

09-19-14 LETTING ITEM 051

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAS ROUTE 944 (US 60 /62)
SECTION: (138D-BR)I-7
SN 002-0005 OVER MISSISSIPPI RIVER
FLOOR BEAMS REPAIR AND MISC. REPAIRS
ALEXANDER COUNTY
C-99-024-14
PROJECT: ACRS-0944(100)

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
944	(138D-BR)I-7	ALEXANDER	17	1
		ILLINOIS	CONTRACT NO. 78400	

FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3

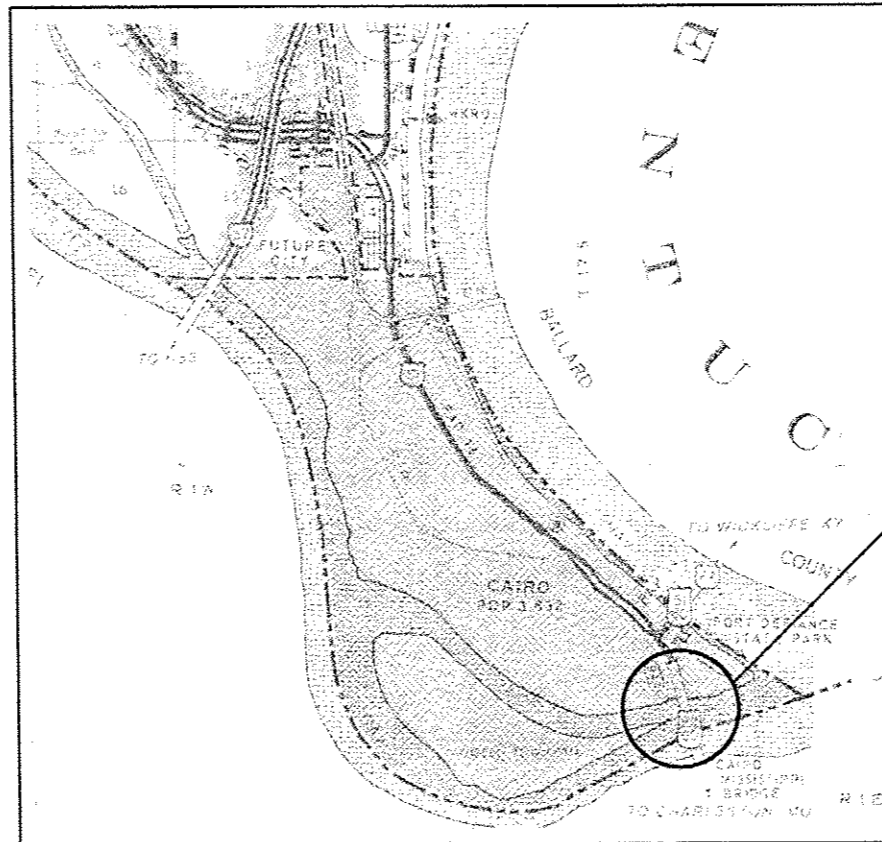
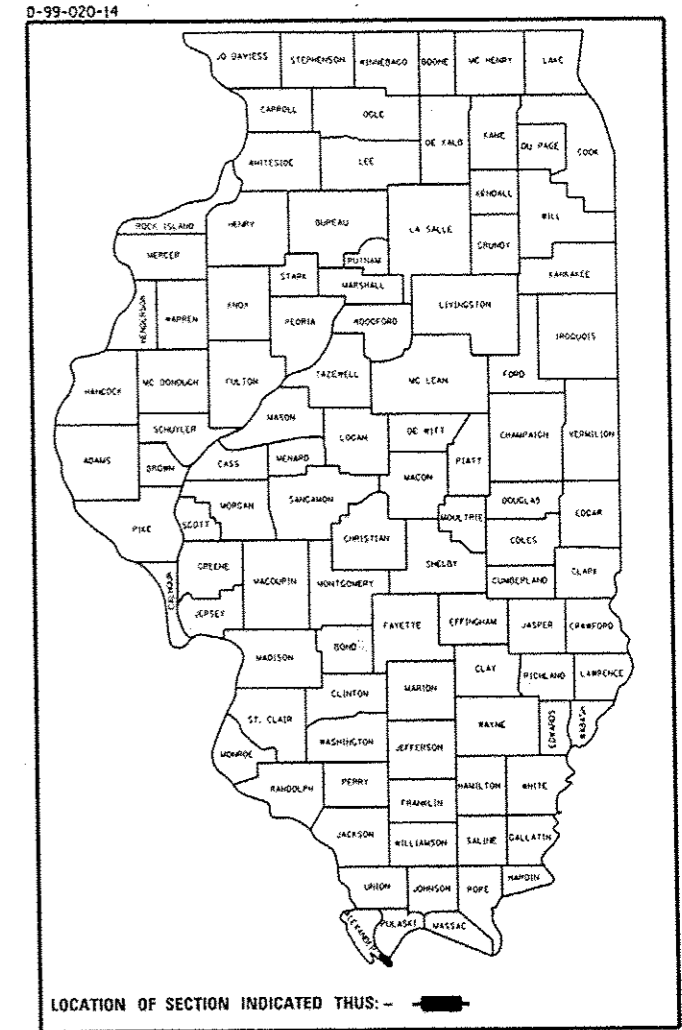
TRAFFIC DATA

US 60 /62 TRAFFIC DATA

2013 ADT = 2800
19% TRUCKS

TOWNSHIPS:

ROAD DISTRICT NO. 2



NET LENGTH = 5177 FT.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER CASEY TECKENBROCK (618)351-5233
PROJECT MANAGER DAVID PICHE (618)351-5227

CONTRACT NO. 78400

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED *June 24* 20 *14*
Jeffrey L. Keim
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Aug 15 20 *14*
John D. Baranzelli, P.E.
ACTING ENGINEER OF DESIGN AND ENVIRONMENT

Aug 15 20 *14*
Omer Osman, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

GENERAL NOTES

- 1) IN ADDITION TO THE REQUIREMENTS OF ARTICLE 107.16 THE CONTRACTOR SHALL PROTECT THE SURFACE OF ALL BRIDGE DECKS AND BRIDGE APPROACH PAVEMENTS IN A MANNER SATISFACTORY TO THE ENGINEER BEFORE ANY EQUIPMENT IS ALLOWED TO CROSS THE STRUCTURE. PROTECTION SHALL BE PROVIDED FOR ALL EQUIPMENT AS DEFINED IN ARTICLE 101.16 REGARDLESS IF TRACK MOUNTED OR WHEELED.
- 2) COMMITMENTS: THE STRUCTURE MAY BE CLOSED TO TRAFFIC FROM JANUARY 12, 2015 TO MARCH 18, 2016

STANDARDS

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001001-02 AREAS OF REINFORCEMENT BARS
- 701001-02 OFF-RD OPERATIONS, 2L, 2W MORE THAN 15' AWAY
- 701006-05 OFF-RD OPERATIONS, 2L, 2W, 15' TO 24'' FROM PAVEMENT EDGE
- 701101-04 OFF-RD OPERATIONS MULTILANE, 15' TO 24'' FROM PAVEMENT EDGE
- 701106-02 OFF-RD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
- 701901-03 TRAFFIC CONTROL DEVICES
- BLR21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX OF SHEETS, GENERAL NOTES, STANDARDS
- 3 SUMMARY OF QUANTITIES
- 4 TRAFFIC CONTROL PLAN AND MESSAGE BOARD PLACEMENT
- 5-17 STRUCTURE PLANS

Prepared By: *Joe Zdaniewicz*
DISTRICT STUDIES & PLANS ENGINEER

Examined By: *Travis Emery*
DISTRICT LAND ACQUISITION ENGINEER

Examined By: *Connie Nelson*
DISTRICT PROGRAM DEVELOPMENT ENGINEER

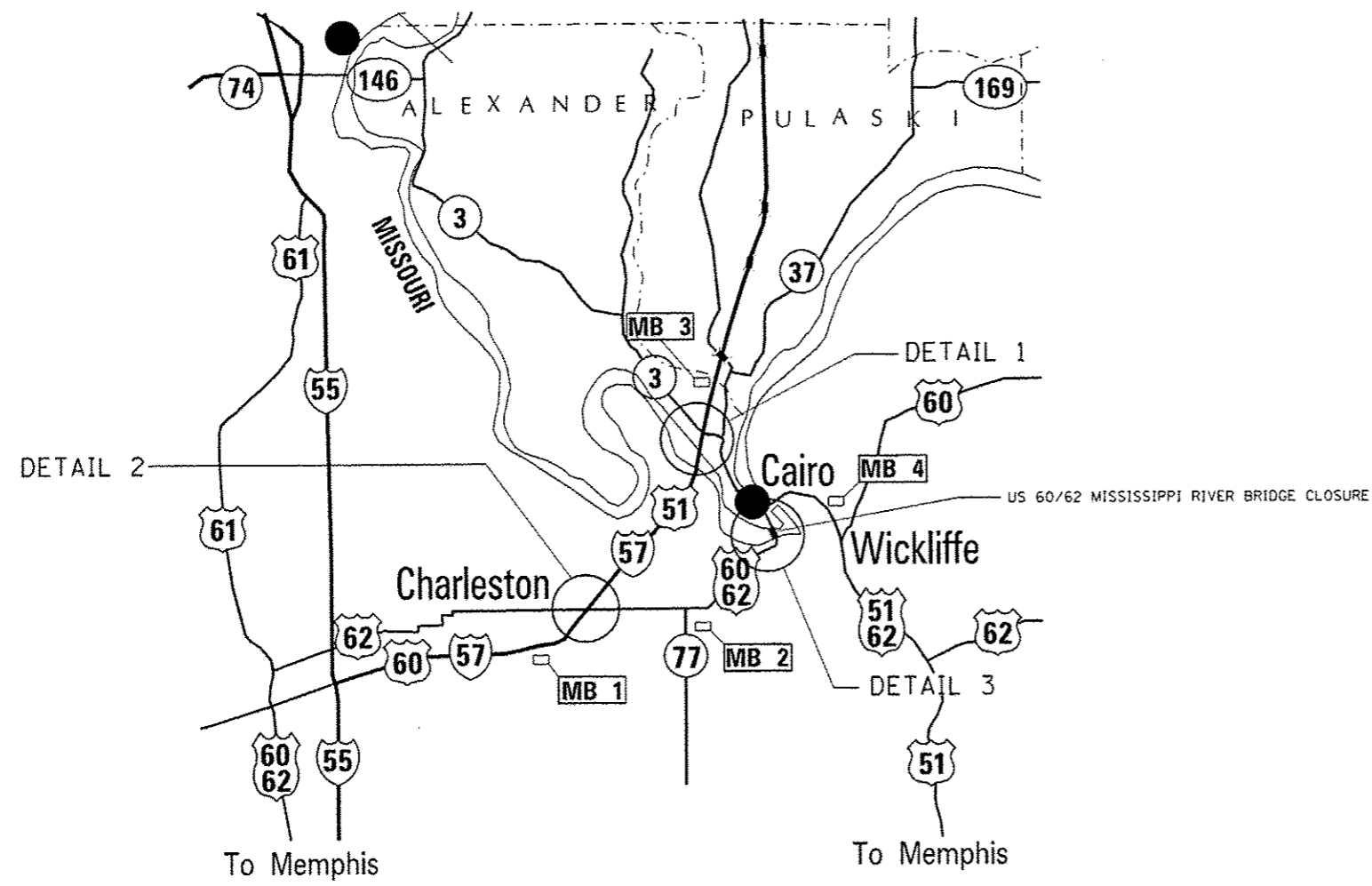
Examined By: *Carl Nels*
DISTRICT OPERATIONS ENGINEER

Examined By: *[Signature]*
DISTRICT PROJECT IMPLEMENTATION ENGINEER

Examined By: *Daryl J. Neel*
DISTRICT CONSTRUCTION ENGINEER

Examined By: *[Signature]*
DISTRICT MATERIALS ENGINEER

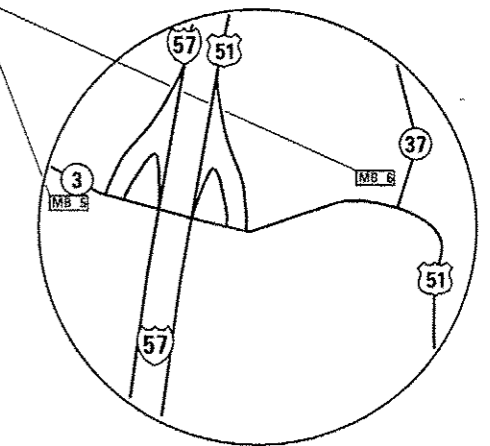
FILE NAME :	USER NAME : / holsteadw	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, GENERAL NOTES & HIGHWAY STANDARDS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
e:\pwork\pwork\holsteadw\039999\2-0000-shc-plan.dgn	DRAWN -	REVISED -	944			(1380-BR)-7	ALEXANDER	17	2	
PLOT SCALE = 1/8"=1'-0"	CHECKED -	REVISED -	CONTRACT NO. 78400							
PLOT DATE = 6/25/2014	DATE -	REVISED -	[ILLINOIS] FED. AID PROJECT							
				SCALE:	SHEET NO. OF SHEETS	STA.	TO STA.			



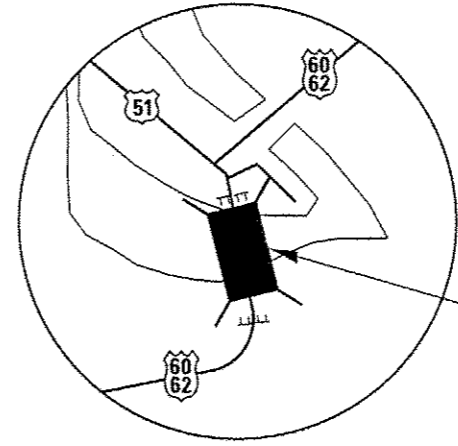
60/62 BRIDGE TO MISSOURI CLOSED AHEAD

USE OTHER ROUTES

Message Typical all signs (Illinois)
Actual message subject to approval of the Engineer.



DETAIL 1
(SHARED COST)



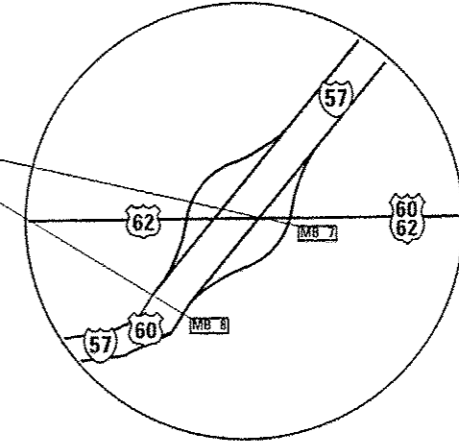
DETAIL 3
(SHARED COST)

SEE HIGHWAY STANDARD B.L.R. 21-9 FOR DETAILS AND SIGNS. COST INCLUDED WITH TRAFFIC CONTROL AND PROTECTION, BLR 21.

60/62 BRIDGE TO ILLINOIS CLOSED AHEAD

USE OTHER ROUTES

Message Typical all signs (Missouri/Kentucky)
Actual message subject to approval of the Engineer.



DETAIL 2
(SHARED COST)

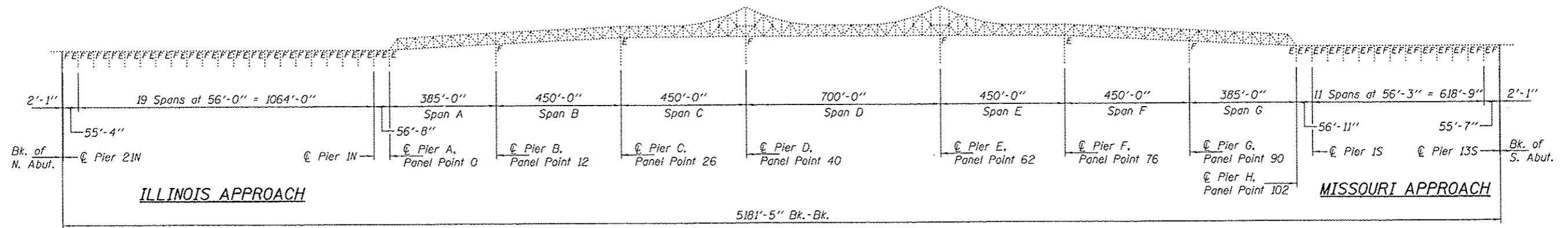
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		CHECKED -	REVISED -
		DATE -	REVISED -
STANDARDS\MAPS\ALLMAPS\AL1-RTE-DETOUR.DGN	PLOT DATE : 6/25/2014		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

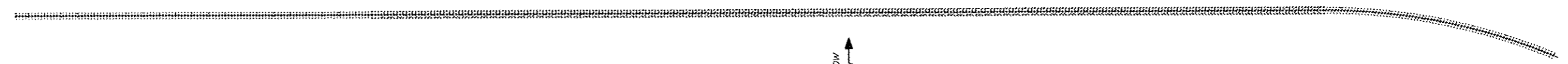
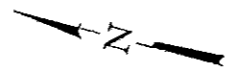
**TRAFFIC CONTROL PLAN
& MESSAGE BOARD PLACEMENT**

SCALE: 1"=1' SHEET NO. OF SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
944	(1380-BR)-7	ALEXANDER	17	4
CONTRACT NO. 78400				
ILLINOIS FED. AID PROJECT				



ELEVATION

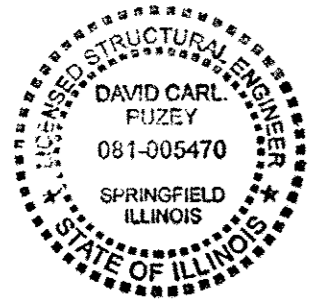


PLAN

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	65.6
Concrete Superstructure	Cu. Yd.	65.6
Structural Steel Repair	Pound	73230
Temporary Support System	Each	67
Silicone Joint Sealer, 1 3/4"	Foot	242
Structural Steel Removal	Pound	72610
Furnishing & Erecting Structural Steel	Pound	96160
Reinforcement Bars, Epoxy Coated	Pound	10800
Stud Shear Connectors	Each	2640

* Includes new bolts as noted on sheet 13 of 13.
 ** Includes removal & disposal of angles as shown on sheet 7 of 13 and removal and disposal of angles & bent plates as shown on sheet 13 of 13.



EXPIRES 11-30-2014

DESIGNED <i>John Clark</i>	EXAMINED <i>Timothy A. Delt</i>	DATE <u>AUGUST 1, 2014</u>
CHECKED <i>Alan T. Halloway</i>	PASSED <i>David Carl Puzey</i>	REVISED _____
DRAWN <i>Steffen/ballva</i>	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED _____
CHECKED <i>TLC ATH</i>		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
U.S. ROUTES 60 & 64 (OLD CAIRO BRIDGE) OVER THE MISSISSIPPI RIVER
SN 002-0005
SHEET NO. 1 OF 13 SHEETS

F.A.S. RTE. 944	SECTION (1360-BR11-7)	COUNTY ALEXANDER	TOTAL SHEETS 17	SHEET NO. 5
CONTRACT NO. 78400			ILLINOIS FED. AID PROJECT	

GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.
 Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.
 Fasteners shall be high strength bolts. Bolts 3/4"φ, open holes 13/16"φ, unless otherwise noted.
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
 Reinforcement bars designated (E) shall be epoxy coated.

Work is to be completed under road closure.
 Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included with Structural Steel Repair.
 The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat shall be Interstate Green, Munsell No. 7.5G 4/8. See Special Provision "Cleaning and Painting New Metal Structures".
 Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
 The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

SCOPE OF WORK

Repair	03/25/13 NBIS Inspection Report Item No.	Location	Repair Description
445	445	Span D, L48W-L49W	Replace 1 deteriorated & 2 missing lacing bars
357	357	Span D, L51W-L52W	Replace 1 deteriorated & 2 missing lacing bars
454	454	Span D, L55E-L56E	Replace 1 deteriorated & 1 missing lacing bars
165	165	Span 2IN, Girder D	Replace 10 Bolts
398	398	Span A at L4E & L4W	Replace 12 Bolts
298	298	Span B at L21E & L21W	Replace 12 Bolts
424	424	Span C, L33E-L34E	Replace 2 Bolts
450	450	Span D at L51W	Replace 14 Bolts & Bolt 2 miss drilled holes
510	510	Span D at L51E	Replace 14 Bolts & Bolt 2 miss drilled holes
459	459	Span F, Stringer A, at FB80, Panel 81	Replace 2 Bolts
32	32	Span C, Stringer A, at FB32, Panel 33	Grind crack
62	62	Span G, U10W-L102W, 5' to 15' above deck	Straighten, strengthen & grind crack
123	123	Span D, Gusset plate at L55W	Grind crack & seal
231	231	Span G, Stringer A at FB98, Panel 98	Replace connection angle
352	352	Span D, U47E-U48E at U48E	Replace outside slide angle
497	497	Span A at L10E	Replace 1 Bolt
421	421	Span C at L34W	Replace 1 Bolt & 1 missing rivet
433	433	Span D at L42E	Replace 1 missing rivet
221	221	Span F, Stringer B Bearing at FB79, Panel 79	Replace 1 missing bolt
417	417	Span B, C, U26E-L26E at L26E	Clean and Paint
18	18	Joint at P7N	Replace PJS with Silicone Joint Sealer
473	473	Joint at P18N	Replace PJS with Silicone Joint Sealer
475	475	Joint at P13N	Replace PJS with Silicone Joint Sealer
479	479	Joint at P10N	Replace PJS with Silicone Joint Sealer
480	480	Joint at P9N	Replace PJS with Silicone Joint Sealer
481	481	Joint at P8N	Replace PJS with Silicone Joint Sealer
482	482	Joint at P5N	Replace PJS with Silicone Joint Sealer
483	483	Joint at P2N	Replace PJS with Silicone Joint Sealer
484	484	Joint at P1N	Replace PJS with Silicone Joint Sealer
526	526	Joint at P1S	Replace PJS with Silicone Joint Sealer
527	527	Joint at P6S	Replace PJS with Silicone Joint Sealer

SCOPE OF WORK

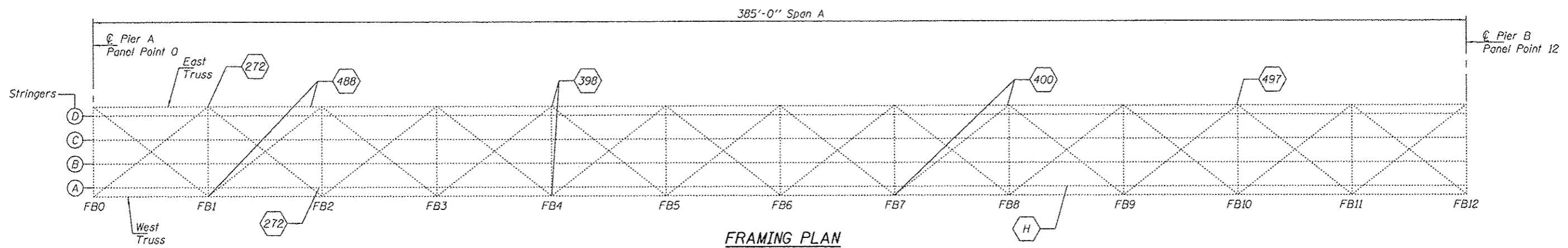
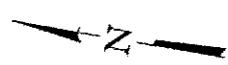
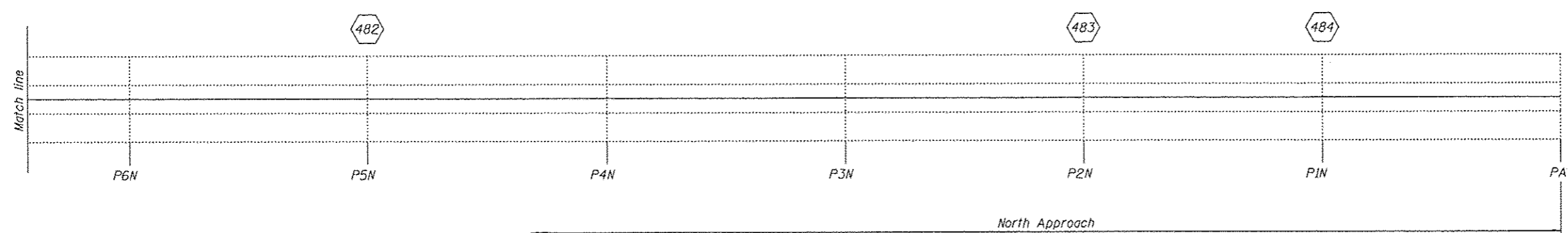
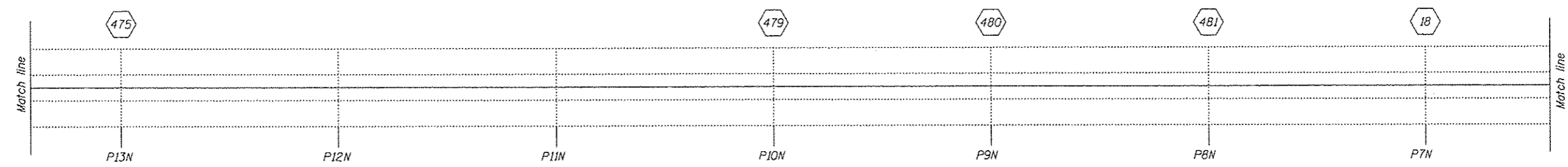
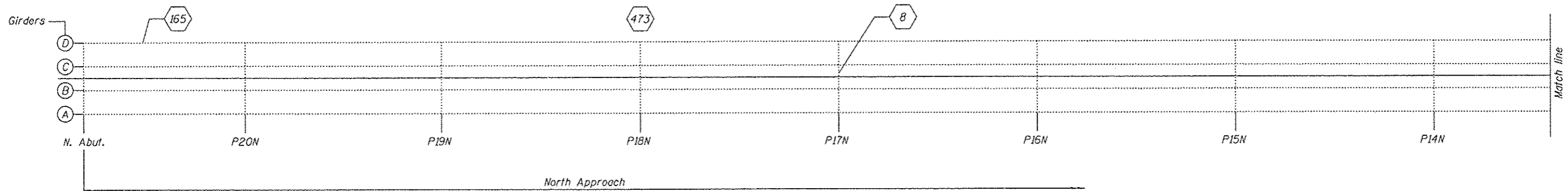
Repair	03/25/13 NBIS Inspection Report Item No.	Location	Repair Description
B	8	Span 17N, Crossframe, between Girders B & C at C	Replace 1 bottom connector plate & bottom angle
161	161	Span 10S, Crossframe, between Girders A & B at A	Replace 1 bottom connector plate
195	195	Span C, L26E-L27E at L26E	Replace 1 bottom stay plate
528	528	Span 9S at Pier 8S, Girder D	Replace 1 missing bolt
272	272	Span A, L1E-L2W, both ends	* Replace deteriorated portion of bottom lateral angles
488	488	Span A, L1W-L2E, at L2E	* Replace deteriorated portion of bottom lateral angles
400	400	Span A, L7W-L8E, both ends	* Replace deteriorated portion of bottom lateral angles
503	503	Span B, L18W-L19E, both ends	* Replace deteriorated portion of bottom lateral angles
506	506	Span B, L22E-L23W, both ends	* Replace deteriorated portion of bottom lateral angles
507	507	Span B, L22W-L23E, both ends	* Replace deteriorated portion of bottom lateral angles
111	111	Span B, L23W-L24E, at L24E	Clean and paint gusset plates
117	117	Span D, L45W-L46E, at L46E	Clean and paint gusset plates
130	130	Span F, L78E-L79W, both ends	Replace deteriorated portion of bottom lateral angles and clean and paint gusset plates
375	375	Span F, L79E-L80W, both ends	* Replace deteriorated portion of bottom lateral angles
376	376	Span F, L79W-L80E, both ends	* Replace deteriorated portion of bottom lateral angles
378	378	Span F, L81W-L82E, both ends	Replace deteriorated portion of bottom lateral angles and clean and paint gusset plates
325	325	Span G, L94W-L95E, at L94W	* Replace deteriorated portion of bottom lateral angles
230	230	Span G, L96W-L97E, at L96W	* Replace deteriorated portion of bottom lateral angles
A	106	Multiple floorbeams	Replace deteriorated top flange angles
H	267	Span A, Str. A, Midspan, Panel 9	Strengthen bottom flange
I	267	Span C, Str. D, Midspan, Panel 27	Strengthen bottom flange
E	267	Span C, Str. D, Midspan, Panel 28	Strengthen bottom flange and web
F	267	Span D, Str. D, Midspan, Panel 48	Strengthen bottom flange and web
M	267	Span D, Str. A, 3' N. of FB 62	Strengthen bottom flange and web
B	267	Span E, Str. A, Midspan, Panel 71	Strengthen bottom flange and web
C	267	Span F, Str. D, Midspan, Panel 77	Strengthen bottom flange and web
G	267	Span F, Str. A, Midspan, Panel 78	Strengthen bottom flange and web
D	267	Span G, Str. A, Midspan, Panel 98	Strengthen bottom flange and web
L	267	Span G, Str. D, Full length, Panel 99	Strengthen bottom flange
J	267	Span G, Str. A, Midspan, Panel 99	Strengthen bottom flange
K	267	Span G, Str. A, Midspan, Panel 100	Strengthen bottom flange

(A) - Floorbeam repair. All repairs in this category are floorbeams selected from Item #106 of the 3/25/2013 NBIS Inspection Report. For locations, see sheet 7 of 13.

(B) thru (M) - Stringer repair (Items B thru M). All repairs in this category are stringers selected from Item #267 of the 3/25/2013 NBIS Inspection Report. See sheets 9 & 10 of 13.

* Recommend Clean and paint gusset plates in addition to angle replacement.

DESIGNED <i>TLC</i>	EXAMINED <i>Timothy A. ...</i>	DATE <i>AUGUST 1, 2014</i>	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES AND SCOPE OF WORK SN 002-0005	F.A.S. RTE. 944	SECTION (1380-BR)-7	COUNTY ALEXANDER	TOTAL SHEETS 17	SHEET NO. 6
CHECKED <i>ATH</i>	PASSED <i>...</i>	REVISED			CONTRACT NO. 78400	[ILLINOIS] FED. AID PROJECT			
DRAWN <i>baliva</i>	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED	SHEET NO. 2 OF 13 SHEETS						
CHECKED <i>TLC ATH</i>	ACTING ENGINEER OF STRUCTURAL SERVICES	REVISED							



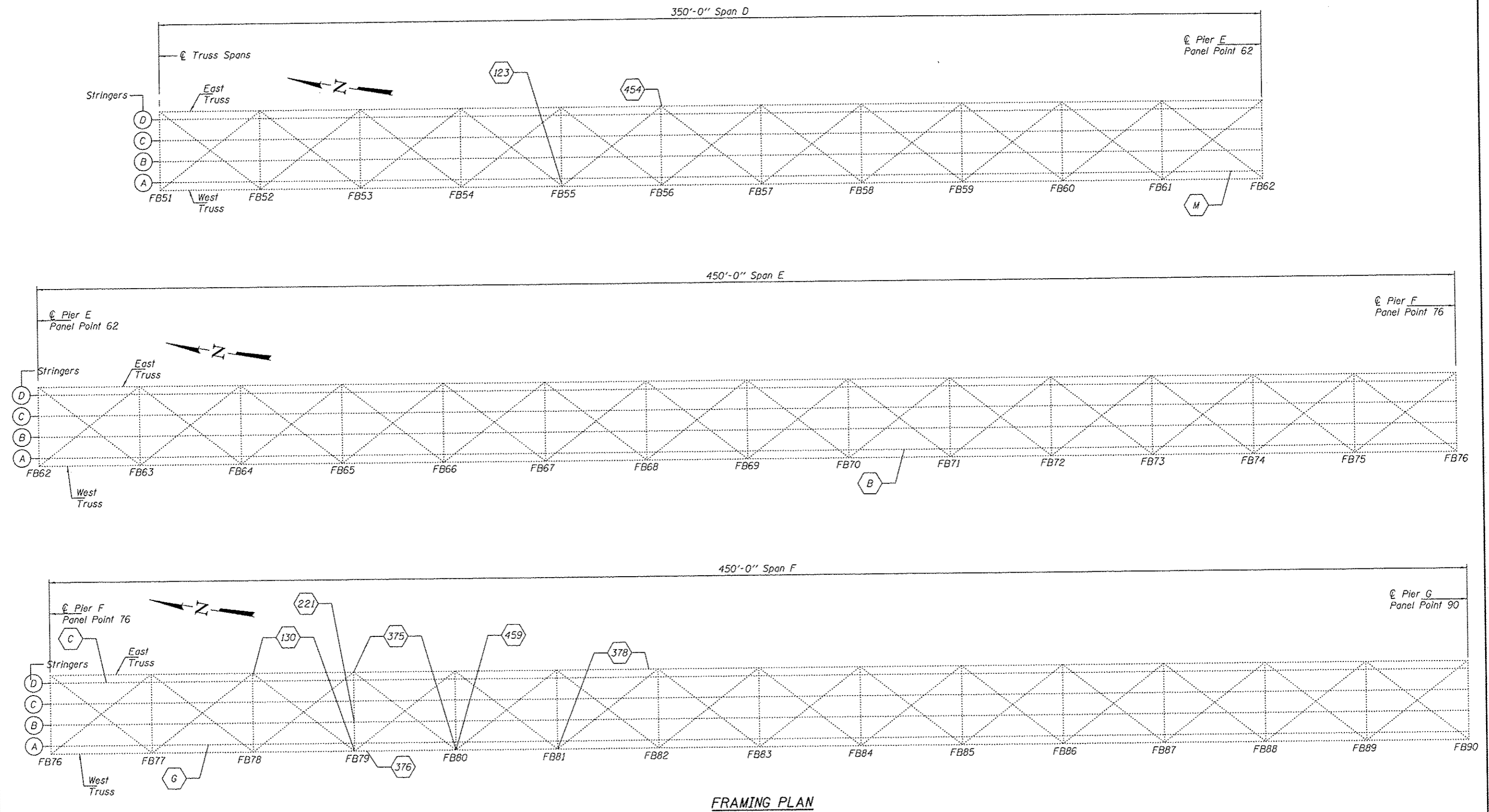
DESIGNED TLC	EXAMINED	DATE AUGUST 1, 2014
CHECKED ATH	<i>Timothy A. [Signature]</i> ACTING ENGINEER OF STRUCTURAL SERVICES	
DRAWN baliva	PASSED	REVISED
CHECKED TLC ATH	<i>A. Carl [Signature]</i> ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

N. APPROACH AND SPAN A PLAN
SN 002-0005

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
944	(1380-BR1-7)	ALEXANDER	17	7
CONTRACT NO. 78400				
ILLINOIS FED. AID PROJECT				

SHEET NO. 3 OF 13 SHEETS



DESIGNED <i>TLC</i>	EXAMINED <i>Timothy A. ...</i>	DATE <i>AUGUST 1, 2014</i>
CHECKED <i>ATH</i>	ACTING ENGINEER OF STRUCTURAL SERVICES	
DRAWN <i>baliva</i>	PASSED <i>Carl ...</i>	REVISED
CHECKED <i>TLC ATH</i>	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED

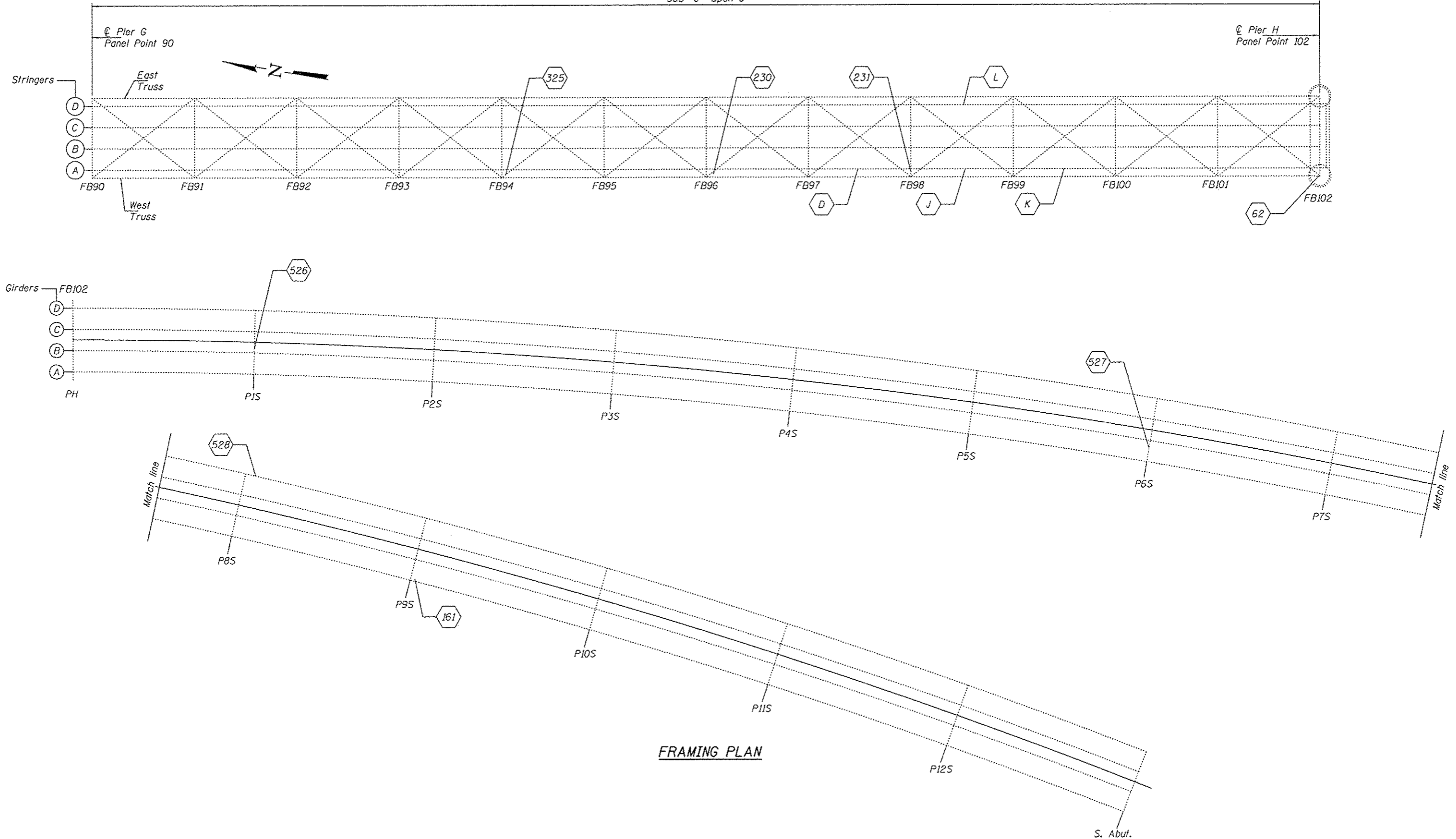
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SPANS E AND F ELEVATION
SN 002-0005**

SHEET NO. 5 OF 13 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
944	0380-BRI-7	ALEXANDER	17	9
CONTRACT NO. 78400			ILLINOIS FED. AID PROJECT	

385'-0" Span G



DESIGNED *TLC*
 CHECKED *ATH*
 DRAWN *baliva*
 CHECKED *TLC ATH*

EXAMINED *Timothy A. Anzani*
 ACTING ENGINEER OF STRUCTURAL SERVICES
 PASSED *Carl Papp*
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE *AUGUST 1, 2014*
 REVISED
 REVISED

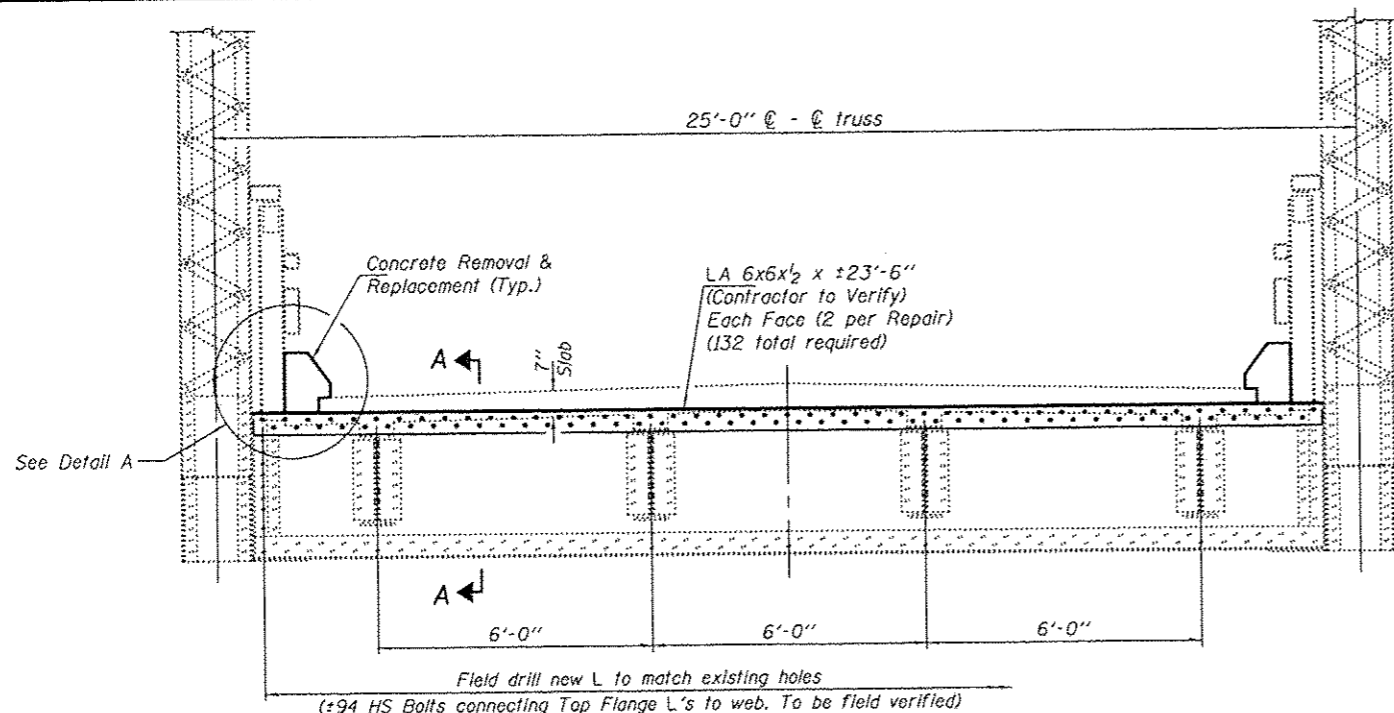
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SPAN G AND S. APPROACH PLAN
 SN 002-0005
 SHEET NO. 6 OF 13 SHEETS

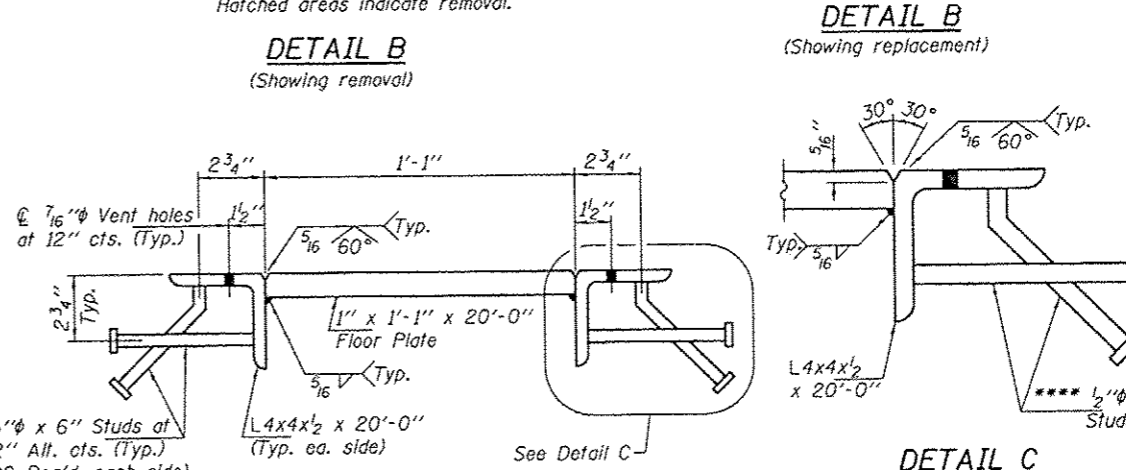
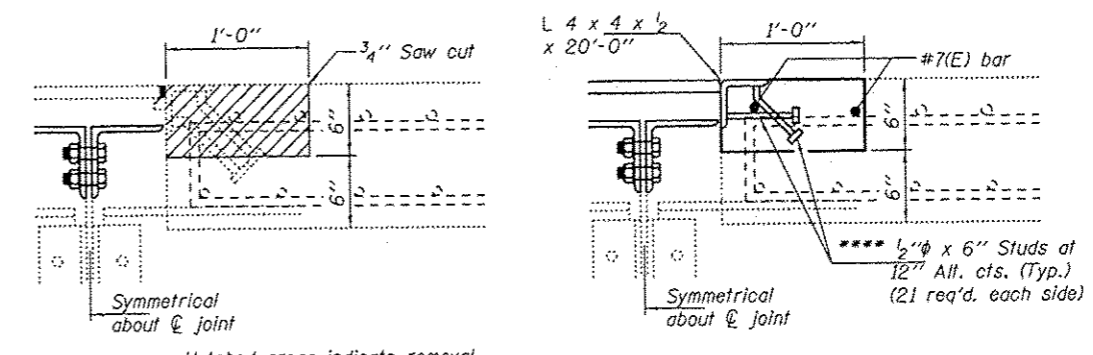
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
944	(1380-BR)-7	ALEXANDER	17	10
CONTRACT NO. 78400			ILLINOIS FED. AID PROJECT	

REPAIR A LOCATIONS

FB #	FB #
2	53
3	54
5	55
7	59
8	61
11	62
12	63
13	64
14	67
16	68
17	69
18	70
20	71
21	72
22	73
23	74
25	75
26	78
28	79
31	80
35	81
37	82
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42	90
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50	100
51	102

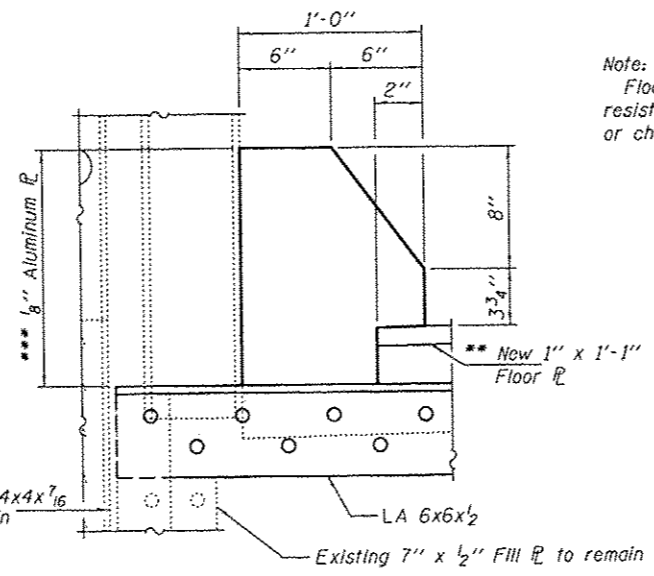
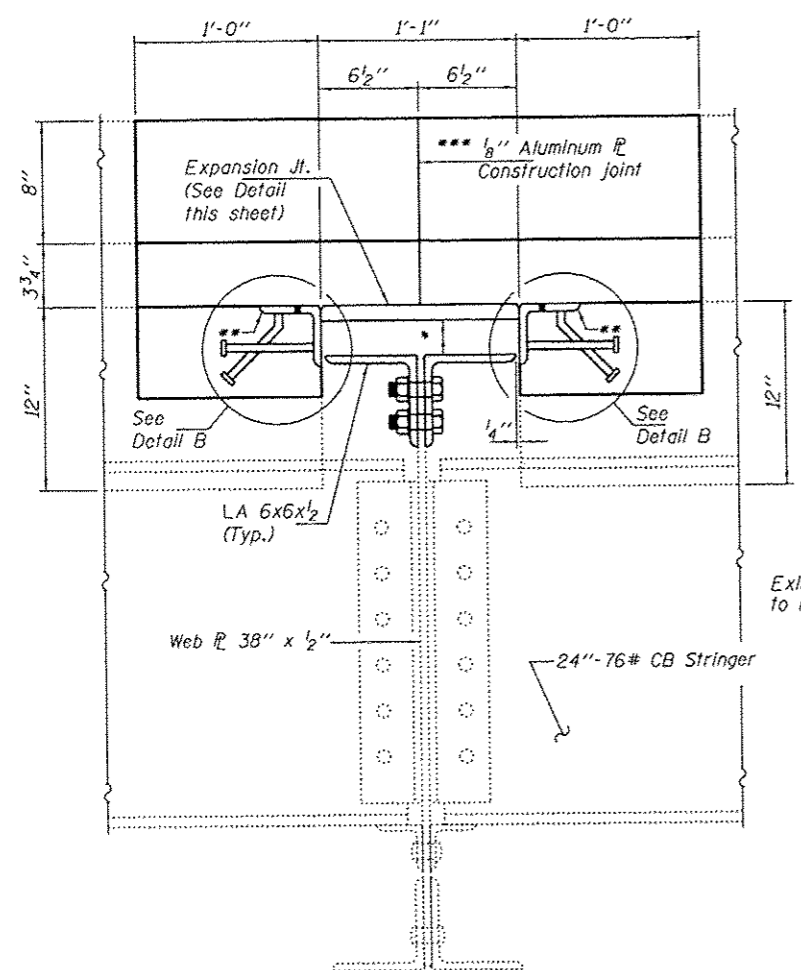


TYPICAL CROSS SECTION AT REPAIR A



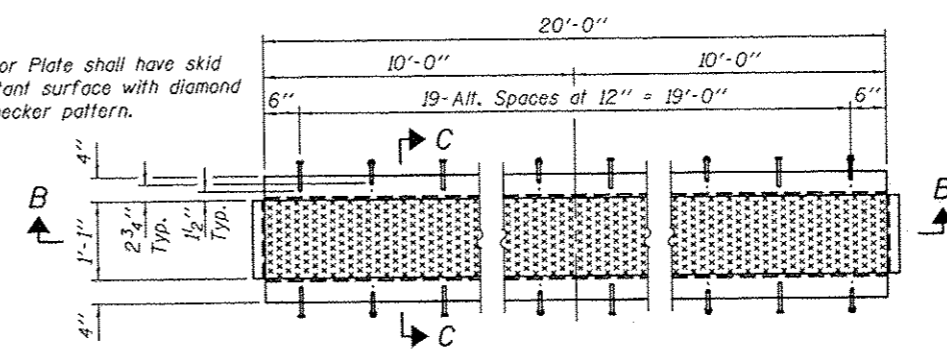
SECTION C-C

DETAIL C



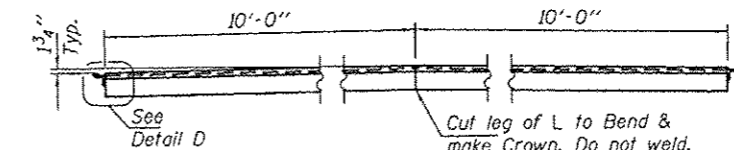
DETAIL A

Note: Floor Plate shall have skid resistant surface with diamond or checker pattern.



EXPANSION JOINT DETAIL

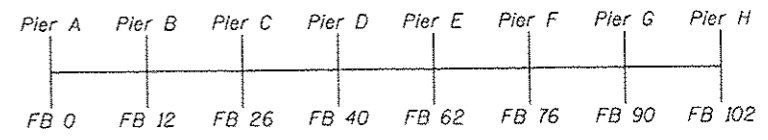
DETAIL D

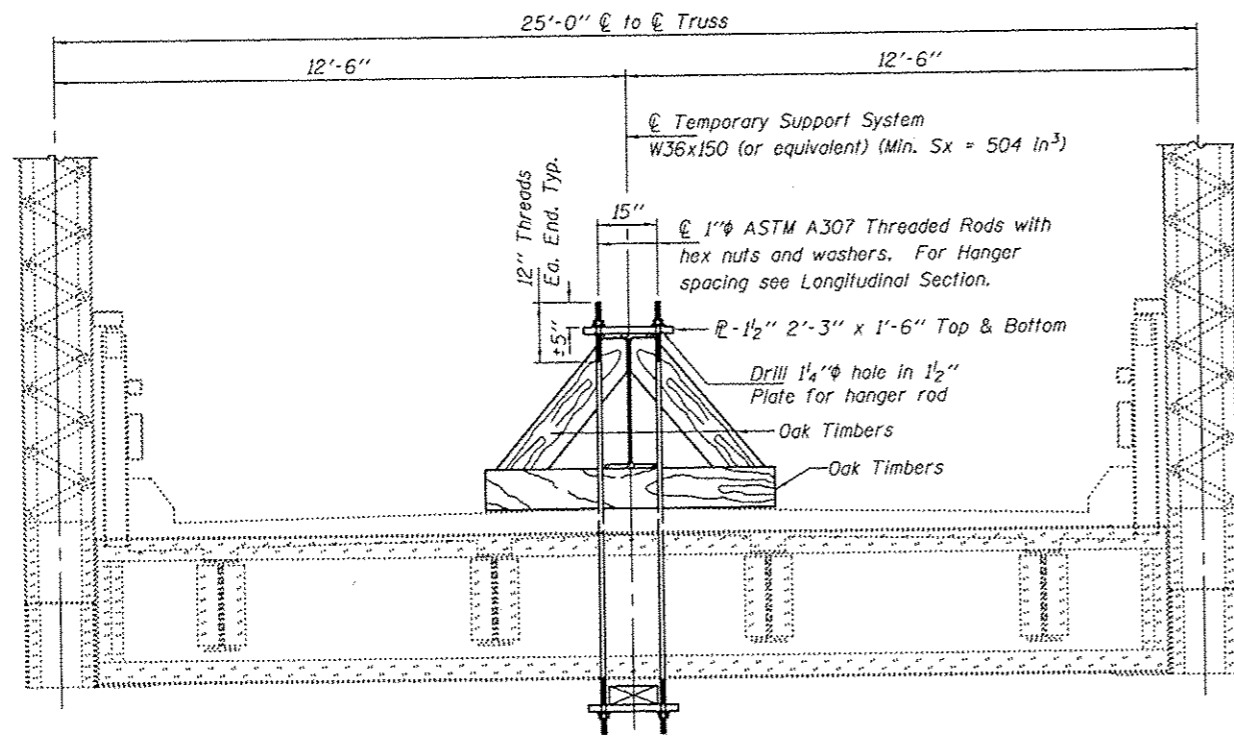


SECTION B-B

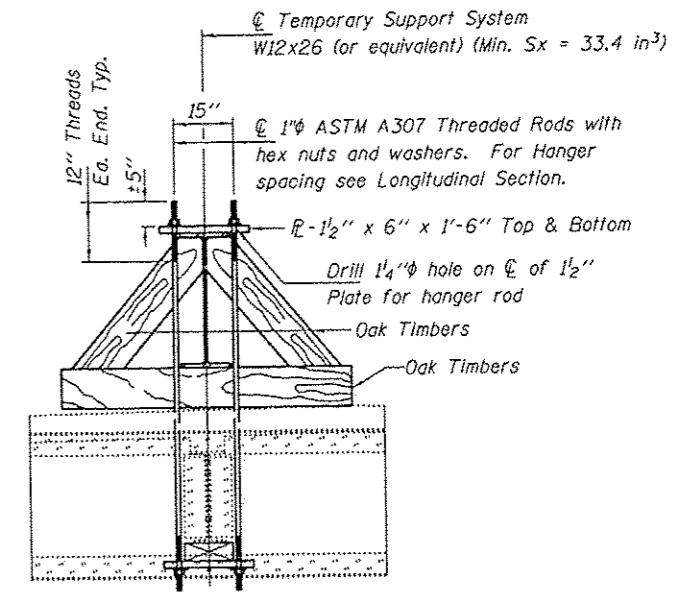
- * Varies from $\pm 1/2"$ to $\pm 5"$
- ** To be removed and replaced. Removal cost included with Concrete Removal. Replacement cost included with Furnishing & Erecting Structural Steel.
- *** Cost of Aluminum R is included with Concrete Superstructure.
- **** Granular or solid Flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

- SUGGESTED METHOD OF FLOOR BEAM TOP ANGLE REPLACEMENT**
1. Remove concrete curb at ends of 1" x 12" floor R. To be paid for as Concrete Removal.
 2. Remove 1" x 12" floor R welded to embedded L's and 1" x 1" bar. Cost included with Concrete Removal.
 3. Install Temporary Support System.
 4. Remove rivets from top 6x6x1/2 angles and remove angles in one piece. Cost of removing angles is to be paid for as Structural Steel Removal.
 5. Use existing angles as template to field drill bolt holes in new 6x6x1/2 angles.
 6. Install new 6x6x1/2 angles. Because of the confined location it may not be possible to tighten the bolts using power equipment. Cost included with Structural Steel Repair.
 7. Remove Temporary Support System.
 8. Remove and replace joint angles and portion of concrete deck. To be paid for as Concrete Superstructures.
 9. Install new Floor R and angles full length. Cost included with Furnishing & Erecting Structural Steel.
 10. Pour new concrete curbs. Cost included with Concrete Superstructures.



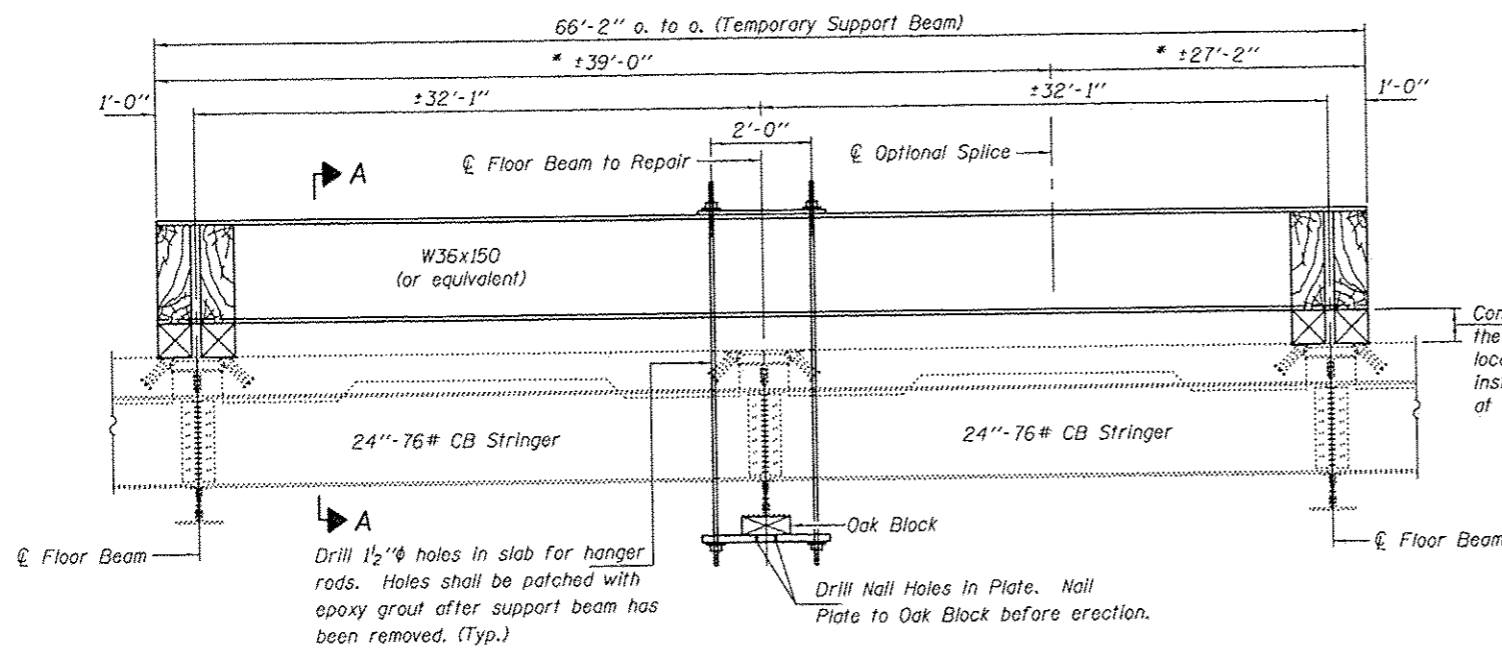


SECTION A-A



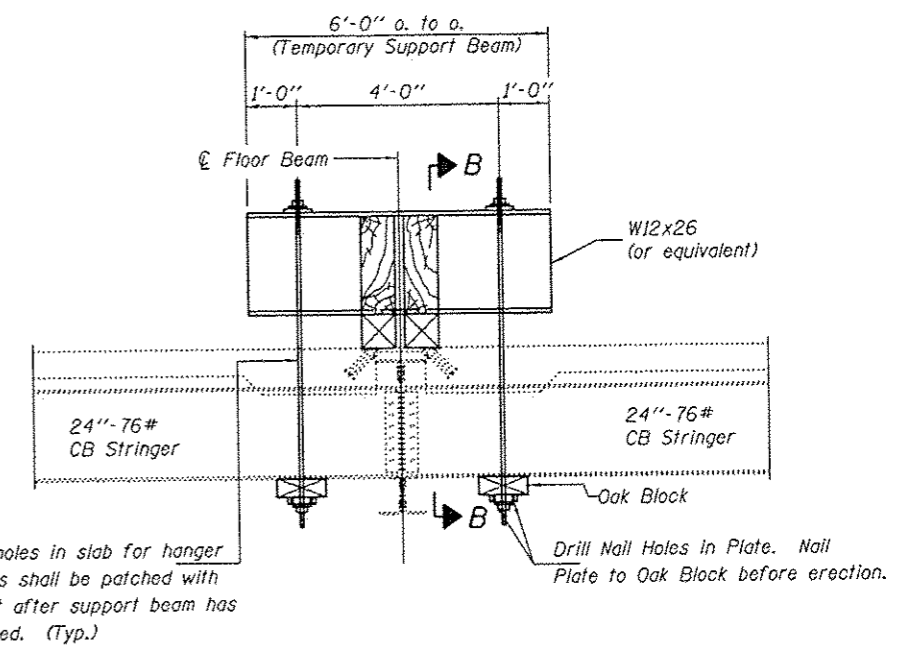
SECTION B-B

* These dimensions may vary for available beams in stock.



REPAIR A
LONGITUDINAL SECTION
SUGGESTED TEMPORARY SUPPORT SYSTEM
(66 Locations)

Contractor should determine the clear height at the support locations that will allow him to install the replacement angle of the floor beam in one piece.



REPAIR ITEM 231
LONGITUDINAL SECTION
SUGGESTED TEMPORARY SUPPORT SYSTEM
(1 Location)

DESIGNED TLC
CHECKED ATH
DRAWN Steffen
CHECKED TLC ATH

EXAMINED
PASSED
Timothy A. Bracht
ACTING ENGINEER OF STRUCTURAL SERVICES
Carly Steffen
ACTING ENGINEER OF BRIDGES AND STRUCTURES

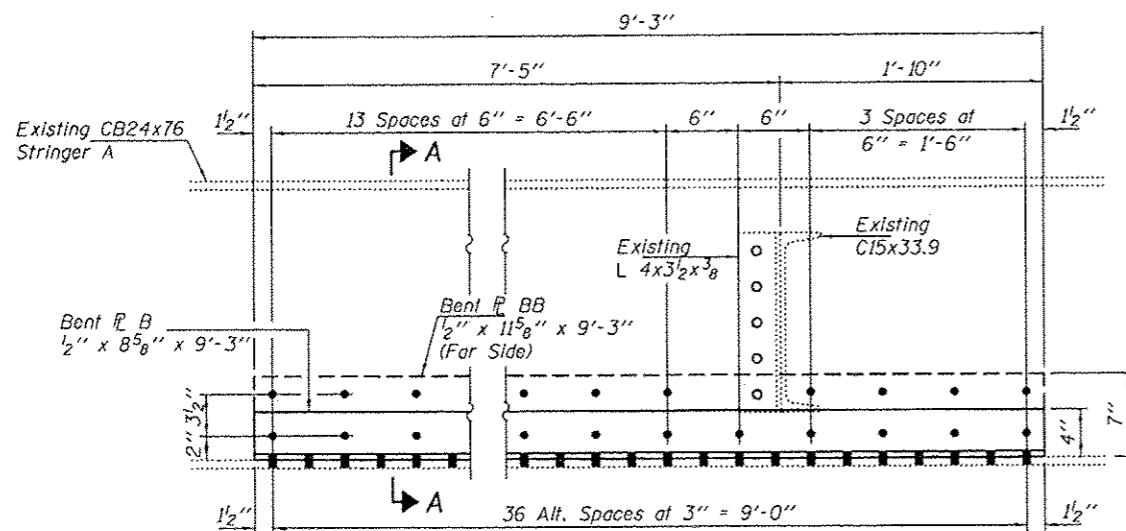
DATE AUGUST 1, 2014
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

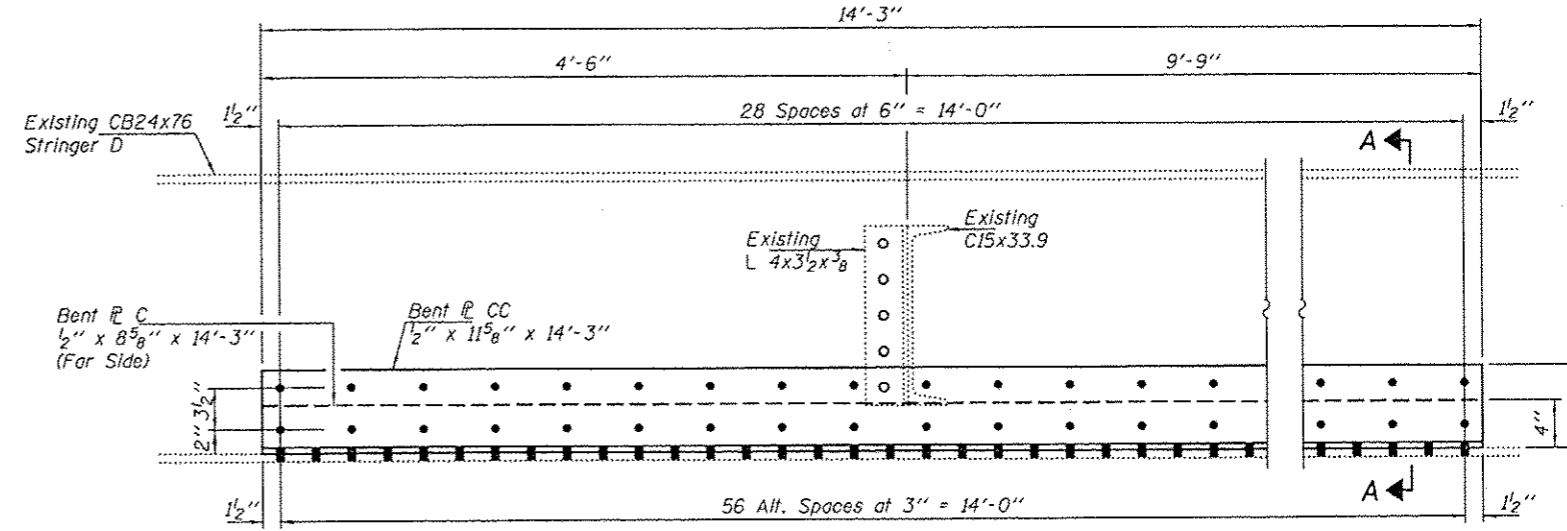
FLOORBEAM REPAIR DETAILS
SN 002-0005

SHEET NO. 8 OF 13 SHEETS

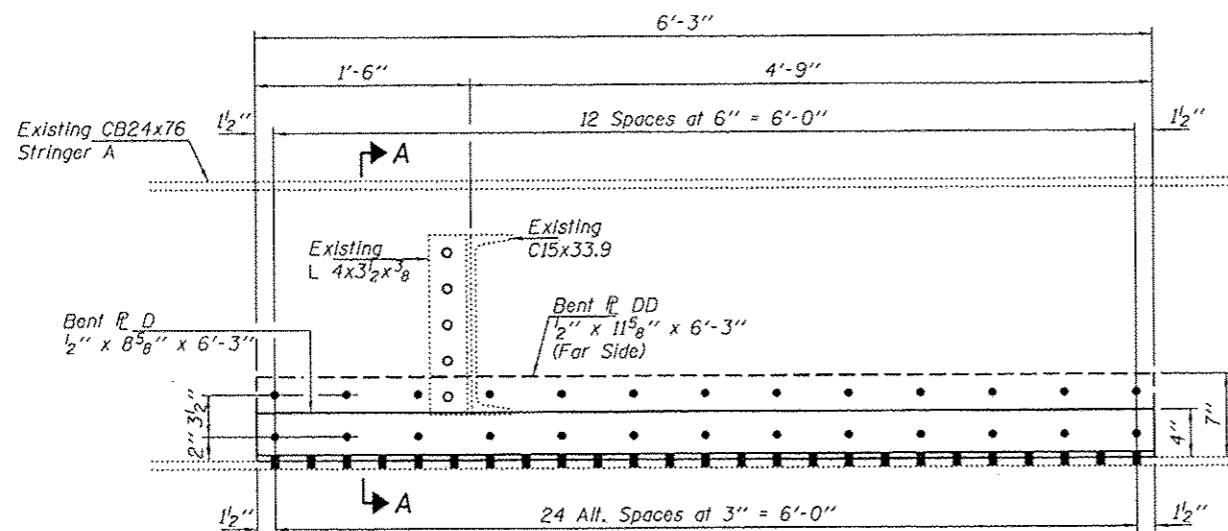
F.A.S. RTE. 544	SECTION (1380-BR)-1-7	COUNTY ALEXANDER	TOTAL SHEETS 17	SHEET NO. 12
CONTRACT NO. 78400				
ILLINOIS FED. AID PROJECT				



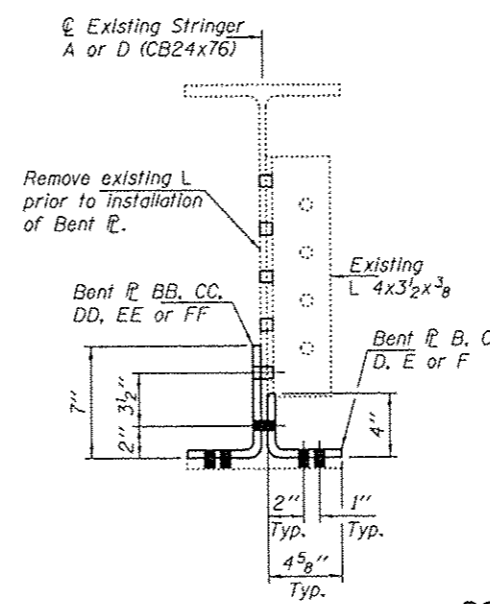
ITEM B REPAIR DETAILS
(Looking West)



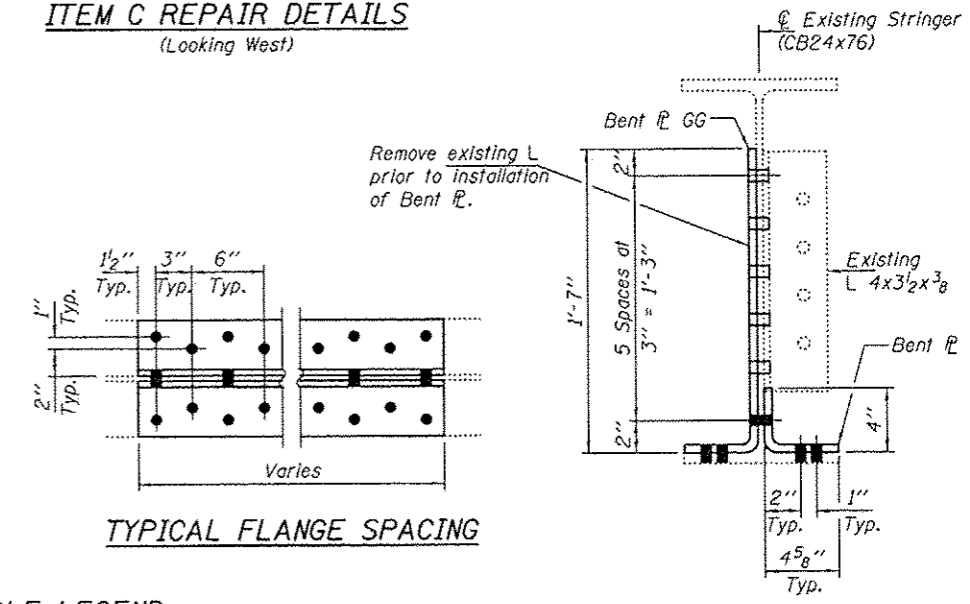
ITEM C REPAIR DETAILS
(Looking West)



ITEM D REPAIR DETAILS
(Looking West)



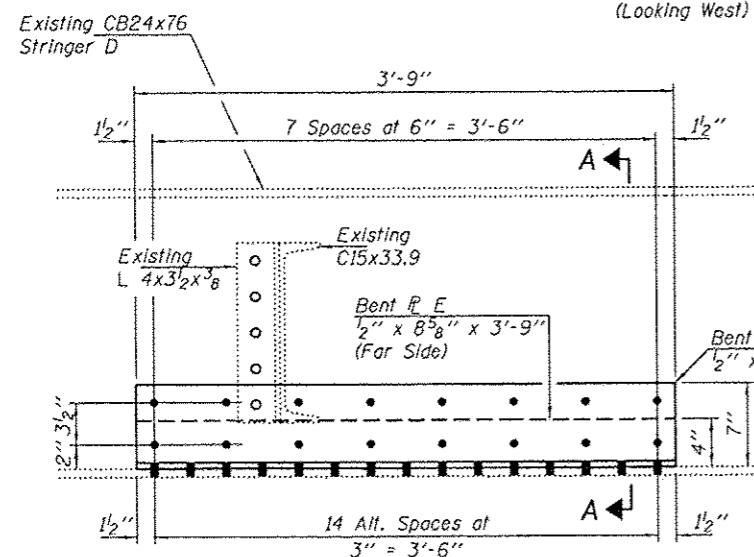
SECTION A-A



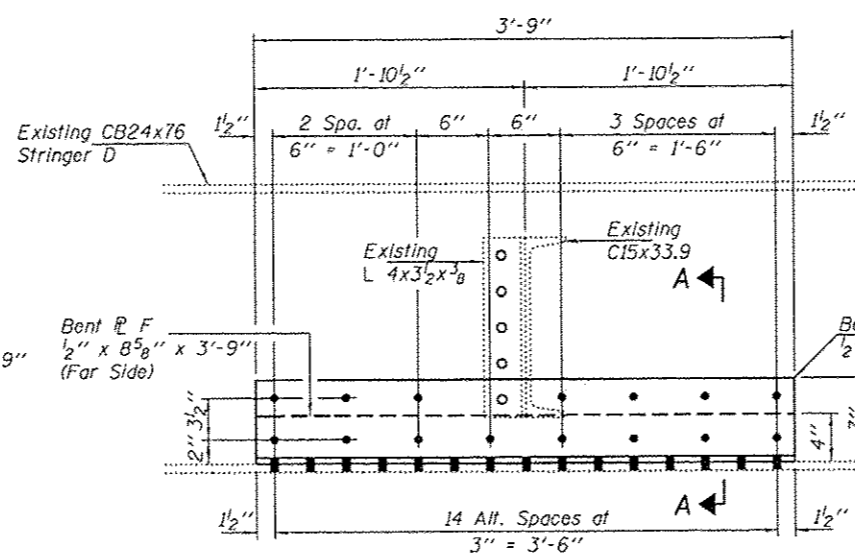
SECTION B-B

BOLT HOLE LEGEND

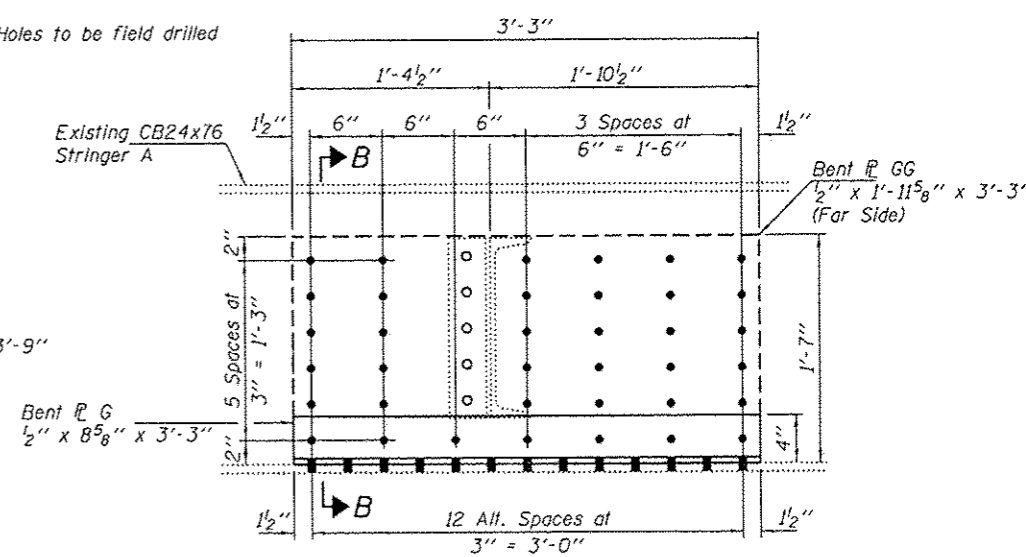
- - Holes to be shop drilled
- - Holes to be field drilled



ITEM E REPAIR DETAILS
(Looking West)



ITEM F REPAIR DETAILS
(Looking West)



ITEM G REPAIR DETAILS
(Looking West)

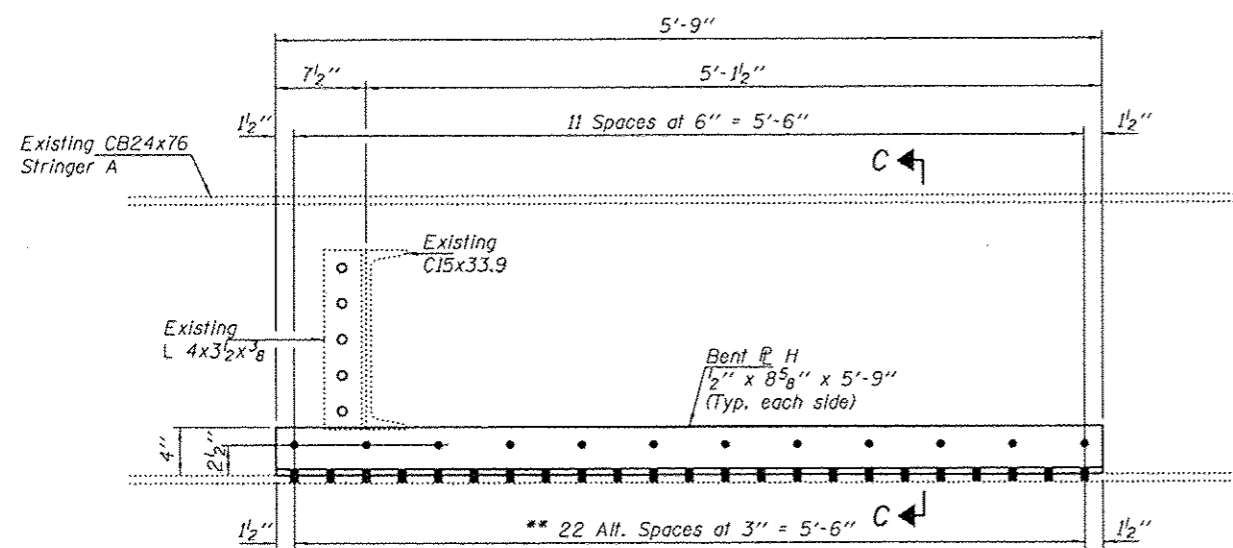
DESIGNED TLC	EXAMINED Timothy A. Ball	DATE AUGUST 1, 2014
CHECKED ATH	PASSED ACTING ENGINEER OF STRUCTURAL SERVICES	REVISED
DRAWN Steffen	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED TLC ATH		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

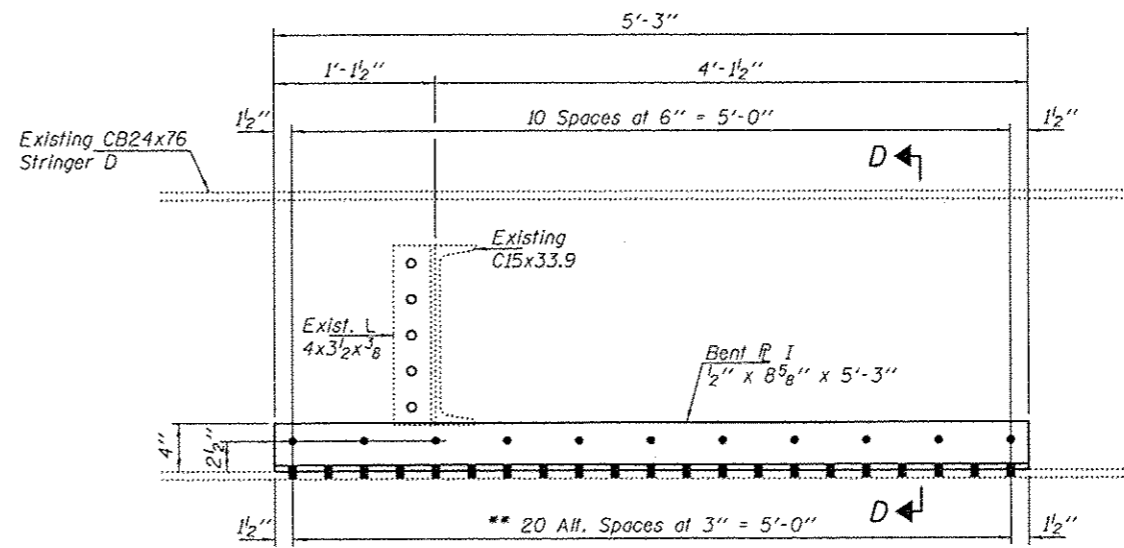
**STRINGER REPAIR DETAILS
SN 002-0005**

SHEET NO. 8 OF 13 SHEETS

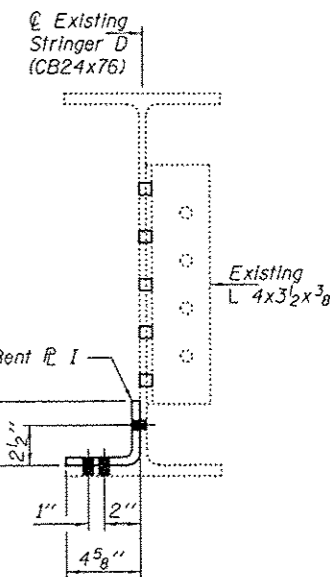
F.A.S. RTE. 944	SECTION (1380-BR11-7)	COUNTY ALEXANDER	TOTAL SHEETS 17	SHEET NO. 13
				CONTRACT NO. 78400
ILLINOIS FED. AID PROJECT				



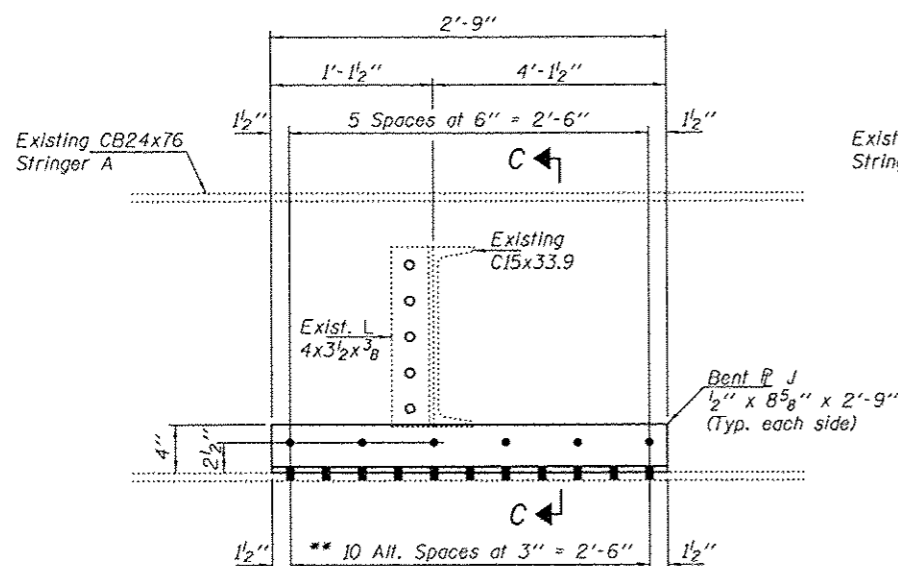
ITEM H REPAIR DETAILS
(Looking West)



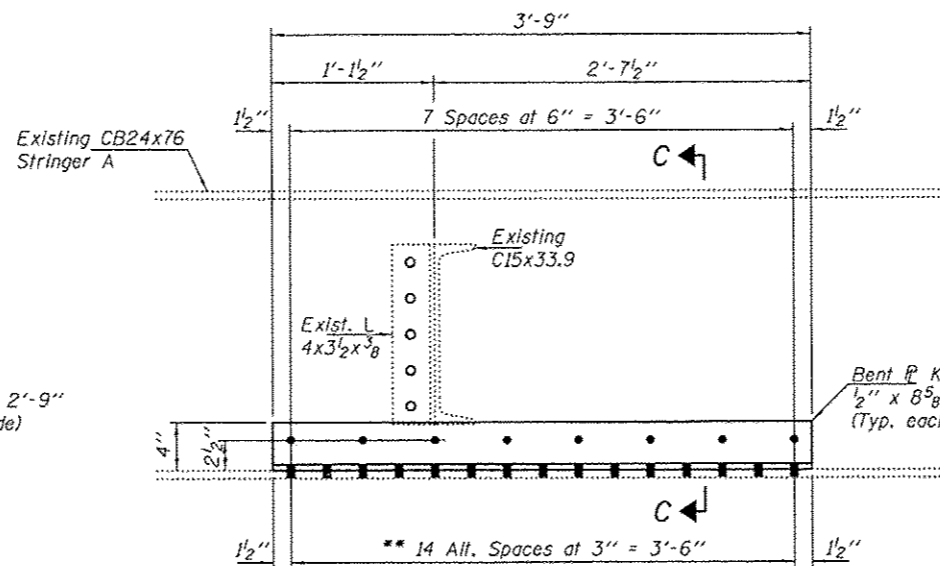
ITEM I REPAIR DETAILS
(Looking West)



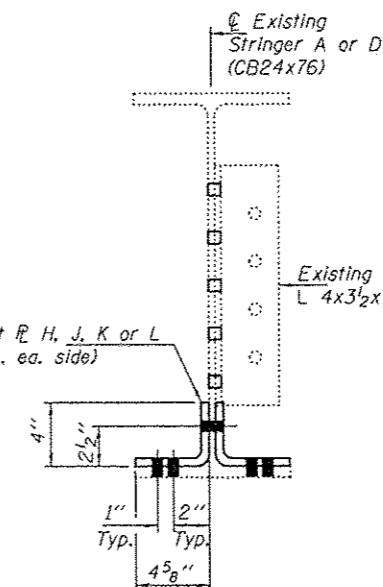
SECTION D-D



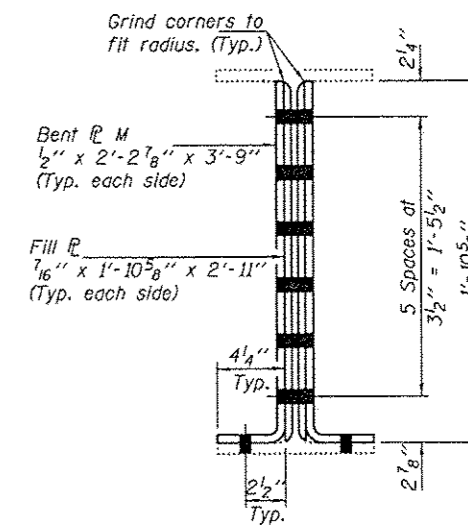
ITEM J REPAIR DETAILS
(Looking West)



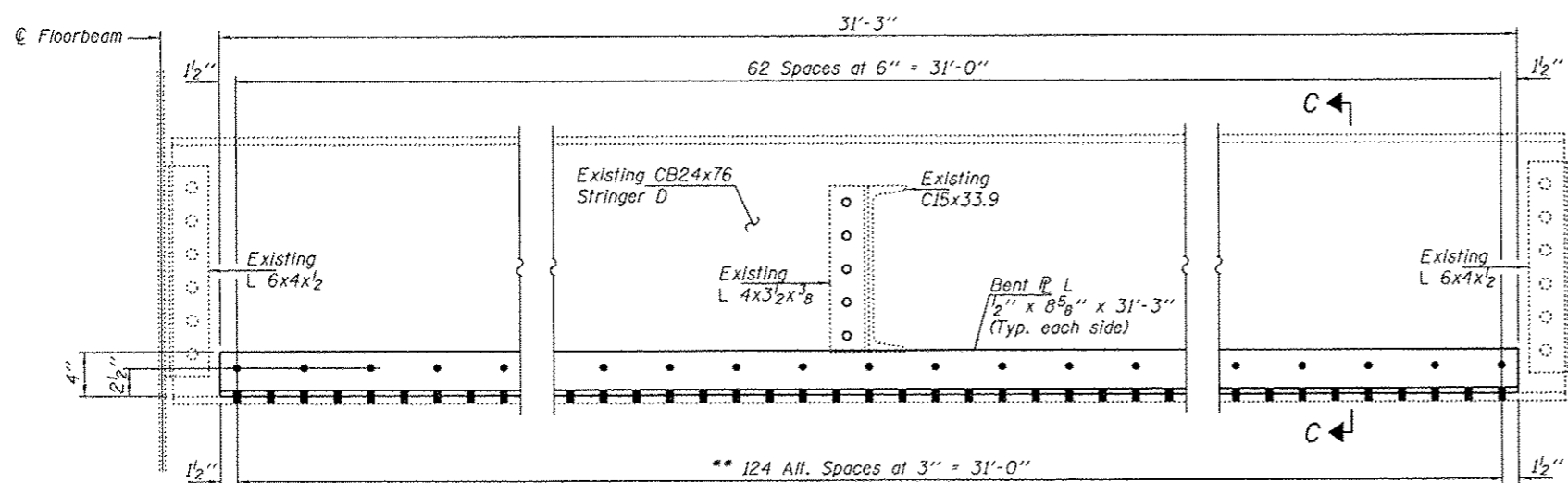
ITEM K REPAIR DETAILS
(Looking West)



SECTION C-C



SECTION E-E

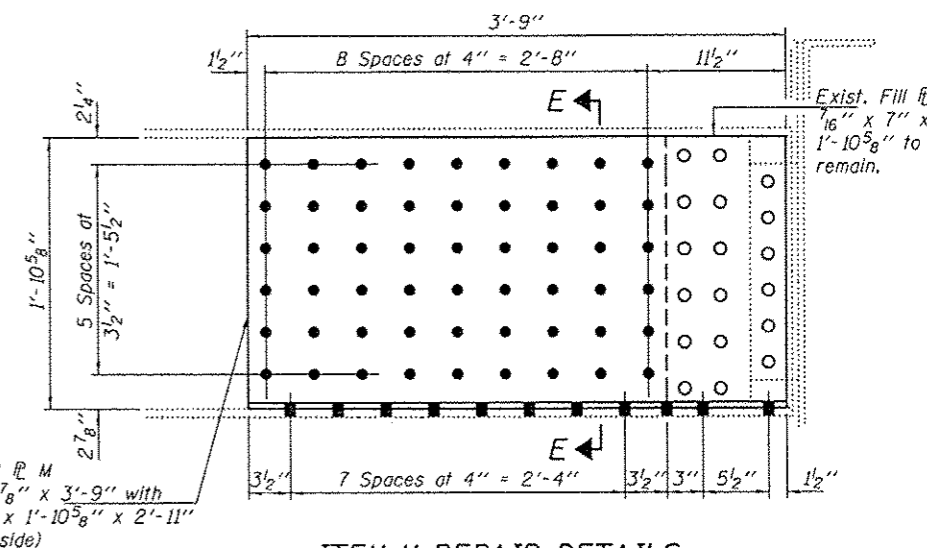


ITEM L REPAIR DETAILS
(Looking West)

BOLT HOLE LEGEND

- - Holes to be shop drilled
- - Holes to be field drilled
- * Remove existing 1/2" x 10" x 1'-10 5/8" Repair R's. Cost included with Structural Steel Repair.
- * Install Bent R M 1/2" x 2'-2 7/8" x 3'-9" with Fill R 7/16" x 1'-10 5/8" x 2'-11" (Typ. each side)

** For Plan View of Typical Flange Bolt spacing see sheet 9 of 13.



ITEM M REPAIR DETAILS
(Looking West)

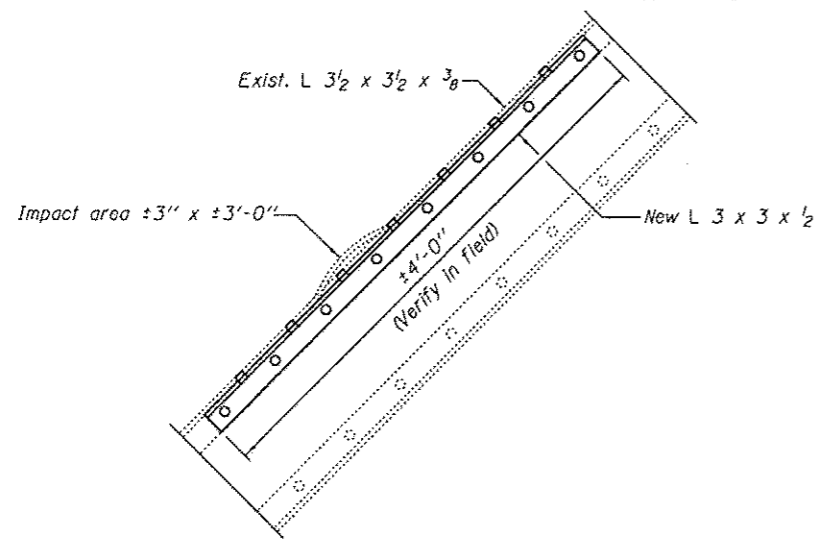
DESIGNED TLC
CHECKED ATH
DRAWN Steffen
CHECKED TLC ATH

EXAMINED
PASSED
Trusty A. ...
ACTING ENGINEER OF STRUCTURAL SERVICES
A. Carl ...
ACTING ENGINEER OF BRIDGES AND STRUCTURES
DATE AUGUST 1, 2014
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRINGER REPAIR DETAILS
SN 002-0005
SHEET NO. 10 OF 13 SHEETS

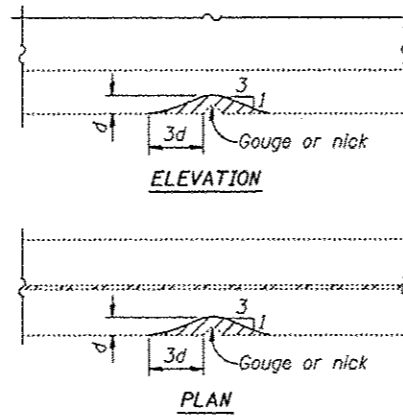
F.A.S. RTE. 944	SECTION (L380-BR)-7	COUNTY ALEXANDER	TOTAL SHEETS 17	SHEET NO. 14
CONTRACT NO. 78400				ILLINOIS FED. AID PROJECT



REPAIR ITEM 62

(L101W-U102W, looking west)
 Use existing holes as a template for drilling holes in new angle. Cost of straightening member is included in the cost of Structural Steel Repair.

Impacted areas shall be straightened. See special provision Straighten Bent Members. Cost included with Straighten Bent Members. Typical for repair 62.



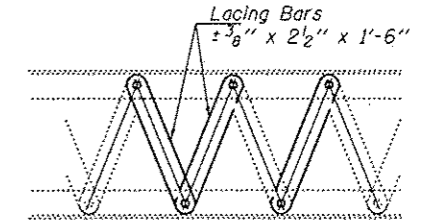
GRINDING DETAIL

REPAIR ITEMS 32 & 62

Grind existing nicks, gouges and shallow cracks in the damaged beams as detailed. Grinding shall be done parallel to the longitudinal axis of the member. Ground surfaces shall be inspected for cracks using dye penetrant or magnetic particle testing prior to initiating any beam straightening operations. Any cracks that cannot be removed by grinding approximately 1/4" deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. Ground surfaces shall be spot cleaned and painted with an aluminum epoxy mastic primer followed by a finish coat to match the color of the existing beam. Cost of grinding, testing and spot painting included with Structural Steel Repair.

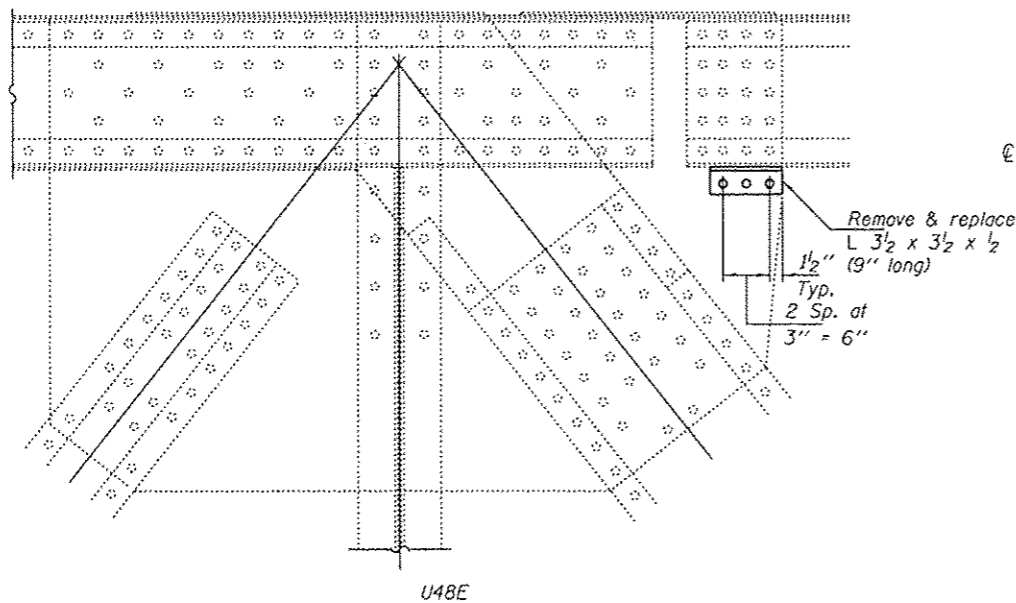
STRUCTURAL STEEL REPAIR				
Item #	Member	Location	Description	Action
32	Stringer A	FB 32, Panel 33	Crack	Grind
62	L102W-U101W	5' to 15' above deck	Damaged angle	Straighten, strengthen & grind
* 123	Gusset plate	Str. A at FB32, Panel 33	Cracked weld	Grind weld & seal

* See sheet 12 of 13 for details.



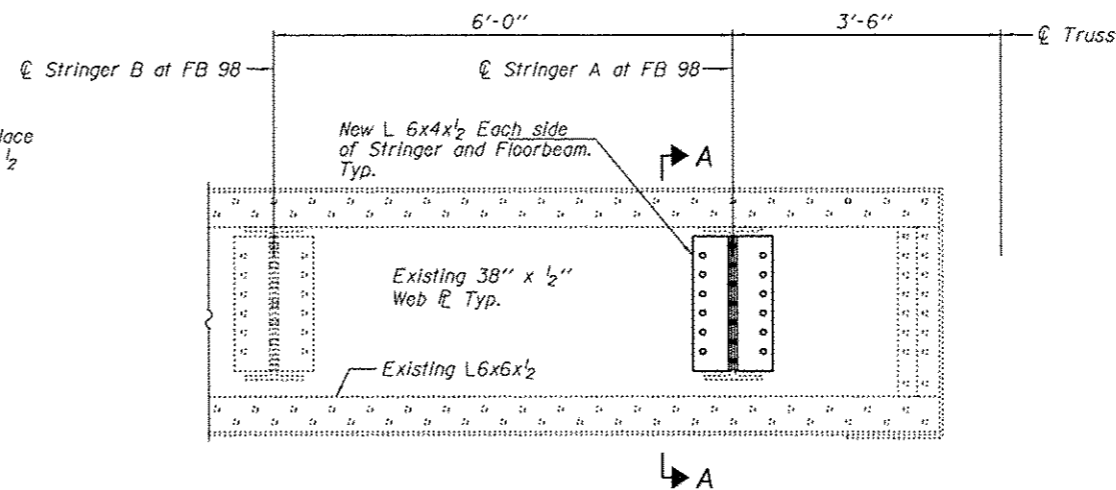
REPAIR ITEMS 357, 445 & 454

Exact locations to be verified in the field by the engineer



REPAIR ITEM 352

(Looking West)
 Use existing holes as a template for drilling holes in new angle. Cost of straightening member is included in the cost of Structural Steel Repair.

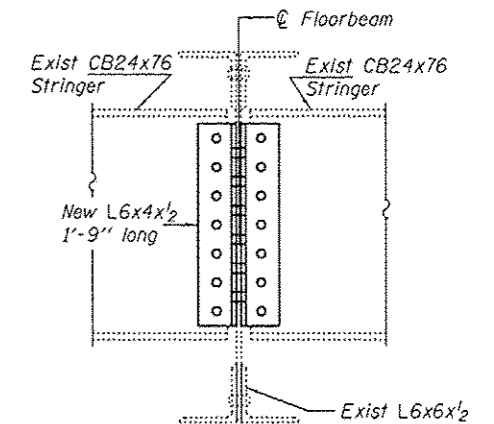


REPAIR ITEM 231

FLOOR BEAM 98

(Looking South)

- - Use holes in existing member as template
- - Use holes in new member as template

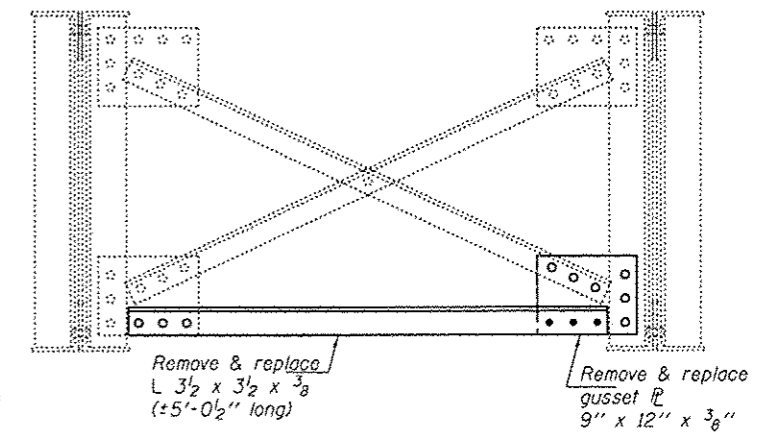


SECTION A-A

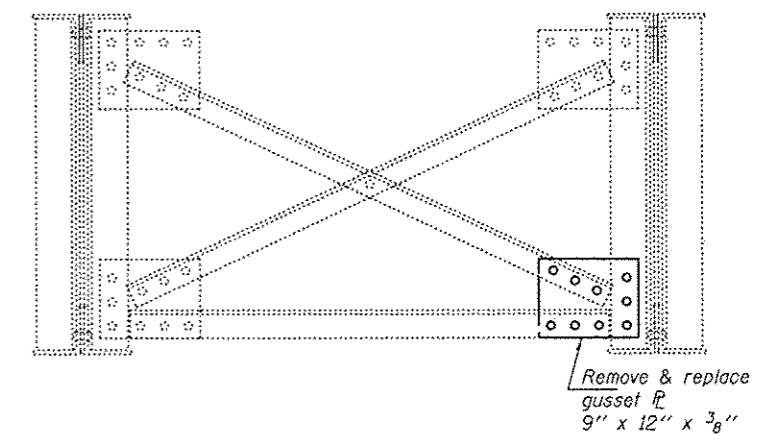
Temporary support of stringer end is required. See sheet B of 13 for details.

*** Remove existing PJS, & replace with Silicone Joint Sealer as shown.

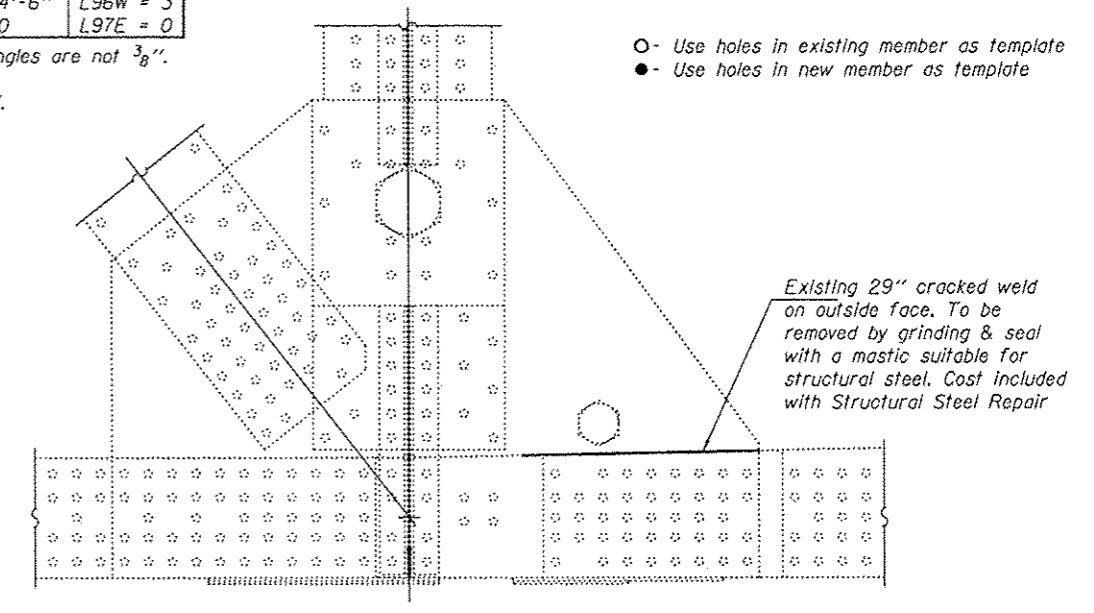
Repair Item #	07/30/12 NBIS Inspection Report Item No.	Location
18	18	Joint at P7N
473	473	Joint at P18N
475	475	Joint at P13N
479	479	Joint at P10N
480	480	Joint at P9N
481	481	Joint at P8N
482	482	Joint at P5N
483	483	Joint at P2N
484	484	Joint at P1N
526	526	Joint at PJS
527	527	Joint at P6S



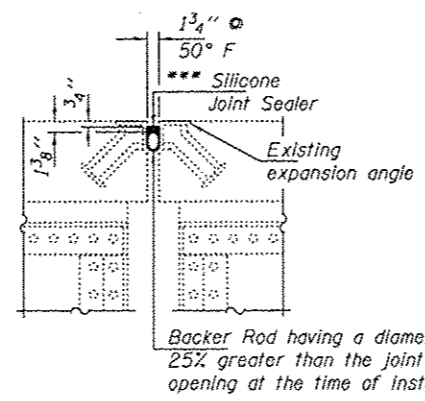
REPAIR ITEM 8



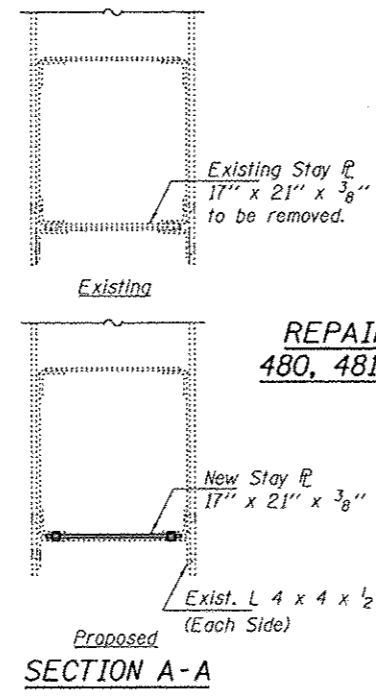
REPAIR ITEM 161



REPAIR ITEM 123



SECTION
REPAIR ITEMS 18, 473, 475, 479, 480, 481, 482, 483, 484, 526 & 527

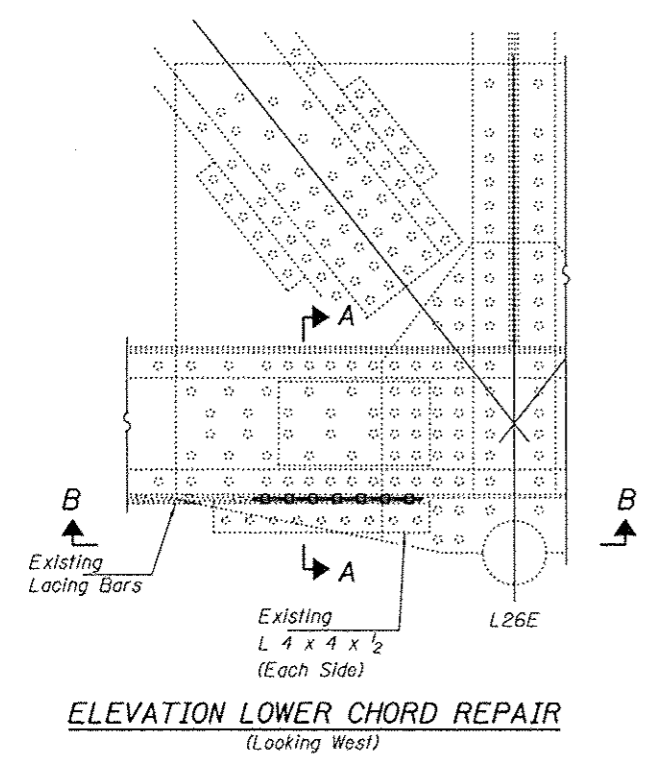


SECTION A-A

TABLE A

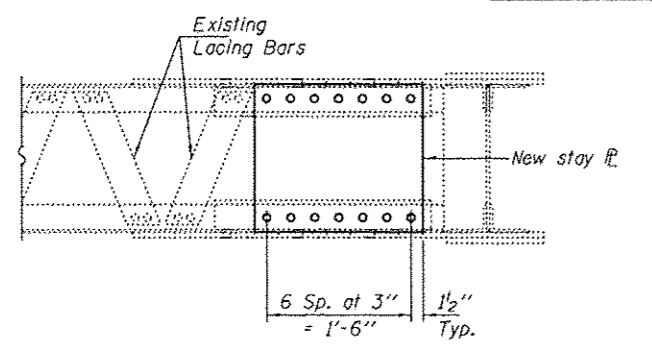
Repair	07/30/12 NBIS Inspection Report Item No.	New Angle size	Member	** Repair Length "L"	No. Bolts "X"
272	272	5x5x3/8	L1E-L2W	L1E = 4'-6" L2W = 7'-6"	L1E = 3 L2W = 6
488	488	5x5x3/8	L1W-L2E	L1W = 0 L2E = 6'-6"	L1W = 0 L2E = 5
400	400	5x5x3/8	L7W-L8E	L7W = 4'-6" L8E = 4'-6"	L7W = 3 L8E = 3
503	503	5x5x3/8	L18W-L19E	L18W = 4'-6" L19E = 5'-6"	L18W = 3 L19E = 4
506	506	* 5x5x3/8	L22E-L23W	L22E = 4'-6" L23W = 4'-6"	L22E = 3 L23W = 3
507	507	* 5x5x3/8	L22W-L23E	L22W = 4'-6" L23E = 5'-6"	L22W = 3 L23E = 4
130	130	* 5x5x3/8	L78E-L79W	L78E = 6'-6" L79W = 4'-6"	L78E = 5 L79W = 3
375	375	* 5x5x3/8	L79E-L80W	L79E = 5'-6" L80W = 4'-6"	L79E = 4 L80W = 3
376	376	* 5x5x3/8	L79W-L80E	L79W = 5'-6" L80E = 4'-6"	L79W = 4 L80E = 3
378	378	* 5x5x3/8	L81W-L82E	L81W = 6'-6" L82E = 4'-6"	L81W = 5 L82E = 3
325	325	5x5x3/8	L94W-L95E	L94W = 4'-6" L95E = 0	L94W = 3 L95E = 0
230	230	5x5x3/8	L96W-L97E	L96W = 4'-6" L97E = 0	L96W = 3 L97E = 0

* May require shim plates if existing angles are not 3/8".
** "L" refers to the length of L N.
Length of L O = length of L N + 6".

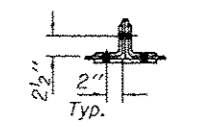


ELEVATION LOWER CHORD REPAIR
(Looking West)

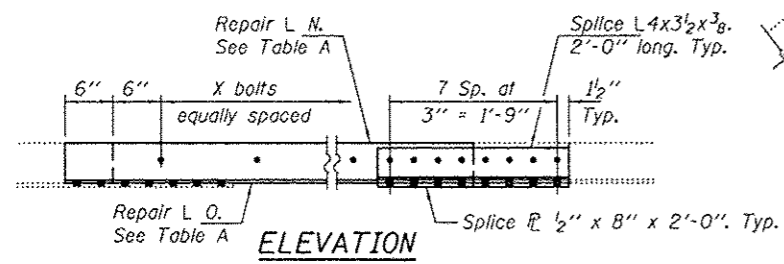
REPAIR ITEM 195



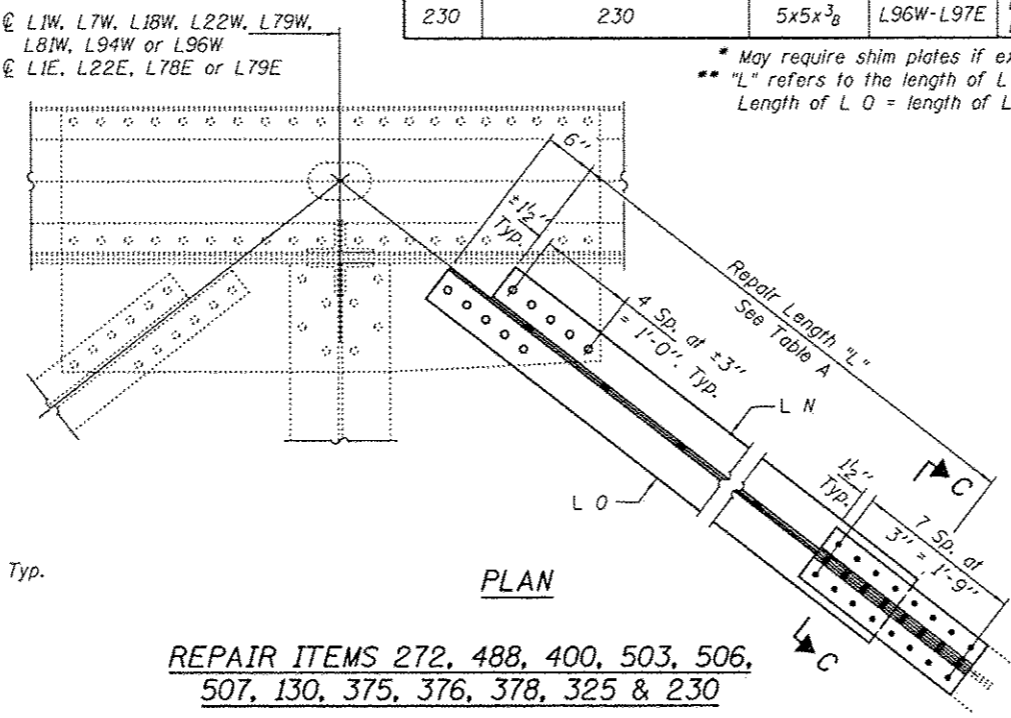
VIEW B-B



SECTION C-C

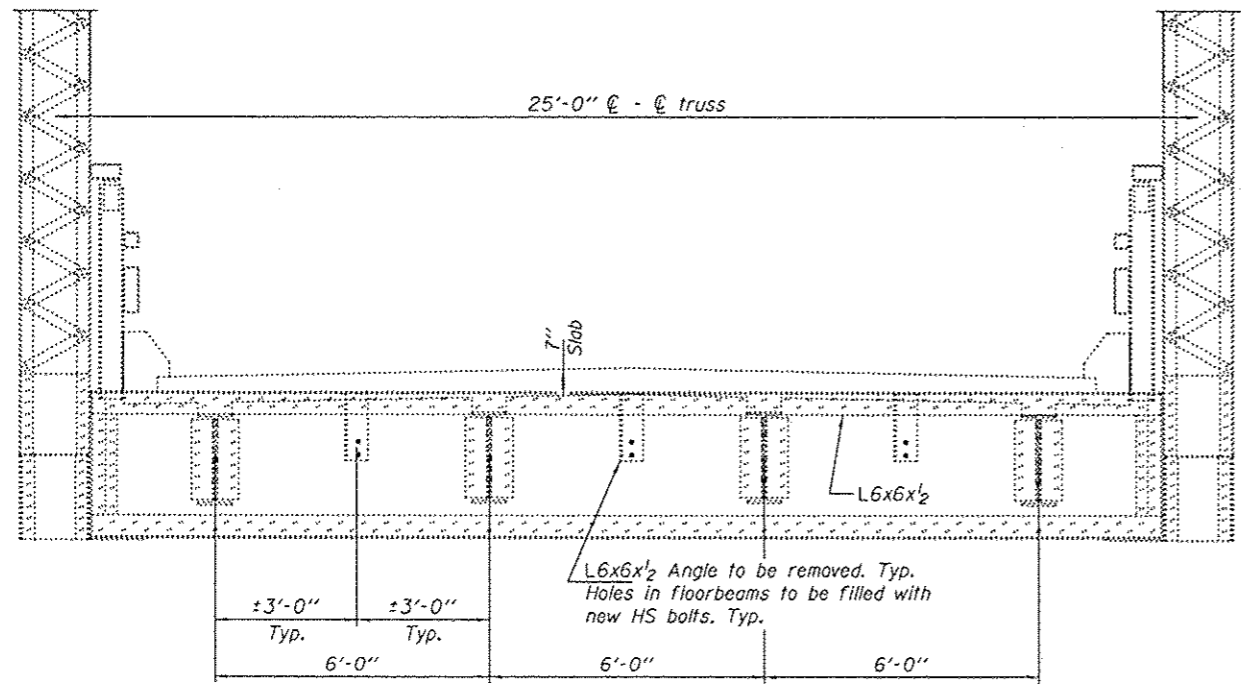


ELEVATION

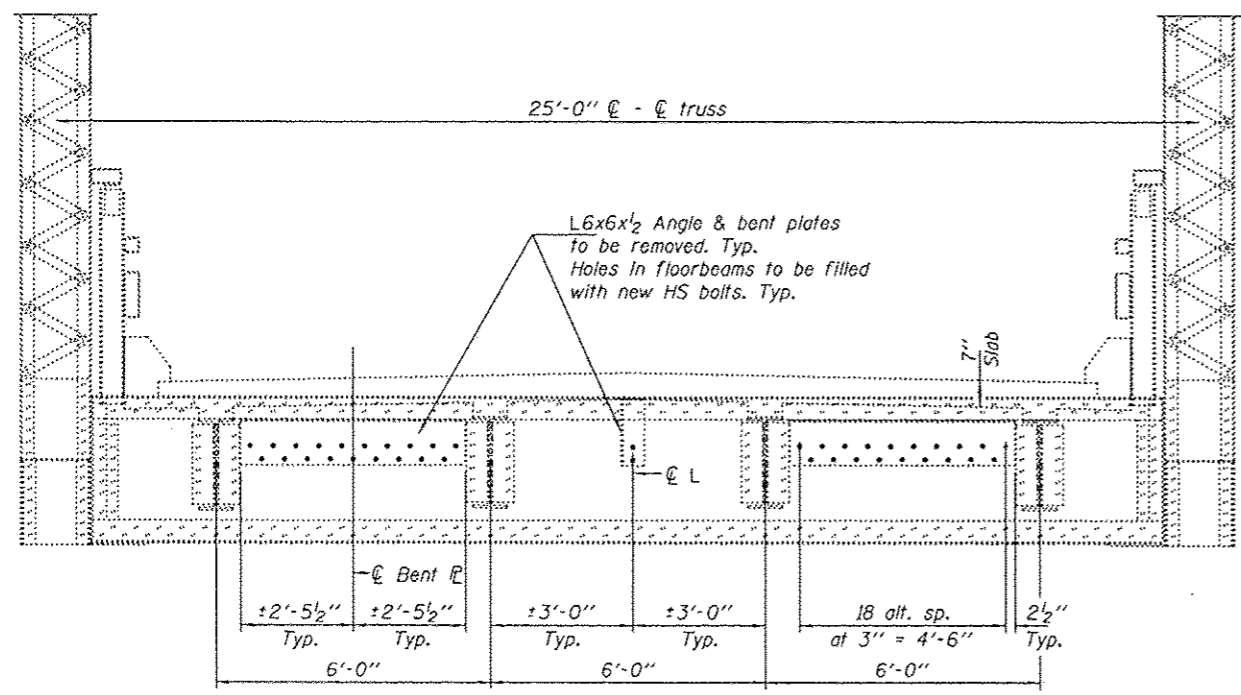


PLAN

REPAIR ITEMS 272, 488, 400, 503, 506, 507, 130, 375, 376, 378, 325 & 230



TYPICAL CROSS SECTION AT REPAIR
(See Table A for locations)



TYPICAL CROSS SECTION AT REPAIR
(See Table B for locations)

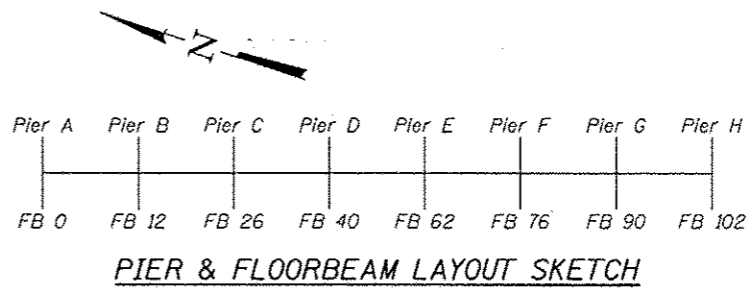


TABLE A

Floorbeam
2
3
5
7
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12
14
16
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51
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72
73
81
82
84
89
90
99
100

TABLE B

Floorbeam
53
64
67
68
74
75
78