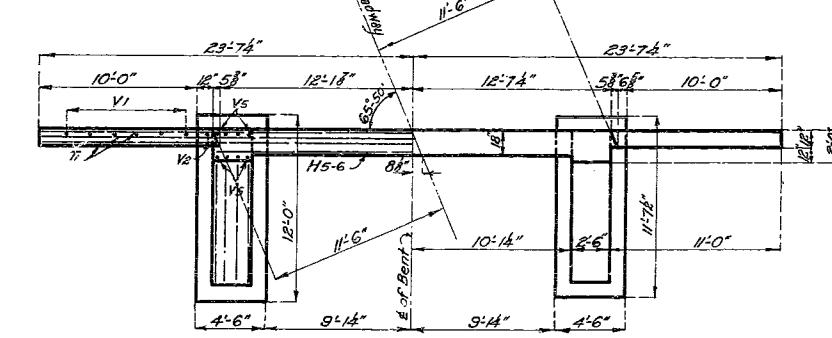
Drawn Oct. 1925 By A.F.K.  
Checked Nov. 1925 By J.I.



SECTION AT B  
At right angles to face of bent.



ELEVATION



PLAN  
DETAILS OF END BENT NO. 6

BRIDGE OVER MISSOURI PACIFIC RAILROAD TRACKS  
STATE ROAD FROM ANNAPOLIS TO DES ARC  
ABOUT 2 MILES SOUTH OF ANNAPOLIS  
PROJECT NO. R49-57 STA. 56+047

IRON COUNTY  
Submitted by J. J. Sundrup Date 11/18/25  
Approved by Date  
Bridge Engineer  
Chief Engineer

STD. C.5320  
G 878

## MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHHEET NO.	TOTAL SHETS
5	MO	R49-51	192		

Grade Ele. { 517.33 Bent 2  
518.60 Bent 5 } —

*SECTION A*

At right angles to

*ELEVAT*

13° 06"

PLAN

DETAILS OF INTERMEDIATE BENTS NOS. 2 AND 5

Drawn Oct. 1925 By A.F.K.  
Checked Nov. 1925 By J.I.

Grade Elevation 517.77 Bent 3 519.30 Bent 4 12' 15" E Bent

SECTION AT  $\ell$   
At right angles to  $\ell$  front

At right angles to a bent

Architectural floor plan showing a rectangular room with a central column. The room has four windows on the left and four on the right. A central column is located in the middle of the room. The room is divided into sections labeled 3-P7, 2'-0", 5-P4, 2'-0", and 3-P7. A note at the bottom indicates a distance of 8'-8" @ 2'-0" cts.

*SECTION B B*

Dimensions a-d  
Reinforcing is Symm about E  
except for bearing plates.

Elev 4821

Elev 4821

**ELEVATION**

13'-10"

5'-0"

8'-0"

13'-10"

5'-0"

E of Roadway

E of Bent

E of Bearing

P.o. 9

13'-10"

5'-0"

11'-6"

6'-6"

3'-3"

3'-3"

3'-48"

3'-48"

3'-3"

7'-18"

7'-18"

5'-5"

5'-5"

11'-6"

6'-6"

11'-6"

6'-6"

**PLAN**

BRIDGE OVER MISSOURI PACIFIC R. R. TRACKS

STATE ROAD FROM ANNAPOLIS TO DEE'S ARK

ABOUT 2 MILES SOUTH OF ANNAPOLIS

PROJECT NO. R 49-57 STA. 56+0

<b>IRON COUNTY</b>	
SUBMITTED BY	<i>J. W. Herdman</i>
	DATE MAY 25, 1935
APPROVED BY	
	DATE

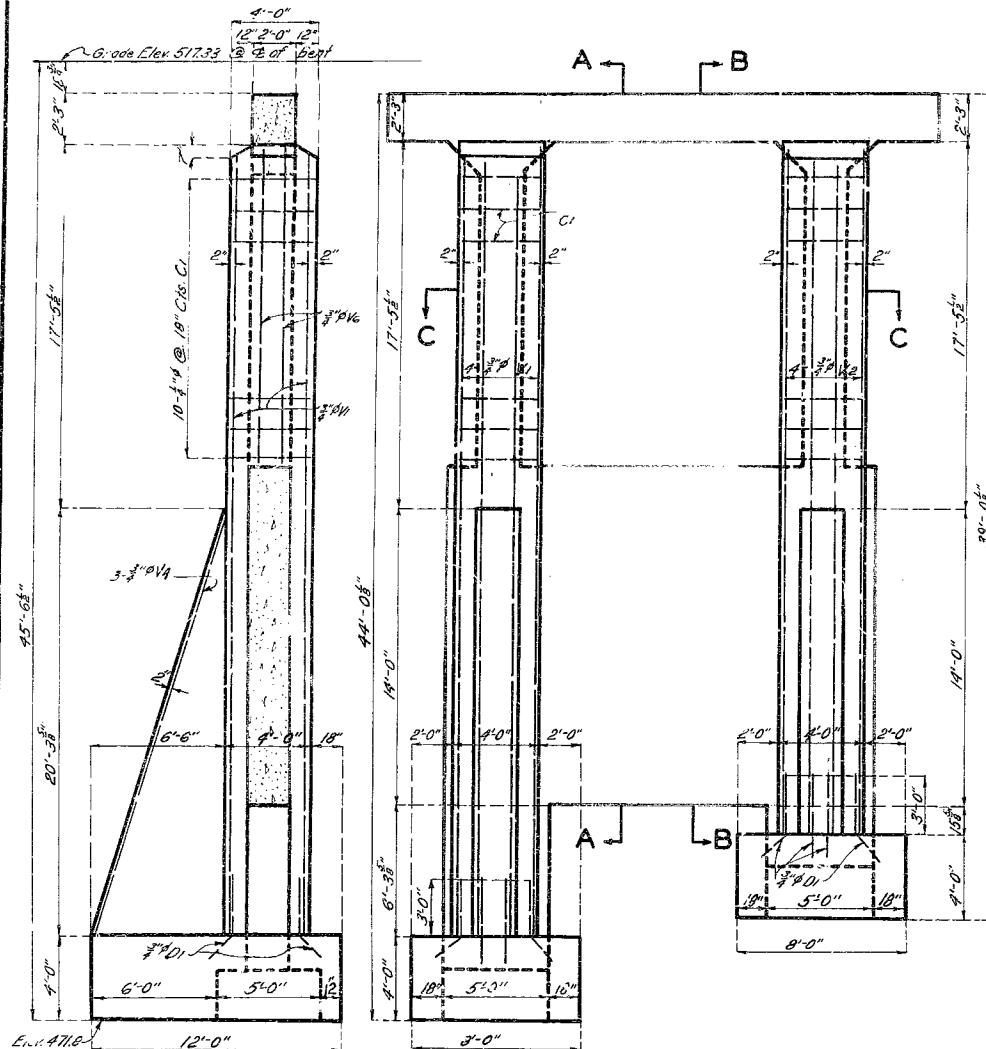
STD. C.5320

Sheet #5 of 5

47-13

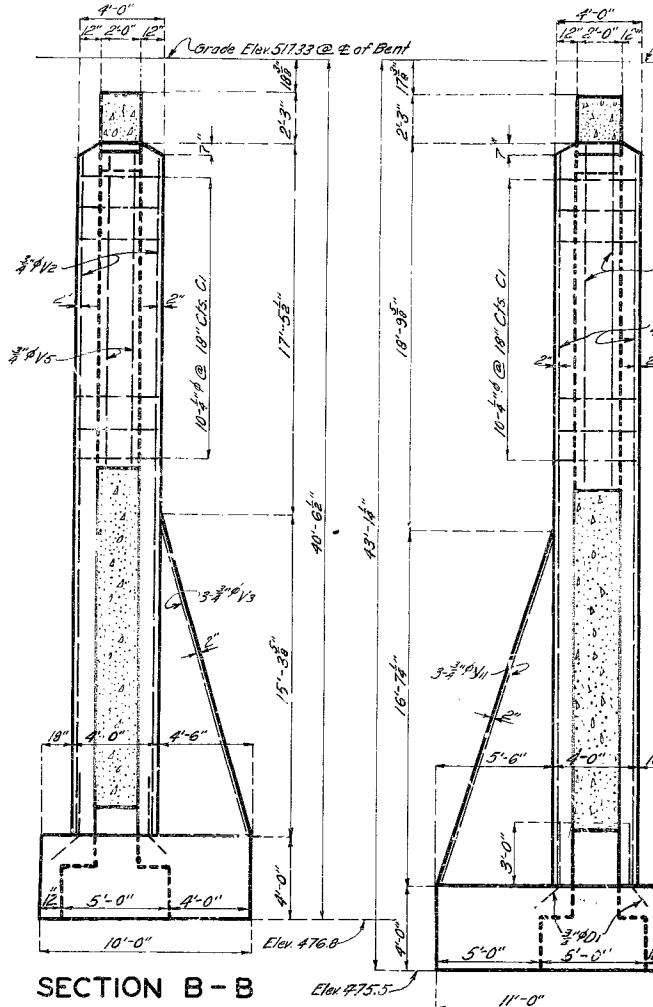
## MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHHEET NO.	TOTAL SHEETS
5	MO.	R49-STA			



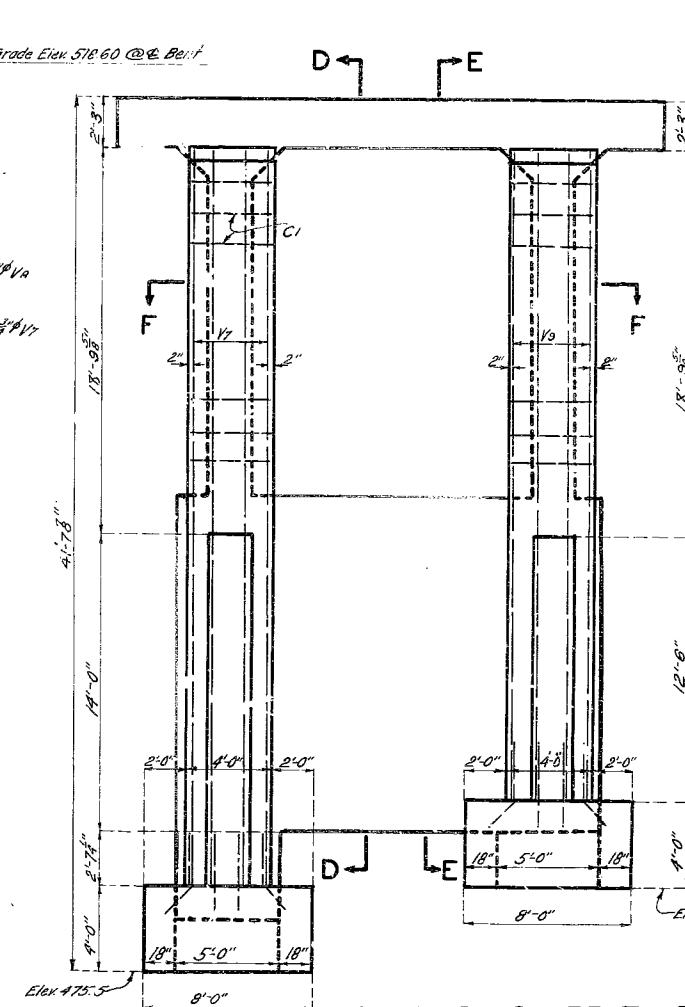
SECTION A-A

**ELEVATION OF BENT NO. 2**

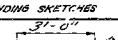
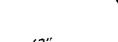


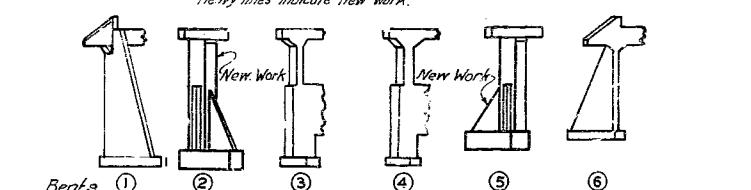
**SECTION B -**

**SECTION D-D**



Note: All concrete to be 1:2:4 Mix  
Exposed edges to be beveled  $\frac{3}{8}$ " where no other bevel is noted.  
Light lines indicate old work.  
Heavy lines indicate new work.

BILL OF REINFORCING STEEL					
NO.	SIZE	LENGTH	MARK	LOCATION	BENDING SKETCHES
32	$\frac{3}{4}'' \bar{B}$	6'-0"	DI	Footings	
8	$\frac{3}{8}'' \bar{B}$	37'-0"	V1	Column	
8	$\frac{3}{8}'' \bar{B}$	32'-0"	V2	"	
3	$\frac{3}{8}'' \bar{B}$	16'-6"	V3	"	
3	$\frac{3}{8}'' \bar{B}$	21'-0"	V4	"	
4	$\frac{3}{8}'' \bar{B}$	17'-6"	V5	"	
4	$\frac{3}{8}'' \bar{B}$	17'-6"	V6	"	
8	$\frac{3}{8}'' \bar{B}$	34'-6"	V7	"	
4	$\frac{3}{8}'' \bar{B}$	18'-9"	V8	"	
8	$\frac{3}{8}'' \bar{B}$	30'-6"	V9	"	
4	$\frac{3}{8}'' \bar{B}$	18'-9"	V10	"	
3	$\frac{3}{8}'' \bar{B}$	17'-6"	V11	"	
3	$\frac{3}{8}'' \bar{B}$	13'-6"	V12	"	
42	$\frac{3}{8}'' \bar{B}$	16'-0"	C1	"	



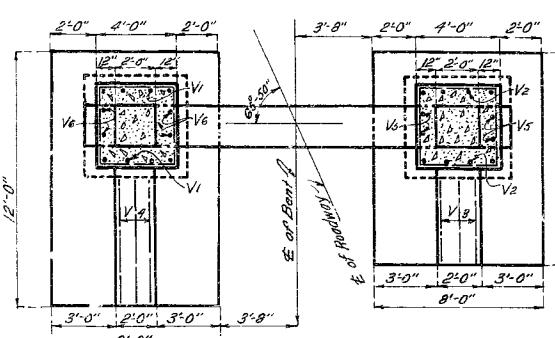
③ BRIDGE ④ MO. PAC. ⑤ R.R. ⑥ TRACKS

STATE ROAD FROM ANNAPOLIS TO DES ARC  
ABOUT 2 MILES SOUTH OF ANNAPOLIS  
PROJECT NO. R49-S7A STA. 56+04.7

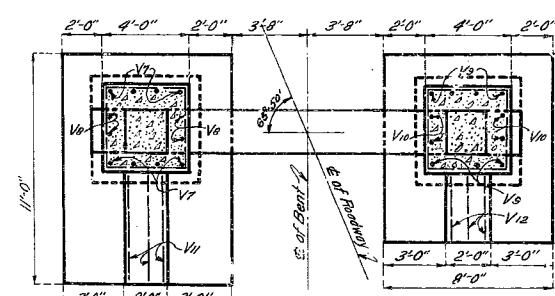
IRON COUNTY

SUBMITTED BY D. W. Eustace DATE Dec 20, 1927  
ACTING BRIDGE ENGINEER  
PASSED BY W. H. Bradley DATE 12/20/27  
ASSISTANT TO CHIEF ENGINEER  
APPROVED BY H. C. Miller DATE 12/20/27  
CHIEF ENGINEER

G-878-A



SECTION C-C



**SECTION F -**

ESTIMATED QUANTITIES			
Concrete 1:2:4 Mix.	Cu Yds.		102.6
Reinforcing Steel	Lbs.		2770
Excavation	Cu Yds.		400

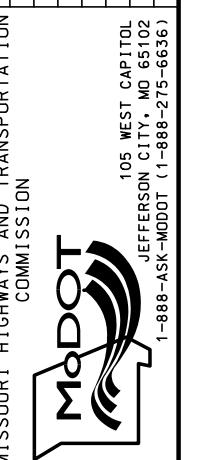
Drown Sept. 1927 By A.F.K.  
Traced Sept. 1927 By L.W.V.  
Checked Sept. 1927 By J.L.P.



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ELECTRONICALLY.

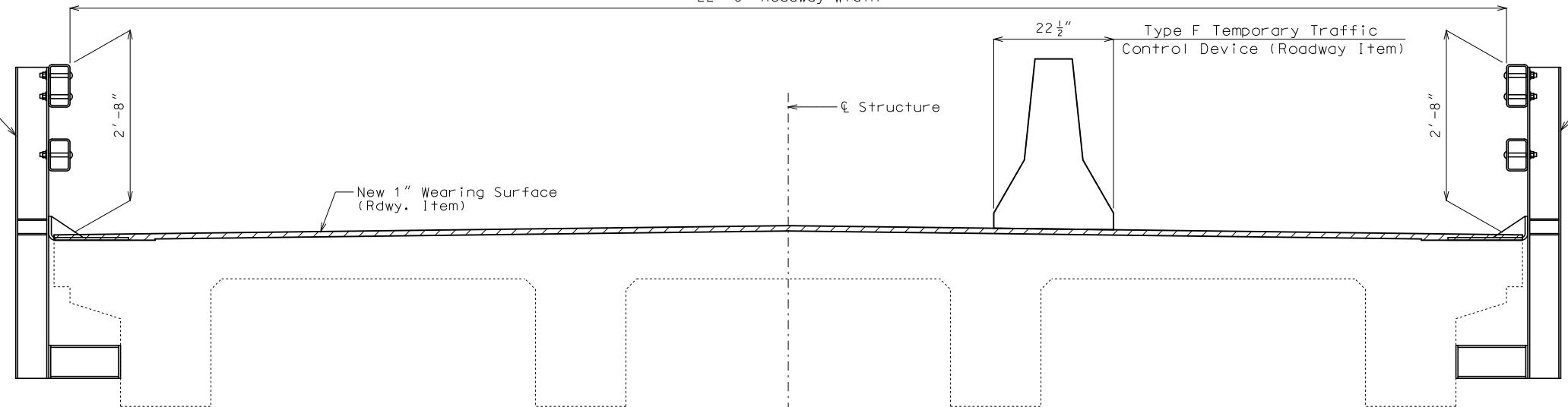
DATE PREPARED  
9/2/2015  
ROUTE 49 STATE MO  
DISTRICT BR SHEET NO. 1  
COUNTY IRON  
JOB NO. J9P3116  
CONTRACT ID.  
PROJECT NO.  
BRIDGE NO. G08781

SECTION	DESCRIPTION	DATE



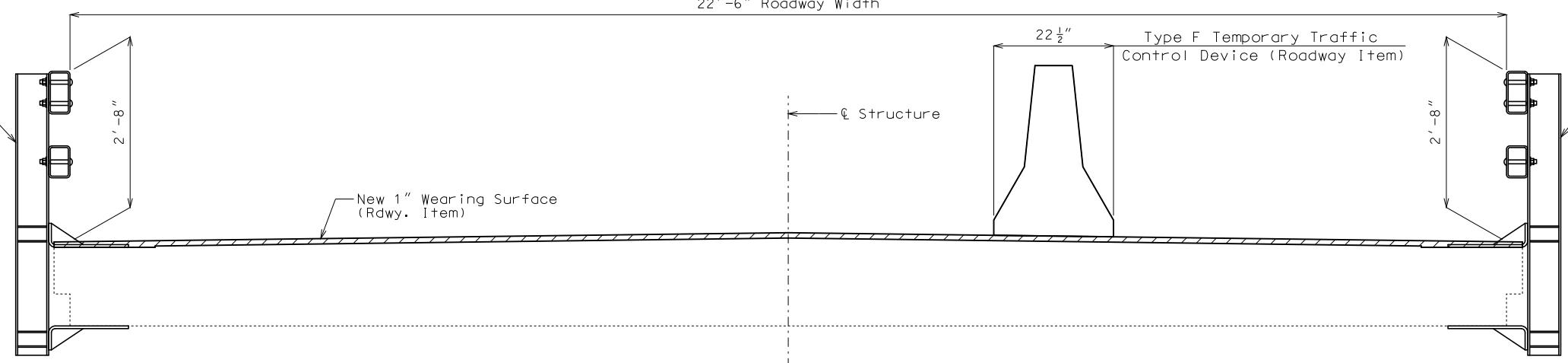
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

For details of post,  
see Sheet No. 5.

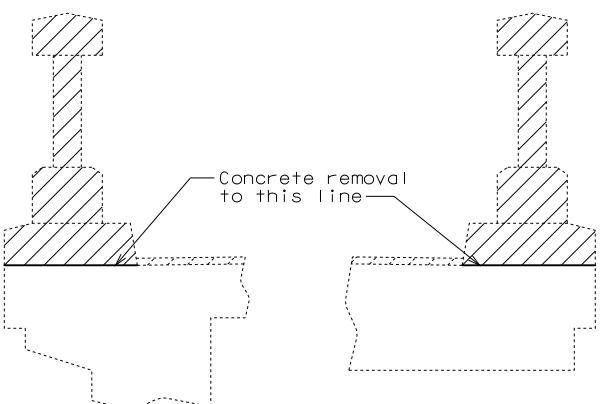


SECTION THRU DECK GIRDER SPAN

For details of post,  
see Sheet No. 4.



SECTION THRU SLAB SPANS



TYPICAL PART SECTION THRU  
SLAB AND DECK GIRDER SPANS  
SHOWING LIMITS OF CONCRETE REMOVAL

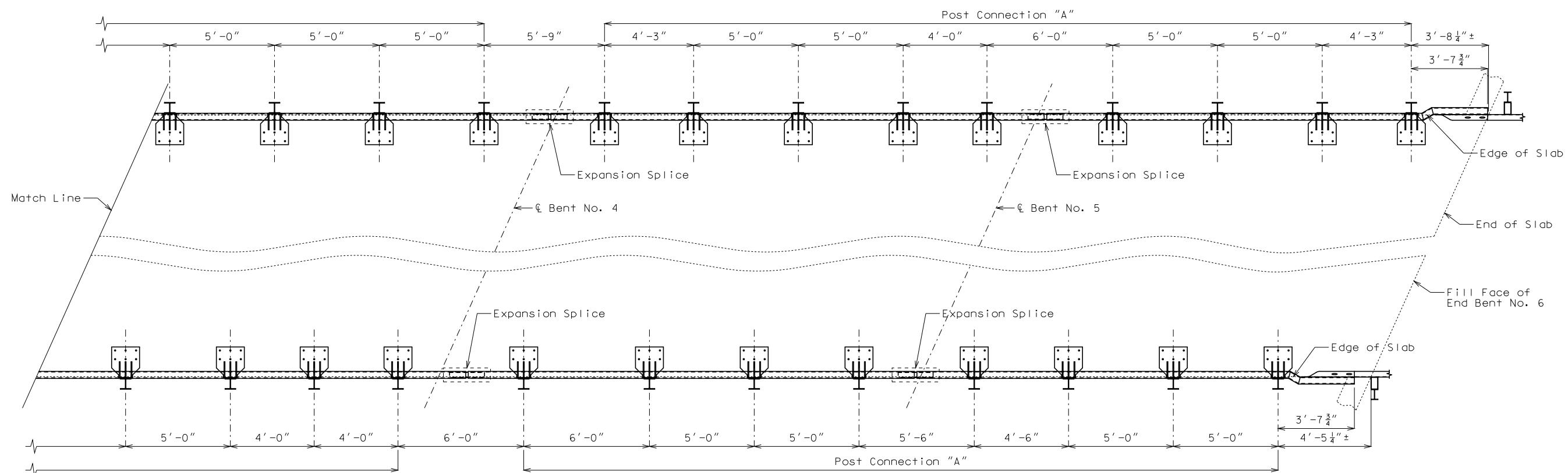
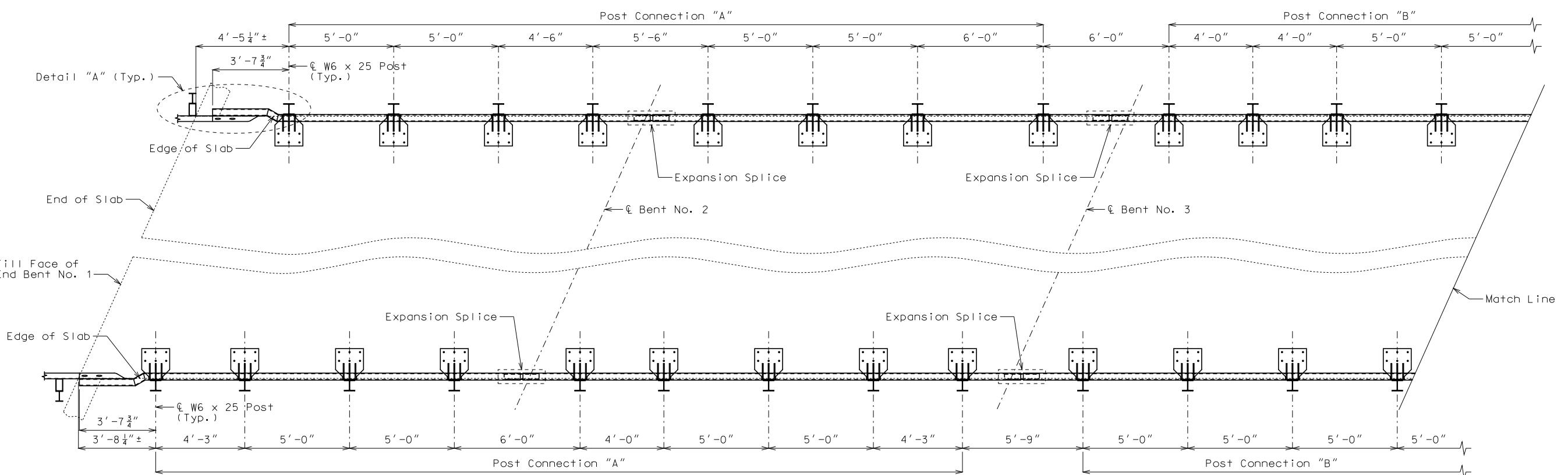
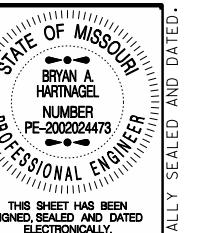
Estimated Quantities		
Item		Total
Curb Removal	linear foot	255
Bridge Rail (Two Tube Structural Steel)	linear foot	253

\* Includes curb, baluster rail and end post.

REPAIRS TO BRIDGE: ROUTE 49 OVER U.P.R.R.

ROUTE 49 FROM RTE. F TO RTE. BB  
ABOUT 0.4 MILE S.W. OF RTE. F  
STA. 56+04.70± (Match Existing)

STD. 606.00
STD. 606.23
STD. 617.20



## PART PLAN SHOWING POST SPACING

Note:

Work this sheet with Sheets No. 3, 4 & 5.



The logo for the Missouri Department of Transportation (MoDOT) is displayed. It features the word "MODOT" in a bold, sans-serif font, with a stylized road or bridge graphic underneath. To the right of the logo, the address "105 WEST CAPITOL JEFFERSON CITY, MO 65102" is written vertically, followed by the phone number "1-888-ASK-MODOT (1-888-275-6636)".



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ELECTRONICALLY.

DATE PREPARED  
9/2/2015

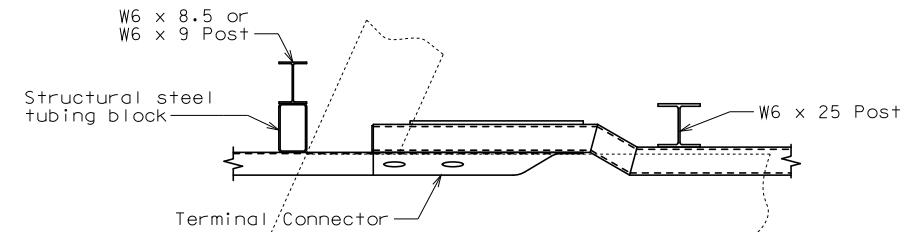
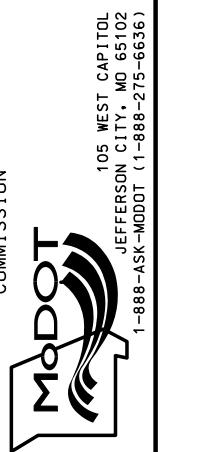
ROUTE 49 STATE MO  
DISTRICT BR SHEET NO. 3

COUNTY IRON

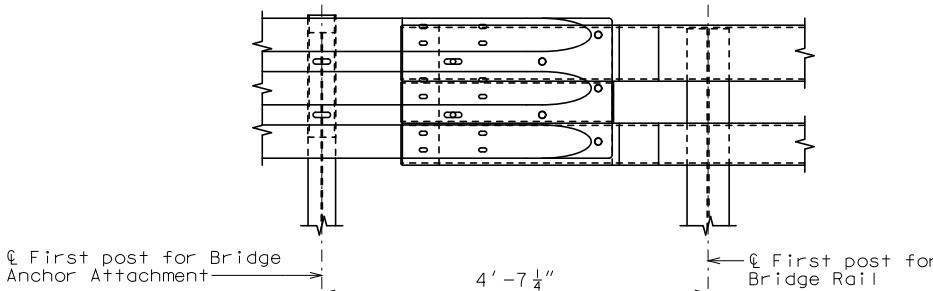
JOB NO. J9P3116  
CONTRACT ID.

PROJECT NO. BRIDGE NO. G08781

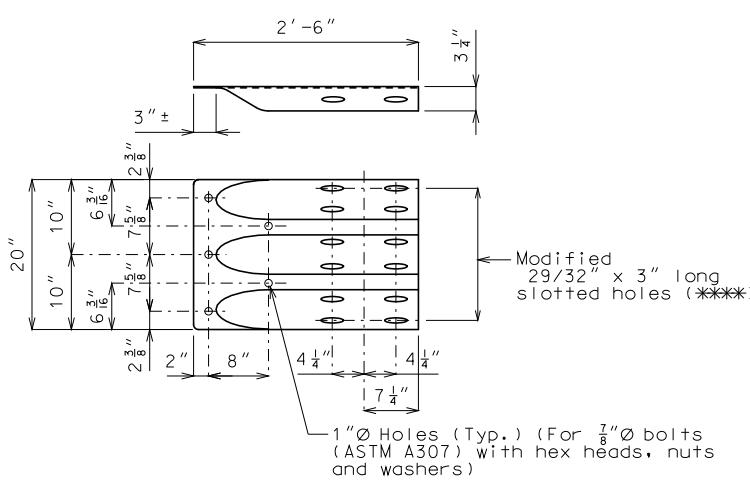
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



PLAN

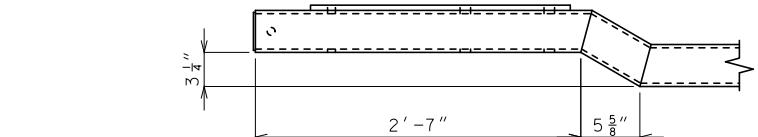


DETAIL "A"  
(Part elevation of Bridge Anchor Attachment)

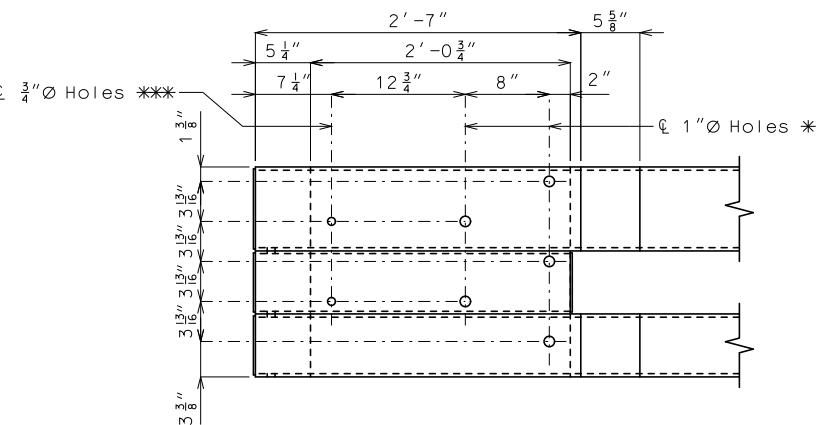


\*\*\*\* Tighten bolts, back off 1/2 turn and burr threads.  
Allow for sliding between Modified Bridge Anchor Section (Thrie Beam) and Bridge Rail (Two Tube Structural Steel).

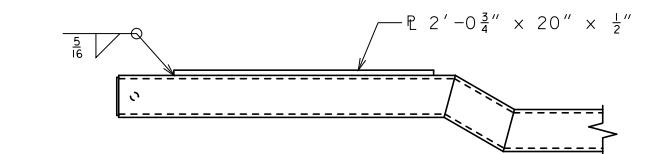
MODIFIED TERMINAL CONNECTION  
AT ABUTMENTS (ROADWAY ITEM)



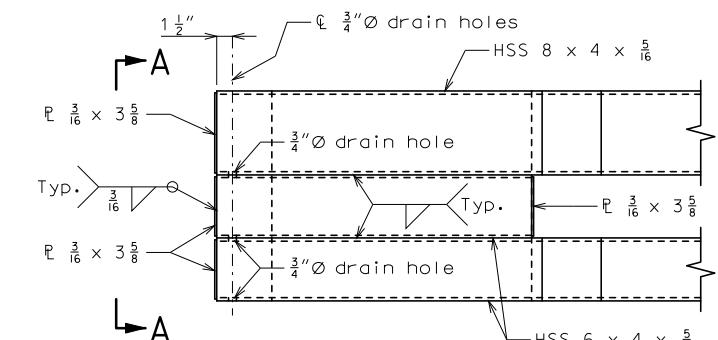
PLAN



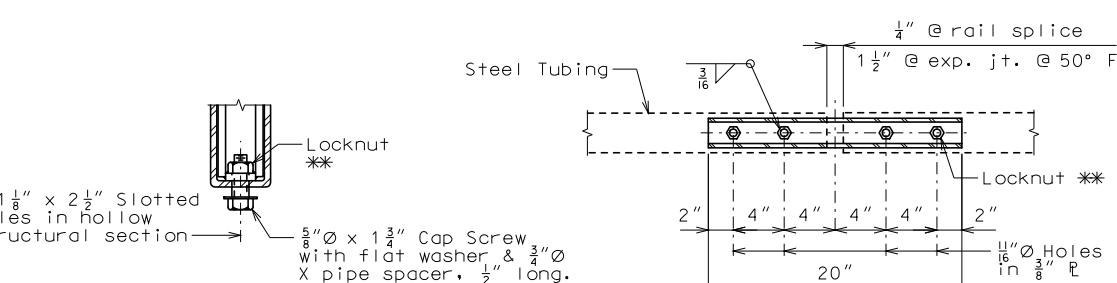
END OF RAIL SHOWING  
BOLT HOLE LAYOUT FOR  
GUARDRAIL ATTACHMENT



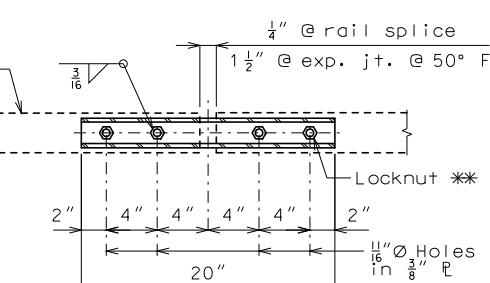
PLAN



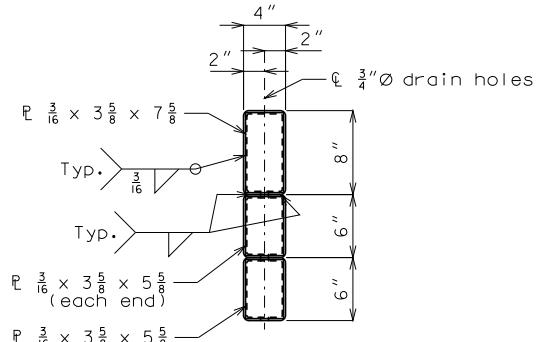
END OF RAIL DETAILS



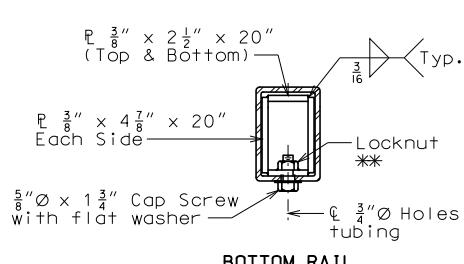
RAIL SPLICE CONNECTION  
AT EXPANSION JOINT



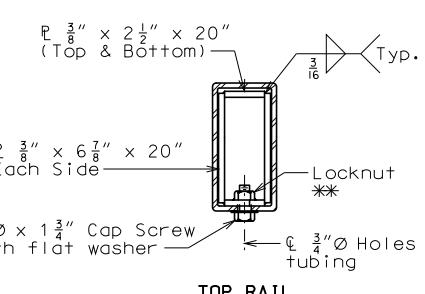
PLAN-BOTTOM SPLICE P  
TYPICAL



SECTION A-A



SECTIONS AT RAIL SPLICE

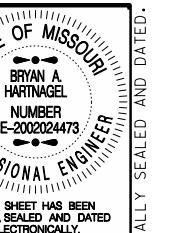


\* For 7/8" Ø bolts (ASTM A307) with hex heads, nuts and washers

\*\* Tack weld nut to plate

\*\*\* For 5/8" Ø button-head oval shoulder bolts with hex nuts

Work this sheet with Sheets No. 2, 4 & 5.



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DATE PREPARED  
9/2/2015

ROUTE 49 STATE MO  
DISTRICT BR SHEET NO. 4

COUNTY IRON  
JOB NO. J9P3116  
CONTRACT ID.

PROJECT NO.  
BRIDGE NO. G08781

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION  
105 WEST CAPITOL JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6356)



#### Notes:

Fabrication of structural steel shall be in accordance with Sec 712 and 1080.

Hollow structural sections shall be in accordance with ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F, see Sec 1080 for reporting.

All other steel shapes and plates shall be in accordance with AASHTO M 270 Grade 36.

Bolts, cap screws, and nuts shall be in accordance with ASTM designation A 307 except for high strength bolts, nuts and washers noted which shall be in accordance with AASHTO M 164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with AASHTO M 232.

All posts, railing, rail splices and bent plates shall be galvanized after shop fabrication in accordance with AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.

Railing shall be in accordance with Sec 713, except as noted.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

For details of Bridge Rail post spacing, see Sheet No. 2.

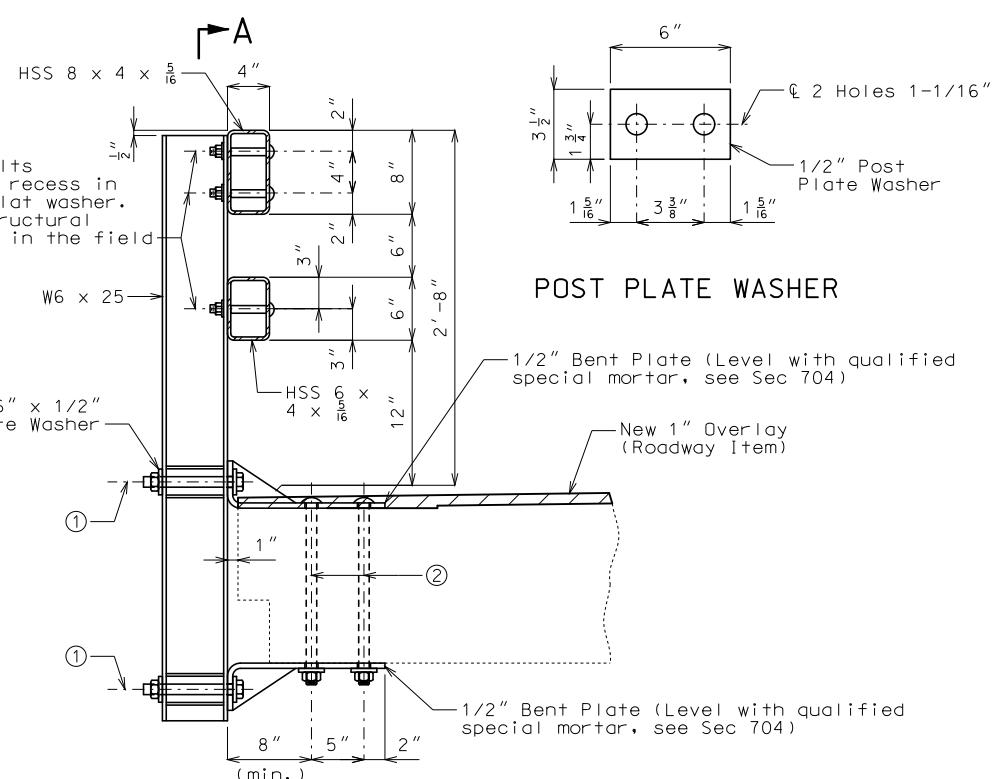
Payment for furnishing all materials, equipment and labor necessary to install Bridge Rail, complete-in-place, shall be considered completely covered by the contract unit price per linear foot for Bridge Rail (Two Tube Structural Steel).

Delineators shall be placed on top of the W6x25 post as shown on Missouri Standard Plans 606.00 and in accordance with Sec 606. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Delineators will be considered completely covered by the contract unit price for Bridge Rail (Two Tube Structural Steel).

HSS = Hollow structural sections

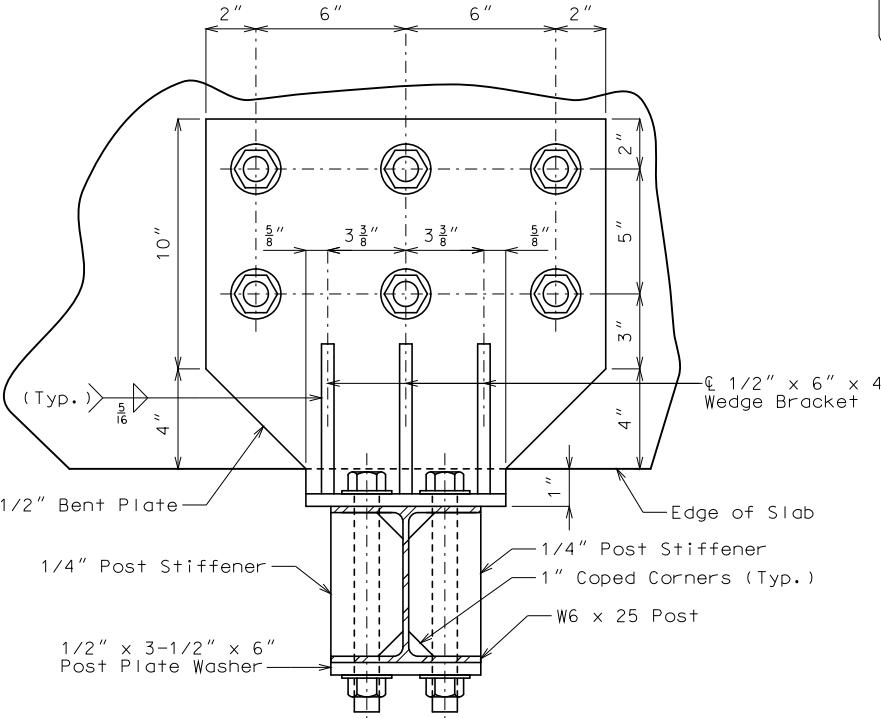
XXS = Double extra strong

Work this sheet with Sheets No. 2 & 3.



POST PLATE WASHER

SECTION A-A

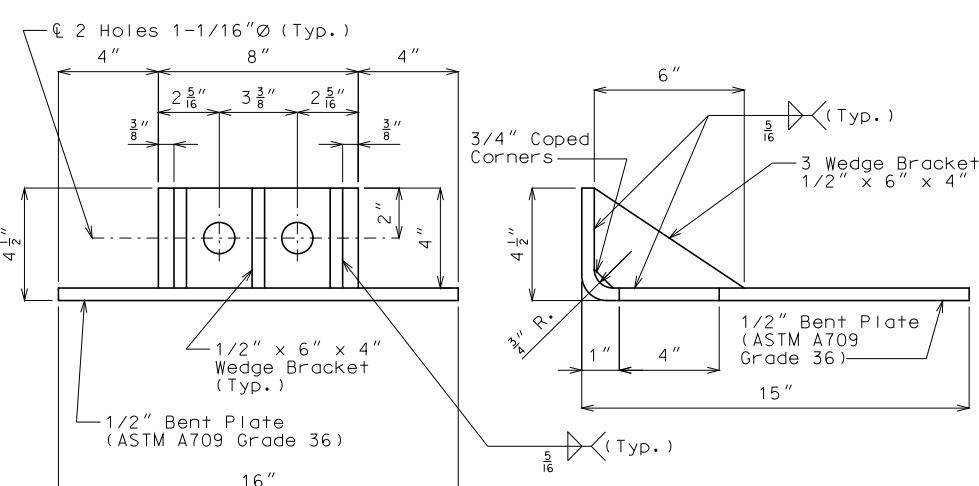


SECTION B-B

① Post-to-Bent Plate Conn.  
② Bent Plate-to-Deck Conn.

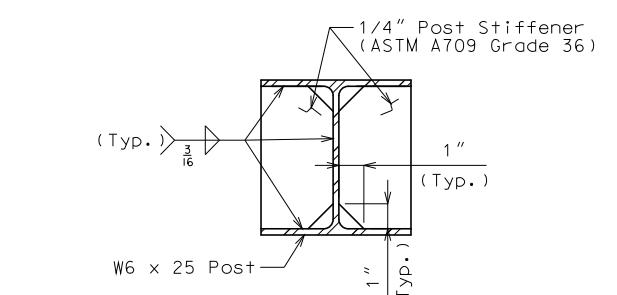
① Post-to-Bent Plate Conn.  
② Bent Plate-to-Deck Conn.

① Post-to-Bent Plate Conn.  
② Bent Plate-to-Deck Conn.

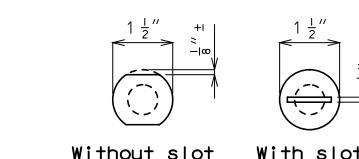


DETAILS OF 1/2" BENT PLATE

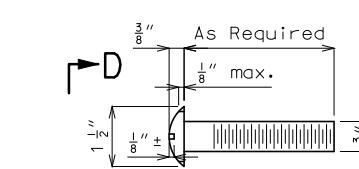
DETAILS OF POST CONNECTION "A"



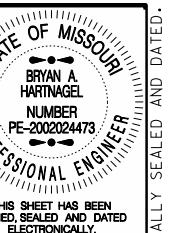
POST STIFFENER



VIEW D-D



DETAIL OF 3/4" ROUND HEAD BOLT



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DATE PREPARED  
9/2/2015

ROUTE 49 STATE MO  
DISTRICT BR SHEET NO. 5

COUNTY IRON

JOB NO. J9P3116  
CONTRACT ID.

PROJECT NO.

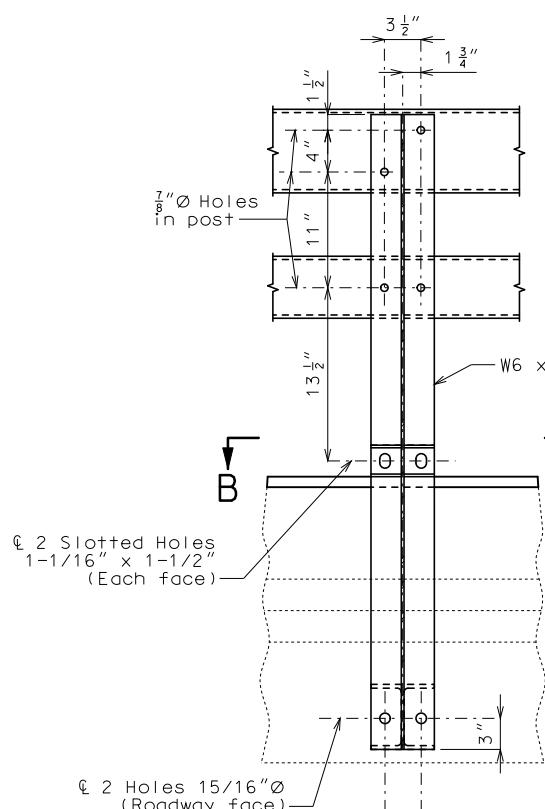
BRIDGE NO. G08781

SECTION DESCRIPTION DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION  
105 WEST CAPITOL JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6356)

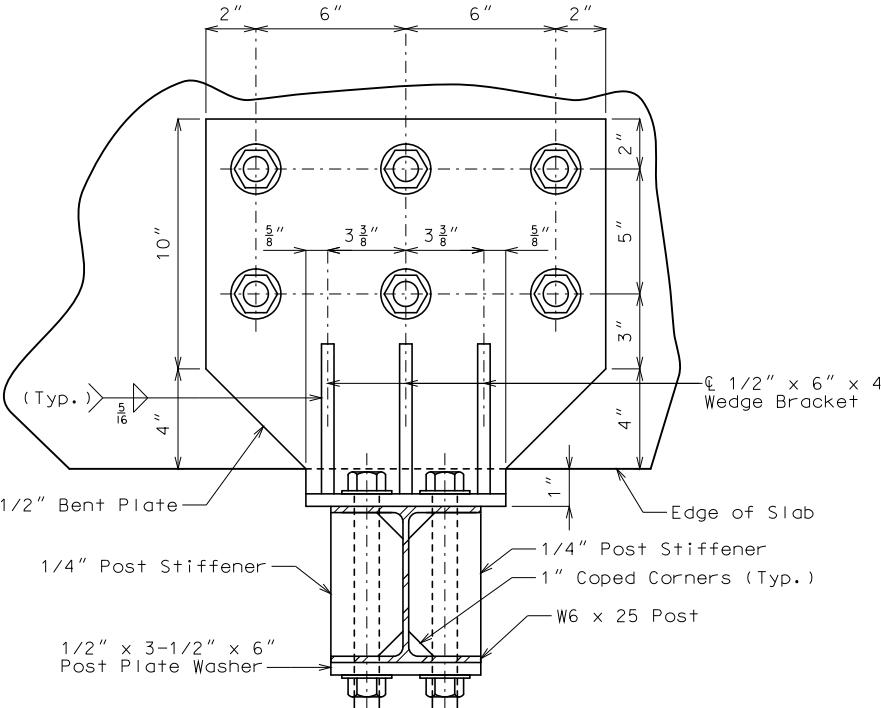
MODOT

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

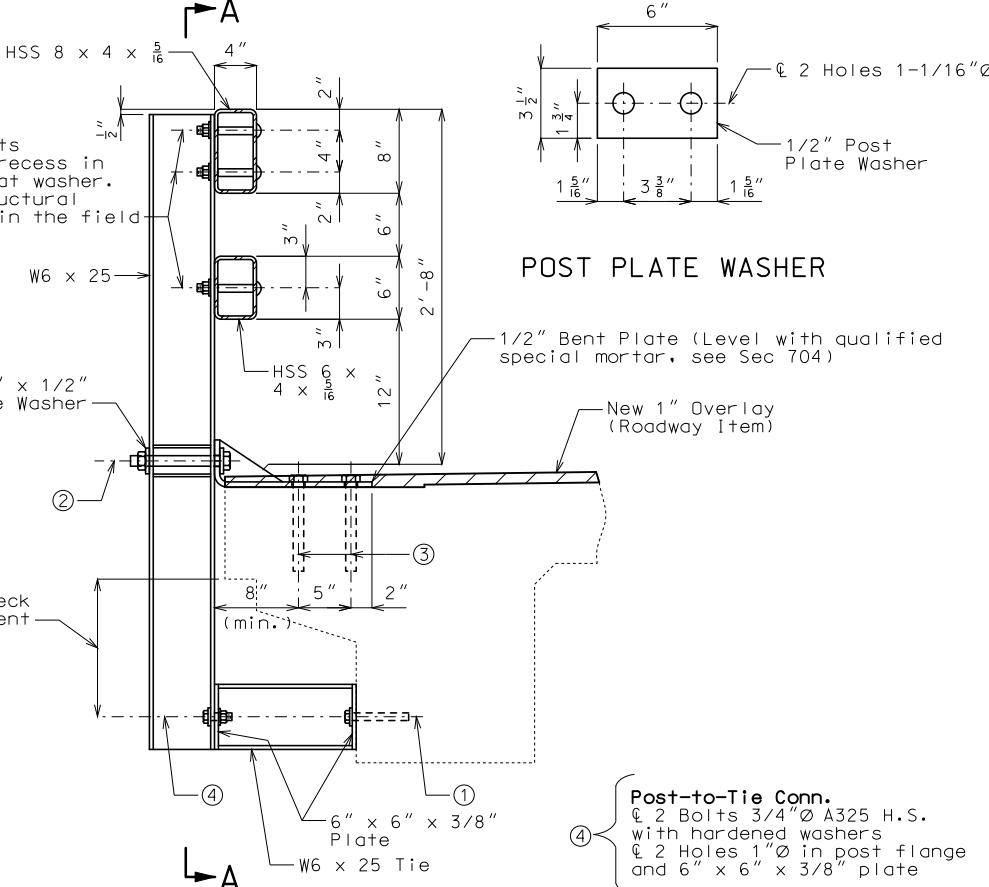


SECTION A-A

**Tie-to-Deck Girder Conn.**  
① 2 Resin Anchor Systems to include:  
2 Drilled holes 7/8"Ø (min.) or as recommended by manufacturer in girder  
2 Holes 1"Ø in plates and post flange  
2 Threaded rod 3/4"Ø A449 H.S., snug tight, 5" embedment in girder  
2 Hardened locking washers



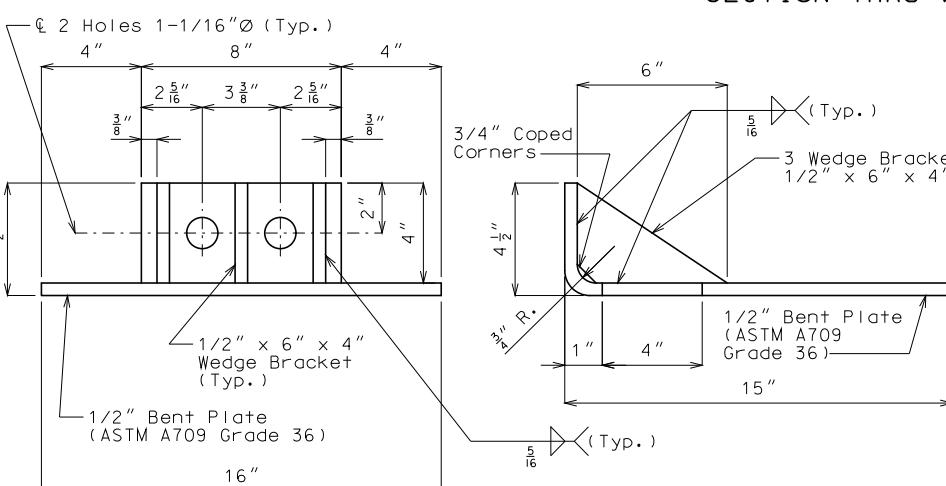
SECTION B-B



POST PLATE WASHER

**Post-to-Bent Plate Conn.**  
② 2 Bolts 1"Ø A325 H.S.  
with hardened washers  
2 Vertical slotted holes  
1-1/16" x 1-1/2" in post flanges  
2 Holes 1-1/16"Ø in bent plate and post plate washer

**Bent Plate-to-Deck Conn.**  
③ 3 Resin Anchor Systems to include:  
3 Drilled holes 1-1/8"Ø (min.) in slab or as recommended by manufacturer  
3 Holes 1-1/4"Ø in bent plate  
3 Threaded rod 1"Ø A449 H.S., snug tight, 8" (min.) embedment in slab.  
3 Hardened locking washers



DETAILS OF 1/2" BENT PLATE

DETAILS OF POST CONNECTION "B"

Notes:

Fabrication of structural steel shall be in accordance with Sec 712 and 1080.

Hollow structural sections shall be in accordance with ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F, see Sec 1080 for reporting.

All other steel shapes and plates shall be in accordance with AASHTO M 270 Grade 36.

Bolts, cap screws, and nuts shall be in accordance with ASTM designation A 307 except for high strength bolts, nuts and washers noted which shall be in accordance with AASHTO M 164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with AASHTO M 232.

All posts, railing, rail splices, bent plates and ties shall be galvanized after shop fabrication in accordance with AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.

Railing shall be in accordance with Sec 713, except as noted.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

For details of Bridge Rail post spacing, see Sheet No. 2.

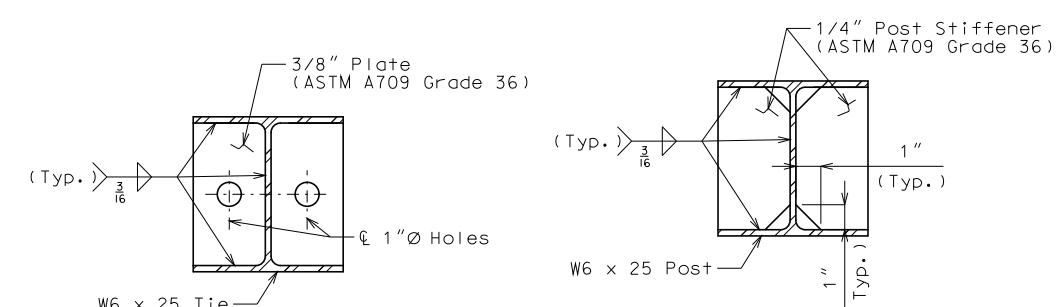
Payment for furnishing all materials, equipment and labor necessary to install Bridge Rail, complete-in-place, shall be considered completely covered by the contract unit price per linear foot for Bridge Rail (Two Tube Structural Steel).

Delineators shall be placed on top of the W6x25 post as shown on Missouri Standard Plans 606.00 and in accordance with Sec 606. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Delineators will be considered completely covered by the contract unit price for Bridge Rail (Two Tube Structural Steel).

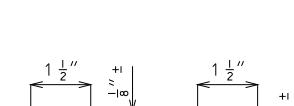
HSS = Hollow structural sections

XXS = Double extra strong

Work this sheet with Sheets No. 2 & 3.



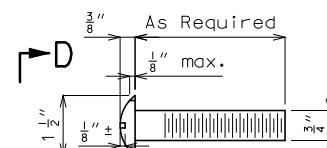
SECTION THRU W6 X 25 TIE



POST STIFFENER



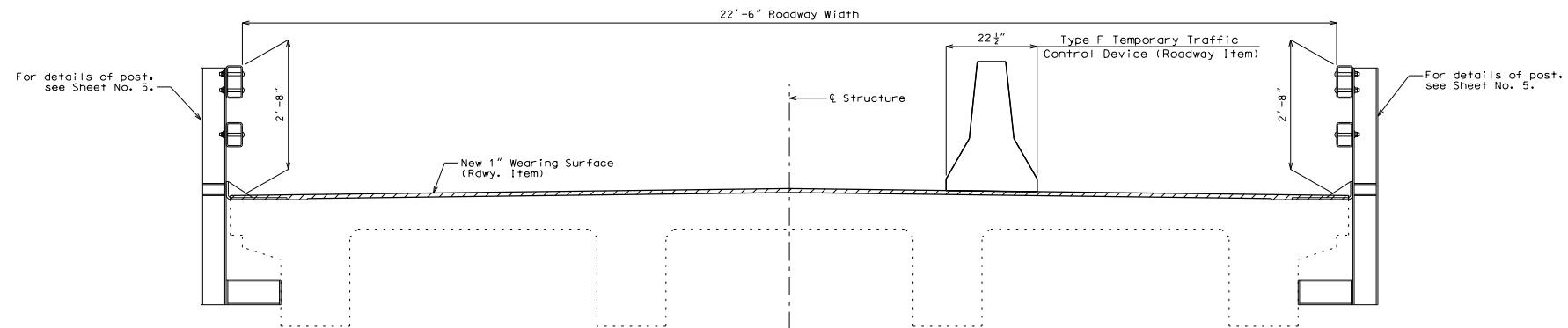
VIEW D-D



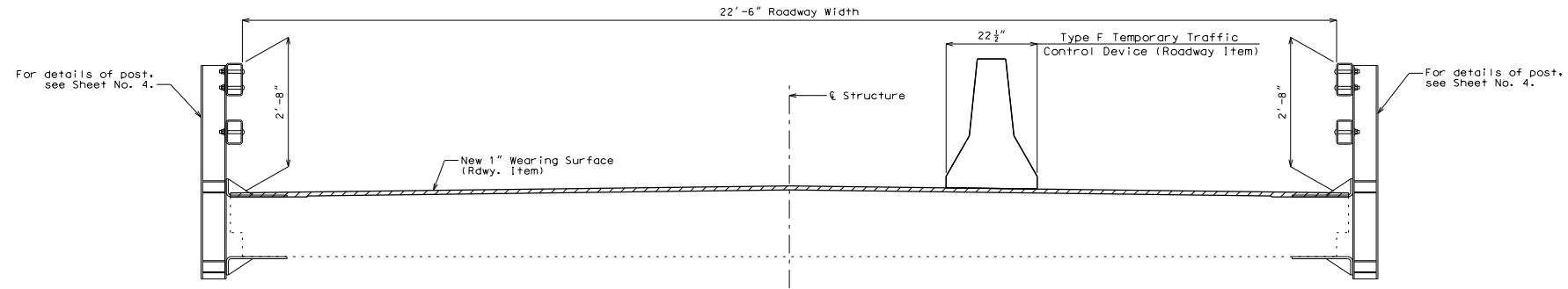
DETAIL OF  $\frac{3}{4}$ "Ø ROUND HEAD BOLT

U.I.P. AND REHAB. EXISTING (20', 22.8') CONC. SLAB SPANS, (38.7') CONC. DECK GIRDERS,  
(22.8', 20') CONC. SLAB SPANS

SEC/SUR 25 TWP 31N RGE 3E



SECTION THRU DECK GIRDERS SPAN



SECTION THRU SLAB SPANS

THESE PLANS ACCURATELY DEPICT THE CONFIGURATION AND LOCATION  
OF THE ROADWAY AND ALL APPURTENANCE FEATURES, INCLUDING MODIFICATIONS  
DESIGNATED OR AUTHORIZED BY THE ENGINEER OF RECORD.

GENERAL NOTES:

Design Specifications:  
2002 AASHTO LFD (17th Ed.) Standard Specifications

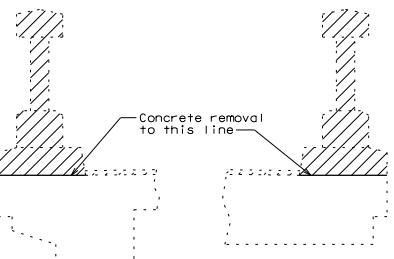
Traffic Control:  
One lane of traffic shall remain open during construction.  
See Roadway Plans for traffic control.

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

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

Temporary barrier shall not be attached to the bridge.

Existing vertical and horizontal clearances of structure over railroad will not be reduced with new construction.



TYPICAL PART SECTION THRU  
SLAB AND DECK GIRDERS SPANS  
SHOWING LIMITS OF CONCRETE REMOVAL

Sheet No. 1 of 5

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

SIGNATURE DATE

Final Quantities

Item	Total
* Curb Removal	linear foot 255✓
Bridge Rail (Two Tube Structural Steel)	linear foot 253✓

\* Includes curb, baluster rail and end post.

REPAIRS TO BRIDGE: ROUTE 49 OVER U.P.R.R.

ROUTE 49 FROM RTE. F TO RTE. BB
ABOUT 0.4 MILE S.W. OF RTE. F
STA. 56+04.70+ (Match Existing)

STD. 606.00
STD. 606.23
STD. 617.20

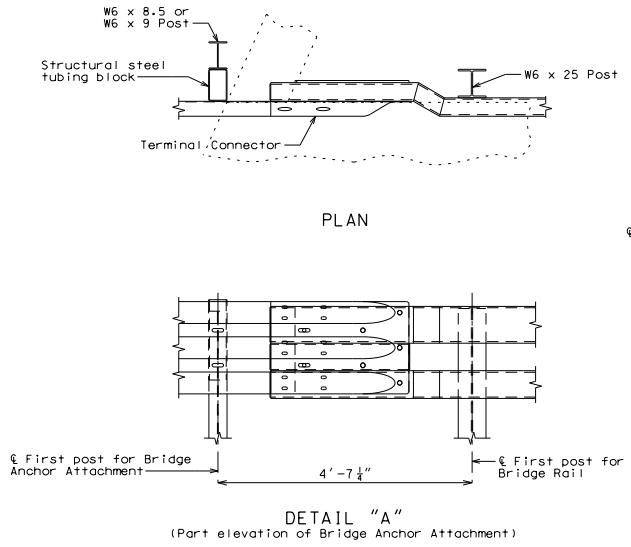
FINAL PLANS

Detailed Aug. 2015  
Checked Aug. 2015

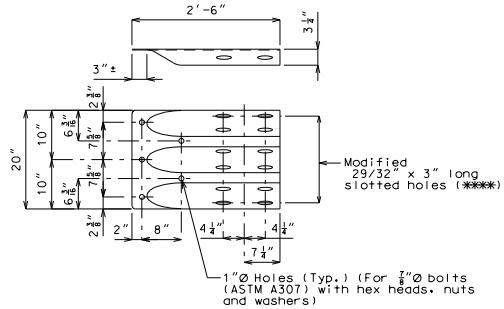
DATE PREPARED 11/23/2016	
ROUTE 49	STATE MO
DISTRICT SE	SHEET NO. 1
COUNTY IRON	
JOB NO. J9P3116	
CONTRACT ID. 151023-H04	
PROJECT NO. FAF 49-1(112)	
BRIDGE NO. G08781	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-AST-ROAD (1-888-278-6636)	
IF A SEAL IS PRESENT ON THIS SHEET, IT HAS BEEN ELECTRONICALLY SEALED AND DATED.	





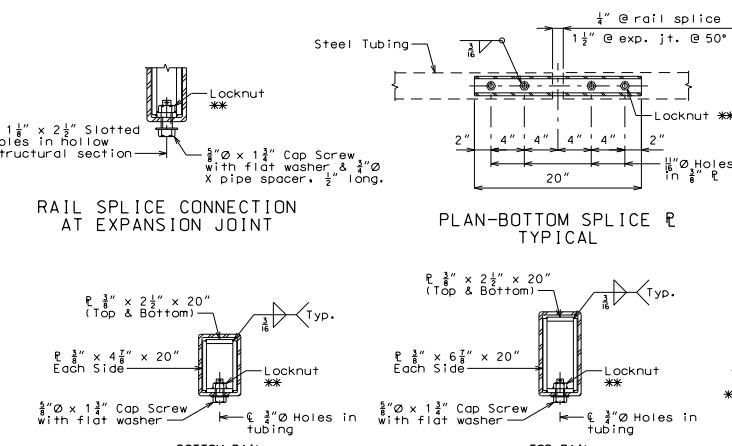


DETAIL "A"  
(Part elevation of Bridge Anchor Attachment)

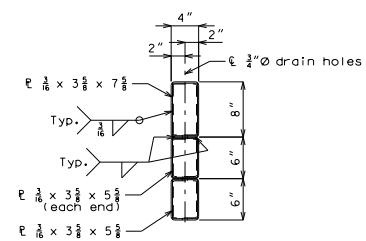


\*\*\*\* Tighten bolts, back off 1/2 turn and burr threads. Allow for sliding between Modified Bridge Anchor Section (Thrie Beam) and Bridge Rail (Two Tube Structural Steel).

## MODIFIED TERMINAL CONNECTION AT ABUTMENTS (ROADWAY ITEM)



### SECTIONS AT RAIL SPLICE



SECTION A-A

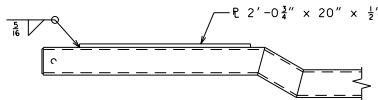
\* For  $\frac{7}{8}$ "Ø bolts (ASTM A307) with hex heads, nuts and washers

\* Tack weld nut to plate

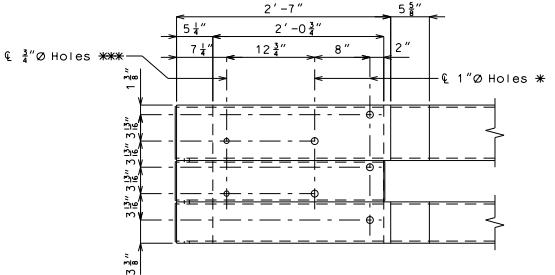
\*\*\* For  $\frac{5}{8}$ "Ø button-head oval shoulder bolts with hex nuts

Work this sheet with Sheets No. 2, 4 & 5.

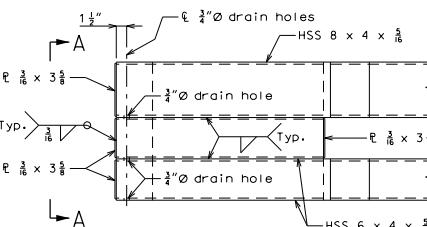
THESE PLANS ACCURATELY DEPICT THE CONFIGURATION AND LOCATION OF THE ROADWAY AND ALL APPURTEINANCE FEATURES, INCLUDING MODIFICATIONS DESIGNATED OR AUTHORIZED BY THE ENGINEER OF RECORD.



## PLAN



END OF RAIL SHOWING  
BOLT HOLE LAYOUT FOR  
GUARDRAIL ATTACHMENT



END OF RAIL DETAILS

## PLAN

DATE PREPARED 11/23/2016	
ROUTE 49	STATE MO
DISTRICT SE	SHEET NO. 3
COUNTY IRON	
JOB NO. J9P3116	
CONTRACT ID. 151023-H04	
PROJECT NO. FAF 49-1(12)	
BRIDGE NO. G08781	
DATE	DESCRIPTION



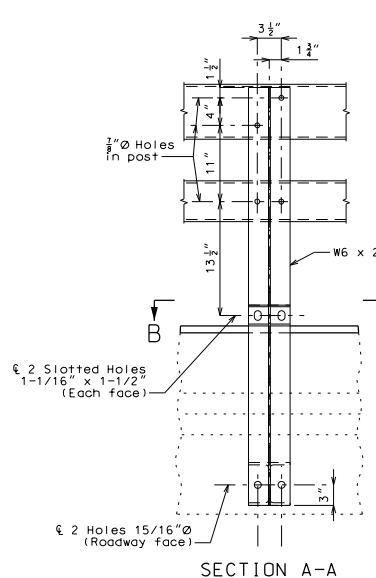
105 WEST  
JEFFERSON CITY, MO  
388-ASK-MODOT (1-888-27)



DATE PREPARED  
11/23/2016  
ROUTE 49 STATE MO  
DISTRICT SE SHEET NO. 5  
COUNTY IRON  
JOB NO. J9P3116  
CONTRACT ID: 151023-H04  
PROJECT NO. FAF 49-11212  
BRIDGE NO. G08781

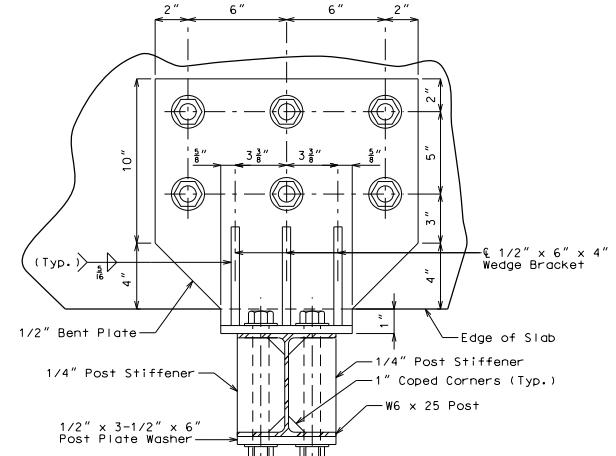
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION  
105 WEST CAPITOL JEFFERSON CITY, MO 65102  
1-888-AST-ROAD (1-888-273-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



SECTION A-A

① Tie-to-Deck Girder Conn.  
② Resin Anchor Systems to include:  
③ Drilled holes 7/8"Ø (min.) or as recommended by manufacturer in girder  
④ Holes 1"Ø in plates and post flange  
⑤ Threaded rod 3/4"Ø A449 H.S., snug tight, 5" embedment in girder  
⑥ Hardened locking washers

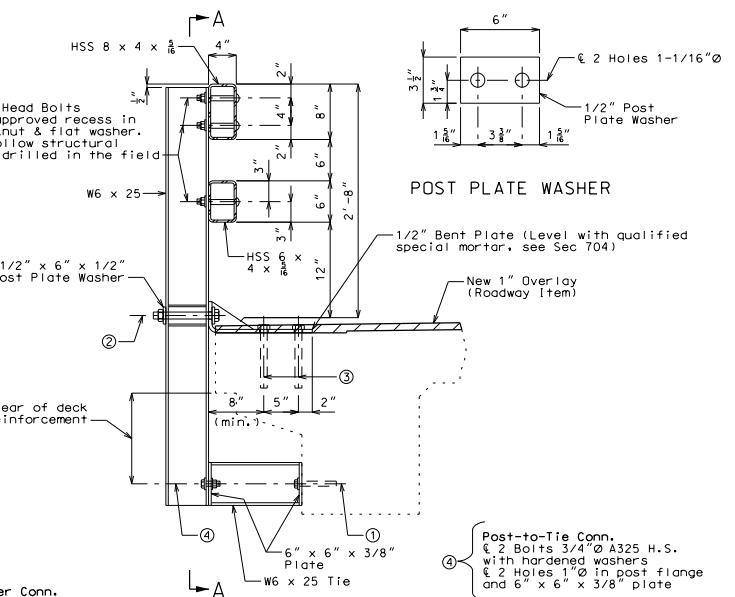


SECTION B-B

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

DETAILS OF POST CONNECTION "B"

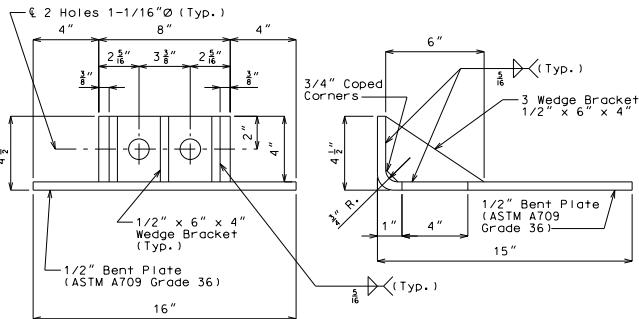
Sheet No. 5 of 5



POST PLATE WASHER

② Post-to-Bent Plate Conn.  
③ Vertical slotted holes  
④ Holes 1-1/16"Ø x 1-1/2"Ø in post flanges  
⑤ 2 Holes 1-1/16"Ø in bent plate and post plate washer

③ Bent Plate-to-Deck Conn.  
④ Resin Anchor Systems to include:  
⑤ Drilled holes 7/8"Ø (min.) in slab and as recommended by manufacturer  
⑥ Holes 1-1/4"Ø in bent plate  
⑦ Threaded rod 1"Ø A449 H.S., snug tight, 8" (min.) embedment in slab.  
⑧ Hardened locking washers



DETAILS OF 1/2" BENT PLATE

Notes:

Fabrication of structural steel shall be in accordance with Sec 712 and 1080.

Hollow structural sections shall be in accordance with ASTM designation A 500 Grade B Structural Steel tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F. see Sec 1080 for reporting.

All other steel shapes and plates shall be in accordance with AASHTO M 270 Grade 36.

Bolts, cap screws, and nuts shall be in accordance with ASTM designation A 307 except for high strength bolts, nuts and washers noted which shall be in accordance with AASHTO M 164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with AASHTO M 232.

All posts, railing, rail splices, bent plates and ties shall be galvanized after shop fabrication in accordance with AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.

Railing shall be in accordance with Sec 713, except as noted.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

For details of Bridge Rail post spacing, see Sheet No. 2.

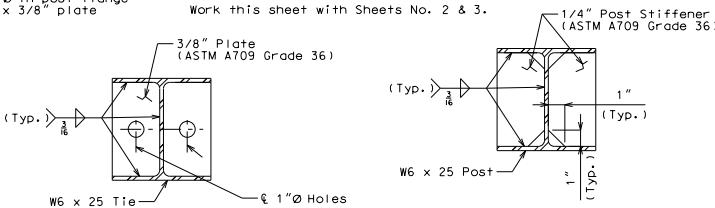
Payment for furnishing all materials, equipment and labor necessary to install Bridge Rail complete-in-place, shall be considered completely covered by the contract unit price per linear foot for Bridge Rail (Two Tube Structural Steel).

Delineators shall be placed on top of the W6x25 post as shown on Missouri Standard Plans 606.00 and in accordance with Sec 606. Delineators on bridge rail two tube structural traffic posts have retroreflective sheeting on both sides. Delineators will be considered completely covered by the contract unit price for Bridge Rail (Two Tube Structural Steel).

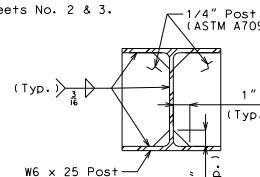
HSS = Hollow structural sections

XXS = Double extra strong

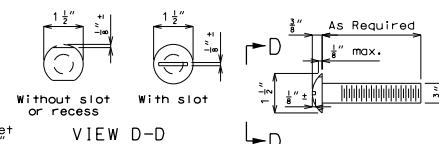
Work this sheet with Sheets No. 2 & 3.



SECTION THRU W6 X 25 TIE



POST STIFFENER



VIEW D-D

DETAIL OF  $\frac{3}{4}$ " ROUND HEAD BOLT

THESE PLANS ACCURATELY DEPICT THE CONFIGURATION AND LOCATION OF THE ROADWAY AND ALL APPURTENANCE FEATURES, INCLUDING MODIFICATIONS DESIGNATED OR AUTHORIZED BY THE ENGINEER OF RECORD.

SIGNATURE

DATE

FINAL PLANS