



**LOAD RATING
INSPECTION REPORT**

Structure Number: 016-0195 District: 1 Date: 02/28/20
 Carried/Crossed: IL 1 over IHB RR Proposed Year of Improvement: FY20
 Inspection Date: 10/9/19 Inspector(s): M.V. Reviewed by: RAD

Initial NBIS Ratings				Recommended NBIS Ratings			
58	59	60	62	58	59	60	62
5	3	3		5	2	3	

Remarks:

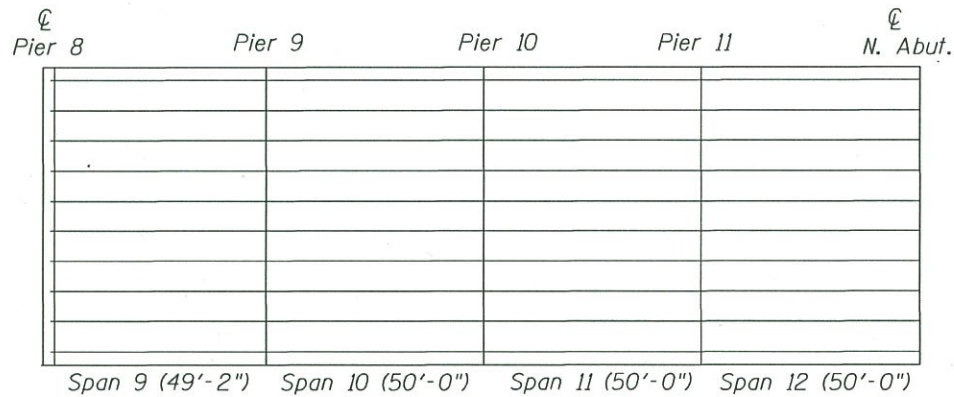
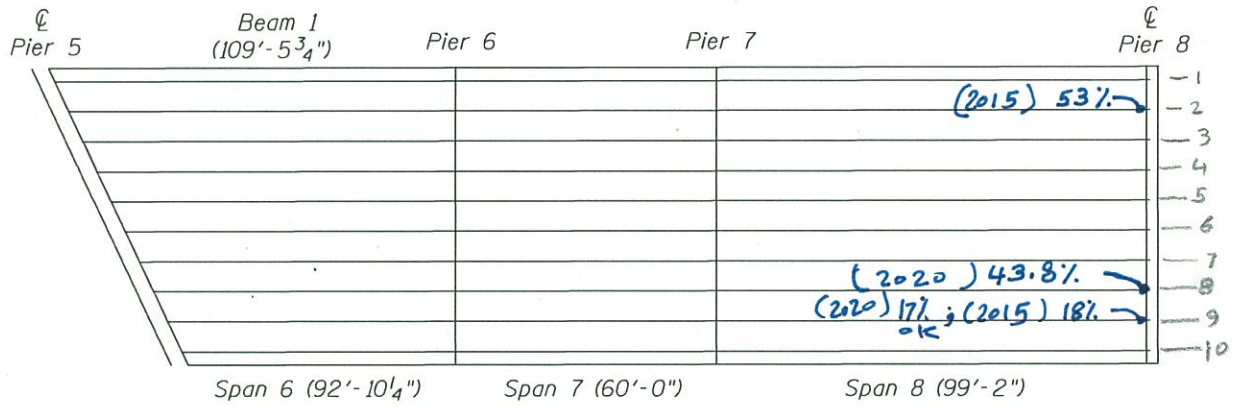
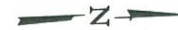
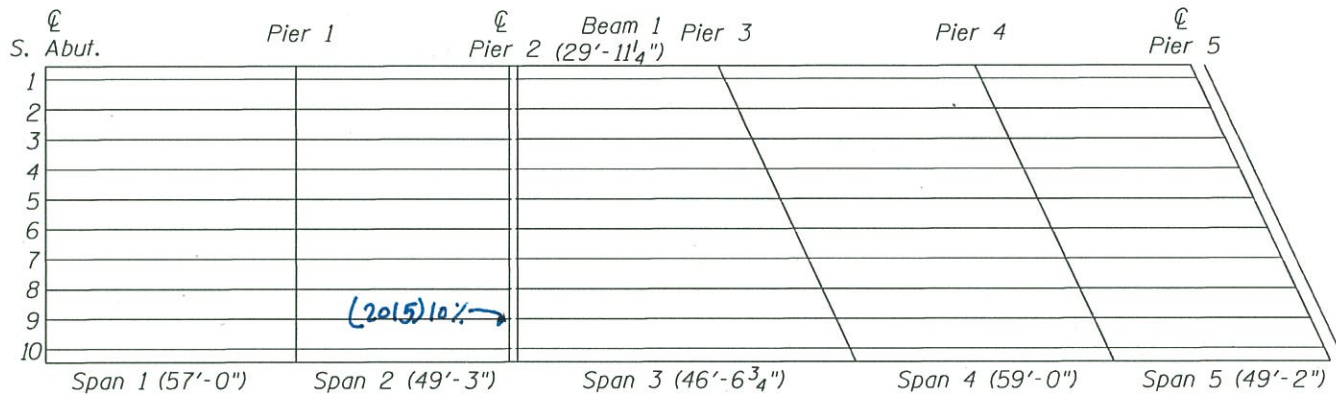
Forwarded to: R. Boehler Date: 3/3/2020

Additional Comments: 2015 LRI did show measured steel thickness, but percentages were not noted. Section loss percentages were requested, please see included email with percentages noted along with 2015 LRI. Due to section loss of 53% at beam 2, Pier 8, Span 8, superstructure rating was lowered to a 2.

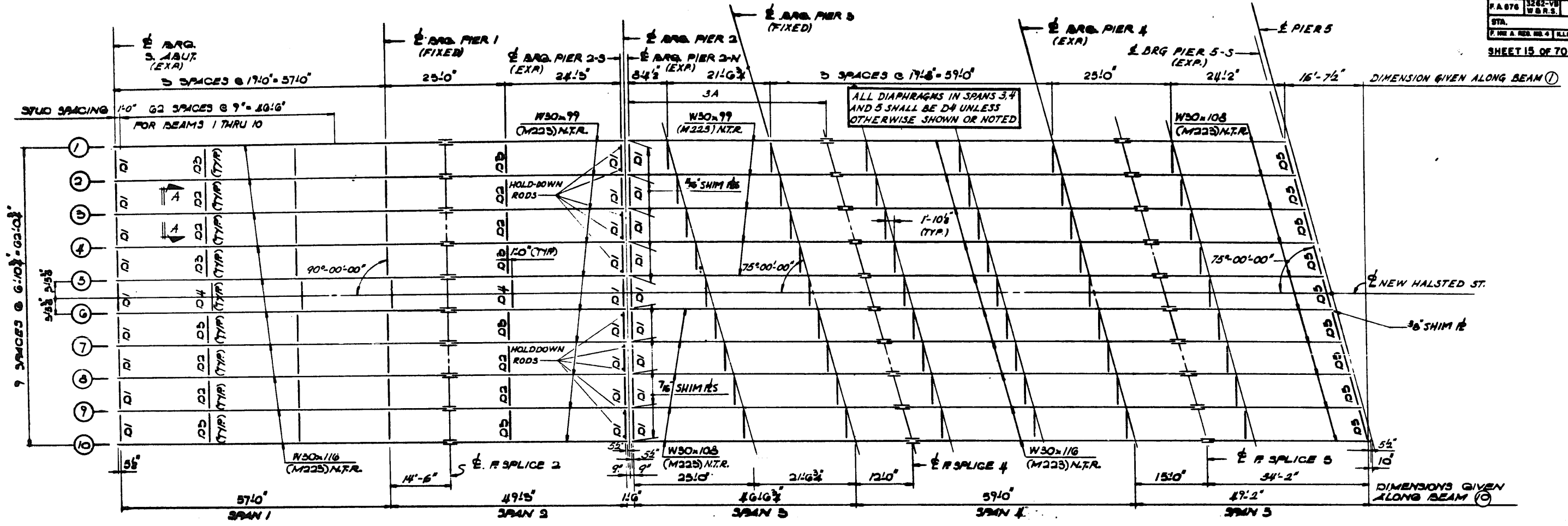
2020 beam end section loss measurements for beam 8, Pier 8, Span 8 yielded section loss of 44%, please see enclosed section loss calculations. Beam 2 and beam 9 beam end repairs have been included in the upcoming contract.

Bearings at Pier 8, Span 9: Rocker bearings are moving independent of the top and bottom bearing plates. included please see movement measurements for beams 1 through 5. Cribbing has been installed near the bearings between the concrete cap and diaphragms near beams 1, 2, 3, 8 and 10 at Pier 8, span 9 side. a special feature at 3 months interval has been started to verify that cribbing is staying in place.

Return to Ratings Unit



016-0195
 D1



FRAMING PLAN

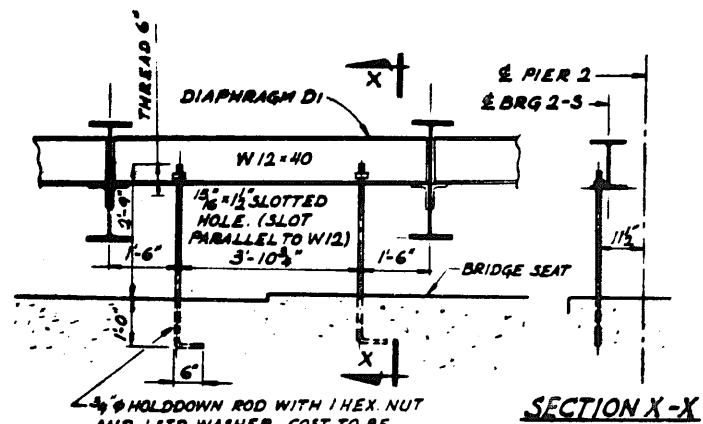
SPANS 1 THRU 5

TOP OF BEAM ELEVATIONS*

GIRDER	S. ABUT.	PIER 1	F. SPLICE 2	PIER 2-S	PIER 2-N	PIER 3	F. SPLICE 4	PIER 4	F. SPLICE 5	PIER 5-S	3A
1	619.032	621.942	622.642	624.453	624.512	625.721	626.205	627.721	628.205	629.083	412.114
2	619.176	622.086	622.826	624.597	624.655	625.935	626.419	627.922	628.402	629.284	413.193
3	619.320	622.230	622.969	624.740	624.799	626.150	626.632	628.119	628.594	629.445	414.176
4	619.444	622.354	623.094	624.865	624.924	626.345	626.825	628.296	628.766	629.606	415.153
5	619.552	622.462	623.202	624.973	625.032	626.522	627.001	628.456	628.921	629.749	416.138
6	619.682	622.462	623.202	624.973	625.032	626.591	627.068	628.508	628.968	629.784	417.116
7	619.844	622.354	623.094	624.865	624.924	626.551	627.027	628.451	628.906	629.711	418.106
8	619.520	622.230	622.969	624.740	624.799	626.494	626.968	628.376	628.826	629.620	419.101
9	619.176	622.086	622.826	624.597	624.655	626.417	626.890	628.283	628.727	629.509	420.083
10	619.032	621.942	622.642	624.453	624.512	626.340	626.811	628.188	628.628	629.398	421.064

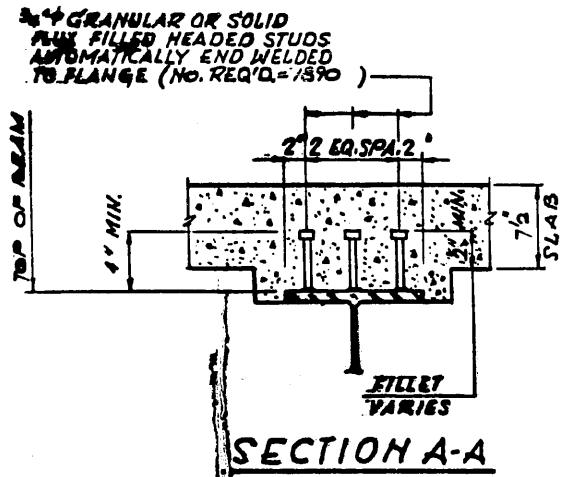
NOTE: GIRDER DIMENSIONS ARE ALONG CENTERLINE OF GIRDER AND ARE HORIZONTAL.

* FOR FABRICATION ONLY



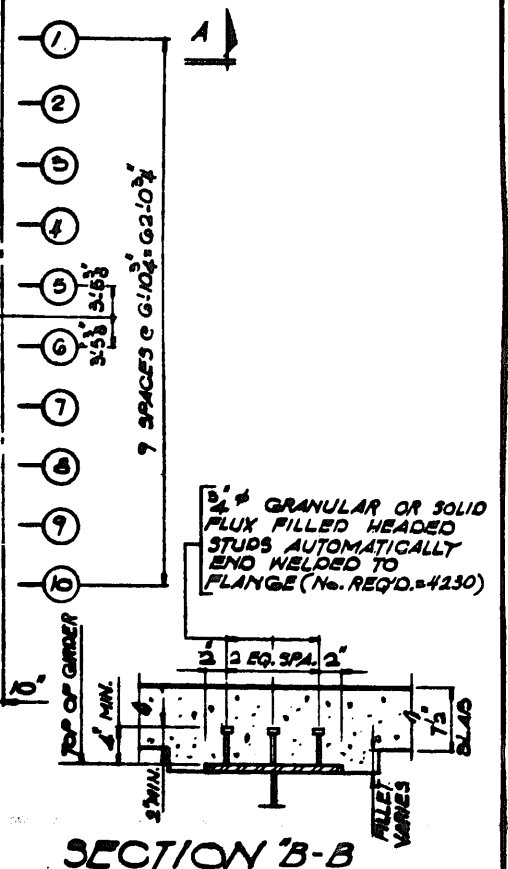
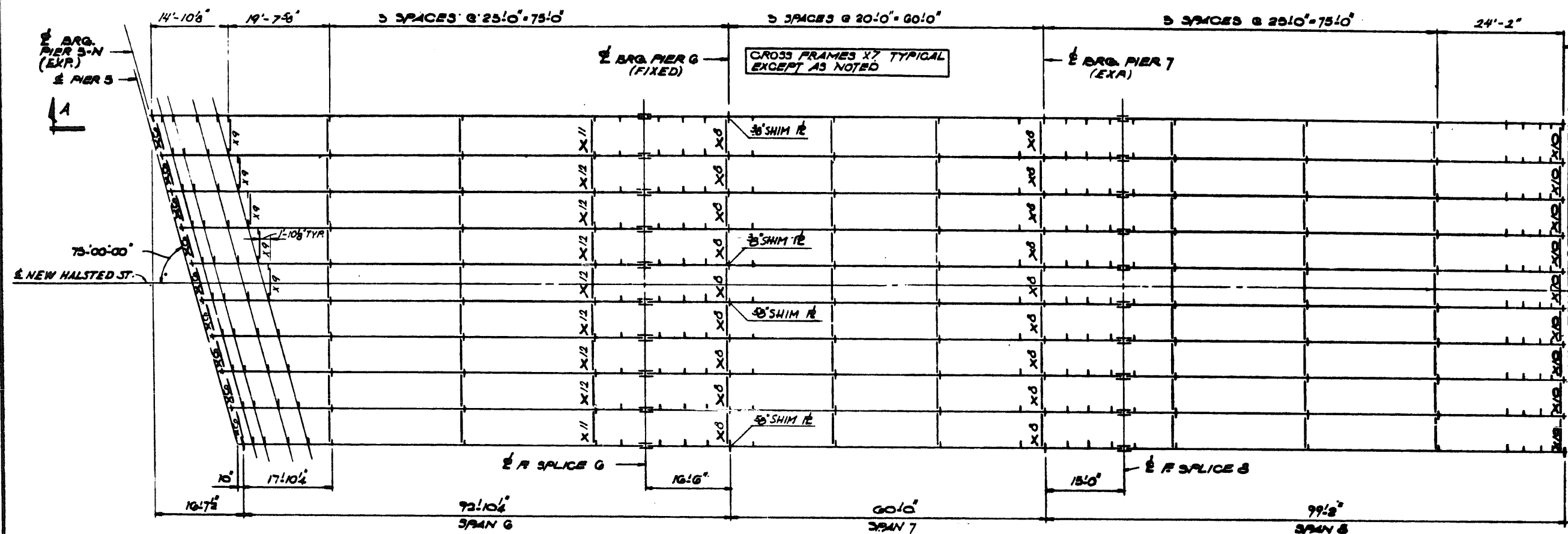
HOLDDOWN RODS FOR BEARING LINE 2-S

FOR LOCATION OF HOLDDOWN DEVICE SEE FRAMING PLAN

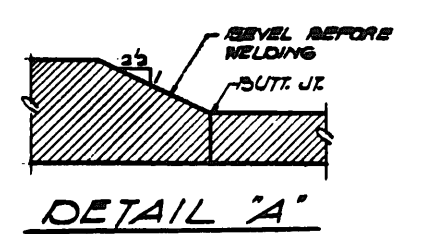
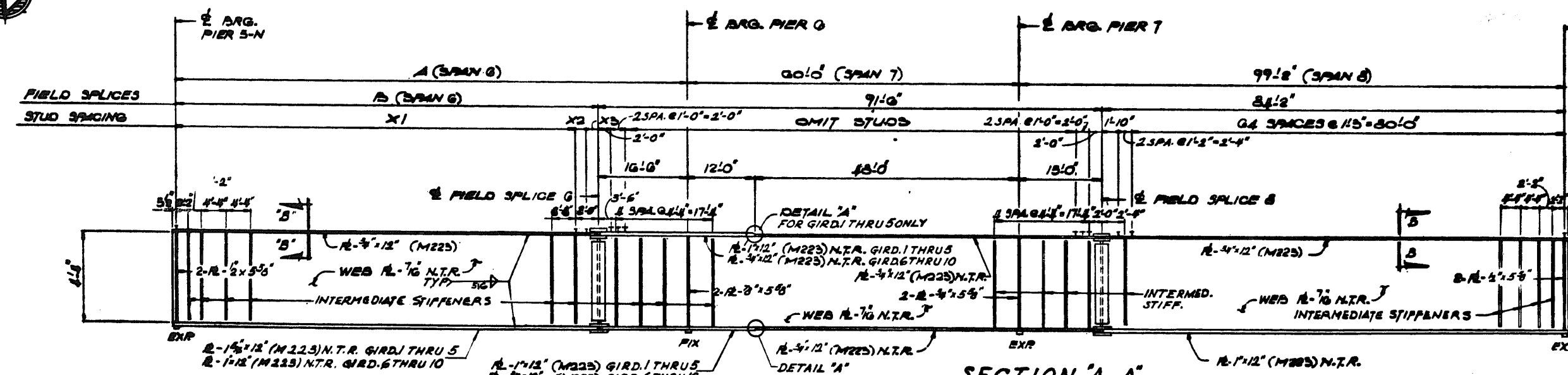


FRAMING PLAN SPANS 1 TO 5
F.A. RTE. 876 (HALSTED STREET) OVER
THE I.H.R. RAILROAD
PROJECT
SECTION 3262-VB, W.B.R.S.
COOK COUNTY
STATION 69+72.04

ALFRED BENECH & COMPANY
 CONSULTING ENGINEERS
 JOB NO. 1725
 255 N. MICHIGAN AVE. CHICAGO, ILLINOIS



FRAMING PLAN
SPANS 6, 7 & 8



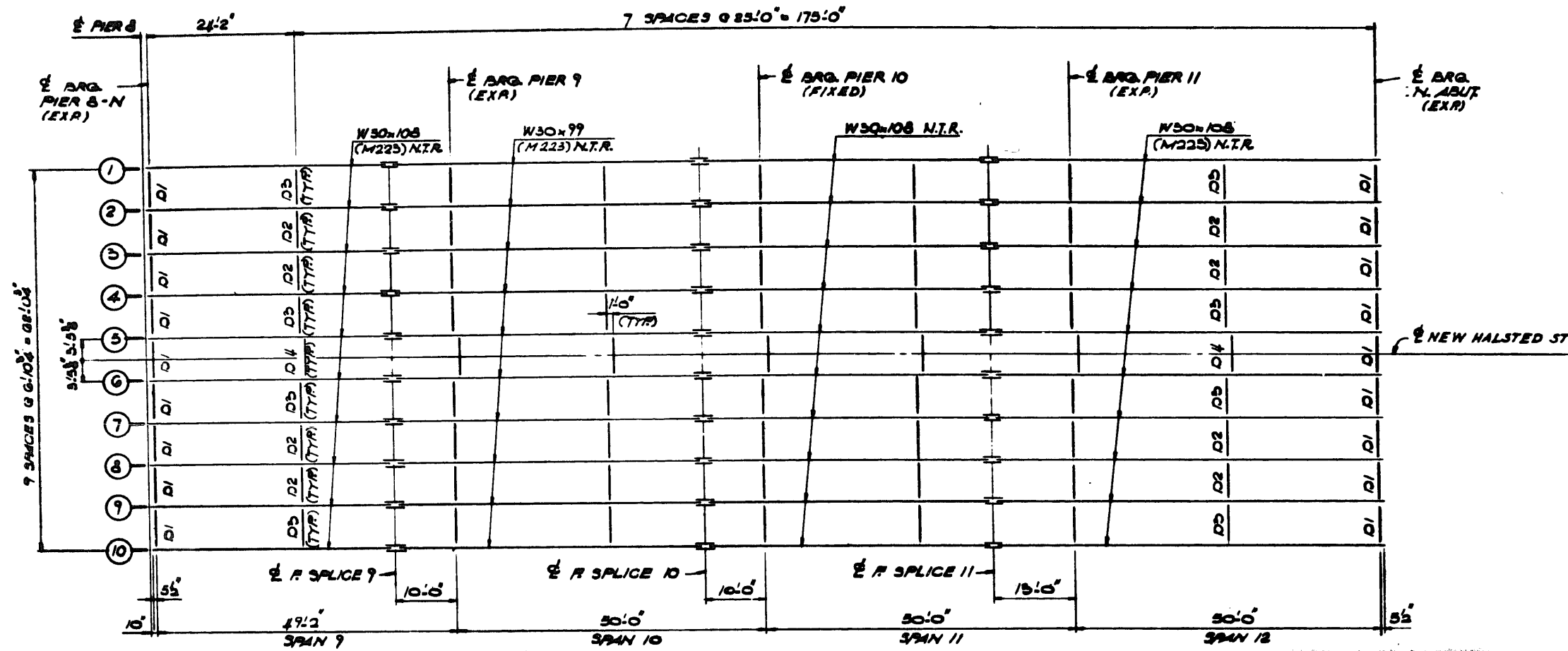
GIRDER	DIMENSIONS		STUD SPACING			TOP OF WEB ELEVATIONS*					
	A (SPAN 6)	B (SPAN 6)	X1	X2	X3	PIER 5-N	R SPICE 6	PIER 6	PIER 7	R SPICE 8	PIER 8-9
1	107'-5 1/2"	92'-11 1/2"	6 @ 11'-4" = 65'-4"	4 @ 11'-4" = 45'-4"	2'-3 3/4"	629.044	630.162	630.079	629.778	629.703	627.902
2	107'-7 1/2"	91'-7 1/2"	6 @ 11'-4" = 65'-4"	5 @ 11'-5" = 55'-5"	2'-0 1/2"	629.225	630.305	630.223	629.922	629.847	628.046
3	105'-9 1/2"	89'-5 1/2"	6 @ 11'-4" = 65'-4"	2 @ 10'-2" = 20'-0"	1'-11 1/2"	629.405	630.450	630.367	630.066	629.991	628.189
4	105'-11 1/2"	87'-5 1/2"	6 @ 11'-5" = 65'-4"	4 @ 11'-5" = 45'-4"	2'-5 1/4"	629.585	630.574	630.491	630.190	630.115	628.314
5	102'-1 1/2"	85'-7 1/2"	6 @ 11'-5" = 65'-4"	5 @ 11'-5" = 55'-5"	1'-10 1/2"	629.765	630.682	630.599	630.298	630.223	628.422
6	100'-3 1/2"	85'-8 1/2"	6 @ 11'-5" = 65'-4"	2 @ 11'-0" = 22'-0"	1'-8 1/2"	629.945	630.682	630.599	630.298	630.223	628.422
7	78'-4 1/2"	81'-10 1/2"	6 @ 11'-2" = 74'-8"	4 @ 11'-2" = 44'-8"	2'-6 3/4"	629.868	630.574	630.491	630.190	630.115	628.314
8	76'-6 1/2"	80'-10 1/2"	6 @ 11'-2" = 74'-8"	2 @ 11'-6" = 23'-0"	2'-4 1/2"	629.577	630.450	630.367	630.066	629.991	628.189
9	74'-8 1/2"	78'-2 1/2"	6 @ 11'-2" = 74'-8"	2 @ 9'-11" = 19'-8"	2'-0 3/4"	629.466	630.305	630.223	629.922	629.847	628.046
10	72'-10 1/2"	76'-7 1/2"	6 @ 11'-0" = 66'-0"	4 @ 11'-3" = 43'-0"	2'-0 1/4"	629.354	630.162	630.079	629.778	629.703	627.902

*FOR FABRICATION ONLY

NOTE:
GIRDER DIMENSIONS ARE
ALONG CENTERLINE OF GIRDER
AND ARE HORIZONTAL.

ALFRED BENECH & COMPANY
CONSULTING ENGINEERS
200 N. WABASH
500 N. MICHIGAN AVE., CHICAGO, ILLINOIS

FRAMING PLAN SPANS 6 TO 8
I.A. RTE. 876 (HALSTED STREET) OVER
THE I.M.R. RAILROAD
PROJECT : ()
SECTION 3262-VB, W.B.R.S.
COOK COUNTY
STATION 69+72.04



N.T.R. INDICATES NOTCH TOUGHNESS REQUIREMENT

FRAMING PLAN

SPANS 9 THRU 12



TOP OF BEAM ELEVATIONS*

GIRDER	PIER 8-N	R SPLICE 9	PIER 9	R SPLICE 10	PIER 10	R SPLICE 11	PIER 11	N. ABUT.
110	627.927	626.596	626.190	624.564	624.083	622.303	621.679	619.279
249	628.071	626.739	626.333	624.707	624.226	622.447	621.823	619.423
548	628.214	626.883	626.477	624.851	624.370	622.590	621.966	619.566
447	628.359	627.008	626.601	624.975	624.495	622.715	622.091	619.691
546	628.447	627.115	626.709	625.083	624.603	622.823	622.199	619.799

*FOR FABRICATION ONLY

NOTE:
SEE FRAMING PLAN SPANS 1 TO 8

ALFRED BENECH & COMPANY
CONSULTING ENGINEERS
309 W. 78th
829 N. MICHIGAN AVE. CHICAGO, ILLINOIS

FRAMING PLAN SPANS 9 TO 12
RA. RTE. 876 (HALSTED STREET) OVER
THE I.M.R. RAILROAD
PROJECT 7 31. ()
SECTION 3282-VB, W.B.R.S.
COOK COUNTY
STATION 69+72.04

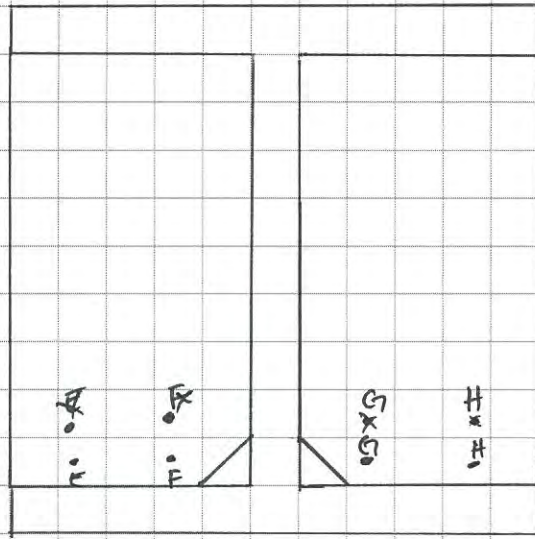


Illinois Department of Transportation

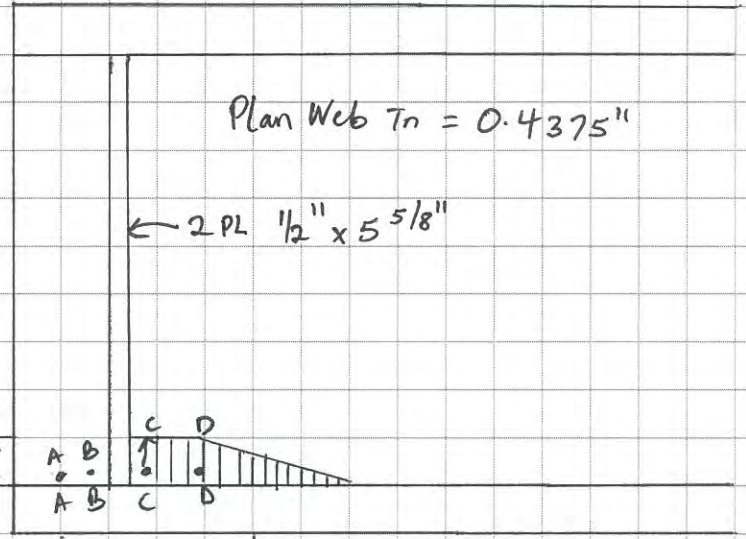
Route _____ of _____ Sheet _____ of _____
 Section _____ Computed by _____ Date _____
 County _____ Checked by _____ Date _____
 Structure No. 016-0195 JAN 7, 2020

ADELEKE, PA

BEAM 9 @ P8-S



(LOOKING NORTH)



← 2 PL 1/2" x 5 5/8"

9"

A = 0.437

E = 0.458

B = 0.411

F = 0.458

C = 0.271

G = 0.393

D = 0.279

H = 0.393

AVERAGE = 0.3495

AVERAGE = 0.426

FULL SECTION AREA

Web = 0.437" x 9" = 3.933 in²

Stiffener = 0.5 x 11.25 = 5.625 in²

Σ = 9.558 in²

REMAINING SECTION AREA

web = 0.3495" x 9" = 3.146

STIFF = 0.426" x 11.25 = 4.787

Σ = 7.933

% Loss = $\frac{\text{FULL} - \text{REM}}{\text{FULL}} \times 100\% = \frac{9.558 - 7.933}{9.558}$

= 17.0%

BEAM 9- E FACE-PIER 8S






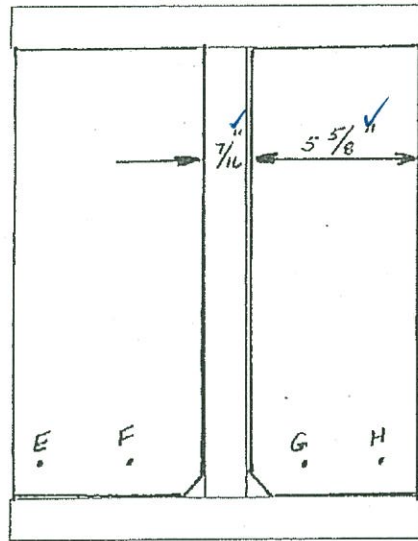
BEAM 9- W FACE- PIER 8S



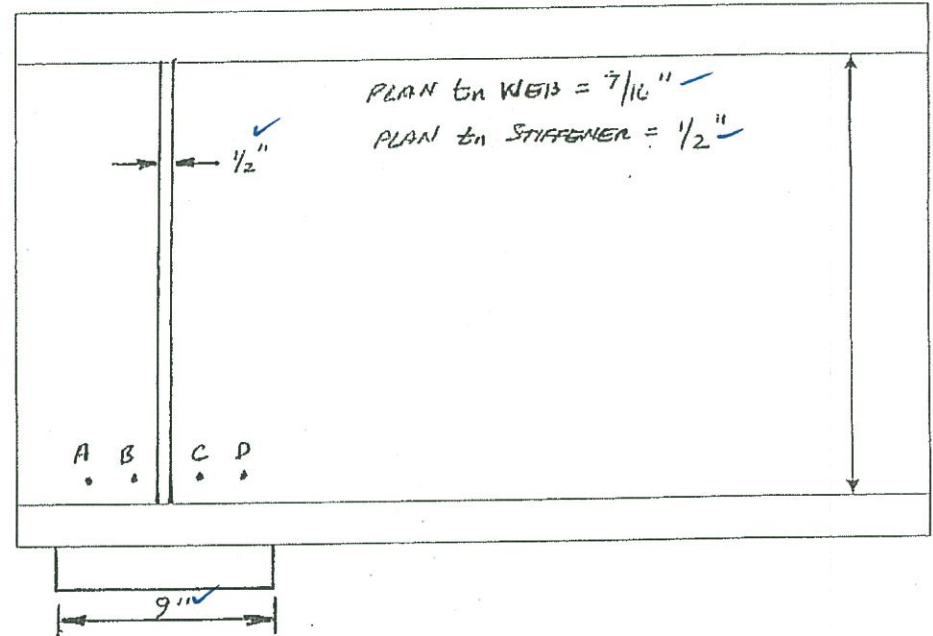
MEASURED BY: WV 2-11-20

SECTION LOSS CALCULATIONS

-  HOLE
-  SECTION LOSS
-  FULL SECTION



VIEW LOOKING S.



BEAM 8 -
PIER 8 -
SPAN 8 -

Location	Thickness	Location	Thickness	Location	Thickness	Location	Thickness
Bm A	.158"	RS: WEB =	.232" x 9" = 2.088 in ²				
B	.148"	STIFFENERS =	.292" x 10.75" = 3.139 in ²				
C	.317"	RS TOTAL	= 5.227 in ²				
D	.304"						43.8%
WEB AVR =	.232" ✓	% Loss =	FS - RS x 100 = 45.3, ≈ 45.0%				
FIELD th WEB =							
E =	.360"						
F =	.310"						
G =	.272"						
H =	.226"						
STIFF. AVR =	.292" ✓						
FIELD th STIFF =							

FS = FULL SECTION
 WEB = .4375" x 9.0"
 = 3.9375 in²
 STIFFENERS = .5" x (5.625 x 2)
 = 5.625 in²
 TOTAL FS = 9.5625 in²
 RS = REMAINING SECTION



P8; Beam 8; Span 8 Side - Picture 1: West face looking NE



P8; Beam 8; Span 8 side - Picture 2: West face Looking SE



P8; Beam 8; Span 8 side - Picture 3: East face looking NW



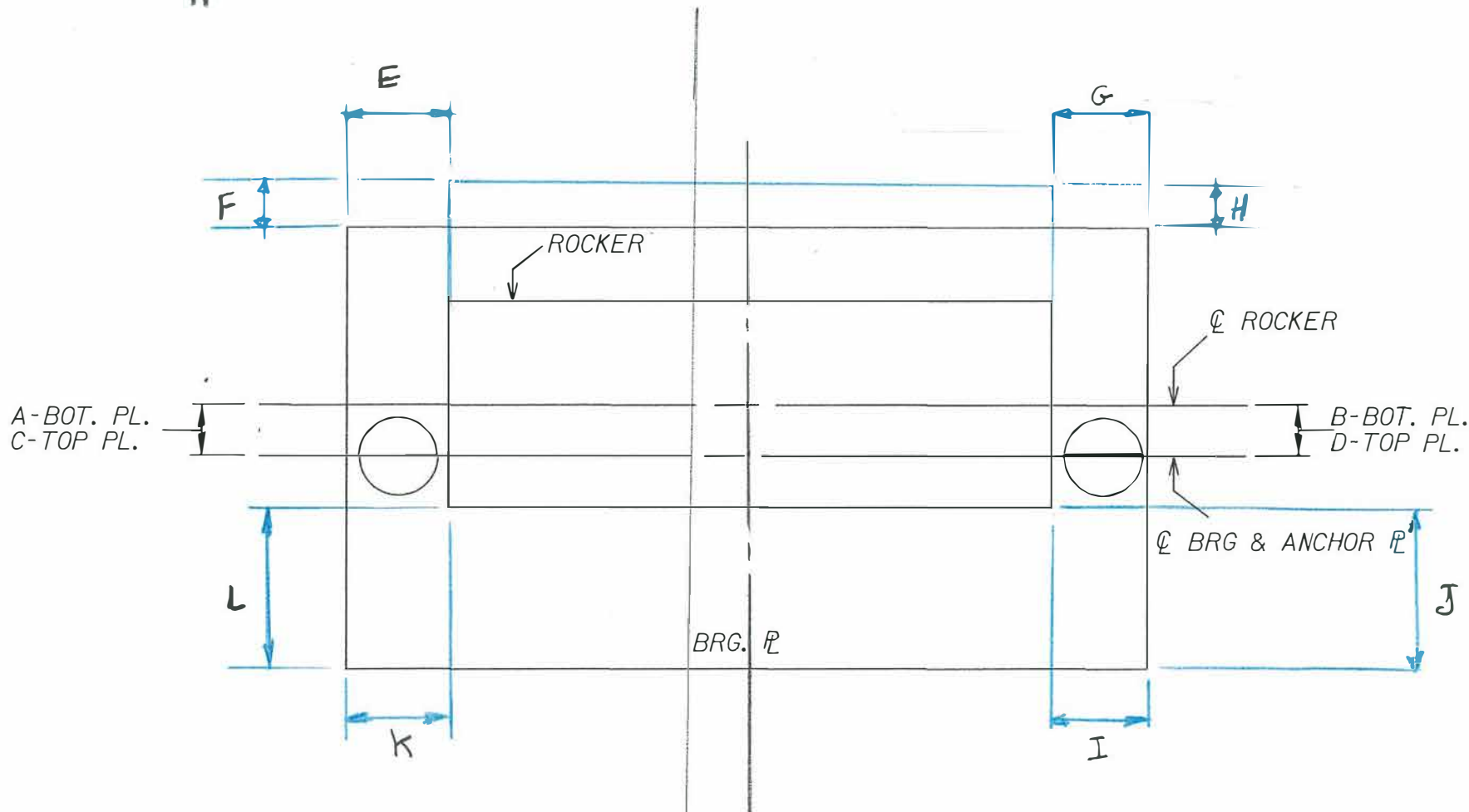
P8; Beam 8; Span 8 side - Picture 4: East face looking SW



PIER 8
SP079

016.0195

S.N.



Bearing movement
measurement legend

SEE TABLE FOR MEASUREMENTS

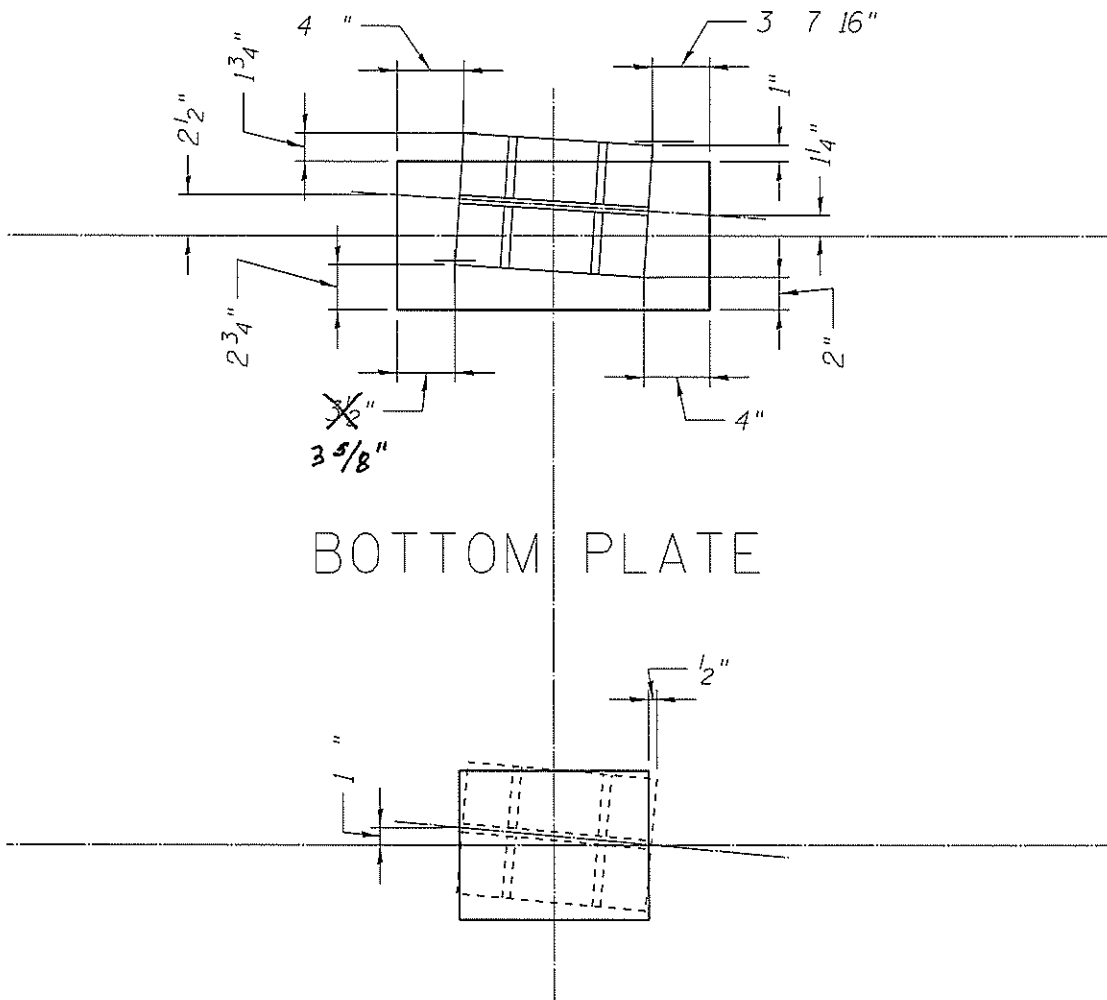
016-0195

bearings numbered west to east

SPAN	PIER	BRG #	BOTTOM PLATE										TOP PLATE	
			A	B	E	F	G	H	I	J	K	L	C	D
9	8	1	2.25"	1 1/2"	4"	1.75"	3 7/16"	1"	4"	2"	3.625"	2.75"	1"	-
9	8	2	1 13/16"	1"	4"	1 5/16"	3.5"	0.625"	1.125"	1.5"	3.625"	2 3/16"	0.75"	0.5"
9	8	3	1.75"	0.875"	4.125"	1.25"	3.375"	0.375"	4"	1.5"	3.5"	2.875"	1.375"	1.125"
9	8	4	0.75"	0.125"	4"	0.625"	3.5"	0.25"	3 13/16"	1.25"	3.75"	1.5"	0.375"	0.5"
9	8	5	0.75"	0.75"	3.5"	0.375"	4"	0.625"	3.75"	1.5"	3.875"	1.375"	0.5"	0.625"

016-0195
PIER 8 SPAN 9 SIDE
BRG 1 FROM WEST

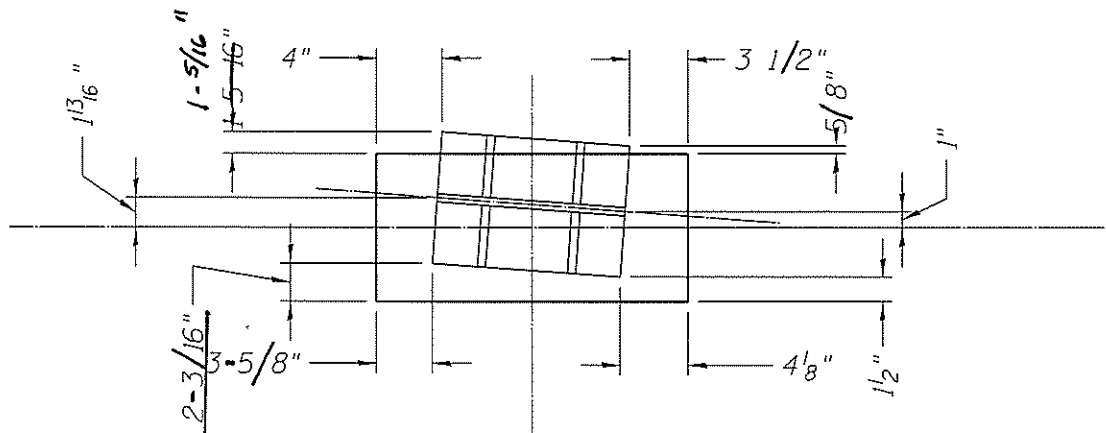
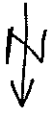
← Z



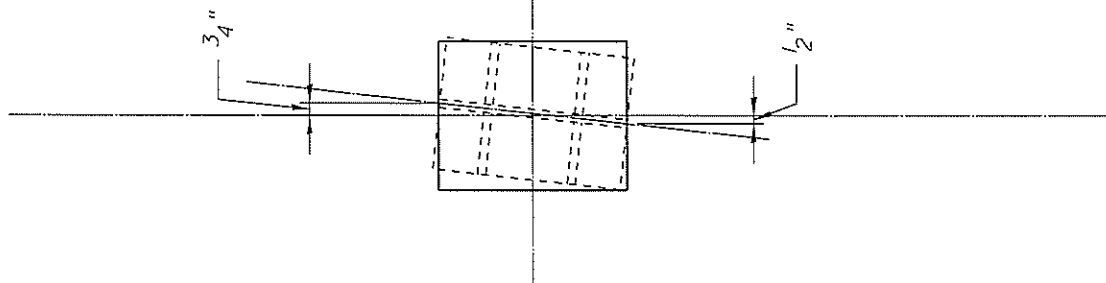
BOTTOM PLATE

TOP PLATE

016-0195
PIER 8 SPAN 9 SIDE
BRG 2 FROM WEST

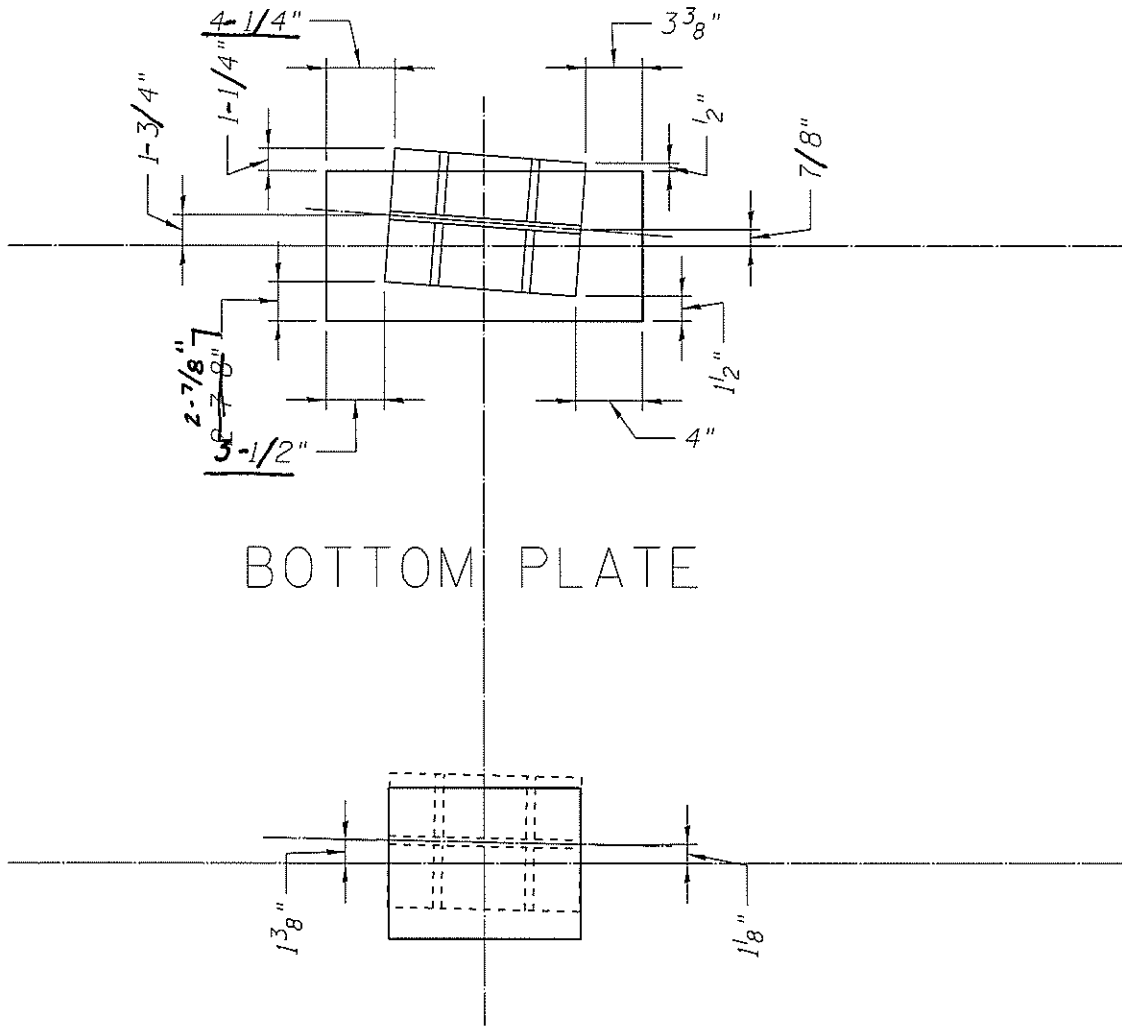
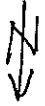


BOTTOM PLATE



TOP PLATE

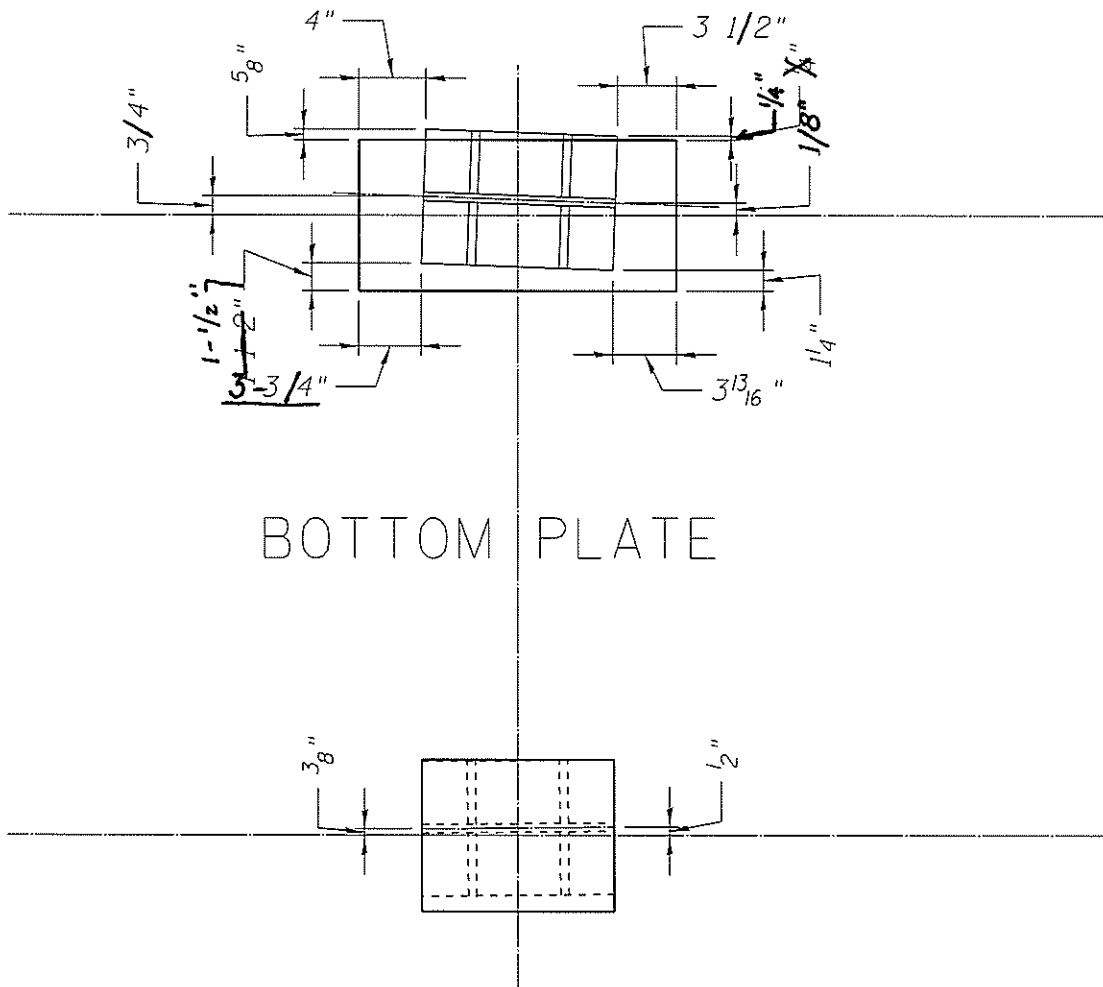
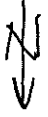
016-0195
PIER 8 SPAN 9 SIDE
BRG 3 FROM WEST



BOTTOM PLATE

TOP PLATE

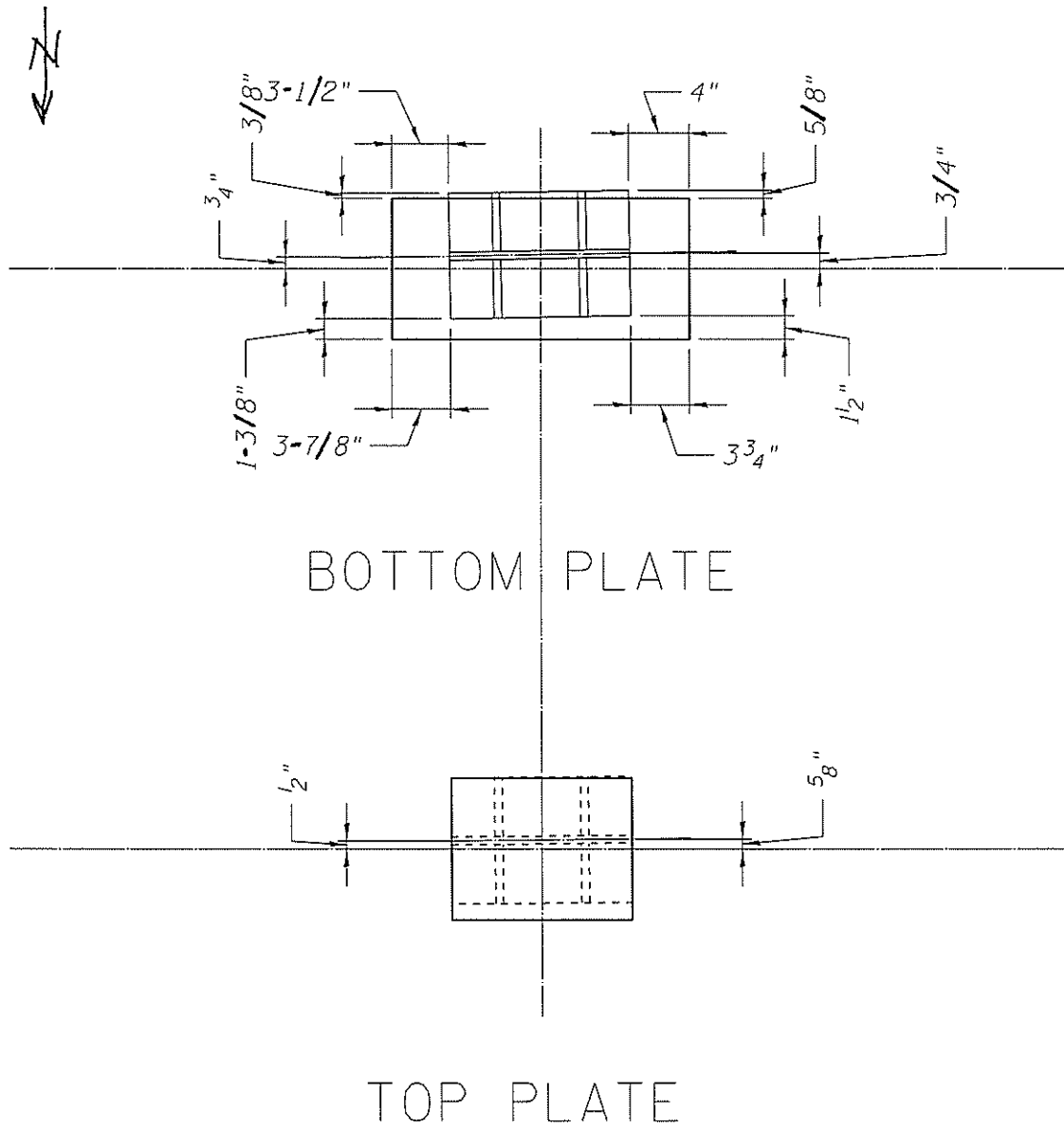
016-0195
PIER 8 SPAN 9 SIDE
BRG 4 FROM WEST



BOTTOM PLATE

TOP PLATE

016-0195
PIER 8 SPAN 9 SIDE
BRG 5 FROM WEST



016-0195



Picture 1: P8; Span 9; Beam 1 Looking W.



Picture 2: P8; Span 9; Beam 2 end



Picture 3: P8; Span 9; Beam 2 end west face.



Picture 4: P8; Span 9; Beam 4 end east face



Picture 5: P8; Span 9; Beam 3 bearing; looking west



Picture 6: P8, span 9; bearing 1; looking E

016-0195



Picture 7: P8; Span 9; Looking E



Picture 8: P8; Span 9; Bearing 2; Looking W



Picture 9: P8; Span 9; Bearing 3; Looking W



Picture 10: P8; Span 9; Bearing 4; Looking W



Picture 11: P8; Span 9; Bearing 5; Looking W



Picture 12: P8; Span 9; Bearing 6; Looking W



Picture 13: P8; Span 9; Bearing 7; Looking W



Picture 14: P8; Span 9; Bearing 8; Looking S



Picture 15: P8; Span 9; Bearing 8; Looking W



Picture 16: P8; Span 9; Bearing 9; Looking W

016-0195



Picture 17: P8; Span 9; Bearing 10; Looking E



Picture 18: Pier 8; North Face; Looking SE



Picture 19: Pier 8; North Face; Looking SW



Picture 20: Pier 8 West End; North Face; Looking S



Picture 21: Pier 8 East End; North Face; Looking S



Structure Number: 016-0195 District: 1 Date: 10/22/15
Carried/Crossed: IL 1 over IHB RR Proposed Year of Improvement: _____
Inspection Date: 10/21/15 Inspector(s): B.Vegrzyn-V3 Reviewed by: Burke-V3

Initial NBIS Ratings				Recommended NBIS Ratings			
58	59	60	62	58	59	60	62
6	5	3		5	3	3	

Remarks: The expansion joints are in very poor condition. The east and west columns of Pier 8 are in very poor condition.

Forwarded to: W.Beisner-IDOT BBS Date: 10/22/2015

Additional Comments:

Valentine, Michael A

From: Bill Vegrzyn <bvegrzyn@v3co.com>
Sent: Friday, October 11, 2019 12:46 PM
To: Valentine, Michael A
Subject: [External] RE: Section loss calcs

Hi Mike,

Things are going well, hopefully your shoulder is better. The top detail has 18% loss, the middle detail has 53% loss and the bottom detail has 10% loss. If you need anything else please let me know.

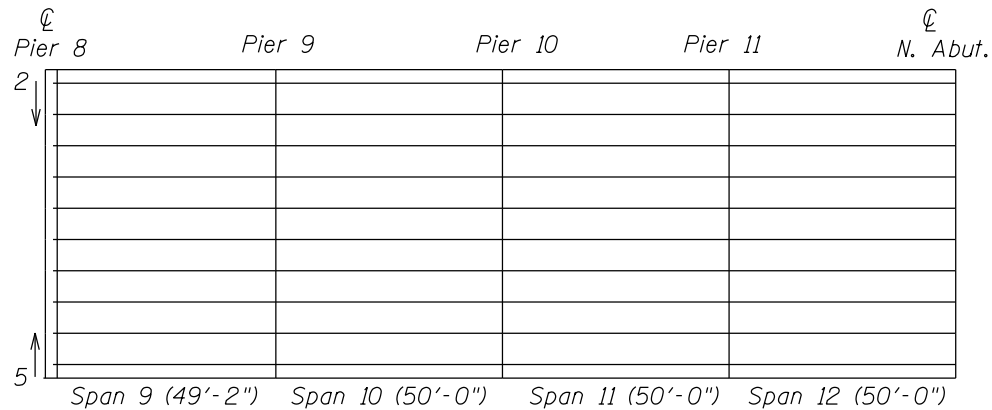
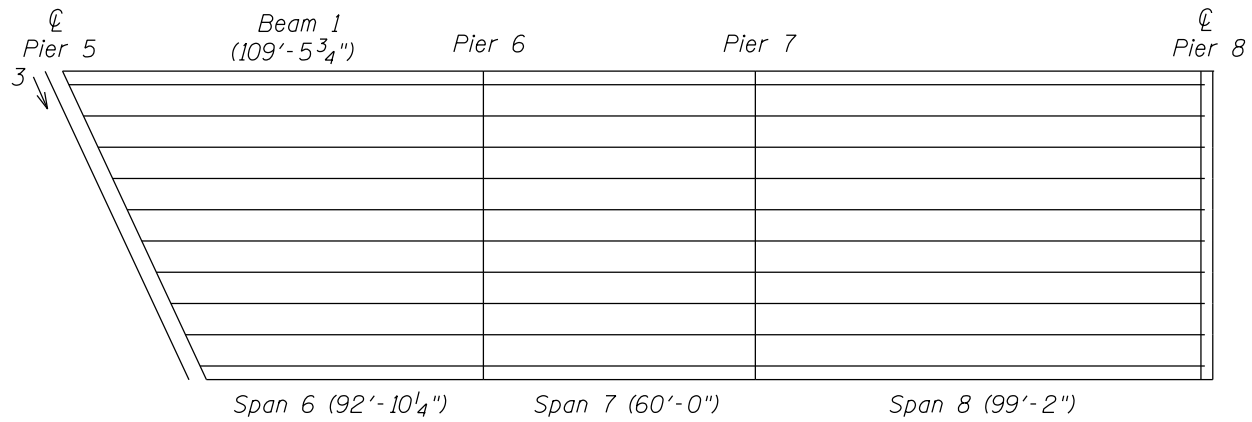
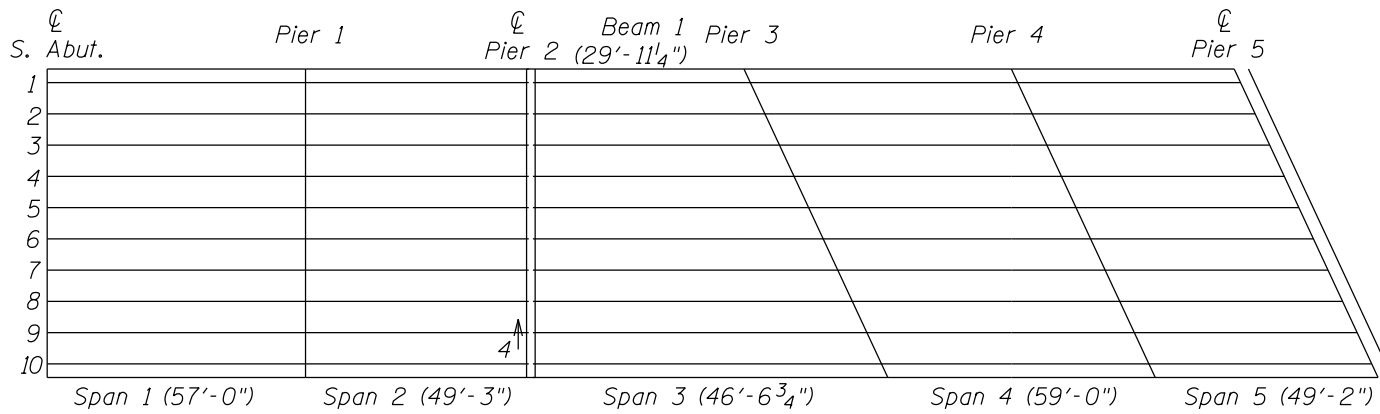
From: Valentine, Michael A [mailto:Michael.Valentine@illinois.gov]
Sent: Friday, October 11, 2019 12:06 PM
To: Bill Vegrzyn
Subject: Section loss calcs

Good afternoon Bill,

It's been a long time since I talked to you. How's everything? Hope all is well. The reason I am emailing you is in regards to your 2015 LR inspection report for 016-0195 IL. 1 (Halsted St.) over the IHB RR. If you look at the LRI report I attached, there were never any section loss percentages noted. If by chance you still have your calculations, would it be possible to email them to me at your earliest convenience? Your help here would be greatly appreciated. Thanks and have a great day.

Michael Valentine
S. Area Senior Bridge Inspection Technician
IDOT D1 Bridge Office
Cell #: 847-651-0096
Office #: 847-956-1494
Email: Michael.Valentine@Illinois.gov

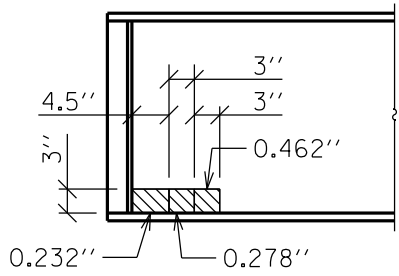
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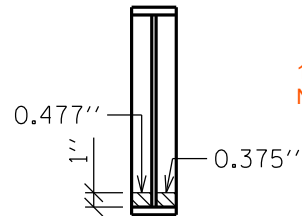
Photos

- 1) Structure Number
- 6) Deck at W End of Pier 8
- Looking SE
- Direction and # of Photo

016-0195
 D1
 10/21/15

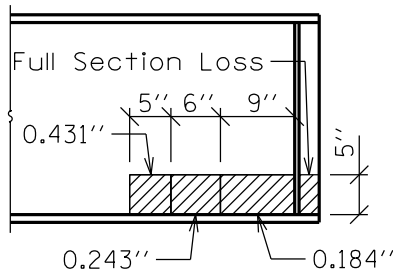


BEAM 9 NORTH END
 SPAN 8 AT PIER 8
 PHOTO 19
 (LOOKING EAST)

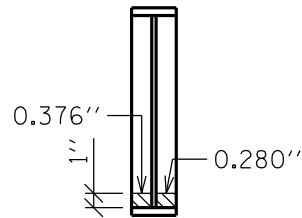


18% Loss
 Note added 10-11-19 by MV

BEARING STIFFENERS
 (LOOKING NORTH)

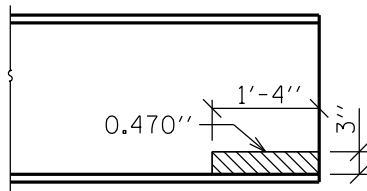


BEAM 2 NORTH END
 SPAN 8 AT PIER 8
 PHOTOS 7-9
 (LOOKING WEST)




53% Loss
 Note added 10-11-19 by MV

BEARING STIFFENERS
 (LOOKING NORTH)



BEAM 9 NORTH END
 SPAN 2 AT PIER 2
 PHOTO 17
 (LOOKING WEST)

10% Loss
 Note added 10-11-19 by MV

 Section Loss