

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(14-1)	CHAMPAIGN	22	1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

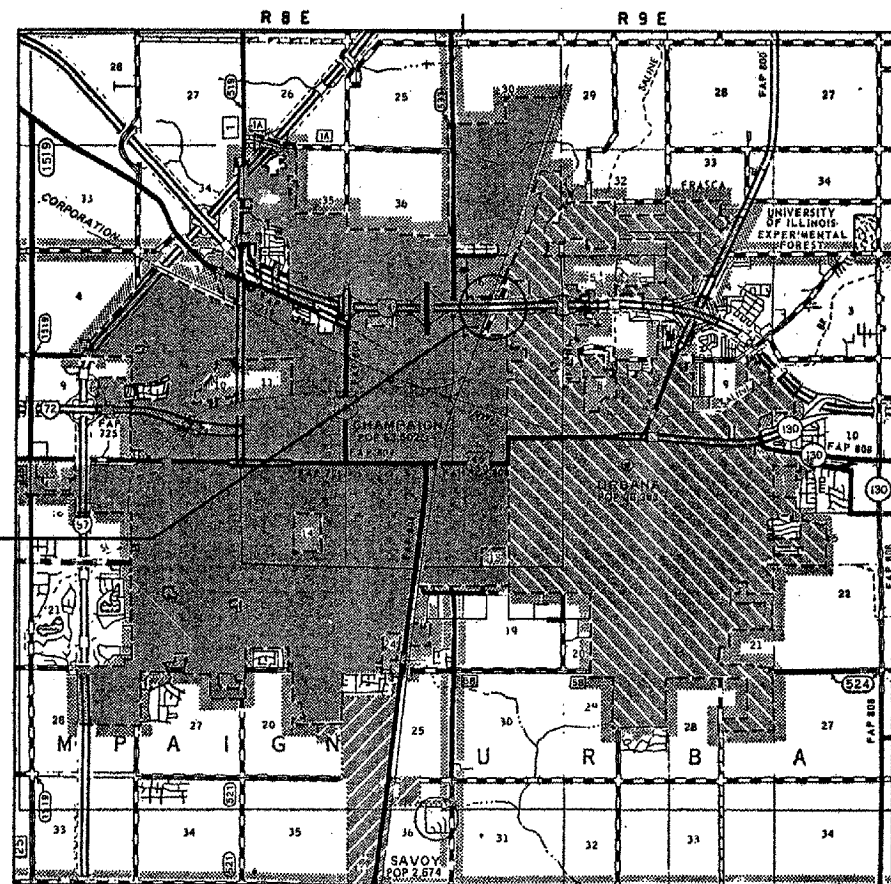
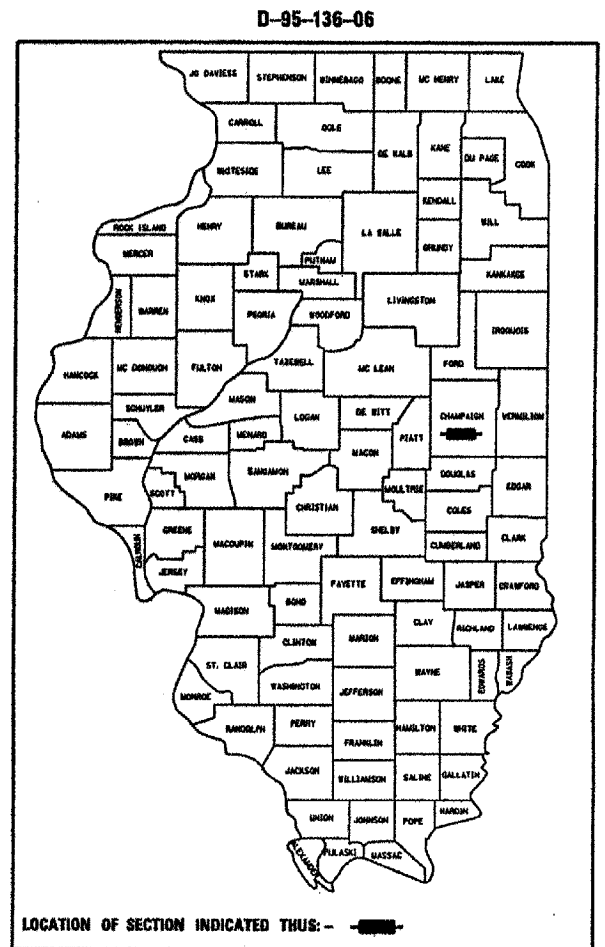
**PROPOSED
HIGHWAY PLANS**

F.A.I. ROUTE 74
SECTION (14-1)
CHAMPAIGN COUNTY

C-95-136-06
BRIDGE DECK PROTECTIVE SHIELD

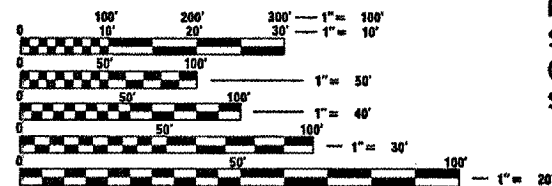
CHAMPAIGN

FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 4



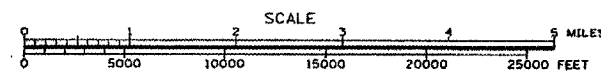
DESIGN DESIGNATION
N/A

STRUCTURE NO. 010-0021
SECTION BEGINS STA. 1216+67.75
F.A.I. ROUTE 74
SECTION (14-1)
CHAMPAIGN COUNTY
SECTION ENDS STA. 1219+91.55



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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



TOTAL LENGTH OF SECTION & PROJECT = 323.8 FEET = 0.061 MILES
NET LENGTH OF SECTION & PROJECT = 323.8 FEET = 0.061 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED *Oct 16 2006*

DEPUTY DIRECTOR OF HIGHWAYS, REGION THREE ENGINEER
December 8, 2006
Eric E. Harm

INTERIM ENGINEER OF DESIGN AND ENVIRONMENT
December 8, 2006
Milton R. Seer, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

CONTRACT NO. 70622

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(14-1)I	CHAMPAIGN	22	3

GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR A CHANGE IN SCOPE OF WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITIY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

G. N. -100
 ENGLISH UNITS OF MEASUREMENT SHALL GOVERN OVER AND SUPERSEDE ANY METRIC UNITS SHOWN IN THIS CONTRACT. WHERE INCLUDED, METRIC UNITS ARE FOR INFORMATION ONLY.

G. N. -107.12
 THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE LOCAL RAILROAD CONTACT IS:

Mr. Hardy Taylor
 1907 Marion Ave.
 Mattoon, IL 61938
 (217) 238-2433

SPECIAL ATTENTION IS CALLED TO ARTICLE 107.12 REGARDING RAILROAD FLAGGERS. THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE RAILROAD FLAGGER CONTACT IS:

Mr. Tom Tucker
 2800 Livernois Rd.
 Troy, MI 48083
 (248) 740-6227

PLOT DATE : 10/20/2006
 FILE NAME : c:\projects\0513606\05170622\plan.dgn
 PLOT SCALE : 1/8"=1'-0" / IN.
 USER NAME : phillipsj

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

F.A.I. ROUTE 74
 SECTION (14-1)I
 CHAMPAIGN COUNTY
 S.N. 010-0021

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(14-1)I	CHAMPAIGN	22	4

SUMMARY OF QUANTITIES

LOCATION OF WORK: FAI 74
OVER IC RR

URBAN
S. N. 010-0021
100% STATE
SFTY-2A

CONSTRUCTION TYPE CODE:

<u>CODE NO.</u>	<u>ITEM</u>	<u>UNIT</u>	<u>TOTAL QUANTITY</u>
67100100	MOBILIZATION	L SUM	1.0
X0322066	PROTECTIVE SHIELD (PERMANENT)	SQ YD	4,137.0
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1.0

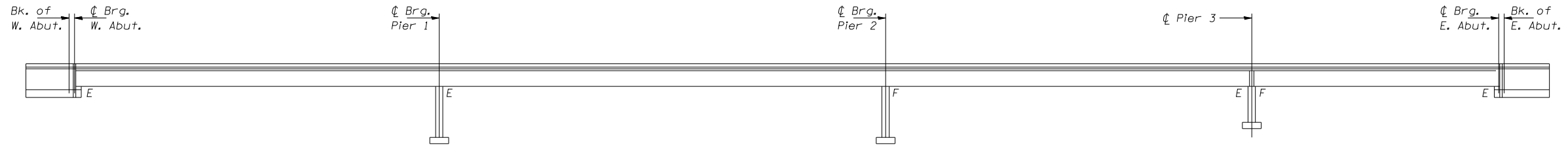
PLOT DATE = 10/17/2006
FILE NAME = c:\p\m\m\1013066 (07)70622plan.dgn
PLOT SCALE = 1/8"=1'-0"
USER NAME = philip

ILLINOIS DEPARTMENT OF TRANSPORTATION

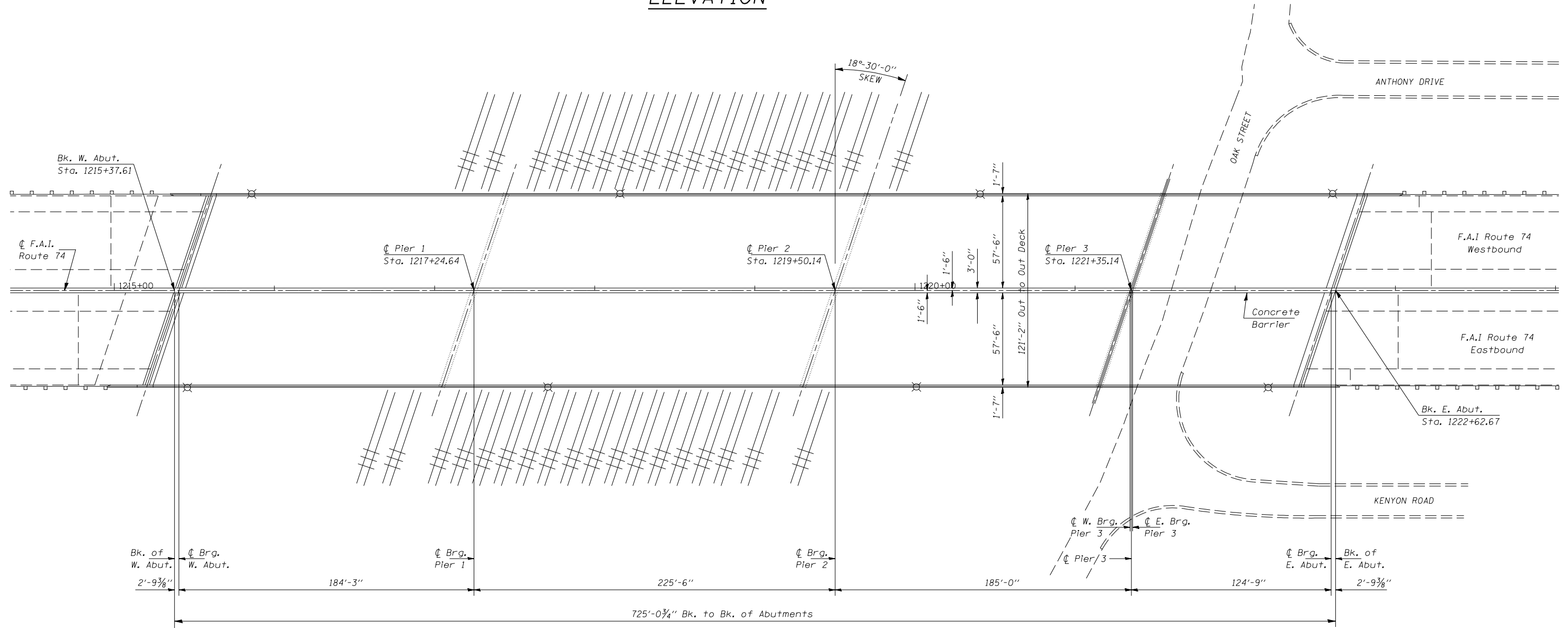
SUMMARY OF QUANTITIES

F.A.I. ROUTE 74
SECTION (14-1)I
CHAMPAIGN COUNTY
S.N. 010-0021

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(14-1)	CHAMPAIGN	22	5
STA. 1215+37.61			TO STA. 1222+62.67	



ELEVATION



PLAN

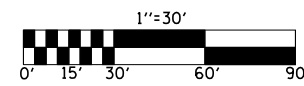
SN 010-0021

ILLINOIS DEPARTMENT OF TRANSPORTATION
**EXISTING GENERAL PLAN
 AND ELEVATION**

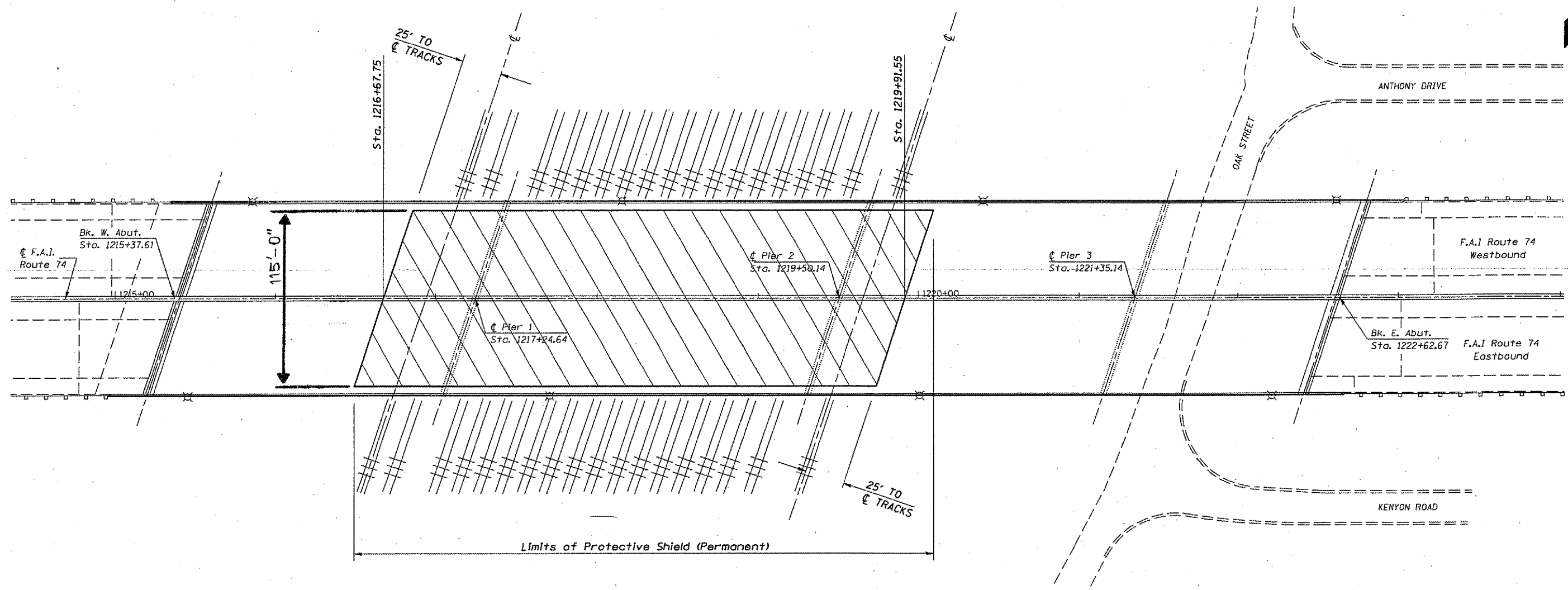
F.A.I. ROUTE 74
 SECTION (14-1)
 CHAMPAIGN COUNTY

SCALE: 1" = 30'
 DATE: 09/14/06

DRAWN BY: JRP
 CHECKED BY:



F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(14-1)	CHAMPAIGN	22	6
STA. 1215+37.61			TO STA. 1222+62.67	



GENERAL NOTE

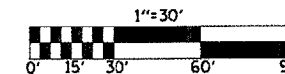
Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation or a change in scope of work. However, the Contractor will be paid for the quantity actually furnished at the contract unit price bid for the work.

BILL OF MATERIAL

Item	Unit	Total
Protective Shield (Permanent)	Sq. Yd.	4,137.0

SN 010-0021

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE DETAILS
 F.A.I. ROUTE 74
 SECTION (14-1)
 CHAMPAIGN COUNTY

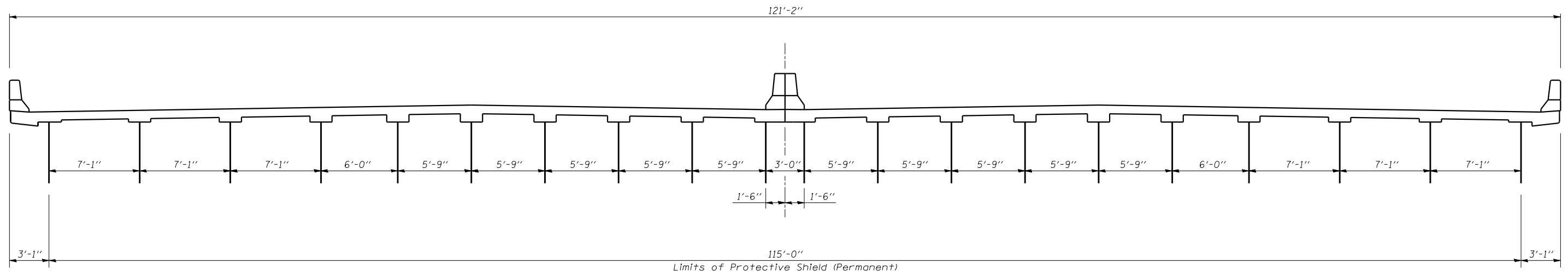


SCALE: NA
 DATE: 09/18/06
 DRAWN BY: JRP
 CHECKED BY:

PLOT DATE: 10/20/2006
 PLOT SCALE: 1/8"=1'-0"
 USER NAME: philip

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(14-1)I	CHAMPAIGN	22	7

DETAIL SHOWING BEAM WIDTHS



CROSS SECTION

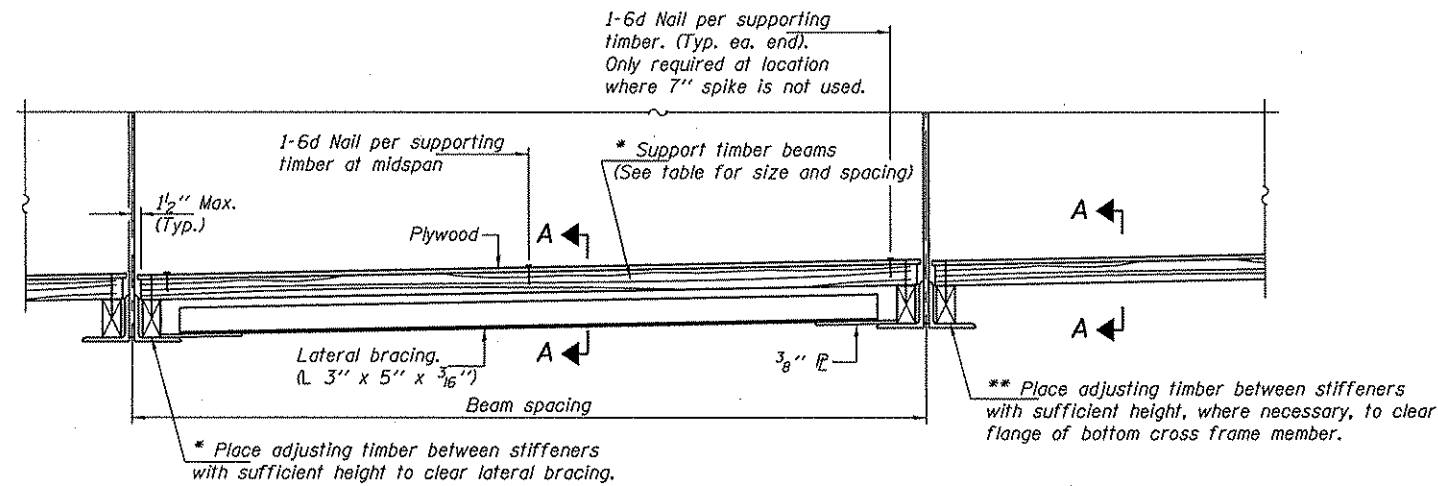
SN 010-0021

ILLINOIS DEPARTMENT OF TRANSPORTATION
DETAIL SHOWING BEAM WIDTHS
 F.A.I. ROUTE 74
 SECTION (14-1)I
 CHAMPAIGN COUNTY

SCALE: NO SCALE DRAWN BY: JRP
 DATE: 09/14/06 CHECKED BY:

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(14-11)	CHAMPAIGN	22	8

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

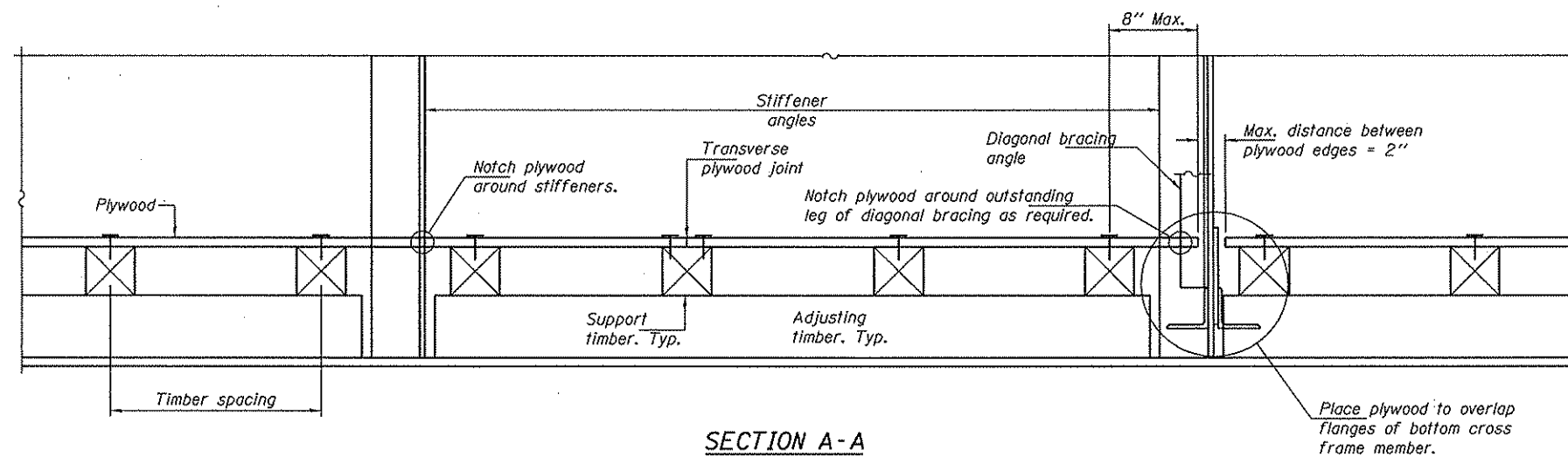


BAYS WITH LATERAL BRACING

* Each adjusting timber section should be attached to the support timber beams at at least 2 locations using 7" spikes.

BAYS WITHOUT LATERAL BRACING

** Adjusting timber should be placed tight against top of bottom flange. It may be necessary to trim the adjusting timber in order to avoid interference with gusset plates, rivet heads, etc.



SECTION A-A

Notes: See special provision for Permanent Protective Shield System.
Timber sizes shown are nominal sizes. Rough sawn timber of the dimensions shown will also be considered acceptable.
For the support timber, the minimum Fb and Fv values shown are the tabulated design values given in the National Design Specification for Wood Construction for No. 2 Spruce-Pine-Fir without adjustment factors applied. Better grades or other species with equal or higher allowable stresses will also be considered acceptable. The adjusting timber may be of any species or grade.
The support timber spacings shown have been determined using allowable stresses with all adjustment factors necessary for the anticipated service conditions.
All timber shall be treated.
Plywood shall be 5/8" Exterior type plywood.
Plywood shall be placed such that the face of grain is perpendicular to the support timbers. When less than a full sheet (4' width) of plywood is used, the width of the strip used shall not be less than 2'.
Transverse plywood joints shall be supported by timbers, except as shown.
When 4" x 6" support timbers are used, they shall be placed such that the wide face is horizontal and the narrow face is vertical.
Design load = 200 psf.

SUPPORT TIMBER SPACING

Beam Spacing (ft.)	Timber Sizes (in.)		
	4" x 4" with min. Fb=775 psi Fv=135 psi	4" x 6" with min. Fb=775 psi Fv=135 psi	6" x 6" with min. Fb=575 psi Fv=125 psi
	Maximum Timber Spacing (in.)		
4.5	16	16	16
4.75	16	16	16
5.0	16	16	16
5.25	16	16	16
5.5	16	16	16
5.75	16	16	16
6.0	16	16	16
6.25	12	16	16
6.5	12	16	16
6.75	12	16	16
7.0	8	16	16
7.25	8	16	16
7.5	8	16	16
7.75	8	16	16
8.0	8	12	16
8.25	8	12	16
8.5	6	12	12
8.75	6	12	12
9.0	6	8	12

BILL OF MATERIAL

Item	Unit	Total
Protective Shield (Permanent)	Sq. Yd.	4137

SN 010-0021

ILLINOIS DEPARTMENT OF TRANSPORTATION
PERMANENT PROTECTIVE SHIELD
FAI ROUTE 74 SECTION (14-11)
CHAMPAIGN COUNTY

SCALE: NO SCALE
DATE

DRAWN BY
CHECKED BY

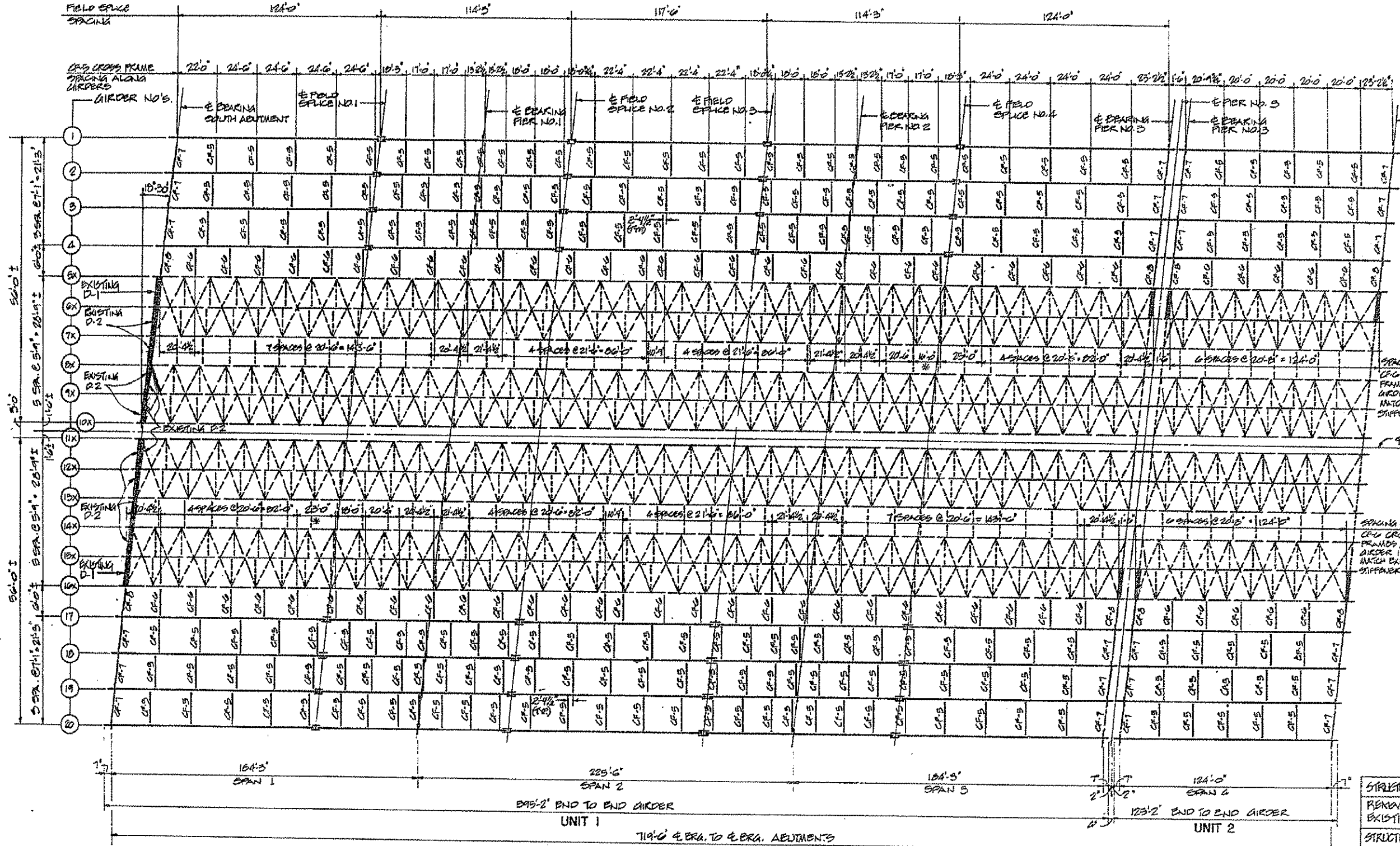
**FOR INFORMATION ONLY
NOT FOR CONSTRUCTION**

Sheet No. 16
of 55 Sheets

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	14-11	CHAMPAIGN	22	9

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	14-11	CHAMPAIGN	22	9

CONTRACT NO. 70622
 * SEE SHEET NO. 21
 * SEE SHEET NO. 21
 * SEE SHEET NO. 21



NOTE: CONTRACTOR SHALL VERIFY SIZE AND SPACING OF EXISTING STIFFENERS PRIOR TO FABRICATION OF GIRDERS, 5 AND 17

LEGEND

- CF-# = CROSS FRAME NUMBER
- STRUCTURAL STEEL TO BE REMOVED AND REPLACED AS STRUCTURAL STEEL REPAIR
- REMOVE AND RELOCATE EXISTING DIAPHRAGMS

STRUCTURAL STEEL REPAIR	POUND	2150
REMOVE AND RELOCATE EXISTING DIAPHRAGMS	EACH	6
STRUCTURAL STEEL REMOVAL	POUND	155,000

* SEE SHEET 23

FRAMING PLAN

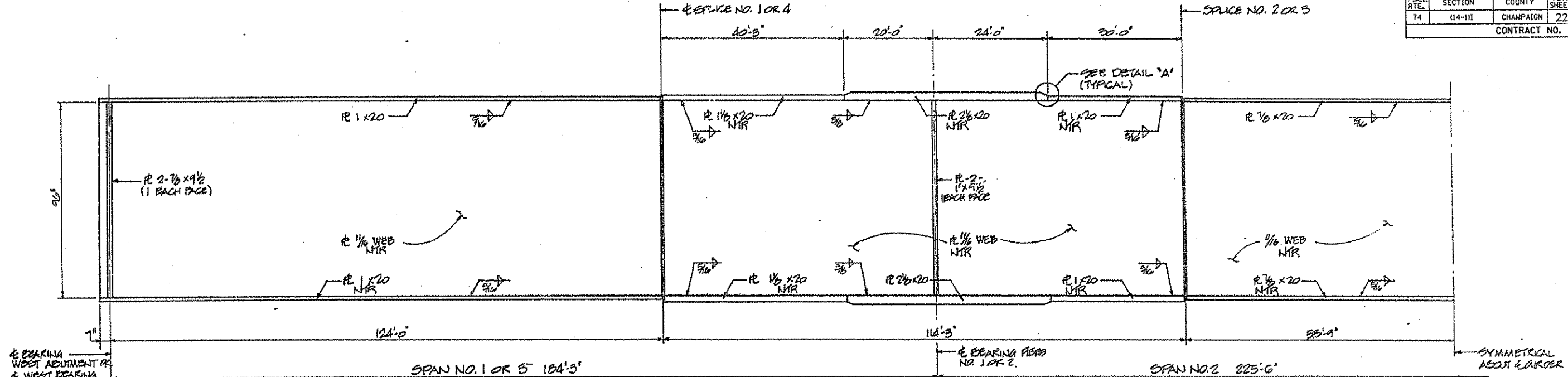
WORK THIS SHEET WITH SHEETS NO. 19 THRU 23

REVISIONS		FRAMING PLAN	
NO.	DATE	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS	PROJECT NO. 3400-5
1		F.A.I. 74	S.N. D10-0021 SEC. (14-VB)E
2		STA. 1219+00.14	CHAMPAIGN COUNTY
3		HOMER L. CHASTAIN & ASSOCIATES CONSULTING ENGINEERS	3400-5

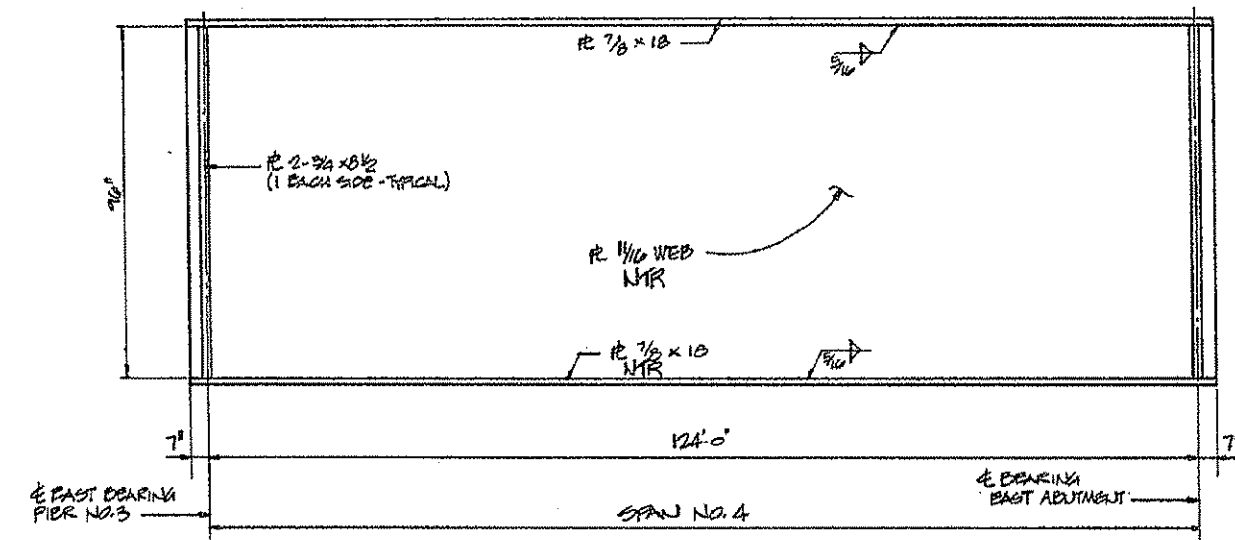
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Sheet No. 19
of 35 Sheets

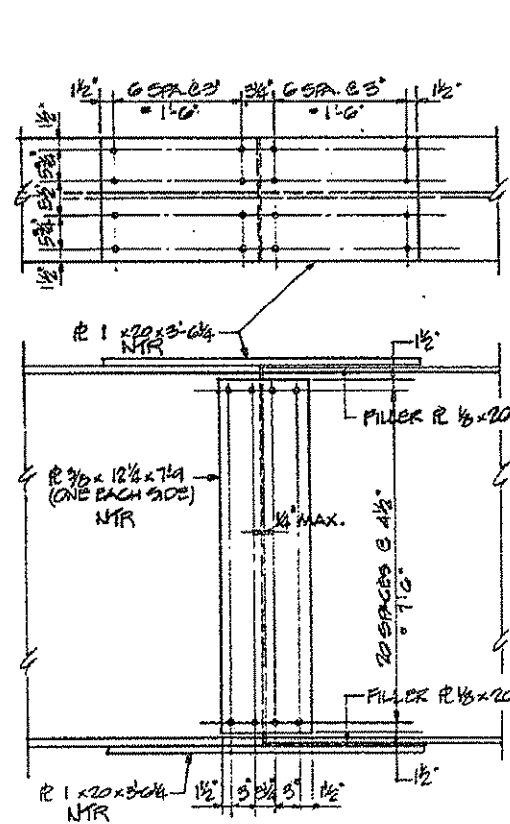
DISTRICT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	(14-VB) BR	CHAMPAIGN	140	102
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(14-III)	CHAMPAIGN	22	10
CONTRACT NO. 70622				



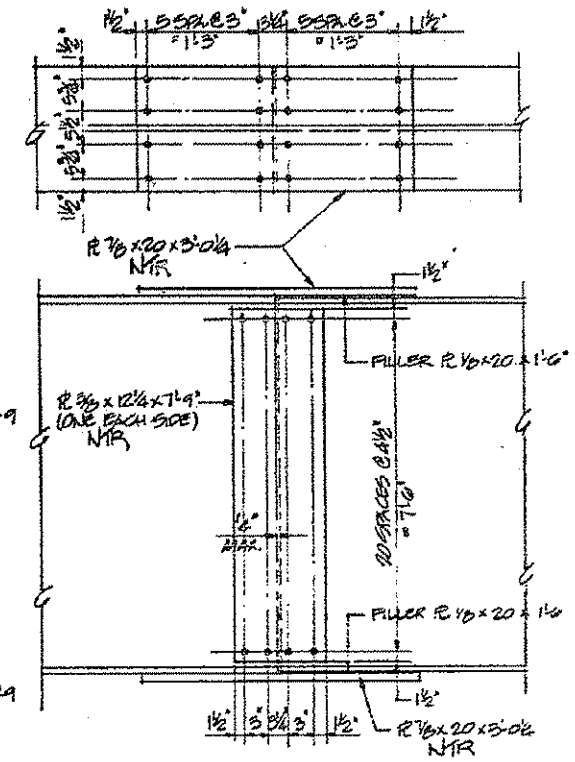
GIRDER ELEVATION - UNIT NO. 1



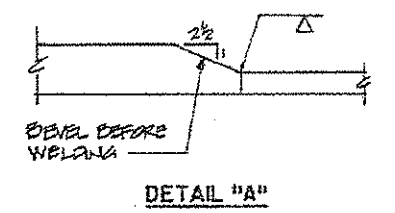
GIRDER ELEVATION - UNIT NO. 2



**SPLICE NO. 1 OR 4
(SPLICE NO. 4 SHOWN
SPLICE NO. 1 SIMILAR)**



**SPLICE NO. 2 OR 3
(SPLICE NO. 3 SHOWN
SPLICE NO. 2 SIMILAR)**



DETAIL "A"

NOTE: ALL STRUCTURAL STEEL FABRICATORS PERFORMING WORK ON THE MAJOR LOAD CARRYING COMPONENTS OF STEEL STRUCTURES SHALL BE CERTIFIED UNDER CATEGORY III (AISC) OF THE QUALITY CERTIFICATION PROGRAM.

ALL TOP AND BOTTOM SPlice FLANGE PLATES ARE IDENTICAL.
NOTE: BOLTS SHALL BE 7/8".

REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DESIGNED BY J.A.R. 2/81
1				CHECKED BY J.C. 3/81
2				DATE
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F.A.I. 74	S.N. 010-0021	SEC. (14-VB) BR	PROJECT NO. 3400-5
STA. 1219+00.14	CHAMPAIGN COUNTY		SHEET NO.
HOMER L. CHASTAIN & ASSOCIATES CONSULTING ENGINEERS			

**FOR INFORMATION ONLY
NOT FOR CONSTRUCTION**

Sheet No. 20
of 35 Sheets

ROUTE NO./SECTION	ABUTMENT	TOTAL SHEETS	SHEET NO.
F.A.I. 74 (114-VB) 89	CHAMPAIGN	100	103
PROJ. ENGINEER	ALIGNMENT	PROJECT	

**UNIT 1
INTERIOR GIRDER MOMENT TABLE**

	D.4 Sp. 1	Pier	O.5 Sp. 2
I _b (in)	144,781	255,326	132,807
I _c (in)			
S _b (in)	2955	5094	2717
S _c (in)			
Z (in)			
W (K/I)	1.115	1.115	1.115
M _R (K)	2490.9	5091.4	1548.8
S _R (K/I)	0.225	0.225	0.225
M _{S_R} (K)	111.4	1049.0	310.8
M _L (K)	1852.7	2681.2	1790.3
M (IMP) (K)	300.1	401.8	251.2
M _P (M.E. + I) (K)	2500.0	5101.7	3349.8
M _U (K)	2499.3	1049.2	7261.1
M _V (K)			
F _{BR} (comp)(K.S.I.)	10.0	11.9	8.2
F _{BR} (comp)(K.S.I.)	2.0	2.5	1.7
F _{S_R} (L+I)(K.S.I.)	14.6	12.2	14.8
F _S (overload)(K.S.I.)	26.5	26.5	24.7
F _S (Total)(K.S.I.)	34.5	34.5	32.1
VK (K)	71.4		81.7

**UNIT 2
INTERIOR GIRDER MOMENT TABLE**

	O.5 Sp. 1
I _b (in)	124,595
I _c (in)	
S _b (in)	2549
S _c (in)	
Z (in)	
W (K/I)	1.074
M _R (K)	2064.2
S _R (K/I)	0.225
M _{S_R} (K)	232.4
M _L (K)	1297.4
M (IMP) (K)	251.5
M _P (M.E. + I) (K)	2512.8
M _U (K)	6514.8
M _V (K)	
F _{BR} (comp)(K.S.I.)	9.7
F _{BR} (comp)(K.S.I.)	2.0
F _{S_R} (L+I)(K.S.I.)	11.8
F _S (overload)(K.S.I.)	23.6
F _S (Total)(K.S.I.)	30.7
VK (K)	58.7

I_b AND S_b ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING F_S (TOTAL AND OVERLOAD).

I_c AND S_c ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING F_S (TOTAL AND OVERLOAD).

VK IS THE MAXIMUM ϵ + IMPACT SHEAR RANGE IN SPAN.

Z IS THE PLASTIC SECTION MODULUS USED TO DETERMINE THE FULL PLASTIC MOMENTS IN THE NON-COMPOSITE AREAS.

M_S (APPLIED MOMENT) = 1.3 [M_R + M_{S_R} + S_R (M_L + I)].

M_U IS THE FULL PLASTIC MOMENT CAPACITY FOR COMPACT, BRACED SECTION.

F_S (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO M_R + M_{S_R} + S_R (M_L + I).

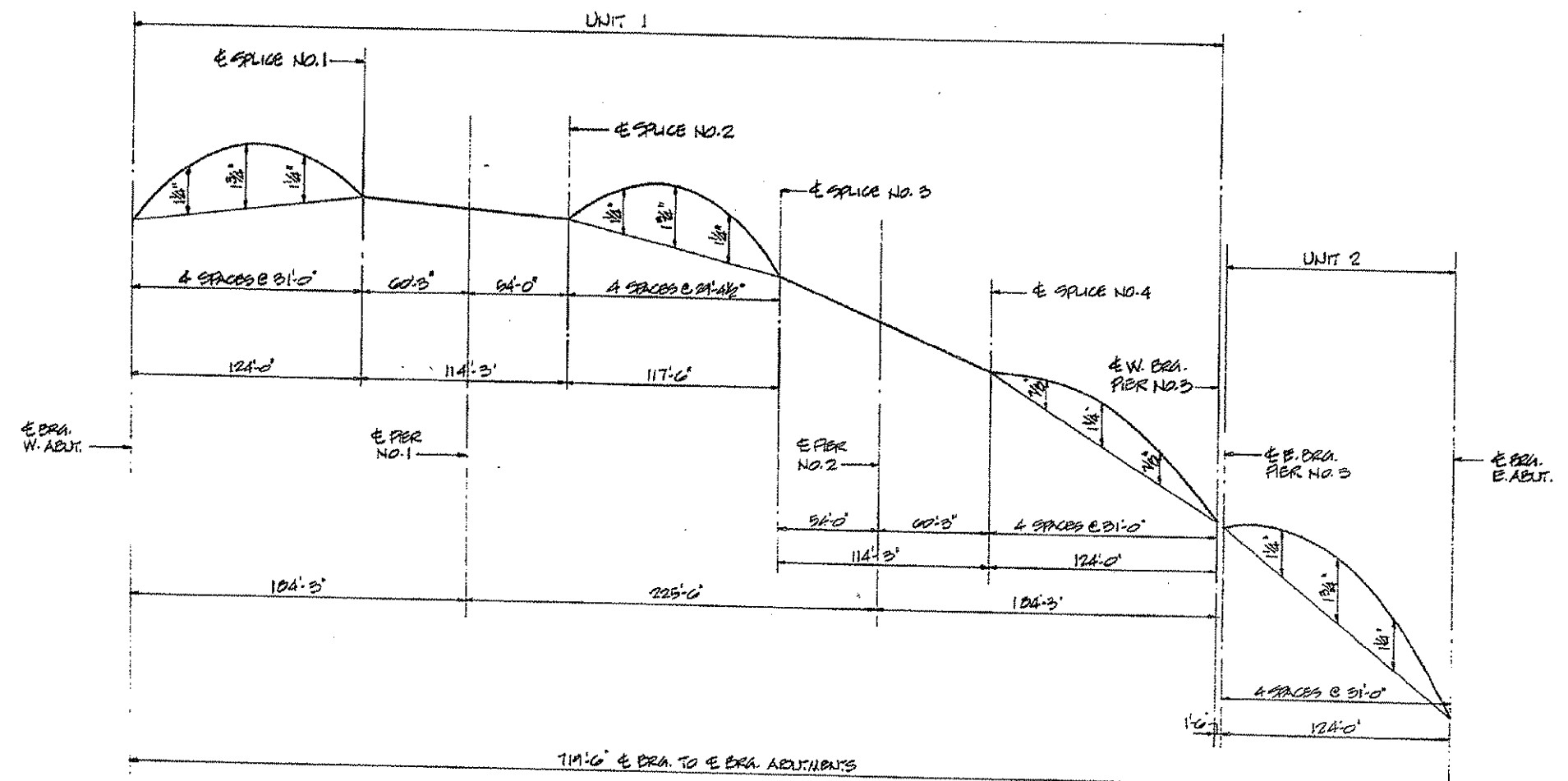
F_S (TOTAL) IS THE SUM OF THE STRESSES DUE TO 1.3 [M_R + M_{S_R} + S_R (M_L + I)].

**UNIT 1
INTERIOR GIRDER REACTION TABLE**

	Abut./P.3	Pier 1, Pier 2
R _R (K)	88.7	309.6
R _L (K)	90.1	128.5
Imp (K)	9.1	18.8
R (Total) (K)	194.1	451.4

**UNIT 2
INTERIOR GIRDER REACTION TABLE**

	Pier 3/E. Abut.
R _R (K)	82.5
R _L (K)	48.9
Imp (K)	9.6
R (Total) (K)	139.2



TOP OF WEB ELEVATIONS - UNIT 1 (FOR FABRICATION ONLY)

LOCATION	ABUT.	A-1	A-2	A-3	A-4	A-7	A-8	A-9	A-20
E. BRA. W. ABUT.		710.23	710.37	710.47	710.57	710.64	710.71	710.75	710.79
E. SPACE NO. 1		710.61	710.75	710.81	710.90	710.94	710.99	710.71	710.55
E. BRA. PIER NO. 1		710.50	710.65	710.71	710.80	710.91	710.80	710.60	710.55
E. SPACE NO. 2		710.39	710.55	710.60	710.69	710.80	710.77	710.66	710.52
E. SPACE NO. 3		710.66	710.83	710.91	710.90	710.82	710.79	710.61	710.46
E. BRA. PIER NO. 2		710.05	710.20	710.20	710.51	710.70	710.71	710.51	710.47
E. SPACE NO. 4		710.44	710.62	710.77	710.91	710.91	710.73	710.68	710.42
E. W. BRA. PIER NO. 3		710.51	710.70	710.86	710.92	710.96	710.57	710.27	710.15

TOP OF WEB ELEVATIONS - UNIT 2 (FOR FABRICATION ONLY)

LOCATION	ABUT.	A-1	A-2	A-3	A-4	A-7	A-8	A-9	A-20
E. BRA. PIER NO. 3		710.30	710.41	710.55	710.60	710.43	710.50	710.23	710.17
E. BRA. E. ABUT.		710.43	710.44	710.31	710.27	710.02	710.10	710.07	710.00

WORK THIS SHEET WITH SHEETS 10, 11, 21 AND 23

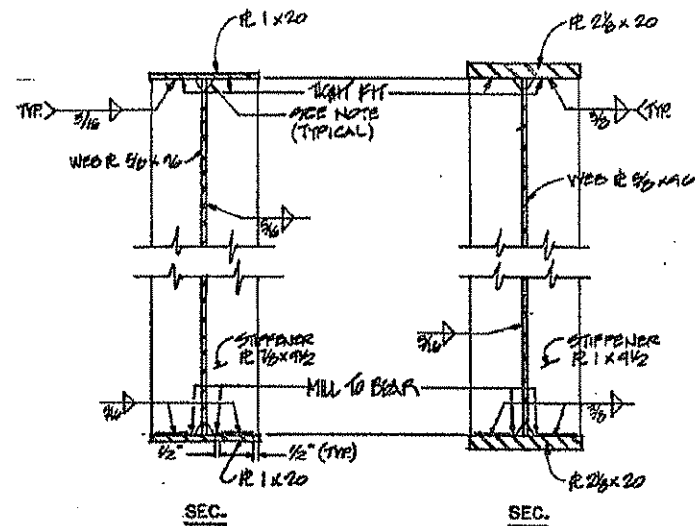
REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DATE BY
1				J.P.
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F.A.I. 74	S.N. 010-002	SEC. 114-VB) 89
STA. 1219+00.14	CHAMPAIGN CO. ILL.	PROJECT NO.
HOMER L. CHASTAIN & ASSOCIATES CONSULTING ENGINEERS		3400-5

**FOR INFORMATION ONLY
NOT FOR CONSTRUCTION**

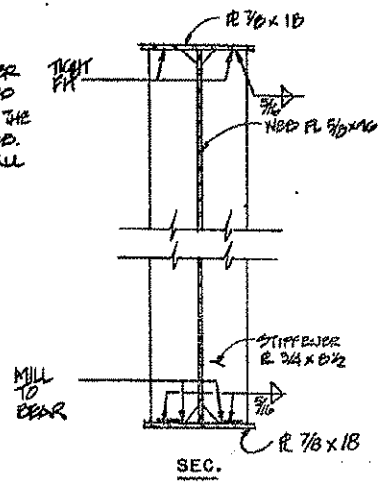
Sheet No. 21
of 55 Sheets

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	114-VB BR	CHAMPAIGN	140	104
CONTRACT NO. 70622				

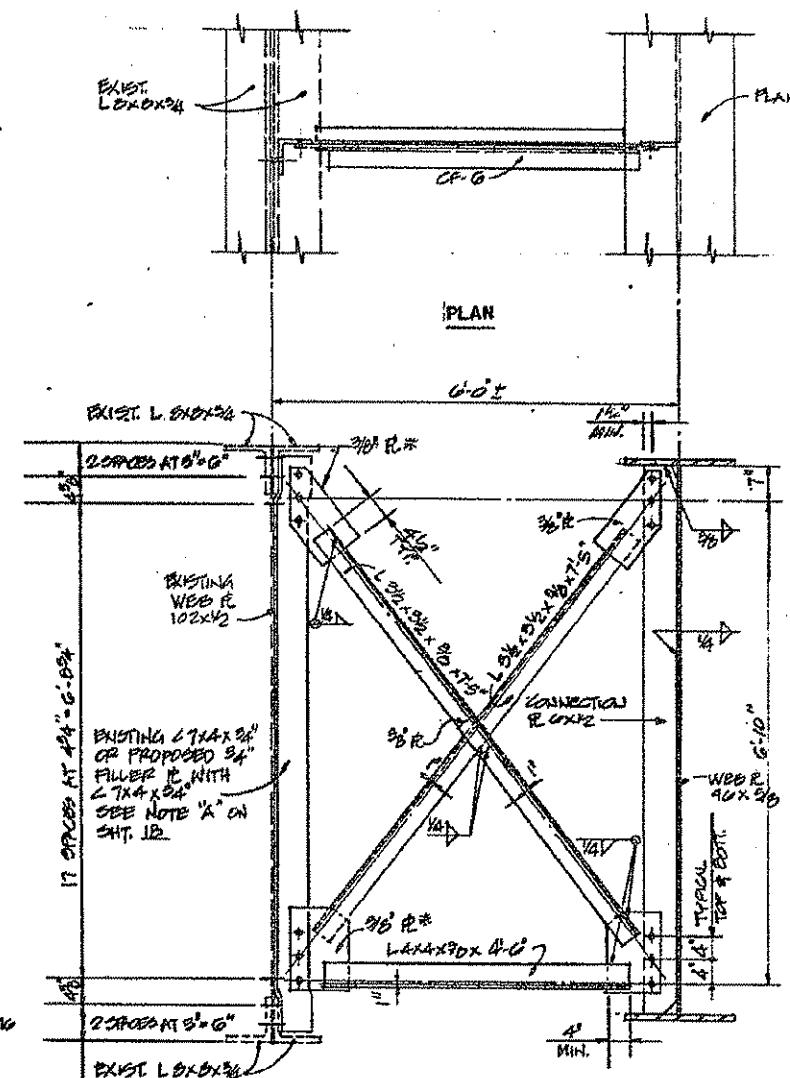


GIRDER STIFFENER DETAILS-UNIT 1
AT W. ABUT. OR W. BEARING PIER NO. 3
AT PIERS NO. 1 OR 2

NOTE: THE TOP AND BOTTOM OF STIFFENER PLATES AT BEARINGS SHALL BE CHIFFED 1" HORIZONTALLY AND 2 1/2" VERTICALLY AT THE JUNCTION OF THE FLANGES AND THE WEB. INTERMEDIATE STIFFENER PLATES SHALL BE CHIFFED IN A LIKE MANNER AT THE JUNCTION OF COMPRESSION FLANGES AND THE WEB.

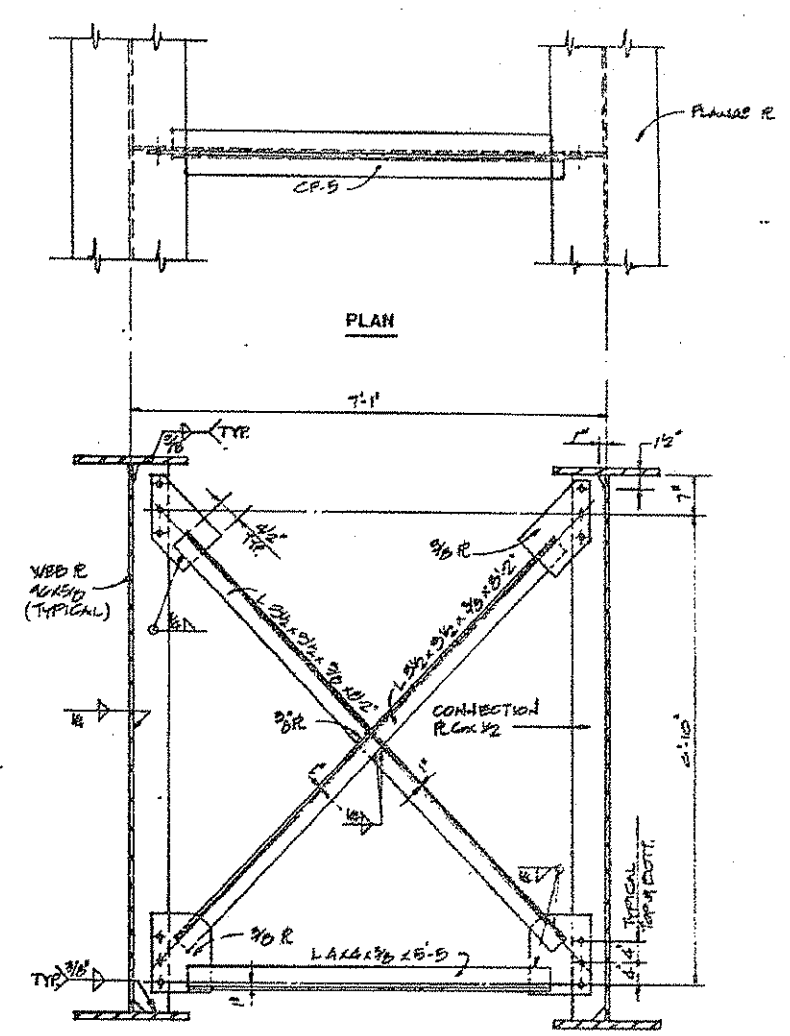


GIRDER STIFFENER DETAILS-UNIT 2



CROSS FRAME CF-6
FIELD DRILL 1" DIA. HOLES IN EXISTING FOR 7/8" DIA. ASSES HIGH STRENGTH BOLTS TO CONNECT PROPOSED L 7 x 4 AT LOCATIONS INDICATED ON SHT. 18
COST OF FIELD DRILLING HOLES SHALL BE INCIDENTAL TO STRUCTURAL STEEL.

* 1/2" x 1 1/4" SLOTTED HOLES IN GOSSET PLATES AT GIRDERS 8X AND 10X. ONE 5/16" THICK STRUCTURAL PLATE WASHER SHALL BE PROVIDED OVER ALL SLOTTED HOLES.



CROSS FRAME CF-5

NOTE: ALL BOLTS FOR CROSS FRAME CONNECTIONS SHALL BE 7/8" DIA. H.S. HOLES FOR BOLTS SHALL BE 15/16" DIA. EXCEPT AS NOTED.

HARDENED WASHERS SHALL BE REQUIRED OVER ALL HOLES, EXCEPT AS NOTED.

NOTE: WORK THIS SHEET WITH SHEET NO. 18, 19, 20, 22 AND 25

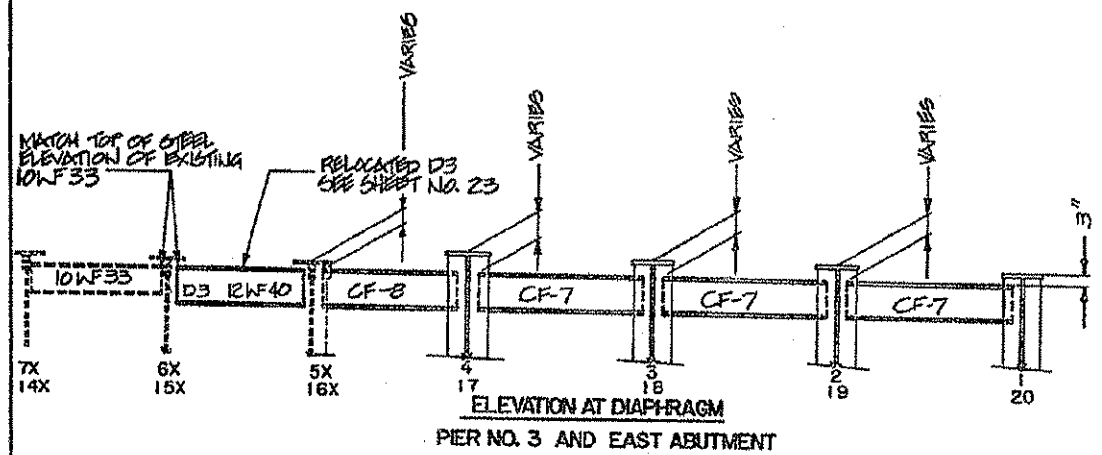
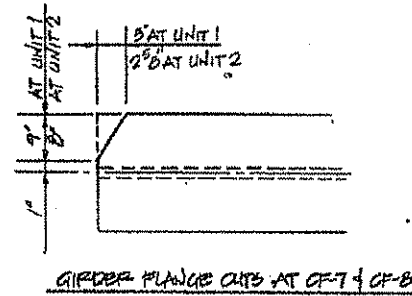
REVISIONS					STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DATE JULY 2005
1							3400-5
2							
3							
4							
5							
6							
7							
8							
9							
10							

FOR INFORMATION ONLY
NOT FOR CONSTRUCTION

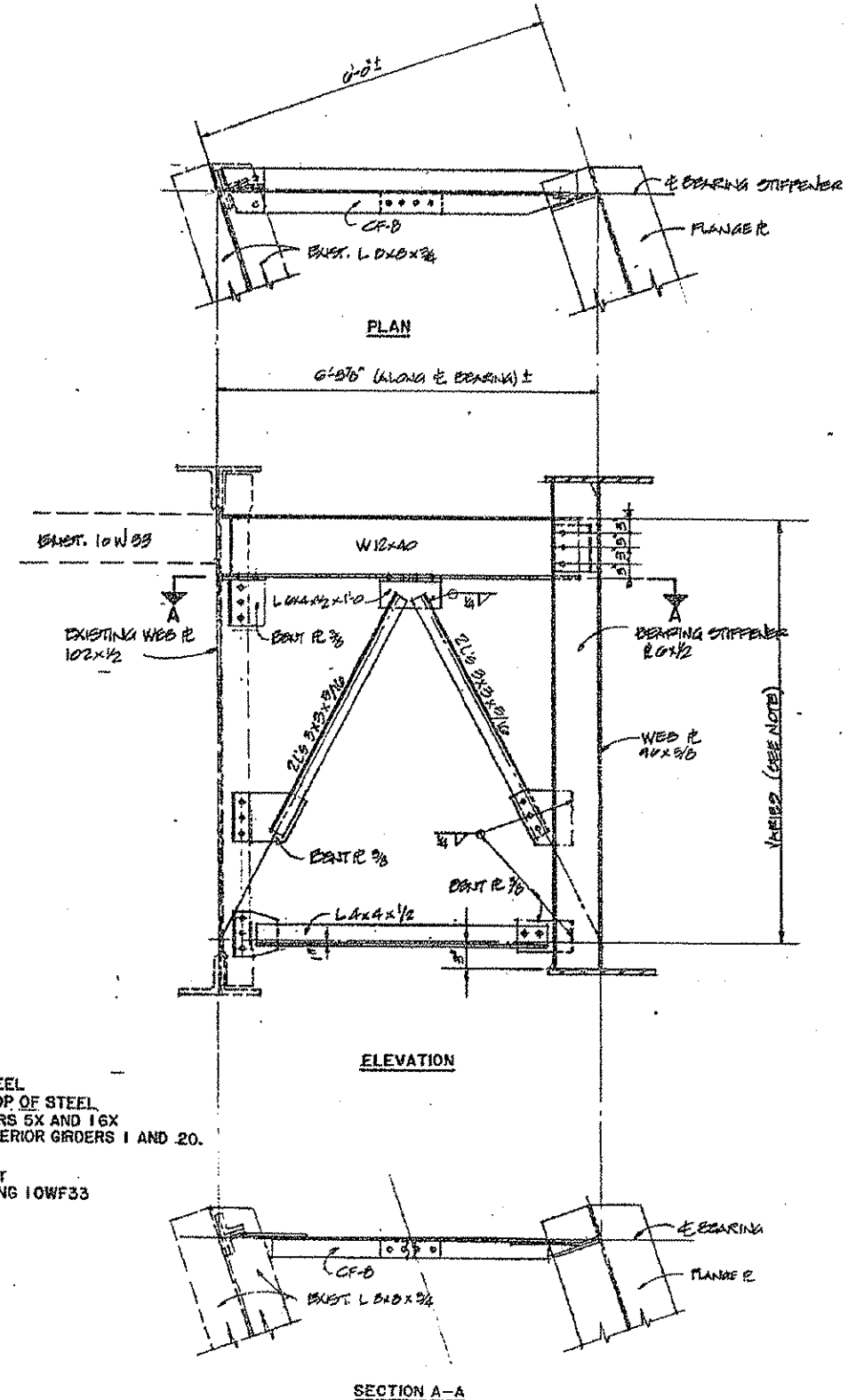
Sheet No. 22
of 39 Sheets

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAL 74	(14-VB) BR	CHAMPAIGN	140	109
CONTRACT NO. 70622				

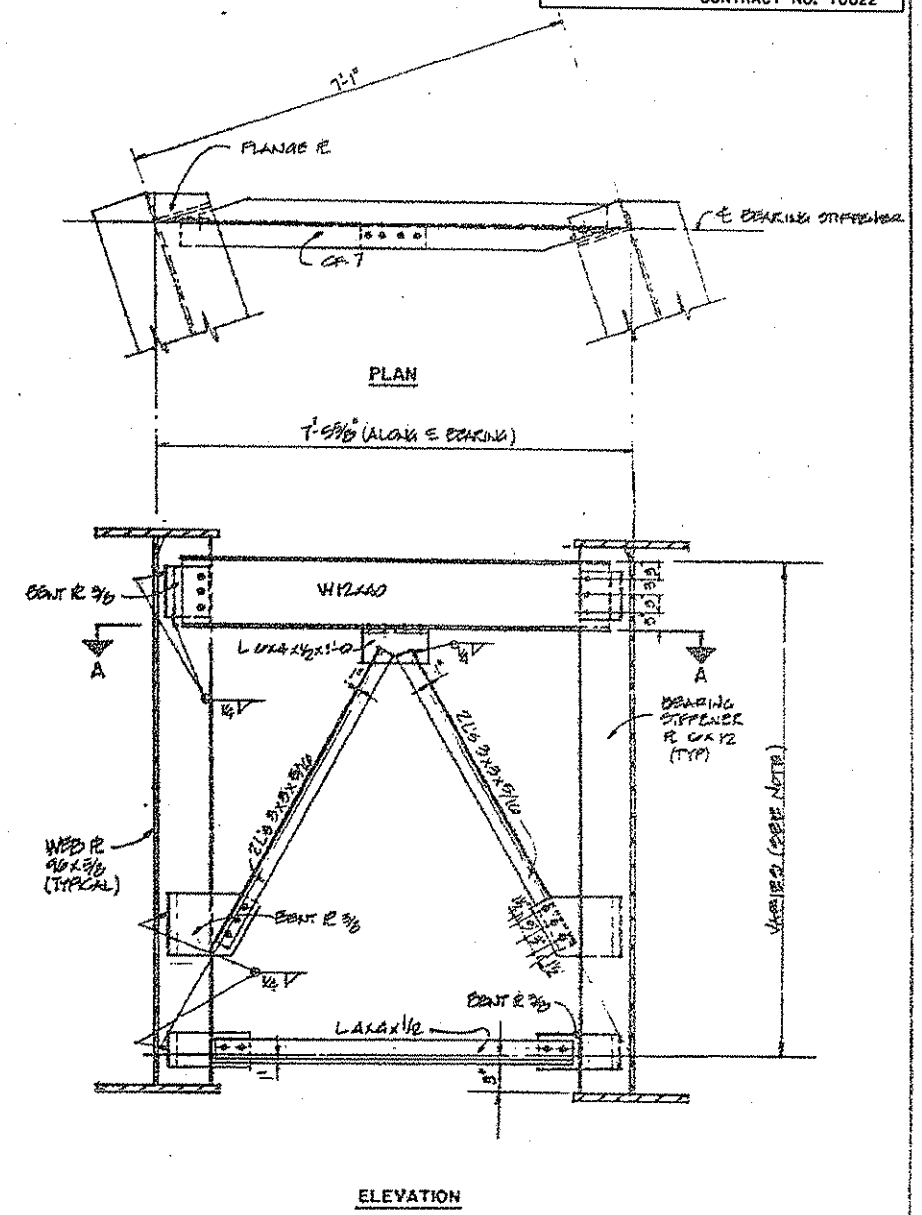
F.A.I. RITE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(14-11)	CHAMPAIGN	22	13
CONTRACT NO. 70622				



NOTE:
AT PIER NO. 3 AND EAST ABUTMENT - STRAIGHT LINE ELEVATIONS OF TOP OF STEEL OF NEW AND RELOCATED MEMBERS FROM TOP OF STEEL OF EXISTING ADJACENT 10WF33 AT GIRDERS 5X AND 16X TO 3" CLEARANCE AS SHOWN AT NEW EXTERIOR GIRDERS 1 AND 20.
AT WEST ABUTMENT - SET ALL NEW W12X40 MEMBERS LEVEL AT THE SAME ELEVATION AS ADJACENT EXISTING 10WF33 AT GIRDERS 5X AND 16X.



CROSS FRAME CF-8
NOTE: SEE A-A FOR CROSS FRAME C-7 SIMILAR



CROSS FRAME CF-7

NOTE: WORK THIS SHEET WITH SHEET NO. 18, 19, 20, 21, AND 23

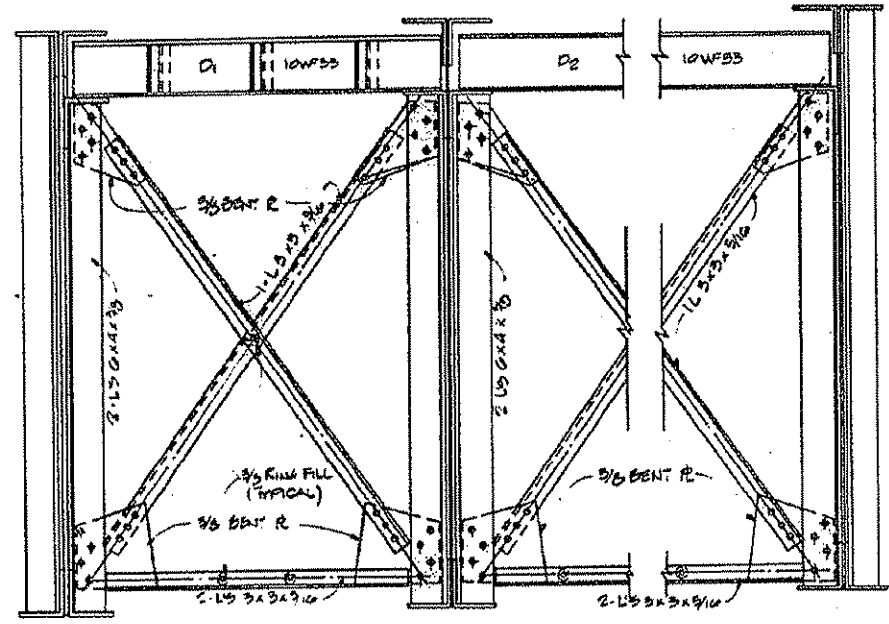
REVISIONS		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		PROJECT NO.
1		F.A.I. 74	S.N. 010-0021	3400-5
2		STA. 1219+00.14	CHAMPAIGN COUNTY	
3		HOMER L. CHASTAIN & ASSOCIATES CONSULTING ENGINEERS		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F A I 74	14-VEN BR	CHAMPAIGN	140	100
FED. ROAD DIST. NO.				

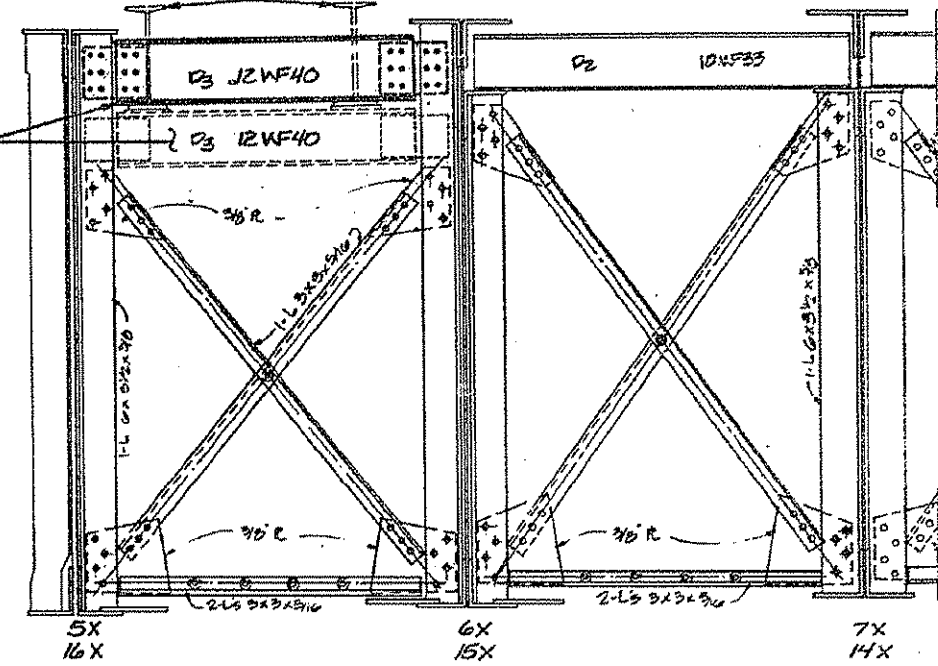
**FOR INFORMATION ONLY
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NOTE: SEE SHEET NO. 26 FOR FINISH PLATE EXPANSION DEVICE PEDESTAL HOLES.

REMOVE EXISTING 181 54.7 FULL LENGTH BOTH SIDES.



EXISTING CROSS FRAME CF-3
(AT ABUTMENTS)



EXISTING CROSS FRAME CF-4 **EXISTING CROSS FRAME CF-3**
(AT PIER 3 AND EAST ABUTMENT)

STRUCTURAL STEEL REPAIR:

STRUCTURAL STEEL TO BE REMOVED AND REPLACED WITH NEW SECTIONS:

1. ALL EXISTING DIAPHRAGMS (D-1 AND D-2) (10 WF 33) BETWEEN EXISTING GIRDERS.
2. LATERAL BRACE AND GUSSET PLATE, BETWEEN GIRDERS 8X AND 9X.
3. BOTTOM HORIZONTAL ANGLES PARALLEL WITH ABUTMENT BACKWALL, BETWEEN GIRDERS 8X AND 9X, AND 9X AND 10X. SEE SHEET 18.

REMOVE AND RELOCATE EXISTING DIAPHRAGMS AT PIER NO. 3 AND AT EAST ABUTMENT:
(D3X12 WF 40) BETWEEN GIRDERS 5X AND 6X, AND BETWEEN GIRDERS 15X AND 16X.

NOTE: THIS SHEET IS FOR REFERENCE FOR STRUCTURAL STEEL REPAIR, STRUCTURAL STEEL REMOVAL AND REMOVAL AND RELOCATION OF EXISTING DIAPHRAGMS.

NOTE: MARK THIS SHEET WITH SHEETS 18 THRU 22

REVISIONS			EXISTING CROSS FRAMES	
NO.	DATE	REVISION	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS	
1			DESIGNED BY: SAJ	
2			CHECKED BY: SAJ	
3			DATE: 3-81	
4			SCALE: AS SHOWN	
5			F.A.I. 74 S.N. 010-0021 SEC. 14-VEN BR	
6			STA. 1219+00.14 CHAMPAIGN COUNTY	
7			PROJECT NO. 3400-5	
8			DRAWN BY: HOWER L. CHASTAIN & ASSOCIATES	
9			CONSULTING ENGINEERS	
10			SHEET NO.	

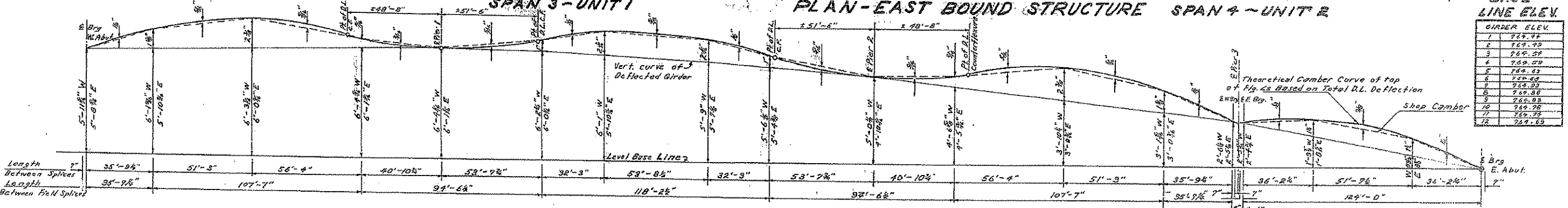
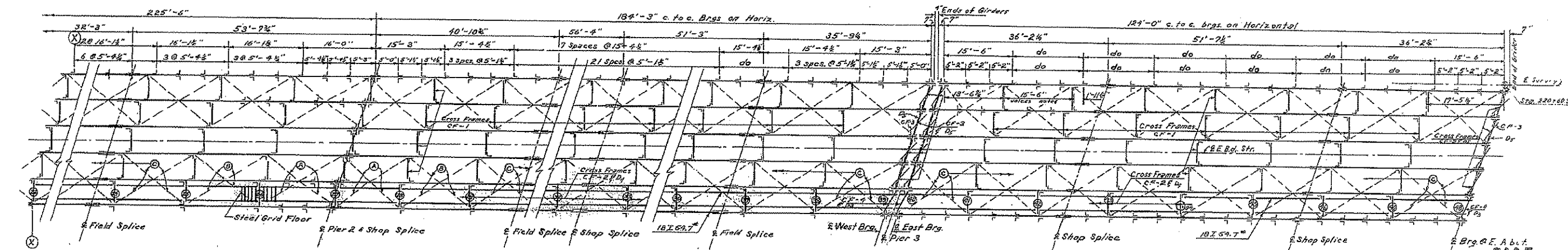
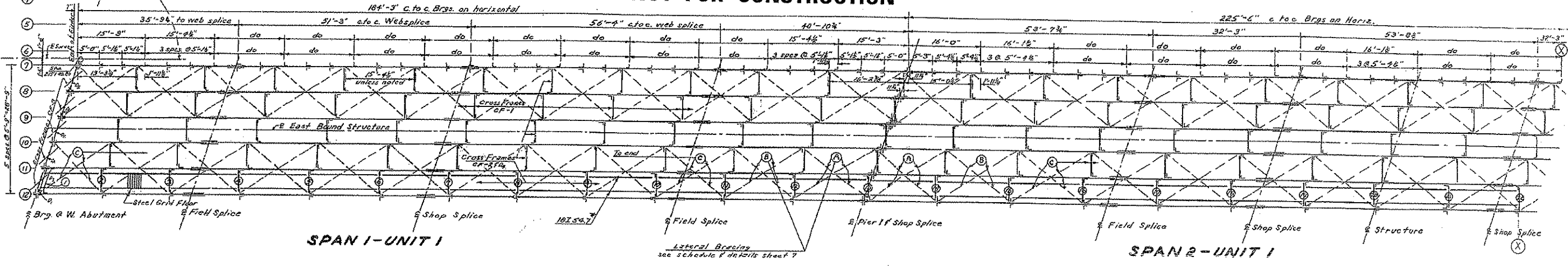
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

**FOR INFORMATION ONLY
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WORK SHEET NO. 1001	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 39	14-VB	CHAMPAIGN	20	8
14-VF	14-VF		16	8
143 2242 SHEET NO. 1	SCALE	NO. OF PROJECT		

1/8 SHEETS

Note: Framing Plan for West Bound Structure is identical to East Bound Structure except for Cross Frames CF-2 and 18Z-5A,7 assembly which are to be placed between Girders 1 & 2



**TYPICAL CAMBER DIAGRAM FOR ALL GIRDERS
EAST & WEST BOUND STRUCTURES**

COMPUTED V. N. Nelson
CHECKED M. J. P. [Signature]
DRAWN R. N. [Signature]
CHECKED M. J. P. [Signature]

EXAMINED Sept 23, 1957
V. M. Roman
ENGINEER OF BRIDGE & TRUSS STRUCTURES
PASSED [Signature]
APPROVED R. K. [Signature]
CHIEF HIGHWAY ENGINEER

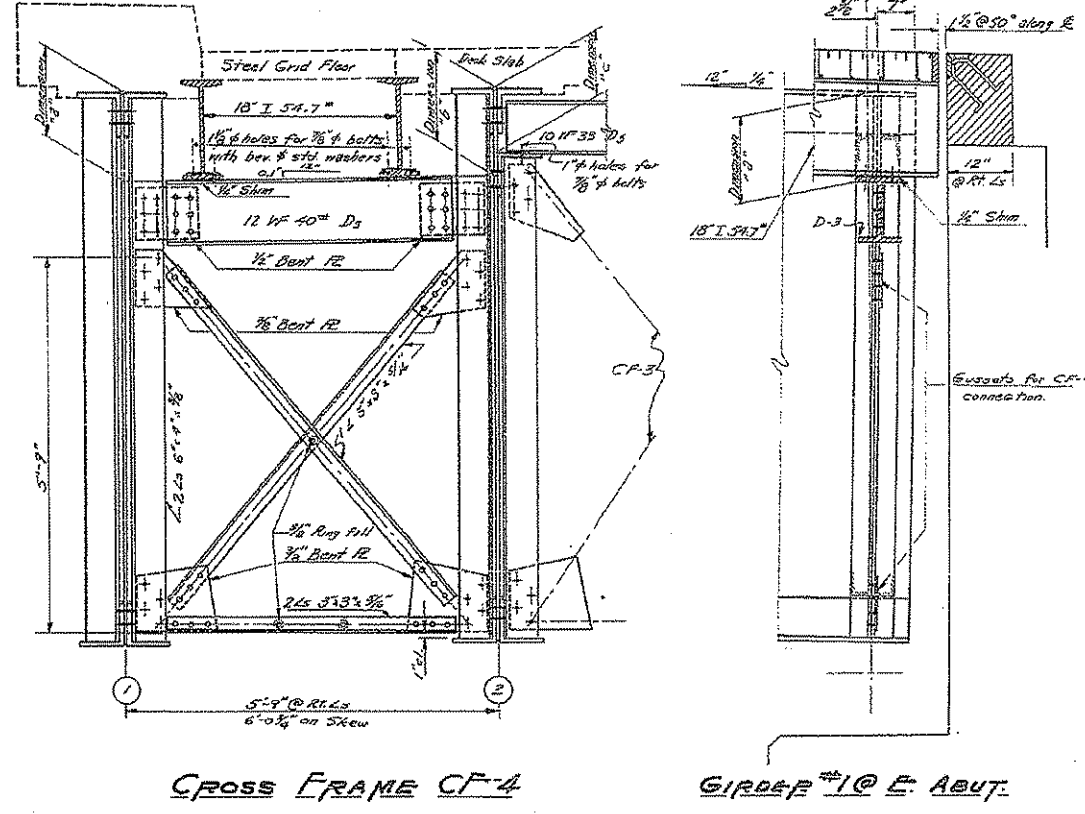
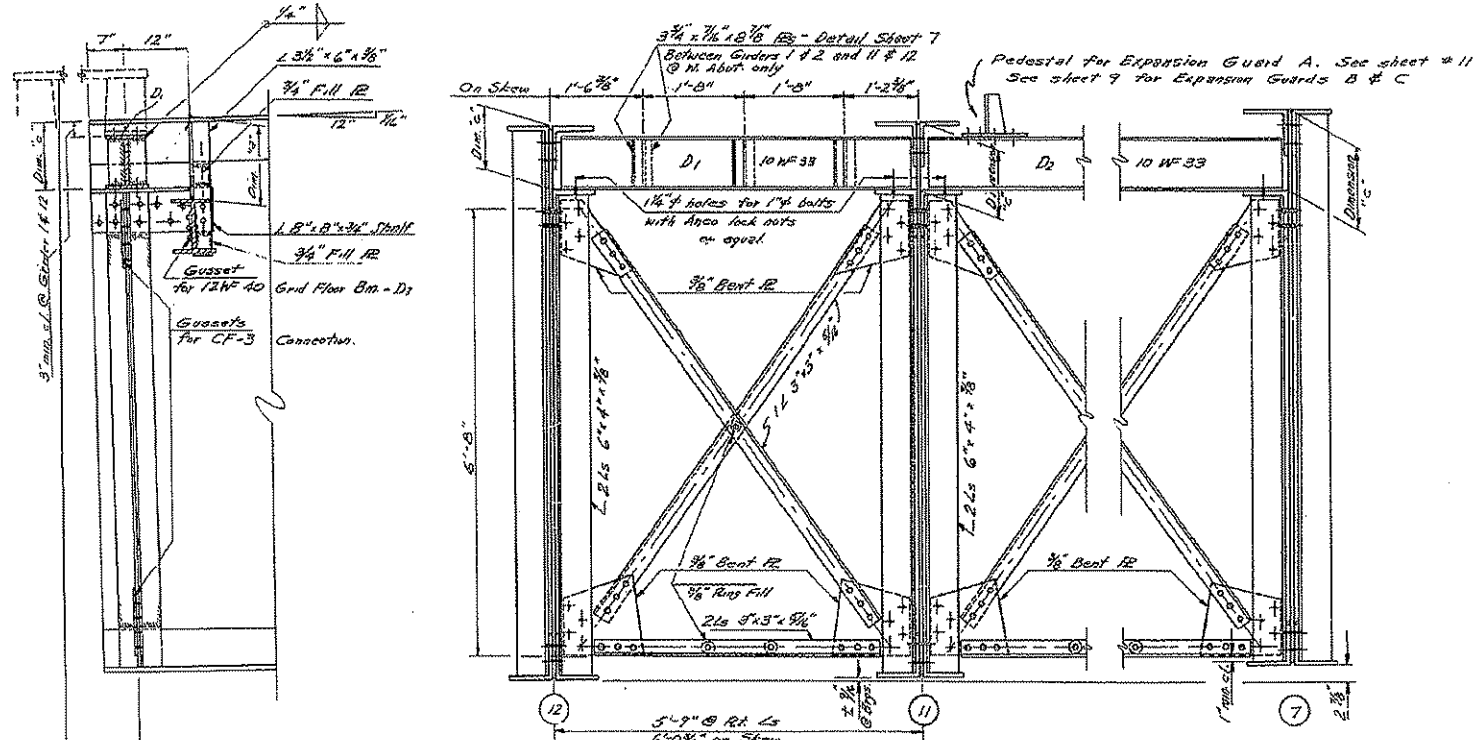
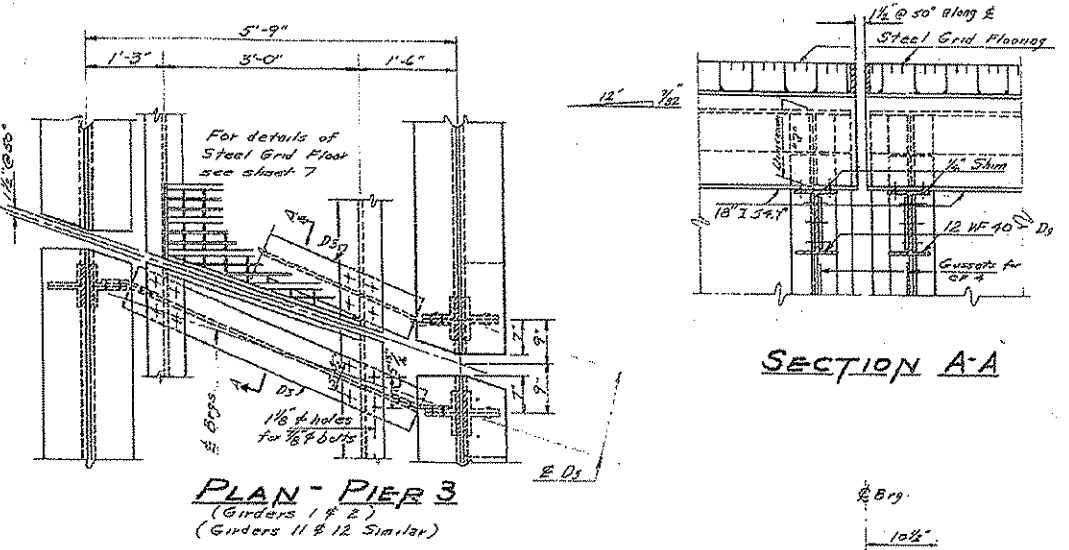
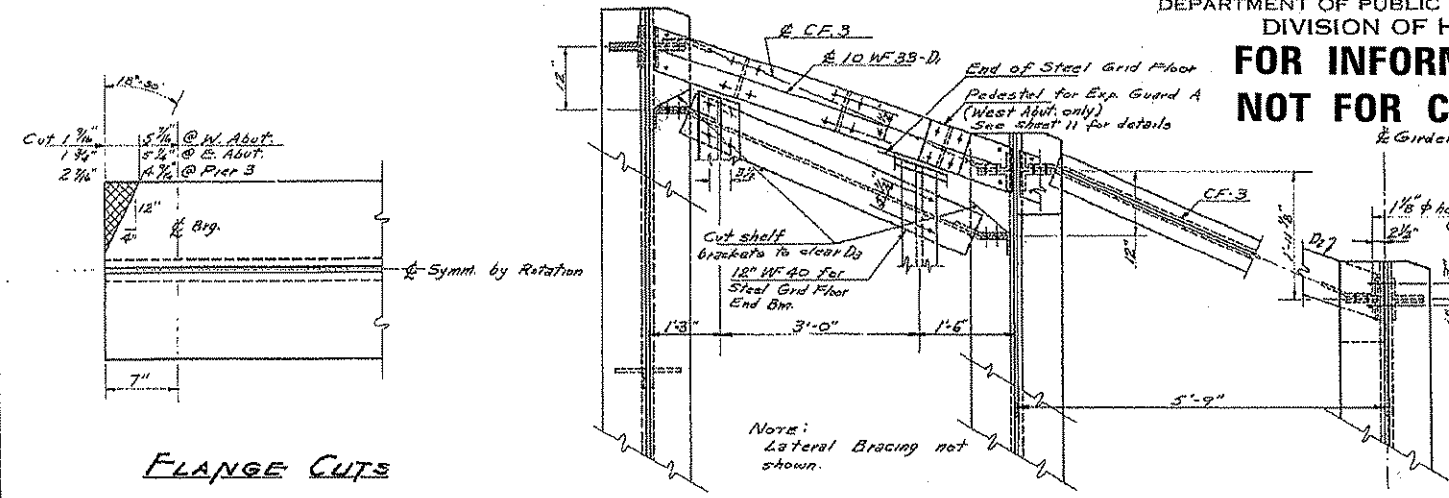
W denotes West bound structure - Girders 1 thru 6
E denotes East bound structure - Girders 7 thru 12

Deflection due to steel - 10%
Deflection due to concrete - 60%

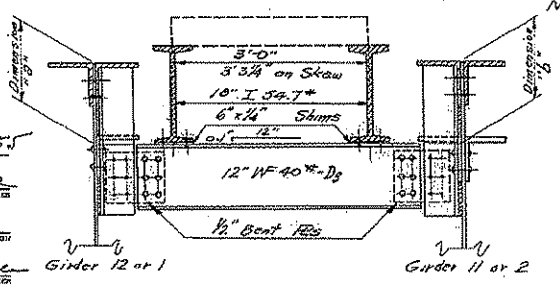
FRAMING PLAN
I.C.R.R. OVERHEAD
FA R.T. 39 SEC. 14-VB-VF
CHAMPAIGN COUNTY
STA. 219+00.55

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	14-VB	CHAMPAIGN	20	11
74	14-VF	CHAMPAIGN	16	11
16 SHEETS				

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS
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WEST ABUT.
Girder 1



DESIGNED: J. B. Nelson
CHECKED: M. G. Ruten
DRAWN: J. B. Nelson, S. L. Dugan
CHECKED: M. G. Ruten

EXAMINED: V. M. Foschini
PASSED: [Signature]
APPROVED: R. B. [Signature]

Sept. 23, 1955

END FRAMING DETAILS
I.C. R.R. OVERHEAD
F.A. R.T. 39 SEC. 14-VBVF
CHAMPAIGN COUNTY
STATION 219+00.55

NOTE: For dimensions "a", "b" & "c" see sheet no. 9

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

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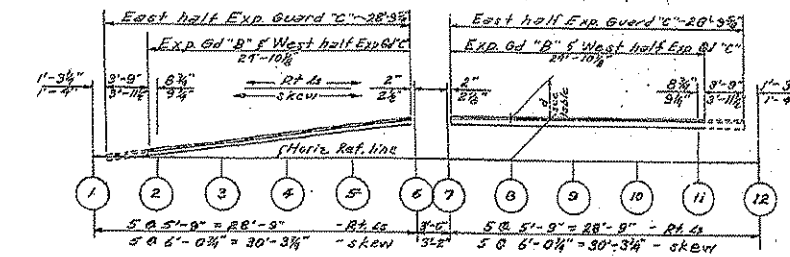
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	14-VB 14-VF	CHAMPAIGN	20 12	12
SHEETS				

DIMENSIONS "a" & "b"

Girder	West Bound		East Bound	
	a	b	a	b
1	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"
2	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
3	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
4	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
5	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
6	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
7	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
8	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
9	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
10	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
11	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
12	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
13	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
14	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
15	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
16	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
17	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
18	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
19	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
20	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
21	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
22	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
23	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
24	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
25	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
26	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
27	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
28	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
29	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
30	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
31	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
32	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
33	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
34	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
35	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
36	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
37	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
38	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
39	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
40	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
41	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
42	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
43	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
44	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
45	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
46	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
47	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"
48	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"	1'-2 1/4"

DIMENSIONS "c"

Girder	West Abut.	W-Dr. Pier 3	E-Dr. Pier 3	East Abut.
1	1'-0 3/4"	—	—	—
2	1'-1 1/4"	1'-0 3/4"	1'-0 3/4"	1'-0 3/4"
3	1'-2 1/4"	1'-1 1/4"	1'-1 1/4"	1'-0 3/4"
4	1'-2 1/4"	1'-1 1/4"	1'-1 1/4"	1'-1"
5	1'-3 1/4"	1'-1 1/4"	1'-1 1/4"	1'-1 1/4"
6	1'-4 1/4"	1'-1 1/4"	1'-1 1/4"	1'-1 3/4"
7	1'-5 1/4"	1'-1 1/4"	1'-1 1/4"	1'-1"
8	1'-2 1/4"	1'-1 1/4"	1'-1 1/4"	1'-1 1/4"
9	1'-2 1/4"	1'-1 1/4"	1'-1 1/4"	1'-1 1/4"
10	1'-2 1/4"	1'-1 1/4"	1'-1 1/4"	1'-1 1/4"
11	1'-1 1/4"	1'-1 1/4"	1'-1 1/4"	1'-1 1/4"
12	1'-0 3/4"	—	—	—

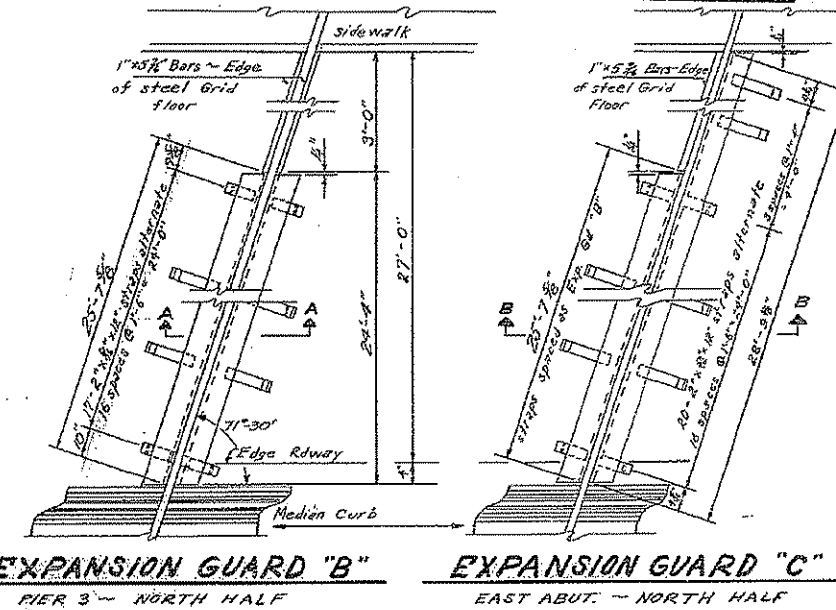
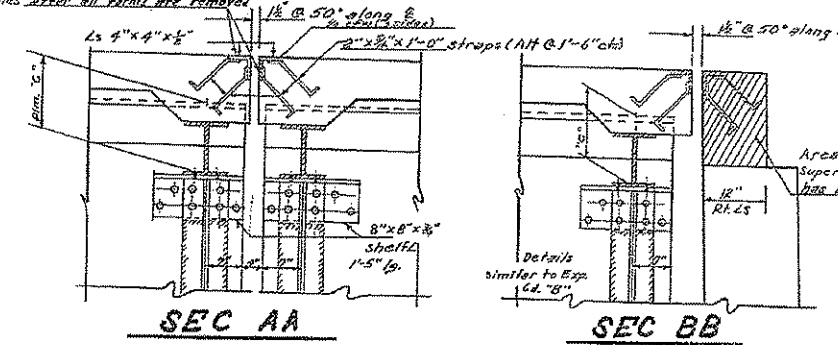


EXPANSION GUARD "B" & "C" PROFILE

DIMENSIONS "d"

Order	1	2	3	4	5	6	7	8	9	10	11	12
"B"	0"	1"	2"	2 1/2"	3 1/2"	4 1/2"	5 1/2"	4 1/2"	4 1/2"	4 1/2"	4 1/2"	4 1/2"
"C"	0"	1 1/2"	2 1/2"	3 1/2"	4 1/2"	5 1/2"	5 1/2"	5 1/2"	5 1/2"	5 1/2"	5 1/2"	5 1/2"

3/4" holes @ 12" cts for 3/8" bolts. All bolts shall be turned, sawed or clipped off flush with deck angles after all forces are removed.

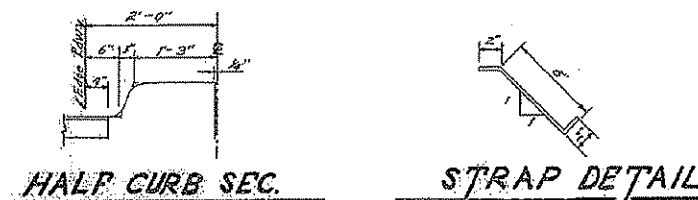


Note:
The Roadway Expansion Guards "B" & "C" shall be fabricated to fit Roadway.
Est. wt. included in bill of material on sheet 9 is 3020 lbs.

DESIGNED: *J. A. Nelson*
CHECKED: *M. G. Peters*
DRAWN: *J. B. K.*
CHECKED: *M. G. Peters*

EXAMINED: *V. W. Rose*
PASSED: *[Signature]*
APPROVED: *[Signature]*

Sept. 23, 1953



EXPANSION GUARDS "B" & "C"
DIMENSIONS "a", "b" & "c"

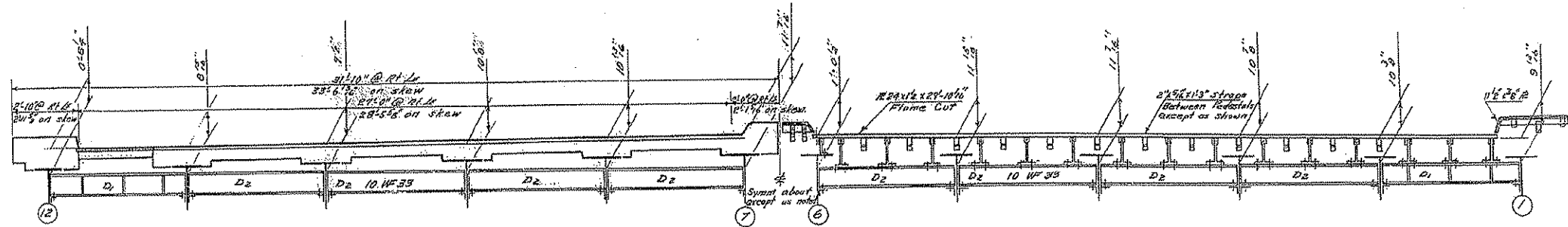
I.C.R.R. OVERHEAD
FA. RT. 39 SEC. 14-VB-VF
CHAMPAIGN COUNTY
STA. 219+00.55

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(14-11)	CHAMPAIGN	22	20
CONTRACT NO. 70622				

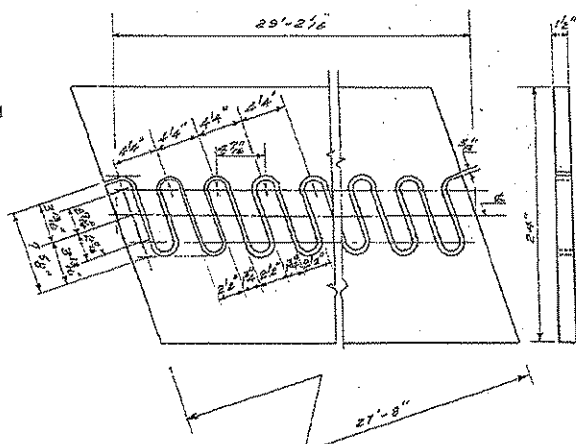
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STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

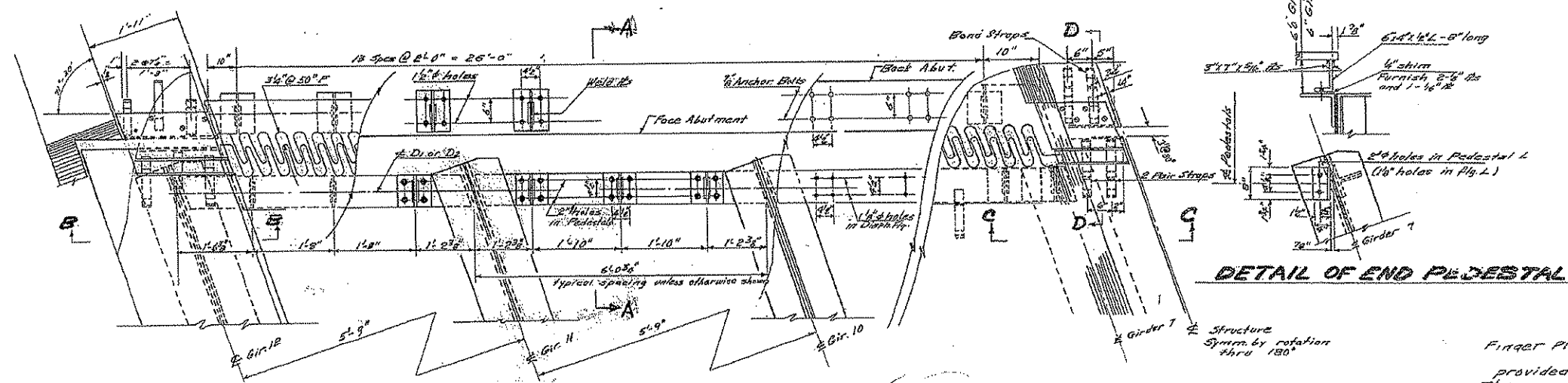
SCALE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1/4" = 1'-0"	14-VB	CHAMPAIGN	20	14
FED. ROAD DIST. NO. 1	14-VF		16	14
16 SHEETS				



HALF ELEVATION OF ROADWAY **HALF ELEVATION OF STEEL FABRICATION**
ELEVATION-EXPANSION GUARD-A
WEST ABUTMENT



DETAIL OF FLAME CUT PLATE
Match mark after cutting

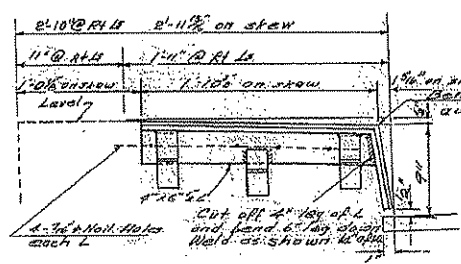


PLAN-EXPANSION GUARD A

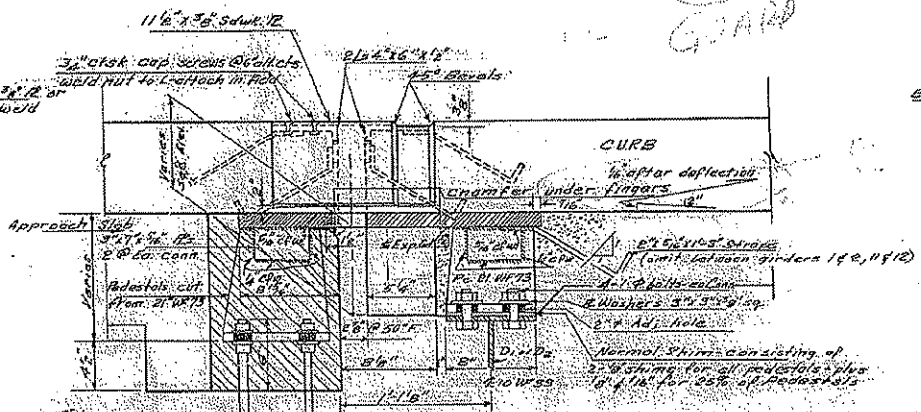
DETAIL OF END PEDESTAL

NOTES

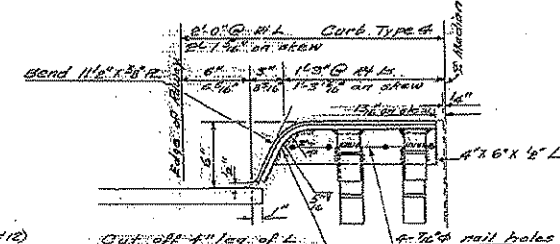
Finger Plates shall be 1" thick provided by Art. 55.4(C) of the Std. Specs. The roadway expansion B shall be fabricated and erected to fit the surfaces of the roadway and sidewalks. All welds shall be 3/8" unless otherwise noted. Roadway expansion guards shall be assembled in the shop in proper position and shall be left assembled for shop inspection before painting. Painting shall be done in accordance with Std. Specs. 57.4(c). Expansion Guards, Bolts & Nuts will be paid for at the unit price bid for Structural Steel. The wt. of Expansion Guard A complete for bridge included in the Bill of Material on Sheet No. 1 as Structural Steel is 11,300 lbs. Paint surfaces that are inaccessible after erection with two shop coats of red lead paint. Copper bearing steel (ASTM designation A-7 with 0.2% copper added) shall be used in the finger plates, 2" x 1/2" L's, 3" x 1" x 1/2" R's and the 1 1/2" x 3/8" sidewalk plates.



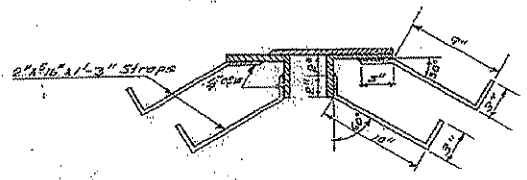
SEC-B-B



SEC-A-A



SEC-C-C



SEC-D-D

DESIGNED	V. W. A.
CHECKED	M. G. C.
DRAWN	V. W. A.
CHECKED	M. G. C.

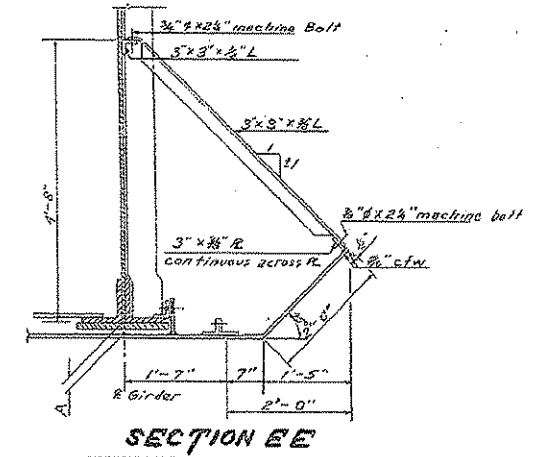
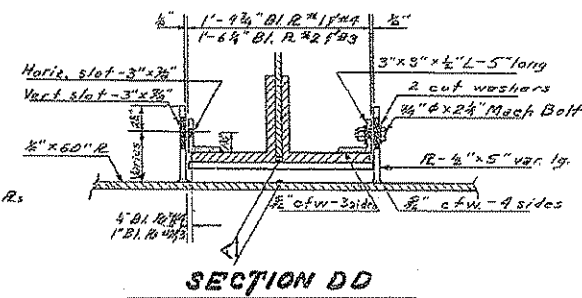
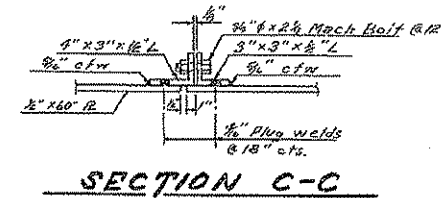
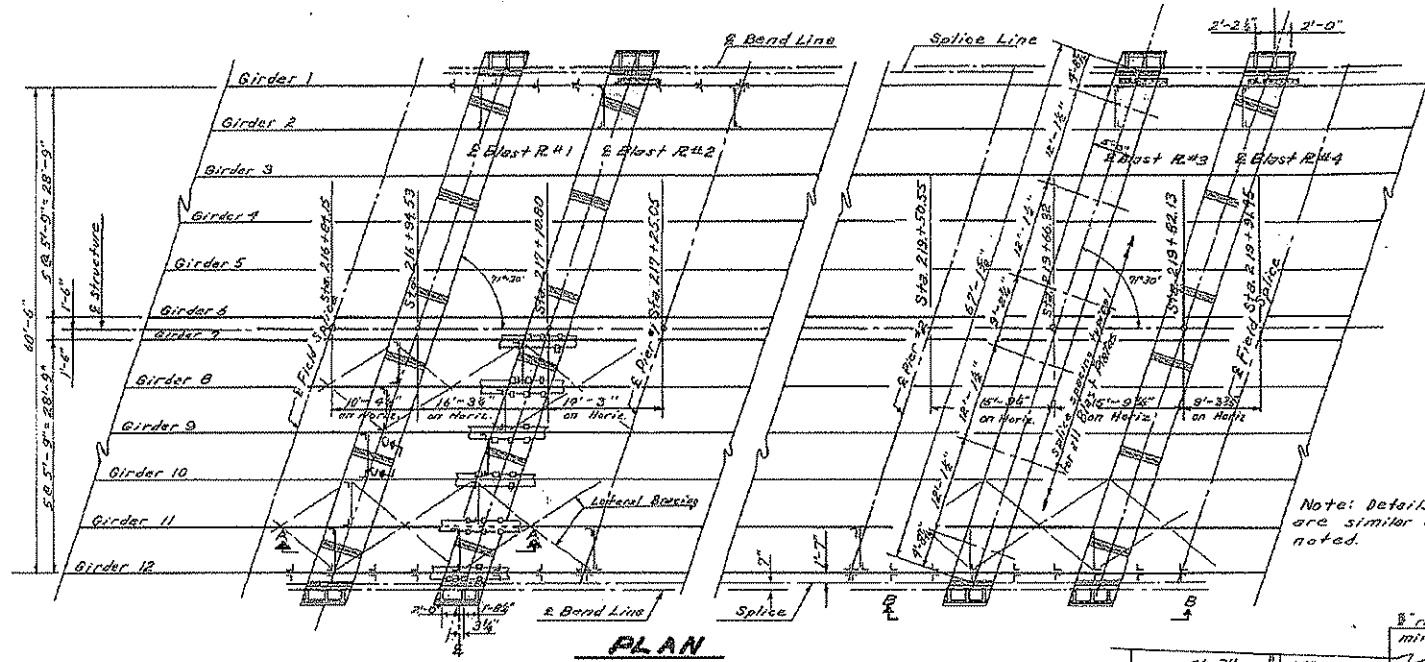
EXAMINED	V. W. A.
PASSED	[Signature]
APPROVED	[Signature]

Sept 23, 1955
Provide 1 nut & 1/2" dia. plate washers each bolt (1" thread)

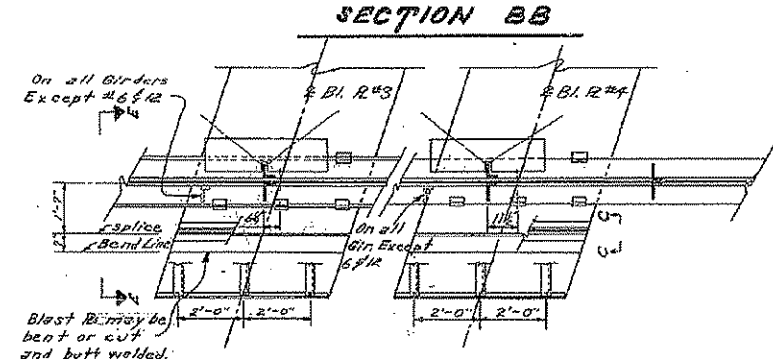
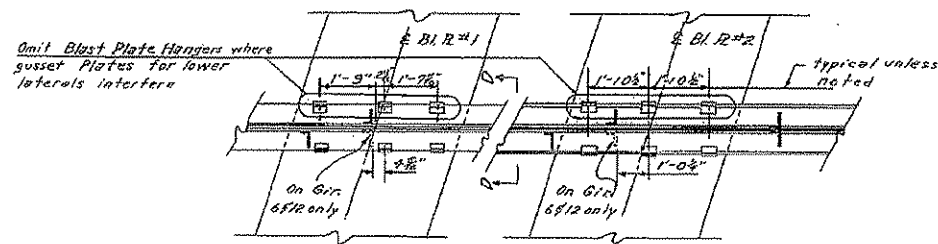
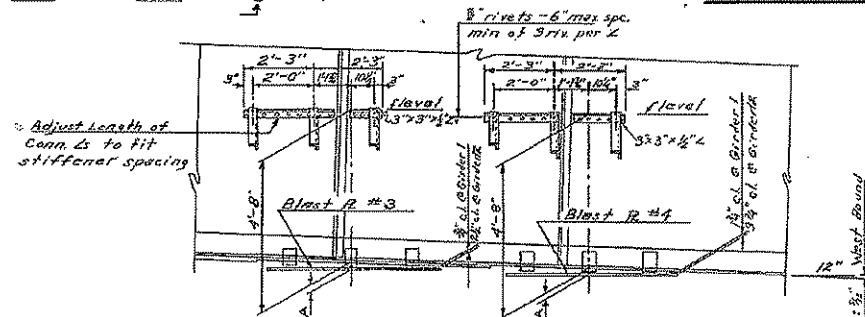
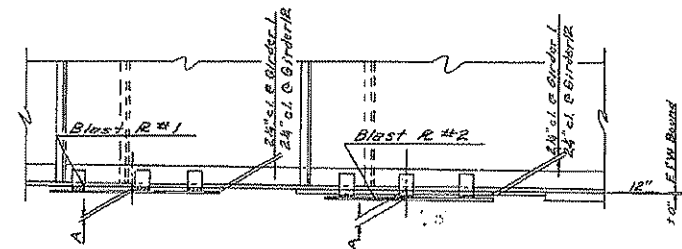
**EXPANSION GUARD A
(WEST ABUTMENT)
I.C.R.R. OVERHEAD
F.A. RT. 39 SEC. 14-VB-VF
CHAMPAIGN COUNTY
STA. 219+00.55**

**FOR INFORMATION ONLY
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STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS



Note: Details for all R's are similar unless noted.



NOTES

Blast Plates shall be 1/2 inch thick and shall conform to ASTM Std. Specification A-7 for structural steel except that 0.2% copper shall be added.

All connection plates, angles, bolts & nuts shall be paid for at the unit price bid for structural steel. The wt. of Blast Plates and accessories which are included in the Bill of Material on Sheet # 4 as structural steel is 37,040 lbs.

All bolts, washers and nuts shall be galvanized.

Painting shall be the same as for structural steel.

Blast Plates shall be level.

BLAST PLATES

I.C. RR OVERHEAD
FA RT. 39 SEC. 14VB-VF
CHAMPAIGN COUNTY
STA. 219+00.55

DESIGNED: *M. G. Oster*
CHECKED: *M. G. Oster*
DRAWN: *M. G. Oster*
STULTS
CHECKED: *M. G. Oster*

EXAMINED: *V. M. Romine*
PASSED: *[Signature]*
APPROVED: *[Signature]*
CHIEF ENGINEER

Sept. 23, 1958

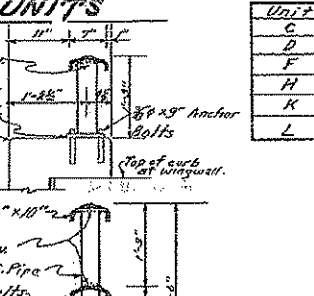
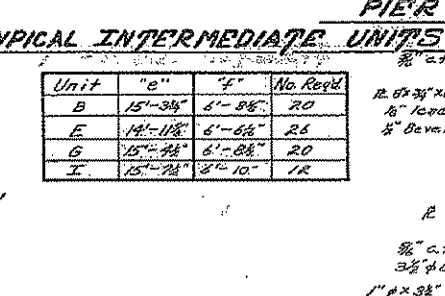
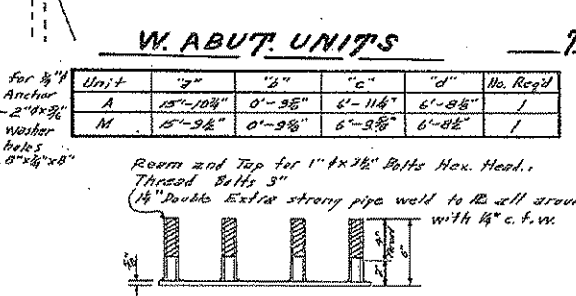
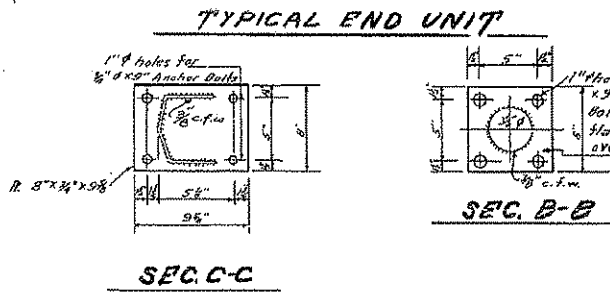
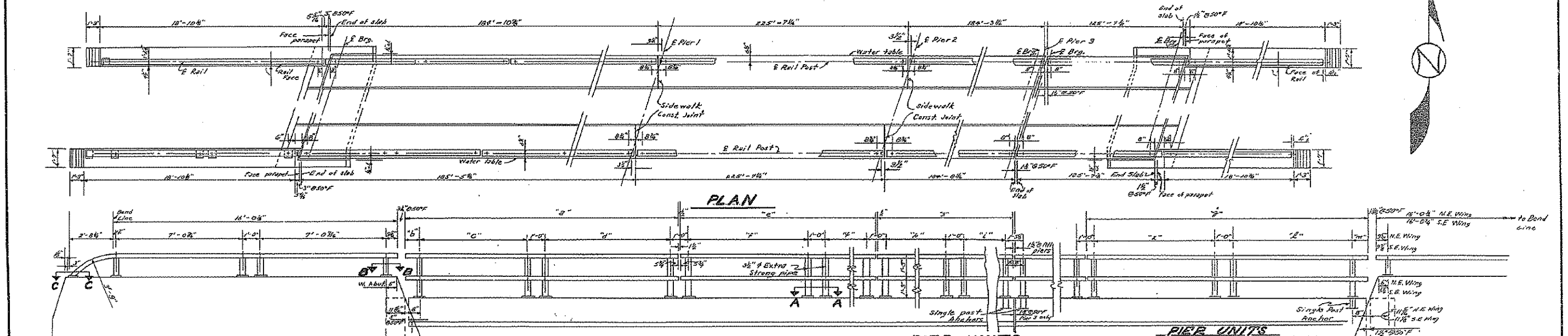
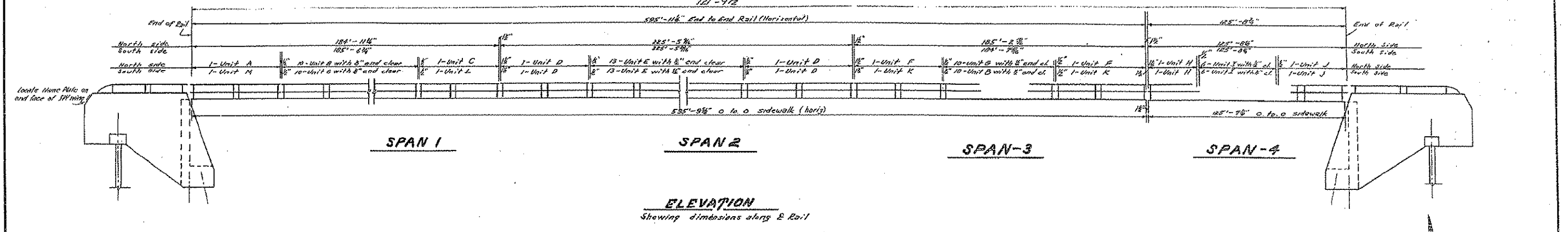
BLAST PLATE NO.	1	2	3	4	5	6	7	8	9	10	11	12
1	2 1/2"	2 1/2"	3 1/2"	4 1/2"	5 1/2"	5 1/2"	6 1/2"	7 1/2"	8 1/2"	9 1/2"	10 1/2"	11 1/2"
2	2 1/2"	2 1/2"	3 1/2"	4 1/2"	5 1/2"	5 1/2"	6 1/2"	7 1/2"	8 1/2"	9 1/2"	10 1/2"	11 1/2"
3	2 1/2"	2 1/2"	3 1/2"	4 1/2"	5 1/2"	5 1/2"	6 1/2"	7 1/2"	8 1/2"	9 1/2"	10 1/2"	11 1/2"
4	2 1/2"	2 1/2"	3 1/2"	4 1/2"	5 1/2"	5 1/2"	6 1/2"	7 1/2"	8 1/2"	9 1/2"	10 1/2"	11 1/2"

DIMENSIONS "A"
Dimensions "A" are at intersection of Blast R and Girders

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DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	14-VB	CHAMPAIGN	20	16
	14-VF		16	16
SHEET NO. 13 16 SHEETS				



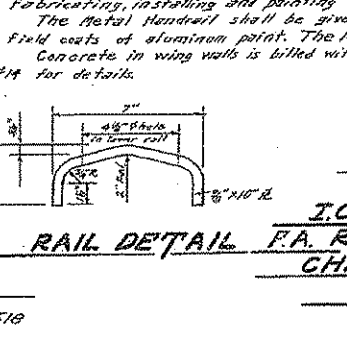
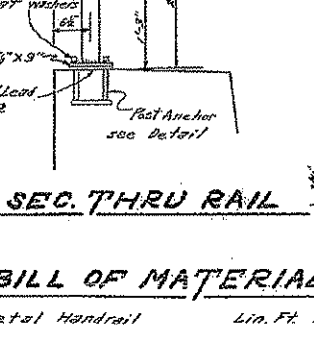
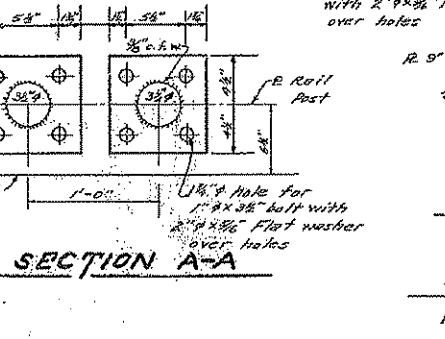
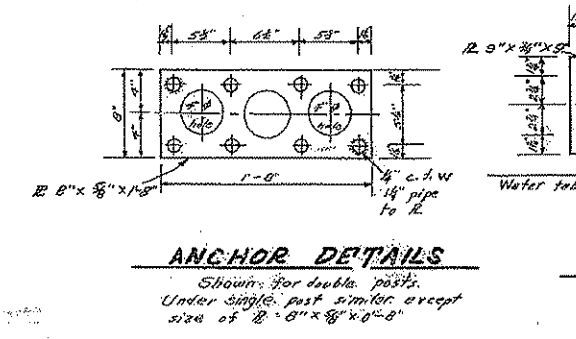
Unit	"a"	"b"	"c"	No. Reqd.
C	15'-6"	6'-8 1/2"	6'-8 1/2"	1
D	15'-7 1/2"	6'-6 1/2"	6'-5 1/2"	1
F	15'-6 1/2"	6'-8 1/2"	6'-7 1/2"	2
H	15'-9 1/2"	6'-10"	6'-10"	2
K	15'-6 1/2"	6'-8 1/2"	6'-8 1/2"	2
L	15'-6 1/2"	6'-8 1/2"	6'-8 1/2"	1

Unit	"a"	"b"	"c"	"d"	No. Reqd.
J	15'-10 1/2"	6'-10"	6'-9 1/2"	9 1/2"	2

NOTES

wing walls.
The Contract Unit Price for Metal Handrail shall include furnishing, fabricating, installing and painting all pipes, plates, anchors and lead plates. The Metal Handrail shall be given one shop coat of red lead paint and two field coats of aluminum paint. The Rail Post anchors shall not be painted. Concrete in wing walls is filled with Abrument as Handrail Concrete. See sheet #14 for details.

DESIGNED: H.M. Chen
CHECKED: J. P. ...
DRAWN: H.M. Chen
STULTS
APPROVED: R.L. ...



HANDRAIL

J.C.R.R. OVER HEAD
F.A. RT. 39 SEC. 14-VB-VF
CHAMPAIGN COUNTY
STA. 219+00.55

BILL OF MATERIAL
Metal Handrail Lin. Ft. 1510