

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**PROPOSED**  
**HIGHWAY PLANS**  
**F.A.P. ROUTE 116 (IL. RTE. 33/130)**  
**SECTION D7 BRIDGE PAINTING 2015-3**  
**BRIDGE PAINTING**  
**CUMBERLAND, JASPER & EDWARDS COUNTIES**  
**C-97-102-14**

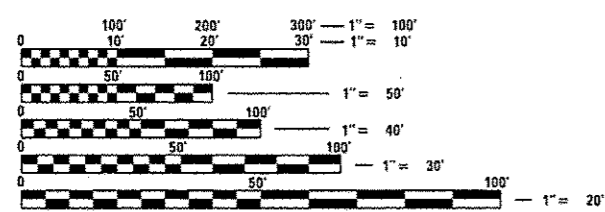
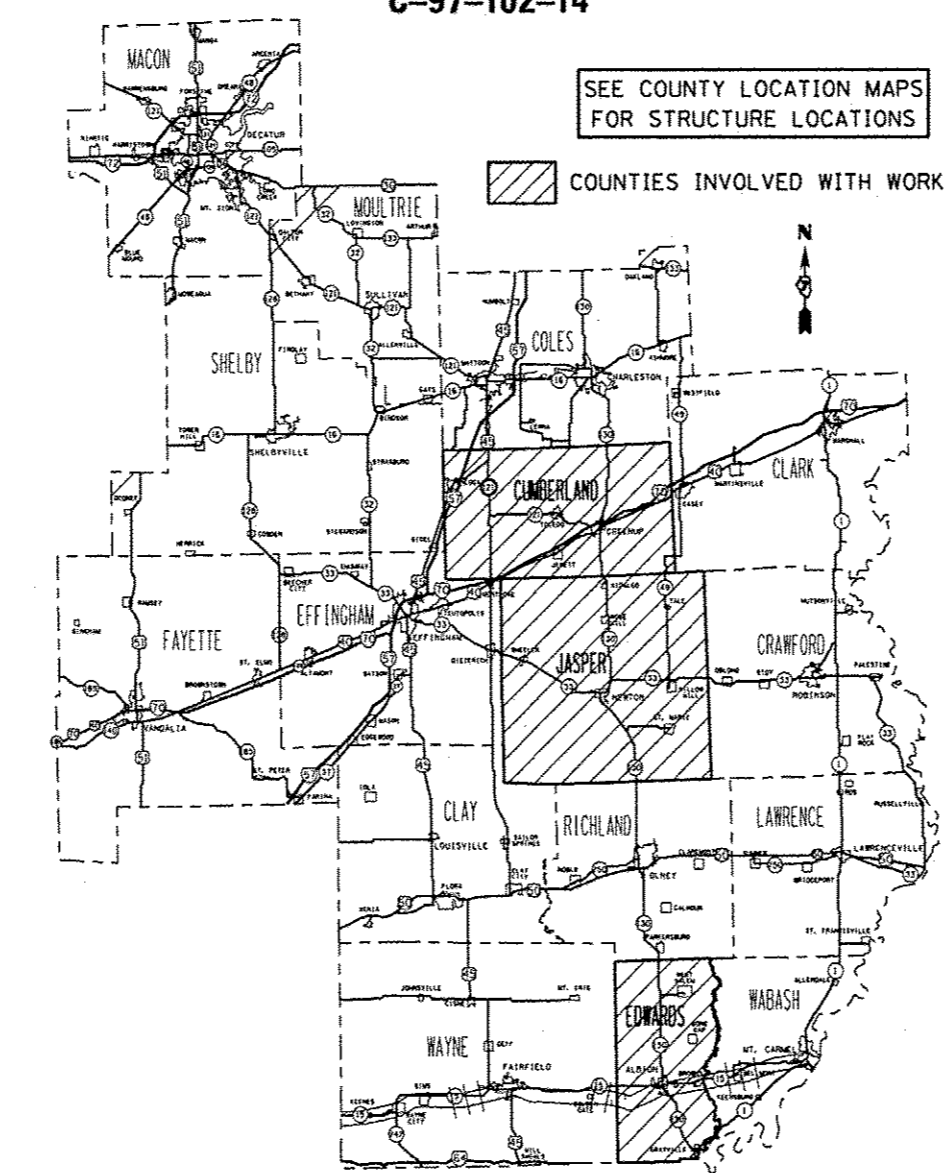
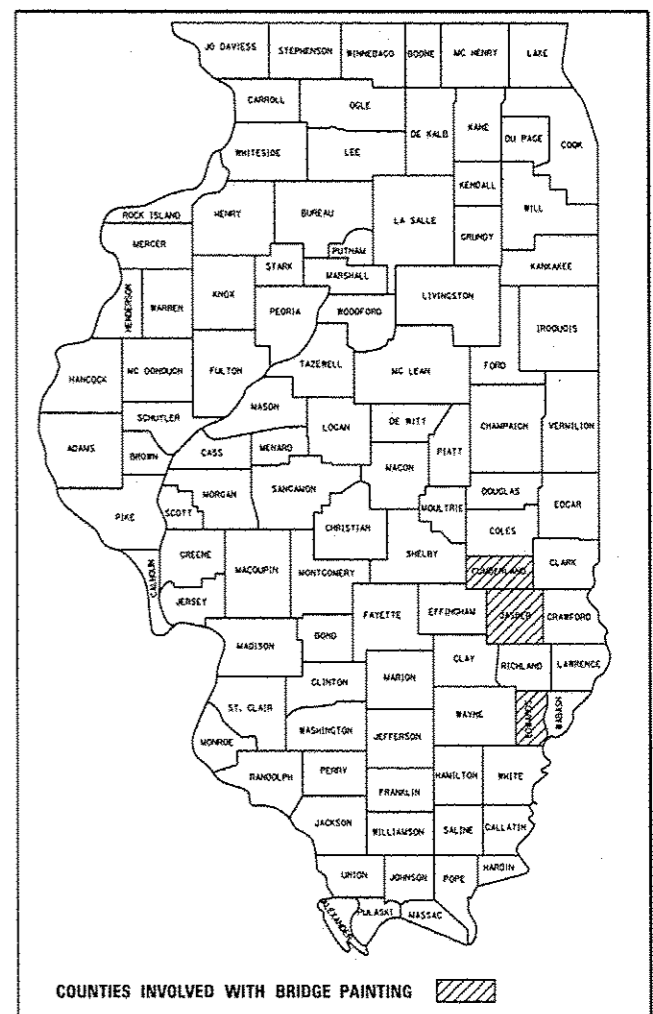
FOR INDEX OF SHEETS, SEE SHEET NO. 2

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
116	D7 BRIDGE PAINTING 2015-3	ILLINOIS	1	1

CONTRACT NO. 74699

VARIOUS COUNTIES

D-97-053-14



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  
 OR 811

**PROJECT ENGINEER: TOM RONAN**  
**PROJECT MANAGER: TOM RONAN**  
**PHONE: (217)-342-8320**  
**CONTRACT NO. 74699**

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

SUBMITTED August 04 20 14  
Roger L. Drishell  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Oct 17 20 14  
John D. Baranzola, PE, Jr.  
 ENGINEER OF DESIGN AND ENVIRONMENT

Oct 17 20 14  
Omer Osman, PE, Jr.  
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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**OF THE STATE OF ILLINOIS**



## BRIDGE STRUCTURE DESCRIPTIONS

### LOCATION #1

ROUTE: FAP 116  
 MARKED: IL 130  
 SECTION: 112BR  
 STATION: 254+69.5  
 STRUCTURE NUMBER: 018-0058

TYPE OF BRIDGE: Plate Girder-4 Spans (4 Girders)  
 LOCATION: 4.8 miles south of the Coles County line  
 FEATURE CARRIED/SPANNED: IL 130 over Hurricane Creek

COLOR OF THE FINISH COAT SHALL BE GREEN, MUNSELL 10B 3/6

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel within 5' (measured along the beam) of the abutments and any expansion joints at piers, including beams, bearings and diaphragms, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. The entire outside and bottom of the bottom flange of both fascia beams, for the entire length of the beams, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - OZ/E/U.

No air monitors will be required at this location.

### LOCATION #2

ROUTE: FAP 116  
 MARKED: ILL-33/130  
 SECTION: 4BR  
 STATION: 57+30  
 STRUCTURE NUMBER: 040-0016

TYPE OF BRIDGES: Plate Girders & Wide Flange I-Beams- 14 Spans (7 Beams/7 Girders) Span #2 has plate girders; all other spans have concrete beams. Only painting is on span #2.

LOCATION: North corporate limits of Newton  
 FEATURE CARRIED/SPANNED: ILL-33/130 over Embarrass River

COLOR OF THE FINISH COAT SHALL BE GRAY, MUNSELL 5B 7/1.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel, including girders, bearings and diaphragms/lateral bracing, within 5' (measured along the girders) of piers 1 & 2 shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. The entire outside and bottom of the bottom flange of both fascia girders, for the entire length of the girders, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - OZ/E/U.

Two air monitors will be required at this location.

### LOCATION #3

ROUTE: FAP 116  
 MARKED: IL 130  
 SECTION: 7-VBR  
 STATION: 1232+78.28  
 STRUCTURE NUMBER: 024-0005

TYPE OF BRIDGES: Plate Girder-1 Span (5 Girders)  
 LOCATION: South corporate limits of Aibion  
 FEATURE CARRIED/SPANNED: IL 130 over the Southern Railroad

COLOR OF THE FINISH COAT SHALL BE GREEN, MUNSELL 10B 3/6

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel within 5' (measured along the girder) of the abutments, including girders, bearings and diaphragms/lateral bracing, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. The entire outside and bottom of the bottom flange of both fascia beams/girders, for the entire length of the beam/girder, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - OZ/E/U.

• VARIOUS COUNTIES

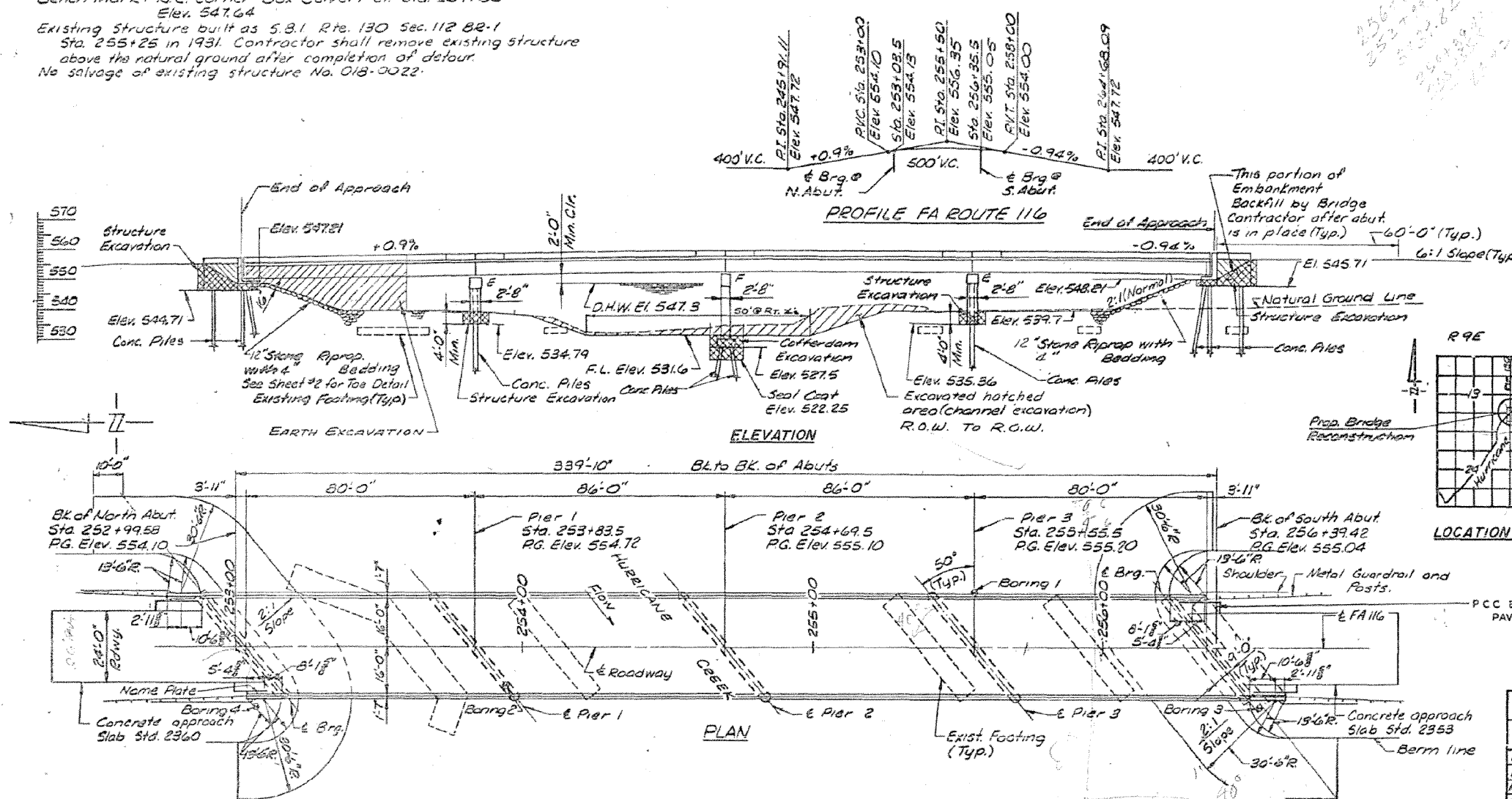
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or:\pw_work\pwwdot\steffennk\0403575\0	74699-shc-index.dgn	DRAWN -	REVISED -	<b>DEPARTMENT OF TRANSPORTATION</b>		116 DT BRIDGE PAINTING 2015-3	*		19	3
Default	PLOT SCALE = 100.0000 1/ in.	CHECKED -	REVISED -		SCALE: N/A	SHEET 1	OF 1	SHEETS	STA.	TO STA.
	PLOT DATE = 8/5/2014	DATE -	REVISED -							
										ILLINOIS FED. AID PROJECT



Bench Mark: N.E. corner Box Culvert Lt. Sta. 269+00  
Elev. 547.64  
Existing Structure built as S.B.1 Rte. 130 Sec. 112 BR-1  
Sta. 255+25 in 1931. Contractor shall remove existing structure  
above the natural ground after completion of detour.  
No salvage of existing structure No. 018-0022.

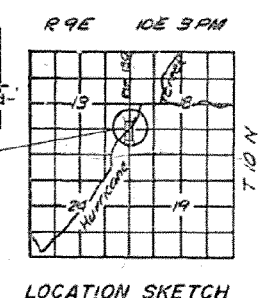
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
116	112 BR	CUMBERLAND	30	8
ILLINOIS FED. AID PROJECT				

SHEET 1  
16 SHEETS



Station 254+69.5  
Built 1931 By  
State of Illinois  
FA. RT 116 Sec. 112 BR  
FA. Proj. BR-F-116(12)  
LOADING HS20  
Str. No. 018-0058

LETTERING FOR NAME PLATE  
See Std. 2113



INDEX OF SHEETS

- 1 General Plan & Elevation
- 2 Footing Layout
- 3 Slab Elevation
- 4 Slab Elevation
- 5 Slab Elevation
- 6 Superstructure
- 7 Parapets & Drainage Details
- 8 Expansion Joint Details
- 9 Framing Plan
- 10 Girder Tables
- 11 Steel Details
- 12 Bearings
- 13 Abutments
- 14 Pier 1 & 3
- 15 Pier 2
- 15 Pile Details

PCC BRIDGE APPROACH SHOULDER  
PAVEMENT STD. 2324 (TYP.)

**GENERAL NOTES:**

See proposal for Boring Data.  
Fasteners shall be high strength bolts. Bolts  $\frac{3}{4}$ " open holes  $\frac{3}{8}$ " unless otherwise noted.  
Calculated weight of Structural Steel M183 = 157671 lbs, M223 = 97349 lbs.  
The basic lead silica chromate paint system shall be used for shop and field painting of Structural Steel. All contact surfaces of joints for the Diaphragms and Cross Frames shall be free of paint or lacquer.  
Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.  
Anchor bolts shall be set before bolting Diaphragms over supports.  
The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments. The contractor shall drive 3 concrete test piles in permanent locations as directed by the Engineer before ordering the remainder of piles. One concrete test pile shall be driven at each abutment and pier 2. Reinforcement bars shall conform to the requirements of AASHTO M31 or M53 grade 60.  
A calcium nitrate corrosion inhibitor, as covered in the Special Provisions, shall be used in the concrete for Class X Concrete for Parapets.

**GENERAL NOTES CONTINUED**

Layout of rip rap may be varied in the field to suit ground conditions as directed by the Engineer.  
All structural steel shall conform to AASHTO M183 except as noted.  
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of  $\frac{1}{8}$ ". Adjustment shall be made either by grinding the surfaces or by shimming the bearing. Two of adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

**DESIGN SPECIFICATION**  
1977 AASHTO and 1978/1979 Interim Specification - Load Factor Design

**DESIGN LOADING**  
HS20-44 with 25 psf Future Wearing Surface Allowance.

**DESIGN STRESSES**  
Concrete  $f_c = 3500$  psi  
Reinforcing Steel (Grade 60)  $f_y = 60000$  psi  
Structural Steel (AASHTO M183)  $f_y = 36000$  psi  
Structural Steel (AASHTO M223 Grade 50)  $f_y = 50000$  psi  
M 29

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Class X Concrete	Cu Yd	390.4	366.8	757.2
Reinforcement Bars	Pound	15360	22870	62230
Rein. Bars (Epoxy Coated)	Pound	62760		62760
Steel Shear Connectors	Each	2544		2544
Structural Steel	Lbs	1		1
Concrete Piles	Lin Ft		3475	3475
Test Piles Concrete	Each		3	3
Name Plates	Each	1		1
Floor Drains	Each	20		20
Neoprene Expansion Joints	Lin Ft	105		105
Structure Excavation	Cu Yd		360	360
Cofferdam Excavation	Cu Yd		215	215
Cofferdam	Each		1	1
Stone Riprap	Sq Yd		806	806
Removal of Ext. Structs	Each		1	1
Seal Coat Concrete	Cu Yd		118.3	118.3
Channel Excavation	Cu Yd		1115	1115

**WATERWAY INFORMATION**

Drainage Area 55 Sq. Miles Low Grade Elev. 548.02 @ Sta. 243+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. HWE	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	50	8100	1801	1870	547.3	0.85		548.15	
Base	100	9280	1986	2080	548.4	0.89		549.27	
Overlapping									
Max. Calc.	500								

**HURRICANE CREEK**

**GENERAL PLAN & ELEVATION**  
FA. RT 116 SECTION 112 BR  
CUMBERLAND COUNTY  
STA. 254 + 69.5

DESIGNED: MCH  
DRAWN: M.C.T.  
CHECKED: MGB  
DATE: 4-15-80

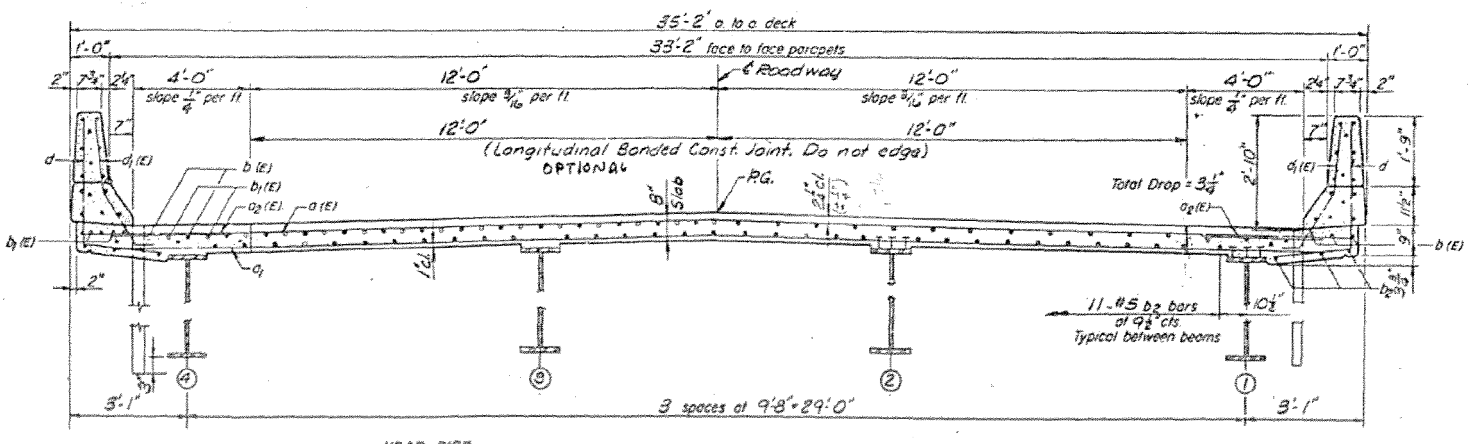
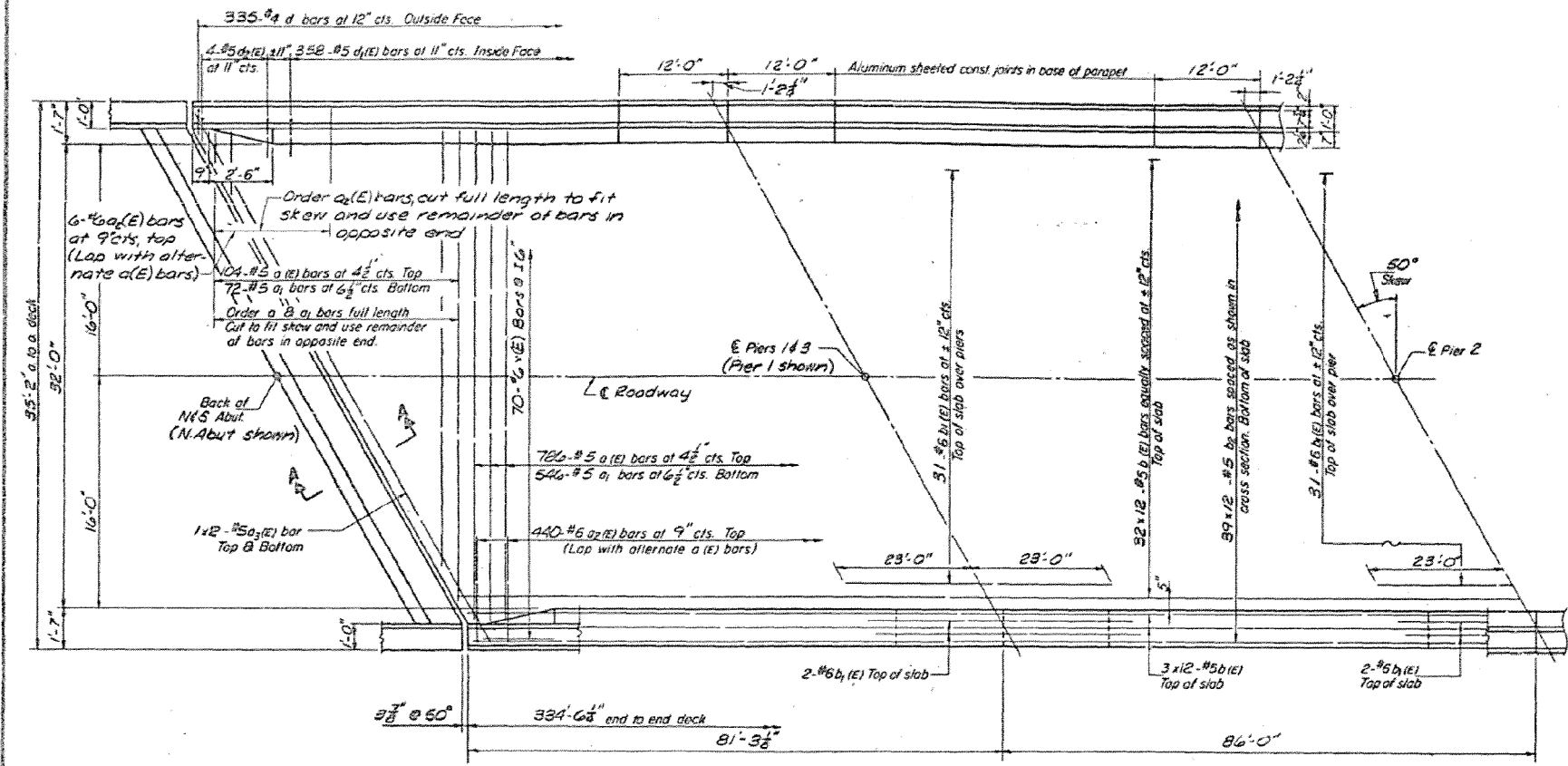
APPROVED  
FOR STRUCTURAL ADEQUACY ONLY

*Ronald N. Williams*  
REGISTERED STRUCTURAL ENGINEER  
ILLINOIS NO. 315



NOT TO SCALE

PROJECT NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
116	D7 BRIDGE PAINTING	CUMBERLAND	30	13



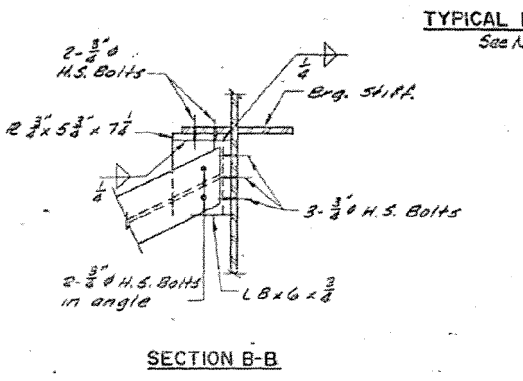
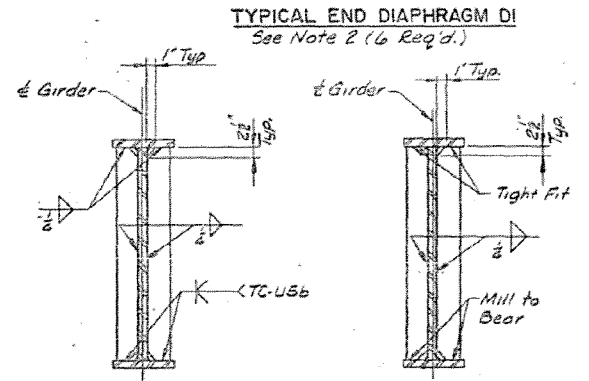
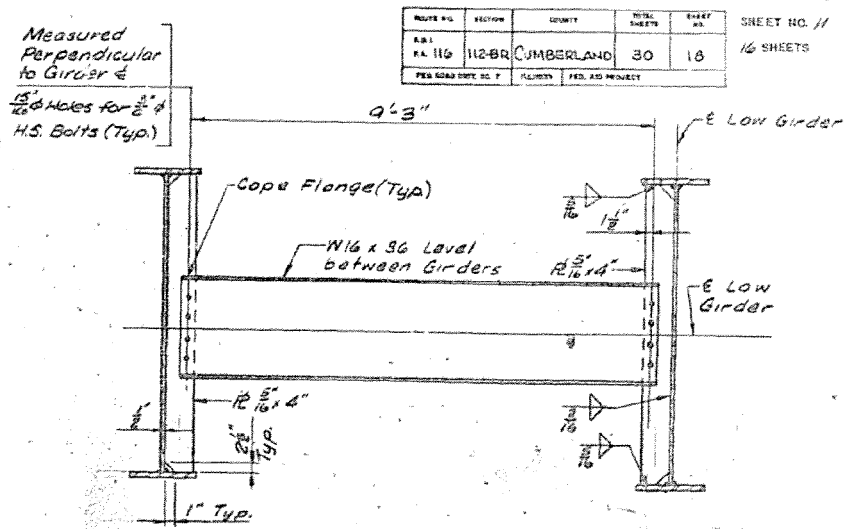
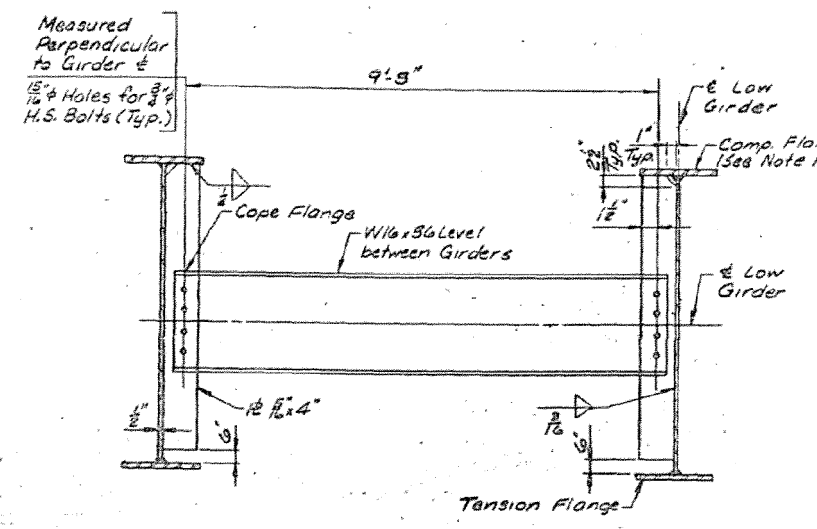
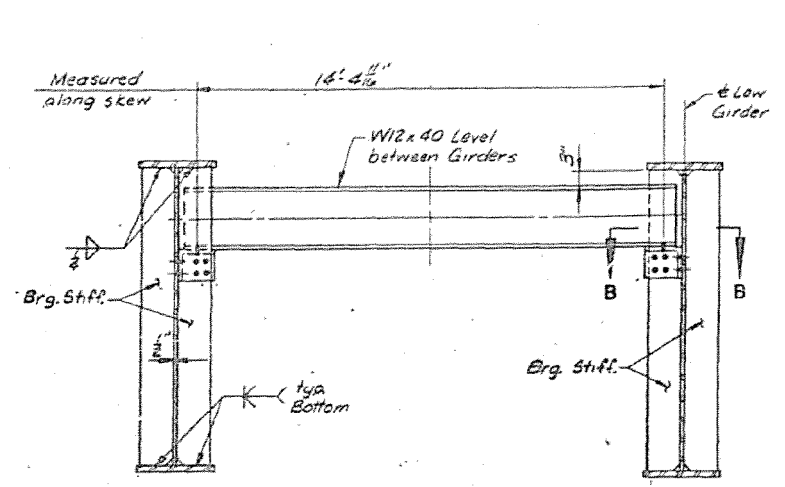
**NOTES:**  
See sheet #7 for superstructure details and Bill of Material  
Reinforcement bars designated (E) shall be epoxy coated. See Special Provisions  
Bars indicated thus 20 x 3-#5 etc indicates 20 lines of bars with 3 lengths per line  
Lap splice #5 Bars 20'  
See sheet #7 for Section A-A.

**SUPERSTRUCTURE**  
FA RT116 SECTION 112 BR  
CUMBERLAND COUNTY  
STA. 254+69.5  
DESIGNED: MCH  
DRAWN: HLT  
CHECKED: MGB  
DATE: 4-15-80

1.24  
33  
670  
968.15  
267.30  
1832.5  
67.8  
82  
1.44

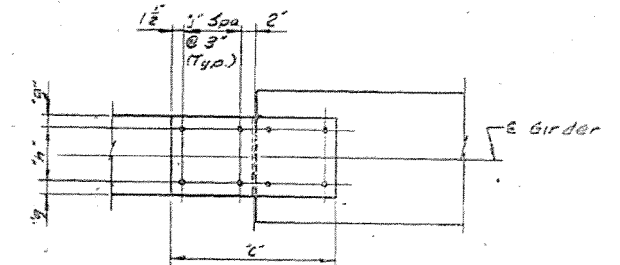
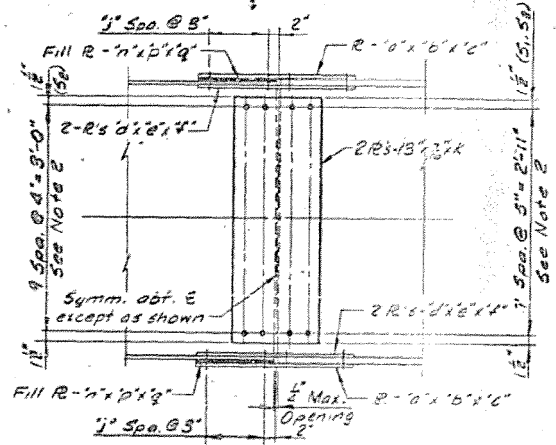


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. //
FA. RT. 116	112-BR	CUMBERLAND	30	18	16 SHEETS
FED. ROAD DIST. NO. 7		FED. AID PROJECT			

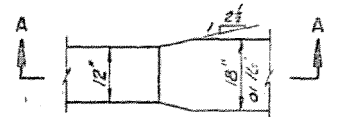


TYPICAL INTERIOR DIAPHRAGM D2  
See Note 2 (36 Req'd.)

TYPICAL INTERIOR DIAPHRAGM D3  
See Note 2 (9 Req'd.)

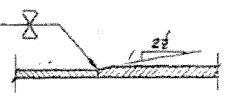


- NOTES:**
- Weld to Compression Flange as located on Girder Elevation and weld to Tension Flange as noted.
  - Holes in Diaphragm shall be detailed with 1 1/2" holes for 3/4" H.S. Bolts and holes in splices shall be detailed with 1 1/2" holes for 3/4" H.S. Bolts in Flanges and 1 1/2" holes for 3/4" H.S. Bolts in webs. Two (2) hardened washers per bolt shall be provided for oversized holes.
  - All contact surfaces of joints for the diaphragms shall be free of paint or lacquer.



FIELD SPLICE ELEVATION  
See Note 2

TRANSITION PLAN



SECTION A-A

SHOP FLANGE SPLICE

SPICE LOCATION	FLANGE	NUMBER REQUIRED	TABLE OF DIMENSIONS BOLTED FIELD SPLICE														
			a	b	c	d	e	f	g	h	j	k	n	p	q		
S1	Top	4	12"	2 1/2"	2'-1"	5'	2 1/2"	2'-1"	2 1/2"	7	3	3'-2"	12"	3/8"	1'-0 1/2"		
S1	Bot.	4	12"	2 1/2"	2'-1"	5'	2 1/2"	2'-1"	2 1/2"	7	3	3'-2"	12"	3/8"	1'-0 1/2"		
S2	Top	4	12"	2 1/2"	2'-7"	5'	2 1/2"	2'-7"	2 1/2"	7	3	3'-3"	12"	3/8"	1'-3 1/2"		
S2	Bot.	4	12"	2 1/2"	2'-7"	5'	2 1/2"	2'-7"	2 1/2"	7	3	3'-3"	12"	3/8"	1'-3 1/2"		
S3	Top	4	12"	2 1/2"	2'-1"	5'	2 1/2"	2'-1"	2 1/2"	7	3	3'-2"	12"	3/8"	1'-0 1/2"		
S3	Bot.	4	12"	2 1/2"	2'-1"	5'	2 1/2"	2'-1"	2 1/2"	7	3	3'-2"	12"	3/8"	1'-0 1/2"		

**STEEL DETAILS**  
FA. RT. 116 SECTION 112 BR.  
CUMBERLAND COUNTY  
STA. 254+69.5

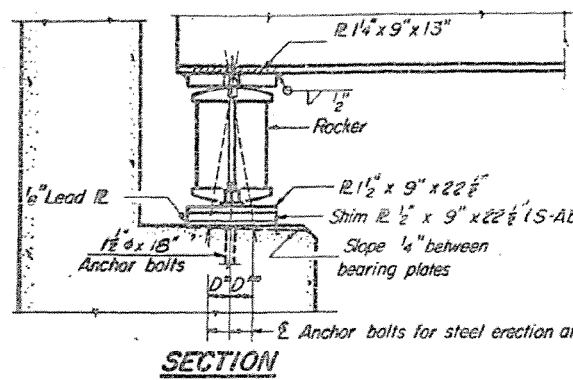
DESIGNED: M.C.M. CHECKED: M.G.B.  
DRAWN: S.D.B. DATE: 4/15/80

Booker

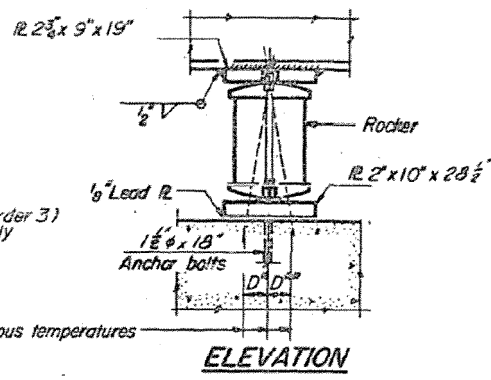
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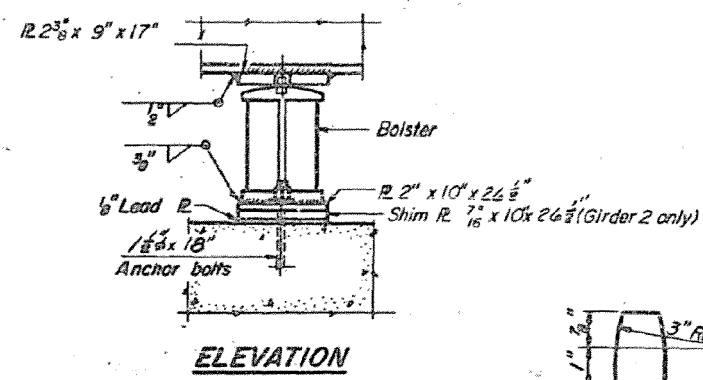
WORK NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
116	112-BR	CUMBERLAND	30	19
				16 SHEETS



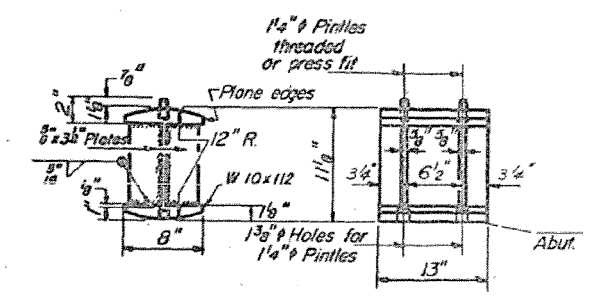
**SECTION**



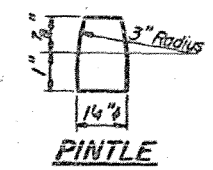
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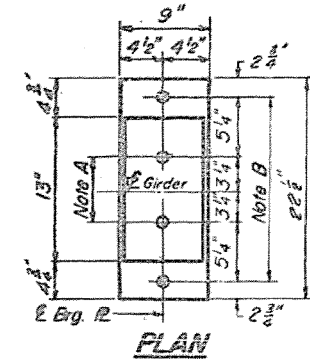
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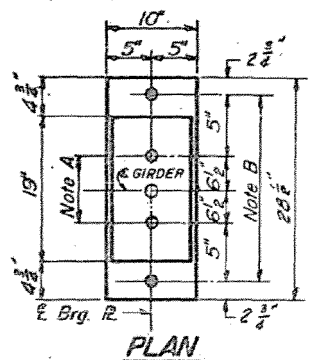
**ROCKER AT N&S ABUT.**



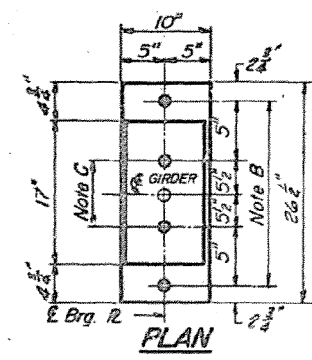
**PINTLE**



**PLAN AT ABUTMENT**



**PLAN AT PIER 1&3**



**PLAN AT PIER 2**

**NOTE A**  
1 3/8"  $\phi$  Holes - 1" deep in top IR for pintles. Thread or press fit pintles into bottom IR.

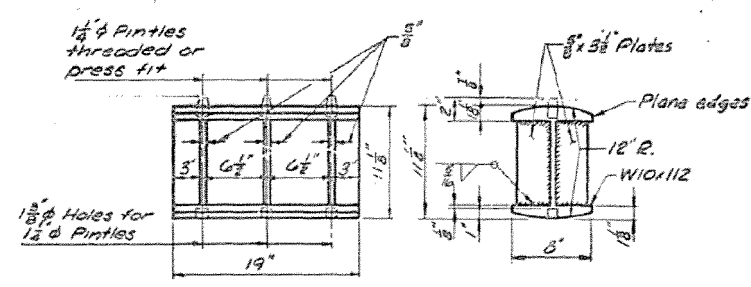
**NOTE B**  
2" Holes for 1 1/2"  $\phi$  anchor bolts. 5/16" x 3" x 3" IR. Washers under nut.

**NOTE C**  
1 3/8"  $\phi$  Holes, 1" deep in top IR only for 1 1/4"  $\phi$  pintles.

**BEARING ASSEMBLY DETAILS**

**NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.**

- a)  $D^*$  (Side of brg. away from fixed brg.)  
 $D^* = 1/8$ " per each 100' of expansion for every 15° fall below the normal temp. of 50°F.
- $D^{**}$  (Side of brg. toward fixed brg.)  
 $D^{**} = 1/8$ " per each 100' of expansion for every 15° rise above the normal temp. of 50°F.
- b) After girders have been erected and dimensions  $D^*$  or  $D^{**}$  determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.



**ROCKER PIER 1&3**

NOT TO SCALE

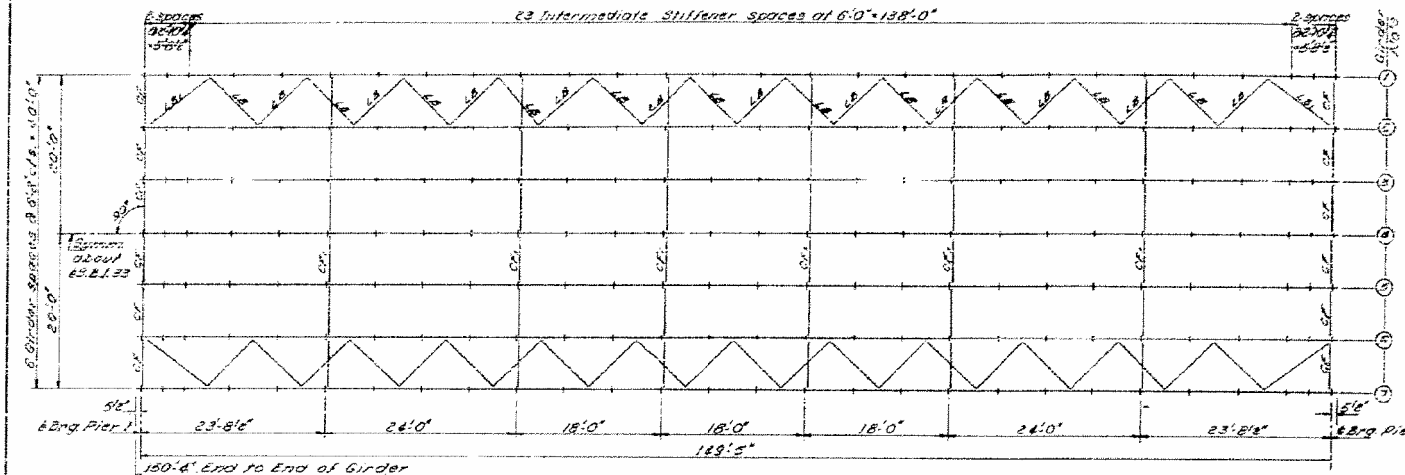
<b>BEARINGS</b>			
FA. RT. 116 SECTION 112 BR			
CUMBERLAND COUNTY			
STA. 254+69.5			
DESIGNED: MCH	CHECKED: MGB		
DRAWN: CAM	DATE: 4-15-60		



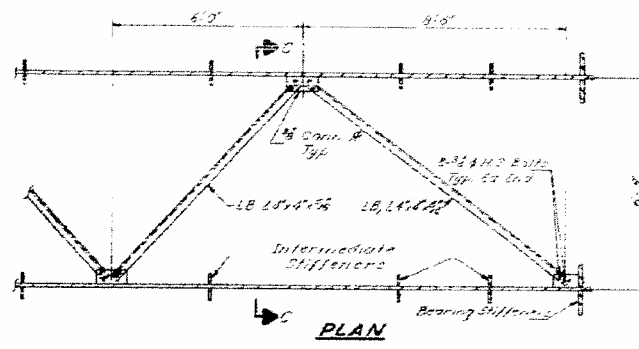


STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BUILDINGS  
DIVISION OF HIGHWAYS

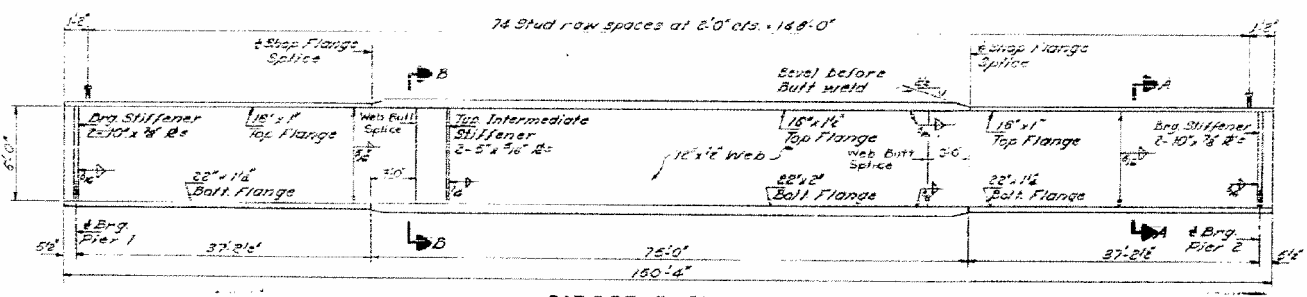
PROJECT NO.	SECTION	DATE	SHEET NO.
116 D7	BRIDGE PAINTING	2015-3	19



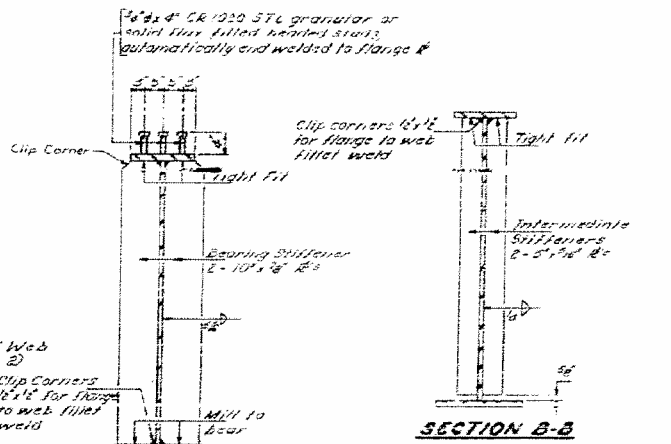
FRAMING PLAN



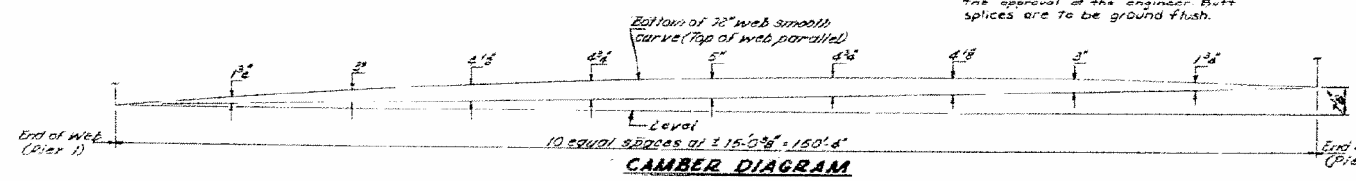
SECTION C-C  
LATERAL BRACING DETAIL



GIRDER ELEVATION



SECTION A-A  
FRAMING PLAN & GIRDER DETAILS



CAMBER DIAGRAM

DESIGNED: [Signature]  
CHECKED: [Signature]  
DRAWN: [Signature]  
EXAMINED: [Signature]  
FABRICATED: [Signature]  
APPROVED: [Signature]

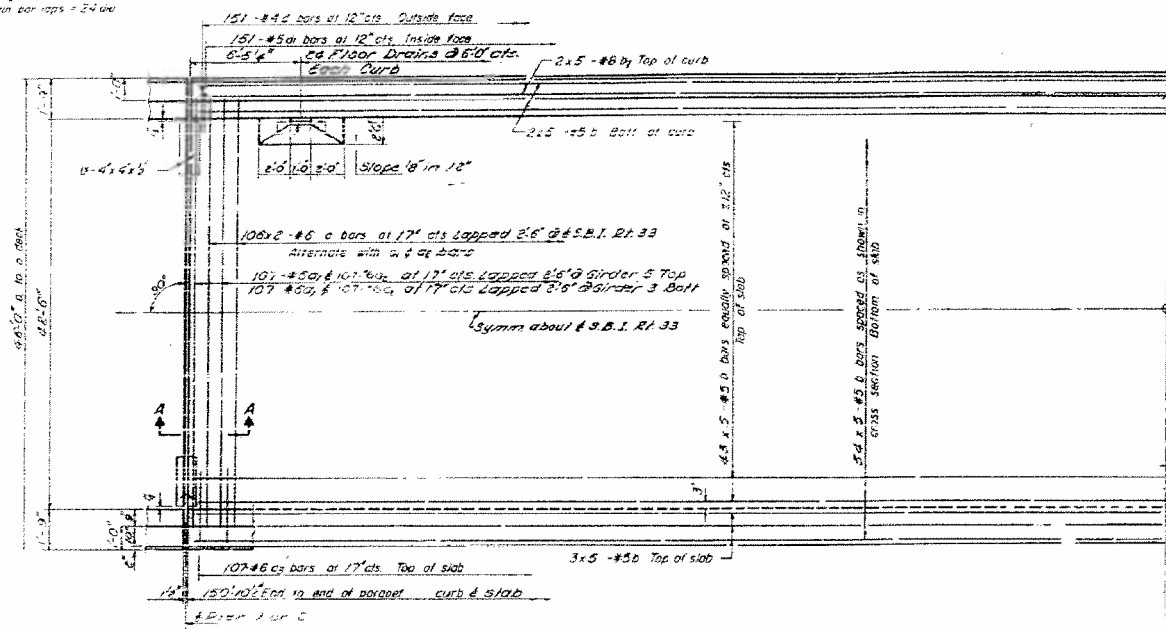
Property	Value
Steel Section	150 I 400
Weight	101.8 lb/ft
Area	23.03 in <sup>2</sup>
Moment of Inertia	3337 in <sup>4</sup>
Section Modulus	181.29 in <sup>3</sup>
Radius of Gyration	6.76 in
Web Thickness	0.393 in

Location	Moment (ft-k)	Reaction (k)
Left End	18.5	18.5
Right End	18.5	18.5
Interior	150.1	43.8
Imp	273.2	5.24
Max	548.3	149.0

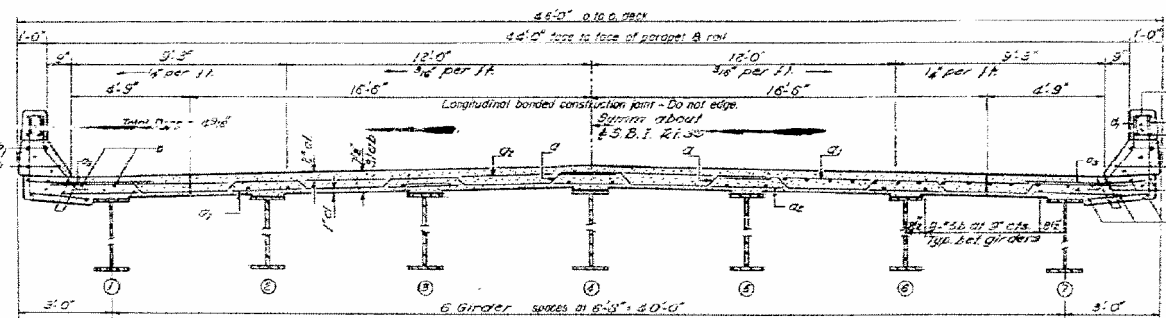


STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BUILDINGS  
DIVISION OF HIGHWAYS

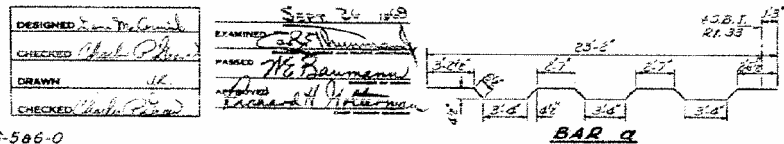
NOTE:  
Bars indicated thus 20 x 3 #5 etc.  
indicates 20' long bars with 3  
repeats per line  
See notes on sheet # 24



HALF PLAN

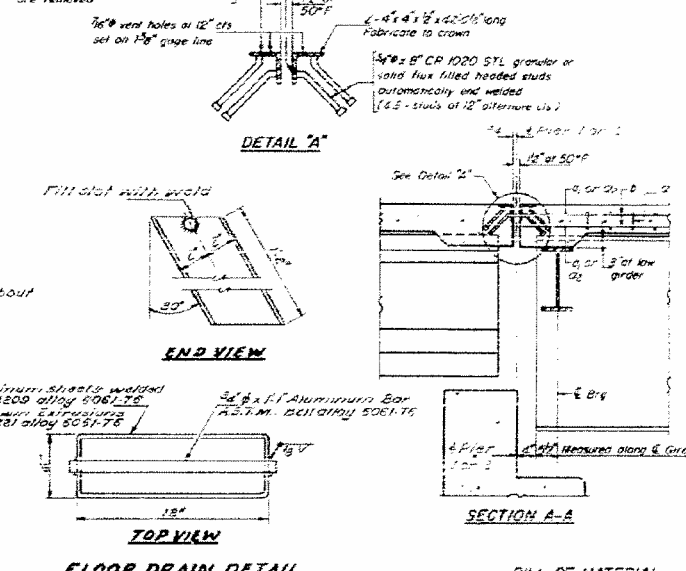


CROSS SECTION  
(Looking North)



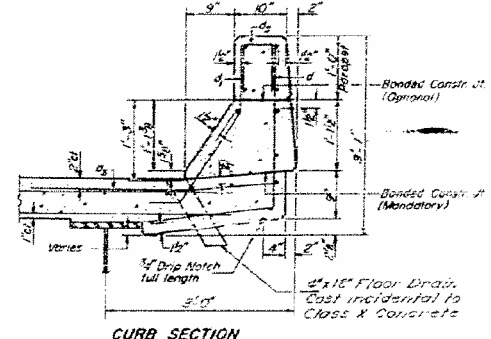
BAR a

7/8" holes at 12' cts for 3/8" bolts set  
on 2" gage line. All bolts shall be  
burned, galvanized or dipped in rust  
with back of angles after forms  
are removed.



FLOOR DRAIN DETAIL

NOTE: For placement of bars d, and  
e see sheet # 33



CURB SECTION

BILL OF MATERIAL

Bar	No	Size	Length	Shape
a	112	#5	24'-7"	
b	212	#5	16'-5"	
c	218	#6	30'-0"	
d	218	#5	4'-0"	
e	232	#5	31'-2"	
f	20	#6	37'-5"	
g	302	#6	4'-5"	J
h	302	#5	3'-3"	J
Reinforcement Bars				Lbs. 44,960
Class I Concrete				Cu Wt. 163.5
Structural Steel				Lbs. 262,430

\* Weight of bearing assemblies with head  
plates and anchor bolts are included  
as Structural Steel Est Wt = 7270 Lbs.  
Parapet Reinforcement and Class X  
Concrete are billed on sheet # 33

**SUPERSTRUCTURE DETAILS**  
**SPAN 2**  
**F.A. 187 SEC 4-BR**  
**JASPER COUNTY**  
**STATION 57+30**

FILE NAME =	USER NAME = steffenk	DESIGNED -	REVISED -
et:\pw_work\pwidot\stefenk\d0403575\074699-sht.pln.dgn		DRAWN -	REVISED -
Default	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 8/5/2014	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PLAN  
STRUCTURE 040-0016

SCALE: N/A SHEET 9 OF 13 SHEETS STA. TO STA.

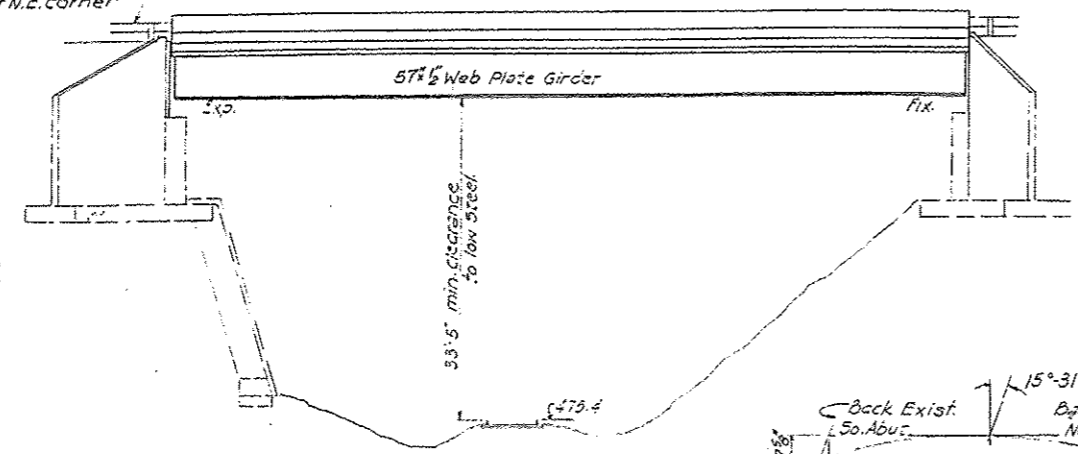
* VARIOUS COUNTIES				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
116	D7 BRIDGE PAINTING 2015-3		19	13
				CONTRACT NO. 74699
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DATE	PROJECT	ISSUED	BY	NO.	SHEET NO. /
11/16/14	74699	EDWARDS	19	10	14 SHEETS

bench mark: Spike in base of 30' oak tree 47' left of Station 1228+31 Elev 516.34  
Struct. Built as S.B.I. Route 1 Section 7VBR-NR5 Station 1232+89 in 1934 R.C. Deck  
steel girders, R.C. closed abutments 31'-6" out to out 28'-3" Bk. to Bk. of abutments  
Contractor shall remove existing superstructure and widen the west side  
the existing substructure utilizing stage construction to maintain  
office at all times. Structure No. 0240005

Metal Guardrail & Posts (Typ.)  
except at N.E. corner

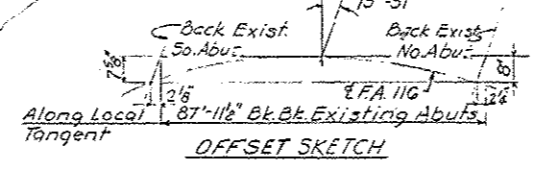


STATION 1232+78.28  
BUILT 198 BY  
STATE OF ILLINOIS  
F.A. RTE. 116 SEC. 7VBR  
PROJECT BR. 116 (31)  
LOADING H520  
STR. NO. 0240005

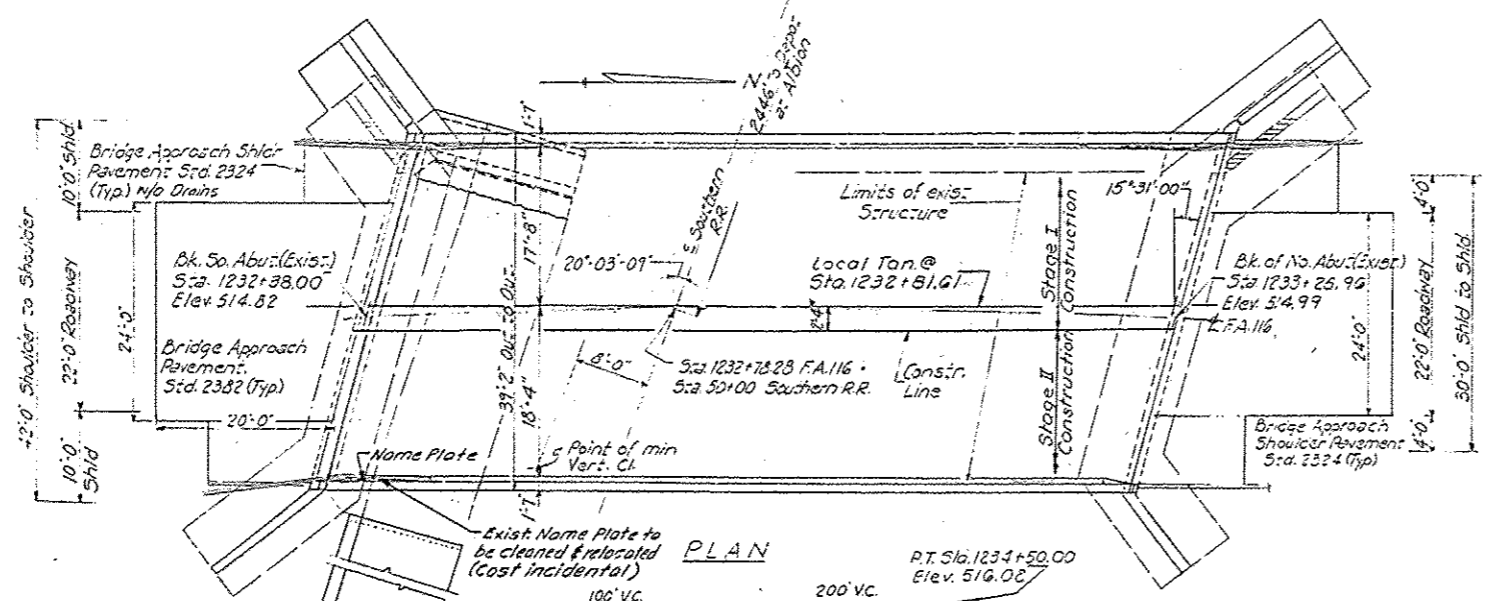
NAME PLATE  
(See Std. 2113)

**CURVE DATA**  
PI Sta. 1233+91.2  
Δ 27°-40'-11"  
D 3'-52"  
T 364.94'  
L 715.64'  
R 1481.71'  
E 44.28'  
PC Sta. 1230+27.26  
PT Sta. 1237+44.30  
SE. 0.0227'

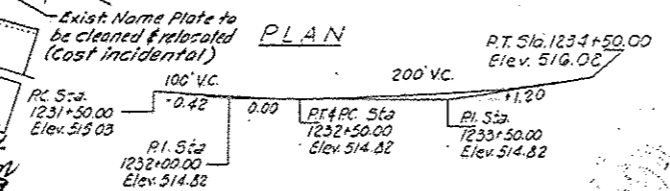
ELEVATION



OFFSET SKETCH

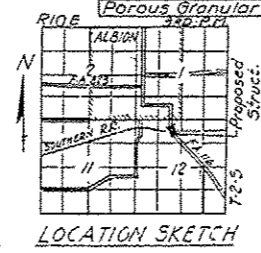


PLAN



PROFILE GRADE  
Along E Roadway

**DESIGN STRESSES**  
F<sub>c</sub> = 3500 psi.  
F<sub>y</sub> = 60000 psi Reinf.  
F<sub>y</sub> = 50000 psi (M223 Gr. 50)  
F<sub>y</sub> = 36000 psi  
Design Specifications 1971 AASHTO &  
1978 thru 1983 of the Interim Specifications  
Allow 25% Sp. Ft. for future wearing  
surface.  
LOADING H5 20-44



LOCATION SKETCH

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Expansion Bolts - 3/4" φ	Each		16	16
Removal of Existing Superstructures	Each	1		1
Concrete Removal	Cu. Yds		25.0	25.0
Structure Excavation	Cu. Yds		126	126
Class X Concrete	Cu. Yds	102.5	147.6	250.1
Stud Shear Connectors	Each	970		970
Structural Steel	L.Sum			1
Reinforcement Bars	Lbs.		17520	17520
Reinforcement Bars (Epoxy Coated)	Lbs.	27370		27370
Name Plates	Each			1
Preformed Joint Seal 4"	Lin. Ft	41		41
Elastomeric Bearing Assembly Type I	Each	5		5
Protective Coat	Sq. Yds	419		419
Porous Granular Embankment	Cu. Yds		50.5	50.5

GENERAL PLAN  
F.A. ROUTE 116 OVER SOUTHERN R.R.  
F.A. ROUTE 116 SECTION 7VBR  
EDWARDS COUNTY  
STATION 1232+78.28

DESIGNED: *David H. Heston*  
CHECKED: *James J. K. [Signature]*  
DRAWN: F.M.  
CHECKED: [Signature]

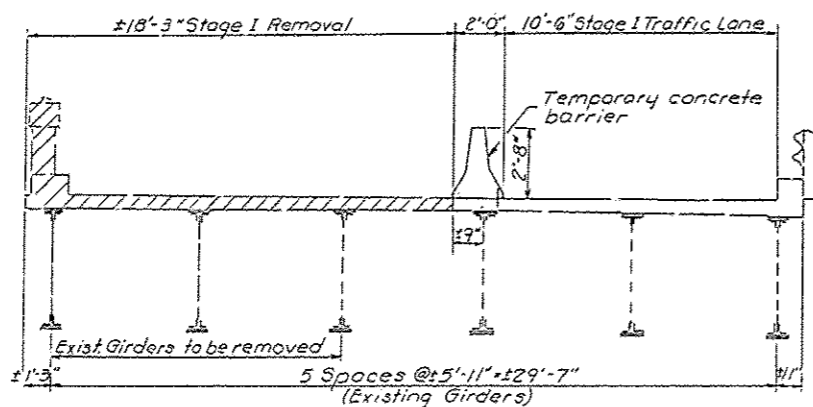
EXAMINED: *James J. K. [Signature]*  
PASSED: *David H. Heston*  
APPROVED: [Signature]  
DIRECTOR OF HIGHWAYS

Revised 5-16-84 11R

FILE NAME: c:\p\work\p\uidot\stefanek\d0403575\0	USER NAME: stefanek	DESIGNED: -	REVISED: -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN STRUCTURE 024-0005	F.A.P. RTE. 116	SECTION 07 BRIDGE PAINTING 2015-3	COUNTY	TOTAL SHEETS 19	SHEET NO. 14	
PLOT SCALE: 1/8" = 1'-0"	PLOT DATE: 8/5/2014	DRAWN: -	REVISED: -			SCALE: N/A	SHEET 10 OF 13 SHEETS	STA.	TO STA.	CONTRACT NO. 74699	ILLINOISIFIED AID PROJECT
DATE: -	CHECKED: -	DATE: -	REVISED: -			* VARIOUS COUNTIES					
DATE: -	CHECKED: -	DATE: -	REVISED: -								

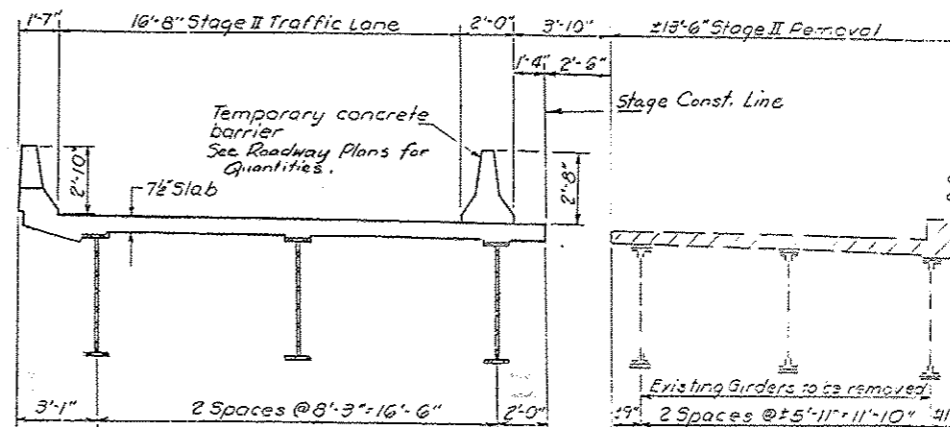
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	SHEET NO.	TOTAL SHEETS
F.A. 116	74BR	EDWARDS 19	8
SHEET NO. 3 14 SHEETS			

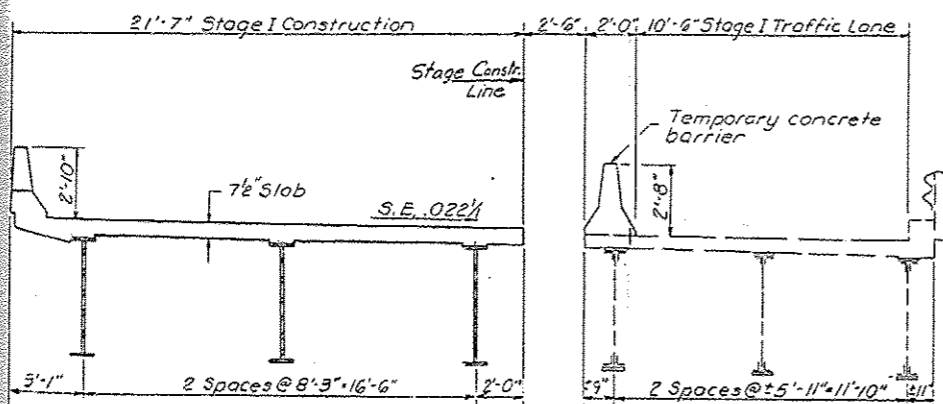


STAGE I REMOVAL

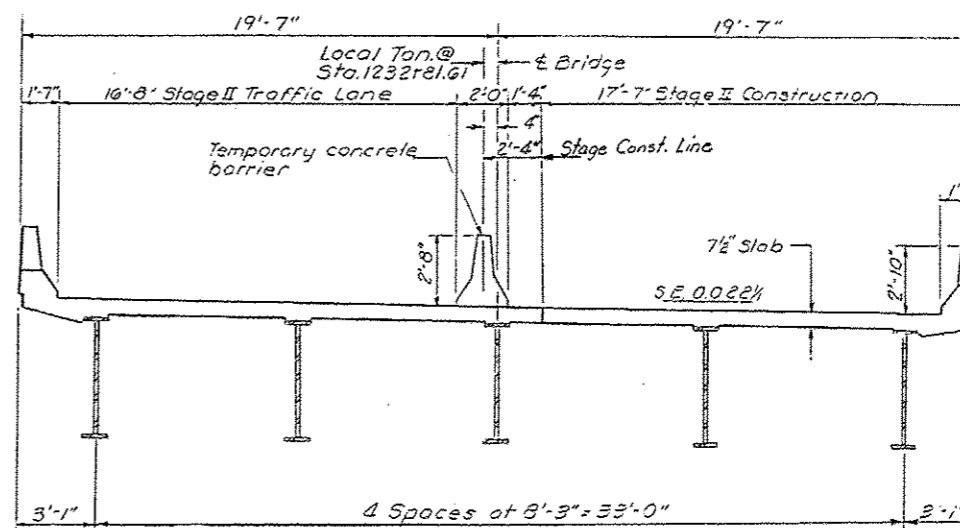
Notes:  
Hatched area to be removed.  
All cross sections are looking North.  
For temporary concrete barrier details see sheet #4.  
Removal of existing rails is incidental to Removal of Exist. Super.



STAGE II REMOVAL



STAGE I CONSTRUCTION



STAGE II CONSTRUCTION

DESIGNED <i>John J. H. [Signature]</i>	EXAMINED <i>James J. [Signature]</i>
CHECKED <i>John [Signature]</i>	PASSED <i>Carl [Signature]</i>
DRAWN <i>F.M.</i>	APPROVED <i>[Signature]</i>
CHECKED <i>[Signature]</i>	DIRECTOR OF HIGHWAYS

May 7 1984  
1984

STAGE CONSTRUCTION SEQUENCE  
F.A. RTE. 116 SEC. 7V BR.  
EDWARDS COUNTY  
STA 1232+78.28

FILE NAME: c:\pwork\puidot\stefanek\08403975.D	USER NAME: stefanek	DESIGNED: -	REVISED: -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN STRUCTURE 024-0005	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	74699-ah-1-plan.dgn	DRAWN: -	REVISED: -			116	D7 BRIDGE PAINTING 2015-3	EDWARDS	19	15	
	PLOT SCALE: 1/8"=1'-0"	CHECKED: -	REVISED: -			CONTRACT NO. 74699					
	PLOT DATE: 8/5/2014	DATE: -	REVISED: -			ILLINOIS FED. AID PROJECT					

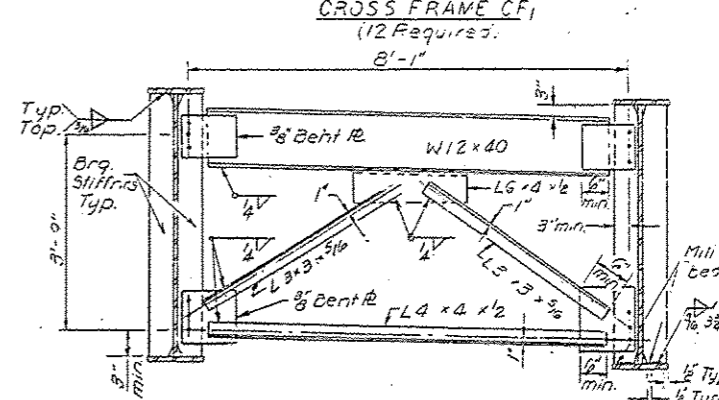
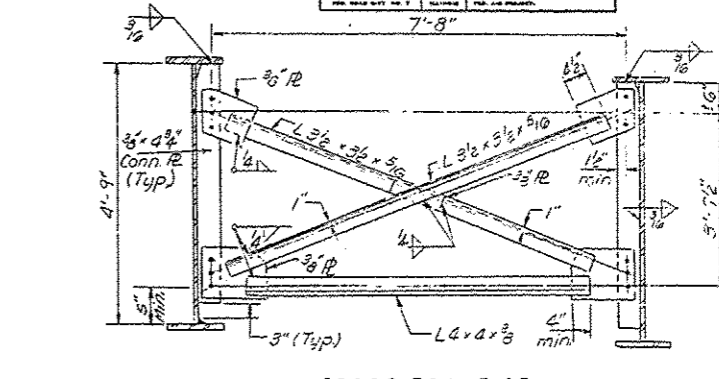
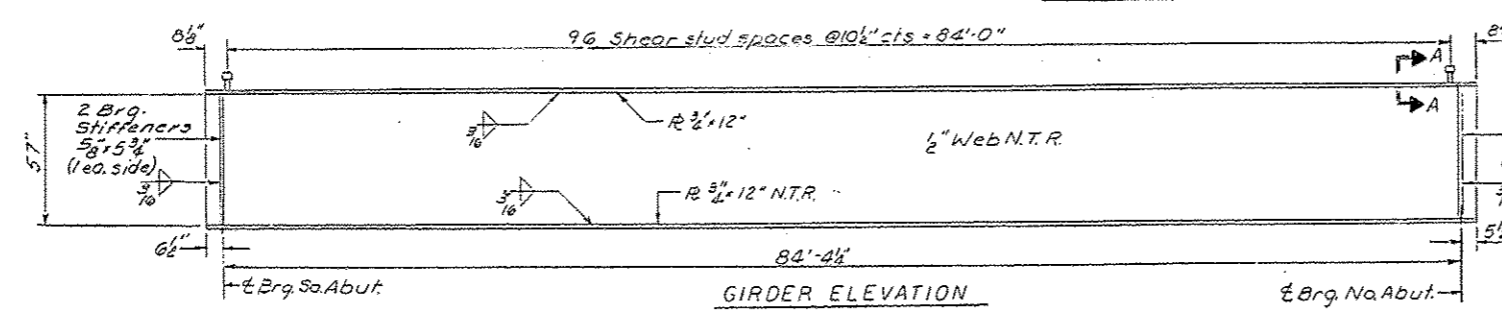
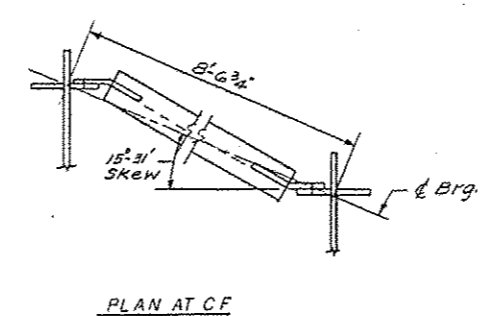
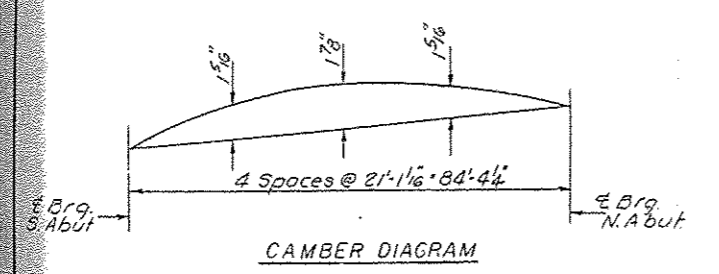
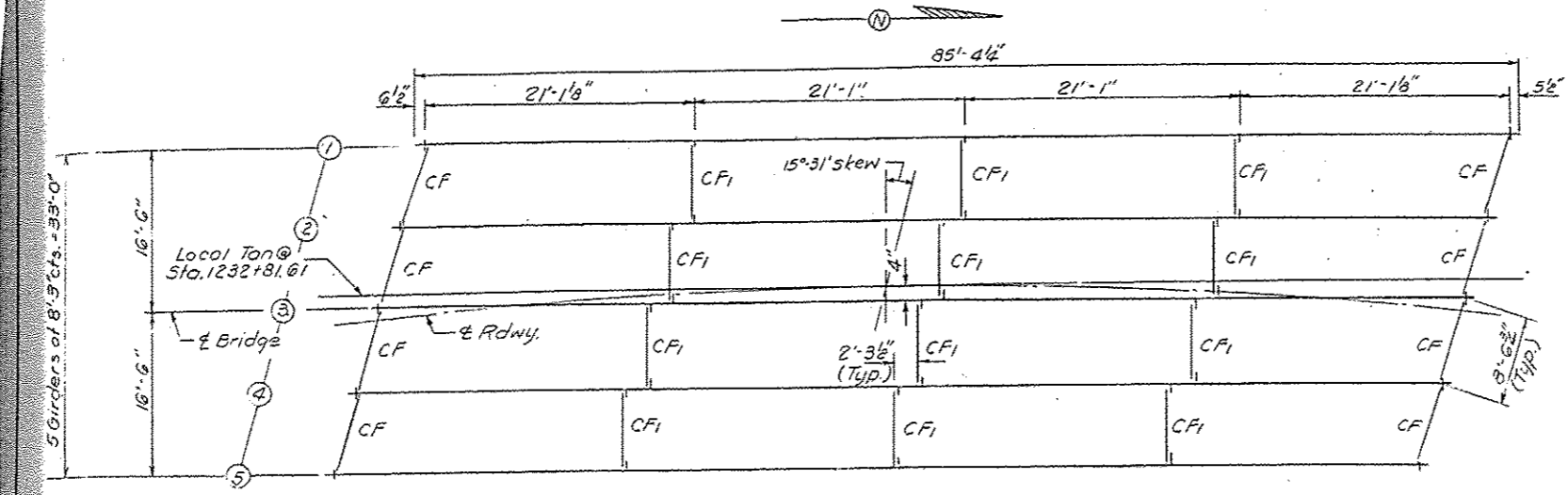




STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DATE	DESIGN	REVISION	BY	NO.
11/16/10	TVBR	EDWARDS	19	12

SHEET NO. 7  
14 SHEETS



Use 3/4" H.S. bolts throughout with 1 1/2" holes in all plates. Two hardened washers shall be required over all holes.

INTERIOR GIRDER MOMENT TABLE

Location	5 Span
Is	22725
Ic	55772
Is	777
Sc	1114
Is	378
Ic	610
Is	370
Ic	329
Is	932
Ic	222
Is (Total)	1923
Ic (Total)	4059
VR	134
VR	5.2
VR	20.7
VR	37.6
VR	48.9
VR	59.4

All Structural Steel shall be M 223-GR50 except for the Cross Frames, Connector Plates and Bearings, which shall be AASHTO M-183.

Is and Sc are the moment of inertia and section modulus of the steel section used in computing Is (Total and Overload).  
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing Is (Total and Overload).  
VR is the maximum impact shear range in span.  
M<sub>a</sub> (Applied Moment) = 1.3(70 + 1.5e + 5)(M<sub>e</sub> + I)  
Is (Total) is the sum of the stresses due to 1.3(M<sub>a</sub>) + 1.5e + 5(M<sub>e</sub> + I)  
Is (Overload) is the sum of the stresses due to 1.5e + 5(M<sub>e</sub> + I)

INTERIOR GIRDER REACTION TABLE

Location	Abut.
R <sub>2</sub> + S <sub>2</sub>	56.9
R <sub>4</sub>	28.0
Imp	11.4
R Total	116.3

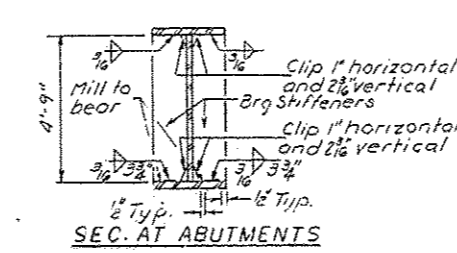
Note: N.T.R. denotes plates to which Notch Toughness Requirements are applicable.

TOP OF WEB ELEVATIONS

Location	1	2	3	4	5
Brg. S. Abut.	514.44	514.26	514.08	513.90	513.72
Brg. N. Abut.	514.63	514.44	514.24	514.05	513.86

For Fabrication purposes only.

3/4" Granular or solid flux filled headed studs automatically end welded to flange (No. Req'd. 970).

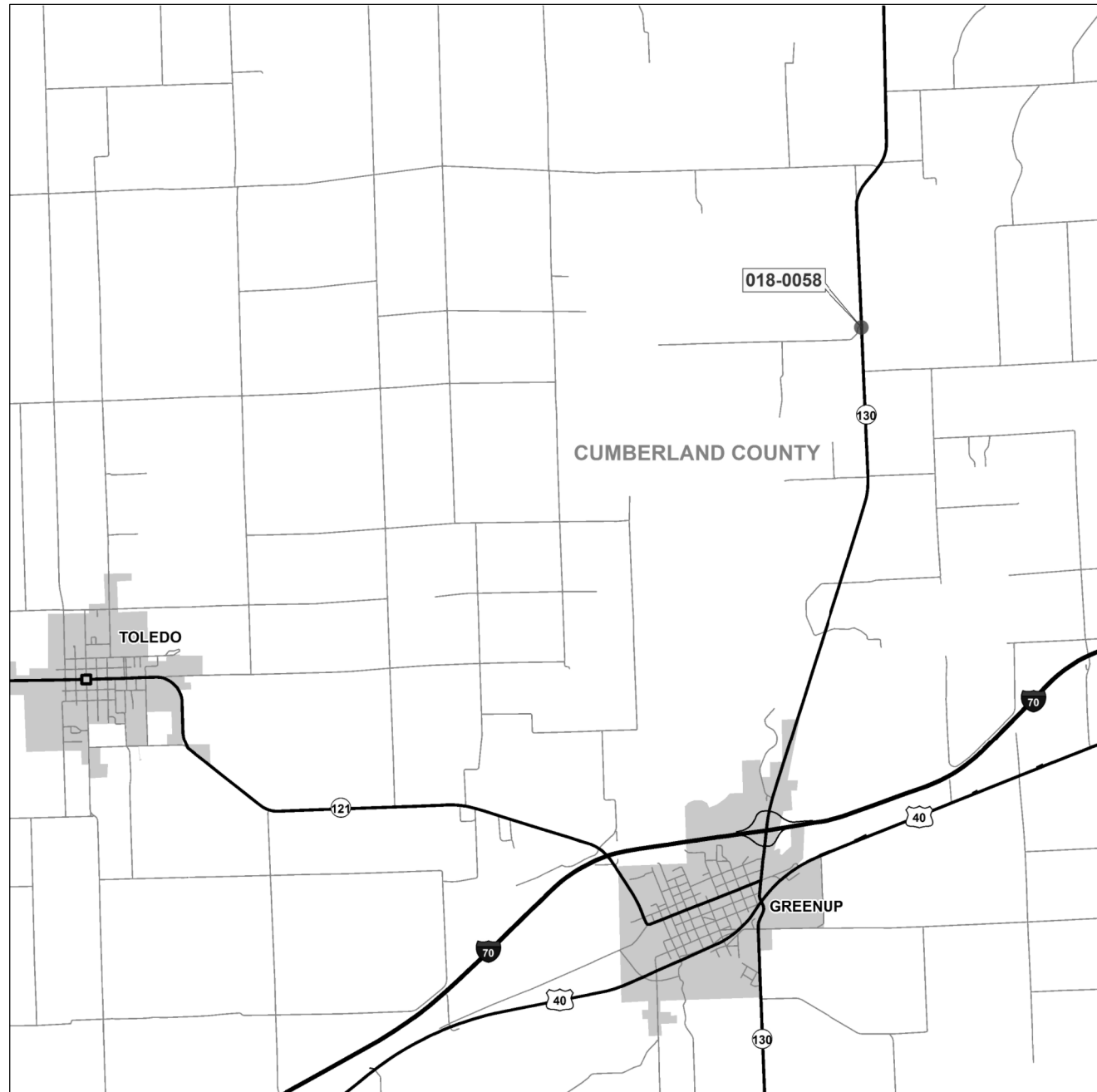


DESIGNED: *Mark W. Hinton*  
CHECKED: *John J. Hinton*  
DRAWN: *F. M.*  
APPROVED: *John J. Hinton*  
DIRECTOR OF HIGHWAYS

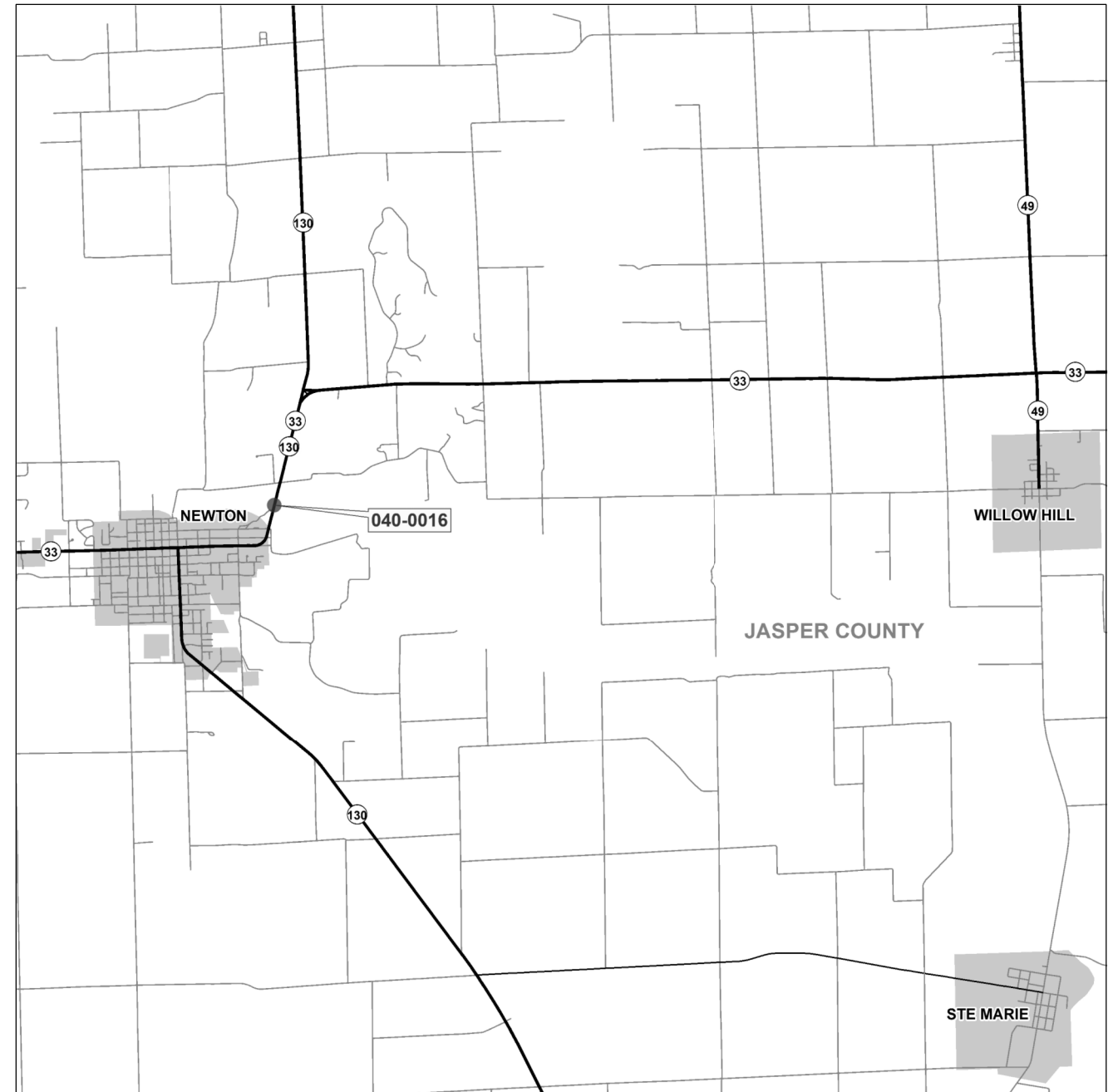
STRUCTURAL STEEL  
F.A. RTE. 116 SEC. 7 VBR  
EDWARDS COUNTY  
STA. 1232+78.28



**D7 BRIDGE PAINTING 2015-3**  
**S.N. 018-0058**  
**CUMBERLAND COUNTY**



**D7 BRIDGE PAINTING 2015-3**  
**S.N. 040-0016**  
**JASPER COUNTY**



FILE NAME =	USER NAME = steffenmk	DESIGNED -	REVISED -
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

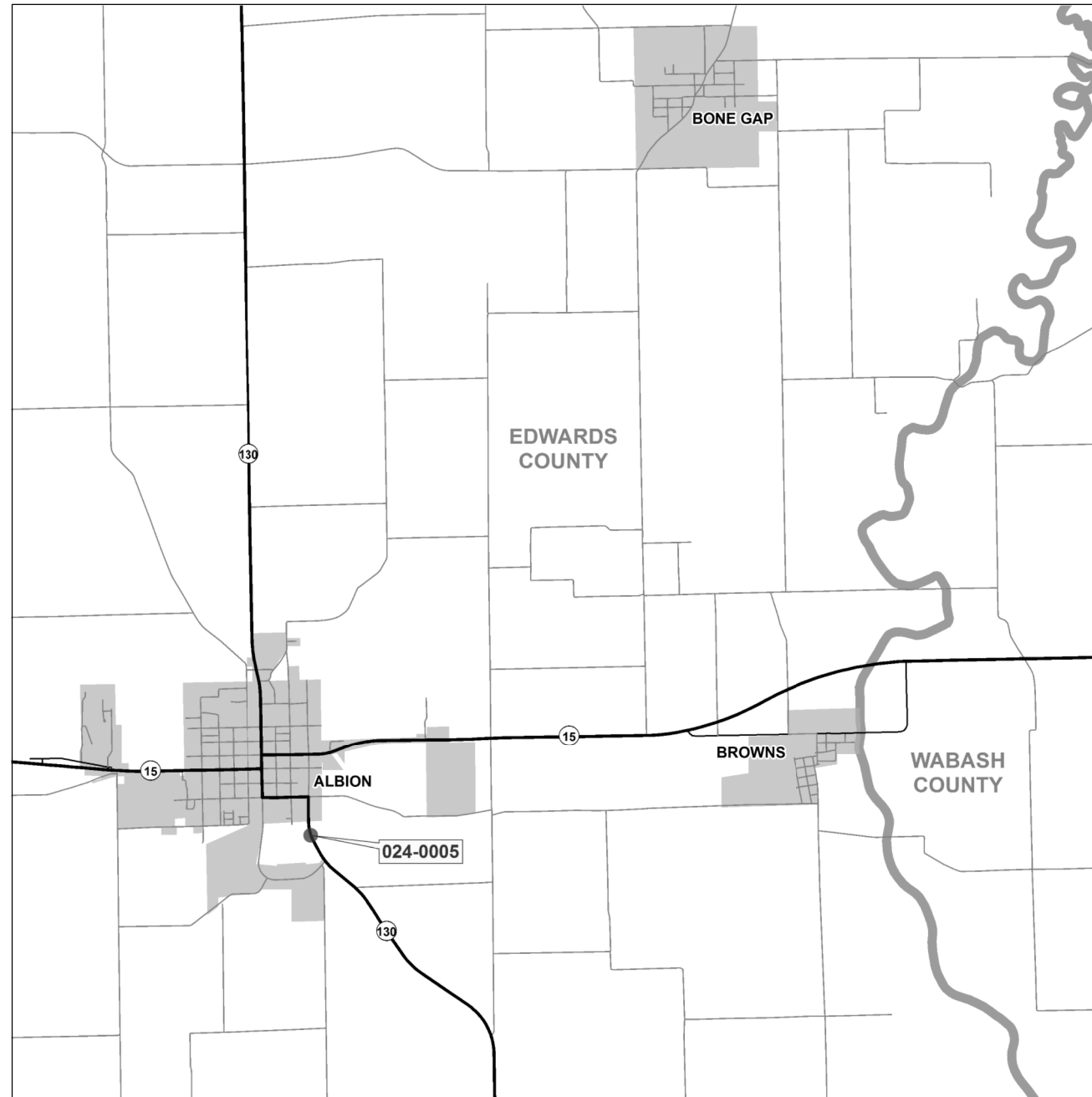
**BRIDGE LOCATION MAPS**

SCALE: N/A    SHEET 1 OF 2 SHEETS    STA.    TO STA.

• VARIOUS COUNTIES

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
116	D7 BRIDGE PAINTING 2015-3		19	18
			CONTRACT NO. 74699	
ILLINOIS FED. AID PROJECT				

D7 BRIDGE PAINTING 2015-3  
S.N. 024-0005  
EDWARDS COUNTY



• VARIOUS COUNTIES

FILE NAME =	USER NAME = steffenmk	DESIGNED -	REVISED -
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	PLOT DATE = 8/5/2014	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BRIDGE LOCATION MAPS**

SCALE: N/A    SHEET 2 OF 2 SHEETS    STA.    TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
116	D7 BRIDGE PAINTING 2015-3	•	19	19
				<b>CONTRACT NO. 74699</b>
ILLINOIS FED. AID PROJECT				