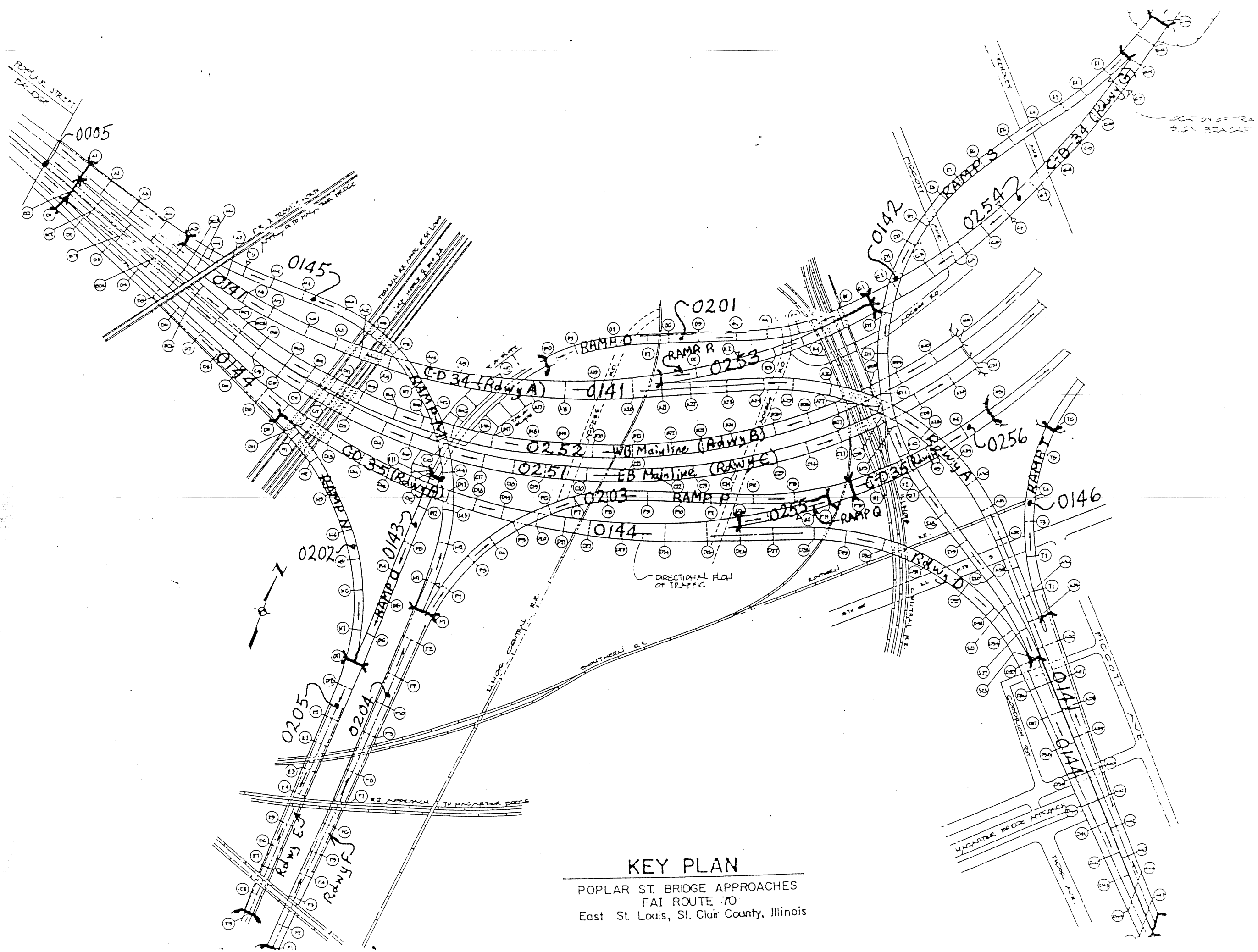


082-0143

082-0143



### KEY PLAN

POPLAR ST. BRIDGE APPROACHES  
FAI ROUTE 70  
East St. Louis, St. Clair County, Illinois



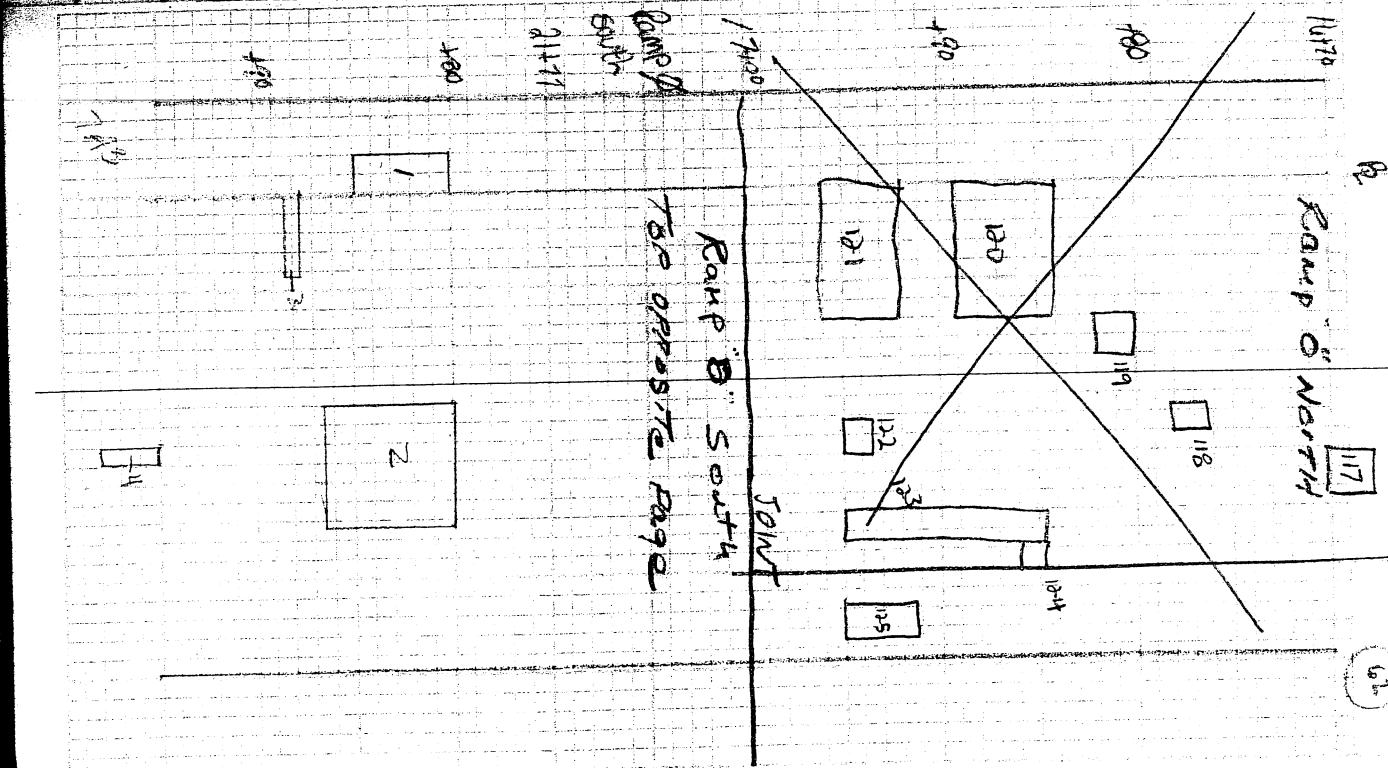
Structure Number Ø82-Ø143 (Ramp 0 South)  
Plan Quantity: Partial Depth 41.7 sy Full Depth Ø.4 sy  
Final Quantity: Partial Depth 38.9 sy Full Depth Ø  
Date Patching Completed 6-5-Ø4

Please attach documentation showing patch size, type (PD or FD) and location.

Resident Steph [Signature]

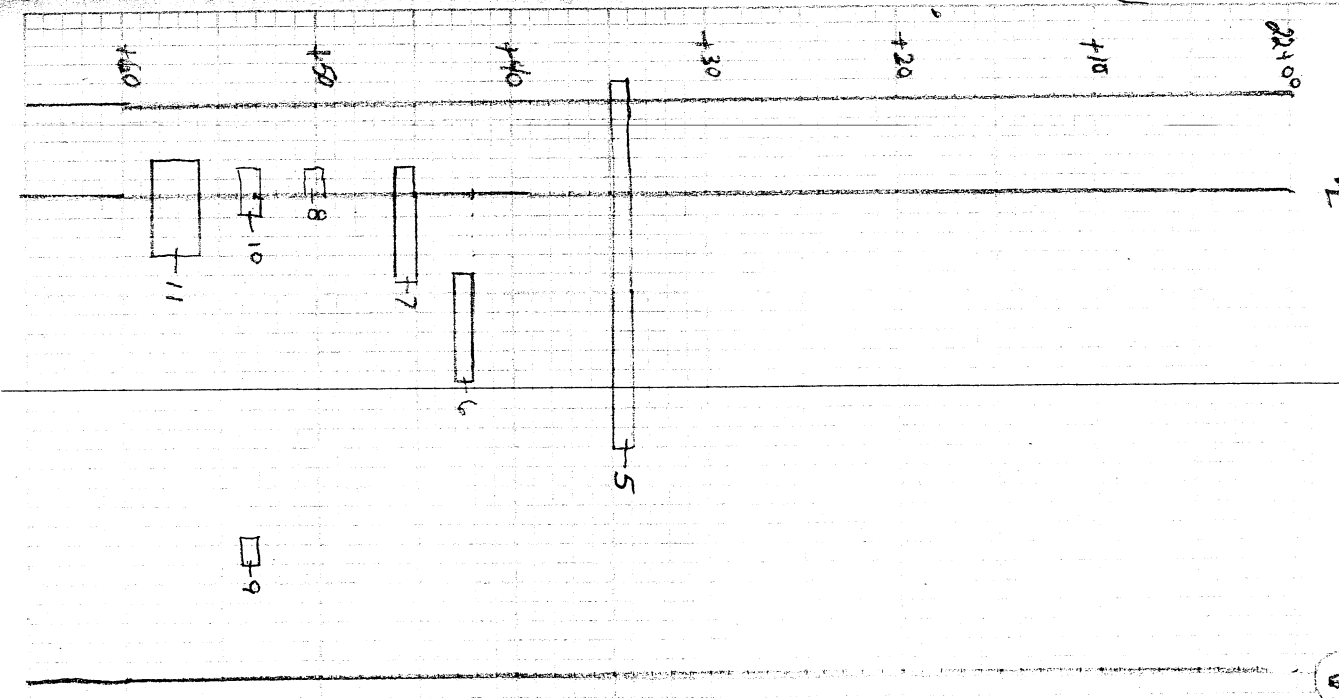
CC: Bureau of Bridges & Structures  
District Bridge Maintenance Engineer

POST-HYDRED	POST-HYDRED	Ø82-Ø143
RAMP 0 "S" DECK SLAB REPAIR (PART)	21+80	Ø2 Ø 10 20450x.11
1	21+80	Ø2 Ø 10 20450x.11
2	21+80	Ø11 Ø 10 61x67x.03
3	21+87.7	ØR Ø 3.2 41x40.7x.12
4	21+95	ØR Ø 3.0 1043.0x.10
TOTAL	ØØ.445, F/9-6.725%	3.11
RAMP 0 NORTH	116	Ø2 Ø 10 20450x.11
117	793	Ø3.2 20x1.6x.15
118	795	Ø6.8 2.08 13x1.6x.09
119	782	Ø11.8 3.74 2.2x1.7x.10
120	784	Ø2.9 35.25 75x47x.15
121	796	Ø12.8 3.2 75x40x.13
122	795	Ø6.3 1.32 16x12x.09
123	795	Ø1.3 14.42 14x10.3x.07
124	785	Ø0.8 1.24 0.8x1.3x.11
125	795	Ø1.2 2.0x3.8x.10
TOTAL	196.16	7.227 cu yds



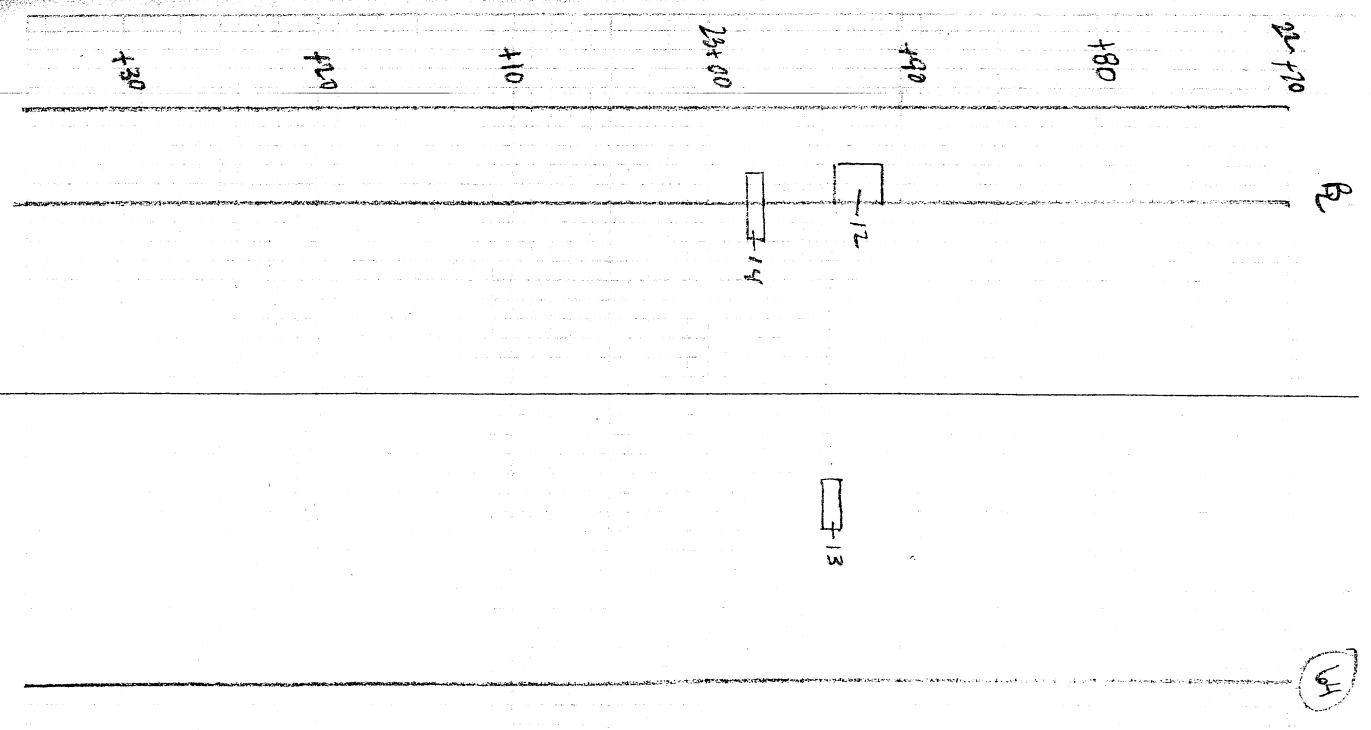
Patch#	Sta.	Loc.	Dir.	
5	22+34.7	10L <sup>B</sup> /10R <sup>B</sup>	100°/100°	1.9 ✓
6	22+42	5R <sup>B</sup>	65°/125°	1.0 ✓
7	22+45	1.5L <sup>B</sup> /4.5R <sup>B</sup>	115°/65°	1.6 ✓
8	22+49.5	0L <sup>B</sup>	170°/90°	1.2 ✓
9	22+53	R 170 <sup>B</sup>	1.5°/100°	1.3 ✓
10	22+53	1.8 <sup>B</sup> /1.5L <sup>B</sup>	100°/50°	1.5 ✓
11	22+56	2L/3R <sup>B</sup>	255°/110°	1.25 ✓
TOTAL: 5.87 / 27 = 0.22 avg				5.87 / 27
51.43 Ft <sup>2</sup> / 9 = 5.72 yd <sup>2</sup>				

MEASURED BY GMW/KMS 7-10-04  
 CALCULATED BY GMW 7-10-04  
 CHECKED BY DA



Patch#	Sta.	Loc.	Dir.	
12	22+91	ØL <sup>B</sup>	2.5x20°/15	1.75 ✓
13	22+93.5	14.5R <sup>B</sup>	2.5°/100°	1.50 ✓
14	22+97	10L/2.2R <sup>B</sup>	300°/100°	1.36 ✓
TOTAL: 1.61 / 27 = 0.06 avg				
45 Ft <sup>2</sup> / 9 = 5 yd <sup>2</sup>				
11.1/9 = 1.23				

MEASURED BY GMW/KMS 7-10-04  
 CALCULATED BY GMW 7-10-04  
 CHECKED BY DA

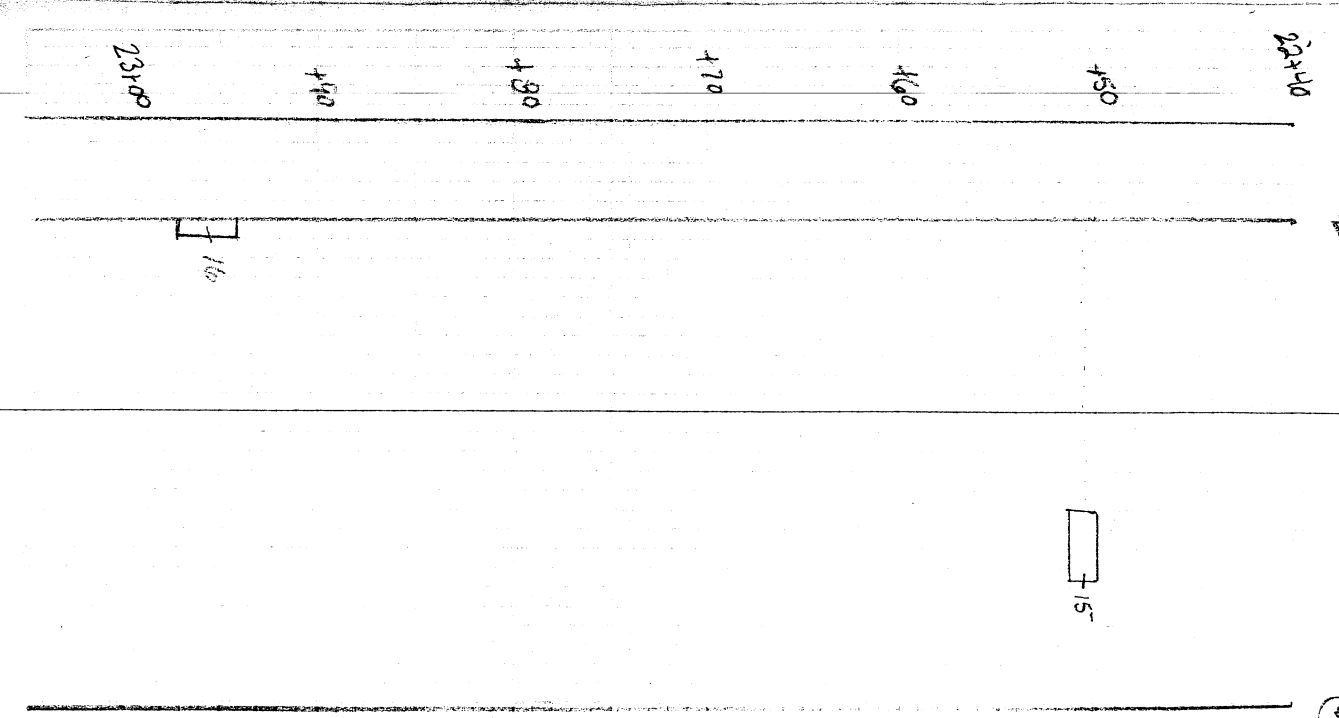


(14)

Fatch#	Sta.	Loc.	Dia.
15	22+50	R 15	3.0 x 1.5 x .15 SH
16	22+94	ØR 2	1.3 x .10 3
8.4	F 2	9	93 yd <sup>2</sup>

TOTAL: 1.11 / 27 = 0.04 cu yd

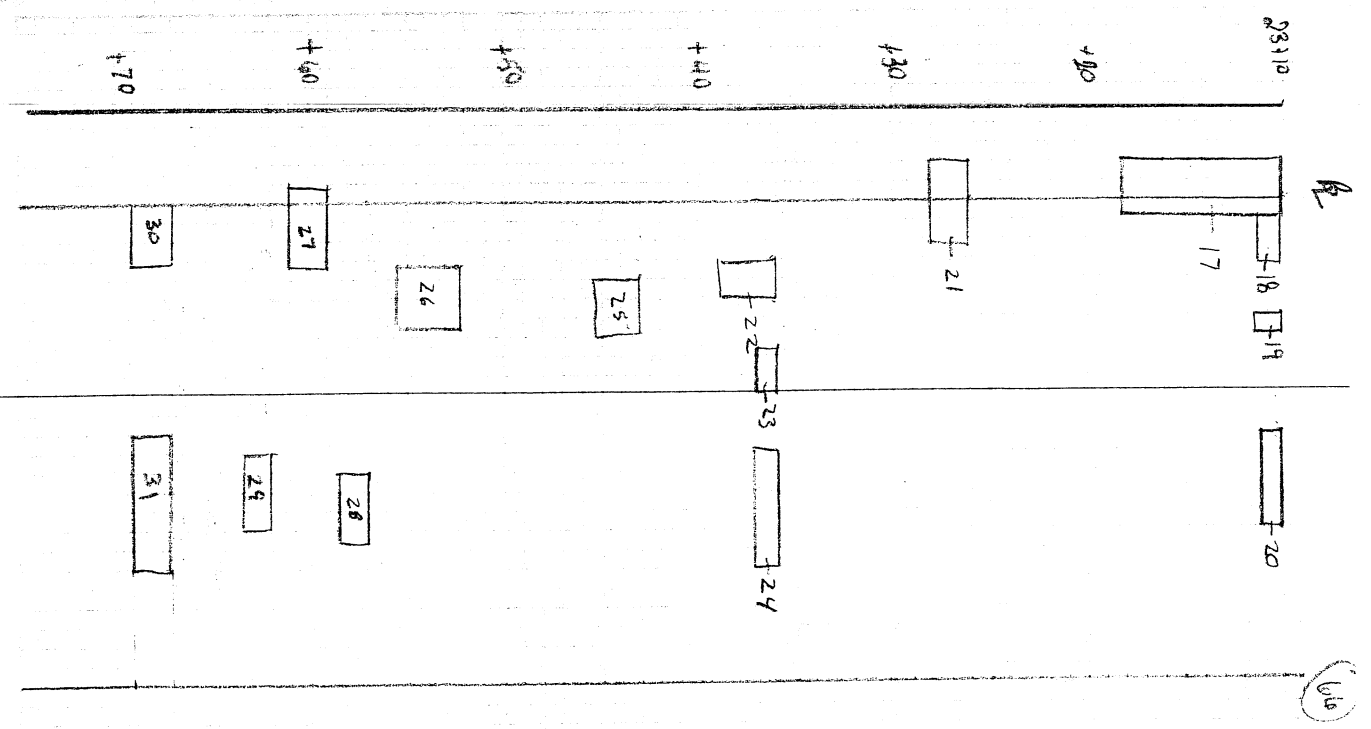
INITIAL(S) \_\_\_\_\_ DATE 7-10-04  
 MEASURED BY GMD/BSS  
 CALCULATED BY GMD  
 CHECKED BY \_\_\_\_\_



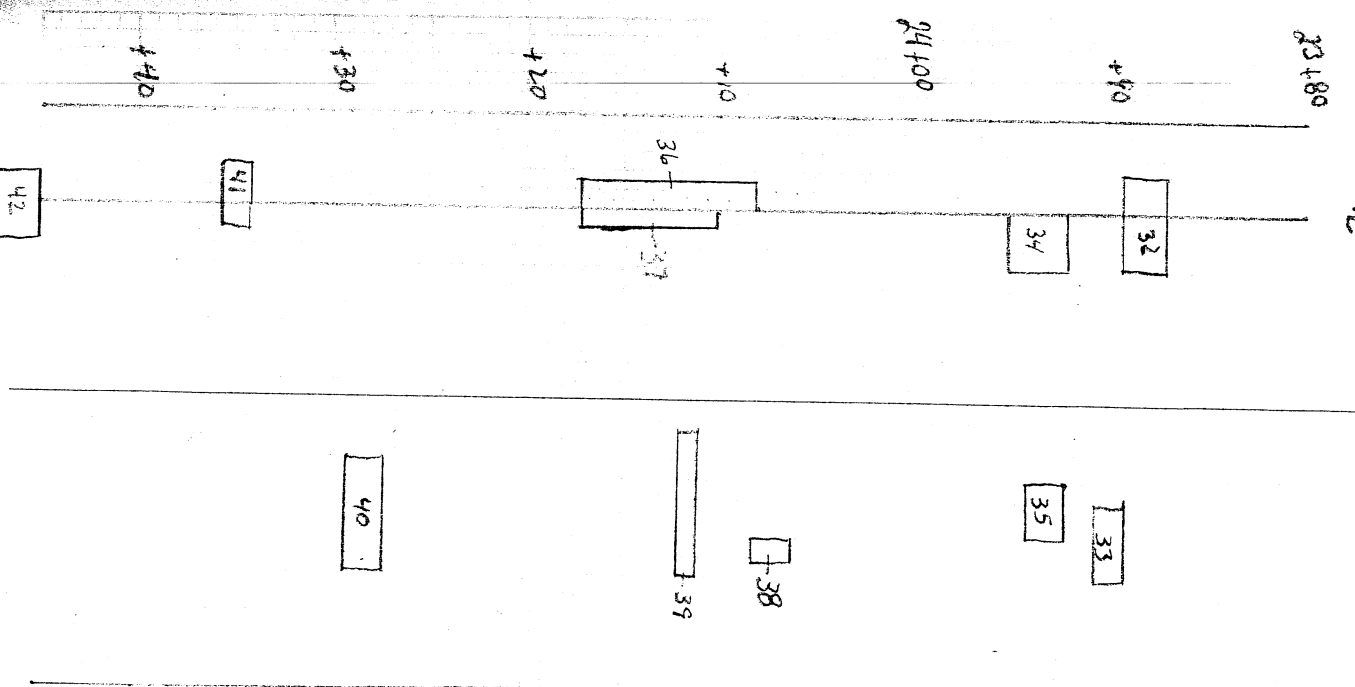
Paids	Sta.	Loc.	Dia.
17	23+10	L20/R10	3.8 x .10
18	23+10	R 1	1.3 x .10
19	23+10	R 7	1.6 x .07
20	23+10	T 13	5.1 x .15
21	23+20	22/2.5	4.5 x .12
22	23+30	3 R	2.3 x .20
23	23+30	8 R	2 x .10
24	23+30	13 R	6 x .21
25	23+43.0	4 R	3.2 x .20
26	23+52	3.5 R	3.35 x .12
27	23+59	22/3.5	3.7 x .15
28	23+57	15 R	3.5 x .10
29	23+62	14 R	1.7 x .11
30	23+67	ØR 2	3.2 x .2
31	23+67	12 R	7.2 x .15

TOTAL: 17.99 / 27 = 0.67 cu yd

INITIAL(S) \_\_\_\_\_ DATE 7-10-04  
 MEASURED BY GMD/DAS  
 CALCULATED BY GMD  
 CHECKED BY \_\_\_\_\_

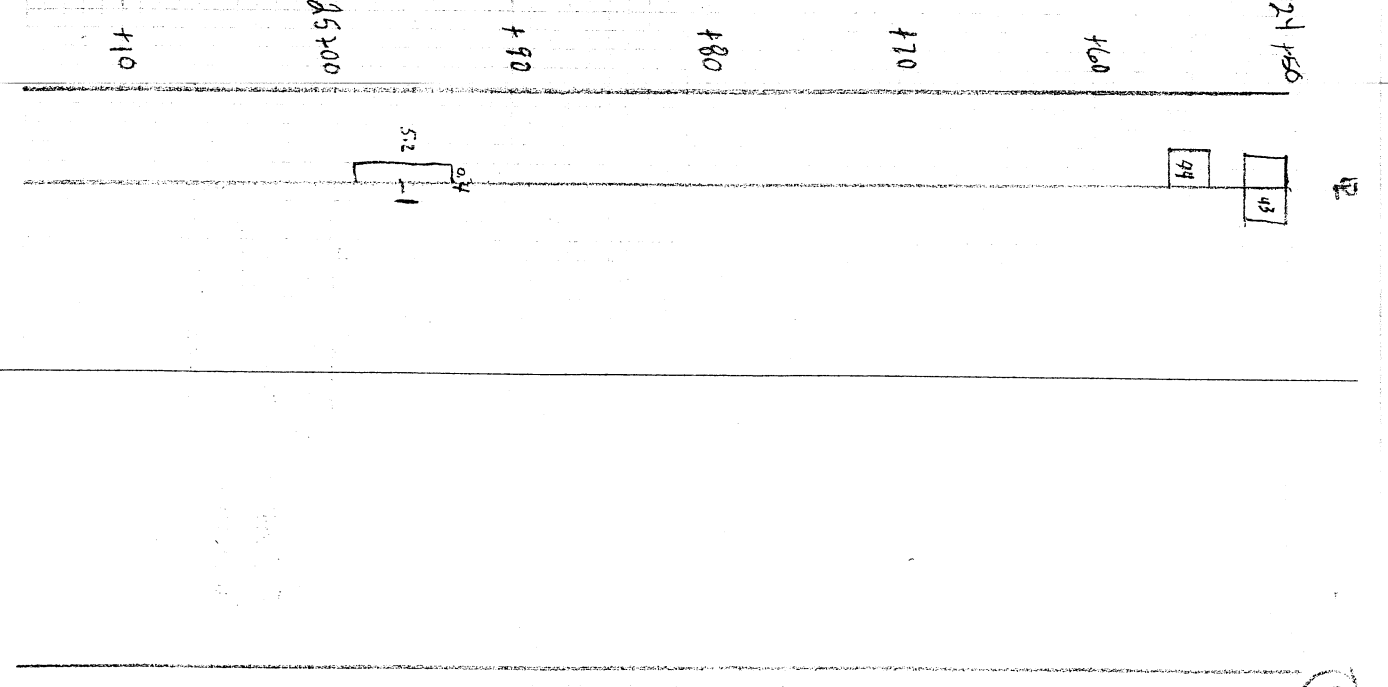


Stack #	Sta.	Loc.	Dir.		
32	23+87	184/3 R	48 x 23.22	110'	2.4'
33	23+89	15 R	4' x 12.15	4.8'	.72'
34	23+92	Ø R	3.3 x .2	9'	1.8'
35	23+92	15 R	3.2 x .2	6'	1.2'
36	24+08	Ø L	1.6 x 9.11	14.4'	1.4'
37	24+10	Ø R	1.8 x .1	7'	.7'
38	24+06	182 R	1.2 x 2.0 x .2	2.4'	.5'
39	24+11	115 R	7.511 x .15	7.5'	1.1'
40	24+27	13 R	6.8 x .15	12'	1.8'
41	24+34	160/22 R	3.6 x 1.5 x .1	5.4'	.9'
42	24+45	164/25 R	3.0 x 2.1	6'	.6'



MEASURED BY Gaul/MS DATE 7-10-04  
 CALCULATED BY GMM DATE 7-10-04  
 CHECKED BY MS DATE 8-11-04  
 TOTAL:  $12.72/27 = 0.47$  avg

Stack #	Sta.	Loc.	Dir.		
43	24+50	182/20 R	2.4 x 3.8 x .1	9.12'	.9'
44	24+54	Ø L	2.2 x .1	4'	.4'
1	24+93	Ø L	4.5 x 2.05	2.08'	1.1'
15.2	41' x 9' = 1.71	Ø L			1.4'



MEASURED BY Gaul/MS DATE 7-10-04  
 CALCULATED BY GMM DATE 7-10-04  
 CHECKED BY MS DATE 8-11-04  
 TOTAL:  $1.9/27 = 0.05$  avg  
 TOTAL:  $40.7/43$   
 TOTAL:  $1.51$  avg

Ramp 0 South Post 0 South  
 \* Ramp 0 South TOTAL - 1.51 avg

Partial Depth Patching Table

Z0016200 - DECK SLAB REPAIR (PARTIAL)

~~RAMP 0 NORTH - DBE-0201 Q120-X131-2A  
 = 198.71 S.Y. + 0.35 = 199.04  
 = 199.5.7.  
 = 7.29 C.Y.  
 SEE PGS 47-62 FIB 3B PG 60~~

RAMP 0 SOUTH - DBE-0143 Q120-X531-2A  
 = 38.86 S.Y. = 38.9 S.Y.  
 = 1.51 C.Y.  
 SEE PGS 62-72

MEAS BY: GMM/DAS B/NOZ  
 CALL BY: GMMRA "  
 ✓ BY: DAS -

DECK SURFACE

5-17-04 1/2 DAY 0-14 TO STA 26+19  
 5-18-04 ALL DAY RAW 0-17 TO 30+65  
 5-19-04 ALL DAY 1/2 DAY RAW 31+90 - 34+10  
 5-20-04 ALL DAY 34+10 - 36+34

106

**CONTENTS**

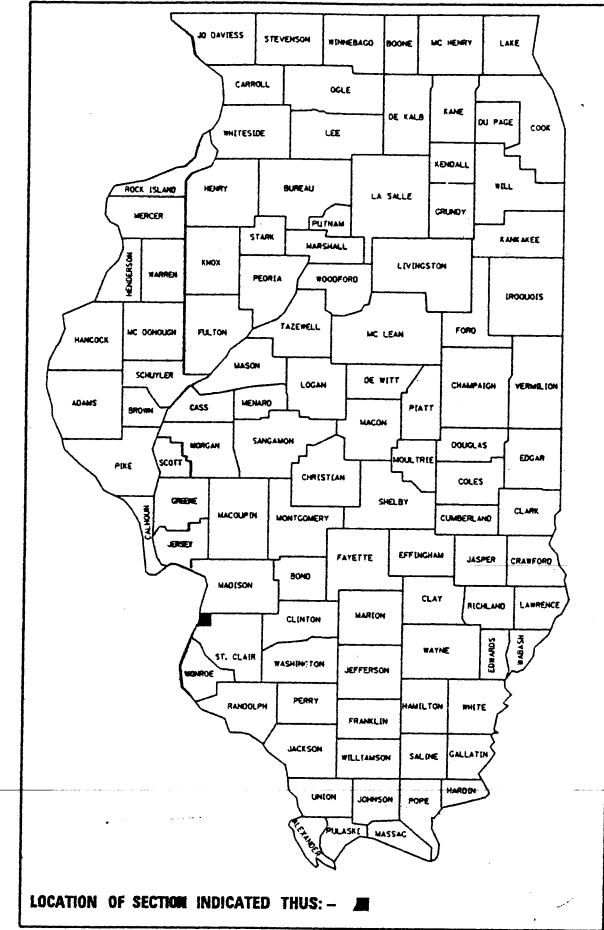
STRUCTURE	DESCRIPTION
Ramp O (SN. 082-0143)	Seismic Retrofit, Redundancy Retrofit, Deck rehabilitation and General Repair of Deteriorations of the Substructure and Superstructure for this Structure.
Ramp M (SN. 082-0145)	Seismic Retrofit, Redundancy Retrofit, Deck rehabilitation and General Repair of Deteriorations of the Substructure and Superstructure for this Structure.
Ramp O (SN. 082-0201)	Seismic Retrofit, Redundancy Retrofit, Deck rehabilitation and General Repair of Deteriorations of the Substructure and Superstructure for this Structure.
Ramp N (SN. 082-0202)	Seismic Retrofit, Redundancy Retrofit, Deck rehabilitation and General Repair of Deteriorations of the Substructure and Superstructure for this Structure.
Ramp P (SN. 082-0203)	Seismic Retrofit, Redundancy Retrofit, Deck rehabilitation and General Repair of Deteriorations of the Substructure and Superstructure for this Structure.
ROADWAY F (SN. 082-0204)	Seismic Retrofit, Redundancy Retrofit, Deck rehabilitation and General Repair of Deteriorations of the Substructure and Superstructure for this Structure.
ROADWAY E (SN. 082-0205)	Seismic Retrofit, Redundancy Retrofit, Deck rehabilitation and General Repair of Deteriorations of the Substructure and Superstructure for this Structure.

99.9%  
9-24-2005

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PLANS FOR PROPOSED  
REHABILITATION  
PROJECT ACIM-ACBHI-070-1(178)001  
FAI ROUTE 70 (I-55/70/64  
SECTION (82-3HVB-2R-1)-2  
ILLINOIS ROUTE 3  
TO AND FROM  
POPLAR STREET BRIDGE COMPLEX  
ST. CLAIR COUNTY  
C-98-088-01**

ROUTE NO.	SECTION	COUNTY	DISTRICT	SHEET	SHEET NO.
FAI-70		St. Clair	388	1	
*ACTM-ACBHI-070-1(178)001					(82-3HVB-2R-1)-2

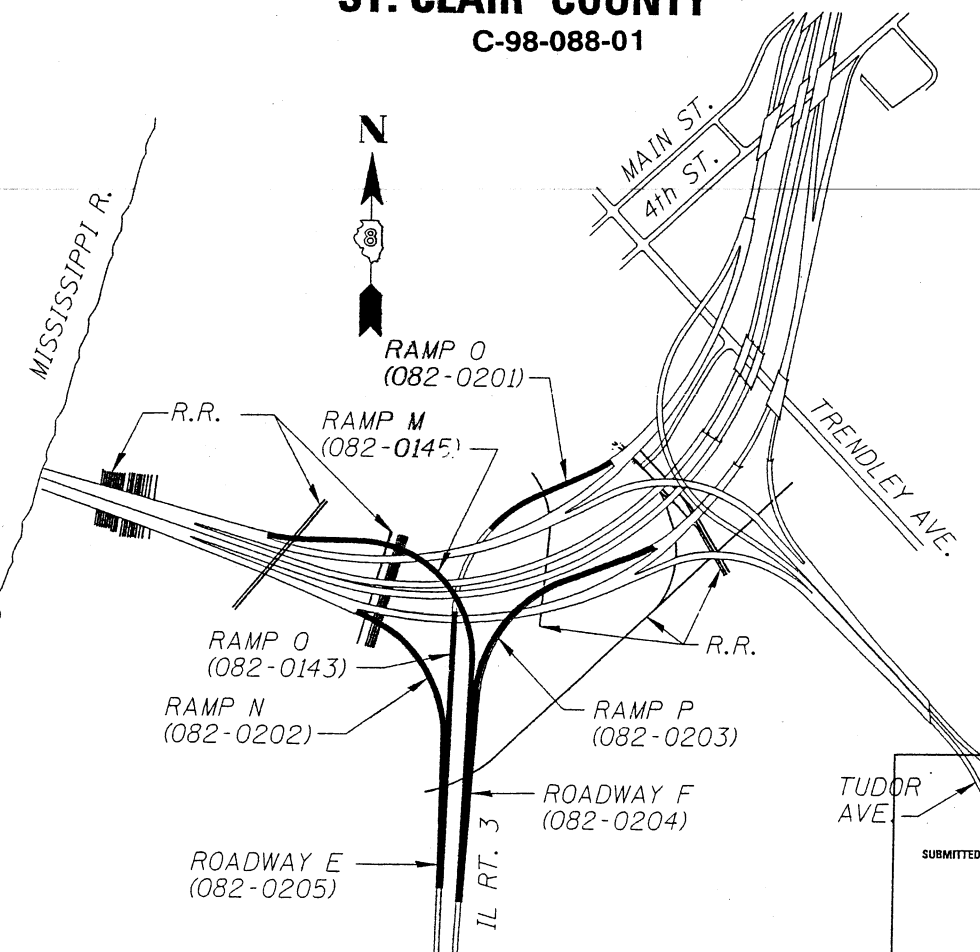


LOCATION OF SECTION INDICATED THUS: - ■

PROJECT LEADER: TOM MANNINO (618)346-3159  
SQUAD LEADER: GREG HANCOCK (618)346-3195

RAMP O	RAMP M	RAMP N
2001 ADT = 6000 (actual)	2001 ADT = 9900 (actual)	2001 ADT = 8700 (actual)
2003 ADT = 6200 (estimated)	2003 ADT = 10200 (estimated)	2003 ADT = 9000 (estimated)
2003 DHV = 620 (estimated)	2003 DHV = 1020 (estimated)	2003 DHV = 900 (estimated)
2023 ADT = 8350 (estimated)	2003 ADT = 13700 (estimated)	2023 ADT = 12100 (estimated)
2023 DHV = 840 (estimated)	2023 DHV = 1370 (estimated)	2023 DHV = 1240 (estimated)
SU = 4.0%	SU = 4.0%	SU = 4.0%
MU = 8.0%	MU = 8.0%	MU = 8.0%

RAMP P	ROADWAY F	ROADWAY E
2001 ADT = 4300 (actual)	2001 ADT = 14200 (actual)	2001 ADT = 14600 (actual)
2003 ADT = 4400 (estimated)	2003 ADT = 14600 (estimated)	2003 ADT = 15000 (estimated)
2003 DHV = 440 (estimated)	2003 DHV = 1460 (estimated)	2003 DHV = 1500 (estimated)
2023 ADT = 5900 (estimated)	2023 ADT = 19600 (estimated)	2023 ADT = 20200 (estimated)
2023 DHV = 590 (estimated)	2023 DHV = 1960 (estimated)	2023 DHV = 2020 (estimated)
SU = 4.0%	SU = 4.0%	SU = 4.0%
MU = 8.0%	MU = 8.0%	MU = 8.0%



GROSS LENGTH OF PROJECT = 7403.3 FEET = 1.40 MILES  
NET LENGTH OF PROJECT = 7403.3 FEET = 1.40 MILES

CONTRACT NO. 76210

DESIGNED	--
CHECKED	--
DRAWN	E. Bazzell
CHECKED	S. Koammerer

082-0143

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED Oct 24 2003

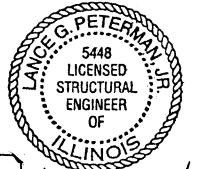
Mary Abnie  
DISTRICT ENGINEER

December 5, 2003  
Michael F. Klein  
ENGINEER OF DESIGN AND ENVIRONMENT

December 5, 2003  
Victor A. Madala  
DIRECTOR, DIVISION OF HIGHWAYS



EXPIRES 11-30-04  
John E. Finke 9/3/04  
JOHN E. FINKE, S.E.  
STRUCTURAL/SEISMIC RETROFIT



LANCE PETERMAN, S.E.  
REDUNDANCY RETROFIT  
LICENSE EXPIRES 11-30-04



ANDREW P. FREY, P.E.  
TRAFFIC CONTROL

8-260

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

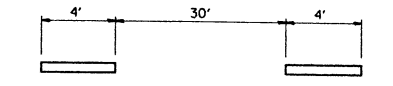




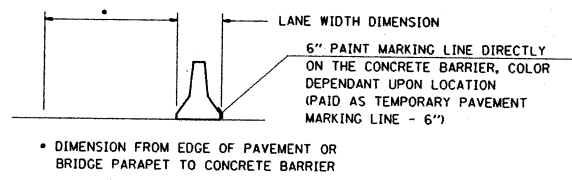
F.A.P. SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2
FAI-70182-3HVB-2R-11-2	ST. CLAIR	388	3	56 SHEETS
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

**NOTES**

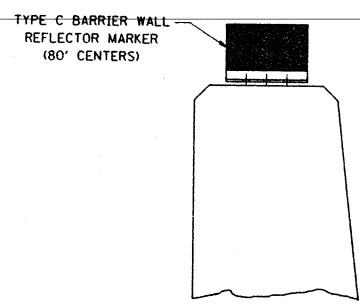
- ALL PAVEMENT MARKINGS FOR STAGE CONSTRUCTION SHALL BE PAINTED.
- DELETED
- PEAK HOURS IS DEFINED AS 6:00 AM TO 9:00 AM WESTBOUND AND 3:00 PM TO 6:00 PM EASTBOUND.
- ANY ADDITIONAL SIGNAGE REQUIRED FOR ANY/ALL PHASES OF CONSTRUCTION THAT REQUIRE LANE CLOSURES SHALL BE INCLUDED IN THE LUMP SUM PAY ITEM FOR TRAFFIC CONTROL STANDARD 701401.
- NO LANE CLOSURE BETWEEN NOVEMBER 30 AND MAY 1 UNLESS APPROVED BY THE ENGINEER.
- AN ESTIMATED QUANTITY OF SEVEN (7) PORTABLE CHANGEABLE MESSAGE SIGNS HAS BEEN INCLUDED IN THE PLANS FOR ADVANCED NOTICE OF DETOURS AND RAMP CLOSURES. FOUR (4) OF THE CHANGEABLE MESSAGE SIGNS WILL BE LOCATED IN MISSOURI ON INTERSTATES 44,55,64, AND 70. TWO (2) CHANGEABLE MESSAGE SIGNS WILL BE LOCATED ON INTERSTATE 255 IN ILLINOIS. ONE (1) CHANGEABLE MESSAGE SIGN WILL BE PROVIDED FOR EACH STAGE OF CONSTRUCTION. THE EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
- STATE OWNED CONCRETE BARRIER IS LOCATED NEAR THE INTERSECTION OF IL ROUTE 111 AND FAI 55/70. THE CONTRACTOR IS RESPONSIBLE FOR PICK UP AND RETURN OF STATE OWNED BARRIER.
- SIGNS SHALL BE MOUNTED ON EXISTING TRUSS MEMBERS. SIGN TRUSS STRUCTURAL MEMBERS ARE NOT TO BE DRILLED, CUT OR OTHERWISE MODIFIED IN MOUNTING DETOUR SIGNS.
- TAPERED END SECTION NO LONGER ALLOWED.
- PAINT REMOVAL SHALL BE BY THE WATER-BLAST METHOD.
- ONE-WAY TRAFFIC IN AND OUT OF ACCESS OPENINGS.
- WARNING SIGNS READING "TRUCKS ENTERING AND LEAVING HIGHWAY" SHALL BE PLACED IN ADVANCE OF ACCESS OPENINGS.
- BRIDGE DECK MICROSILICA CONCRETE OVERLAY SHALL REQUIRED THE DIRECT BOND METHOD.
- IF ANY SECTION OR SUB-SECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED OR DISTURBED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AND AUTHORIZED SURVEYOR, OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO ALL UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. AT (800)-892-0123, OR FOR NON-MEMBERS, THE UTILITY COMPANY DIRECTLY.
- ALL TEMPORARY PAVEMENT MARKINGS WILL BE PLACED IN SUCH A MANNER SO AS NOT TO INTERFERE WITH THE PLACEMENT OF PERMANENT PAVEMENT MARKINGS.
- ANY TEMPORARY CONCRETE BARRIER UNITS SHALL BE ANCHORED TO THE PAVEMENT TO PREVENT OVERTURNING AND LATERAL DEFLECTIONS GREATER THAN THOSE OBTAINED DURING THE NCHRP TESTS.
- THE APPROACH ENDS OF TEMPORARY BARRIER SHALL BE PROTECTED WITH NCHRP TEST LEVEL 3 APPROACH DEVICE SUCH AS A MULTIPLE ARRAY OF SAND FILLED PLASTIC BARRELS OR A TYPE 3, SPECIAL TERMINAL.



**REFLECTORIZED PAVEMENT MARKING  
SKIP-DASH DETAIL**



\* DIMENSION FROM EDGE OF PAVEMENT OR BRIDGE PARAPET TO CONCRETE BARRIER



**TYPICAL MOUNTING DETAIL  
FOR BARRIER WALL REFLECTOR**

**INDEX OF SHEETS**

- 1 NOT USED
- 2 STAGE CONSTRUCTION DETAILS
- 3 NOT USED
- 4-7 TYPICAL SECTIONS
- 8-8 SCHEDULE OF QUANTITIES (TRAFFIC CONTROL)
- 10-13 EXISTING SIGNS KEY
- 14-15 EXISTING SIGNS STAGE 1
- 16-22 TRAFFIC CONTROL PLAN STAGE 1
- 23-26 EXISTING SIGNS STAGE 2
- 27-34 TRAFFIC CONTROL PLAN STAGE 2
- 35-37 EXISTING SIGNS STAGE 3
- 38-44 TRAFFIC CONTROL PLAN STAGE 3
- 45 EXISTING SIGNS STAGE 4
- 46-54 TRAFFIC CONTROL PLAN STAGE 4
- 55 TRAFFIC CONTROL AND PROTECTION (SPECIAL 01)
- 56 SPECIAL SIGN DETAILS

**STANDARDS**

- 000001-04
- 635006-02
- 635011-01
- 701401
- 701402-03
- 701426-01
- 702001-03
- 704001-02
- 780001-01
- 781001-02

**INDEX OF SHEETS - PROJECT**

- 1 COVER SHEET
- 2 SUMMARY OF QUANTITIES
- 3-56 STAGE CONSTRUCTION AND TRAFFIC CONTROL
- 57-89 RAMP O - SN 082-0143
- 90-150 RAMP M - SN 082-0145
- 151-198 RAMP O - SN 082-0201
- 199-238 RAMP N - SN 082-0202
- 239-290 RAMP P - SN 082-0203
- 291-342 ROADWAY F - SN 082-0204
- 343-388 ROADWAY E - SN 082-0205

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
  
**STAGE CONSTRUCTION DETAILS**

DATE 17-NOV-2003  
DRAWN BY A. Ledbetter  
CHECKED BY A. Frey

P:\C\111500\700\cadd\702\civil\stage00-special\_standard\_02.dgn

Benchmark: #26 Elev. 404.396 X-cut in N.W. corner of concrete abutment at center pier of Ill. Central R.R Bridge over Ill. Rte. 3.

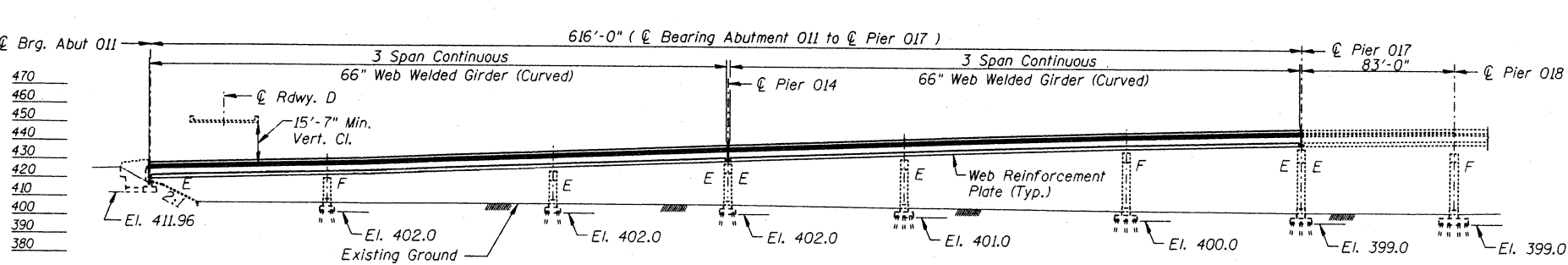
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Existing Structure: SN 082-0143 was built as F.A.I. Route 70 Section (82-3HVB-2R-10-2 in 1967. The roadway is striped for one lane. The Superstructure consists of two 3 span continuous units with two welded steel plate girders, plate girder floor beams, rolled stringers, and non-composite R.C. slab. The Substructure is R.C. piers on R.C. piles and one R.C. pile bent abutment. Existing structure shall be rehabilitated with seismic retrofit and redundancy retrofit. Traffic shall be maintained during the rehabilitation.

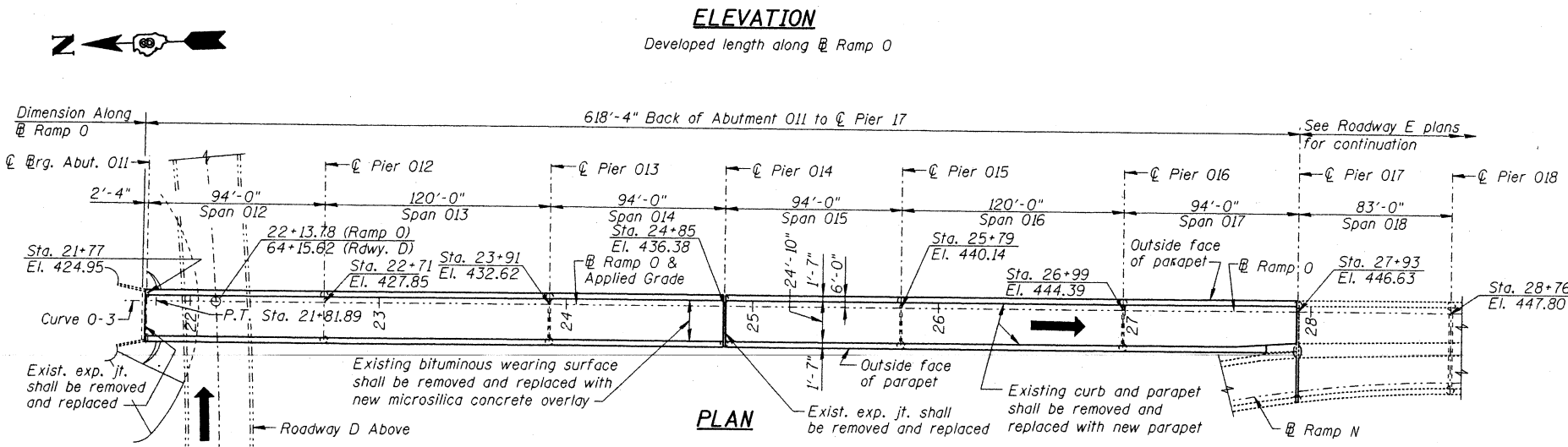
Salvage: None

PROJECT NO.	SECTION	QUANTITY	DATE	SHEET NO.
FAI-70	St. Clair	308	57	33 SHEETS
FED. ROAD DIST. NO. 7		FED. AID PROJECT		

(82-3HVB-2R-10-2)

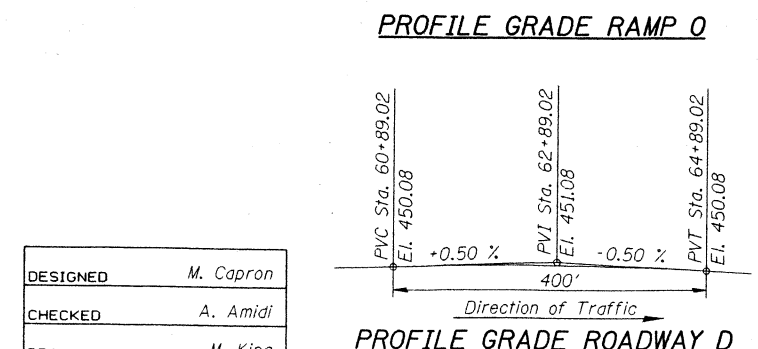
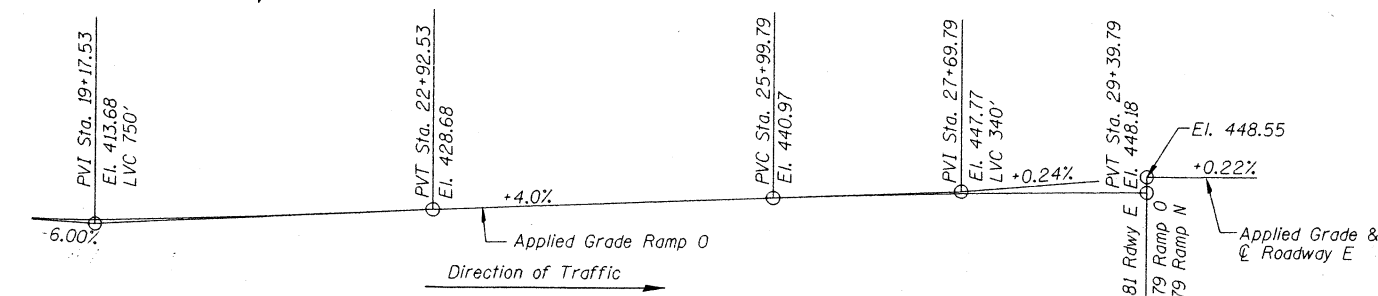


510
500
490
480
470
460
450
440
430
420
410
400
390
380



**CURVE DATA**

**CURVE 03**  
P.I. = 18+39.48  
Δ = 63°26'37"  
D = 8°11'06"  
R = 700.00'  
L = 775.11'  
T = 432.70'  
E = 122.94'  
S = 8.00%



**DESIGN SPECIFICATIONS:**

1996 AASHTO with 1997 thru 2002 interims.  
FHWA-RD-94-052 "Seismic Retrofitting Manual for Highway Bridges", 1995

**SEISMIC DATA:**

Seismic Performance Category (SPC) = B  
Bedrock Acceleration Coefficient (A) = 0.12  
Site Coefficient (S) = 1.0

**DESIGN STRESSES:**

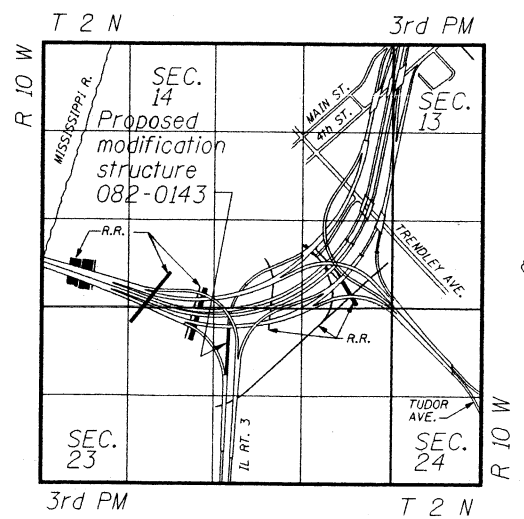
**New Construction:**  
Reinforced concrete: f'c = 3,500 psi  
Reinforcement bars: fy = 60,000 psi  
Structural steel: fy = 70,000 psi (M270, Grade 70W) Web Reinforcement Plate fy = 50,000 psi (M270, Grade 50) All other locations

**Existing Structure:**  
Reinforced concrete: fc = 1,400 psi n = 10  
Structural Steel: fs = 20,000 psi

**NOTES**

Profile grade elevations are to top of original slab and do not take into account wearing surface or overlay thickness.

**LOCATION SKETCH**



REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
GENERAL PLAN AND ELEVATION  
SPANS 012 THRU 017  
STA. 21+77 THRU 27+93 (FAI-70) ST. CLAIR CO.

DESIGNED	M. Capron
CHECKED	A. Amidi
DRAWN	M. King
CHECKED	D. James

PREPARED BY:  
**JACOBS CIVIL INC.**  
ST. LOUIS, MO

**APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY

*Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

EXPIRES 11-30-2004

*John E. Finke*  
12/14/03  
JOHN E. FINKE, S.E.  
STRUCTURAL/SEISMIC RETROFIT

LANCE PETERMAN, S.E.  
REUNDANCY RETROFIT

EXPIRES 11-30-2004  
*Lance Peterman*  
12/16/03

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2
FAI-70	*	St. Clair	388	58	33 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

\*(82-3HVB-2R-1)-2

**GENERAL NOTES**

Plan dimensions and details relative to 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 for a change in the scope of the work, however, the Contractor shall be paid for the quantity actually furnished at the unit price for the work.

All transverse and longitudinal dimensions are measured horizontally. All dimensions are measured at a temperature of 50° F.

All existing operational electrical and I.T.S. equipment shall remain in operation during construction unless approved otherwise by the Engineer.

Reinforcement bars shall conform to the requirements of AASHTO M31, M42 or M53, Grade 60.

Unless noted otherwise, all new steel shall be AASHTO M270 Grade 50.

Calculated weight of Structural Steel (M270, Grade 70W) = 115,690 lbs.

Calculated weight of Structural Steel (M270, Grade 50) = 60,250 lbs.

Fasteners shall be high strength bolts.

All turnbuckles, clevises and pins shall be galvanized and capable of developing the ultimate strengths of the corresponding assemblies.

Field welding of construction accessories will not be permitted to beams or girders.

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/8. See Special Provision for "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".

All construction joints shall be bonded.

Prior to pouring the new concrete deck, all loose rust, loose mill scale, and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04.

All existing construction accessories welded to the top flange over the pier(s) between the quarter points of the beams or girders shall be removed. The remaining weld shall be ground smooth and inspected for cracks using magnetic particle testing. Any cracks that can not be removed by grinding approximately 1/4 inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of this work shall be paid for according to Article 109.04.

Expansion joint openings shall be adjusted according to Article 503.10(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

All web reinforcement plates and web splice plates shall conform to the Supplemental Requirements for Notch Toughness Zone 2.

DESIGNED	R. Victor
CHECKED	D. James
DRAWN	M. King
CHECKED	R. Victor

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPERSTRUCTURE	SUBSTRUCTURE	TOTAL
BITUMINOUS CONCRETE REMOVAL (DECK)	SQ YD	1,479	--	1,479
CONCRETE REMOVAL	CU YD	275.5	--	275.5
CONCRETE STRUCTURES	CU YD	--	2.1	2.1
CONCRETE SUPERSTRUCTURE	CU YD	215.3	--	215.3
BRIDGE DECK GROOVING	SQ YD	1,536	--	1,536
PROTECTIVE COAT	SQ YD	491	--	491
FORMED CONCRETE REPAIR (DEPTH EQUAL TO OR LESS THAN 5")	SQ FT	--	11	11
FORMED CONCRETE REPAIR (DEPTH GREATER THAN 5")	SQ FT	--	1	1
FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	--	--	0.1
REINFORCEMENT BARS, EPOXY COATED	POUND	43,290	--	43,290
EXPANSION BOLTS (SPECIAL)	EACH	92	--	92
MECHANICAL SPLICE	EACH	50	--	50
COLUMN WRAP	SQ FT	--	950	950
FOUNDATION WALL DOWEL MODIFICATION	EACH	--	6	6
STIFFENER INTERSECTION MODIFICATION	EACH	272	--	272
BOLT REPLACEMENT	EACH	10	--	10
CRACK EXTENSION MODIFICATION	EACH	4	--	4
VERTICAL WEB STIFFENER REMOVAL	EACH	316 *	--	316 *
DRAINAGE SCUPPERS, DS-33	EACH	2	--	2
BRIDGE JOINT SYSTEM (EXPANSION) - 4"	FOOT	26	--	26
BRIDGE DECK MICROSILICA CONCRETE OVERLAY - 2 1/4"	SQ YD	1,670	--	1,670
CONCRETE BRIDGE DECK SCARIFICATION (1/4 INCH)	SQ YD	1,670	--	1,670
DECK SLAB REPAIR (FULL DEPTH, TYPE 1)	SQ YD	0.4	--	0.4
DECK SLAB REPAIR (PARTIAL)	SQ YD	41.7	--	41.7
DRAINAGE SYSTEM	L SUM	--	0.125	0.125
FABRIC REINFORCED ELASTOMERIC TROUGH	FOOT	27	--	27
REMOVE TIE BEAM (SPECIAL)	EACH	--	1	1

\* Includes Bearing Stiffener Modification (16 Total)

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
GENERAL NOTES AND  
TOTAL BILL OF MATERIAL  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FAI-70	#	St. Clair	388	59	33 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

\* (82-3HVB-2R-1)-2

**SCOPE OF WORK**

**GENERAL:**

The detailed drawings presented herein are for Ramp 0 - Structure Number 082-0143 in St. Clair County, Illinois. Work relating to Abutment 011, Piers 012 through 016 and Spans 012 through 017 are included within this Scope. Work to be performed is associated with a Seismic Retrofit, a Fatigue and Redundancy Retrofit and General Rehabilitation of the Deck and Substructure.

**SEISMIC RETROFIT:**

1. Install Column Wraps at the following Piers:  
012, 013, 014, 015, 016
2. Install Tie Beam Confinement Plates at the following Piers:  
013, 015, 016
3. Remove Tie Beam at Pier 014
4. Install Cross Frame Assemblies (including Column Band Assemblies) at the following Piers: 012, 013, 014, 015, 016
5. Install Bumper/Restrainer Assemblies at the following Piers:  
012, 013, 014, 015, 016
6. Install Bumper Plates at the following Piers:  
012, 013, 014, 015, 016
7. Install Slab-to-Floorbeam Connections at the following Piers/Abutments:  
011, 012, 013, 014, 015, 016
8. Install Extensions to the following Abutments: 011
9. Perform Column Base Modifications (including Dowel Cutting and Fuse Bars) to the following Piers: 012, 013, 014

1

**FATIGUE AND REDUNDANCY RETROFIT:**

1. Install Web Reinforcement Plates on the following Spans:  
012 through 017
2. Perform Stiffener Intersection Modifications on the following Spans:  
012 through 017
3. Perform Bolt Replacement or Tighten Bolts in the following Spans:  
015 (2 locations), 017 (2 locations)

**GENERAL REHABILITATION:**

1. Perform Formed Concrete Repair on the following Piers/Abutments:  
011, 013, 014
2. Perform a Type 2 Deck Rehabilitation (including Overlay Removal, Scarification and Installation of a Microsilica Concrete Overlay) on the following Spans:  
012 through 017
3. Remove and Replace Expansion Joints at the following Piers/Abutments:  
011, 014
4. Remove Existing Curbs and Barriers and Replace with New Parapets on the following Spans: 012 through 017
5. Perform Full or Partial Deck Repair on the following Spans:  
012 through 015
6. Remove Existing Floor Drains on the following Spans:  
012 through 017
7. Install New Scuppers or Drains on the following Spans:  
012, 015

DESIGNED	R. Victor
CHECKED	S. Kaemmerer
DRAWN	M. King
CHECKED	S. Kaemmerer

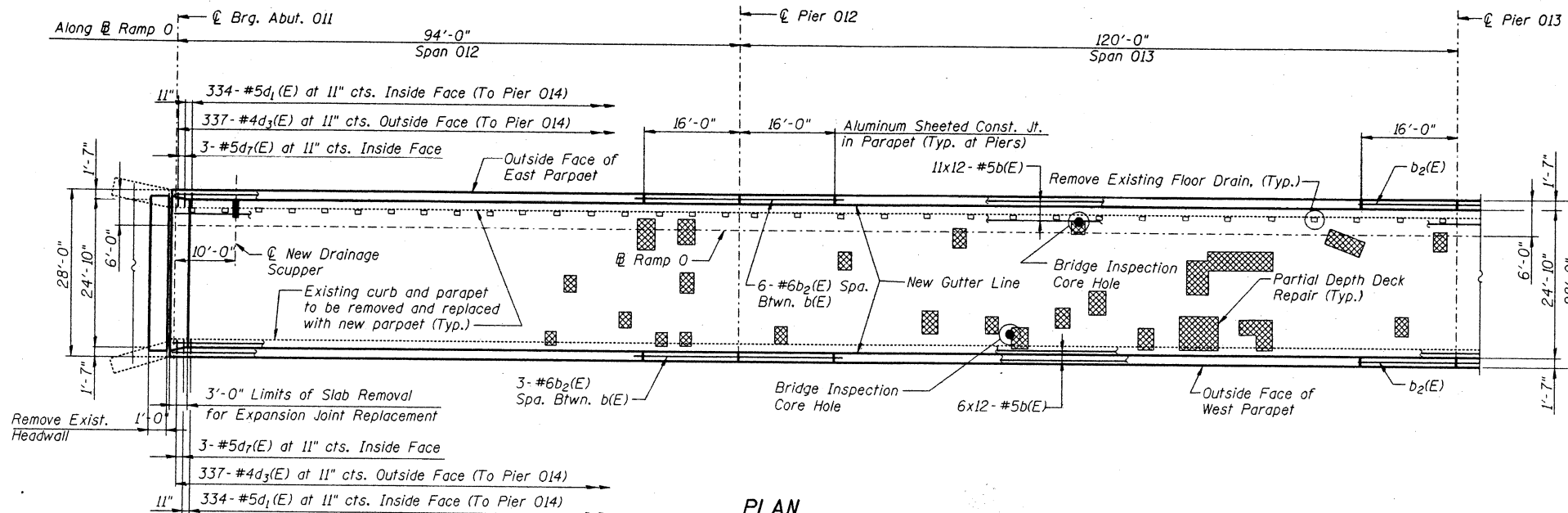
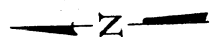
PREPARED BY:  
**JACOBS CIVIL INC.**  
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
SCOPE OF WORK  
(FAI-70) ST. CLAIR CO.

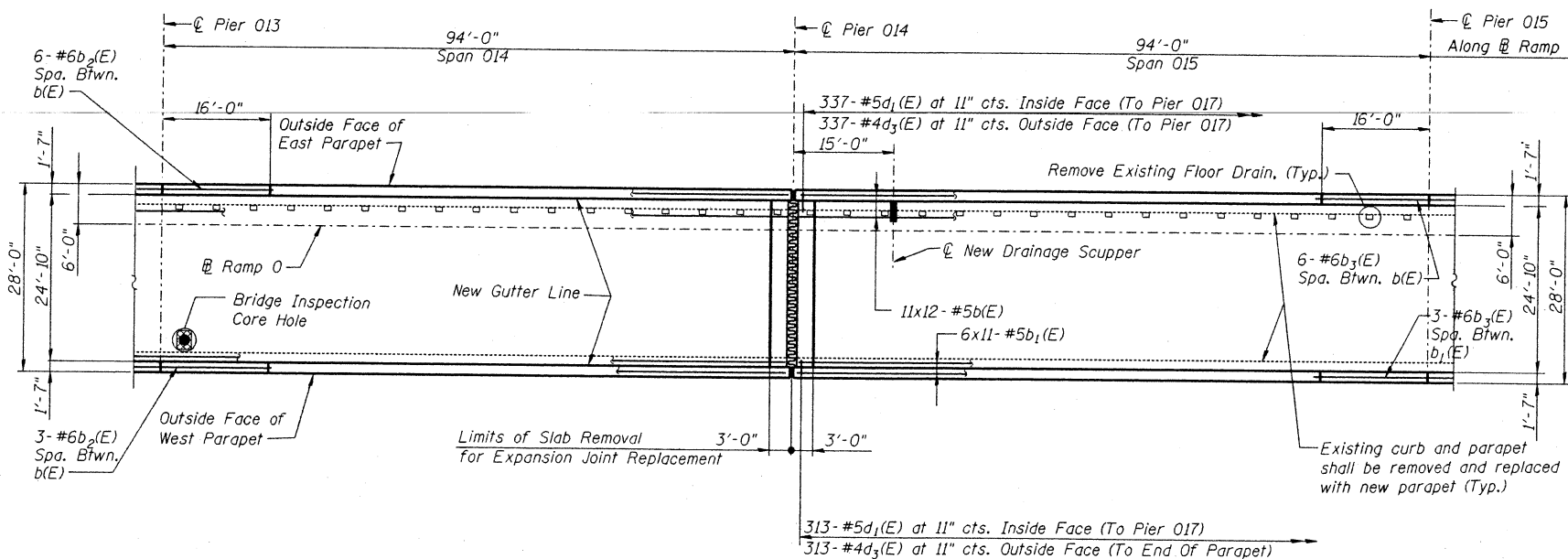
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	LETS	DATE	SHEET NO. 5
FAI-70		St. Clair	388	60	33 SHEETS
DESIGNED BY	DRAWN BY	CHECKED BY	DATE	PROJECT	

(82-3HVB-2R-1)-2



PLAN



PLAN

Note:  
Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on As-Built Plans.

Date of Deck Survey - August, 2000.

DESIGNED	J. Corley
CHECKED	F. Camba
DRAWN	J. Corley
CHECKED	F. Camba

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

DECK REPAIR	
Deck Slab Repair (Partial)	Sq. Yd.
Spans 012-013	33
Spans 014-015	7
Spans 016-017	3
<b>Total</b>	<b>43</b>

Areas requiring partial depth slab repair indicated thus: See Special Provisions.

NOTES

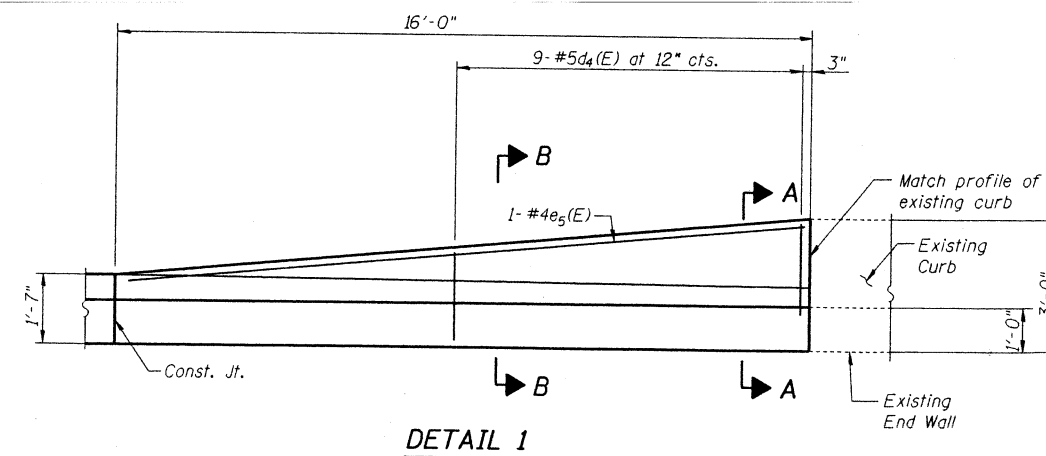
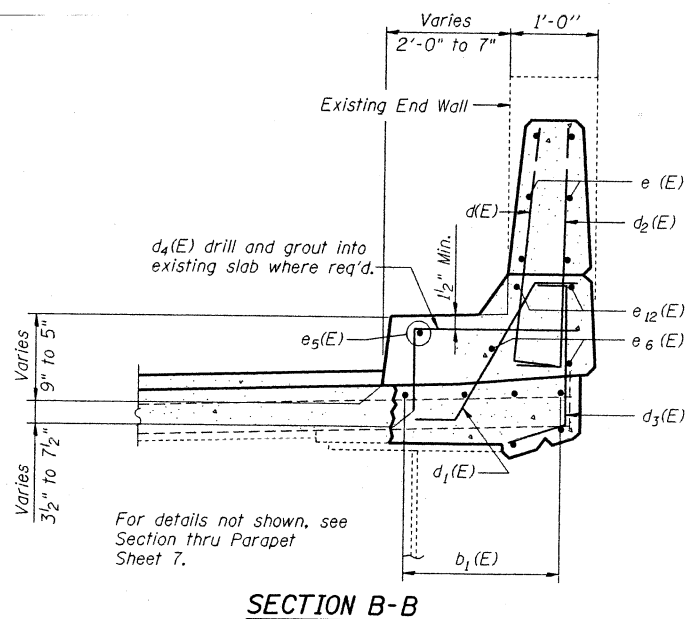
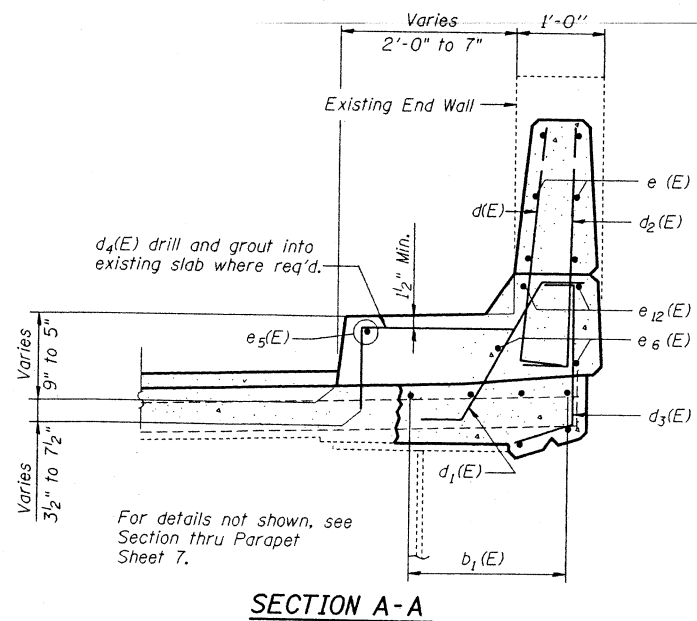
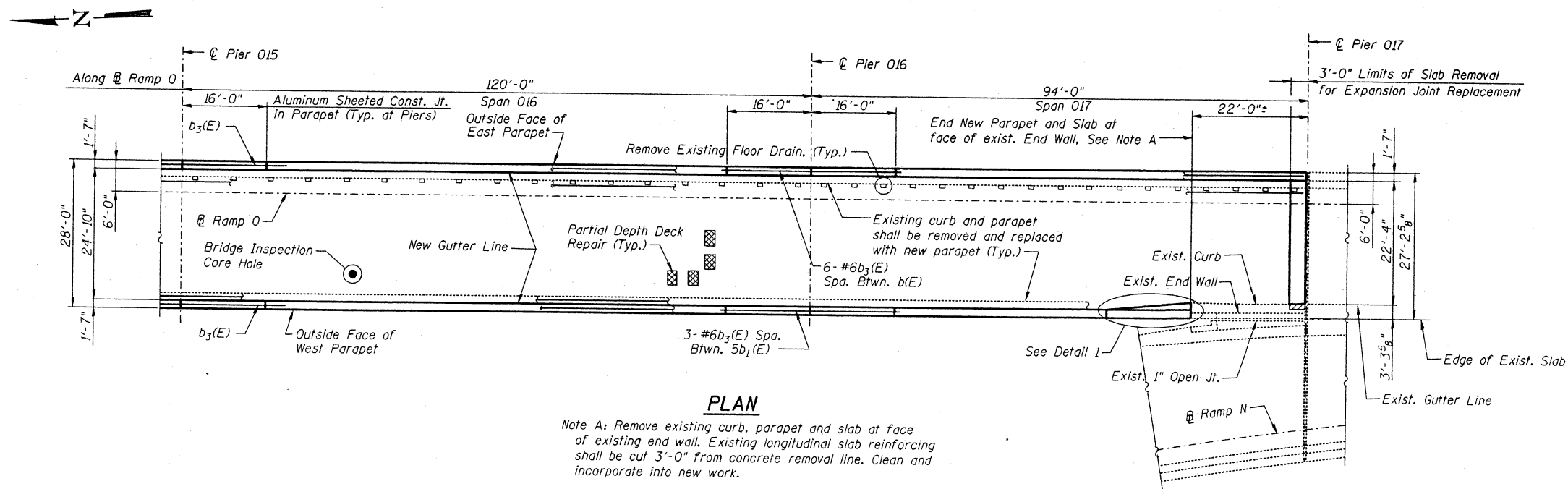
- Lap splices:  
#5 longitudinal bars 2'-7" min.
- For Superstructure Bill of Material, see Sheet 10.
- For Parapet details, see Sheets 7 and 8.
- For Drainage details, see Sheet 11.
- For Expansion Joint details, see Sheets 13 thru 15.
- Bars indicated thus 6 x 7-#5 etc. indicates 6 lines of bars with 7 lengths per line.
- For Concrete Removal details, see Sheet 10.
- Provide full depth deck slab repair at each bridge inspection core hole.
- Additional #6 bars over piers shall be centered about centerline of pier.

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
SLAB  
SPANS 012 THRU 015  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	NO.	SHEET NO. 6
FAI-70		St. Clair	388	61	33 SHEETS
<small>PRI. ROAD DIST. NO. 7</small> <small>BLDG. NO.</small> <small>PROJ. NO.</small>					

082-3HVB-2R-1-2



**NOTES**

Work this Sheet with Sheet 5.  
Drill and Grout bar according to Article 584 of the Standard Specifications.

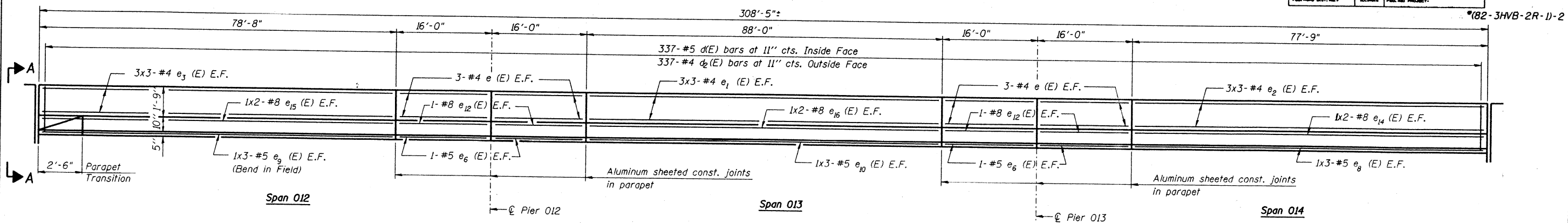
DESIGNED	J. Corley
CHECKED	F. Camba
DRAWN	J. Corley
CHECKED	F. Camba

PREPARED BY:  
JACOBS CIVIL, INC.  
ST. LOUIS, MO

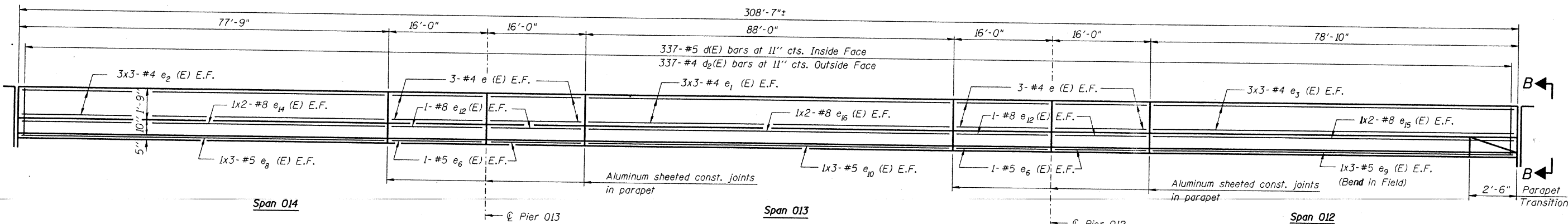
REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
SLAB  
SPANS 016 THRU 017  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

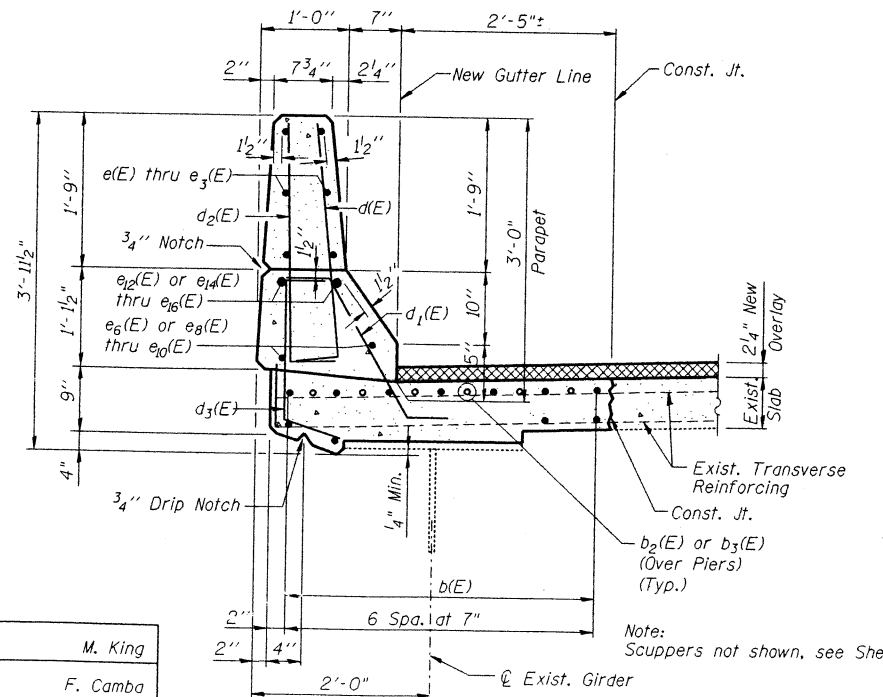
PROJECT NO.	DATE	QUANTITY	SCALE	SHEET NO.
FAI-70		St. Clair	388	62
SHEET NO. 7				33 SHEETS



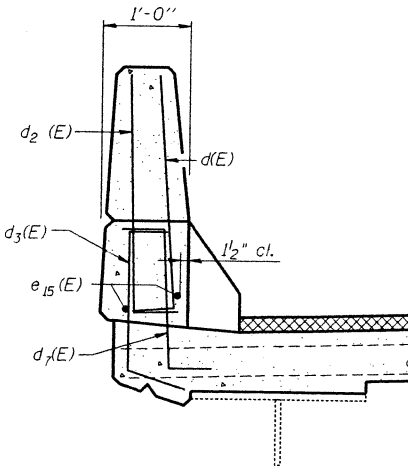
INSIDE ELEVATION - EAST PARAPET



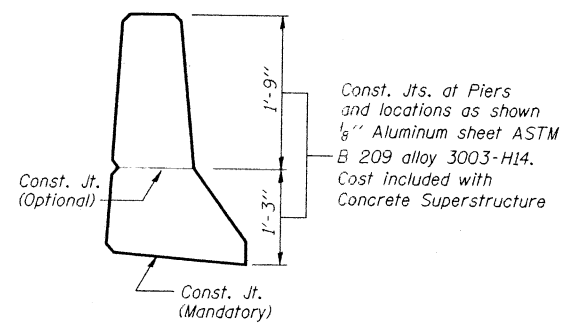
INSIDE ELEVATION - WEST PARAPET



SECTION THRU EAST PARAPET



SECTION A-A (Section B-B opposite hand)



PARAPET JOINT DETAILS

PARAPET NOTES

Parapet lengths are taken from the plans prepared by H.W. Lochner for the original structure. Adjustment shall be made to accommodate new expansion device.

Lap splices:  
#4 longitudinal bars 1'-2" min.  
#5 longitudinal bars 2'-7" min.  
#8 longitudinal bars 5'-6" min.

E.F. indicates each face.

All edges shall have a 3/4" chamfer, unless otherwise noted.

For Superstructure Bill of Material, see Sheet 10.

Bars indicated thus 1x2 #5 etc. indicates 1 line of bars with 2 lengths per line.

For expansion joint details, see Sheets 13 thru 15.

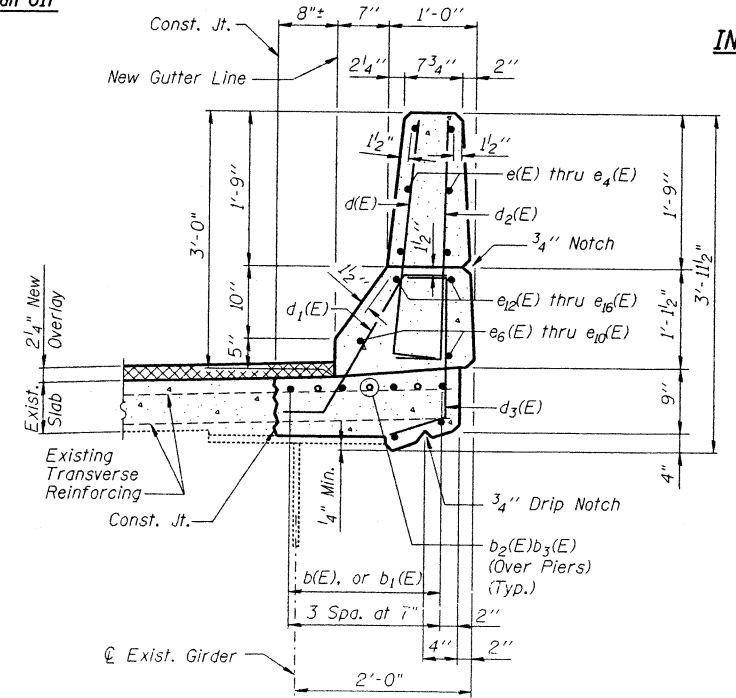
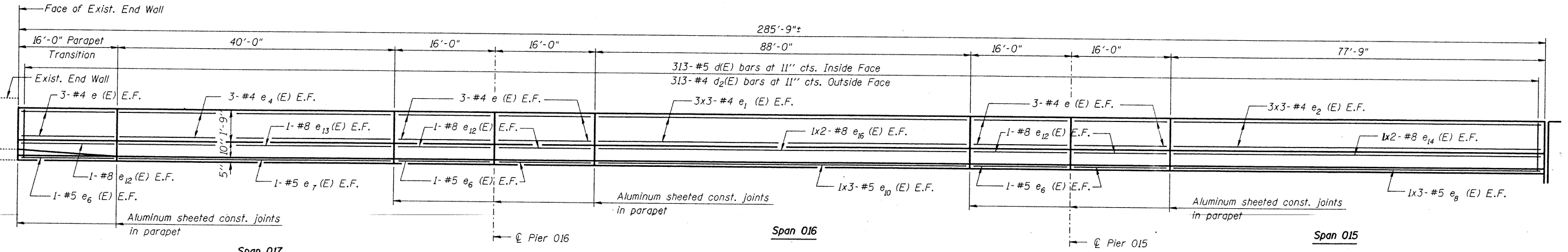
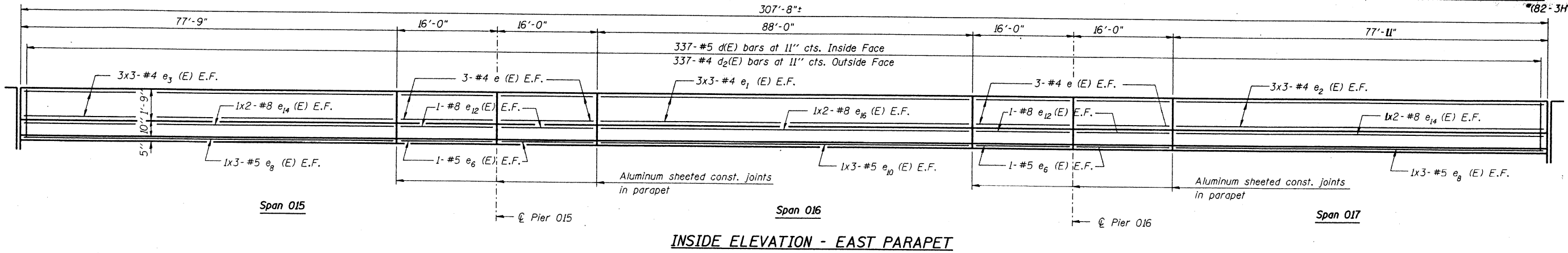
DESIGNED	M. King
CHECKED	F. Camba
DRAWN	M. King
CHECKED	F. Camba

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
PARAPET DETAILS  
SPANS 012 THRU 014  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	SHEET	DATE	SHEET NO. 8
FAI-70		St. Clair	388	63	33 SHEETS
FEDERAL AID DIST. NO. 7 ALIEN'S PERM. AND PROJECT					(82-3HVB-2R-D)-2



DESIGNED	M. King
CHECKED	F. Camba
DRAWN	M. King
CHECKED	F. Camba

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

**NOTES**  
Work this Sheet with Sheet 7.

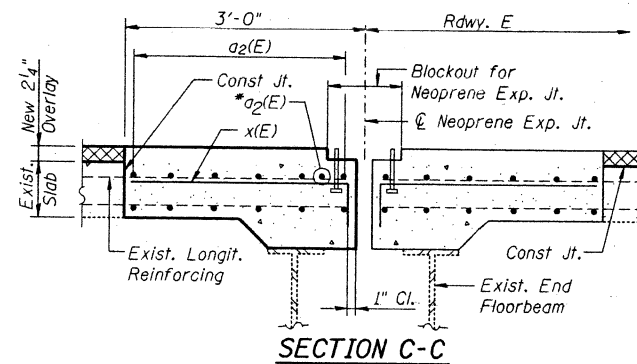
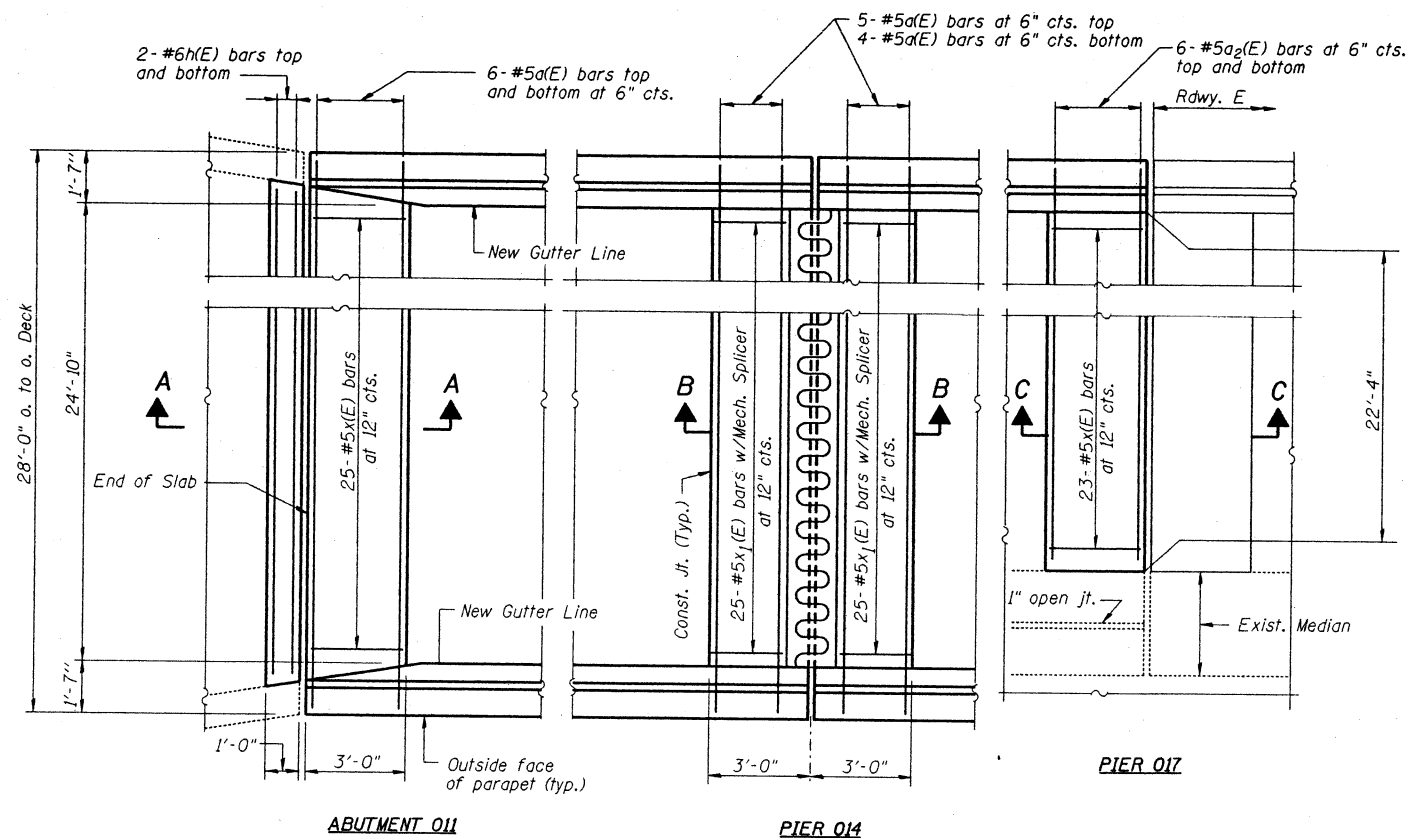
REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
PARAPET DETAILS  
SPANS 015 THRU 017  
(FAI-70) ST. CLAIR CO.



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
FAI-70	*	St. Clair	388	64
FED. ROAD DIST. NO.		BLANKS	FED. AID PROJECT	

082-3HVB-2R-1)-2

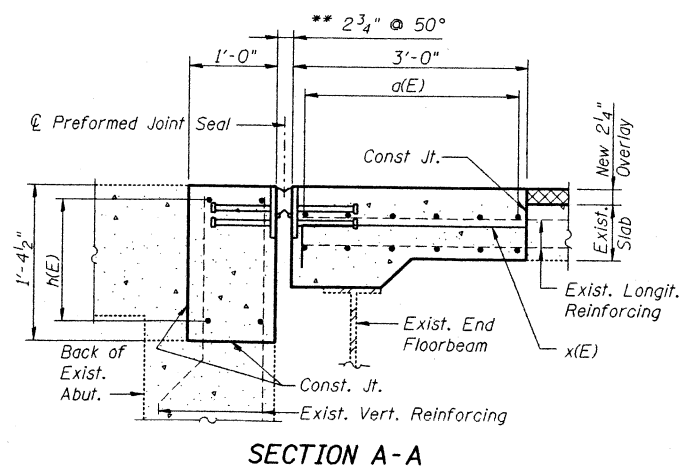


\*Place  $a_2(E)$  bars in back of Anchor Bolt as shown if required to maintain 1" cl. (+0 -1/8"). Anchor Bolts shall be tied to  $a_2(E)$  bars.

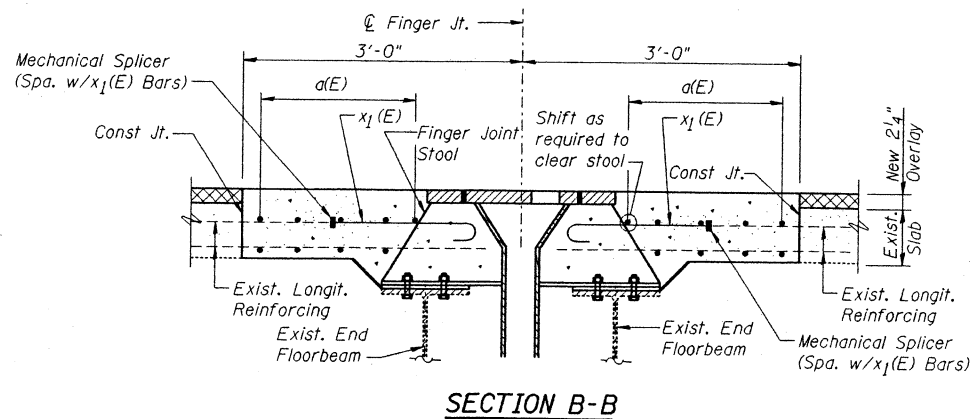
**EXPANSION JOINT REPLACEMENT PLAN**

Note:  
For expansion joint replacement at Pier 017 see drawings for Rehabilitation of Roadway E, Structure No. 082-0205

\*\* Dimensions are based on PJS joint. If the contractor elects to use the alternate strip seal, deck dimensions may require adjustments to satisfy the details on page 2 of 2 of the Base Sheet EJ-BJS.



SECTION A-A



SECTION B-B

DESIGNED	R. Victor
CHECKED	M. Supak
DRAWN	M. King
CHECKED	F. Camba

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
EXPANSION JOINT  
REPLACEMENT DETAILS  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	DISTRICT	COUNTY	SHEET NO.	SHEET NO.
FAI-70	St. Clair	388	65	33 SHEETS

(82-3HVB-2R-1)-2

**SUPERSTRUCTURE  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d(E)	30	#5	27'-4"	—
d2(E)	12	#5	23'-5"	—
d(E)	336	#5	28'-0"	—
d1(E)	66	#5	28'-4"	—
d2(E)	18	#6	33'-0"	—
d3(E)	18	#6	39'-6"	—
d3(E)	16	#5	2'-0"	—
d(E)	1324	#5	3'-2"	—
d1(E)	1318	#5	2'-9"	—
d2(E)	1324	#4	3'-2"	—
d3(E)	1324	#4	2'-11"	—
d4(E)	9	#5	2'-11"	—
d7(E)	6	#5	3'-1"	—
h(E)	4	#6	25'-8"	—
e(E)	102	#4	15'-9"	—
e1(E)	72	#4	30'-4"	—
e2(E)	90	#4	27'-0"	—
e3(E)	36	#4	27'-4"	—
e4(E)	6	#4	39'-9"	—
e5(E)	1	#4	15'-9"	—
e6(E)	34	#5	15'-9"	—
e7(E)	2	#5	39'-9"	—
e8(E)	30	#5	27'-8"	—
e9(E)	12	#5	28'-0"	—
e10(E)	24	#5	31'-0"	—
e12(E)	34	#8	15'-9"	—
e13(E)	2	#8	39'-9"	—
e14(E)	20	#8	41'-7"	—
e15(E)	8	#8	42'-1"	—
e16(E)	16	#8	46'-8"	—
x(E)	48	#5	3'-4"	—
x1(E)	50	#5	2'-3"	—
Reinforcement Bars, Epoxy Coated	Pound	43,290		
Concrete Superstructure	Cu. Yd.	215		
Concrete Removal	Cu. Yd.	275.5		

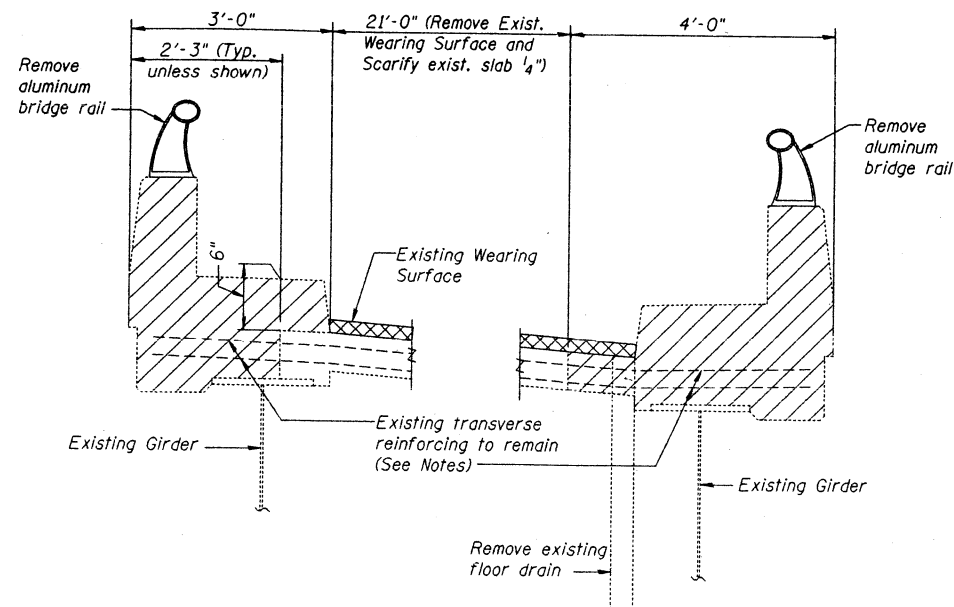
Reinforcement bars designated (E) shall be epoxy coated.

**NOTES**

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".

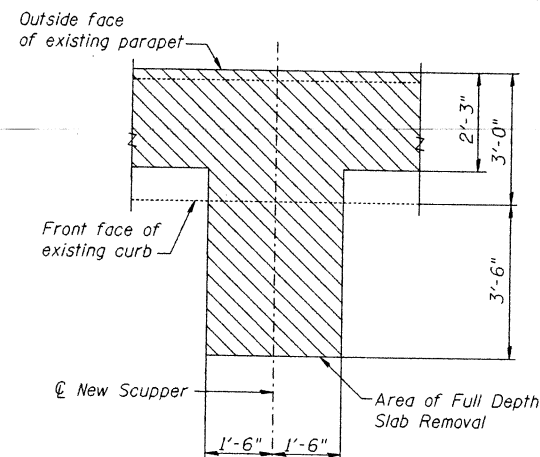
Contractor shall provide and install a Temporary Slab Support as required. Temporary Slab Support shall be in place before deck removal. See Special Provisions.

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
DEMOLITION DETAILS AND  
SUPERSTRUCTURE BILL OF MATERIAL  
(FAI-70) ST. CLAIR CO.



**CROSS SECTION - DEMOLITION**

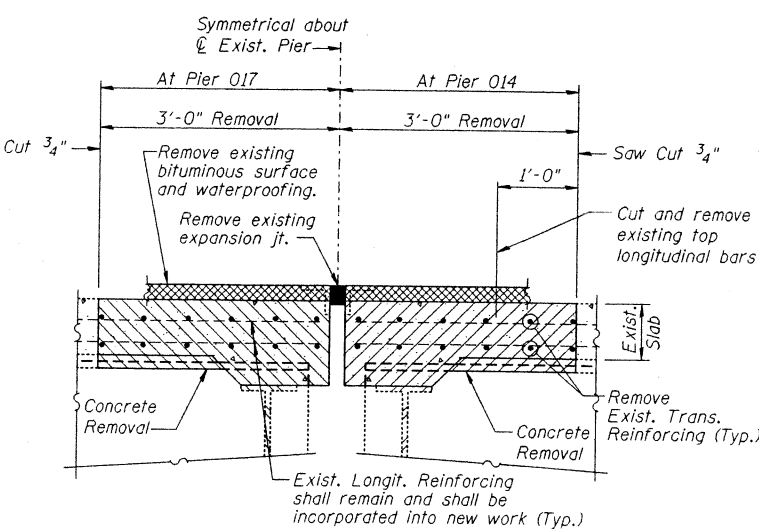
Notes:  
Remove existing curb, parapet and portion of slab to limits shown by hatched areas.  
Remove existing reinforcing and other appurtenances at the light standard supports.  
Remove all existing full length longitudinal bars at concrete removal areas unless otherwise noted.



**PLAN - SLAB REMOVAL  
AT NEW SCUPPER LOCATION**

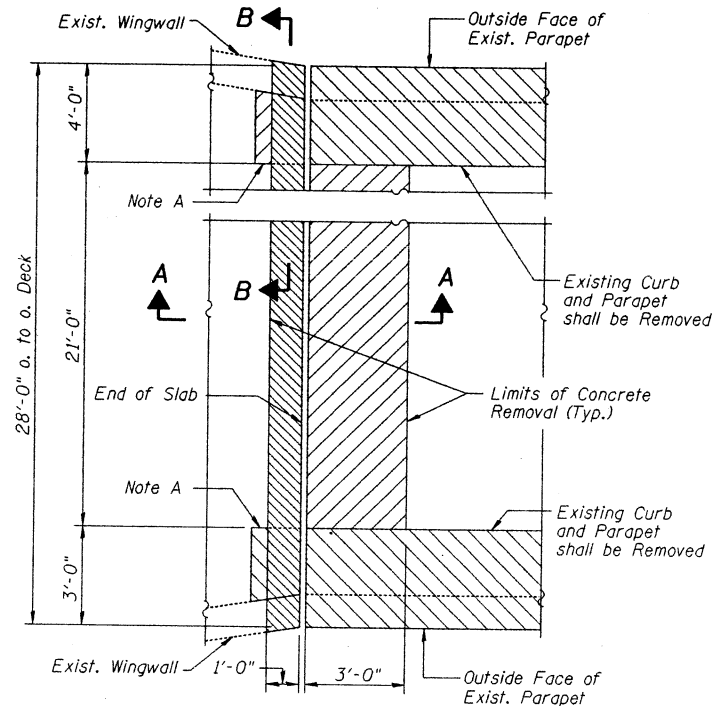
Note:  
Existing transverse reinforcing shall be bent to clear New Scupper. Longitudinal reinforcing may be cut to accommodate New Scupper.

DESIGNED	M. King
CHECKED	F. Camba
DRAWN	M. King
CHECKED	F. Camba



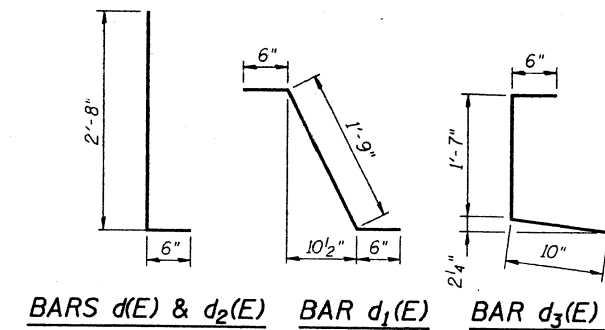
**TYPICAL SECTION  
DEMOLITION AT EXPANSION JOINTS**

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

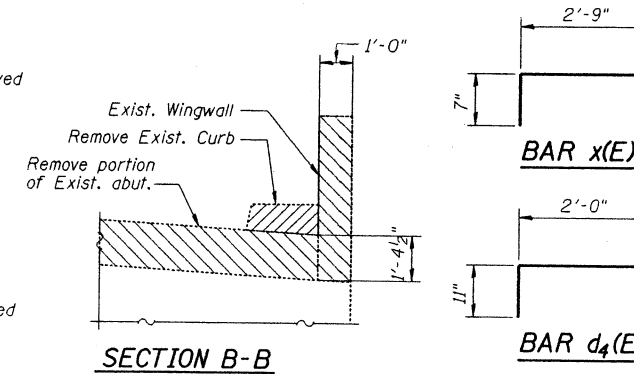


**DEMOLITION PLAN AT ABUTMENT 011**

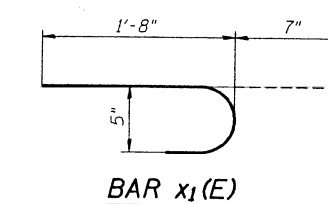
Note A:  
Existing Wingwall shall remain. Modify for Expansion Joint replacement. Remove Existing curb as shown on Section B-B. Remove existing asphalt curb on approach slab.



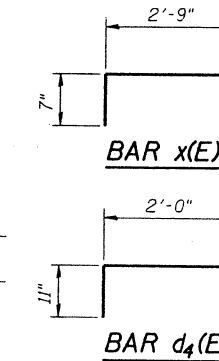
**BARS d(E) & d2(E) BAR d1(E) BAR d3(E)**



**SECTION B-B**

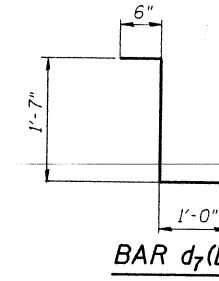


**BAR x1(E)**

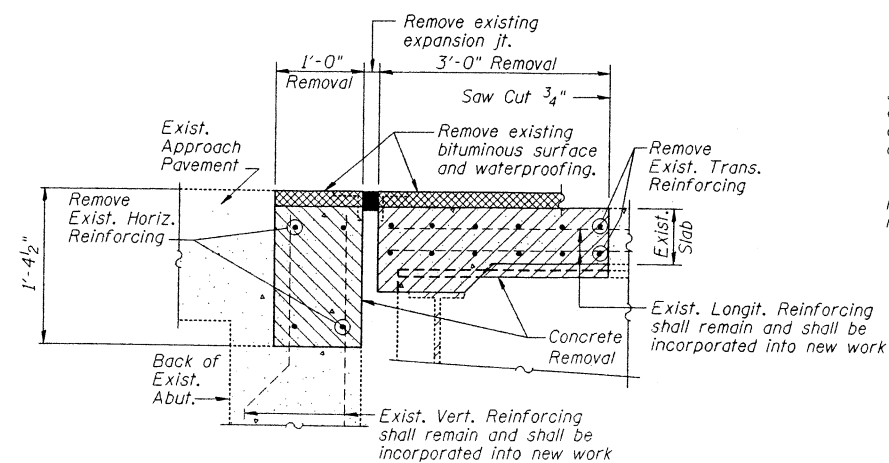


**BAR x(E)**

**BAR d4(E)**



**BAR d7(E)**

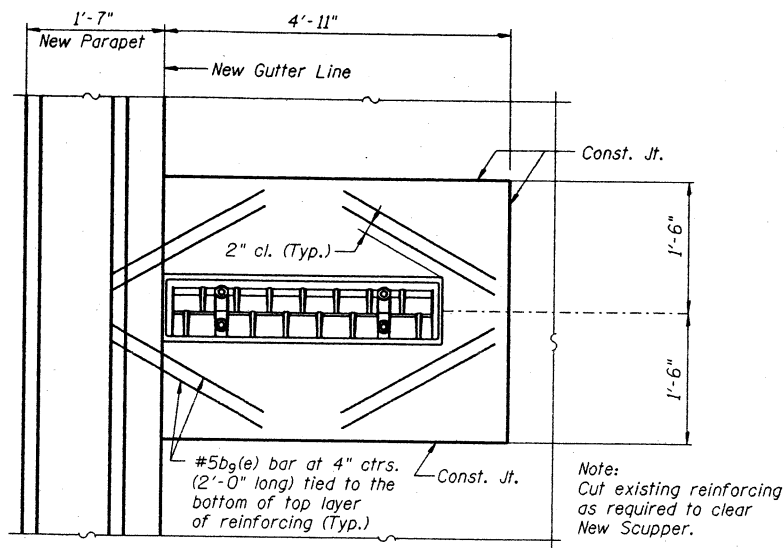


**SECTION A-A**

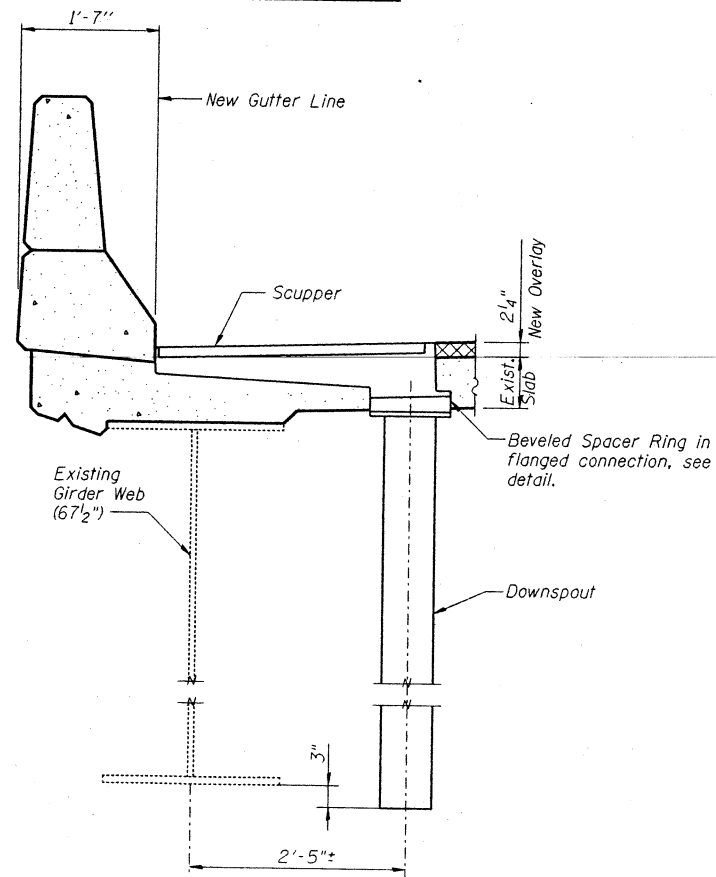
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	DISTRICT	COUNTY	SHEET	POST	SHEET NO. 11
FAI-70	*	St. Clair	388	66	33 SHEETS
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT			

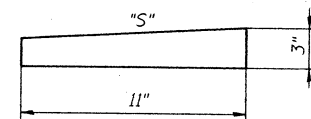
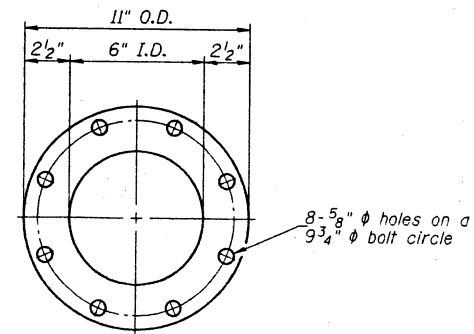
\*082-3HVB-2R-D-2



PLAN AT SCUPPER



SECTION AT SCUPPER



BEVELED SPACER RING DETAIL

- "S" equals the slope of the superelevation at the individual scupper location.
- The bevel shall be sufficient to allow vertical installation of the downspout.
- Beveled spacer ring shall conform to the requirements of AASHTO M155, Class 35B.
- Rings shall be galvanized according to AASHTO M111 and ASTM A385.

NOTES

- For DS-33 Scupper detail see Sheet 12.
- Cost and installation of scuppers, spacer rings and downspouts shall be included in the unit price for Drainage Scuppers, DS-33.
- The cost associated with concrete removal, reinforcing bars (epoxy coated) and concrete superstructure shall be included in their respective pay items. The quantities for these items are included in the "Superstructure Bill of Material".

DESIGNED	M. King
CHECKED	F. Camba
DRAWN	M. King
CHECKED	F. Camba

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

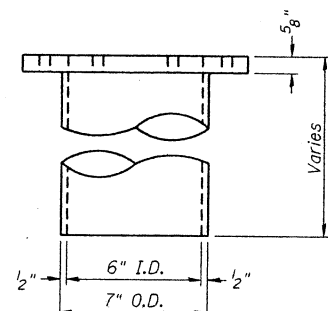
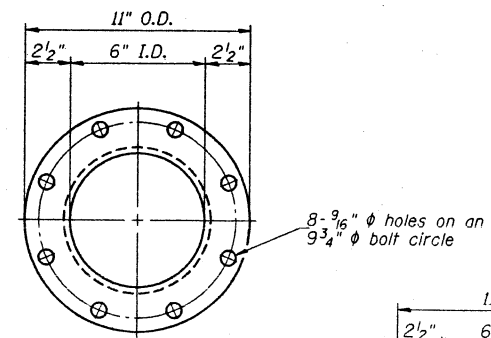
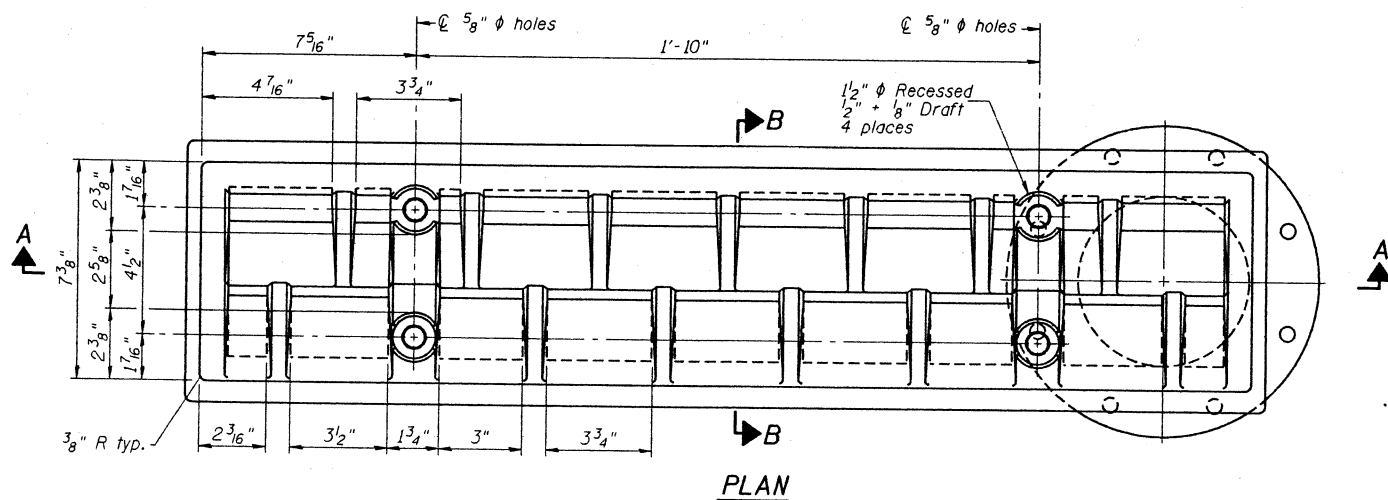
REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
DRAINAGE DETAILS  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

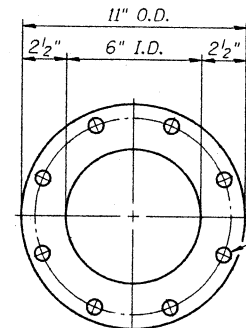
ROUTE NO.	DISTRICT	COUNTY	SHEET	DATE
FAI-70		St. Clair	388	67
FED. ROAD DIST. NO. 7		BLANKET	FED. AID PROJECT	

SHEET NO. 12  
33 SHEETS

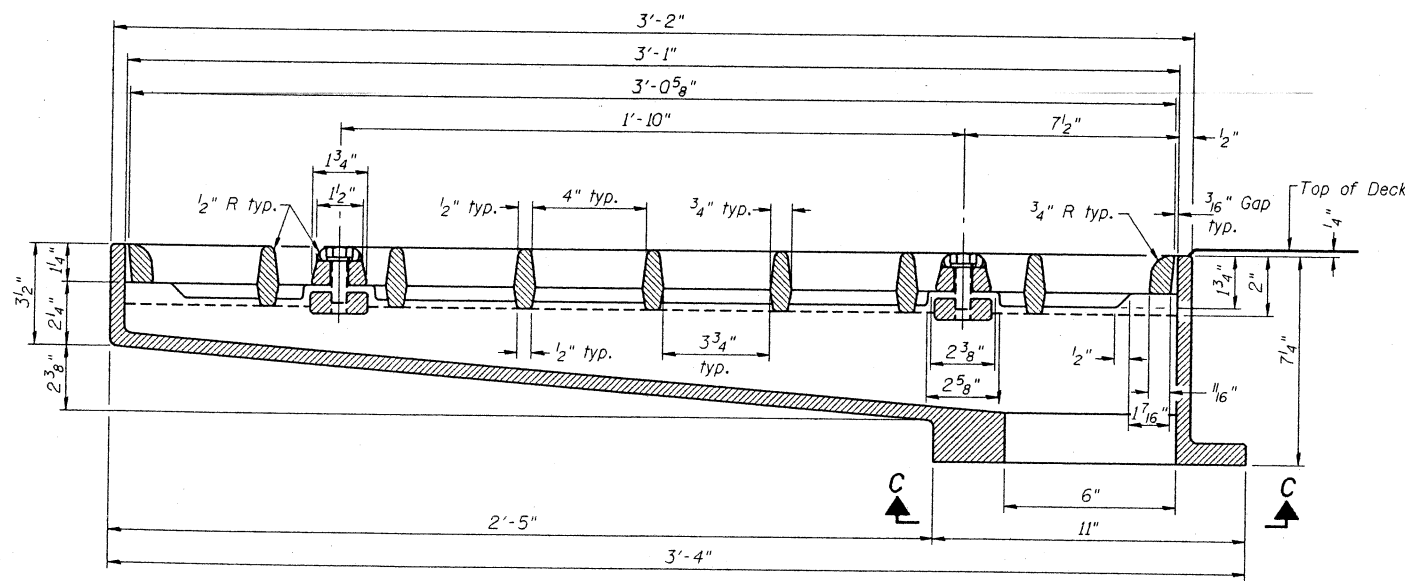
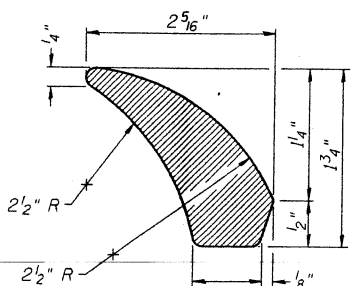
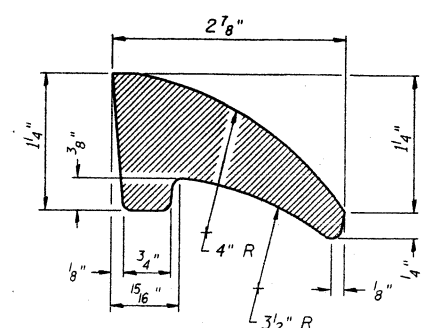
(82-3HVB-2R-1)-2



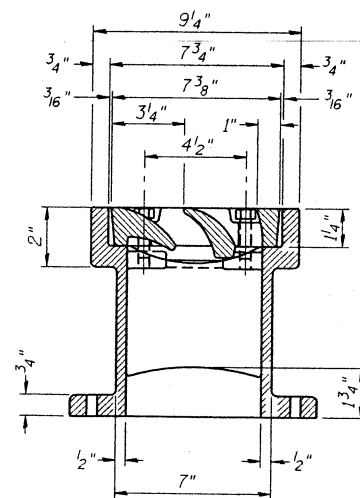
DOWNSPOUT



VIEW C-C



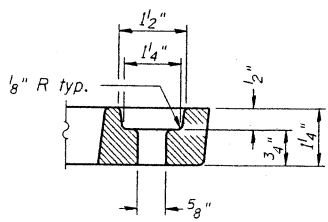
See sheet 11 of 33 for scupper location relative to parapet.



Notes: All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.  
Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.  
The grate, frame and downspout shall be galvanized according to AASHTO M 111 and ASTM A 385. Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.  
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.  
Structural steel weldments of equal sections and of the same configuration may be substituted for cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.  
The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.  
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-33.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-33	Each	2



DESIGNED	M. King
CHECKED	F. Comba
DRAWN	M. King
CHECKED	F. Comba

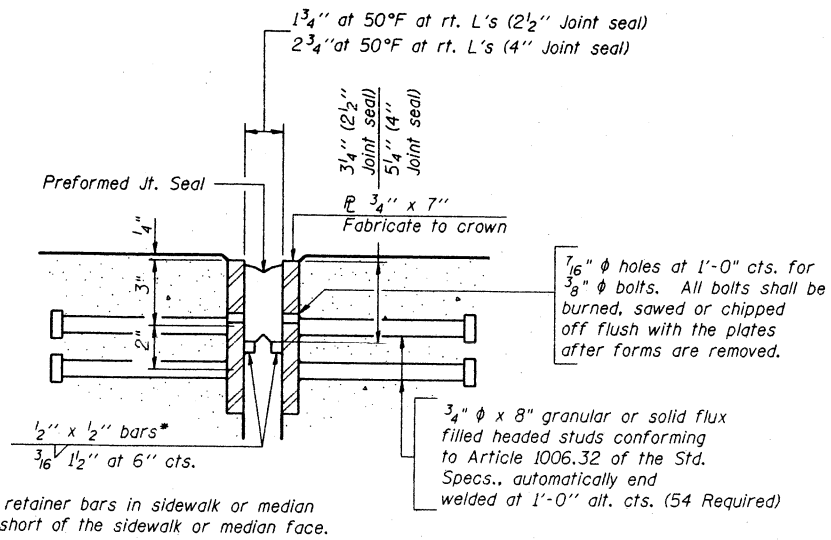
PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
DRAINAGE SCUPPER  
DS-33  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	DISTRICT	COUNTY	SECTION	SHEET	SHEET NO. 13
FAI-70		St. Clair	388	68	33 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

082-3HVB-2R-11-2



\*Cut retainer bars in sidewalk or median 6" short of the sidewalk or median face.

**SECTION THRU EXPANSION JOINT**

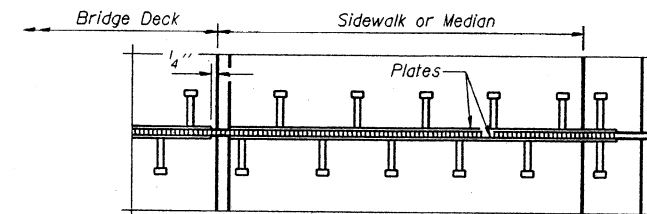
(2 1/2" and 4" joint seals)

**Bridge Joint System (Expansion)**

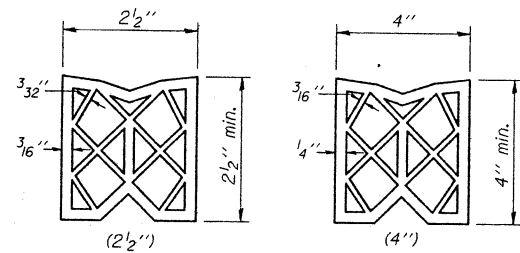
DESIGN MOVEMENT	Required Preformed Joint Seal Size	Required Strip Seal rated movement
1"	2 1/2"	1"
1 5/8"	4"	2"

**GENERAL NOTES**

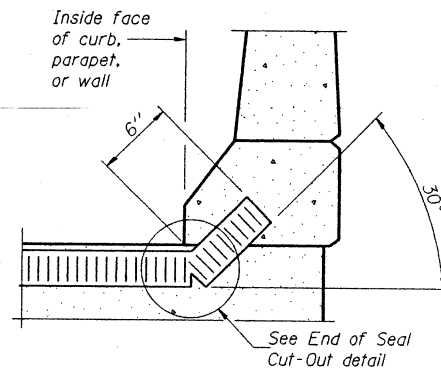
Furnish steel plates in segments of 20 feet maximum length. Maximum space between installed segments shall be 3/16". Seal space with silicone sealant suitable for structural steel.



**PLAN AT SIDEWALK OR MEDIAN**

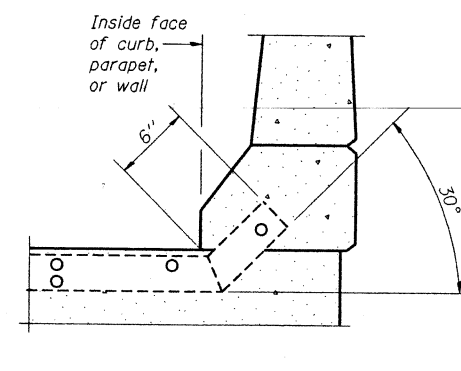


**PREFORMED JOINT SEAL**



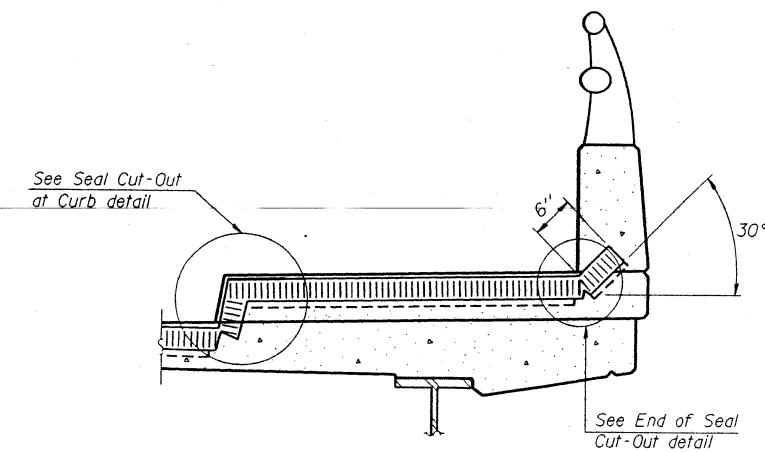
**AT CURB, PARAPET, OR WALL**

(Showing seal)



**AT CURB, PARAPET, OR WALL**

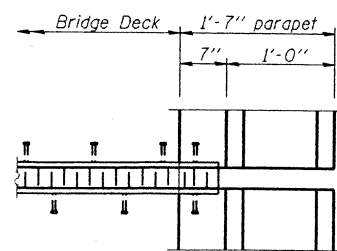
(Showing plate)



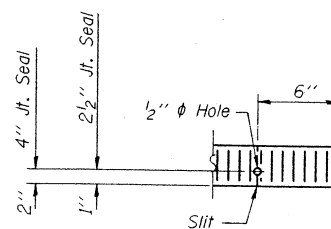
**AT SIDEWALK OR MEDIAN**

(Showing plate and seal)

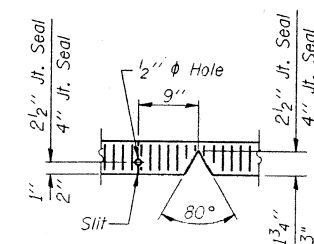
**TYPICAL END TREATMENTS**



**PLAN AT PARAPET**



**END OF SEAL CUT-OUT**



**SEAL CUT-OUT AT CURB**

**BILL OF MATERIAL**

Item	Unit	Total
Bridge Joint System (Expansion) 1-5/8"	foot	26

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
PJS EXPANSION JOINT DETAILS  
ABUTMENT 011  
(FAI-70) ST. CLAIR CO.

DESIGNED	R. Victor
CHECKED	M. Supak
DRAWN	E. Bazzell
CHECKED	S. Kaemmerer

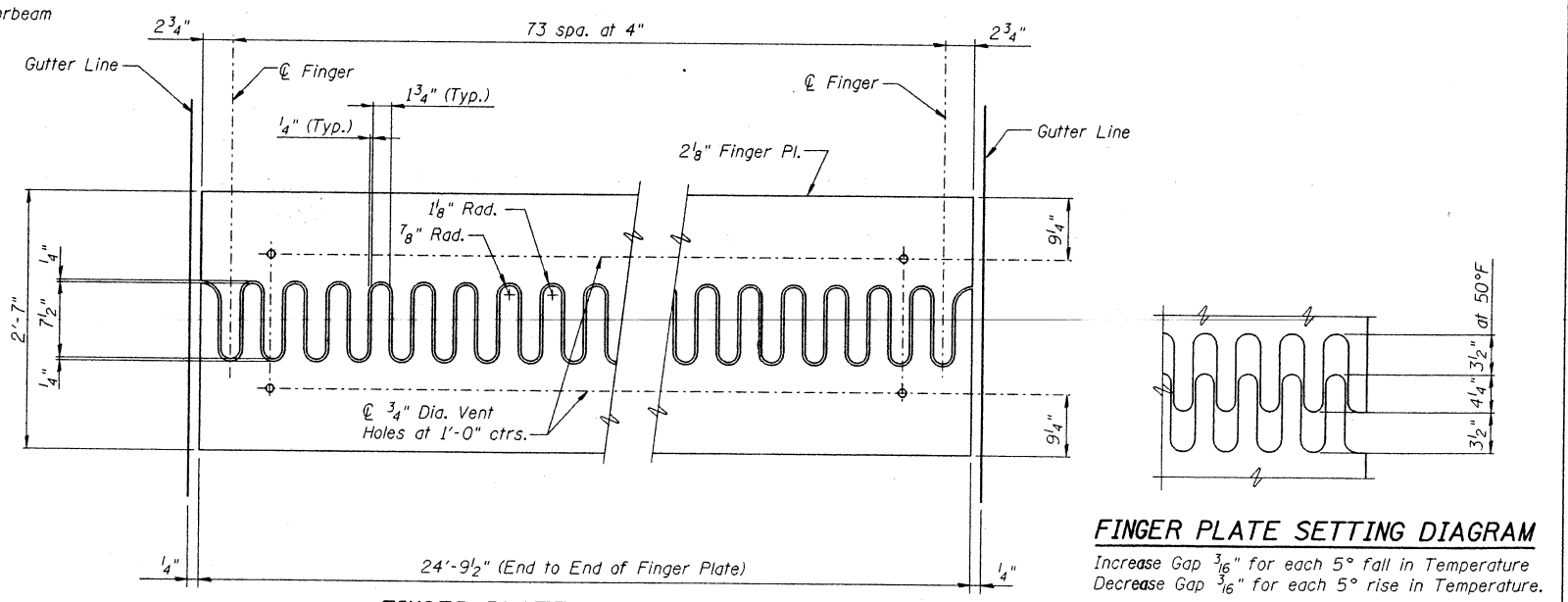
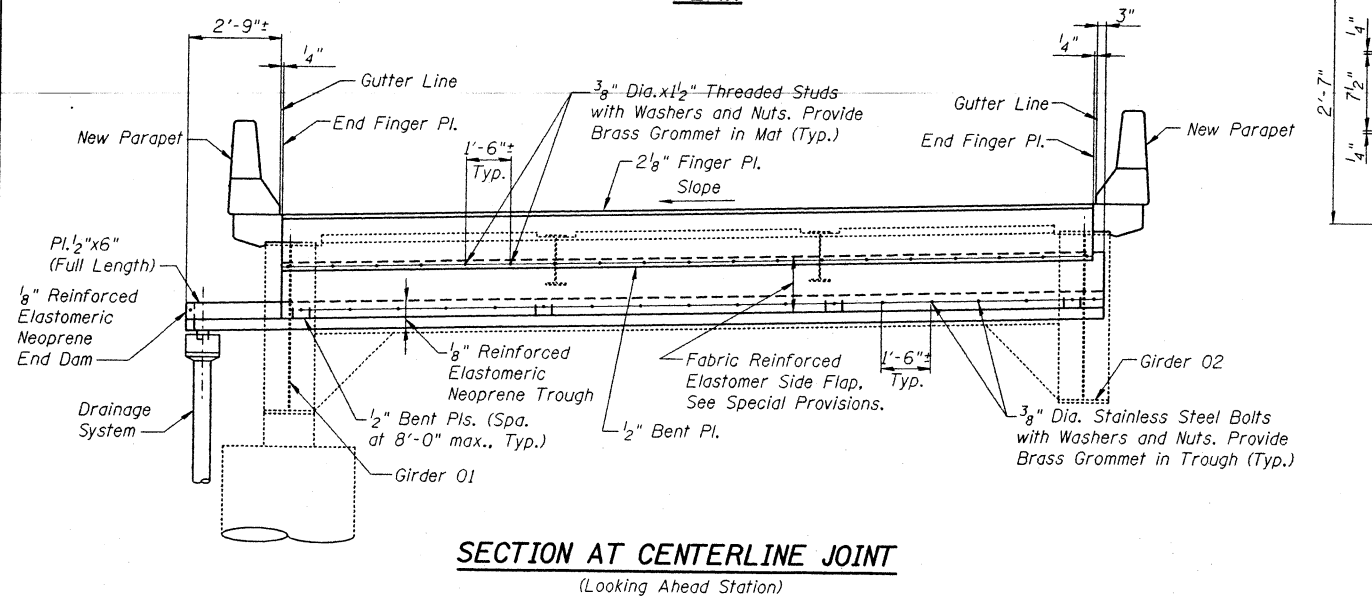
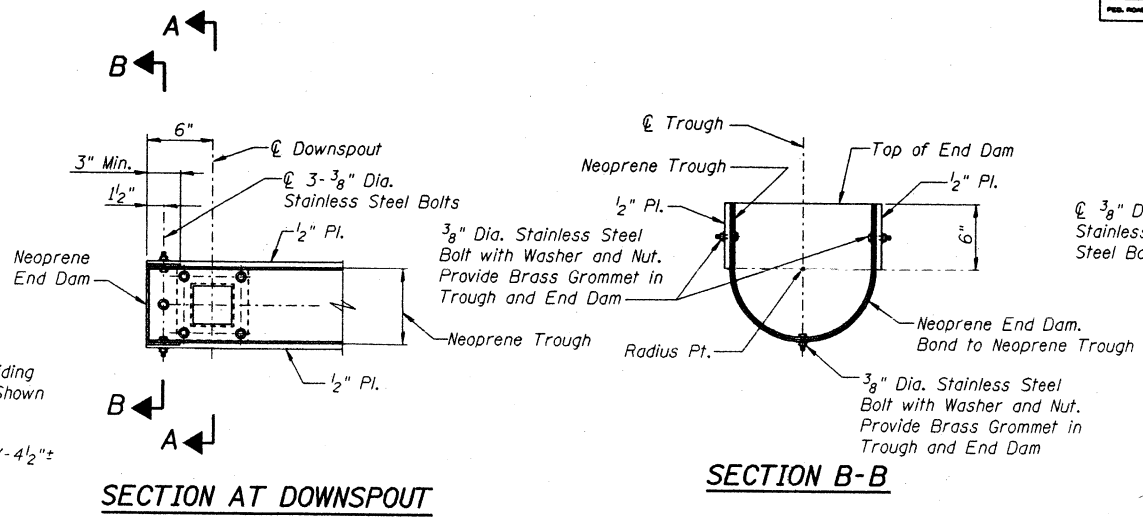
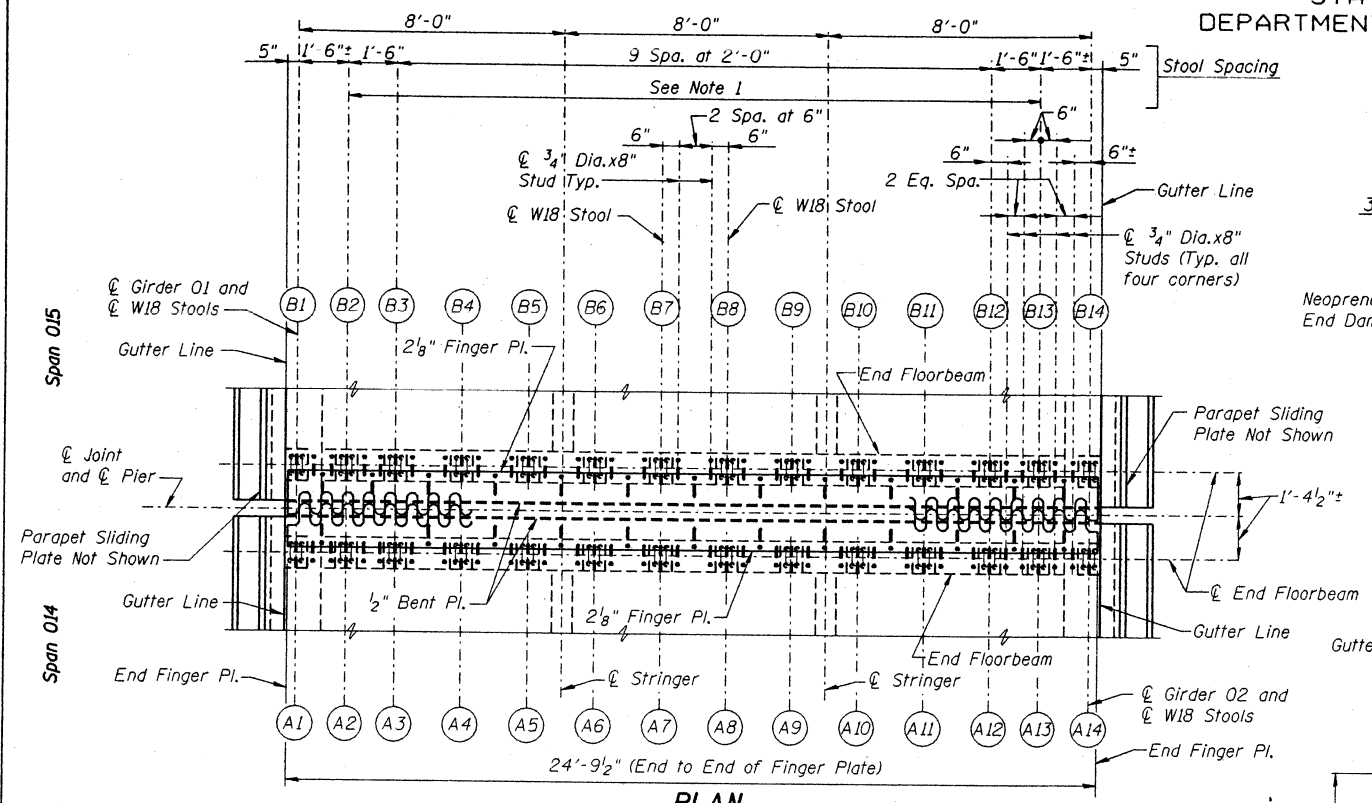
EJ-BJS

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ST. LOUIS, MO

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	DATE	SHEET NO. 14
FAI-70		St. Clair	388	69	33 SHEETS
FILE NO. DIST. NO.	DATE	FILE NO. PROJECT			

\*082-3HVB-2R-D-2



Note: The 2 1/8" Finger Plate shall be cut as provided in Article 507.04(L) of the Standard Specifications use a 1/4" wide cut.

**FINGER PLATE SETTING DIAGRAM**  
Increase Gap 3/16" for each 5° Fall in Temperature  
Decrease Gap 3/16" for each 5° rise in Temperature.

- NOTES**
1. Stool spacing set the same as per the original plans. Field verify locations.
  2. For stool heights, see Sheet 15.
  3. For Drainage System Details, see Sheet 15A.

DESIGNED	R. Victor
CHECKED	M. Supak
DRAWN	J. Smith
CHECKED	D. James

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JACOBS CIVIL INC.  
ST. LOUIS, MO

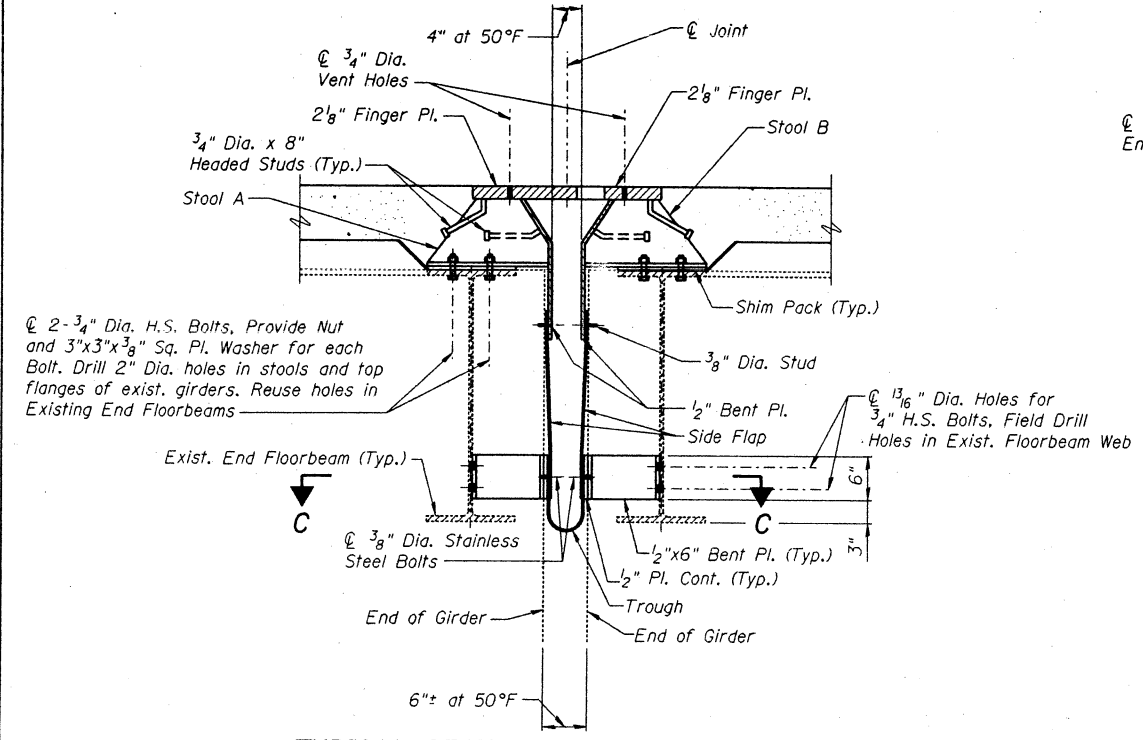
REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-Q143  
FINGER PLATE DETAILS  
PIER 014  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
FAI-70		St. Clair	388	70
33 SHEETS				

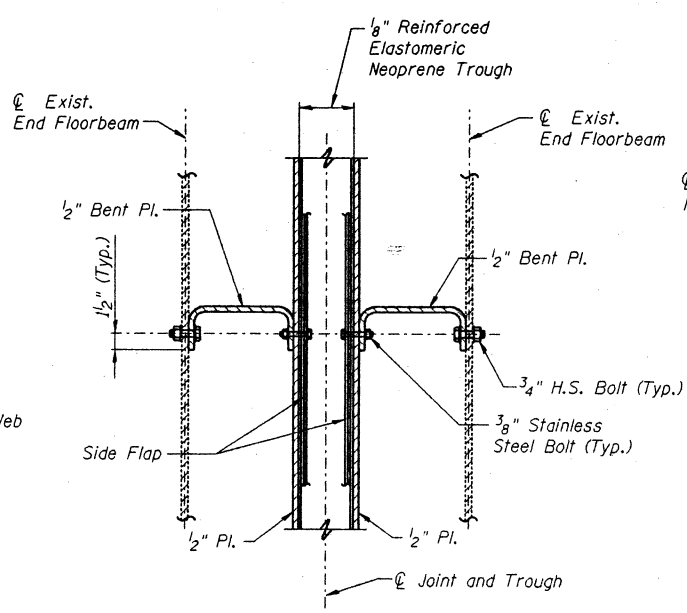
082-3HVB-2R-D-2

Span 014                      Span 015

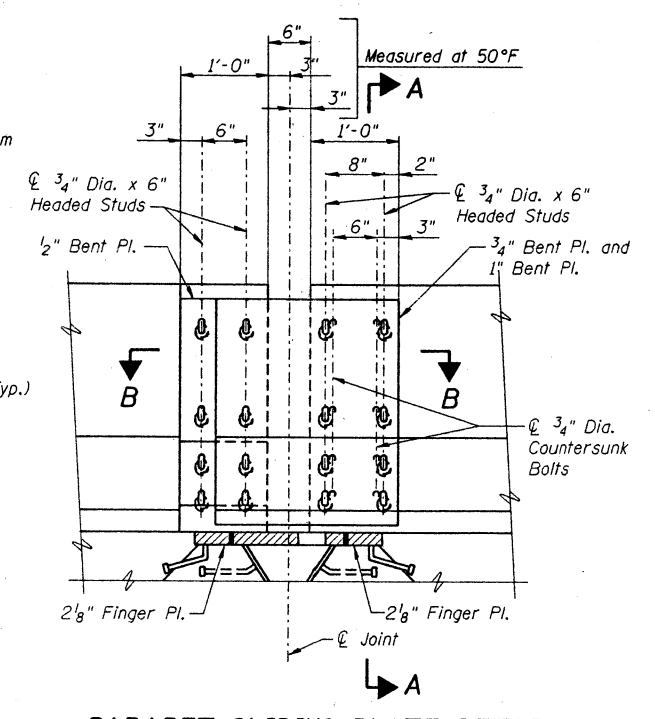


**TYPICAL SECTION THRU FINGER PLATE**

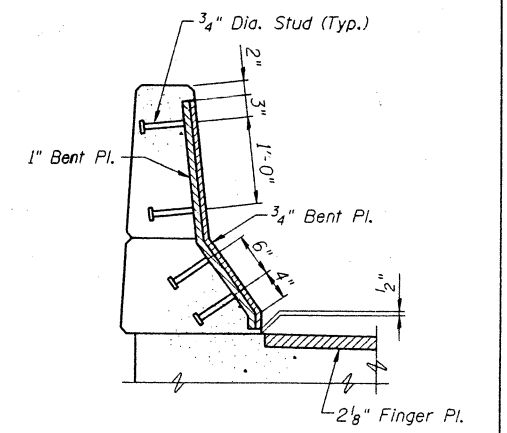
Note: The Shim Pack is to include 1/4" normal shim plus one 1/8" and one 1/16" shims for height adjustment.



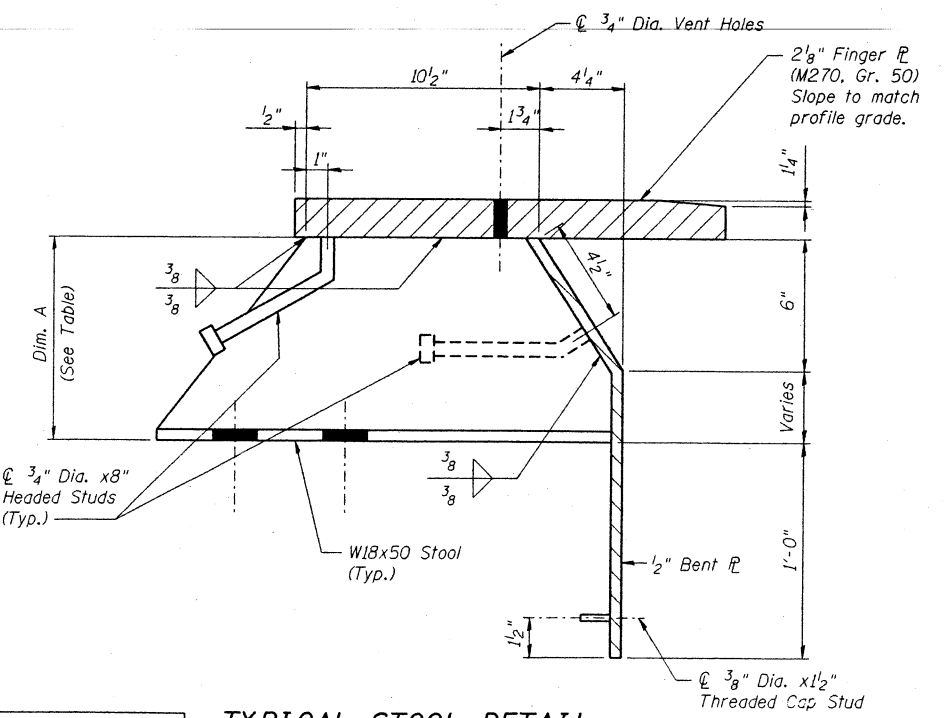
**SECTION C-C**



**PARAPET SLIDING PLATE DETAIL**



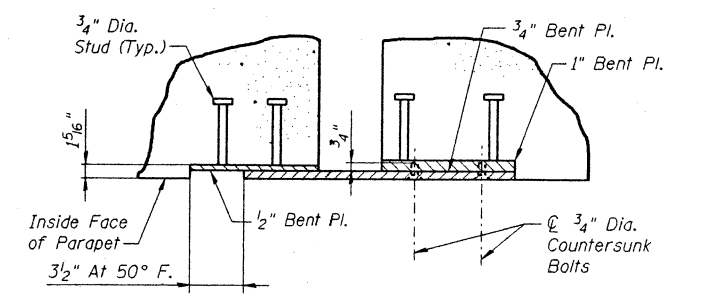
**SECTION A-A**



**TYPICAL STOOL DETAIL**

Stool A Shown, Stool B Similar

THEORETICAL STOOL HEIGHT			
STOOL	DIM. A	STOOL	DIM. A
A1	9 7/8"	B1	9 7/8"
A2	10 3/8"	B2	9 3/8"
A3	10 3/8"	B3	9 3/8"
A4	10 3/8"	B4	9 3/8"
A5	10 3/8"	B5	9 3/8"
A6	10 3/8"	B6	9 3/8"
A7	10 3/8"	B7	9 3/8"
A8	10 3/8"	B8	9 3/8"
A9	10 3/8"	B9	9 3/8"
A10	10 3/8"	B10	9 3/8"
A11	10 3/8"	B11	9 3/8"
A12	10 3/8"	B12	9 3/8"
A13	10 3/8"	B13	9 3/8"
A14	9 7/8"	B14	9 7/8"



**SECTION B-B**

**NOTES**

- For General Notes, see Sheet 2.
- The Expansion Device shall be fabricated to fit the roadway grade and cross slope.
- The 3/4" dia. Headed Studs shall conform to Article 1006.32, of the Standard Specifications and shall be granular or solid flux filled automatically end welded.

DESIGNED	R. Victor
CHECKED	M. Supak
DRAWN	J. Smith
CHECKED	D. James

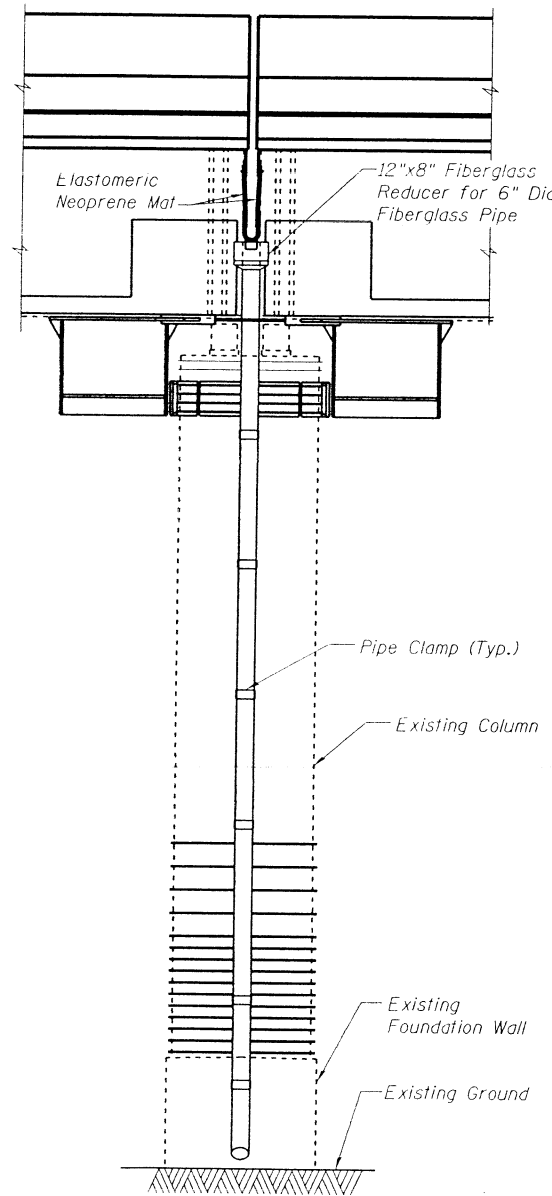
PREPARED BY  
JACOBS CIVIL INC.  
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
FINGER PLATE DETAILS  
PIER 014  
(FAI-70) ST. CLAIR CO.

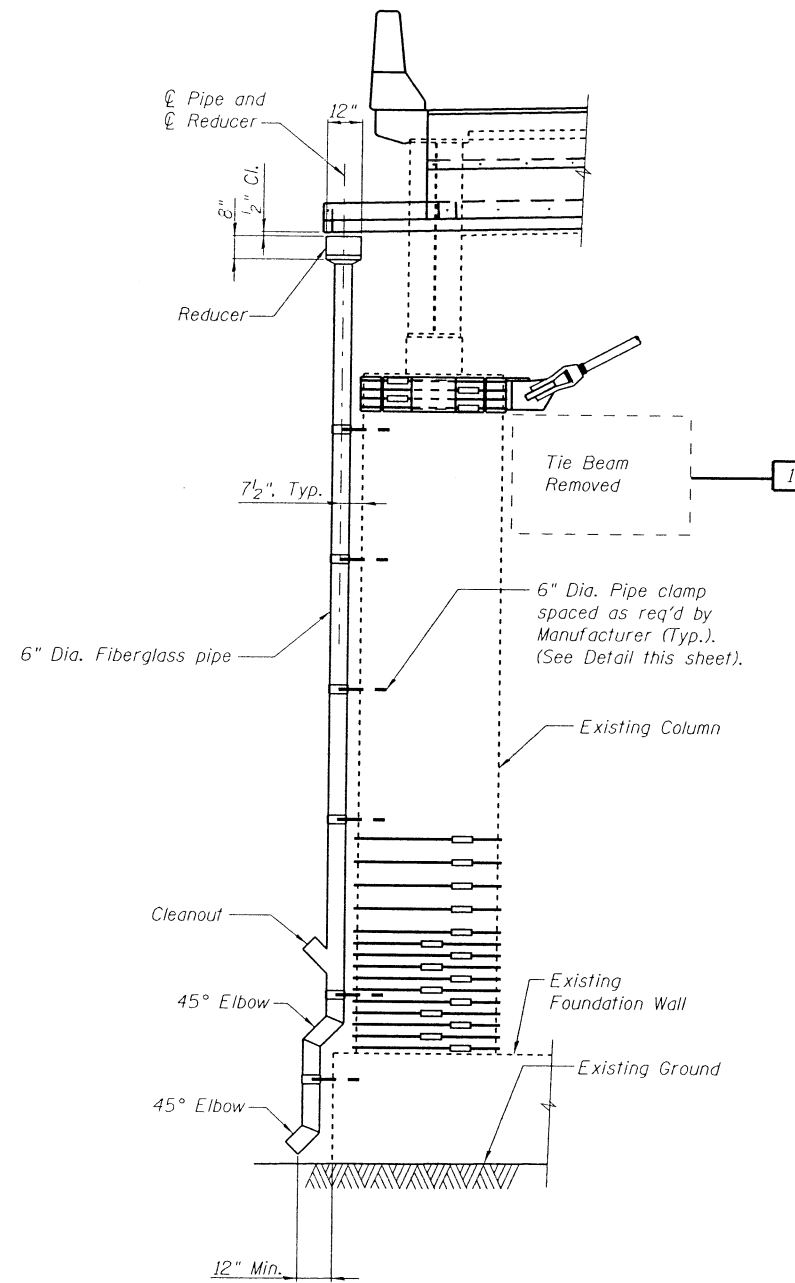
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 15A
FAI-70	*	St. Clair	388	71	33 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

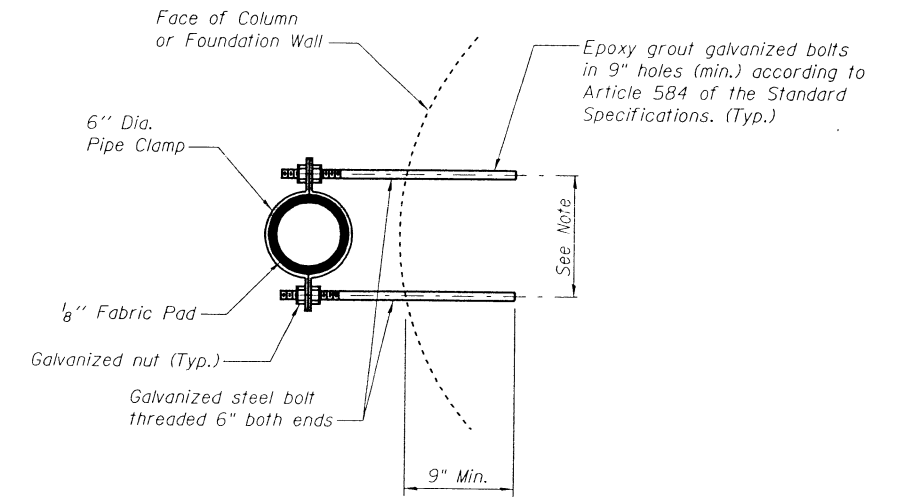
\*(82-3HVB-2R-1)-2



**END VIEW**



**ELEVATION**



**PIPE CLAMP DETAIL**

Note: As required by pipe clamp manufacturer.

**NOTES**

1. The exterior surface of the furnished fiberglass pipe shall be colored or pigmented by the manufacturer with a color that matches the color of concrete.
2. Fiberglass pipe shall conform to ASTM D2996 with short-time rupture strength hoop tensile stress of 29,000 psi minimum. The surface of the fiberglass pipe shall be free of bond inhibiting agents.
3. The clamping device and inserts shall be galvanized according to AASHTO M232.
4. Pipe clamps shall be spaced to miss existing reinforcement, existing column bands, New Column Bands and Column Wraps.

DESIGNED	S. Kaemmerer
CHECKED	R. Victor
DRAWN	S. Kaemmerer
CHECKED	R. Victor

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

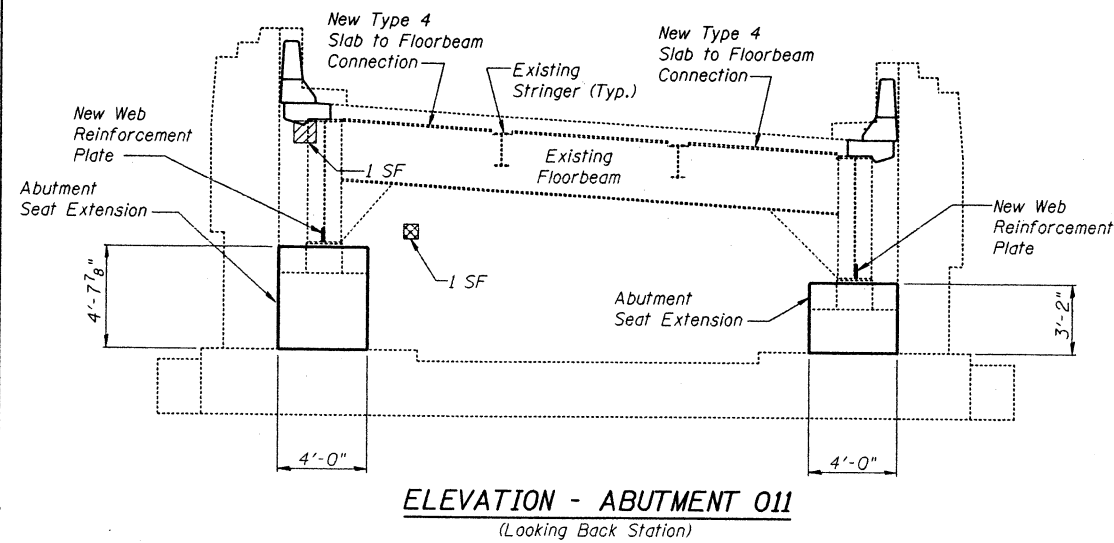
REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
DRAINAGE SYSTEM AT FINGER PLATE  
PIER 014  
(FAI-70) ST. CLAIR CO.



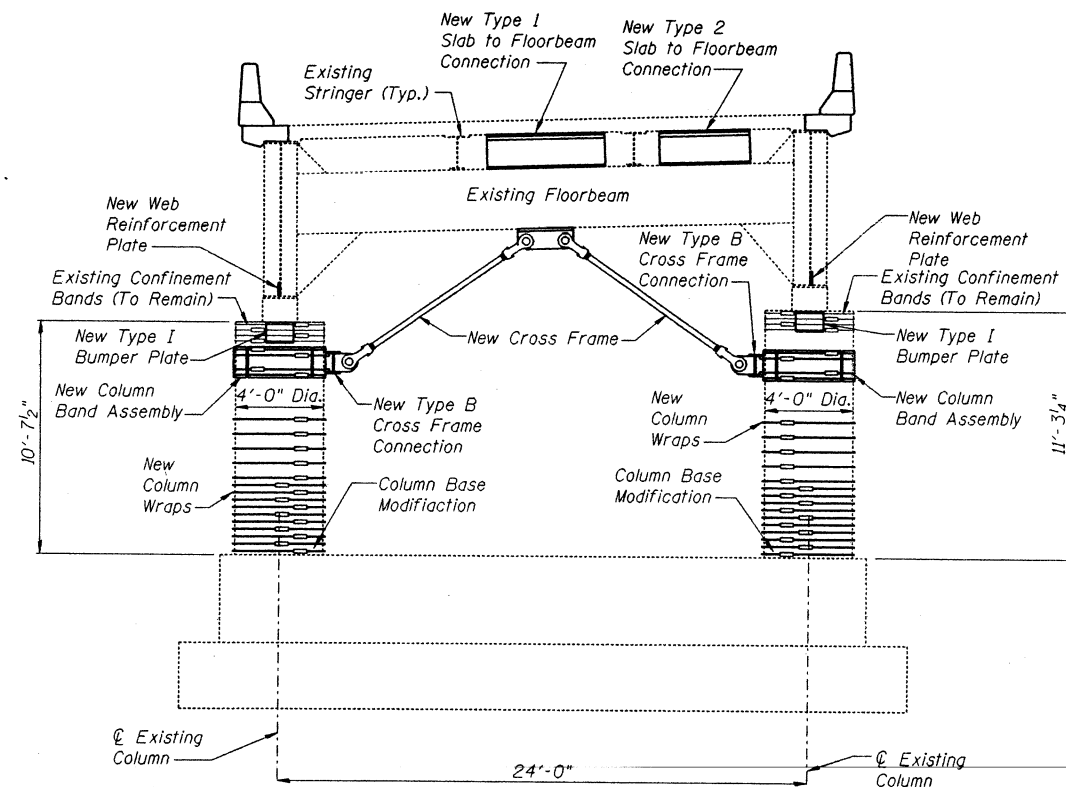
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	DATE	SHEET NO.
FAI-70		St. Clair	388 72	16
SHEET NO.		33 SHEETS		

\*(82-3HVB-2R-1)-2

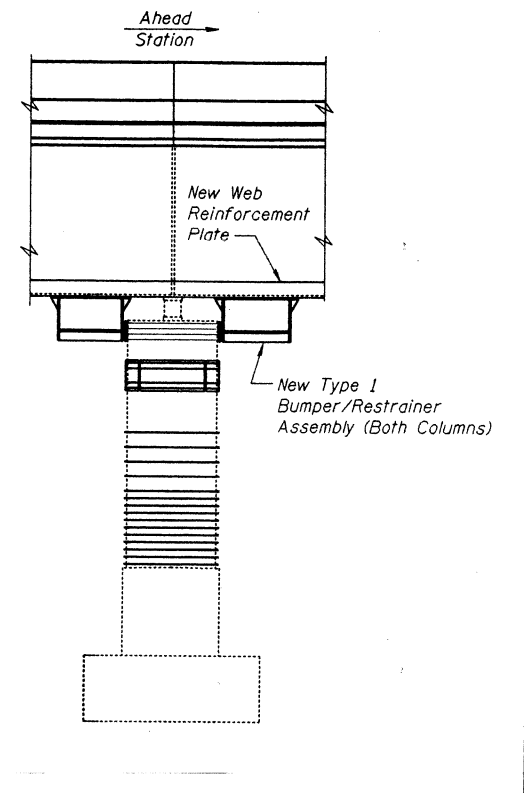


**ELEVATION - ABUTMENT 011**  
(Looking Back Station)



**ELEVATION - PIER 012**  
(Looking Ahead Station)

Note: "Pier 012 (Looking Back Station)" similar and opposite hand.



**END VIEW**

**NOTES**

1. For Cross Frame Details, see Sheets 27 and 28.
2. For Column Band Assembly Details, see Sheet 27 and 28.
3. For Slab to Floorbeam Connection Details, see Sheet 29.
4. For Bumper Plate Details, see Sheet 26.
5. For Bumper/Restrainer Assembly Details, see Sheet 25.
6. For Column Wrap Details, see Sheet 31.
7. For Web Reinforcement Plate Details, see Sheet 21.
8. For Column Base Modification Details, see Sheet 30.
9. SF Indicates Square Foot.
10. For Formed Concrete Repair, see Special Provisions.

**LEGEND**

- = Formed Concrete Repair (Depth ≤ 5")
- = Formed Concrete Repair (Depth > 5")

BILL OF MATERIAL - ABUTMENT 011		
ITEM	UNIT	QUANTITY
Expansion Bolts (Special)	EACH	8
Reinforcement Bars (Epoxy Coated)	LBS.	1,370
Concrete Structures	C.Y.	2.1
Formed Concrete Repair (Depth ≤ 5")	SQ. FT.	1
Formed Concrete Repair (Depth > 5")	SQ. FT.	1

BILL OF MATERIAL - PIER 012		
ITEM	UNIT	QUANTITY
Column wrap	SQ. FT.	180
Expansion Bolts (Special)	EACH	18
Foundation Wall Dowel Modification	EACH	2

DESIGNED	A. Amidi
CHECKED	R. Victor / M. Capron
DRAWN	S. Kaemmerer
CHECKED	R. Victor

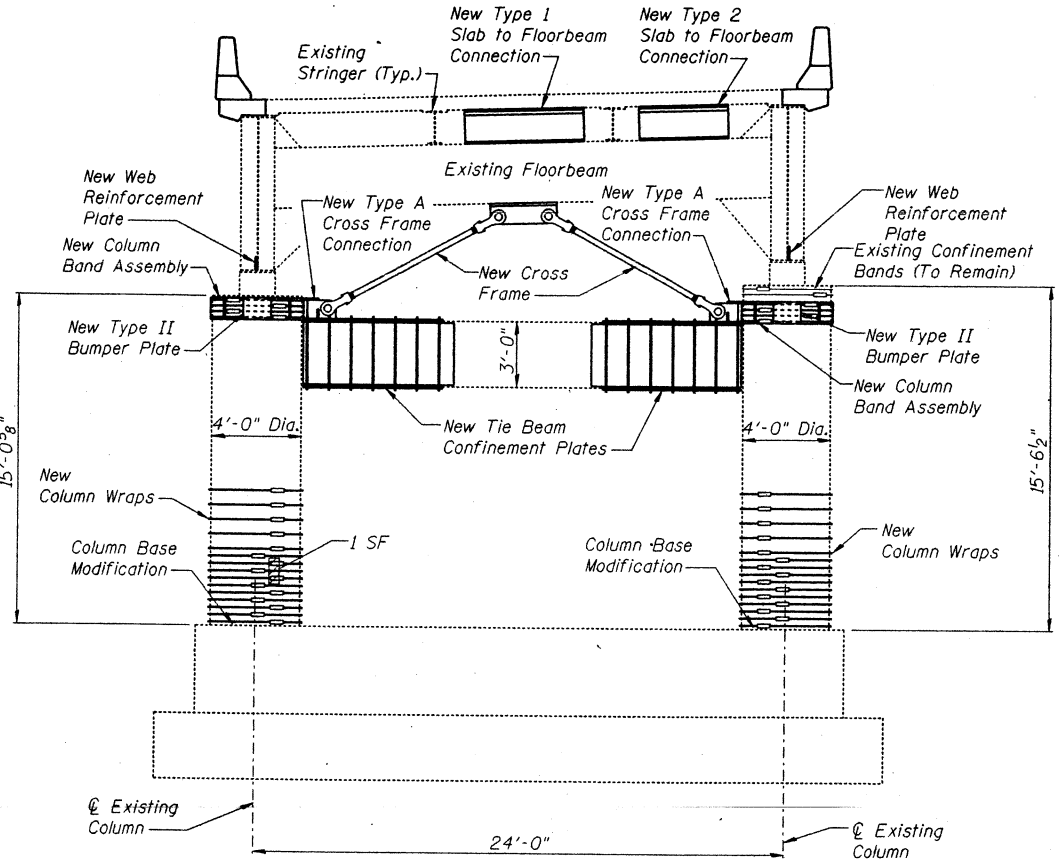
PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
RETROFIT AND SUBSTRUCTURE REPAIR  
ABUTMENT 011 AND PIER 012  
(FAI-70) ST. CLAIR CO.

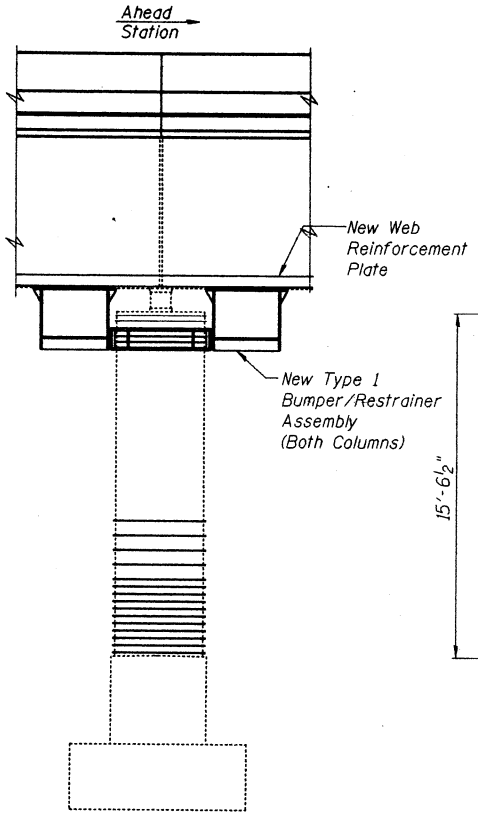
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STATE NO.	SECTION	COUNTY	388	73	SHEET NO. 17
FAI-70		St. Clair	388	73	33 SHEETS
FED. ROAD DIST. NO. 7	BLANKET	FED. AID PROJECT			

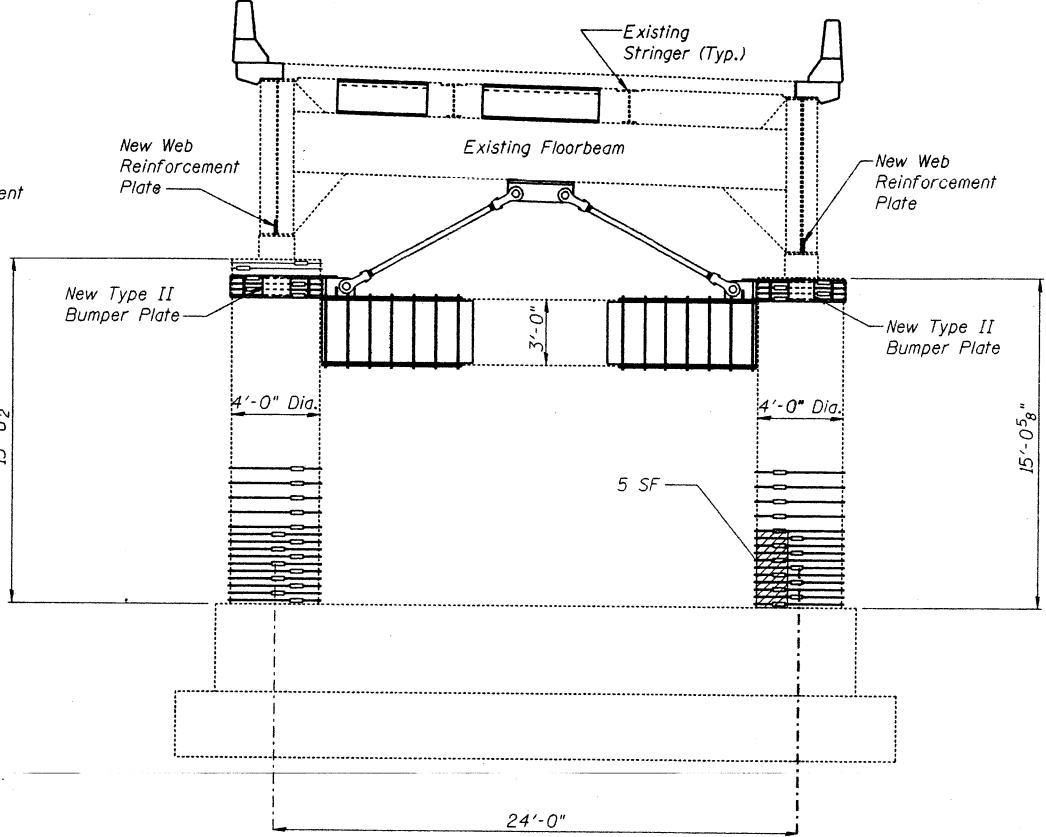
(82-3HVB-2R-1)-2



**ELEVATION**  
(Looking Ahead Station)



**END VIEW**



**ELEVATION**  
(Looking Back Station)

Note: For seismic and redundancy information not shown, see "ELEVATION (Looking Ahead Station)".

**NOTES**

1. For Formed Concrete Repair, see Special Provisions.
2. For Cross Frame Details, see Sheets 27 and 28.
3. For Column Band Assembly Details, see Sheets 27 and 28.
4. For Slab to Floorbeam Connection Details, see Sheet 29.
5. For Bumper Plate Details, see Sheet 26.
6. For Bumper/Restrainer Assembly Details, see Sheet 25.
7. For Column Wrap Details, see Sheet 31.
8. For Web Reinforcement Plate Details, see Sheet 21.
9. For Tie Beam Confinement Plates, see Sheet 31.
10. For Column Base Modification Details, see Sheet 30.
11. SF Indicates Square Foot.

**LEGEND**

= Formed Concrete Repair (Depth ≤ 5")

BILL OF MATERIAL - PIER 013		
ITEM	UNIT	QUANTITY
Column wrap	SQ. FT.	180
Expansion Bolts (Special)	EACH	18
Formed Concrete Repair (Depth ≤ 5")	SQ. FT.	6
Foundation Wall Dowel Modification	EACH	2

DESIGNED	A. Amidi
CHECKED	R. Victor/ M. Capron
DRAWN	S. Kaemmerer
CHECKED	R. Victor

PREPARED BY:  
**JACOBS CIVIL INC.**  
ST. LOUIS, MO

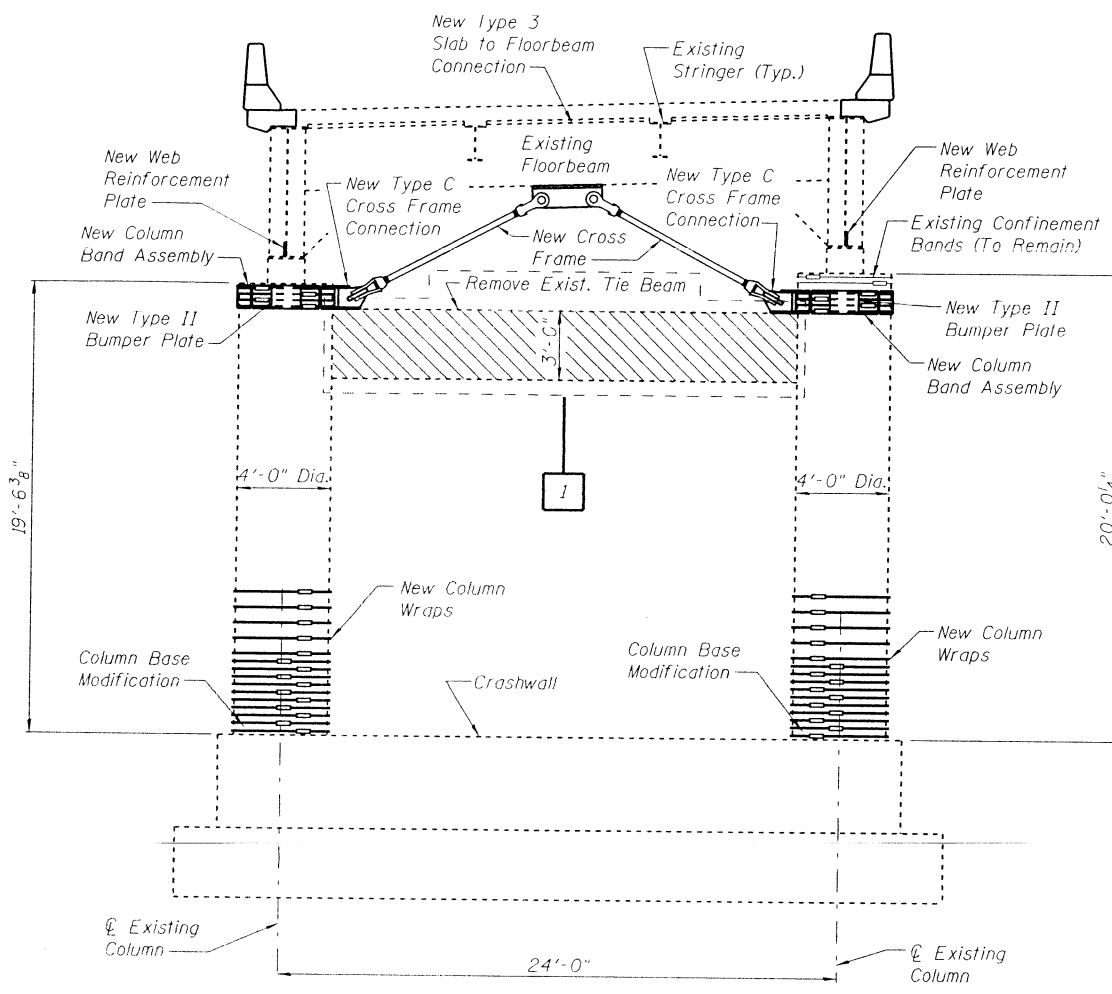
REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
RETROFIT AND SUBSTRUCTURE REPAIR  
PIER 013  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

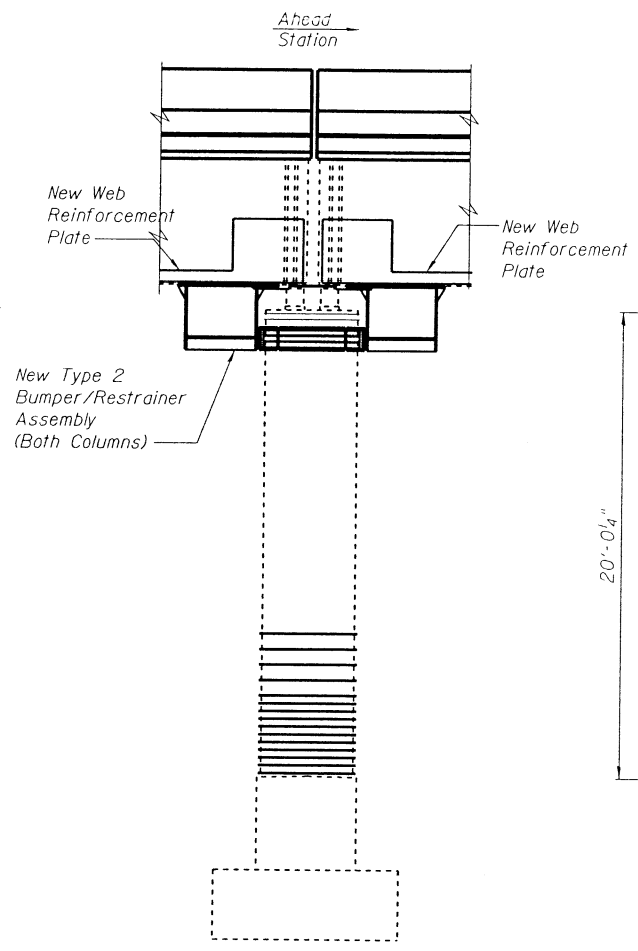
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	74
FED. ROAD DIST. NO. 7	ILL. PROJECT	FED. AID PROJECT		

SHEET NO. 18  
33 SHEETS

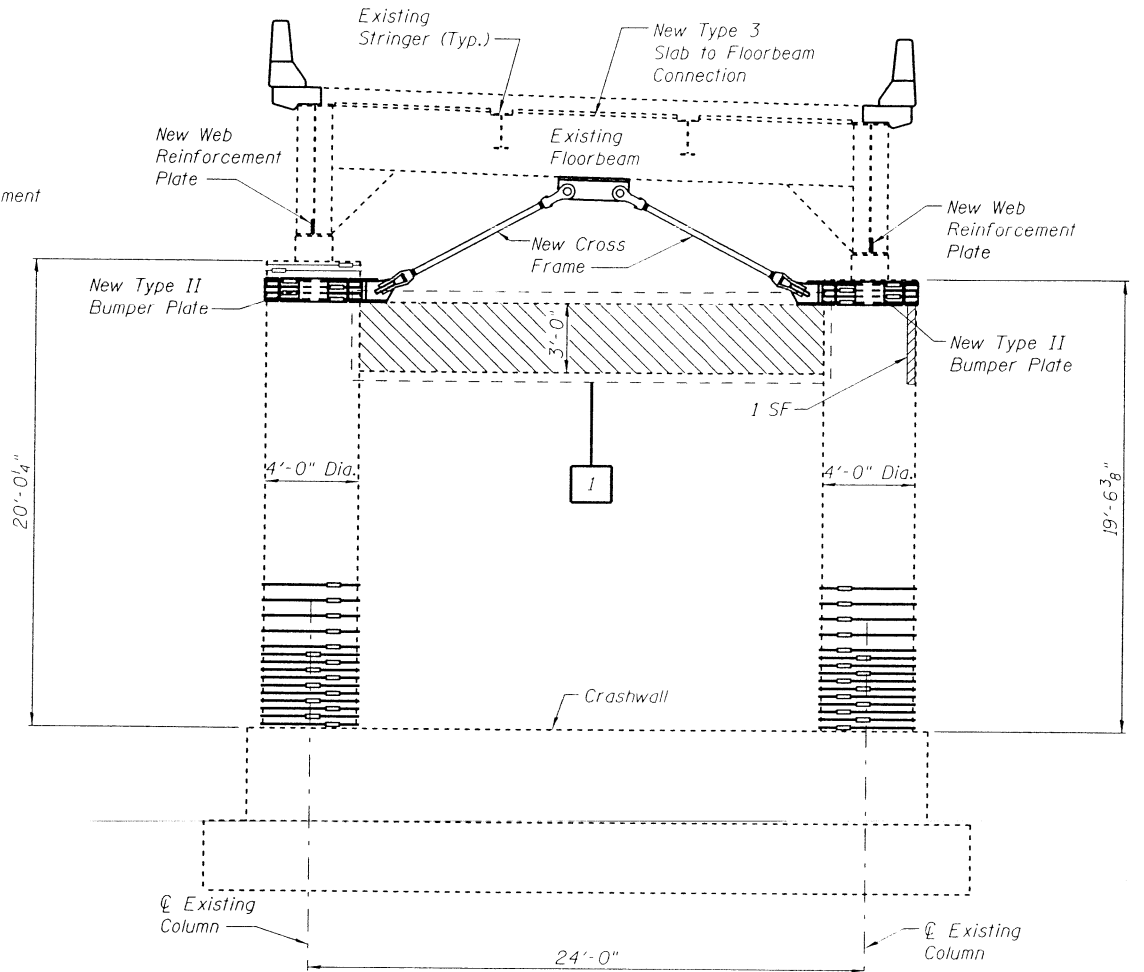
\*(82-3HVB-2R-1)-2



**ELEVATION**  
(Looking Ahead Station)

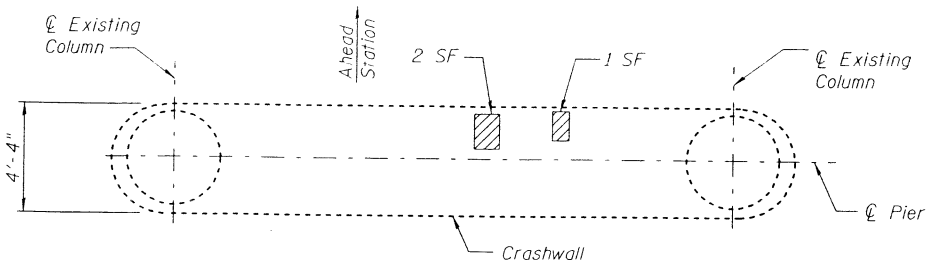


**END VIEW**



**ELEVATION**  
(Looking Back Station)

Note: For seismic and redundancy information not shown, see "ELEVATION (Looking Ahead Station)".



**PLAN OF CRASHWALL**

**LEGEND**

- = Formed Concrete Repair (Depth ≤ 5")
- = Remove Tie Beam (Special)

- NOTES**
1. For Formed Concrete Repair, see Special Provisions.
  2. For Cross Frame Details, see Sheets 27 and 28.
  3. For Column Band Assembly Details, see Sheets 27 and 28.
  4. For Slab to Floorbeam Connection Details, see Sheet 29.
  5. For Bumper Plate Details, see Sheet 26.
  6. For Bumper/Restrainer Assembly Details, see Sheet 25.
  7. For Column Wrap Details, see Sheet 31.
  8. For Web Reinforcement Plate Details, see Sheet 21.
  9. For Column Base Modifications, see Sheet 30.
  10. SF Indicates Square Foot.

BILL OF MATERIAL - PIER 014		
ITEM	UNIT	QUANTITY
Column wrap	SQ. FT.	180
Expansion Bolts (Special)	EACH	12
Formed Concrete Repair (Depth ≤ 5")	SQ. FT.	14
Foundation Wall Dowel Modification	EACH	2
Remove Tie Beam (Special)	EACH	1

DESIGNED	A. Amidi
CHECKED	R. Victor/ M. Capron
DRAWN	S. Kaemmerer
CHECKED	R. Victor

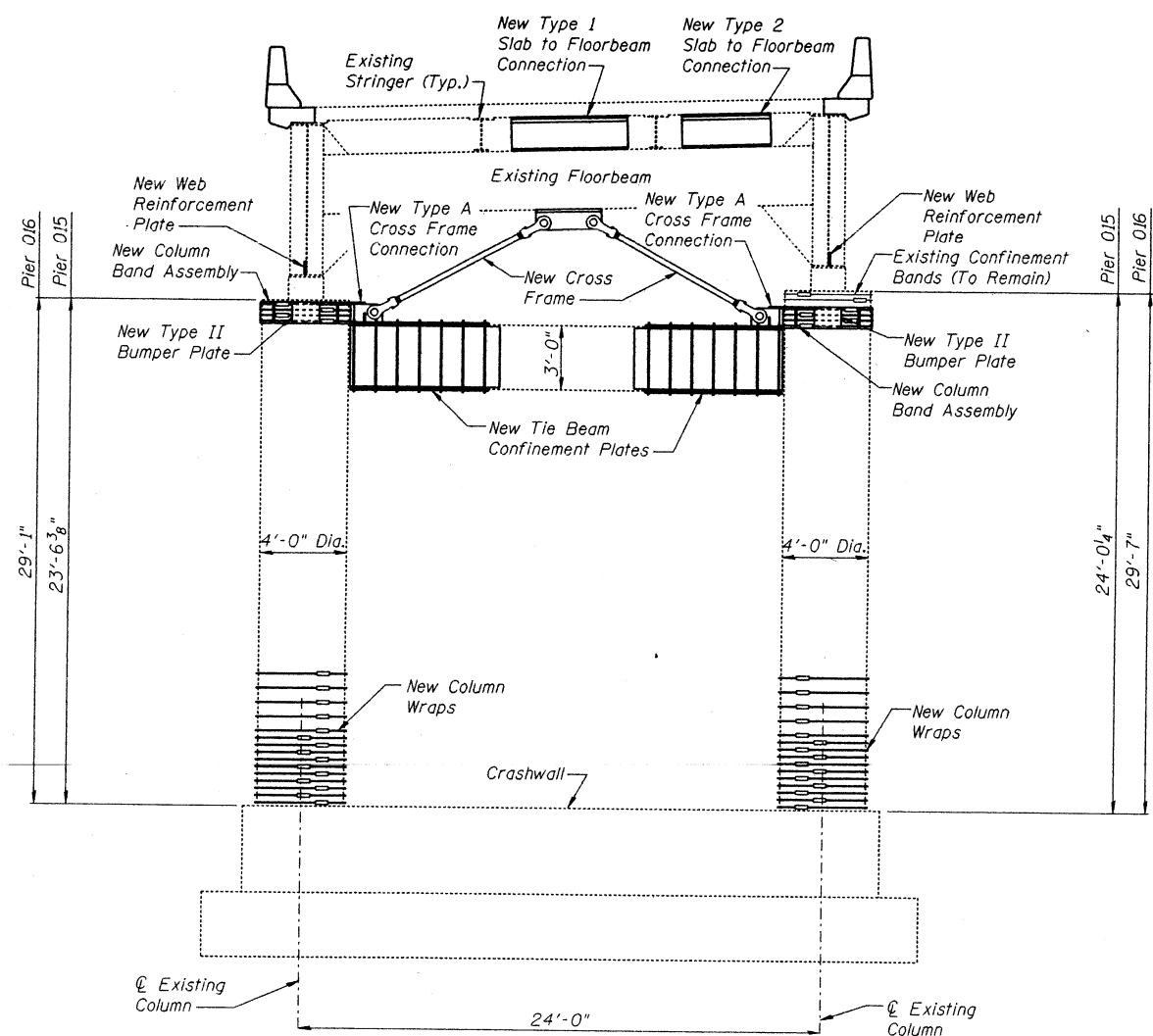
PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
RETROFIT AND SUBSTRUCTURE REPAIR  
PIER 014  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

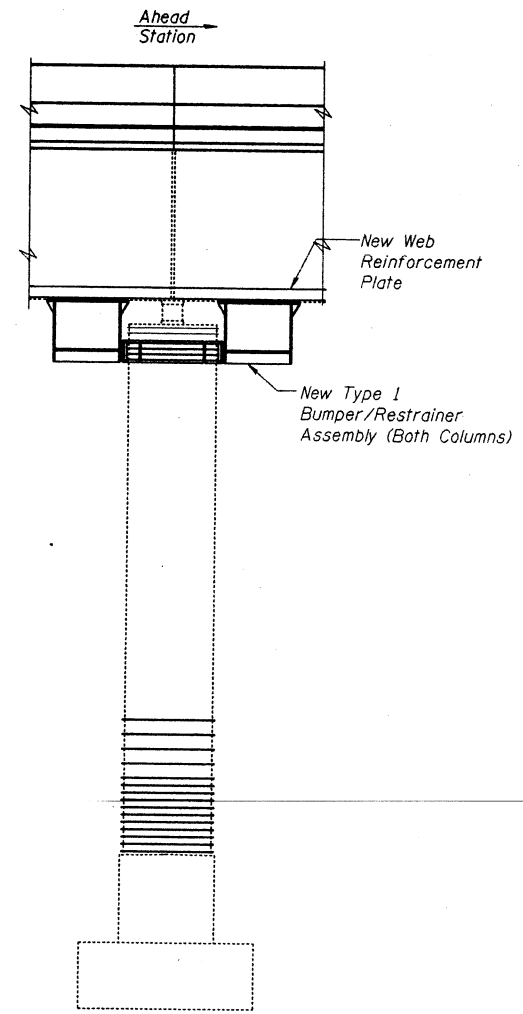
PROJECT NO.	SECTION	QUANTITY	DATE	TIME	SHEET NO. 19
FAI-70		St. Clair	388	75	33 SHEETS
REVISION NO. 1	DATE	BY	APP. PROJECT		

(82-3HVB-2R-1)-2



**ELEVATION - PIERS 015 AND 016**  
(Looking Ahead Station)

Note: "ELEVATION (Looking Back Station)" similar and opposite hand.



**END VIEW**

**BILL OF MATERIAL - PIER 015**

ITEM	UNIT	QUANTITY
Column wrap	SQ. FT.	180
Expansion Bolts (Special)	EACH	18

**BILL OF MATERIAL - PIER 016**

ITEM	UNIT	QUANTITY
Column wrap	SQ. FT.	230
Expansion Bolts (Special)	EACH	18

**NOTES**

1. For Cross Frame Details, see Sheets 27 and 28.
2. For Column Band Assembly Details, see Sheets 27 and 28.
3. For Slab to Floorbeam Connection Details, see Sheet 29.
4. For Bumper Plate Details, see Sheet 26.
5. For Bumper/Restrainer Assembly Details, see Sheet 25.
6. For Column Wrap Details, see Sheet 31.
7. For Web Reinforcement Plate Details, see Sheet 21.
8. For Tie Beam Confinement Plates, see Sheet 31.

DESIGNED	A. Amidi
CHECKED	R. Victor/ M. Capron
DRAWN	S. Kaemmerer
CHECKED	R. Victor

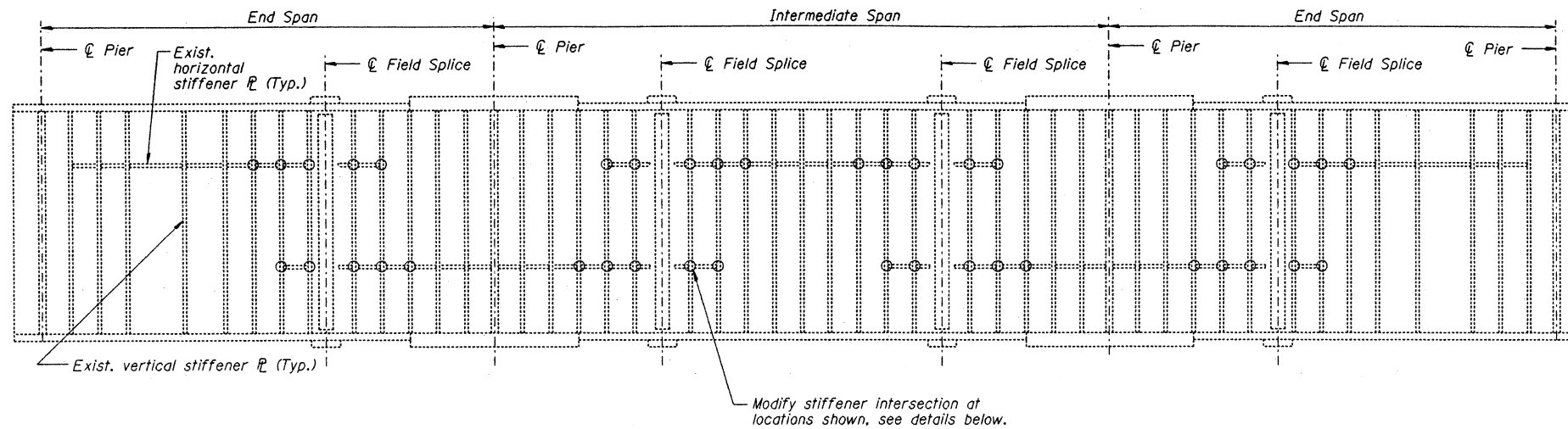
PREPARED BY:  
**JACOBS CIVIL INC.**  
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
RETROFIT AND SUBSTRUCTURE REPAIR  
PIERS 015 AND 016  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

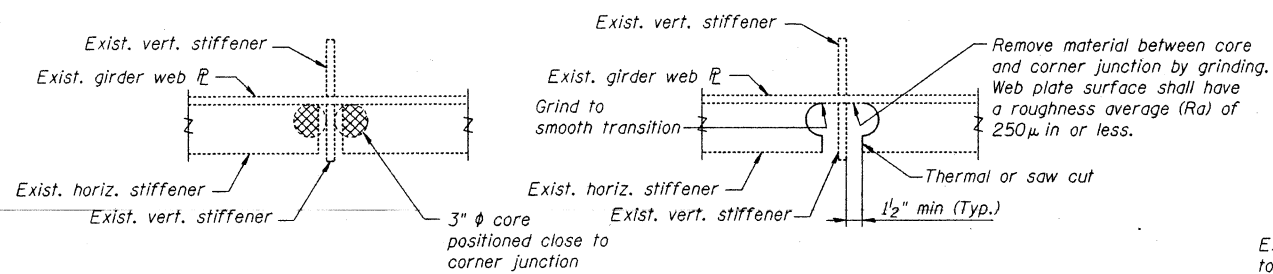
ROUTE NO.	DISTRICT	COUNTY	SECTION	SHEET NO.
FAI-70	*	St. Clair	388	76
FBI PROJ. NO. 7		SHEET NO. 20		
SHEET NO. 20		33 SHEETS		

082-3HVB-2R-D-2



**GIRDER ELEVATION - FRACTURE CONTROL MODIFICATION LOCATIONS**

Exterior Face of Girder 01, shown. Exterior Face of Girder 02, Similar.

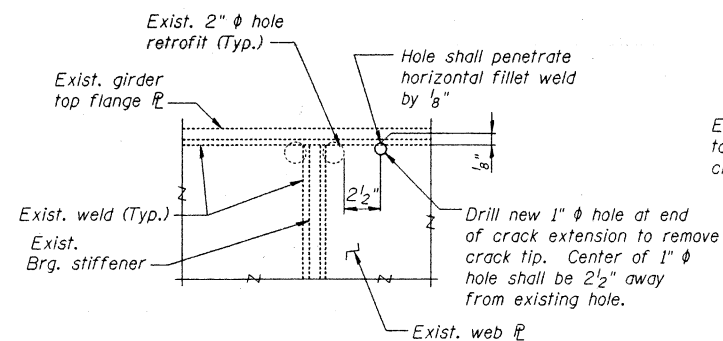


**STIFFENER INTERSECTION MODIFICATION DETAILS**

(Showing 2 Locations)

**Procedure:**

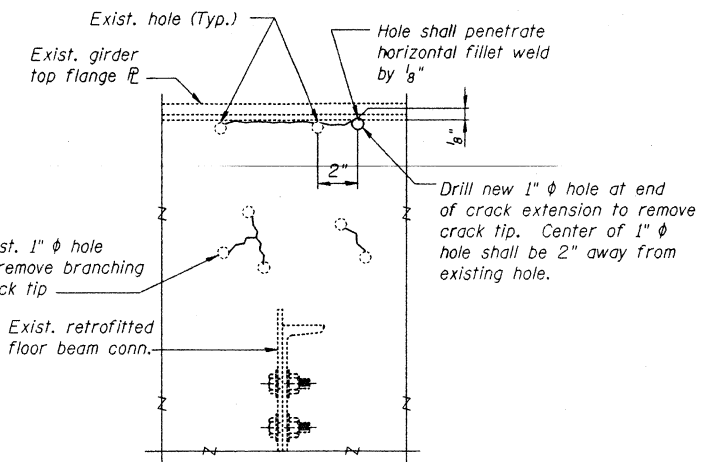
1. Core 3" diameter hole positioned close to corner junction through  $\frac{3}{8}$ " thick horizontal stiffener as shown in detail.
2. Remove material between core and intersection junction by grinding with carbide tool and a dye grinder as shown in details. Web plate surface shall have a roughness average (Ra) of 250  $\mu$  in or less.
3. Remove all burrs from cut edge and check for irregularities. Cored surface shall have an Ra equal to 500  $\mu$  in or less.
4. After burr removal the modification shall be inspected using liquid dye, or magnetic particle (MT) inspection methods. Any cracks found shall be identified and reported to the Bureau of Bridges and Structures for further disposition.
5. The exposed steel surfaces shall be cleaned and painted using a aluminum epoxy mastic primer.
6. Obtain approval of Engineer before proceeding.
7. Paint area with top coat.



**CRACK EXTENSION RETROFIT AT PIER**

**Procedure:**

1. Inspect girder web plate in region of existing retrofits to determine location of crack extension and crack tip using liquid dye penetrant or magnetic particle (MT) inspection methods (Cost included with crack extension modifications).
2. Drill 1" diameter hole at end of crack extension to remove crack tip. Center of 1" diameter crack arrestor hole shall be positioned in accordance with detail.
3. Cored surfaces shall have a roughness average (Ra) of 500  $\mu$  in or less.
4. Re-inspect area using liquid dye penetrant or magnetic particle (MT) methods to verify crack does not extend past the newly drilled holes (Cost included with crack extension modification).
5. Obtain approval of Engineer.
6. Clean exposed steel surfaces to remove contaminants and paint with aluminum epoxy mastic primer.



**CRACK EXTENSION RETROFIT AT INTERIOR FLOOR BEAM**

DESIGNED	L. Peterman
CHECKED	V. Van Santen
DRAWN	J. Corley
CHECKED	F. Camba

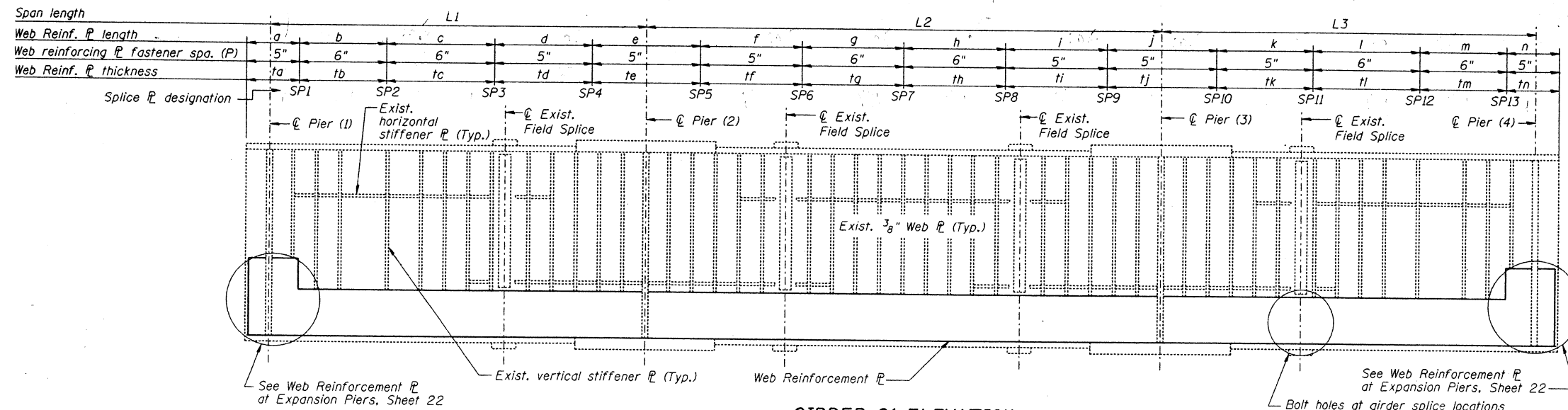
PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
STIFFENER INTERSECTION MODIFICATIONS  
AND CRACK EXTENSION RETROFIT  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAI-70		St. Clair	388	77
FED. ROAD DIST. NO. 7		SHEET NO.		33 SHEETS

(82-3HVB-2R-1)-2



**GIRDER 01 ELEVATION**

Exterior Face of Girder 01, shown.  
Exterior Face of Girder 02, similar and opposite hand.

Girder	Span 1												Span 2												Span 3											
	Pier (1)	L1	a	ta	b	tb	c	tc	d	td	e	te	Pier (2)	L2	f	ff	g	tg	h	th	i	ti	j	tj	Pier (3)	L3	k	tk	l	tl	m	tm	n	tn	Pier (4)	
01	014	93'-3"	3'-9 $\frac{1}{2}$ "	1"	28'-6"	1 $\frac{1}{4}$ "	30'-6"	1 $\frac{1}{4}$ "	20'-6"	2"	20'-6"	2"	013	120'-0"	20'-6"	2"	30'-6"	1 $\frac{1}{4}$ "	27'-11 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	20'-6"	2"	20'-6"	2"	012	93'-11 $\frac{5}{8}$ "	20'-6"	2"	30'-6"	1 $\frac{1}{4}$ "	29'-6"	1 $\frac{1}{4}$ "	3'-9 $\frac{1}{2}$ "	1"	011*	
02	014	93'-3"	3'-10"	1"	28'-6"	1 $\frac{1}{4}$ "	30'-6"	1 $\frac{1}{4}$ "	20'-6"	2"	20'-6"	2"	013	120'-0"	20'-6"	2"	30'-6"	1 $\frac{1}{4}$ "	28'-0"	1 $\frac{1}{4}$ "	20'-6"	2"	20'-6"	2"	012	94'-1 $\frac{11}{16}$ "	20'-6 $\frac{1}{2}$ "	2"	30'-6"	1 $\frac{1}{4}$ "	29'-6"	1 $\frac{1}{4}$ "	3'-10"	1"	011*	
01	017	93'-2 $\frac{1}{2}$ "	3'-10"	1"	28'-6 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	30'-6"	1 $\frac{1}{4}$ "	20'-6"	2"	20'-6"	2"	016	120'-0"	20'-6"	2"	30'-6"	1 $\frac{1}{4}$ "	28'-0"	1 $\frac{1}{4}$ "	20'-6"	2"	20'-6"	2"	015	93'-3"	20'-6"	2"	30'-6 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	28'-6 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	3'-10"	1"	014	
02	017	93'-5 $\frac{3}{16}$ "	3'-9 $\frac{1}{2}$ "	1"	29'-0"	1 $\frac{1}{4}$ "	30'-6"	1 $\frac{1}{4}$ "	20'-5 $\frac{1}{2}$ "	2"	20'-6"	2"	016	120'-0"	20'-6"	2"	30'-6"	1 $\frac{1}{4}$ "	28'-0"	1 $\frac{1}{4}$ "	20'-6"	2"	20'-6"	2"	015	93'-3"	20'-5 $\frac{1}{2}$ "	2"	30'-6"	1 $\frac{1}{4}$ "	28'-6"	1 $\frac{1}{4}$ "	3'-9 $\frac{1}{2}$ "	1"	014	

\* Denotes Abutment

Piers	Web Reinforcement $\bar{P}$ Splice Plate Lengths												
	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	SP9	SP10	SP11	SP12	SP13
014-011*	4'-8"	5'-0"	4'-8"	5'-2"	5'-2"	4'-8"	5'-0"	4'-7 $\frac{1}{2}$ "	5'-2"	5'-2"	4'-8"	5'-0"	4'-8"
017-014	4'-8 $\frac{1}{2}$ "	5'-1"	4'-8"	5'-2"	5'-2"	4'-8"	5'-0"	4'-8"	5'-2"	5'-2"	4'-8 $\frac{1}{2}$ "	5'-0 $\frac{1}{2}$ "	4'-8 $\frac{1}{2}$ "
$\bar{P}$ thk.	1 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "	2"	2"	2"	2"	1 $\frac{1}{4}$ "	2"	2"	2"	2"	1 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "

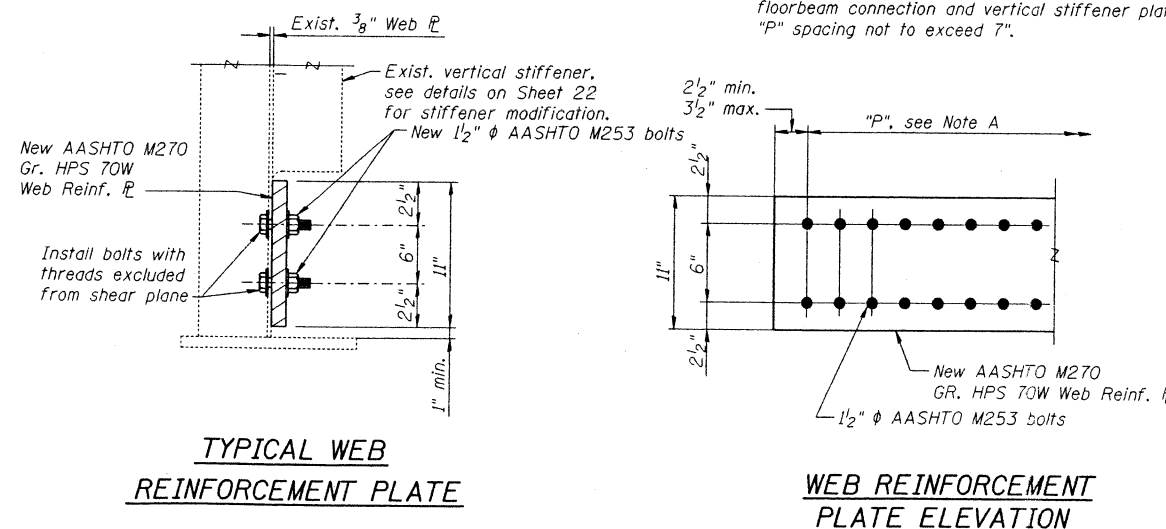
\* Denotes Abutment

**NOTES**

Remove paint from web of existing girder under new web reinforcement plates.

Existing pier and girder designations are taken from plans prepared by H.W. Lochner Inc. for the original structure.

Note A:  
For fastener spacing "P" see Girder Elevation this sheet. Space bolts to clear existing floorbeam connection and vertical stiffener plates. "P" spacing not to exceed 7".



DESIGNED	L. Peterman
CHECKED	V. Van Santen
DRAWN	M. King
CHECKED	F. Camba

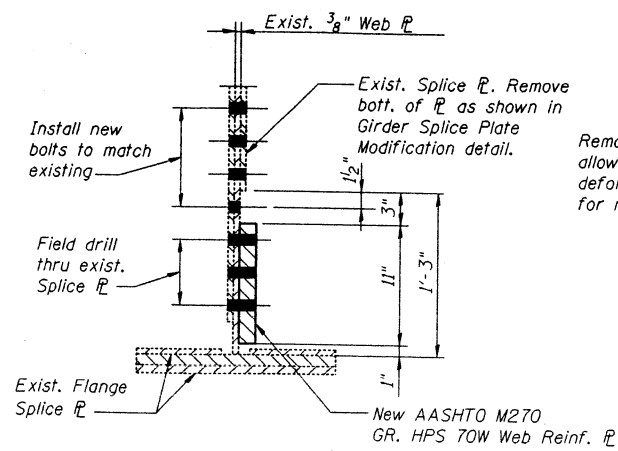
PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
REDUNDANCY RETROFIT DETAILS  
(FAI-70) ST. CLAIR CO.

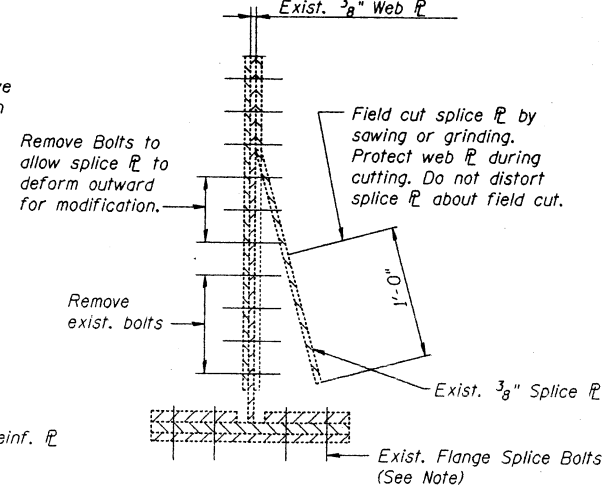
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	SHEET	DATE	SHEET NO. 22
FAI-70		St. Clair	388	78	33 SHEETS
REV. NO.	DATE	BY	FOR	PROJECT	

082-3HVB-2R-1)-2

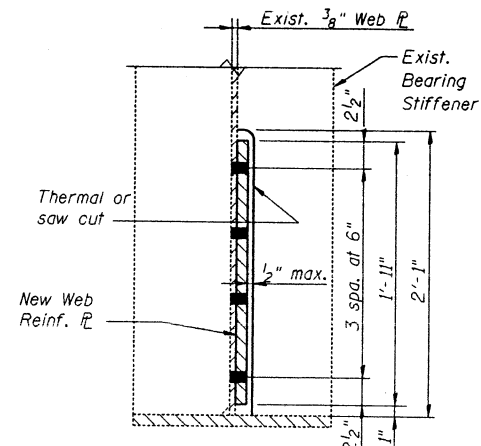


**WEB REINFORCEMENT PLATE  
AT GIRDER WEB SPLICE**

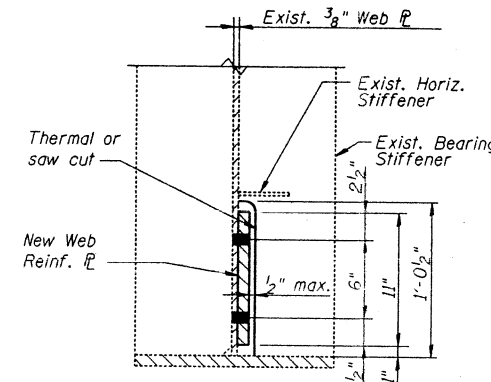


**GIRDER SPLICE PLATE MODIFICATION**

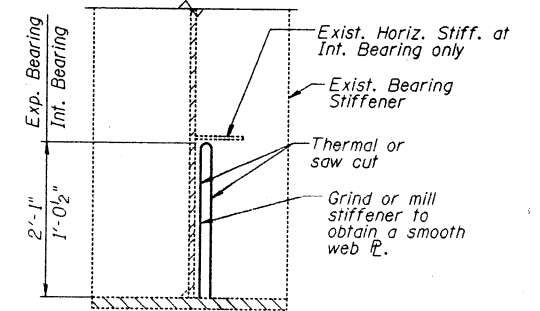
Note:  
It is intended that the existing flange splice bolts remain in place during installation of the web reinforcement plate. If it is necessary to remove bolts to install web reinforcement plate, Contractor shall notify the Engineer and obtain approved sequence and procedure prior to proceeding.



**TYPICAL SECTION THRU WEB  
REINFORCEMENT PLATE AT  
EXPANSION BEARING STIFFENER**



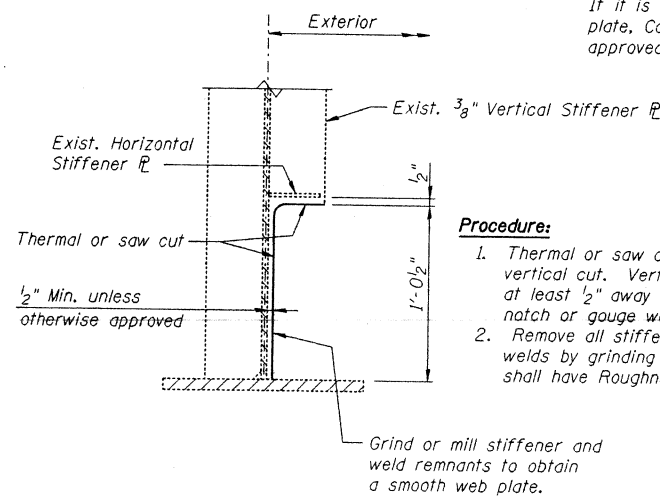
**TYPICAL SECTION THRU WEB  
REINFORCEMENT PLATE AT  
INTERIOR BEARING STIFFENER**



**BEARING STIFFENER  
MODIFICATION**

**Procedure:**

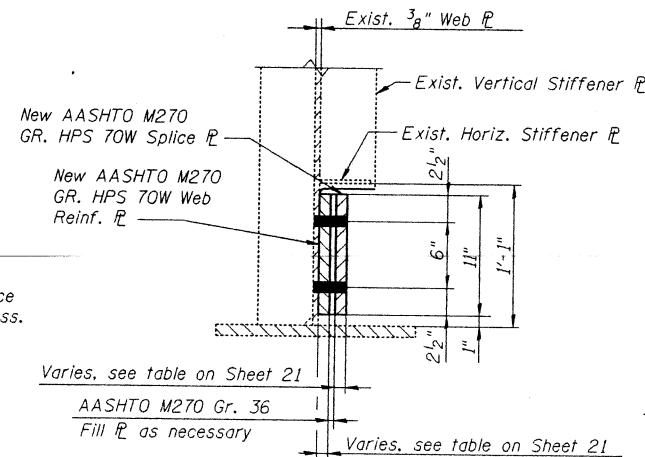
1. Thermal or saw cut horizontal cut and vertical cut. Vertical cut shall be positioned at least 1/2" away from girder web. Do not notch or gouge web plate.
2. Remove all stiffener remnants and connecting welds by grinding or by milling. Web plate surface shall have Roughness average (Ra) of 250 or less.



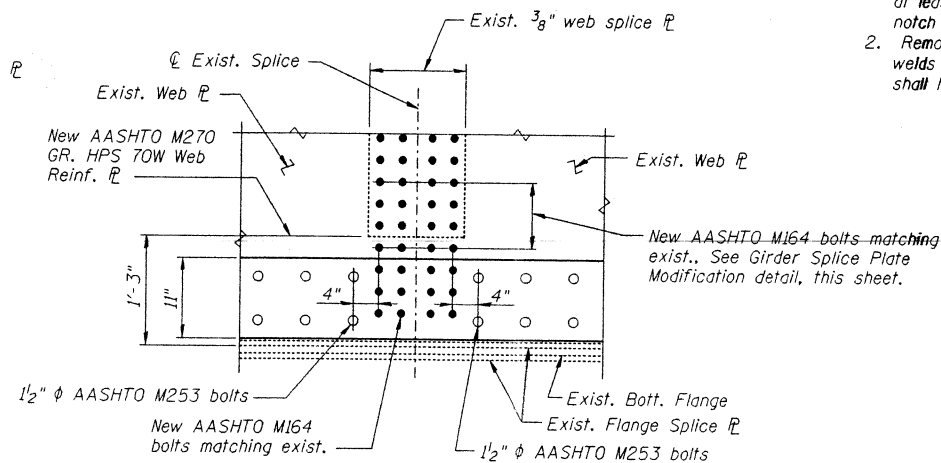
**VERTICAL STIFFENER MODIFICATION**

**Procedure:**

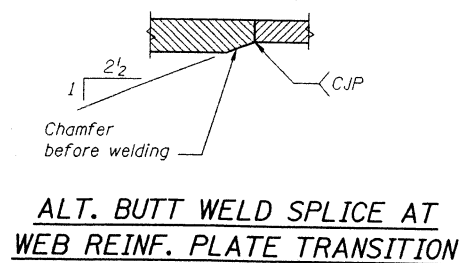
1. Thermal or saw cut horizontal cut and vertical cut. Vertical cut shall be positioned at least 1/2" away from girder web. Do not notch or gouge web plate.
2. Remove all stiffener remnants and connecting welds by grinding or by milling. Web plate surface shall have Roughness average (Ra) of 250 or less.



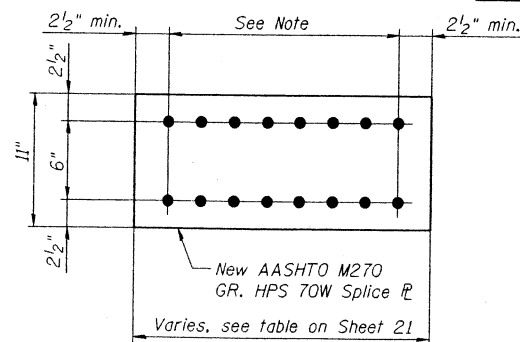
**TYPICAL SECTION THRU  
WEB REINFORCEMENT SPLICE PLATE**



**ELEVATION AT GIRDER WEB SPLICE**

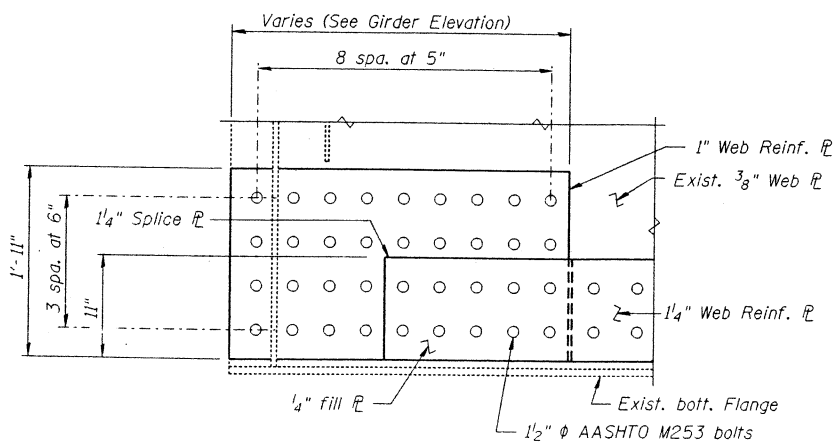


**ALT. BUTT WELD SPLICE AT  
WEB REINF. PLATE TRANSITION**



**TYPICAL WEB REINFORCEMENT  
SPLICE PLATE**

Note:  
Hole sizes and spacing to match web reinforcement R.  
For alternate butt weld splice see detail this sheet.



**WEB REINFORCEMENT PLATE AT EXPANSION PIERS**

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0- STRUCTURE NO. 082-0143  
TYPICAL REDUNDANCY RETROFIT DETAILS  
(FAI-70) ST. CLAIR CO.

DESIGNED	L. Peterman
CHECKED	V. Van Santen
DRAWN	M. King
CHECKED	F. Camba

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	STA.	POST	SHEET NO. 23
FAI-70	*	St. Clair	388	79	33 SHEETS
FLOORING DIST. NO. 7		ALLIANCE	FLOORING PROJECT		

\*082-3HVB-2R-D-2

SUPERSTRUCTURE REPAIR TABLE			
Span	Floorbeam	Condition	Repair
015	FB-1	Split bolt at girder to floorbeam connection	Replace bolt
015	FB-4	Loose bolt at floorbeam to stringer connection	Replace bolt
017	FB-15 to FB-16	Four loose nuts on splice of stringer Adjacent to Girder 02.	Replace bolts
017	FB-15 to FB-16	Four loose nuts on splice of stringer Adjacent to Girder 01.	Replace bolts

Notes:

- Contractor shall identify all loose, broken, severely corroded or missing bolts not identified in the above table. Contractor shall replace these bolts as approved by the Engineer.
- Floorbeams are numbered sequentially, looking ahead station, as follows:  
Spans 012 thru 014 .... FB-55 thru FB-71.  
Spans 015 thru 017 .... FB-1 thru FB-17

DESIGNED	S. Kaemmerer
CHECKED	R. Victor
DRAWN	S. Kaemmerer
CHECKED	R. Victor

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

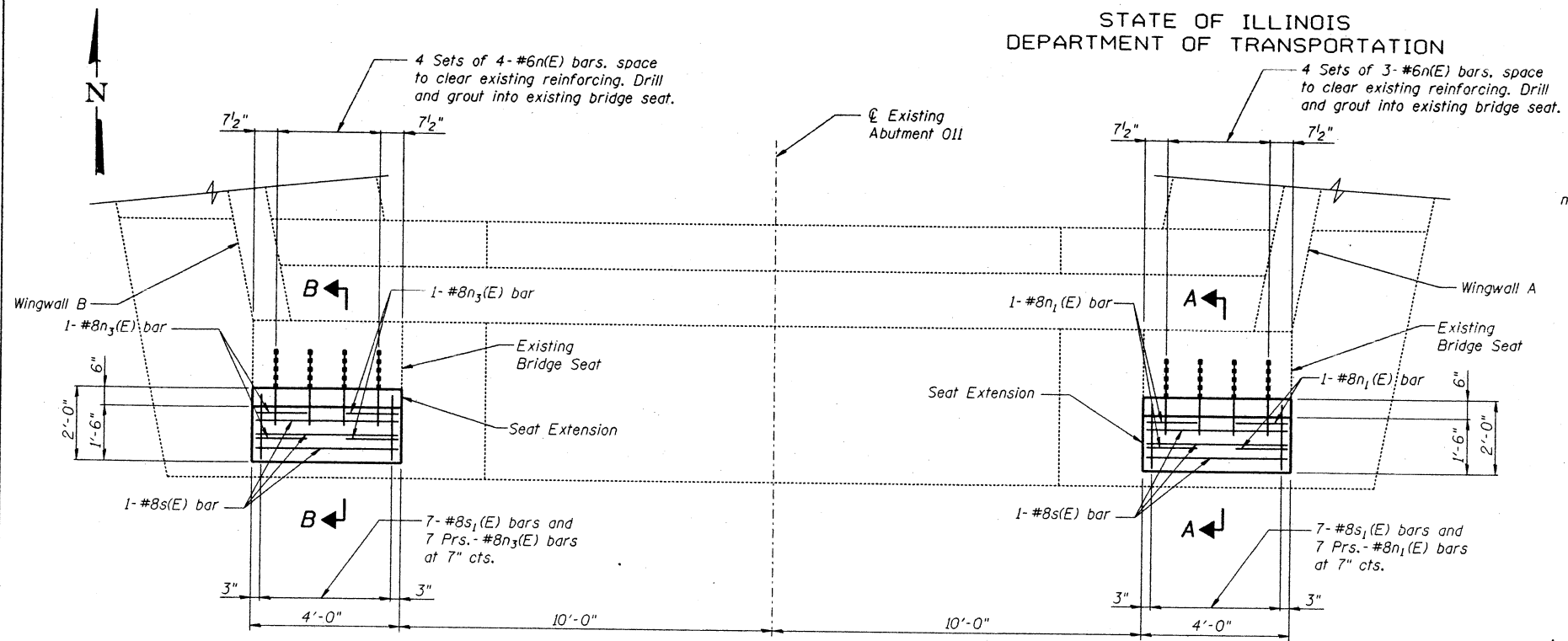
REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
SUPERSTRUCTURE REPAIR TABLE  
(FAI-70) ST. CLAIR CO.



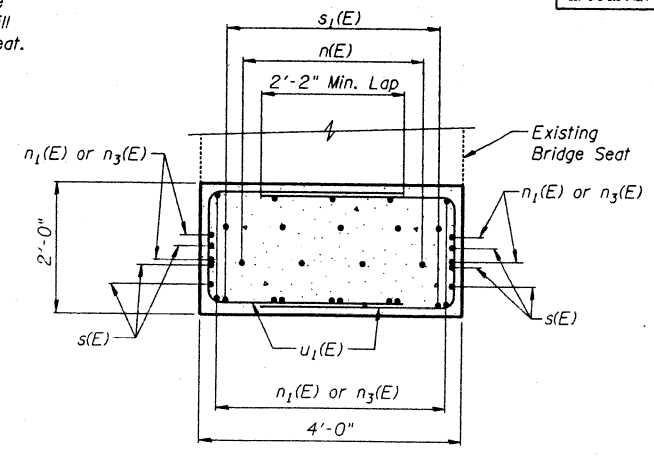
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	QUANTITY	DATE	SHEET NO. 24
FAI-70	St. Clair	588	80	33 SHEETS
FED. ROAD DIST. NO. 1	BLISS	FED. AID PROJECT		

082-3HWB-2R-D-2



PLAN

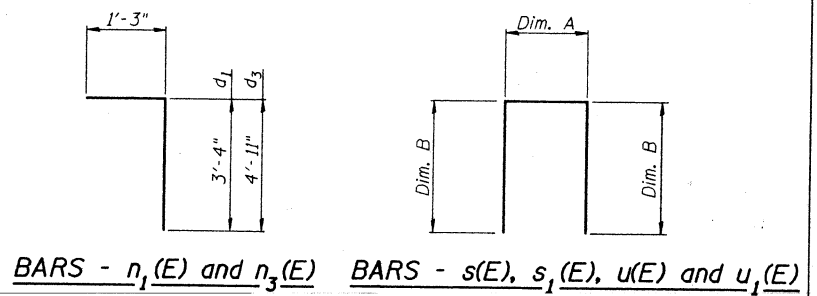


SECTION THRU SEAT EXTENSION

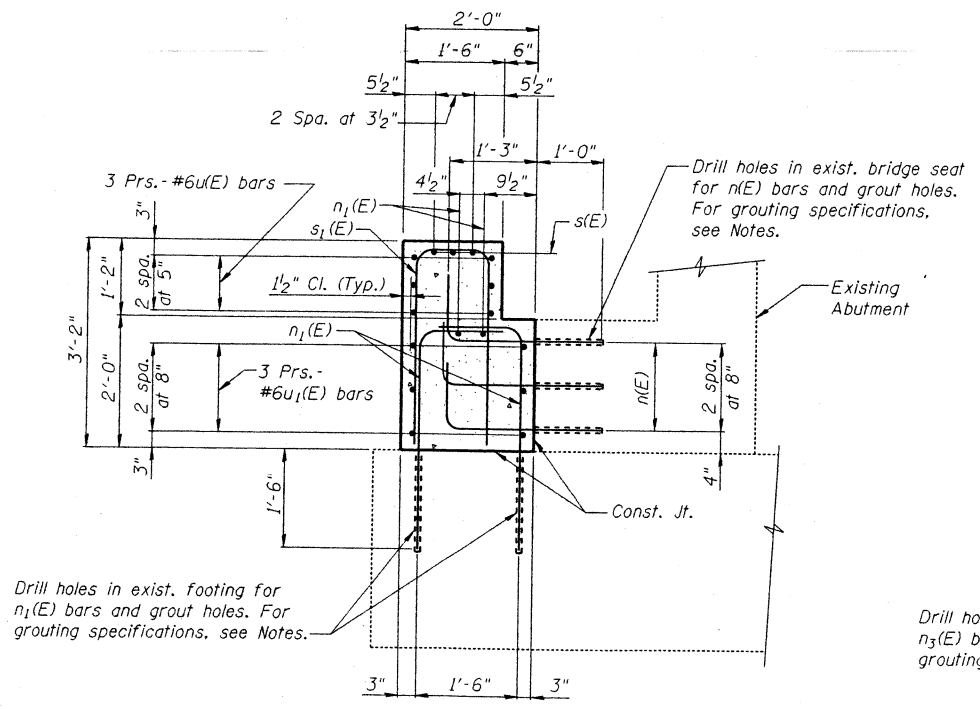
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
n(E)	28	#6	3'-3"	L
n <sub>1</sub> (E)	18	#8	4'-7"	L
n <sub>3</sub> (E)	18	#8	6'-2"	L
u(E)	12	#6	7'-3"	U
u <sub>1</sub> (E)	14	#6	7'-9"	U
s(E)	6	#8	9'-8"	S
s <sub>1</sub> (E)	14	#8	7'-2"	S

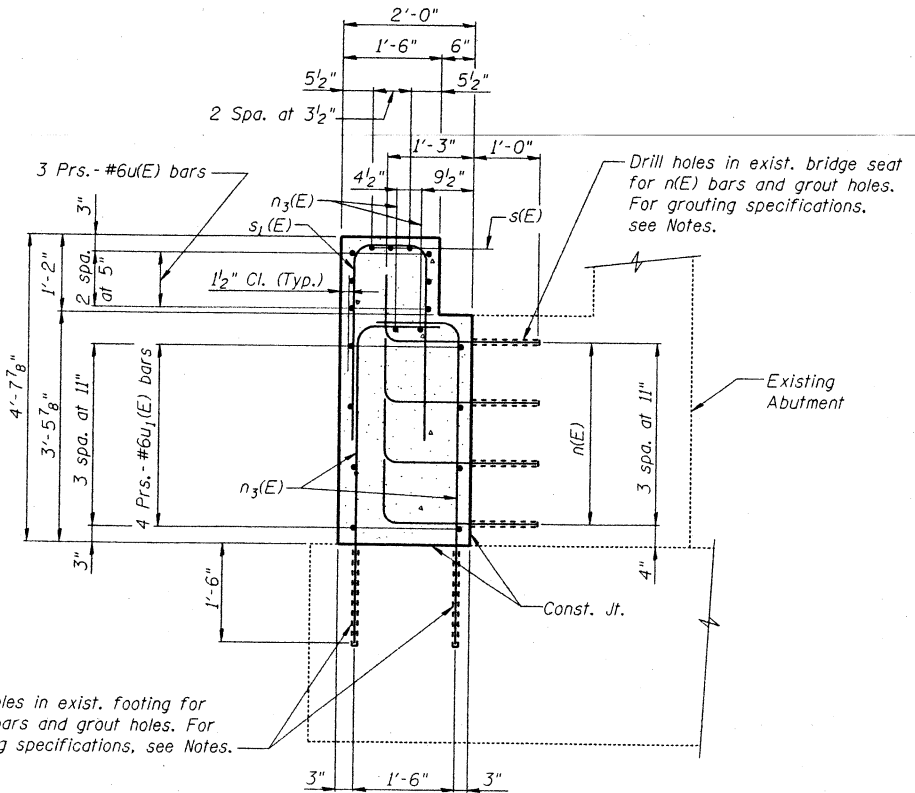
Reinforcement Bars, Epoxy Coated Pound 1.370  
Concrete Structures Cu. Yd. 2.10  
Reinforcement Bars designated (E) shall be Epoxy Coated.



Bar	Dim. A	Dim. B
s(E)	3'-7 1/2"	3'-0"
s <sub>1</sub> (E)	1'-1 1/2"	3'-0"
u(E)	1'-3"	3'-0"
u <sub>1</sub> (E)	1'-9"	3'-0"



SECTION A-A



SECTION B-B

DESIGNED	A. Amidi
CHECKED	M. Capron
DRAWN	S. Kaemmerer
CHECKED	F. Camba

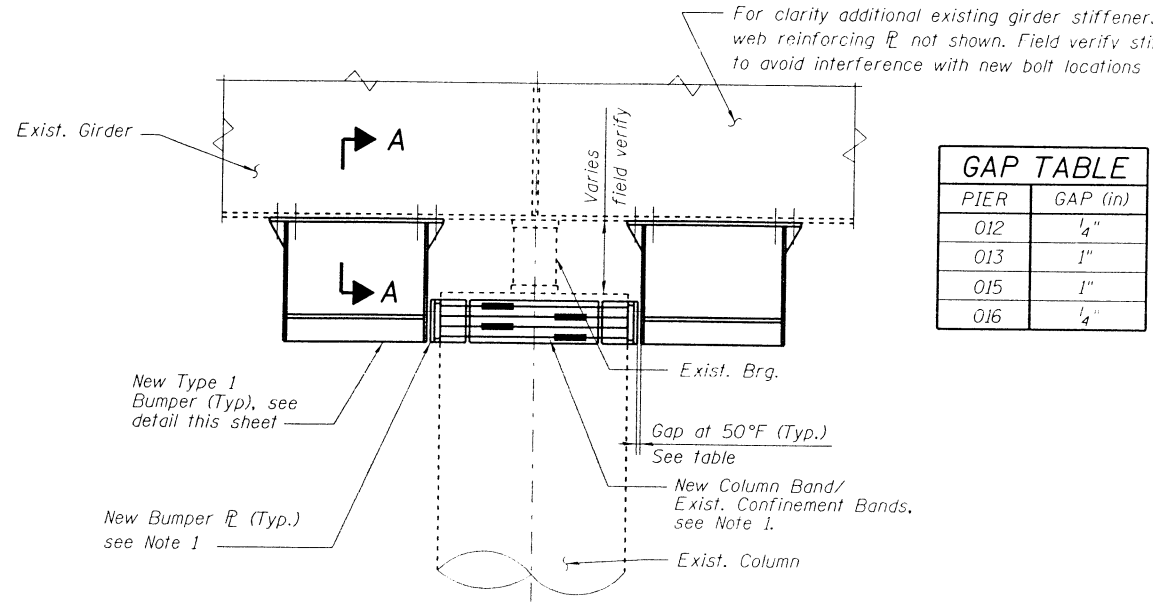
PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

NOTE

Drill and grout bars according to Article 584 of the Standard Specifications.

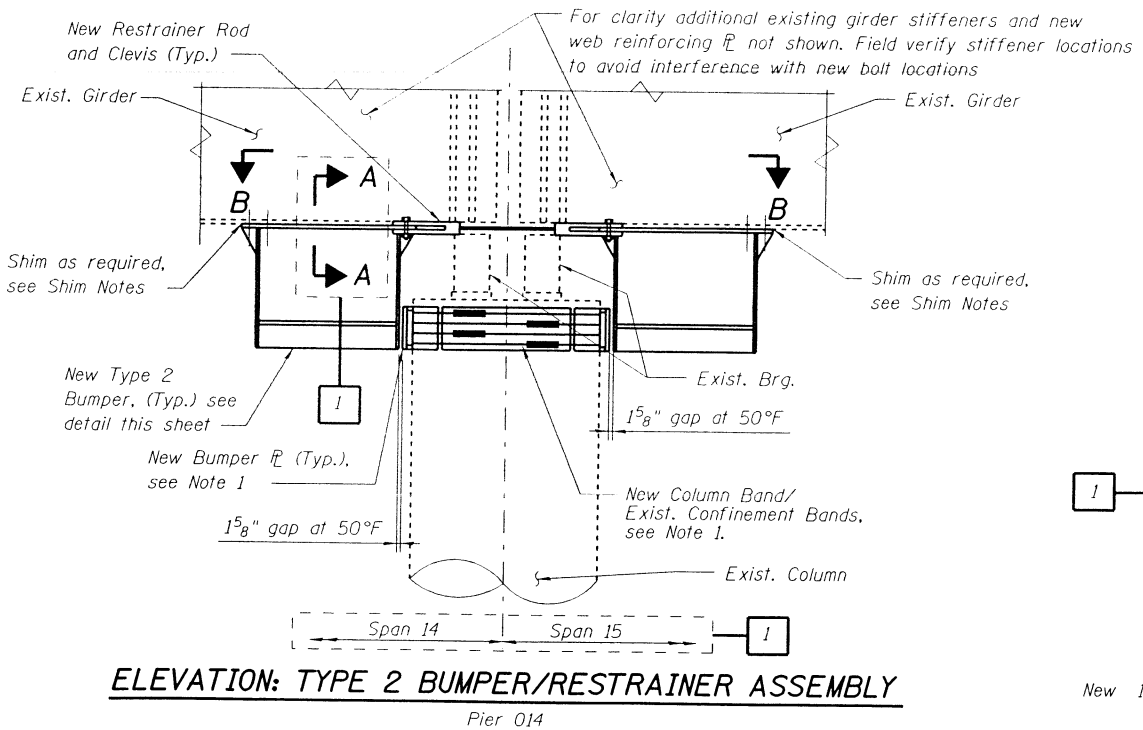
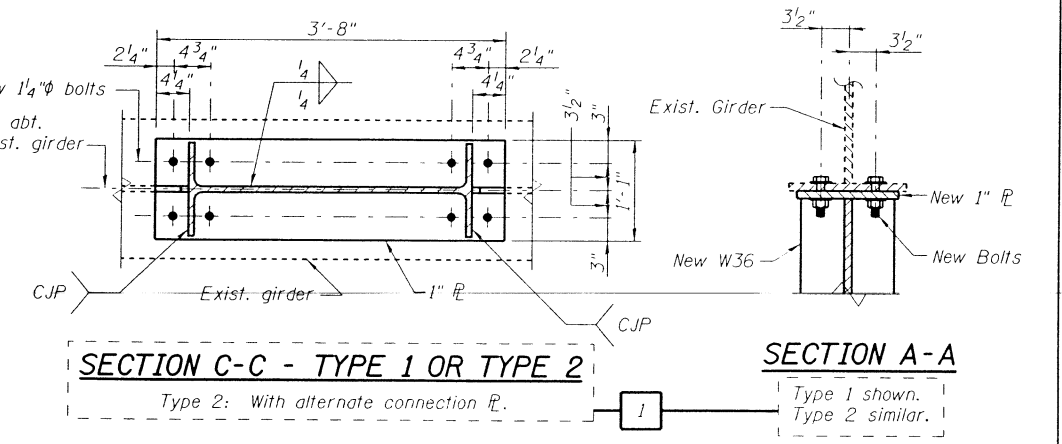
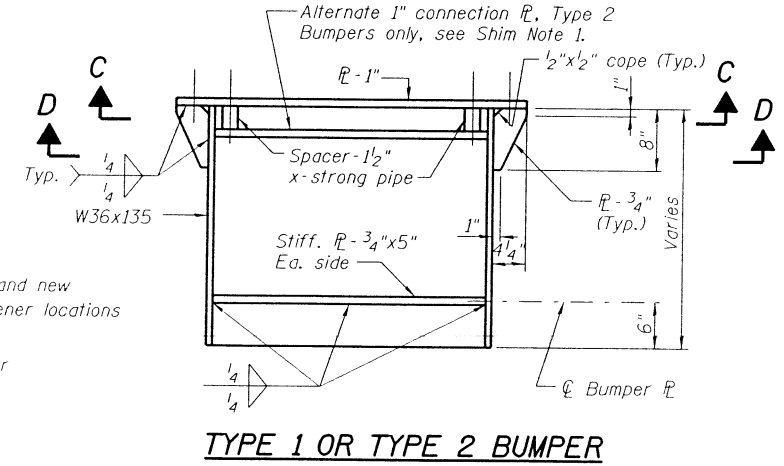
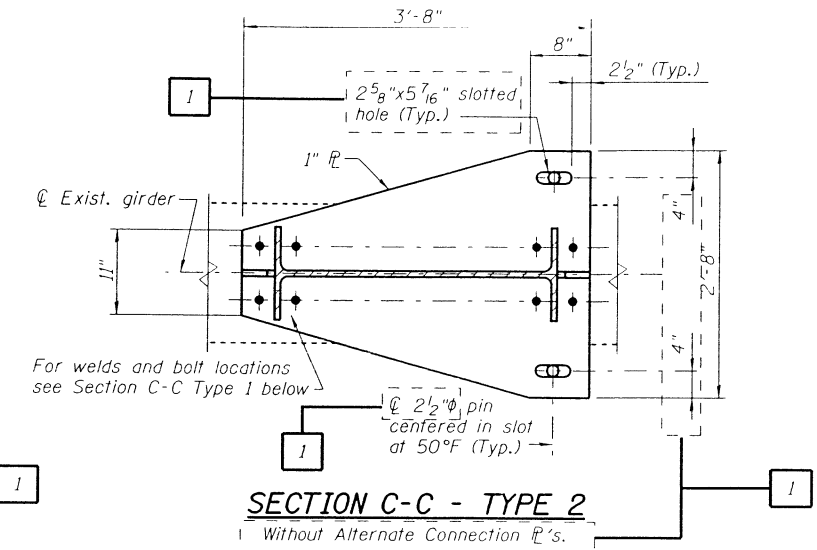
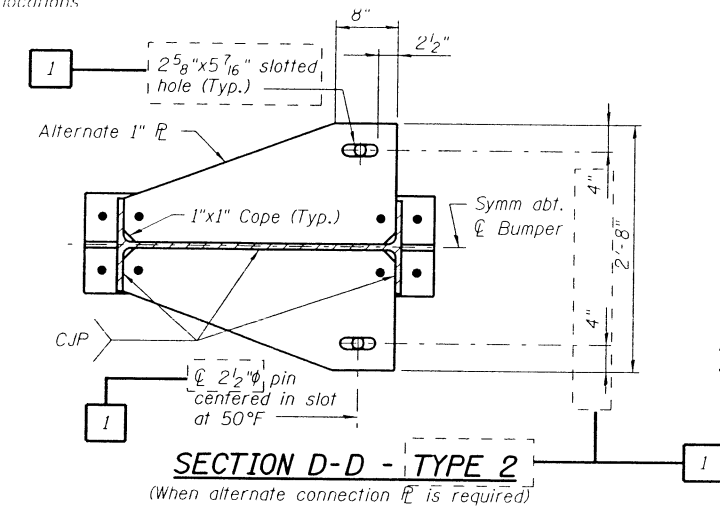
REHABILITATION FOR FAI 55/70 COMPLEX  
ROADWAY 0 - STRUCTURE NO. 082-0143  
ABUTMENT SEAT EXTENSION  
ABUTMENT O11  
(FAI-70) ST. CLAIR CO.

\*(82-3HVB-2R-1)-2

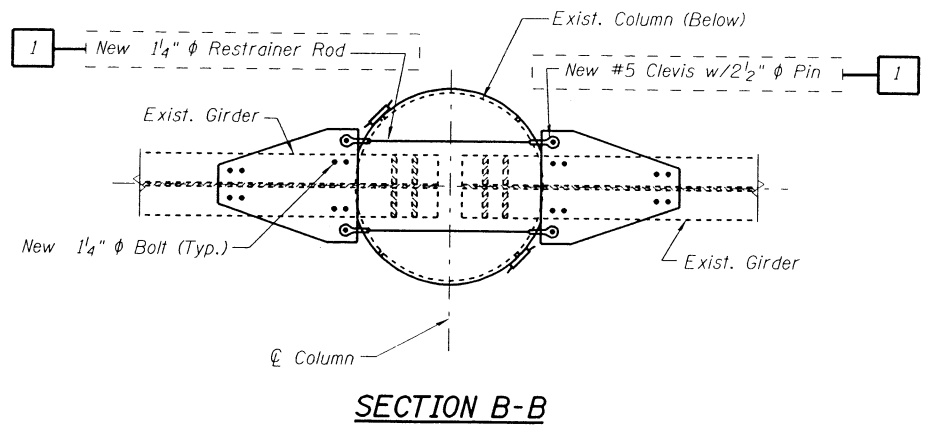


**ELEVATION: TYPE 1 BUMPER/RESTRAINER ASSEMBLY**  
Piers 012, 013, 015 and 016

Note 1:  
For new column band and bumper plate assembly details see sheets 26 thru 28.



**ELEVATION: TYPE 2 BUMPER/RESTRAINER ASSEMBLY**  
Pier 014



**SHIM NOTES**

1. Shim (1/2" max.) higher flange so that elevation difference between ends of rod is no more than 1/2". Use alternate connection plate when shims are insufficient.
2. Shim Plate length shall match the smaller length of the plates being shimmed, and shim plate width shall match the smaller width of the plates being shimmed.
3. Field verify shim requirements.

**BUMPER/RESTRAINER NOTES**

1. All bolt holes shall be standard round holes ( $\phi + 1/16$ ) Unless Noted Otherwise.
2. All bumpers and restrainer rod connection plates shall be centered on the existing girder.
3. The total length of the unthreaded portion of each restrainer rod assembly shall not be less than 1'-8".
4. Restrainer rods shall extend 0" min. to 3/4" max. into clevis openings Unless Noted Otherwise.
5. The cost of bumper/restrainer assemblies including shims shall be included in the Unit Price for "Furnishing and Erecting Structural Steel".

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
BUMPER/RESTRAINER DETAILS  
(FAI-70) ST. CLAIR CO.

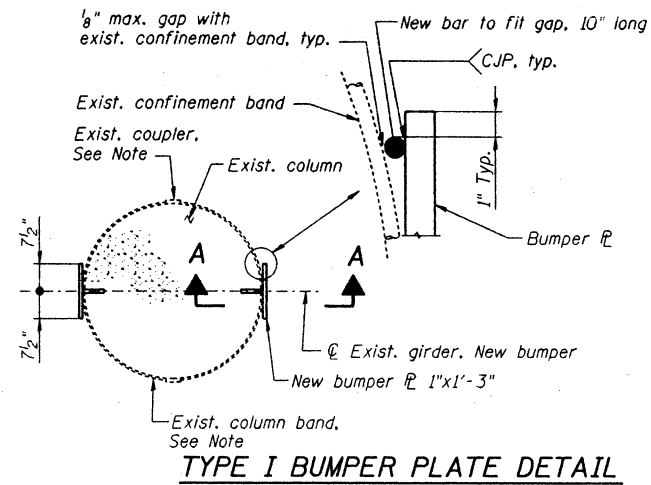
DESIGNED	A. Amidi
CHECKED	R. Victor
DRAWN	M. King
CHECKED	R. Victor

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

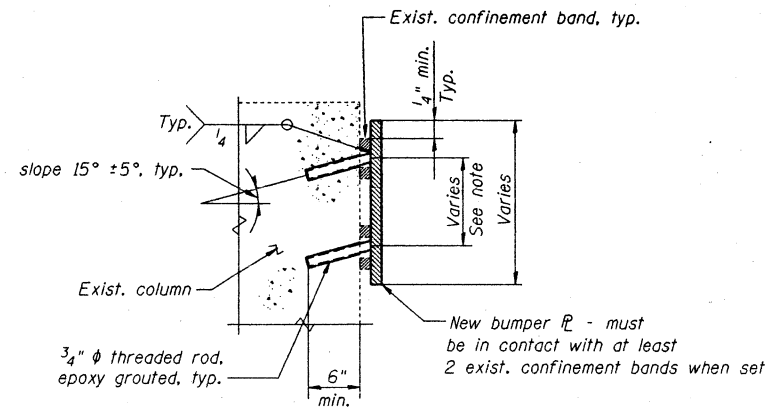
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	DISTRICT	COUNTY	SHEET	SHEET NO.
FAI-70		St. Clair	388	82
ILLINOIS PROJECT				33 SHEETS

082-3HVB-2R-D-2

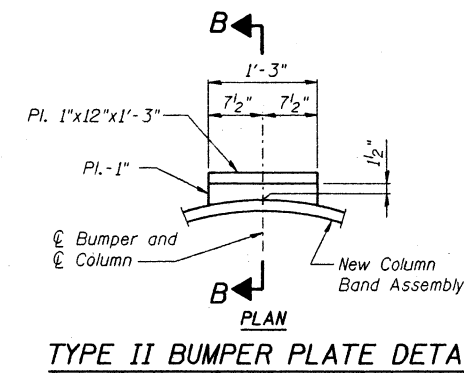


**TYPE I BUMPER PLATE DETAIL**

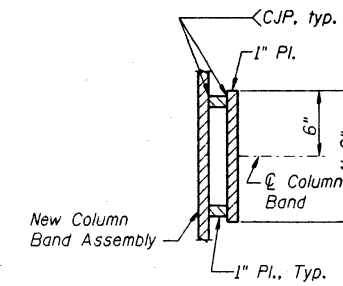


Note: Locate dowels between existing confinement bands as shown.

**SECTION A-A**



**TYPE II BUMPER PLATE DETAIL**



**SECTION B-B**

NOTE: If necessary, existing bands may be loosened and repositioned to eliminate interference between existing coupler and new bumper plate. Loosened bands shall be reinstalled from bottom up. The repositioned bands shall be evenly spaced as possible and all shall be located within a spacing of 10" vertically. The top of the top band shall not be closer than 3/4" nor farther than 4" from the top of column. The coupler bolts shall be tightened in 55 Ft.-Lbs increments in a clockwise direction to a final torque of 220 Ft.-Lbs. All nut threads shall be full engaged upon final tightening. Peen confinement band threads to prevent loosening.

**NOTES**

1. The cost of bumper plates shall be included in the Unit Price for "Furnishing and Erecting Structural Steel".

DESIGNED	A. Amidi
CHECKED	R. Victor
DRAWN	J. Corley
CHECKED	R. Victor

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

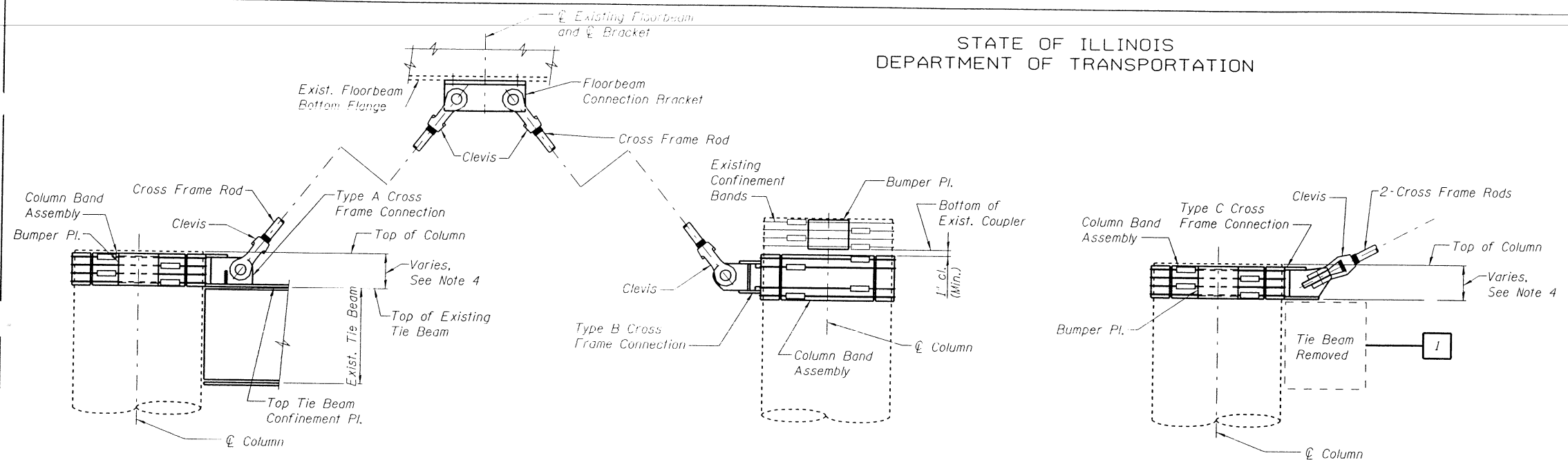
REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
MISCELLANEOUS SEISMIC  
RETROFIT DETAILS  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	83
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 27  
33 SHEETS

\*(82-3HVB-2R-1)-2



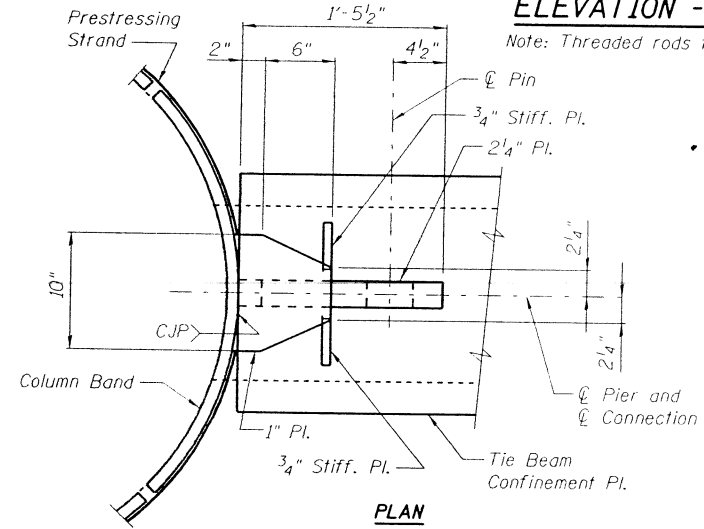
AT PIERS 013, 015, 016

AT PIER 012

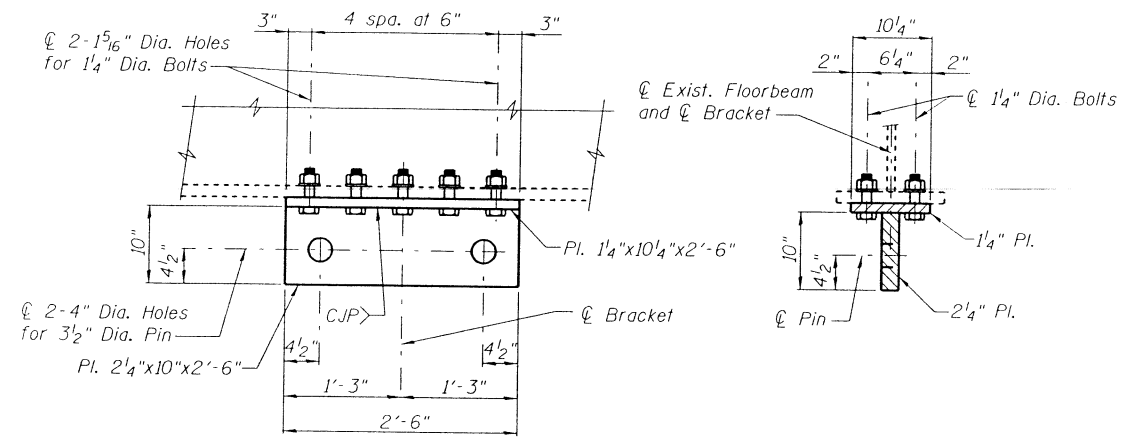
AT PIER 014

**ELEVATION - NEW CROSS FRAME CONNECTIONS**

Note: Threaded rods for Tie Beam Confinement Plates not shown for clarity.



PLAN

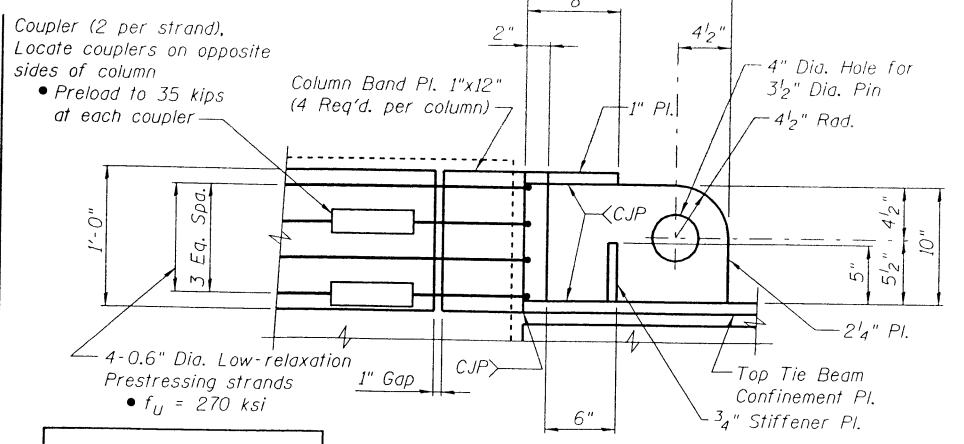


ELEVATION

SECTION

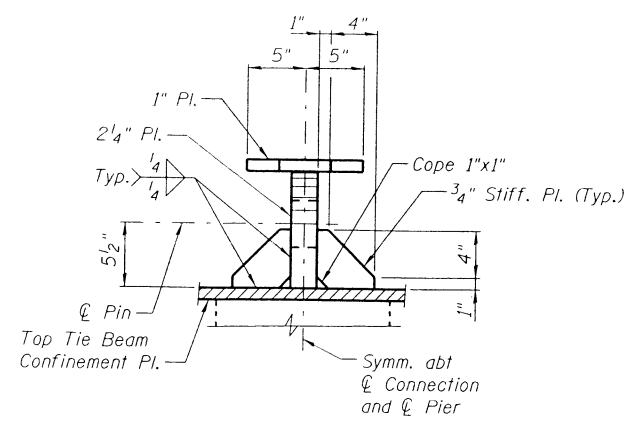
**FLOORBEAM CONNECTION BRACKET**

Note: Clevis' not shown for clarity.



ELEVATION

**TYPE A CONNECTION DETAIL**



END VIEW

**NOTES**

1. Cross Frame Rods shall be 3" Dia. solid steel with 3/2" Dia. Upset Ends.
2. Clevis shall be a #8 Clevis with an opening for a 3/2" Dia. Pin. Pins shall be Cotter Pins.
3. Floorbeam Connection brackets shall be located at the centerline of the Existing Floorbeam between Existing Girders, Unless Otherwise Noted on Pier Elevations.
4. Existing Confinement Bands shall be removed as necessary to allow installation of the New Column Band and to give a minimum clearance of 1" from the bottom of the lowest Existing Coupler to the top of the Column Band Plate.
5. Cross Frame Rods shall extend 0" Min. to 1" Max. into Clevis Openings.
6. Column Band Assembly consists of 4 Column Band Plates and 4 Low-relaxation strands with couplers.
7. The cost of Cross Frame Rods, Column Band Assembly, Clevises and Connection Brackets shall be included in the Unit Price for "Furnishing and Erecting Structural Steel".

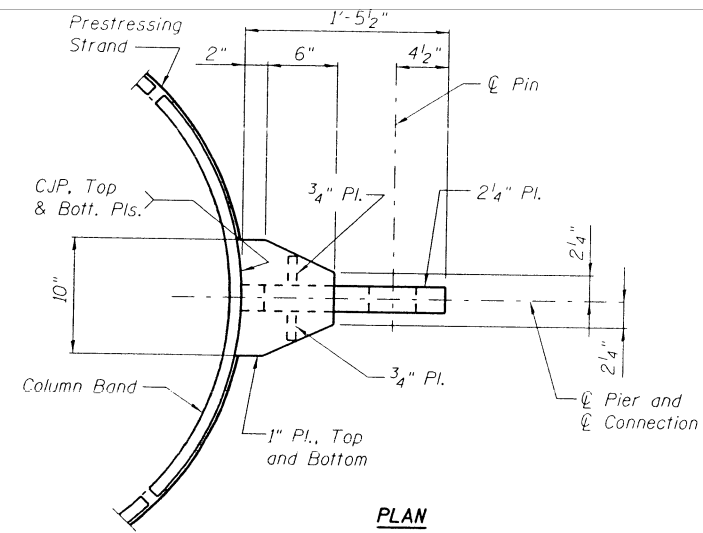
DESIGNED	A. Amidi
CHECKED	R. Victor
DRAWN	S. Koemmerer
CHECKED	R. Victor

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

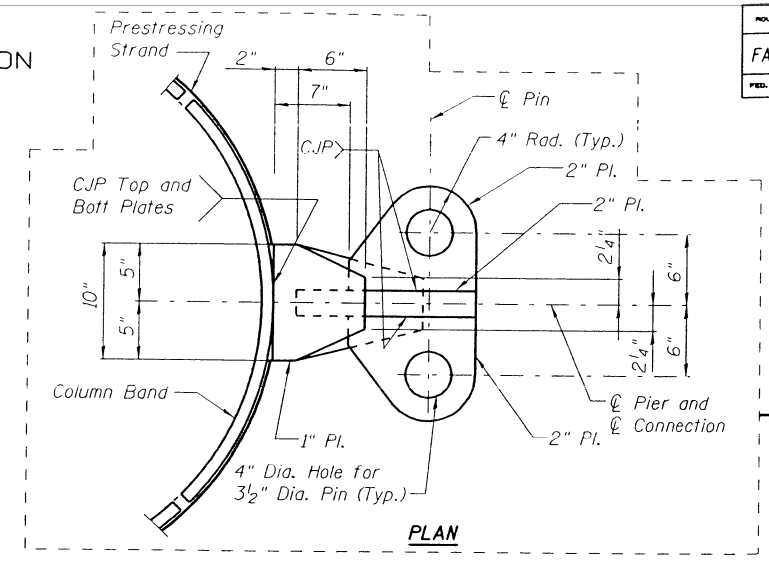
REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
CROSS FRAME MODIFICATIONS  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

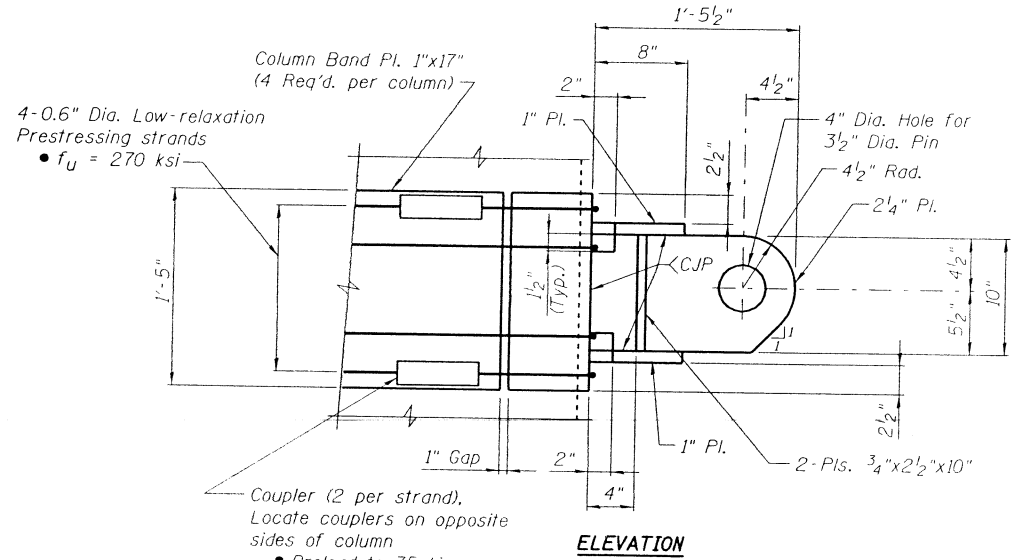
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 28
FAI-70	*	St. Clair	388	84	33 SHEETS
FED. ROAD DIST. NO. 7	ALLIANCE	FED. AID PROJECT	*(82-3HVB-2R-1)-2		



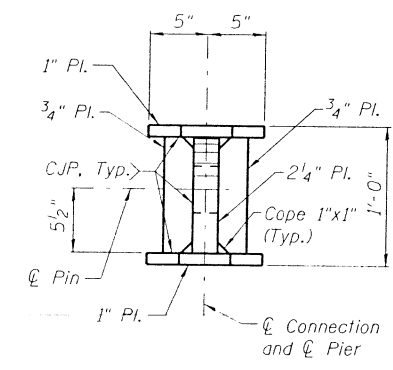
PLAN



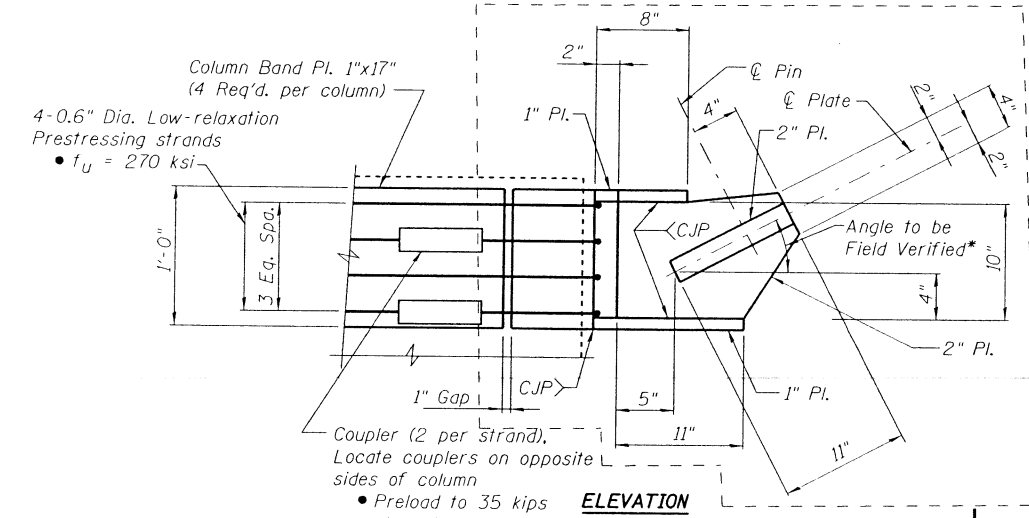
PLAN



ELEVATION



END VIEW

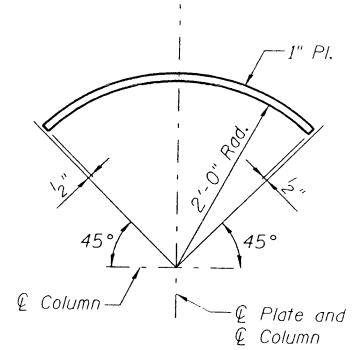


ELEVATION

TYPE B CONNECTION DETAIL

TYPE C CONNECTION DETAIL

\* Angle may differ on each side of connection.



COLUMN BAND PLATE DETAIL

DESIGNED	A. Amidi
CHECKED	R. Victor
DRAWN	S. Kaemmerer
CHECKED	R. Victor

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

NOTES

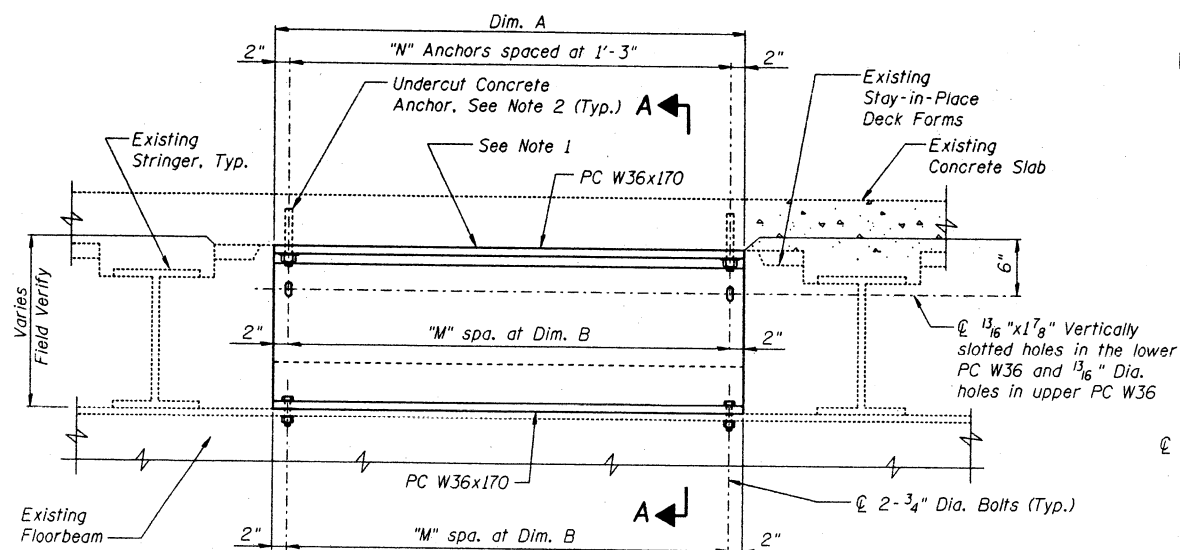
1. For Notes, see Sheet 27.

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
CROSS FRAME MODIFICATIONS  
(FAI-70) ST. CLAIR CO.

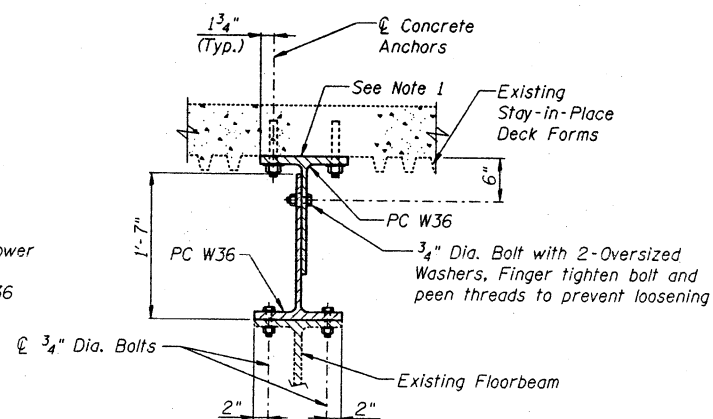
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	DISTRICT	COUNTY	PROJECT	SHEET NO. 29
FAI-70		St. Clair	388 85	33 SHEETS
FED. ROAD DIST. NO. 7	ALIGNED	FED. AID PROJECT		

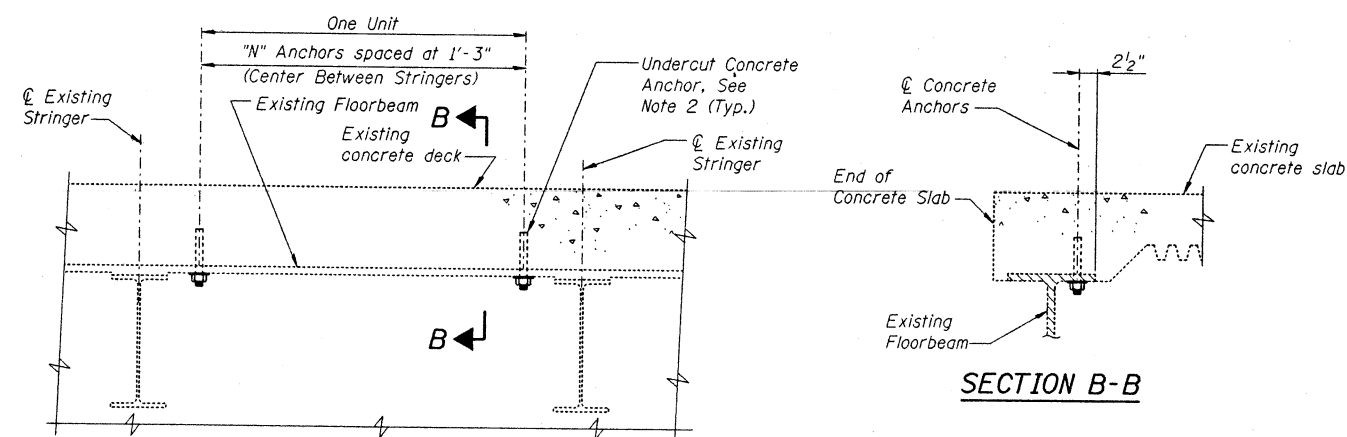
082-3HVB-2R-11-2



SLAB TO FLOORBEAM CONNECTION DETAIL - TYPES 1 & 2



SECTION A-A



SLAB TO FLOORBEAM CONNECTION DETAIL - TYPES 3 & 4

TABLE OF VARIABLES				
TYPE NO.	DIM. A	"N"	"M"	DIM. B
1	5'-4"	5	10	6"
2	4'-1"	4	8	5 5/8"
3	----	6	----	----
4	----	4	----	----

NOTES

1. Remove existing stay-in-place deck form and grind concrete smooth to provide uniform bearing.
2. Undercut Concrete Anchors shall have a bolt diameter of 0.827". Bolt Yield Stress of 93 ksi and Bolt Ultimate Stress of 116 ksi. Sleeve is to have a Cross Sectional Area of 0.346 sq. in. and an Ultimate Strength of 123 ksi and extend thru the connected steel item. Embedment is to be 5" into existing concrete slab. See Special Provisions for Expansion Bolts (Special).
3. The cost of the Slab to Floorbeam connection shall be included in the Unit Price for "Furnishing And Erecting Structural Steel".
4. The cost of Undercut Concrete Anchors shall be included in the Unit Price for Expansion Bolts (Special).

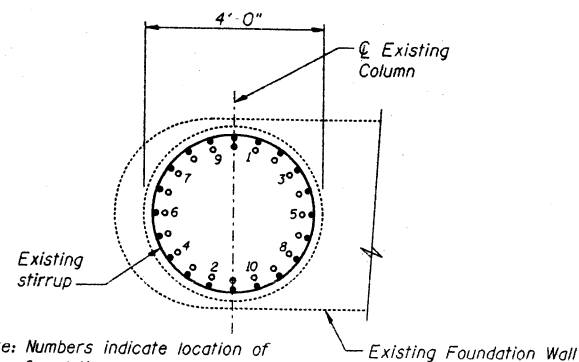
DESIGNED	M. Capron
CHECKED	M. Supak
DRAWN	S. Kaemmerer
CHECKED	R. Victor

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
PIER SEISMIC RETROFIT DETAILS  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

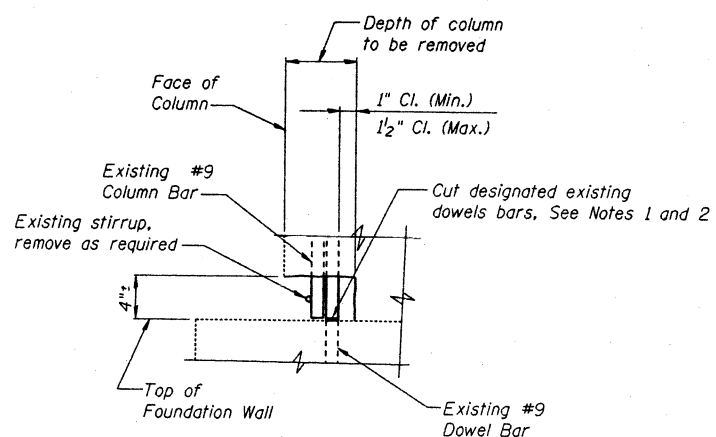
ROUTE NO.	SECTION	COUNTY	MILE	POST-MILE	SHEET NO. 30
FAI-70		St. Clair	388	86	33 SHEETS
FED. ROAD DIST. NO. 7					BLANKS
FED. AID PROJECT					082-3HVB-2R-1)-2



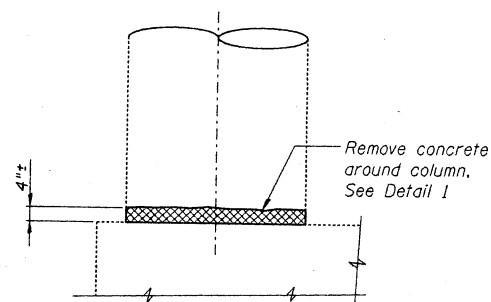
Note: Numbers indicate location of foundation wall dowel bars to be cut (10 Total), See Detail 1.

**SECTION THRU COLUMN**

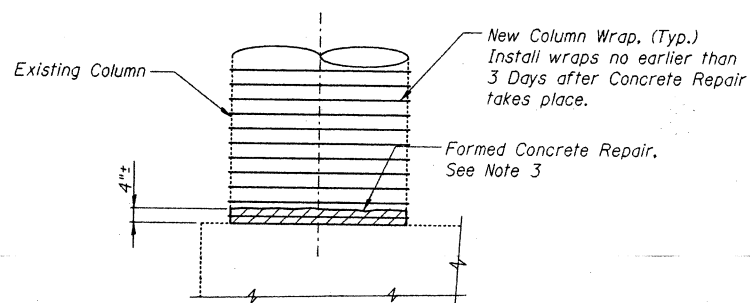
- Indicates Foundation Wall Dowel Bar
- Indicates Column Longitudinal Bar



**DETAIL 1**



**ELEVATION - DEMOLITION**



**ELEVATION - FINAL CONDITION**

**NOTES**

1. The contractor shall positively discern between column longitudinal reinforcing bars and foundation wall dowel bars prior to cutting any bars.
2. Cut number of foundation wall dowel bars indicated. To determine which bars to cut, see "SECTION THRU COLUMN", and cut bars sequentially starting with the number one. Dowel bars shall be cut within 2" of the top of the foundation wall.
3. Concrete repair shall be in accordance with the Special Provisions. Before repairing column, contractor shall replace all removed #4 stirrups with new #4 stirrups. All unsound concrete caused by modification shall be removed prior to concrete repair.
4. Only one column per pier may be modified at a time. Work on a successive column shall not start until the previous column base modification is complete and its wrapping is in place.
5. The cost of Concrete Removal and cutting existing dowel bars shall be paid at the Unit Price for "Foundation Wall Dowel Modification".
6. For New Column Wrap Details, see Sheet 31.

DESIGNED	R. Victor
CHECKED	A. Amidi
DRAWN	S. Kaemmerer
CHECKED	R. Victor

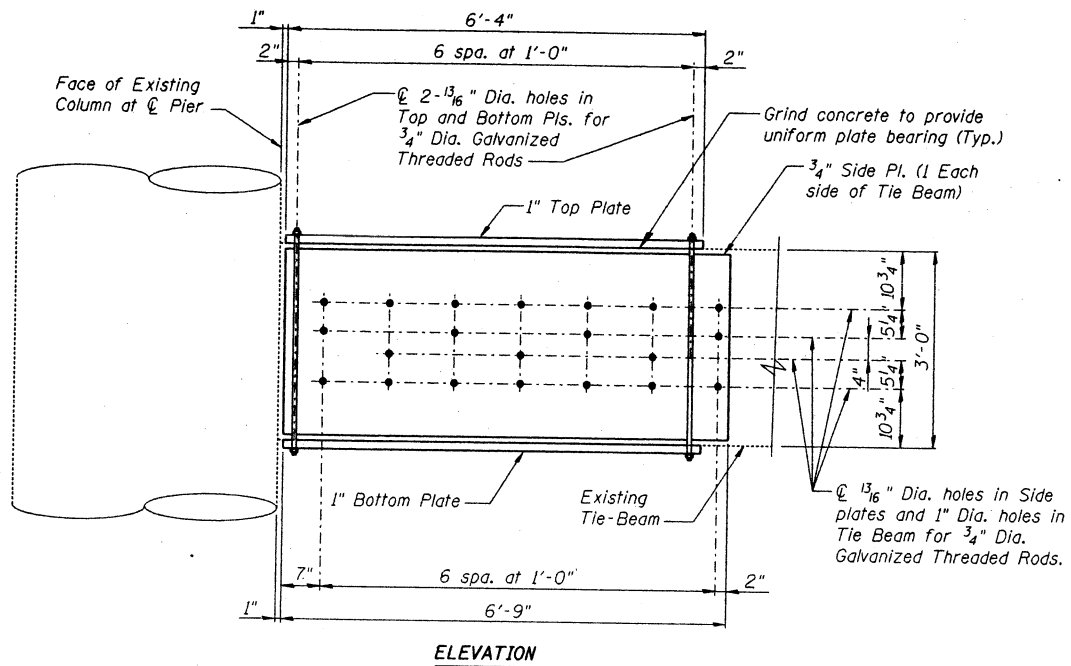
PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
PIER COLUMN BASE MODIFICATIONS  
PIERS 012, 013 AND 014  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	DISTRICT	COUNTY	SHEET NO.	SHEET NO.
FAI-70	•	St. Clair	388	87
FED. ROAD DIST. NO. 7		BALANCE	FED. AID PROJECT	

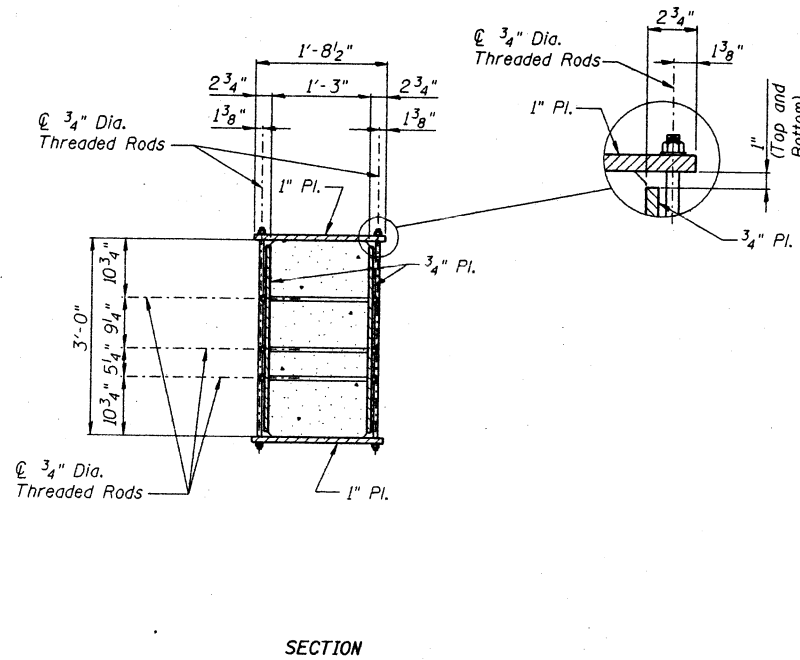
(82-3HVB-2R-1)-2



ELEVATION

**TIE BEAM CONFINEMENT PLATES**

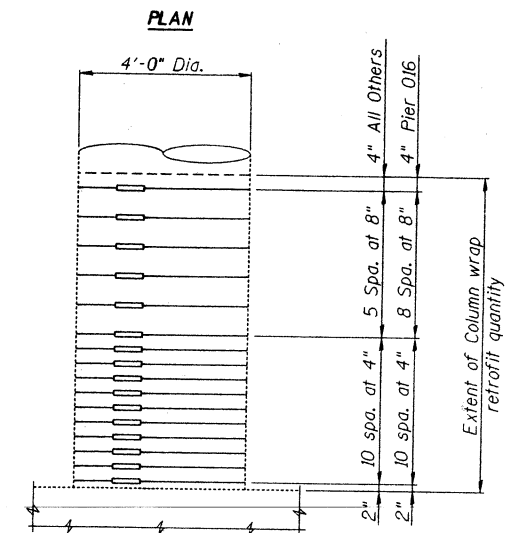
Note: Wrap each end of Tie Beam as shown. Tension Threaded Rods to 12 kips each and peen threads to prevent loosening. Grout Tension Rods.



SECTION

0.6" Dia. Low relaxation Prestressing strand in UV resistant sheathing, (Typ.)  
•  $f_u = 270$  ksi

Locate couplers on opposite sides of column,  
• Preload to 35 kips at each coupler.  
• Coupler shall be galvanized and protected by a watertight coat after tensioning.



PLAN

ELEVATION

**COLUMN WRAP**

Note: Alternate column wraps may be used. See Special Provisions.

**NOTES**

- The cost of Tie Beam Confinement Plates and Threaded Rods shall be included in the Unit Price for "Furnishing And Erecting Structural Steel".

DESIGNED	A. Amidi
CHECKED	M. Capron
DRAWN	S. Koemmerer
CHECKED	R. Victor

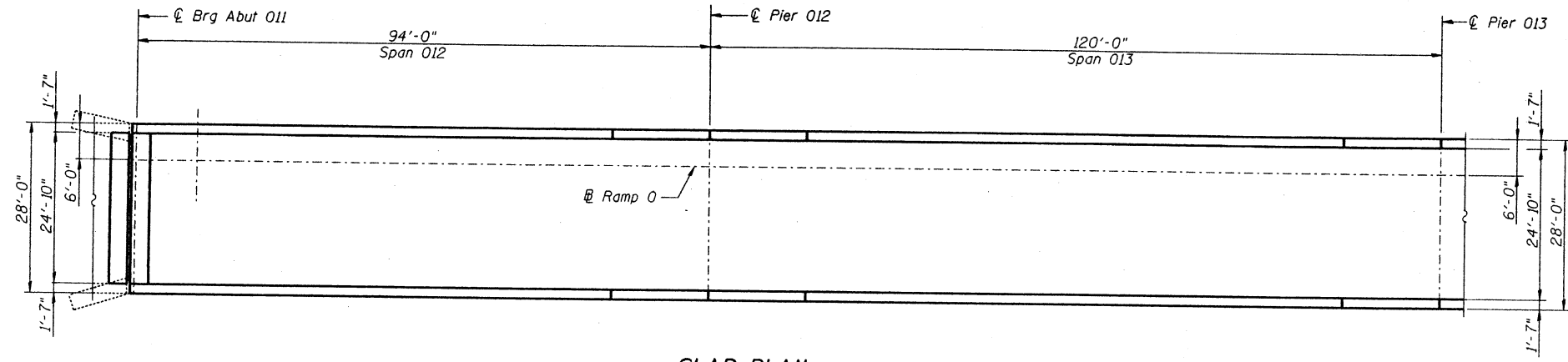
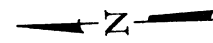
PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
PIER SEISMIC MODIFICATIONS  
(FAI-70) ST. CLAIR CO.

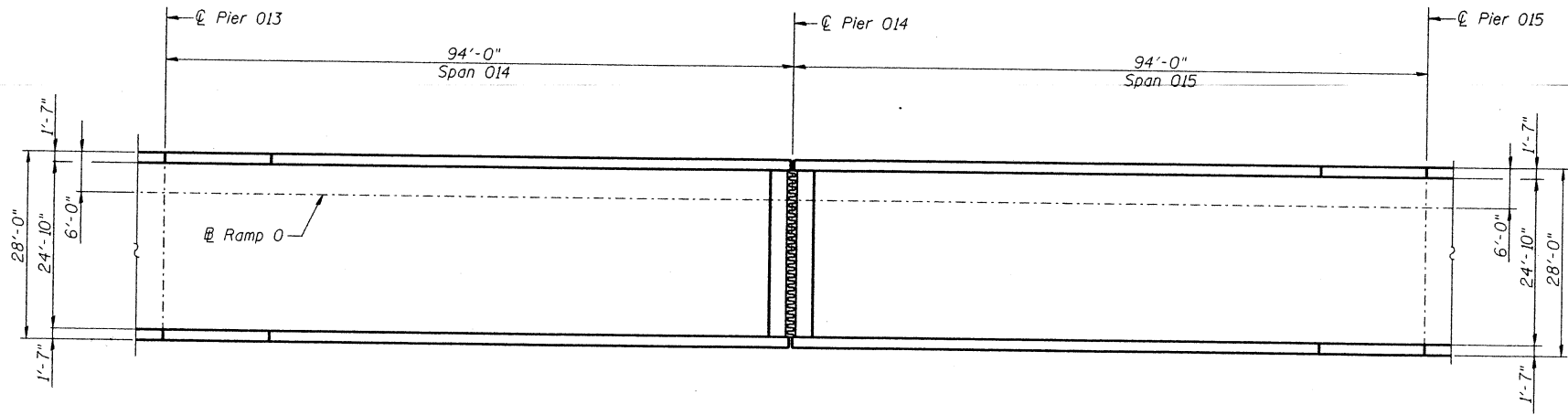


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	DISTRICT	COUNTY	SHEET	NO.	SHEET NO. 32
FAI-70		St. Clair	388	88	33 SHEETS
FED. ROAD DIST. NO. 7		SHEET NO.		PROJECT NO.	
				082-3HVB-2R-D-2	



**SLAB PLAN**  
SPANS 012 AND 013



**SLAB PLAN**  
SPANS 014 AND 015

DESIGNED
CHECKED
DRAWN
CHECKED

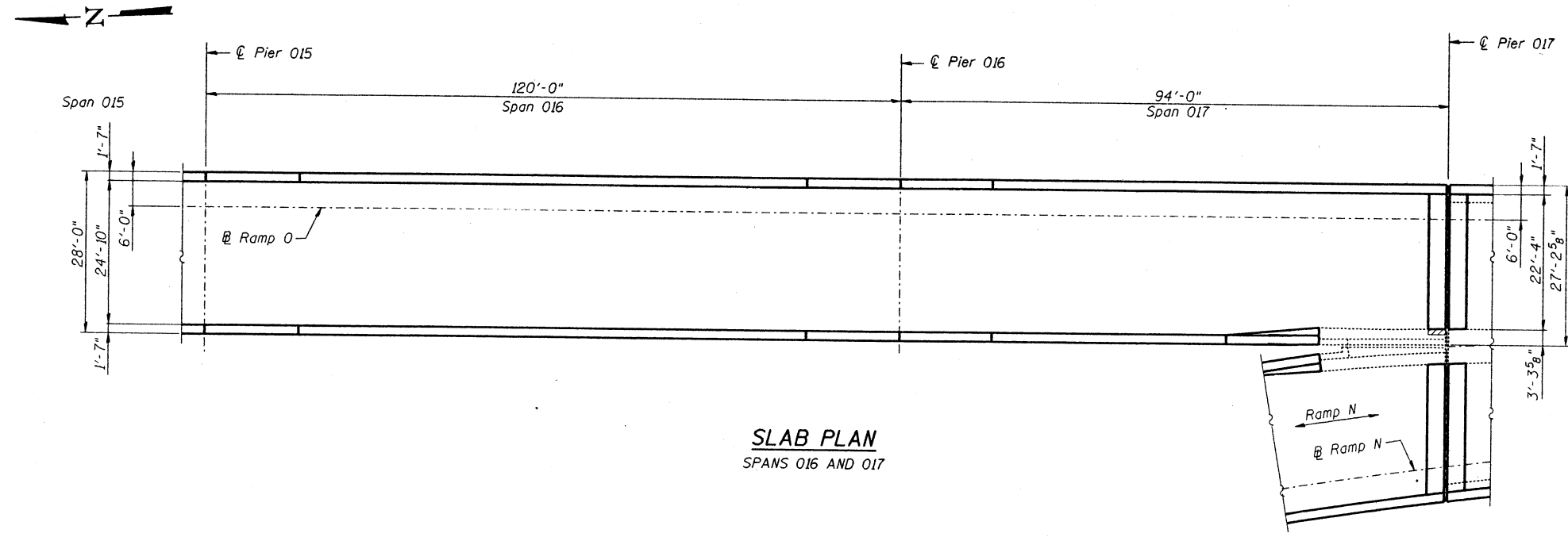
PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
AS-BUILT DECK REPAIR LOCATIONS  
SPANS 012 THRU 015  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	NO.	SHEET NO. 33
FAI-70		St. Clair	388	89	33 SHEETS
FED. ROAD DIST. NO. 7		ALIGNMENT	FED. AID PROJECT		

(82-3HVB-2R-1)-2



SLAB PLAN  
SPANS 016 AND 017

DESIGNED
CHECKED
DRAWN
CHECKED

PREPARED BY:  
JACOBS CIVIL INC.  
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX  
RAMP 0 - STRUCTURE NO. 082-0143  
AS-BUILT DECK REPAIR LOCATIONS  
SPANS 016 THRU 017  
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY**  
FAI ROUTE 70  
SECTION (82-3HVB-1, 2, 3)D,RS  
ST CLAIR COUNTY  
C-98-109-96

INDEX OF SHEETS

1. TITLE SHEET
2. SUMMARY OF QUANTITIES
- 3.-4. SCHEDULE OF QUANTITIES
5. TYPICAL SECTIONS
- 6.-11. PLAN VIEW

STANDARDS

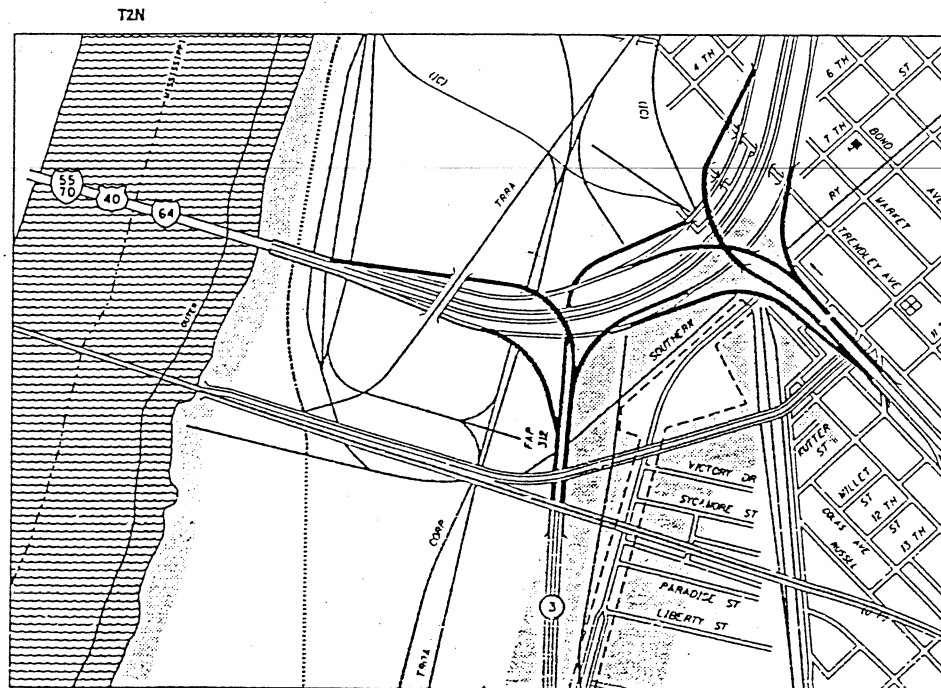
- 2298-12
- 2397-2
- 2316-16
- 2396-1

MICROFILMED \_\_\_\_\_  
REEL NUMBER \_\_\_\_\_  
AWARDED \_\_\_\_\_  
RESIDENT ENGINEER \_\_\_\_\_  
AS BUILT CHANGES WERE MADE  
ON THE FOLLOWING SHEETS

J.U.L.L.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-852-0123

CONTRACT NO. 76003  
**082-0143**

PROJECT ENGINEER: WILLIAM ULIVI (618) 346-3180  
SQUAD LEADER: STEVE JINES (618) 346-3194

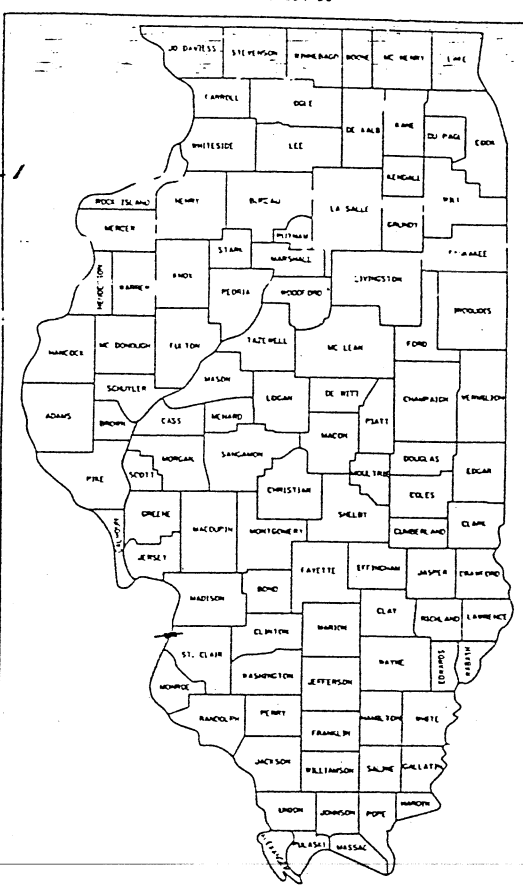


PROJECT LOCATION

- Sec. 82-3HVB-2R-1-1-HDF-1  
(82-3HVB-1,2,3)D,RS  
82-3HVB-2R-2-5  
82-3HVB-1R  
82-3HVB-R-5  
82-3HVB-R-3  
82-3HVB-R-2  
82-(3,4)DRS  
82-3-2DRS  
82-3HVB-2-I  
82-3HVB-R  
82-3HVB-3  
82-3HVB-1  
82-3HVB-E-1



- Reels 8-224  
8-208  
8-181  
8-159  
8-151  
8-136  
8-112  
8-110  
8-107  
8-102  
8-67  
8-59  
64



LOCATION OF SECTION INDICATED THUS: - [rectangle] -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED 6/27 19 96  
Steve Jines DISTRICT ENGINEER

PASSED August 2 19 96  
ENGINEER OF DESIGN AND ENVIRONMENT

APPROVED August 2 19 96  
DIRECTOR, DIVISION OF I

REEL 8-224

TYPICAL SECTION "A"

ROADWAY/RAMP	STR. NUMBER	PIER/ABUT.	STATION TO STATION	BIT. CONC SURF. REM. SQ. METER	BIT. MATLS. PRIME CT. METRIC TON	BIT. CONC. SURF. CSE., MIX D. CL. 1, TY 1 METRIC TON
RAMP W/ RAMP F	082-0145, 0204	W-7 TO F-1	1+90.29 TO 1+887.02	4488.50	1.57	375.78
RAMP E/ RAMP D	082-0205, 0143	E-2 TO D-11	0+602.84 TO 0+729.08	3538.10	1.24	296.71
RAMP O	082-0201	O-P TO O-10	0+282.55 TO 0+378.07	1523.28	0.55	132.59
RAMP P	082-0203	P-12 TO P-15	1+667.87 TO 2+004.06	2255.83	0.79	188.86
RAMP D	082-0144	D-33 TO D-46	2+488.08 TO 2+833.13	1577.57	0.55	132.07
RAMP A	082-0141	A-25 TO A-42	2+223.40 TO 2+760.88	3606.49	1.26	301.94
RAMP T	082-0146	A-35 TO T-6	0+190.18 TO 0+362.25	1154.59	0.40	96.66
RAMP S	082-0142, 0144	S-1 TO D-39	0+122.22 TO 0+778.15	4401.29	1.54	368.48
RAMP N	082-0202	O-17 TO N-4	0+729.08 TO 0+651.31	820.16	0.29	68.66
TOTALS				23426.22	8.19	1961.25

PARTIAL DEPTH REPAIR SCHEDULE

SPAN	SIZE (IN METERS)	BITUMINOUS CONCRETE SURFACE REMOVAL (50MM) SQ. METER	BITUMINOUS MATERIALS PRIME COAT METRIC TON	LEVELING BINDER HAND METHOD TYPE 1 (50 MM) METRIC TON
D-11 TO N-1	12X6	72	0.03	0.50
N-1 TO N-2	2X3	18	0.01	2.00
	2X2	4	0.01	0.50
	2X6	12	0.01	1.50
N-2 TO N-3	2X2	4	0.01	0.50
	2X2	4	0.01	0.50
	2X2	4	0.01	0.50
N-3 TO N-4	2X23	46	0.02	5.50
	2X23	46	0.02	5.50
N-4 TO N-5	2X28	56	0.02	6.50
	2X28	56	0.02	6.50
P-14 TO P-15	5X26	130	0.05	15.50
TOTALS		452	0.22	53.50

TYPICAL SECTION "B"

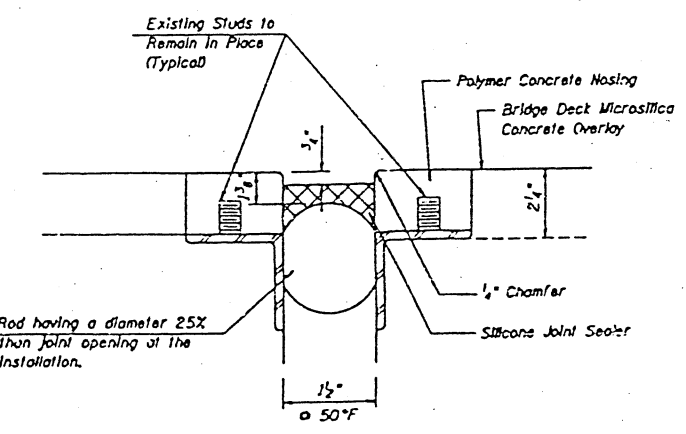
ROADWAY/RAMP	STR. NUMBER	PIER/ABUT.	STATION TO STATION	BIT. SURF. REM. (COLD MILL) (CHECK SHEET #12) SQ. METER	SHEET WATERPROOF MEM. SYSTEM SQ. METER	BIT. CONC. SURF. CSE., MIX D. CL. 1, TY 1 METRIC TON
RAMP E	082-0205	E-2 TO E-9	0+993.91 TO 1+109.57	1178.68	1178.68	126.87
RAMP N	082-0202	D-11 TO N-4	0+608.99 TO 0+729.08	549.05	549.05	59.10
RAMP W	082-0145, 0141	A-1 TO W-7	1+510.45 TO 1+887.02	2526.78	2526.78	271.98
RAMP P	082-0203	P-12 TO P-15	2+004.06 TO 2+095.96	616.65	616.65	66.38
RAMP S	082-0142	G-12 TO S-1	0+099.91 TO 0+122.22	149.70	149.70	16.11
RAMP A	082-0141	A-40 TO A-46	2+703.27 TO 2+859.73	1239.16	1239.16	133.38
RAMP D	082-0144	D-40 TO D-46	2+689.25 TO 2+833.13	657.80	657.80	70.80
TOTALS				6917.82	6917.82	744.62

The following quantities are not included on the schedules but are used for the removal and replacement of the 15.24 m bituminous tapers at abutments O-11, O-10, A-46, and D-46.

- Bituminous Concrete Surface Course, Mix D, Class I, Type 1 - 40.08 Metric Tons
- Bituminous Materials Prime Coat - 0.18 Metric Tons
- Bituminous Concrete Surface Removal - 515.60 Sq. Meters

JOINT REPAIR SCHEDULE

JOINT	POLYMER CONCRETE CU. METER	SILICONE JOINT SEALER (40MM) METER
N-1	0.102	6.71
O-17	0.102	6.71
E-2	0.056	3.66
E-3	0.056	3.66
E-6	0.051	3.36
E-9	0.141	9.24
P-4	0.102	6.71
P-14	0.102	6.71
S-21	0.102	6.71
T-6	0.102	6.71
TOTALS	0.92	60.18



Booster Rod having a diameter 25X greater than joint opening at the time of installation.

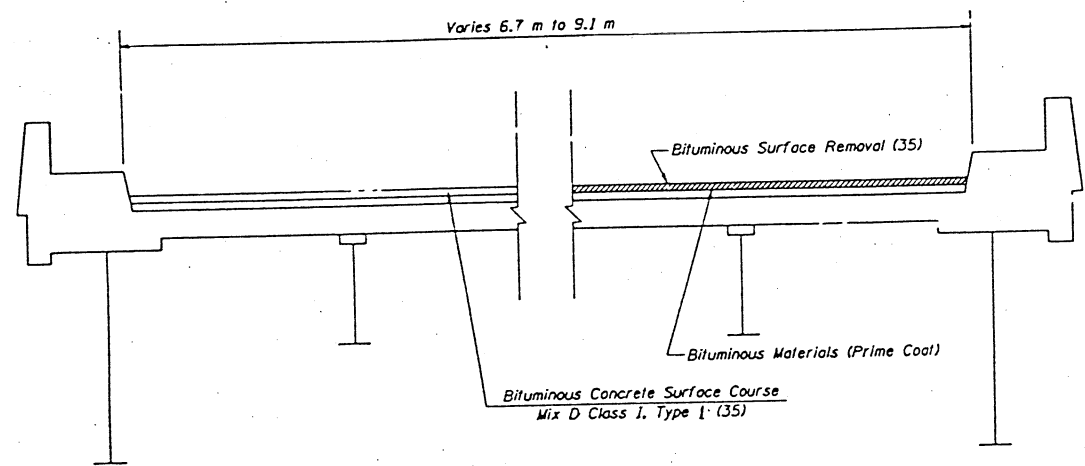
SILICONE JOINT SEAL

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 TYPICAL SECTION, JOINT REPAIR AND PARTIAL DEPTH REPAIR SCHEDULES  
 F.A.I. ROUTE 70  
 SECTION (82-3HW-1.2.3) D.R.S.  
 ST. CLAIR COUNTY

PLAN  
 DATE  
 DRAWN BY  
 CHECKED BY  
 IN CHARGE

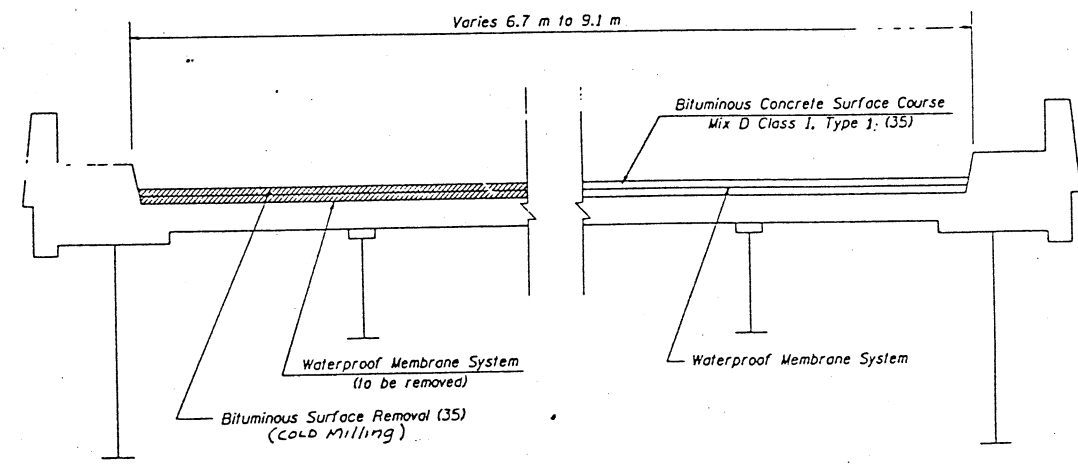
F.A.I. DIST.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
70		ST. CLAIR	11	5
STA.	TO STA.			

EXISTING CONDITIONS:  
 • (B2-3HVB-1, 2, 3) D.R.S



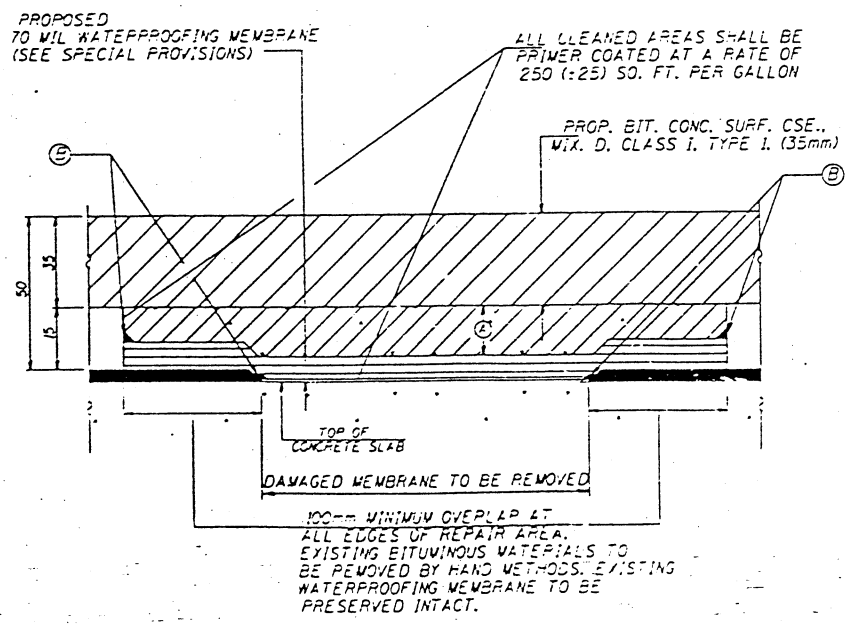
TYPICAL SECTION A

Area Shown on Plan View



TYPICAL SECTION B

Area Shown on Plan View



SECTION WATERPROOFING MEMBRANE REPAIR

- (A) AFTER COLD MILLING, EXISTING BITUMINOUS MATERIAL TO BE REMOVED TO PERMIT REPAIR OF MEMBRANE. BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE D, CLASS I SHALL BE PLACED PRIOR TO PLACEMENT OF NEW BITUMINOUS CONCRETE WEARING SURFACE. (COST TO BE INCLUDED IN THE CONTRACT UNIT PRICE FOR WATERPROOFING MEMBRANE REPAIR). SEE SPECIAL PROVISIONS FOR TEMPERATURE AND DENSITY REQUIREMENTS FOR INITIAL LIFT OF BITUMINOUS SURFACE COURSE OVER REPAIR AREAS.
- (B) ALL PERIMETER EDGES SHALL RECEIVE A 90% W/M BEAD OF 150 m MASTIC.

EXISTING WEARING SURFACE CONSISTS OF A 13mm ASPHALT SAND SEAL LAYER AND A 38mm BITUMINOUS SURFACE COURSE. PROPOSED COLDMILLING WILL REMOVE 35mm UNIFORMLY ON THE ENTIRE BRIDGE DECK.

ILLINOIS DEPARTMENT OF TRANS  
 TYPICAL SECTION  
 F.A.I. ROUTE 70  
 SECTION (B2-3HVB-1, 2, 3) D.R.S  
 ST. CLAIR COUNTY

CC

BB

A

O

A

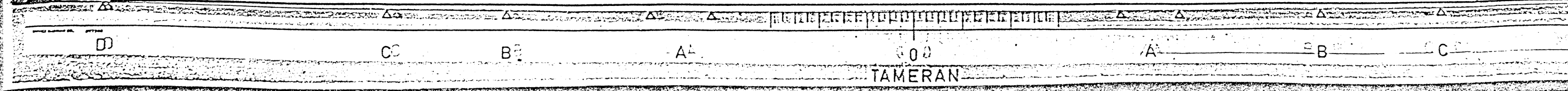
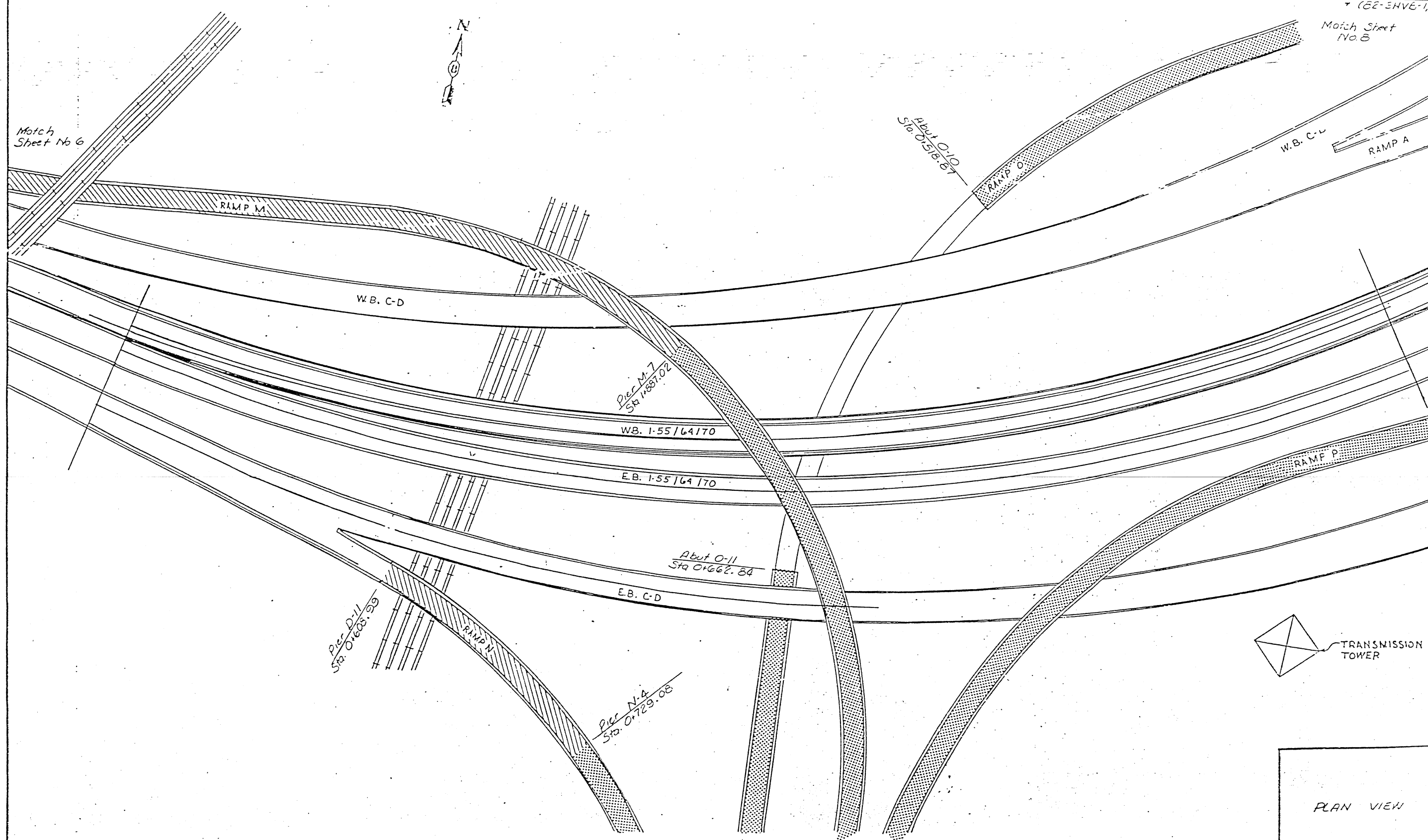
B

C

D

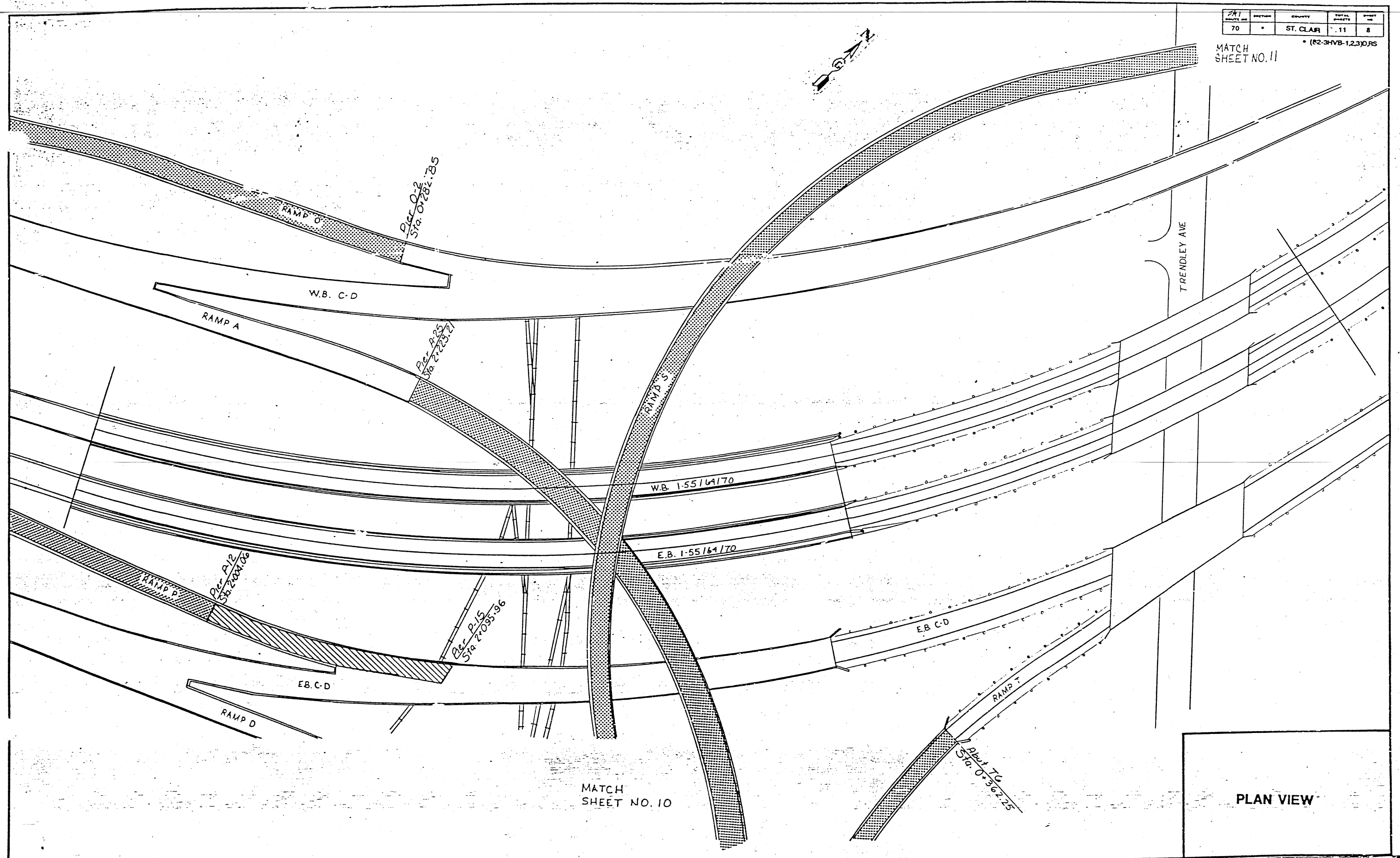
TAMERAN

F&I	SECTION	QUANTITY
70	St. Clair	(62-3HV6-1,2,3)



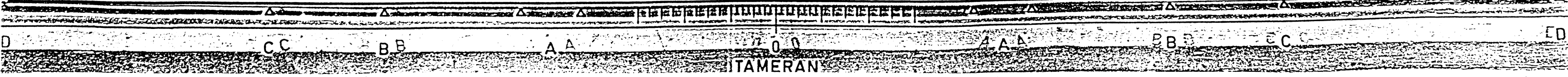
PA1	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	11	8

MATCH SHEET NO. 11  
 \* (E2-34VB-123)RS



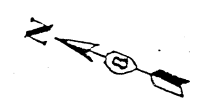
MATCH SHEET NO. 10

PLAN VIEW

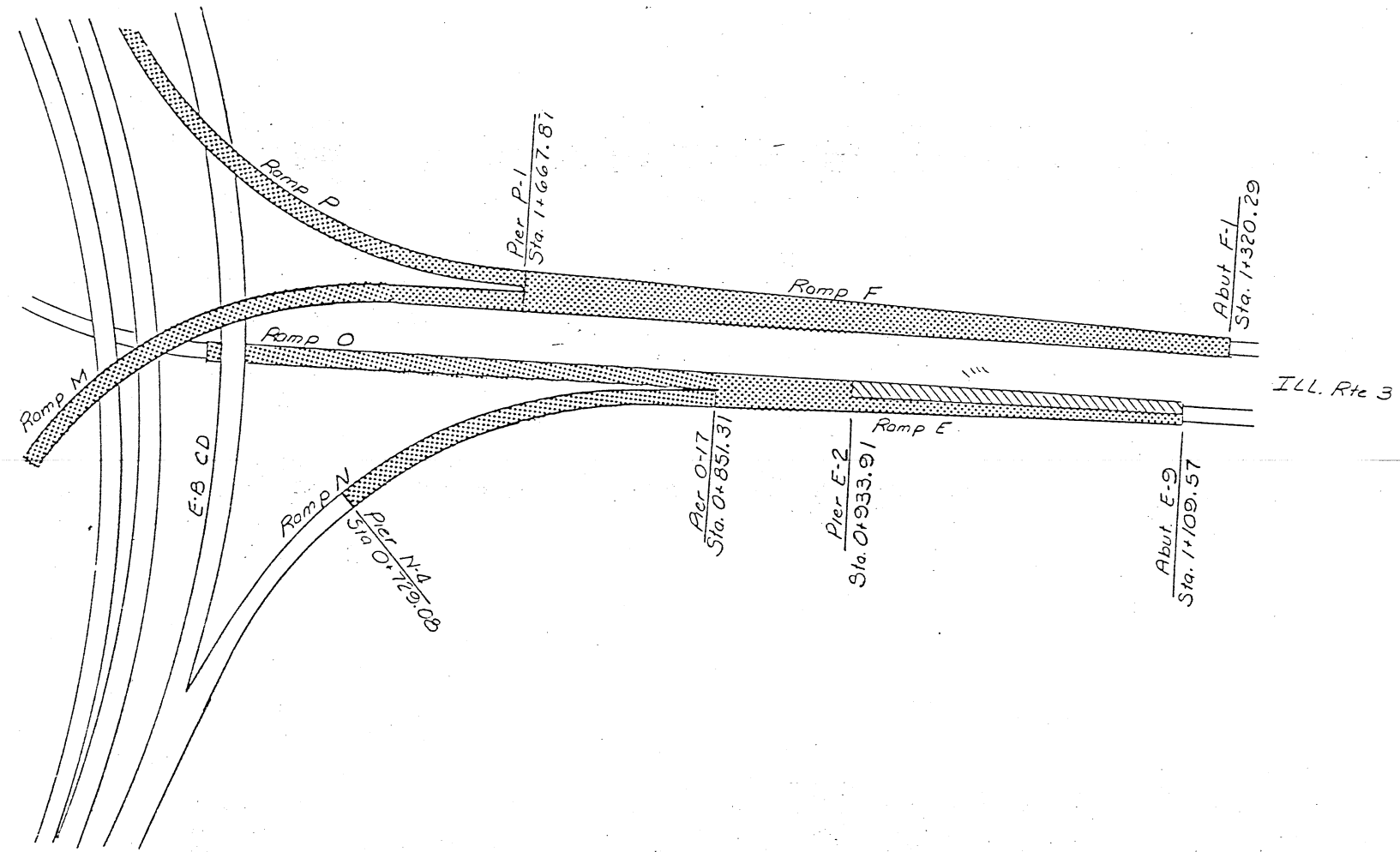


PLAN SHEET NO.	SECTION	DATE	TOTAL SHEETS
70	ST. CLAR		11

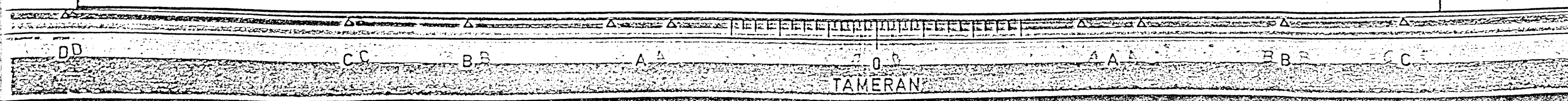
(82-34VB-1,2,3)RS



MATCH SHEET NO. 7



PLAN VIEW



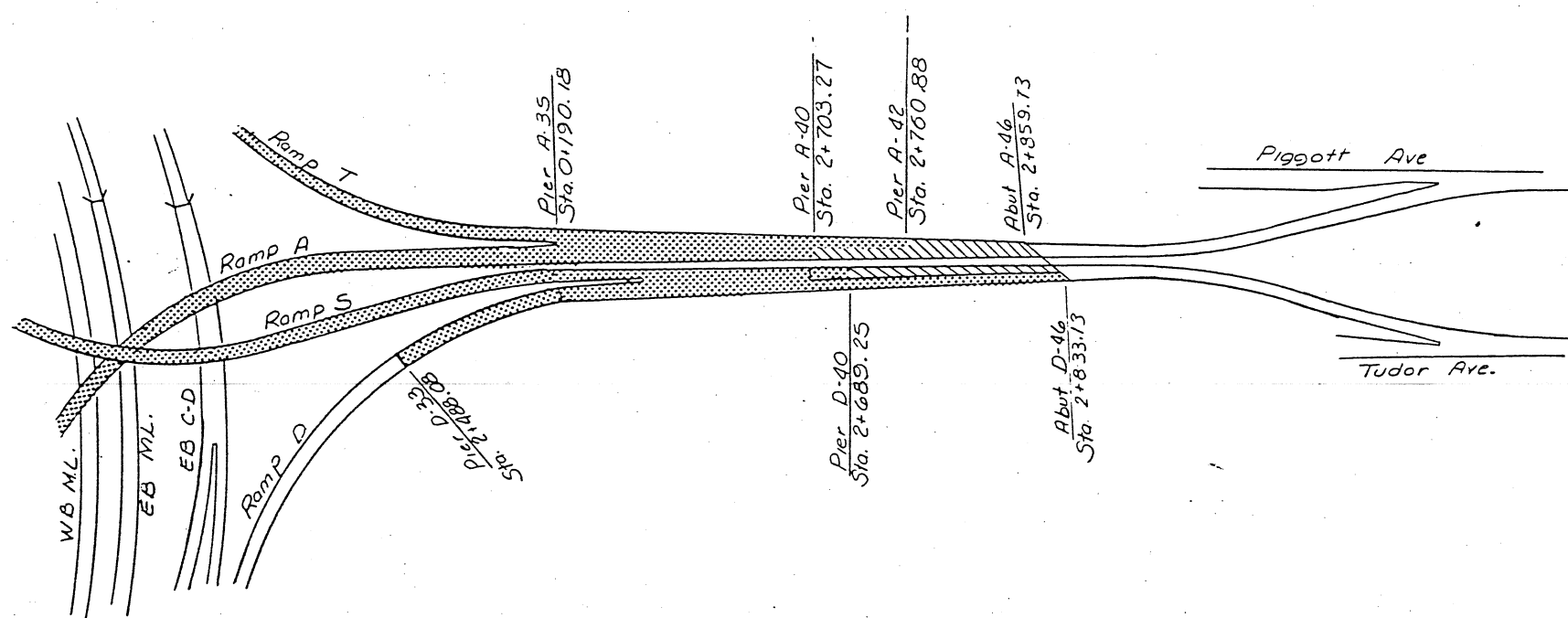


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	11	10

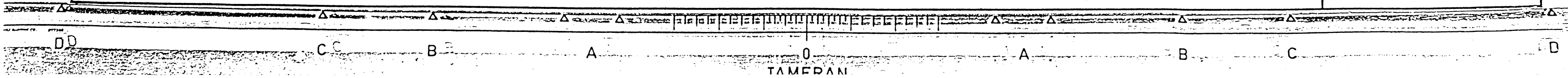
(82-3HVB-1,2,3)ORS



MATCH SHEET NO. 8



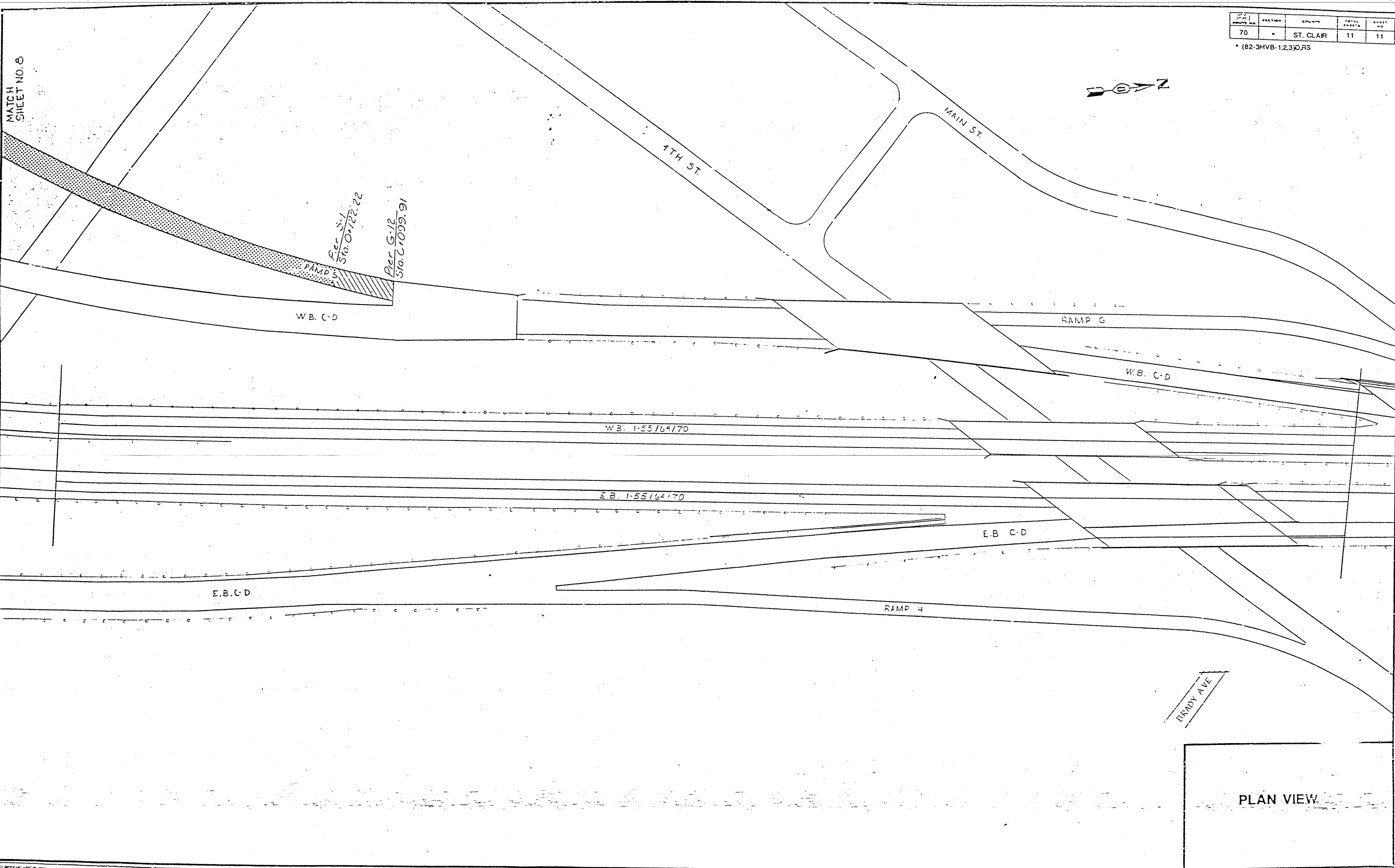
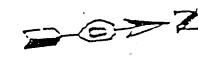
PLAN VIEW



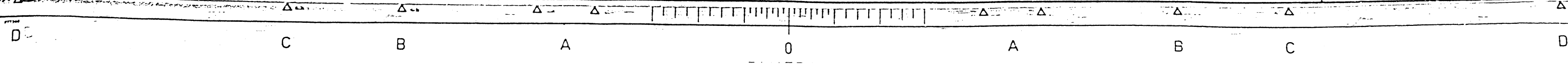
ROUTE NO.	SECTION	COUNTY	TOTAL FEET	SHEET NO.
70	*	ST. CLAR	11	11

\* (82-3HVB-1,2,3)RS

MATCH SHEET NO. 8



PLAN VIEW



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED  
SUPERSTRUCTURE REPAIRS

FAI ROUTE 70  
SECTION 82-3HVB-IR  
PROJ. ACIR-70-1(147)1  
POPLAR STREET BRIDGE APPROACHES  
ST. CLAIR COUNTY

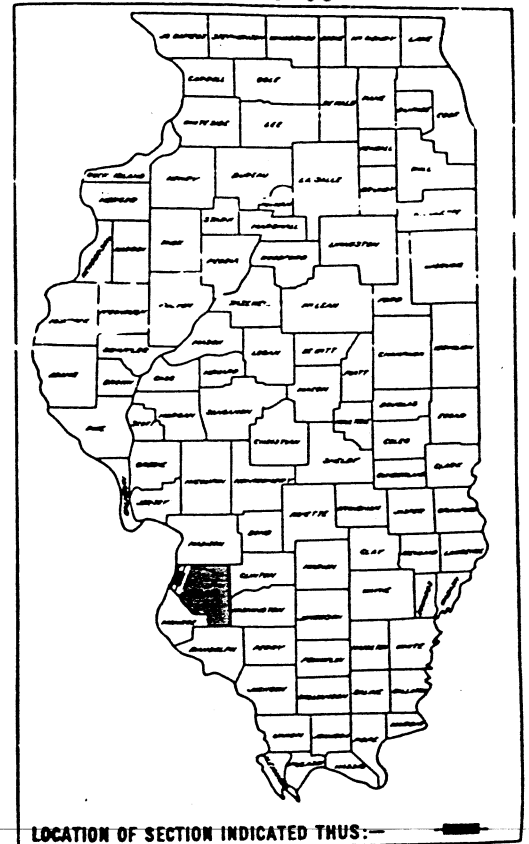
C-98-115-85

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PROJECT KEY PLAN
3	KEY PLAN FOR ROADWAYS A - H
4	KEY PLAN FOR RAMPS M - T
5	BEARING STIFFENER RETROFIT DETAILS
6	INTERIOR, NON BEARING STIFFENER RETROFIT DETAILS
7	REPAIR DETAIL LOCATIONS; ROADWAYS A,B,C
8	REPAIR DETAIL LOCATIONS; ROADWAYS D - H
9	REPAIR DETAIL LOCATIONS; RAMPS M - R
10	REPAIR DETAIL LOCATIONS; RAMPS S, T + MISCELLANEOUS DETAILS
11	TRAFFIC CONTROL AND PROTECTION

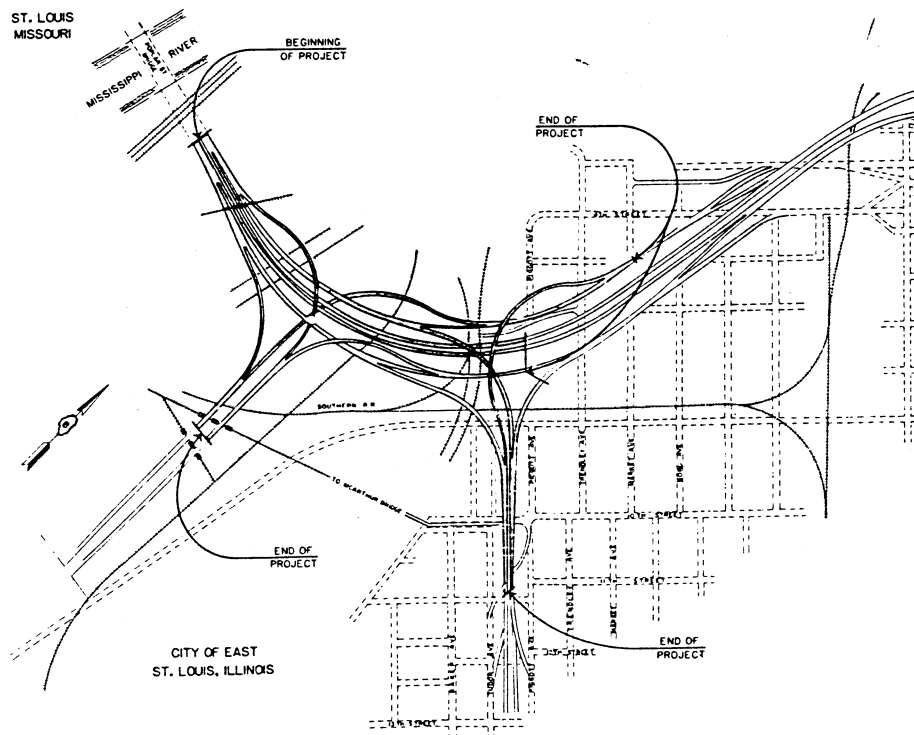
STANDARDS: 2298-7, 2299-10, 2300-3

F.A.I. NO.	SEC.	COUNTY	SECTION	SHEET NO.
FAI.70		ST. CLAIR	II	I

\* 82-3HVB-IR  
P-98-078-83



MICROFILMED \_\_\_\_\_  
REEL NUMBER \_\_\_\_\_  
AWARDED \_\_\_\_\_  
RESIDENT ENGINEER \_\_\_\_\_  
AS BUILT CHANGES WERE MADE  
ON THE FOLLOWING SHEETS



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED 3/5/86  
March 27, 86

EXAMINED March 27, 86

APPROVED March 27, 86

DIRECTOR OF HIGHWAYS

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED \_\_\_\_\_

DIVISION ADMINISTRATOR DATE \_\_\_\_\_



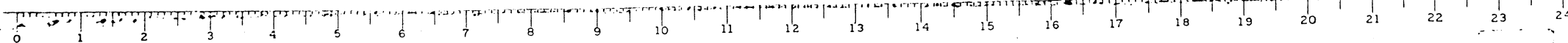
REEL 8-159

082-0143

CONTRACT NO. 40769

ST. CLAIR COUNTY SECTION 82-3HVB-IR F.A.I. ROUTE 70

NET LENGTH OF PROJECT - 166 MILES



PROJECT	SECTION	COUNTY	SHEET	TOTAL SHEETS
70	B2-34VDR	ST. CLAIR	11	2
DATE	BY	SCALE		
DESIGNED BY	DRAWN BY	CHECKED BY		

SUMMARY OF QUANTITIES			
CODE No	ITEM	UNIT	QUANTITY
X09954	Structural Steel Repairs, Type 1	Each	355
X09955	Structural Steel Repairs, Type 2	Each	732
X09956	Removal and Replacement of Existing Traffic Signs	Each	8
X09957	Cleaning and Painting Previously Repaired Connections	Each	20
X09958	Traffic Control for Repair Locations Above Another Roadway	Each	36
X10527	TRAINEES	HOUR	1,000
X650001	MOBILIZATION	L. SUM.	1

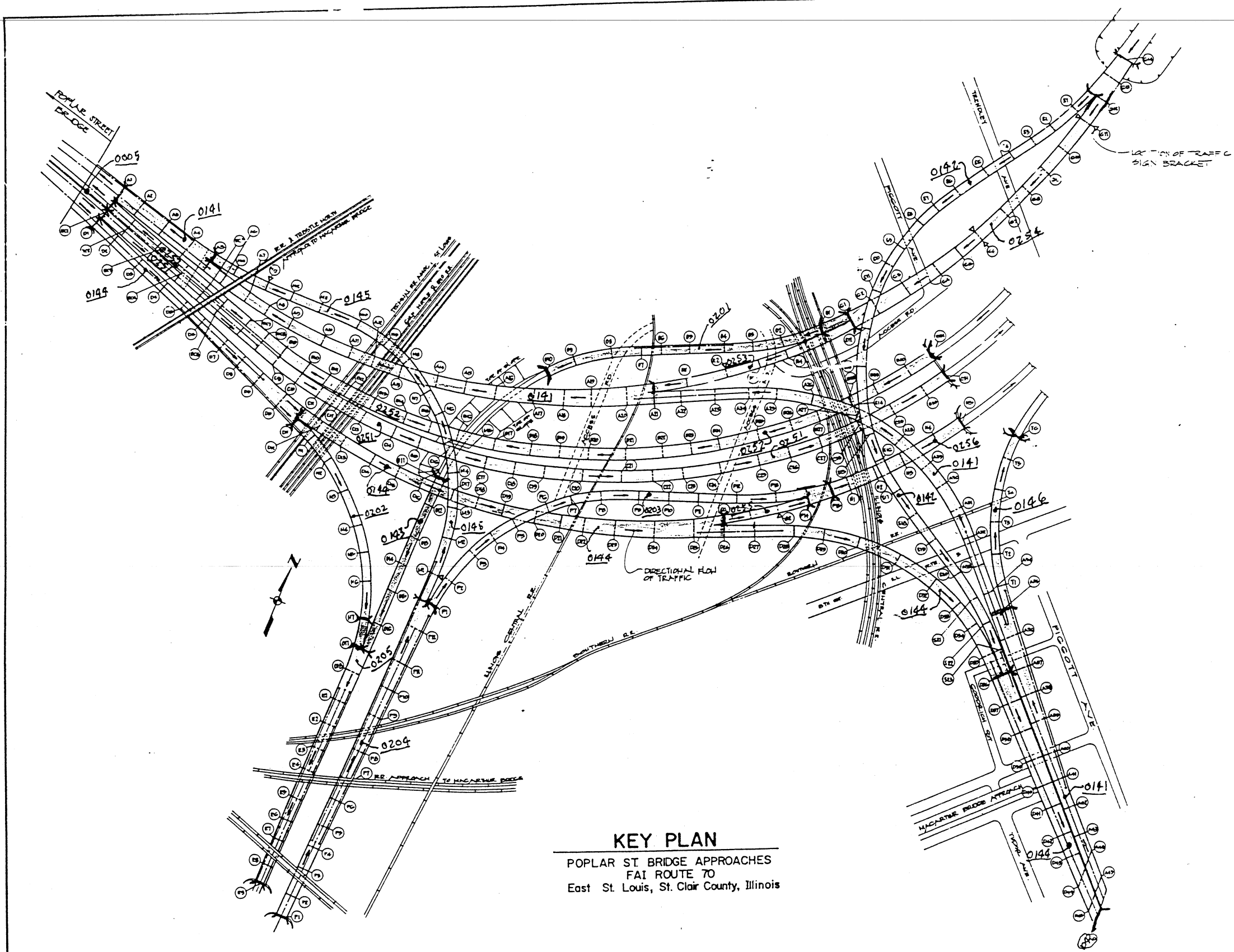
GENERAL NOTES

- \* CONST. CODE 70B0
- 1. Design criteria - A.A.S.H.T.O. Standard Specifications for Highway Bridges, 1983 Edition.
- 2. New fasteners shall be high-strength bolts, 7/8 inch  $\phi$ , unless noted otherwise.
- 3. Plan conditions, dimensions, and details relative to the existing structure have been taken from existing plans and are subject to normal construction variations. It shall be the Contractor's responsibility to verify such conditions, dimensions, and details in the field, and make necessary approved adjustments prior to construction. Such variations shall not be cause for additional compensation for a change in scope of work. However, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

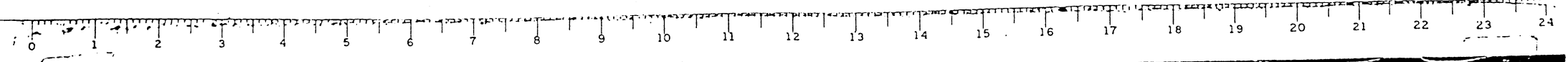
MAJOR WORK ITEMS

- 1. Installation of structural steel repair Type 1 at bearing stiffener connections between floor beams above piers and main girders above piers at continuous supports.
- 2. Installation of structural steel repair Type 2 at non-bearing stiffener connections between first interior floor beams and main girders.
- 3. Removal and replacement of existing traffic signs and support brackets where they interfere with Type 1 repairs.
- 4. Cleaning and painting of connections between floor beams and main girder which have been previously retrofitted with steel repairs.
- 5. Provide traffic control and protection for repair locations which are located above another roadway.

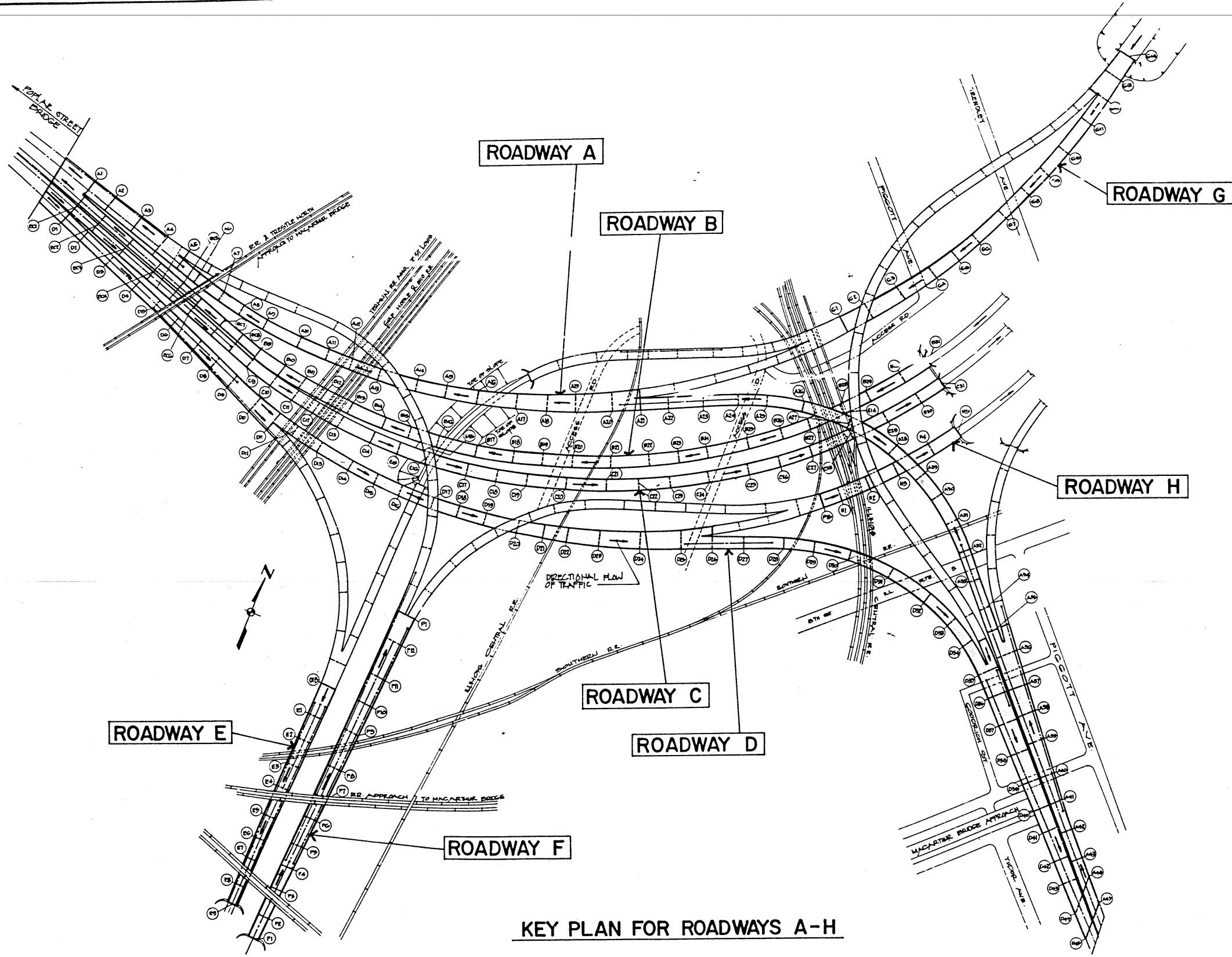
PROJECT KEY PLAN  
 STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 SUPERSTRUCTURE REPAIRS  
 FAI ROUTE 70  
 POPLAR STREET BRIDGE APPROACHES  
 ST. CLAIR COUNTY  
 SCALE: NONE  
 DATE 2/26/86  
 DRAWN BY: GSA  
 CHECKED BY: TLR



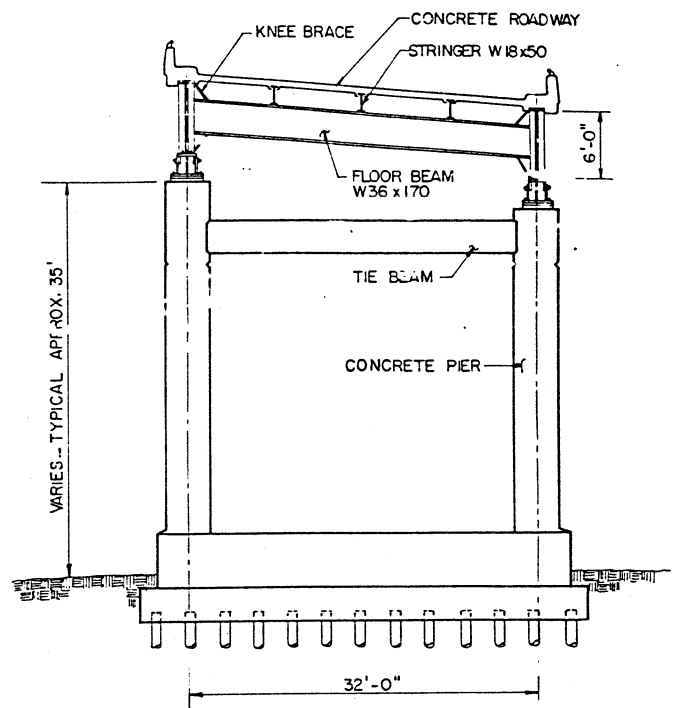
**KEY PLAN**  
 POPLAR ST BRIDGE APPROACHES  
 FAI ROUTE 70  
 East St. Louis, St. Clair County, Illinois



PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	B2-34VBR	ST. CLAIR	11	3
DATE	TO DATE	BY		



KEY PLAN FOR ROADWAYS A-H



TYPICAL SECTION THROUGH ROADWAY  
(Section through Ramp Similar)

KEY PLAN FOR ROADWAYS A-H

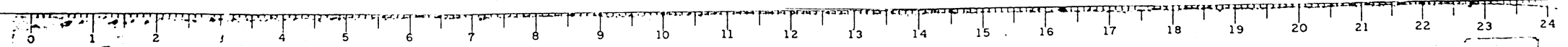
STATE OF MISSOURI  
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE REPAIRS

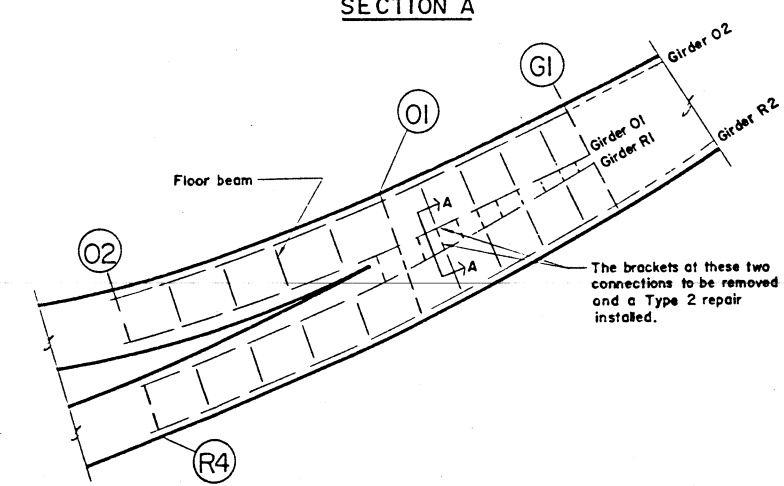
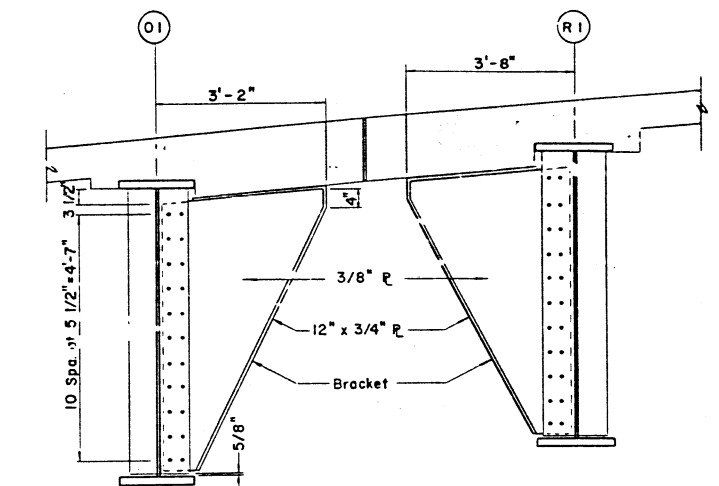
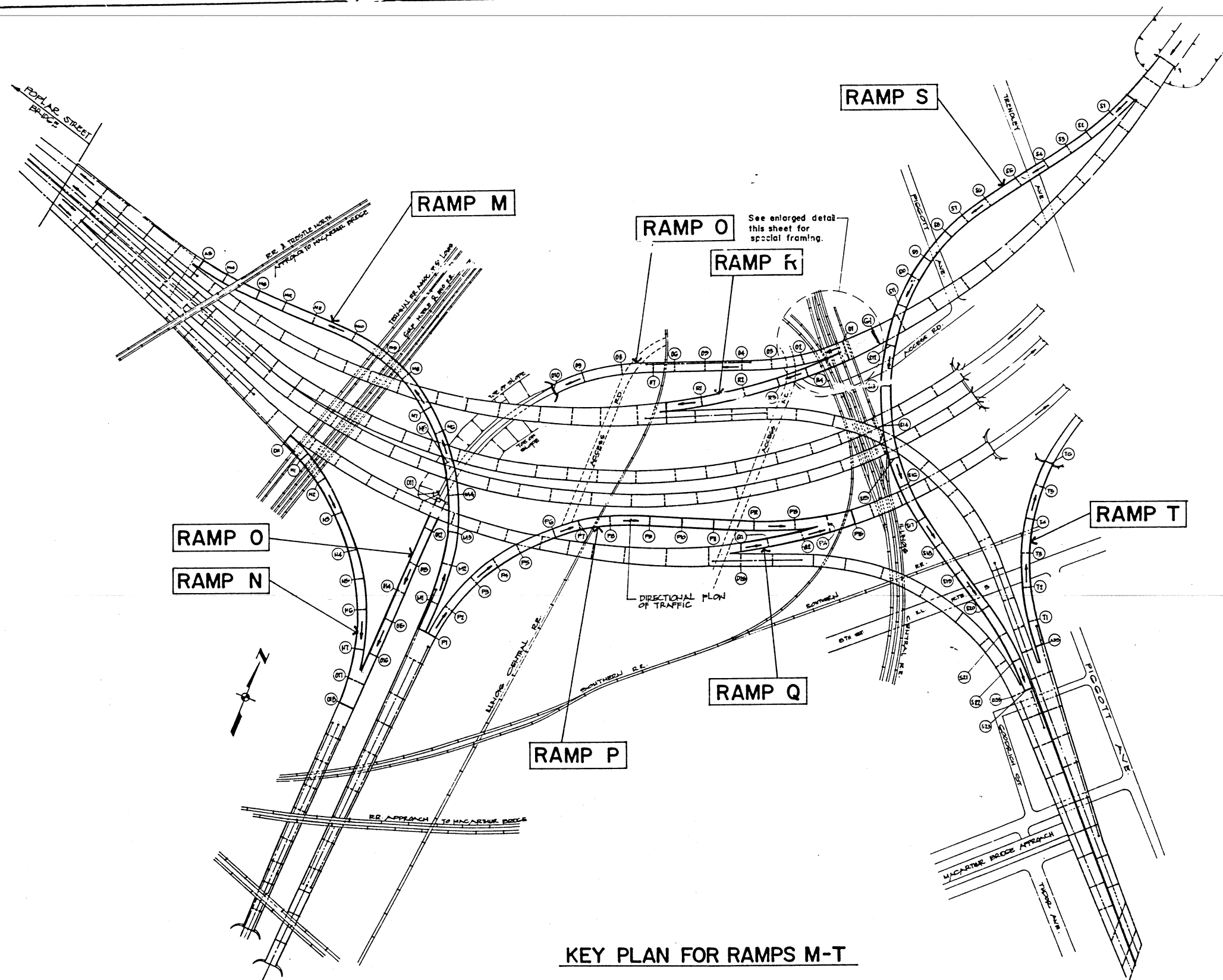
FAI ROUTE 70  
POPLAR STREET BRIDGE APPROACHES  
ST. CLAIR COUNTY

SCALE: NONE  
DATE 2/26/86

DRAWN BY: GSA  
CHECKED BY: TLR



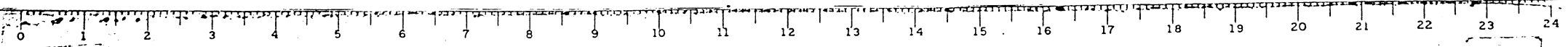
SECTION	COUNT	TOTAL SHEETS	SHEET NO.
70 02-31-01R	ST. CLAIR	11	4
FEED NO.	PROJECT NO.	FEDERAL PROJECT	



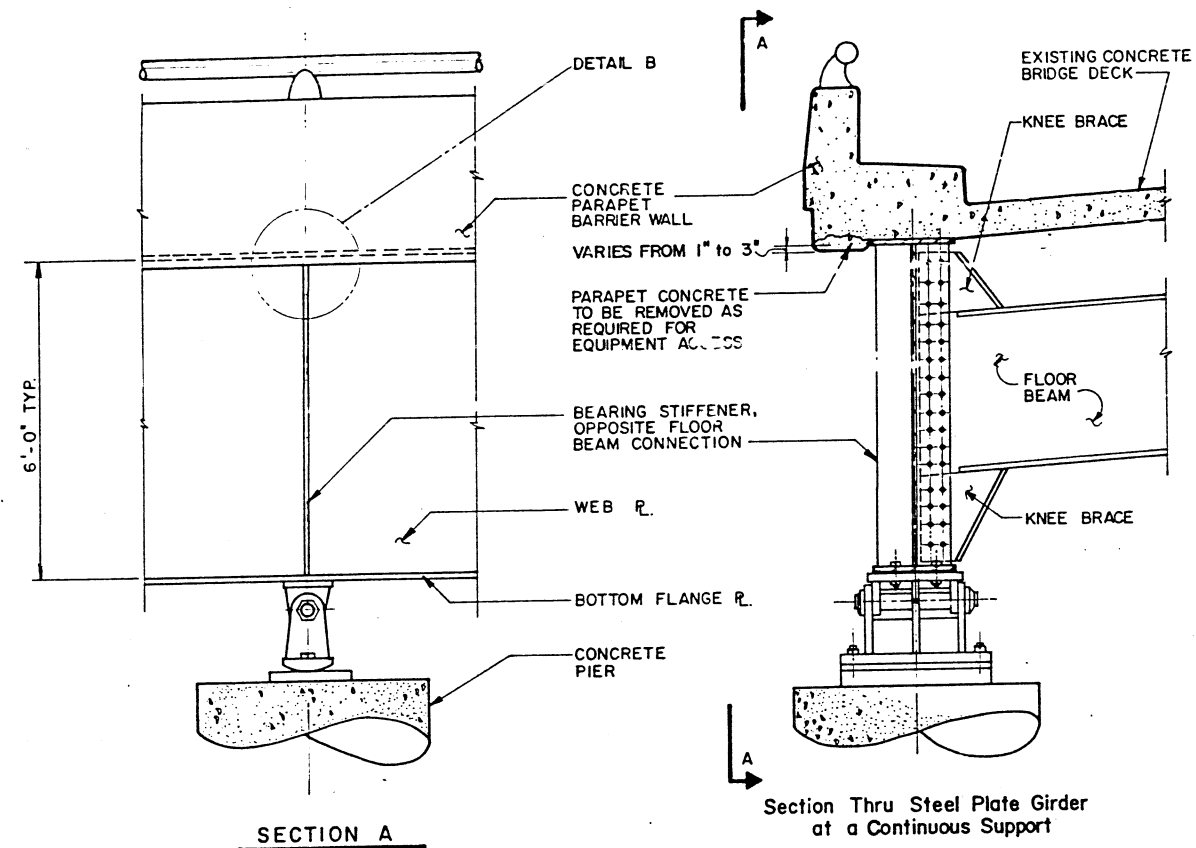
**EXISTING BRACKETS AT RAMP O AND RAMP R INTERSECTION**

- NOTE: Brackets are to be removed at two locations (O1int-1E and G1int-1E) and the Type 2 retrofit detail installed.
1. Remove all existing high strength bolts between the existing bracket and stiffener.
  2. Remove bracket.
  3. Install Type 2 retrofit detail.

**KEY PLAN FOR RAMPS M-T**  
 STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 SUPERSTRUCTURE REPAIRS  
 FAI ROUTE 70  
 POPLAR STREET BRIDGE APPROACHES  
 ST. CLAIR COUNTY  
 SCALE: NONE  
 DATE 2/26/86  
 DRAWN BY: GSA  
 CHECKED BY: TLR



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	B2-31V8-34	ST. CLAIR	11	5
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FEDERAL AID PROJECT		



**REPAIR PROCEDURE FOR INSTALLATION OF BEARING STIFFENER RETROFIT**

1. Remove existing parapet concrete, as required, for equipment access.
2. Core 2 in. diameter holes through web plate adjacent to the top flange as positioned in Detail B. Core hole shall penetrate horizontal and vertical fillet welds approximately 1/8 in. If core does not penetrate weld by 1/8 in., remove additional material by grinding. Remove all burrs from core surface and surface shall have a Roughness average (Ra) of 500 or less. Bevel edges of cored holes 1/16".
3. Obtain approval of engineer before proceeding.
4. Clean surface to remove any cutting oils or contaminants.
5. Clean and paint all areas of existing structural steel affected by this repair process, in accordance with the Special Provisions.
6. Patch parapet concrete at the direction of the Engineer, in accordance with the Special Provisions.

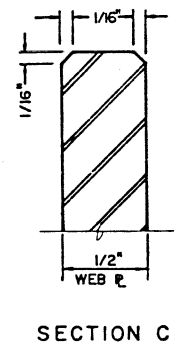
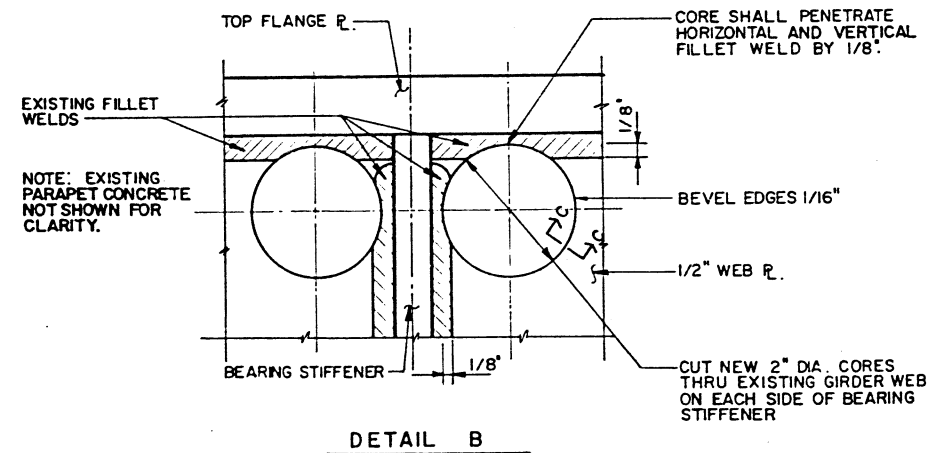
**QUANTITIES**

ITEM	UNIT	QUANTITY
Structural Steel Repairs, Type 1	Each	355
Removal and Replacement of Existing Traffic Signs	Each	8
Cleaning and Painting Previously Repaired Connections	Each	12
Traffic Control for Repair Locations Above Another Roadway	Each	3

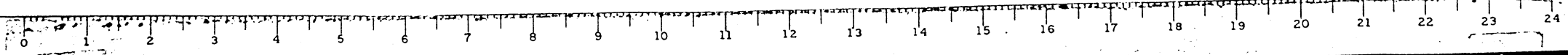
**DETAILS FOR REPAIR OF GIRDER WEB CRACKING AT A FLOOR BEAM-TO-BEARING STIFFENER GIRDER CONNECTION**

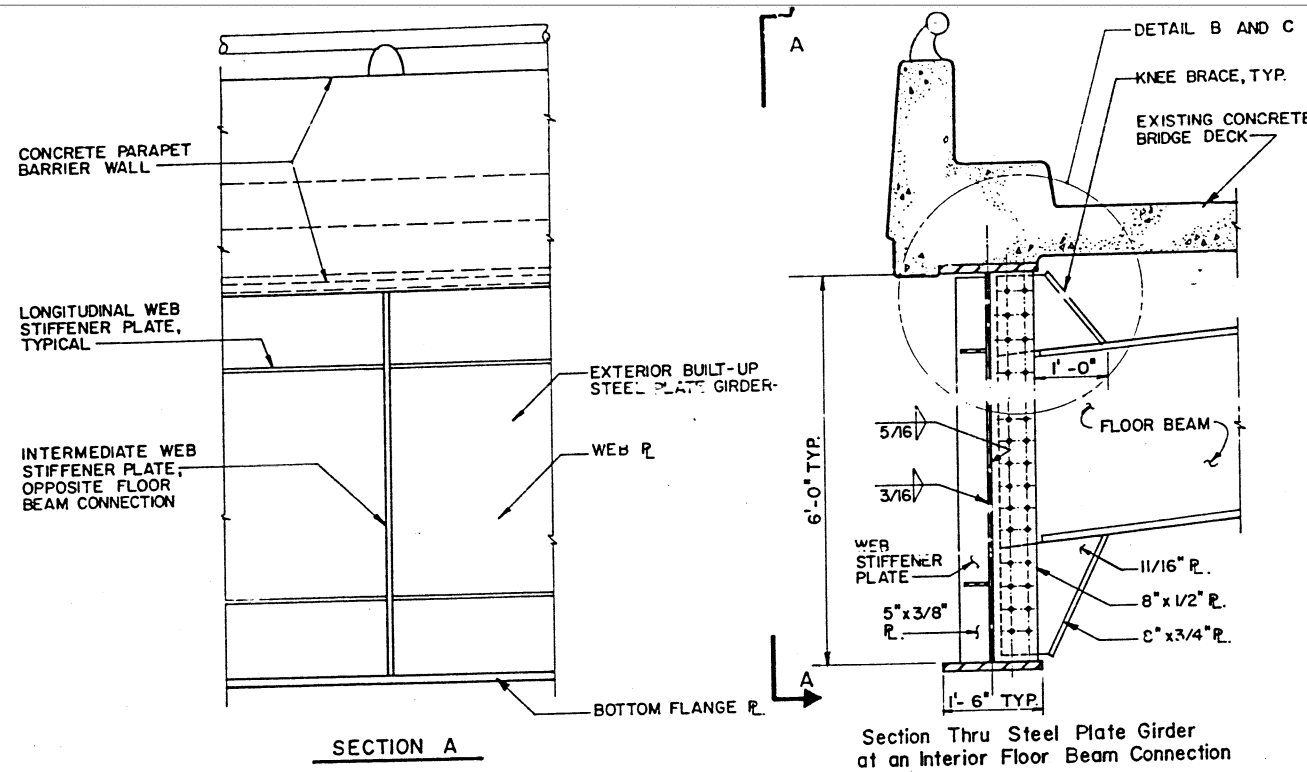
**TYPE 1 REPAIR**

Note: Refer to Sheet Nos. 7 through 10 for repair detail locations.



BEARING STIFFENER RETROFIT DETAILS  
 STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 SUPERSTRUCTURE REPAIRS  
 FAI ROUTE 70  
 POPLAR STREET BRIDGE APPROACHES  
 ST. CLAIR COUNTY  
 SCALE: NONE  
 DATE 2/26/86  
 DRAWN BY: GSA  
 CHECKED BY: TLR





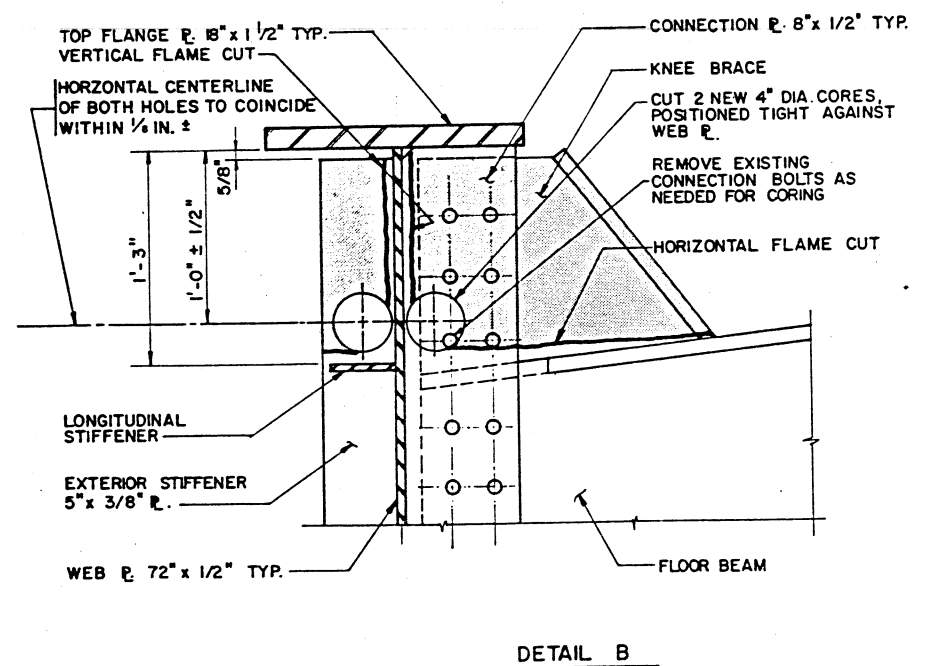
**DETAILS FOR REPAIR OF GIRDER WEB CRACKING  
AT FIRST INTERIOR FLOOR BEAM - TO - GIRDER CONNECTION**

**TYPE 2 REPAIR**  
Note: Refer to Sheet Nos. 7 through 10 for repair detail locations.

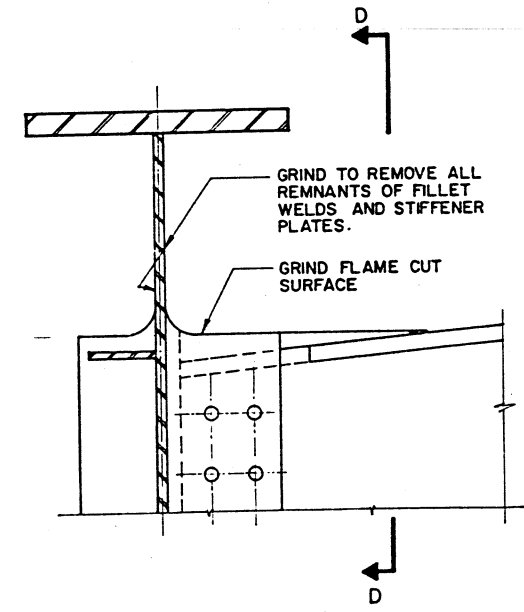
- REPAIR PROCEDURE FOR INSTALLATION OF INTERIOR NON-BEARING STIFFENER RETROFIT:**
1. Remove existing bolts between floor beam and connection plate that will interfere with coring operation. Core 4 in. diameter holes through the interior and exterior stiffeners as shown in Detail B.
  2. Make horizontal flame cuts through knee brace and exterior stiffener as shown in Detail B. Refer to Special Provisions.
  3. Make vertical flame cuts through the exterior stiffener and interior connection plate. These cuts shall be sufficiently away from the girder web to avoid gouging of the web plate. Also, utmost care shall be taken to not gouge the top flange plate during the cutting operation. Temperature of web plate shall not exceed 800° F. Refer to Special Provisions.
  4. Grind surfaces immediately after flame cutting. Roughness of all flame cut surfaces shall be (R<sub>a</sub>) 1000 or less before leaving the location.
  5. Remove remnants of vertical fillet welds and stiffener plates so that the web plate has a surface roughness of (R<sub>a</sub>) 250 or less. The final grinding shall be done parallel to the flange. Refer to Special Provisions.
  6. Inspect web plate in region of repairs. Drill 1" holes at ends of all cracks that do not terminate at an existing drilled hole.
  7. Obtain approval of Engineer before proceeding.
  8. Install 7/8" diameter high strength A325 bolts in crack retrofit holes as specified in the Special Provisions. Hardened washers shall be installed under both nut and bolt head. Tighten bolts to the minimum fastener tension, using the "turn-of-nut method" as specified in the AISI Specification for Structural Joints Using ASTM A325 or A490 Bolts.
  9. Clean exposed steel surface to remove any contaminants or rust.
  10. Clean and paint all areas of existing Structural Steel affected by this repair process, in accordance with the Special Provisions.

**QUANTITIES**

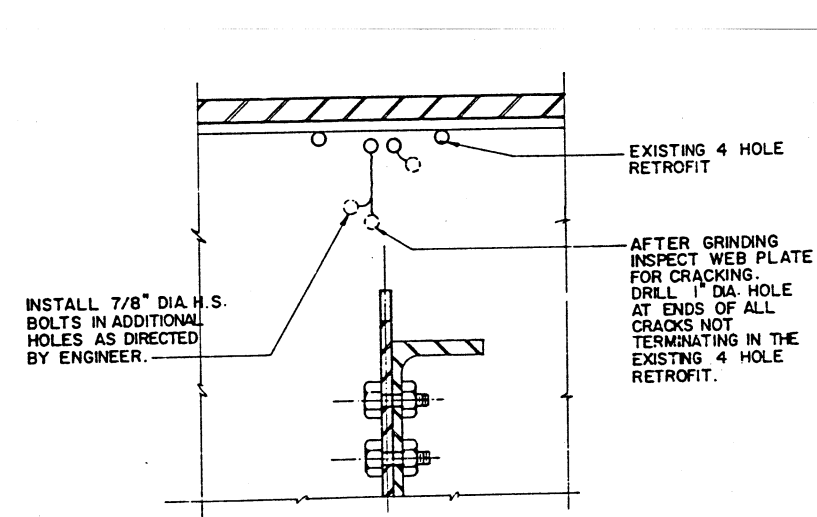
ITEM	UNIT	QUANTITY
Structural Steel Repairs, Type 2	Each	732
Cleaning and Painting Previously Repaired Connections	Each	8
Traffic Control for Repair Locations Above Another Roadway	Each	28



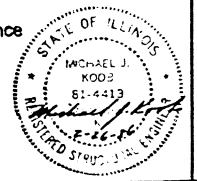
**DETAIL B**  
Illustrating Steps 1 thru 3 of the Repair Sequence



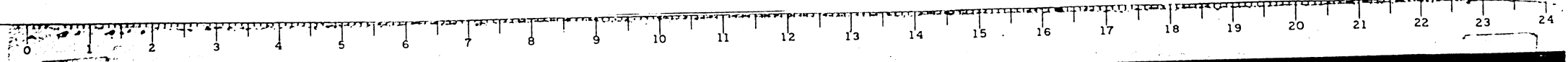
**DETAIL C**  
Illustrating Steps 4 and 5 of the Repair Sequence



**SECTION D**  
Illustrating Steps 6 thru 9 of the Repair Sequence



**INTERIOR NON-BEARING STIFFENER RETROFIT DETAILS**  
 STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 SUPERSTRUCTURE REPAIRS  
 FAI ROUTE 70  
 POPLAR STREET BRIDGE APPROACHES  
 ST. CLAIR COUNTY  
 SCALE: NONE  
 DATE 2/26/86  
 DRAWN BY: GSA  
 CHECKED BY: TLR





0146  
RAMP M

0143  
RAMP O

RAMP Q

DATE	REVISION	QUANTITY	SHEET NO.	TOTAL SHEETS
70	B2-3HYB #	ST. CLAIR	11	9
PROJECT NO. 70		GENERAL CONTRACTOR		

REPAIR DETAIL LOCATIONS

REPAIR DETAIL LOCATIONS

REPAIR DETAIL LOCATIONS

BEARING STIFFENER CONNECTIONS		FIRST INTERIOR STIFFENER CONNECTIONS		BEARING STIFFENER CONNECTIONS		FIRST INTERIOR STIFFENER CONNECTIONS		BEARING STIFFENER CONNECTIONS		FIRST INTERIOR STIFFENER CONNECTIONS		BEARING STIFFENER CONNECTIONS		FIRST INTERIOR STIFFENER CONNECTIONS	
PIER NO.	DETAIL LOCATION	SPAN NO.	DETAIL LOCATION	SPAN NO.	DETAIL LOCATION	PIER NO.	DETAIL LOCATION	SPAN NO.	DETAIL LOCATION	SPAN NO.	DETAIL LOCATION	PIER NO.	DETAIL LOCATION	SPAN NO.	DETAIL LOCATION
M1	M1E (7) M1W	P1-M1	M1E-1E M1W-1S	M9-M10	M10E-1E M10W-1E	01	01W 01N, interior 01S, interior	01-01	01N-1E 01N, int.-1E (1) 01S, int.-1E (1)	011-012	012W-1E 012S-1E	01	01W 01S	020-01	01W-1W 01S-1W
M2	M2E M2W	M1-M2	M1E-1N M1W-1N	M10-M11	M10E-1N M10W-1N	02	02N 02S	01-02	01N-1W 01N, int.-1W 02N-1E	012-013	012W-1W 012S-1W	02	02W 02S (7)	01-02	01N-1E 01S-1E
M4	M4E M4W	M2-M3	M2E-1N M2W-1S	M11-M12	M11E-1N M11W-1N	04	04N 04S	02-03	02N-1W 02S-1W	013-014	013W-1W 013S-1W			02-014	02N-1E 02S-1E
M5	M5E (8) M5W (8)	M3-M4	M3E-1E M3W-1E	M12-M13	M12E-1E M12W-1E	05	05N 05S	03-04	03N-1W 03S-1W	014-015	014W-1E 014S-1E				
M7	M7E M7W	M4-M5	M4E-1N (8) M4W-1N (8)	M13-M14	M13E-1N M13W-1N	08	08N 08S	04-05	04N-1W 04S-1W	015-016	015W-1W 015S-1W				
M8	M8E M8W	M5-M6	M5E-1S (8) M5W-1S (8)	M14-M15	M14E-1S M14W-1S	09	09N 09S	05-06	05N-1W 05S-1W	016-017	016W-1W 016S-1W				
M10	M10E M10W	M6-M7	M6E-1N (8) M6W-1N (8)			012	012N 012S	06-07	06N-1W 06S-1W	017-018	017W-1E 017S-1E				
M11	M11E M11W	M7-M8	M7E-1E M7W-1S			013	013N 013S	07-08	07N-1W 07S-1E	018-019	018W-1W 018S-1W				
M13	M13E (7) M13W (7)	M8-M9	M8E-1N (8) M8W-1N (8)			015	015N 015S	08-09	08N-1W 08S-1W						
M14	M14E M14W	M9-M10	M9E-1N M9W-1N			016	016N 016S	09-10	09N-1W 09S-1W						

KEY TO NOTATION FOR REPAIR DETAIL LOCATIONS

BEARING STIFFENER CONNECTIONS:  
Example: Repair Detail C27-S  
C - Roadway or Ramp  
27 - Pier Number  
S - Connection to South Girder

FIRST INTERIOR STIFFENER CONNECTIONS:  
Example: Repair Detail B17N-1E  
B - Roadway or Ramp  
17 - Pier Number  
N - Connection to North Girder  
1 - First Floor Beam Adjacent to Pier.  
E - East Side of Pier

NOTE:  
Refer to Sheet Nos. 3 and 4 for the pier numbers for all roadways and ramps. Piers on each ramp or roadway are numbered consecutively from selected starting points. The directional orientation for each roadway and ramp is based upon the orientation of the first pier (ie-pier No.1) and remains the same for the full length of the roadway or ramp.

RAMP N

RAMP P

RAMP R

REPAIR DETAIL LOCATIONS

REPAIR DETAIL LOCATIONS

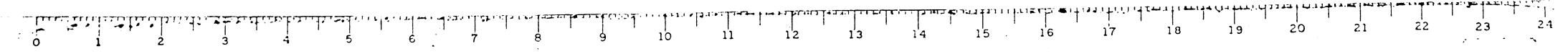
REPAIR DETAIL LOCATIONS

BEARING STIFFENER CONNECTIONS		FIRST INTERIOR STIFFENER CONNECTIONS		BEARING STIFFENER CONNECTIONS		FIRST INTERIOR STIFFENER CONNECTIONS		BEARING STIFFENER CONNECTIONS		FIRST INTERIOR STIFFENER CONNECTIONS		BEARING STIFFENER CONNECTIONS		FIRST INTERIOR STIFFENER CONNECTIONS	
PIER NO.	DETAIL LOCATION	SPAN NO.	DETAIL LOCATION	SPAN NO.	DETAIL LOCATION	PIER NO.	DETAIL LOCATION	SPAN NO.	DETAIL LOCATION	SPAN NO.	DETAIL LOCATION	PIER NO.	DETAIL LOCATION	SPAN NO.	DETAIL LOCATION
N2	N2E N2S	N1-N2	N2E-1W N2S-1W			P2	P2E P2W	P1-P2	P2E-1S P2W-1S	P10-P11	P11E-1E P11W-1S	R1	R1W R1S	A21-R1	R1N-1W R1S-1W
N3	N3W N3S	N2-N3	N2E-1E N2S-1E N3W-1W N3S-1W			P3	P3E P3W	P2-P3	P2E-1N P2W-1N P3E-1S P3W-1S	P11-P12	P11E-1N P11W-1N P12E-1S P12W-1S	R2	R2W (7) R2S	R1-R2	R1N-1E R1S-1E R2N-1W R2S-1W
N4	N4W N4S	N3-N4	N3E-1E N3S-1E N4W-1W N4S-1W			P5	P5E (8) P5W	P3-P4	P3E-1N P3W-1N	P12-P13	P12E-1N P12W-1N P13E-1S P13W-1S	R4	R4W R4S	R2-R3	R2N-1E R2S-1E
N6	N6W N6S	N4-N5	N4E-1E N4S-1E N6W-1W N6S-1W			P6	P6E (8) P6W	P4-P5	P4E-1S P4W-1S					R3-R4	R4N-1W R4S-1W
N7	N7W N7S	N5-N6	N5E-1E N5S-1E N7W-1W N7S-1W			P8	P8E P8W	P5-P6	P5E-1N (8) P5W-1N (8) P6E-1S (8) P6W-1S (8)	P13-P14	P13E-1N P13W-1N			R4-O1	R4N-1E R4S-1E 01S, int.-1W 01S-1W
		N6-N7	N6E-1E N6S-1E N7W-1W N7S-1W			P11	P11E P11W	P6-P7	P6E-1N P6W-1N						
		N7-N8	N7E-1E N7S-1E			P12	P12E P12W	P7-P8	P7E-1S P7W-1S						
		N8-N9	N8E-1E N8S-1E			P13	P13E P13W	P8-P9	P8E-1N P8W-1N P9E-1S P9W-1S						
		N9-N10	N9E-1E N9S-1E					P9-P10	P9E-1N P9W-1N						

NOTE:  
Refer to Sheet No.7 for Notes Applicable to this table.

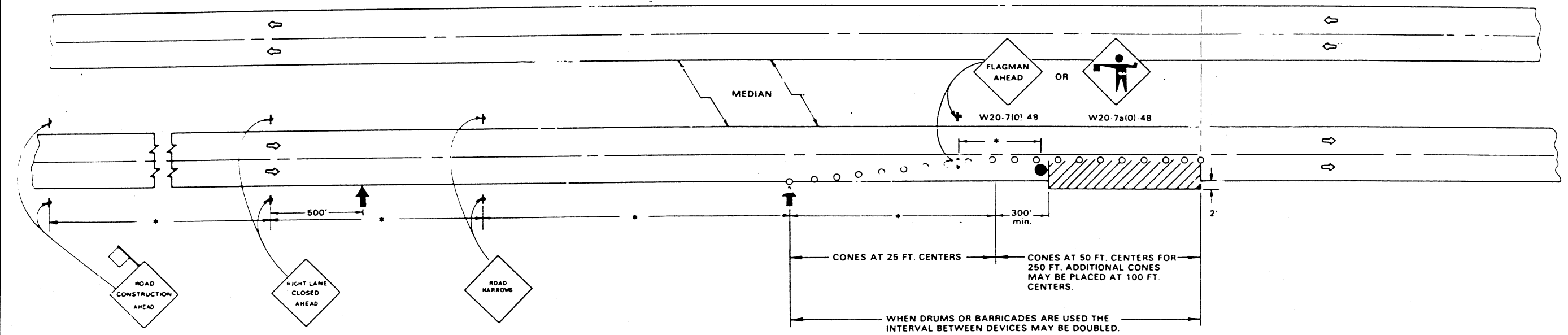
REPAIR DETAIL LOCATIONS  
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
SUPERSTRUCTURE REPAIRS  
FAI ROUTE 70  
POPLAR STREET BRIDGE APPROACHES  
ST. CLAIR COUNTY

SCALE: NONE  
DATE 2/26/86  
DRAWN BY: GSA  
CHECKED BY: TLR



PROJECT	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	02-34V8-1R	ST. CLAIR	11	11
DATE	10/21/93			
FED. ROAD DIST. NO. 7	ILLINOIS	GENERAL IMPROVEMENT		

STANDARD PLAN  
 10-10-10  
 10-10-10



W5-1(0)-48

XX  
MPH

W13-1(0)2424

\* SEE NOTE 3

**GENERAL NOTES**

1. When no men or equipment are in the closed lane, the flagger will not be required. If the flagger is not present, the Flagger and Worker signs shall be removed or covered.
2. This traffic control plan also applies when work is being performed in the left lane. Under these conditions, LEFT LANE CLOSED signs shall be substituted for RIGHT LANE CLOSED signs.
3. Sign spacing and taper rates will be determined by the Engineer.
4. The speed limit to be shown on the Construction Speed Limit signs shall be 10 miles per hour below the normal posted speed limit. The signs shall not be used where the normal posted speed limit is below 45 miles per hour.
5. All signs, cones, barricades and drums are to be removed at completion of the day's operations and the work area opened to traffic.
6. Cones shall be a minimum of 28 in. in height.
7. Longitudinal dimensions may be adjusted to fit field conditions. The lateral placement of the flagger may be varied from that shown. The flagger shown at the beginning of the work area shall be stationed approximately 200 feet in advance of the work party.
8. Form BT 725 may be required.

**SYMBOLS**

- ↑ Arrow Board
- ▨ Work Area
- ◇ 18 in. X 18 in. (minimum) Orange Flag
- Cone, Drum or Barricade
- † Sign on Portable or Permanent Support
- Flagger with Traffic Control Sign

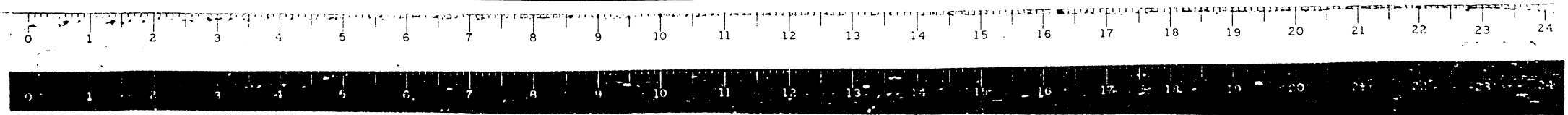
**TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES  
 HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE**

MULTILANE RURAL DAY OPERATIONS ONLY

Where, at any time, any vehicle, equipment, workers or their activities will encroach on any portion of the lane immediately adjacent to the shoulder or on the shoulder within 2 ft. of the edge of pavement.

**TRAFFIC CONTROL AND PROTECTION**

Illinois Department of Transportation  
 Approved October 21, 1993  
*R.D. Schmidt*  
 Engineer of Traffic



**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY**

**F.A.I. ROUTE 7C  
SECTION 82-3HVB-R-5  
PROJECT IR-70-1(145)0  
ST. CLAIR COUNTY  
C-98-050-84**

F.A.I. ROUTE NO.	REC.	COUNTY	TOTAL	INDEX
70	*	ST. CLAIR	4	1
ILLINOIS PROJECT IR-70-1(145)0				

\* 82-3HVB-R-5  
P-98-073-83



**INDEX**

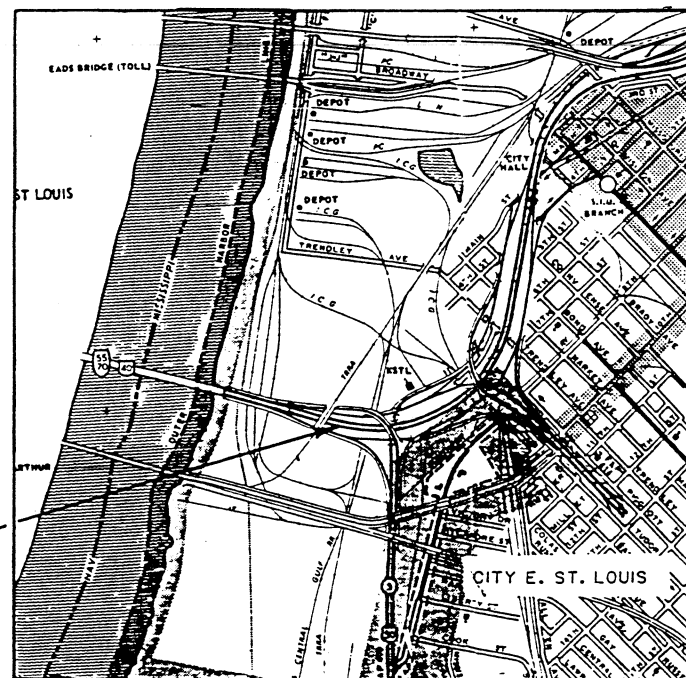
1. TITLE SHEET & SUMMARY OF QUANTITIES
2. GENERAL PLAN
3. POST-TENSIONING SYSTEM & GENERAL NOTES
4. END CONNECTION BRACKET!

**STANDARDS:**

2298-7	2300-3
2299-10	2307-6

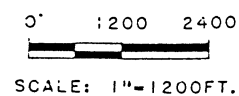
**SUMMARY OF QUANTITIES**

CODE NO.	PAY ITEM	UNIT	QUANTITY
* X04748	MOBILIZATION/	L SUM	1
* X07723	PIER COLUMN REPAIR TYPE I	EACH	270
* X07724	PIER COLUMN REPAIR TYPE II	EACH	151
** Z10527	TRAINEES	HCURS	4,000
* CONSTRUCTION TYPE CODE Y007			
** CONSTRUCTION TYPE CODE Y080			



THIS PROJECT CONSISTS OF THE PIER CAP REPAIR AT VARIOUS LOCATIONS IN THE POPLAR STREET BRIDGE COMPLEX

LOCATION MAP



MICROFILMED \_\_\_\_\_  
REEL NUMBER \_\_\_\_\_  
AWARDED \_\_\_\_\_  
RESIDENT ENGINEER \_\_\_\_\_  
AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS

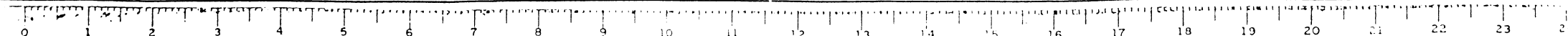
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	
SUBMITTED	11-17-82 <i>Del Lidal</i>
EXAMINED	12-20-82 <i>[Signature]</i>
PASSED	1-20-83 <i>[Signature]</i>
APPROVED	1-20-83 <i>[Signature]</i> DIRECTOR OF HIGHWAYS

082-0143

CONTRACT NO. 38649

REEL 8-151

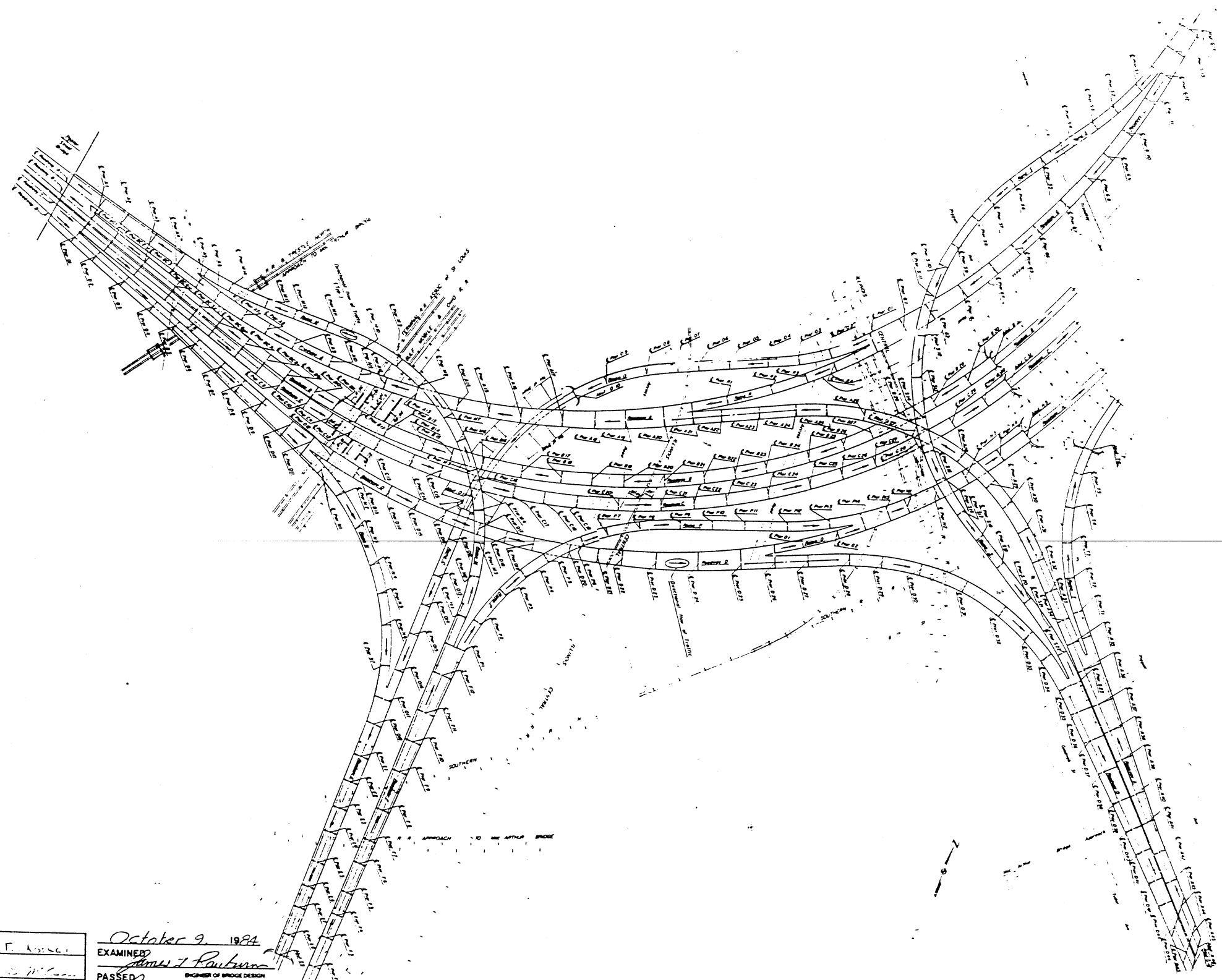
ST. CLAIR COUNTY SECTION 82-3HVB-R-5 F.A.I. ROUTE 70



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3	ST. CLAIR	3	1
FED. AID DIST. NO.	FUND	PROJECT		

Sheet No. 1  
3 Sheets



TOTAL BILL OF MATERIALS

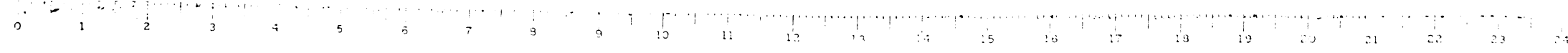
ITEM	UNIT	TOTAL
* Pier Column Repair - Type I	Each	270
* Pier Column Repair - Type II	Each	15

\* For pier locations see special provisions

DESIGNED R. T. K...  
CHECKED P. S. M...  
DRAWN R. Sommer  
CHECKED P. S. M...

October 9, 1984  
EXAMINED James J. Rayburn  
PASSED James J. Rayburn  
APPROVED James J. Rayburn  
DIRECTOR OF HIGHWAYS

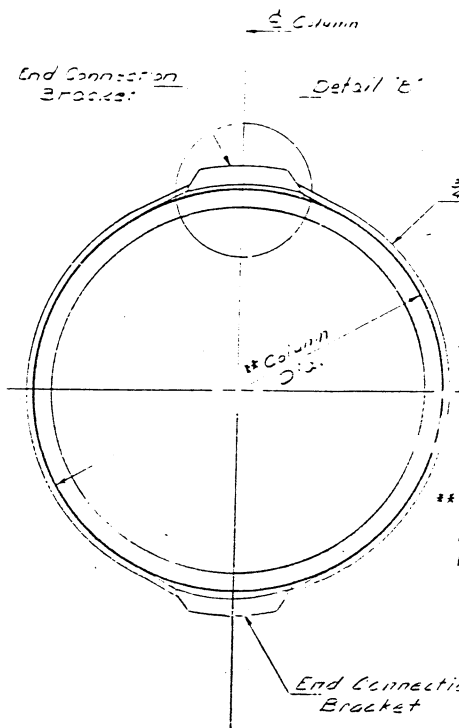
GENERAL PLAN  
F.A.I. RT. 70 SEC. 82-3...  
ST. CLAIR COUNTY



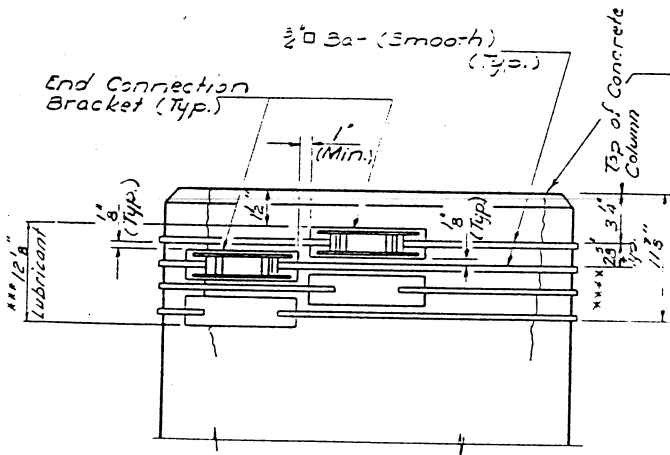
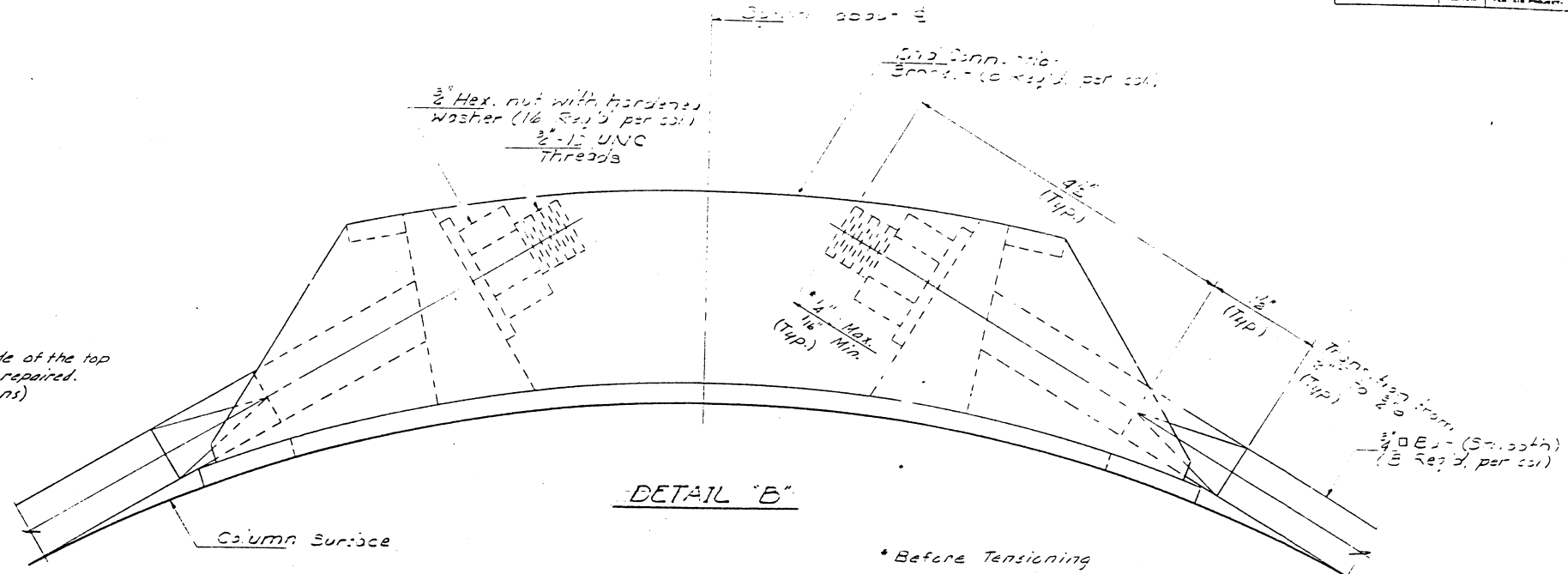
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			4	2
PER SHEET COST		UNIFORM		PER SHEET PROJECT

SHEET NO. 2  
3 SHEETS



Template shall be made of the top of each column to be repaired. (See Special Provisions)

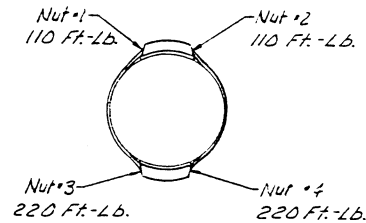


TOP OF PIER COLUMNS  
For locations see Special Provisions

Clean and epoxy grout cracks before bar tensioning. See Special Provisions.

**BAR TENSIONING PROCEDURE**

The 3/4" bars shall be tensioned in sequence from the bottom bar to the top bar. Each bar shall be tensioned by tightening the nuts to the given torques according to the following sequence:



After tightening all four nuts on a bar they shall all be checked for 220 Ft.-Lb. Torque according to the same above sequence. The Engineer shall then verify the 220 Ft.-Lb. torque on all the nuts and the threads shall be set.

**QUANTITY OF STRUCTURAL STEEL PER COLUMN IN LBS.**

COL. DIA.	AASHTO M-223	AISI 4140	TOTAL
2'-0"	113	16	214
4'-6"	113	108	226
5'-0"	113	120	233
5'-6"	113	132	250
6'-0"	113	144	262
6'-6"	113	156	274
7'-0"	117	168	285

All Structural Steel is incidental to "Pier Column Repair - Type I" or "Pier Column Repair - Type II" as applicable.

**GENERAL NOTES**

End Connection Bracket shall conform to the requirements of A.A.S.H.T.O. M 223 Grade 50.

The 3/4" bar shall conform to the requirements of AISI 4140, quenched and tempered to a minimum yield strength of 100,000 psi. and a maximum yield strength of 120,000 psi.

The hardened washer shall conform to the requirements of A.S.T.M. F-436.

The end connection brackets, 3/4" bars, nuts and washers shall receive one shop coat of red lead paint and two shop coats of aluminum paint.

The 3/4" hex. nut shall conform to the requirements of A.S.T.M. A-563, Grade D.H.

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations.

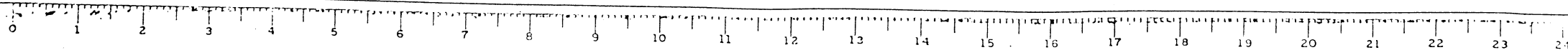
It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work.

Concrete surfaces to receive Post-Tensioning System shall be smoothed by stoning or grinding as required to eliminate projections.

POST-TENSIONING SYSTEM  
PIER COLUMN REPAIR  
F.A.R.T. TO SEC. 82-34V5-R-5  
ST. CLAIR COUNTY

DESIGNED R. F. WILCOX
CHECKED R. E. S. MURPHY
DRAWN J. SCHNEIDER
CHECKED P. S. MC RIF

October 9 1954  
EXAMINED James J. Rankin  
PASSED James J. Rankin  
APPROVED James J. Rankin  
DIRECTOR OF HIGHWAYS



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			4	1
PER. PLAN EXP. NO. 1		ALL WORK	PER. JOB PROPERTY	

SHEET NO. 3  
3 SHEETS

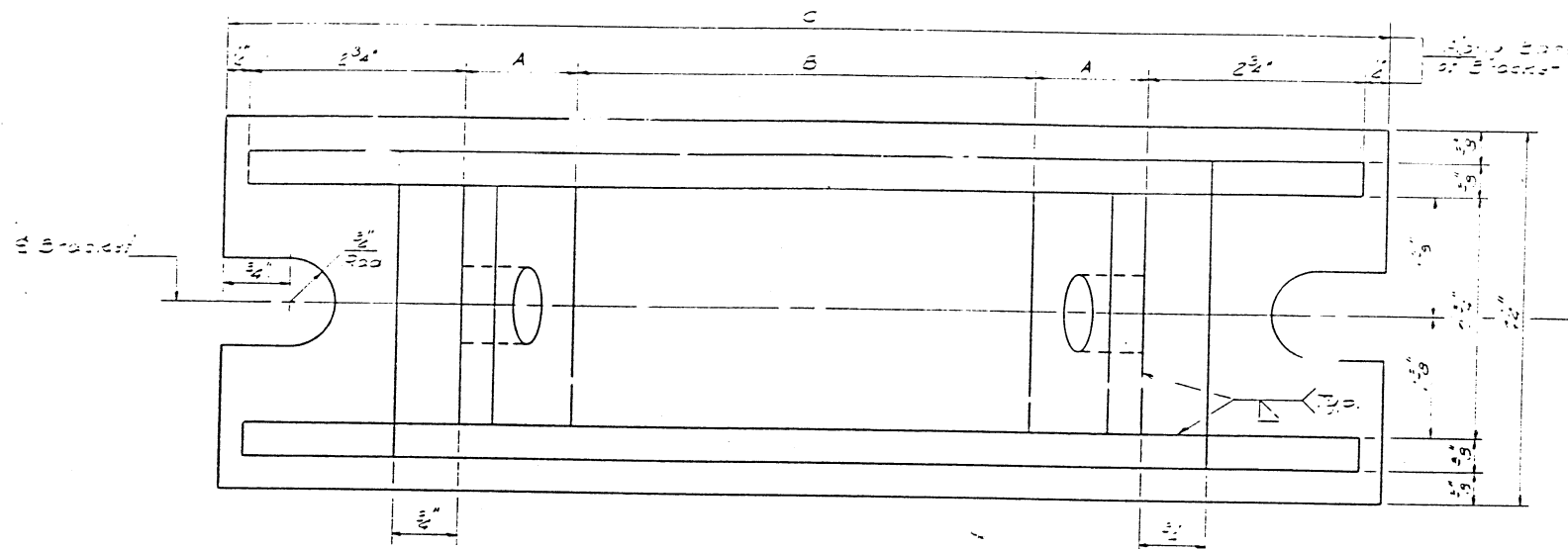
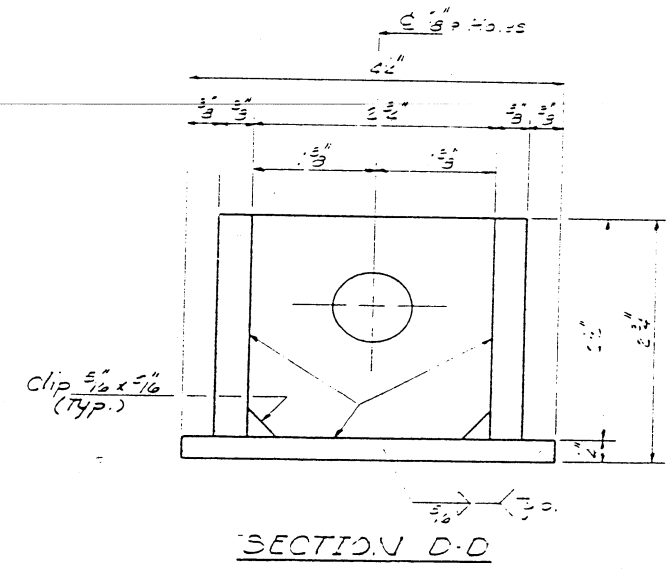
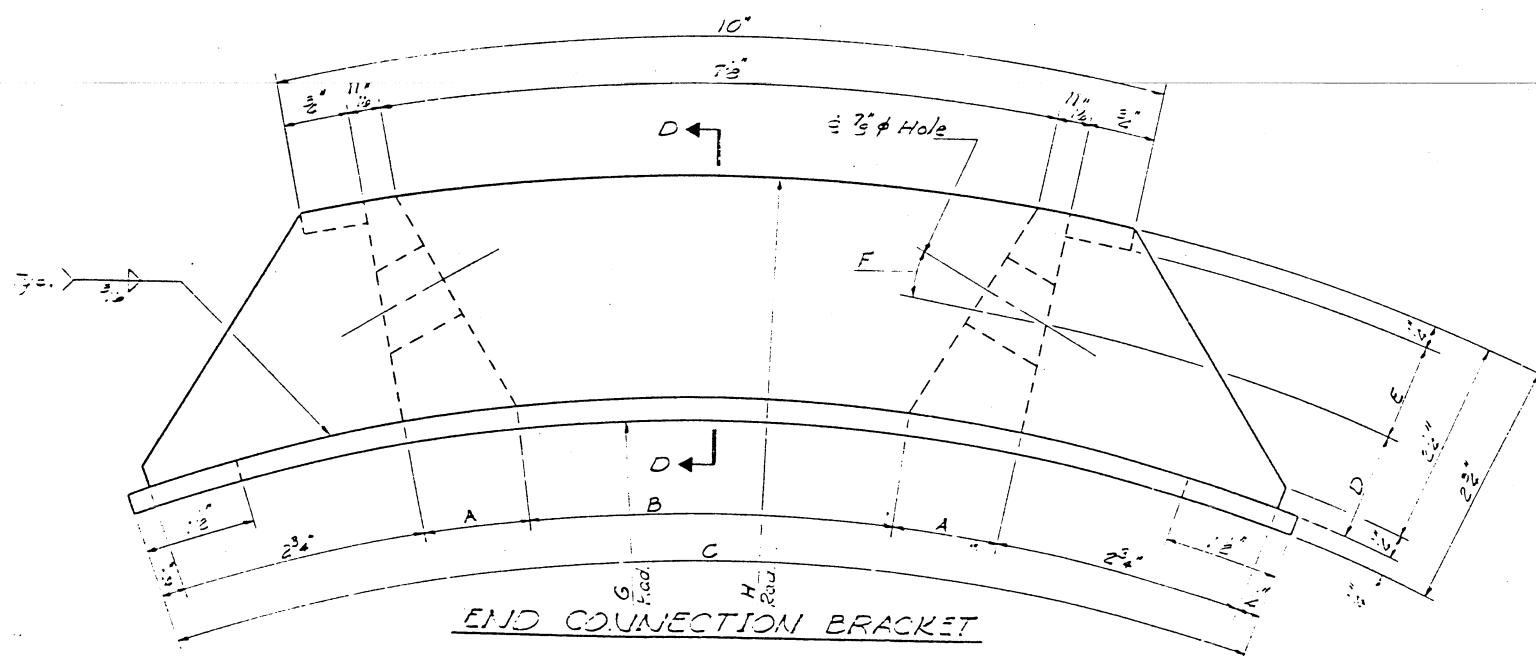


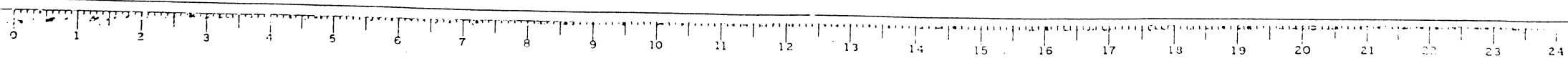
TABLE OF DIMENSIONS

COL. DTA	A	B	C	D	E	F	G	H
4'-0"	1'-7 1/2"	2'-4"	13'-5 3/8"	1'-3 1/8"	1'-6"	16'-20'-30"	24"	26'-3 4"
4'-6"	1'-3 3/8"	4'-5 1/2"	13'-1 1/8"	1'-3 1/8"	1'-6"	10'-50'-23"	27"	29'-4"
5'-0"	1'-3 3/8"	5'-0"	13'-3 1/8"	1'-4"	1"	15'-28'-01"	30"	32'-3 4"
5'-6"	1'-5"	5'-0"	13'-3 1/8"	1'-4"	1"	14'-46'-31"	33"	35'-4"
6'-0"	1'-5 1/2"	5'-4"	13'-3 1/8"	1'-4"	1"	14'-14'-13"	36"	38'-3 4"
6'-6"	1'-5 1/2"	5'-5 1/2"	13'-5 1/8"	1'-5 1/8"	1'-6"	13'-45'-10"	39"	41'-3 4"
7'-0"	1'-8"	5'-2"	14"	1'-5 1/8"	1'-5 1/8"	13'-09'-07"	42"	44'-3 4"



DESIGNED R. F. COLLETT  
 CHECKED R. L. S. MCCORMY  
 DRAWN J. SCHNELLER  
 CHECKED P. S. M. L. F. R.  
 October 9 1934  
 EXAMINED James J. Rankin  
 PASSED James J. Rankin  
 APPROVED [Signature]  
 DIRECTOR OF HIGHWAYS

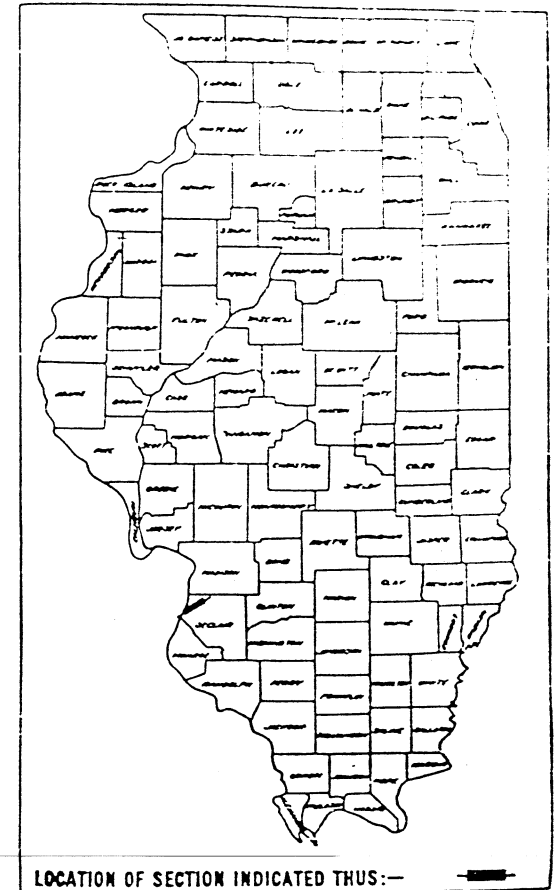
END CONNECTION BRACKET  
 POST-TENSIONING SYSTEM  
 PIER COLUMNS REPAIR  
 ILL. RT. 70 SEC. 82-3-HVB-R-5  
 ST. CLAIR COUNTY



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY

P-98-025-76



LOCATION OF SECTION INDICATED THUS:—

INDEX OF SHEETS  
SHEET NO.

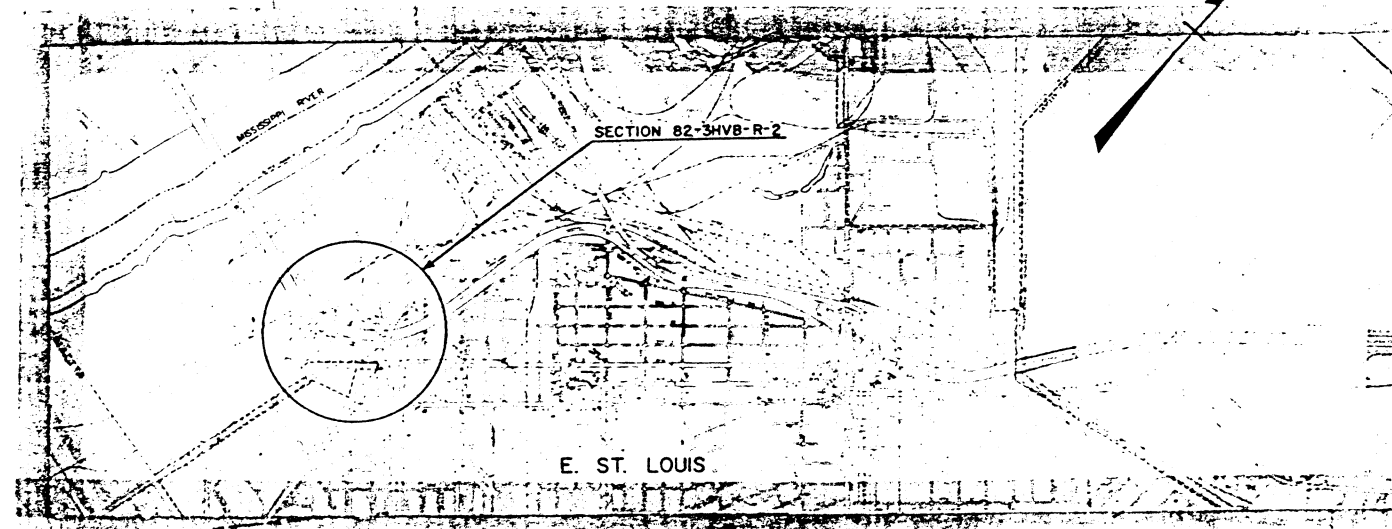
- 1 COVER SHEET, INDEX OF SHEETS
- 2 SUMMARY OF QUANTITIES, GENERAL PLAN
- 3 SCHEDULE OF REPAIRS, GENERAL NOTES
- 4 DETAILS OF CONSTRUCTION

STANDARDS 2298-4  
2299-7  
2300-1  
2314-3

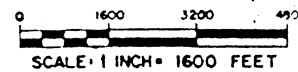
F.A.I. ROUTE 70  
SECTION 82-3HVB-R-2

ST. CLAIR COUNTY  
BRIDGE REPAIRS

C-98-126-77



LOCATION MAP



SCALE: 1 INCH = 1600 FEET

MICROFILMED \_\_\_\_\_  
REEL NUMBER \_\_\_\_\_  
AWARDED \_\_\_\_\_  
RESIDENT ENGINEER \_\_\_\_\_  
AS BUILT CHANGES WERE MADE  
ON THE FOLLOWING SHEETS

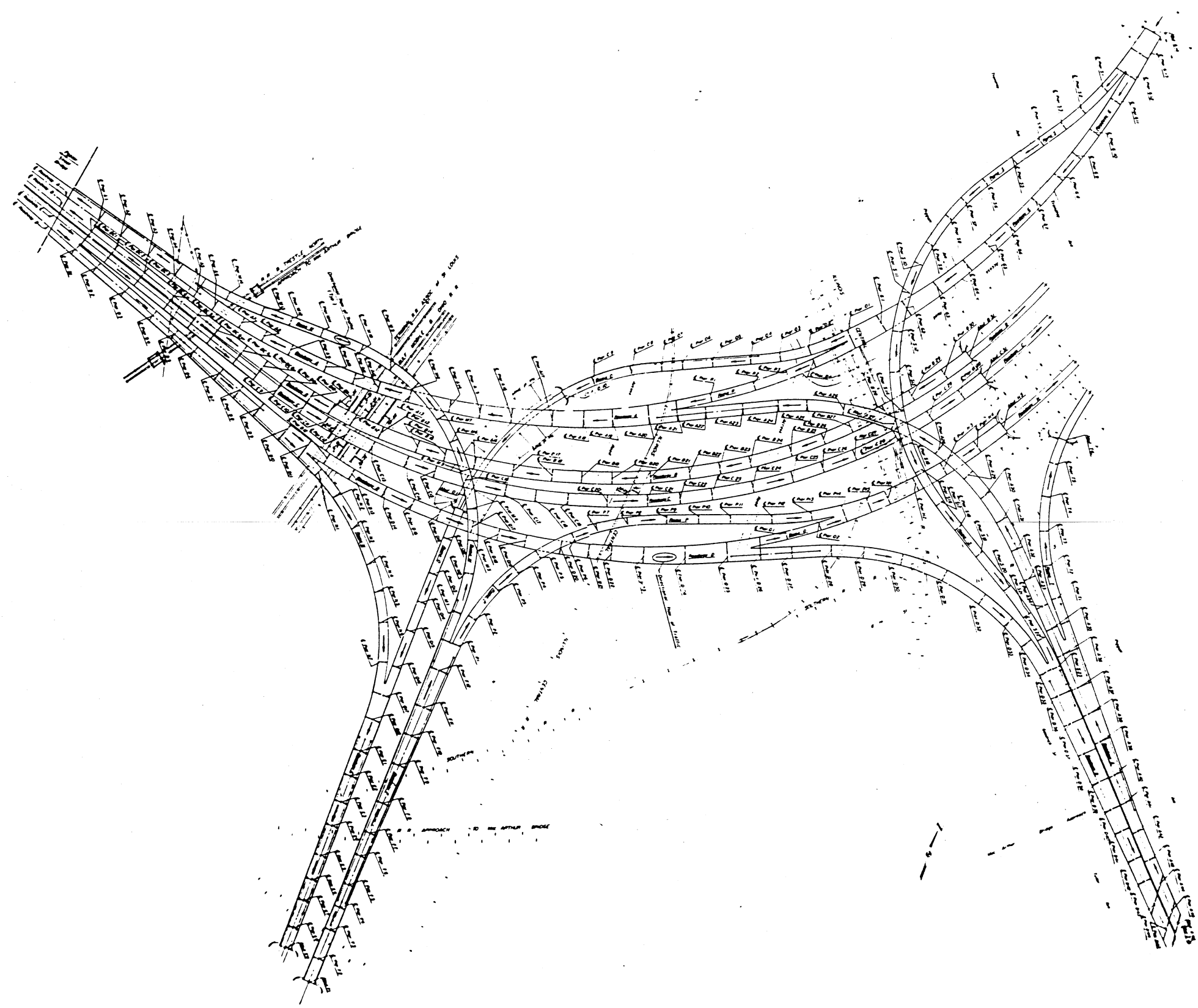
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
SUBMITTED 2-28-77
AWARDED <i>[Signature]</i> March 28, 77
RESIDENT ENGINEER <i>[Signature]</i> March 28, 77
THOMAS R. BENT <i>[Signature]</i> March 28, 77
<i>[Signature]</i> March 28, 77

082-0143

CONTRACT NO. 92613

REEL 8-112

ROUTE NO.	SECTION	SHEET	TOTAL SHEETS
FAI-70	R-2	ST. CLAIR	4
FOR ROAD DIST. NO. 1			



SUMMARY OF QUANTITIES			
CODE NO.	ITEM	UNIT	TOTAL QUANTITY
X05384	PIER COLUMN REPAIR	EACH	145
X06105	ABUT REPAIR	EACH	2
X64601	ENGR. FIELD OFFICE TYPE-A	CAL. NO.	33

GENERAL PLAN  
 FAI RTE. 70  
 SEC. 82-3HVB-R-2  
 ST. CLAIR CO.

SUMMARY OF QUANTITIES



TABLE OF COLUMNS TO BE REPAIRED CRACKS (LESS THAN 15")

Pier No.	Diameter	Length Of Crack (Inches)	As Built	Method Of Banding
A-3	4'-6"	8-12	82-3HVB-1	Method 1
A-5	4'-0"	12		Method 1
A-9	4'-0"	6		Method 2
A-11	4'-0"	11		Method 2
A-17	4'-6"	8-10		Method 2
A-21	4'-0"	10		Method 1
A-35	4'-0"	4	82-3HVB-3	Method 1
A-36	4'-6"	3-5		Method 2
A-37	4'-6"	12		Method 2
A-38	4'-0"	9		Method 2
B-11	4'-0"	6	82-3HVB	Method 1
B-13	4'-0"	8		Method 1
B-24	4'-0"	12		Method 2
B-24	4'-0"	10		Method 2
C-12	4'-0"	10-12	82-3HVB	Method 1
C-14	4'-0"	3-4-7		Method 1
C-16	4'-0"	12		Method 2
C-25	4'-6"	13		Method 1
D-1	4'-0"	8	82-3HVB	Method 1
D-5	4'-0"	10	82-3HVB-1	Method 1
D-9	4'-0"	9		Method 2
D-11	4'-0"	4		Method 2
D-15	4'-0"	12-12		Method 2
D-17	4'-6"	8	82-3HVB	Method 1
D-18	4'-0"	11-12	82-3HVB-1	Method 1
D-23	4'-6"	11		Method 1
D-26	4'-0"	13		Method 1
D-26	4'-0"	9		Method 1
D-29	4'-0"	7		Method 2
D-39	4'-0"	10	82-3HVB-3	Method 2
E-3	4'-0"	4-11	82-3HVB-2	Method 2
E-5	4'-0"	7		Method 1
E-6	4'-0"	11		Method 1
E-7	4'-0"	14		Method 1
E-8	4'-0"	14		Method 1
E-5	4'-0"	8		Method 1
E-10	4'-0"	8		Method 1
E-11	4'-6"	9		Method 1
F-1	4'-0"	14	82-3HVB-1	Method 1
G-6	4'-0"	13		Method 2
H-2	4'-0"	5		Method 2
H-4	4'-0"	13		Method 2
M-1	6'-0"	11	82-3HVB-2	Method 1
M-3	6'-0"	4	82-3HVB	Method 1
M-12	4'-0"	12	82-3HVB-1	Method 1
M-13	4'-0"	12		Method 1
N-6	4'-0"	13	82-3HVB-2	Method 2
N-6	4'-0"	10		Method 1
N-7	4'-6"	6-7		Method 1
O-13	4'-0"	8	82-3HVB-1	Method 1
O-14	4'-0"	13		Method 1
O-16	4'-0"	5	82-3HVB-2	Method 2
P-10	4'-0"	9	82-3HVB-1	Method 1
Q-1	4'-0"	14		Method 1
R-1	4'-6"	8		Method 1
R-3	4'-0"	12		Method 2
R-4	4'-0"	10		Method 2
S-1	4'-0"	7-7		Method 2
S-4	4'-6"	6-10		Method 2
S-5	4'-0"	5		Method 1
S-5	4'-0"	6		Method 1
S-6	4'-6"	7		Method 2
S-9	6'-0"	9		Method 2
S-10	7'-0"	10	82-3HVB	Method 1
S-16	7'-0"	5		Method 1
S-22	4'-0"	13	82-3HVB-3	Method 1
S-23	4'-6"	6		Method 2
S-26	4'-6"	8		Method 1
T-1	4'-0"	4		Method 2
SUBTOTAL 70 EACH				

ABUTMENT REPAIR

ABUT. NO.	TOTAL	REMARKS
E-1-W	1	See Spec. Prov. & Detail On Sheet #4 In Plans
F-1-E	1	
	2 Each	

TABLE OF COLUMNS TO BE REPAIRED CRACKS (15" OR LARGER)

Pier No.	Diameter	Length Of Crack (Inches)	As Built	Method Of Banding
A-11	5	4'-0"	30-30-36	82-3HVB-1
A-13	S	4'-0"	16	Method 2
A-18	S	4'-0"	15	Method 2
A-35	S	4'-0"	23	82-3HVB-3
A-36	S	4'-6"	10-17	Method 1
A-40	S	4'-0"	12-18	Method 2
A-41	U	4'-0"	15	Method 2
A-45	U	4'-6"	15	Method 2
B-9	U	4'-0"	19	82-3HVB
B-11	S	4'-0"	18-18	Method 1
B-12	U	4'-0"	18	Method 1
B-12	S	4'-0"	8-24	Method 2
B-13	S	4'-0"	34	Method 2
B-14	S	4'-0"	18	Method 2
B-15	S	4'-0"	22	Method 2
B-16	U	4'-0"	29	Method 1
B-26	S	4'-6"	16	Method 2
B-27	U	4'-0"	17	Method 1
B-27	S	4'-0"	19	Method 2
B-28	U	4'-0"	16	Method 1
B-30	U	4'-0"	28-36-39	Method 1
C-5	S	4'-0"	24	82-3HVB
C-11	U	4'-0"	10-15-15	Method 1
C-13	U	4'-0"	10-24	Method 1
C-13	S	4'-0"	21	Method 2
C-15	U	4'-0"	22	Method 1
C-16	U	4'-0"	18	Method 1
D-8	S	4'-0"	17	82-3HVB-1
D-12	U	4'-0"	21	Method 2
D-13	S	4'-0"	6-18	Method 2
D-22	S	4'-0"	12-19	Method 2
D-25	U	4'-6"	25	Method 2
D-27	U	4'-0"	18	Method 2
D-28	U	4'-0"	24-38	Method 2
D-30	U	4'-0"	36	Method 2
D-31	U	4'-6"	2-16	Method 2
D-37	U	4'-6"	7-18-23	82-3HVB-3
D-40	U	4'-0"	18	Method 2
D-40	S	4'-0"	17	Method 2
D-44	S	4'-6"	9-20	Method 2
E-6	E	4'-0"	16	82-3HVB-2
F-4	V	4'-0"	12-17	Method 1
F-9	W	4'-0"	18	Method 2
F-10	W	4'-0"	21	Method 1
F-12	W	5'-0"	18-24	Method 1
G-2	S	5'-0"	20	82-3HVB
G-5	S	4'-0"	16	82-3HVB-1
G-7	U	4'-0"	33	Method 1
G-7	S	4'-0"	19	Method 2
G-13	U	4'-0"	22-24	Method 2
H-1	U	4'-0"	12-18	Method 2
H-1	S	4'-0"	18	Method 2
H-2	U	4'-0"	15-19	Method 2
M-9	E	4'-0"	26	Method 2
M-10	E	4'-0"		Re-bar exposed (Pier *)
N-5	S	4'-0"	16	Method 1
O-5	U	4'-0"	33	82-3HVB-1
O-7	S	4'-0"	16	Method 1
O-17	U	4'-0"	8-15-25	82-3HVB-2
O-17	S	4'-0"	16	Method 1
O-18	U	4'-6"	23-30	Method 1
P-1	W	4'-6"	9-40	Method 1
P-10	W	4'-0"	17	82-3HVB-1
P-14	E	4'-0"	18	Method 1
P-15	E	4'-6"	24	Method 2
P-15	W	4'-6"	21-30	Method 2
S-2	E	4'-0"	15	Method 2
S-3	E	4'-0"	20	Method 1
S-3	W	4'-0"	21	Method 2
S-8	E	5'-6"	9-24	Method 2
S-16	E	7'-0"	5-33	Method 2
S-17	E	6'-6"	6-54-60	Method 1
S-18	E	6'-0"	22-23	Method 1
S-18	W	6'-0"	14-65	Method 2
T-2	W	4'-6"	27	82-3HVB-3
SUBTOTAL 75 EACH				

TOTAL COLUMNS TO BE REPAIRED EACH 145

SCALE	SECTION	DATE	NO. OF SHEETS	SHEET NO.
FAL-70	#	St. Clair	4	3

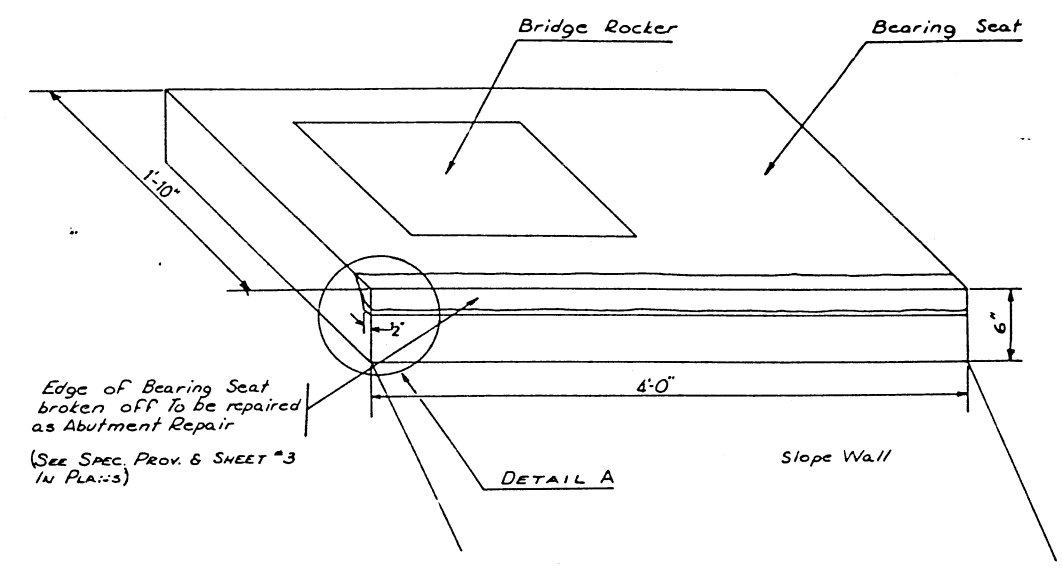
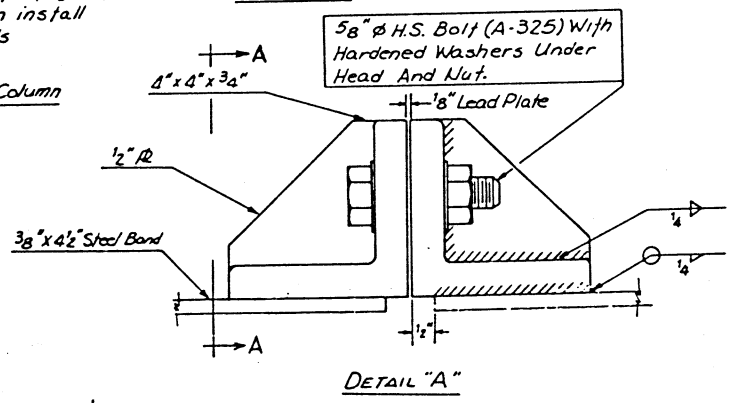
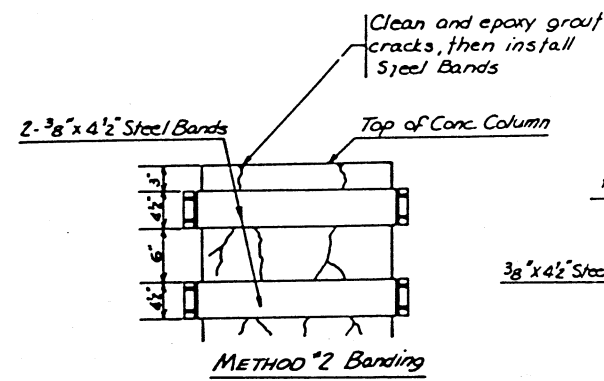
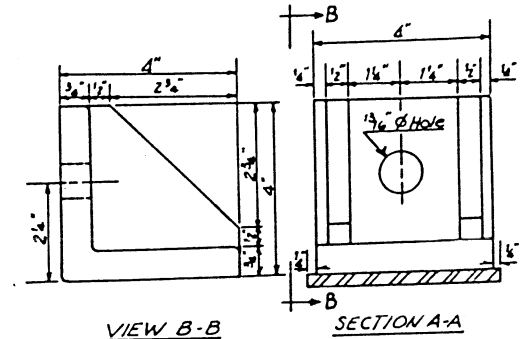
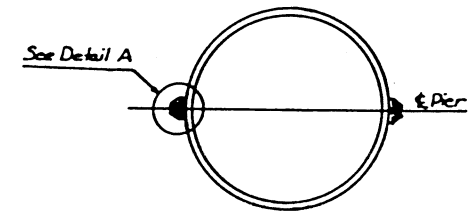
- GENERAL NOTES
- For details of method 1 & 2 see Sheet #4
  - See Special Provisions for treatment of cracks in Pier Columns.
  - It will be the responsibility of the contractor to verify the Dia. of all pier columns prior to the fabrication of the bands.
  - Steel bands shall receive one shop coat of red lead paint and two field coats of Alum. Paint.
- \* See Spec. Prov for work involved and unit of Pay

SCHEDULE OF REPAIRS  
PIER COLUMNS & ABUT'S  
FAL ROUTE 70  
SEC. 82-3HVB-R-2

DATE	REVISION	BY	NO.	DATE
FAI-70	82-3HVB-R-2	ST. CLAIR	4	4
FED. ROAD DIST. NO. 7				

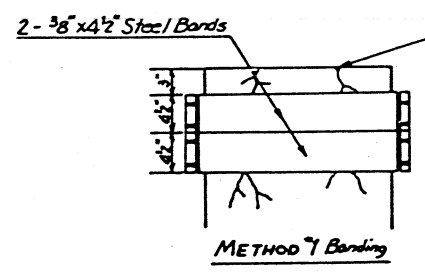
REPAIR OF CRACKED PIER COLUMNS

See table-Table A&B for pier columns that need to be repaired. See SHEET #3

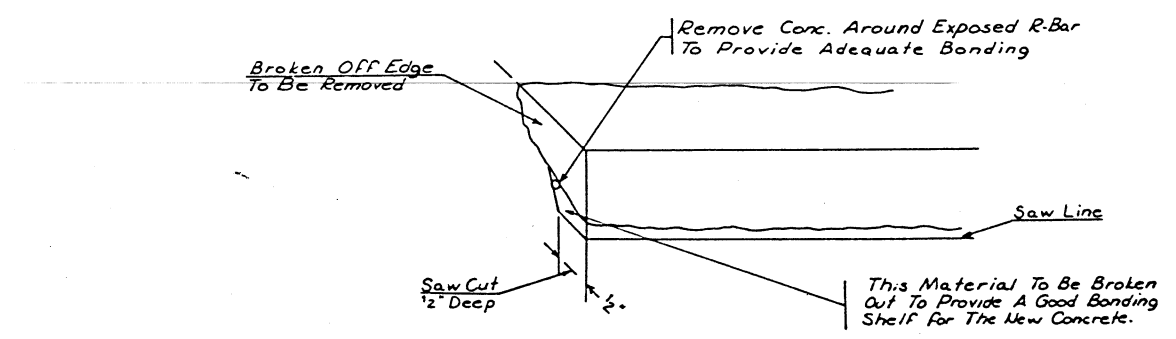


ABUTMENT REPAIR DETAIL  
ABUT. NO. F-1-W & F-1-E

Cracks On Top of Columns to be Vee'd by use of a chipping hammer or other suitable method approved by the Engineer

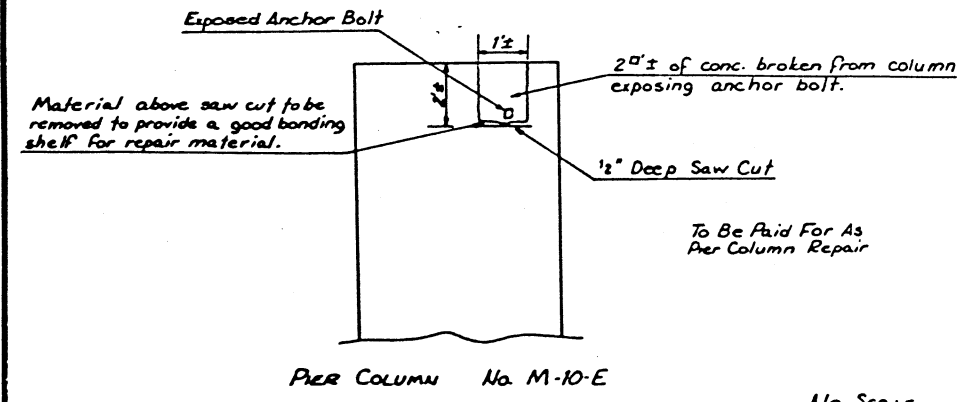


Top of Conc. Column to be cleaned by use of a small air chipping hammer or other suitable method approved by the Engineer to remove all laitance & unsound conc. area to be final cleaned by compressed air.

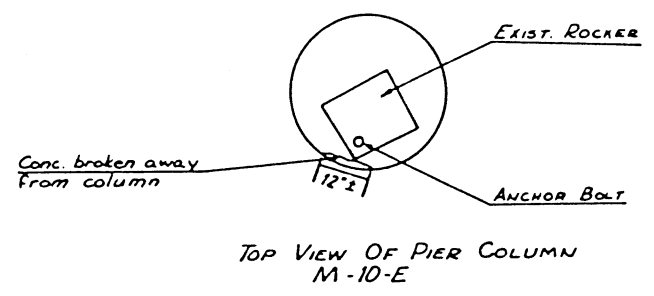


DETAIL A

No Scale



No Scale



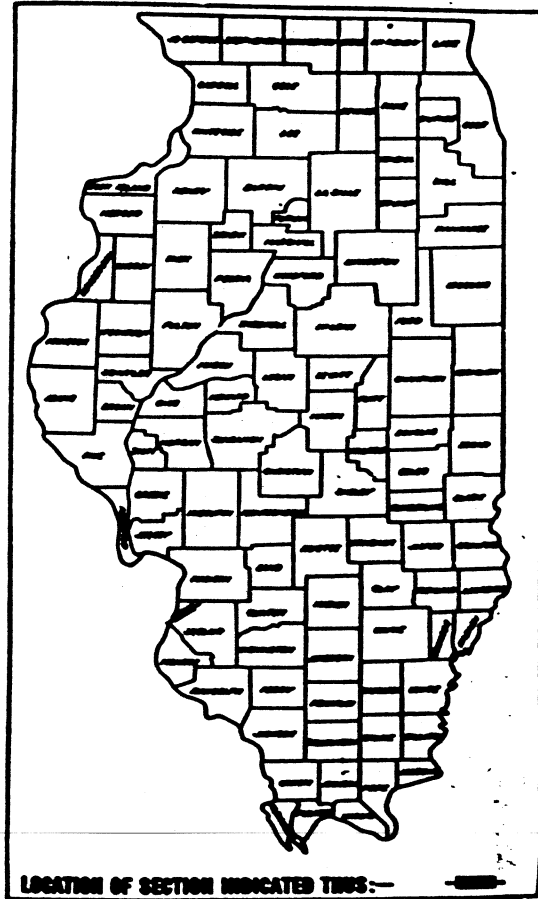
**GENERAL PLAN**  
**FAI RTE. 70**  
**SEC. 82-3HVB-R-2**  
**ST. CLAIR CO.**  
**DETAILS OF CONSTRUCTION**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY

STATE	COUNTY	SECTION	ROUTE
ILLINOIS	ST. CLAIR	82	70

P-98-085-74



LOCATION OF SECTION INDICATED THIS

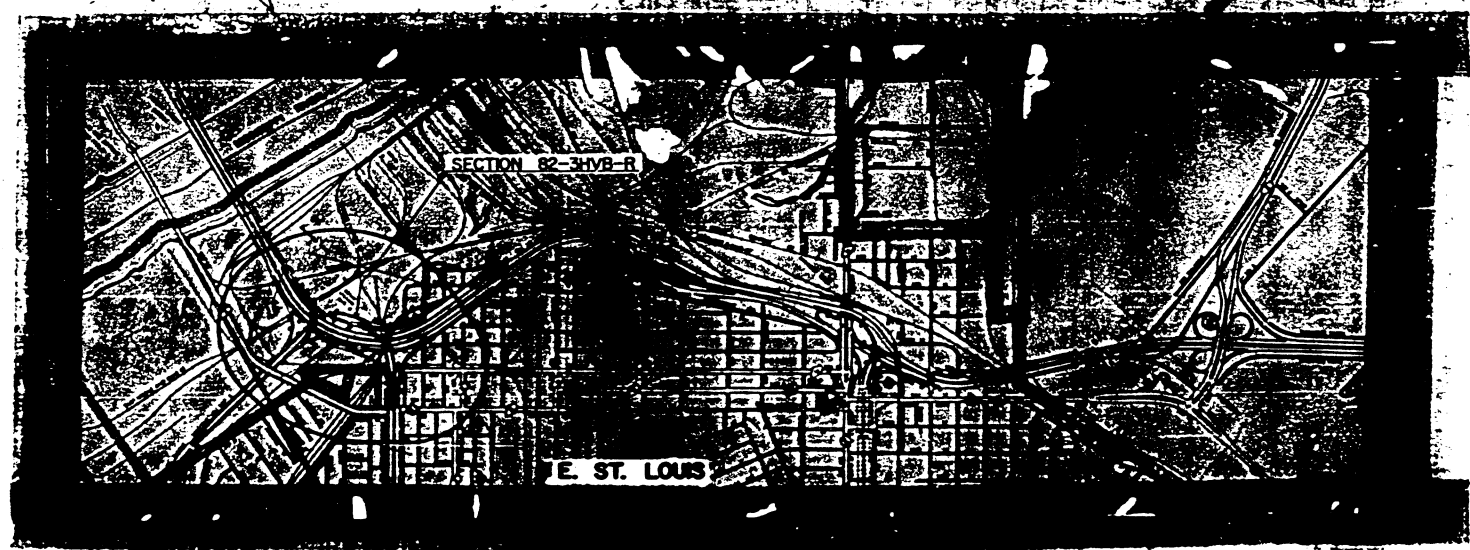
FOR INDEX OF SHEETS  
SEE SHEET NO. 2

F.A.I. ROUTE 70  
SECTION 82-3HVB-R

ST. CLAIR COUNTY  
BRIDGE REPAIRS

C-98-003-75

22A & 22B  
REVISED  
3/21/75



LOCATION MAP  
SCALE: 1 INCH = 1000 FEET

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

1-63-25  
2-16-75  
3-16-75  
4-16-75  
5-16-75

MICROFILMED \_\_\_\_\_  
REEL NUMBER \_\_\_\_\_  
AWARDED \_\_\_\_\_  
RESIDENT ENGINEER \_\_\_\_\_  
AS BUILT CHANGES WERE MADE  
ON THE FOLLOWING SHEETS

082-0143

CONTRACT NO. 80450

REVISED SET 2-25-75

REEL 8-102

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	82-3	COUNTY	ST. CLAIR	DATE	28	SHEET NO.	3
DATE TO	HYB-R				5		8 SHEETS
PREPARED BY		DESIGNED BY		DATE			

Note "A":

The web shall be cut to the face of the existing bearing stiffener just above the buckled area. This shall be done before the buckled area is straightened. After the web is straightened the cut portion shall be welded.

Note "B":

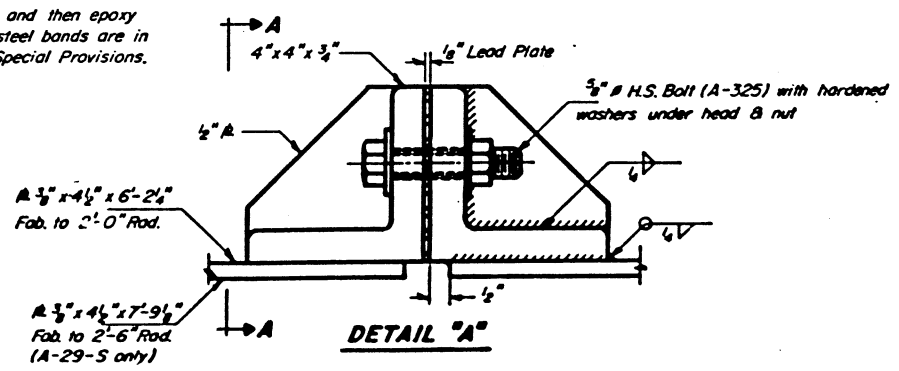
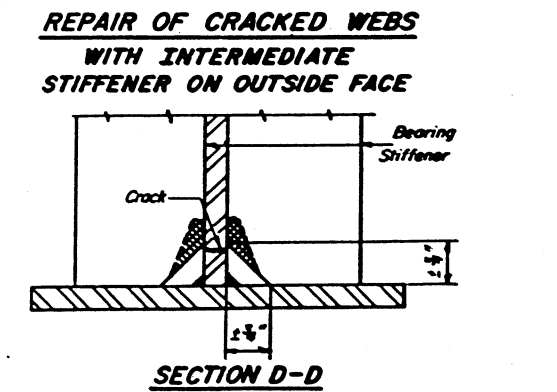
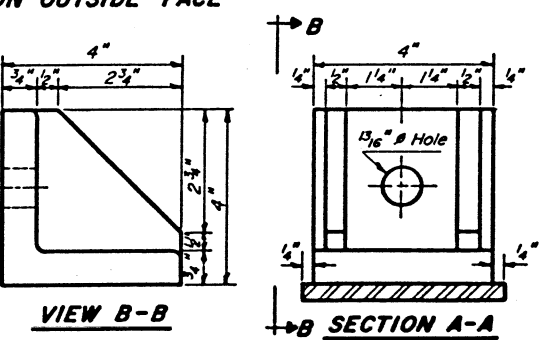
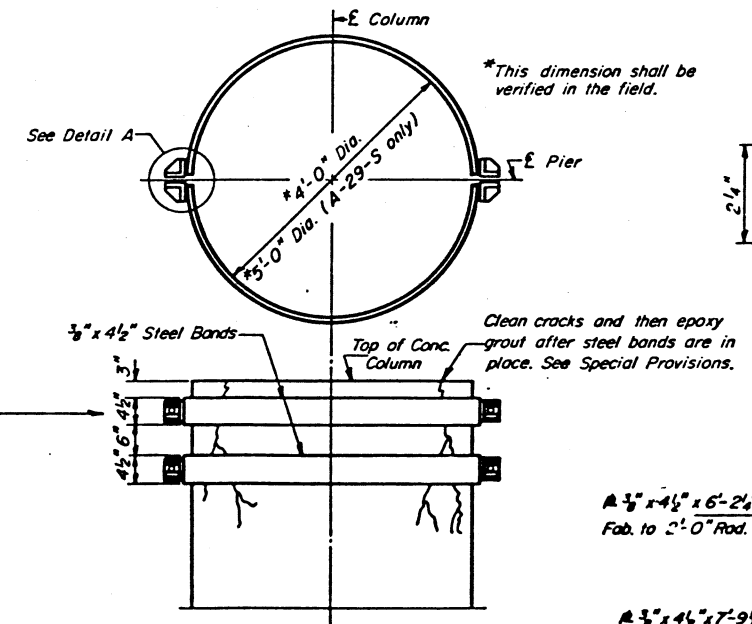
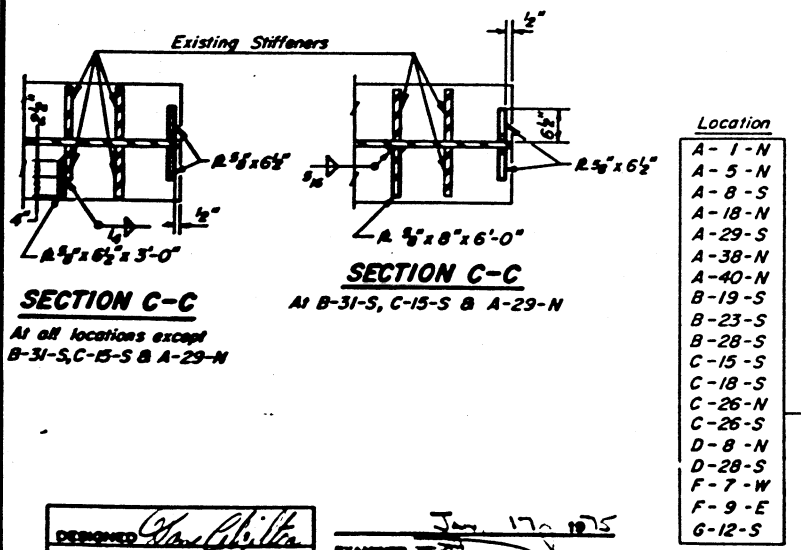
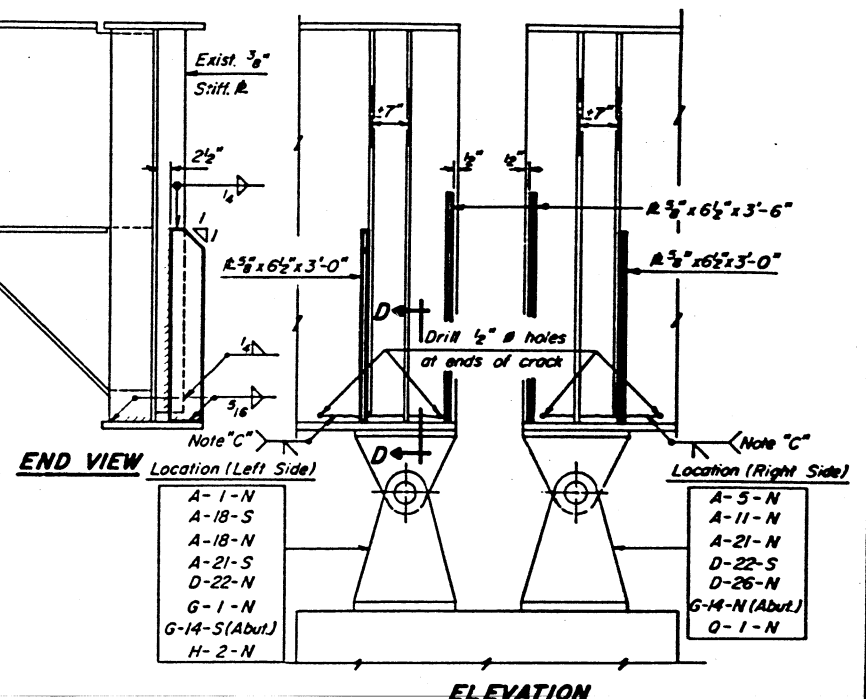
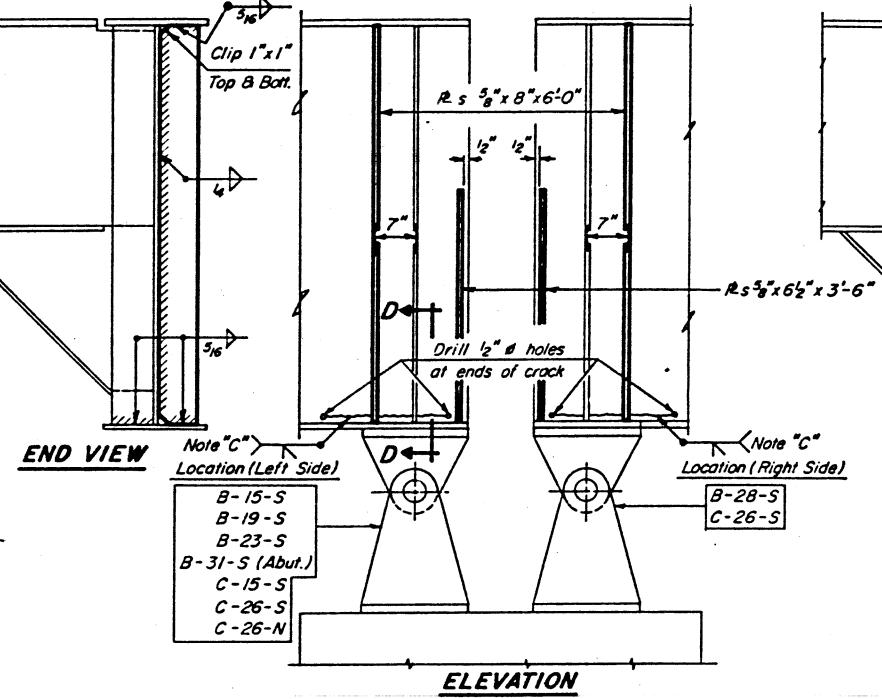
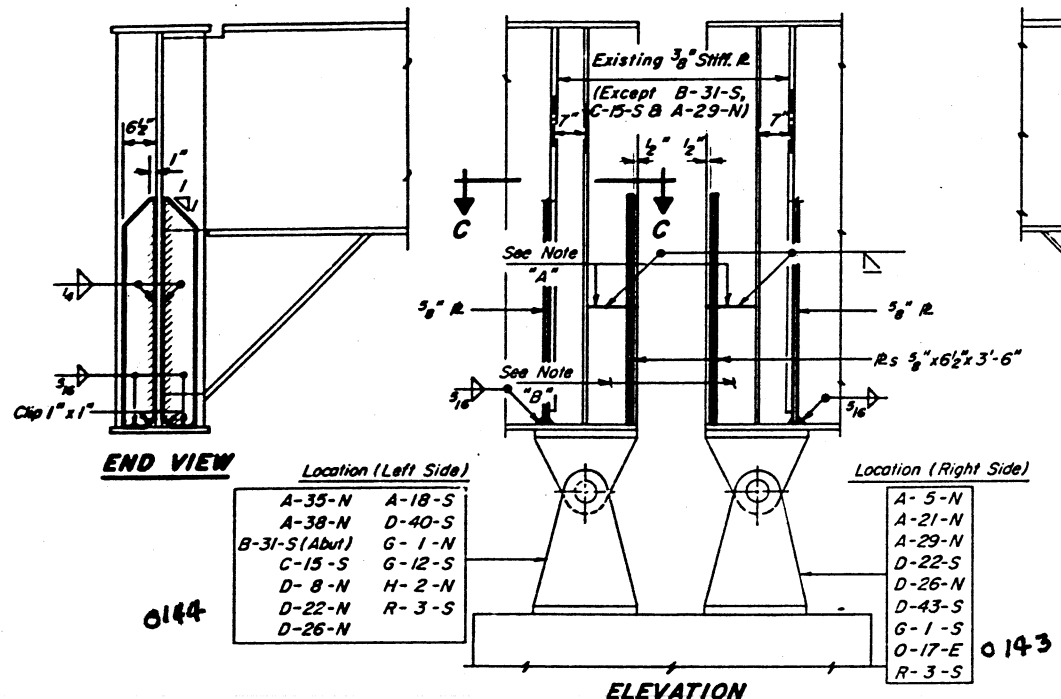
The buckled web shall be straightened using a continuous pressure applied to both sides of the web simultaneously. Cost incidental to Girder End Repair.

Note "C":

Back gauge second side to sound metal and weld. Grind smooth both sides. If the crack extends into the flange, gauge the cracked flange to sound metal and weld, grind smooth. Cost incidental to Girder End Repair.

Location Designation Examples:

B-15-S refers to South end of Pier B-15, Looking North.  
C-26-N refers to North end of Pier C-26, Looking South.



DESIGNED	<i>Handwritten Signature</i>	EXAMINED	<i>Handwritten Signature</i>
CHECKED	<i>Handwritten Signature</i>	PASSED	<i>Handwritten Signature</i>
DRAWN	P. Barnett	APPROVED	<i>Handwritten Signature</i>
CHECKED	<i>Handwritten Signature</i>		

**WEB AND COLUMN REPAIRS**  
F.A.I. RT. TO SEC. 82-3 HYB-R  
ST. CLAIR COUNTY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

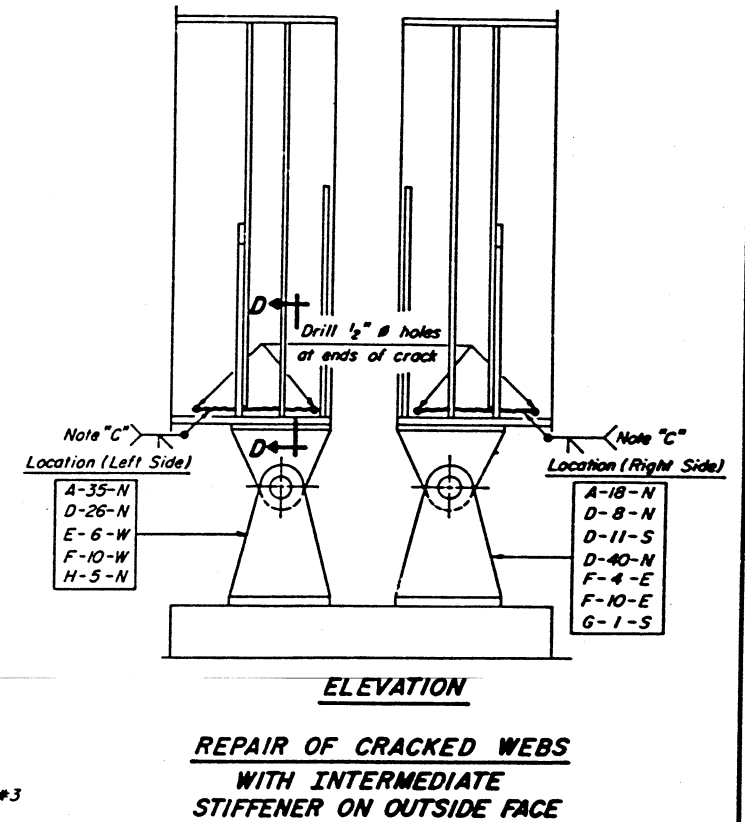
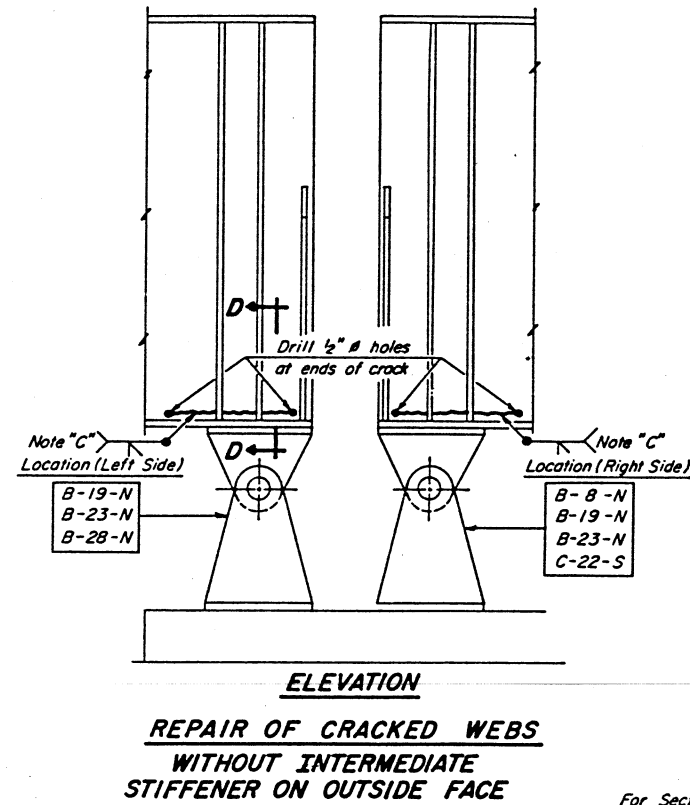
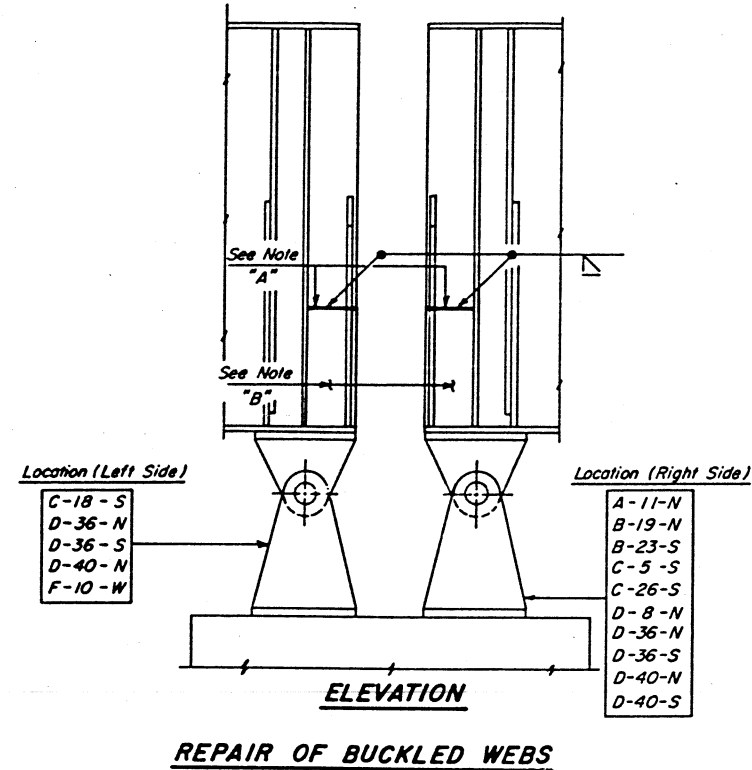
PROJECT NO.	SECTION	DATE	BY	SCALE	SHEET NO. JA
F.A.I. 70	82-3 HVB-R	ST. CLAIR	EB	SA	8 SHEETS
DESIGNED BY	CHECKED BY	DRAWN BY	DATE	SCALE	

**Note "A"**  
The web shall be cut to the face of the existing bearing stiffener just above the buckled area. This shall be done before the buckled area is straightened. After the web is straightened the cut portion shall be welded.

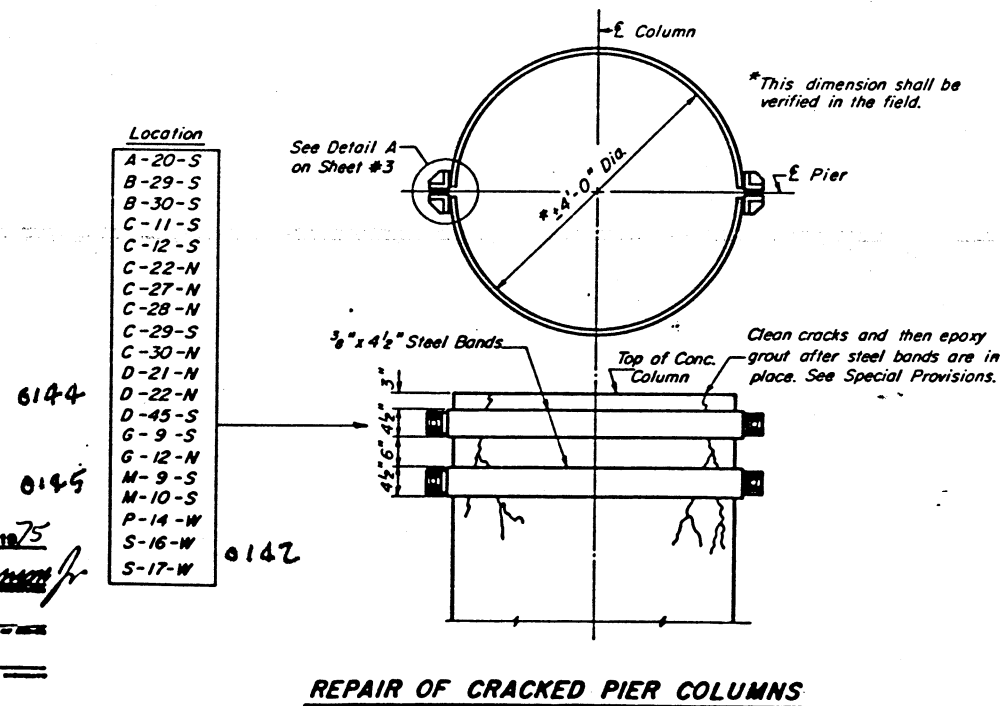
**Note "B"**  
The buckled web shall be straightened using a continuous pressure applied to both sides of the web simultaneously.

**Note "C"**  
Back gouge second side to sound metal and weld. Grind smooth both sides. If the crack extends into the flange, gouge the cracked flange to sound metal and weld, grind smooth.

**Location Designation Examples:**  
C-22-S refers to South end of Pier C-22, Looking North.  
D-26-N refers to North end of Pier D-26, Looking South.



For Section D-D See Sheet #3



DESIGNED	<i>W. H. ...</i>
CHECKED	
DRAWN	P. Barnett
CHECKED	

APPROVED: *April 28 1975*  
*Paul E. ...*

**ADDITIONAL LOCATIONS FOR WEB AND COLUMN REPAIRS**  
F.A.I. RT. 70 SEC. 82-3 HVB-R  
ST. CLAIR COUNTY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

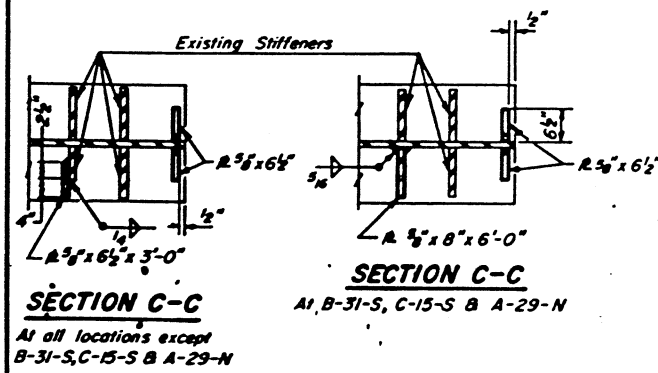
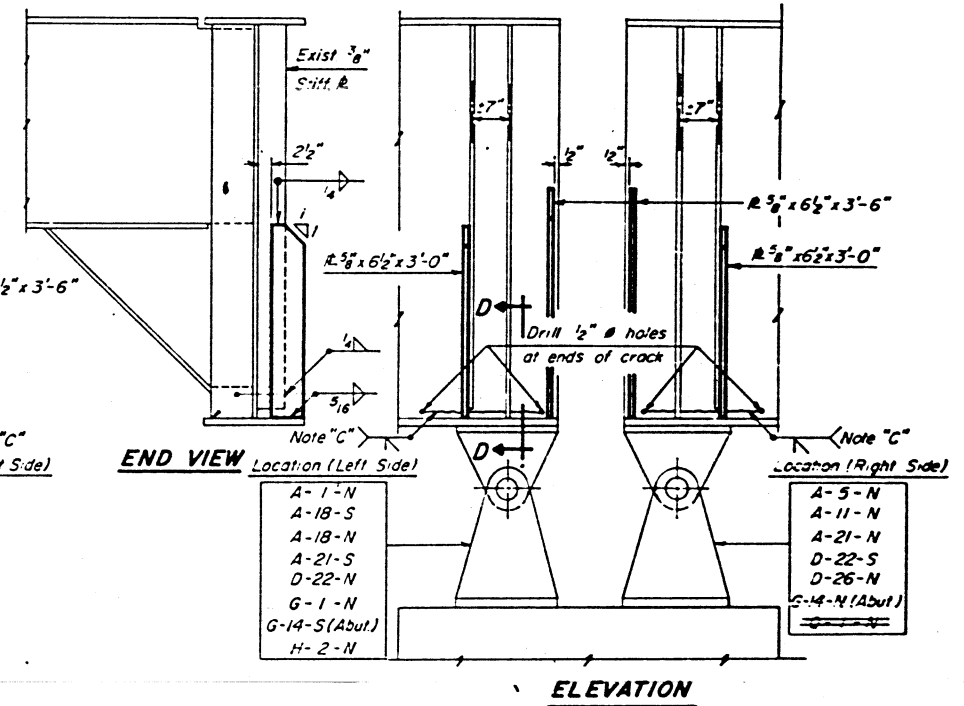
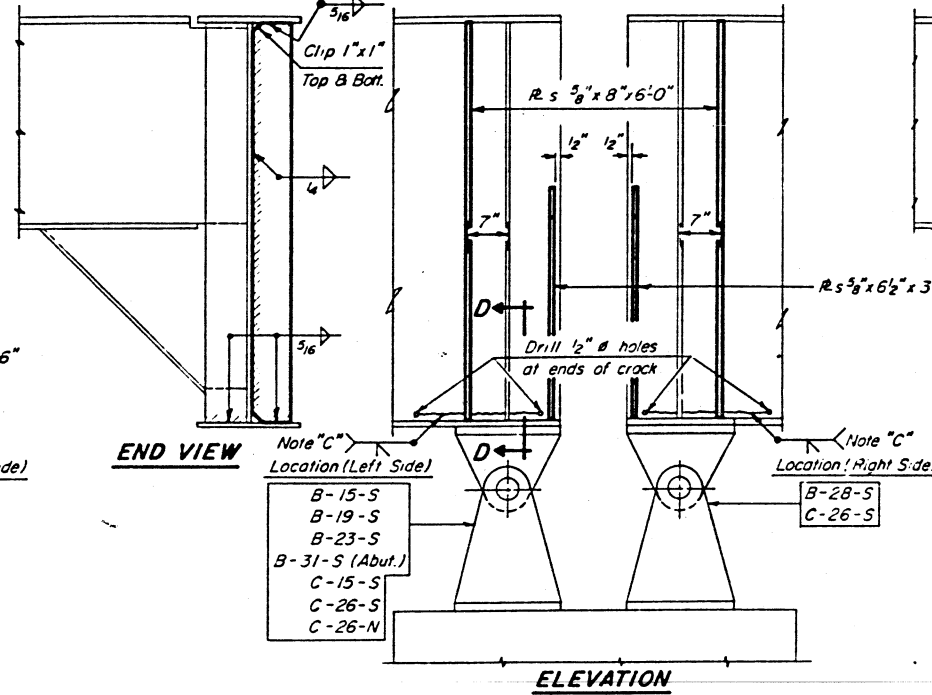
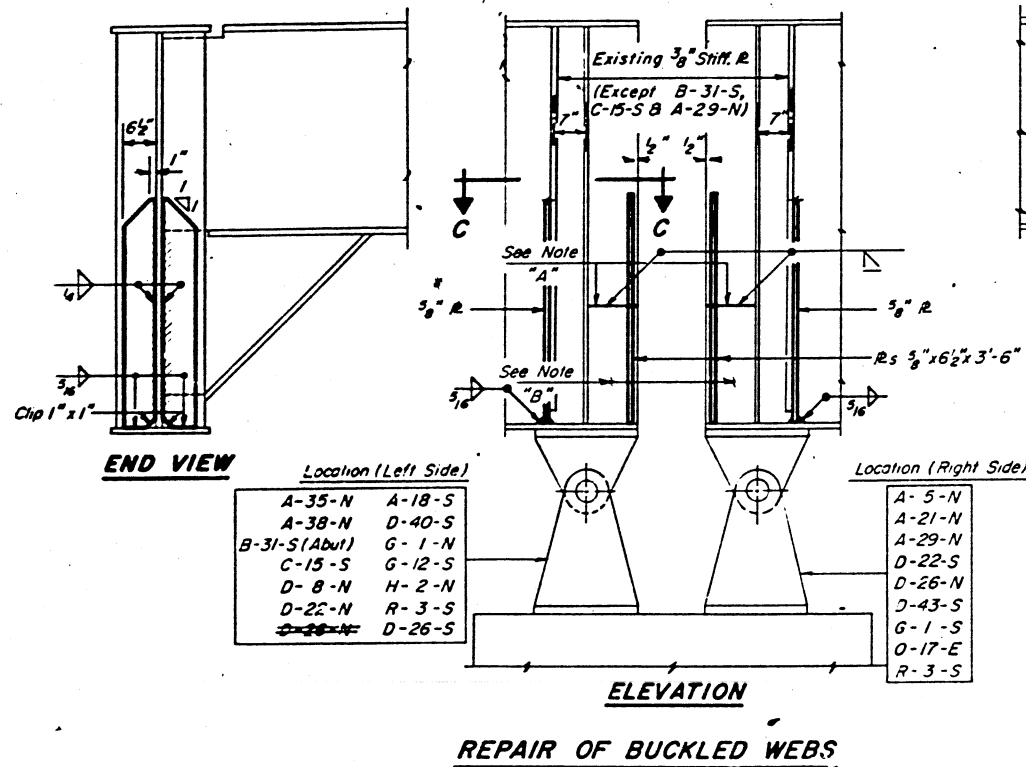
PROJECT NO.	82-3	ST. CLAIR	28	58	SHEET NO. 3 B
REV.	70	HVB-R			8 SHEETS
DATE					

**Note "A":**  
The web shall be cut to the face of the existing bearing stiffener just above the buckled area. This shall be done before the buckled area is straightened. After the web is straightened the cut portion shall be welded.

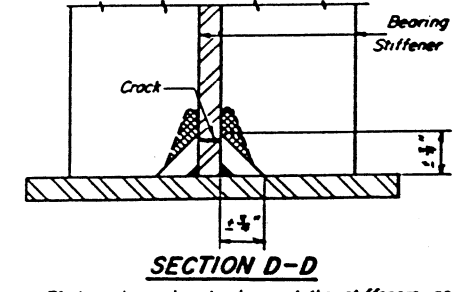
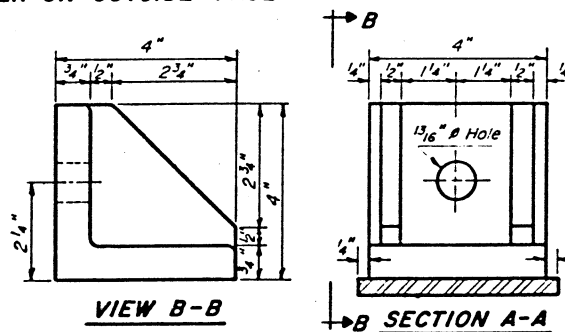
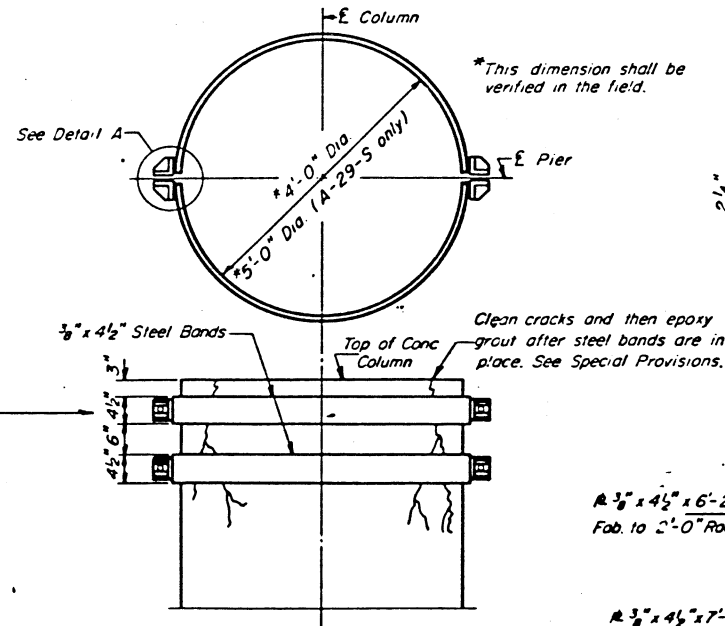
**Note "B":**  
The buckled web shall be straightened using a continuous pressure applied to both sides of the web simultaneously. Cost incidental to Girder End Repair.

**Note "C":**  
Back gouge second side to sound metal and weld. Grind smooth both sides. If the crack extends into the flange, gouge the cracked flange to sound metal and weld, grind smooth. Cost incidental to Girder End Repair.

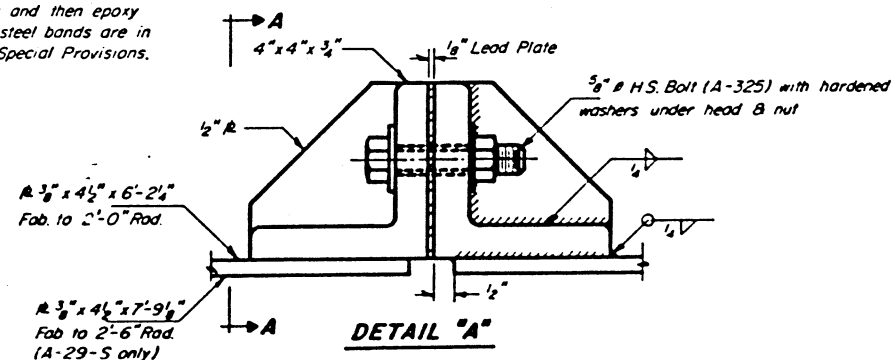
**Location Designation Examples:**  
B-15-S refers to South end of Pier B-15, Looking North.  
C-26-N refers to North end of Pier C-26, Looking South.



- Location**
- A-1-N
  - A-5-N
  - A-8-S
  - A-18-N
  - A-29-S
  - A-38-N
  - A-40-N
  - B-19-S
  - B-23-S
  - B-28-S
  - C-15-S
  - C-18-S
  - C-26-N
  - C-26-S
  - D-8-N
  - D-28-S
  - F-7-W
  - F-9-E
  - G-12-S



If the web crack extends past the stiffeners, gouge the crack to sound metal behind the bearing stiffeners, weld and grind smooth. If additional working clearance is required the cross hatched area of the bearing stiffener may be removed by flame cutting and grinding smooth.



DESIGNED	<i>[Signature]</i>
CHECKED	<i>[Signature]</i>
DRAWN	P. Barnett
CHECKED	<i>[Signature]</i>

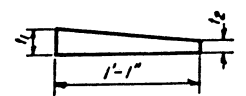
EXAMINED	<i>[Signature]</i>
PASSED	
APPROVED	

AS REVISED 5-6-75  
WEB AND COLUMN REPAIRS  
F.A.I. RT. 70 SEC. 82-3 HVB-R  
ST. CLAIR COUNTY

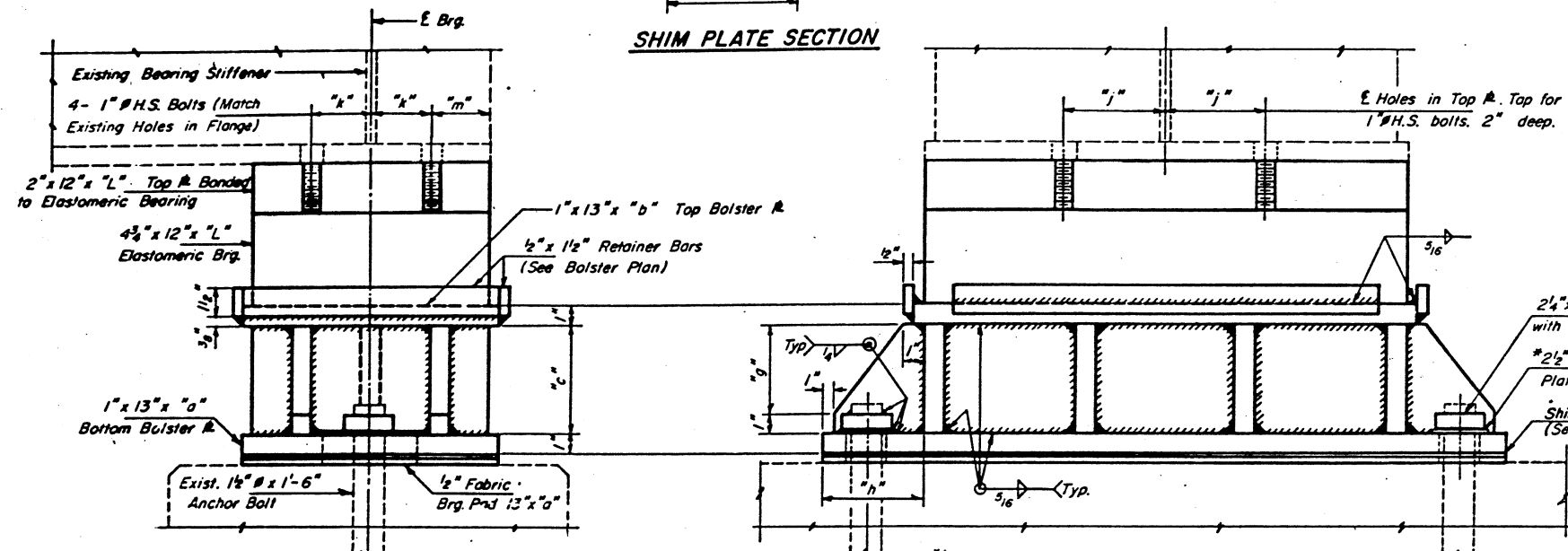
**DIMENSIONS OF ELASTOMERIC BEARINGS**

Type	a"	b"	c"	m"	No. Req'd.
Type I	3 1/2"	2 1/2"	1'-6"	3 1/2"	150
Type I <sub>A</sub>	3 1/2"	2 1/2"	1'-8"	3 1/2"	12
Type I <sub>B</sub>	3 1/2"	2 1/2"	2'-0"	3 1/2"	12
Type I <sub>C</sub>	3 1/2"	2 1/2"	1'-6"	3 1/2"	52

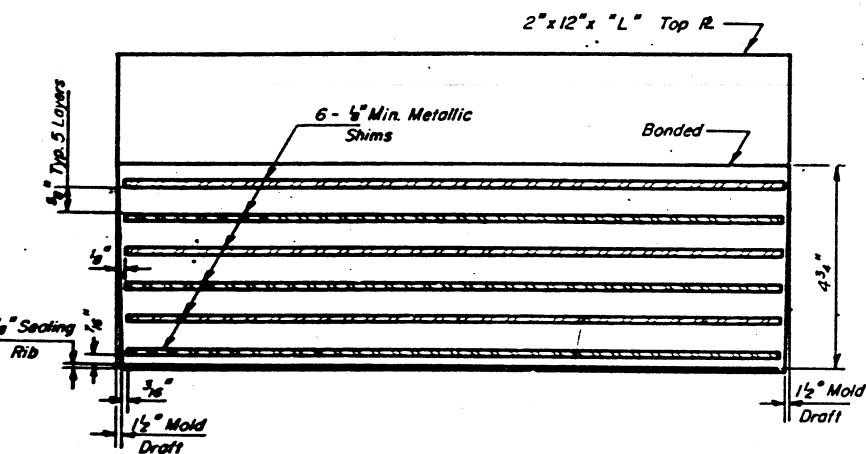
Pier Number Increasing.



**SHIM PLATE SECTION**



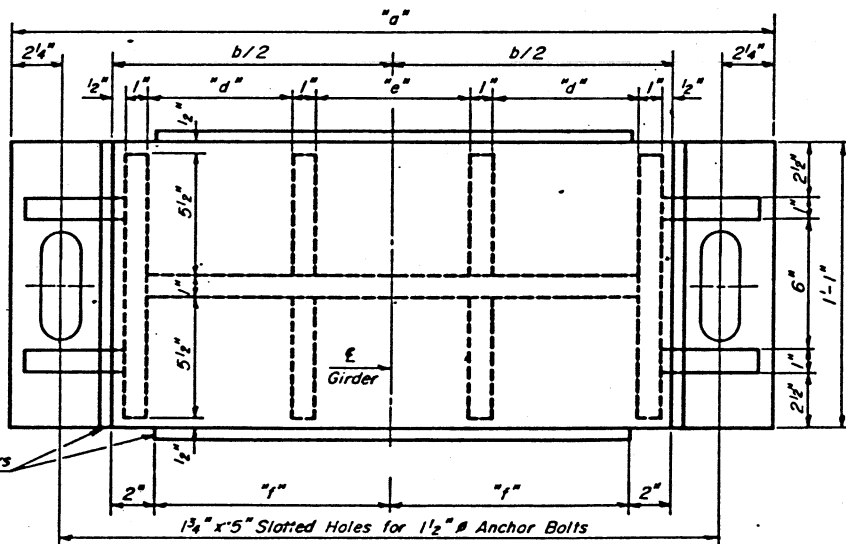
**BEARING ELEVATION**



**ELASTOMERIC BEARING DETAIL**

**DIMENSIONS OF BOLSTERS**

Type of Bolster	No. Required	a"	b"	c"	d"	e"	f"	g"	h"
Type 1	188	2'-4"	1'-7"	5 1/2"	4 1/2"	5"	7 1/2"	4 3/4"	5"
Type 2	26	2'-7"	1'-9"	9 3/4"	5"	6"	8 1/2"	8 3/4"	5 1/2"
Type 3	2	2'-10"	2'-1"	9 3/4"	6 1/2"	7"	10 1/2"	8 3/4"	5"
Type 4	10	2'-10"	2'-1"	5 1/2"	6 1/2"	7"	10 1/2"	4 3/4"	5"



**BOLSTER PLAN**

Notes:  
 Bearings to be replaced are shown in Table I Sheets #4, B & S.  
 Existing Anchor Bolts to be reused. Regrout in place where necessary.  
 Air temperature at time of setting the elastomeric bearing shall not be lower than 30° F. or higher than 70° F.  
 A-5-E(N) indicates Pier # A-5, East Bearing, North Girder.  
 A-8-E(B) indicates Pier # A-8, East Bearing, Both Girders.  
 Area between retainer bars and elastomeric bearing to be filled with sealer 1" thick, sloped to drain (Elastomeric Polymer Type Sealer).  
 The cost of the 2" Top Plate is included in the unit bid price for "Elastomeric Bearing."  
 Calculated Weight of Structural Steel = 89,450 lbs.  
 Existing anchor bolts shall be cut off 1/2" above the 3/4" bar.

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

**TABLE I**

Location	Type of Bolster	Type of Elast. Brg.	Shim R.	Length of H.S. Bolts	Location	Type of Bolster	Type of Elast. Brg.	Shim R.	Length of H.S. Bolts
A-5-E(N)	1	I	1 1/2" 1/2"	2 1/2"	BC-5-W(B)	1	I <sub>C</sub>	1 1/2" 1/2"	2 1/2"
A-5-E(S)	1	I	1 1/2" 9/8"	2 1/2"	BC-5-E(B)	1	I <sub>C</sub>	1 1/2" 9/8"	2 1/2"
A-8-W(B)	1	I	1 1/2" 1/2"	2 1/2"	BC-8-W(N)	1	I <sub>C</sub>	1 1/2" 1/2"	2 1/2"
A-8-E(B)	1	I	1 1/2" 1/2"	2 1/2"	BC-8-W(S)	1	I <sub>C</sub>	1 1/2" 1/2"	2 1/2"
A-11-W(B)	1	I	1 1/2" 1/2"	2 1/2"	BC-8-E(N)	1	I <sub>C</sub>	1 1/2" 1/2"	2 1/2"
A-12-E(B)	1	I	1 1/2" 1/2"	2 1/2"	BC-8-E(S)	1	I <sub>C</sub>	1 1/2" 1/2"	2 1/2"
A-21-E(N)	1	I	1 1/2" 1/2"	2 1/2"	C-11-W(B)	1	I <sub>C</sub>	1 1/2" 1/2"	2 1/2"
A-21-E(S)	1	I	1 1/2" 1/2"	2 1/2"	C-12-E(B)	1	I <sub>C</sub>	1 1/2" 1/2"	2 1/2"
A-35-W(B)	1	I	5/8" 3/8"	3"	C-15-W(B)	1	I <sub>C</sub>	5/8" 3/8"	2 1/2"
A-38-W(N)	3	I <sub>B</sub>	1" 3/4"	2 3/4"	C-15-E(B)	1	I <sub>C</sub>	1 1/2" 1/2"	2 1/2"
A-38-W(S)	3	I <sub>B</sub>	1 1/2" 3/4"	2 3/4"	C-18-W(B)	1	I <sub>C</sub>	5/8" 3/8"	2 1/2"
A-41-E(B)	1	I	5/8" 3/8"	2 1/2"	C-12-E(B)	1	I <sub>C</sub>	1 1/2" 1/2"	2 1/2"
A-43-W(B)	2	I	5/8" 3/8"	2 1/2"	C-26-W(B)	1	I <sub>C</sub>	9/8" 7/8"	3"
					C-31-Abut(B)	1	I <sub>C</sub>	9/8" 7/8"	2 1/2"
BC-5-W(B)	1	I <sub>C</sub>	1 1/2" 1/2"	2 1/2"					
BC-5-E(B)	1	I <sub>C</sub>	1 1/2" 9/8"	2 1/2"	P-1-N(W)	4	I <sub>B</sub>	5/8" 1/8"	3"
BC-8-W(B)	1	I <sub>C</sub>	1 1/2" 1/2"	2 1/2"	P-1-N(E)	4	I <sub>B</sub>	1 1/2" 3/4"	3"
BC-8-E(B)	1	I <sub>C</sub>	1 1/2" 1/2"	2 1/2"	M-3-S(W)	4	I <sub>B</sub>	7/8" 13/16"	2 3/4"
B-11-W(B)	1	I <sub>C</sub>	1 1/2" 1/2"	2 1/2"	M-3-S(E)	4	I <sub>B</sub>	9/16" 13/16"	2 3/4"
B-12-E(B)	1	I <sub>C</sub>	1 1/2" 1/2"	2 1/2"	M-3-N(B)	1	I <sub>C</sub>	1" 1/4"	2 3/4"
B-15-W(B)	1	I <sub>C</sub>	5/8" 3/8"	2 1/2"	M-6-E(B)	1	I <sub>C</sub>	1 3/16" 1/16"	2 1/4"
B-15-E(B)	1	I <sub>C</sub>	1 1/2" 1/2"	2 1/2"	M-6-W(B)	1	I	1 1/2" 1/16"	2 1/4"
B-12-W(B)	1	I <sub>C</sub>	1 1/2" 1/2"	2 1/2"	M-9-E(B)	1	I	11/16" 1/16"	2 1/4"
B-19-E(B)	1	I <sub>C</sub>	5/8" 3/8"	2 1/2"	M-9-W(B)	4	I <sub>B</sub>	1 1/4" 3/16"	2 1/4"
B-27-W(B)	1	I <sub>C</sub>	9/16" 7/16"	2 1/4"	M-12-E(N)	4	I <sub>B</sub>	1 1/4" 3/16"	2 1/4"
B-28-E(B)	1	I <sub>C</sub>	5/8" 3/8"	2 1/2"	M-12-E(S)	4	I <sub>B</sub>	3/4" 3/8"	2 1/4"
					M-12-W(N)	1	I	1 3/16" 3/16"	2 1/4"
					M-12-W(S)	1	I	3/4" 1/2"	2 1/4"
					A-5-E(B)	1	I	1 1/2" 1/2"	2 1/4"
D-5-W(B)	1	I	1 1/2" 1/2"	2 1/2"					
D-5-E(B)	1	I	3/4" 3/4"	2 1/4"	N-1-E(B)	1	I	1 1/2" 1/2"	3"
D-8-W(N)	2	I <sub>A</sub>	1 1/2" 1/2"	2 1/4"	N-5-S(B)	1	I	5/8" 5/8"	3"
D-8-W(S)	2	I <sub>A</sub>	1 1/2" 1/2"	2 1/4"	O-17-N(B)	2	I	1 1/2" 1/2"	3"
D-8-E(N)	2	I <sub>A</sub>	1 1/2" 1/16"	2 1/2"					
D-8-E(S)	2	I <sub>A</sub>	1 1/2" 1/16"	2 1/2"	G-1-W(B)	1	I	1 1/2" 1/2"	2 1/4"
D-12-E(B)	1	I	1 1/2" 1/2"	2 1/2"	O-3-E(N)	1	I	9/16" 7/8"	2 3/4"
D-15-W(B)	1	I	1 1/2" 1/2"	2 1/2"	O-3-E(S)	1	I	1 1/2" 1/2"	2 1/4"
D-15-E(B)	1	I	1 1/2" 1/2"	2 1/2"	O-3-W(N)	1	I	5/8" 5/8"	2 1/4"
D-18-W(B)	1	I	1 1/2" 1/2"	2 1/2"	O-3-W(S)	1	I	1 1/16" 5/16"	2 1/4"
D-18-E(B)	1	I	1 1/2" 1/2"	2 1/2"	O-6-E(N)	1	I	3/8" 1/2"	2 1/4"
D-21-W(B)	1	I	1 1/2" 1/2"	3"	O-6-E(S)	1	I	1 1/16" 3/16"	2 1/4"
D-26-E(N)	1	I	3/8" 3/8"	2 1/2"	O-6-W(N)	1	I	1 1/2" 3/16"	2 1/4"
D-26-E(S)	1	I	1 1/2" 1/2"	2 1/2"	O-6-W(S)	1	I	7/8" 1/2"	2 1/4"
D-28-W(N)	1	I	3/8" 3/8"	2 1/2"	O-7-W(N)	1	I	7/8" 1/2"	2 1/4"
D-28-W(S)	1	I	3/8" 3/8"	2 1/2"	O-7-W(S)	1	I	1 1/16" 1/2"	2 1/4"
D-33-W(B)	4	I <sub>B</sub>	1 1/2" 1/2"	2 3/4"	O-10-Abut(B)	1	I	3/8" 1/4"	2 1/4"
D-33-E(B)	1	I	1 1/2" 1/2"	2 3/4"	O-11-Abut(W)	1	I	3/8" 5/8"	2 1/4"
D-36-W(N)	2	I	1 1/2" 3/8"	2 1/4"	O-11-Abut(E)	1	I	3/16" 1/16"	2 1/4"
D-36-W(S)	2	I	1 1/4" 7/8"	2 3/4"	O-14-N(B)	1	I	1 1/4" 3/8"	2 1/2"
D-40-E(B)	2	I <sub>A</sub>	1 1/2" 3/8"	3"	O-14-S(B)	1	I	1" 1 1/2"	2 1/4"
D-43-W(B)	2	I	1 1/2" 3/8"	3"	O-17-N(B)	2	I	3/8" 5/8"	2 1/4"
O-17-S(W)	2	I <sub>A</sub>	1 1/8" 1 1/8"	2 1/2"	P-1-N(B)	1	I	3/8" 3/8"	2 3/4"
O-17-S(E)	2	I <sub>A</sub>	3/8" 5/8"	2 1/2"	P-4-S(W)	1	I	1 1/2" 1/8"	2 3/4"
E-2-N(B)	2	I <sub>A</sub>	1 1/2" 1/2"	2 1/2"	P-4-S(E)	1	I	1" 1/4"	2 3/4"
E-3-S(B)	1	I	5/8" 3/8"	2 1/2"	P-4-N(B)	1	I	1 1/2" 1 3/8"	2 3/4"
E-6-N(B)	1	I	1 1/2" 3/8"	2 1/2"	P-7-W(B)	1	I	1 1/16" 3/8"	2 1/4"
E-6-S(B)	1	I	1 1/2" 3/8"	2 1/2"	P-7-E(B)	1	I	3/8" 3/8"	2 1/4"
E-9-Abut(B)	1	I	1 1/2" 3/8"	2 1/2"	P-10-W(N)	1	I	1 1/2" 7/8"	2 3/4"
					P-10-W(S)	1	I	1 1/2" 3/8"	2 3/4"
					P-14-W(B)	1	I	1 1/2" 1/2"	2 3/4"
F-1-Abut(B)	1	I	3/8" 1 1/8"	2 1/2"					
F-4-S(B)	1	I	3/8" 1 1/8"	2 1/2"	G-9-S(B)	1	I	5/8" 3/8"	2 1/4"
F-4-N(B)	1	I	1 1/2" 1 1/8"	2 1/2"	G-9-N(B)	1	I	1 1/2" 1/2"	2 1/4"
F-7-S(B)	1	I	3/8" 1 1/8"	2 1/2"	G-12-S(W)	2	I	1 1/8" 5/8"	2 1/4"
					G-12-S(E)	2	I	3/4" 1/4"	2 1/4"
					H-2-E(B)	2	I <sub>A</sub>	5/8" 3/8"	2 1/4"

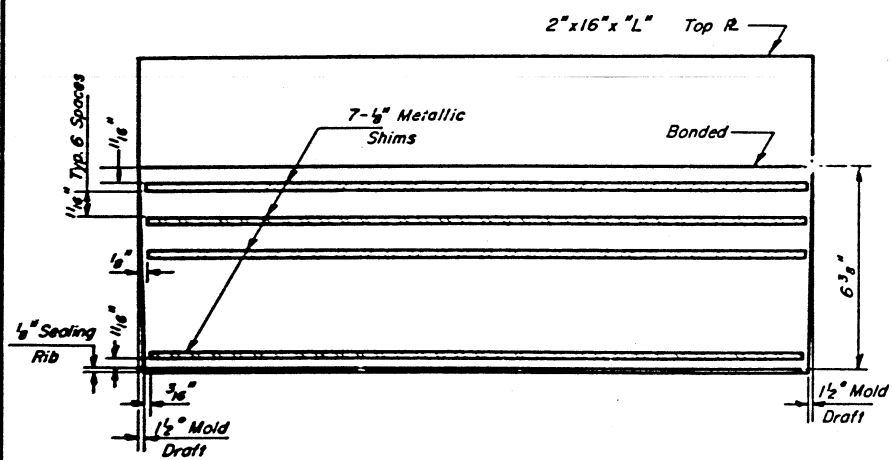
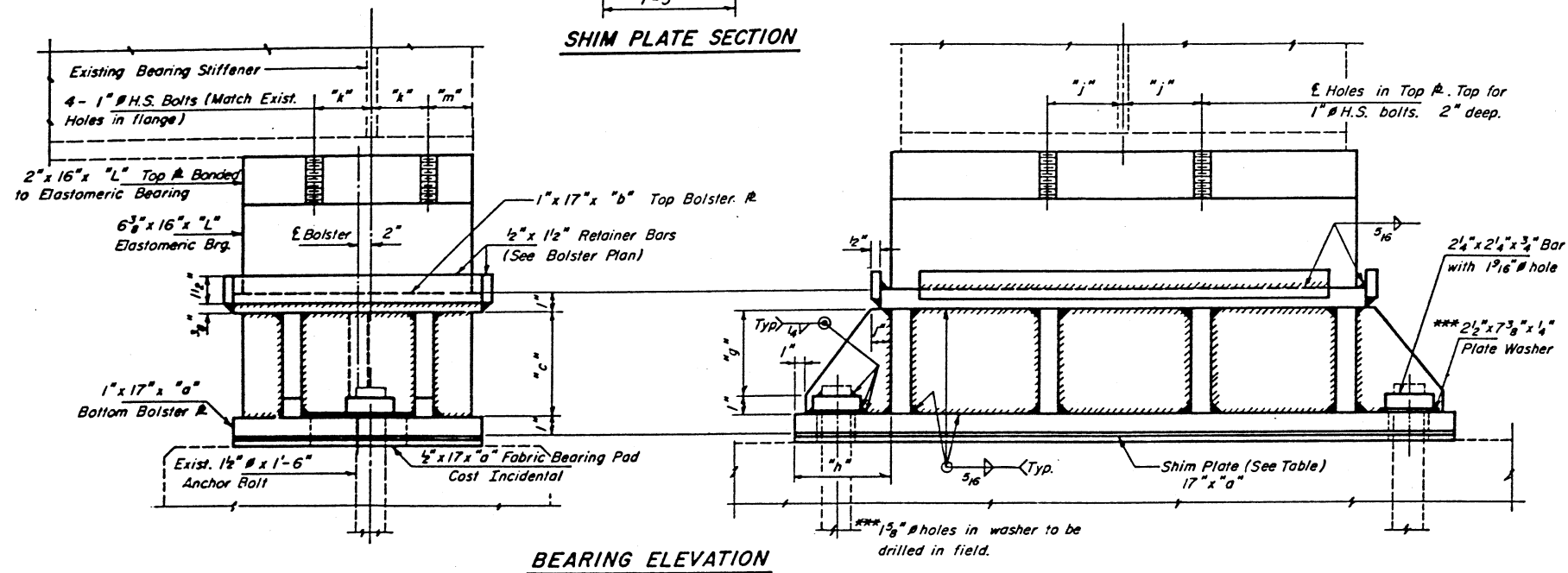
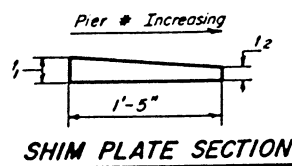
(See Sheet #5 for continuation of Table I)  
**REPLACEMENT BEARINGS**  
 F.A.I. RT. 70 SEC. 82-3HVB-R  
 ST. CLAIR COUNTY

DESIGNED W.R. Herwig  
 CHECKED R.F. Roquet  
 DRAWN P. Barnett  
 JUNE 17 1925  
 EXAMINED  
 PASSED  
 APPROVED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**DIMENSIONS OF ELASTOMERIC BEARINGS**

Type	1"	2"	3"	4"	No. Req'd.
Type I	3"	2"	1'-6"	3"	62
Type Ia	3"	2"	1'-8"	3"	16
Type Ib	3"	2"	2'-0"	3"	4
Type Ic	3"	2"	1'-6"	3"	22
Type Id	4"	2"	1'-8"	3"	2



**ELASTOMERIC BEARING DETAIL**

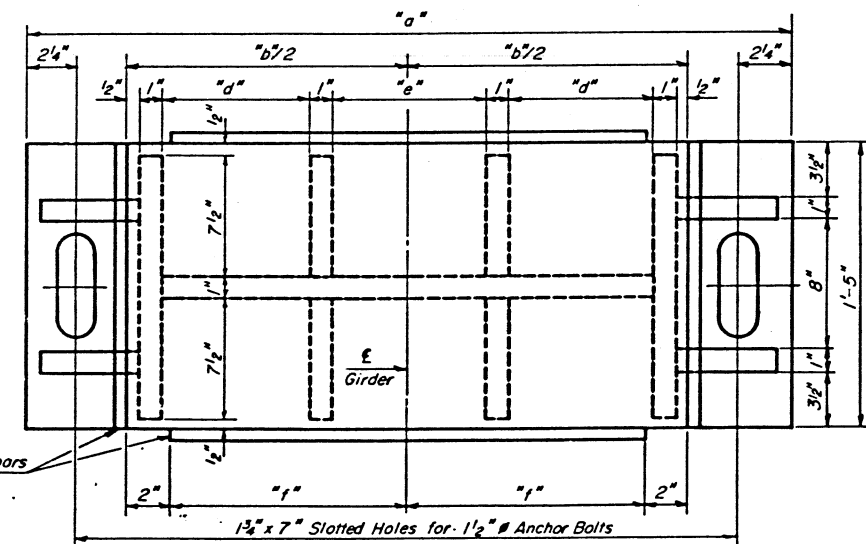
**DIMENSIONS OF BOLSTERS**

Type of Bolster	No. Req'd.	"a"	"b"	"c"	"d"	"e"	"f"	"g"	"h"
TYPE 1a	46	2'-4"	1'-7"	3 3/4"	4 1/2"	5"	7 1/2"	2 3/4"	5"
TYPE 2a	56	2'-7"	1'-9"	7 3/4"	5"	6"	8 1/2"	6 3/4"	5 1/2"
TYPE 3a	4	2'-10"	2'-1"	7 3/4"	6 1/2"	7"	10 1/2"	6 3/4"	5"

DESIGNED No. Henry  
 CHECKED R. F. Koble  
 DRAWN P. Barnett  
 CHECKED W.H.

EXAMINED [Signature]  
 PASSED  
 APPROVED

Jan. 17 1975



**BOLSTER PLAN**

Notes:  
 Bearings to be replaced are at locations given in Table I.  
 Existing Anchor Bolts to be reused. Regrout in place where necessary.  
 Air temperature at time of setting the elastomeric bearing shall not be lower than 30°F. or higher than 70°F.  
 A-1-E(B) indicates Pier # A-1, East Bearing, Both Girders.  
 A-5-W(N) indicates Pier # A-5, West Bearing, North Girder.  
 Area between retainer bar and elastomeric bearing to be filled with sealer 1" thick, sloped to drain. (Elastomeric Polymer Type Sealer)  
 The cost of the 2" top plate is included in the unit bid price of "Elastomeric Bearing".  
 Calculated Weight of Structural Steel = 55,390 lbs.  
 Existing Anchor Bolts shall be cut off 1/2" above the 3/4" bar.

**TABLE II**

Location	Type of Bolster	Type of Elast. Brg.	Shim #	Length of H.S. Bolts	Location	Type of Bolster	Type of Elast. Brg.	Shim #	Length of H.S. Bolts
A-1-E(B)	2a	I	1 1/2	2 3/4"	D-22-W(S)	2a	I	1 1/2	2 3/4"
A-5-W(N)	2a	Ia	3/8	7/8"	D-26-W(N)	3a	Ia	3/8	7/8"
A-5-W(S)	2a	Ia	3/8	7/8"	D-26-W(S)	3a	Ia	3/8	7/8"
A-11-E(B)	2a	I	1/2	3"	D-36-E(N)	2a	Ia	1 1/2	1 1/2"
A-15-W(B)	1a	I	1/2	2 3/4"	D-36-E(S)	2a	Ia	1 1/2	1 1/2"
A-15-E(B)	2a	I	1/2	2 3/4"	D-40-W(B)	2a	I	1 1/2	1 1/2"
A-18-W(B)	2a	I	1/2	2 3/4"	D-43-E(B)	2a	I	3 3/8	2 3/4"
A-18-E(B)	2a	I	1/2	2 3/4"	D-44-E(B)	2a	I	3 3/8	2 3/4"
A-21-W(N)	2a	Ia	1/4	3 3/8"	F-7-N(B)	1a	I	3/4	1 1/4"
A-21-W(S)	2a	Ia	1/4	3 3/8"	F-10-S(B)	2a	I	1/4	3/4"
A-25-W(N)	1a	I	5/16	15/16"	F-10-N(B)	2a	I	1/4	1 1/8"
A-25-W(S)	1a	I	3/8	7/8"	P-1-S(W)	2a	Ia	1/4	3/4"
A-29-W(B)	1a	Ic	1/4	3"	P-1-S(E)	2a	Ia	1/4	3/4"
A-35-E(N)	3a	Ib	3/8	3/8"	G-1-N(B)	2a	I	1/2	1/2"
A-35-E(S)	3a	Ib	11/16	5/8"	G-5-S(B)	1a	I	1/2	1/2"
A-38-E(B)	2a	I	11/16	5/8"	G-5-N(B)	1a	I	1/2	1/2"
A-41-W(B)	1a	I	11/16	5/8"	G-14-Abut.(W)	2a	I	3/4	1/2"
A-43-E(B)	2a	I	3/4	3/8"	G-14-Abut.(E)	2a	I	15/16	1/8"
A-44-E(B)	2a	I	3/4	1/4"	H-5-Abut.(B)	1a	I	3/4	3/4"
BC-1-W(B)	2a	Ia	3/4	1/4"	BC-1-E(B)	1a	Ic	11/16	5/8"
BC-1-E(B)	1a	Ic	11/16	5/8"	B-11-E(B)	1a	Ic	3/4	3"
B-11-E(N)	1a	I	7/8	9/8"	B-23-W(B)	1a	Ic	3/8	5/8"
D-11-E(N)	1a	I	7/8	9/8"	B-23-E(B)	1a	Ic	1/2	1/2"
D-11-E(S)	1a	I	1/2	1/2"	B-28-W(B)	2a	Id	3/8	3/8"
N-5-N(B)	1a	I	11/16	15/16"	BC-1-W(B)	2a	Ia	3/4	1/4"
P-10-E(N)	1a	I	7/8	4"	BC-1-E(B)	1a	Ic	11/16	5/8"
P-10-E(S)	1a	I	15/16	3/8"	C-11-E(B)	1a	Ic	3/4	3"
S-7-N(W)	1a	I	1/8	7/8"	C-22-W(B)	1a	Ic	3/8	5/8"
S-7-N(E)	1a	I	3/8	15/16"	C-22-E(B)	1a	Ic	1/2	1/2"
S-10-S(B)	1a	Ic	15/16	13/16"	D-1-W(B)	2a	Ia	3/4	1/4"
S-15-N(B)	1a	Ic	3/4	3/4"	D-1-E(N)	1a	I	3/4	1/4"
A-35-N(W)	2a	I	3/8	11/16"	D-1-E(S)	1a	I	1 1/4	3/4"
A-35-N(E)	2a	I	7/8	9/8"	D-11-W(B)	2a	Ia	1/2	1/2"
T-6-Abut.(B)	2a	I	15/16	3/8"	D-11-E(B)	2a	I	1/2	1/2"
					D-22-W(N)	2a	I	9/16	7/8"

**TABLE I (CONT.)**

Location	Type of Bolster	Type of Elast. Brg.	Shim #	Length of H.S. Bolts
G-12-S(B)	1	I	5/8	11/16"
S-3-N(W)	1	I	3/8	15/16"
S-3-N(E)	1	I	1/4	3/4"
S-3-S(W)	1	I	15/16	15/16"
S-3-S(E)	1	I	1 3/8	1 1/4"
S-7-S(B)	1	I	3/4	1 1/4"
S-10-N(B)	1	I	1/4	3/4"
S-15-S(W)	1	I	3/8	3/4"
S-15-S(E)	1	I	15/16	11/16"
S-18-W(B)	1	I	1 3/8	1 1/4"
S-18-E(N)	1	I	15/16	7/16"
S-18-E(S)	1	I	15/16	3/8"
S-21-W(N)	1	I	15/16	11/16"
S-21-W(S)	1	I	1 1/8	1"
S-21-E(B)	1	I	1/2	1/2"
D-36-W(N)	1	I	1/2	1/2"
D-36-W(S)	1	I	15/16	3/8"

**REPLACEMENT BEARINGS**

F.A.I.R.T.70 SEC.82-3HVB-R  
ST. CLAIR COUNTY



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	DATE	SHEET NO.	TOTAL SHEETS
F.A.I. 70	SEC. 82-3 HVB-R	ST. CLAIR	28	8
DRAWN BY		CHECKED BY		DATE
P. Barnett		W. Henry		JUN 17 1975

\*\*\* Cost of this plate together with 90 Duro Neoprene & 1/16" Stainless Steel Sheet is included in the unit bid price for "T.F.E. Bearing".

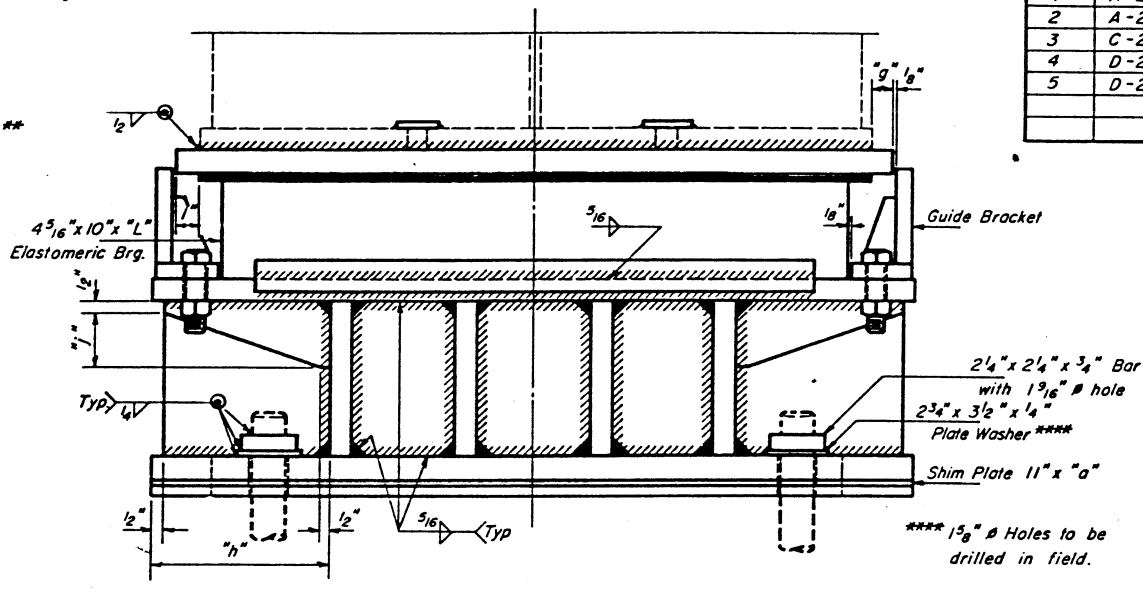
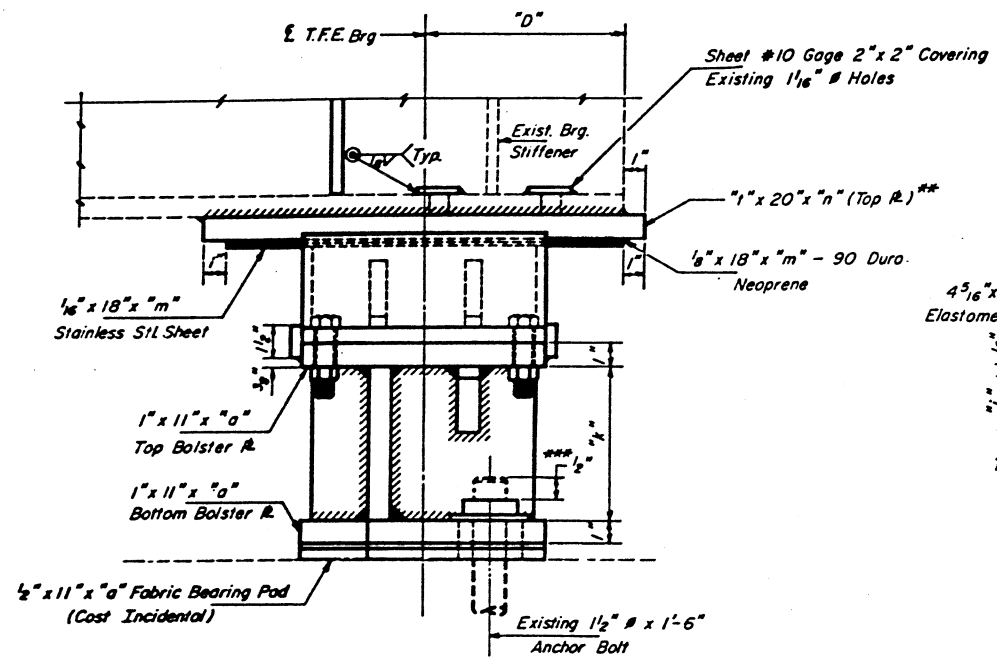
DIMENSIONS OF BOLSTER

Bearing No.	Location	"a"	"b"	"c"	"d"	"e"	"f"	"g"	"h"	"j"	"k"	"L"	"m"	"n"	"r"
1	A-25-E	2'-10"	5 1/4"	1 1/8"	4 1/2"	5"	12 1/2"	1"	8"	5"	6 1/2"	2'-4"	2'-6"	2'-8"	1 1/2"
2	A-29-E	2'-4"	2 1/4"	3 3/4"	4 1/2"	5"	8"	2 1/2"	5"	4 1/2"	6 1/2"	1'-7"	1'-9"	1'-11"	1 1/2"
3	C-26-E	2'-10"	5 1/4"	1 1/8"	4 1/2"	5"	12 1/2"	4"	8"	4 1/2"	6 1/2"	2'-4"	2'-6"	2'-8"	1 1/2"
4	D-22-E	2'-10"	2 1/4"	1 1/8"	6 1/2"	7"	12 1/2"	4"	5"	8"	10 1/2"	2'-4"	2'-6"	2'-8"	2"
5	D-28-E	2'-10"	2 1/4"	1 1/8"	6 1/2"	7"	12 1/2"	4"	5"	4 1/2"	6 1/2"	2'-4"	2'-6"	2'-8"	1 1/2"

TABLE OF "D" DIMENSIONS

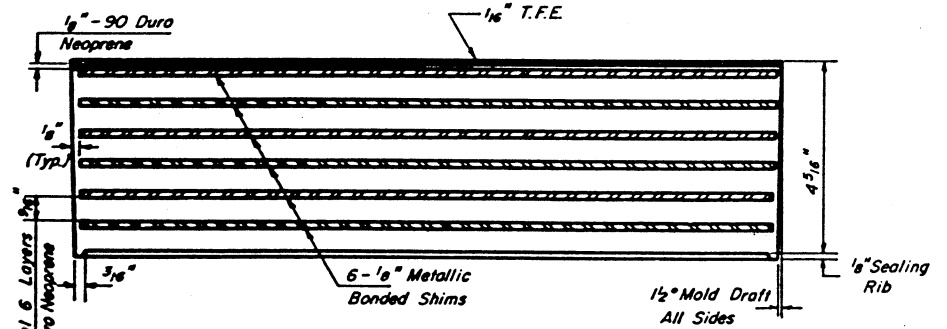
Bearing No.	Location	Temperature		
		30° F.	50° F.	70° F.
1	A-25-E	8 3/16"	9"	9 11/16"
2	A-29-E	8 3/16"	9"	9 11/16"
3	C-26-E	8 1/4"	9"	9 3/4"
4	D-22-E	8 1/16"	9"	9 3/16"
5	D-28-E	8 1/16"	9"	9 3/16"

The location of the T.F.E. bearing shall be determined by the "D" values shown. For temperatures other than those given the location shall be determined by interpolation.

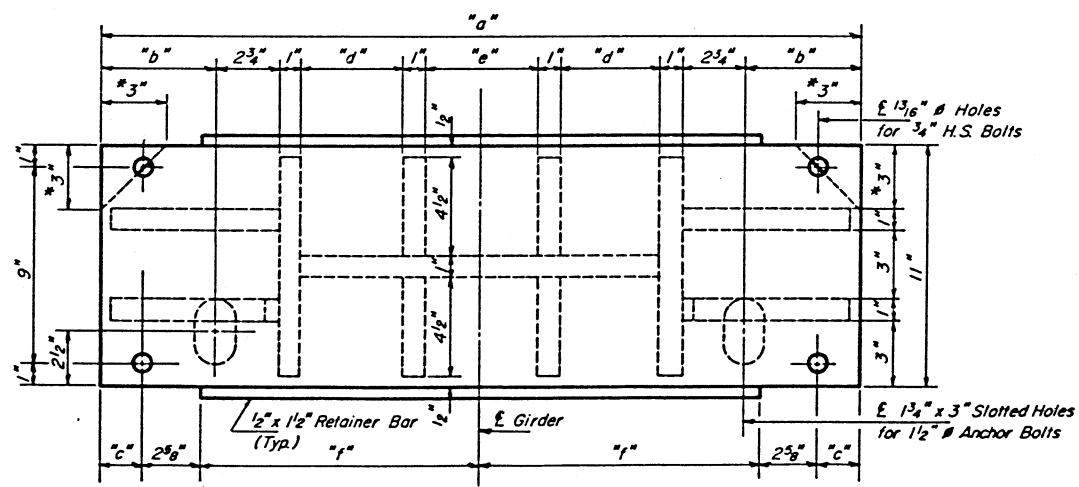


BEARING ELEVATIONS

\*\*\* Existing Anchor Bolts shall be cut off to provide 1/2" Dimen. above bar.

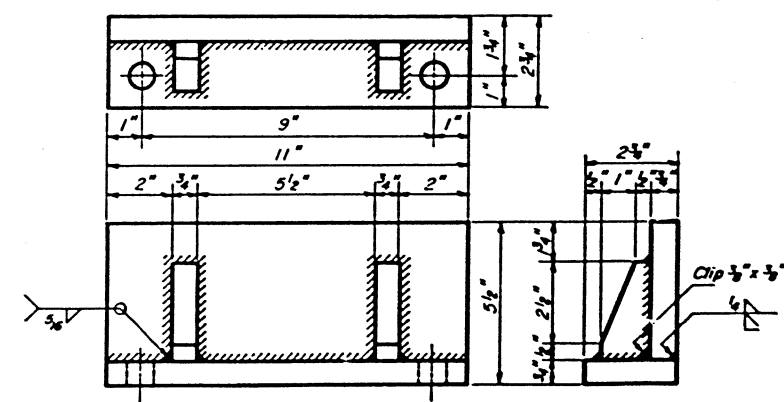


T.F.E. ELASTOMERIC BEARING DETAILS



BOLSTER PLAN

\* Clip bottom bolster plate, shim plate & fabric bearing pad for bearings #3, #4, & #5.



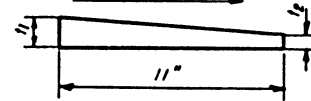
GUIDE BRACKET

Notes:  
Bearings to be replaced are both girders of locations shown in the table.  
A-25-E indicates Pier A-25, East Bearing.  
N. indicates North Girder, S. indicates South Girder.  
Area between retainer bars and elastomeric bearing to be filled with sealer 1" thick, slope to drain. (Elastomeric Polymer Type Sealer)  
Calculated Weight of Structural Steel = 4,440 lbs.

REPLACEMENT BEARINGS

F.A.I. RT. 70 SEC. 82-3 HVB-R  
ST. CLAIR COUNTY

Pier # Increasing.



SHIM PLATE SECTION

	A-25-E	A-29-E	C-26-E	D-22-E	D-28-E	
					N	S
1	1/8"	1/16"	3/16"	0"	1/16"	1/8"
2	1/8"	1/16"	1/16"	0"	3/16"	1/8"

Note:  
If the portion of the bottom flange above the new bearing is bent the flange should be straightened using a continuous pressure applied to both faces of the plate simultaneously before setting up new bearing.

DESIGNED R. F. ROCKEY  
CHECKED W. Henry  
DRAWN P. Barnett  
CHECKED W. Henry

EXAMINED  
PASSED  
APPROVED

JUN 17 1975

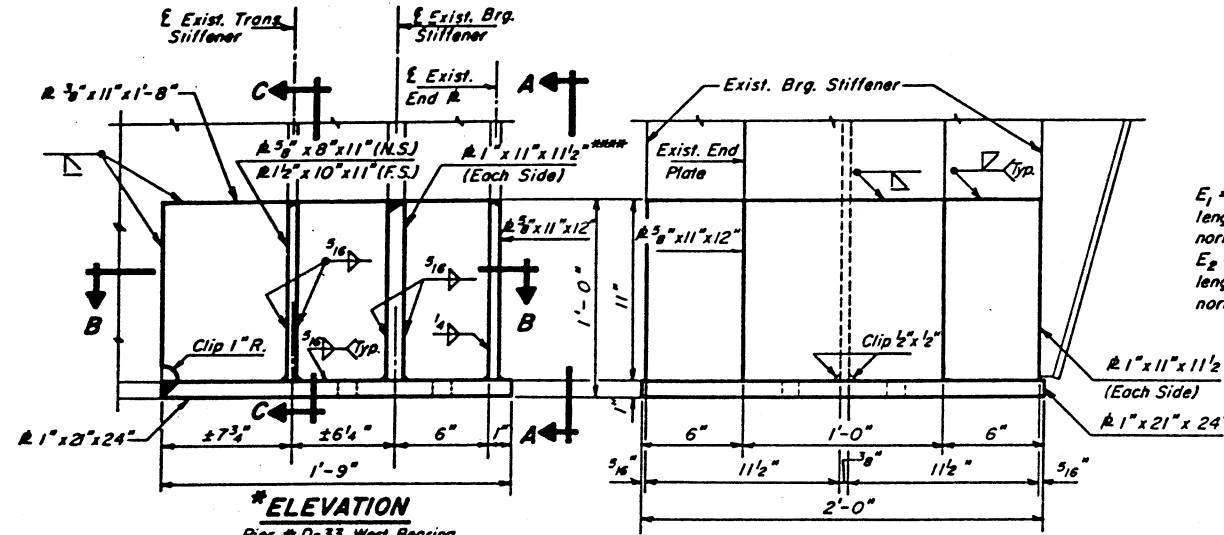
082-0143

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	82-3	CONTRACT NO.	ST. CLAIR	DATE	7
DATE	7-10	BY	HB	SCALE	AS SHOWN
SHEET NO. 7 OF 8 SHEETS					

\*\*\* Use A.A.S.H.O. M-188 Steel Except A.A.S.H.O. M-183 Steel may be used for  $\frac{3}{8}$ " Stiffener Plate in rocker.

\*\*\*\* Align with existing bearing stiffener before welding.

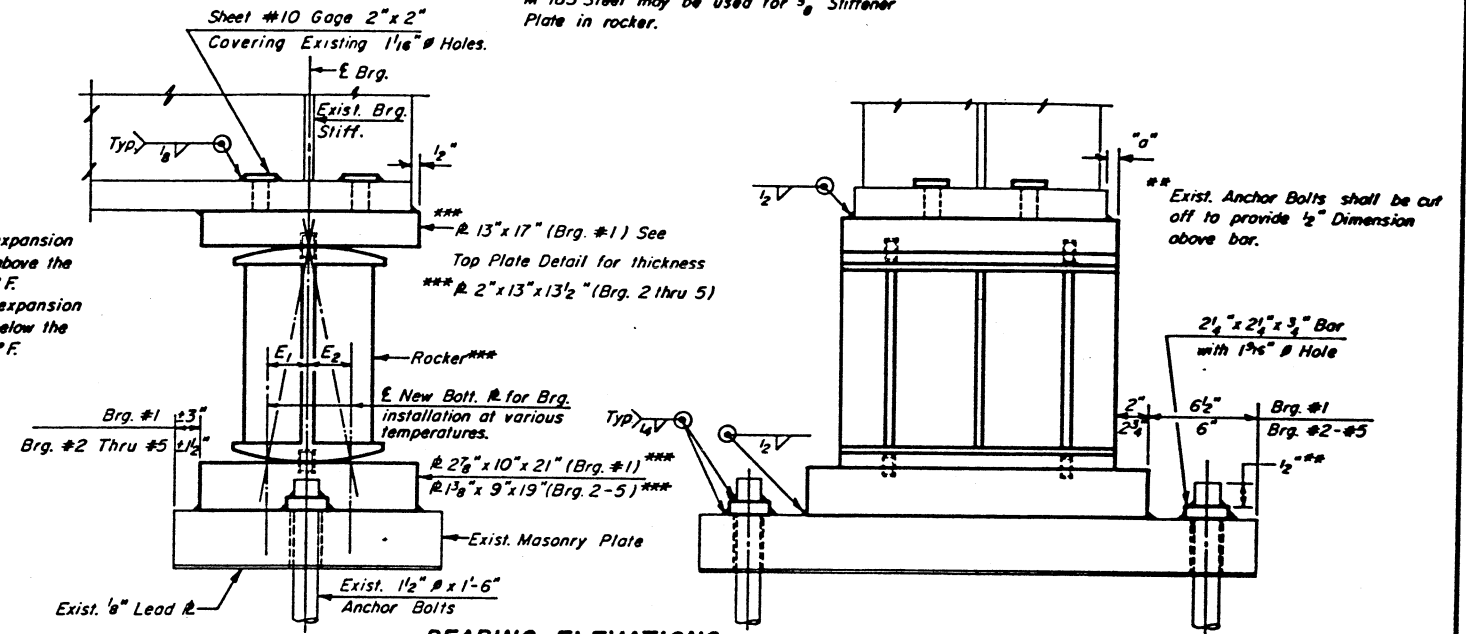


ELEVATION

Pier # D-33, West Bearing, South Girder

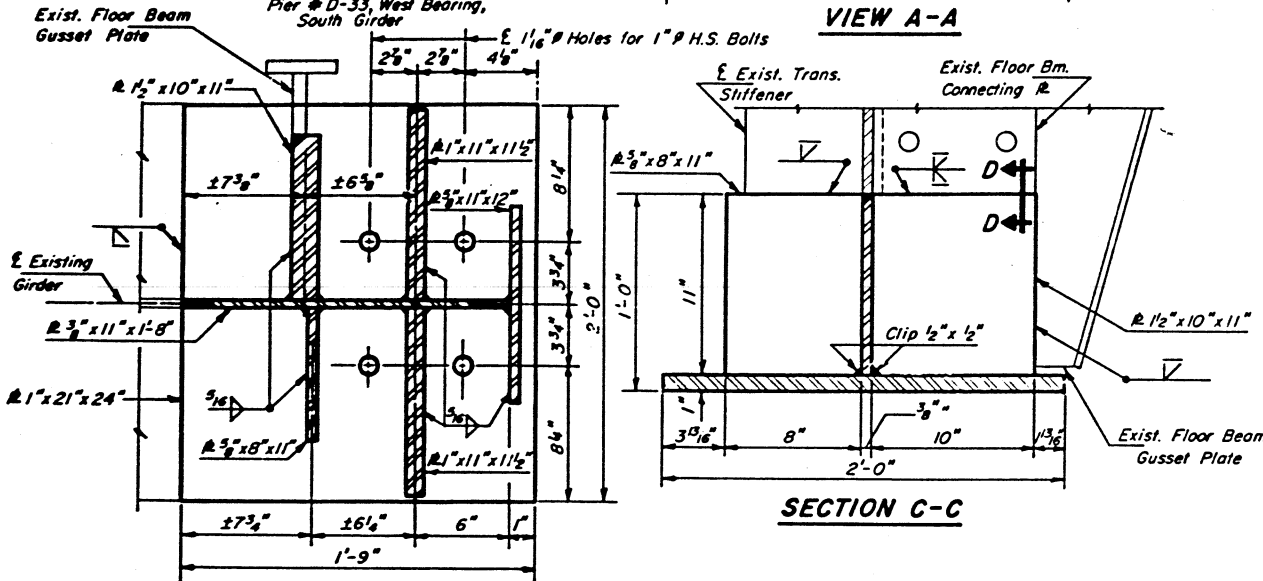
VIEW A-A

$E_1 = \frac{1}{8}$ " per each 100' of expansion length for every 15° rise above the normal temperature of 50°F.  
 $E_2 = \frac{1}{8}$ " per each 100' of expansion length for every 15° fall below the normal temperature of 50°F.



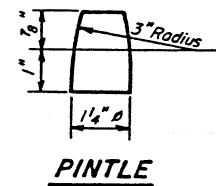
BEARING ELEVATIONS

For Locations See Table Below

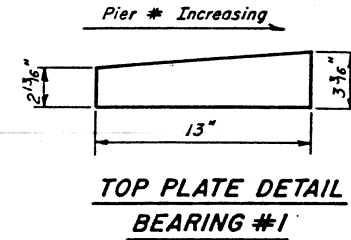


SECTION B-B

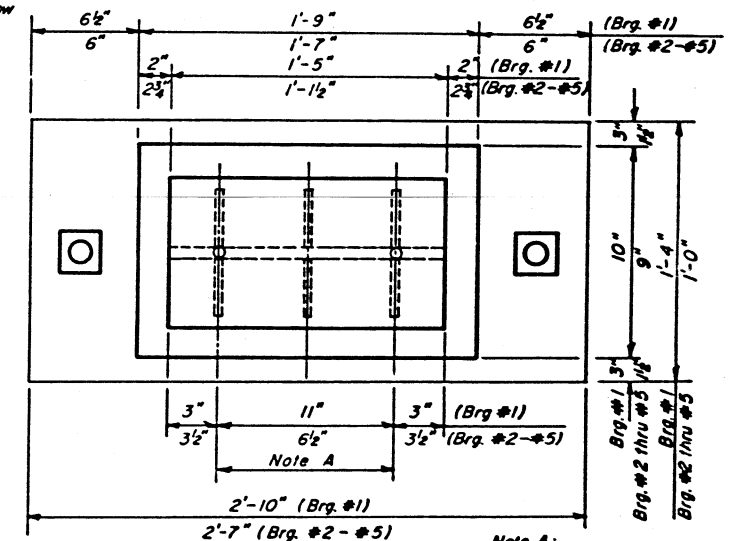
SECTION C-C



PINTLE



TOP PLATE DETAIL  
BEARING #1

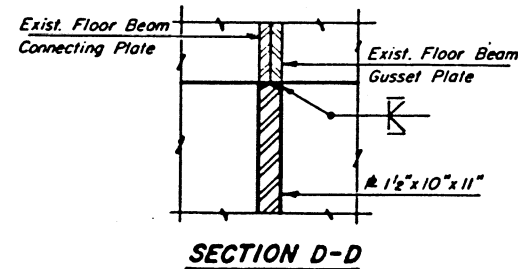


BEARING PLAN

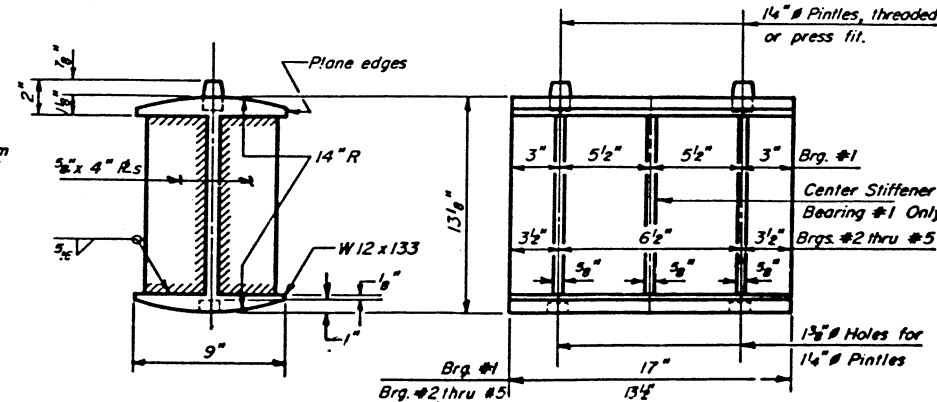
Note A:  
 $1\frac{3}{8}$ " Holes - 1" Deep in Top Plate for Pintles. Thread or press fit pintles into bottom plate.

BEARING LOCATIONS

Bearing No.	Location	Exp. Length
1	A-1-W	118' (S)
2	E-2-S	85' (S)
3	H-2-W	87' (S)
4	P-15-W	86' (S)
5	H-1-W	76' (S)



SECTION D-D



ROCKER

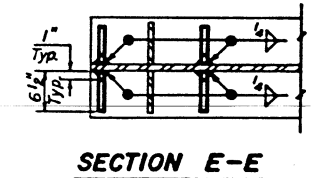
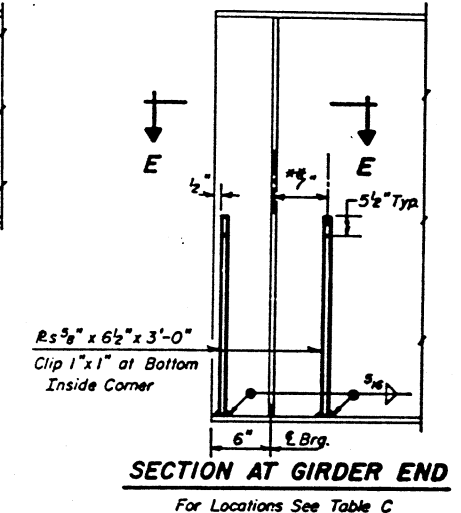
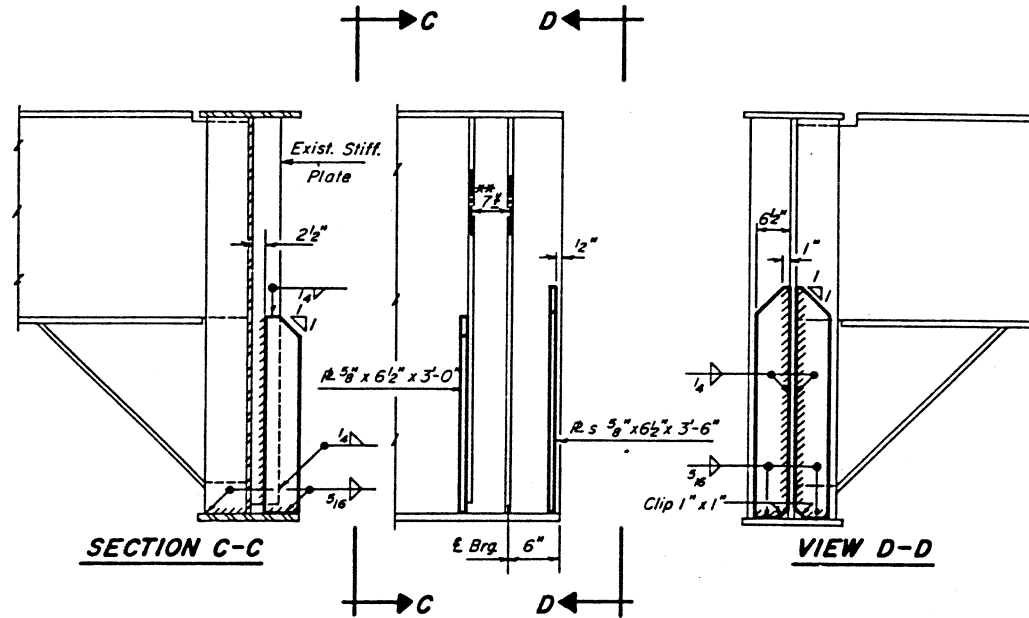
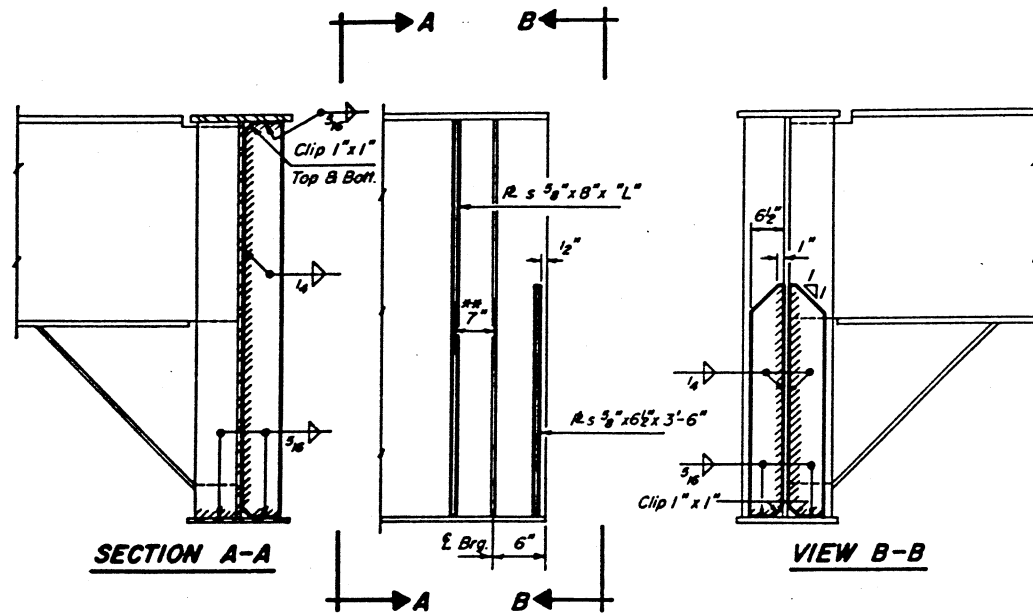
Notes:  
A-1-W indicates Pier A-1, West Bearing, Both Girders.  
Calculated Weight of Structural Steel = 4240 lbs. (Bearing Only)

STEEL BEARING @ D-33-W (S)  
F.A.I. RT. 70 SEC. 82-3HVB-R  
ST. CLAIR COUNTY

DESIGNED	R. F. KOSAR	DATE	July 17 1975
CHECKED	W. H. H. H.	EXAMINED	[Signature]
DRAWN	P. Barnett	PASSED	[Signature]
CHECKED	[Signature]	APPROVED	[Signature]

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	82-3	SECTION	ST. CLAIR	DATE	10	SHEET NO.	8
DATE	7-10	BY	HVB-R	SCALE	AS SHOWN	TOTAL SHEETS	8 SHEETS



**SECTION AT GIRDER END**  
For Locations See Table A

\*\*Along E Girder or at Right Angles if on Skew.

**SECTION AT GIRDER END**  
For Locations See Table B

**TABLE "A"**

Location	"L"	Location	"L"
A-1-W(B)	82 3/4	D-22-W(B)	85 1/4
A-11-E(B)	69"	D-43-E(N)	72"
*A-12-W(B)	70 1/2"	*D-44-W(B)	72"
A-25-E(B)	66"	D-44-E(B)	67 1/2"
A-29-W(S)	66"	*D-45-W(B)	69 1/2"
A-44-E(B)	70 1/2"	*D-45-E(B)	69 1/2"
*A-45-W(B)	69 1/2"		
*A-45-E(B)	66 1/2"	E-2-S(B)	84 1/8
BC-1-W(B)	72"	*E-3-N(B)	82 3/4
BC-1-E(B)	72"		
BC-8-W(B)	72"	*H-1-E(B)	63 1/2"
BC-8-E(B)	72"	H-2-W(B)	85 1/4"
B-15-W(N)	72"		
B-15-E(B)	72"		
B-19-W(N)	72"	M-3-N(B)	60"
B-19-E(B)	72"	M-6-E(B)	60"
B-23-W(N)	72"		
B-23-E(B)	72"	D-11-E(N)	89 1/8
B-28-W(B)	69 1/2"	D-11-E(S)	89 1/2"
B-28-E(B)	72"	*N-1-W(N)	85 1/8
		*N-1-W(S)	85 1/8
BC-1-W(B)	72"		
BC-1-E(B)	72"	O-6-W(S)	66 1/8
BC-8-W(B)	72"	O-6-W(N)	66 1/8
BC-8-E(B)	72"	*O-7-E(B)	68"
C-15-W(N)	72"		
C-15-E(B)	72"	*P-14-E(B)	70 1/2"
C-22-W(B)	72"	P-15-W(B)	64 1/2"
C-22-E(B)	72"	*P-15-E(N)	66 1/2"
C-26-W(N)	72"	*P-15-E(S)	66 1/2"
		H-1-W(N)	63 1/2"
D-1-W(B)	82 1/4	H-1-W(S)	63 1/2"
D-11-E(N)	85 1/2"		
D-11-E(S)	81 3/4"	S-10-S(B)	60"
*D-12-W(N)	70 1/2"	S-15-N(B)	60"
*D-12-W(S)	70 1/2"		
*D-21-E(B)	82 1/2"		

**TABLE "B"**

Location	Location	Location	Location
A-1-E(S)	D-18-W(B)	G-9-S(B)	P-1-N(B)
A-5-W(S)	D-18-E(B)	G-9-N(B)	P-4-S(B)
A-5-E(B)	D-21-W(B)	G-12-S(E)	P-4-N(B)
A-8-W(B)	D-26-W(S)		P-7-W(B)
A-8-E(B)	D-26-E(S)	H-2-E(S)	P-7-E(B)
A-11-W(S)	D-28-W(S)	H-5-Abut.(B)	P-10-W(B)
A-12-E(B)	D-28-E(B)		P-10-E(B)
A-15-W(B)	D-33-W(N)	P-1-N(B)	P-14-W(B)
A-15-E(B)	D-33-E(B)	M-3-S(B)	
A-18-W(N)	D-36-W(B)	M-6-W(B)	D-26-E(B)
A-18-E(S)	D-36-E(B)	M-9-E(B)	P-14-W(B)
A-21-E(B)	D-40-W(N)	M-9-W(B)	
A-25-W(B)	D-40-E(B)	M-12-E(B)	A-21-E(B)
A-29-E(B)	D-43-W(B)	M-12-W(B)	R-3-W(N)
A-35-W(B)		A-5-E(B)	R-3-E(N)
A-35-E(S)	O-17-S(B)		G-1-W(B)
A-38-W(B)	E-2-N(B)	N-1-E(B)	
A-38-E(S)	E-3-S(B)	N-5-N(B)	G-12-S(B)
A-41-W(B)	E-6-N(B)	N-5-S(B)	S-3-N(B)
A-41-E(B)	E-6-S(B)	O-17-N(B)	S-3-S(B)
A-43-W(B)	E-9-Abut.(B)		S-7-N(B)
A-43-E(B)		G-1-W(B)	S-7-S(B)
*A-44-W(B)	F-1-Abut.(B)	O-3-E(B)	S-10-N(B)
	F-4-S(B)	O-3-W(B)	S-15-S(B)
D-1-E(B)	F-4-N(B)	O-6-E(B)	S-18-W(B)
D-5-W(B)	F-7-S(B)	O-7-W(B)	S-18-E(B)
D-5-E(B)	F-7-N(B)	O-10-Abut.(B)	S-21-W(B)
D-8-W(B)	F-10-S(B)	O-11-Abut.(B)	S-21-E(B)
D-8-E(S)	F-10-N(B)	O-14-N(B)	D-36-W(B)
D-11-W(B)	P-1-S(B)	O-17-N(W)	
D-15-W(B)	G-5-S(B)		A-35-N(B)
D-15-E(B)	G-5-N(B)		T-6-Abut.(B)

**TABLE "C"**

Location
BC-5-W(B)
BC-5-E(B)
B-11-W(B)
B-11-E(B)
*B-12-W(B)
B-12-E(B)
B-27-W(B)
*B-27-E(B)
*B-31-Abut.(N)
BC-5-W(B)
BC-5-E(B)
C-11-W(B)
C-11-E(B)
*C-12-W(B)
C-12-E(B)
C-18-W(B)
C-18-E(B)
C-31-Abut.(B)

Note:  
A-1-W(B) indicates Pier A-1, West Bearing, Both Girders.  
A-29-W(S) indicates Pier A-29, West Bearing, South Girder.

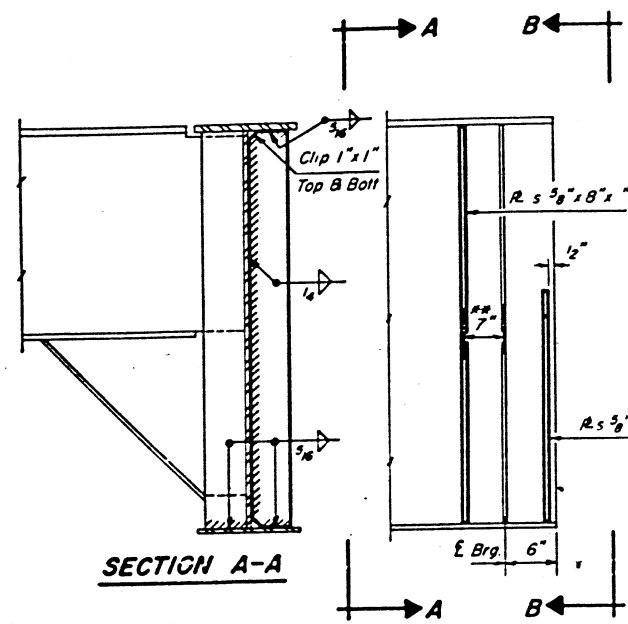
DESIGNED	W. H. H.	DATE	July 17 1975
CHECKED	P. Barnett	APPROVED	[Signature]
DRAWN	P. Barnett	DATE	
CHECKED	W.H.	APPROVED	

\*Jacking & Shoring are not required (Total 37 Locations)

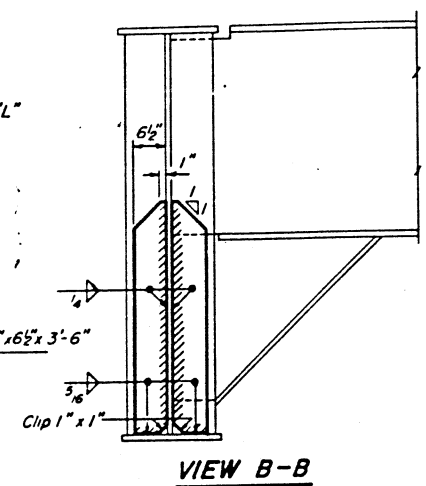
**BEAM END REPAIRS**  
F.A.I. RT. 70 SEC 82-3 HVB-R  
ST. CLAIR COUNTY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	81-3	SECTION	ST. CLAIR	25	104	SHEET NO. 84
DATE	70	NUMBER				8 SHEETS
BY		SCALE				

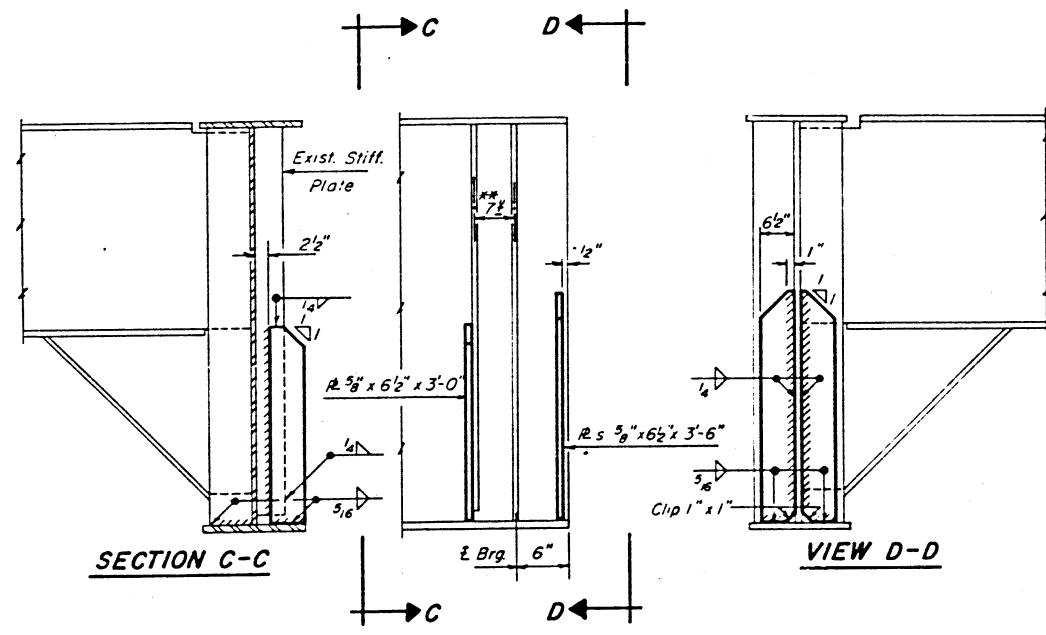


**SECTION AT GIRDER END**  
For Locations See Table A

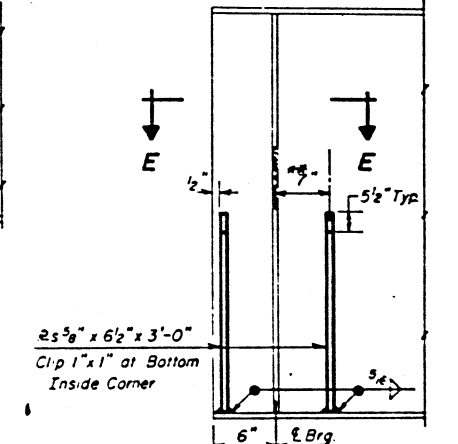


**VIEW B-B**

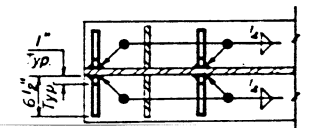
\*\*Along E Girder or at Right Angles if on Skew.



**SECTION AT GIRDER END**  
For Locations See Table B



**SECTION AT GIRDER END**  
For Locations See Table C



**SECTION E-E**

**TABLE "A"**

Location	"L"	Location	"L"
A-1-W(B)	82 3/4	D-22-W(B)	85 3/4
A-11-E(B)	69	D-43-E(N)	72
*A-12-W(B)	72	D-44-W(B)	72
A-25-E(B)	66	D-44-E(B)	67 1/2
A-29-W(S)	66	*D-45-W(B)	69 1/2
A-44-E(B)	70 1/2	*D-45-E(B)	69 1/2
*A-45-W(B)	69 1/2		
*A-45-E(B)	66 3/4	E-2-S(B)	84 1/16
BC-1-W(B)	72	*E-3-N(B)	82 3/4
BC-1-E(B)	72		
BC-8-W(B)	72	*H-1-E(B)	63 1/2
BC-8-E(B)	72	H-2-W(B)	85 1/4
B-15-W(N)	72		
B-15-E(B)	72		
B-19-W(N)	72	M-3-N(B)	60
B-19-E(B)	72	M-6-E(B)	60
B-23-W(N)	72		
B-23-E(B)	72	D-11-E(N)	89 1/4
B-28-W(B)	69 1/2	D-11-E(S)	89 1/2
<del>B-28-E(B)</del>	<del>72</del>	*N-1-W(N)	85 1/16
B-28-E(N)	72	*N-1-W(S)	85 1/16
BC-1-W(B)	72		
BC-1-E(B)	72	O-6-W(S)	66 1/16
BC-8-W(B)	72	O-6-W(N)	66 1/16
BC-8-E(B)	72	*O-7-E(B)	68 1/2
C-15-W(N)	72		
C-15-E(B)	72	*P-14-E(B)	70 3/4
C-22-W(B)	72	P-15-W(B)	64 1/2
C-22-E(B)	72	*P-15-E(N)	66 3/4
C-26-W(N)	72	*P-15-E(S)	66 3/4
		H-1-W(N)	63 3/8
D-1-W(B)	82 3/4	H-1-W(S)	63 3/8
D-11-E(N)	85 3/4		
D-11-E(S)	81 3/8	S-10-S(B)	60
*D-12-W(N)	70 1/16	S-15-N(B)	60
*D-12-W(S)	70 1/16		
*D-21-E(B)	82 3/4		

**TABLE "B"**

Location	Location	Location	Location
A-1-E(S)	D-18-W(B)	G-9-S(B)	P-1-N(B)
A-5-W(S)	D-18-E(B)	G-9-N(B)	P-4-S(B)
A-5-E(B)	D-21-W(B)	G-12-S(E)	P-4-N(B)
A-8-W(B)	<del>D-26-W(S)</del>	H-2-E(S)	P-7-W(B)
A-8-E(B)	<del>D-26-E(S)</del>	H-5-Abut(B)	P-7-E(B)
A-11-W(S)	D-28-W(B)	H-5-Abut(B)	P-10-W(B)
A-12-E(B)	D-28-E(B)	P-1-N(B)	P-10-E(B)
A-15-W(B)	D-33-W(N)	M-3-S(B)	P-14-W(B)
A-15-E(B)	D-33-E(B)	M-6-W(B)	
A-18-W(N)	D-36-W(B)	M-9-E(B)	
A-18-E(S)	D-36-E(B)	M-9-W(B)	
A-21-E(B)	D-40-W(N)	M-12-E(B)	
A-25-W(B)	D-40-E(B)	M-12-W(B)	
A-29-E(B)	D-43-W(B)	A-5-E(B)	
A-35-W(B)		O-17-S(B)	
A-35-E(S)	O-17-S(B)	N-1-E(B)	
A-38-W(B)	E-2-N(B)	N-5-N(B)	
A-38-E(S)	E-3-S(B)	N-5-S(B)	
A-41-W(B)	E-6-N(B)	O-17-N(B)	
A-41-E(B)	E-6-S(B)	G-1-N(B)	
A-43-W(B)	E-9-Abut(B)	O-3-E(B)	
A-43-E(B)		O-3-W(B)	
*A-44-W(B)	F-1-Abut(B)	O-6-E(B)	
	F-4-S(B)	O-7-W(B)	
D-1-E(B)	F-4-N(B)	O-10-Abut(F)	
D-5-W(B)	F-7-S(B)	O-11-Abut(B)	
D-5-E(B)	F-7-N(B)	O-14-N(B)	
D-8-W(B)	F-10-S(B)	O-14-S(B)	
D-8-E(S)	F-10-N(B)	O-17-N(W)	
D-11-W(B)	P-1-S(B)		
D-12-E(B)			
D-15-W(B)	U-5-S(B)		
D-15-E(B)	G-7-N(B)		

\*Jacking & Shoring are not required (Total 37 Locations)

**TABLE "C"**

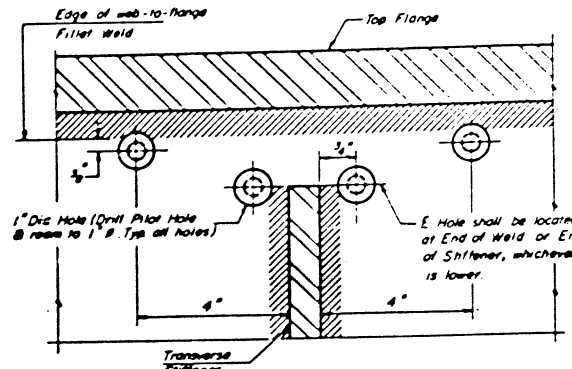
Location
BC-5-W(B)
BC-5-E(B)
B-11-W(B)
B-11-E(B)
*B-12-W(B)
B-12-E(B)
B-27-W(B)
*B-27-E(B)
B-31-Abut(N)
BC-5-W(B)
BC-5-E(B)
C-11-W(B)
*C-12-W(B)
C-12-E(B)
C-18-W(B)
C-18-E(B)
C-31-Abut(B)

**AS REVISED 5-6-75**  
**BEAM END REPAIRS**  
**F.A.I. RT. 70 SEC 82-3 HVB-R**  
**ST. CLAIR COUNTY**

DESIGNED	W.P. H.	EXAMINED	[Signature]
CHECKED	P. Barnett	PASSED	[Signature]
DRAWN	P. Barnett	APPROVED	[Signature]
CHECKED	[Signature]		

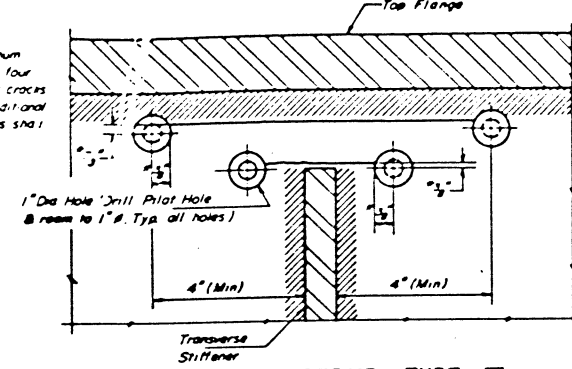
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

NO.	REV.	DATE	BY	CHKD.



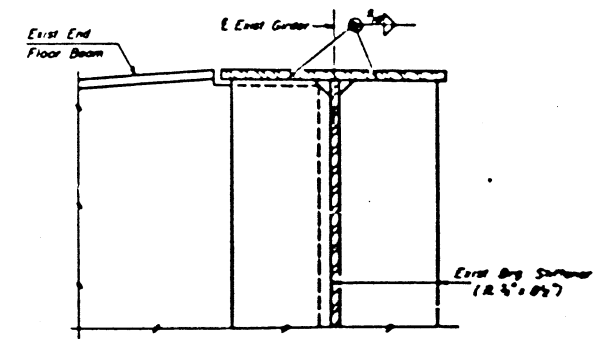
**GIRDER REPAIR - TYPE I**  
**SECTION AT FLOOR BEAM CONNECTION**  
(Showing position of holes to be drilled in web without cracks)  
(See Table I for Locations)

Pilot holes shall be 1/8" Dia maximum  
Each location shall have at least four  
holes, positioned as shown, whether cracks  
are present or not. If there are additional  
cracks other than those shown, holes shall  
be drilled at the crack ends.



**GIRDER REPAIR - TYPE II**  
**SECTION AT FLOOR BEAM CONNECTION**  
(Showing position of holes to be drilled in web at crack ends)  
(See Table II for Locations)

\*Centerlines of hole shall be located as shown with respect to ends  
of each crack. Number of holes is not limited to four at each floor beam  
connection.



**GIRDER REPAIR - TYPE III**  
**SECTION AT BEARING STIFFENERS**  
(Showing welding of stiffener to flange at end of girder)

Note Location is Roadway B, Pier B27, North Girder, West bearing

**METHOD FOR LOCATING CRACK ENDS**  
**GIRDER REPAIR - TYPE I**

The location of the end of cracks shall be determined by  
ultra-sound inspection and marked before the pilot hole is  
drilled.  
After the one (1) inch diameter holes are reamed, the  
Contractor is required to use ultra-sound inspection around  
the hole to determine if the cracks go past the hole. If  
the ultra-sound inspection shows continuation of the cracks  
beyond the hole, the Contractor will be required to drill and  
ream another one (1) inch diameter hole. The center of the  
additional hole will be located a minimum of 1/4 inch  
from the center of the other hole or holes.

**TABLE I**  
Floor Beam Location for  
Girder Repair - Type I

A2N-1WB1E	A36B-1WB1E	B25S-1W	C24S-1E	S31B-1WB1E	F11B-1NB1S	M8B-1WB1E	P2W-1N	S1B-1NB1S
A3N-1WB1E	A37B-1WB1E	B26S-1W	C25S-1WB1E	D32B-1WB1E	F12B-1NB1S	M10B-1W2WB1E	P2E-1NB1S	S2B-1NB1S
A3S-1W	A39B-1WB1E	B29N-1W	C27B-1WB1E	D34B-1WB1E		M11B-1WB1E	P3B-1NB1S	S4B-1NB1S
A4N-1WB1E	A40B-1WB1E	B29S-1WB1E	C28N-1E	D35B-1WB1E		M13B-1WB1E	P5N-1E	S5B-1NB1S
A6B-1WB1E	A42B-1WB1E	B30N-1E	C28S-1WB1E	D37B-1WB1E		M14B-1WB1E	P5S-1WB1E	S6B-1NB1S
A7S-1WB1E		B30S-1WB1E	C29B-1WB1E	D38B-1WB1E	G2B-1NB1S		P6N-1E	S8B-1NB1S
A9S-1WB1E			C30B-1WB1E	D39B-1WB1E	G3B-1NB1S		P6S-1WB1E	S9B-1NB1S
A10N-1W			C10S-1E	D41B-1WB1E	G4W-1NB1S		P8B-1WB1E	S11B-1NB1S
A10S-1WB1E	BC2B-1WB1E	D24-1WB1E		D42B-1WB1E	G6E-1NB1S	N2B-1WB1E	P9S-1WB1E	S12B-1NB1S
A13N-1WB1E	BC3B-1WB1E	D28-1WB1E			G7B-1NB1S	N3B-1WB1E	P11S-1WB1E	S13B-1NB1S
A14B-1WB1E	BC4B-1WB1E	D38-1WB1E			G9W-1NB1S	N4B-1WB1E	P12S-1WB1E	S14B-1NB1S
A16N-1E	BC6N-1WB1E	D4B-1WB1E	018B-1NB1S		G10W-1N	N6B-1NB1S	P13B-1WB1E	S16B-1NB1S
A16S-1WB1E	BC7N-1WB1E	D6B-1WB1E	E1B-1NB1S		G13E-1NB1S	N7B-1NB1S		S17B-1NB1S
A17B-1WB1E	BC7S-1E	D7B-1WB1E	E4B-1NB1S					S19B-1WB1E
A19N-1WB1E	B9B-1WB1E	D9B-1WB1E	E5B-1NB1S					S20B-1WB1E
A19S-1W	B10N-1WB1E	D10B-1WB1E	E7B-1NB1S					S22B-1WB1E
A20N-1W	B13B-1WB1E	D13B-1WB1E	E8B-1NB1S					S23B-1WB1E
A20S-1E	B14B-1WB1E	D14B-1WB1E						
A22B-1WB1E	B16N-1E	D16B-1WB1E						
A23B-1WB1E	B16S-1WB1E	D17B-1WB1E						
A24B-1WB1E	B17N-1W	D18B-1WB1E						
A26B-1WB1E, B2E	B18S-1WB1E	D19B-1WB1E	F2W-1NB1S					
A27B-1WB1E, B2E	B20N-1W	D20B-1WB1E	F3W-1NB1S					
A28B-1WB1E, B2E	B20S-1WB1E	D23B-1WB1E	F5W-1NB1S					
A30B-1WB1E	B21S-1W	D24B-1WB1E	F3E-1S	M1B-1WB1S				
A31B-1WB1E	B22N-1W	D25B-1WB1E	F6W-1NB1S	M2B-1WB1S				
A32B-1WB1E	B22S-1WB1E	D27B-1WB1E	F8W-1NB1S	M4B-1NB1S				
A33B-1WB1E	B24N-1W	D29B-1WB1E	F8E-1S	M5B-1WB1S				
A34B-1WB1E	B24S-1WB1E	D30B-1WB1E	F9B-1NB1S	M7B-1WB1E				

**TABLE II**  
Floor Beam Location for  
Girder Repair - Type II

A2S-1WB1E	B29N-1E	G4E-1NB1S
A3S-1E	B30N-1W	G6W-1NB1S
A4S-1WB1E		G8E-1NB1S
A7N-1WB1E		G10W-1S
A9N-1WB1E		G11E-1NB1S
A10N-1E	BC7S-1W	G13W-1NB1S
A13S-1WB1E	C14S-1W	
A16N-1W	C17N-1W	
A19S-1E	C19Y-1WB1E	
A20N-1E	C20N-1E, B2E	H3V-1W
A20S-1W	C21N-1WB2W	H4N-1WB1E
	C21S-1W	
	C23N-1W	
BC6S-1WB1E	C23S-1WB1E	P2A-1S
BC7S-1W	C24S-1W	P3W-1W
B10S-1WB1E	C25N-1WB1E	P5N-1W
B16N-1W	C28N-1W	P6N-1W
B17N-1E	G10S-1W	P9Y-1WB1E
B17S-1WB1E		P11N-1WB1E
B18N-1WB1E		P12N-1WB1E
B20N-1E		
B21N-1WB1E	F2E-1NB1S	
B21S-1E	F3E-1NB1S	
B22N-1E	F5E-1N	
B24N-1E	F6E-1NB1S	
B25S-1E	F8E-1N	
B26N-1WB1E		
B26S-1E		

**BILL OF MATERIAL**

Item	Unit	Total
Girder Repair - Type I	Each	654
Girder Repair - Type II	Each	97
Girder Repair - Type III	Each	1

DESIGNED R. F. ROJNEY  
CHECKED [Signature]  
DRAWN P. Barnett RR  
CHECKED [Signature]

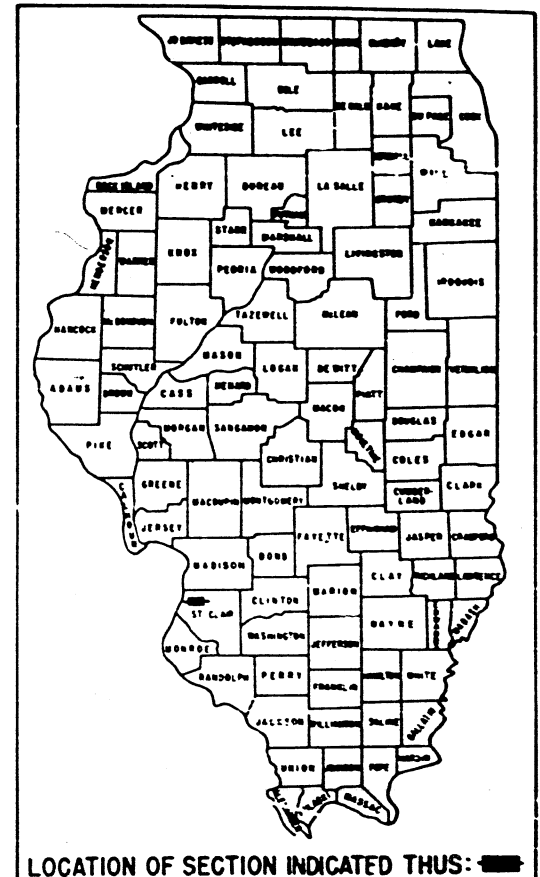
EXAMINED [Signature]  
PASSED [Signature]  
APPROVED [Signature]

NOTES:  
Edge of holes shall be painted after reaming  
A2N-1WB1E indicates Pier A2, North Girder, first floor beam West  
of pier, and first floor beam East of pier.  
A26B-1WB1E, B2E indicates Pier A26, Both Girders, first floor beam  
West of Pier, first floor beam East of pier, and second floor beam East of pier.

**GIRDER REPAIRS**  
**P.A.I. RT. 70-SEC. 82-3HVB-R**  
**ST. CLAIR COUNTY**

**STATE OF ILLINOIS**  
**DEPARTMENT OF PUBLIC WORKS AND BUILDINGS**  
**DIVISION OF HIGHWAYS**  
**PLANS FOR PROPOSED**  
**FEDERAL AID HIGHWAY**  
**F.A.I. ROUTE 70**

FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVB-2	ST. CLAIR	252	1
FED. ROAD DIV. NO. 4 ILLINOIS PROJECT I-IG-70-1(79)0				
P-98-087-00				



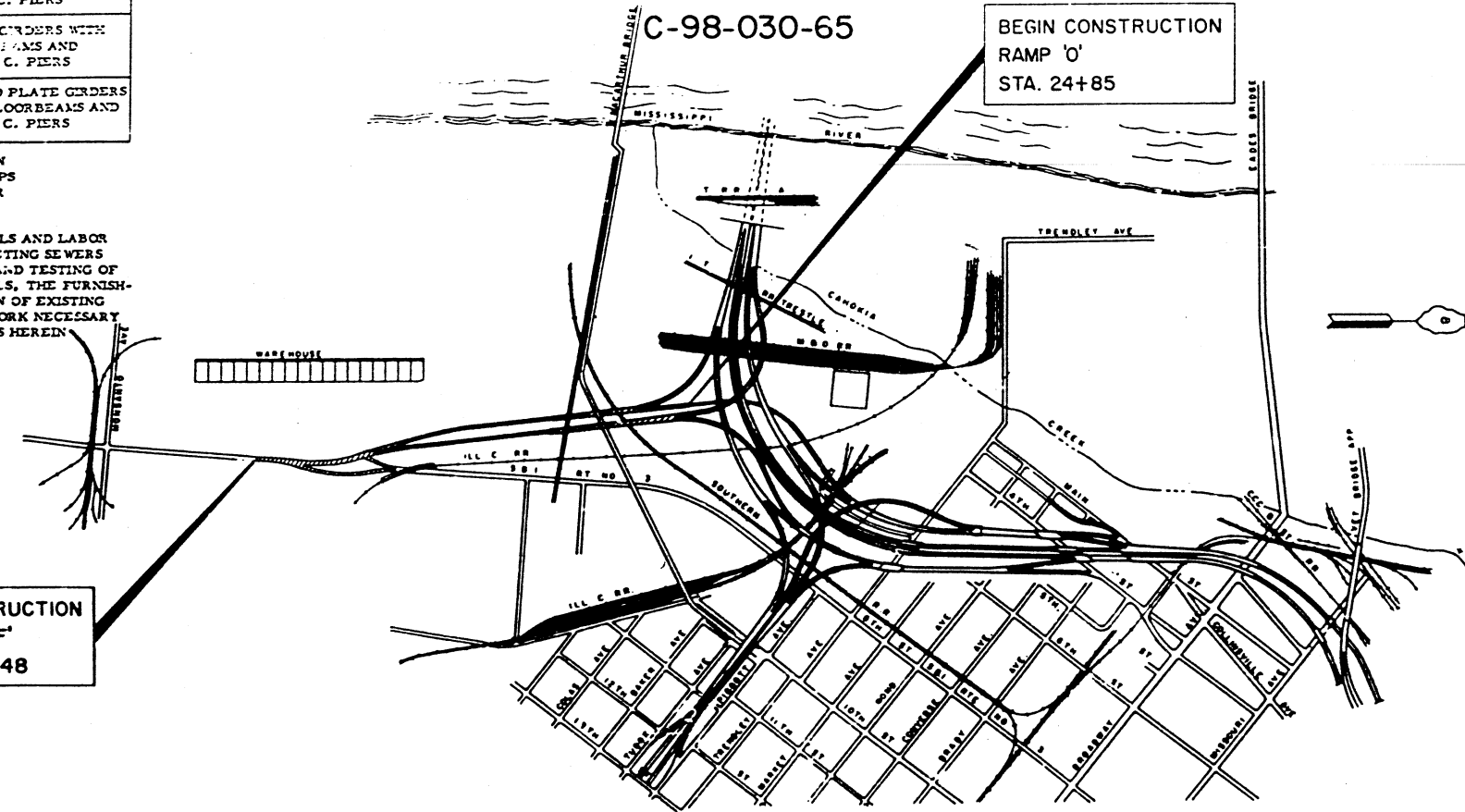
FOR INDEX OF SHEETS, SEE SHEET NO. 3

DESCRIPTION OF PROJECT:  
 SECTION 82-3HVB-2 INCLUDES THE FURNISHING AND FABRICATING OF STRUCTURAL STEEL AND THE COMPLETE CONSTRUCTION OF THE FOLLOWING:

ROADWAY E	ONE-3 SPAN CONTINUOUS UNIT SPANS: 82'-105'-82'	WELDED PLATE GIRDERS WITH PLATE GIRDER FLOORBEAMS AND ROLLED STRINGERS ON R.C. PIERS
	TWO-3 SPAN CONTINUOUS UNIT SPANS: 1 @ 78'-100'-78' 1 @ 70'-89'-69'	WELDED PLATE GIRDERS WITH ROLLED FLOORBEAMS AND STRINGERS ON R.C. PIERS AND SPILL THRU ABUTMENT
	ONE-SINGLE SPAN @ 85'	COMPOSITE WT ON R.C. PIERS
ROADWAY F	TWO-3 SPAN CONTINUOUS UNIT SPANS: 1 @ 76'-97'-75' 1 @ 75'-97'-75'	WELDED PLATE GIRDERS WITH ROLLED FLOORBEAMS AND STRINGERS ON R.C. PIERS AND SPILL THRU ABUTMENT
	TWO-3 SPAN CONTINUOUS UNIT SPANS: 1 @ 99'-128'-99' 1 @ 94'-122'-94'	CURVED WELDED PLATE GIRDERS WITH PLATE GIRDER FLOORBEAMS AND ROLLED STRINGERS ON R.C. PIERS
RAMP M	ONE-3 SPAN CONTINUOUS UNIT SPANS: 95'-125'-98'	CURVED WELDED PLATE GIRDERS WITH ROLLED FLOOR BEAMS AND STRINGERS ON R.C. PIERS
RAMP N	ONE-3 SPAN CONTINUOUS UNIT SPANS: 99'-125'-97'	CURVED WELDED PLATE GIRDERS WITH ROLLED FLOOR BEAMS AND STRINGER ON R.C. PIERS
RAMP O	ONE-3 SPAN CONTINUOUS UNIT SPANS: 93'-120'-95'	WELDED PLATE GIRDERS WITH ROLLED FLOORBEAMS AND STRINGERS ON R.C. PIERS
RAMP P	ONE-3 SPAN CONTINUOUS UNIT SPANS: 94'-119'-92'	CURVED WELDED PLATE GIRDERS WITH ROLLED FLOORBEAMS AND STRINGERS ON R.C. PIERS

SEC. 82-3HVB-2  
**GRADING & PAVING**  
 AND  
**POPLAR STREET BRIDGE APPROACHES**  
 PROJECT I-IG-70-1 (79)0  
 ST. CLAIR COUNTY  
 C-98-030-65

THE POPLAR STREET BRIDGE APPROACHES FOR THIS SECTION CARRY THE FOLLOWING: ROADWAY E, ROADWAY F AND RAMPS M, N, O, P OVER THE TRACKS OF SOUTHERN R.R. AND UNDER THE RAILROAD AND HIGHWAY APPROACHES TO MAC ARTHUR BRIDGE.  
 THE WORK ALSO INCLUDES THE FURNISHING OF ALL MATERIALS AND LABOR NECESSARY TO COMPLETE THE GRADING, PAVING, CONSTRUCTING SEWERS AND DRAINAGE STRUCTURES, THE FURNISHING, INSTALLING AND TESTING OF COMPLETE HIGHWAY LIGHTING SYSTEMS AND TRAFFIC SIGNALS, THE FURNISHING AND ERECTING OF HIGHWAY SIGNS, THE RECONSTRUCTION OF EXISTING CITY STREETS, AND ALL APPURTENANT AND COLLATERAL WORK NECESSARY TO COMPLETE THE PROJECT AS SHOWN ON THE PLANS AND AS HEREIN SPECIFIED.



END CONSTRUCTION  
 ROADWAY 'E'  
 STA. 60+12.48

BEGIN CONSTRUCTION  
 RAMP 'O'  
 STA. 24+85

DESIGN DESIGNATION  
 4051(88)-A-1-13.3(PCC-20)(50MPH)  
 CONTRACT NO. 25919

CITY OF EAST ST. LOUIS



NET LENGTH TO BE IMPROVED  
 3527.48 FT. (0.668 MILES)

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS AND BUILDINGS  
 DIVISION OF HIGHWAYS  
 9-12-68  
 Robert E. Kronek  
 7-6-69  
 Allan J. ...  
 7-6-69  
 J.E. ...  
 7-6-69  
 J.E. ...  
 7-6-69  
 W.A. ...

Ramp O  
 SN 082-0143

DEPARTMENT OF TRANSPORTATION  
 BUREAU OF PUBLIC WORKS  
 APPROVED \_\_\_\_\_  
 DIVISION ENGINEER DATE \_\_\_\_\_  
 H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS.

RFEL 8-76

FEDERAL-AID ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
F. A. 1-70	BE-3-NV-2	ST. CLAIR	203	30
FED. ROAD DIV. No. 2 ILLINOIS			PROJECT	

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252, A, B, C	SIGNING DETAILS - SUPPORT FRAME FOR STEEL TRUSS NO. 11	252, A, B, C
252, A, B, C	SIGNING DETAILS - STEEL WALKWAY DETAILS	252, A, B, C
252, A, B, C	SIGNING DETAILS - STEEL WALKWAY DETAILS	252, A, B, C
252, A, B, C	CROSS SECTIONS - ILL. ROUTE 3	252, A, B, C
252, A, B, C	BRIDGE PLANS - F. A. I. ROUTE 70 RDWY. 'E' AND 'F' AND RAMP 'M', 'N', 'O' AND 'P' OVER SOUTHERN RAILROAD, UNDER MAC ARTHUR BRIDGE APPROACH AND RAILROAD APPROACH TO MAC ARTHUR BRIDGE (1 THRU 147 OF 147)	252, A, B, C
252, A, B, C	CULVERT DETAILS	252, A, B, C
252, A, B, C	DRAINAGE DETAILS - GRATED OUTLET AND INLET BOXES	252, A, B, C
252, A, B, C	DETAILS FOR JUNCTION BOX, DRAINAGE TREATMENT AT BRIDGE WINGWALLS, MEASUREMENT FOR TRENCH BACKFILL	252, A, B, C
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252, A, B, C	STANDARD DRAWINGS 2130-31683-2, 2179-4	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2219-2, 2220-2	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2228-1, 1766-6	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2244-2	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2237-4, 2122-4	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 1686-3, 2115-3	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2225-1	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 1909-10	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2224-8	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2292-1	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2300, 2153-7	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2238-3	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2231-3, 1976	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2253-2	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 1973, 2156-5, 2113-1	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2299-1	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2167-4	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2162-4	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2257-2	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2119	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2300	252, A, B, C
252, A, B, C	STANDARD DRAWINGS 2167-2	252, A, B, C

SHEET NO.	DESCRIPTION
2161-1	STANDARD DRAWINGS
2162-4	STANDARD DRAWINGS
2173-1	STANDARD DRAWINGS
2286	STANDARD DRAWINGS
2141-8	STANDARD DRAWINGS
2140-4	STANDARD DRAWINGS
2200-1	STANDARD DRAWINGS
2166-9	STANDARD DRAWINGS
2254-2, 2304, 2305-1 & 2318-4	STANDARD DRAWINGS

**GENERAL NOTES**

ALL ELEVATIONS REFER TO U.S.C.S. MEAN SEA LEVEL DATUM.  
 REMOVE CROWN FOR SUPERELEVATED SECTIONS.  
 THE PROFILE GRADE LINE REFERS TO THE GRADE ELEVATION AT THE POINT SHOWN ON THE TYPICAL SECTIONS AND PLANS.  
 POSITIVE PROFILE GRADES ARE IN THE DIRECTION OF TRAFFIC AND HIGHER ELEVATIONS.  
 NEGATIVE PROFILE GRADES ARE IN THE DIRECTION OF TRAFFIC AND LOWER ELEVATIONS.  
 THE CONTRACTOR WILL BE REQUIRED TO SEED THE AREA BETWEEN RIGHT OF WAY LIMITS EXCEPT THE PAVED OR SODDED AREAS AND ANY OTHER AREAS AS DIRECTED BY THE ENGINEER. THE MEDIAN, THE PORTION OF THE SHOULDER THAT IS NOT SURFACED AND ALL SLOPES 4:1 OR STEEPER WILL BE SOBBED.  
 VARIABLE WIDTH GUTTERS, CURBS AND FLAGS ARE REQUIRED AS SHOWN ON THE PLANS. ANY ADDITIONAL COST SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER LINEAL FOOT FOR THE TYPE OF GUTTER OR CURB AND GUTTER SPECIFIED. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.  
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TWO SIGNS (STANDARD 2151-7, 2156-5) TO BE CONSTRUCTED AT LOCATIONS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. (SHEET NO. 8)

ALL PAVEMENT DIMENSIONS ARE TO EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

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

**INDEX OF PLANS  
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H. W. LOCKNER, INC.  
 ENGINEERS  
 CHICAGO, ILL.

\* Includes Sheets 88A and 167A

\*\* Includes sheet 80A

Revised [ ] 10-13-70 J.M.J.

[ ] Revised 9-28-71 J.M.J.

FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7A-1-70	22-3-HV-2	ST. CLAIR	222	36
FED. ROAD DIV. No. 4 ILLINOIS PROJECT				

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6	SUMMARY OF QUANTITIES, SCHEDULE OF QUANTITIES
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8	PLAN - RDWY. 'E' STA. 49+25 TO RDWY. 'EF' STA. 60+12.48
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10	PROFILE - RDWY. 'T' STA. 28+03.20 TO STA. 45+00 TEMP. ACCESS RD. STA. 10+00 TO STA. 17+50
11	DRAINAGE PLAN - RDWY. 'E' STA. 34+00 TO STA. 49+25
12	DRAINAGE PLAN - RDWY. 'E' STA. 49+25 TO STA. 52+41.96 RDWY. 'EF' STA. 52+41.96 TO STA. 60+12.48
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16	LIST OF BENCH MARKS, TIES TO TRAVERSE LINE AND GENERAL PLAN OF TRAVERSE LINE
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33	ELECTRICAL DETAILS - ATTACHING CONDUITS AND JUNCTION BOXES TO BRIDGES
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- ALL ELEVATIONS REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.
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*\* Includes sheets 67A, 86A, 87A, 88B, 89A, 92A, 100A & 113A*

*\* Includes Sheets 88A and 167A*      *\* Includes Sheet 195A*

Revised 10-13-70 J.M.J.

Revised 12-11-70 J.M.J.

Revised J.R.H. 3-4-71

STAT. OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BUILDINGS  
DIVISION OF HIGHWAYS

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H. W. LOCKNER, INC.  
ENGINEERS  
CHICAGO, ILL.



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FED. ROAD DIV. No. 4		ILLINOIS	PROJECT	

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27	ELECTRICAL DETAILS - PANEL FOR CONTROL CENTER NO. 5
28	ELECTRICAL DETAILS - DETAILS FOR CONTROL CENTER NO. 5 SERVICE POLE AND PAD MOUNTED TRANSFORMER
29	ELECTRICAL DETAILS - CONTROL CENTER NO. 5 CABINET DETAILS FOR LIGHTING AND METERING CABINET
30	ELECTRICAL DETAILS - SCHEMATIC WIRING DIAGRAM FOR CONTROL CENTER NO. 1
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235	STANDARD DRAWINGS 2253-2
236	STANDARD DRAWINGS 1973, 2158-5, 2113-1
237	STANDARD DRAWINGS 2235-1
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239	STANDARD DRAWINGS 2167-4
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88B	REVISED SLAB PLAN F-10 THRU F-12
89A	REVISED SLAB PLAN M-1 THRU M-3
92A	REVISED SLAB PLAN P-1 THRU P-3
100A	REVISED PARAPET AND HANDRAIL F-10 THRU F-12

**GENERAL NOTES**

ALL ELEVATIONS REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.

REMOVE CROWN FOR SUPERELEVATED SECTIONS.

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STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BUILDINGS  
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H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILL.

FEDERAL-AID ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
F.A. 1-70	82-3HVB-2	ST. CLAIR	252	4
FED. ROAD DIV. No. 4 ILLINOIS PROJECT				

SECTION 82-3HVB-2  
PROJECT I-G-70-1(179)0

IG PORTION 49%  
I PORTION 51%

SECTION 82-3HVB-2  
PROJECT I-G-70-1(179)0

SUMMARY OF QUANTITIES  
LOCATION OF WORK (See Legend)  
CONSTRUCTION TYPE CODE

SUMMARY OF QUANTITIES  
LOCATION OF WORK (See Legend)  
CONSTRUCTION TYPE CODE

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	FEDERAL PARTICIPATION B			STATE WORK R							
				X531	Y002	Y030	7223	Y007	Y030	Y031				
20001	TREE REMOVAL (6 TO 15 INCH DIAMETER) IN. DIA.	40	40											
205001	SPECIAL EXCAVATION	CU. YD.	1,276				1,276							
207001	EMBANKMENT	CU. YD.	152,825				152,825							
210001	TRENCH BACKFILL	CU. YD.	144.4				144.4							
213002	SUB-BASE GRANULAR MATERIAL, TYPE A	CU. YD.	35				35							
213002	STABILIZED SUB-BASE 4"	SQ. YD.	16,440				16,440							
301002	AGGREGATE BASE COURSE, TYPE A	CU. YD.	841				841							
30016	STABILIZED BASE COURSE 7"	SQ. YD.	516				516							
402002	AGGREGATE SURFACE COURSE, TYPE A	CU. YD.	75				75							
215004	AGGREGATE SHOULDERS, TYPE B	TON	82				82							
405001	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	851				851							
406017	BITUMINOUS CONCRETE BINDER COURSE	TON	170				170							
406008	BITUMINOUS CONCRETE SURFACE COURSE, CLASS I	TON	203				203							
408005	PORTLAND CEMENT CONCRETE PAVEMENT 10"	SQ. YD.	9,894				9,894							
408006	PORTLAND CEMENT CONCRETE PAVEMENT 16 1/2 - 10 1/2 - 16 1/2	SQ. YD.	214				214							
408013	PAVEMENT FABRIC	SQ. YD.	9,894				9,894							
409003	CONTINUOUSLY REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT 8"	SQ. YD.	4,988				4,988							
409013	PAVEMENT REINFORCEMENT (8")	SQ. YD.	4,988				4,988							
502001	CLASS A EXCAVATION FOR STRUCTURES	CU. YD.	4,637	4,637										
504003	CLASS X CONCRETE	CU. YD.	2,622.6	2,622.6										
503002	CLASS X CONCRETE HEADWALLS	CU. YD.	13.7				13.7							
408014	PROTECTIVE COAT	SQ. YD.	15,547				15,547							
507001	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	33,620	33,620										
507030	FURNISHING AND ERECTING STRUCTURAL STEEL	LUM. SUM	1	1										
511004	PIPE CULVERTS, TYPE 1A, 15"	LIN. FT.	66				66							
511026	PIPE CULVERT, TYPE 1 18"	LIN. FT.	68				68							
511784	METAL END SECTIONS 12"	EACH	2				2							
511129	PIPE CULVERTS, TYPE 2, RCCP 24"	LIN. FT.	88				88							
511131	PIPE CULVERTS, TYPE 2, RCCP 36"	LIN. FT.	342				342							
512001	REINFORCEMENT BARS	POUND	1,710,610	1,692,590			17,020							
513004	FURNISHING CREOSOTED PILES UP TO 20 FEET	LIN. FT.	240		240									
513005	FURNISHING CREOSOTED PILES 20.1 TO 30 FEET	LIN. FT.	674				674							
513022	DRIVING TIMBER PILES	LIN. FT.	864		240		624							
513027	DRIVING CONCRETE PILES	LIN. FT.	34,906	34,906										
513021	FURNISHING CONCRETE PILES	LIN. FT.	34,906	34,906										
513041	TEST PILE CONCRETE	EACH	32		32									
513041	PILE SPLICES FOR CONCRETE PILES	EACH	190		190									
514001	NAME PLATES	EACH	1		1									
513846	BROUGHT IRON PIPE DRAIN SYSTEM	L. SUM	1		1									
607020	PIPE DRAINS, CORRUGATED STEEL 12"	LIN. FT.	178				178							
603427	STORM SEWERS, TYPE 1, REDFORCED CONCRETE CULVERT, STORM DRAIN AND SEWER PIPE, CLASS III 15"	LIN. FT.	120				120							
612164	INLETS, TYPE A, TYPE 10 FRAME AND GRATE	EACH	2				2							
612165	INLETS, TYPE A, TYPE 11 FRAME AND GRATE	EACH	2				2							
615041	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	LIN. FT.	72				72							
616065	COMBINATION CONCRETE CURB AND GUTTER, TYPE M-6.06	LIN. FT.	331				331							
616047	COMBINATION CONCRETE CURB AND GUTTER, TYPE E-9.12	LIN. FT.	2,024				2,024							

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	FEDERAL PARTICIPATION B			STATE WORK R							
				X531	Y002	Y030	7223	Y007	Y030	Y031				
616137	CONCRETE MEDIAN, TYPE C-4	SQ. FT.	317				317							
616202	CONCRETE MEDIAN SURFACE 4"	SQ. FT.	5,320				5,320							
618001	SLOPE WALL 4 INCH	SQ. YD.	529	529										
628001	STEEL PLATE BEAM GUARD RAIL, SINGLE RAIL	LIN. FT.	562.5				562.5							
106036	ELECTRIC CABLE IN CONDUIT, 600V (NEOPRENE-RUBBER INSULATED) 1/C NO. 10	LIN. FT.	9,566			1,920					2,522		5,424	
106038	ELECTRIC CABLE IN CONDUIT, 600V (NEOPRENE-RUBBER INSULATED) 1/C NO. 6	LIN. FT.	8,188			8,188								
642002	SEEDING, CLASS II *	ACRE	3.3										3.3	
643002	ASPHALT COATED MULCH *	TON	6.6										6.6	
643005	EMULSIFIED ASPHALT *	GALLON	50										50	
644001	SODDING *	SQ. YD.	34,373										34,373	
644002	SUPPLEMENTAL WATERING *	UNIT	241										241	
642004	NITROGEN FERTILIZER NUTRIENTS *	POUND	1,248										1,248	
642005	PHOSPHORUS FERTILIZER NUTRIENTS *	POUND	749										749	
642006	POTASSIUM FERTILIZER NUTRIENTS *	POUND	499										499	
LO0008	CONDUIT IN TRENCH 3" DIA., GALVANIZED STEEL	LIN. FT.	220											220
LO0053	CONDUIT ATTACHED TO STRUCTURE, 1" DIA., GALVANIZED STEEL	LIN. FT.	150											150
LO0056	CONDUIT ATTACHED TO STRUCTURE, 2" DIA., GALVANIZED STEEL	LIN. FT.	3,786											3,786
LO0058	CONDUIT ATTACHED TO STRUCTURE, 3" DIA., GALVANIZED STEEL	LIN. FT.	20											20
LO0110	CONDUIT IN CONCRETE, 1" DIA., GALVANIZED STEEL	LIN. FT.	90											90
LO5414	POLE, METAL, ANCHOR BASE, 43 FT. MH, 4 FT. MAST ARM	EACH	15											15
LO5415	POLE, METAL, TRANSFORMER BASE, 45 FT. MH, 15 FT. MAST ARM	EACH	19											19
LO5416	POLE, METAL, TRANSFORMER BASE, 45 FT. MH, 10 FT. MAST ARM	EACH	3											3
106174	ELECTRIC CONDUCTOR IN CONDUIT (BARE ANNEALED COPPER) NO. 6	LIN. FT.	3,983			3,983								44
628002	STEEL PLATE BEAM GUARD RAIL, DOUBLE RAIL	LIN. FT.	25											25
507025	STUD SHEAR CONNECTORS	EACH	2,586			2,586								
503004	PROTECTIVE COAT	SQ. YD.	15,148			15,148								

LEGEND FOR "LOCATION OF WORK"

R = ROADWAY	B = BRIDGE
Roadway 'E' Sta. 36+39.83 to Sta. 52+41.96	Roadway 'E' Sta. 29+38.81 to Sta. 36+39.83
Roadway 'F' Sta. 28+03.19 to Sta. 43+32.17	Roadway 'F' Sta. 43+32.17 to Sta. 54+00
Roadway 'EF' Sta. 52+41.96 to Sta. 60+12.48	Ramp 'N' Sta. 21+82 to Sta. 37+39.88
Ramp 'W' Sta. 0+17.02 to Sta. 1+13.22	Ramp 'O' Sta. 21+85 to Sta. 37+39.88
Ramp 'X' Sta. 0+00 to Sta. 6+61.78	Ramp 'M' Sta. 46+00.22 to Sta. 57+87
Temporary Access Road Sta. 10+00 to Sta. 17+50	Ramp 'P' Sta. 46+00.22 to Sta. 57+69
Temporary Access Road Connector Sta. 0+00 to Sta. 1+46.04	

\* CONSTRUCTION TYPE CODE Y005  
\*\* CONSTRUCTION TYPE CODE C55  
\*\*\* SPECIALTY ITEMS

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

**SUMMARY OF QUANTITIES**

M. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILL.

DATE: 1-13-70  
BY: M. W. LOCHNER, INC.  
PROJECT NO. 82-3HVB-2

**IG PORTION 49 %**  
**I PORTION 51 %**

SECTION 82-3HVB-2  
PROJECT I-IG-70-1(179)0

SECTION 82-3HVB-2  
PROJECT I-IG-70-1(179)0

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	FEDERAL PARTICIPATION				STATE WORK			
				X531	Y002	Y030	7223	Y007	Y030	Y031	
L02200	POLE FOUNDATION	EACH	22					22			
L02404	LUMINAIRE, MERCURY VAPOR, WITH BUILT-IN REGULATOR BALLAST 700 WATTS	EACH	15			15					
L02434	LUMINAIRE, MERCURY VAPOR, 700 WATTS	EACH	22					22			
L05299	CONTROL INSTALLATION (CONTROL CENTER NO. 5)	LUMP SUM	1						5,027		
L04300	TRENCH AND BACKFILL	LIN. FT.	5,087								
106163	ELECTRIC CONDU. TOR IN TRENCH (BARE ANNEALED COPPER NO. 6)	LIN. FT.	314					314			
L05077	ELECTRIC CABLE, UNIT DUCT, 2-600 V THW #6 1" POLYETHYLENE	LIN. FT.	1,723					885	838		
L05078	ELECTRIC CABLE, UNIT DUCT, 3-600 V THW #6 1" POLYETHYLENE	LIN. FT.	3,299			20		3,279			
L05294	ELECTRIC CABLE, UNIT DUCT, 3-600 V THW #2 1 1/4" POLYETHYLENE	LIN. FT.	1,220					1,220			
L05066	SYSTEMS GROUNDING	LUMP SUM	1						13		
S27016	ELECTRIC CABLE IN CONDUIT NO. 8-2/C	LIN. FT.	13					876			
S27018	ELECTRIC CABLE IN CONDUIT NO. 12-2/C	LIN. FT.	876					538			
S27020	ELECTRIC CABLE IN CONDUIT NO. 12-5/C	LIN. FT.	538					471			
S27022	ELECTRIC CABLE IN CONDUIT NO. 12-9/C	LIN. FT.	471						1,356		
S25002	GALVANIZED STEEL CONDUIT IN TRENCH 1 1/4"	LIN. FT.	1,356						118		
S25003	GALVANIZED STEEL CONDUIT IN TRENCH 1 1/2"	LIN. FT.	118					90			
S25004	GALVANIZED STEEL CONDUIT IN TRENCH 2"	LIN. FT.	90					60			
S25006	GALVANIZED STEEL CONDUIT IN TRENCH 3"	LIN. FT.	60					6			
S10004	TRAFFIC CONTROL SIGNAL POST 10 FT.	EACH	6					1			
S11001	CONTROLLER PEDESTAL 3 - 1/2 FT.	EACH	1						3		
S06004	SIGNAL HEAD, TRAFFIC CONTROL, 1-FACE, 3-SECTION WITH 12 INCH RED LENSES	EACH	3					3			
S06034	SIGNAL HEAD, TRAFFIC CONTROL, 2-FACE, 3-SECTION WITH 12 INCH RED LENSES	EACH	3					1			
S14005	WOOD POLE 25 FT., CLASS 4	EACH	1					3			
S33001	SERVICE INSTALLATION, TYPE A	EACH	3					6			
S34001	CONCRETE FOUNDATION TYPE A	EACH	6					1			
S35007	HANDHOLE, SPECIAL	EACH	1						2072		
S37001	TRENCH AND BACKFILL	LIN. FT.	2072					1			
S34002	CONCRETE FOUNDATIONS, TYPE A (CONTROLLER)	EACH	1					1			
S16027	TRAFFIC ACTUATED CONTROLLER, FULL ACTUATED SPECIAL	EACH	1						1		
S23003	VEHICLE DETECTOR, INDUCTION LOOP TYPE WITH PRESENCE FEATURE	EACH	3						3		
S39001	DETECTOR LOOP	LIN. FT.	324						324		
S08005	ALUMINUM RAILINGS	LIN. FT.	6,405		6,405						
215010	STABILIZED SHOULDERS (8')	SQ. YD.	4,322					4,322			
215012	STABILIZED SHOULDERS (10')	SQ. YD.	4,320					4,320			
Z10029	BRIDGE SEAT SEALANT	LUMP SUM	1								

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	FEDERAL PARTICIPATION				STATE WORK			
				X531	Y002	Y030	7223	Y007	Y030	Y031	
614057	GRATING	SQ. FT.	93							93	
646001	ENGINEER'S FIELD OFFICE, TYPE A**	EACH	1		1						
646003	ENGINEER'S FIELD LABORATORY **	EACH	1		1						
Z20199	SIGN PANEL, REFLECTORIZED	SQ. FT.	1,194.75			758				436.75	
Z20208	CAPITAL LETTERS AND NUMERALS 16"	EACH	12			8				4	
Z20211	CAPITAL LETTERS AND NUMERALS 12"	EACH	28			14				14	
Z20213	CAPITAL LETTERS AND NUMERALS 10"	EACH	15							15	
Z20214	CAPITAL LETTERS AND NUMERALS 8"	EACH	4			4					
Z20228	LOWER CASE LETTERS 12"	EACH	63			47				16	
Z20231	LOWER CASE LETTERS 6"	EACH	17			17					
Z20253	6" CONC. 2"	LIN. FT.	406.5			235.7				170.8	
Z20254	BURDER 1/4"	LIN. FT.	24.1			24.1					
Z20274	CONCRETE FOUNDATIONS	CU. YD.	63.5			61.2				2.3	
Z20326	STANDARD SIGNS R2-1-4860	EACH	6			5				1	
Z20355	STANDARD SIGNS R3-1-2430	EACH	1							1	
Z20489	STANDARD SIGNS W3-3-36	EACH	4			2				2	
Z20494	STANDARD SIGNS W4-1-48	EACH	1							1	
Z20589	STANDARD SIGNS M1-3-2424	EACH	4							2	
Z20593	STANDARD SIGNS M1-30-2424	EACH	2							2	
Z20594	STANDARD SIGNS M1-30(2)-3636	EACH	10			8				2	
Z20612	STANDARD SIGNS M1-5-2424	EACH	3			2				1	
Z20623	STANDARD SIGNS M3-1L-2115	EACH	1							1	
Z20631	STANDARD SIGNS M3-1BR-2115	EACH	1							1	
Z20642	STANDARD SIGNS M4-1-2115	EACH	1			1					
Z20646	STANDARD SIGNS M4-1B-2115	EACH	1			1					
Z20707	STANDARD SIGNS M6-1-219	EACH	1							1	
Z20712	STANDARD SIGNS M7-1-1812	EACH	2			1				1	
L03117	BALLAST, MERCURY VAPOR, MULTIPLE REGULATOR TYPE FOR POLE BASE MOUNTING, 700 WATTS, 240/480 VOLTS	EACH	22								22
L04973	LAMP, MERCURY VAPOR 700 WATTS TYPE H35-18NA	EACH	37			15				22	
XZ1016	TRAFFIC CONTROL AND PROTECTION, STANDARD 2310	EACH	1							1	
XZ1008	TRAFFIC CONTROL AND PROTECTION, STANDARD 2315	CAL DAY	10							10	
XZ1020	TRAFFIC CONTROL AND PROTECTION, STANDARD 2318	EACH	1							1	

LEGEND FOR "LOCATION OF WORK"

R = ROADWAY      B = BRIDGE

Roadway 'E'  
Sta. 36+39.83 to Sta. 52+41.96

Roadway 'F'  
Sta. 28+03.19 to Sta. 43+32.17

Roadway 'EF'  
Sta. 52+41.96 to Sta. 60+12.48

Ramp 'W'  
Sta. 0+17.02 to Sta. 3+11.22

Ramp 'X'  
Sta. 0+00 to Sta. 6+61.78

Temporary Access Road  
Sta. 10+00 to Sta. 17+50

Temporary Access Road Connector  
Sta. 0+00 to Sta. 1+46.64

Roadway 'E'  
Sta. 29+38.81 to Sta. 36+39.83

Roadway 'F'  
Sta. 43+32.17 to Sta. 54+00

Ramp 'N'  
Sta. 24+82 to Sta. 37+37.88

Ramp 'O'  
Sta. 24+85 to Sta. 37+39.88

Ramp 'M'  
Sta. 46+00.22 to Sta. 57+87

Ramp 'I'  
Sta. 46+00.22 to Sta. 57+69

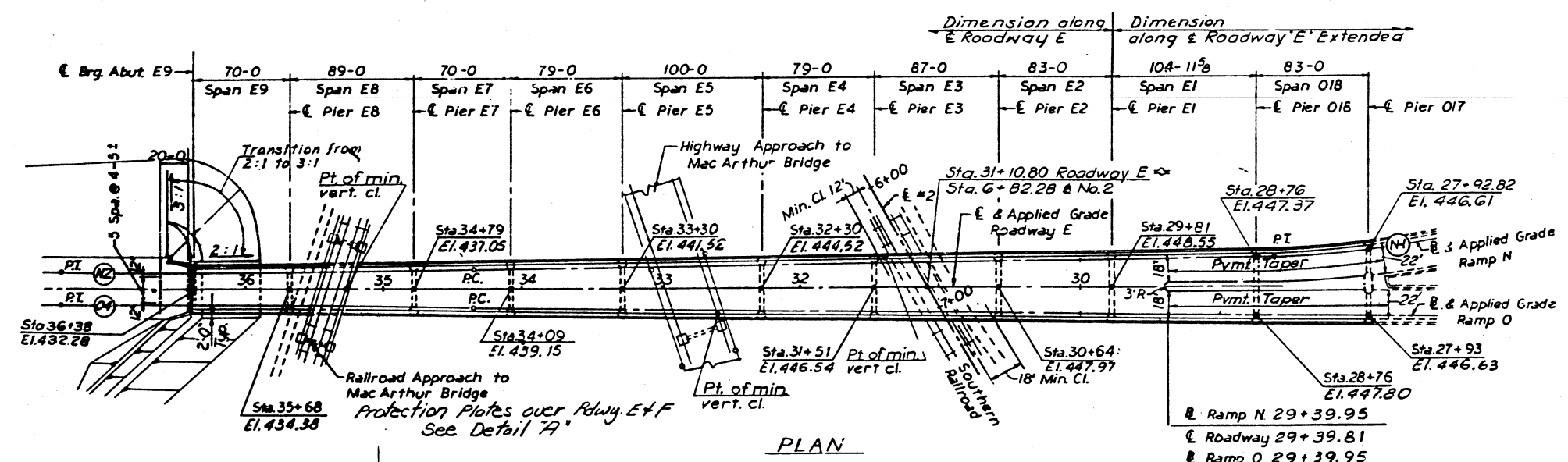
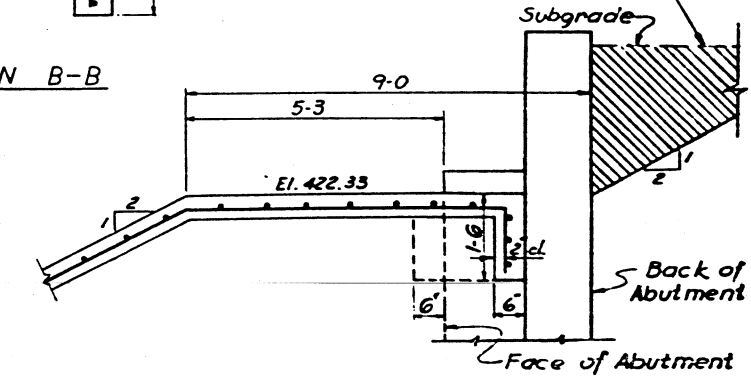
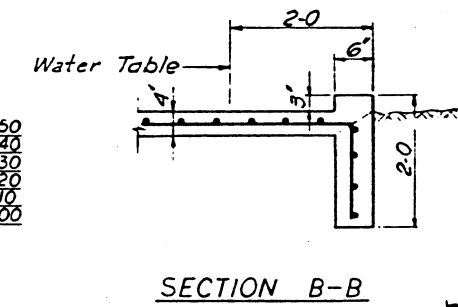
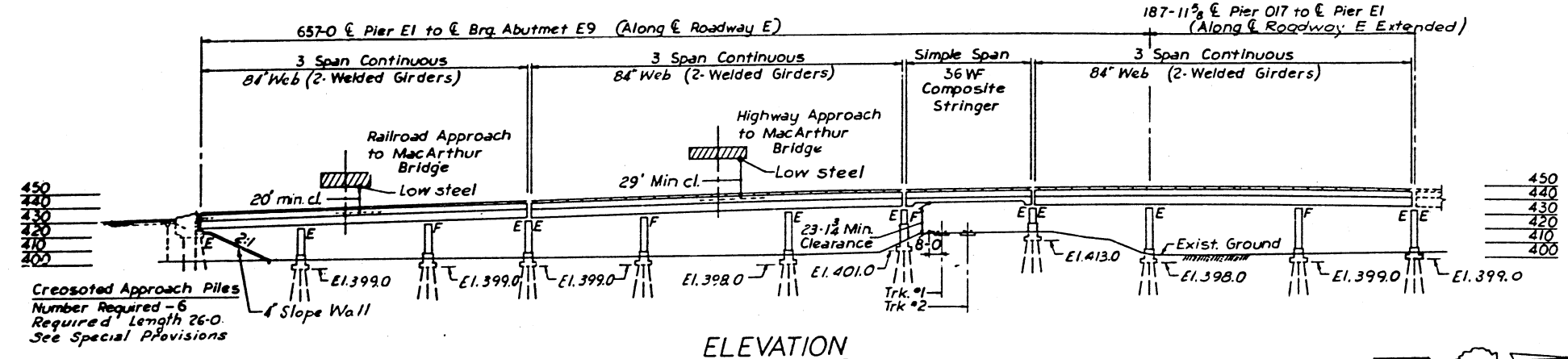
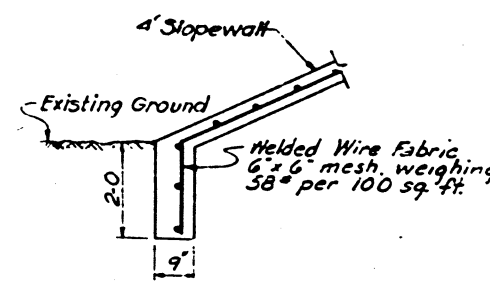
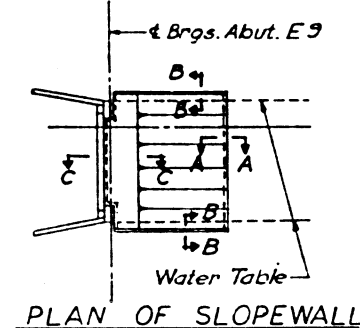
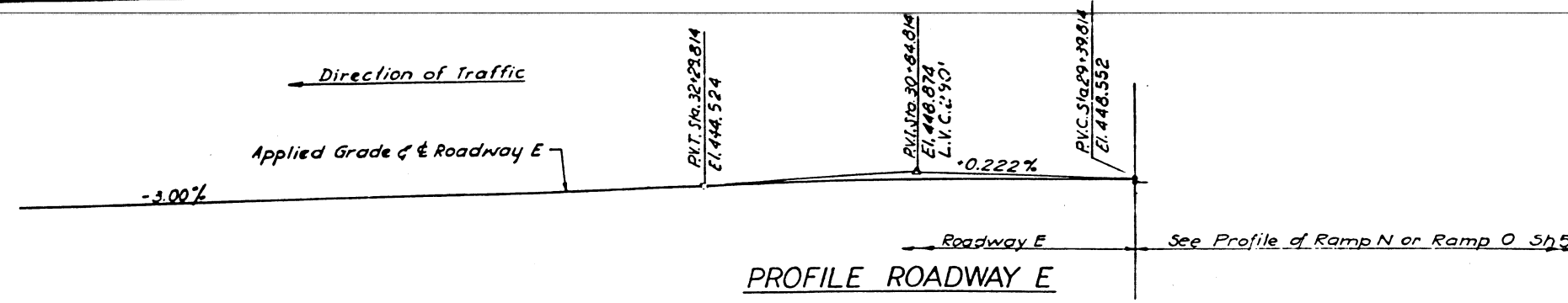
\* CONSTRUCTION TYPE CODE Y005  
\*\* CONSTRUCTION TYPE CODE C758  
\*\*\* SPECIAL ITEM

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

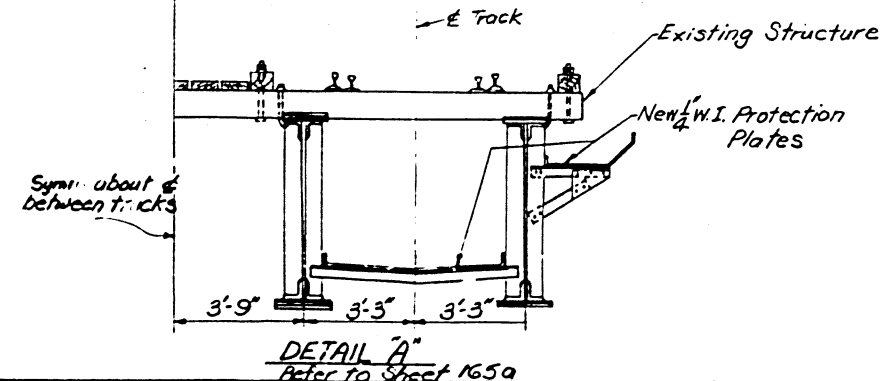
**SUMMARY OF QUANTITIES**

H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILL.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. I. - 70	B2-3MYB-2	ST. CLAIR	25	69
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	



BILL OF MATERIAL		
Item	Unit	Quantity
Slope Wall 4'	S.Y.	271



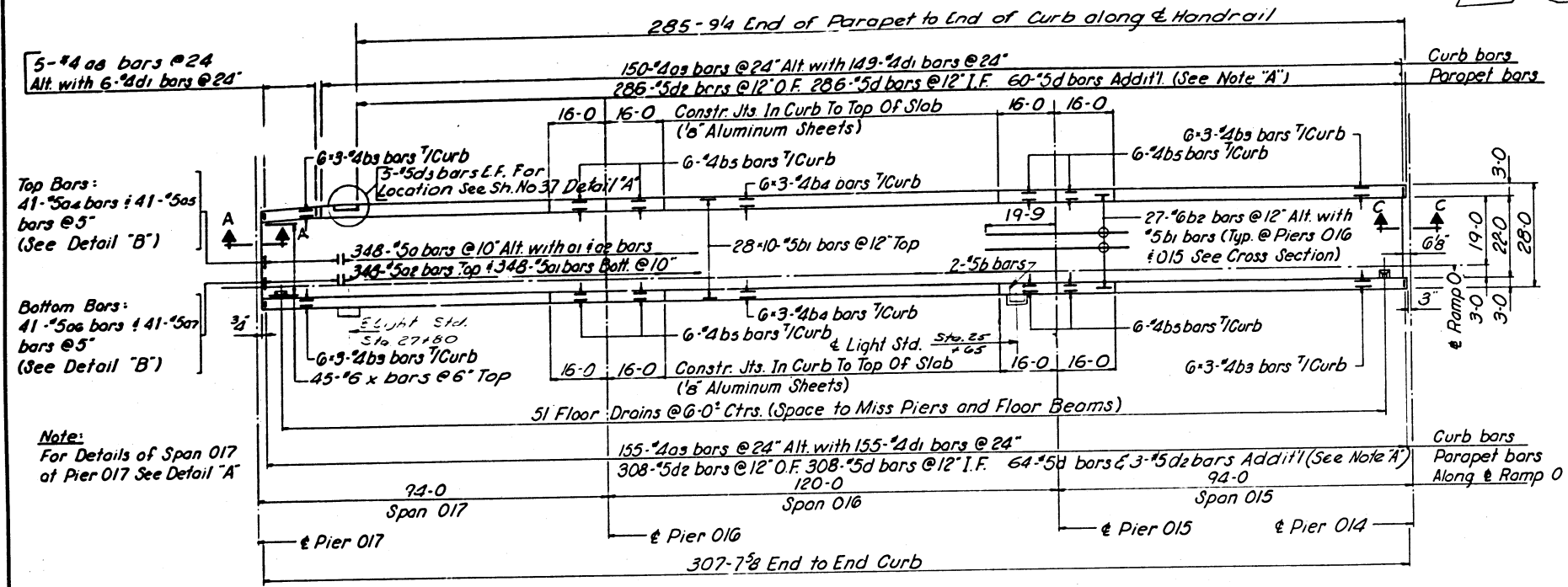
Notes:  
For Curve Data see Sh. No. 14  
For R.R. Profiles see Sh. No. 133.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS  
PLAN AND ELEVATION  
SPANS E9 THRU O18  
POPLAR STREET BRIDGE APPROACHES  
ROADWAY "E" & RAMP "O"  
F.A.I. RT.-70 ST. CLAIR CO. SECTION B2-3MYB-2  
H. W. LOCKNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS  
SHEET 3 of 147

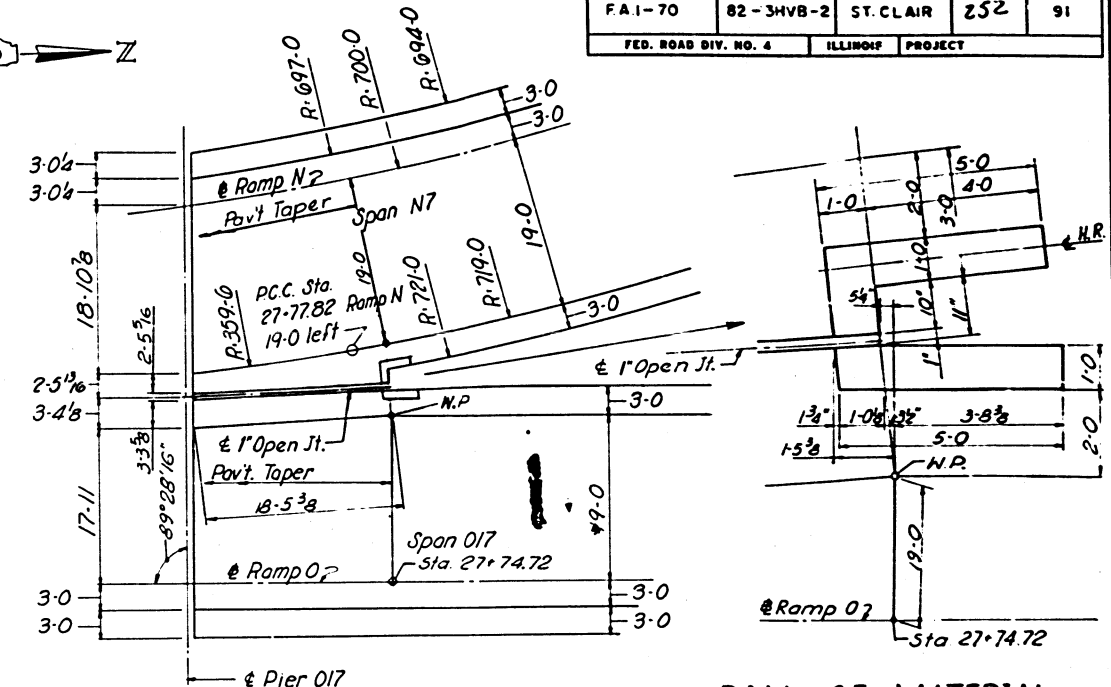
DESIGNED BY J.E.M.  
DRAWN BY R.C.F.  
CHECKED BY A.T.C.A.J.C.

(Rdwy E - 082-0205)  
(Ramp O - 082-0143)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.1-70	82-3HVB-2	ST. CLAIR	252	91
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	



**PLAN**  
Spans O17 thru O15



**DETAIL 'A'**

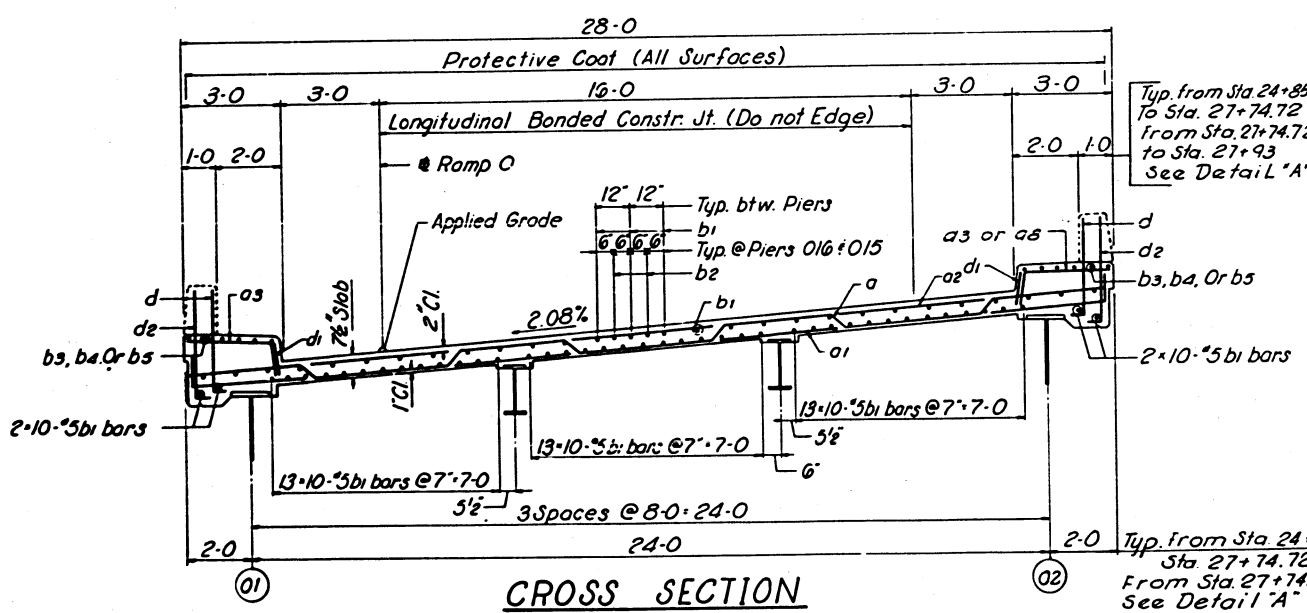
**Top Bars:**  
41-#5 as bars & 41-#5 as bars @ 5"  
(See Detail "B")

**Bottom Bars:**  
41-#5 as bars & 41-#5 as bars @ 5"  
(See Detail "B")

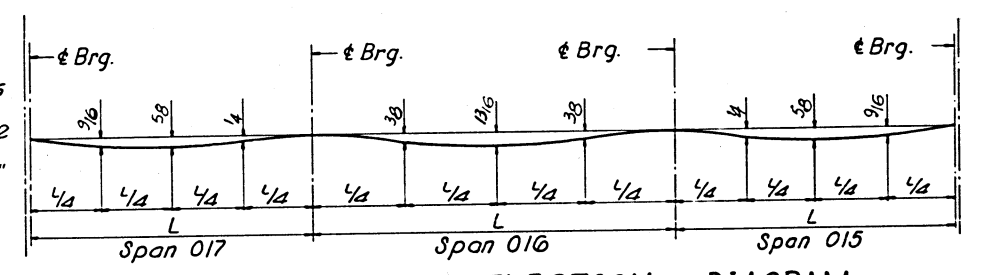
**Note:**  
For Details of Span O17 at Pier O17 See Detail "A"

**BILL OF MATERIAL**

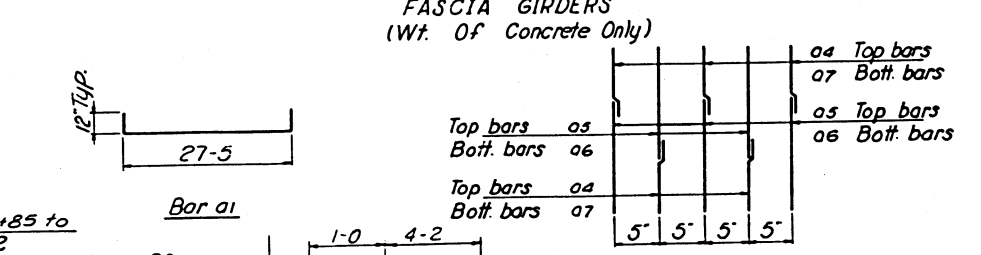
BAR NO.	SIZE	LENGTH	SHAPE
25 a	3/4"	28-5	U
25 o1	3/4"	29-5	U
25 o2	3/4"	27-5	U
25 o3	3/4"	3-9	U
25 o4	41"	6-7	U
25 o5	41"	22-6	U
25 o6	41"	18-6	U
25 o7	41"	11-7	U
25 o8	5"	3-1	U
25 b	2"	3-8	U
25 b1	7/10"	31-8	U
25 b2	5/4"	39-6	U
25 b3	7/2"	26-9	U
25 b4	3/4"	30-0	U
25 b5	4/8"	15-8	U
25 d	7/8"	3-3	J
25 d1	3/10"	1-1	U
25 d2	5/9"	3-6	J
25 d3	10"	4-3	J
25 x	45"	5-2	U
*See Note 7 Sh. No. 14			
Item		Unit	Total
Class "X" Concrete		Cu. Yds.	273.0
Reinforcement Bars		Lbs.	68,650
Protective Coat		Sq. Yds.	1070



**CROSS SECTION**



**DEAD LOAD DEFLECTION DIAGRAM**



**DETAIL 'B'**

Arrangement of Main Reinforcement in left end of Span O17 (Top & Bottom)

**Notes:**  
For Section A-A See Sheet No. 104.  
For Section C-C See Sheet No. 103.  
For Note "A" & Misc. Details See Sheet No. 14.

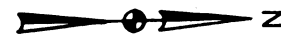
DESIGNED BY D.T.  
DRAWN BY HAMILTON  
CHECKED BY W.J.F.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS

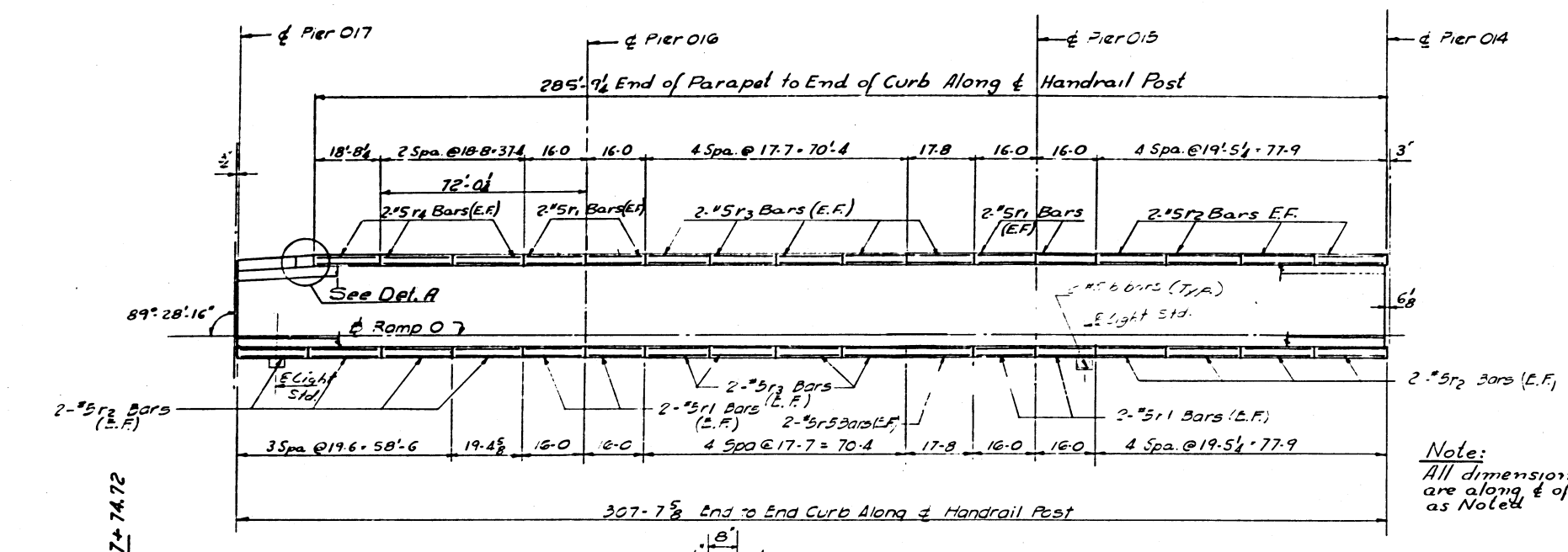
**SLAB**  
SPANS O15 THRU O17  
**POPLAR STREET BRIDGE APPROACHES**  
**RAMP "D"**

F.A.1.RT.70	ST. CLAIR CO	SECTION	82-3HVB-2
N. W. LOCHNER, INC. ENGINEERS CHICAGO, ILLINOIS			SHEET 25 of 147

As per I-28-70 Slab from 7" to 16", Class "X" from 259 G to 273 O Cur. Jts. SM



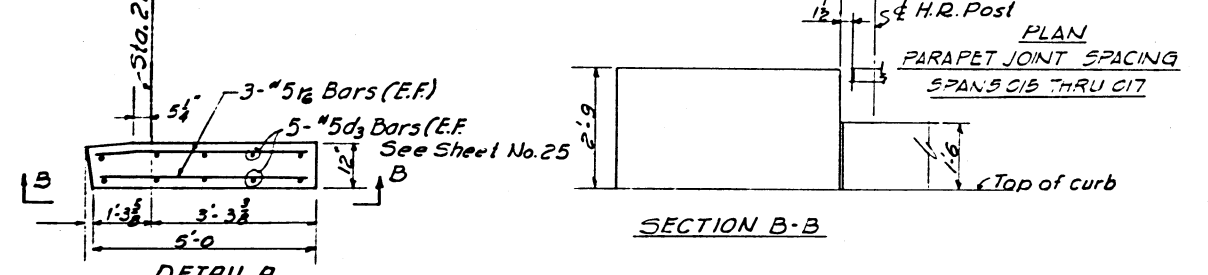
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVB-2	ST. CLAIR	252	103
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	



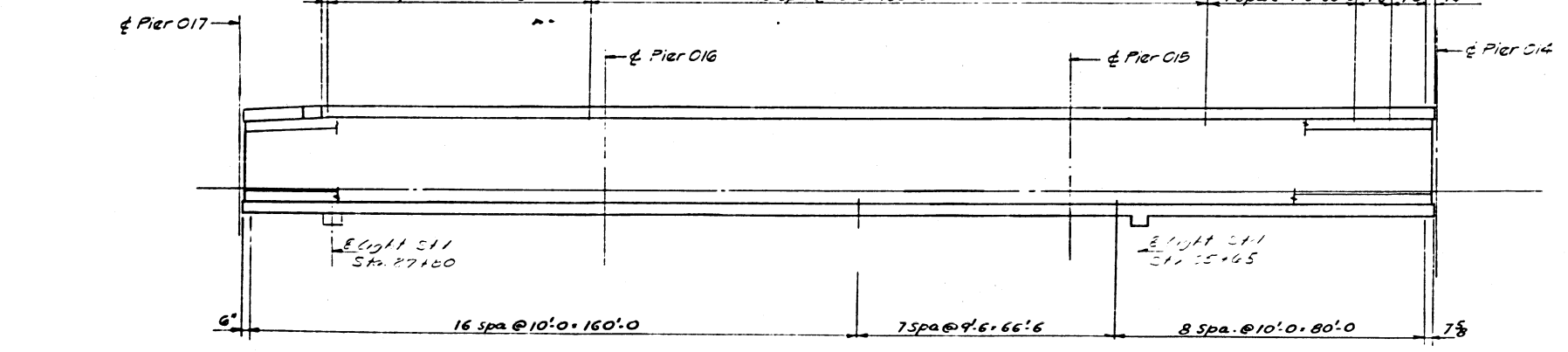
Note:  
All dimensions in Plan  
are along & of post, except  
as Noted

BILL OF MATERIAL				
Bar	No.	Size	Length	Shape
37 r1	32	#5	15'-8"	—
37 r2	48	#5	19'-2"	—
37 r3	40	#5	17'-4"	—
37 r4	12	#5	18'-5"	—
37 r5	2	#5	3'-8"	┌
37 r6	6	#5	4'-9"	—
Item	Unit	Total		
Class 'X' Concrete	Cu. Yd.	30.2		
Reinforcement Bars	Lbs.	2470		
Aluminum Rolling	Lin. Ft.	594		

• See Note X Sheet No. 14



DETAIL A



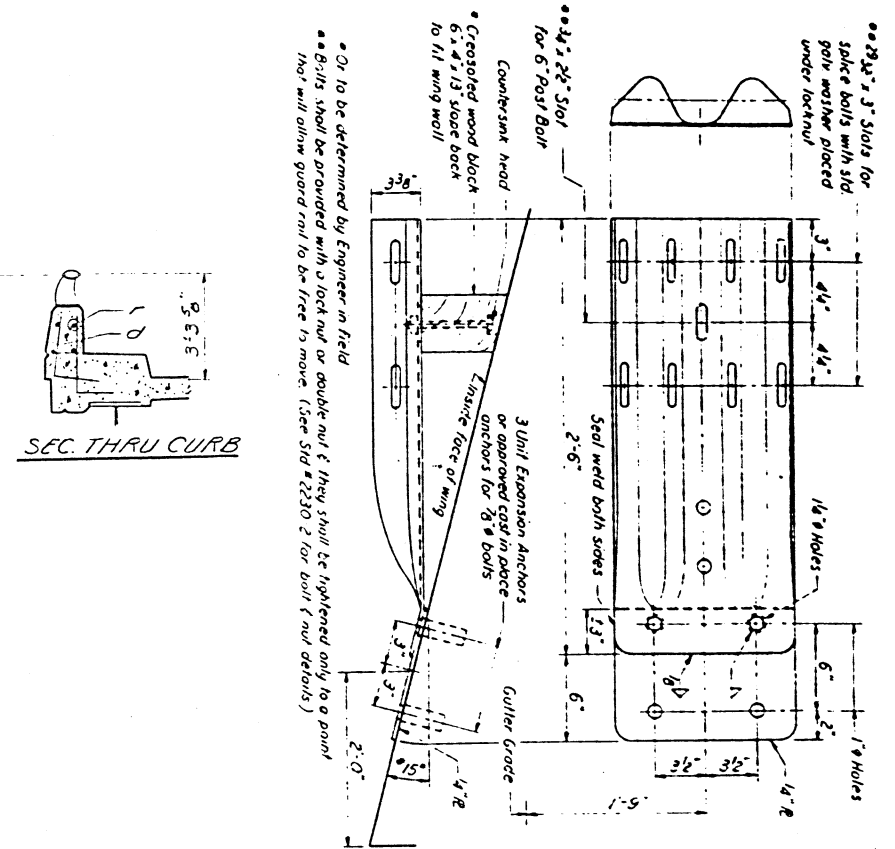
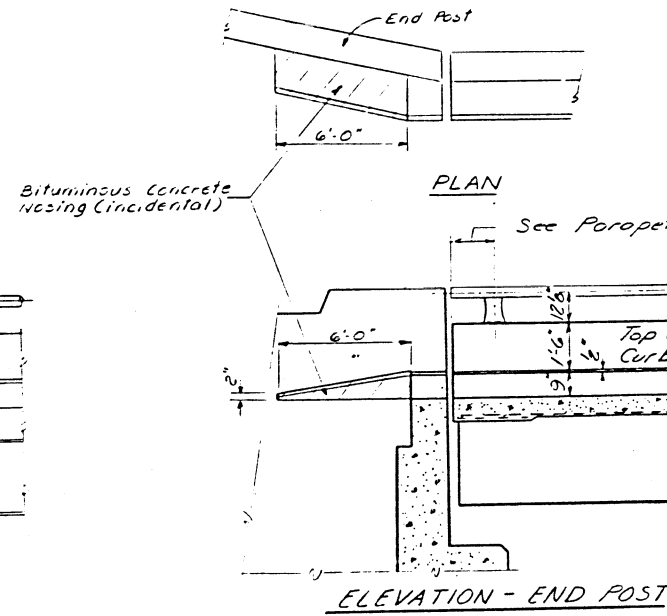
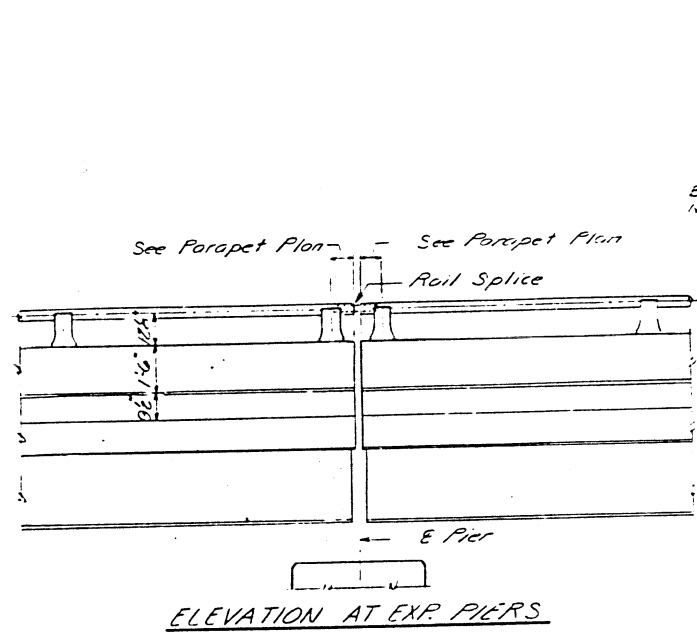
PLAN  
HANDRAIL POST SPACING

Note:  
For detail of light Std. See Sheet No. 14  
For Handrail and Parapet Joint Det.  
See Sheet No. 39  
For #5d3 Dowels See Sheet No. 25

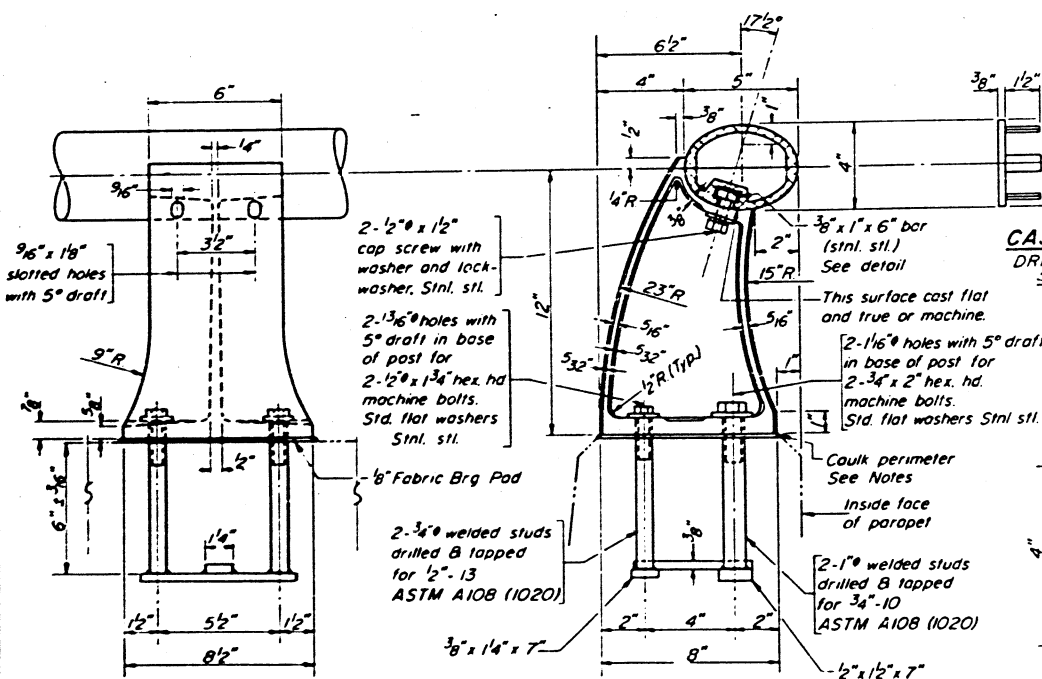
DESIGNED BY R.M.R.  
DRAWN BY V.J.  
CHECKED BY H.J.F.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS  
**PARAPET AND HANDRAIL**  
SPANS 015 THRU 017  
**POPLAR STREET BRIDGE APPROACHES**  
**RAMP "O"**  
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-2  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

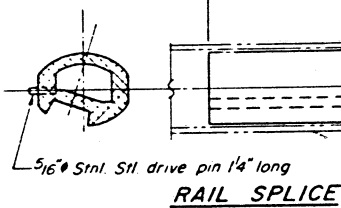
SHEET  
37 of 147



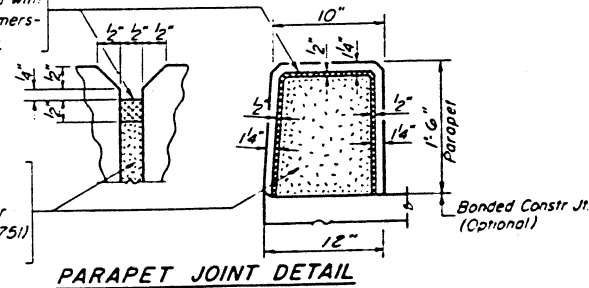
Guard Rail Connection shall be galvanized after fabrication in accordance with ASTM A-123 & A-385. Cost of connection, bolts and anchors are incidental to Bridge Contract.



CAST END CAP  
DRIVE FIT TYPE  
5/32" Required



Two component non-staining gray sealing compound with polysulfide liquid polymers - gun grade with primer.



SEC. THRU ELLIPTICAL  
RAIL SECTION

SEC. THRU SPLICE

NOTES:

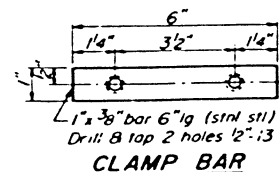
All Aluminum Alloy Extruded Rail shall be supplied in modular lengths of 30 feet, except at the end of bridge or over open joints in bridge deck where the rail shall be attached to a minimum of 2 posts. If the rail is on a horizontal curve of 2300 foot radius or less, the modular lengths may be reduced but shall be attached to a minimum of 2 posts.

All joints in rail shall be spliced per detail.

Provide 1 - 8" and 2 - 1/8" Aluminum Shim for 25% of the Posts Rail element shall be parallel to Grade - high spots shall be ground and low spots shimmed.

Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers, gun grade with primer. Fabric Bearing Pad shall have same dimensions as base of post.

Aluminum alloy rail shall conform to ASTM B 221 alloy 6061-T6 or 6351-T5 with min yield 35 ksi, min tensile 38 ksi, and elongation of 10% in 2 inches.

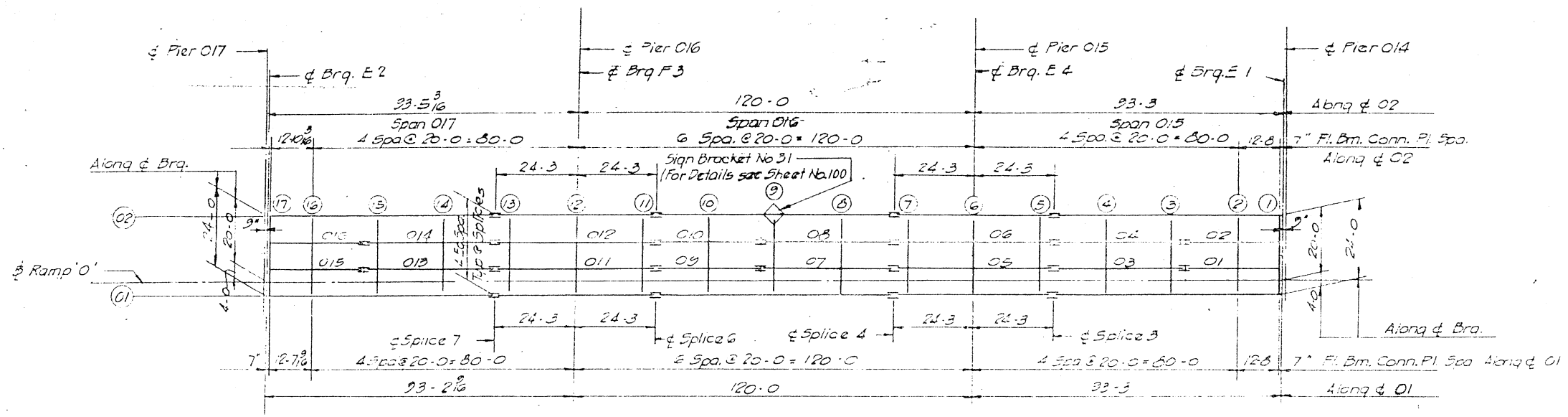


DESIGNED	19
CHECKED	
DRAWN <i>D. Derringer</i>	
CHECKED	

EXAMINED	
PASSED	
APPROVED	

ALUMINUM RAILING  
POPULAR BRIDGE APPR.  
F.A.I. RT. TO SEC 32-3P VETS  
ST. CLAIR COUNTY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I-70	82-3HVB-2	ST. CLAIR	252	154
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	



PLAN  
SPANS 015 thru 017

\* ELEVATION TOP OF GIRDER WEB  
\* Lower all elevations .042 ft.

	GIR. 01	GIR. 02	DIFF.
CL. BRG.	435.406	435.907	.499
FLOOR BEAM 1	435.432	435.931	.499
FLOOR BEAM 2	435.938	436.437	.499
FLOOR BEAM 3	436.738	437.237	.499
FLOOR BEAM 4	437.538	438.037	.499
SPLICE 3	438.168	438.667	.499
FLOOR BEAM 5	438.338	438.837	.499
FLOOR BEAM 6	439.138	439.637	.499
FLOOR BEAM 7	439.937	440.436	.499
SPLICE 4	440.107	440.606	.499
FLOOR BEAM 8	440.669	441.168	.499
FLOOR BEAM 9	441.362	441.861	.499
FLOOR BEAM 10	442.036	442.535	.499
SPLICE 6	442.657	443.156	.499
FLOOR BEAM 11	442.781	443.280	.499
FLOOR BEAM 12	443.361	443.860	.499
FLOOR BEAM 13	443.942	444.441	.499
SPLICE 7	444.065	444.564	.499
FLOOR BEAM 14	444.420	444.919	.499
FLOOR BEAM 15	444.871	445.369	.498
FLOOR BEAM 16	445.322	445.820	.498
FLOOR BEAM 17	445.605	446.109	.503
CL. BRG.	445.619	446.122	.503

Note:  
Dimensions locating Floor Beams are given to the Floor Beam Conn. Plate see Sketch Sheet No. 52

BILL OF MATERIAL	
# Structural Steel	L S Lump Sum

Weight of Bearing Assemblies with Lead Plates and Anchor Bolts are Included as Structural Steel  
Wt. 7490 Lbs.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS

FRAMING PLAN  
SPANS 015 THRU 017  
POPLAR STREET BRIDGE APPROACHES  
RAMP "O"

F.A.I.R.T. ST. CLAIR CO. SECTION 82-3HVB-2

H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

SHEET  
98 of 147

DESIGNED BY A.T.  
DRAWN BY V.T.  
CHECKED BY S.A.P.

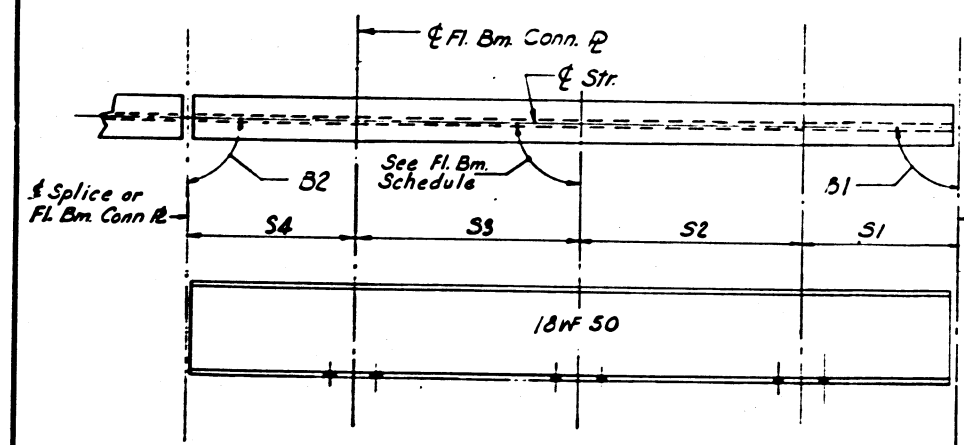
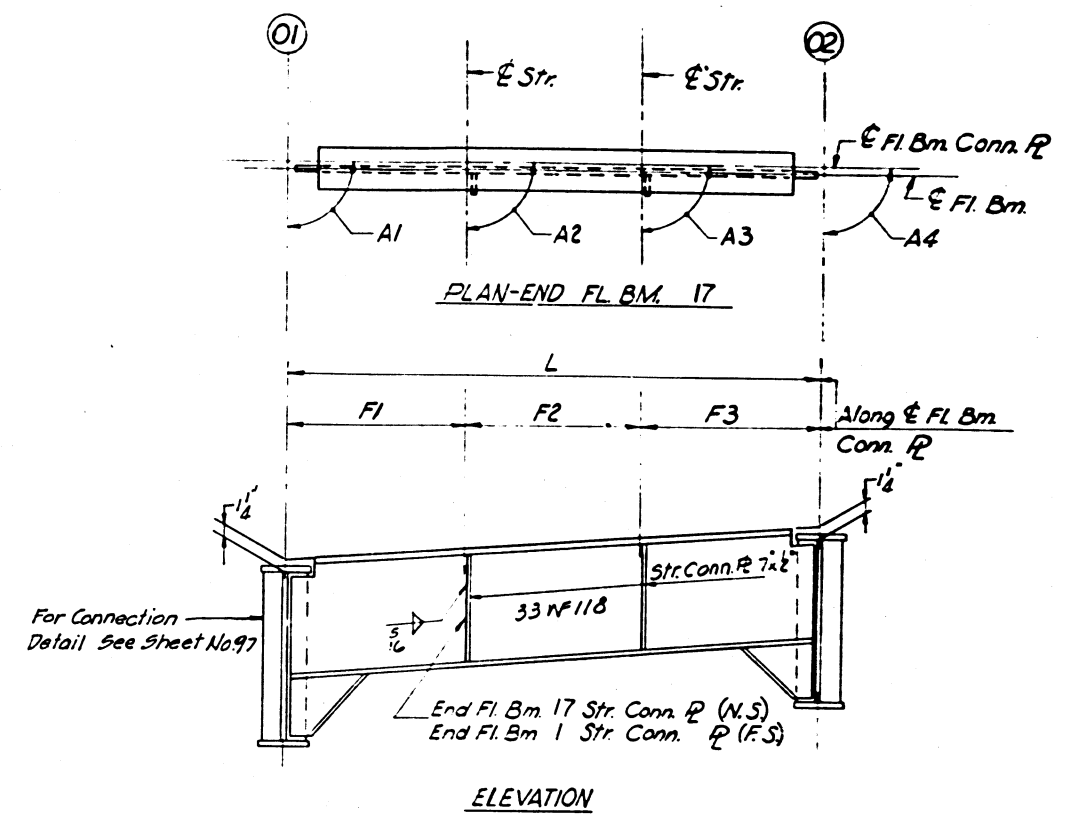


STRINGER DIMENSIONS

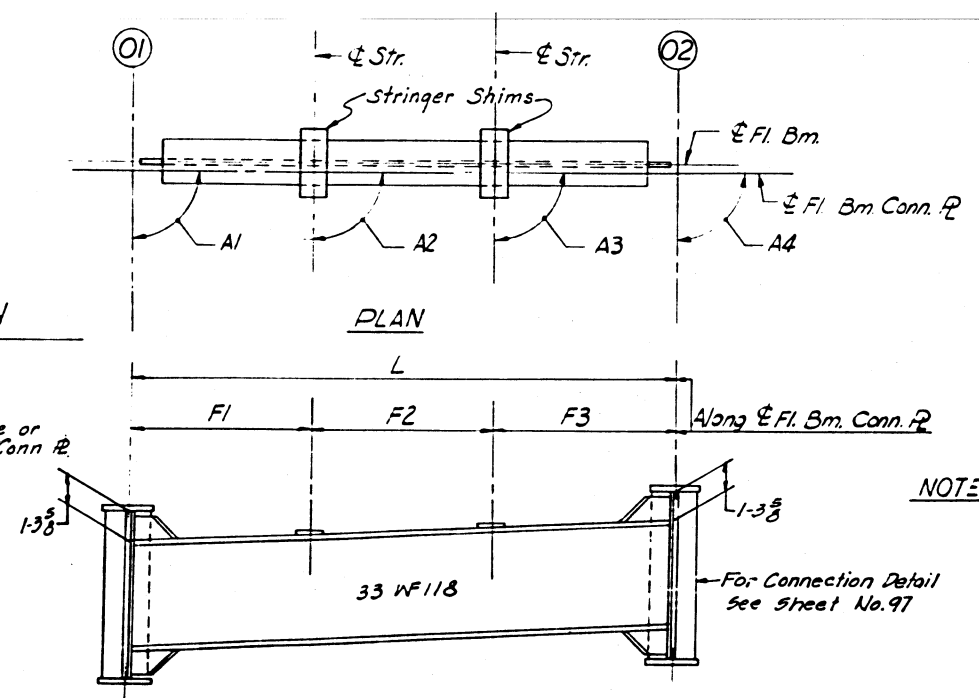
STR	L	S1	S2	S3	S4	B1	B2
1	28'-5"	12'-8"	0	0	15'-9"	90,00,00	90,00,00
2	28-5	12-8	0	0	15-9	90,00,00	90,00,00
3	40	4-3	20'-0"	0	15-9	90,00,00	90,00,00
4	40	4-3	20	0	15-9	90,00,00	90,00,00
5	48-6	4-3	20	20'-0"	4-3	90,00,00	90,00,00
6	48-6	4-3	20	20	4-3	90,00,00	90,00,00
7	40	15-9	20	0	4-3	90,00,00	90,00,00
8	40	15-9	20	0	4-3	90,00,00	90,00,00
9	31-6	15-9	0	0	15-9	90,00,00	90,00,00
10	31-6	15-9	0	0	15-9	90,00,00	90,00,00
11	48-6	4-3	0	20	4-3	90,00,00	90,00,00
12	48-6	4-3	20	20	4-3	90,00,00	90,00,00
13	40	15-9	20	0	4-3	90,00,00	90,00,00
14	40	15-9	20	0	4-3	90,00,00	90,00,00
15	28-5 7/16	15-9	0	0	12-9 7/16	90,00,00	89,28,16
16	28-6 5/16	15-9	0	0	12-9 5/16	90,00,00	89,28,16

FLOOR BEAM DIMENSIONS

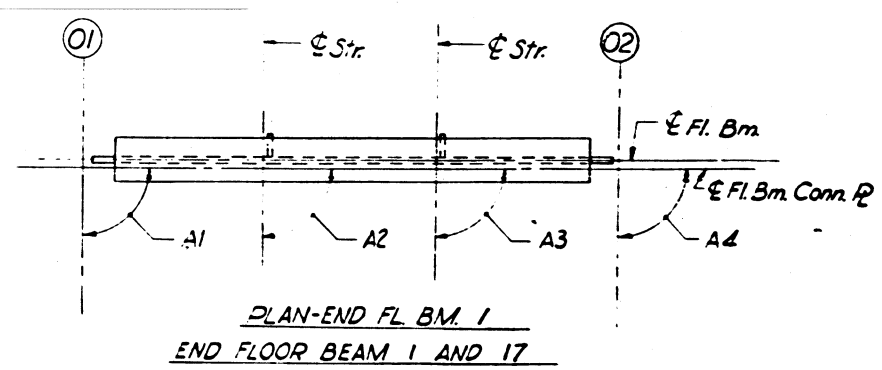
FL. BM	L	F1	F2	F3	A1	A2	A3	A4
1	24'-0"	8'-0"	8'-0"	8'-0"	90,00,00	90,00,00	90,00,00	90,00,00
2	24	8	8	8	90,00,00	90,00,00	90,00,00	90,00,00
3	24	8	8	8	90,00,00	90,00,00	90,00,00	90,00,00
4	24	8	8	8	90,00,00	90,00,00	90,00,00	90,00,00
5	24	8	8	8	90,00,00	90,00,00	90,00,00	90,00,00
6	24	8	8	8	90,00,00	90,00,00	90,00,00	90,00,00
7	24	8	8	8	90,00,00	90,00,00	90,00,00	90,00,00
8	24	8	8	8	90,00,00	90,00,00	90,00,00	90,00,00
9	24	8	8	8	90,00,00	90,00,00	90,00,00	90,00,00
10	24	8	8	8	90,00,00	90,00,00	90,00,00	90,00,00
11	24	8	8	8	90,00,00	90,00,00	90,00,00	90,00,00
12	24	8	8	8	90,00,00	90,00,00	90,00,00	90,00,00
13	24	8	8	8	90,00,00	90,00,00	90,00,00	90,00,00
14	24	8	8	8	90,00,00	90,00,00	90,00,00	90,00,00
15	24	8	8	8	90,00,00	90,00,00	90,00,00	90,00,00
16	24	8	8	8	90,00,00	90,00,00	90,00,00	90,00,00
17	24	8	8	8	90,31,44	90,31,44	90,31,44	90,31,44



TYPICAL STRINGER



ELEVATION INTERIOR FLOOR BEAM 2-16



NOTES: Length L of Stringers and Fl. Bms. is correct as given in the table except the increment lengths are given to the nearest '16'. All dimensions are in the horizontal plane. For Connection Plate Det. see Sht. No. 97

DESIGNED BY: A.T.  
 DRAWN BY: D.H.  
 CHECKED BY: S.A.B.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I - 70	82-3HVB-2	ST. CLAIR	252	156
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	

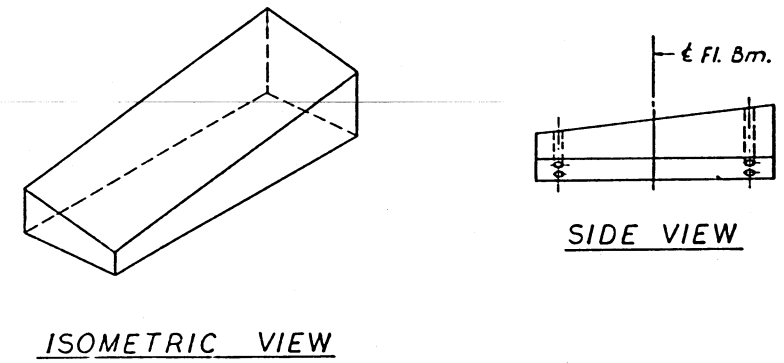
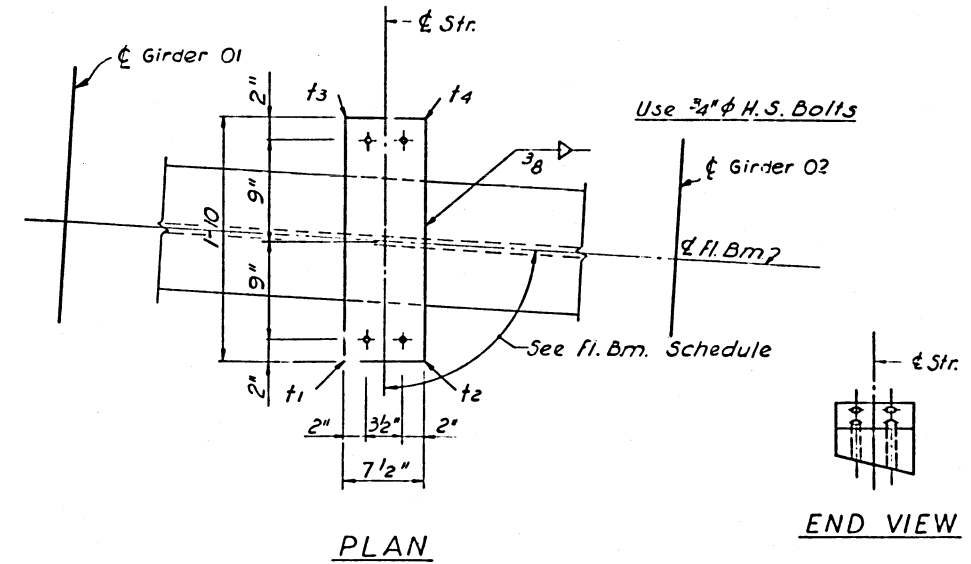
FLOOR BEAM 2 THRU 4	T1	T2	T3	T4
STR. 1 THRU 4	1/2	3/8	1 3/8	1 1/4

FLOOR BEAM 5 THRU 7	T1	T2	T3	T4
STR. 5 THRU 6	1/2	3/8	1 3/8	1 1/4

FLOOR BEAM 8 THRU 10	T1	T2	T3	T4
STR. 7 THRU 10	9/16	3/8	1 3/8	1 3/16

FLOOR BEAM 11 THRU 13	T1	T2	T3	T4
STR. 11 THRU 12	5/8	1/2	1 1/4	1 1/8

FLOOR BEAM 14 THRU 16	T1	T2	T3	T4
STR. 13 THRU 16	11/16	9/16	1 3/16	1 1/16



**SHIM DETAIL**

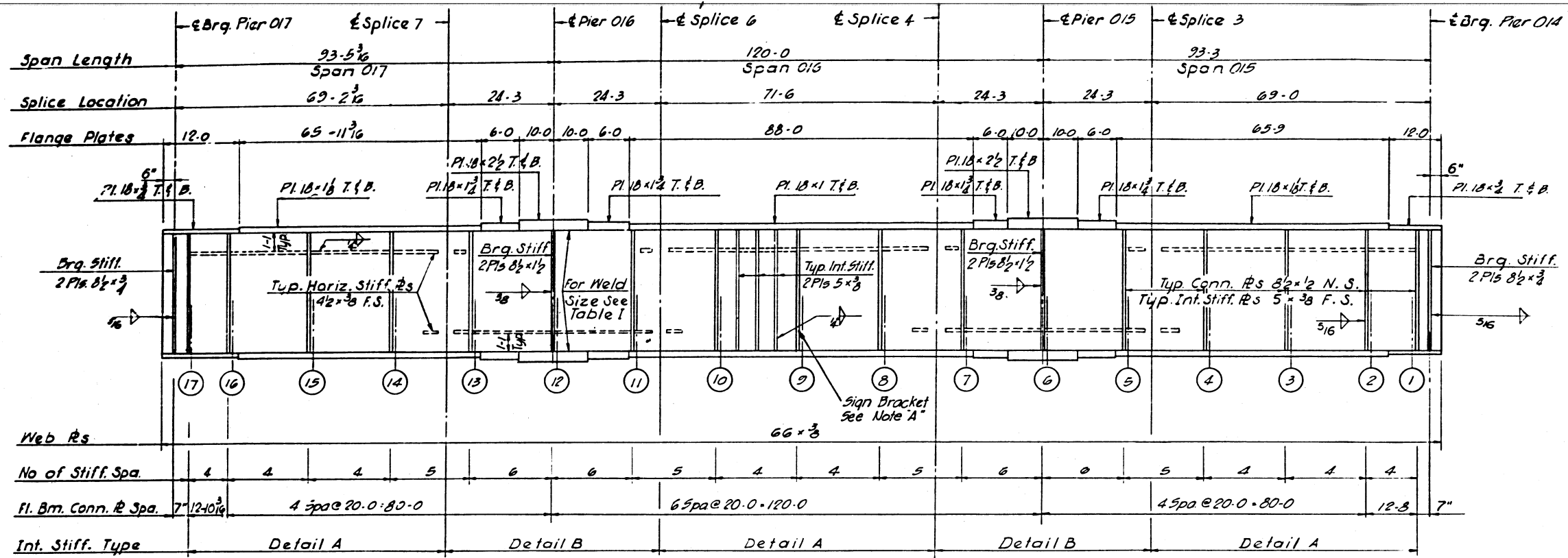
Shim thickness  $t_1$ ,  $t_2$ ,  $t_3$  &  $t_4$  shown in the Table are orientated with the Plan View shown above.

DESIGNED BY E.T.  
 DRAWN BY D.H.  
 CHECKED BY S.P.

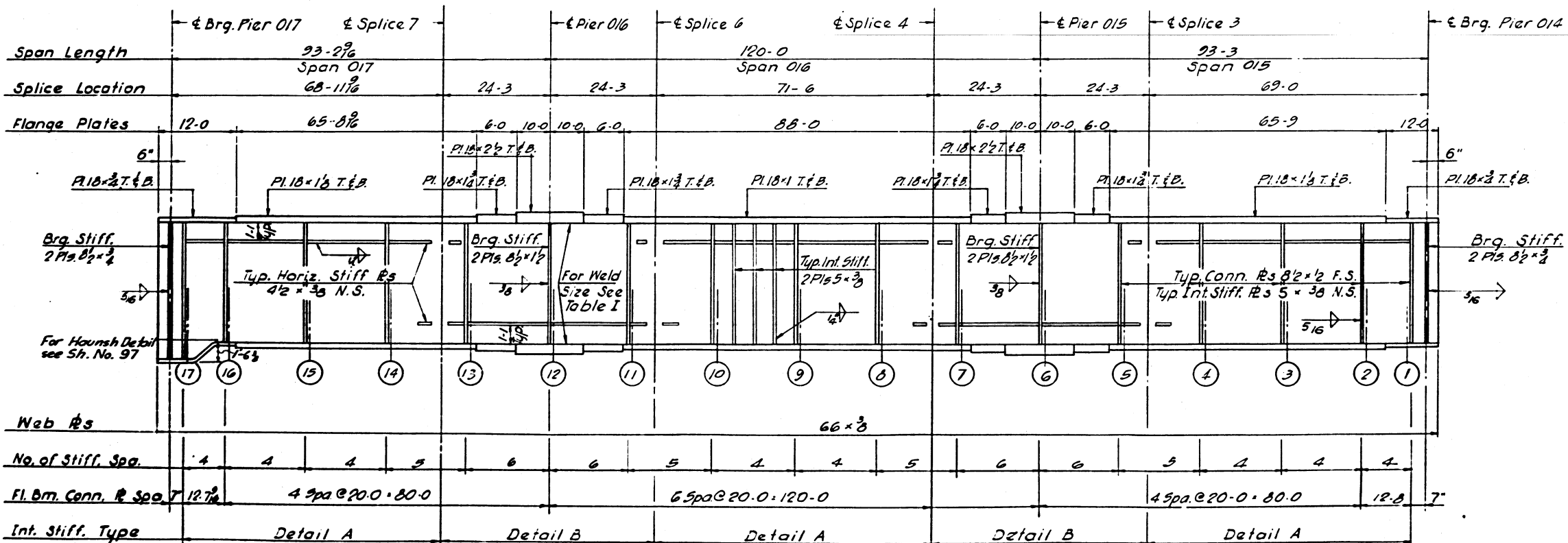
STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS  
 STRINGER SHIMS  
 SPANS 015 THRU 017  
 POPLAR STREET BRIDGE APPROACHES  
 RAMP "O"  
 F.A.I RT.-70 ST. CLAIR CO. SECTION 82-3HVB-2  
 N. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

SHEET  
 90 of 147

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HV8-2	ST. CLAIR	252	157
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	



GIRDER 02  
Spans 015 thru 017



GIRDER 01  
Spans 015 thru 017

NOTES:  
All longitudinal dimensions shown are given along  $\epsilon$  of Web see Sheet No. 88  
All Bearing Stiffeners and Connection Plates to be vertical.  
For Splice Stiffener, Connection Plate Details and Table I see Sheet No. 97

NOTE A:  
Intermediate stiffeners should be moved if necessary to clear Sign Bracket connection plates.

DESIGNED BY: A.T.  
DRAWN BY: V.E.  
CHECKED BY: A.T.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS

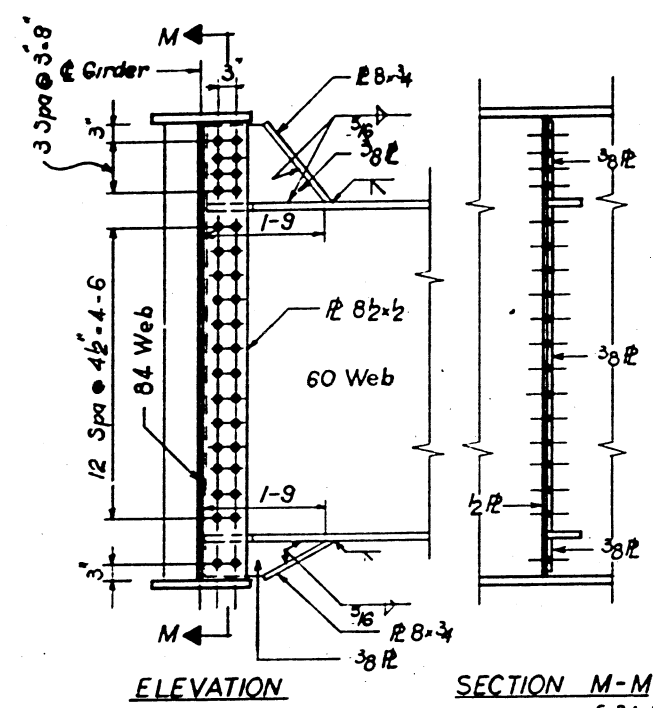
GIRDERS 01 AND 02  
SPANS 015 THRU 017  
POPLAR STREET BRIDGE APPROACHES  
RAMP "D"

F.A.I.R.T. 70 ST. CLAIR CO. SECTION 82-3HV8-2

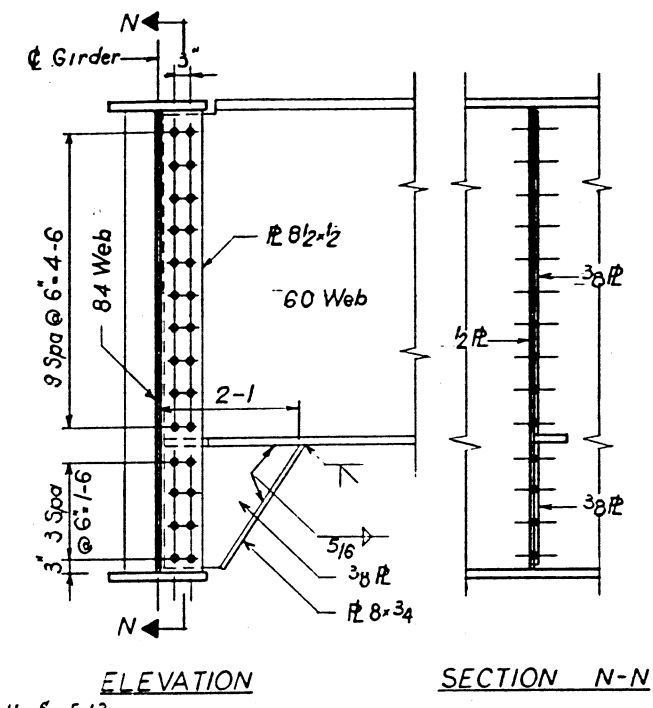
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

SHEET  
91 of 177

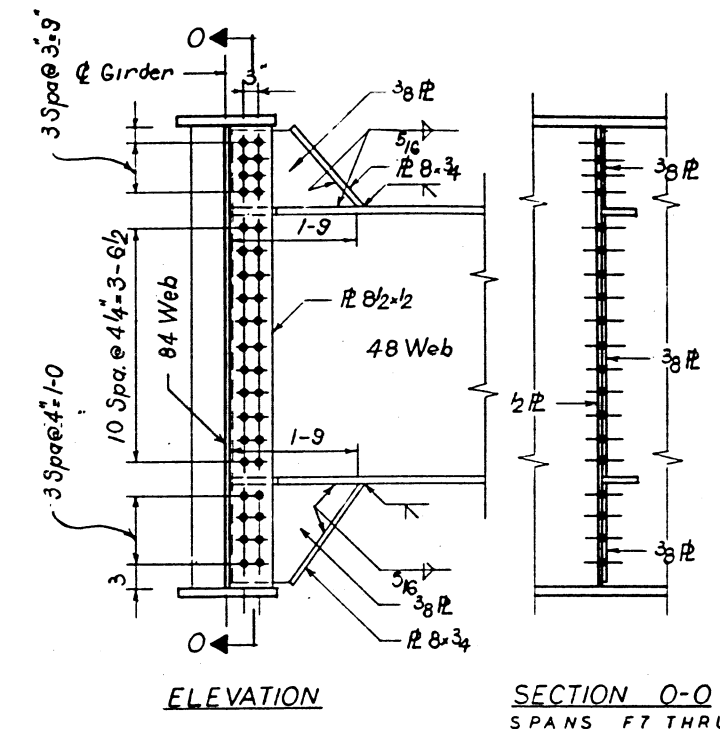
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.1-70	B2-3HYB-2	ST. CLAIR	252	162
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	



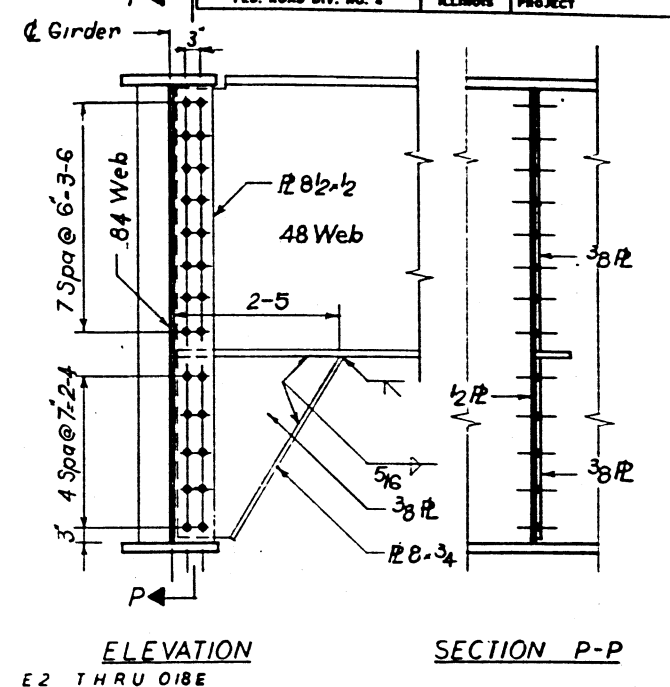
ELEVATION SECTION M-M  
SPANS F11 & F12  
INTERIOR FLOOR BEAM TO GIRDER CONNECTION



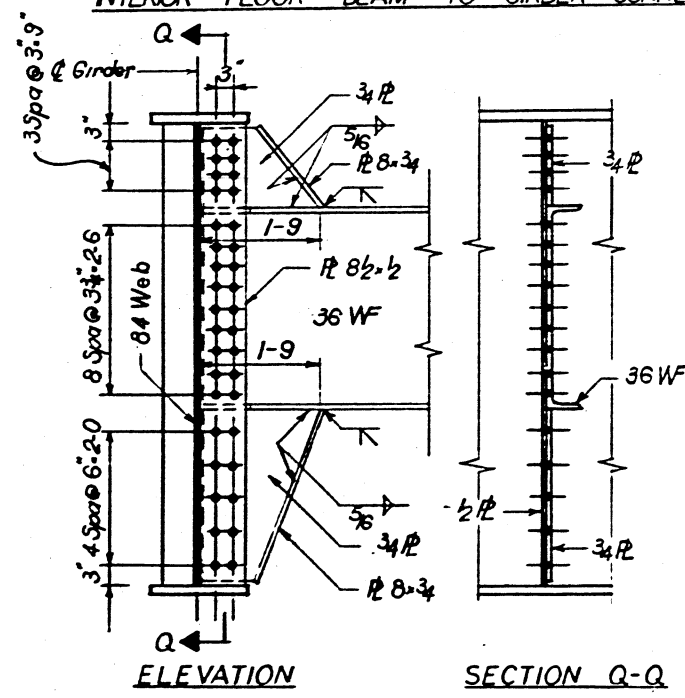
ELEVATION SECTION N-N  
END FLOOR BEAM TO GIRDER CONNECTION



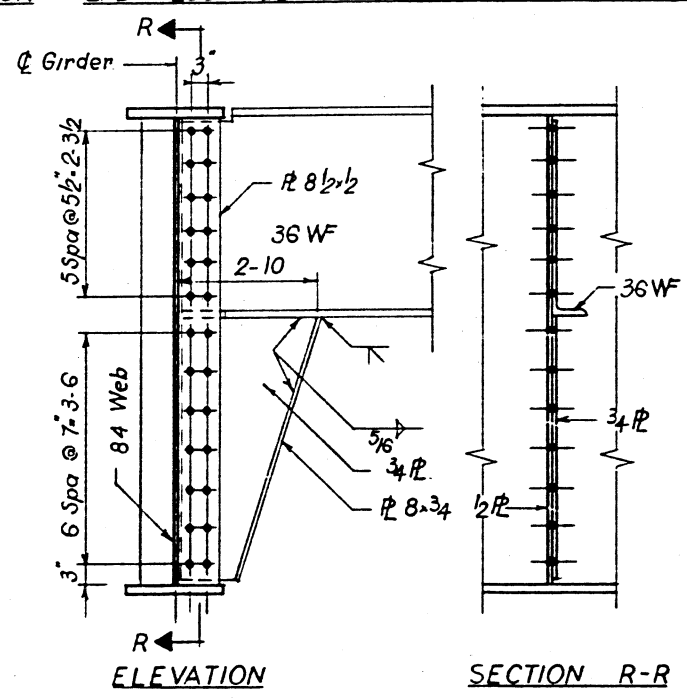
ELEVATION SECTION O-O  
SPANS F7 THRU F10, E2 THRU O18E  
INTERIOR FLOOR BEAM TO GIRDER CONNECTION



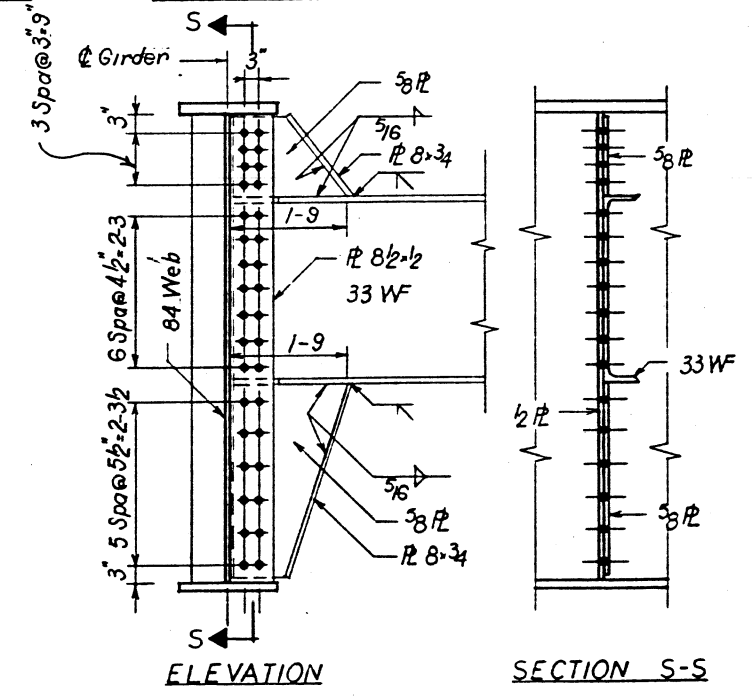
ELEVATION SECTION P-P  
END FLOOR BEAM TO GIRDER CONNECTION



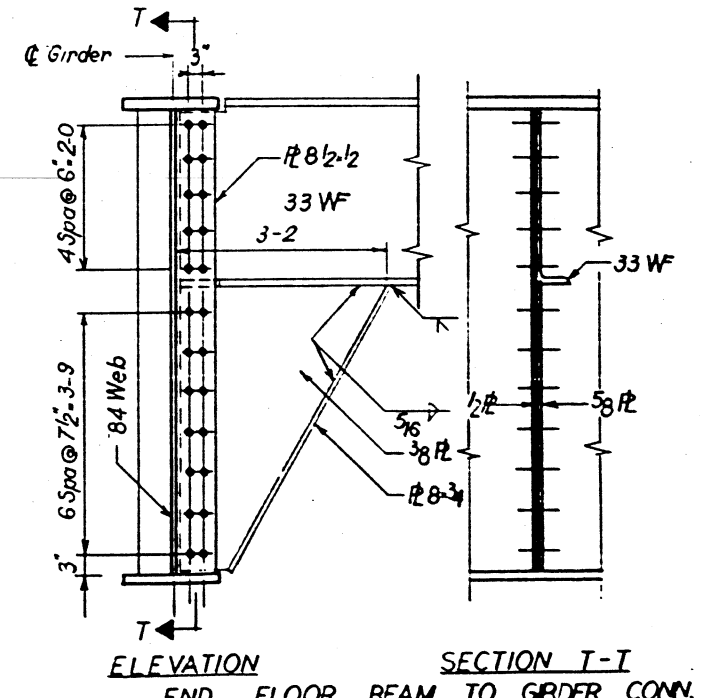
ELEVATION SECTION Q-Q  
SPANS F1 THRU F6  
INTERIOR FLOOR BEAM TO GIRDER CONNECTION



ELEVATION SECTION R-R  
SPANS E4 THRU E9  
END FLOOR BEAM TO GIRDER CONNECTION



ELEVATION SECTION S-S  
SPANS N5 THRU N7  
INTERIOR FLOOR BEAM TO GIRDER CONNECTION



ELEVATION SECTION T-T  
END FLOOR BEAM TO GIRDER CONN.

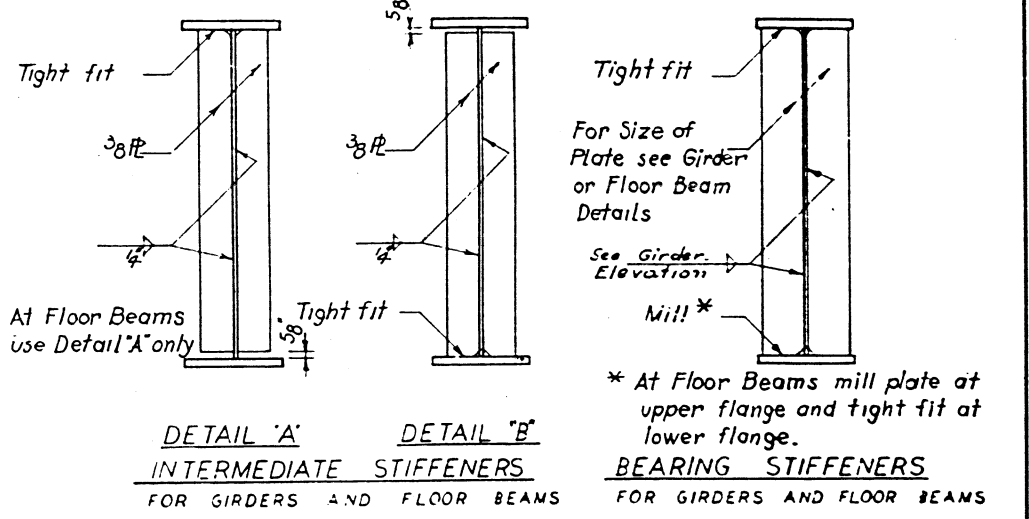
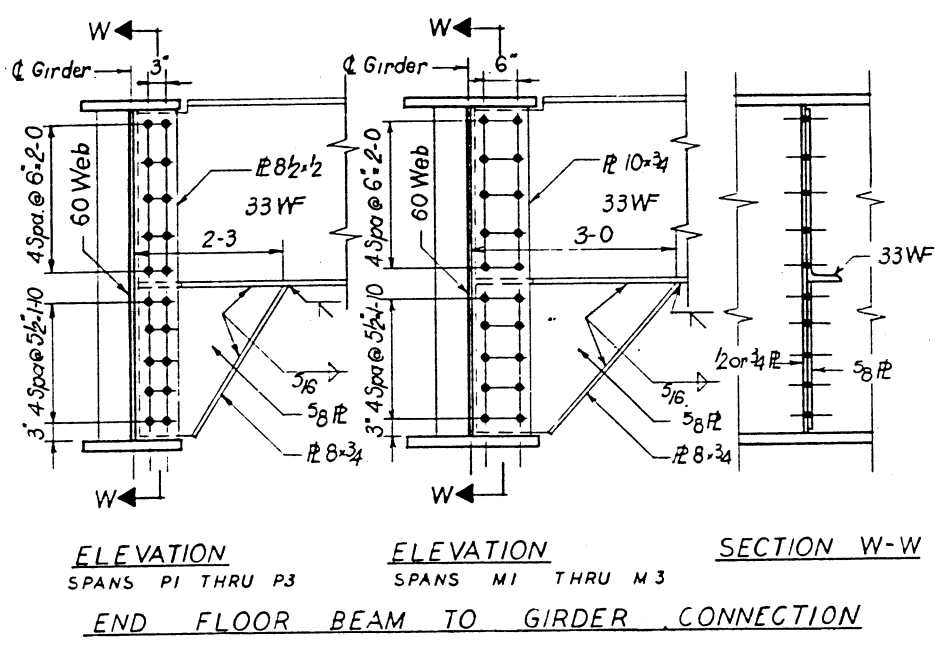
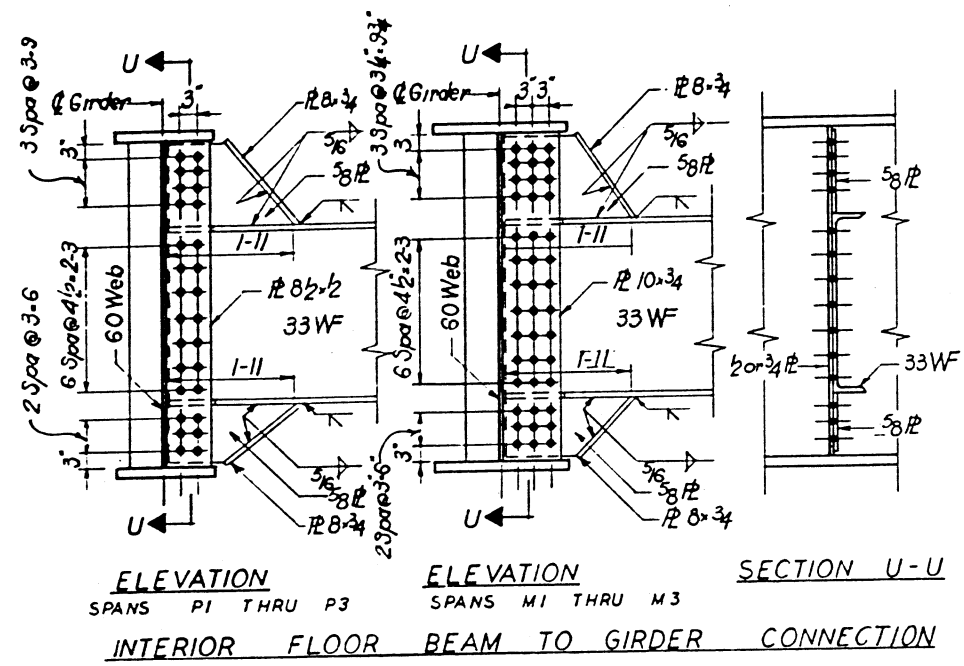
**84 WEB GIRDER**

For Notes see Sh. 97

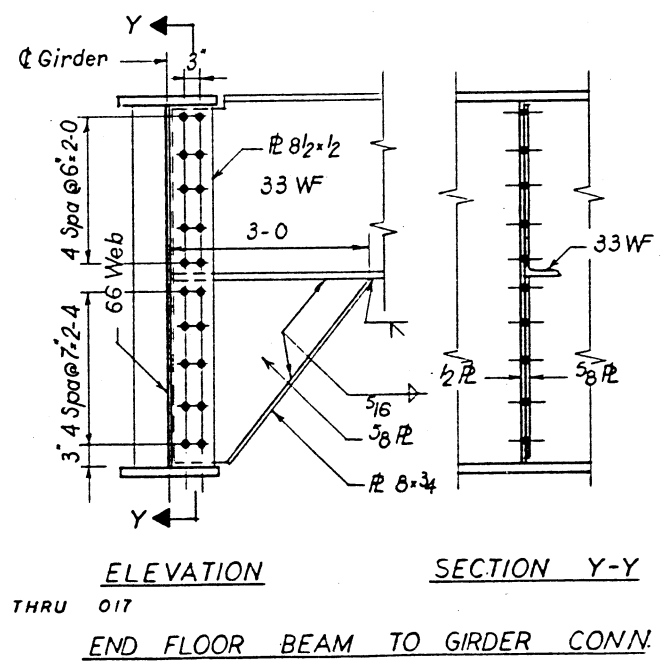
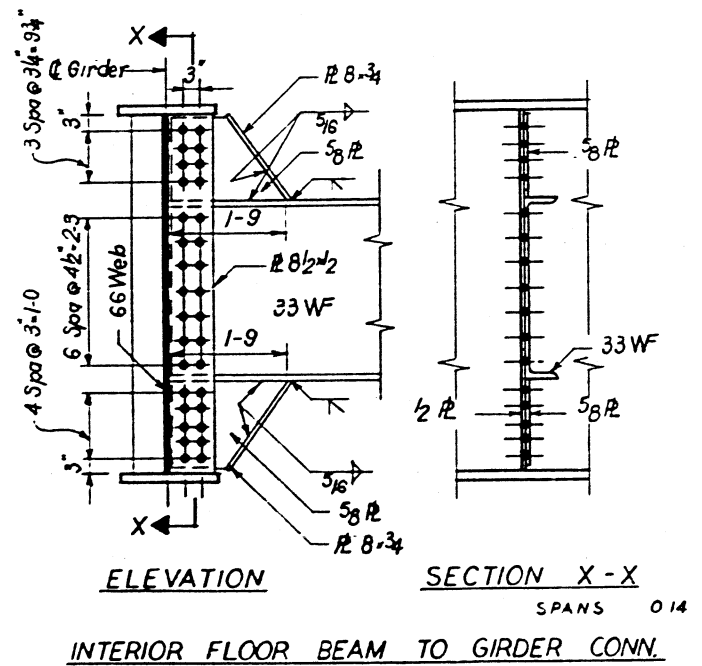
DESIGNED BY A.A.  
DRAWN BY E.C.  
CHECKED BY A.T.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS  
STEEL FRAMING DETAILS  
POPLAR STREET BRIDGE APPROACHES  
F.A.I. RT. 70 ST. CLAIR CO SECTION B2-3HYB-2  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS  
SHEET 96 of 147

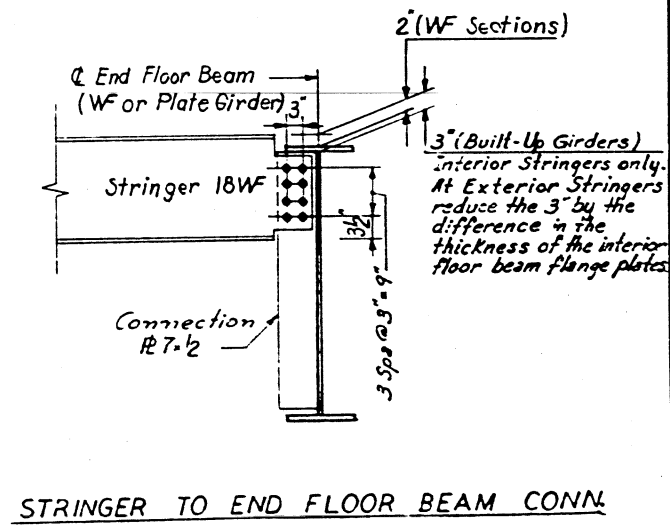
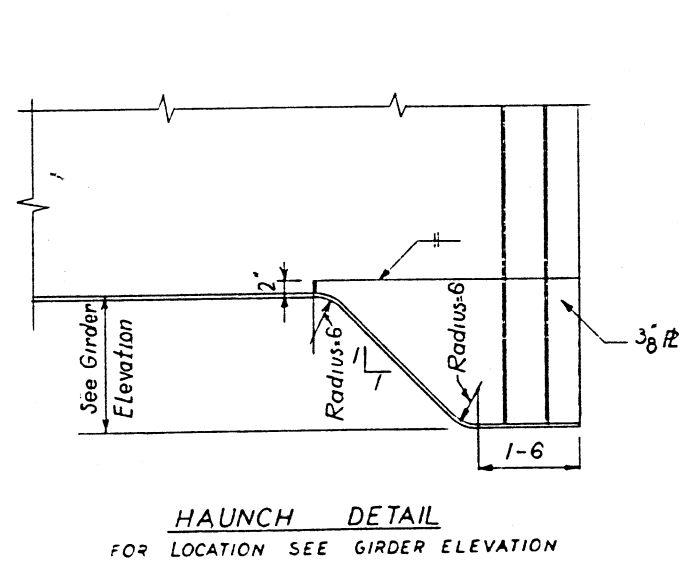
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.1 - 70	B2-3HVB-2	ST. CLAIR	252	163
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



**60 WEB GIRDER**



**66 WEB GIRDER**



**NOTES**

For size of flange, plate welds see table 1 Sh. No. 98. Weld Connection R's to the top flange and tight fit at the bottom flange in areas designated as Detail 'A'. Weld Connection R's to the bottom flange and tight fit at the top flange in areas designated as Detail 'B'. For limits of Detail 'A' or Detail 'B' see the Girder Elevation Drawings.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS  
STEEL FRAMING DETAILS

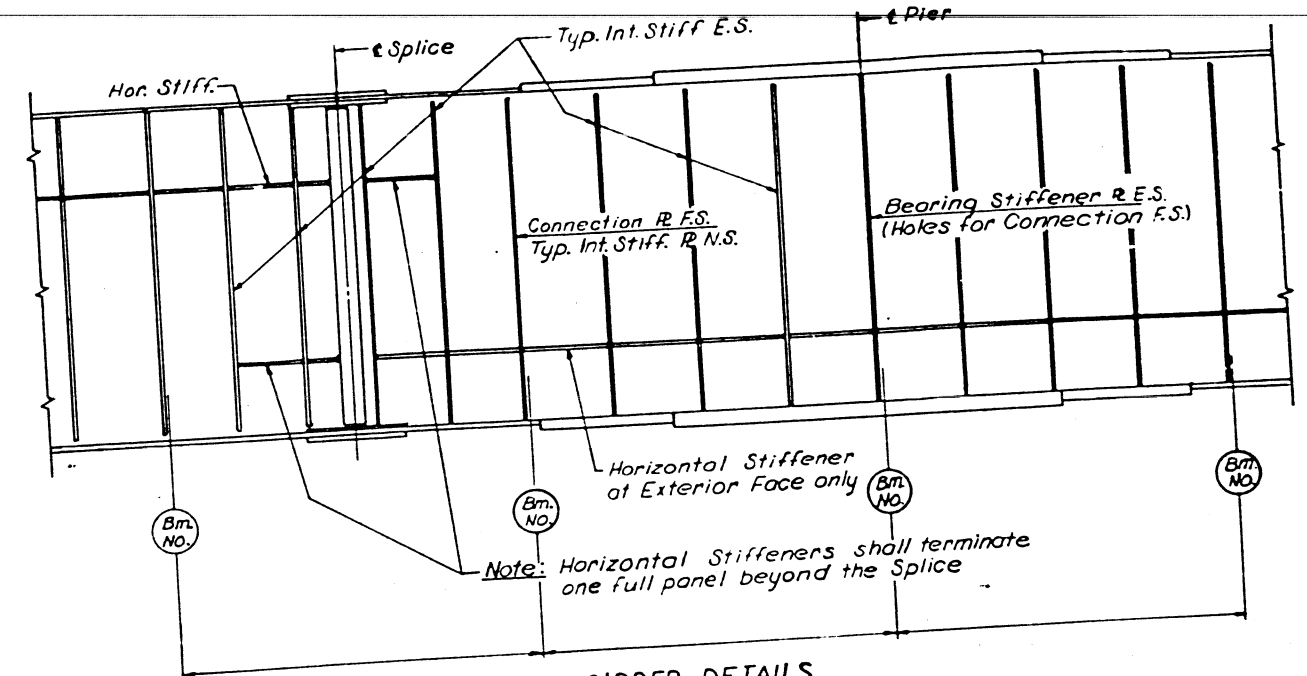
POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. 70 ST. CLAIR CO. SECTION B2-3HVB-2  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

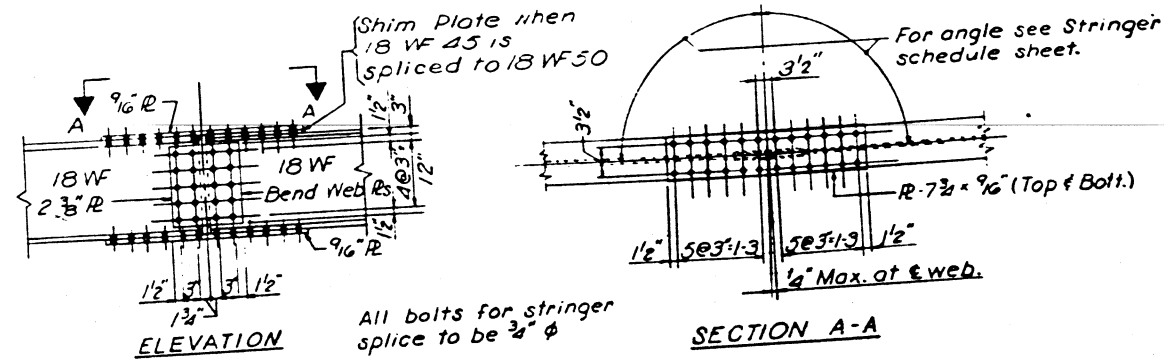
SHEET  
97 OF 14.

DESIGNED BY S.K.  
DRAWN BY F.C.  
CHECKED BY A.T.

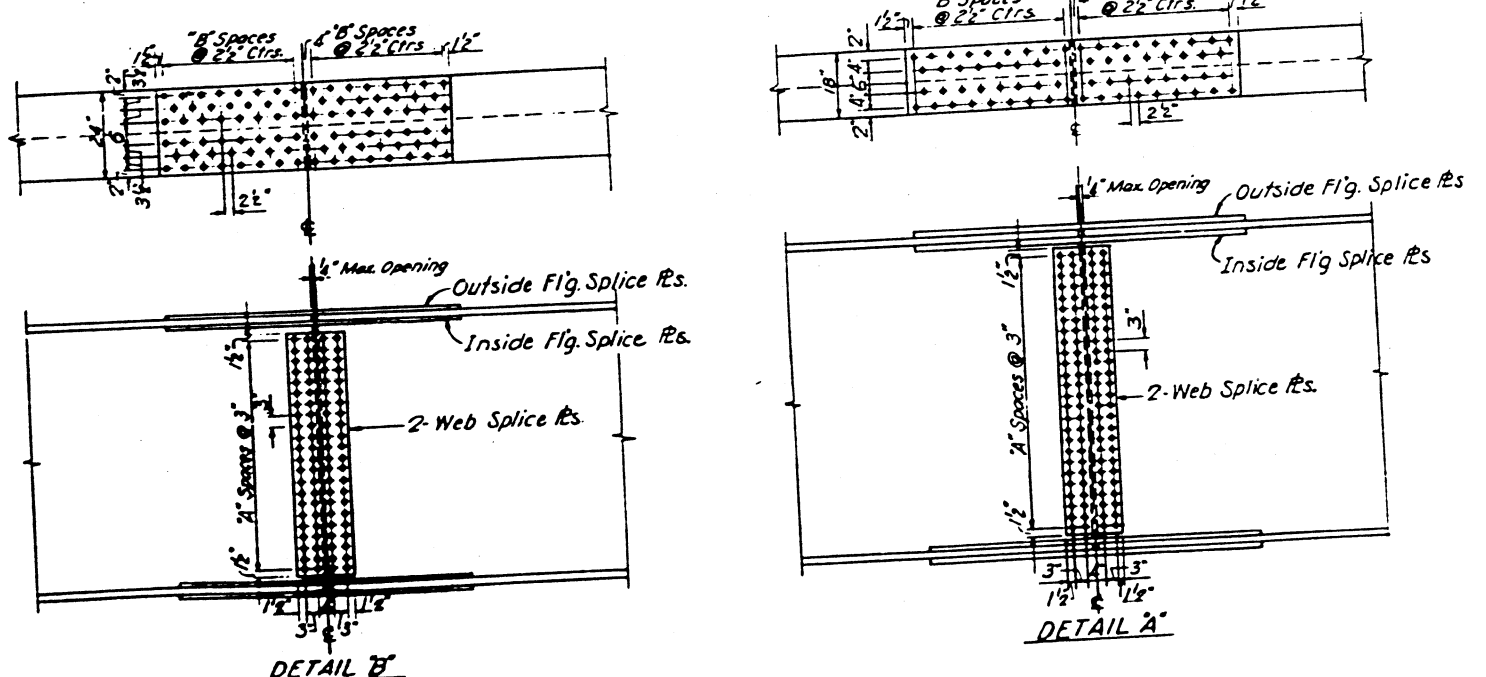
LOCATION	SPlice NO.	SMB. NO.	DETAIL	WEB SPLICE				FLANGE SPLICE			
				GIRDER SECTION	A	OUTSIDE PLATES	INSIDE PLATES	B			
				WEB PLATE	FLANGE PLATES	FILL PLATES	SPLICE PLATES				
RDWY. "E"	15, 16, 17, 18	60	A	3/8 x 84	18 x 3/4		2-13 x 3/8 x 6-6	25	2-18 x 1/2 x 3-11	4-8 x 3/8 x 3-11	8
	10, 11, 12	60	A	3/8 x 2 x 84	18 x 7/8	2-64 x 1/8 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 1/2 x 3-11	4-8 x 3/8 x 3-11	8
	9	60	A	3/8 x 2 x 84	18 x 1	2-64 x 1/8 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 1/2 x 4-9	4-8 x 3/4 x 4-9	10
	3, 4, 5, 6	55	A	3/8 x 2 x 84	18 x 1 1/8	2-64 x 1/8 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 1/2 x 4-9	4-8 x 3/4 x 4-9	10
RDWY. "F"	2, 3, 4, 5, 8, 9, 10, 11	67	A	3/8 x 84	18 x 3/4		2-13 x 3/8 x 6-6	25	2-18 x 1/2 x 3-11	4-8 x 3/8 x 3-11	8
	15	74	A	3/8 x 1/2 x 84	18 x 1 1/8	2-64 x 1/8 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 1/4 x 5-7	4-8 x 7/8 x 5-7	12
	16, 18	74	A	3/8 x 1/2 x 84	18 x 1 1/2	2-64 x 1/8 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 1/4 x 5-7	4-8 x 7/8 x 5-7	12
	19	74	A	3/8 x 1/2 x 84	18 x 1 3/8	2-64 x 1/8 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 1/8 x 6-5	4-8 x 1 x 6-5	14
	24, 25, 27	79	A	3/8 x 5/8 x 84	18 x 1 3/8	2-64 x 1/8 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 1/8 x 6-5	4-8 x 1 x 6-5	14
	28	79	A	3/8 x 5/8 x 84	18 x 1 1/4	2-64 x 1/8 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 1/8 x 6-5	4-8 x 1 x 6-5	14
RAMP "M"	3	83	B	3/8 x 1/2 x 60	24 x 1/8	2-64 x 1/8 x 4-6	2-13 x 3/8 x 4-6	17	2-24 x 3/4 x 5-7	4-11 x 7/8 x 5-7	12
	4, 7, 10	83	B	3/8 x 1/2 x 60	24 x 1/2	2-64 x 1/8 x 4-6	2-13 x 3/8 x 4-6	17	2-24 x 3/8 x 5-7	4-11 x 1 x 5-7	12
RAMP "N"	5, 7, 11, 13	87	A	3/8 x 84	18 x 1 1/4		2-13 x 3/8 x 6-6	25	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
RAMP "O"	3, 7	91	A	3/8 x 66	18 x 1 1/8		2-13 x 3/8 x 5-0	19	2-18 x 3/8 x 4-9	4-8 x 3/4 x 4-9	10
	4, 6	91	A	3/8 x 66	8 x 1		2-13 x 3/8 x 5-0	19	2-18 x 1/2 x 3-11	4-8 x 5/8 x 3-11	8
RAMP "P"	5, 7, 11, 13	95	A	3/8 x 1/2 x 60	18 x 1 1/4	2-64 x 1/8 x 4-6	2-13 x 3/8 x 4-6	17	2-18 x 1/8 x 6-5	4-8 x 1 x 6-5	14



**TYPICAL GIRDER DETAILS**  
 (Exterior Face Shown)  
 Note: All Bearing Stiff. & Conn. R.s to be Vertical.



**STRINGER SPLICE**  
 All bolts for stringer splice to be 3/4 inch phi



**DETAIL B**

**DETAIL A**

Plate Size	Min. Weld Size
To 3/4" Inclusive	1/4"
Over 3/4" to 1 1/2"	5/16"
Over 1 1/2" to 2 1/4"	3/8"
Over 2 1/4" to 6"	1/2"

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS  
**GIRDER SPLICES & DETAILS**  
 POPLAR STREET BRIDGE APPROACHES  
 ROADWAYS "E" & "F" AND RAMPS "M", "N", "O" & "P"

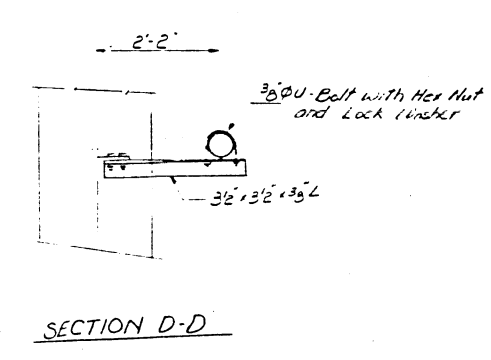
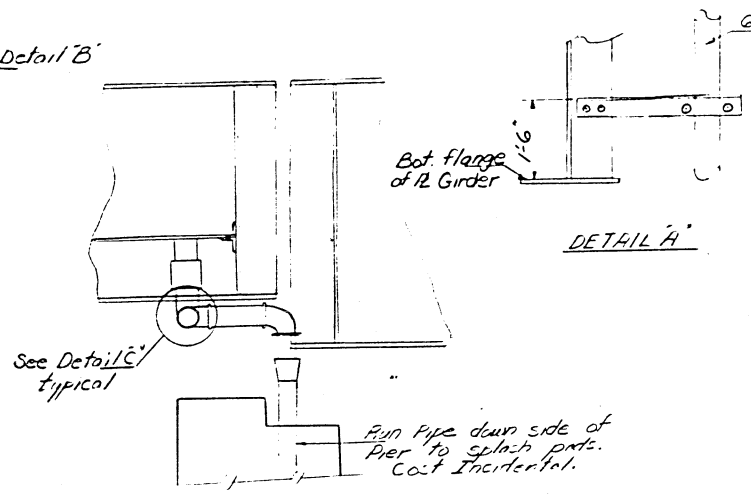
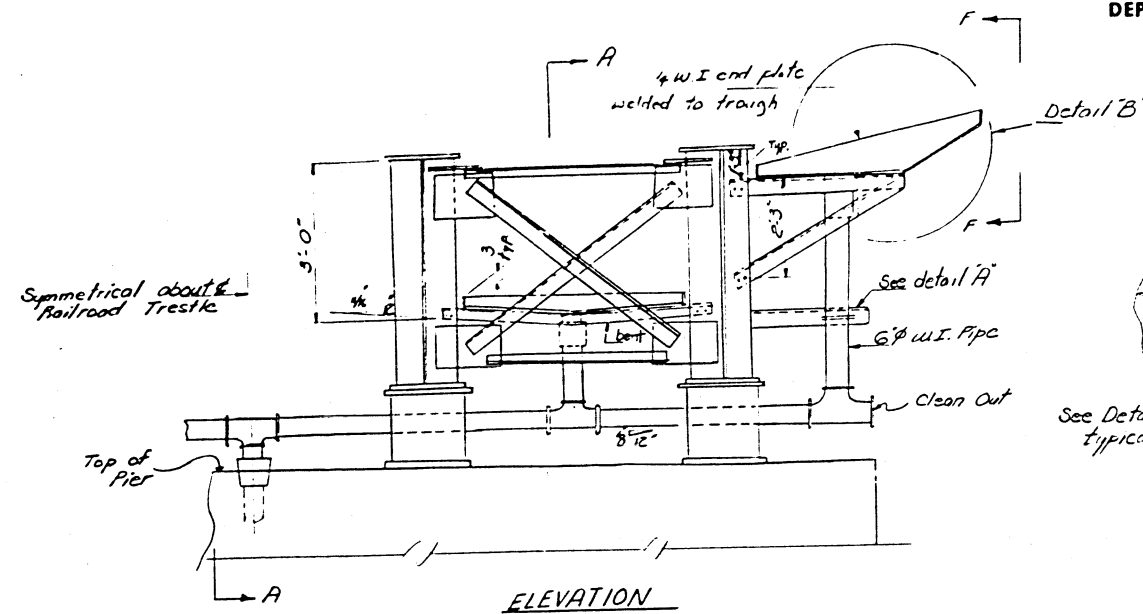
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-2  
 M. W. LOCHNER, INC. ENGINEERS  
 CHICAGO, ILLINOIS

SHEET 96 of 147

DESIGNED BY: A.A.  
 DRAWN BY: E.C.  
 CHECKED BY: A.T.

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

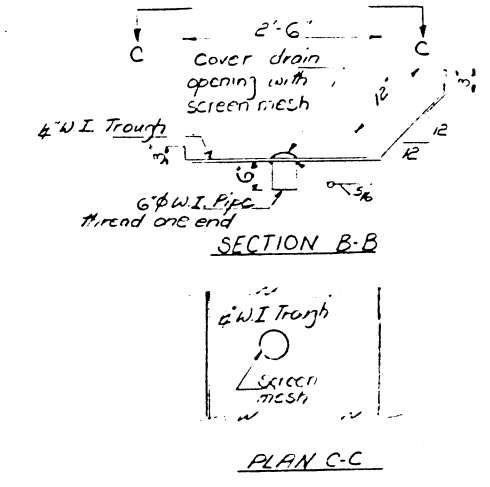
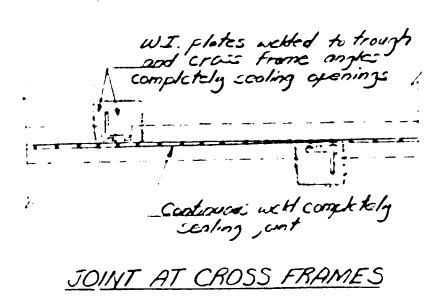
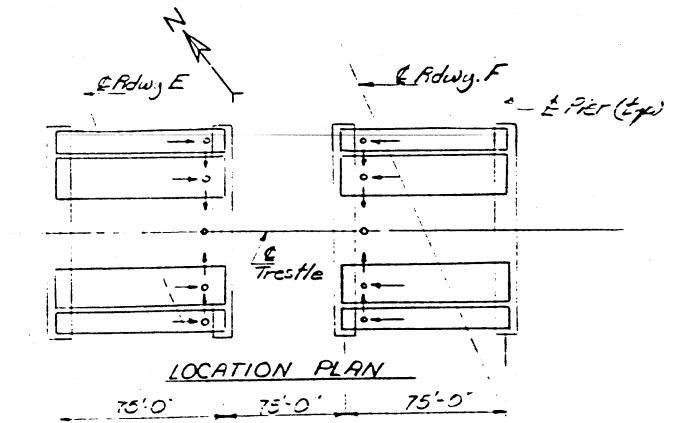
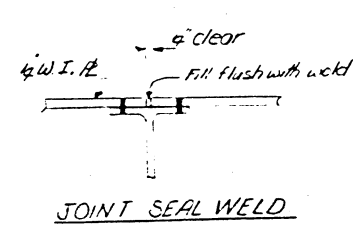
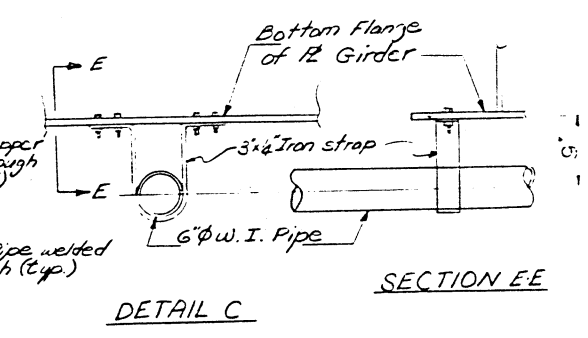
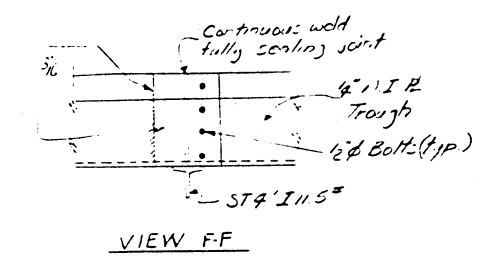
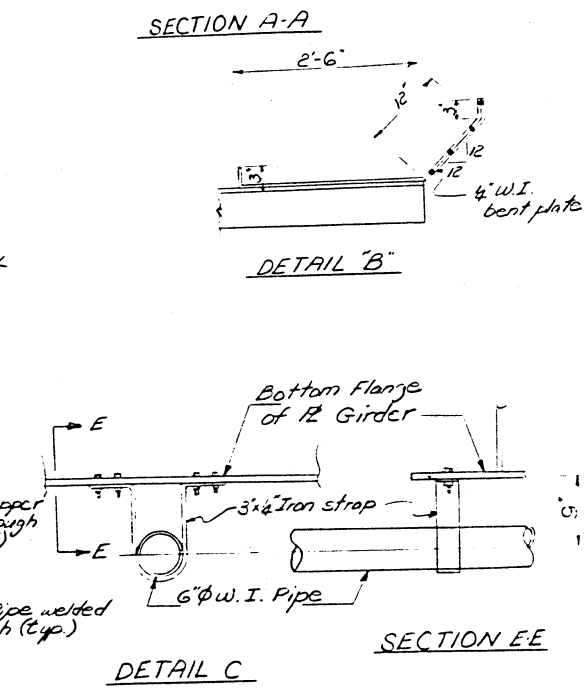
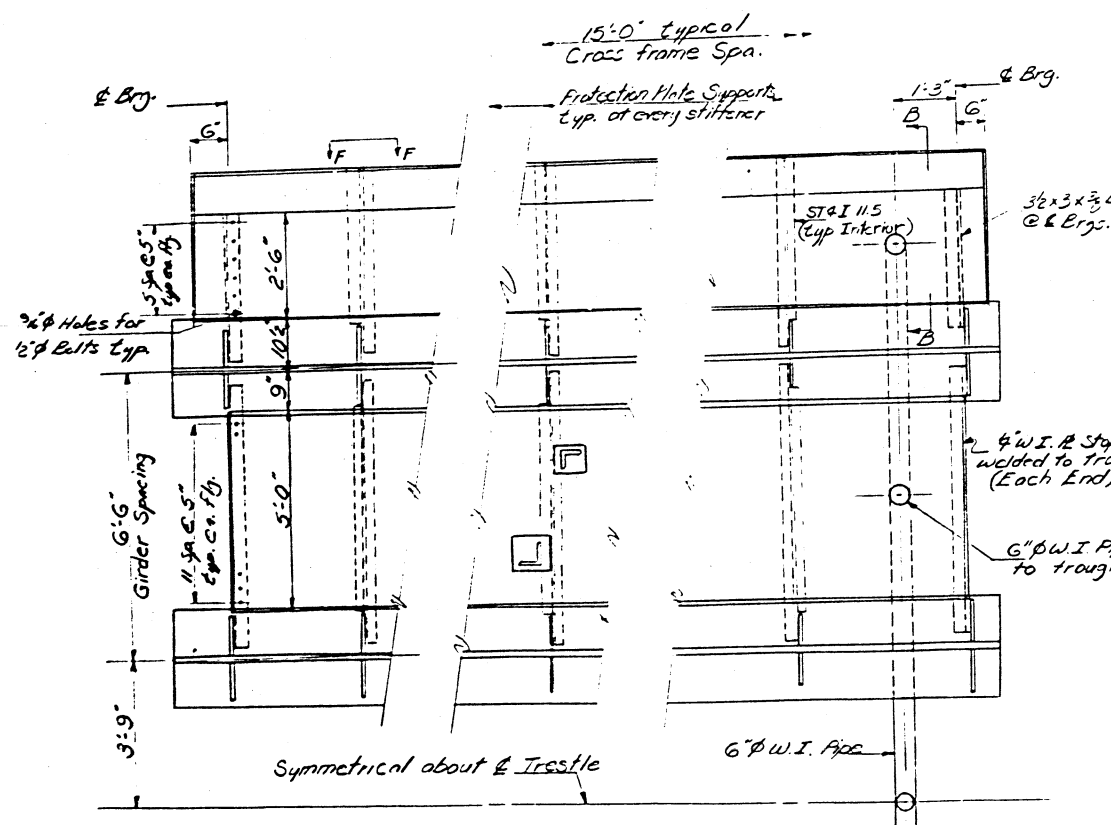
PROJECT NO.	82-3418	PROJECT	ST. CLAIR	252	165A	197 SHEETS
SHEET NO.	99					



Notes:  
All Wrought Iron Pipe shall be standard weight, fittings shall be either screw joint or welded joint (See Special Provisions)  
The Contractor shall verify all dimensions and conditions existing in the field before ordering materials for protection plates & pipe drain system  
Protection plate shall extend between each pier adjacent to roadways E and F.  
Protection plates shall be billed as Furnishing and Erecting Structural Steel.

**BILL OF MATERIALS**

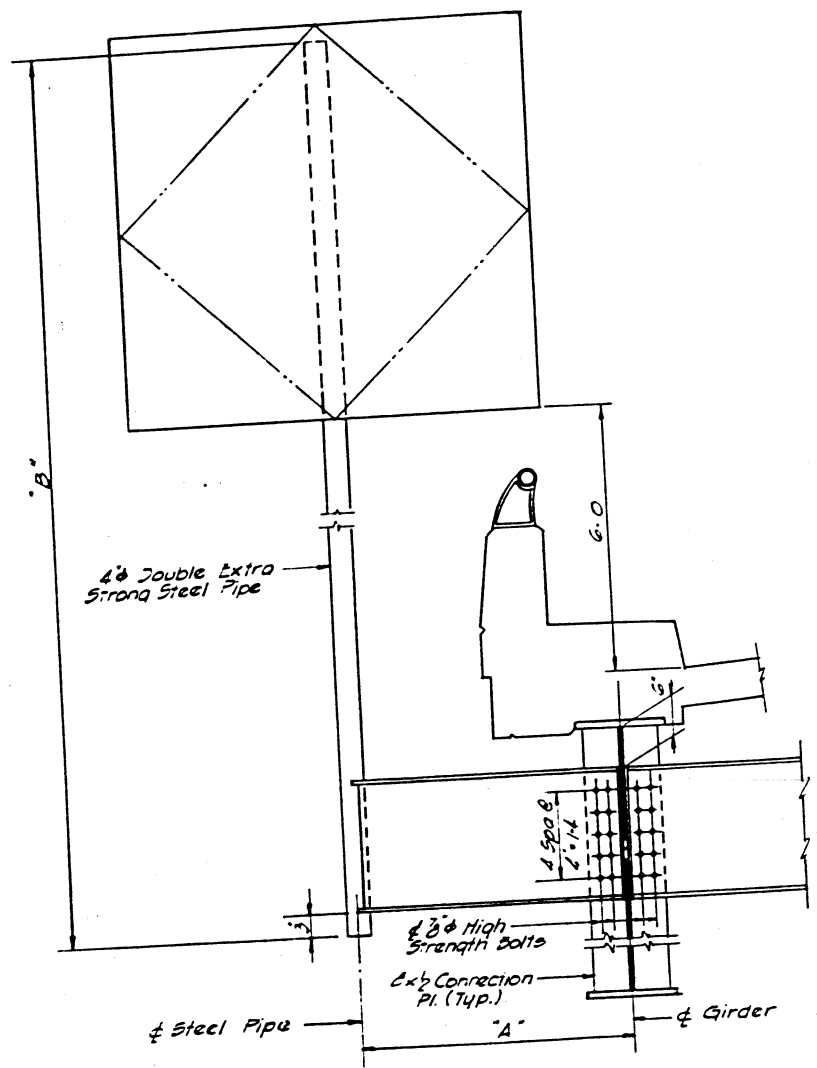
Wrought Iron Pipe Drain System	L.S.
Furnishing & Erecting Struct. Steel	33,620 lbs



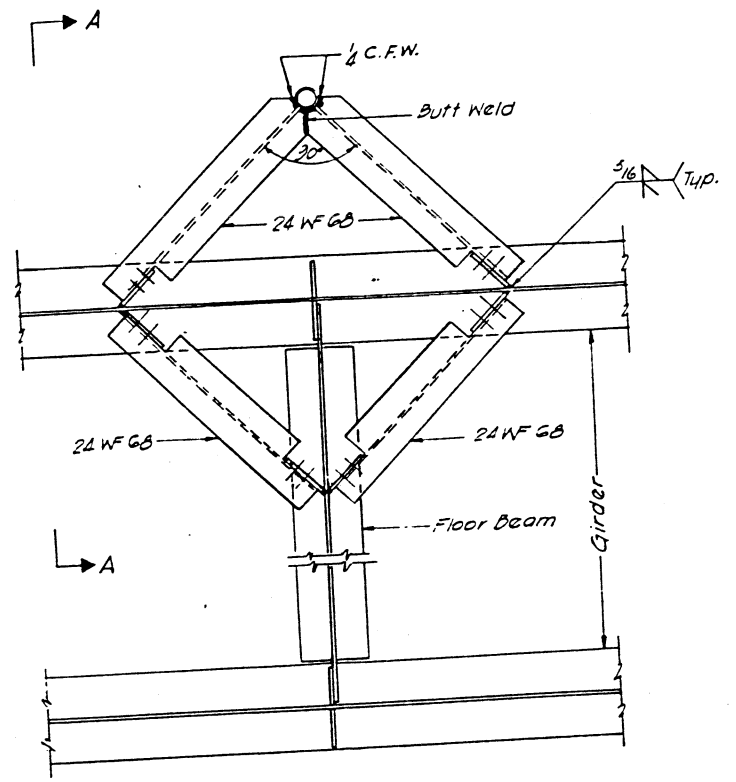
PROTECTION PLATE DETAILS AND PIPE DRAIN SYSTEM  
EAL RT 70 ~ SEC 82-3418-2  
ST. CLAIR COUNTY

DESIGNED	19
CHECKED	EXAMINED
DRAWN S.M.	PASSED
CHECKED J.M.J.	APPROVED

Added 6-11-70 S.F.M.



SECTION A-A



PLAN

NOTE  
 8"x8" Connection Pls. to be fit to  
 Compression Flange and undercut  
 3/8" at tension flange. See Girder  
 Details for locations of Details

SIGN BRACKET DETAIL  
 NO. 29 THRU 34

Table For Sign Bracket Dimensions

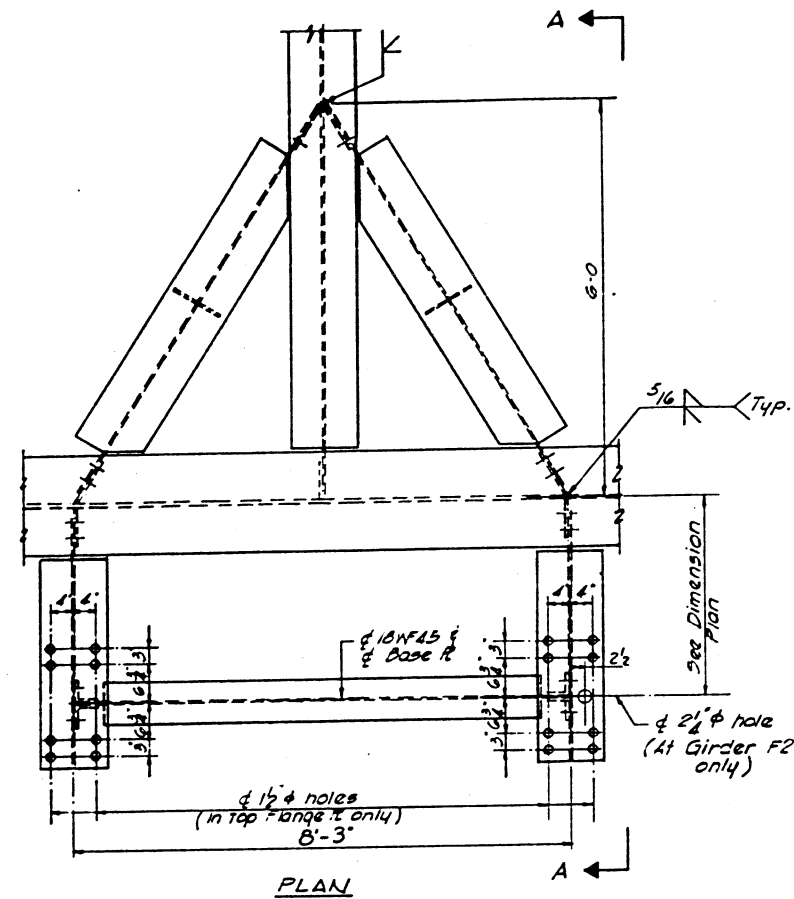
Sign Bracket	A'	B'	For Location see Sheet No
No. 29	3-0	14-8	80
No. 30	3-10	15-4	84
No. 31	3-10	15-4	88
No. 32	3-0	14-8	92
No. 33	3-0	14-8	92
No. 34	3-0	14-8	75

DESIGNED BY A.T.  
 DRAWN BY ET  
 CHECKED BY AT

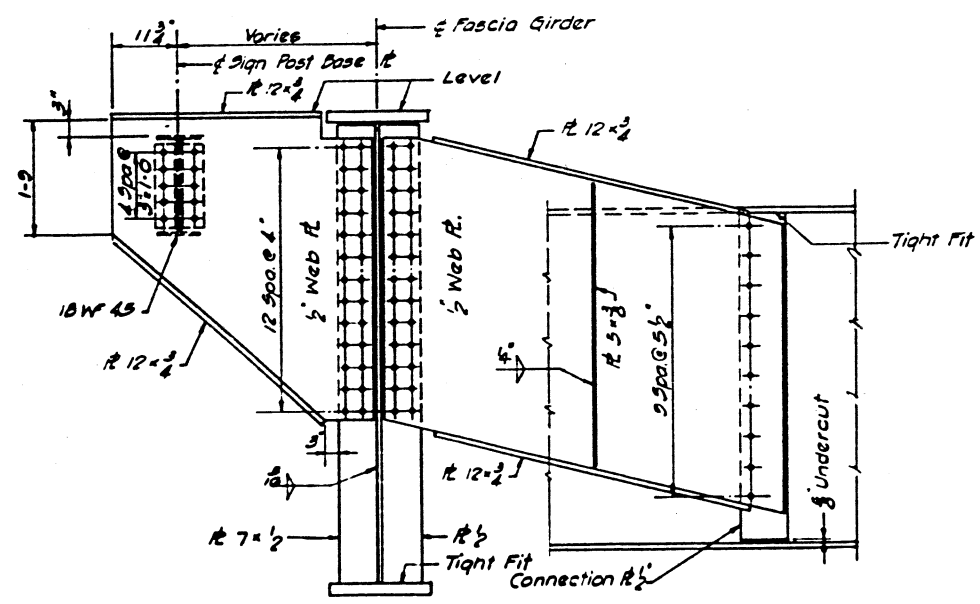
STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS  
 SIGN BRACKET DETAILS  
 POPLAR STREET BRIDGE APPROACHES  
 F.A.I. RT. 70. ST. CLAIR CO. SECTION 82-3HYB-2  
 H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS  
 SHEET  
 100 of 147



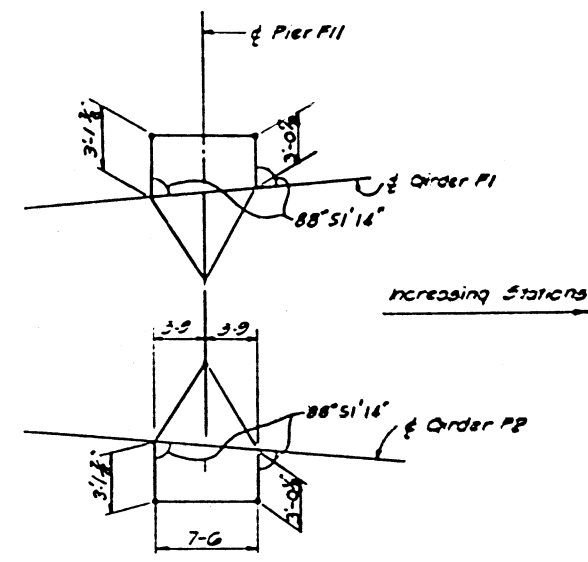
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 1 - 70	B2-3HV8-2	ST. CLAIR	252	167
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



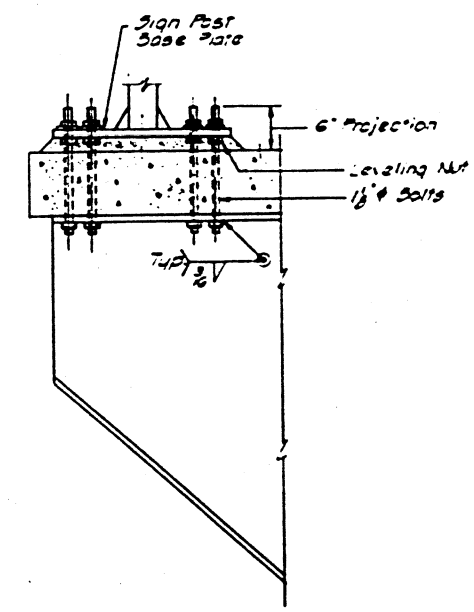
PLAN



SECTION A-A



DIMENSION PLAN  
TRUSS SIGN SUPPORT  
BRACKET NO. 11



DETAIL OF SIGN  
POST BASE PLATE

NOTES:  
For location of Truss Sign Support Brackets see Sheet 168. Weight of Truss Sign Support Brackets is included with quantity for structural steel.

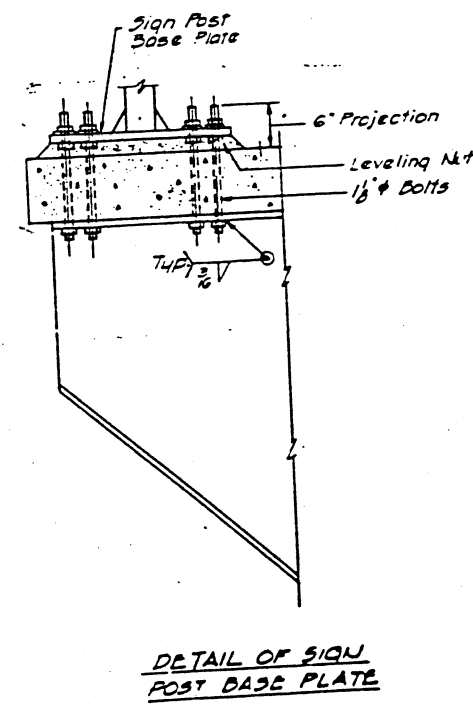
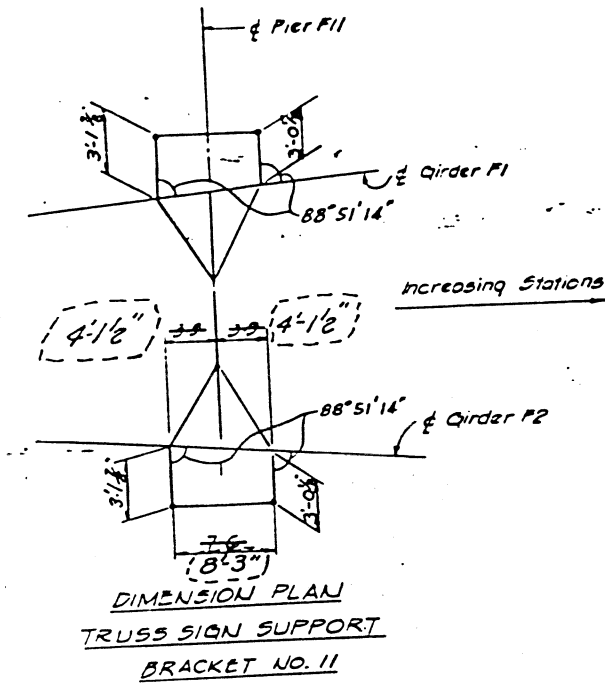
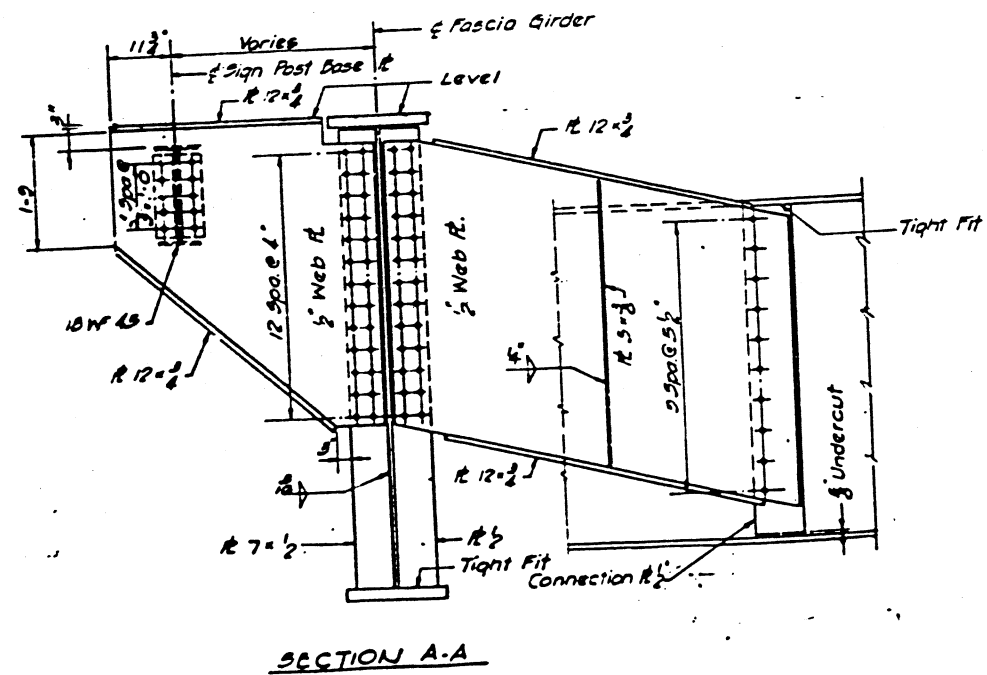
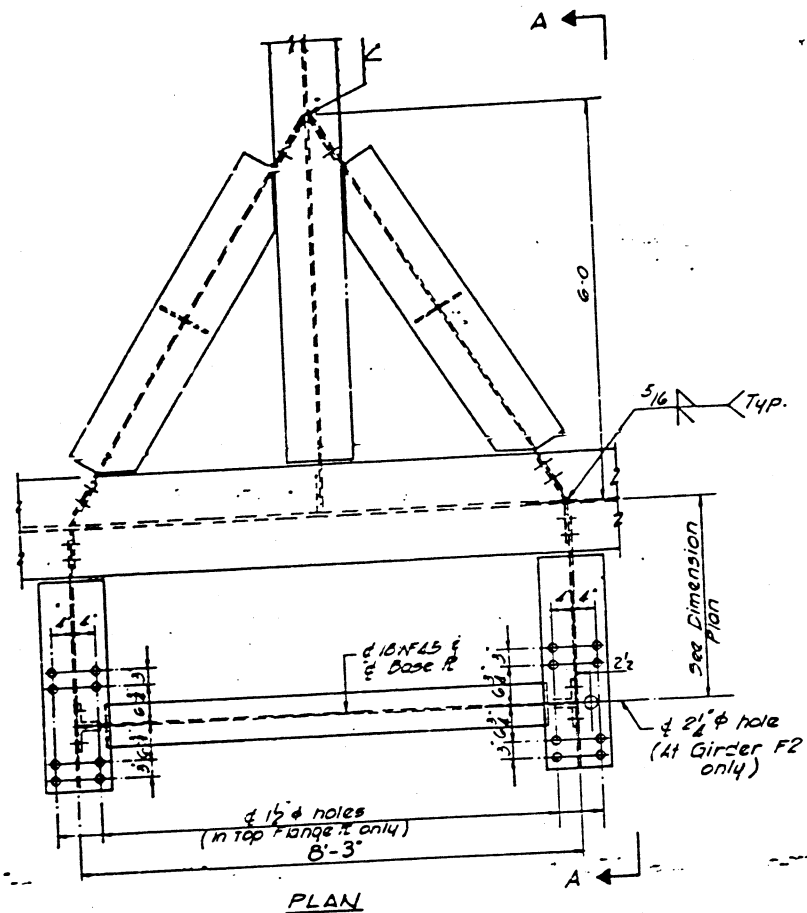
DESIGNED BY AT  
DRAWN BY AT  
CHECKED BY AT

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & ELDGS.  
DIVISION OF HIGHWAYS

TRUSS SIGN SUPPORT BRACKET  
POPLAR STREET BRIDGE APPROACHES

FA 1 RT. 70 ST. CLAIR CO. SECTION B2-3 HV8-2  
N. W. LOCHNER, INC. SHEET  
ENGINEERS  
CHICAGO, ILLINOIS 12 of 14

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. - 70	82-3MVB-2	ST. CLAIR	252	147 A
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



NOTES:  
For location of Truss Sign Support Bracket see Sheet 75. Weight of Truss Sign Support Bracket is included with quantity for Structural Steel.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS

TRUSS SIGN SUPPORT BRACKET  
POPLAR STREET BRIDGE APPROACHES

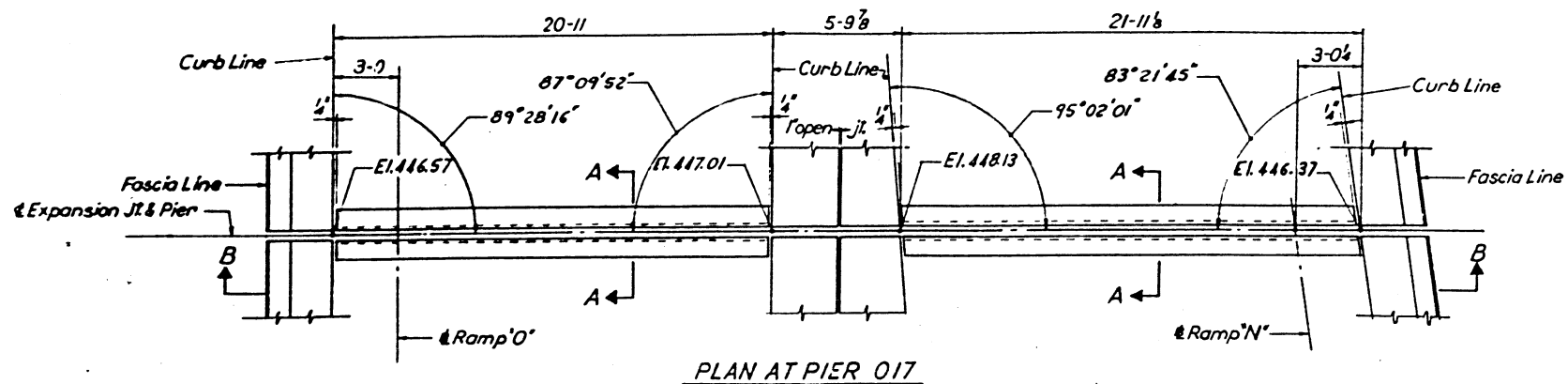
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3MVB-2  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

SHEET  
101 of 147

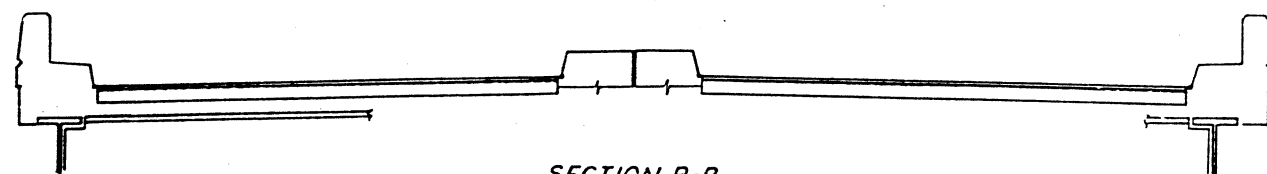
DESIGNED BY: A.J.  
DRAWN BY: J.L.  
CHECKED BY: A.J.

Revised 10-13-70 J.M.J.

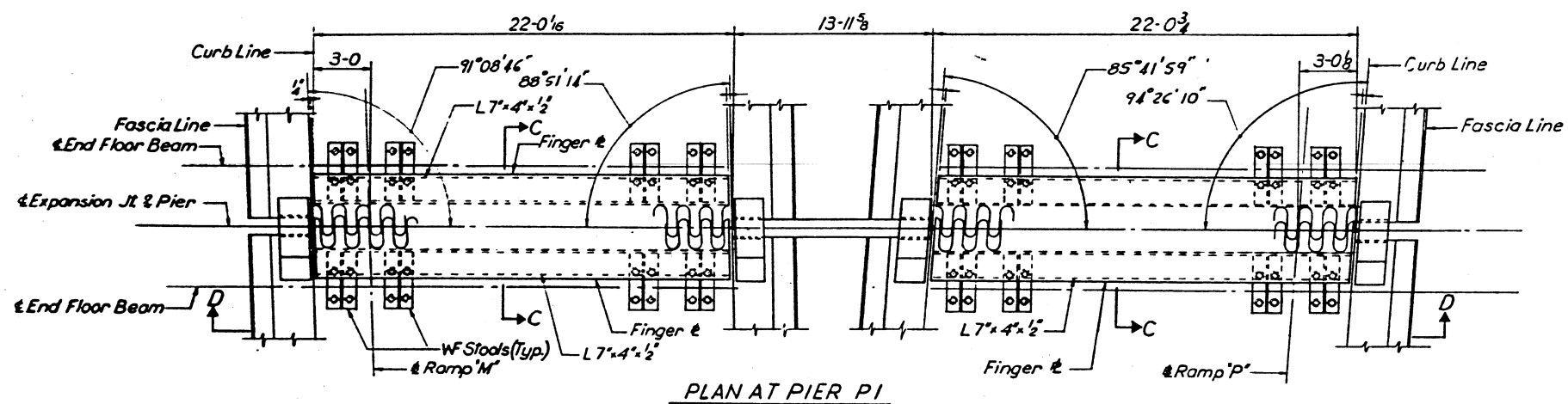
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 1 - 70	82-3HVB-2	ST CLAIR	252	171
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



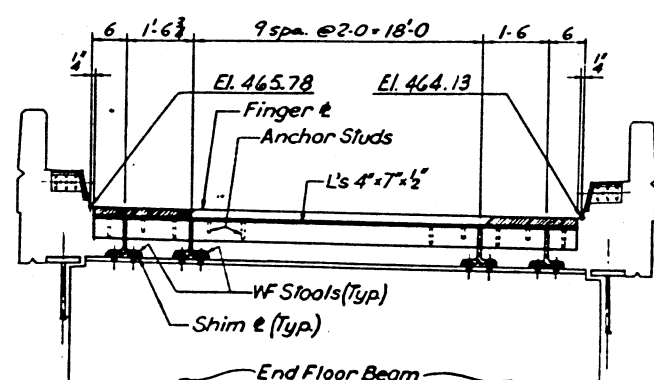
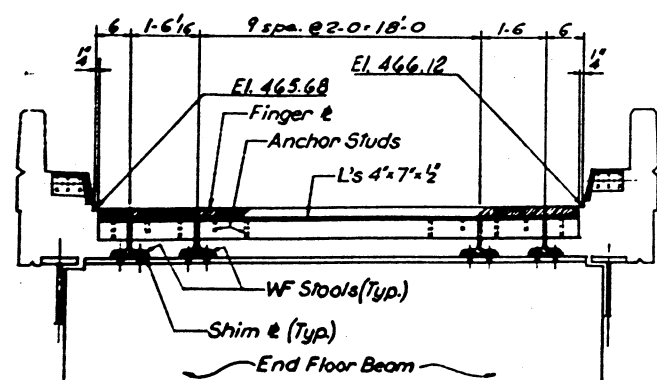
PLAN AT PIER 017



SECTION B-B



PLAN AT PIER P1



SECTION D-D

Notes  
 For Section A-A see Sh. 104  
 For Section C-C see Sh. 103

BILL OF MATERIAL		
ITEM	UNIT	TOTAL
*Structural Steel	L. S.	Lump Sum

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS

EXPANSION DEVICES  
 POPLAR STREET BRIDGE APPROACHES

F.A. RT.-70 ST. CLAIR CO. SECTION 82-3HVB-2  
 H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

SHEET  
 105 of 147

DESIGNED BY: R.I.C.  
 DRAWN BY: E.C.  
 CHECKED BY: A.T.

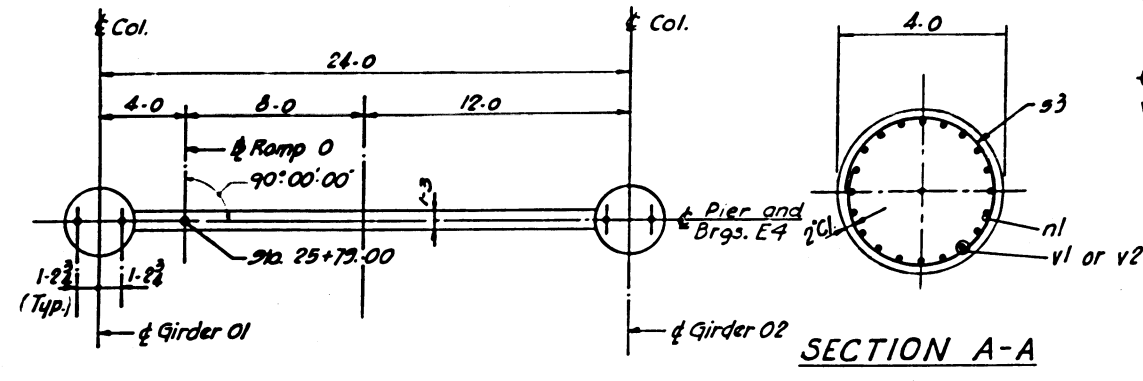
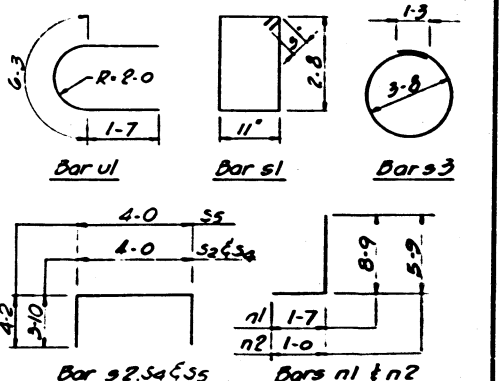
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.-70	82-3HVB-2	ST. CLAIR	252	194
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	

**BILL OF MATERIAL**

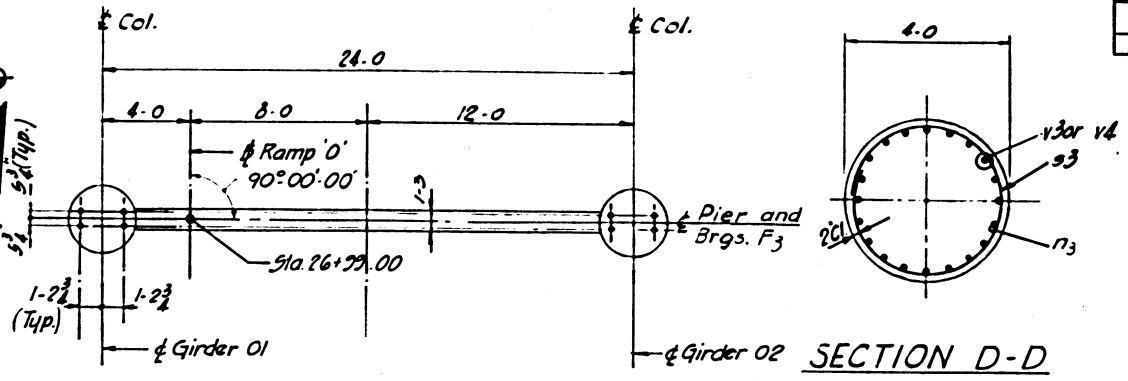
Mark	No. Req'd.	Size	Length	Shape
128h1	10	"9	26-4	—
128h2	2	"5	22-6	—
128h3	12	"11	25-0	—
128h4	3	"5	22-0	—
128h5	-	"10	26-4	—
128nl	40	"9	10-4	—
128n2	14	"6	6-9	—
128n3	-	"11	11-8	—
128n4	-	"7	6-11	—
128n5	21	"4	8-0	—
128n6	47	"6	11-8	—
128n7	57	"4	12-9	—
128n8	-	"7	11-8	—
128n9	-	"7	12-4	—
128H	50	"6	9-8	—
128I2	-	"8	11-8	—
128ul	10	"9	9-9	—
128vl	20	"9	23-4	—
128v2	20	"9	23-10	—
128v3	-	"11	28-11	—
128v4	-	"11	29-5	—
128w1	11	"6	32-6	—
128w2	3	"4	32-6	—
128w3	-	"6	32-3	—
128w4	-	"4	32-3	—

\*See Note "X" Sh. No. 14

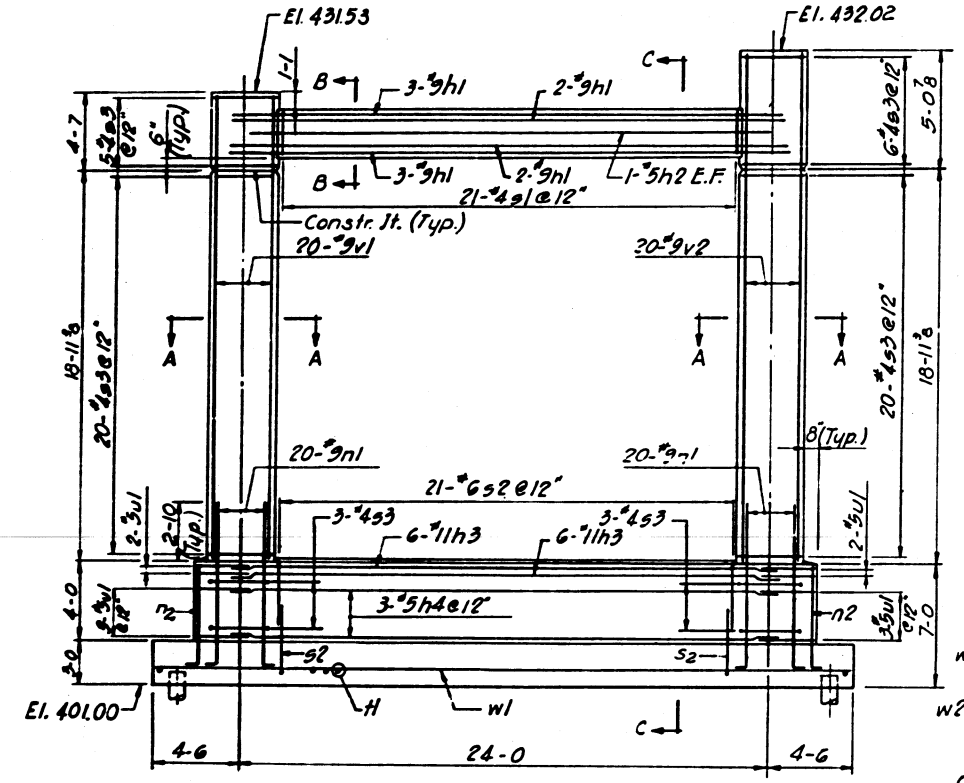
Item	Unit	Total Pier 015	Total Pier 016
Class "X" Concrete	C.Y.	79.2	91.3
Reinforcement Bars	Lbs.	10,130	15,860
Concrete Piles	L.F.	700	1012
Test Piles (concrete)	Ea.	1	1



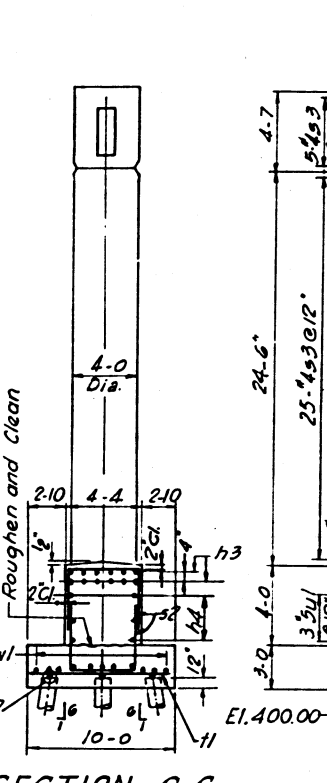
**TOP PLAN - PIER 015**



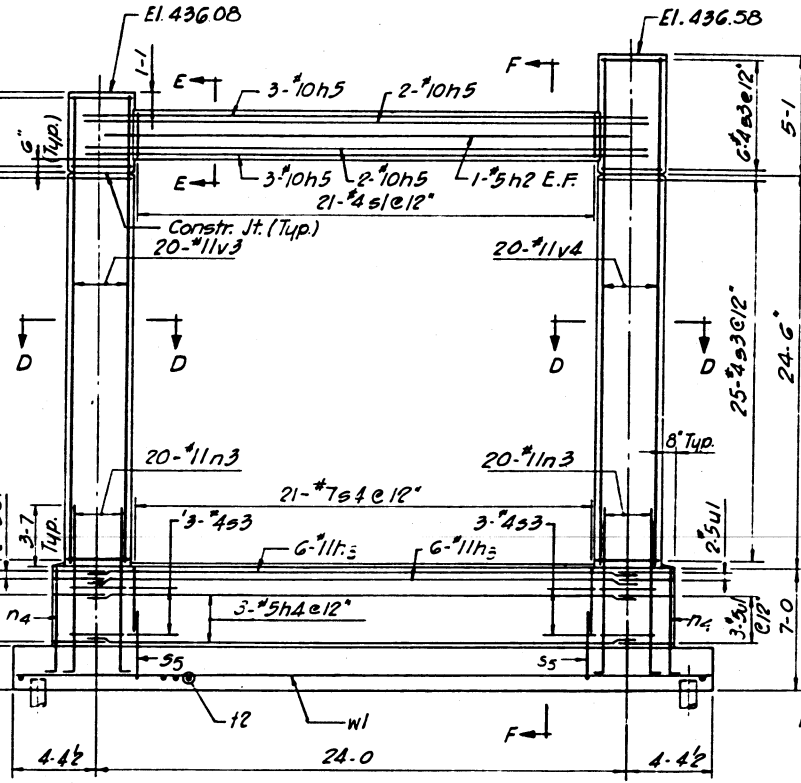
**TOP PLAN - PIER 016**



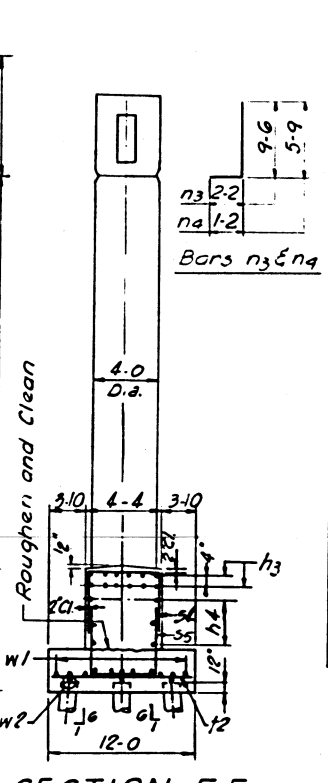
**ELEVATION - PIER 015**



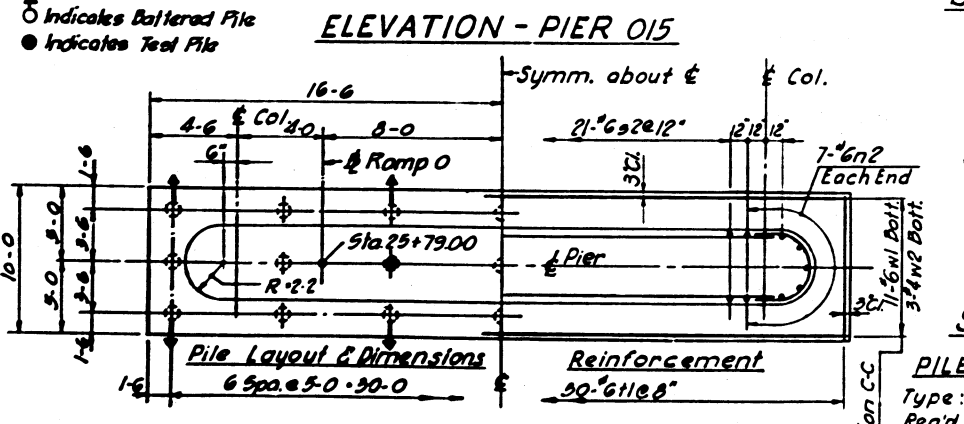
**SECTION C-C**



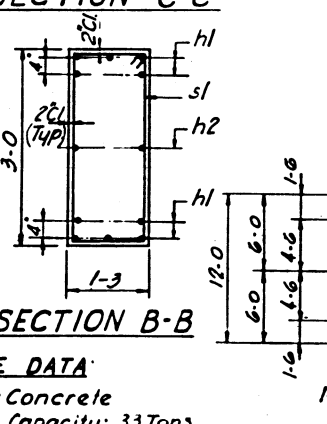
**ELEVATION - PIER 016**



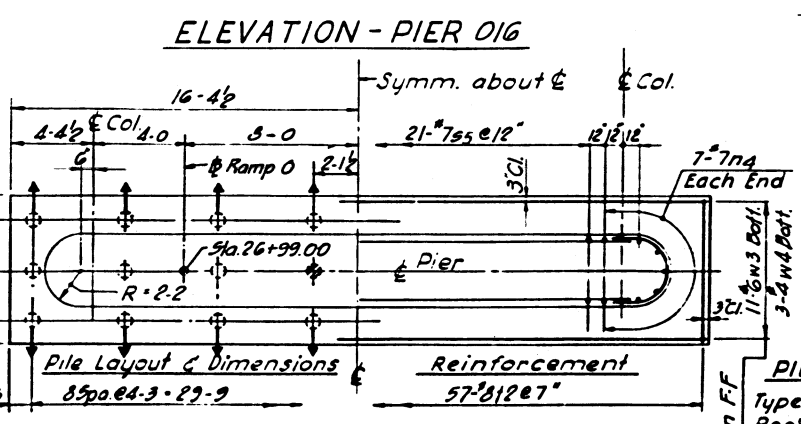
**SECTION F-F**



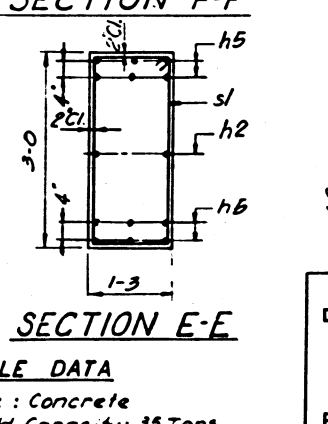
**FOOTING PLAN - PIER 015**



**SECTION B-B**



**FOOTING PLAN - PIER 016**



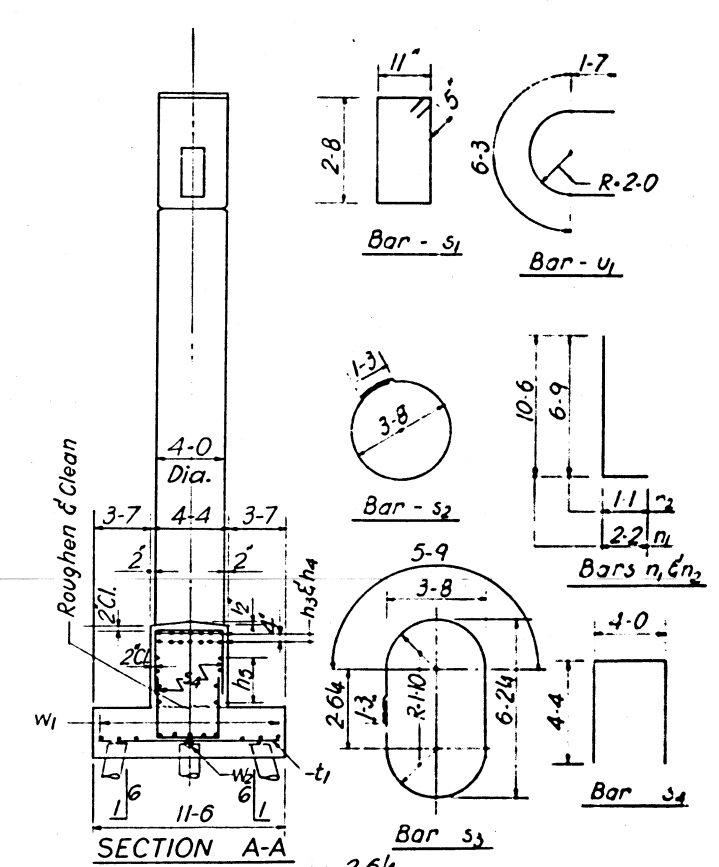
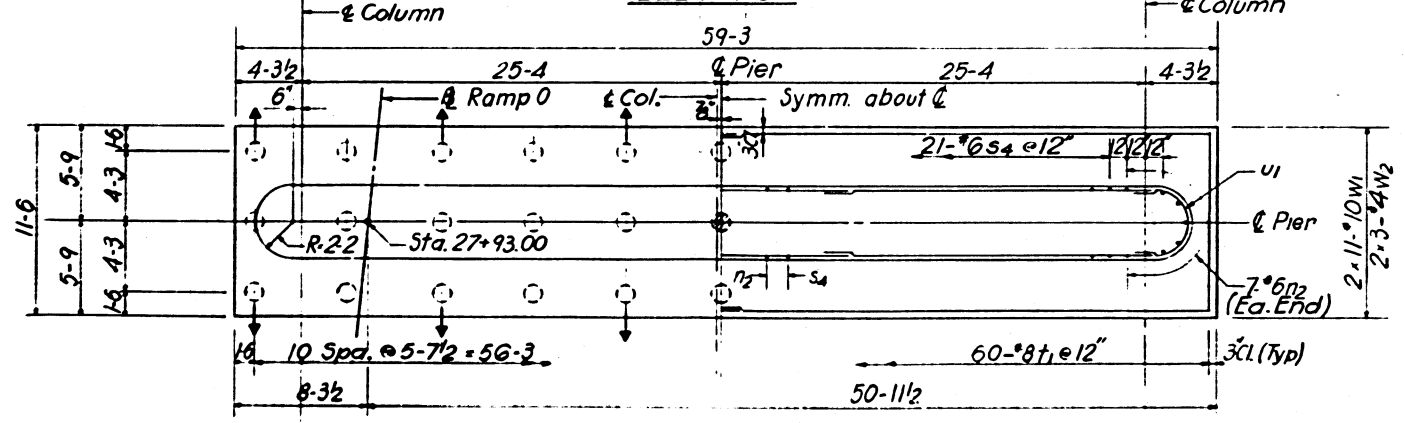
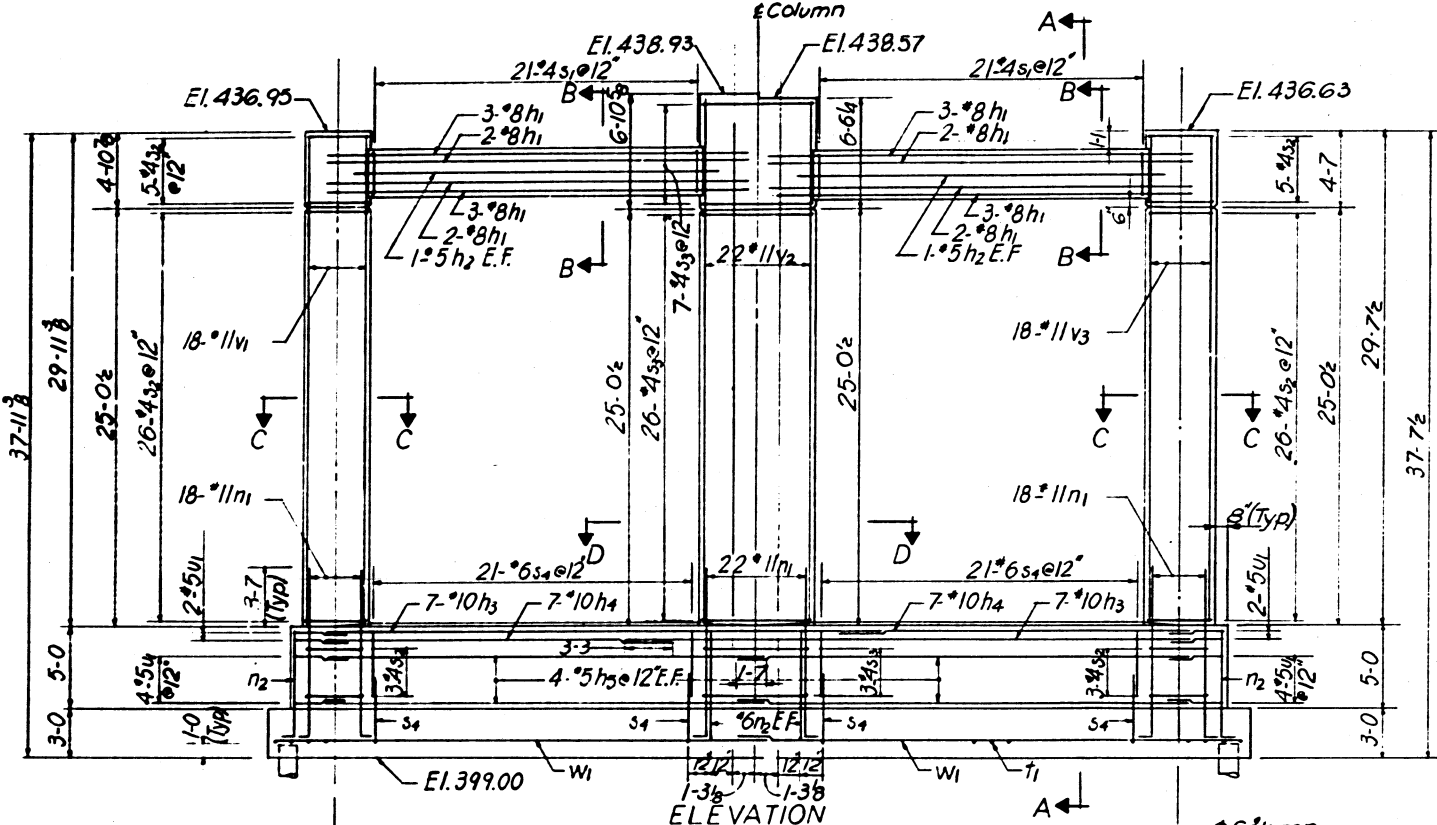
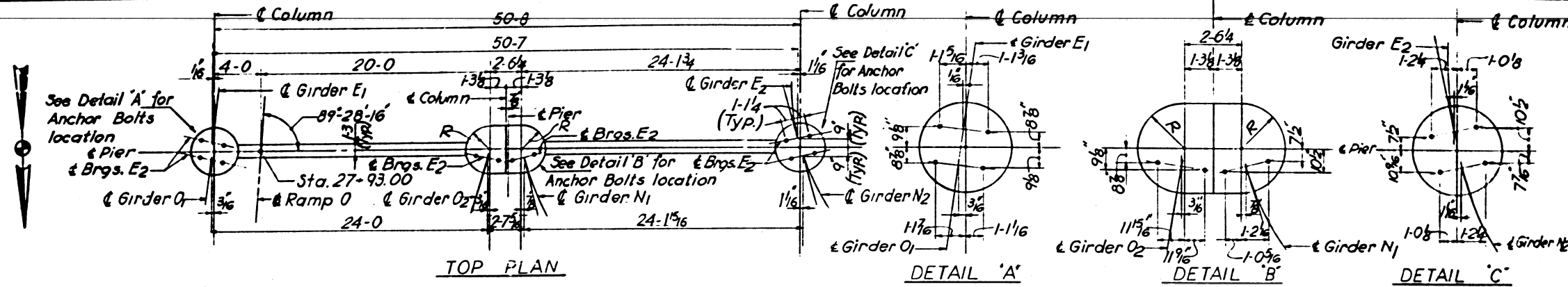
**SECTION E-E**

**PILE DATA**  
 Type: Concrete  
 Req'd. Capacity: 33 Tons  
 Est. Length: 35-0  
 No. Req'd: 20\*  
 Test Pile: 1  
 \* Does not include Test Pile

**PILE DATA**  
 Type: Concrete  
 Req'd. Capacity: 35 Tons  
 Est. Length: 34-0  
 No. Req'd: 23\*  
 Test Pile: 1  
 \* Does not include Test Pile

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS  
**PIERS 015 AND 016**  
 POPLAR STREET BRIDGE APPROACHES  
 RAMP "O"

DESIGNED BY: E.W.  
 DRAWN BY: E.L.  
 CHECKED BY: E.L.



**PILE DATA**  
 Type: Concrete  
 Req'd. capacity: 31 Tons  
 Est. Length: 34-0  
 No. Req'd.: 32 \*  
 Test Pile: 1  
 \*Does not include test pile

**BILL OF MATERIAL**

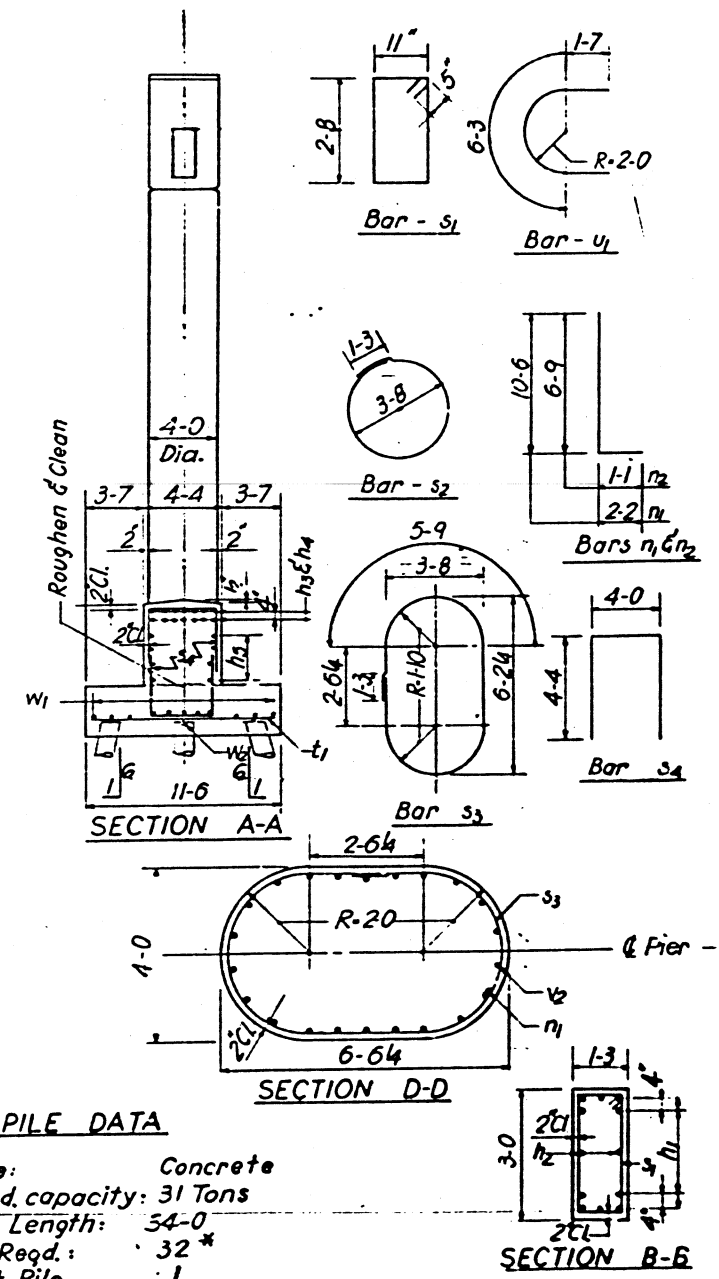
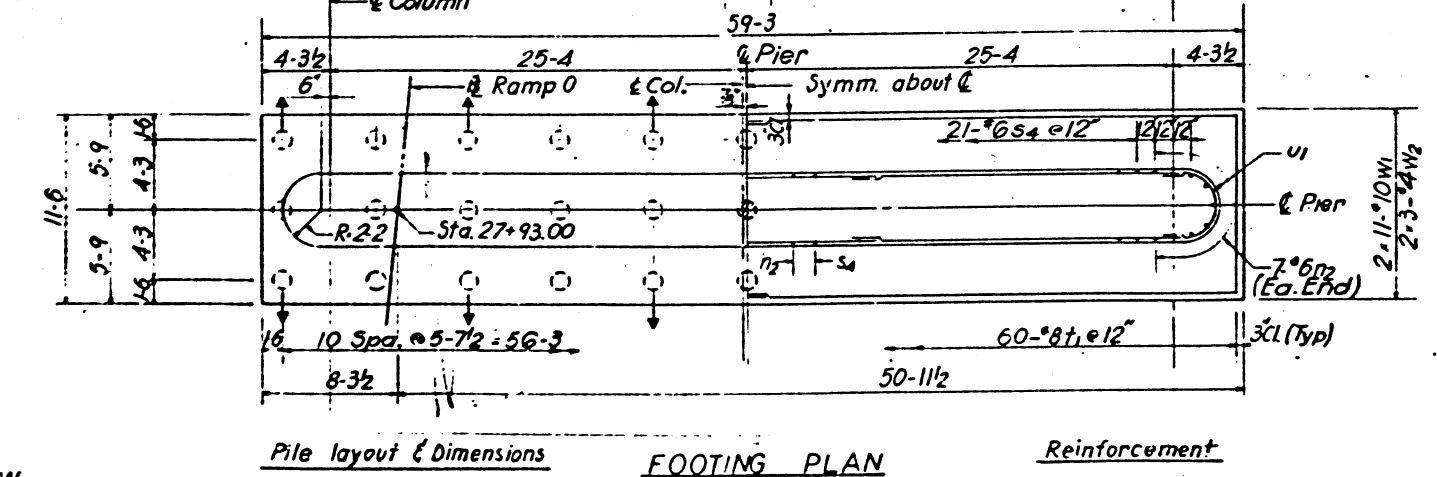
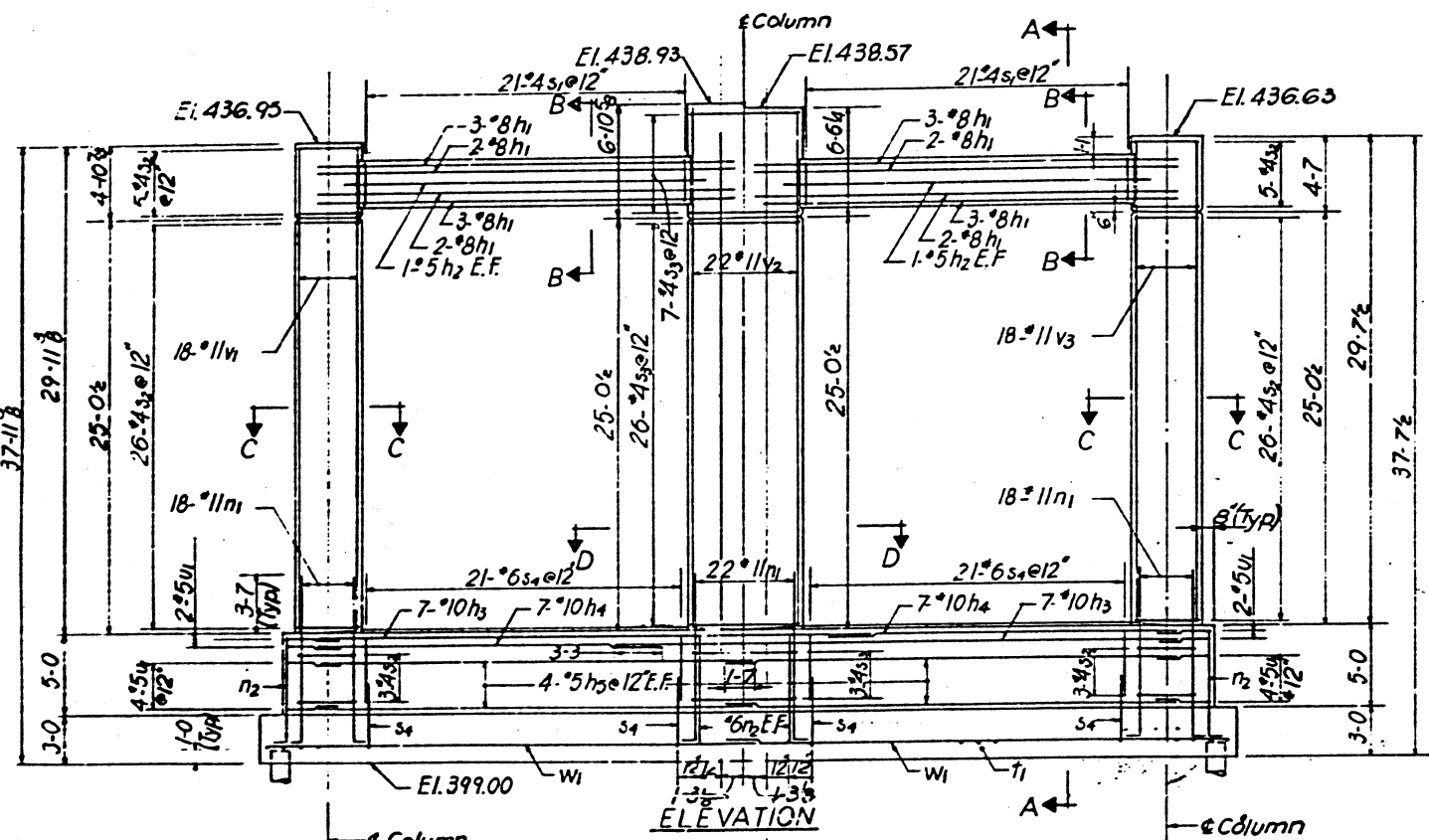
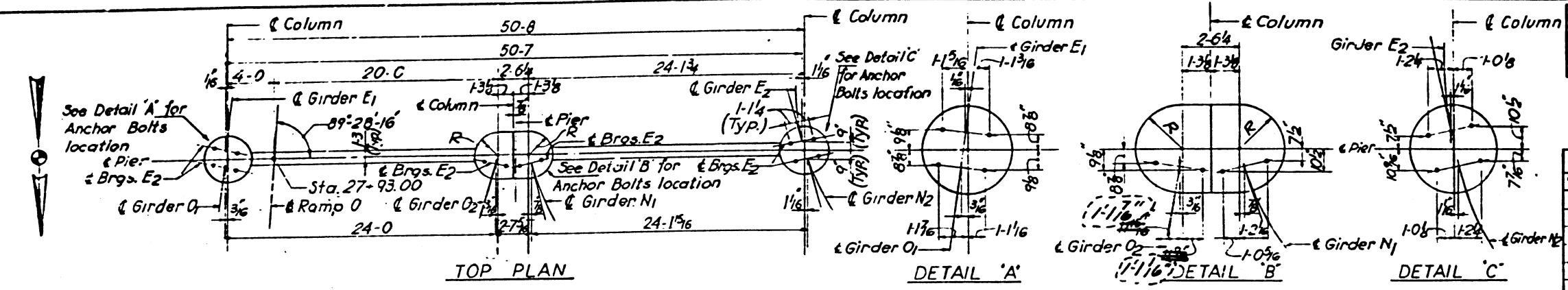
No.	Mark	No. Rods	Size	Length	Shape
129h1	20	20	#8	26-4	—
129h2	4	4	#5	22-6	—
129h3	14	14	#10	33-4	—
129h4	14	14	#10	21-7	—
129h5	16	16	#5	26-8	—
129n1	58	58	#11	12-8	—
129n2	18	18	#6	7-10	—
129s1	42	42	#4	8-0	—
129s2	68	68	#4	12-9	—
129s3	36	36	#4	17-10	—
129s4	84	84	#6	12-8	—
129v1	18	18	#11	29-9	—
129v2	22	22	#11	31-5	—
129v3	18	18	#11	29-6	—
129t1	60	60	#8	11-2	—
129u1	12	12	#5	9-5	—
129w1	22	22	#10	31-0	—
129w2	6	6	#4	30-0	—
*See Note 'X' Sh. No 14					
Item		Qty.	Total		
Class 'X' Concrete			CY. 178.9		
Reinforcement Bars			LBS. 26,500		
Concrete Piles			L.F. 1088		
Test Pile			No. 1		

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDG.  
 DIVISION OF HIGHWAYS  
**PIER O17**  
 POPLAR STREET BRIDGE APPROACH;  
 RAMP "O"  
 F A I RT 70 ST CLAIR CO SECTION 82-34V -2  
 H. W. LOCKNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS  
 SHEET NO. 147

DESIGNED BY: F.W.  
 DRAWN BY: E.C.  
 CHECKED BY: E.L.

⊙ Indicates test pile  
 ⊙ Indicates battered pile

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. - 70	82-3HVB-2	ST. CLAIR	252	188A
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



**BILL OF MATERIAL**

Mark	No. Reqd	Size	Length	Shape
129h1	20	"8	26-4	=====
129h2	4	"5	22-6	=====
129h3	14	"10	33-4	=====
129h4	14	"10	21-7	=====
129h5	16	"5	26-8	=====
129n1	58	"11	12-8	=====
129n2	18	"6	7-10	=====
129s1	42	"4	8-0	=====
129s2	68	"4	12-9	=====
129s3	36	"4	17-10	=====
129s4	84	"6	12-8	=====
129v1	18	"11	29-9	=====
129v2	22	"11	31-5	=====
129v3	18	"11	29-6	=====
129t1	60	"8	11-2	=====
129u1	12	"5	9-5	=====
129w1	22	"10	31-0	=====
129w2	6	"4	30-0	=====
*See Note 'X' Sh. No. 14				
Item	Qty	Total		
Class X Concrete	CY	178.9		
Reinforcement Bars	Lbs	26,500		
Concrete Piles	L.F.	1088		
Test Pile	Ea.	1		

**PILE DATA**

Type: Concrete  
 Req'd. capacity: 31 Tons  
 Est. Length: 54-0  
 No. Req'd.: 32 \*  
 Test Pile: 1

\*Does not include test pile

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS

PIER O17.  
 POPLAR STREET BRIDGE APPROACHES  
 RAMP "O"

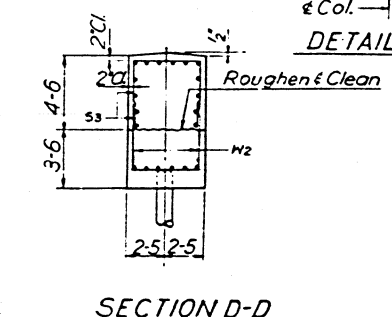
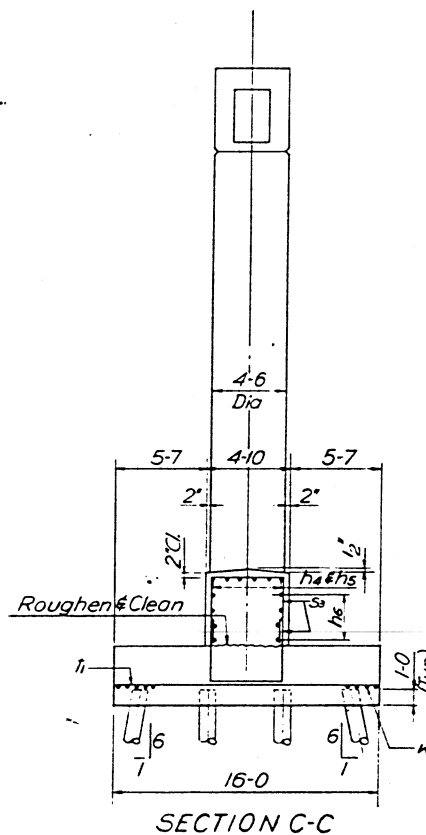
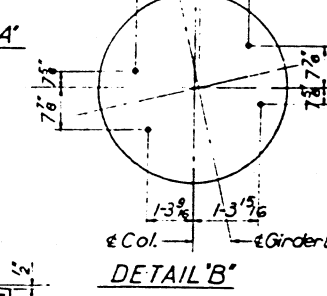
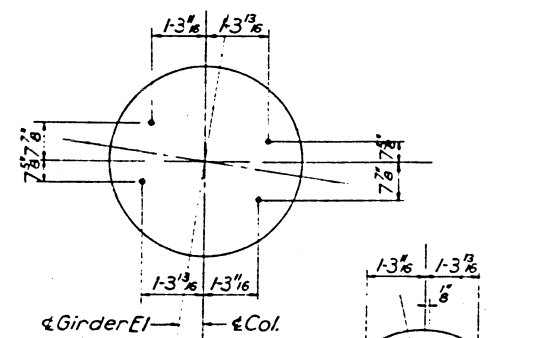
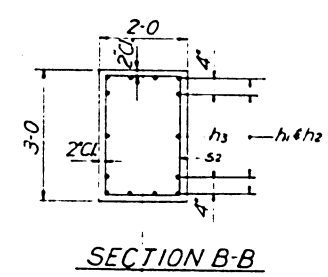
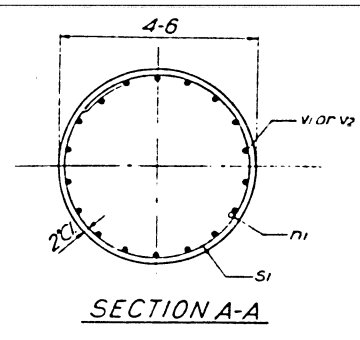
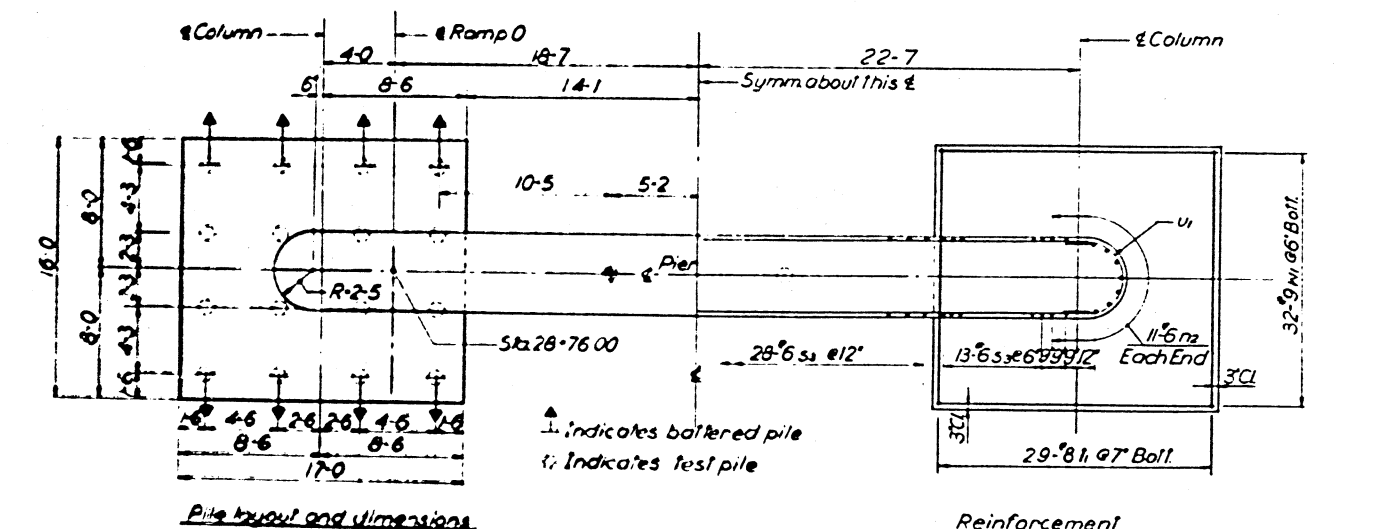
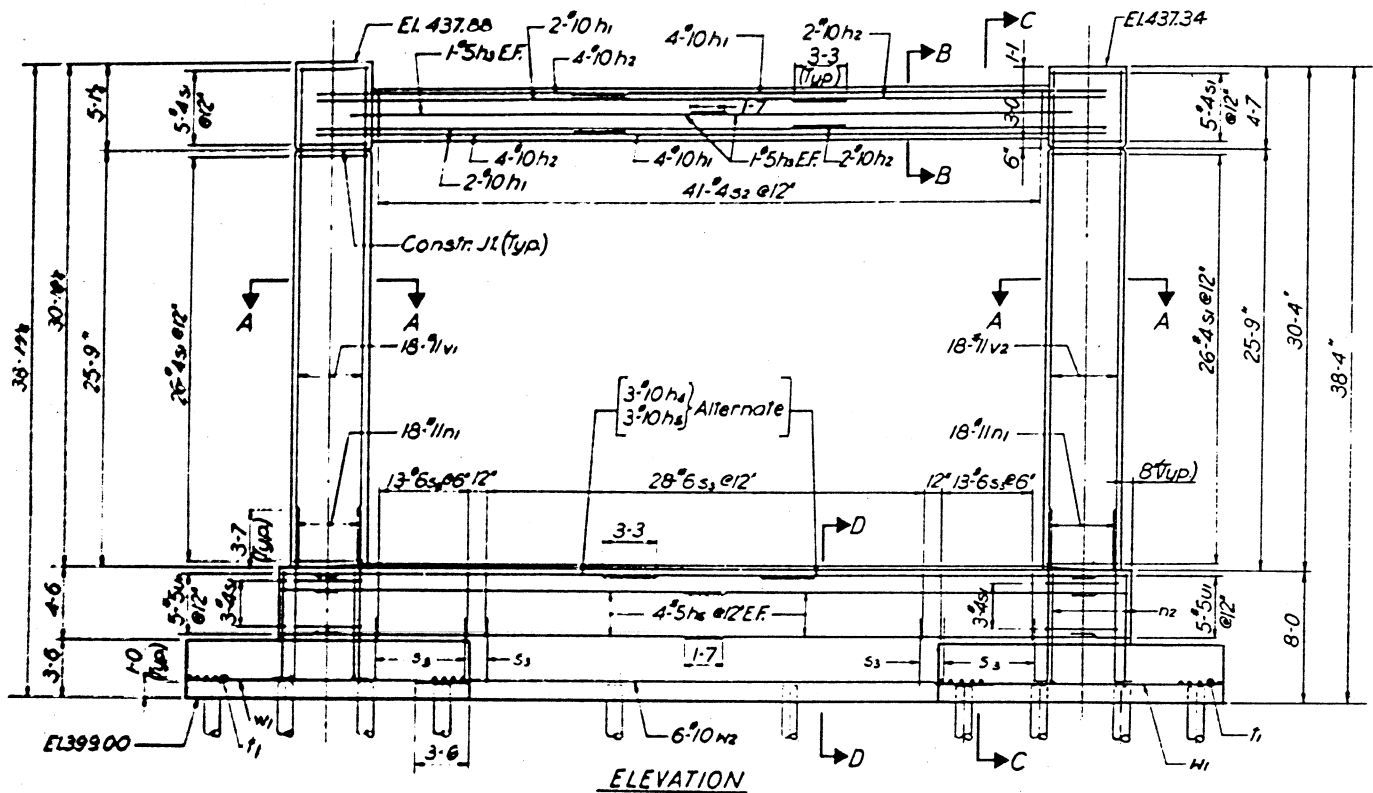
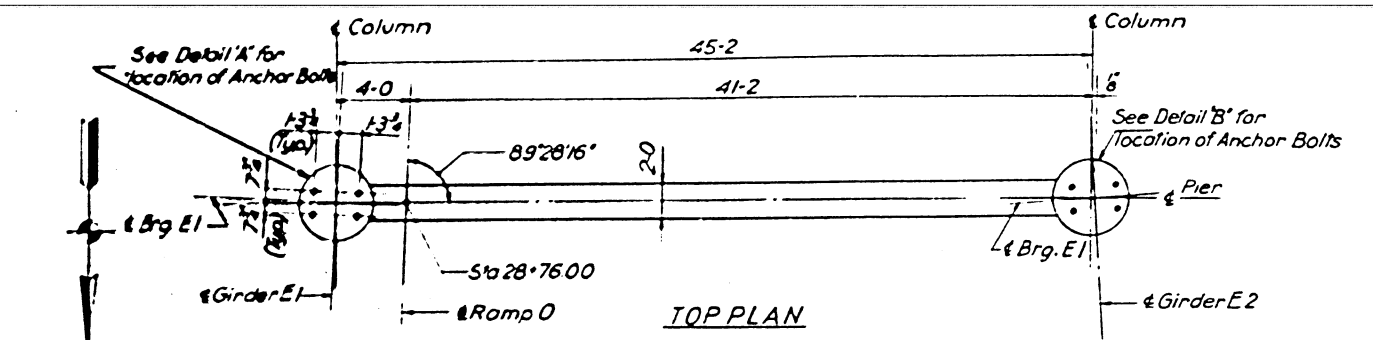
F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-2  
 H. W. LOCKNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

SHEET  
 129 OF 147

DESIGNED BY: F.W.  
 DRAWN BY: E.C.  
 CHECKED BY: F.L.

Revised 12-11-70 J.M.J.

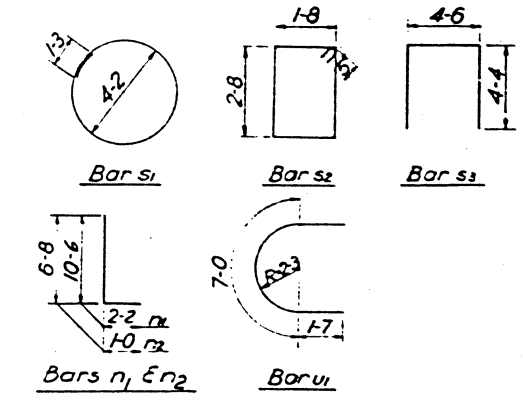
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F A I-70	82-3MVB-2	ST. CLAIR	252	196
FED. ROAD DIV. NO. 4		ILLINOIS PROJECT		



BILL OF MATERIAL				
Mark	No.	Size	Length	Shape
130h1	12	#10	32-0	—
130h2	12	#10	18-9	—
130h3	4	#5	22-8	—
130h4	6	#10	31-0	—
130h5	6	#10	18-5	—
130h6	16	#5	23-11	—
130n1	36	#11	12-8	—
130n2	22	#6	7-8	—
130s1	68	#2	14-4	○
130s2	41	#4	9-6	□
130s3	108	#6	13-2	□
130r1	58	#8	15-8	—
130r2	10	#5	10-2	—
130r3	18	#11	30-9	—
130r4	18	#11	30-2	—
130r5	64	#9	16-8	—
130r6	6	#10	35-2	—

\*See Note X' Sheet No. 14

Item	Unit	Total
Class X Concrete	CY.	137.3
Reinforcement Bars	Lbs.	23,010
Concrete Piles	LF.	1551
Test Pile	Ea.	1



**PILE DATA**  
 Type: Concrete  
 Required Capacity: 37 Tons  
 Est. Length: 47-0  
 No. Required: 33  
 Test Pile: 1  
 \*Does not include test pile

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS

**PIER 018**  
 POPLAR STREET BRIDGE APPROACHES  
 RAMP "O"

F.A.I.R.T. 70 ST. CLAIR CO. SECTION 82-31:VB-2  
 H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

SHEET  
 130 of 147

DESIGNED BY: E.V.  
 DRAWN BY: H.B.  
 CHECKED BY: E.L.

**STATE OF ILLINOIS**  
**DEPARTMENT OF PUBLIC WORKS AND BUILDINGS**  
**DIVISION OF HIGHWAYS**  
**PLANS FOR PROPOSED**  
**FEDERAL AID HIGHWAY**

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 70	82-3HVD-1	ST. CLAIR	258	1
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT I-IG-70-1(82)0		

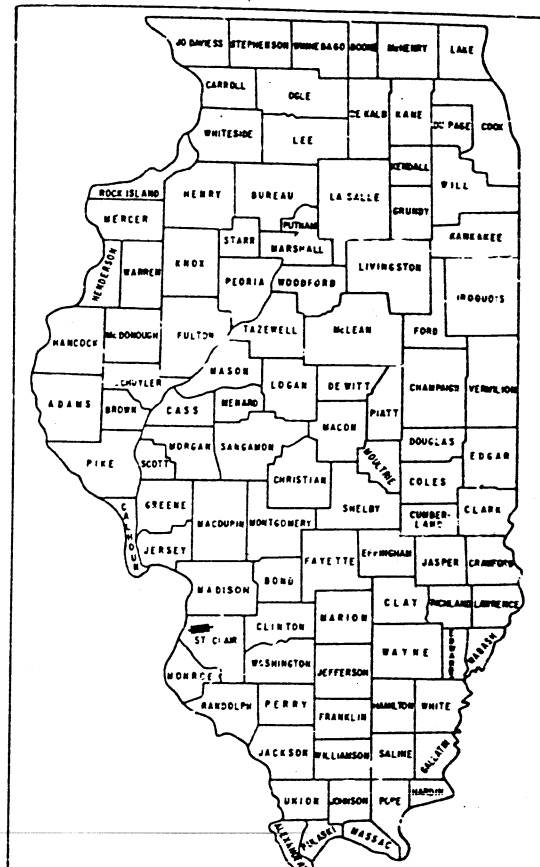
P-98-087-00

**DESCRIPTION OF PROJECT:**

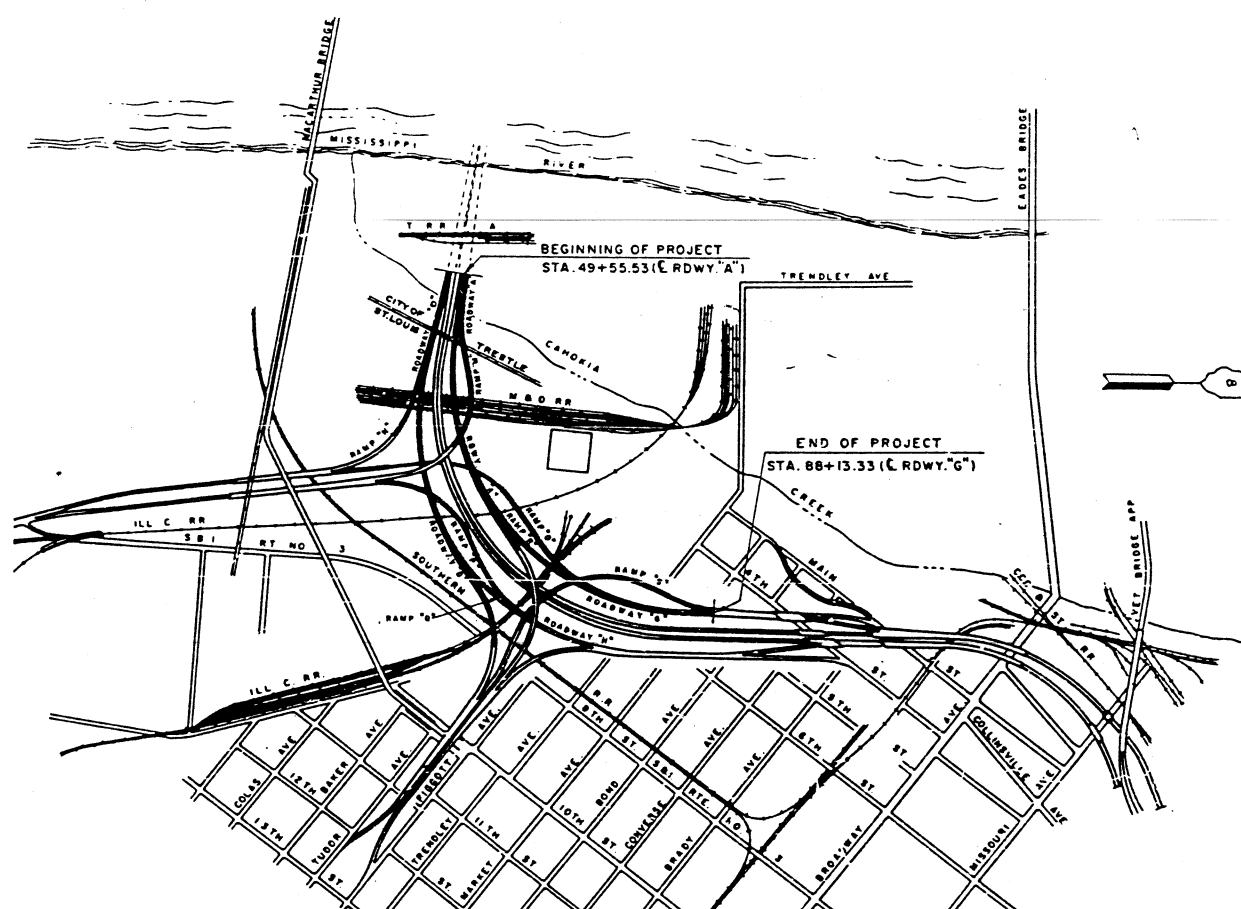
SECTION 82-3HVD-1 INCLUDES THE COMPLETE CONSTRUCTION OF THE REINFORCED CONCPETE DECK SLAB FOR THE FOLLOWING:

ROADWAY A	TWO 4-SPAN CONTINUOUS UNITS SPANS: 1 EACH @ 83'-5 5/8, 106'-106'-83; 87'-110'-110'-87'
	FIVE 3-SPAN CONTINUOUS UNITS SPANS: 2 @ 97'-124'-97' 1 EACH @ 75'-96'-75' 95'-122'-95' 89'-114'-89'
	ONE SIMPLE SPAN - 80'
ROADWAY D	TWO 4-SPAN CONTINUOUS UNIT SPANS: 1 @ 90'-7 9/16, 115'-115'-90' 1 @ 100'-128'-128'-100'
	ONE 5-SPAN CONTINUOUS UNIT SPANS: 107'-137'-137'-137'-107'
	FIVE 3-SPAN CONTINUOUS UNITS SPANS: 2 @ 85'-108'-85' 2 @ 51'-105'-81' 1 @ 90'-115'-90'
	ONE 2-SPAN CONTINUOUS UNIT SPANS: 89'-6, 89'-6
	TWO SIMPLE SPANS SPANS 1 @ 74' 1 @ 78'
ROADWAY G	TWO 4-SPAN CONTINUOUS UNITS SPANS: 1 @ 88'-113'-113'-88' 1 @ 87'-110'-110'-87'
	ONE 3-SPAN CONTINUOUS UNIT SPANS: 90'-116'-90'
	ONE 2-SPAN CONTINUOUS UNIT SPANS: 76'-76'
ROADWAY H	ONE 3-SPAN CONTINUOUS UNIT SPAN: 97'-124'-97'
	ONE SIMPLE SPAN - 88'
RAMP M	THREE 3-SPAN CONTINUOUS UNITS SPANS: 1 @ 90'-115'-90' 1 @ 105'-134'-105' 1 @ 90'-115'-85-10 11/16
RAMP N	ONE 4-SPAN CONTINUOUS UNIT SPANS: 90'-115'-115'-90'
RAMP O	FOUR 3-SPAN CONTINUOUS UNIT SPANS: 1 @ 97'-5 3/4, 130'-101' 1 @ 90'-115'-90' 1 @ 95'-121'-95' 1 @ 94'-120'-94'
	ONE SIMPLE SPAN - 65'
RAMP P	ONE 4-SPAN CONTINUOUS UNIT SPANS: 94'-121'-121'-94'
	TWO 3-SPAN CONTINUOUS UNIT SPANS: 1 @ 81'-115'-81' 1 @ 96'-122'-96'
RAMP Q	ONE 3-SPAN CONTINUOUS UNIT SPANS: 75-2 7/8, 98'-76'
	TWO 3-SPAN CONTINUOUS UNITS SPANS 1 @ 104-4 5/16, 134'-106 1 @ 101'-130'-101'
RAMP S	ONE 4-SPAN CONTINUOUS UNIT SPANS: 85'-108'-108'-85'
	THREE 3-SPAN CONTINUOUS UNIT SPANS: 1 @ 73-2 7/8, 95'-74' 1 @ 69'-97'-69' 1 @ 88'-113'-88'

F. A. I. ROUTE 70 SECTION 82-3HVD-1  
 PROJECT I-IG-70-1(82)0  
**POPLAR STREET BRIDGE APPROACHES**  
 ST. CLAIR COUNTY  
 C-98-033-65



LOCATION OF SECTION INDICATED THUS: [Black Box]



THE POPLAR STREET BRIDGE APPROACHES FOR THIS SECTION CARRY THE FOLLOWING:  
 ROADWAY A OVER THE TRACKS OF THE TERMINAL R. R. ASSOCIATION, GULF, MOBILE AND OHIO, AND ILLINOIS CENTRAL RAILROADS AND RAMP O;  
 ROADWAY D OVER THE TRACKS OF THE TERMINAL R. R. ASSOCIATION, GULF, MOBILE AND OHIO, ILLINOIS CENTRAL AND SOUTHERN RAILROADS, RAMP O AND ILLINOIS ROUTE 3;  
 ROADWAY G OVER TRENDLEY AND PIGGOTT AVENUES;  
 ROADWAY H OVER THE ILLINOIS CENTRAL RAILROAD;  
 RAMP M OVER ROADWAY A AND THE TRACKS OF THE TERMINAL R. R. ASSOCIATION AND THE GULF, MOBILE AND OHIO RAILROADS;  
 RAMP N OVER THE TRACKS OF THE TERMINAL R. R. ASSOCIATION AND GULF, MOBILE AND OHIO RAILROAD;  
 RAMP O OVER THE ILLINOIS CENTRAL RAILROAD;  
 RAMP P OVER ROADWAY D, FUTURE ACCESS ROADS AND THE ILLINOIS CENTRAL RAILROAD;  
 RAMP Q OVER THE ILLINOIS CENTRAL RAILROAD;  
 RAMP R OVER THE ILLINOIS CENTRAL RAILROAD AND A FUTURE ACCESS ROAD;  
 RAMP S OVER TRENDLEY AVENUE AND ROADWAY H.

THIS SECTION ALSO INCLUDES THE INSTALLING AND TESTING OF COMPLETE HIGHWAY LIGHTING SYSTEMS, THE FURNISHING AND ERECTING OF HIGHWAY SIGNS, THE FINISH GRADING, THE PAVING, FIELD PAINTING ALL STRUCTURAL STEEL, AND ALL APPURTENANT AND COLLATERAL WORK NECESSARY TO COMPLETE THE PROJECT AS SHOWN ON THE PLANS.

CITY OF EAST ST. LOUIS

LOCATION PLAN



LENGTH OF PROJECT  
4261.16 FT. = .807 MILES

H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

APPROVED  
FOR STRUCTURAL ADEQUACY ONLY  
*[Signature]*

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS AND BUILDINGS DIVISION OF HIGHWAYS
DESIGNED BY: <i>Robert S. Kroat</i>
CHECKED BY: <i>William J. [unclear]</i>
DATE: 5-9-67
APPROVED BY: <i>W. E. Baumann</i>
DATE: 5-9-67
DATE: 5-9-67
<i>Bruno J. [unclear]</i>

NOTE:  
FOR INDEX OF SHEETS AND SUMMARY OF QUANTITIES SEE SHEET NO. 2

DEPARTMENT OF COMM.  
BUREAU OF PUBLIC ROADS  
APPROVED  
DIVISION ENGINEER DATE

082-0143  
CONTRACT NO. 25092

2259  
*[Signature]*  
Aug. 27, 1965

REEL 8-67



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 70	82-3HVD-1	ST. CLAIR	258	2
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	

INDEX OF SHEETS  
SECTION 82-3HVD-1

SUMMARY OF QUANTITIES  
SECTION 82-3HVD-1

SHEET NO.	TITLE	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CODE NO.	ITEM	UNIT	TOT/L QUANTITY
1	TITLE SHEET								
2	INDEX OF SHEETS, SUMMARY OF QUANTITIES, GENERAL NOTES	Z01398	ENGINEER'S FIELD OFFICE TYPE 'A'	EACH		Z01379	ENGINEER'S FIELD LABORATORY	EACH	1
3	RAMP O - PLAN AND PROFILE	024016	STABILIZED SUB-BASE 4"	SQ. YD.	999	* L05078	ELECTRIC CONDUCTOR IN CONDUIT (BARE ANNEALED COPPER) NO. 6	LIN. FT.	1,204
4 AND 5	APPROACH SLABS	201394	STABILIZED SHOULDERS (B')	SQ. YD.	631	* L05165	ELECTRIC CABLE, UNIT DUCT, 3-600 V THW NO. 6 1" POLYETHYLENE	LIN. FT.	480
6 THRU 18	ELECTRICAL PLANS AND DETAILS	024016	STABILIZED SUB-BASE 4"	SQ. YD.	999	* L05165	ELECTRIC CABLE, UNIT DUCT, 3-600 V THW NO. 2 1" POLYETHYLENE	LIN. FT.	370
19 AND 20	PLAN OF FENCE AND GUARD RAIL	048012	PORTLAND CEMENT CONCRETE PAVEMENT 16 1/2 - 12-16 1/2	SQ. YD.	441				
21 AND 22	PLAN OF EXISTING CONDITIONS AND UTILITIES	048027	CONTINUOUSLY REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT 8"	SQ. YD.	699	* L05066	SYSTEM GROUNDING	LUMP SUM	1
23 THRU 27	RIGHT OF WAY PLANS (FOR INFORMATION ONLY)	048043	PAVEMENT REINFORCEMENT (B')	SQ. YD.	699	Z00004	ALUMINUM HANDRAIL	LIN. FT.	26,188
28	LIST OF BENCH MARKS, TIES TO TRAVEL LINE AND GENERAL PLAN OF TRAVEL LINE	052003	CLASS "X" CONCRETE	CU. YD.	15,166.2	* Z20199	SIGN PANEL, REFLECTORIZED	SQ. FT.	1,202
29 THRU 33	ALIGNMENT PLANS	052021	PROTECTIVE COAT	SQ. YD.	60,343	* Z20208	CAPITAL LETTERS & NUMERALS 16"	EACH	20
34 THRU 36	LIST OF COORDINATE POINTS AND DESCRIPTIONS	* 054004	PAINTING STRUCTURAL STEEL	FOUND POUND	17,674,325	* Z20211	CAPITAL LETTERS & NUMERALS 12"	EACH	15
37 THRU 43	SIGNING PLANS AND DETAILS	059001	REINFORCEMENT BARS	FOUND POUND	4,031,510	* Z20213	CAPITAL LETTERS & NUMERALS 10"	EACH	16
44 THRU 53	OVERHEAD SIGN STRUCTURES	061001	NAME PLATES	EACH	4	* Z20228	LOWER CASE LETTERS 12"	EACH	77
54	KEY PLAN, GENERAL NOTES AND BILL OF MATERIAL	094001	STEEL PLATE BEAM GUARD RAIL	LIN. FT.	2,700	* Z20253	BORDER 2"	LIN. FT.	448
55 THRU 59	GENERAL PLANS	100015	CHAIN LINK FENCE, 4'	LIN. FT.	1,498	* Z20326	STANDARD SIGNS R2-1-4860	EACH	8
60 THRU 78	PLAN AND ELEVATION	110005	FERTILIZER NUTRIENTS	TON	0.1				
79 THRU 87	GEOMETRIC LAYOUTS	110006	AGRICULTURAL GROUND LIMESTONE	TON	4.6	* Z20494	STANDARD SIGNS W4-1-48	EACH	6
88 THRU 139	SLABS	112001	SODDING	SQ. YD.	7,392	* Z20671	STANDARD SIGNS W14-20-4860	EACH	3
140 THRU 177	PARAPET AND HANDRAIL	112002	SUPPLEMENTAL WATERING	UNIT	52	* Z20585	STANDARD SIGNS M1-21-4530	EACH	3
178	ALUMINUM HANDRAIL	* L00006	CONDUIT IN TRENCH, 2" DIA. GALVANIZED STEEL	LIN. FT.	23	* Z20594	STANDARD SIGNS M1-30(2)-3636	EACH	4
179 THRU 235	TABLES OF ELEVATIONS	* L00008	CONDUIT IN TRENCH, 3" DIA. GALVANIZED STEEL	LIN. FT.	1,288	* Z20872	STANDARD SIGNS M1-5-3924	EACH	3
236	SIGN BRACKET	* L00053	CONDUIT ATTACHED TO STRUCTURE, 1" DIA. GALVANIZED STEEL	LIN. FT.	600	* Z20820	ARROW SYMBOL 22 x 32	EACH	9
237 THRU 239	EXPANSION DEVICES	* L00056	CONDUIT ATTACHED TO STRUCTURE, 2" DIA. GALVANIZED STEEL	LIN. FT.	14,376	* Z20823	ARROW SYMBOL 35 5/8 x 22 1/4	EACH	2
240 THRU 243	ABUTMENT DETAILS (SHEET 377 THRU 380 OF 526)	* L00058	CONDUIT ATTACHED TO STRUCTURE, 3" DIA. GALVANIZED STEEL	LIN. FT.	45	* Z20937	SIGN TRUSS LIGHTING	LUMP SUM	1
244	STD. 2138-3	* L00110	CONDUIT IN CONCRETE, 1" DIA. GALVANIZED STEEL	LIN. FT.	364	Z01065	RAILROAD PROTECTIVE SERVICES	LUMP SUM	1
245, A	2234, 2114								
246	2148-4								
247	2177-3								
248	2167-2	256	STD. 2230-1						
249	2141-8	257	STD. 2235						
250	2140-4	258	STD. 2237-1						
251	2180-2	258 A	STD. 2208-2						
252	2151-9								
253	2147-3								
254	2224-3								
255	2225-2								
	GENERAL NOTES								
	THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 2, 1958, AND THE SUPPLEMENTAL SPECIFICATIONS EFFECTIVE JANUARY 3, 1966, AND THE SUPPLEMENTAL SPECIFICATIONS FOR HIGHWAY SIGNING EFFECTIVE MARCH 1, 1963 AND THE STANDARD SPECIFICATIONS FOR TRAFFIC SIGNALS, ADOPTED JUNE 1, 1959 SHALL GOVERN THIS CONSTRUCTION.								
	ALL ELEVATIONS REFER TO U. S. G. S. MEAN SEA LEVEL DATUM.								
	THE PROFILE GRADE LINE REFERS TO THE GRADE ELEVATION AT THE POINT SHOWN ON THE TYPICAL SECTIONS AND PLANS.								
	POSITIVE PROFILE GRADES ARE IN THE DIRECTION OF TRAFFIC AND HIGHER ELEVATIONS.								
	NEGATIVE PROFILE GRADES ARE IN THE DIRECTION OF TRAFFIC AND LOWER ELEVATIONS.								
	THE FOLLOWING UTILITY COMPANIES HAVE FACILITIES WITHIN THE LIMITS OF CONSTRUCTION WHICH MAY REQUIRE ADJUSTMENTS:								
	EAST ST. LOUIS AND INTERURBAN WATER COMPANY ILLINOIS POWER COMPANY SOUTHWESTERN BELL TELEPHONE COMPANY UNION ELECTRIC COMPANY WESTERN UNION TELEGRAPH COMPANY								
	ALL PAVEMENT DIMENSIONS ARE TO EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.								
	Stud shear connectors on the beam flanges shall be placed in the field after the steel has been erected and deck forms are in place. The cost of furnishing and placing of the connectors is included as "Stud Shear Connectors" in Section 82-3HVD-1.								
	Guard rail shall be attached to abutment wings in accordance with Standard 2230-1 except self-drilling anchor bolts shall be used in lieu of 1 1/2" anchor bolts. New beveled shims shall be provided at sloped surfaces.								
		054022	STUD SHEAR CONNECTORS	EACH	17,775				
		* L01227	POLE, ALUMINUM, ANCHOR BASE, 55 FT. MH 4 FT. MAST ARM	EACH	60	* Z20854	OVERHEAD SIGN STRUCTURE TYPE II-A (4'-6" x 5'-3")	LIN. FT.	242.5
		* L01248	POLE, ALUMINUM, ANCHOR BASE, 32 FT. MH 10 FT. MAST ARM	EACH	2	* Z20855	OVERHEAD SIGN WALKWAY, TYPE A	LIN. FT.	213
		* L02200	POLE FOUNDATION	EACH	2				
		* L02403	LUMINAIRE, MERCURY VAPOR, WITH BUILT-IN REGULATOR BALLAST 400 WATTS	EACH	62				
		* L02812	LAMP, MERCURY VAPOR 400 WATTS, TYPE H33-1-CD	EACH	62				
		* L04300	TRENCH AND BACKFILL	LIN. FT.	2,121				
		* 106036	ELECTRIC CABLE IN CONDUIT, 600 V (NEOPRENE-RUBBER INSULATED) 1/c NO. 10	LIN. FT.	6,540				
		* 106038	ELECTRIC CABLE IN CONDUIT, 600 V (NEOPRENE-RUBBER INSULATED) 1/c NO. 6	LIN. FT.	38,871				
		* 106041	ELECTRIC CABLE IN CONDUIT, 600 V (NEOPRENE-RUBBER INSULATED) 1/c NO. 2	LIN. FT.	11,757				
		* 106163	ELECTRIC CONDUCTOR IN TRENCH (BARE ANNEALED COPPER) NO. 6	LIN. FT.	276				

\* SPECIALTY ITEMS  
I-PORTION - 87.9%  
IG-PORTION - 12.1%

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS BLDGS.  
DIVISION OF HIGHWAYS

INDEX OF SHEETS  
SUMMARY OF QUANTITIES  
GENERAL NOTES

F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

SHEET  
OF

Rev. 6-3-66 Requiring Str. Steel 17,690,150 to 17,674,325. Reinf. from 3,990,610 to 4,031,510. Added Quant. Stud Shear Connectors. N. R. F.

1/16/67 Deleted Barricades  
R.D.

Rev. 6-13-67 CEM  
SHEETS REV.

B.M. #26 Elev. 404.396  
 X-Cut in N.W. corner of concrete abutment  
 at center pier of Ill. Central R.R. Bridge  
 over Ill. Rte. 3

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RT. 70	82-3HVB-1	ST. CLAIR		
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

FIELD WELDING OF CONSTRUCTION ACCESSORIES TO THE BOTTOM FLANGES OR FOR A DISTANCE OF 1/2 OF I... FROM PIER SUPPORTS ON THE TOP FLANGES OF BEAMS OR GIRDERS WILL NOT BE PERMITTED. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

GENERAL NOTES

- COARSE AGGREGATE TO BE USED IN PARAPET HANDRAILS AND END POST MUST BE ABSOLUTELY FREE OF CHERT, FLINT, LIMONITE, LIGNITE AND SOFT SANDSTONE.
- THE CONCRETE FLOOR SLAB SHALL BE FINISHED IN ACCORDANCE WITH ARTICLE 51.19 OF THE STANDARD SPECIFICATIONS.
- SLOPE WALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC 6" X 6" MESH, #4 WIRES WEIGHING 58 LBS. PER 100 SQ. FT.
- ALL REINFORCEMENT BARS SHALL BE LAPPED 20 DIAMETERS UNLESS OTHERWISE SHOWN.
- ALL WELDING SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR WELDED HIGHWAY AND RAILWAY BRIDGES OF THE AMERICAN WELDING SOCIETY, AWS D2. 0-63.
- ALL STRUCTURAL STEEL SHALL CONFORM TO A.S.T.M. DESIGNATION A-36.
- ALL FIELD CONNECTIONS BOLTED, HIGH STRENGTH STEEL BOLTS 7/8" OPEN HOLES 15/16" EXCEPT AS NOTED.
- HIGH STRENGTH STEEL BOLT CONNECTIONS SHALL BE IN ACCORDANCE WITH ART. 54.5g OF THE STANDARD SPECS.
- ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.
- ROADWAY EXPANSION GUARDS SHALL BE ASSEMBLED IN THE SHOP IN PROPER POSITION WITH THE ENDS IN PLACE AND SHALL BE LEFT ASSEMBLED FOR SHOP INSPECTION.
- FINGER PLATES SHALL BE FLAME CUT AS PROVIDED IN ARTICLE 54.5 (1) OF THE STANDARD SPECIFICATIONS.
- ALL SURFACE OF THE EXPANSION GUARD INACCESSIBLE AFTER ERECTION SHALL BE GIVEN TWO SHOP COATS OF RED LEAD PAINT, THE CONTACT SURFACES SHALL BE GIVEN ONE COAT OF RED LEAD PAINT. ANCHOR STUDS SHALL NOT BE PAINTED.
- EXPANSION GUARDS ARE INCLUDED IN THE QUANTITY OF STRUCTURAL STEEL. ESTIMATED WEIGHT 185,040 LBS.
- EXCEPT AS OTHERWISE PROVIDED, ALL STRUCTURAL STEEL SHALL RECEIVE ONE (1) SHOP COAT OF RED LEAD PAINT AND TWO FIELD COATS OF GREEN PAINT. SEE ARTICLE 56.1 TO 56.5 INCLUSIVE OF THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

THE CONTRACTOR SHALL DRIVE ONE CONCRETE TEST PILE IN A PERMANENT LOCATION AT EACH ABUTMENT AND EACH PIER AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.

CONCRETE PILES AT ABUTMENTS SHALL BE DRIVEN IN HOLES PRECORED THROUGH THE EMBANKMENT IN ACCORDANCE WITH ARTICLE 60.9 (c) OF THE STANDARD SPECIFICATIONS.

CURVED GIRDERS, INTERMEDIATE FLOOR BEAMS AND END FLOOR BEAMS SHALL BE COMPLETELY ASSEMBLED IN THE SHOP IN PROPER POSITION BEFORE REAMING FIELD CONNECTIONS AND SHALL BE LEFT ASSEMBLED FOR SHOP INSPECTION.

PERMANENT FORMS WILL NOT BE PERMITTED IN FORMING THE CONCRETE FLOOR.

DESIGN STRESSES

$f_c = 1400$  psi. Super and Sub  
 $f_s = 20,000$  psi Reinforcement  
 $f_s = 20,000$  psi Struct. (A-36 Steel)  
 $V_c = 75$  psi. Footings  
 $n = 10$

LOADING HS20-44 & Alt.

Note  
 All cross reference sheet numbers shown on the Bridge Plans are the numbers located in the lower right hand corner of each sheet.

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS

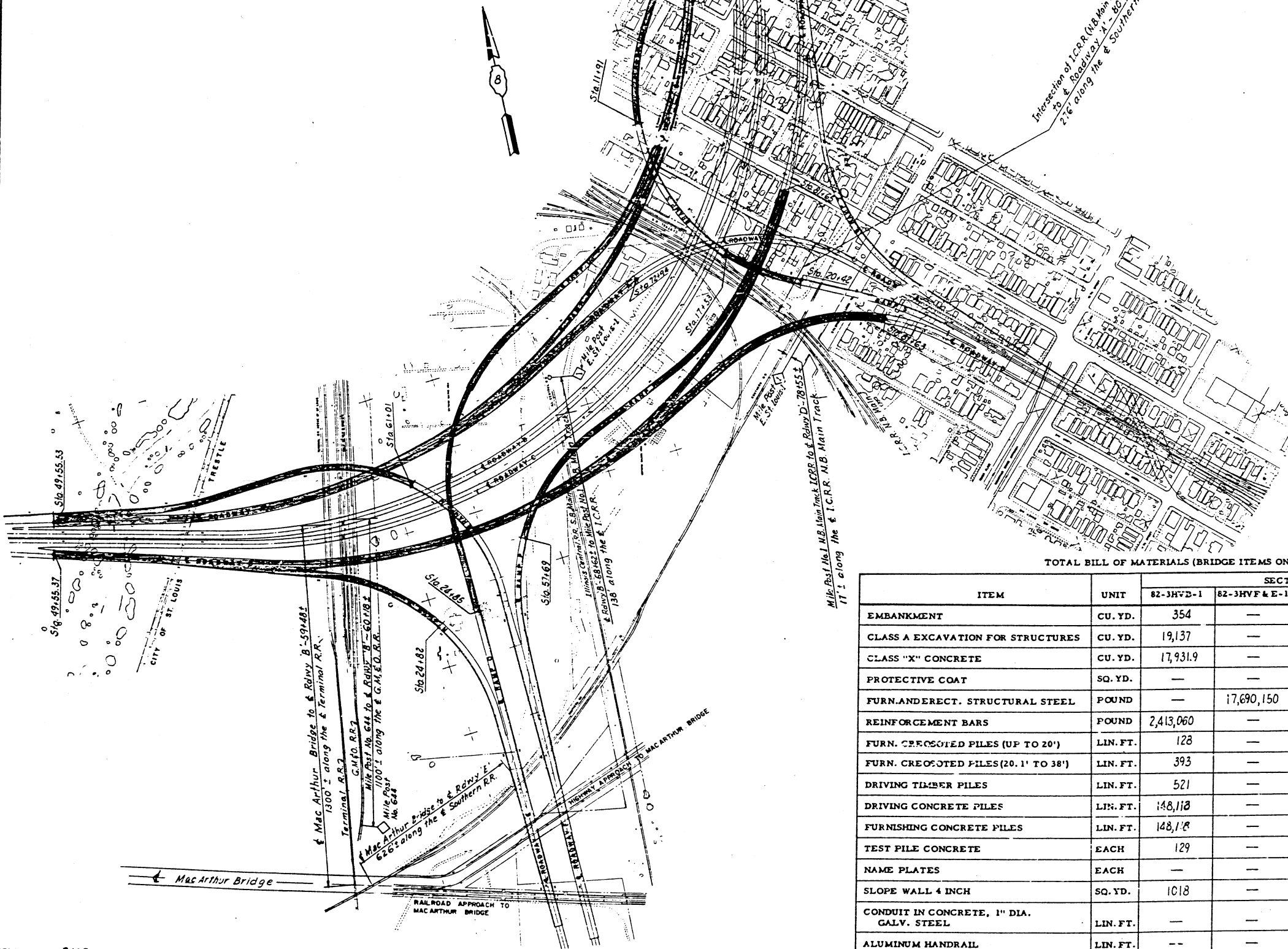
KEY PLAN, GENERAL NOTES  
 AND BILL OF MATERIAL

POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1  
 82-3HVB-1  
 82-3HVF & E-1  
 82-3HVD-1

H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

SHEET  
 1 of 526



TOTAL BILL OF MATERIALS (BRIDGE ITEMS ONLY)

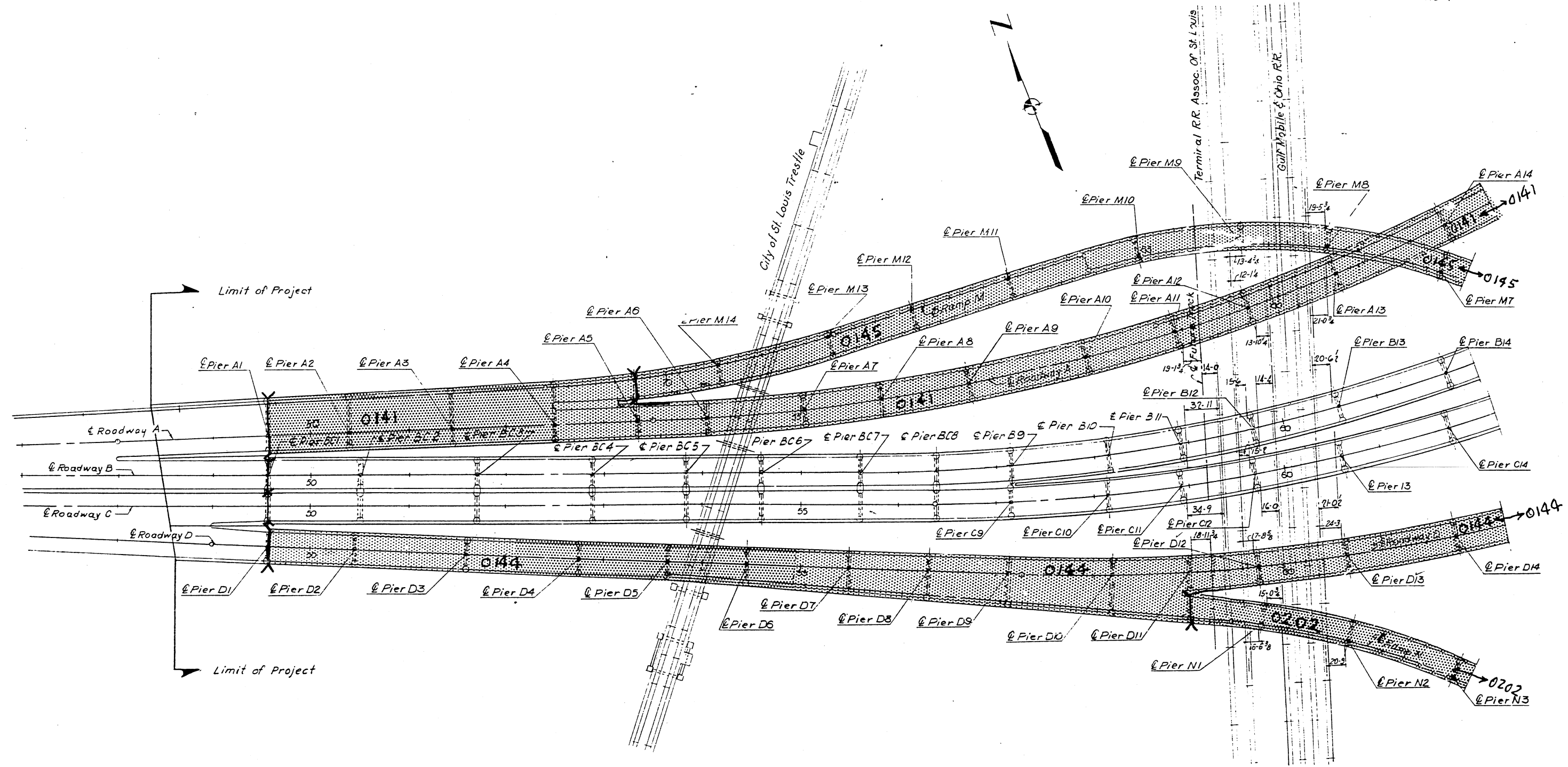
ITEM	UNIT	SECTION			TOTAL
		82-3HVB-1	82-3HVF & E-1	82-3HVD-1	
EMBANKMENT	CU. YD.	354	—	—	354
CLASS A EXCAVATION FOR STRUCTURES	CU. YD.	19,137	—	—	19,137
CLASS "X" CONCRETE	CU. YD.	17,931.9	—	15,159.3	33,091.2
PROTECTIVE COAT	SQ. YD.	—	—	59,203	59,203
FURN. AND ERECT. STRUCTURAL STEEL	POUND	—	17,690,150	—	17,690,150
REINFORCEMENT BARS	POUND	2,413,060	—	3,956,230	6,369,290
FURN. CREOSOTED PILES (UP TO 20')	LIN. FT.	128	—	—	128
FURN. CREOSOTED PILES (20.1' TO 38')	LIN. FT.	393	—	—	393
DRIVING TIMBER PILES	LIN. FT.	521	—	—	521
DRIVING CONCRETE PILES	LIN. FT.	148,118	—	—	148,118
FURNISHING CONCRETE PILES	LIN. FT.	148,118	—	—	148,118
TEST PILE CONCRETE	EACH	129	—	—	129
NAME PLATES	EACH	—	—	4	4
SLOPE WALL 4 INCH	SQ. YD.	1018	—	—	1018
CONDUIT IN CONCRETE, 1" DIA. GALV. STEEL	LIN. FT.	—	—	364	364
ALUMINUM HANDRAIL	LIN. FT.	—	—	26,188	26,188
BRIDGE SEAT SEALANT *	L. SUM	1	—	—	1
PAINTING STRUCTURAL STEEL	POUND	—	—	17,690,150	17,690,150

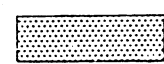
\* CLASS A EXCAVATION FOR STRUCTURES INCLUDES EXCAVATION FOR SLOPE WALL.  
 \* BRIDGE SEAT SEALANT TO BE USED AT ABUTMENTS AND PIERS AT EXPANSION JOINTS.

DESIGNED BY RMR  
 DRAWN BY ENG  
 CHECKED BY RMR  
 APPROVED BY KA

KEY PLAN

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. - 70	82-3HVB-1	ST. CLAIR		20
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		55 of 258
	82-3HVF&E-1			
	82-3HVD-1			



 - Indicates Portion included in Sections 82-3HVB-1, 82-3HVF & E-1 and 82-3HVD-1.

DESIGNED BY RMR  
 DRAWN BY JH  
 CHECKED BY RMR  
 APPROVED BY KA

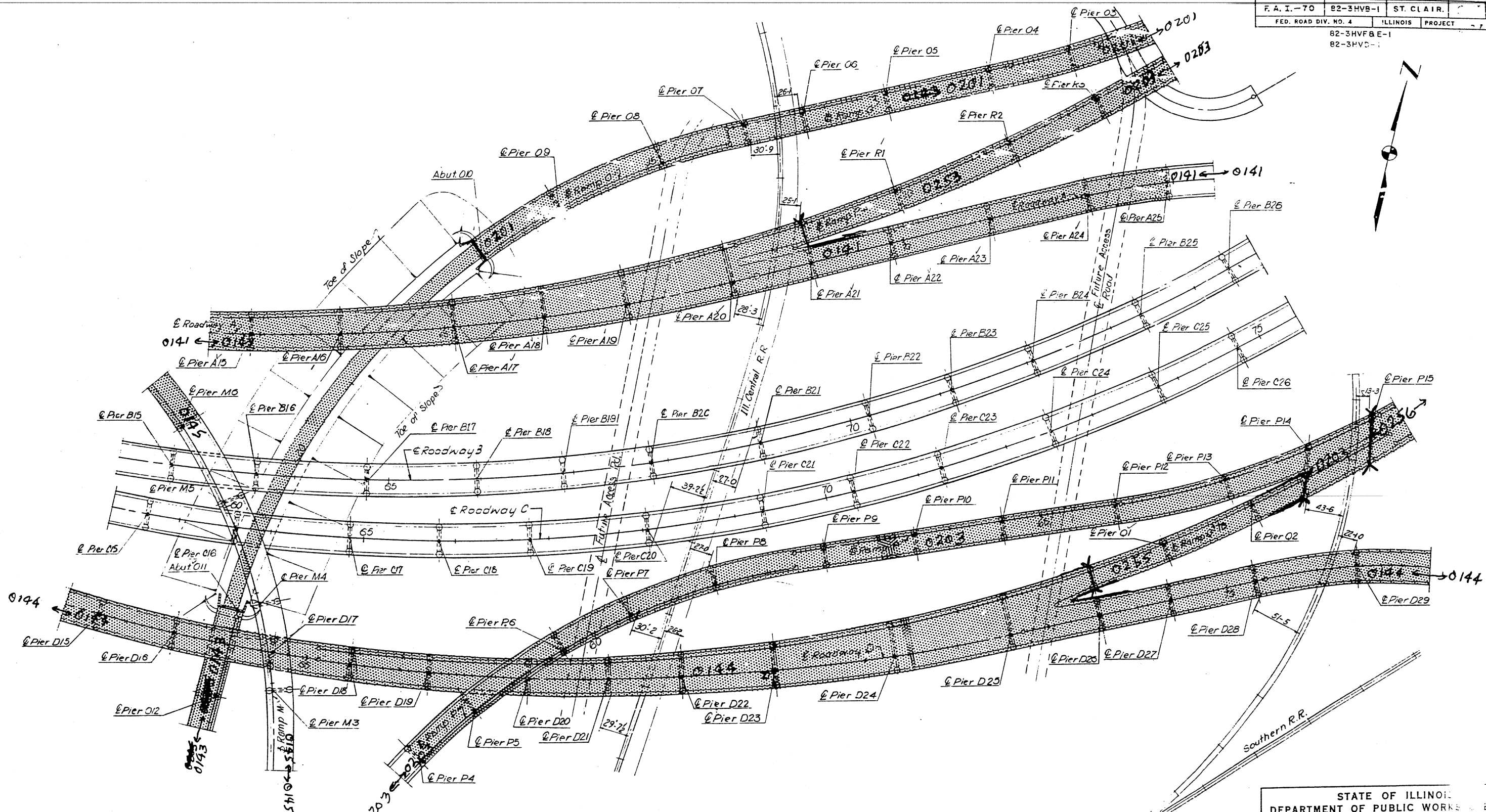
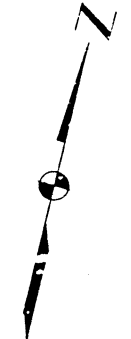
STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS

**GENERAL PLAN**  
**POPLAR STREET BRIDGE APPROACHES**  
 SECTIONS 82-3HVB-1  
 82-3HVF&E-1  
 82-3HVD-1

F. A. I. RT. 70 ST. CLAIR CO.  
 H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

SHEET  
 2 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. - 70	82-3HVB-1	ST. CLAIR	56	21
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		56 of 258



- Indicates Portion included in Sections 82-3HVB-1, 82-3HVF & E-1 and 82-3HVD-1.

DESIGNED BY RMP  
 DRAWN BY MM  
 CHECKED BY RMP  
 APPROVED BY KA

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS

**GENERAL PLAN**  
**POPLAR STREET BRIDGE APPROACHES**

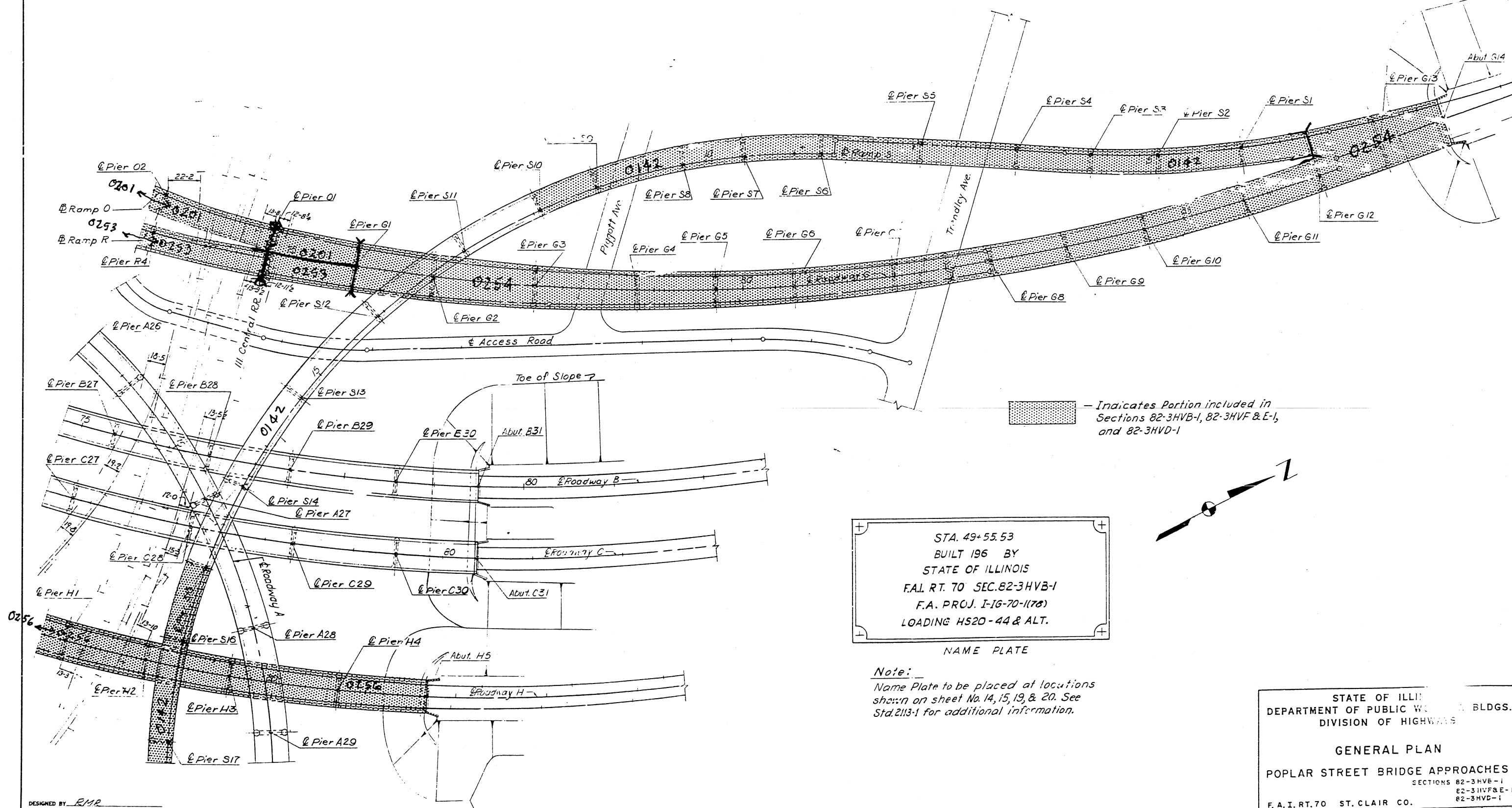
SECTIONS 82-3HVB-1  
 82-3HVF&E-1  
 82-3HVD-1

F. A. I. RT. 70 ST. CLAIR CO.

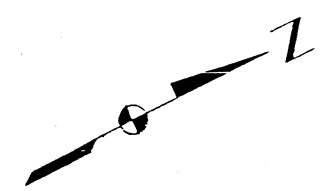
H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

SHEET  
 3 OF 525

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. I.-70	B2-3HVB-1	ST. CLAIR		22
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		57 of 258
	B2-3HVF&E-1			
	B2-3HVD-1			



Indicates Portion included in Sections 82-3HVB-1, 82-3HVF & E-1, and 82-3HVD-1



STA. 49+55.53  
 BUILT 196 BY  
 STATE OF ILLINOIS  
 F.A. RT. 70 SEC. B2-3HVB-1  
 F.A. PROJ. I-16-70-1(78)  
 LOADING HS20-44 & ALT.

NAME PLATE

Note:  
 Name Plate to be placed at locations shown on sheet No. 14, 15, 19, & 20. See Std. 2113-1 for additional information.

DESIGNED BY RMP  
 DRAWN BY SH  
 CHECKED BY RMP  
 APPROVED BY KA

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS

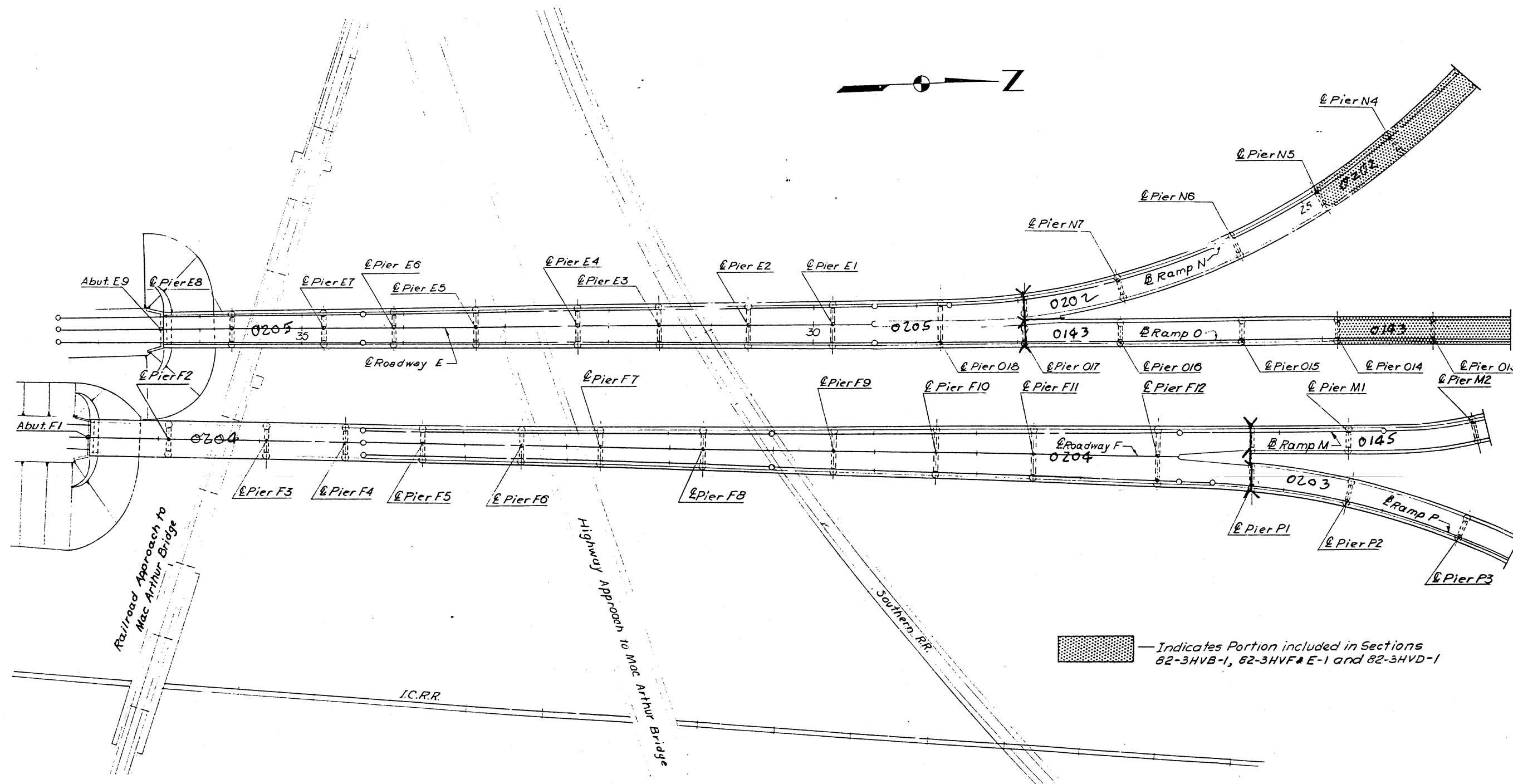
GENERAL PLAN  
 POPLAR STREET BRIDGE APPROACHES  
 SECTIONS 82-3HVB-1  
 82-3HVF&E-1  
 82-3HVD-1

F.A. I. RT. 70 ST. CLAIR CO.

H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

SHEET 4 of 258

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. -70	82-3HVB-1	ST. CLAIR	23	23
FED. ROAD DIV. NO. 4	ILLINOIS PROJECT			
	82-3HVB-E-1			23
	82-3HVD-1			58



— Indicates Portion included in Sections 82-3HVB-1, 82-3HVB-E-1 and 82-3HVD-1

DESIGNED BY RMR  
 DRAWN BY RSE  
 CHECKED BY RMR  
 APPROVED BY KA

STATE OF ILL.  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS

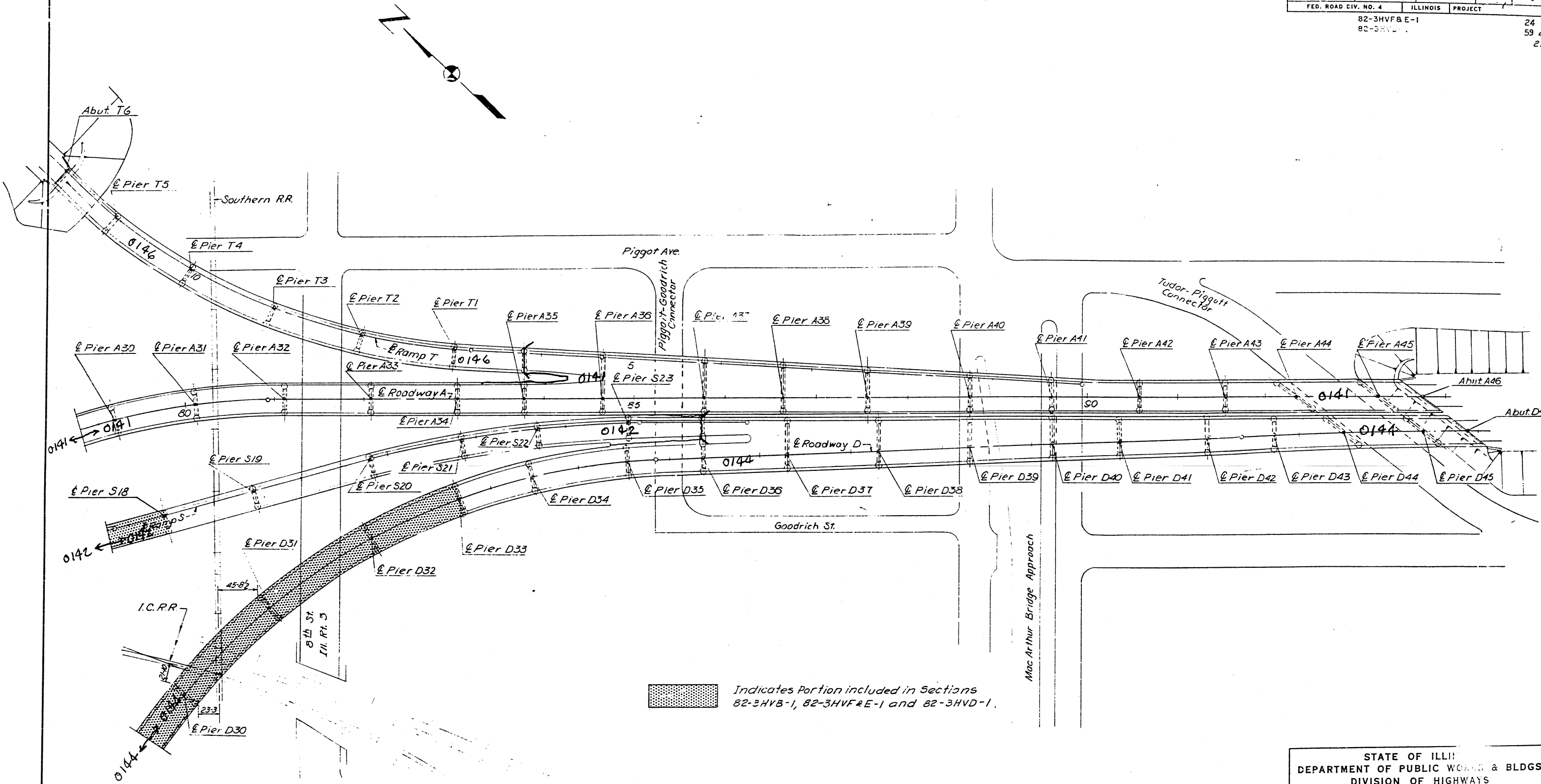
**GENERAL PLAN**  
 POPLAR STREET BRIDGE APPROACHES

SECTIONS 82-3HVB-1  
 82-3HVB-E-1  
 82-3HVD-1

F. A. I. RT. 70 ST. CLAIR CO.  
 H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

SHEET  
 5 of 5

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. - 70	82-3HVB-1	ST. CLAIR	59	24
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		59 of 258
	82-3HVF&E-1			
	82-3HVD-1			



Indicates Portion included in Sections 82-3HVB-1, 82-3HVF&E-1 and 82-3HVD-1.

DESIGNED BY RMR  
 DRAWN BY  
 CHECKED BY RMR  
 APPROVED BY KA

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS

GENERAL PLAN  
 POPLAR STREET BRIDGE APPROACHES

SECTIONS 82-3HVB-1  
 82-3HVF&E-1  
 82-3HVD-1

F. A. I. RT. 70 ST. CLAIR CO.

H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

SHEET  
 6 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVB-1	ST. CLAIR	51	5
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	

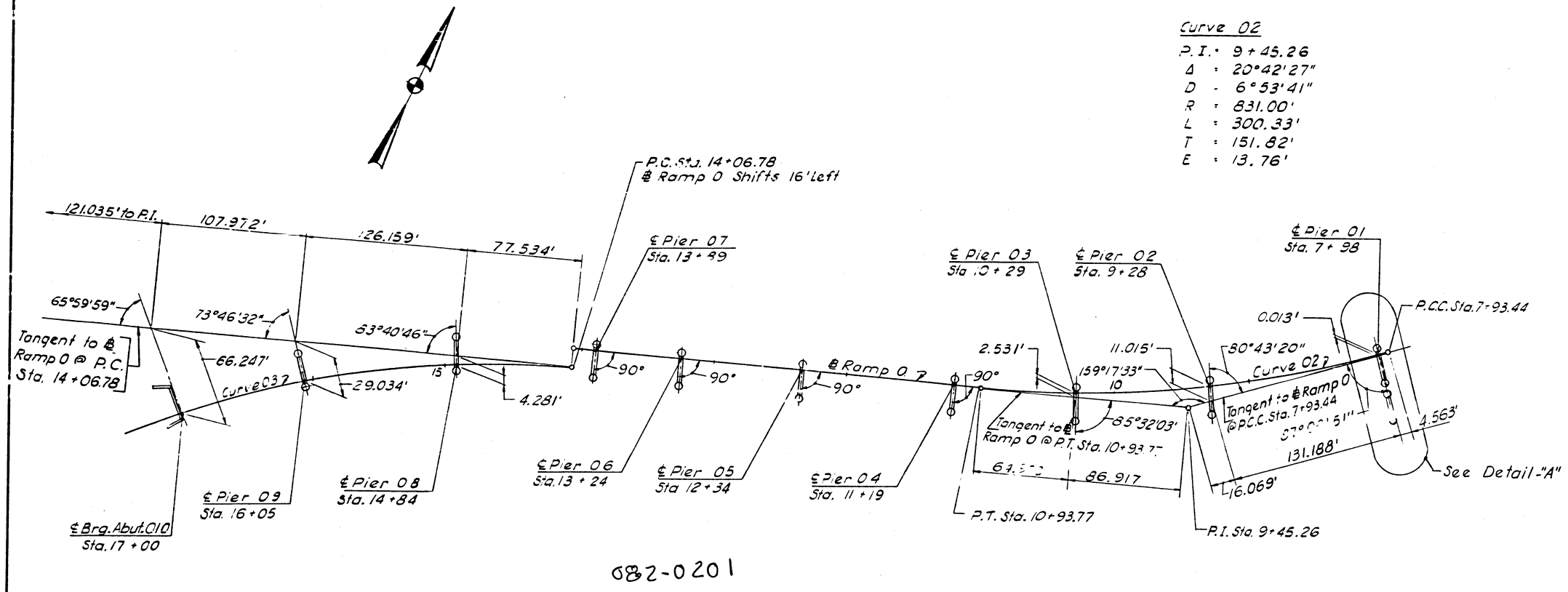
82-3HVF&E-1  
82-3HVB-1  
51  
86 of 258

TABLES OF COORDINATES

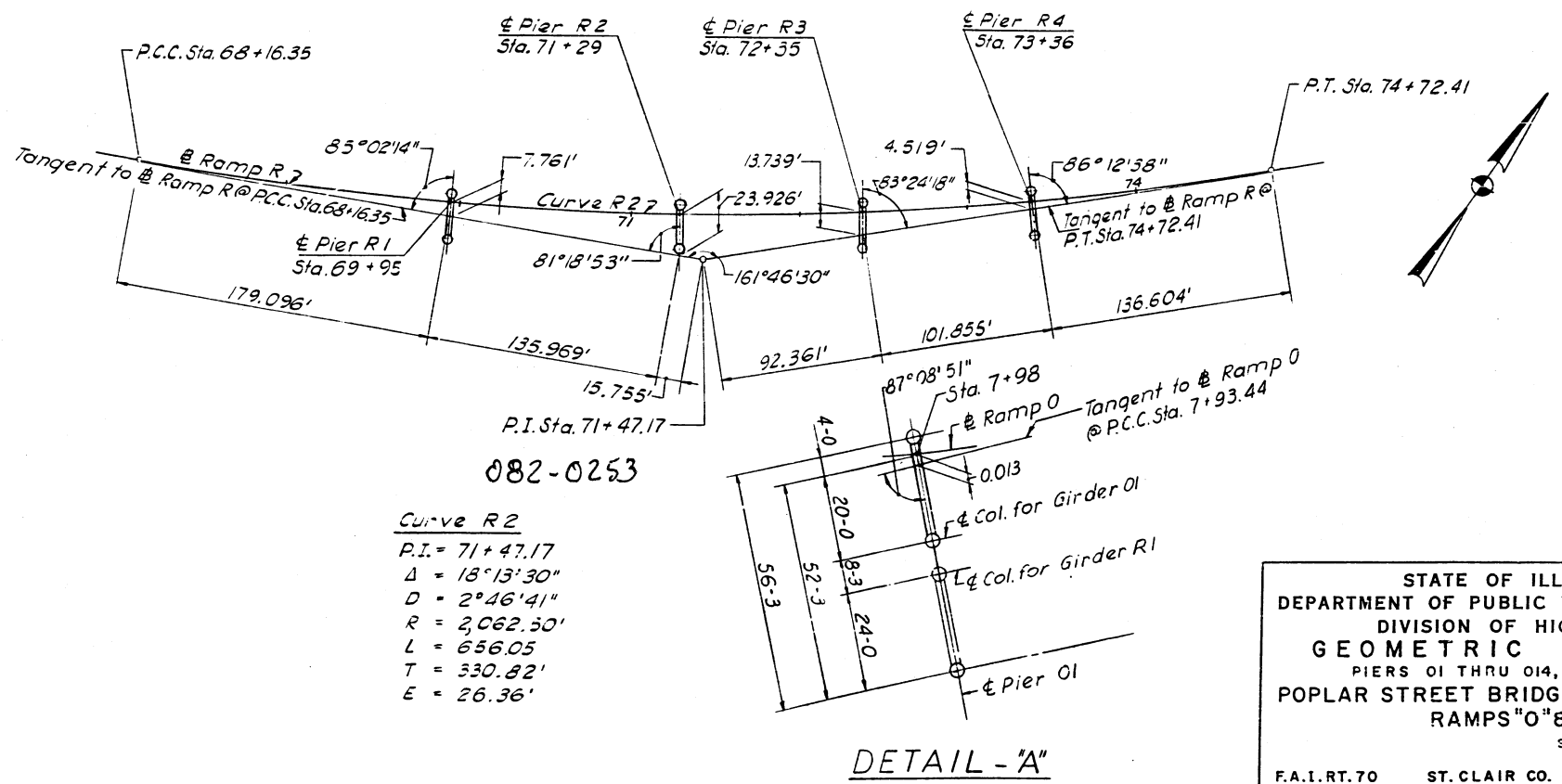
Pier No.	# Ramp O		Azimuth	Right Col. Offset	Left Col. Offset	
	Sta.	N. Coordinate				E. Coordinate
01	7+98	9736.343	33119.865	138°03'53"	4-0	52-3
02	9+28	9652.881	33020.368	144°29'24"	4-0	20-0
03	10+29	9599.350	32934.794	151°27'14"	4-0	20-0
04	11+19	9560.352	32853.716	155°55'11"	4-0	20-0
05	12+34	9513.430	32748.724	155°55'11"	4-0	20-0
06	13+24	9476.708	32666.556	155°55'11"	4-0	20-0
07	13+99	9450.161	32607.213	155°55'11"	4-0	20-0
08	14+84	9392.997	32528.887	149°35'57"	20-0	4-0
09	16+05	9323.073	32430.322	139°41'43"	20-0	4-0
# Brq. Abut. 010	17+00	9256.902	32362.239	131°55'10"	20-0	4-0
# Brq. Abut. 011	21+77	8824.370	32164.001	92°52'35"	20-0	4-0
012	22+71	8730.459	32179.923	92°28'34"	20-0	4-0
013	23+91	8610.571	32174.738	92°28'34"	20-0	4-0
014	24+85	8516.658	32170.677	92°28'34"	20-0	4-0

Pier No.	# Ramp R		Azimuth	Right Col. Offset	Left Col. Offset	
	Sta.	N. Coordinate				E. Coordinate
R1	69+95	9411.773	32780.126	146°46'50"	20-0	4-0
R2	71+29	9488.774	32889.764	143°03'29"	20-0	4-0
R3	72+35	9554.629	32972.810	140°06'48"	20-0	4-0
R4	73+36	9621.268	33048.693	137°18'28"	20-0	4-0

Curve 02  
P.I. = 9+45.26  
Δ = 20°42'27"  
D = 6°53'41"  
R = 831.00'  
L = 300.33'  
T = 151.82'  
E = 13.76'

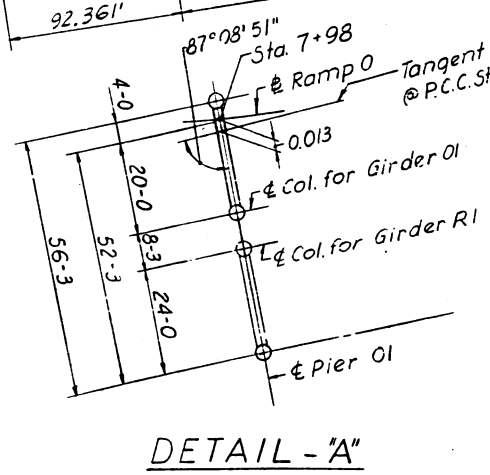
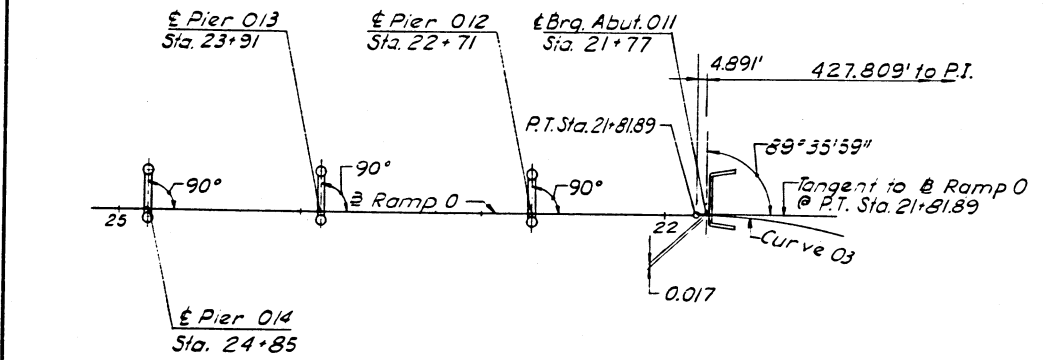


Curve R2  
P.I. = 71+47.17  
Δ = 18°13'30"  
D = 2°46'41"  
R = 2,062.50'  
L = 656.05'  
T = 330.82'  
E = 26.36'



Curve 03  
P.I. = 18+39.48  
Δ = 63°26'37"  
D = 8°11'06"  
R = 700.00'  
L = 775.11'  
T = 432.70'  
E = 122.94'

082-0143



DESIGNED BY R.M.R.  
DRAWN BY I.M.  
CHECKED BY S.Q.B.  
APPROVED BY K.A.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS  
GEOMETRIC LAYOUT  
PIERS 01 THRU 014, R1 THRU R4  
POPLAR STREET BRIDGE APPROACHES  
RAMPS "O" & "R"  
SECTIONS 82-3HVB-1  
82-3HVF&E-1  
82-3HVD-1  
F.A.I. RT. 70 ST. CLAIR CO.  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS  
SHEET 33 of 526

082-0143, 0201, 0253



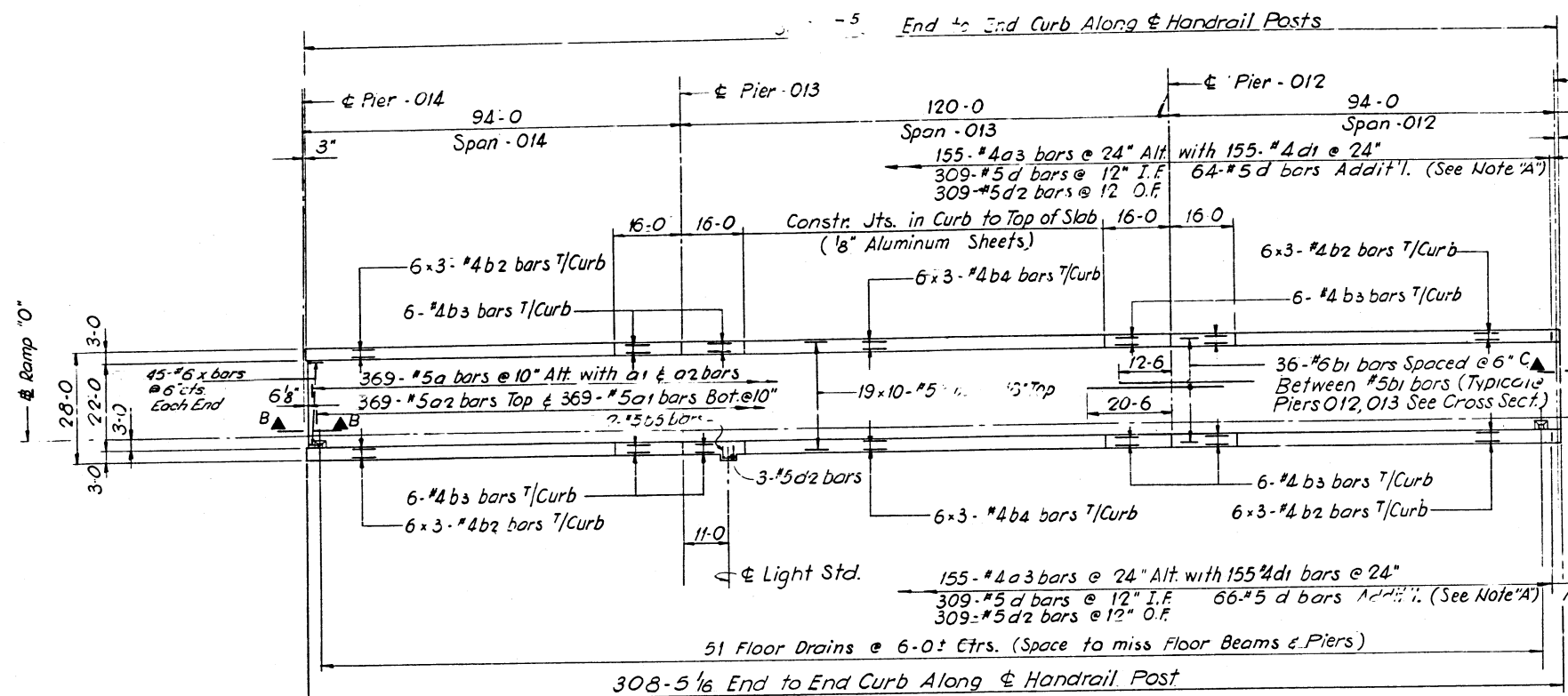
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVD-1	ST. CLAIR	258	129
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	

**BILL OF MATERIAL**

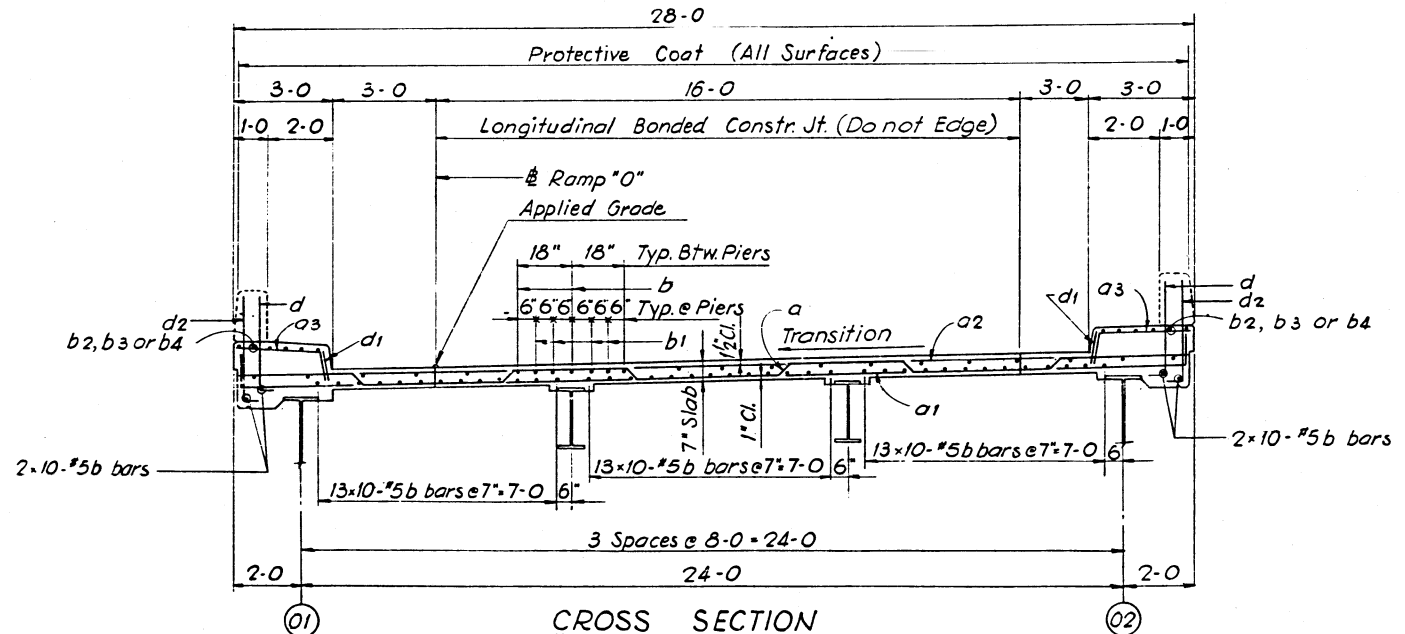
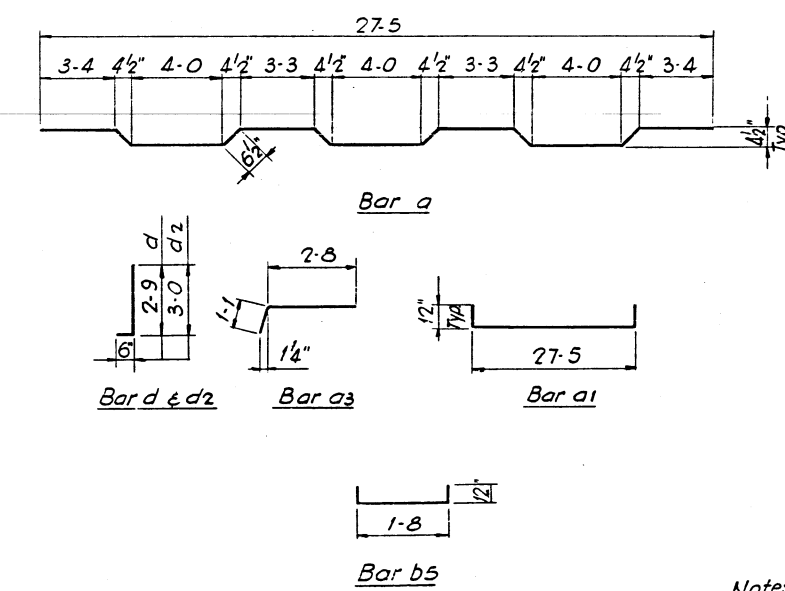
*BAR	NO.	SIZE	LENGTH	SHAPE
76a	369	#5	28-5	U
76a1	369	#5	29-5	U
76a2	369	#5	27-5	U
76a3	310	#4	3-9	U
76b	620	#5	31-10	U
76b1	72	#6	33-0	U
76b2	72	#4	26-11	U
76b3	48	#4	15-9	U
76b4	36	#4	30-1	U
76b5	2	#5	3-8	U
76d	748	#5	3-3	J
76d1	310	#4	1-1	U
76d2	621	#5	3-6	J
76x	90	#6	4-9	U

\* See Note "X" Sh. No. 35.

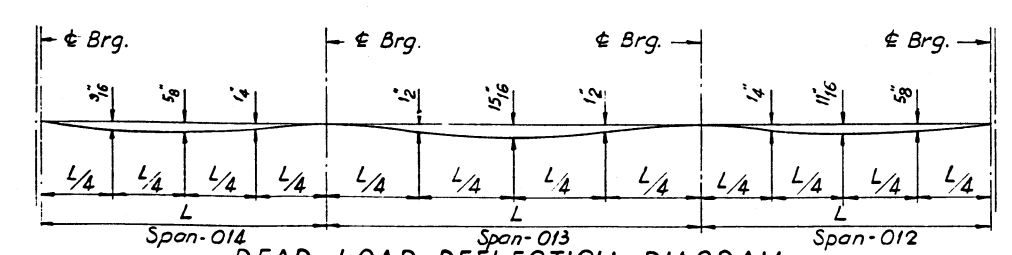
ITEM	UNIT	TOTAL
Class "X" Concrete	Cu. Yds.	263.2
Reinforcement Bars	Lbs.	65,940
Protective Coat	Sq. Yds.	1096



**PLAN**  
Spans 012 thru 014



**CROSS SECTION**



**DEAD LOAD DEFLECTION DIAGRAM**  
FASCIA GIRDERS (Wt. Of Concrete Only)

DESIGNED BY R.M.R.  
DRAWN BY Y.R.  
CHECKED BY R.M.R.  
APPROVED BY K.A.

Notes:  
For Notes, Sections & Details See Sh. No. 35  
For Section B-B & C-C See Sh. No.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS BLDGS.  
DIVISION OF HIGHWAYS

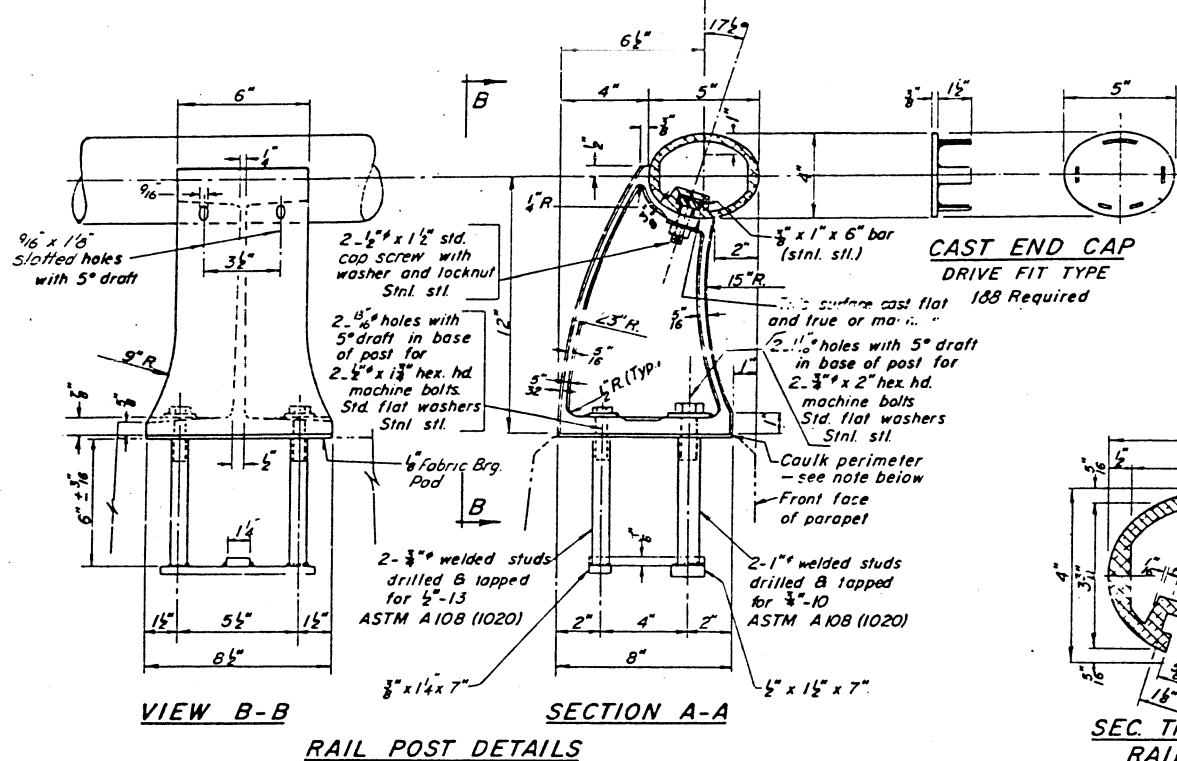
**SLAB**  
SPANS 012 THRU 014  
POPLAR STREET BRIDGE APPROACHES  
RAMP "O"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

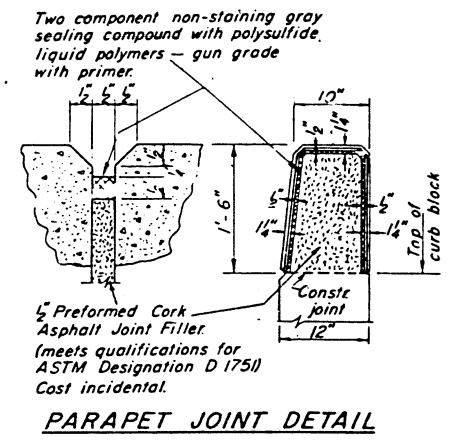
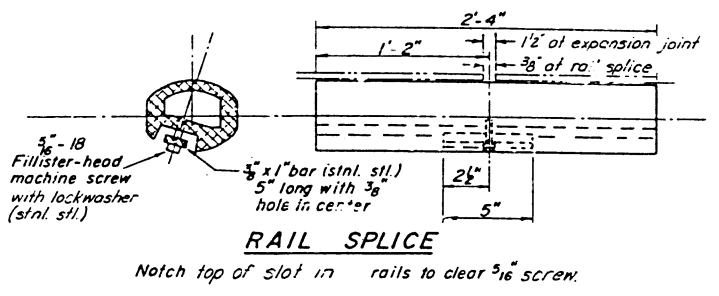
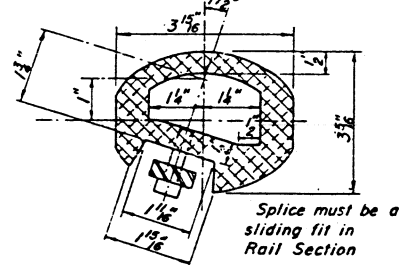
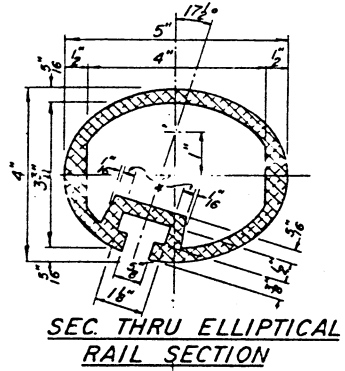
SHEET  
76 OF 526

Rev Reinf. from 65,300# to 65,940# Added bars 76x. 6-3-66 N.R.F.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVD-1	ST. CLAIR	258	178
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	



**Note:**  
Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers - gun grade with primer.



**NOTES**

All Posts shall be normal to parapet.

All Aluminum Alloy Extruded Rail shall conform to ASTM specification B-221 alloy 6061-T6, and shall extend a minimum of 2 panel lengths (attached to minimum of 3 posts) except at ends or at open joints where a minimum of 1 panel length is required. All joints in railing must be spliced per detail.

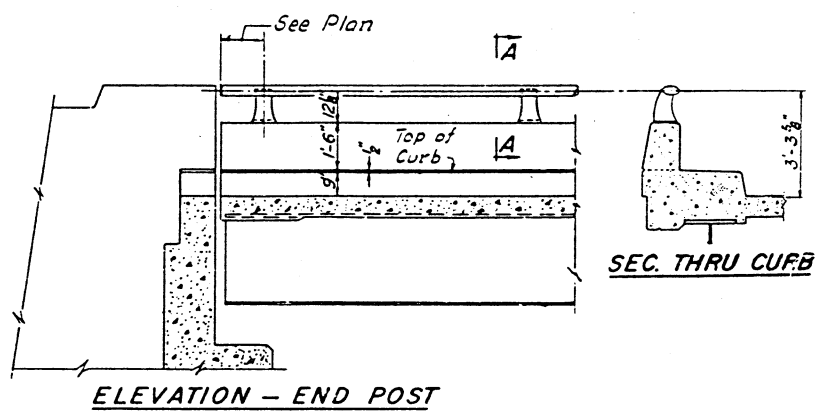
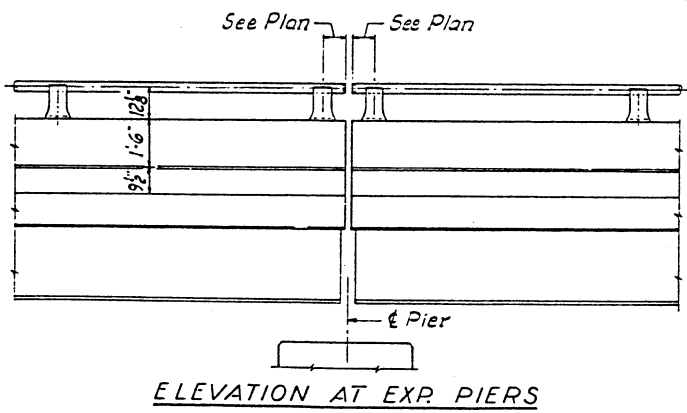
See Special Provisions for following Material Specifications:  
Cast Aluminum Alloy Bridge Post— Alloy A344-T4.  
Stainless Steel Bars, Cap Screws, Washers and Lockwashers.  
Fabric Bearing Pad.

**METHOD OF MEASUREMENT:** Aluminum handrail shall be measured in lineal feet. The length paid for shall be the over all length along the top longitudinal railing member thru all posts and gaps.

**BASIS OF PAYMENT:** Aluminum handrail shall be paid for at the contract unit price per lineal foot for ALUMINUM HANDRAIL, measured as specified, which price shall be payment in full for all materials, fabrication, transportation, and erection.

Cost of rail splice, end caps, and hardware to be incidental to item ALUMINUM HANDRAIL.

Provide 1- $\frac{1}{2}$ " and 2- $\frac{1}{8}$ " Aluminum Shims for 25% of the Posts. Rail element shall be parallel to Grade - high spots shall be ground, and low spots shimmed.



DESIGNED BY: RM2  
DRAWN BY: SG  
CHECKED BY: RM2  
APPROVED BY: KA

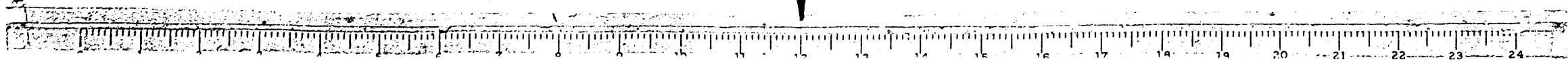
STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS - DG.S.  
DIVISION OF HIGHWAYS  
ALUMINUM HANDRAIL

POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

SHEET  
125 OF 526

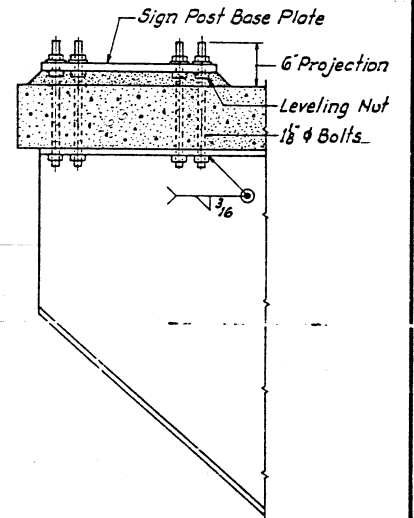


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVF & E-1 82-3HVD-1	ST. CLAIR	258	236
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

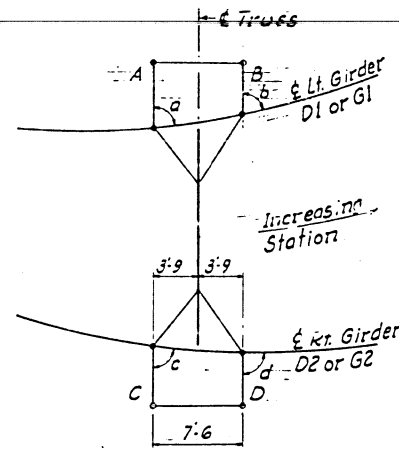
Truss No	Pier Station	A	B	C	D	Angle a	Angle b	Angle c	Angle d
2	Pier D10 58+19	3'-1 <sup>15</sup> / <sub>16</sub>	3'-1 <sup>15</sup> / <sub>16</sub>	3'-6 <sup>3</sup> / <sub>8</sub>	2'-9 <sup>3</sup> / <sub>8</sub>	90°07'-11"	89°52'-49"	84°29'-04"	84°29'-04"
3	Pier D25 72+59	3'-5 <sup>1</sup> / <sub>2</sub>	2'-10 <sup>3</sup> / <sub>8</sub>	3'-2 <sup>1</sup> / <sub>16</sub>	3'-2 <sup>1</sup> / <sub>16</sub>	85-53-41	85-39-18	89-54-13	90-05-47
9	Pier G13 57+35	2'-8 <sup>15</sup> / <sub>16</sub>	3'-7	3'-2	3'-2	96-27-14	96-15-47	90-00-00	90-00-00
10	Pier G3 77+68	3'-1 <sup>1</sup> / <sub>8</sub>	3'-2 <sup>3</sup> / <sub>16</sub>	3'-0 <sup>3</sup> / <sub>16</sub>	3'-3 <sup>5</sup> / <sub>16</sub>	91-12-29	90-59-21	91-25-22	91-45-19

Notes:  
For location of Sign Bracket see Framing Plans. Weight of Sign Bracket and Cross Bracing is included with Quantity for Structural Steel.

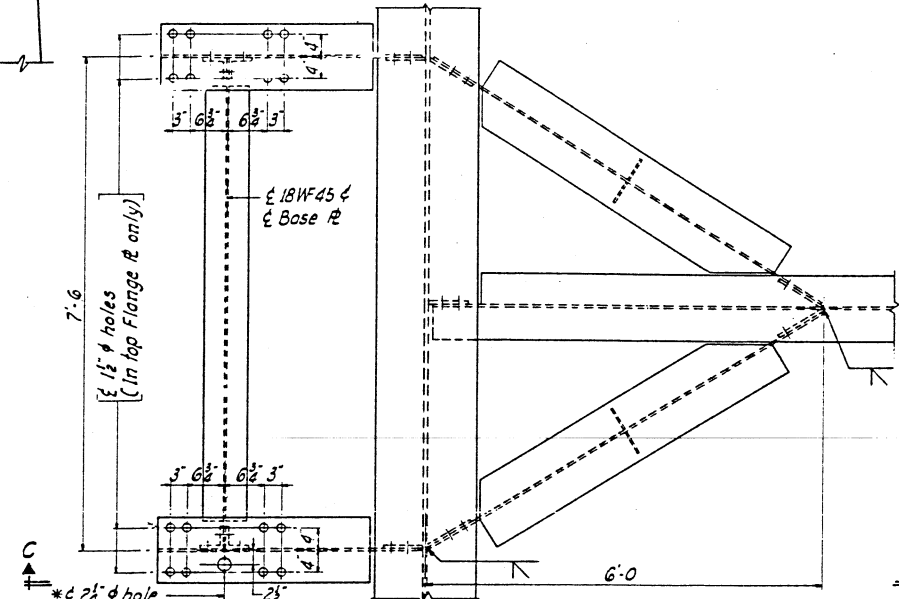
1<sup>1</sup>/<sub>2</sub>" φ Bolts, nuts & washers for overhead Sign Trusses to be furnished by the Contractor for Section 82-3HVD-1.



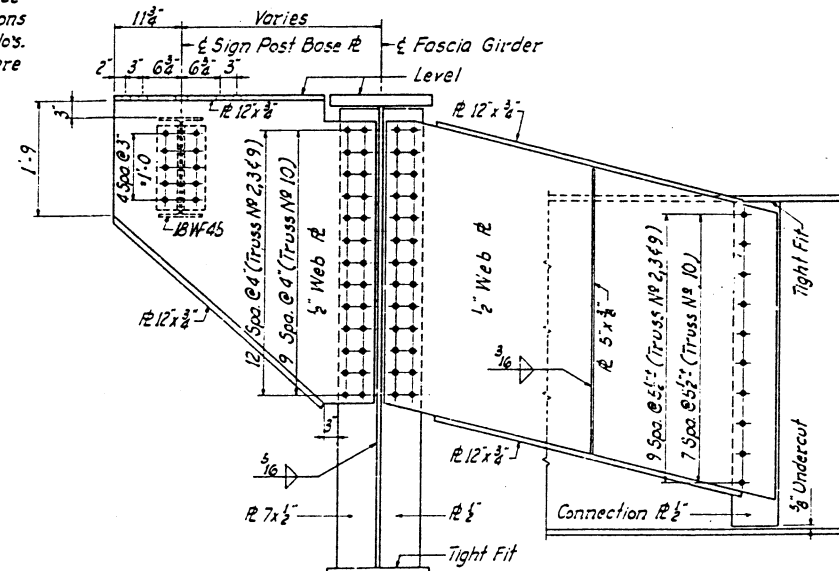
DETAIL 'A'



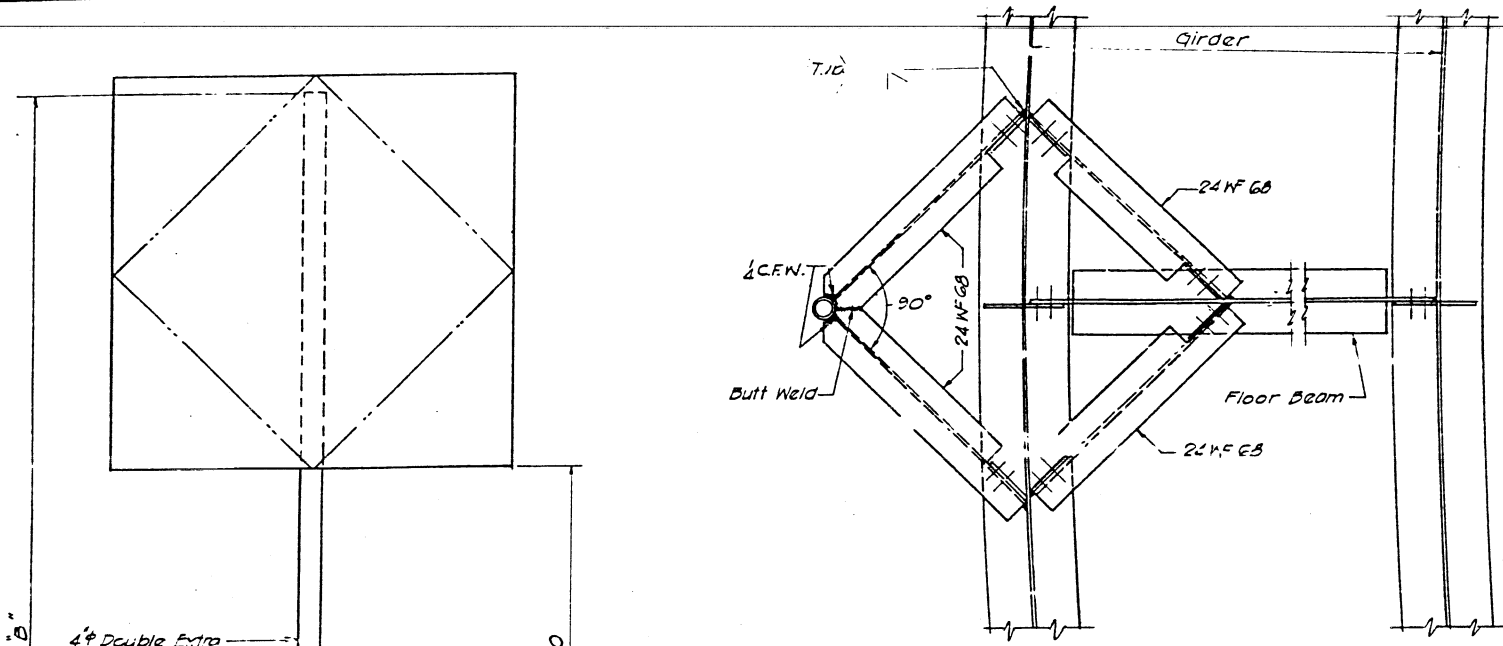
DIMENSION PLAN TRUSS SIGN SUPPORT



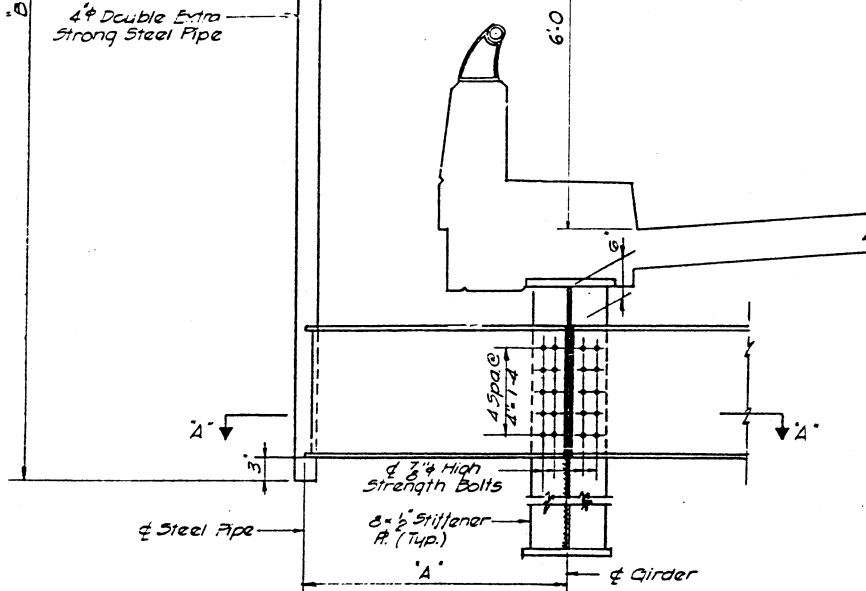
PLAN - TRUSS SIGN SUPPORT BRACKET



SECTION C-C



SECTION A-A



Elevation Sign Bracket on Structure

NOTE: 8 x 1/2 Connection Pls. to be fit to Compression flange and undercut 3/8" at tension flange. See Girder Details for locations of Details A and B.

Table For Sign Bracket Dimensions

Sign Bracket #	A	B
#1	3-10	15-2
#2	3-0	14-7
#3	3-0	14-6
#4	3-10	15-0
#5	3-0	12-7
#6	3-0	14-7
#7	3-0	14-8
#8	3-0	14-6
#9	3-10	15-2
#10	3-0	14-8
#11	3-0	14-6
#12	3-10	15-0
#13	3-0	14-8
#14	3-10	15-0
#15	3-10	15-1
#16	3-0	12-8
#17	3-0	12-6
#18	3-0	14-8
#19	3-0	14-6
#20	3-0	14-7

Note: For Location of Sign Bracket see Framing Plan.

\* Locate 2 1/2" φ hole on side where B & D dimensions are shown for Truss Nos. 9 & 10 and on side where A & C dimensions are shown for Truss Nos. 2 & 3. (See Dimension Plan)

DESIGNED BY: RMR  
DRAWN BY: JF LVA  
CHECKED BY: RMR  
APPROVED BY: KA

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS BLDGS.  
DIVISION OF HIGHWAYS

**SIGN BRACKET DETAILS**

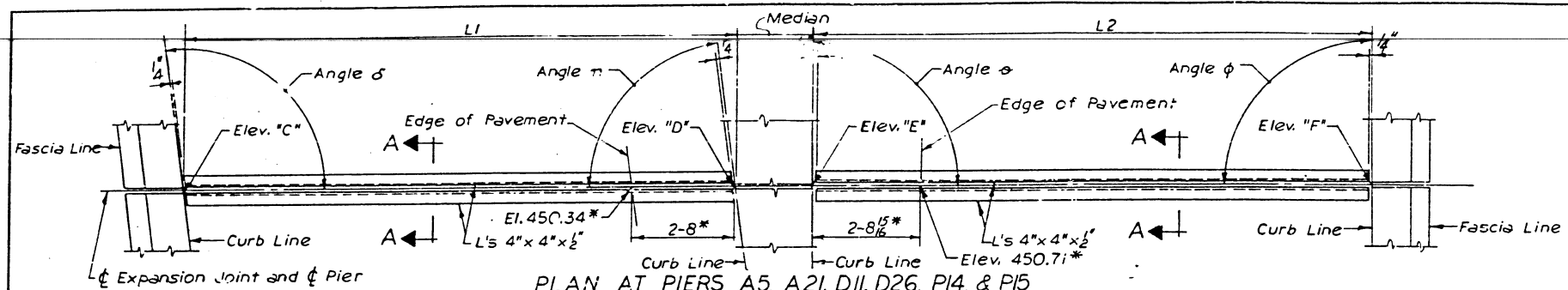
POPLAR STREET BRIDGE APPROACHES

F.A.I.R.T. 70 ST. CLAIR CO. SECTIONS 82-3HVF & E-1  
82-3HVD-1

H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

SHEET 36 OF 526

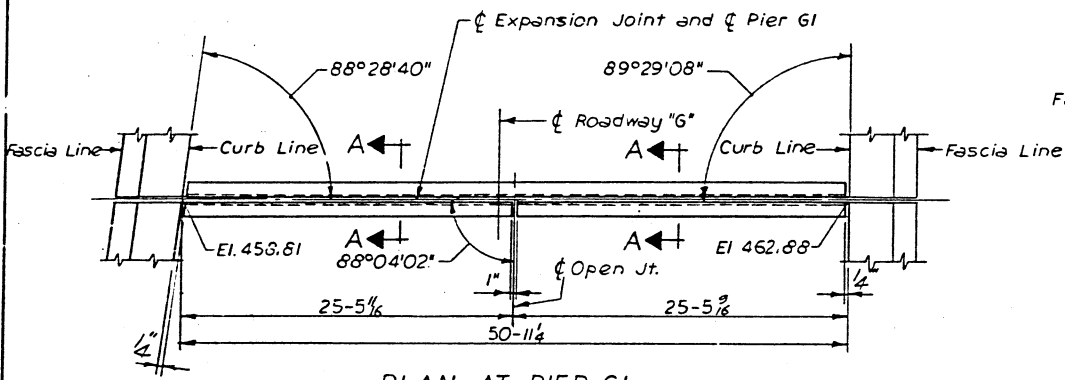
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 70	82-3HVF & E-1 82-3HVD-1	ST. CLAIR	258	237
FED. ROAD DIV. NO. 4	ILLINOIS PROJECT			



PLAN AT PIERS A5, A21, D11, D26, P14 & P15

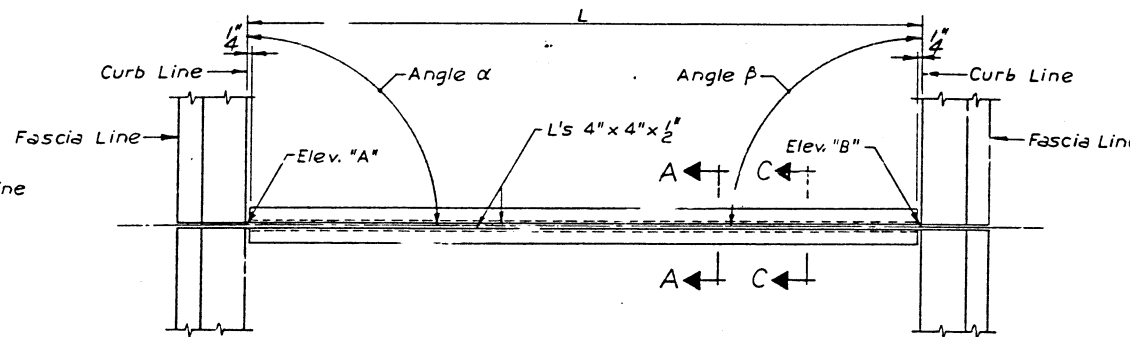
Looking towards increasing Stationing  
(See Table II)

\* Additional Elevations and Distances  
for Expansion Device at Pier D11 only.



PLAN AT PIER G1

Looking towards increasing Stationing



PLAN AT PIERS

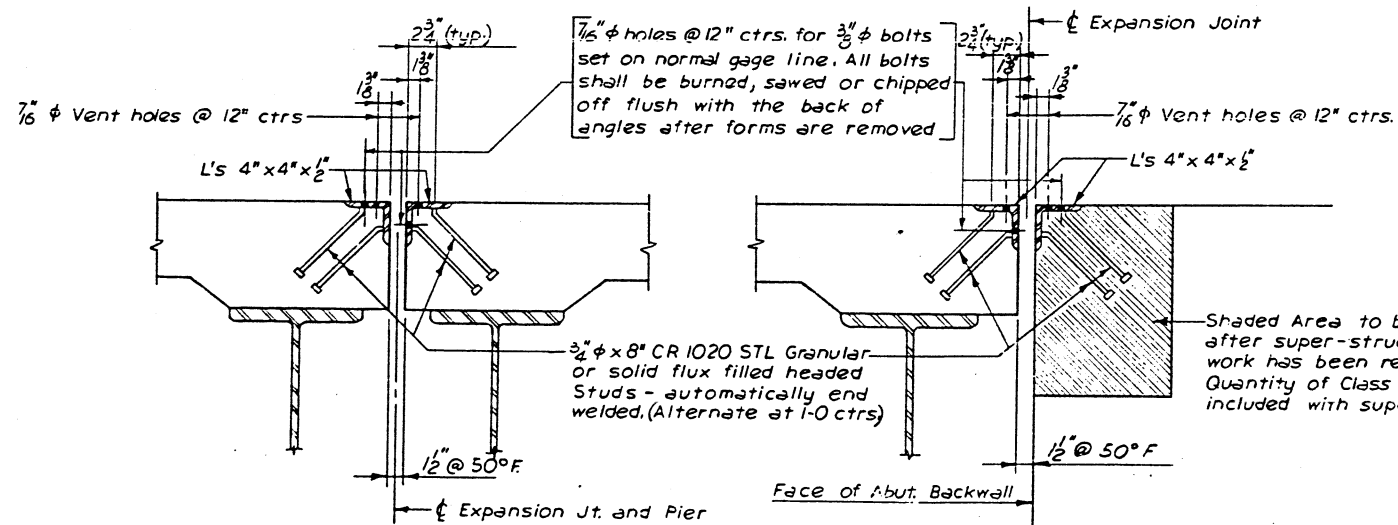
A11, A12, D5, D12, D18, D21, G9, H1,  
M9, N1, O6, P7, S3 &  
ABUTMENTS G14, H5, O10 & O11  
Looking towards increasing Stationing  
(See Table I)

TABLE I  
FOR ELEVATIONS, LENGTHS, ANGLES & WEIGHTS

PIER NO.	ANGLE α	ELEV. "A"	L	ELEV. "B"	ANGLE β	WEIGHT
A11	90°03'16"	448.05	30-0	450.45	90°00'00"	830 Lbs.
A12	90°19'37"	448.43	30-34	450.85	90°00'00"	830 Lbs.
D5	90°00'00"	446.70	30-0 1/4	446.23	92°36'23"	830 Lbs.
D12	90°00'00"	448.31	30-0	450.71	90°00'00"	830 Lbs.
D18	90°12'05"	448.70	30-0 1/2	450.88	90°00'00"	830 Lbs.
D21	91°47'46"	446.96	34-10 1/2	449.49	90°00'00"	950 Lbs.
G9	90°00'00"	455.58	30-0	457.98	90°00'00"	830 Lbs.
H1	89°12'02"	447.50	40-7 1/2	450.75	89°12'59"	1120 Lbs.
M9	90°00'00"	465.31	22-0	467.07	90°00'00"	610 Lbs.
N1	90°00'00"	451.32	22-0	450.44	90°00'00"	610 Lbs.
O6	90°00'00"	449.26	22-0	449.81	90°00'00"	610 Lbs.
P7	90°00'00"	471.78	22-0	470.02	90°00'00"	610 Lbs.
S3	90°00'00"	457.36	22-0	455.91	90°00'00"	610 Lbs.
G1		"See Details This Sheet"				1380 Lbs.
ABUTMENT						
G14	85°35'35"	443.24	48-8 1/2	443.39	90°00'00"	1340 Lbs.
H5	89°38'49"	441.18	32-3 3/8	443.76	89°36'07"	890 Lbs.
O10	90°00'00"	428.11	22-0	429.87	90°00'00"	610 Lbs.
O11	90°00'00"	424.74	22-0	426.12	90°00'00"	610 Lbs.

TABLE II  
FOR ELEVATIONS LENGTHS ANGLES & WEIGHTS

PIER NO.	ANGLE δ	ELEV. "C"	L1	ELEV. "D"	ANGLE η	ANGLE φ	ELEV. "E"	L2	ELEV. "F"	ANGLE φ	WEIGHT
A5	95°43'07"	443.61	21-2 1/8	445.31	86°33'25"	90°00'00"	445.68	30-0	447.24	90°00'00"	1410 Lbs.
A21	94°50'36"	454.20	19-4 1/8	455.66	87°13'39"	90°00'00"	456.27	30-0	457.32	90°00'00"	1360 Lbs.
D11	90°00'00"	447.94	32-8	450.42	86°21'42"	78°59'21"	450.63	24-11 1/2	450.45	98°04'36"	1590 Lbs.
D26	97°05'16"	446.84	22-2	448.56	82°59'54"	90°00'00"	448.90	30-0	449.37	90°00'00"	1440 Lbs.
P14	107°48'41"	448.63	23-0 3/8	450.44	72°39'57"	111°54'53"	450.14	23-4 1/2	451.85	67°23'40"	1280 Lbs.
P15	113°54'37"	448.02	20-1 3/8	449.55	64°39'15"	114°43'17"	450.02	20-5 1/8	451.56	63°49'22"	1120 Lbs.



SECTION A-A  
AT PIERS

SECTION C-C  
AT ABUTMENTS

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Steel	Lbs.	23,140

NOTE:

The Contractor for Section 82-3 HVF & E-1 will furnish all expansion devices shown on this sheet. See Special Provisions.  
The Contractor for Section 82-3 HVD-1 will erect the expansion devices as shown on this sheet. See Special Provisions.

DESIGNED BY: P.A.S.  
DRAWN BY: P.A.S.  
CHECKED BY: L.H.W.  
APPROVED BY: K.A.

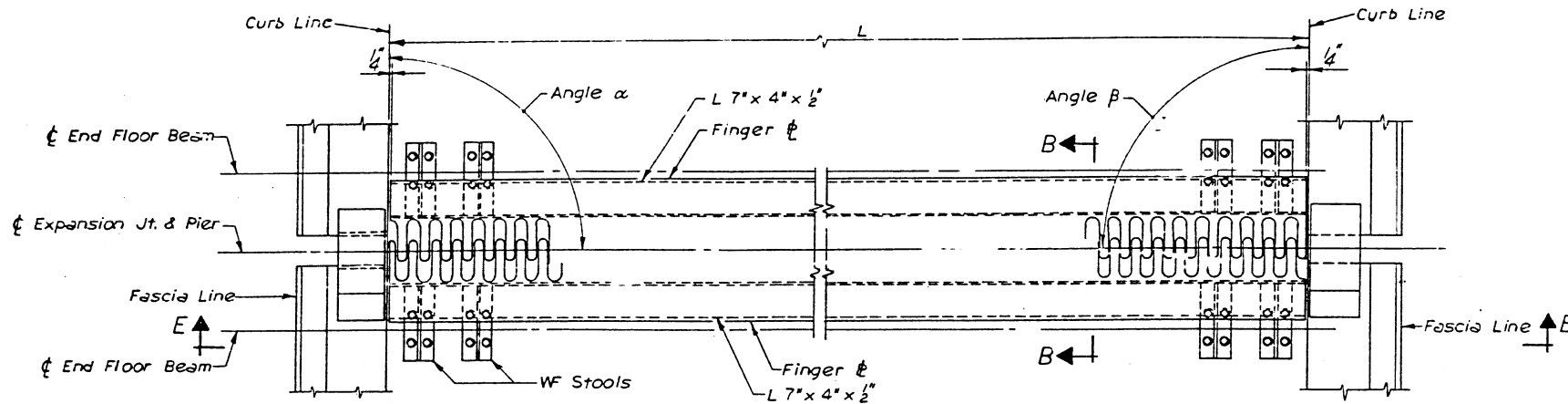
STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS BLDGS.  
DIVISION OF HIGHWAYS  
EXPANSION DEVICES  
OPEN TYPE  
POPLAR STREET BRIDGE APPROACHES

F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF BE-1  
82-3HVD-1  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

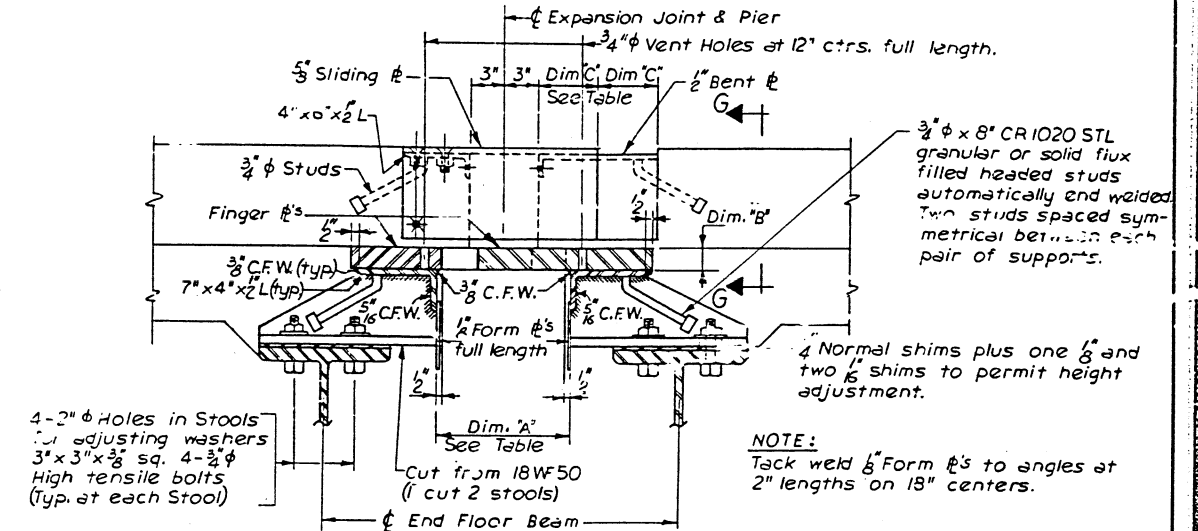
SHEET  
362 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 70	82-3HVF & E-1 82-3HVD-1	ST. CLAIR	258	238
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

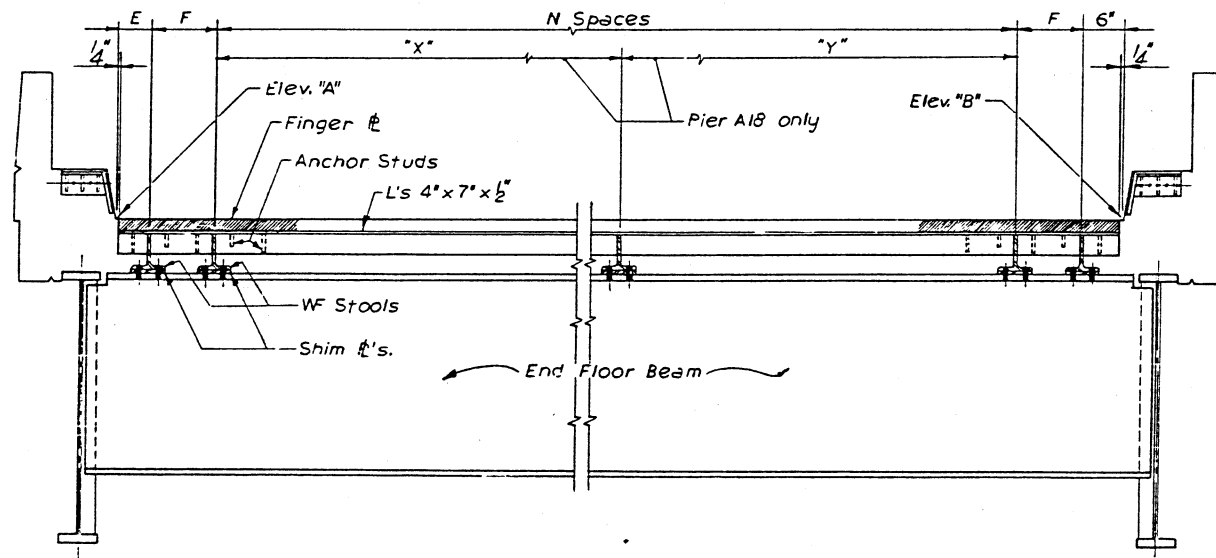
NOTE:  
Stool Spacing to be adjusted to miss Stiffener and Connection Plates on Floor Beams.



PLAN AT PIERS A8, A15, A18, D8, D15, D22, D28, D33, G5, H2, M12, N5, O3, O14, P4, P10, R3, S7 AND S18  
LOOKING TOWARDS INCREASING STA.



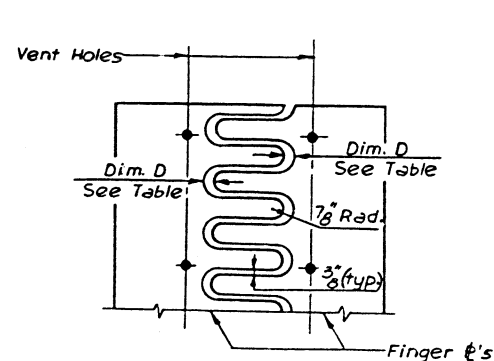
SECTION B-B



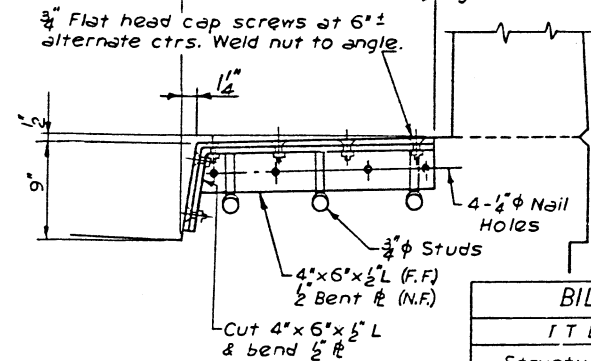
SECTION E-E

Portion of Expansion Device between Curbs to be furnished and erected by Contractor for Section 82-3HVF & E-1

The Curb Portion of the Expansion Device to be furnished by the Contractor for Section 82-3 HVD-1 and erected by the Contractor for Section 82-3 HVD-1.



FINGER CUTTING DETAIL



SECTION G-G

NOTE:  
Stool spacing to be adjusted to miss stiffener & connection plates on floor beams.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Steel	Lbs.	148,960

Temperature range =  
-30° F. to +130° F.  
with +50° F. = Normal.

TABLE OF ELEVATIONS, LENGTHS, ANGLES AND WEIGHTS OF FINGER EXPANSION DEVICES

PIER NO.	ELEV. "A"	ANGLE α	L	ANGLE β	ELEV. "B"	E	F	N SPACES	WEIGHT
A8	446.29	90°00'00"	30-0	90°00'00"	448.89	6"	1-6	13 Spaces @ 2-0=26-0	7920 lbs
A15	449.64	91°24'03"	35-0 1/2	90°00'00"	452.44	7 1/2"	1-9	15 Spaces @ 2-0=30-0	9250 lbs
A18	450.39	92°28'25"	45-7	90°00'00"	454.03	8"	1-6	See Note "A"	11290 lbs
D8	447.67	90°00'00"	42-1 1/2	92°36'23"	447.89	1-0 1/2"	1-6	21 Spaces @ 1-9=37-6	11430 lbs
D15	449.38	90°00'00"	30-0	90°00'00"	451.78	6"	1-6	13 Spaces @ 2-0=26-0	7970 lbs
D22	446.38	92°14'23"	37-7 1/2	90°00'00"	449.10	7 1/2"	1-9	17 Spaces @ 1-11=33-5 1/2	9990 lbs
D28	451.70	90°00'00"	30-0	90°00'00"	450.16	6"	1-6	13 Spaces @ 2-0=26-0	8120 lbs
D33	457.98	90°00'00"	30-0	90°00'00"	455.58	6"	1-6	13 Spaces @ 2-0=26-0	8070 lbs
G5	457.41	89°20'08"	34-7 1/2	88°56'18"	460.18	7 1/2"	1-9	15 Spaces @ 2-0=30-0	10760 lbs
H2	446.18	89°17'21"	38-4 1/2	89°18'10"	449.25	10 1/2"	1-6	17 Spaces @ 2-0=34-0	9030 lbs
M12	445.39	90°00'00"	22-0	90°00'00"	448.96	6"	1-6	9 Spaces @ 2-0=18-0	6000 lbs
N5	449.68	90°00'00"	22-0	90°00'00"	447.92	6"	1-6	9 Spaces @ 2-0=18-0	6880 lbs
O3	460.18	90°00'00"	22-0	90°00'00"	458.42	6"	1-6	9 Spaces @ 2-0=18-0	6010 lbs
O14	436.32	90°00'00"	22-0	90°00'00"	436.77	6"	1-6	9 Spaces @ 2-0=18-0	6000 lbs
P4	471.49	90°00'00"	22-0	90°00'00"	469.73	6"	1-6	9 Spaces @ 2-0=18-0	5360 lbs
P10	461.04	90°00'00"	22-0	90°00'00"	460.72	6"	1-6	9 Spaces @ 2-0=18-0	6860 lbs
R3	461.57	90°00'00"	22-0	90°00'00"	463.28	6"	1-6	9 Spaces @ 2-0=18-0	6060 lbs
S7	472.36	90°00'00"	22-0	90°00'00"	474.12	6"	1-6	9 Spaces @ 2-0=18-0	3960 lbs
S18	488.02	90°00'00"	22-0	90°00'00"	488.75	6"	1-6	9 Spaces @ 2-0=18-0	6000 lbs

NOTE "A": For Dim. "X" use 12 Spaces @ 1-11=23-0; for "Y" Dim. use 13 Spaces @ 1-5=18-5

EXPANSION DEVICE TABLE

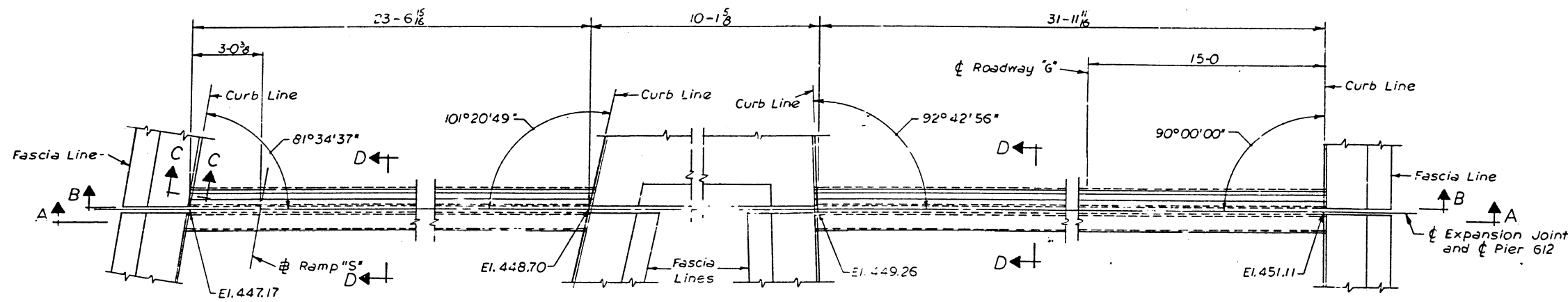
PIER NO.	Dimen. "A" at 50° F.	Dimen. "B" at 50° F.	Dimen. "C" at 50° F.	Dimen. "D" at 50° F.
A8	11 1/8"	1 1/8"	3 1/2"	3 1/8"
A15	12 1/4"	1 1/8"	4"	3 1/2"
A18	9 5/8"	1 1/8"	3"	2 3/8"
D8	11 1/8"	1 1/8"	3 1/2"	3 1/8"
D15	11 1/2"	1 1/8"	3 1/2"	3 1/4"
D22	12 1/4"	1 1/8"	4"	3 1/2"
D28	13"	1 1/8"	4"	3 3/8"
D33	12 1/4"	1 1/8"	4"	3 1/2"
G5	15 1/8"	2 1/4"	5"	4 1/2"
H2	9 5/8"	1 1/8"	3"	2 3/8"
M12	12 1/4"	1 1/8"	4"	3 1/2"
N5	14 1/8"	2 1/4"	4 1/2"	4 1/2"
O3	12 1/4"	1 1/8"	4"	3 1/2"
O14	12 1/4"	1 1/8"	4"	3 1/2"
P4	9 1/4"	1 1/8"	3"	2 1/2"
P10	14 1/8"	2 1/4"	4 1/2"	4 1/2"
R3	13"	1 1/8"	4"	3 3/8"
S7	11 1/8"	1 1/8"	3 1/2"	3 1/8"
S18	10"	1 1/8"	3"	2 3/8"

NOTES: The Portions of the Expansion Devices for Piers A1, D1, A25, M6, S10 & S16 that have been stored by the Contractor for Section 82-3 HVB shall be erected by the Erection Contractor indicated in Section "6-6" on this sheet. See Special Provisions.  
The Portions of the Expansion Devices for Piers D33, N5, O14, P4 & S18 that can be erected immediately shall be erected by the Erection Contractor indicated in Section "6-6" this Sheet. The Future portions shall be stored by the Contractor for Section 82-3HVF & E-1 until needed by the Contractors for Sections 82-3HVB-2 and 82-3HVB-3.

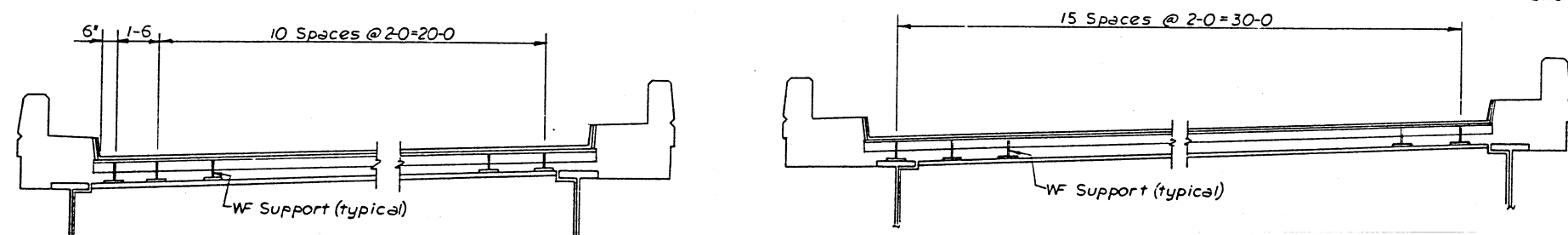
DESIGNED BY PAS  
DRAWN BY PAS  
CHECKED BY L.H.W.  
APPROVED BY K.A.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS  
DIVISION OF HIGHWAYS  
EXPANSION DEVICES  
FINGER PLATE  
POPLAR STREET BRIDGE APPROACHES  
F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF&E-1  
H. W. LOCHNER, INC. ENGINEERS CHICAGO, ILLINOIS  
SHEET 363 OF 526

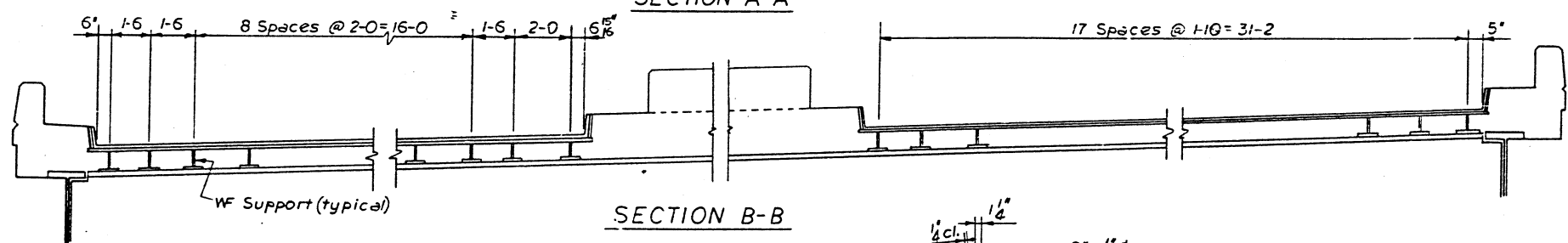
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 70	82-3HVF B E-1 82-3HVD-1	ST. CLAIR	258	237
FED. ROAD DIV. NO. 4		ILLINOIS PROJECT		



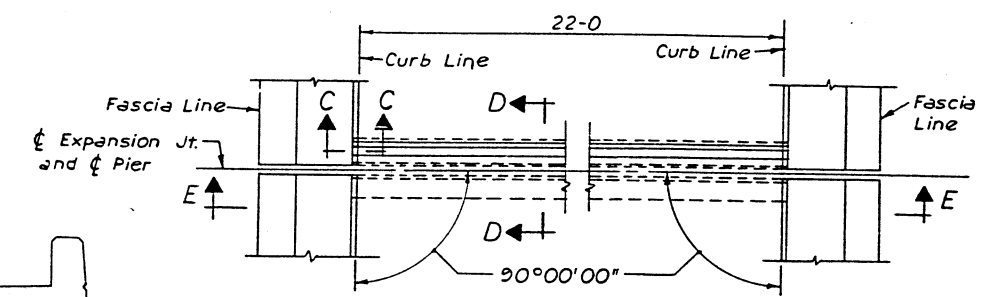
**PLAN AT PIER G12**  
LOOKING TOWARDS INCREASING STATIONING OF ROADWAY 6  
Weight 9,220 Lbs.



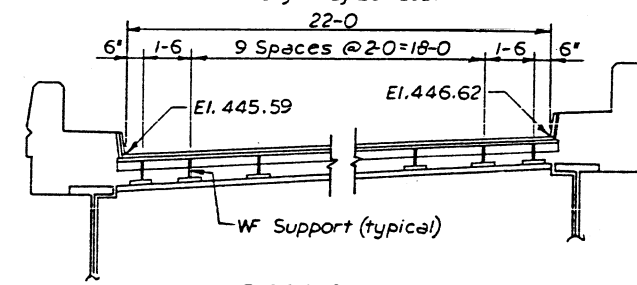
**SECTION A-A**



**SECTION B-B**

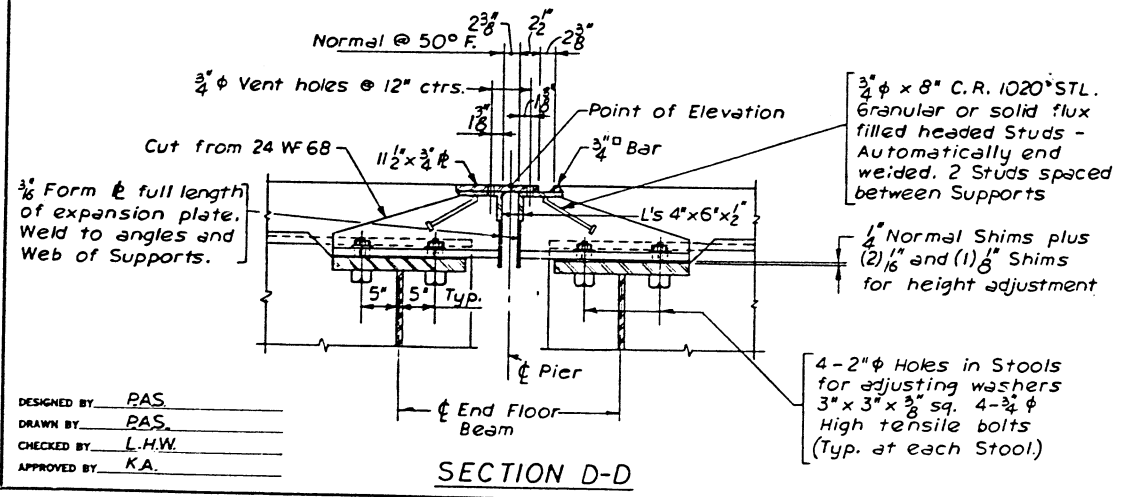


**PLAN AT PIER 07**  
LOOKING TOWARDS INCREASING STATIONING  
Weight 3,720 Lbs.

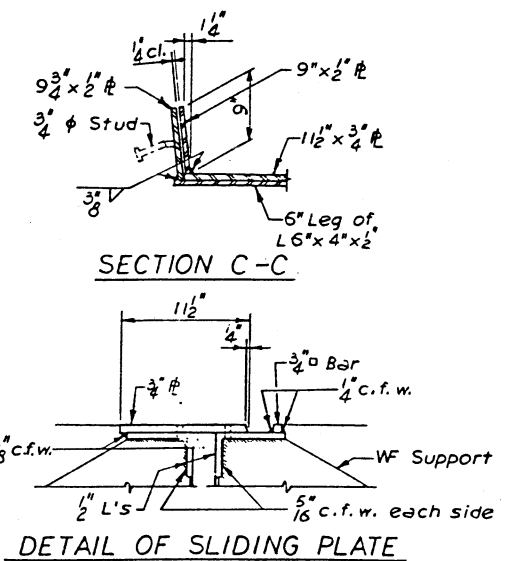


**SECTION E-E**

BILL OF MATERIAL		
ITEM	UNIT	TOTAL
Structural Steel	Lbs.	12,940



**SECTION D-D**



**DETAIL OF SLIDING PLATE**

DESIGNED BY PAS  
DRAWN BY PAS  
CHECKED BY L.H.W.  
APPROVED BY KA

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS  
EXPANSION DEVICES  
SLIDING PLATE  
POPLAR STREET BRIDGE APPROACHES  
F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF B E-1  
82-3HVD-1  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS  
SHEET  
354 OF 526

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS

DIVISION OF HIGHWAYS  
PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY

F. A. I. ROUTE 70 SECTION 82-3HVF&E-1  
PROJECT I-IG-70-1(81)0  
POPLAR STREET BRIDGE APPROACHES  
ST. CLAIR COUNTY

C-98-032-65

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.-70	82-3HVF&E-1	ST. CLAIR	247	1
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT	I-IG-70-1(81)0	

P-98-087-00

DESCRIPTION OF PROJECT:

SECTION 82-3HVF & E-1 INCLUDES THE FURNISHING, FABRICATING AND ERECTING OF THE STRUCTURAL STEEL FOR THE FOLLOWING:

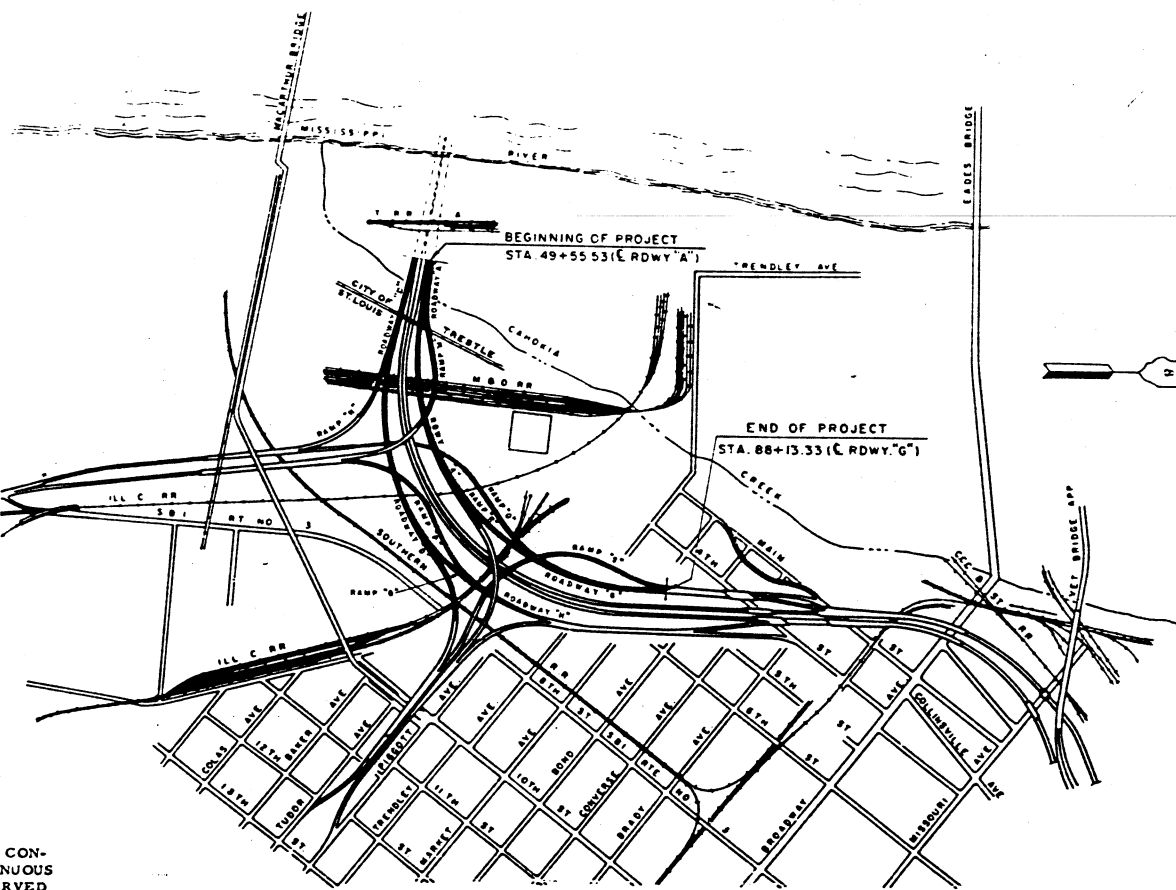
ROADWAY A	TWO 4-SPAN CONTINUOUS UNITS SPANS: 1 EACH @ 83'-5 5/8, 106'-106'-83'; 87'-110'-110'-87'
	FIVE 3-SPAN CONTINUOUS UNITS SPANS: 2 @ 97'-124'-97' 1 EACH @ 75'-96'-75' 95'-122'-95' 89'-114'-89'
	ONE SIMPLE SPAN - 80'
ROADWAY D	TWO 4-SPAN CONTINUOUS UNIT SPANS: 1 @ 90'-7 9/16, 115'-115'-90' 1 @ 100'-128'-128'-100'
	ONE 5-SPAN CONTINUOUS UNIT SPANS: 107'-137'-137'-137'-107'
	FIVE 3-SPAN CONTINUOUS UNITS SPANS: 2 @ 85'-108'-85' 2 @ 81'-105'-81' 1 @ 90'-115'-90'
	ONE 2-SPAN CONTINUOUS UNIT SPANS: 89'-6, 89'-6
	TWO SIMPLE SPANS SPANS 1 @ 74' 1 @ 78'
ROADWAY G	TWO 4-SPAN CONTINUOUS UNITS SPANS: 1 @ 88'-113'-113'-88' 1 @ 87'-110'-110'-87'
	ONE 3-SPAN CONTINUOUS UNIT SPANS: 90'-116'-90'
	ONE 2-SPAN CONTINUOUS UNIT SPANS: 76'-76'
ROADWAY H	ONE 3-SPAN CONTINUOUS UNIT SPAN: 97'-124'-97'
	ONE SIMPLE SPAN - 88'
RAMP M	THREE 3-SPAN CONTINUOUS UNITS SPANS: 1 @ 90'-115'-90' 1 @ 105'-134'-105' 1 @ 90'-115'-85-10 11/16
RAMP N	ONE 4-SPAN CONTINUOUS UNIT SPANS: 90'-115'-115'-90'
RAMP O	ONE SIMPLE SPAN - 73-3 5/16
	FOUR 3-SPAN CONTINUOUS UNIT SPANS: 1 @ 97'-5 3/4, 130'-101' 1 @ 90'-115'-90' 1 @ 95'-121'-95' 1 @ 94'-120'-94'
RAMP P	ONE SIMPLE SPAN - 65'
	ONE 4-SPAN CONTINUOUS UNIT SPANS: 94'-121'-121'-94'
	TWO 3-SPAN CONTINUOUS UNIT SPANS: 1 @ 81'-115'-81' 1 @ 96'-122'-96'
	TWO SIMPLE SPANS 1 @ 88' 1 @ 89'

RAMP Q	ONE 3-SPAN CONTINUOUS UNIT SPANS: 75-2 7/8, 98'-76'
RAMP R	TWO 3-SPAN CONTINUOUS UNITS SPANS 1 @ 104-4 5/16, 134'-106' 1 @ 101'-130'-101'
RAMP S	ONE 4-SPAN CONTINUOUS UNIT SPANS: 85'-108'-108'-85'
	THREE 3-SPAN CONTINUOUS UNIT SPANS: 1 @ 73-2 7/8, 95'-74' 1 @ 69'-97'-69' 1 @ 88'-113'-88'

THE POPLAR STREET BRIDGE APPROACHES FOR THIS SECTION CARRY THE FOLLOWING:

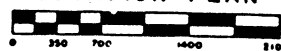
ROADWAY A OVER THE TRACKS OF THE TERMINAL R. R. ASSOCIATION, GULF, MOBILE AND OHIO, AND ILLINOIS CENTRAL RAILROADS AND RAMP O;  
ROADWAY D OVER THE TRACKS OF THE TERMINAL R. R. ASSOCIATION, GULF, MOBILE AND OHIO, ILLINOIS CENTRAL AND SOUTHERN RAILROADS, RAMP O AND ILLINOIS ROUTE 3;  
ROADWAY G OVER TRENDLEY AND PIGGOTT AVENUES;  
ROADWAY H OVER THE ILLINOIS CENTRAL RAILROAD;  
RAMP M OVER ROADWAY A AND THE TRACKS OF THE TERMINAL R. R. ASSOCIATION AND THE GULF, MOBILE AND OHIO RAILROADS;  
RAMP N OVER THE TRACKS OF THE TERMINAL R. R. ASSOCIATION AND GULF, MOBILE AND OHIO RAILROAD;  
RAMP O OVER THE ILLINOIS CENTRAL RAILROAD;  
RAMP P OVER ROADWAY D, FUTURE ACCESS ROADS AND THE ILLINOIS CENTRAL RAILROAD;  
RAMP Q OVER THE ILLINOIS CENTRAL RAILROAD;  
RAMP R OVER THE ILLINOIS CENTRAL RAILROAD AND A FUTURE ACCESS ROAD;  
RAMP S OVER TRENDLEY AVENUE AND ROADWAY H.

THE SPANS DESCRIBED ABOVE INCLUDE THIRTY-NINE (39) CONTINUOUS UNITS AND EIGHT (8) SIMPLE SPANS. THE CONTINUOUS UNITS INCLUDE THIRTY-SIX (36) FULLY OR PARTIALLY CURVED AND THREE NON-CURVED WELDED PLATE GIRDERS WITH ROLLED AND WELDED PLATE FLOORBEAMS AND ROLLED STRINGERS. THE SIMPLE SPANS ARE ALL COMPOSITE WF.



CITY OF EAST ST. LOUIS

LOCATION PLAN



LENGTH OF PROJECT  
4261.16 FT. = .807 MILES



LOCATION OF SECTION INDICATED THUS: [Symbol]

APPROVED

FOR ENGINEERING AGENCY ONLY  
*[Signature]*

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS AND BUILDINGS DIVISION OF HIGHWAYS
DESIGNED BY: 11-30-65 Robert S. Kromer
EXAMINED BY: 12-20-66 William A. Quill
PAID BY: 12-20-66 The Bureau
12-20-66
12-20-66 Francis J. Gray

NOTE:  
FOR INDEX OF SHEETS AND SUMMARY OF QUANTITIES SEE SHEET NO. 2

DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS
APPROVED
DIVISION ENGINEER DATE

H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

2257

*[Signature]*  
Aug. 27, 1965

REEL 864

082-0143

Contract No. 24962

ST. CLAIR COUNTY SECTION 82-3HVF&E-1 F.A.I. ROUTE 70 PROJECT I-IG-70-1(81)0

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVF&E-1	ST. CLAIR	247	2
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	

INDEX OF SHEETS  
SECTION 82-3 HVF & E-1

SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS, SUMMARY OF QUANTITIES, GENERAL NOTES
3 AND 4	PLAN OF EXISTING CONDITIONS AND UTILITIES
5 THRU 9	RIGHT OF WAY PLANS (FOR INFORMATION ONLY)
10	LIST OF BENCH MARKS, TIES TO TRAVERSE LINE AND GENERAL PLAN OF TRAVERSE LINE
11 THRU 15	ALIGNMENT PLANS
16 THRU 18	LIST OF COORDINATE POINTS AND DESCRIPTIONS
19	KEY PLAN, GENERAL NOTES AND BILL OF MATERIAL
20 THRU 24	GENERAL PLANS
25 THRU 43	PLAN AND ELEVATION
44 THRU 52	GEOMETRIC LAYOUTS
53 THRU 234	FRAMING PLANS AND STEEL DETAILS
235 THRU 245	STRESS TABLES
246	BEARING ELEVATIONS
247	STANDARDS 1686-3 AND 2176-7 STANDARD 2114

SUMMARY OF QUANTITIES

SECTION 82-3HVF & E-1			
CODE NO.	ITEM	UNIT	TOTAL QUANTITY
Z01398	ENGINEER'S FIELD OFFICE TYPE "A"	EACH	1
Z01065	RAILROAD PROTECTIVE SERVICES	L SUM	1
054001	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	17,674,325
Z01023	BRIDGE SEAT SEALANT	L SUM	1

GENERAL NOTES

THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 2, 1958, THE SUPPLEMENTAL SPECIFICATIONS FOR HIGHWAY SIGNING EFFECTIVE MARCH 1, 1963 AND THE SUPPLEMENTAL SPECIFICATIONS EFFECTIVE JANUARY 3, 1966.

ALL ELEVATIONS REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.

THE PROFILE GRADE LINE REFERS TO THE GRADE ELEVATION AT THE POINT SHOWN ON THE TYPICAL SECTIONS AND PLANS.

POSITIVE PROFILE GRADES ARE IN THE DIRECTION OF TRAFFIC AND HIGHER ELEVATIONS.

NEGATIVE PROFILE GRADES ARE IN THE DIRECTION OF TRAFFIC AND LOWER ELEVATIONS.

THE FOLLOWING UTILITY COMPANIES HAVE FACILITIES WITHIN THE LIMITS OF CONSTRUCTION WHICH MAY REQUIRE ADJUSTMENTS:

- EAST ST. LOUIS AND INTERURBAN WATER COMPANY
- ILLINOIS POWER COMPANY
- SOUTHWESTERN BELL TELEPHONE COMPANY
- UNION ELECTRIC COMPANY
- WESTERN UNION TELEGRAPH COMPANY

*Weight of flange shear connectors is not included in quantity of structural steel.  
Cost of furnishing and placing flange shear connectors is included in section 82-3HVF-1*

IG PORTION • 12.1%  
I PORTION • 87.9%

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS

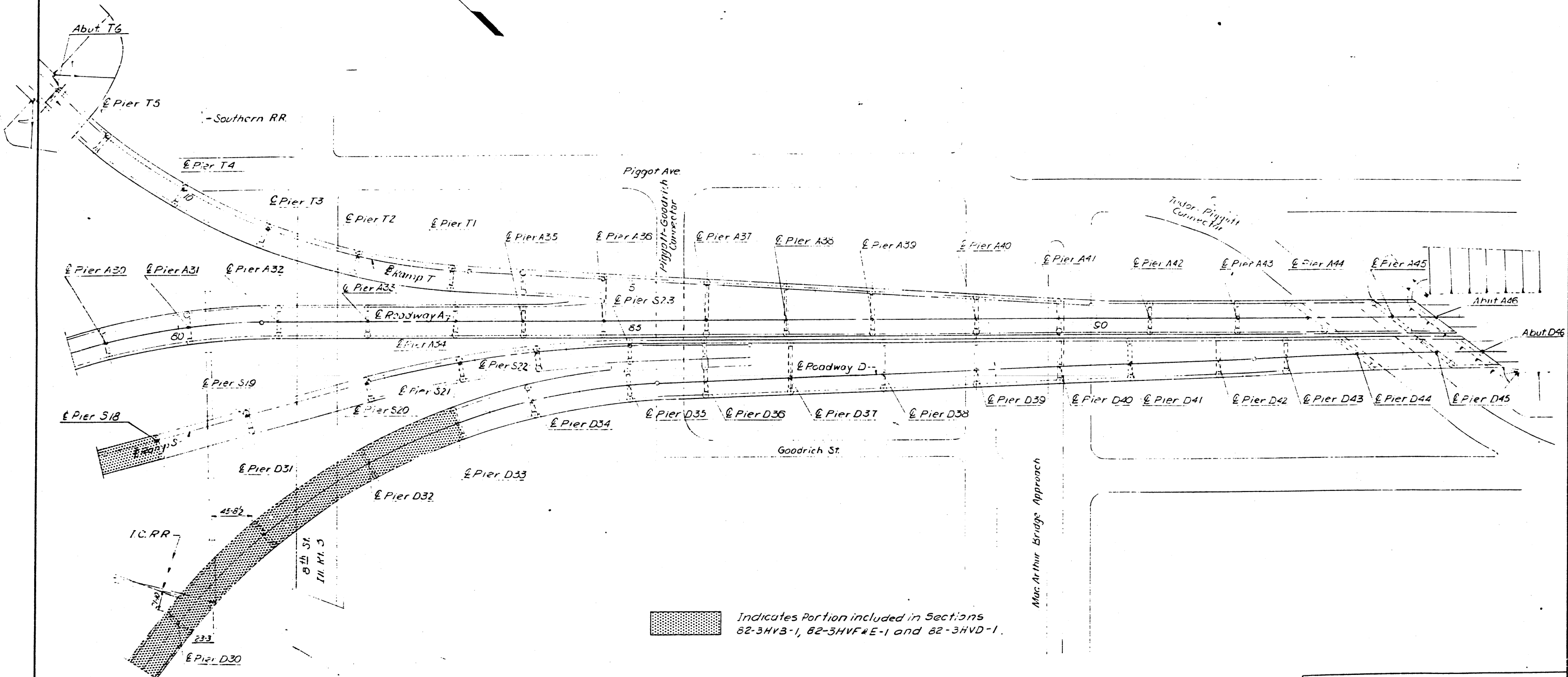
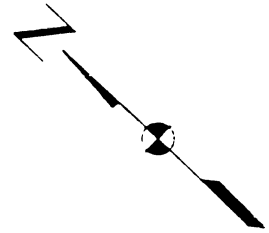
INDEX OF SHEETS  
SUMMARY OF QUANTITIES  
GENERAL NOTES


F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF&E-1  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

SHEET  
OF



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. - 70	82-3HVF-E-1	ST. CLAIR	247	24
FED. ROAD DIV. I.O. 4		ILLINOIS	PROJECT	



 Indicates Portion included in Sections 82-3HVB-1, 82-3HVF-E-1 and 82-3HVD-1.

DESIGNED BY FLR  
 DRAWN BY ---  
 CHECKED BY RMR  
 APPROVED BY KA

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS

**GENERAL PLAN**  
**POPLAR STREET BRIDGE APPROACHES**

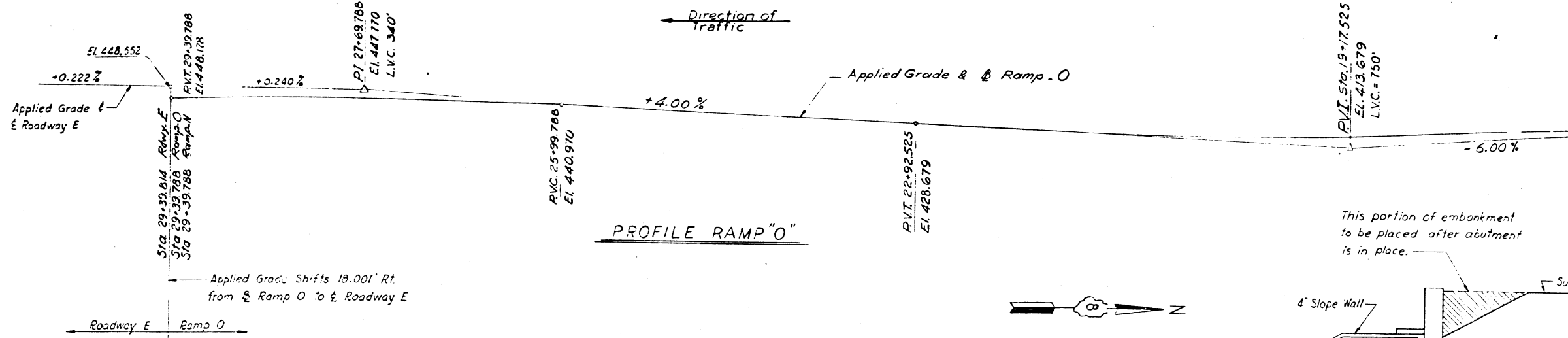
SECTIONS 82-3HVB-1  
 82-3HVF-E-1  
 82-3HVD-1

F. A. I. RT. 70 ST. CLAIR CO.

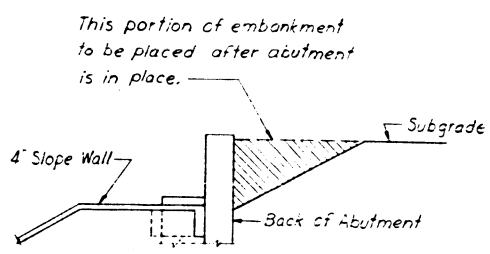
H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

SHEET  
 6 of 526

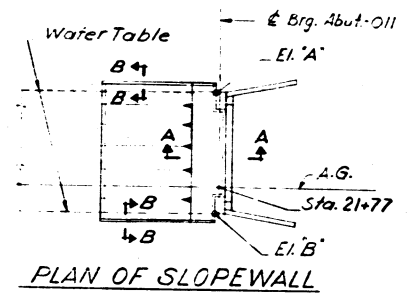
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVB-E-1	ST. CLAIR	2-7	38
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



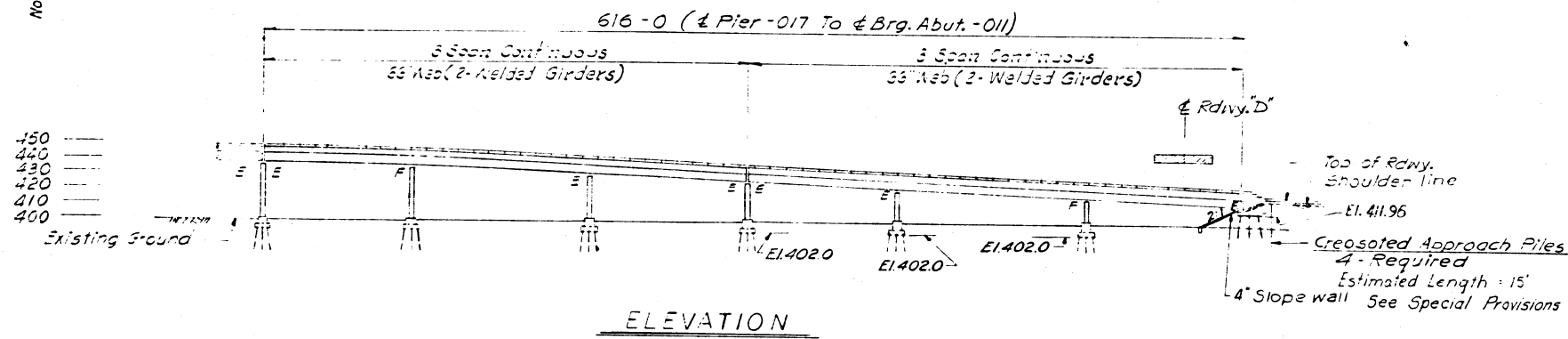
Applied Grade Shifts 18.001' Rt from Ramp O to Roadway E



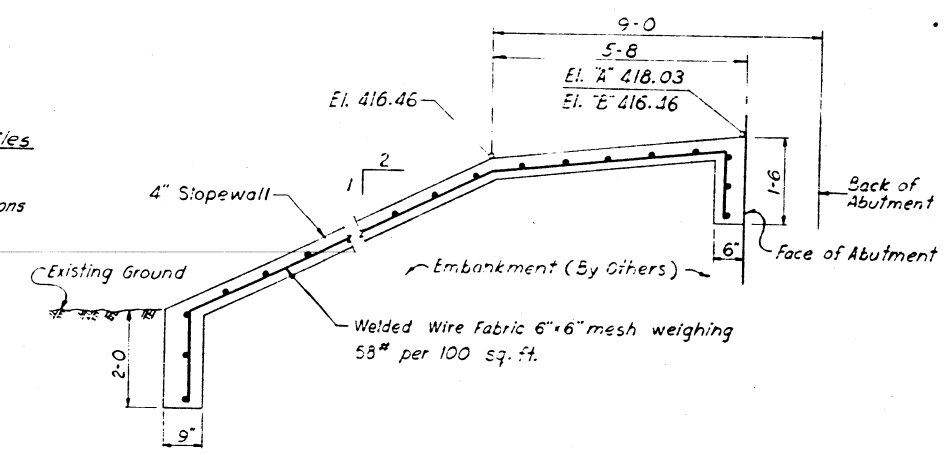
SECTION A-A



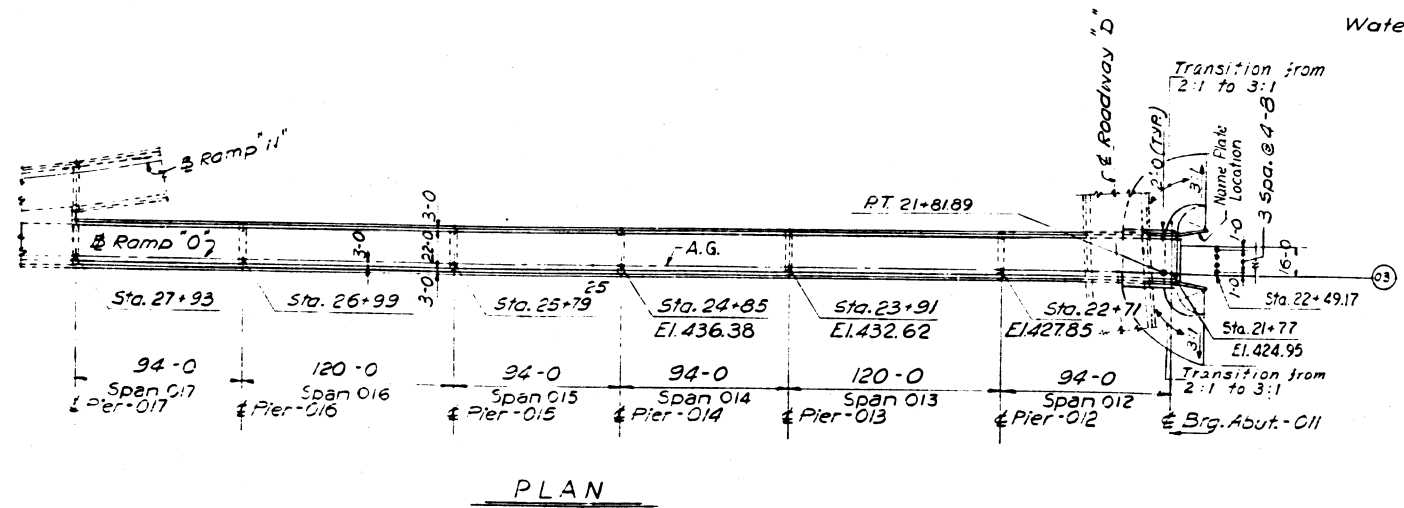
PLAN OF SLOPE WALL



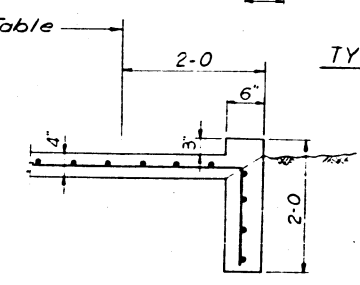
ELEVATION



TYPICAL CROSS SECTION OF SLOPE WALL



PLAN



SECTION B-B

THIS SECTION INCLUDES SPANS 012 THRU 014 ONLY. OTHER DATA SHOWN ON THIS SHEET IS FOR REFERENCE ONLY.

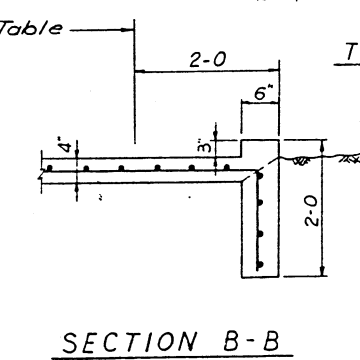
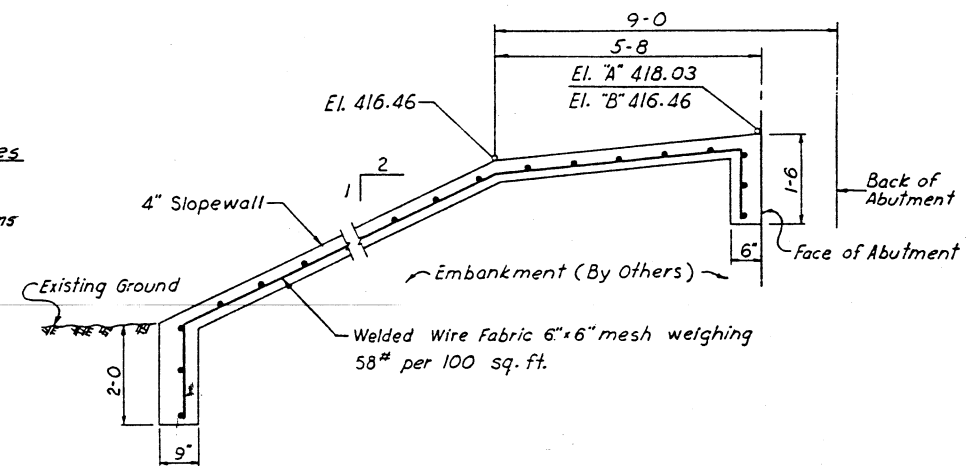
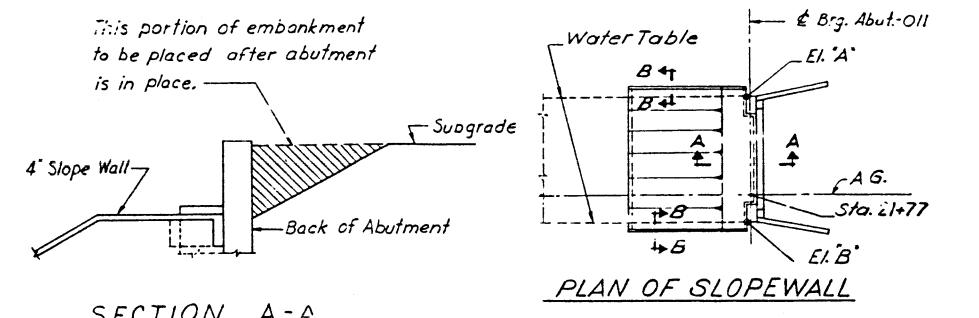
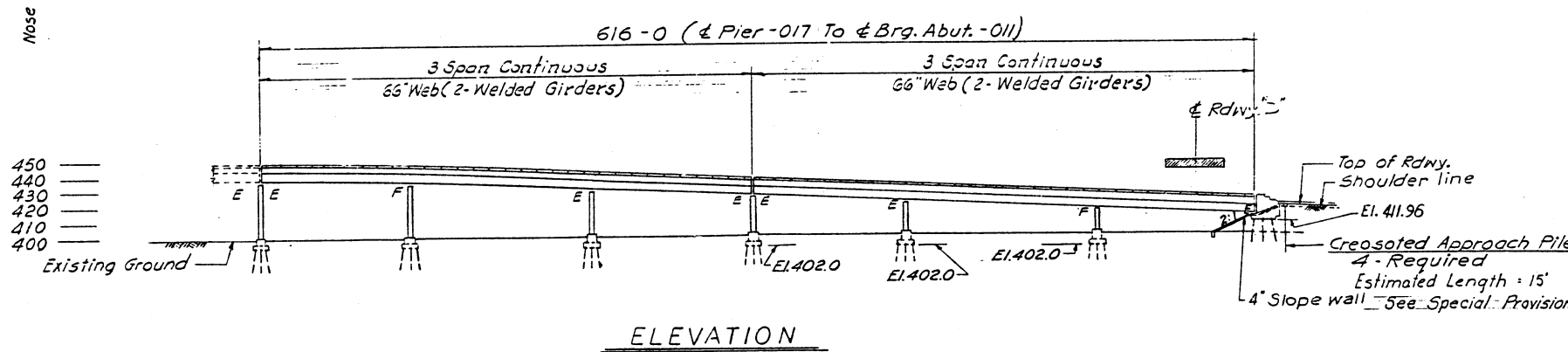
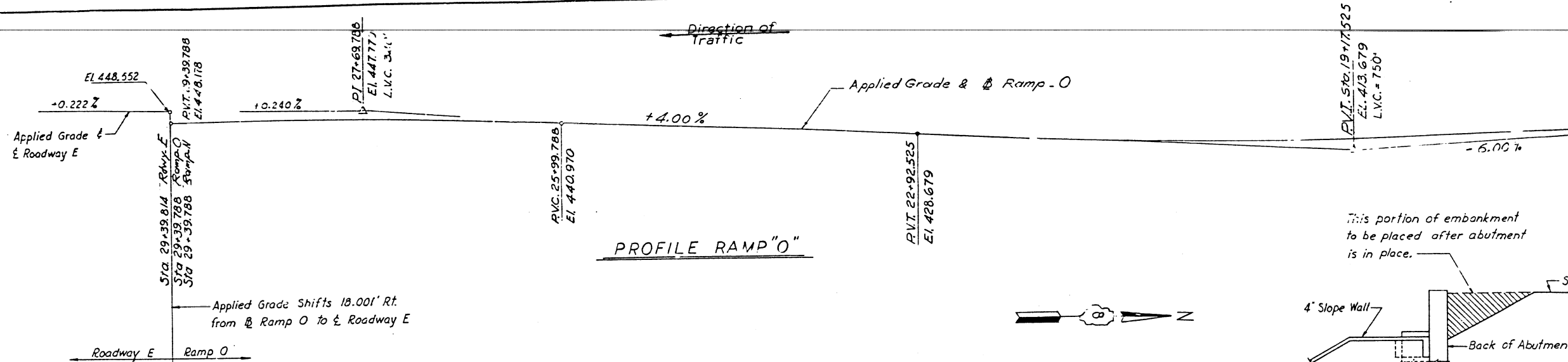
BILL OF MATERIAL		
Item	Unit	Quantity
Slope Wall 4"	S.Y.	141
Name Plate	Ea.	1
Embankment	C.Y.	50

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS  
PLAN AND ELEVATION  
SPANS 012 THRU 017  
POPLAR STREET BRIDGE APPROACHES  
RAMP "O"  
SECTIONS 82-3HVB-1  
82-3HVB-E-1  
82-3HVD-1  
F.A.I. RT. 70 ST. CLAIR CO.  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

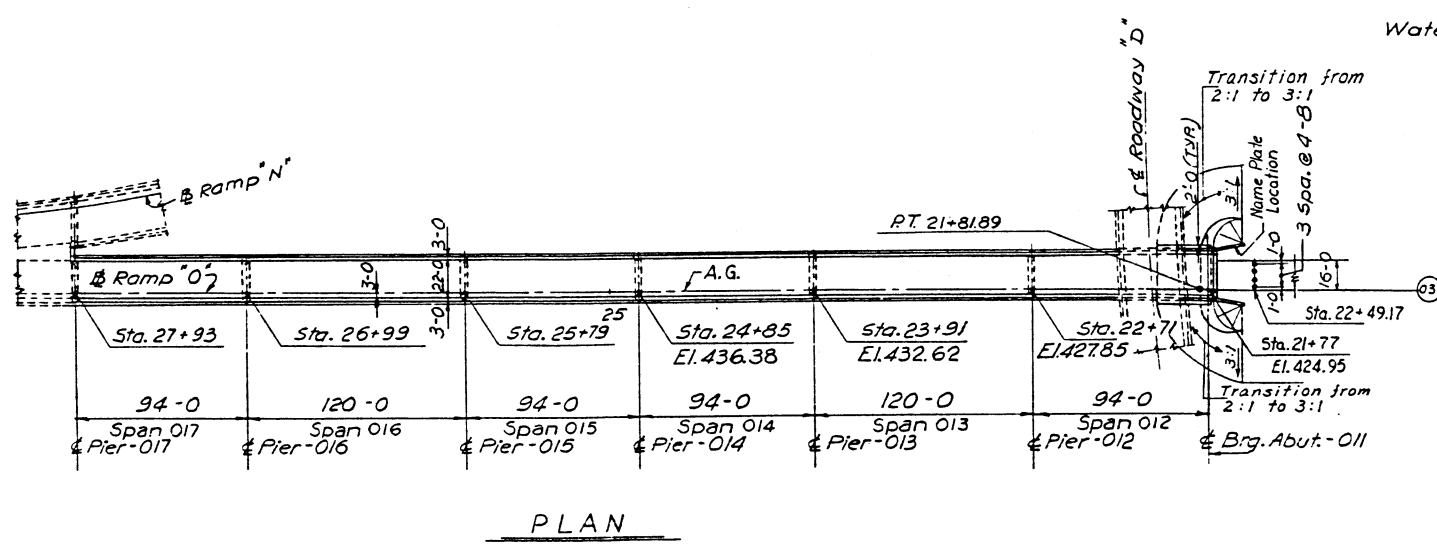
DESIGNED BY J.J.N.  
DRAWN BY [Signature]  
CHECKED BY [Signature]  
APPROVED BY K.A.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVB-1	ST. CLAIR		
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

82-3HVB-1  
82-3HVD-1  
38  
73 of  
258



BILL OF MATERIAL		
Item	Unit	Quantity
Slope Wall 4"	S.Y.	141
Name Plate	Ea.	1
Embankment	C.Y.	50



THIS SECTION INCLUDES SPANS 012 THRU 014 ONLY. OTHER DATA SHOWN ON THIS SHEET IS FOR REFERENCE ONLY.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS BLDGS.  
DIVISION OF HIGHWAYS  
PLAN AND ELEVATION  
SPANS 012 THRU 017  
POPLAR STREET BRIDGE APPROACHES  
RAMP "O"  
SECTIONS 82-3HVB-1  
82-3HVFBE-1  
32-3HVD-1  
F.A.I. RT. 70 ST. CLAIR CO.  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS  
SHEET  
20 of 526

DESIGNED BY J.J.N.  
DRAWN BY K.M.  
CHECKED BY B.H.  
APPROVED BY K.A.

0143

TABLES OF COORDINATES

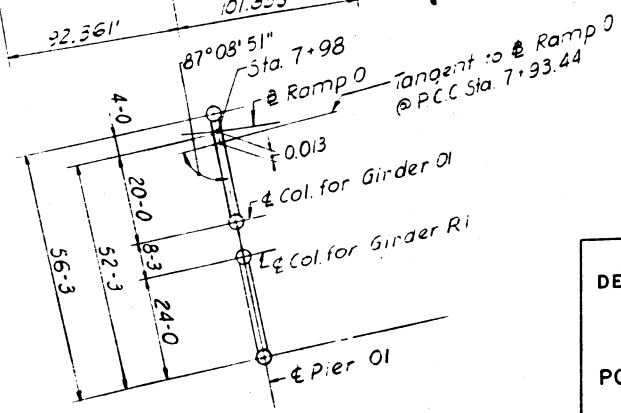
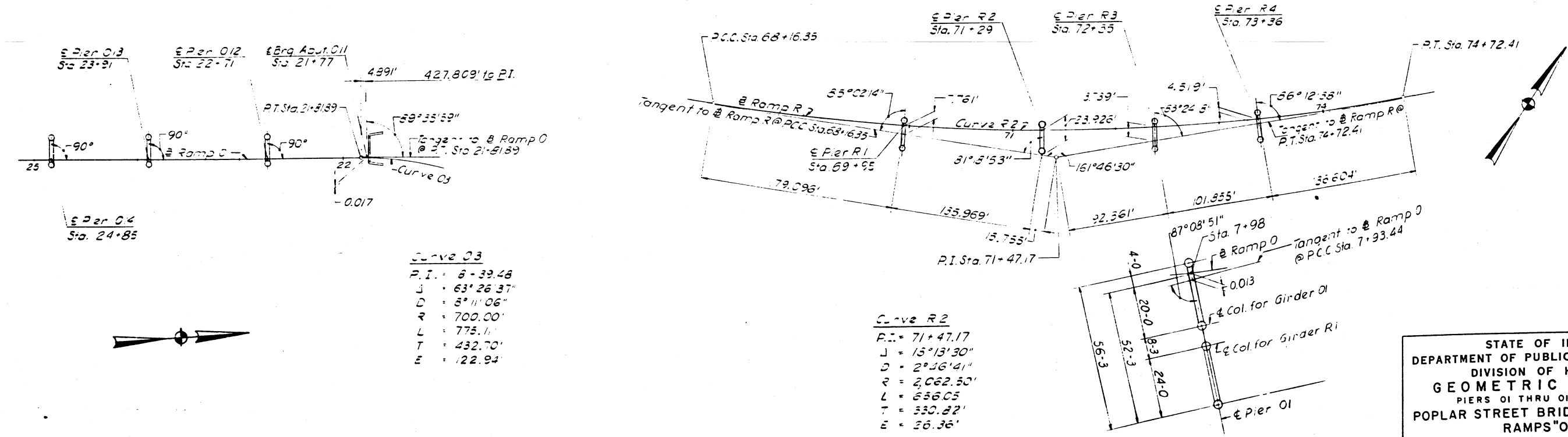
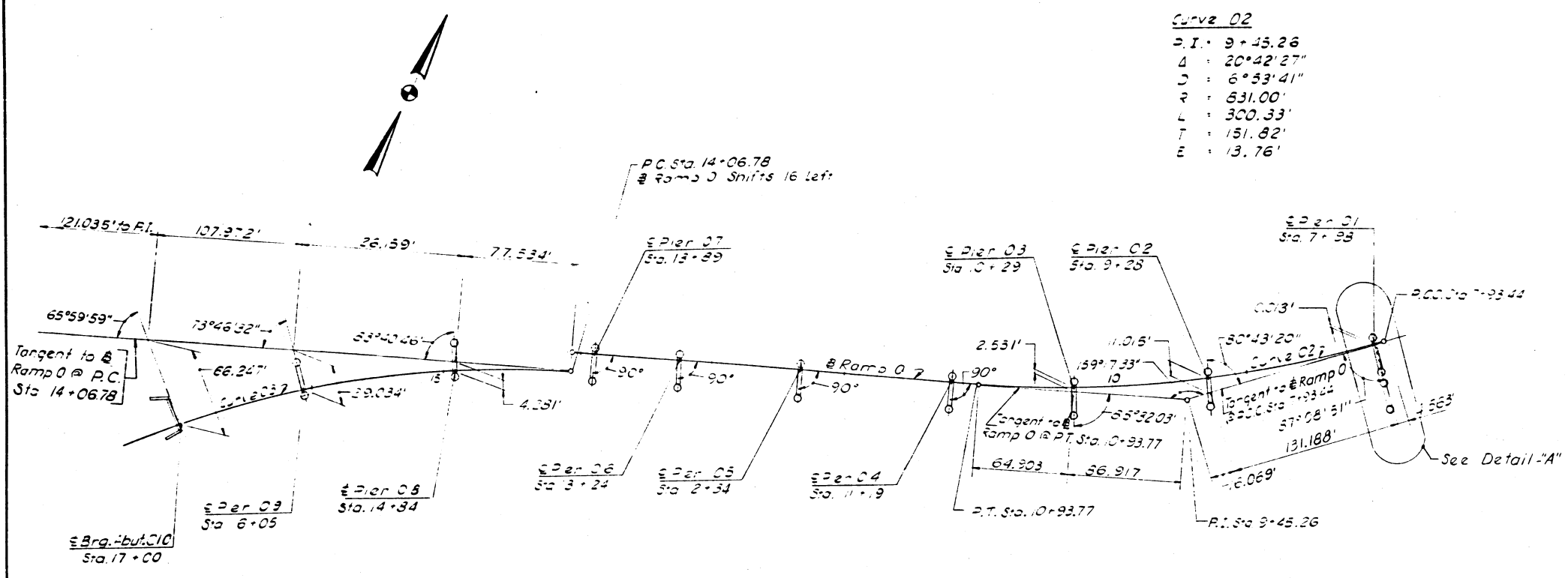
Per No.	Sta.	N. Coordinate	E. Coordinate	Azimuth	Ramp Col Offset	Left Col Offset
O 1	7+39	9736.343	33119.865	138°03'53"	4-0	52-3
O 2	9+28	9652.881	33220.565	144°29'24"	4-0	20-0
O 3	0+29	9599.350	32934.794	51°27'4"	4-0	20-0
O 4	11+19	9560.352	32553.716	155°55'11"	4-0	20-0
O 5	12+34	9534.430	32748.724	55°55'11"	4-0	20-0
O 6	13+24	9476.705	32666.556	155°55'11"	4-0	20-0
O 7	3+89	9450.187	32607.215	155°55'11"	4-0	20-0
O 8	4+34	9392.997	32528.567	149°35'57"	20-0	4-0
O 9	16+05	9323.673	32450.322	59°41'43"	20-0	4-0
Brg. Abut. O10	17+00	9256.902	32362.259	31°55'10"	20-0	4-0
Brg. Abut. O11	21+77	8824.370	32184.001	92°52'35"	20-0	4-0
O 12	22+71	8730.459	32179.223	92°28'34"	20-0	4-0
O 13	23+91	8610.571	32174.758	92°28'34"	20-0	4-0
O 14	24+85	8516.658	32170.577	92°28'34"	20-0	4-0

Per No.	Sta.	N. Coordinate	E. Coordinate	Azimuth	Ramp Col Offset	Left Col Offset
R 1	69+55	9211.773	32750.264	46°26'50"	20-0	4-0
R 2	71+29	9488.774	32652.764	43°03'29"	20-0	4-0
R 3	72+55	9554.629	32972.810	140°06'48"	20-0	4-0
R 4	73+36	9621.263	33048.693	137°18'28"	20-0	4-0

Curve O2  
 P.I. = 9+45.26  
 Δ = 20°42'27"  
 D = 6°53'41"  
 R = 631.00'  
 L = 300.33'  
 T = 151.82'  
 E = 13.76'

Curve O3  
 P.I. = 8+39.48  
 Δ = 63°26'37"  
 D = 5°11'06"  
 R = 700.00'  
 L = 775.11'  
 T = 432.70'  
 E = 122.94'

Curve R2  
 P.I. = 71+47.17  
 Δ = 15°13'30"  
 D = 2°56'41"  
 R = 2,062.50'  
 L = 656.05'  
 T = 350.82'  
 E = 26.36'

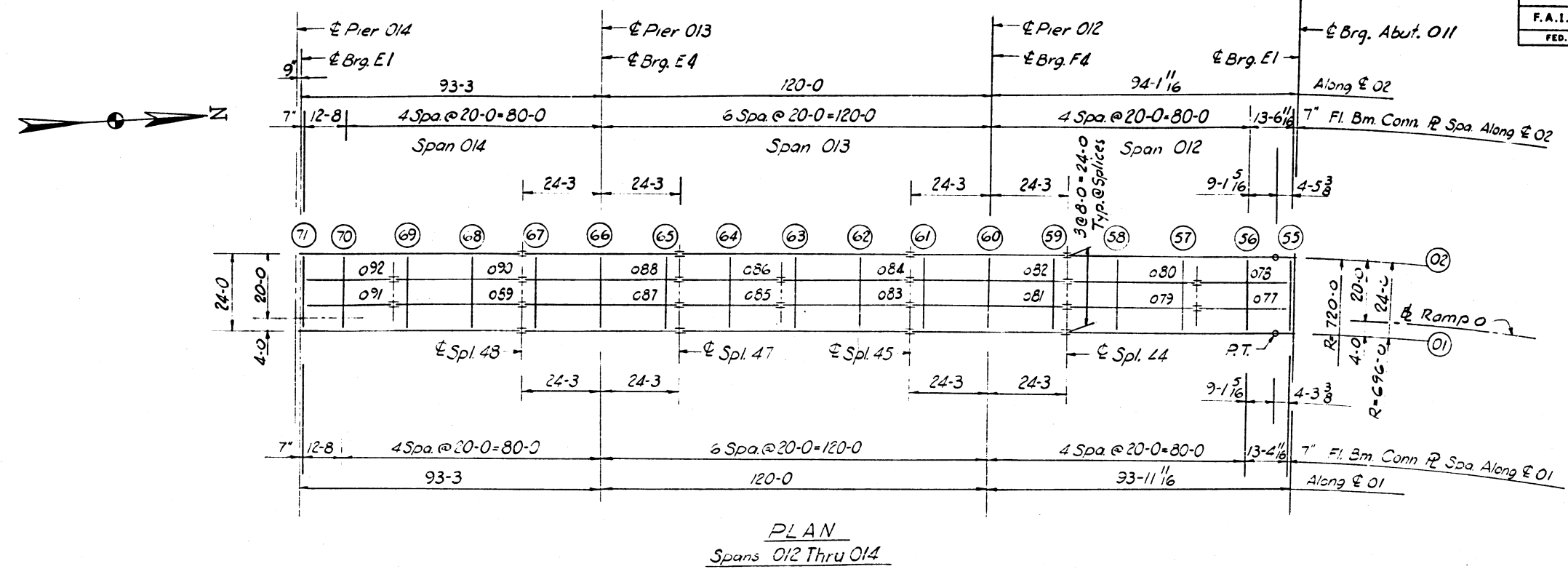


DESIGNED BY R.M.R.  
 DRAWN BY I.M.  
 CHECKED BY S.G.B.  
 APPROVED BY K.A.

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS  
**GEOMETRIC LAYOUT**  
 PIERS O1 THRU O14, R1 THRU R4  
**POPLAR STREET BRIDGE APPROACHES**  
**RAMPS "O" & "R"**  
 SECTIONS 82-3HVD-1  
 82-3HVF-E-1  
 82-3HVD-1  
 F.A.I.R.T.70 ST. CLAIR CO.  
 H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS  
 SHEET  
 33 OF 526

0143, 0201, 0253

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVF&E-1	ST. CLAIR	247	170
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	



PLAN  
Spans 012 Thru 014

Note:  
Dimensions locating Floor Beams are given to the Floor Beam Conn. Plate, see Sketch Sheet No. 183

ELEVATION TOP OF GIRDER WEB

	GIR. 01	GIR. 02	DIFF.
CL. BRG.	423.782	425.277	1.495
FLOOR BEAM 55	423.800	425.289	1.489
FLOOR BEAM 56	424.214	425.572	1.358
FLOOR BEAM 57	424.832	425.990	1.158
FLOOR BEAM 58	425.451	426.407	.955
SPLICE 44	425.938	426.736	.798
FLOOR BEAM 59	426.100	426.872	.772
FLOOR BEAM 60	426.863	427.512	.649
FLOOR BEAM 61	427.626	428.151	.525
SPLICE 45	427.788	428.287	.499
FLOOR BEAM 62	428.418	428.917	.499
FLOOR BEAM 63	429.218	429.717	.499
FLOOR BEAM 64	430.018	430.517	.499
SPLICE 47	430.648	431.147	.499
FLOOR BEAM 65	430.818	431.317	.499
FLOOR BEAM 66	431.518	432.117	.499
FLOOR BEAM 67	432.418	432.917	.499
SPLICE 48	432.588	433.087	.499
FLOOR BEAM 68	433.218	433.717	.499
FLOOR BEAM 69	434.018	434.517	.499
FLOOR BEAM 70	434.818	435.317	.499
FLOOR BEAM 71	435.325	435.824	.499
CL. BRG.	435.348	435.847	.499

BILL OF MATERIAL	
*Structural Steel	Lbs. 274,720

\*Weight of Bearing Assemblies with Lead Plates and Anchor Bolts are Included as Structural Steel Est. Wt. 6960

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS  
FRAMING PLAN  
SPANS 012 THRU 014  
POPLAR STREET BRIDGE APPROACHES  
RAMP "O"

F.A.I. RT.70 ST. CLAIR CO. SECTION 82-3HVF&E-1 SHEET  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS 3000 526

DESIGNED BY R.M.R.  
DRAWN BY JK  
CHECKED BY AT  
APPROVED BY KA

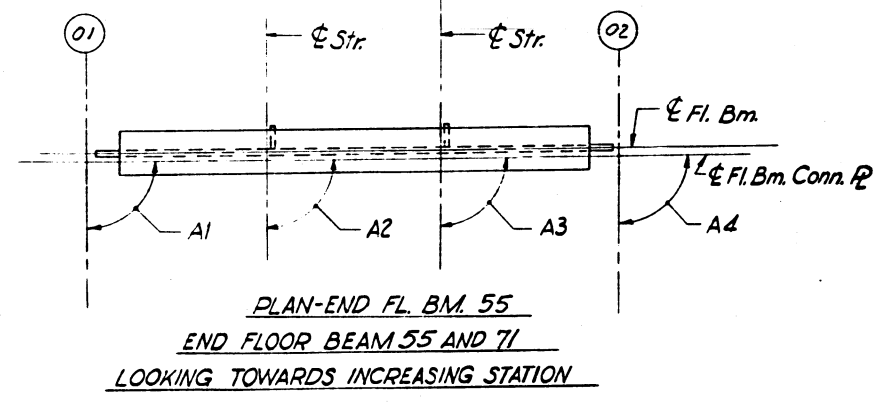
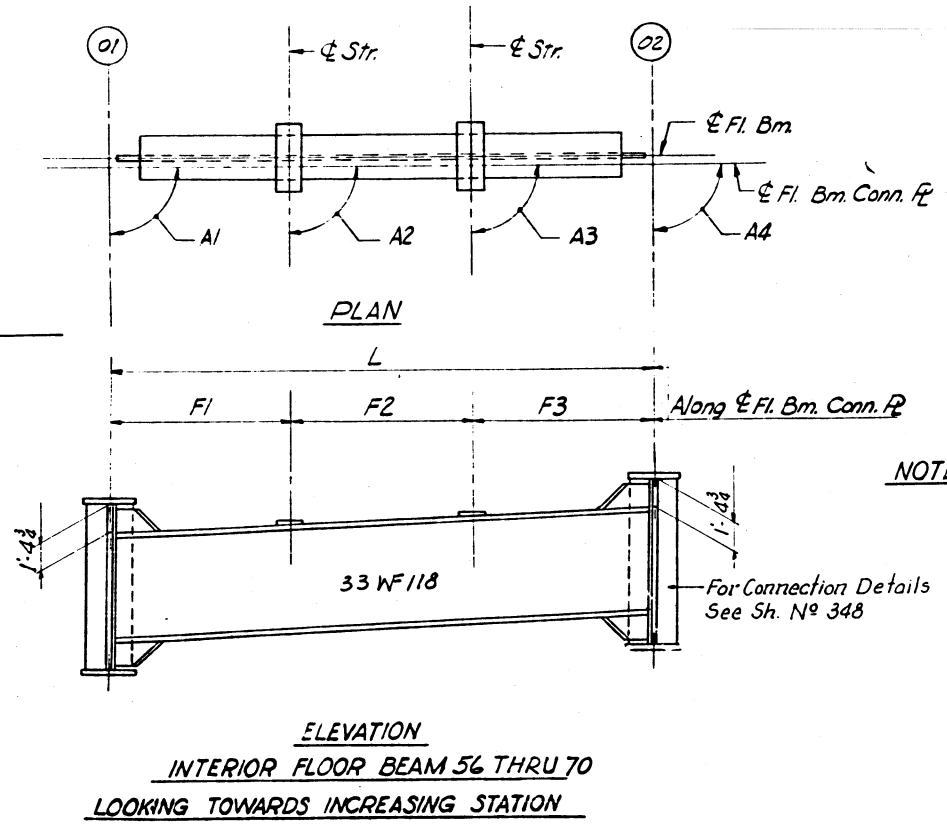
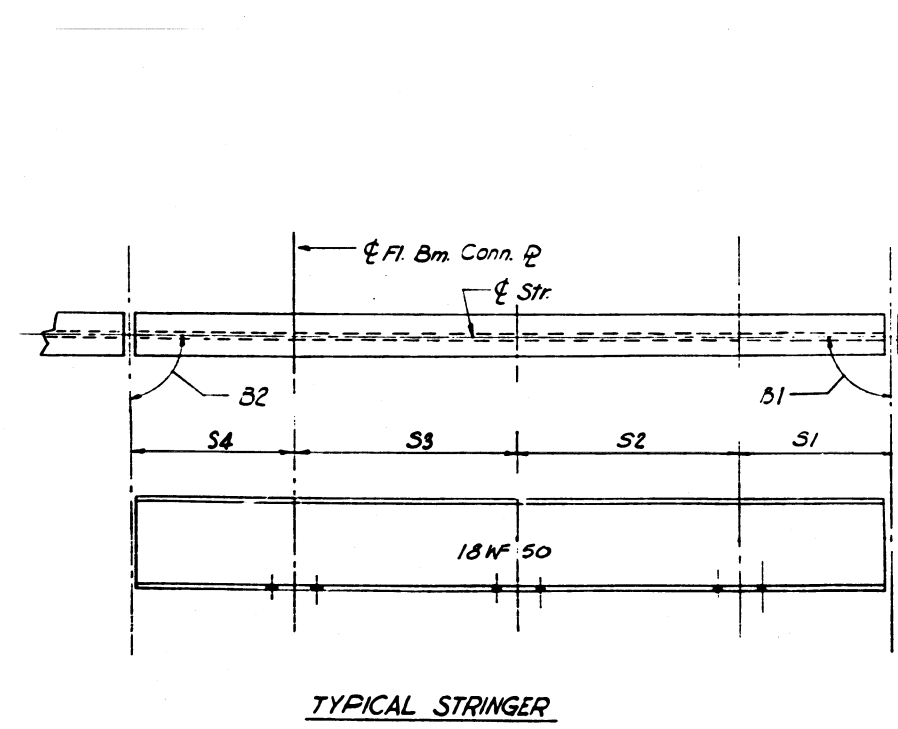
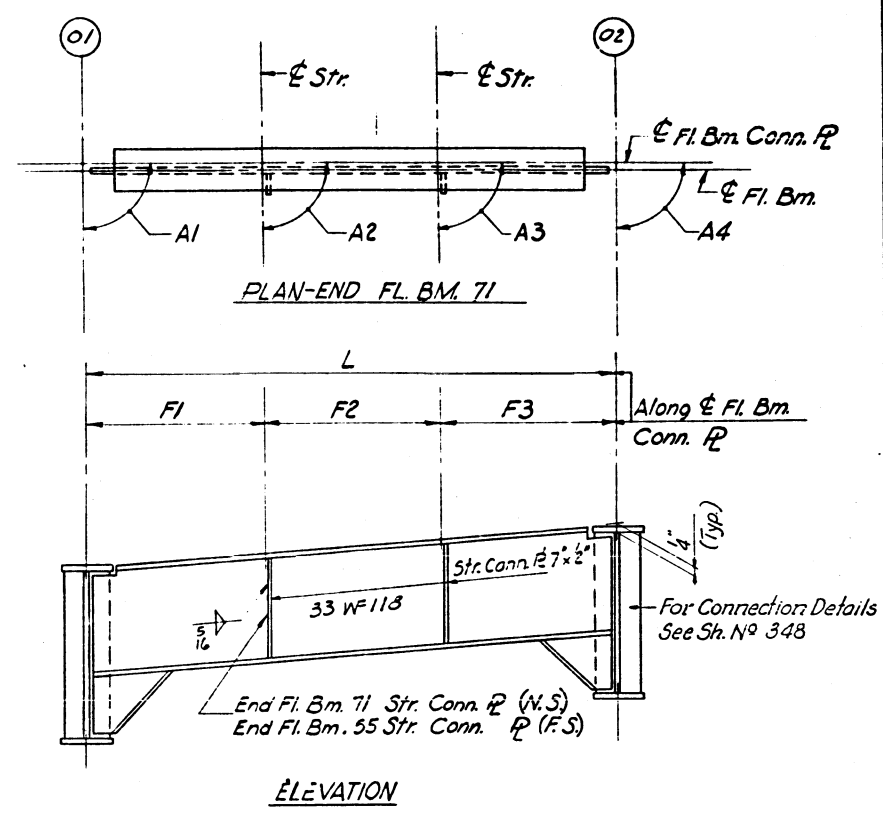
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. - 70	82-3HVF&E-1	ST. CLAIR	247	171
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	

**STRINGER DIMENSIONS**

STR	L	S1	S2	S3	S4	B1	B2
77	29 2 5/16		13 5 9/16		15 9	89.37.33	89.58.28
78	29 3		13 6		15 9	89.37.34	89.58.24
79	40	4 3	20		15 9	90.00.00	90.00.00
80	40	4 3	20		15 9	90.00.00	90.00.00
81	48 6	4 3	20	20	4 3	90.00.00	90.00.00
82	48 6	4 3	20	20	4 3	90.00.00	90.00.00
83	40	15 9	20		4 3	90.00.00	90.00.00
84	40	15 9	20		4 3	90.00.00	90.00.00
85	31 6	15 9			15 9	90.00.00	90.00.00
86	31 6	15 9			15 9	90.00.00	90.00.00
87	48 6	4 3	20	20	4 3	90.00.00	90.00.00
88	48 6	4 3	20	20	4 3	90.00.00	90.00.00
89	40	15 9	20		4 3	90.00.00	90.00.00
90	40	15 9	20		4 3	90.00.00	90.00.00
91	29 5	15 9	12 8			90.00.00	90.00.00
92	28 5	15 9	12 8			90.00.00	90.00.00

**FLOOR BEAM DIMENSIONS**

FL. BM	L	F1	F2	F3	A1	A2	A3	A4
55	24	8	8	8	89.57.07	89.37.33	89.37.34	89.57.13
56	24	7 11 15/16	8	8 1/16	90.00.00	90.01.34	90.01.36	90.00.00
57	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
58	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
59	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
60	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
61	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
62	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
63	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
64	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
65	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
66	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
67	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
68	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
69	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
70	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
71	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00



**NOTES:** Length L of Stringers and Fl. Bms. is correct as given in the table except the increment lengths are given to the nearest 1/16".  
All dimensions are in the horizontal plane.  
For Connection Plate Det. see Sh. No 348

DESIGNED BY A.T.  
DRAWN BY J.A.  
CHECKED BY A.T.  
APPROVED BY K.A.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS  
STRINGER AND FLOOR BEAM  
SCHEDULE  
SPANS 012 THRU 014  
POPLAR STREET BRIDGE APPROACHES  
RAMP "O"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF & E-1  
N. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

SHEET 301 of 326

0143

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. - 70	82-3HVFB-E-1	ST. CLAIR	247	172
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	

FLOOR BEAM	T1	T2	T3	T4
STR. 77	7/8	7/16	1 7/16	1
STR. 78	7/8	7/16	1 7/16	1

FLOOR BEAM	T1	T2	T3	T4
STR. 79	13/16	7/16	1 7/16	1 1/16
STR. 80	7/8	1/2	1 3/8	1

FLOOR BEAM	T1	T2	T3	T4
STR. 79	13/16	1/2	1 3/8	1 1/16
STR. 80	13/16	1/2	1 3/8	1 1/16

FLOOR BEAM	T1	T2	T3	T4
STR. 81	11/16	7/16	1 7/16	1 3/16
STR. 82	11/16	7/16	1 7/16	1 3/16

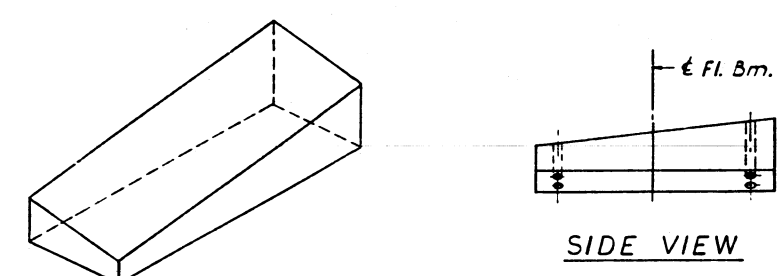
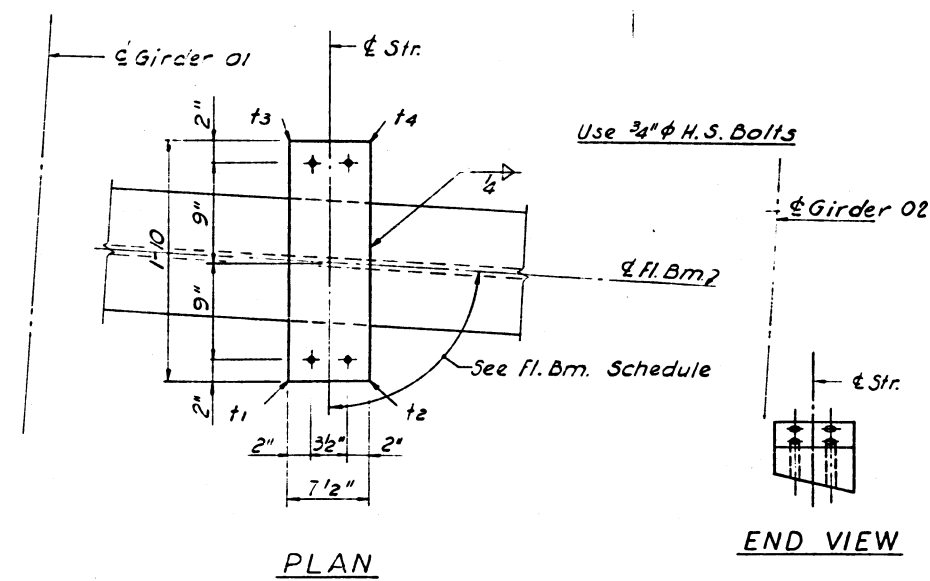
FLOOR BEAM	T1	T2	T3	T4
STR. 81	5/8	7/16	1 7/16	1 1/4
STR. 82	11/16	7/16	1 7/16	1 3/16

FLOOR BEAM	T1	T2	T3	T4
STR. 81	5/8	7/16	1 7/16	1 1/4
STR. 82	5/8	1/2	1 3/8	1 1/4

FLOOR BEAM	T1	T2	T3	T4
STR. 83 THRU 86	9/16	7/16	1 7/16	1 5/16

FLOOR BEAM	T1	T2	T3	T4
STR. 87 THRU 88	9/16	7/16	1 7/16	1 5/16

FLOOR BEAM	T1	T2	T3	T4
STR. 89 THRU 92	9/16	7/16	1 7/16	1 5/16



PLAN

END VIEW

ISOMETRIC VIEW

SIDE VIEW

SHIM DETAIL

Shim thickness  $t_1$ ,  $t_2$ ,  $t_3$  &  $t_4$  shown in the Table are orientated with the Plan View shown above.

DESIGNED BY R.M.R.  
 DRAWN BY A.J.C.  
 CHECKED BY A.T.  
 APPROVED BY K.A.

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS

STRINGER SHIMS  
 SPANS 012 THRU 014  
 POPLAR STREET BRIDGE APPROACHES  
 RAMP "O"

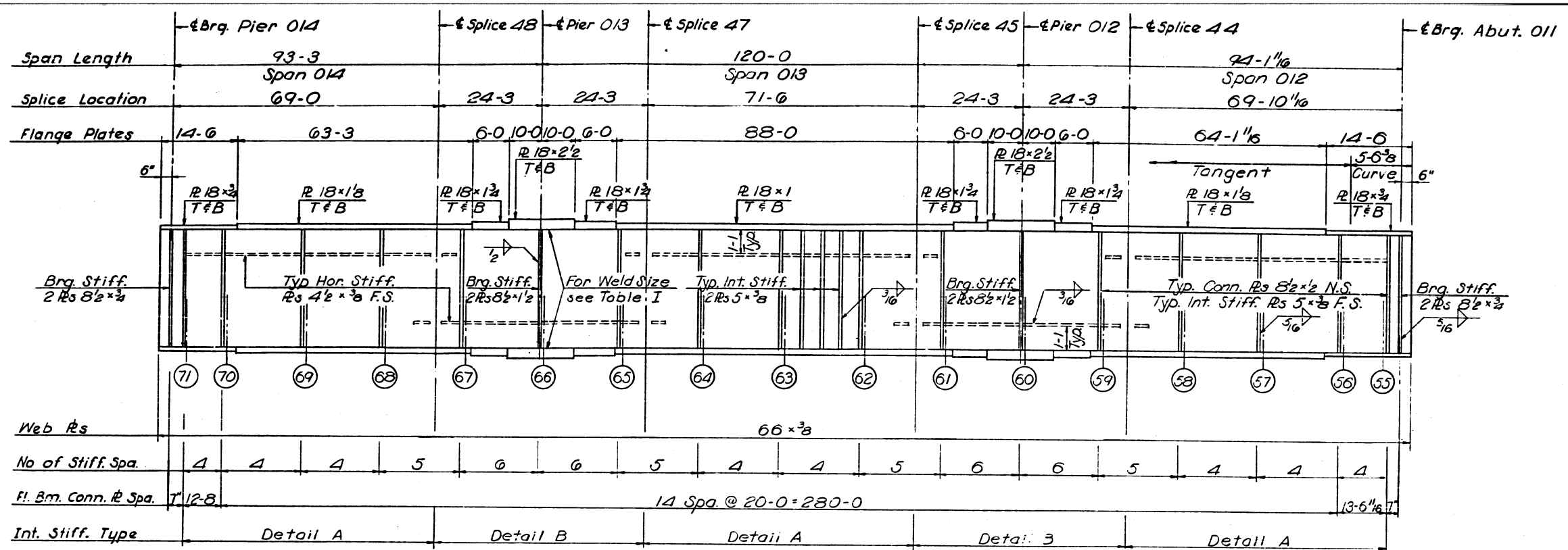
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVFB-E-1

H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

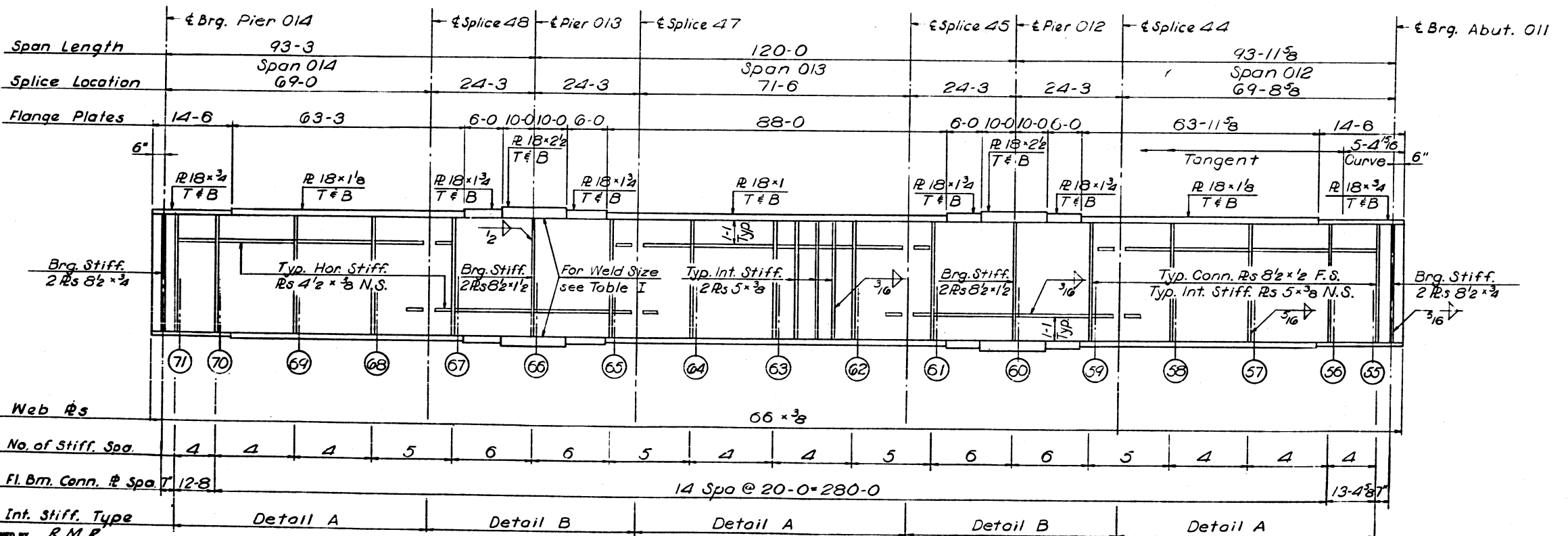
SHEET 302 of 520

0143

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVF & E-1	ST. CLAIR	277	173
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	



**GIRDER 02**  
SPANS 012 thru 014



**GIRDER 01**  
SPANS 012 thru 014

**Notes:**  
All Longitudinal Dimensions shown are given along  $\epsilon$  of Web. See Sh. No. 300  
All Bearing Stiffeners and Connection Plates to be vertical.  
For Splice, Stiffener, Connection Plate Details and Table I see Sh. No. 348, 349 and 350.

DESIGNED BY R.M.R.  
DRAWN BY D.C.H.  
CHECKED BY A.T.  
APPROVED BY K.A.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS

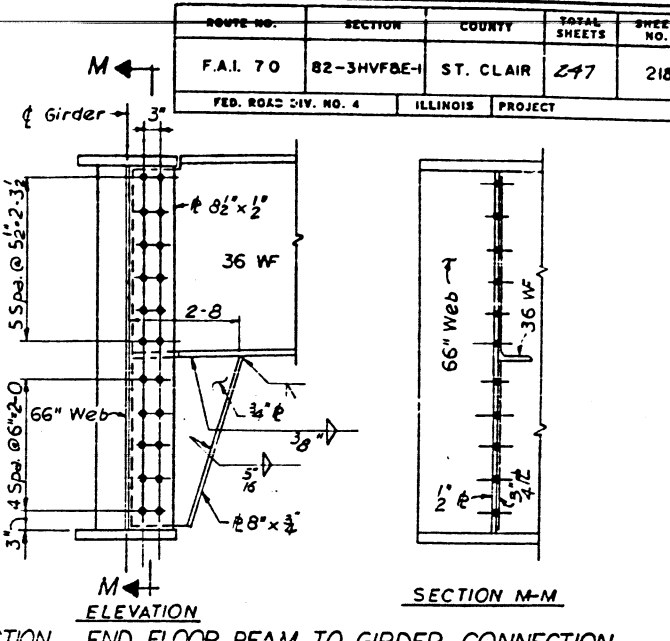
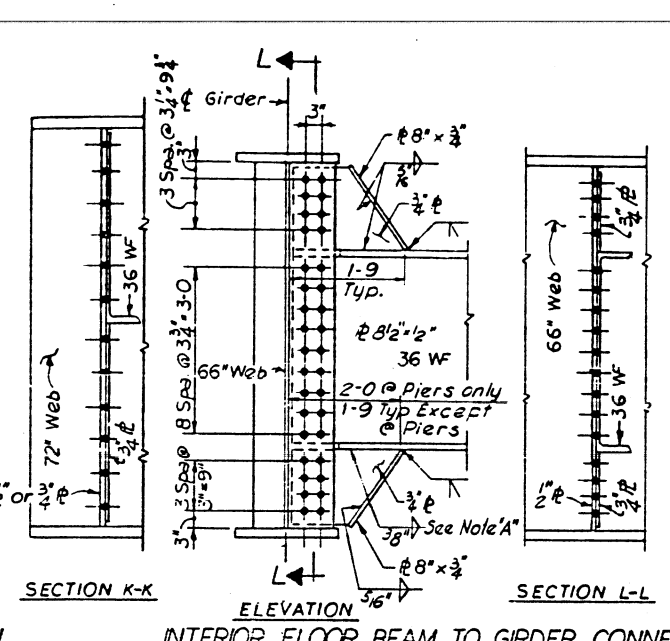
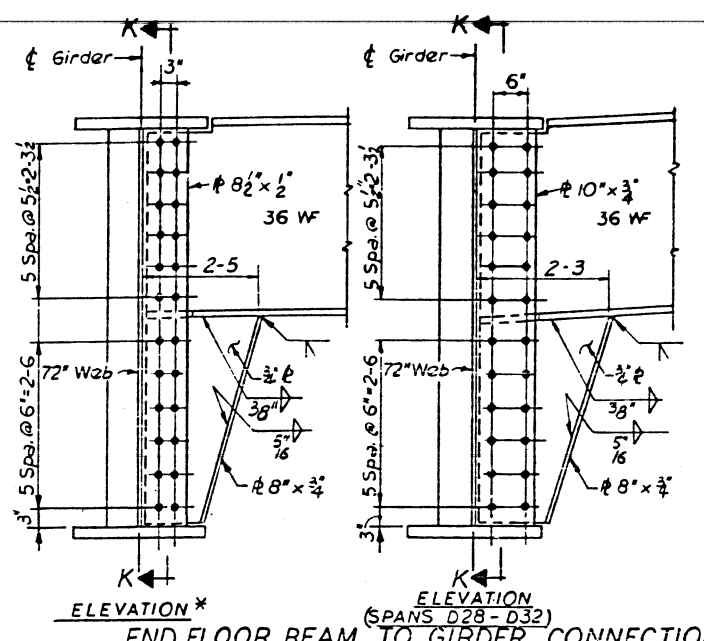
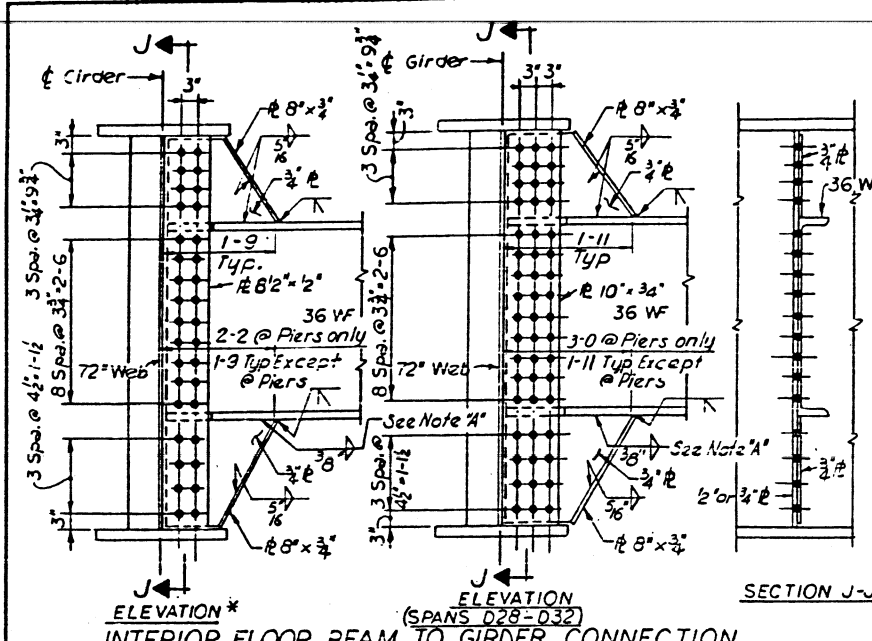
GIRDERS 01 AND 02  
SPANS 02 THRU 04  
POPLAR STREET BRIDGE APPROACHES  
RAMP "O"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF & E-1

SHEET  
303 of 526



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVFB-E-1	ST. CLAIR	247	218
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	



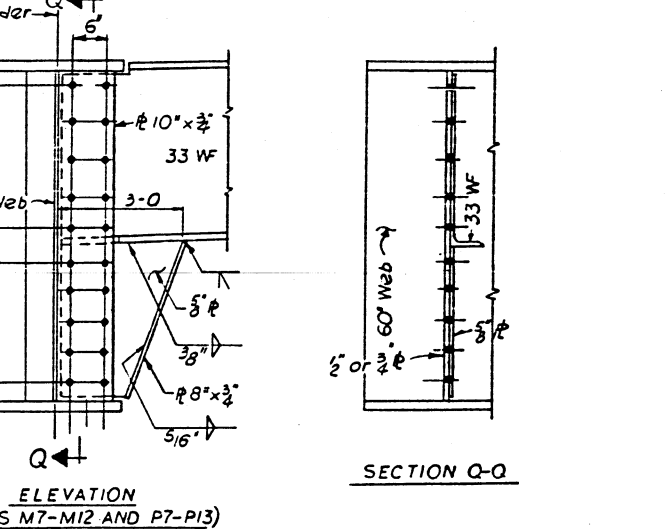
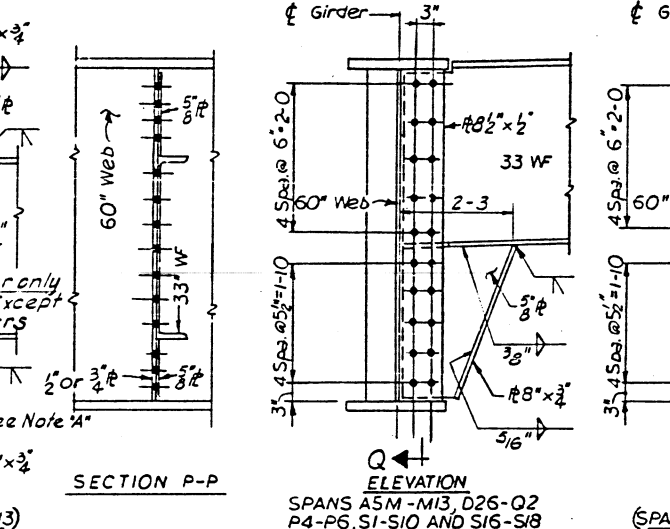
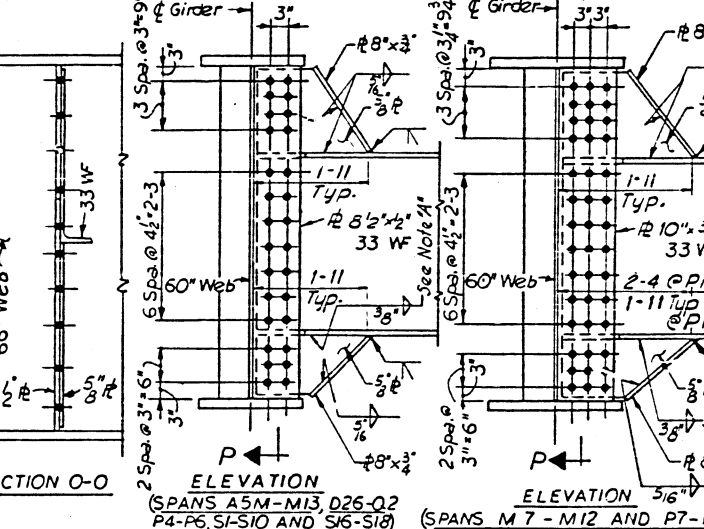
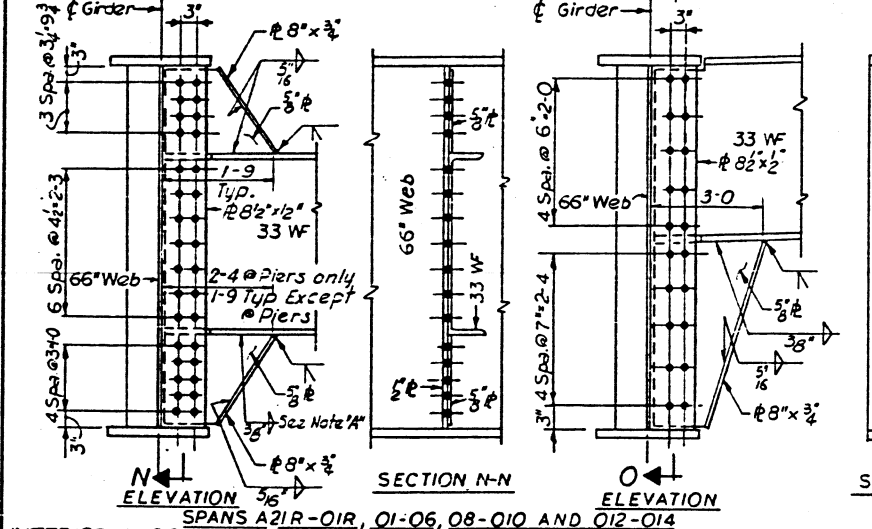
**INTERIOR FLOOR BEAM TO GIRDER CONNECTION**  
\* SPANS A5-A10, A12-A16, D12-D17 AND D26-D27

**END FLOOR BEAM TO GIRDER CONNECTION**  
\* SPANS D28-D32

**INTERIOR FLOOR BEAM TO GIRDER CONNECTION**  
\* SPANS A21-A24

**END FLOOR BEAM TO GIRDER CONNECTION**  
\* SPANS A21-A24

**72" WEB GIRDER**



**INTERIOR FLOOR BEAM TO GIRDER CONN.**  
\* SPANS A21R-O1R, O1-O6, O8-O10 AND O12-O14

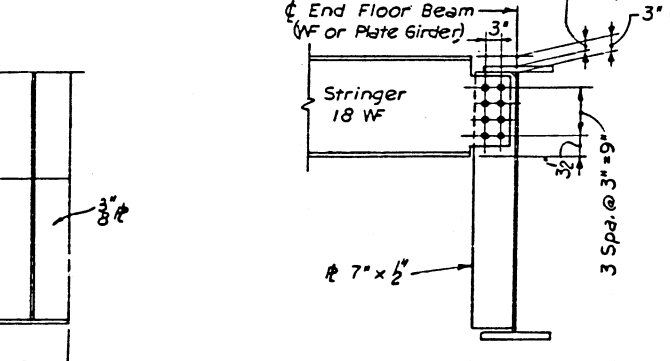
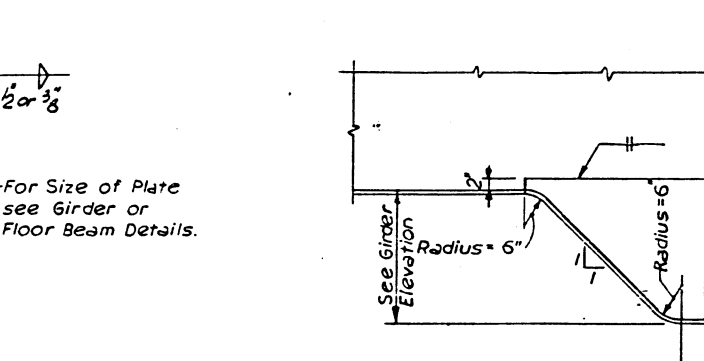
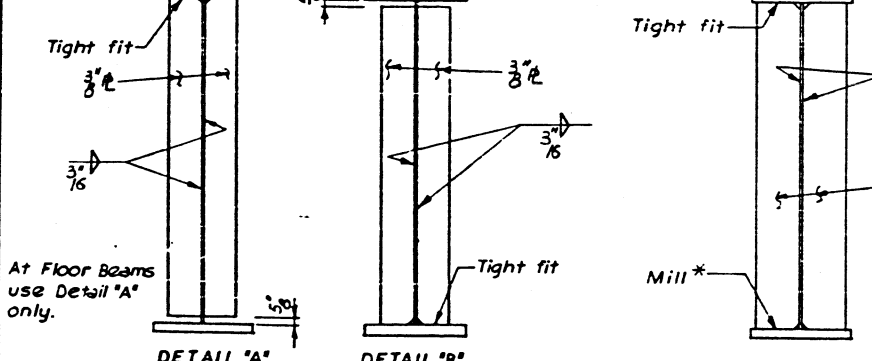
**END FLOOR BEAM TO GIRDER CONN.**  
\* SPANS M7-M12 AND P7-P13

**INTERIOR FLOOR BEAM TO GIRDER CONNECTIONS**  
\* SPANS A5M-M13, D26-Q2, P4-P6, S1-S10 AND S16-S18

**END FLOOR BEAM TO GIRDER CONNECTIONS**  
\* SPANS M7-M12 AND P7-P13

**66" WEB GIRDER**

**60" WEB GIRDER**



**DETAIL 'A'**  
**INTERMEDIATE STIFFENERS**  
FOR GIRDERS AND FLOOR BEAMS

**BEARING STIFFENERS**  
FOR GIRDERS AND FLOOR BEAMS

**STRINGER TO END FLOOR BEAM CONNECTION**

**Note 'A'**  
5/16" Fillet weld Typical  
3/8" Fillet weld @ Piers only

**NOTE:**  
For NOTES see Sheet No. 347.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS

STEEL FRAMING AND  
MISCELLANEOUS DETAILS  
POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVFB-E-1

H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

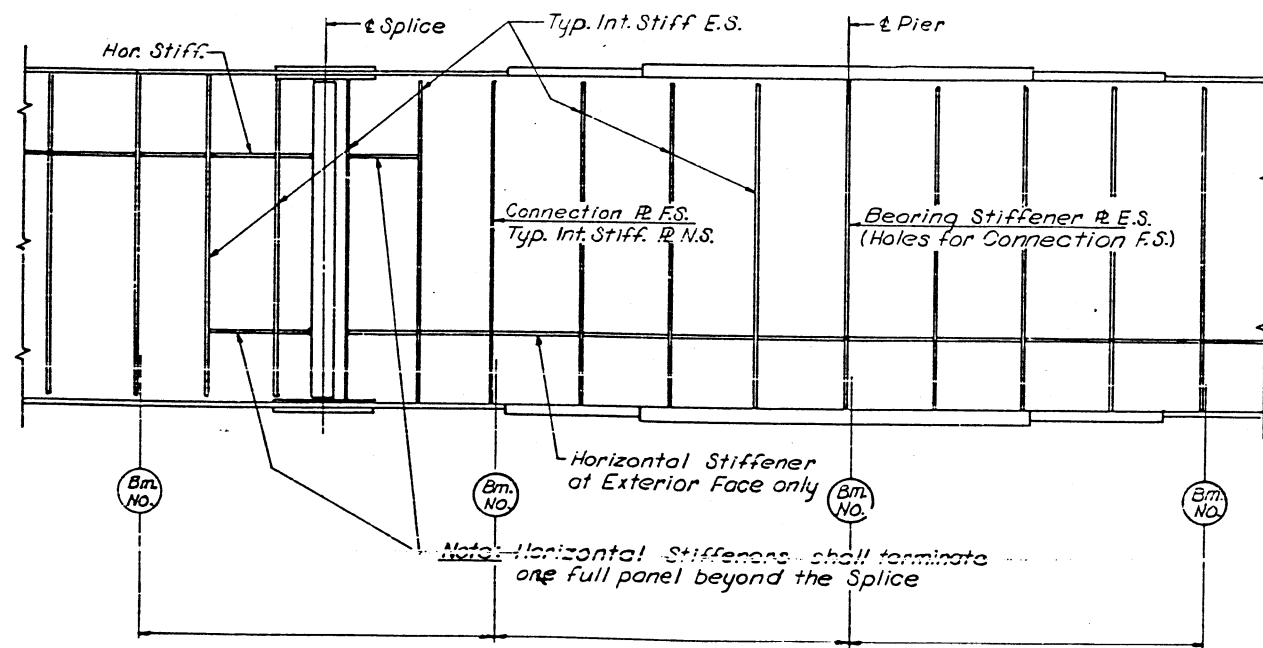
SHEET  
348 of 526

0142, 0143, 0144, 0145

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3MVFB-E	ST. CLAIR	247	220
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	

LOCATION	SPLICE NO.	DWG NO.	DETAIL	GIRDER SECTION		WEB SPLICE			FLANGE SPLICE		
				WEB PLATE	FLANGE PLATES	FILL PLATES	SPLICE PLATES	A	OUTSIDE PLATES	INSIDE PLATES	B
0145 Rdwy "M"	4,10,13	273	A	3/8 x 60	18 x 1 3/8	—	2-13 x 3/8 x 4-6	17	2-18 x 1 x 7-3	4-8 x 1/4 x 7-3	16
	7	273	A	3/8 x 60	18 x 1 3/4	—	2-13 x 3/8 x 4-6	17	2-18 x 3/8 x 6-5	4-8 x 1 x 6-5	14
	22	277	B	3/8 x 60	24 x 1 3/4	2-6 1/2 x 1/8 x 4-6	2-13 x 3/8 x 4-6	17	2-24 x 3/8 x 5-7	4-11 x 1 x 5-7	12
	26	277	B	3/8 x 60	24 x 1 1/2	2-6 1/2 x 1/8 x 4-6	2-13 x 3/8 x 4-6	17	2-24 x 3/8 x 5-7	4-11 x 1 x 5-7	12
	28,30	277	B	3/8 x 60	24 x 1 1/2	2-6 1/2 x 1/8 x 4-6	2-13 x 3/8 x 4-6	17	2-24 x 3/4 x 4-9	4-11 x 7/8 x 4-9	10
	35,39	281	A	3/8 x 60	18 x 1 3/8	—	2-13 x 3/8 x 4-6	17	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	37,41	281	A	3/8 x 60	18 x 1 3/8	—	2-13 x 3/8 x 4-6	17	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
Ramp "N"	4,10,16	286	A	3/8 x 84	18 x 1 1/8	—	2-13 x 3/8 x 6-6	25	2-18 x 5/8 x 4-9	4-8 x 3/4 x 4-9	10
	7,13,19	286	A	3/8 x 84	18 x 1 1/8	—	2-13 x 3/8 x 6-6	25	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
Ramp "O"	12,9,6,3	290	A	3/8 x 66	18 x 1 3/4	—	2-13 x 3/8 x 5-0	19	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
	23,22,20	294	A	3/8 x 66	18 x 1	—	2-13 x 3/8 x 5-0	19	2-18 x 5/8 x 4-9	4-8 x 3/4 x 4-9	10
	19	294	A	3/8 x 66	18 x 1/2	—	2-13 x 3/8 x 5-0	19	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	32,35	293	A	3/8 x 66	18 x 1/2	—	2-13 x 3/8 x 5-0	19	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
	29	299	A	3/8 x 66	18 x 1 1/2	—	2-13 x 3/8 x 5-0	19	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
0143 0201 Ramp "P"	38	299	A	3/8 x 66	18 x 1 1/2	—	2-13 x 3/8 x 5-0	19	2-18 x 1 x 7-3	4-8 x 1/4 x 7-3	16
	44,48	303	A	3/8 x 66	18 x 1/8	—	2-13 x 3/8 x 5-0	19	2-18 x 5/8 x 4-9	4-8 x 3/4 x 4-9	10
	45,47	303	A	3/8 x 66	18 x 1	—	2-13 x 3/8 x 5-0	19	2-18 x 1/2 x 3-11	4-8 x 5/8 x 3-11	8
	4,12	307	A	3/8 x 60	18 x 1 3/8	—	2-13 x 3/8 x 4-6	17	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	6,10	307	A	3/8 x 60	18 x 1 1/8	—	2-13 x 3/8 x 4-6	17	2-18 x 1 x 7-3	4-8 x 1/4 x 7-3	16
20,27	311	A	3/8 x 60	18 x 1 1/8	—	2-13 x 3/8 x 4-6	17	2-18 x 1 x 7-3	4-8 x 1/4 x 7-3	16	

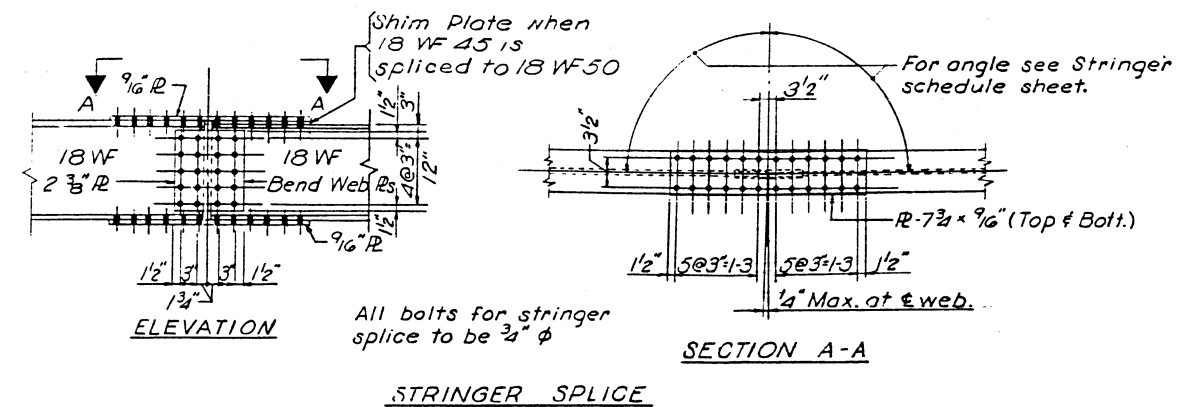
LOCATION	SPLICE NO.	DWG NO.	DETAIL	GIRDER SECTION		WEB SPLICE			FLANGE SPLICE		
				WEB PLATE	FLANGE PLATES	FILL PLATES	SPLICE PLATES	A	OUTSIDE PLATES	INSIDE PLATES	B
Ramp "P" Cont'd	22,26	311	A	3/8 x 60	18 x 2	—	2-13 x 3/8 x 4-6	17	2-18 x 1 x 7-3	4-8 x 1/4 x 7-3	16
	32,42	315	A	3/8 x 60	18 x 1 1/2	—	2-13 x 3/8 x 4-6	17	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
	33,35	315	A	3/8 x 60	18 x 1 1/2	—	2-13 x 3/8 x 4-6	17	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
	36,40	315	A	3/8 x 60	18 x 1 3/4	—	2-13 x 3/8 x 4-6	17	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
Ramp "Q"	2,5	322	A	3/8 x 60	18 x 1	—	2-13 x 3/8 x 4-6	17	2-18 x 1/2 x 3-11	4-8 x 5/8 x 3-11	8
	3,4	322	A	3/8 x 60	18 x 1	—	2-13 x 3/8 x 4-6	17	2-18 x 5/8 x 4-9	4-8 x 3/4 x 4-9	10
Ramp "S"	3	334	A	3/8 x 60	18 x 1 1/8	—	2-13 x 3/8 x 4-6	17	2-18 x 5/8 x 4-9	4-8 x 3/4 x 4-9	10
	5,7,9	334	A	3/8 x 60	18 x 1	—	2-13 x 3/8 x 4-6	17	2-18 x 1/2 x 3-11	4-8 x 5/8 x 3-11	8
	14,15,17,18,20	338	A	3/8 x 60	18 x 1 3/8	—	2-13 x 3/8 x 4-6	17	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	22	338	A	3/8 x 60	18 x 1 1/2	—	2-13 x 3/8 x 4-6	17	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	28,35	342	A	3/8 x 60	18 x 1	—	2-13 x 3/8 x 4-6	17	2-18 x 1/2 x 3-11	4-8 x 5/8 x 3-11	8
	30	342	A	3/8 x 60	18 x 1 1/2	—	2-13 x 3/8 x 4-6	17	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	32	342	A	3/8 x 60	18 x 1 3/8	—	2-13 x 3/8 x 4-6	17	2-18 x 1 x 7-3	4-8 x 1/4 x 7-3	16
	41	346	A	3/8 x 60	18 x 1 1/2	—	2-13 x 3/8 x 4-6	17	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
0142 Ramp "S"	43	346	A	3/8 x 60	18 x 1 1/2	—	2-13 x 3/8 x 4-6	17	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
	46	346	A	3/8 x 60	18 x 1 1/2	—	2-13 x 3/8 x 4-6	17	2-18 x 1 x 7-3	4-8 x 1/4 x 7-3	16
	49	346	A	3/8 x 60	18 x 1 1/2	—	2-13 x 3/8 x 4-6	17	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14



**TYPICAL GIRDER DETAILS**  
(Exterior Face Shown)

Note: All Bearing Stiff. & Conn. R.s to be Vertical.

DESIGNED BY: A.A.  
DRAWN BY: Hamilton  
CHECKED BY: S.K.  
APPROVED BY: K.A.



**STRINGER SPLICE**

Plate Size	Min. Weld
To 1/2" Inclusive	3/16"
Over 1/2" to 3/4"	1/4"
Over 3/4" to 1 1/2"	5/16"
Over 1 1/2" to 2 1/4"	3/8"
Over 2 1/4" to 6"	1/2"

Work this Drawing with Sh. No. 349

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS

GIRDER SPLICES AND DETAILS  
POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3MVFB-E-1

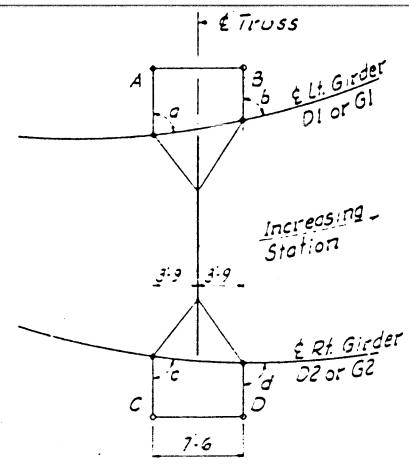
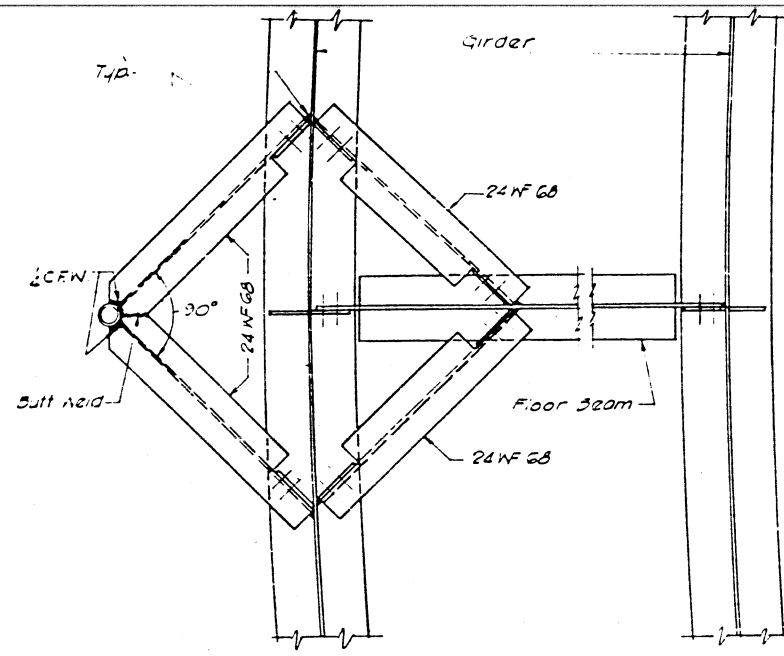
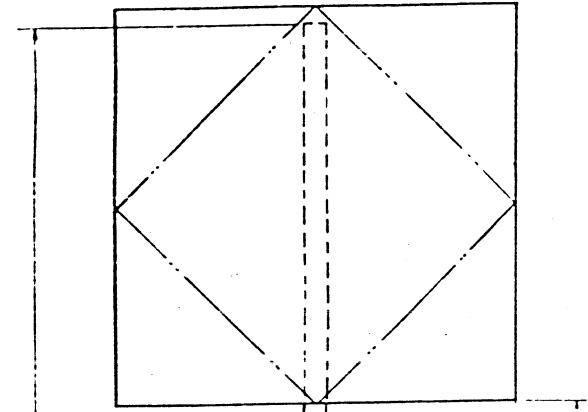
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

SHEET 350 OF 626

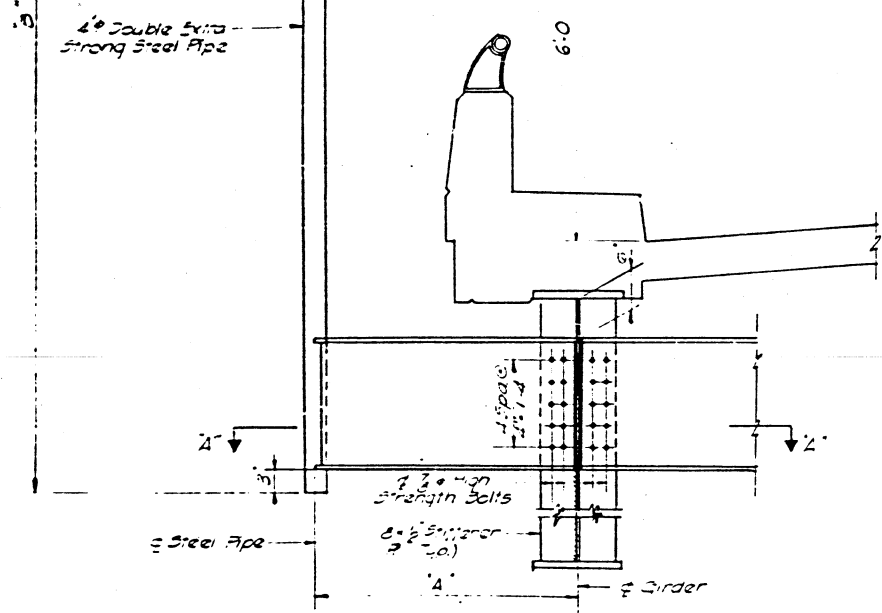
0142, 0143, 0145

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVF&E-1 82-3HVD-1	ST. CLAIR	247	230
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	

Truss No	Pier Station	A	B	C	D	Angle a	Angle b	Angle c	Angle d
2	Pier D10 58+19	3-11 <sup>15</sup> / <sub>16</sub>	3-11 <sup>15</sup> / <sub>16</sub>	3-6 <sup>3</sup> / <sub>8</sub>	2-9 <sup>3</sup> / <sub>8</sub>	90°07'11"	89°52'29"	84°29'04"	84°29'04"
3	Pier D25 72+59	3-5 <sup>1</sup> / <sub>2</sub>	2-10 <sup>5</sup> / <sub>8</sub>	3-2 <sup>1</sup> / <sub>6</sub>	3-2 <sup>1</sup> / <sub>6</sub>	85-53-41	85-39-18	89-54-13	90-05-47
9	Pier G13 87+35	2-8 <sup>15</sup> / <sub>16</sub>	3-7	3-2	3-2	96-27-14	96-15-47	90-00-00	90-00-00
10	Pier G3 77+68	3-1 <sup>1</sup> / <sub>8</sub>	3-2 <sup>1</sup> / <sub>8</sub>	3-0 <sup>13</sup> / <sub>16</sub>	3-3 <sup>5</sup> / <sub>8</sub>	91-12-29	90-59-21	91-29-00	91-43-18



DIMENSION PLAN TRUSS SIGN SUPPORT



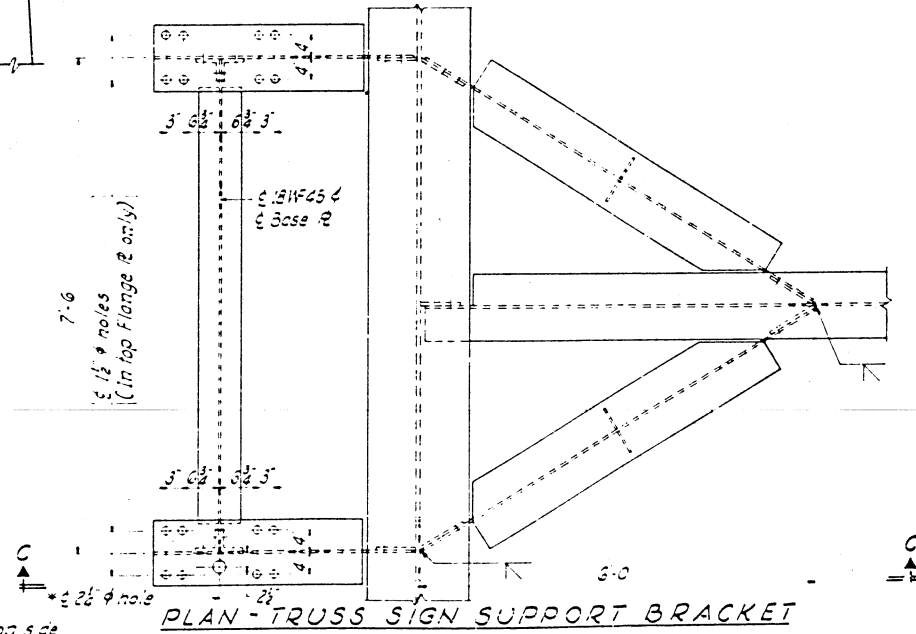
Elevation Sign Bracket on Structure

NOTE: 8 x 2 Connection Pls. to be fit to Compression flange and uncut at tension flange. See Girder Details for locations of Details A and B.

Table For Sign Bracket Dimensions

Sign Bracket	A	B
#1	3-10	15-2
#2	3-0	14-7
#3	3-0	14-8
#4	3-10	15-0
#5	3-0	12-7
#6	3-0	14-7
#7	3-0	12-8
#8	3-0	12-6
#9	3-10	15-2
#10	3-0	12-8
#11	3-0	14-6
#12	3-10	15-0
#13	3-0	14-8
#14	3-10	15-0
#15	3-10	15-1
#16	3-0	12-8
#17	3-0	12-6
#18	3-0	14-8
#19	3-0	14-6
#20	3-0	14-7

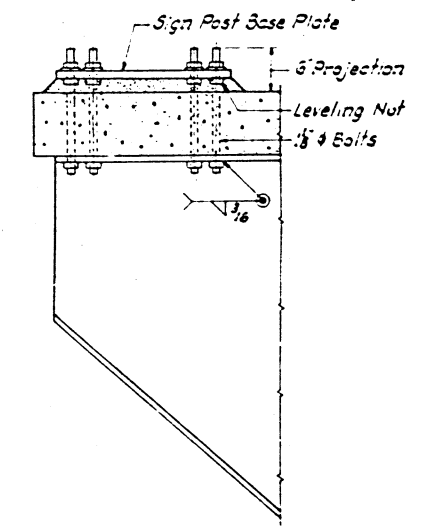
Note: For Location of Sign Bracket see Framing Plan.



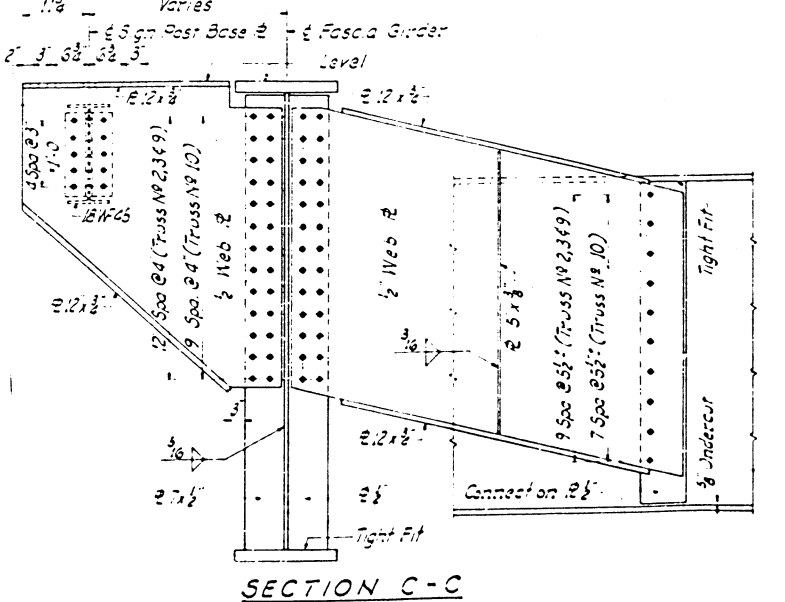
PLAN - TRUSS SIGN SUPPORT BRACKET

\* Locate 2 1/2\"/>

Notes:  
For location of Sign Bracket see Framing Plans. Weight of Sign Bracket and Cross Bracing is included with Quantity for Structural Steel.  
1/8\"/>



DETAIL A



SECTION C-C

DESIGNED BY: ZMR  
DRAWN BY: JF JVA 3  
CHECKED BY: ZMR  
APPROVED BY: KA

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS

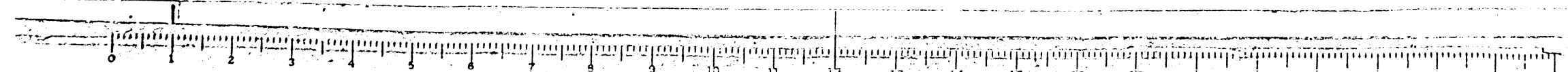
SIGN BRACKET DETAILS

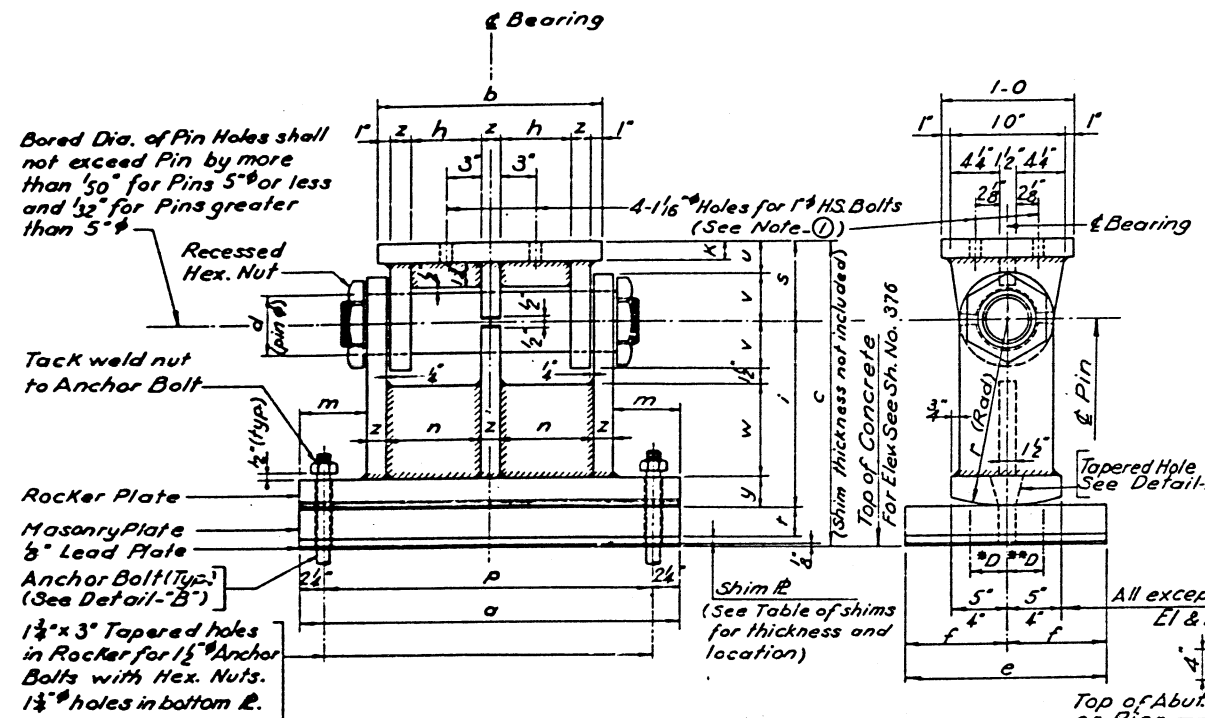
POPLAR STREET BRIDGE APPROACHES

F.A.I.R.T. 70 ST. CLAIR CO. SECTIONS 82-3HVF&E-1  
82-3HVD-1

H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

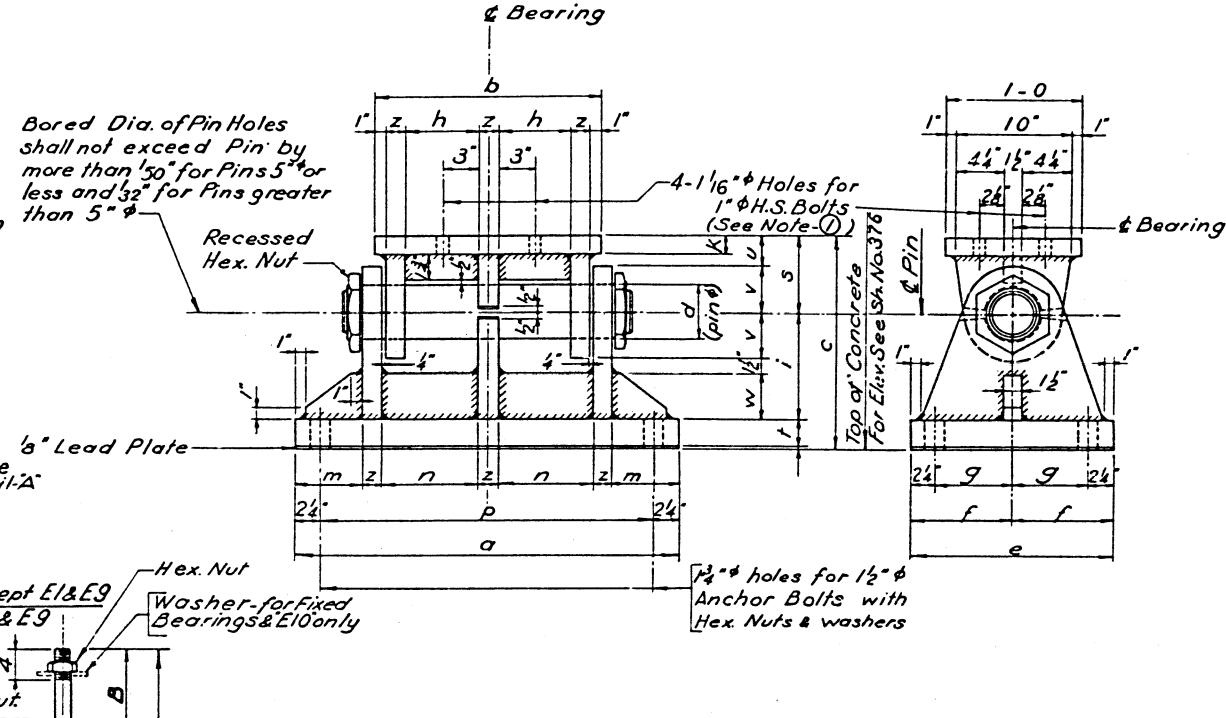
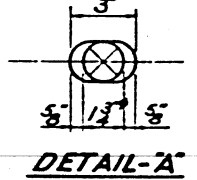
SHEET 36025 526



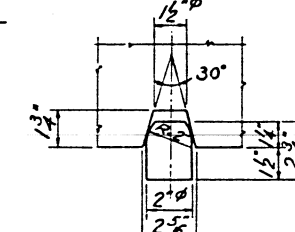
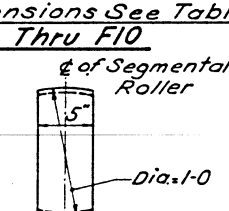
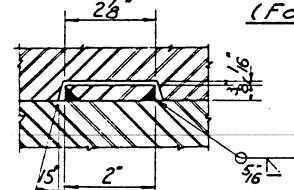
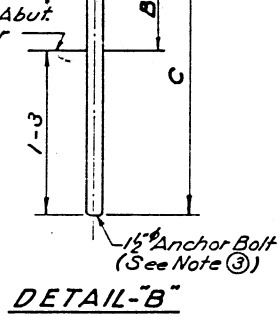


**DETAIL OF EXPANSION BEARING**  
(For Dimensions See Table)  
E1 Thru E9

ANCHOR BOLT DIMENSIONS						
Dimension	F1 thru F6	F7 thru F10	E1, E2, E3, E4, E5, E6	E7	E10	
A	5 1/2	6 1/2	7 1/2	9 1/2	11	6
B	1-8 1/2	1-9 1/2	1-10 1/2	2-0 1/2	2-2	1-9
C						



**DETAIL OF FIXED BEARING**  
(For Dimensions See Table)  
F1 Thru F10



**DETAIL-B**

**DETAIL-C**

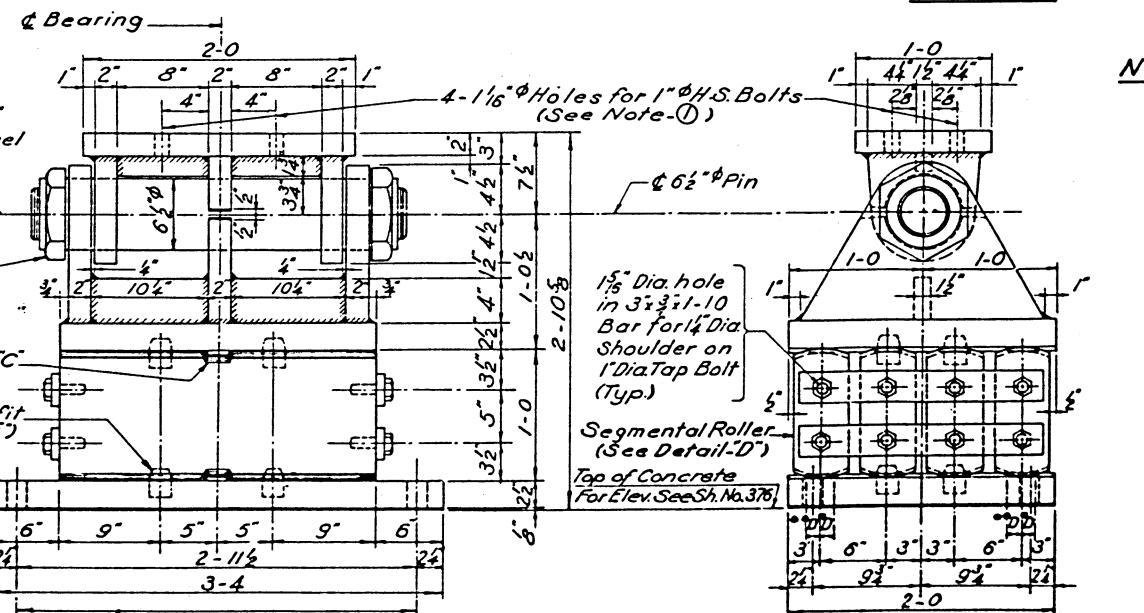
**DETAIL-D**

**DETAIL-E**

TYPE OF BEARING ASSEMBLY DIMENSIONS		Dimension																				
TYPE OF BEARING	NO. REG'D	a	b	c	d	e	f	g	h	i	k	m	n	p	r	s	t	u	v	w	y	z
F1	4	2-4	1-6	1-3/8	3 1/2	9"	4 1/2	2 1/2	5 1/2	7 1/2	1 1/2	4"	7 3/4	1-11/8	7 1/2	5 1/2	2"	2 1/2	3"	3 1/2	1 1/2	1 1/2
F2	20	2-7	1-8	1-5/8	5"	1-0	6"	3 1/2	6 3/4	9 1/4	1 1/2	4 1/2	8 1/2	2-2 1/2	10"	6 1/2	2 1/2	2 1/2	3 1/2	4"	1 1/2	1 1/2
F3	10	2-8	1-8	1-6 1/8	5"	1-2	7"	4 1/2	6 3/4	9 1/4	1 1/2	5"	8 1/2	2-3 1/2	11"	6 1/2	2 1/2	2 1/2	3 1/2	4"	1 1/2	1 1/2
F4	30	2-10	1-8	1-6 1/8	5"	1-4	8"	5 1/2	6 3/4	9 1/4	1 1/2	6"	8 1/2	2-5 1/2	12"	6 1/2	2 1/2	2 1/2	3 1/2	4"	1 1/2	1 1/2
F5	2	2-10	2-0	1-6 1/8	5"	1-4	8"	5 1/2	6 3/4	9 1/4	1 1/2	4"	10 1/2	2-5 1/2	12"	6 1/2	2 1/2	2 1/2	3 1/2	4"	1 1/2	1 1/2
F6	16	2-10	1-8	1-6 1/8	5 1/2	1-6	9"	6 1/2	6 3/4	9 1/4	1 1/2	6"	8 1/2	2-5 1/2	12"	6 1/2	2 1/2	2 1/2	3 1/2	4"	1 1/2	1 1/2
F7	6	3-0	1-8	1-7 1/8	6"	1-8	10"	7 1/2	6 3/4	9 1/4	2"	7"	8 1/2	2-7 1/2	14"	7 1/2	2 1/2	3"	4 1/2	4"	1 1/2	1 1/2
F8	2	3-0	2-0	1-7 1/8	6"	1-8	10"	7 1/2	6 3/4	9 1/4	2"	5"	10 1/2	2-7 1/2	14"	7 1/2	2 1/2	3"	4 1/2	4"	1 1/2	1 1/2
F9	6	3-2	1-8	1-8 1/8	6"	1-10	11"	8 1/2	6 3/4	9 1/4	2"	8"	8 1/2	2-9 1/2	14"	7 1/2	3 1/4	3"	4 1/2	4"	1 1/2	1 1/2
F10	2	3-4	2-0	1-8 1/8	6 1/2	2-0	1-0	9 1/2	8"	10"	2"	6 1/2	10 1/2	2-11 1/2	14"	7 1/2	3 1/4	3"	4 1/2	4"	1 1/2	1 1/2
E1	118	2-4	1-6	1-3/8	3 1/2	9"	4 1/2	2 1/2	5 1/2	7 1/2	1 1/2	4"	7 3/4	1-11/8	7 1/2	5 1/2	2"	2 1/2	3"	3 1/2	1 1/2	1 1/2
E2	42	2-7	1-8	1-5/8	5"	1-0	6"	3 1/2	6 3/4	9 1/4	1 1/2	4 1/2	8 1/2	2-2 1/2	10"	6 1/2	2 1/2	2 1/2	3 1/2	4"	1 1/2	1 1/2
E3	12	2-8	1-8	1-6 1/8	5"	1-2	7"	4 1/2	6 3/4	9 1/4	1 1/2	5"	8 1/2	2-3 1/2	11"	6 1/2	2 1/2	2 1/2	3 1/2	4"	1 1/2	1 1/2
E4	30	2-10	1-8	1-6 1/8	5"	1-4	8"	5 1/2	6 3/4	9 1/4	1 1/2	6"	8 1/2	2-5 1/2	12"	6 1/2	2 1/2	2 1/2	3 1/2	4"	1 1/2	1 1/2
E5	2	2-10	2-0	1-6 1/8	5"	1-4	8"	5 1/2	6 3/4	9 1/4	1 1/2	4"	10 1/2	2-5 1/2	12"	6 1/2	2 1/2	2 1/2	3 1/2	4"	1 1/2	1 1/2
E6	16	2-10	1-8	1-6 1/8	5 1/2	1-6	9"	6 1/2	6 3/4	9 1/4	1 1/2	6"	8 1/2	2-5 1/2	12"	6 1/2	2 1/2	2 1/2	3 1/2	4"	1 1/2	1 1/2
E7	18	3-0	2-0	1-7 1/8	6"	1-8	10"	7 1/2	6 3/4	9 1/4	2"	7"	8 1/2	2-7 1/2	14"	7 1/2	2 1/2	3"	4 1/2	4"	1 1/2	1 1/2
E8	4	3-0	2-0	1-7 1/8	6"	1-8	10"	7 1/2	6 3/4	9 1/4	2"	5"	10 1/2	2-7 1/2	14"	7 1/2	2 1/2	3"	4 1/2	4"	1 1/2	1 1/2
E9	8	3-2	1-8	1-8 1/8	6"	1-10	11"	8 1/2	6 3/4	9 1/4	2"	8"	8 1/2	2-9 1/2	14"	7 1/2	3 1/4	3"	4 1/2	4"	1 1/2	1 1/2
E10	8	3-4	2-0	1-8 1/8	6 1/2	2-0	1-0	9 1/2	8"	10"	2"	6 1/2	10 1/2	2-11 1/2	14"	7 1/2	3 1/4	3"	4 1/2	4"	1 1/2	1 1/2

DESIGNED BY: A.T. & R.M.R.  
DRAWN BY: S.Q.B.  
CHECKED BY: R.M.R.  
APPROVED BY: KA

1 1/2" holes for 1 1/2" Anchor Bolts with Hex. Nuts & Washers



**DETAIL OF EXPANSION BEARING**  
E10

**TABLE OF SHIMS**

LOCATION	PIER	SPAN	GIRDER	SHIM THICKNESS
A8	A8	A1 & 2	?	1/8"
A25	A24	A1 & A2		1/8"
D1	D1	D2		1/2"
D5	D5	D1 & D2		1/4"
D8	D8	D1		1/16"
D17	D17	D1 & D2		1/2"
D28	D27	D2		1/8"
G1	O1-R	R1		1"
G2	G2	G1 & G2		1/2"
G9	G8	G1 & G2		1/8"
G12	G12	G2		1/4"
M6	M7	M1 & M2		5/16"
M9	M9	M1 & M2		3/8"
N5	N4	N1 & N2		1/2"
P4	P4	P1 & P2		1"
P7	P6	P & P2		1/2"
P10	P9	P1		1/16"
R3	P3	R1 & R2		1/8"
S3	S4	S1		1 1/8"
S7	S8	S1 & S2		1/2"
S15	S16	S1 & S2		1/4"
S18	S18	S1 & S2		1"

Length and Width of Shims to be the same as the corresponding Base Plate.

**NOTES:**

- The 1" H.S. Bolts to be Bearing Type. Threads to be excluded from the contact surfaces.
- 1/2" Continuous Fillet Welds throughout for all Expansion & Fixed Bearings.
- Anchor Bolts to be grouted into drilled holes after beams are in place.
- \*D = 1/100 ft. of expansion for every 15° below the normal temperature of 50°F.
- \*\*D = 1/100 ft. of expansion for every 15° above the normal temperature of 50°F.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS

BEARING DETAILS

POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. 70 ST. CLAIR CO. SECTION B2-3HVF & E-

N. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

SHEET 361 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 70	82-3HVF B-E-1	ST. CLAIR	24-7	232
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	

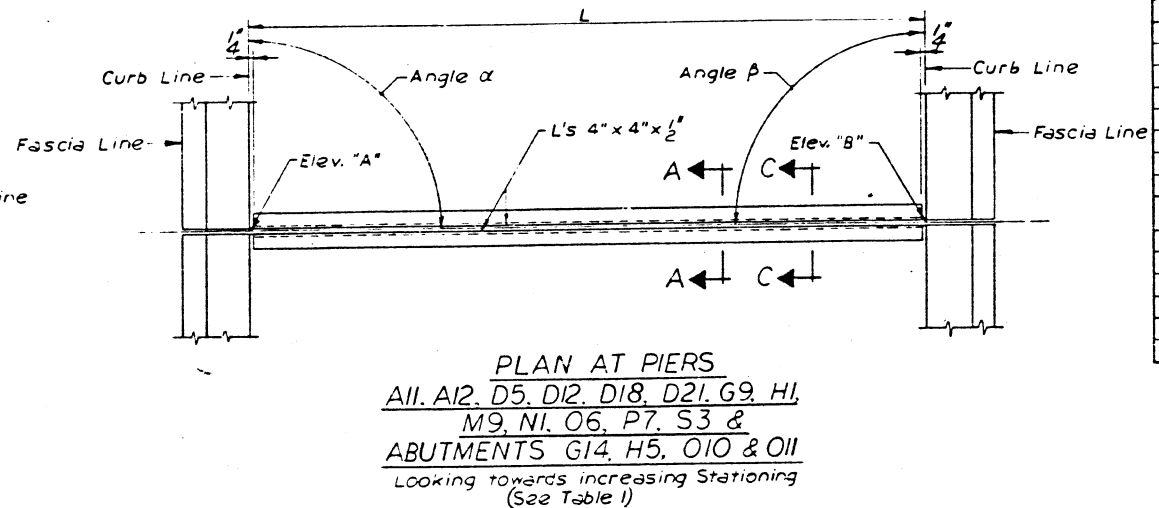
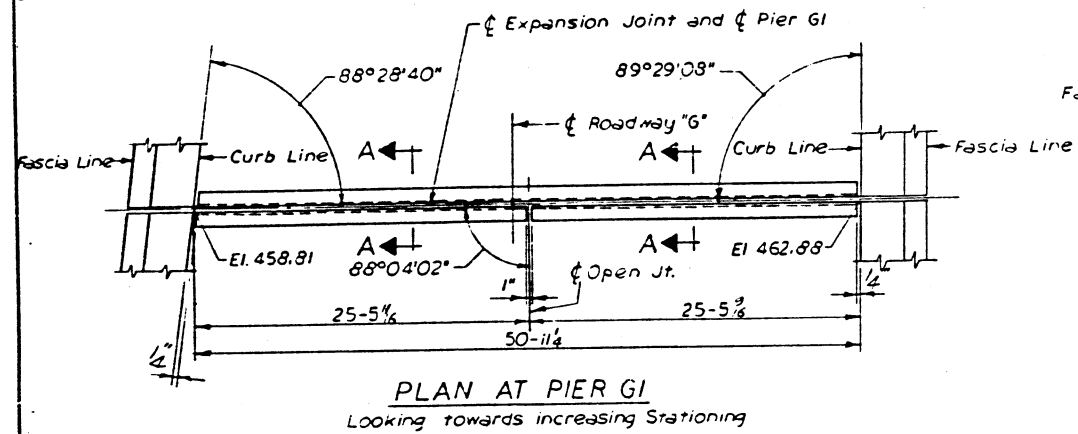
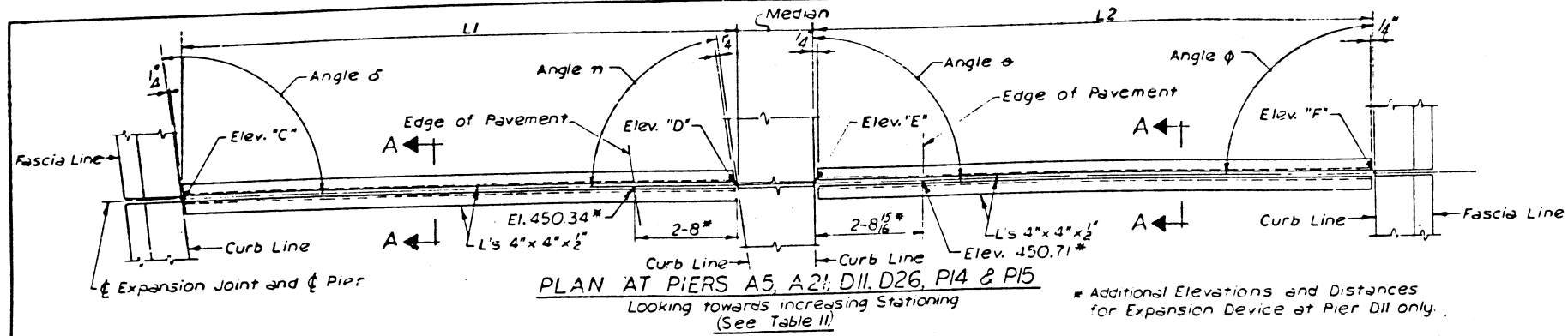
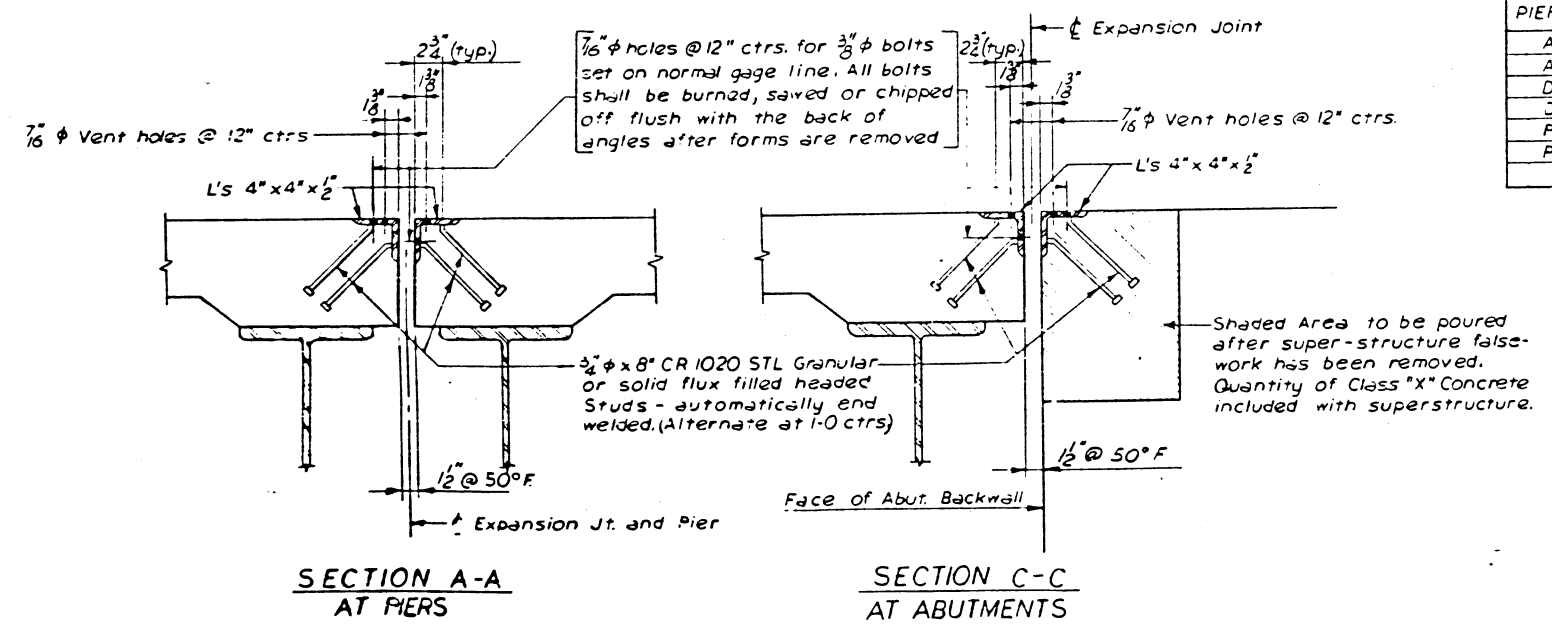


TABLE I  
FOR ELEVATIONS, LENGTHS, ANGLES & WEIGHTS

PIER NO.	ANGLE α	ELEV. "A"	L	ELEV. "B"	ANGLE β	WEIGHT
A11	90°03'16"	448.05	30-0	450.45	90°00'00"	830 Lbs.
A12	90°19'37"	448.43	30-3/4	450.85	90°00'00"	830 Lbs.
D5	90°00'00"	446.70	30-0 1/4	446.23	92°36'23"	830 Lbs.
D12	90°00'00"	448.31	30-0	450.71	90°00'00"	830 Lbs.
D18	90°12'05"	448.70	30-0 1/2	450.88	90°00'00"	830 Lbs.
D21	91°47'46"	446.96	34-10 1/2	449.49	90°00'00"	960 Lbs.
G9	90°00'00"	455.58	30-0	457.98	90°00'00"	830 Lbs.
H1	89°12'02"	447.50	40-7 1/2	450.75	89°12'59"	1120 Lbs.
M9	90°00'00"	465.31	22-0	467.07	90°00'00"	610 Lbs.
N1	90°00'00"	451.32	22-0	450.44	90°00'00"	610 Lbs.
O6	90°00'00"	449.26	22-0	449.81	90°00'00"	610 Lbs.
P7	90°00'00"	471.78	22-0	470.02	90°00'00"	610 Lbs.
S3	90°00'00"	457.36	22-0	455.91	90°00'00"	610 Lbs.
G1		"See Details This Sheet"				1380 Lbs.
ABUTMENT						
G14	85°35'35"	443.24	48-8 1/2	443.39	90°00'00"	1340 Lbs.
H5	89°38'49"	441.18	32-3 3/4	443.76	89°36'07"	890 Lbs.
O10	90°00'00"	428.11	22-0	429.87	90°00'00"	610 Lbs.
O11	90°00'00"	424.74	22-0	426.12	90°00'00"	610 Lbs.

TABLE II  
FOR ELEVATIONS LENGTHS ANGLES & WEIGHTS

PIER NO.	ANGLE δ	ELEV. "C"	L1	ELEV. "D"	ANGLE η	ANGLE φ	ELEV. "E"	L2	ELEV. "F"	ANGLE φ	WEIGHT
A5	95°43'07"	443.51	21-2 1/8	445.31	86°33'25"	90°00'00"	445.68	30-0	447.24	90°00'00"	1410 Lbs.
A21	94°50'36"	454.20	19-4 1/8	455.66	87°13'39"	90°00'00"	456.27	30-0	457.32	90°00'00"	1360 Lbs.
D11	90°00'00"	447.94	32-8	450.42	86°21'42"	78°59'21"	450.63	24-11 1/2	450.45	98°04'36"	1590 Lbs.
D26	97°05'16"	445.84	22-2	448.56	82°59'54"	90°00'00"	448.90	30-0	449.37	90°00'00"	1440 Lbs.
P14	107°48'41"	448.63	23-0 3/8	450.44	72°39'57"	111°54'53"	450.14	23-4 1/2	451.85	67°23'40"	1280 Lbs.
P15	113°54'37"	448.02	20-1 1/8	449.55	64°39'15"	114°43'17"	450.02	20-5 1/8	451.56	63°49'22"	1120 Lbs.



BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Steel	Lbs.	23,140

NOTE:  
The Contractor for Section 82-3 HVF & E-1 will furnish all expansion devices shown on this sheet. See Special Provisions. The Contractor for Section 82-3 HVD-1 will erect the expansion devices as shown on this sheet. See Special Provisions.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS  
EXPANSION DEVICES  
OPEN TYPE  
POPLAR STREET BRIDGE APPROACHES

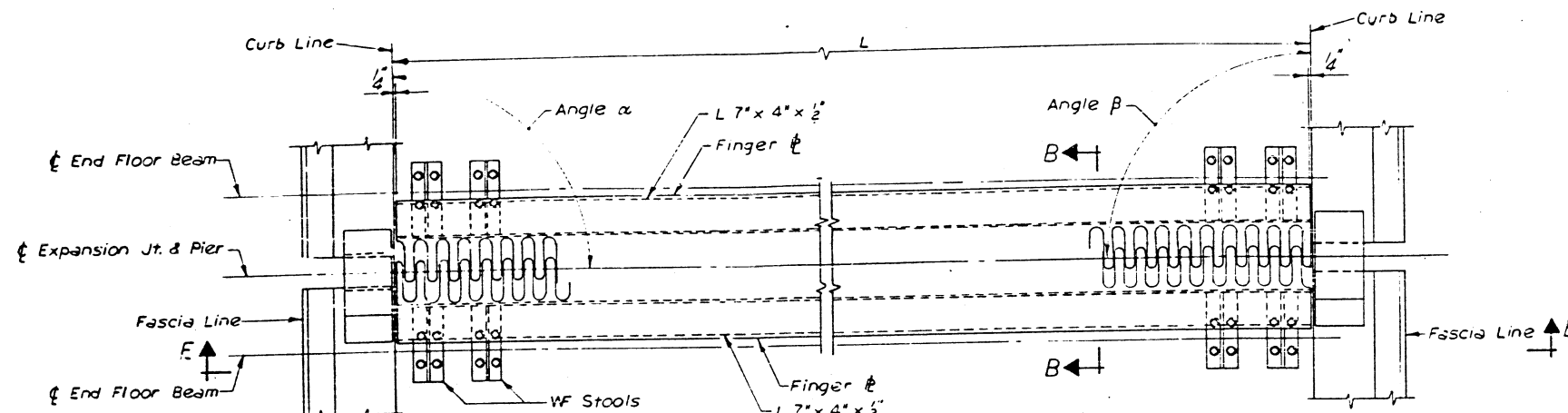
F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF B-E-1  
82-3HVD-1  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

SHEET  
362 of 526

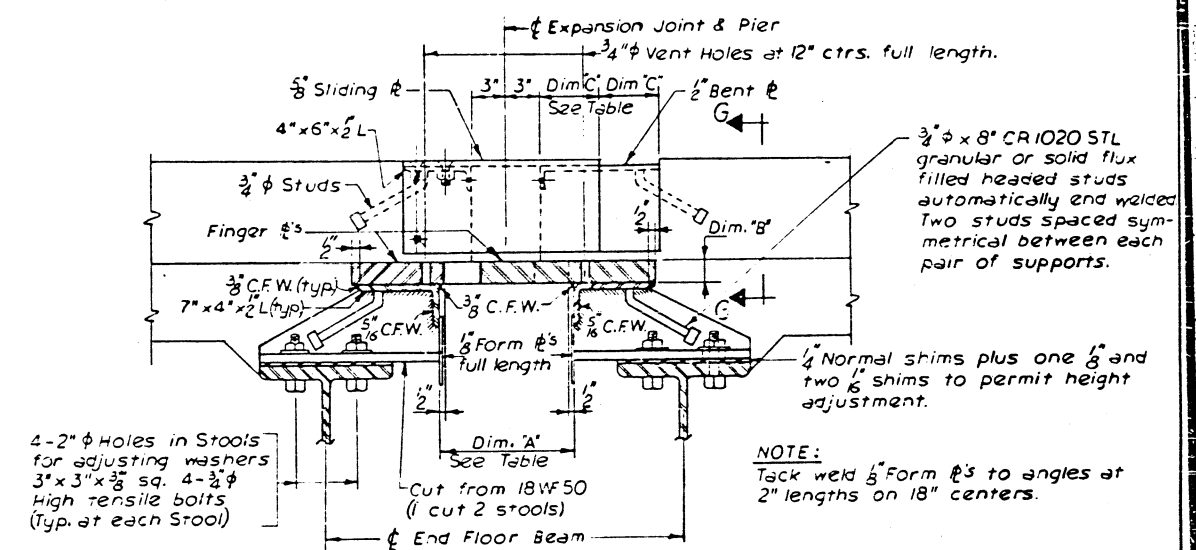
DESIGNED BY P.A.S.  
DRAWN BY P.A.S.  
CHECKED BY L.H.W.  
APPROVED BY F.A.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 70	82-3HVF & E-1 82-3HVD-1	ST. CLAIR	247	233
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

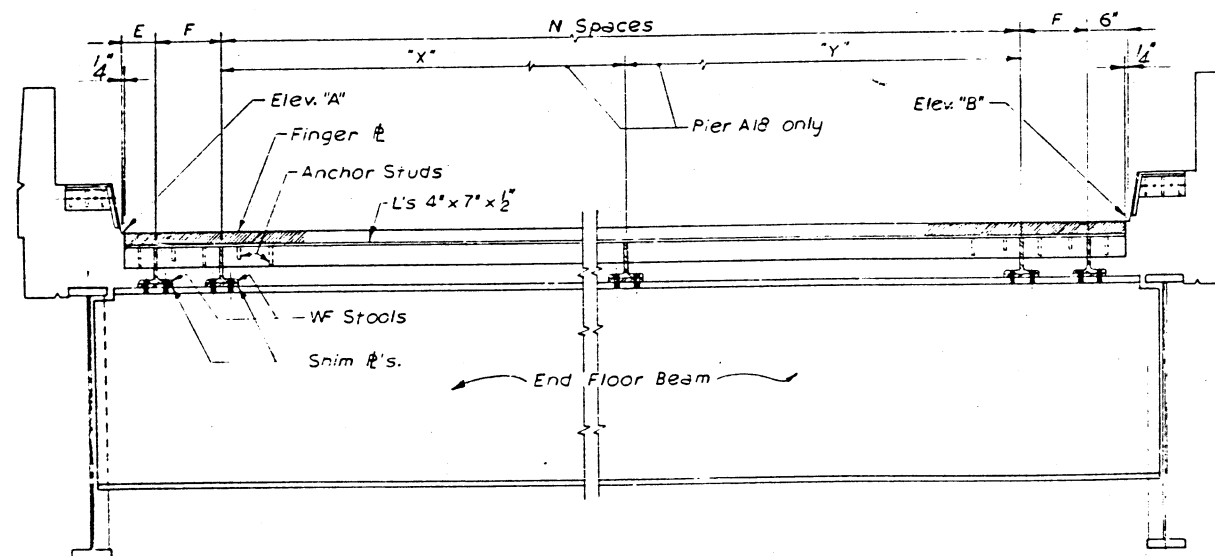
NOTE:  
Stool Spacing to be adjusted to miss Stiffener and Connection Plates on Floor Beams.



PLAN AT PIERS A8, A15, A18, D8, D15, D22, D28, D33, G5, H2, M12, N5, O3, O14, P4, P10, R3, S7 AND S18  
LOOKING TOWARDS INCREASING STA.

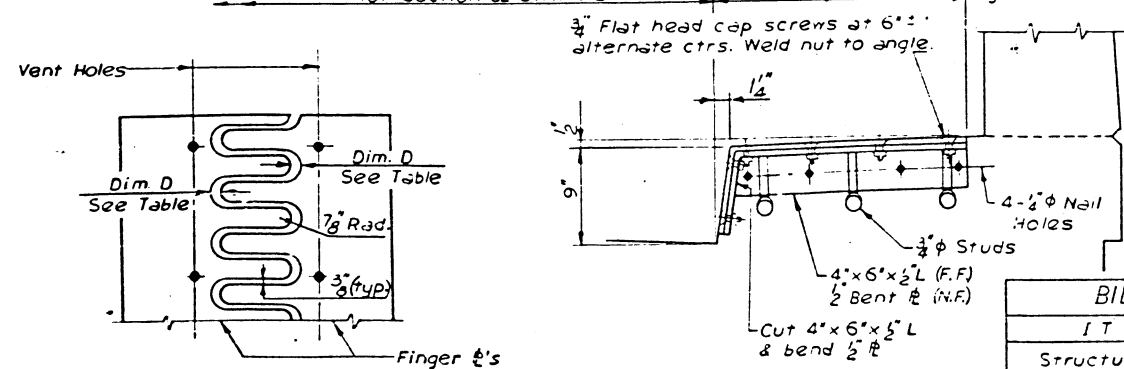


SECTION B-B



SECTION E-E

Portion of Expansion Device between Curbs to be furnished and erected by Contractor for Section 82-3HVF & E-1. The Curbs Portion of the Expansion Device to be furnished by the Contractor for Section 82-3 HVD-1 and erected by the Contractor for Section 82-3 HVD-1.



FINGER # CUTTING DETAIL

SECTION G-G

BILL OF MATERIAL		
ITEM	UNIT	TOTAL
Structural Steel	Lbs.	148,960

Temperature range =  
-30°F. to +130°F.  
with +50°F. = Normal.

TABLE OF ELEVATIONS, LENGTHS, ANGLES AND WEIGHTS OF FINGER EXPANSION DEVICES

PIER NO.	ELEV. "A"	ANGLE α	L	ANGLE β	ELEV. "B"	E	F	N SPACES	WEIGHT
A8	446.49	90°00'00"	30-0	90°00'00"	448.89	6"	1-5	13 Spaces @ 2-0 = 26-0	7920 lbs.
A15	449.64	91°24'03"	35-0 1/2	90°00'00"	452.84	7 1/2"	1-9	15 Spaces @ 2-0 = 30-0	9250 lbs.
A18	450.39	92°28'23"	45-7	90°00'00"	454.03	8"	1-6	See Note "A"	11,250 lbs.
D8	447.67	90°00'00"	42-1 1/2	92°36'23"	447.89	1-0 1/2"	1-6	21 Spaces @ 1-1 1/2 = 24-3 1/2	11,450 lbs.
D15	449.38	90°00'00"	30-0	90°00'00"	451.78	6"	1-6	13 Spaces @ 2-0 = 26-0	7920 lbs.
D22	446.39	92°14'23"	37-7 1/2	90°00'00"	449.10	7 1/2"	1-9	17 Spaces @ 1-1 1/2 = 33-5 1/2	9950 lbs.
D28	451.70	90°00'00"	30-0	90°00'00"	450.16	6"	1-6	13 Spaces @ 2-0 = 26-0	8120 lbs.
D33	457.98	90°00'00"	30-0	90°00'00"	455.58	6"	1-6	13 Spaces @ 2-0 = 26-0	8070 lbs.
G5	457.41	89°20'08"	34-7 1/2	88°55'18"	460.18	7 1/2"	1-9	15 Spaces @ 2-0 = 30-0	10,750 lbs.
H2	446.18	89°17'31"	38-4 1/2	89°18'10"	449.25	10 1/2"	1-6	17 Spaces @ 2-0 = 34-0	9050 lbs.
M12	449.39	90°00'00"	22-0	90°00'00"	448.96	6"	1-6	9 Spaces @ 2-0 = 18-0	6000 lbs.
N5	449.59	90°00'00"	22-0	90°00'00"	447.92	6"	1-6	9 Spaces @ 2-0 = 18-0	6880 lbs.
O3	460.78	90°00'00"	22-0	90°00'00"	458.42	6"	1-6	9 Spaces @ 2-0 = 18-0	6070 lbs.
O14	436.32	90°00'00"	22-0	90°00'00"	436.77	6"	1-6	9 Spaces @ 2-0 = 18-0	5360 lbs.
P4	471.49	90°00'00"	22-0	90°00'00"	469.73	6"	1-6	9 Spaces @ 2-0 = 18-0	5360 lbs.
P10	461.04	90°00'00"	22-0	90°00'00"	460.72	6"	1-6	9 Spaces @ 2-0 = 18-0	6060 lbs.
R3	461.57	90°00'00"	22-0	90°00'00"	463.28	6"	1-6	9 Spaces @ 2-0 = 18-0	5960 lbs.
S7	472.36	90°00'00"	22-0	90°00'00"	474.12	6"	1-6	9 Spaces @ 2-0 = 18-0	5960 lbs.
S18	488.22	90°00'00"	22-0	90°00'00"	488.75	6"	1-6	9 Spaces @ 2-0 = 18-0	6000 lbs.

NOTE "A": For Dim. "X" use 12 Spaces @ 1-11 = 23-0; for "Y" Dim. use 13 Spaces @ 1-5 = 18-5

EXPANSION DEVICE TABLE				
PIER NO.	Dimen. "A" at 50° F.	Dimen. "B" at 50° F.	Dimen. "C" at 50° F.	Dimen. "D" at 50° F.
A8	11 1/2"	1 1/2"	3 1/2"	3 1/2"
A15	12 1/2"	1 1/2"	4"	3 1/2"
A18	9 1/2"	1 1/2"	3"	2 1/2"
D8	11 1/2"	1 1/2"	3 1/2"	3 1/2"
D15	11 1/2"	1 1/2"	3 1/2"	3 1/2"
D22	12 1/2"	1 1/2"	4"	3 1/2"
D28	13"	1 1/2"	4"	3 1/2"
D33	12 1/2"	1 1/2"	4"	3 1/2"
G5	15 1/2"	2 1/2"	5"	4 1/2"
H2	9 1/2"	1 1/2"	3"	2 1/2"
M12	12"	1 1/2"	4"	3 1/2"
N5	14 1/2"	2 1/2"	4 1/2"	4 1/2"
O3	12 1/2"	1 1/2"	4"	3 1/2"
O14	12 1/2"	1 1/2"	4"	3 1/2"
P4	9 1/2"	1 1/2"	3"	2 1/2"
P10	14 1/2"	2 1/2"	4 1/2"	4 1/2"
R3	13"	1 1/2"	4"	3 1/2"
S7	11 1/2"	1 1/2"	3 1/2"	3 1/2"
S18	10"	1 1/2"	3"	2 1/2"

NOTES: The Portions of the Expansion Devices for Piers A1, D1, A25, M6, S10 & S16 that have been stored by the Contractor for Section 82-3 HVB shall be erected by the Erection Contractor indicated in Section "6-6" on this sheet. See Special Provisions.

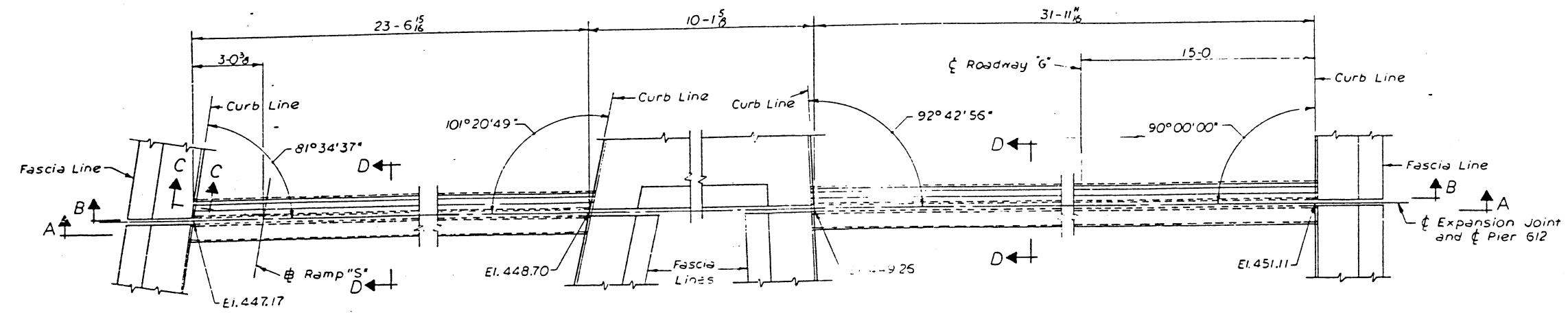
The Portions of the Expansion Devices for Piers D33, N5, O14, P4 & S18 that can be erected immediately shall be erected by the Erection Contractor indicated in Section "G-6" this Sheet. The Future portions shall be stored by the Contractor for Section 82-3HVF & E-1 until needed by the Contractors for Sections 82-3HVB-2 and 82-3HVB-3.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS  
EXPANSION DEVICES  
FINGER PLATE  
POPLAR STREET BRIDGE APPROACHES

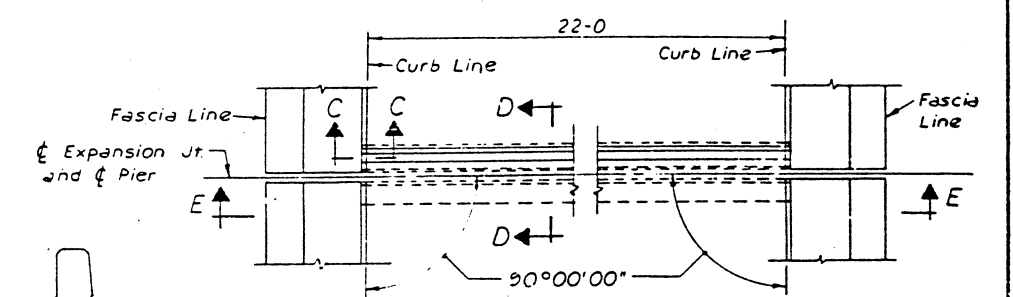
F. A. I. R. 70 ST. CLAIR CO. SECTION 82-3HVF&E-1  
82-3HVD-1  
W. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS SHEET  
363 OF 526

DESIGNED BY PAS.  
DRAWN BY PAS.  
CHECKED BY L.H.W.  
APPROVED BY K.A.

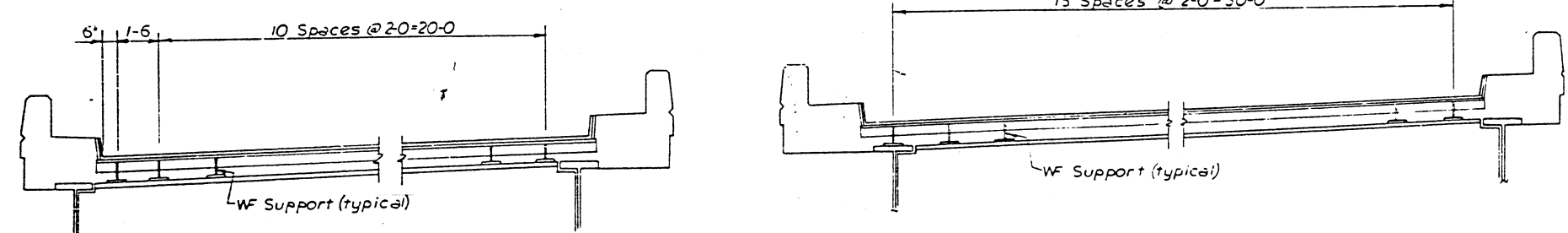
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 70	82-3HVF B E-1 82-3HVD-1	ST. CLAIR	247	234
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



**PLAN AT PIER G12**  
LOOKING TOWARDS INCREASING STATIONING OF ROADWAY G  
Weight 9,220 Lbs.

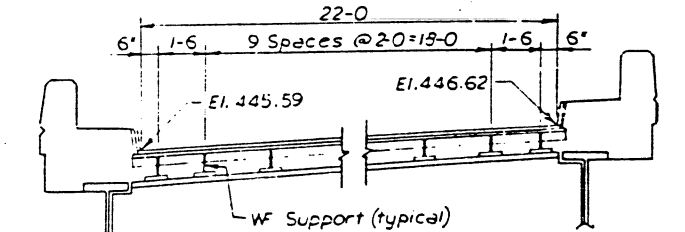


**PLAN AT PIER O7**  
LOOKING TOWARDS INCREASING STATIONING  
Weight 3,720 Lbs.



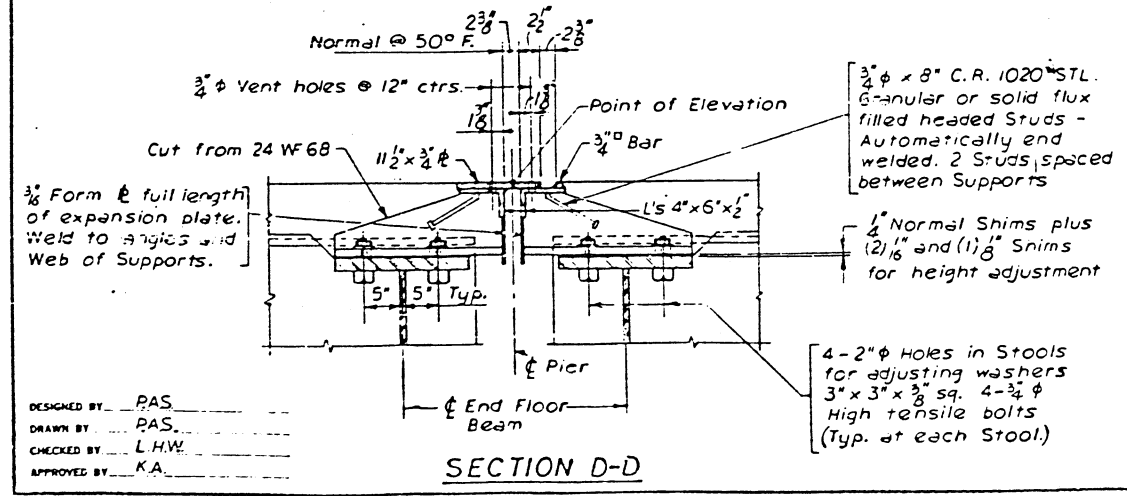
**SECTION A-A**

**SECTION B-B**

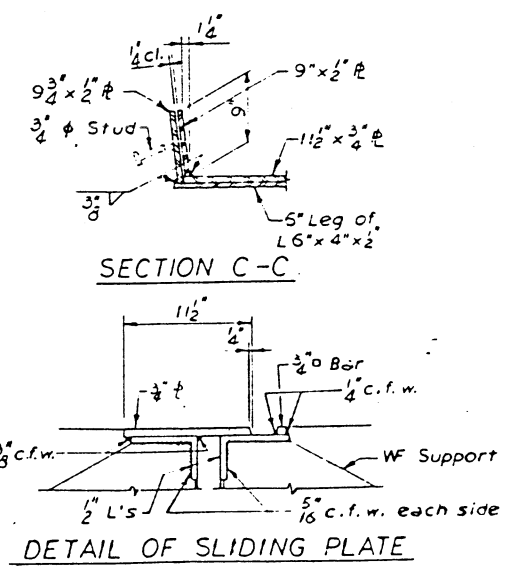


**SECTION E-E**

BILL OF MATERIAL		
ITEM	UNIT	TOTAL
Structural Steel	Lbs.	12,940



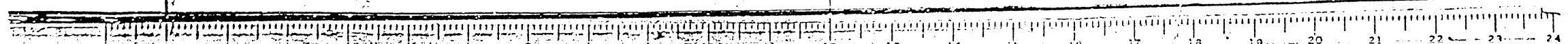
**SECTION D-D**



**DETAIL OF SLIDING PLATE**

DESIGNED BY PAS  
DRAWN BY PAS  
CHECKED BY L.H.W.  
APPROVED BY K.A.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS  
EXPANSION DEVICES  
SLIDING PLATE  
POPLAR STREET BRIDGE APPROACHES  
F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF B E-1  
82-3HVD-1  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS  
SHEET 154 OF 526



**STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS  
DIVISION OF HIGHWAYS**

**PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY  
F. A. I. ROUTE 70 SECTION 82-3HVB-1  
PROJECT I-IG-70-1(78)0  
POPLAR STREET BRIDGE APPROACHES  
ST. CLAIR COUNTY  
C-98-010-65**

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. -70	82 3HVB-1	ST. CLAIR	207	1
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT I-IG-70-1(78)0		

P-98-087-00

**DESCRIPTION OF PROJECT**

SECTION 82-3HVB-1 INCLUDES THE COMPLETE CONSTRUCTION OF THE FOLLOWING:

ROADWAY A	23-REINFORCED CONCRETE PIERS
ROADWAY D	31-REINFORCED CONCRETE PIERS
ROADWAY G	12-REINFORCED CONCRETE PIERS 1-R. C. PILE BENT ABUTMENT
ROADWAY H	4-REINFORCED CONCRETE PIERS 1-R. C. PILE BENT ABUTMENT
RAMP M	8-REINFORCED CONCRETE PIERS
RAMP N	5-REINFORCED CONCRETE PIERS
RAMP O	12-REINFORCED CONCRETE PIERS 2-R. C. PILE BENT ABUTMENTS
RAMP P	12-REINFORCED CONCRETE PIERS
RAMP Q	2-REINFORCED CONCRETE PIERS
RAMP R	4-REINFORCED CONCRETE PIERS
RAMP S	12-REINFORCED CONCRETE PIERS

THE POPLAR STREET BRIDGE APPROACHES FOR THIS SECTION CARRY THE FOLLOWING:

- ROADWAY A OVER THE TRACKS OF THE TERMINAL R. R. ASSOCIATION, GULF, MOBILE AND OHIO, AND ILLINOIS CENTRAL RAILROADS AND RAMP O;
- ROADWAY D OVER THE TRACKS OF THE TERMINAL R. R. ASSOCIATION, GULF, MOBILE AND OHIO, ILLINOIS CENTRAL AND SOUTHERN RAILROADS, RAMP O AND ILLINOIS ROUTE 3;
- ROADWAY G OVER TRENDLEY AND PIGGOTT AVENUES;
- ROADWAY H OVER THE ILLINOIS CENTRAL RAILROAD;
- RAMP M OVER ROADWAY A AND THE TRACKS OF THE TERMINAL R. R. ASSOCIATION AND THE GULF, MOBILE AND OHIO RAILROADS;
- RAMP N OVER THE TRACKS OF THE TERMINAL R. R. ASSOCIATION AND GULF, MOBILE AND OHIO RAILROADS;
- RAMP O OVER THE ILLINOIS CENTRAL RAILROAD;
- RAMP P OVER ROADWAY D, FUTURE ACCESS ROADS AND THE ILLINOIS CENTRAL RAILROAD;
- RAMP Q OVER THE ILLINOIS CENTRAL RAILROAD;
- RAMP R OVER THE ILLINOIS CENTRAL RAILROAD AND A FUTURE ACCESS ROAD;
- RAMP S OVER TRENDLEY AVENUE AND ROADWAY H.

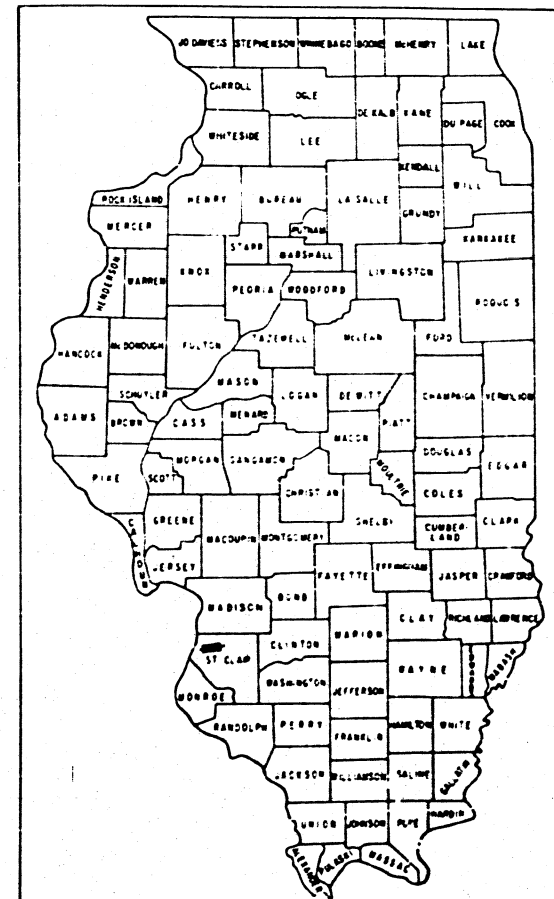
THIS SECTION ALSO INCLUDES SYSTEM GROUNDING AND ALL APPURTENANT AND COLLATERAL WORK NECESSARY TO COMPLETE THE PROJECT AS SHOWN ON THE PLANS.

PIER D-17 & G-2 CONSTRUCTED UNDER SECTION 82-3HVB

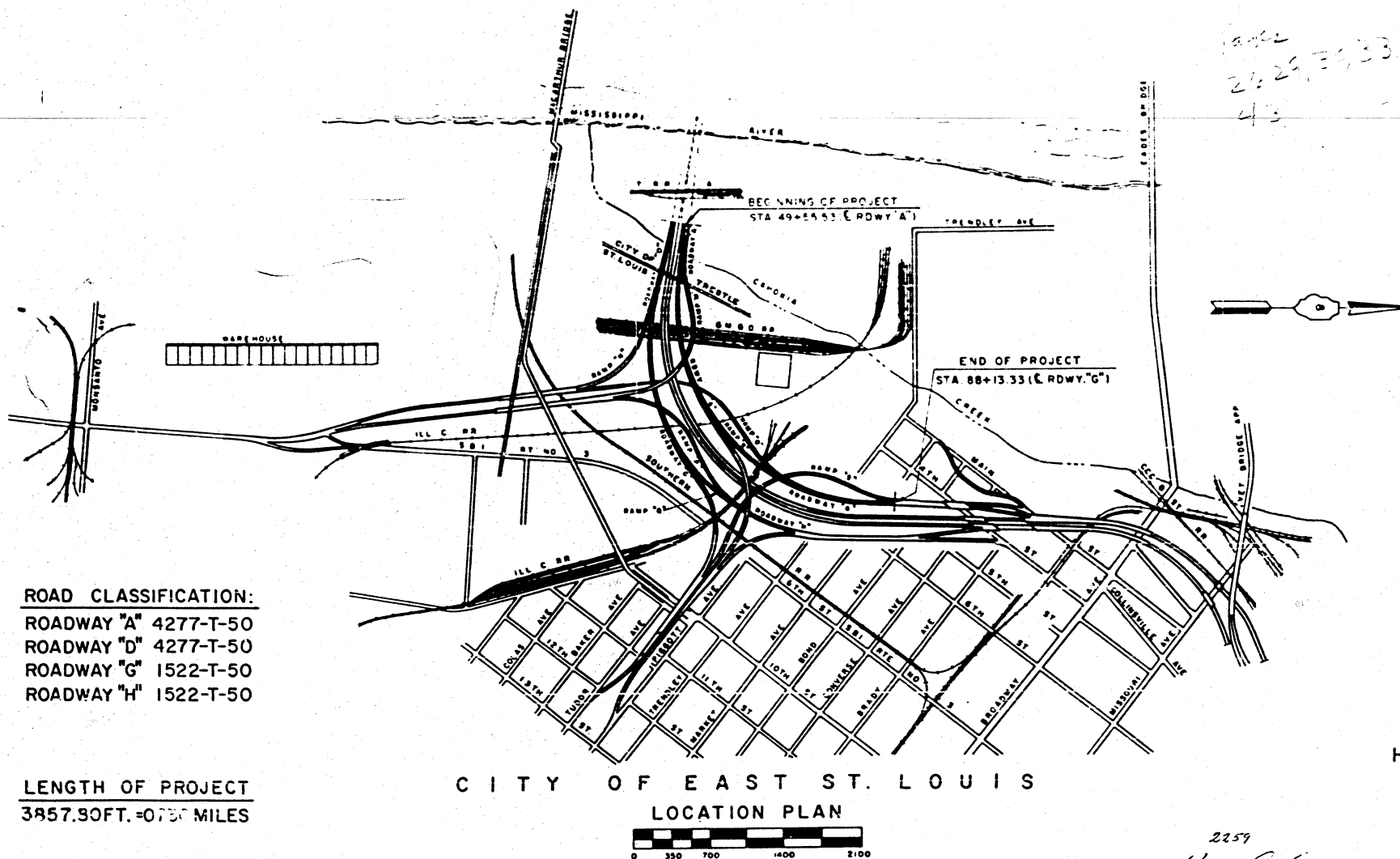
**NOTE:**  
FOR INDEX OF SHEETS AND SUMMARY OF QUANTITIES SEE SHEET NO. 2

**ROAD CLASSIFICATION:**  
ROADWAY "A" 4277-T-50  
ROADWAY "D" 4277-T-50  
ROADWAY "G" 1522-T-50  
ROADWAY "H" 1522-T-50

**LENGTH OF PROJECT**  
3857.90 FT. = 0.730 MILES



LOCATION OF SECTION INDICATED THUS: [Black Box]



CITY OF EAST ST. LOUIS  
LOCATION PLAN



APPROVED

*Carl E. Hummer*

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

SUBMITTED 11-30-65

DESIGNED BY Robert E. Inoué

DATE 1/21/66

APPROVED BY G. V. Van Cundell

DATE 1/21/66

APPROVED BY W. J. P. Allen

DATE 1/21/66

APPROVED BY [Signature]

DATE 1/21/66

8-54

H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

DEPARTMENT OF COMMERCE  
BUREAU OF PUBLIC ROADS

APPROVED

DISTRICT ENGINEER      DATE

CONTRACT NO. 24504

2259  
*Maxwell*  
Aug 27, 1965



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 70	82-3HVB-1	ST. CLAIR	207	2
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	

INDEX OF SHEETS  
SECTION 82-3 HVB - 1

SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS, SUMMARY OF QUANTITIES, GENERAL NOTES
3	ELECTRICAL GROUNDING DETAILS
4 AND 5	PLAN OF EXISTING CONDITIONS AND UTILITIES
6 THRU 10	RIGHT OF WAY PLANS (FOR INFORMATION ONLY)
11	LIST OF BENCH MARKS, TIES TO TRAVERSE LINE AND GENERAL PLAN OF TRAVERSE LINE
12 THRU 16	ALIGNMENT PLANS
17 THRU 19	LIST OF COORDINATE POINTS AND DESCRIPTIONS
20	KEY PLAN, GENERAL NOTES AND BILL OF MATERIAL
21 THRU 25	GENERAL PLANS
26 THRU 44	PLAN AND ELEVATION
45 THRU 53	GEOMETRIC LAYOUTS
54	BEARING ELEVATIONS
55 THRU 58	ABUTMENTS
59 THRU 137	PIERS
138 THRU 141	RAILROAD PROFILES
142 THRU 203	BORING LOGS
204	CONCRETE PILE DETAILS
205	STANDARDS 1686-2, 2153-4
206	STANDARD 2113-1, 2114
207	STANDARD 1971-3

SUMMARY OF QUANTITIES  
SECTION 82-3HVB-1

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	% 87.9%	% 12.1%
Z01398	ENGINEER'S FIELD OFFICE TYPE "A"	EACH	1	0.9	0.1
Z01379	ENGINEER'S FIELD LABORATORY	EACH	1	0.9	0.1
010001	TREE REMOVAL (6 TO 15 INCH DIAMETER)	IN. DIA.	322	283	39
010002	TREE REMOVAL (OVER 15 INCH DIAMETER)	IN. DIA.	98	86	12
016001	EMBANKMENT	CU. YD.	354	311	43
050001	CLASS A EXCAVATION FOR STRUCTURES	CU. YD.	19,137	16,871	2,316
052003	CLASS "X" CONCRETE	CU. YD.	17,931.9	15,762.1	2,169.8
059001	REINFORCEMENT BARS	POUND	2,413,060	2,120,000	293,980
060004	FURNISHING CREOSOTED PILES (UP TO 20 FEET)	LIN. FT.	128	112	16
060005	FURNISHING CREOSOTED PILES (20.1 TO 38 FEET)	LIN. FT.	393	345	48
060008	DRIVING TIMBER PILES	LIN. FT.	521	458	63
060043	DRIVING CONCRETE PILES	LIN. FT.	148,118	130,196	17,922
060044	FURNISHING CONCRETE PILES	LIN. FT.	148,118	130,196	17,922
060047	TEST PILE CONCRETE	EACH	129	113	16
083002	SLOPE WALL 4 INCH	SQ. YD.	1,018	895	123
L05066	SYSTEM GROUNDING	LUMP SUM	1	0.9	0.1
Z01023	BRIDGE SEAT SEALANT	LUMP SUM	1	0.9	0.1
Z01065	RAILROAD PROTECTIVE SERVICES	LUMP SUM	1	0.9	0.1

GENERAL NOTES

• THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 2, 1958, THE SUPPLEMENTAL SPECIFICATIONS IN EFFECT ON DATE OF INVITATION FOR BIDS, AND THE STANDARD SPECIFICATIONS FOR TRAFFIC SIGNALS, ADOPTED JUNE 1, 1959 SHALL GOVERN THIS CONSTRUCTION.

• ALL ELEVATIONS REFER TO U. S. G. S. MEAN SEA LEVEL DATUM.

• THE PROFILE GRADE LINE REFERS TO THE GRADE ELEVATION AT THE POINT SHOWN ON THE TYPICAL SECTIONS AND PLANS.

• POSITIVE PROFILE GRADES ARE IN THE DIRECTION OF TRAFFIC AND HIGHER ELEVATIONS.

• NEGATIVE PROFILE GRADES ARE IN THE DIRECTION OF TRAFFIC AND LOWER ELEVATIONS.

• BUILDINGS WITHIN R. O. W. LIMITS HAVE BEEN REMOVED OR ARE IN THE PROCESS OF BEING REMOVED DOWN TO EXISTING GROUND LEVEL AND BASEMENTS BACKFILLED WITH BRICK OR MASONRY RUBBLE AND SAND TO FILL THE VOIDS.

• THE FOLLOWING UTILITY COMPANIES HAVE FACILITIES WITHIN THE LIMITS OF CONSTRUCTION WHICH MAY REQUIRE ADJUSTMENTS:

EAST ST. LOUIS AND INTERURBAN WATER COMPANY  
ILLINOIS POWER COMPANY  
SOUTHWESTERN BELL TELEPHONE COMPANY  
UNION ELECTRIC COMPANY  
WESTERN UNION TELEGRAPH COMPANY

• WHERE REINFORCING BAR MARKS ARE REFERENCED TO NOTE X-SHEET 35 THE FIRST 2 OR 3 DIGITS CORRESPOND TO THE SHEET NUMBER AND ARE SHOWN ON THE DRAWING.  
• WHERE SECTION OR SUB-SECTION STONES ARE ENCOUNTERED THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH STONES ARE REMOVED. THE CONTRACTOR SHALL PROTECT & CAREFULLY PRESERVE ALL PROPERTY MARKS UNTIL AN OWNER OR AUTHORIZED SURVEYER OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THERE LOCATION.

Excavation for portions of structures in the embankments shall not be classified.

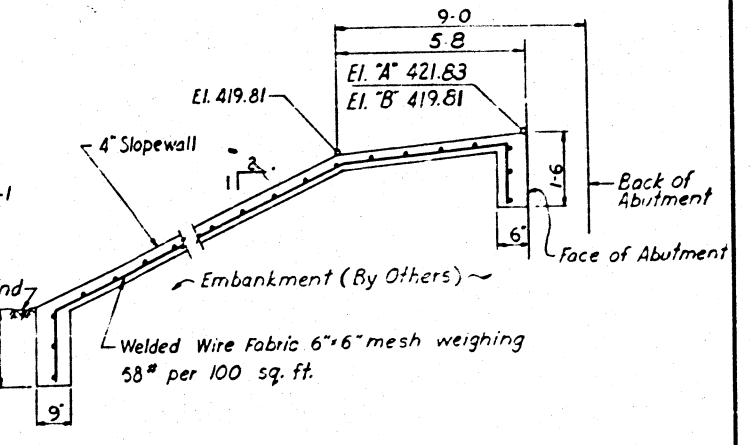
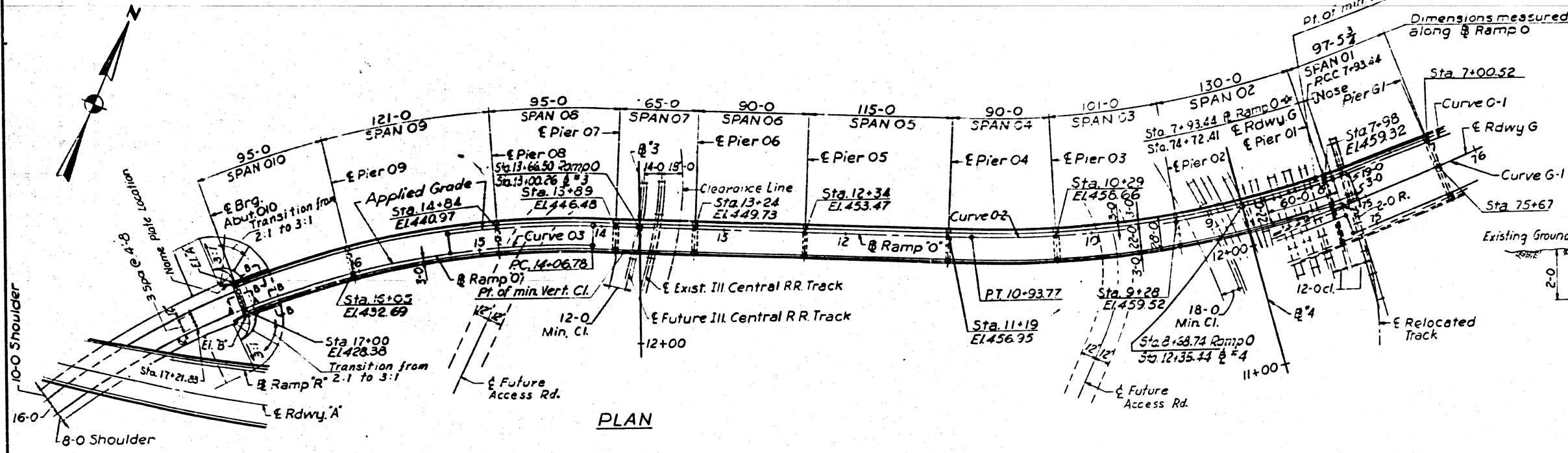
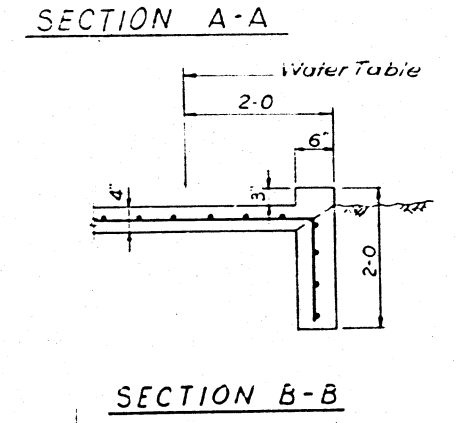
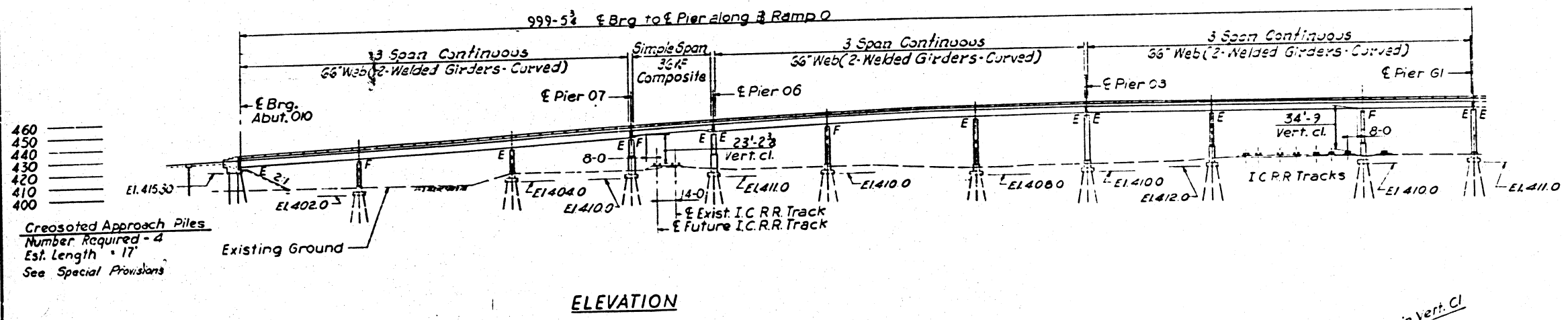
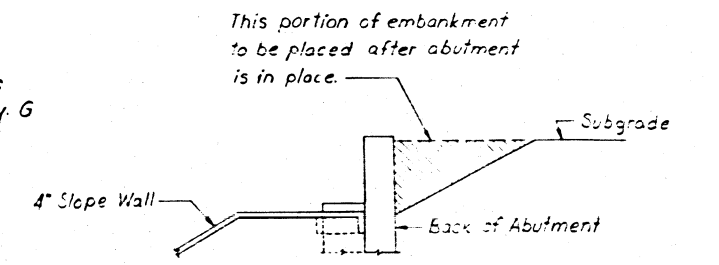
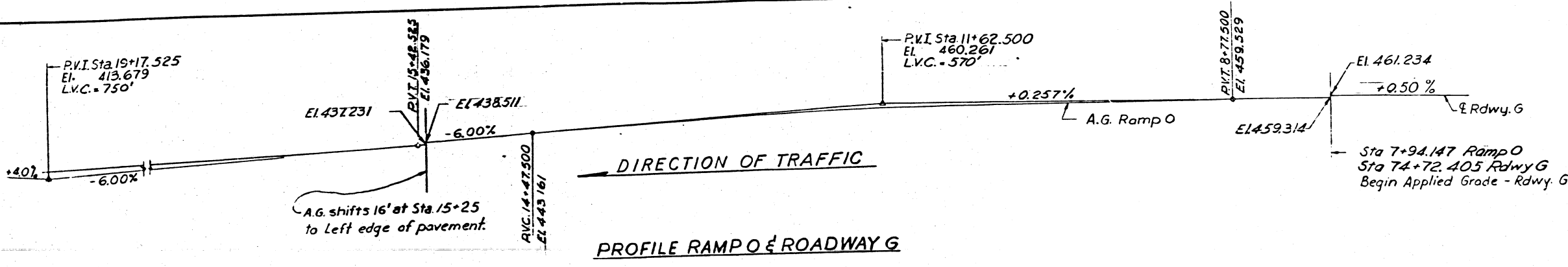
STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS

INDEX OF SHEETS  
SUMMARY OF QUANTITIES  
GENERAL NOTES

F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

SHEET  
OF

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVB-1	ST. CLAIR	207	33
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



Item	Unit	Quantity
Slope Wall 4"	S.Y.	177
Name Plate	Ea.	1
Embankment	C.Y.	47

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS  
PLAN AND ELEVATION  
SPANS 01 THRU 010  
POPLAR STREET BRIDGE APPROACHES  
RAMP "O"

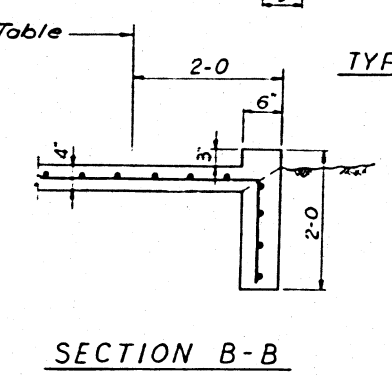
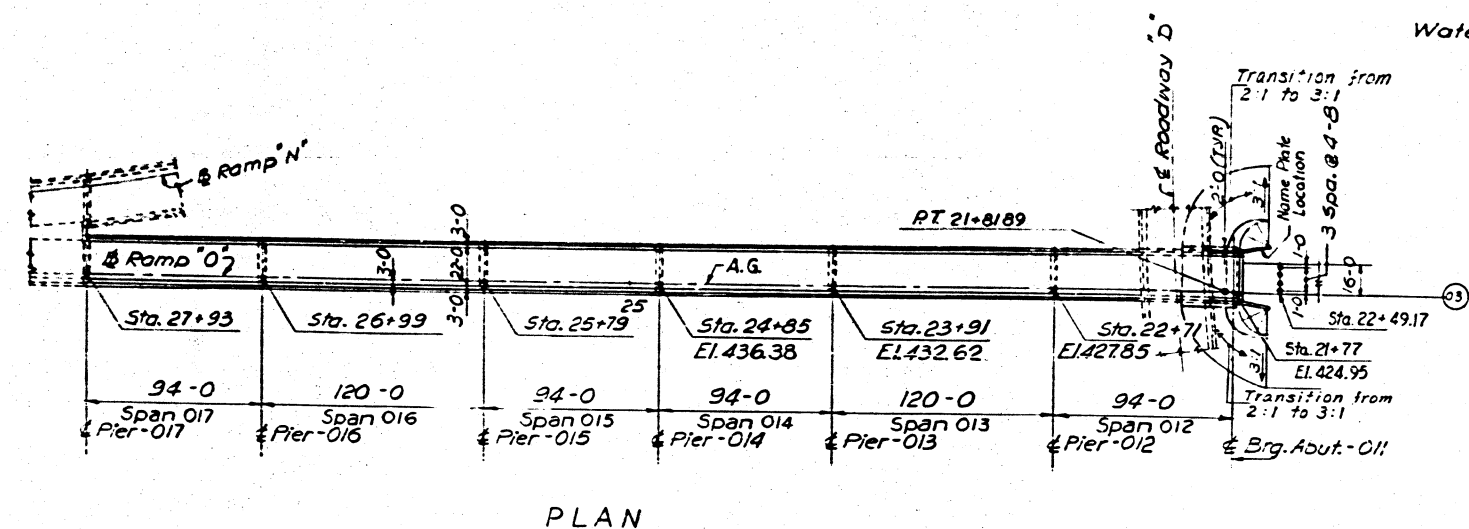
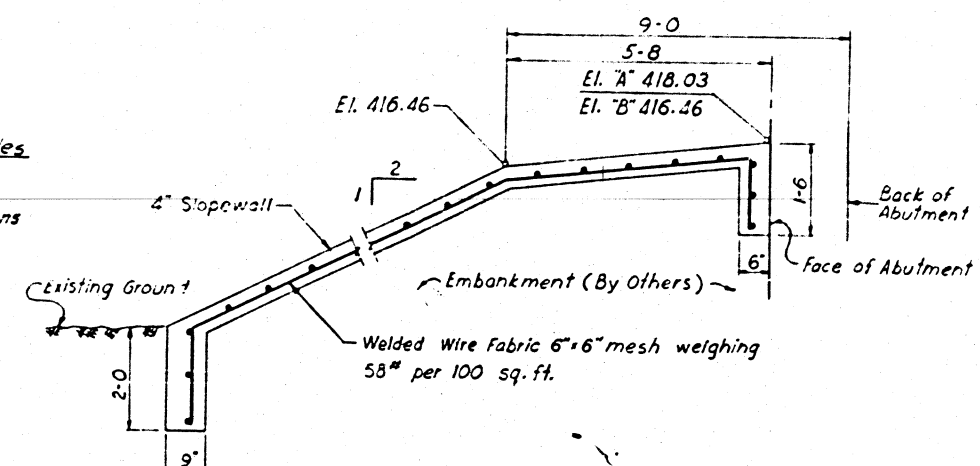
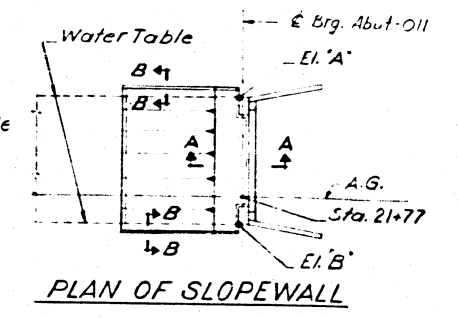
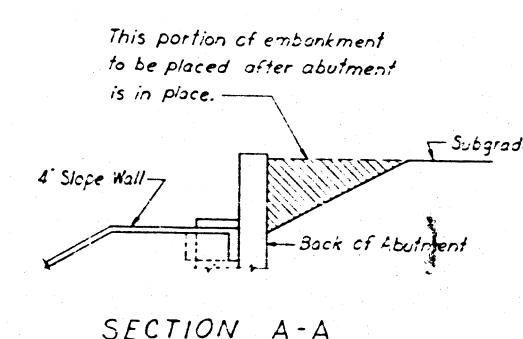
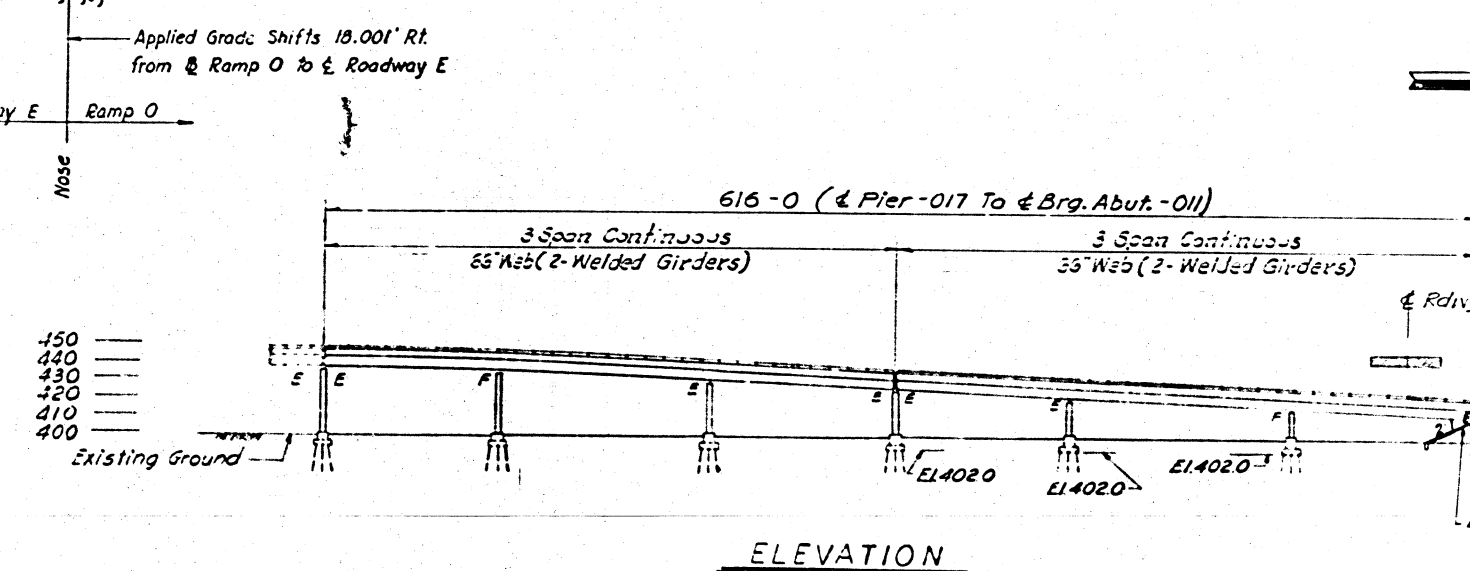
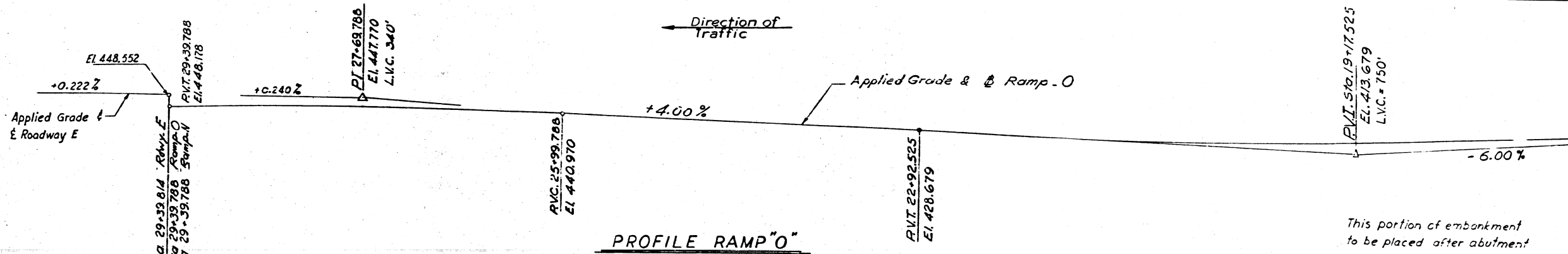
SECTIONS 82-3HVB-1  
82-3HVB-E-1  
82-3HVD-1

F.A.I. RT. 70 ST. CLAIR CO.  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

SHEET  
19 of 526

DESIGNED BY J.J.N.  
DRAWN BY S.  
CHECKED BY R.M.R.  
APPROVED BY K.A.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 70	82-3HVB-1	ST. CLAIR	207	39
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		
	82-3HVFBE-1			38
	82-3HVD-1			73



BILL OF MATERIAL		
Item	Unit	Quantity
Slope Wall 4"	S.Y.	141
Name Plate	Ea.	1
Embankment	C.Y.	50

THIS SECTION INCLUDES SPANS 012 THRU 014 ONLY. OTHER DATA SHOWN ON THIS SHEET IS FOR REFERENCE ONLY.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS  
**PLAN AND ELEVATION**  
SPANS 012 THRU 017  
**POPLAR STREET BRIDGE APPROACHES**  
RAMP "O" SECTIONS 82-3HVB-1  
82-3HVFBE-1  
82-3HVD-1  
F. A. I. RT. 70 ST. CLAIR CO.  
H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

DESIGNED BY J.J.N.  
DRAWN BY K.M.  
CHECKED BY B.H.  
APPROVED BY K.A.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 70	82-3HVB-1	ST. CLAIR	207	52
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

82-3HVB-E-1  
82-3HVD-1  
51  
86

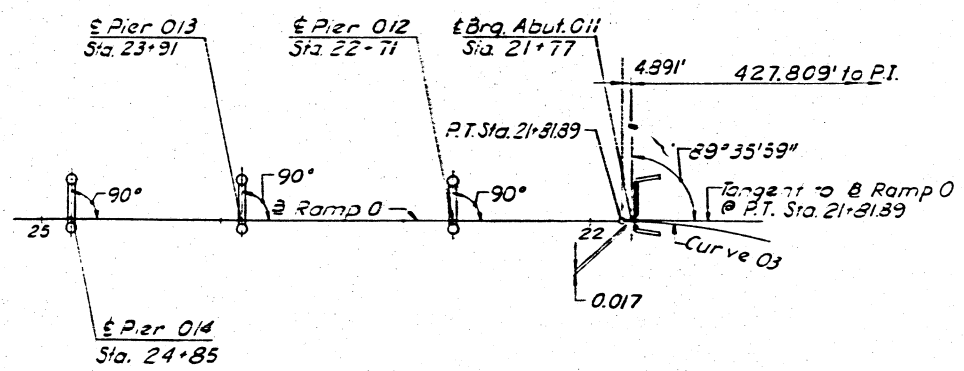
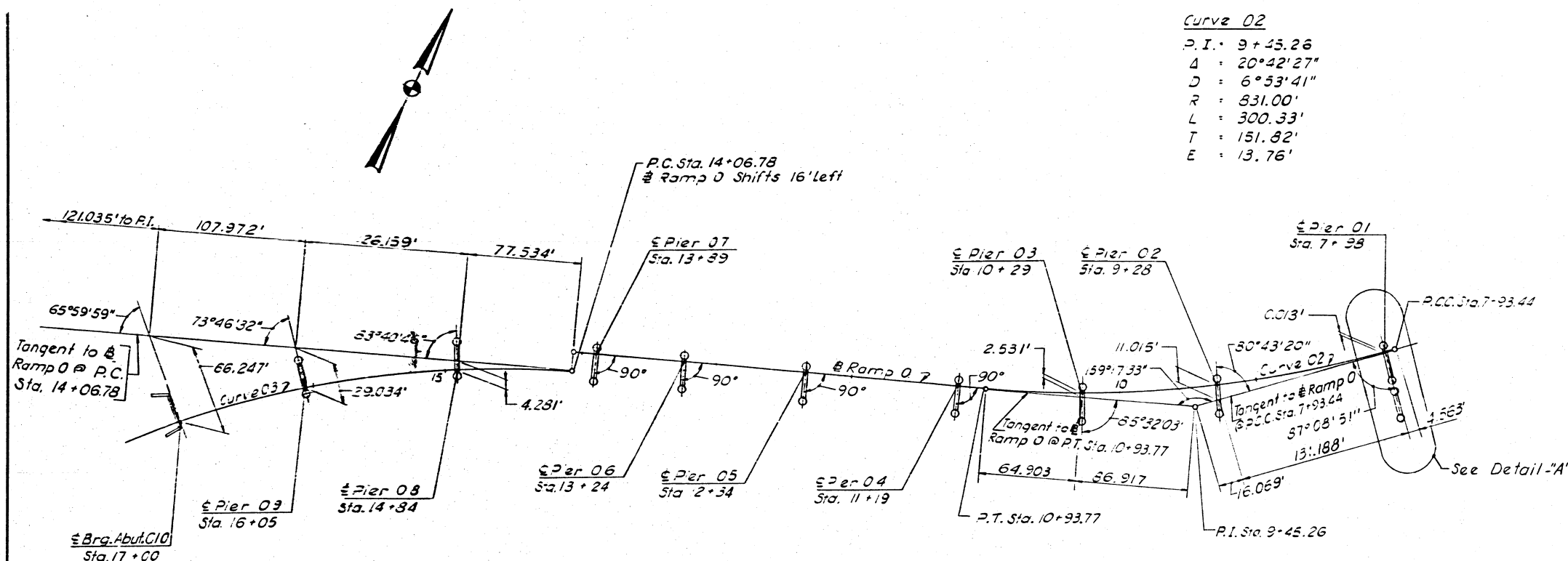
TABLES OF COORDINATES

Pier No.	@ Ramp O		Azimuth	Right Col. Offset	Left Col. Offset	
	Sta.	N. Coordinate				E. Coordinate
01	7+98	9736.343	33119.865	135°03'53"	4-0	52-3
02	9+28	9652.881	33020.368	144°29'24"	4-0	20-0
03	0+29	9599.350	32934.794	151°27'4"	4-0	20-0
04	11+19	9560.352	32853.716	155°55'11"	4-0	20-0
05	12+34	9513.430	32748.724	155°55'11"	4-0	20-0
06	13+24	9476.708	32666.556	155°55'11"	4-0	20-0
07	13+89	9450.187	32607.213	155°55'11"	4-0	20-0
08	14+84	9392.997	32528.687	149°35'57"	20-0	4-0
09	16+05	9323.073	32430.322	139°41'43"	20-0	4-0
@Brg. Abut. 10/0	17+00	9256.902	32362.259	131°55'10"	20-0	4-0
@Brg. Abut. 0/11	21+77	8824.370	32184.001	92°52'35"	20-0	4-0
012	22+71	8730.459	32179.923	92°28'34"	20-0	4-0
013	23+91	8610.571	32174.733	92°28'34"	20-0	4-0
014	24+85	8516.658	32170.677	92°28'34"	20-0	4-0

Pier No.	@ Ramp R		Azimuth	Right Col. Offset	Left Col. Offset	
	Sta.	N. Coordinate				E. Coordinate
R1	69+95	9411.773	32780.126	146°35'50"	20-0	4-0
R2	71+29	9488.774	32889.764	143°03'29"	20-0	4-0
R3	72+35	9554.629	32972.810	140°06'48"	20-0	4-0
R4	73+36	9621.268	33048.693	137°18'23"	20-0	4-0

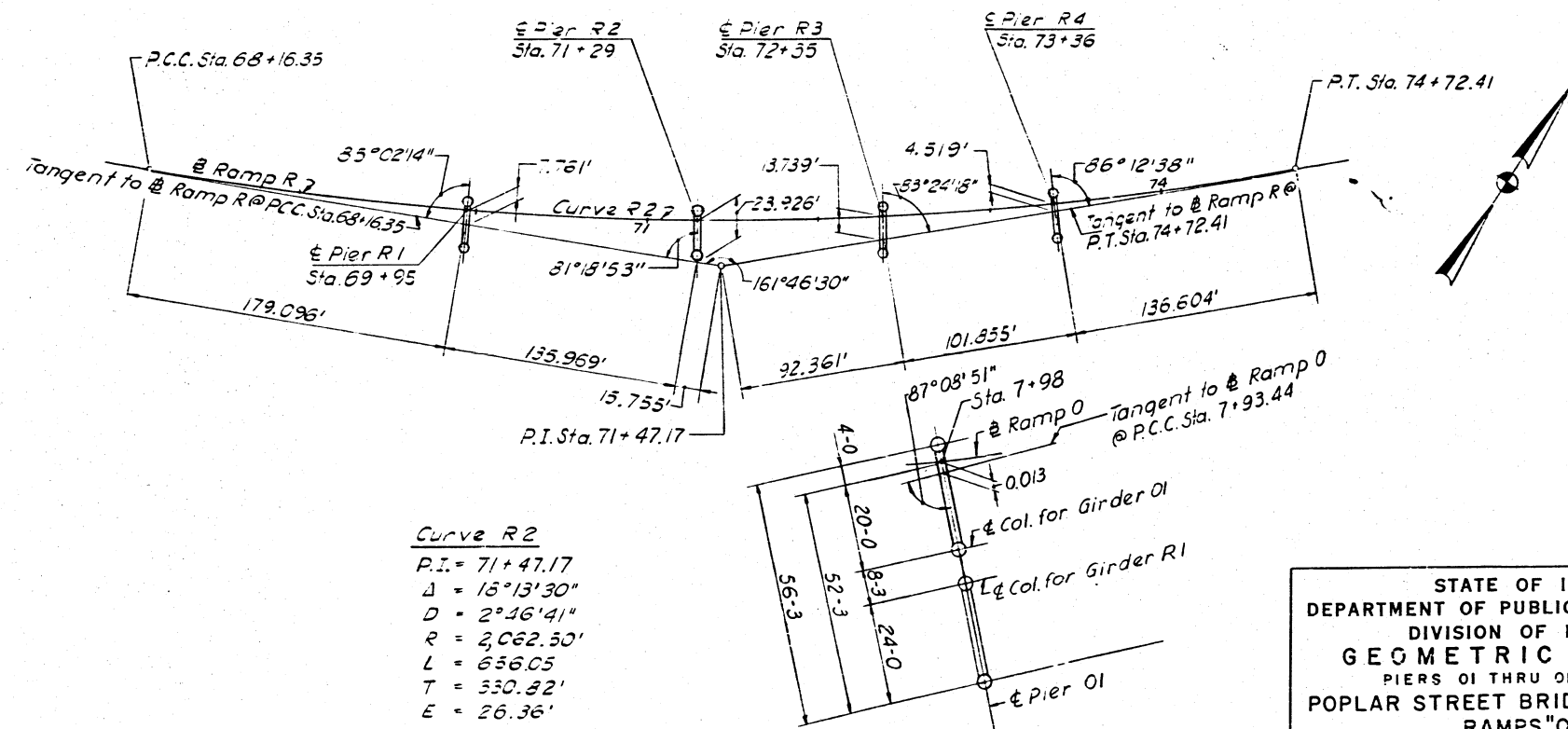
Curve 02

P.I. = 9+45.26  
Δ = 20°42'27"  
D = 6°53'41"  
R = 831.00'  
L = 300.33'  
T = 151.82'  
E = 13.76'



Curve 03

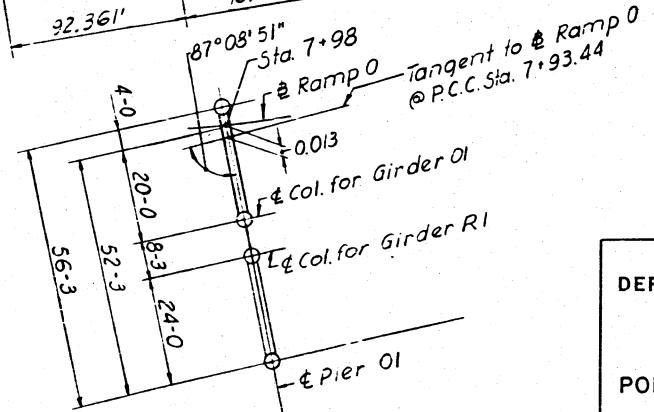
P.I. = 8+39.48  
Δ = 63°26'37"  
D = 8°11'06"  
R = 700.00'  
L = 775.11'  
T = 432.70'  
E = 122.24'



Curve R2

P.I. = 71+47.17  
Δ = 18°13'30"  
D = 2°46'41"  
R = 2,062.50'  
L = 656.05'  
T = 530.82'  
E = 26.36'

DETAIL - 'A'



DESIGNED BY: R. M. R.  
DRAWN BY: I. M.  
CHECKED BY: S. Q. B.  
APPROVED BY: K. A.

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BLDGS.  
DIVISION OF HIGHWAYS  
GEOMETRIC LAYOUT  
PIERS 01 THRU 014, R1 THRU R4  
POPLAR STREET BRIDGE APPROACHES  
RAMPS "O" & "R"

SECTIONS 82-3HVB-1  
82-3HVB-E-1  
82-3HVD-1

F. A. I. RT. 70 ST. CLAIR CO.

H. W. LOCHNER, INC.  
ENGINEERS  
CHICAGO, ILLINOIS

SHEET  
33 of 525

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 70	82-3HVB-1 82-3HVF BE-1	ST. CLAIR	207	54
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		246

ROADWAY A		
Pier No.	Girder	
	A 1	A 2
A1 - Span A1	441.30	442.11
A2	437.51	438.35
A3	435.03	436.06
A4	434.50	436.54
A5 - Span A4	433.94	437.69
A5 - Span A5	433.39	437.69
A6	437.02	439.47
A7	437.11	439.67
A8 - Span A7	438.17	440.73
A8 - Span A8	438.17	440.73
A9	437.44	440.00
A10	438.76	441.32
A11 - Span A10	439.73	442.29
A11 - Span A11	439.73	442.29
A12 - Span A11	440.09	442.68
A12 - Span A12	440.09	442.68
A13	440.03	442.68
A14	439.78	442.58
A15 - Span A14	439.97	442.93
A15 - Span A15	439.97	442.93
A16	438.89	442.06
A17	440.29	443.79
A18 - Span A17	440.71	444.52
A18 - Span A18	440.71	444.52
A19	439.40	443.52
A20	441.75	445.69
A21 - Span A20	444.51	447.74
A21 - Span A21	444.51	447.74
A22	451.09	451.40
A23	454.57	453.85
A24	458.39	456.60
A25 - Span A24	462.10	459.54

ROADWAY D		
Pier No	Girder	
	D1	D2
D1 - Span D1	442.44	441.90
D2	438.99	438.49
D3	437.00	436.50
D4	436.90	436.40
D5 - Span D4	437.45	436.95
D5 - Span D5	437.45	436.95
D6	437.46	436.91
D7	437.25	436.64
D8 - Span D7	438.07	438.28
D8 - Span D8	438.07	438.28
D9	436.62	438.15
D10	437.64	440.58
D11 - Span D10	438.26	440.85
D11 - Span D11	438.26	441.09
D12 - Span D11	439.99	442.55
D12 - Span D12	439.99	442.55
D13	439.97	442.53
D14	439.73	442.29
D15 - Span D14	441.06	443.62
D15 - Span D15	441.06	443.62
D16	440.27	442.83
D17	440.20	442.76
D18 - Span D17	439.36	441.61
D18 - Span D18	439.36	441.61
D19	438.51	440.88
D20	437.12	439.63
D21 - Span D20	437.63	440.29
D21 - Span D21	437.63	440.29
D22 - Span D21	436.70	439.57
D22 - Span D22	436.70	439.57
D23	434.43	437.66
D24	433.67	437.36
D25	435.28	439.06
D26 - Span D25	437.16	439.79
D26 - Span D26	440.66	439.79
D27	441.71	441.13
D28 - Span D27	443.50	441.85
D28 - Span D28	443.50	441.85
D29	443.31	440.75
D30	444.67	442.11
D31	447.16	444.60
D32	447.42	444.86
D33 - Span D32	449.80	447.24

ROADWAY G		
Pier No.	Girder	
	G1	G2
G1 - Span G1	449.15	453.38
G2	448.64	452.61
G3	447.18	450.75
G4	447.29	450.47
G5 - Span G4	448.09	451.01
G5 - Span G5	448.09	451.01
G6	446.60	449.35
G7	446.09	448.70
G8	446.29	448.85
G9 - Span G8	446.26	448.82
G9 - Span G9	446.26	448.82
G10	444.90	447.46
G11	441.74	444.30
G12 - Span G11	439.77	441.63
G12 - Span G12	437.61	441.63
G13	434.63	436.43
G14 (Abutment)	433.68	433.84

ROADWAY H		
Pier No.	Girder	
	H1	H2
H1 - Span H1	439.71	443.12
H2 - Span H1	436.51	439.73
H2 - Span H2	436.51	439.73
H3	433.66	436.71
H4	432.84	435.70
H5 (Abutment)	431.86	434.61

RAMP P		
Pier No.	Girder	
	P1	P2
P4 - Span P4	464.26	462.34
P5	464.48	462.56
P6	464.93	463.01
P7 - Span P6	464.59	462.67
P7 - Span P7	464.59	462.67
P8	462.25	460.33
P9	457.37	456.33
P10 - Span P9	453.77	453.43
P10 - Span P10	453.77	453.43
P11	448.74	449.07
P12	444.13	445.36
P13	441.66	443.58
P14 - Span P13	440.25	442.80
P14 - Span P14	440.25	443.63
P15 - Span P14	440.11	443.76
P15 - Span P15	440.11	443.76
H1 - Span P15	439.71	443.12

RAMP S		
Pier No.	Girder	
	S1	S2
G12 - Span S1	437.61	431.43
S1	431.42	433.34
S2	445.03	445.95
S3 - Span S3	448.55	450.14
S3 - Span S4	448.55	450.14
S4	452.31	453.04
S5	457.31	456.96
S6	462.53	461.10
S7 - Span S7	466.93	465.01
S7 - Span S8	466.93	465.01
S8	469.43	467.51
S9	473.31	471.39
S10 - Span S10	476.32	474.40
S15 - Span S16	489.01	487.09
S16	487.55	485.63
S17	484.70	483.11
S18 - Span S18	481.49	480.68

RAMP M		
Pier No.	Girder	
	M1	M2
M6 - Span M7	470.48	468.56
M7	467.78	465.86
M8	463.79	461.87
M9 - Span M9	459.85	457.93
M9 - Span M10	459.85	457.93
M10	454.00	452.30
M11	446.10	445.56
M12 - Span M12	441.66	442.14
M12 - Span M13	441.66	442.14
M13	437.90	439.25
M14	436.00	437.92
A5 - Span A5M	433.94	437.39

RAMP N		
Pier No.	Girder	
	N1	N2
D11 - Span D11-N	441.09	440.85
N1 - Span D11-N	442.09	441.13
N1 - Span N1	442.09	441.13
N2	442.37	440.63
N3	441.61	439.69
N4	440.62	438.70
N5 - Span N4	440.46	438.54

RAMP O		
Pier No.	Girder	
	O1	O2
G1 - Span O1	452.89	449.15
O1	452.71	450.78
O2	452.51	450.59
O3 - Span O3	452.51	450.59
O3 - Span O4	452.51	450.59
O4	449.47	448.40
O5	445.44	445.30
O6 - Span O6	441.53	442.13
O6 - Span O7	441.53	442.13
O7 - Span O7	437.73	438.87
O7 - Span O8	437.73	438.87
O8	430.89	432.74
O9	424.22	426.14
O10 (Abutment)	420.30	422.22
O11 (Abutment)	416.96	418.45
O12	419.62	420.27
O13	424.05	424.54
O14 - Span O14	428.53	429.02

RAMP R		
Pier No.	Girder	
	R1	R2
A21 - Span A2-R	444.51	448.22
R1	445.74	450.60
R2	451.46	453.32
R3 - Span R2	453.75	455.61
R3 - Span R3	453.75	455.61
R4	453.46	455.32
O1	453.41	455.31
G1 - Span O1-R	452.89	453.38

RAMP Q		
Pier No.	Girder	
	Q1	Q2
D26 - Span D26-Q	437.16	440.66
Q1	440.38	442.30
Q2	441.65	443.57
P14 - Span Q2	442.80	443.63

Note: Bearing Elevations are to Top of Concrete Piers or Abutments.

DESIGNED BY D.C.  
 DRAWN BY G.G.  
 CHECKED BY P.T.  
 APPROVED BY K.A.

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS  
 BEARING ELEVATIONS  
 POPLAR STREET BRIDGE APPROACHES  
 F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1  
 82-3HVF BE-1  
 H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS  
 SHEET  
 576 of 526

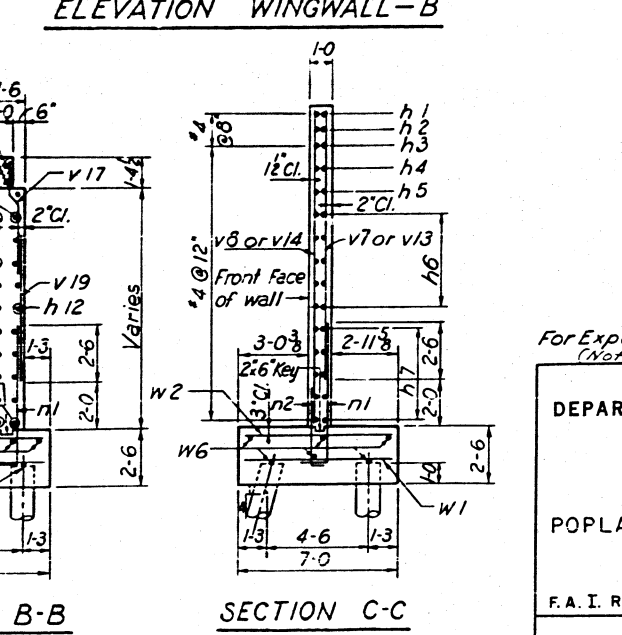
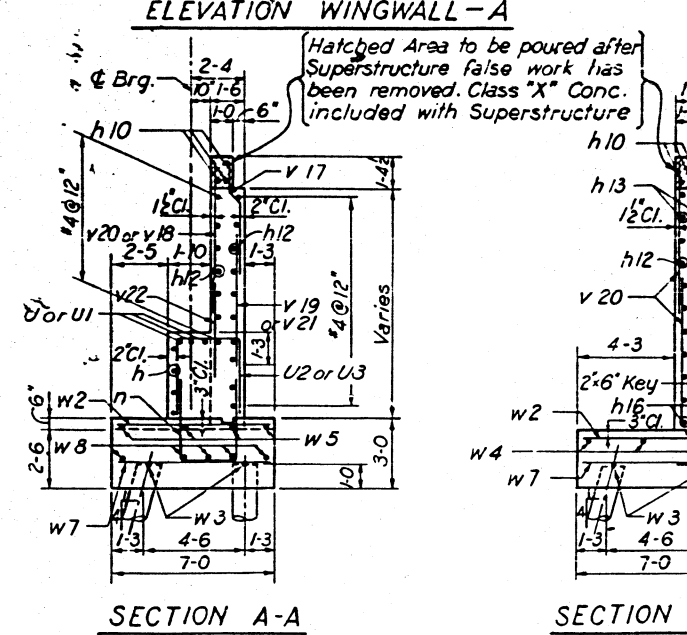
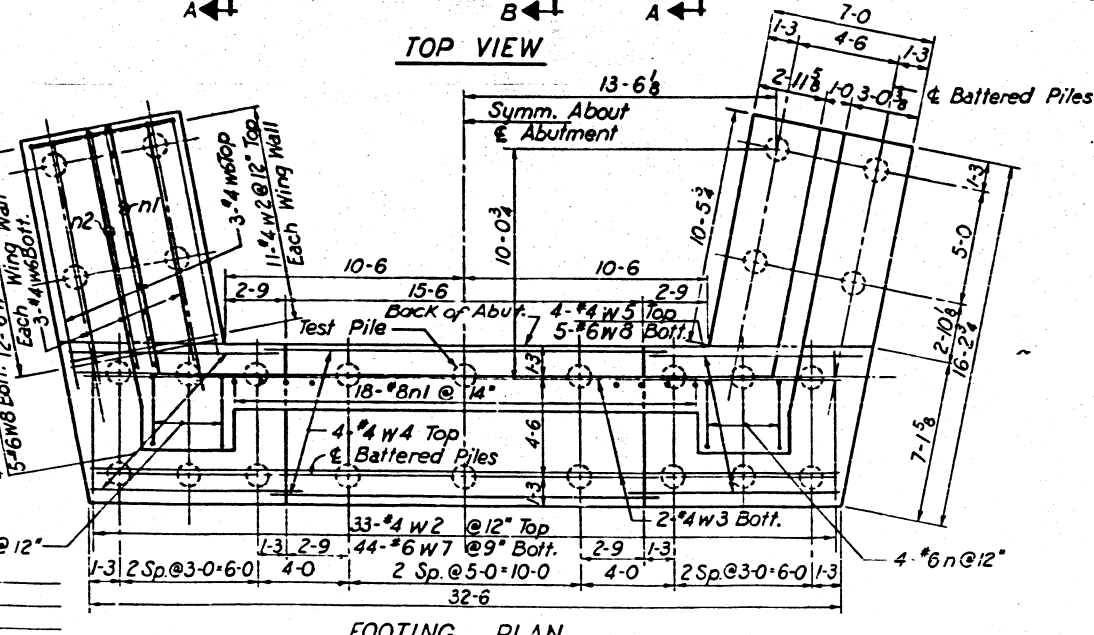
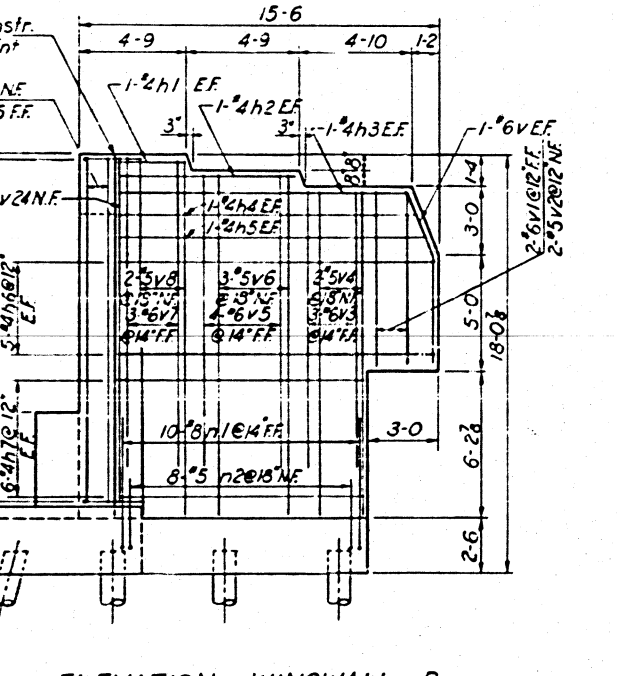
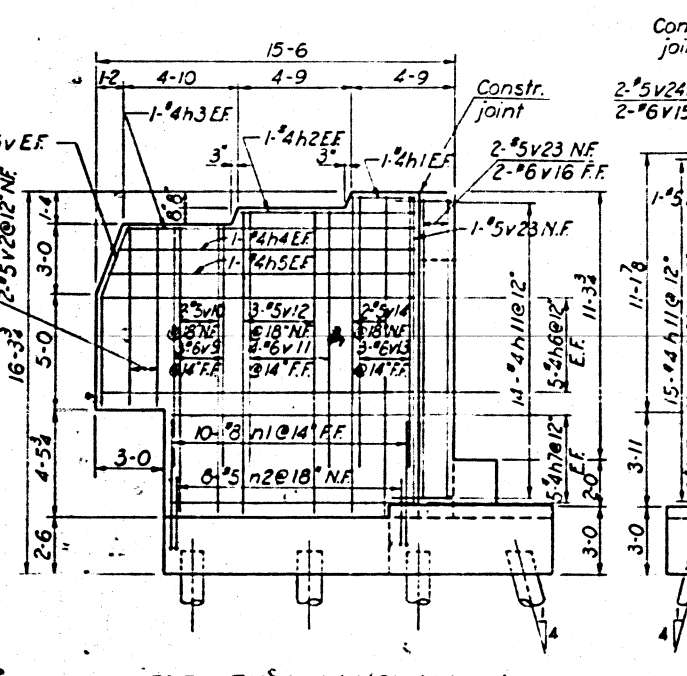
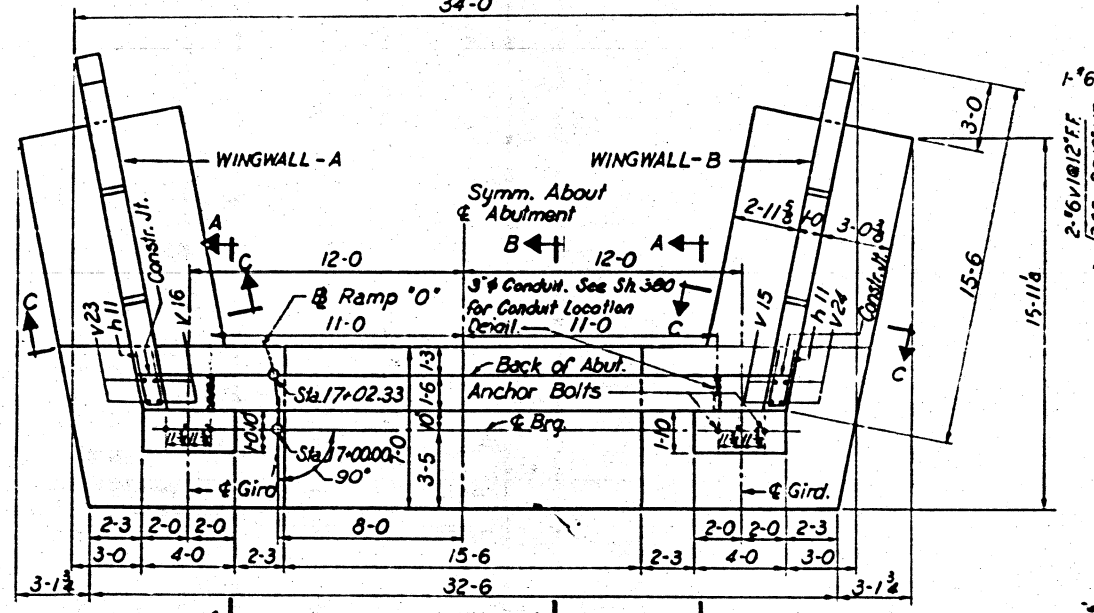
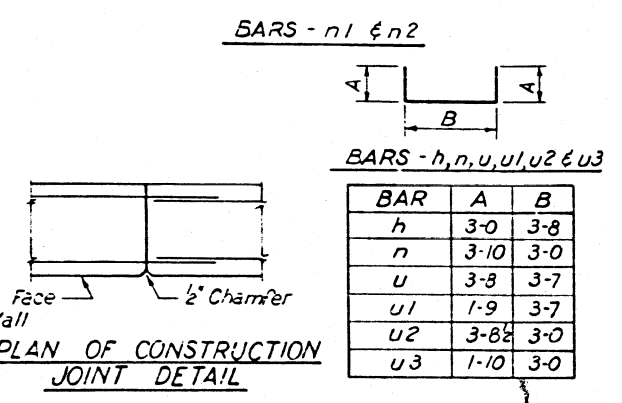
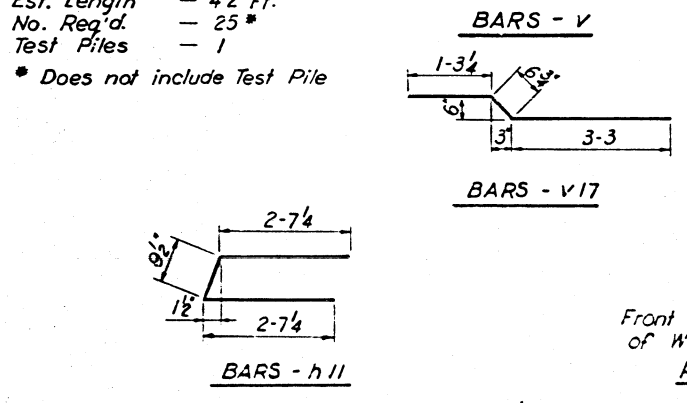
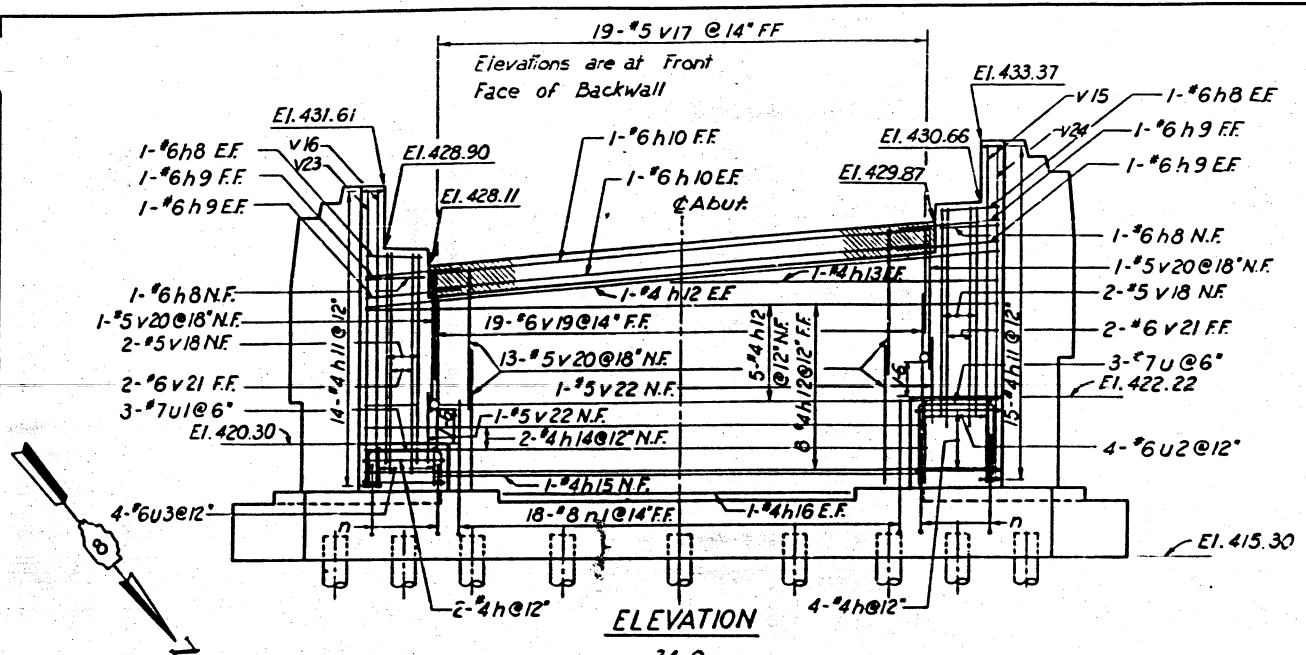
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F. A. I. - 70	82-3HVB-1	ST. CLAIR	207	57
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

**PILE DATA**

Type - Concrete  
 Capacity - 23 T.  
 Est. Length - 42 Ft.  
 No. Req'd - 25  
 Test Piles - 1  
 \* Does not include Test Pile

**BILL OF MATERIAL**

BAR NO.	SIZE	LENGTH	SHAPE
h	#4	9-8	
h1	#4	3-2	
h2	#4	7-11	
h3	#4	12-9	
h4	#4	13-1	
h5	#4	13-5	
h6	#4	13-10	
h7	#4	10-10	
h8	#6	2-10	
h9	#6	4-5	
h10	#6	21-9	
h11	#4	6-0	
h12	#4	27-10	
h13	#4	14-0	
h14	#4	22-9	
h15	#4	21-8	
h16	#4	15-4	
n	#6	10-3	
n1	#6	7-0	
n2	#5	3-7	
u	#7	10-11	
u1	#7	7-1	
u2	#6	10-5	
u3	#6	6-8	
v	#6	8-0	
v1	#6	7-10	
v2	#6	7-10	
v3	#6	12-2	
v4	#6	14-2	
v5	#6	12-10	
v6	#6	14-10	
v7	#6	13-6	
v8	#6	15-6	
v9	#6	10-5	
v10	#6	12-5	
v11	#6	11-1	
v12	#6	13-1	
v13	#6	11-9	
v14	#6	13-9	
v15	#6	15-0	
v16	#6	13-3	
v17	#5	5-1	
v18	#5	9-7	
v19	#6	6-2	
v20	#5	6-4	
v21	#5	9-9	
v22	#5	3-5	
v23	#5	13-3	
v24	#5	15-0	
w1	#6	6-8	
w2	#4	6-8	
w3	#4	32-10	
w4	#4	17-2	
w5	#4	8-5	
w6	#4	11-0	
w7	#6	6-8	
w8	#6	9-6	
ITEM	UNIT	TOTAL	
Class "X" Concrete	Cu. Yds.	67.1	
Reinforcement Bars	Lbs.	5070	
Concrete Piles	Lin. Ft.	1050*	
Test Piles (Concrete)	Each	1	



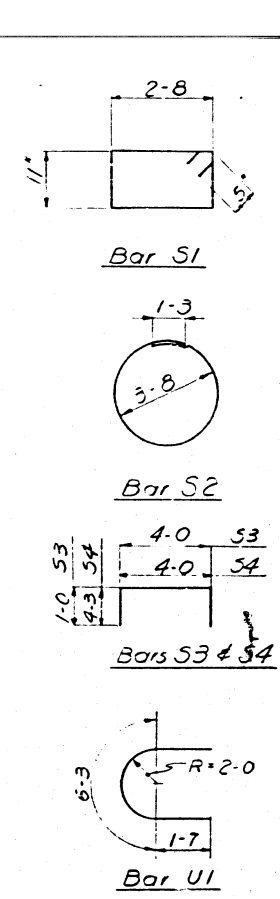
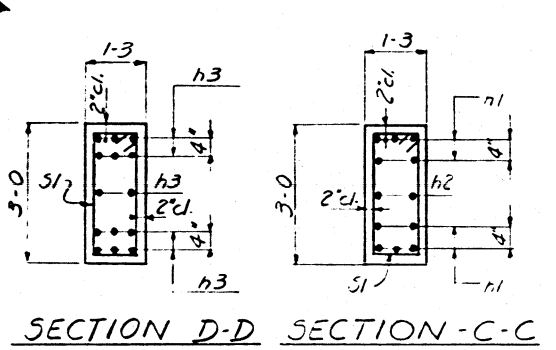
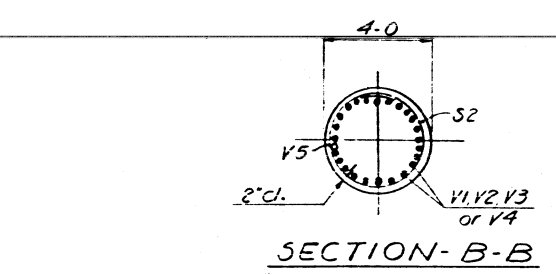
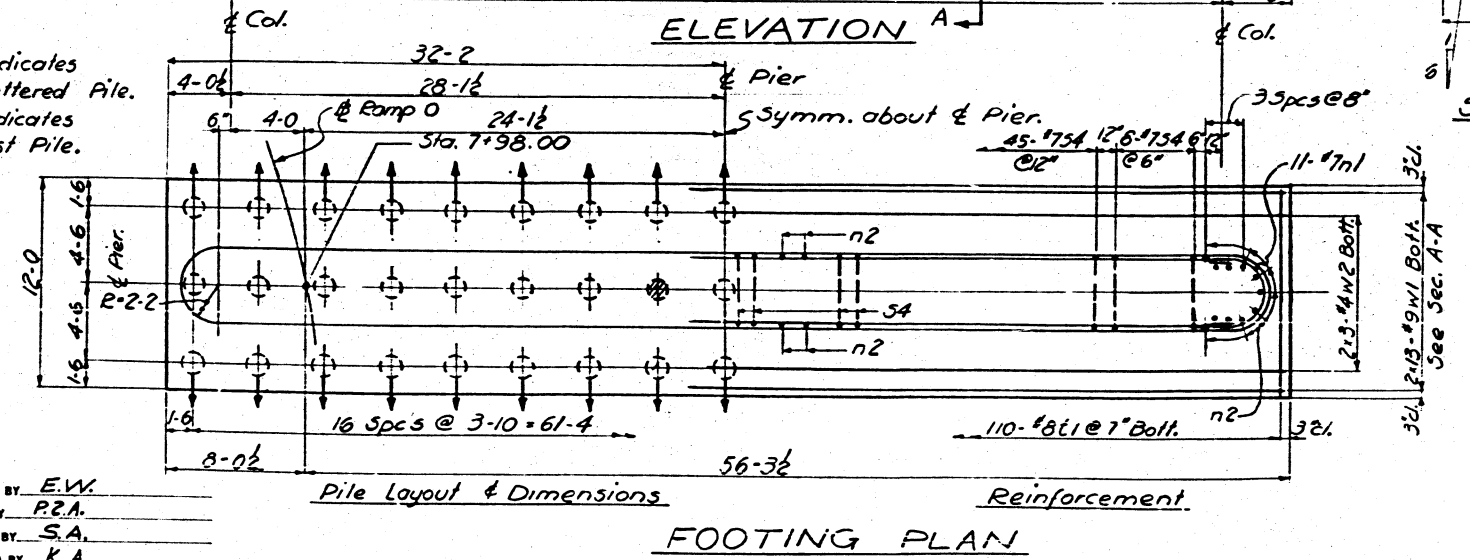
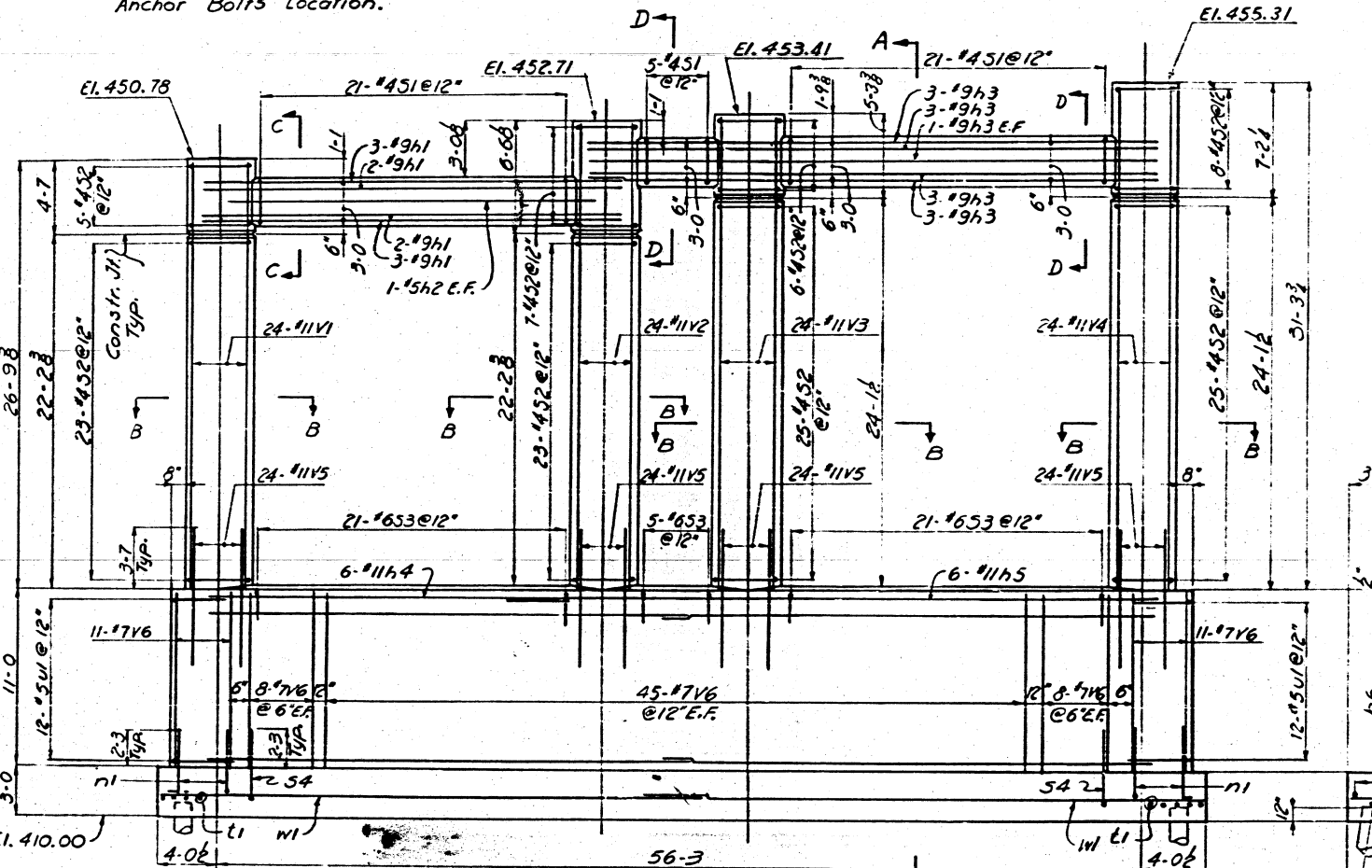
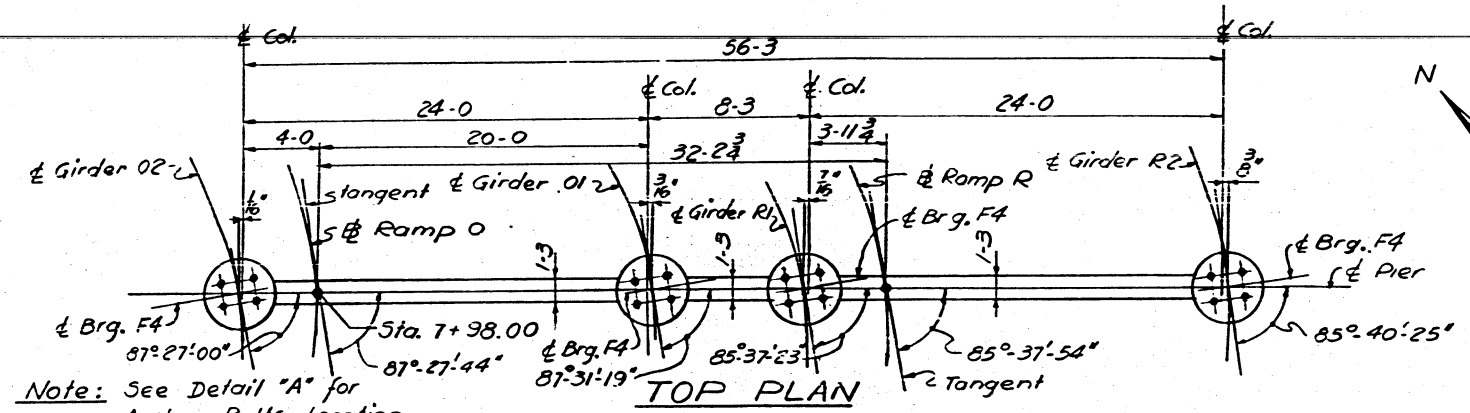
For Expansion Device Details, See Sh. No. 362 (Not applicable to 82-3HVB-1)

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS  
 ABUTMENT OIO  
 POPLAR STREET BRIDGE APPROACHES  
 RAMP "O"  
 F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1  
 H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

DESIGNED BY S.A.B.  
 DRAWN BY T.L.  
 CHECKED BY S.A.B.  
 APPROVED BY K.A.

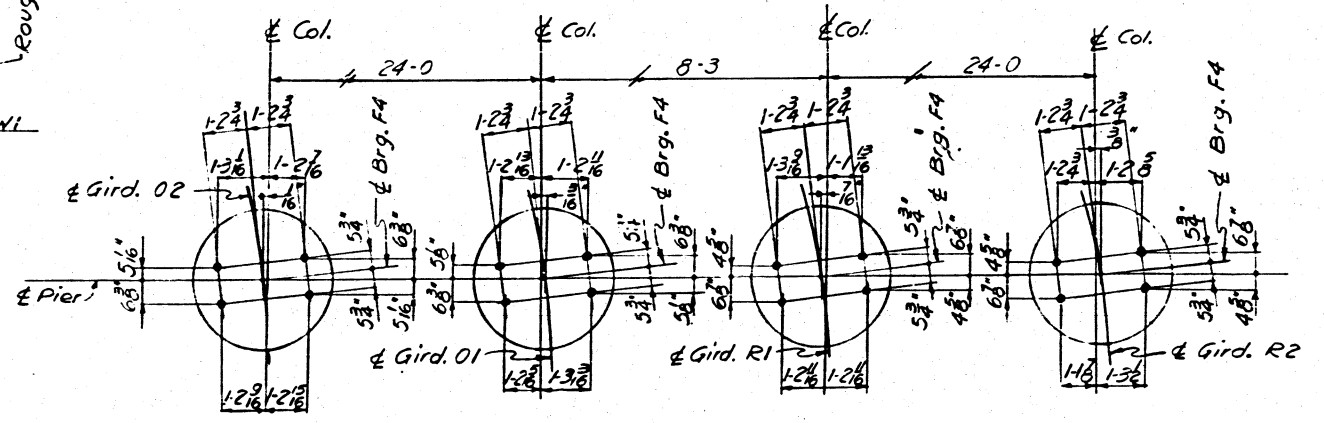


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVB-1	ST. CLAIR	207	115
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	



**BILL OF MATERIAL**

Mark	No. Req'd	Size	Length	Shape
437 h1	10	#9	26-4	—
437 h2	2	#5	22-6	—
437 h3	14	#9	34-7	—
437 h4	6	#11	20-11	—
437 h5	6	#11	40-0	—
437 h6	44	#5	29-6	—
437 n1	22	#7	5-6	—
437 S1	47	#4	8-0	—
437 S2	122	#4	12-9	—
437 S3	47	#6	6-0	—
437 S4	61	#7	12-6	—
437 E1	110	#8	11-8	—
437 U1	24	#5	9-5	—
437 V1	24	#11	26-7	—
437 V2	24	#11	28-6	—
437 V3	24	#11	29-2	—
437 V4	24	#11	31-1	—
437 V5	96	#11	9-2	—
437 V6	144	#7	10-10	—
437 W1	26	#9	33-5	—
437 W2	6	#4	32-8	—
• See Note "X" Sheet No 35.				
Item	Unit	Total		
Class "X" Concrete	C.Y.	251.6		
Reinforcement Bars	Lbs	38,720		
Concrete Piles	L.F.	2000*		
Test Pile (Concrete)	Each	1		



**PILE DATA**

Type - Concrete  
 Req'd. Cap. - 35 T.  
 Est. Length - 40-0  
 No. Req'd. - 50\*  
 Test Pile - 1

\* Does not include Test Pile.

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS

**PIER OI**

POPLAR STREET BRIDGE APPROACHES  
**RAMP "O"**

F.A.I. RT.70 ST. CLAIR CO. SECTION 82-3HVB-1

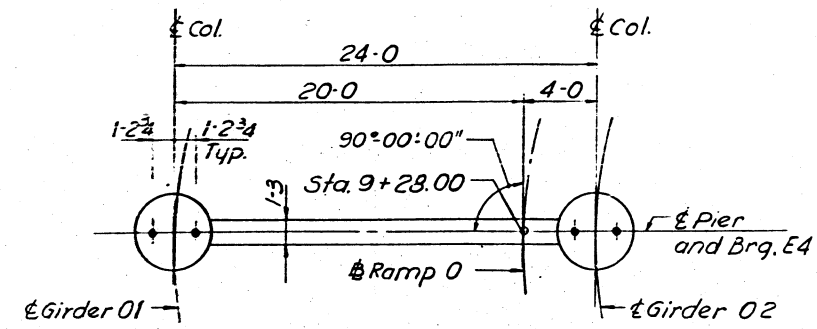
H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

SHEET  
 437 of 526

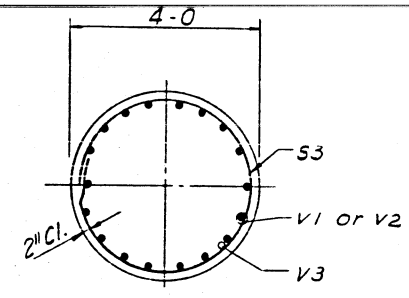
DESIGNED BY: E.V.V.  
 DRAWN BY: P.R.A.  
 CHECKED BY: S.A.  
 APPROVED BY: K.A.



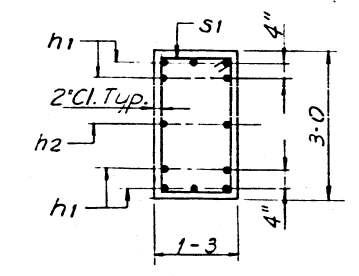
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. - 70	82-3HVB-1	ST. CLAIR	207	116
FED. ROAD DIV. NO. 4		ILLINOIS PROJECT		



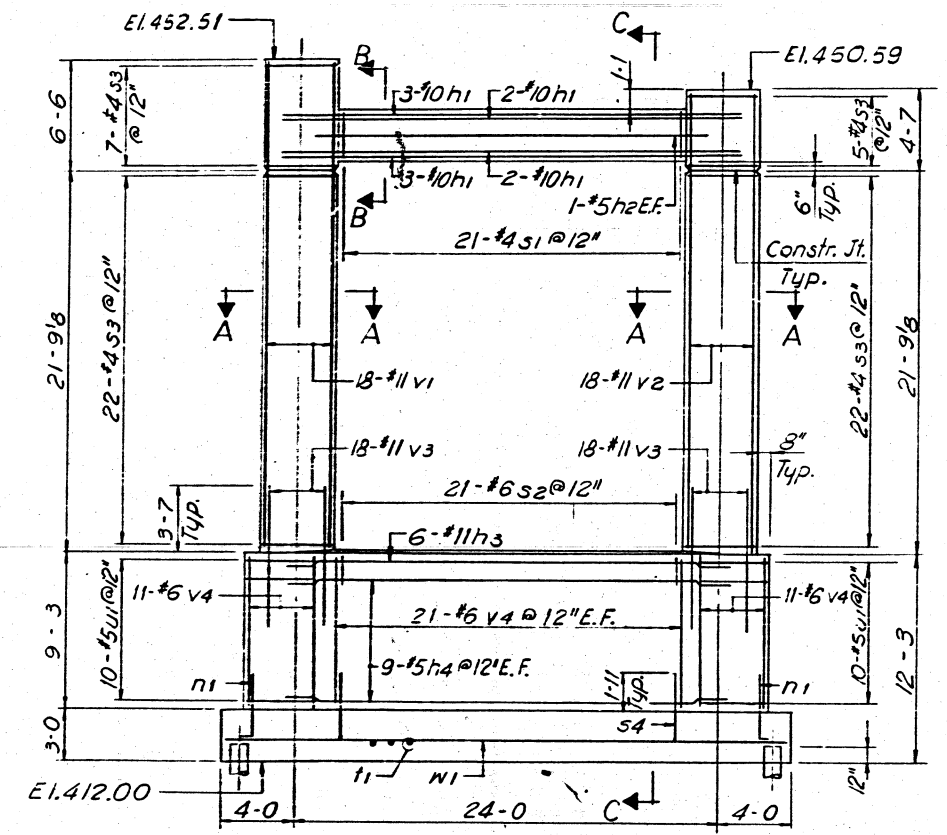
TOP PLAN



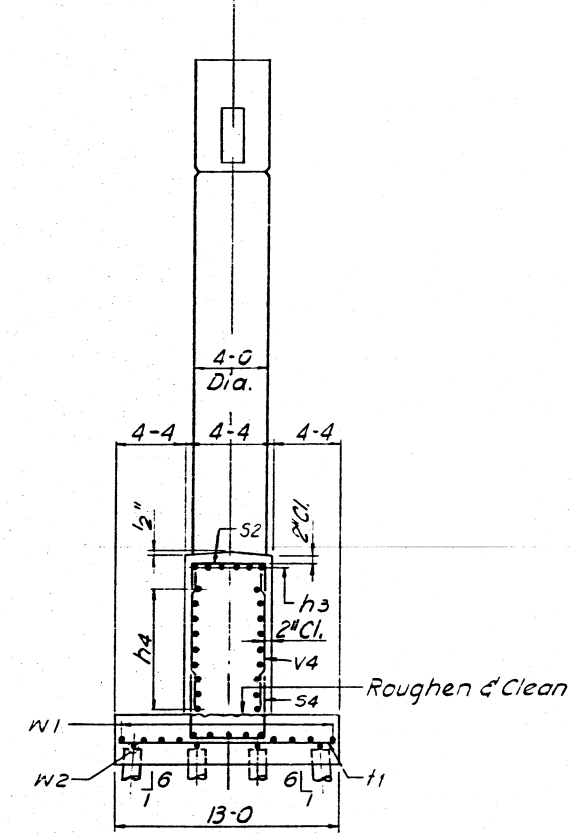
SECTION A-A



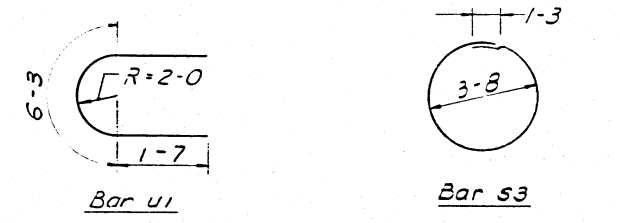
SECTION B-B



ELEVATION

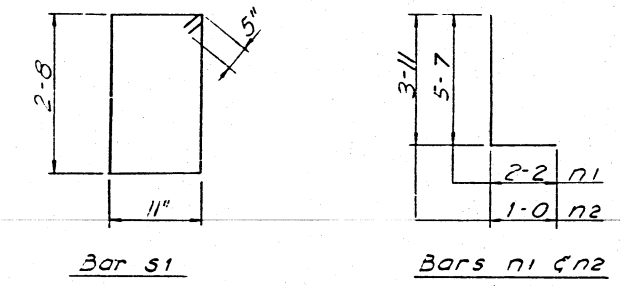


SECTION C-C



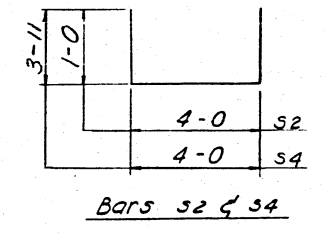
Bar u1

Bar s3



Bar s1

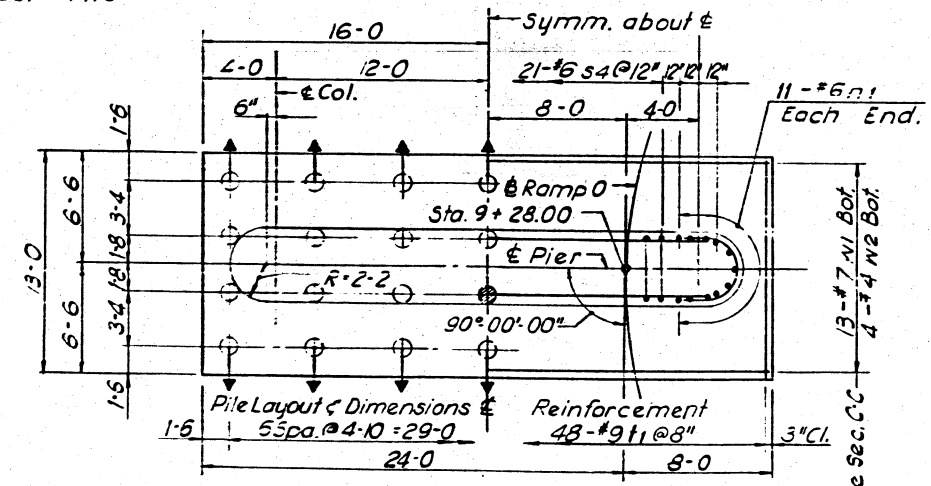
Bars n1 & n2



Bars s2 & s4

BILL OF MATERIAL				
Mark	No. Req'd	Size	Length	Shape
438 h1	10	#10	26-4	—
438 h2	2	#5	22-6	—
438 h3	6	#11	25-0	—
438 h4	18	#5	25-0	—
438 n1	22	#6	4-11	└
438 s1	21	#4	8-0	└
438 s2	21	#6	6-0	└
438 s3	56	#4	12-9	○
438 s4	21	#6	11-10	└
438 t1	48	#9	12-8	—
438 u1	20	#5	9-5	└
438 v1	18	#11	28-1	—
438 v2	18	#11	26-2	—
438 v3	36	#11	7-2	—
438 v4	64	#6	9-0	—
438 w1	13	#7	31-8	—
438 w2	4	#4	31-8	—
* See Note "X" Sh. No. 35				
Class "K" Concrete			Unit	Total
Reinforcement Bars			C.Y.	115.8
Concrete Piles			Lbs.	14370
Test Piles (Concrete)			Ea.	1

- ⊕ - Indicates Battered Pile
- ⊙ - Indicates Test Pile



FOOTING PLAN

**PILE DATA**  
 Type: Concrete  
 Req'd. Capacity: 35T.  
 Est. Length: 44-0  
 No. Req'd.: 27 \*  
 Test Pile: 1  
 \* Does not include Test Pile.

DESIGNED BY S.A.  
 DRAWN BY I.M.  
 CHECKED BY A.T.  
 APPROVED BY K.A.

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS

PIER 02  
 POPLAR STREET BRIDGE APPROCHES  
 RAMP "O"

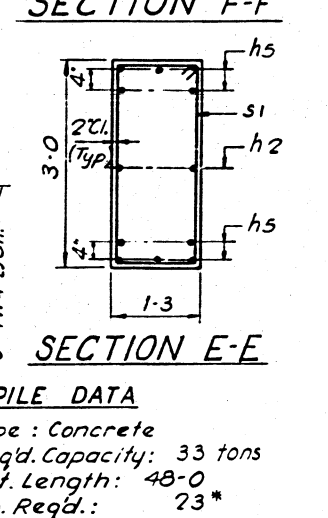
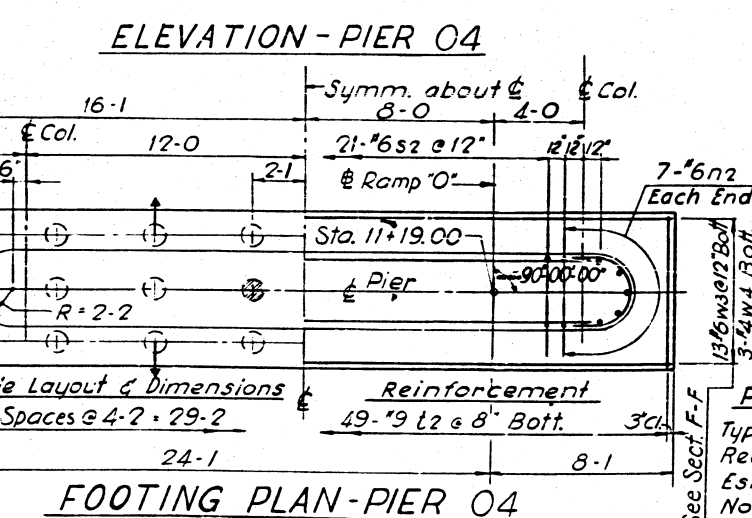
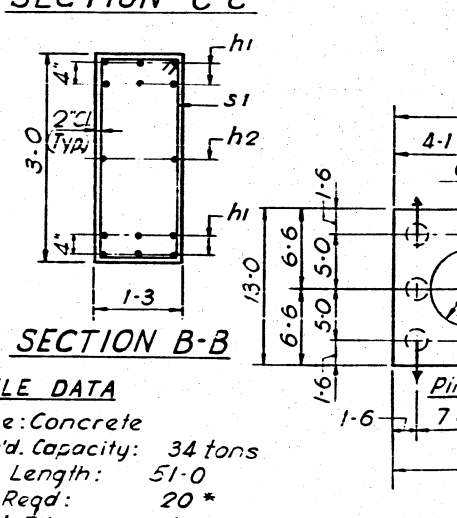
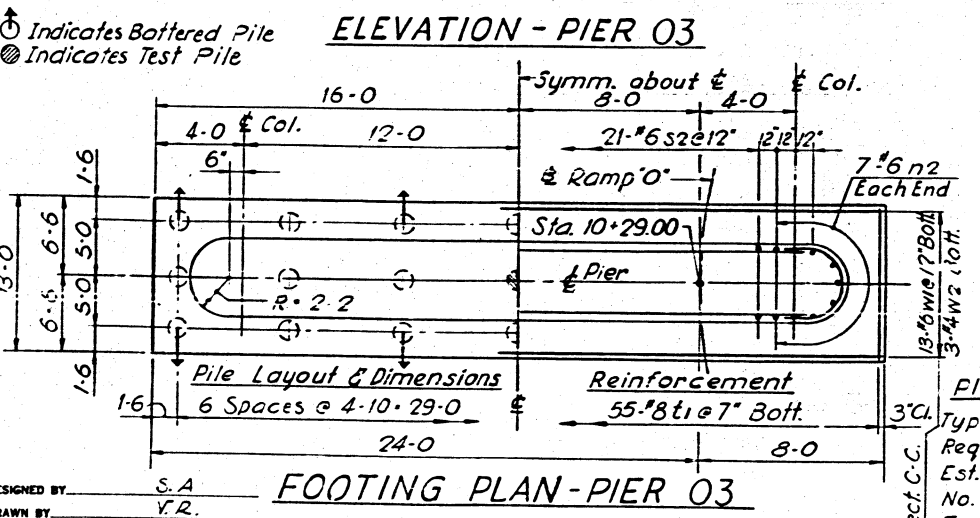
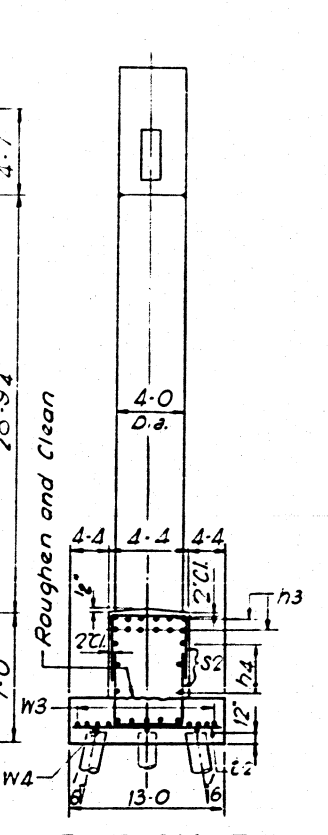
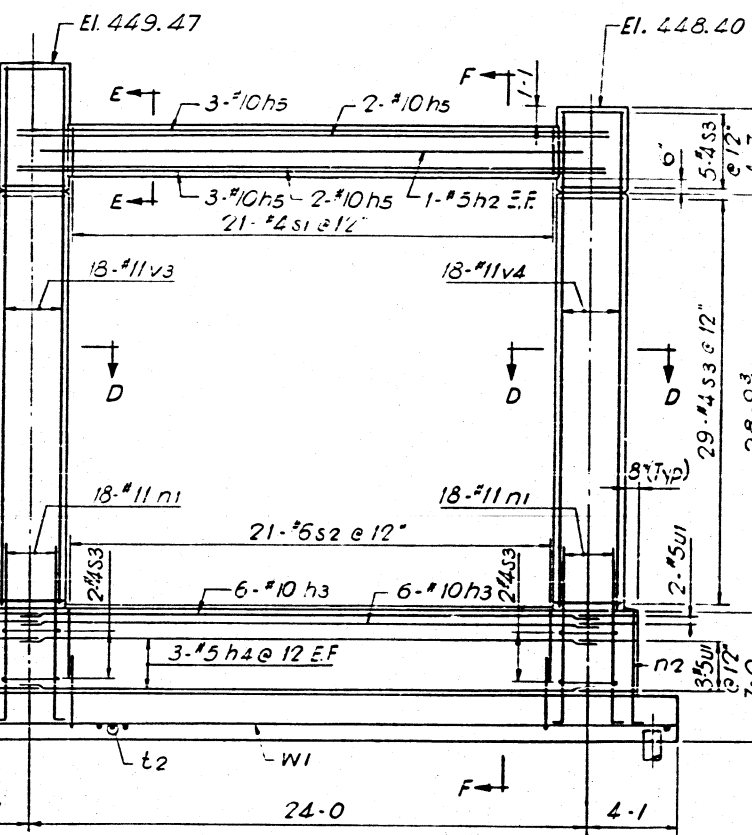
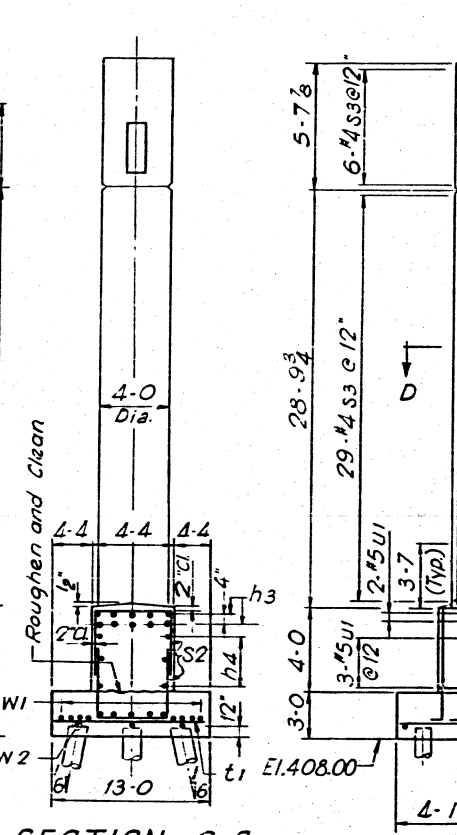
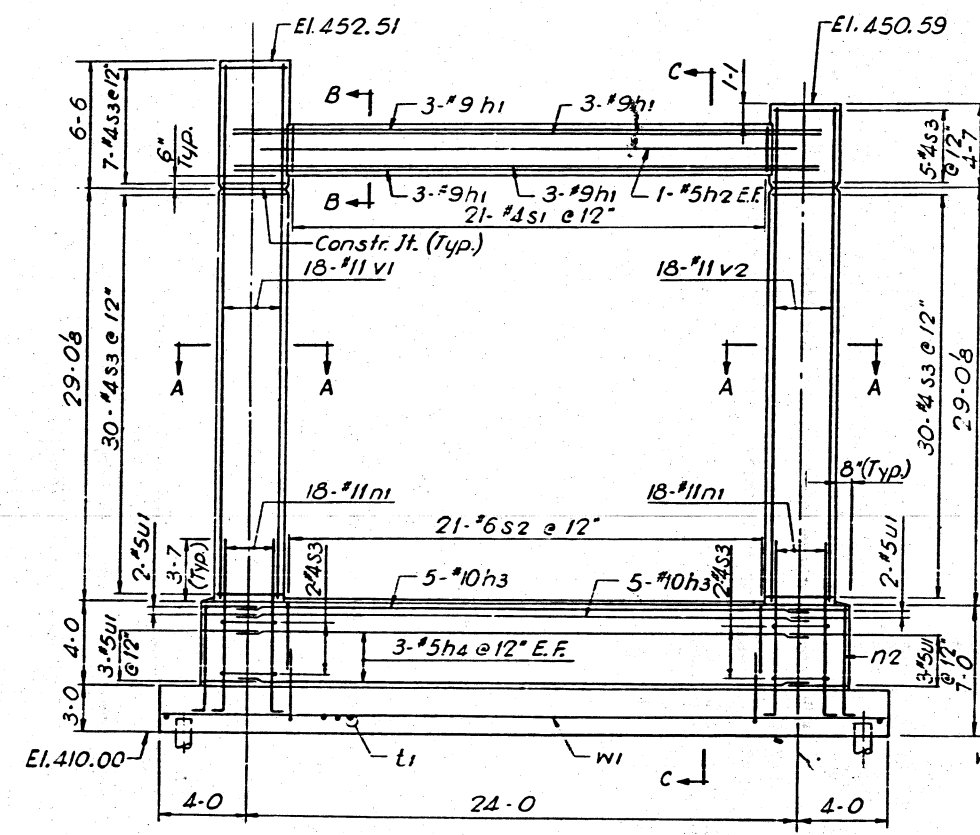
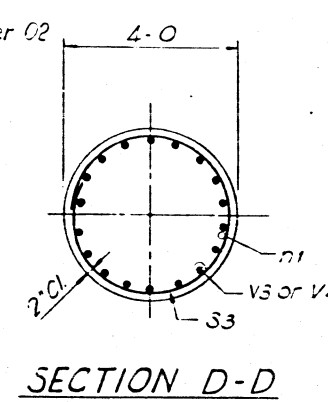
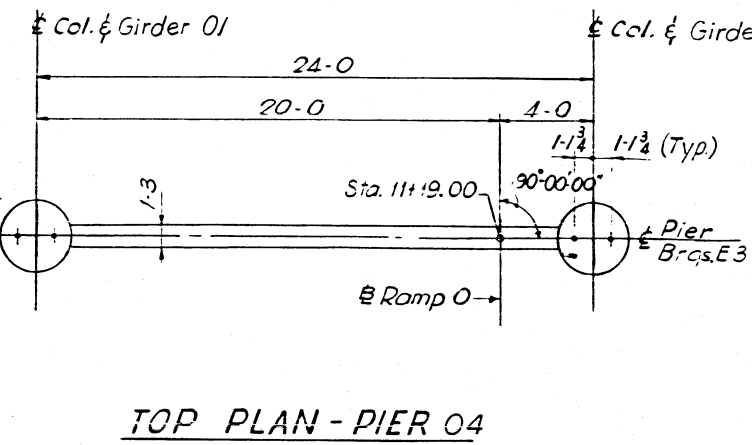
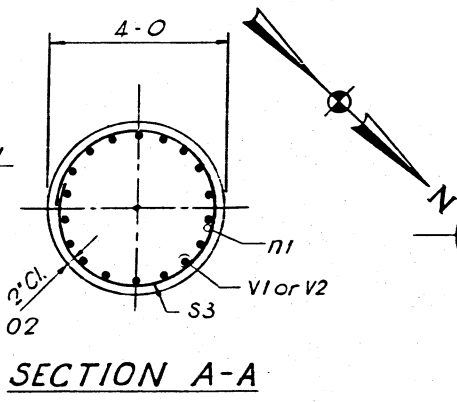
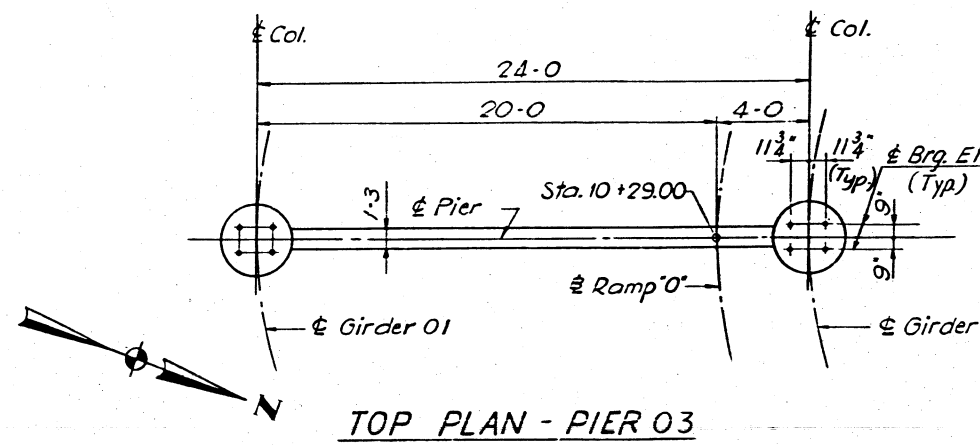
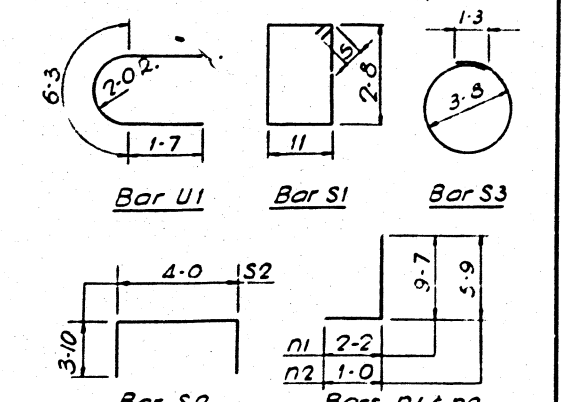
F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1  
 H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

SHEET  
 438 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVB-1	ST. CLAIR	207	117
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	

BILL OF MATERIAL				
•Mark	No. Reqd.	Size	Length	Shape
439 h1	12	#9	26-4	
439 h2	2	#5	22-6	
439 h3	10	#10	25-0	
439 h4	6	#5	25-0	
439 h5	10	#10	26-4	
439 n1	36	#11	11-9	
439 n2	14	#6	6-9	
439 s1	21	#4	8-0	
439 s2	42	#6	11-8	
439 s3	76	#4	12-9	
439 l1	55	#8	12-8	
439 l2	49	#9	12-8	
439 u1	10	#5	9-5	
439 v1	18	#11	35-4	
439 v2	18	#11	33-5	
439 v3	18	#11	34-3	
439 v4	18	#11	33-3	
439 w1	13	#6	31-8	
439 w2	3	#4	31-8	
439 w3	13	#6	31-10	
439 w4	3	#4	31-10	

Item	Unit	Total
Class 'X' Concrete	C.Y.	98.9
Reinforcement Bars	Lbs.	15,450
Concrete Piles	L.F.	1020*
Test Piles (concrete)	Ea.	1104*



**FILE DATA**  
 Type: Concrete  
 Req'd. Capacity: 34 tons  
 Est. Length: 51-0  
 No. Req'd.: 20\*  
 Test Pile: 1  
 \* Does not include Test Pile

**FILE DATA**  
 Type: Concrete  
 Req'd. Capacity: 33 tons  
 Est. Length: 48-0  
 No. Req'd.: 23\*  
 Test Pile: 1  
 \* Does not include Test Pile

DESIGNED BY: S.A.  
 DRAWN BY: Y.R.  
 CHECKED BY: A.T.  
 APPROVED BY: K.A.

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS

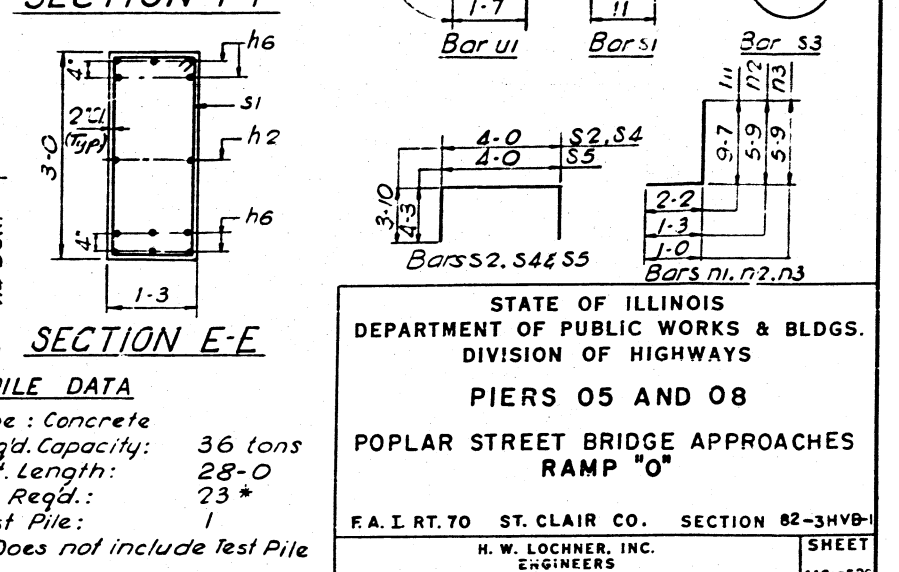
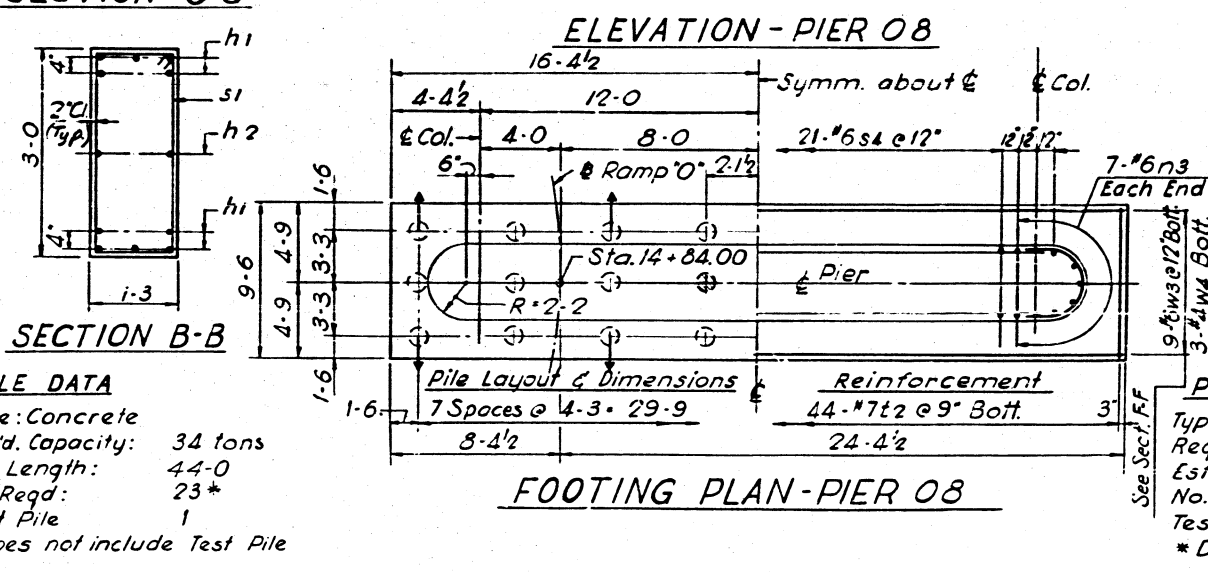
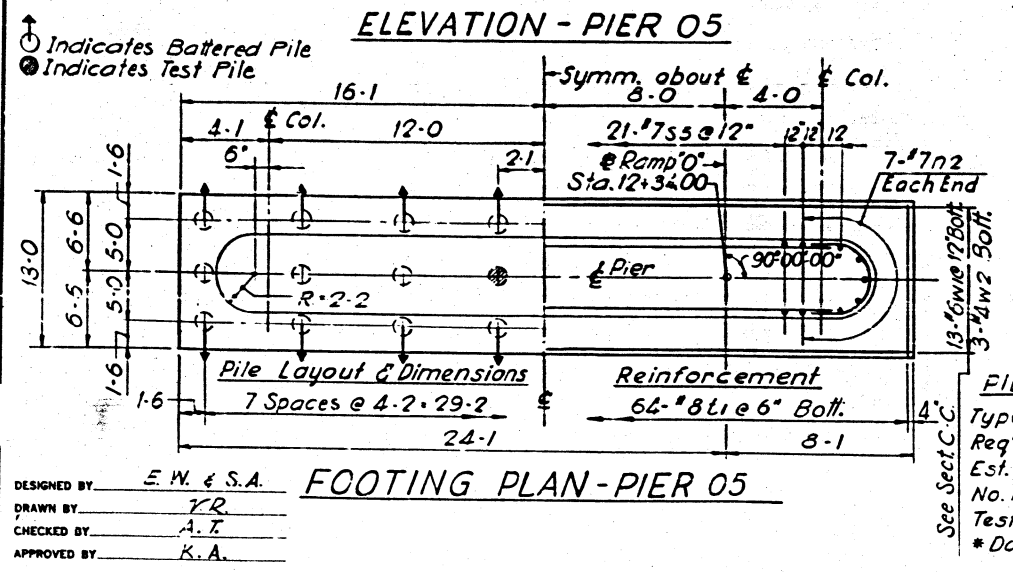
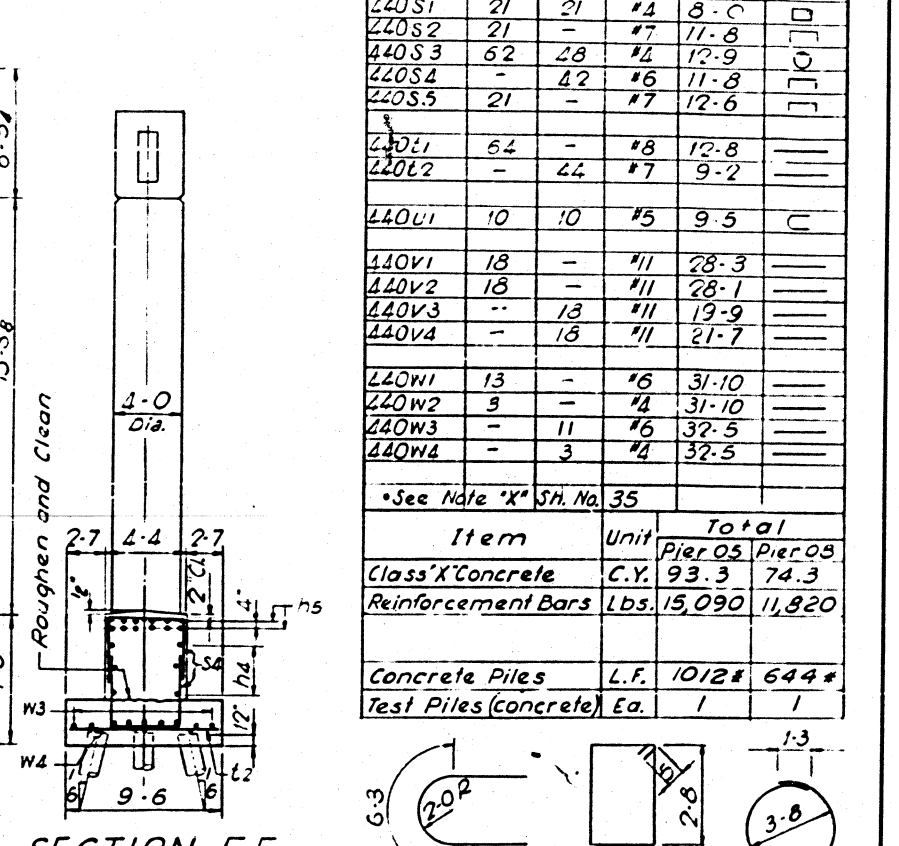
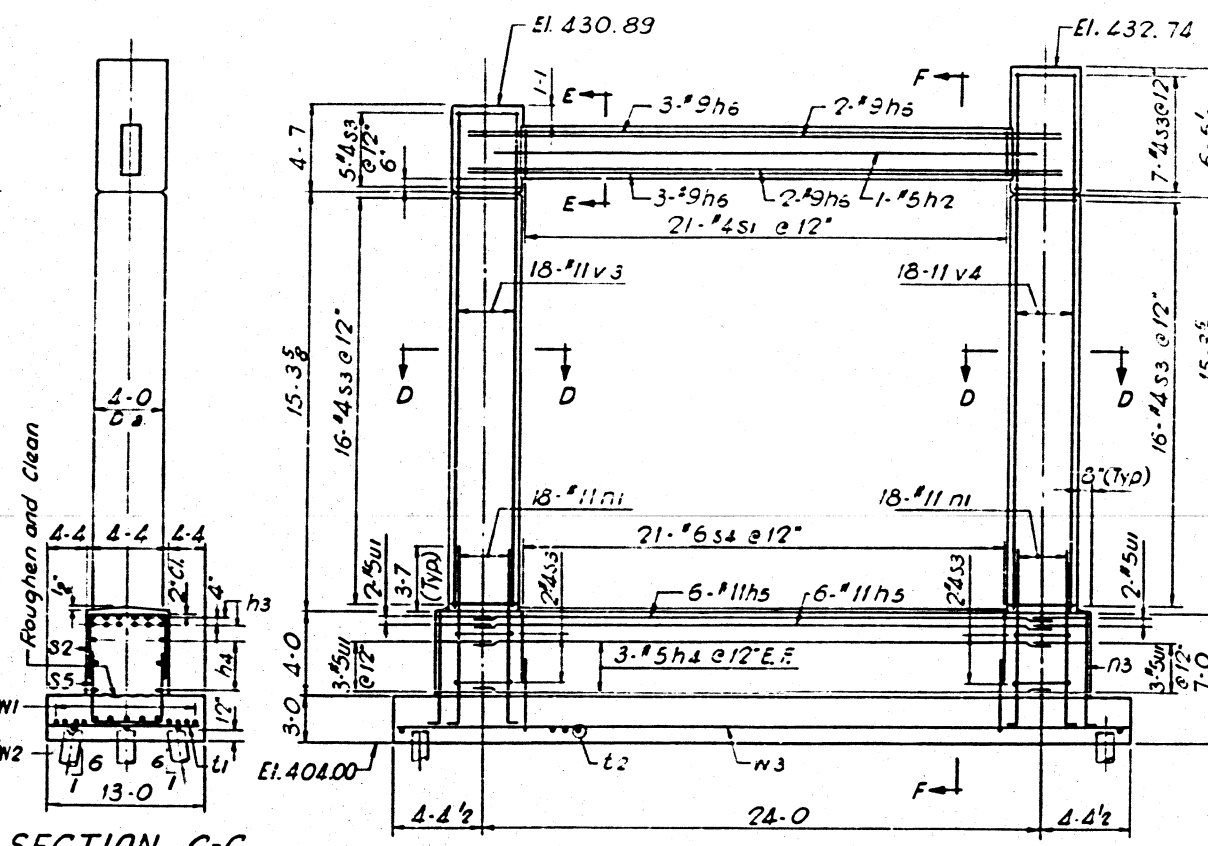
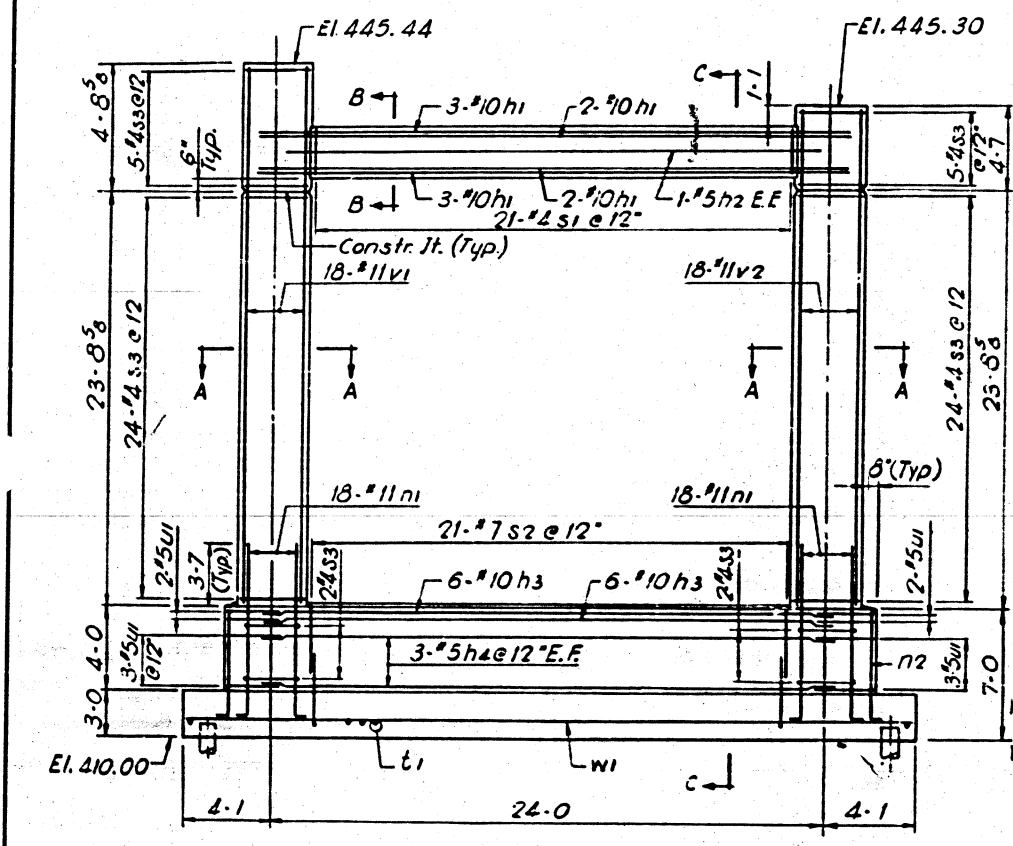
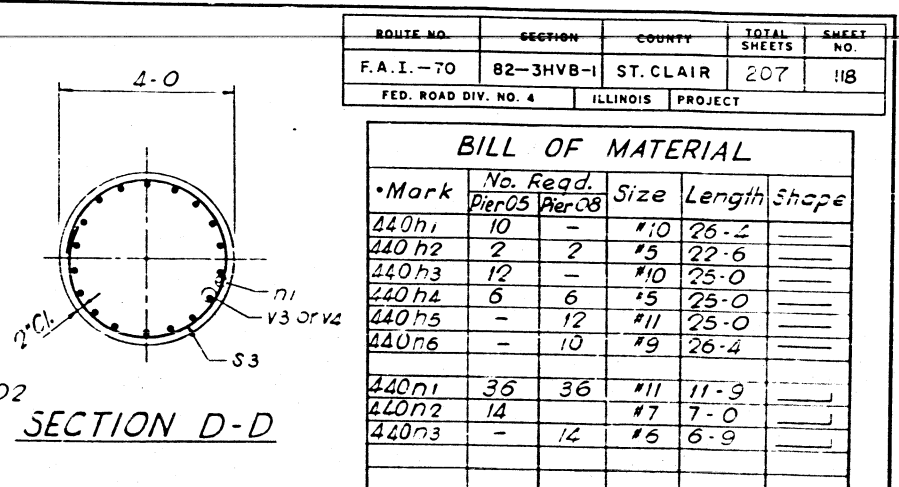
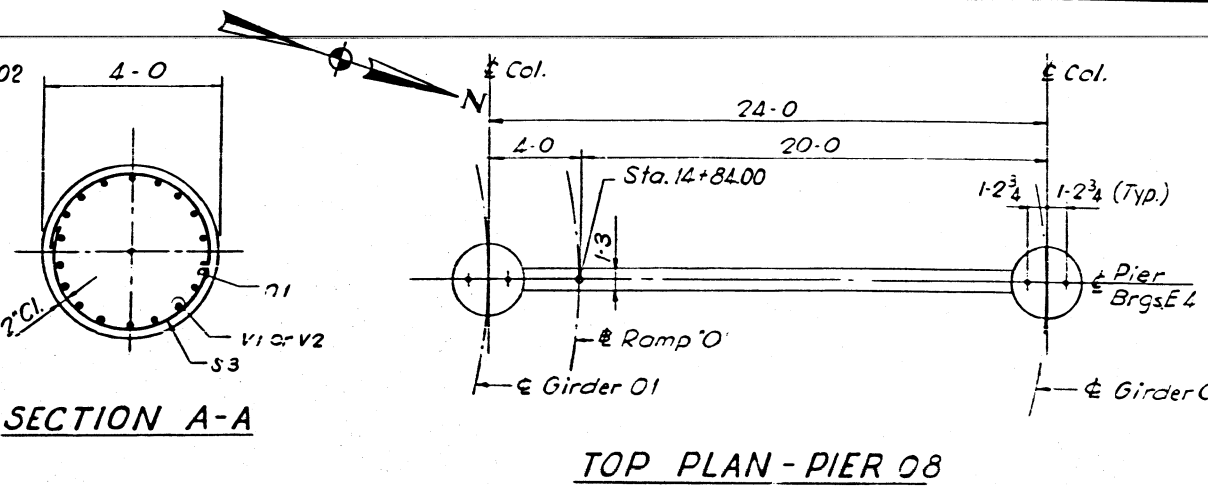
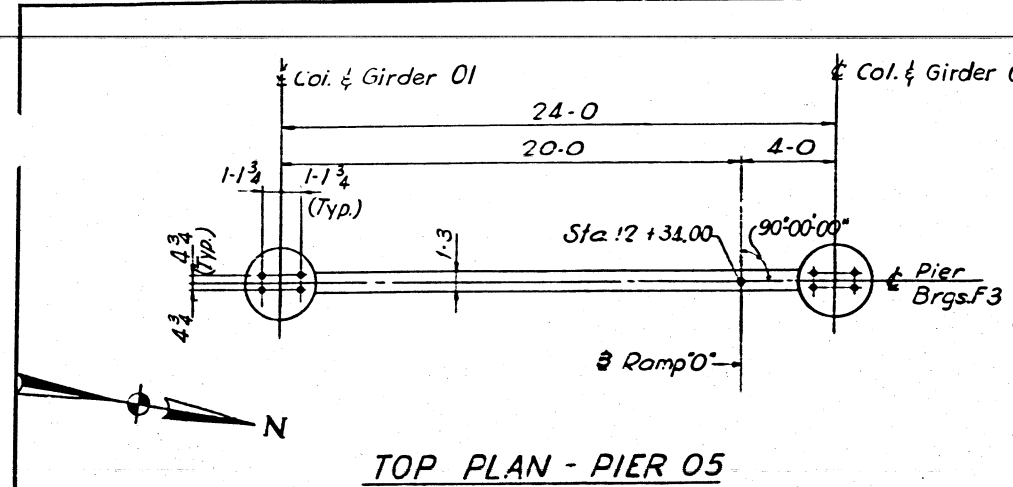
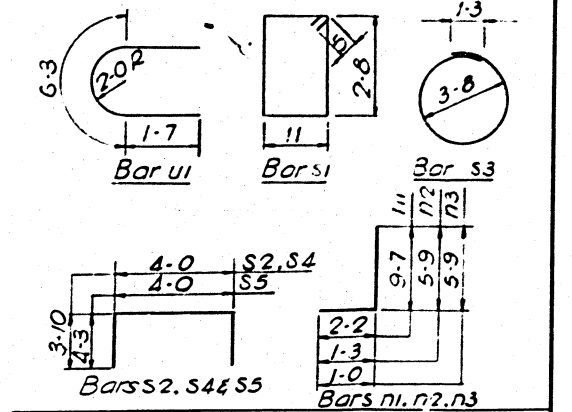
**PIERS 03 AND 04**  
**POPLAR STREET BRIDGE APPROACHES**  
**RAMP "O"**

F.A.I. RT.70 ST. CLAIR CO. SECTION 82-3HVB-1  
 H. W. LOCHNER, INC. ENGINEERS CHICAGO, ILLINOIS  
 SHEET 439 or 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. - 70	82-3HVB-1	ST. CLAIR	207	118
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	

BILL OF MATERIAL				
Mark	No. Reqd. Pier 05	No. Reqd. Pier 08	Size	Length Shape
440h1	10	-	#10	26-4
440h2	2	2	#5	22-6
440h3	12	-	#10	25-0
440h4	6	6	#5	25-0
440h5	-	12	#11	25-0
440h6	-	10	#9	26-4
440n1	36	36	#11	11-9
440n2	14	-	#7	7-0
440n3	-	14	#5	6-9
440s1	21	21	#4	8-C
440s2	21	-	#7	11-8
440s3	62	28	#4	12-9
440s4	-	42	#6	11-8
440s5	21	-	#7	12-6
440t1	64	-	#8	12-8
440t2	-	44	#7	9-2
440u1	10	10	#5	9-5
440v1	18	-	#11	28-3
440v2	18	-	#11	28-1
440v3	-	18	#11	19-9
440v4	-	18	#11	21-7
440w1	13	-	#6	31-10
440w2	9	-	#4	31-10
440w3	-	11	#6	32-5
440w4	-	3	#4	32-5

Item	Unit	Total
Class 'X' Concrete	C.Y.	93.3 74.3
Reinforcement Bars	Lbs.	15,090 11,820
Concrete Piles	L.F.	1012# 644#
Test Piles (concrete)	Ea.	1 1

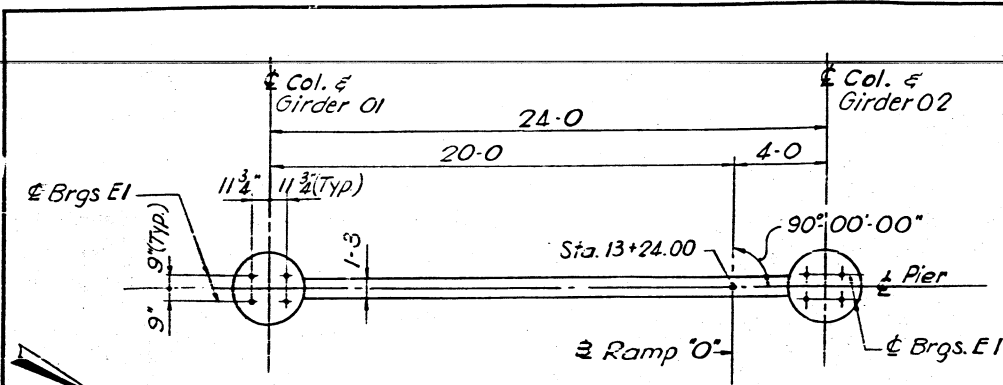


DESIGNED BY E. W. & S. A.  
 DRAWN BY Y. R.  
 CHECKED BY A. F.  
 APPROVED BY K. A.

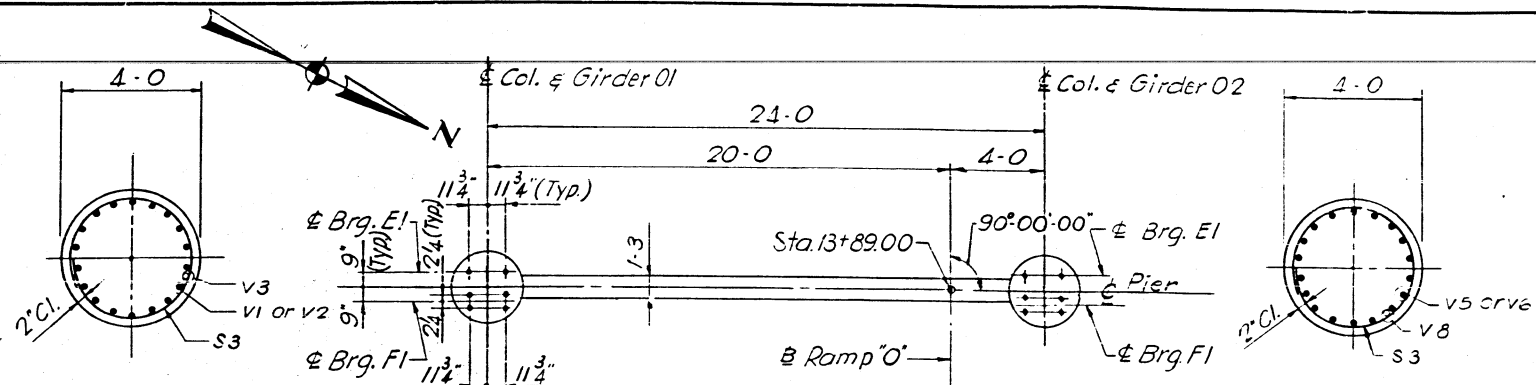
**FILE DATA**  
 Type: Concrete  
 Req'd. Capacity: 34 tons  
 Est. Length: 44-0  
 No. Req'd: 23\*  
 Test Pile: 1  
 \* Does not include Test Pile

**PILE DATA**  
 Type: Concrete  
 Req'd. Capacity: 36 tons  
 Est. Length: 28-0  
 No. Req'd: 23\*  
 Test Pile: 1  
 \* Does not include Test Pile

STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS  
**PIERS 05 AND 08**  
 POPLAR STREET BRIDGE APPROACHES  
 RAMP "O"  
 F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1  
 H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS  
 SHEET  
 440x526



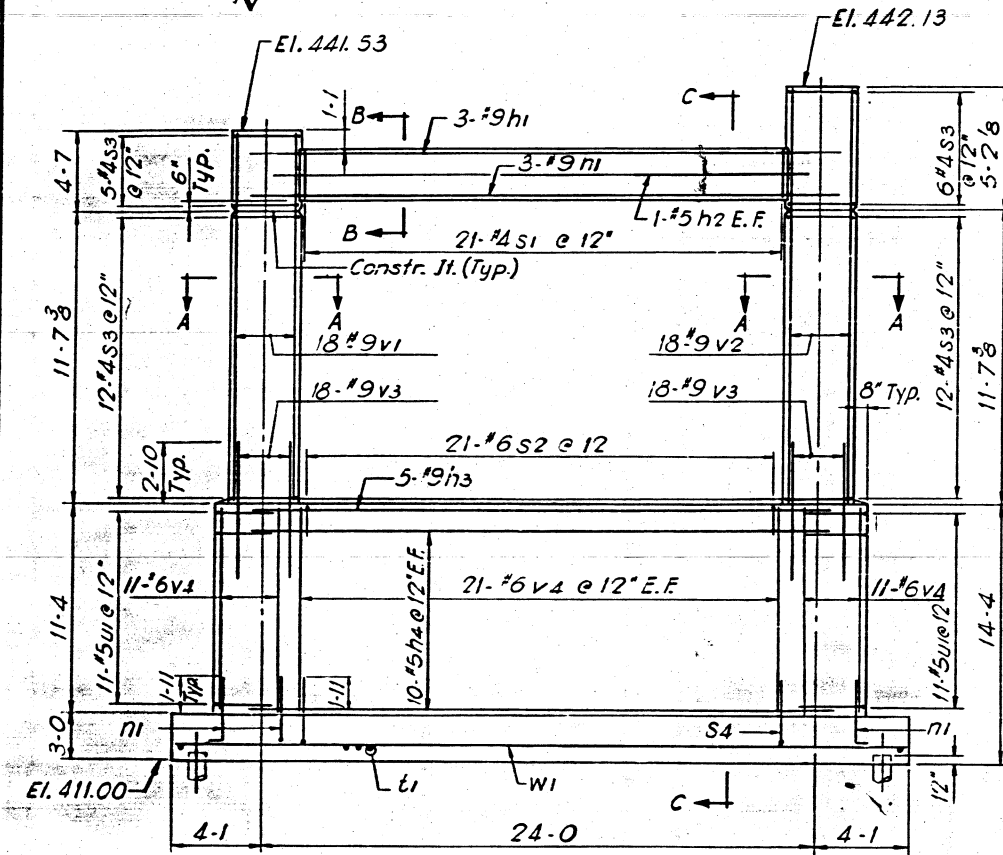
TOP PLAN - PIER 06



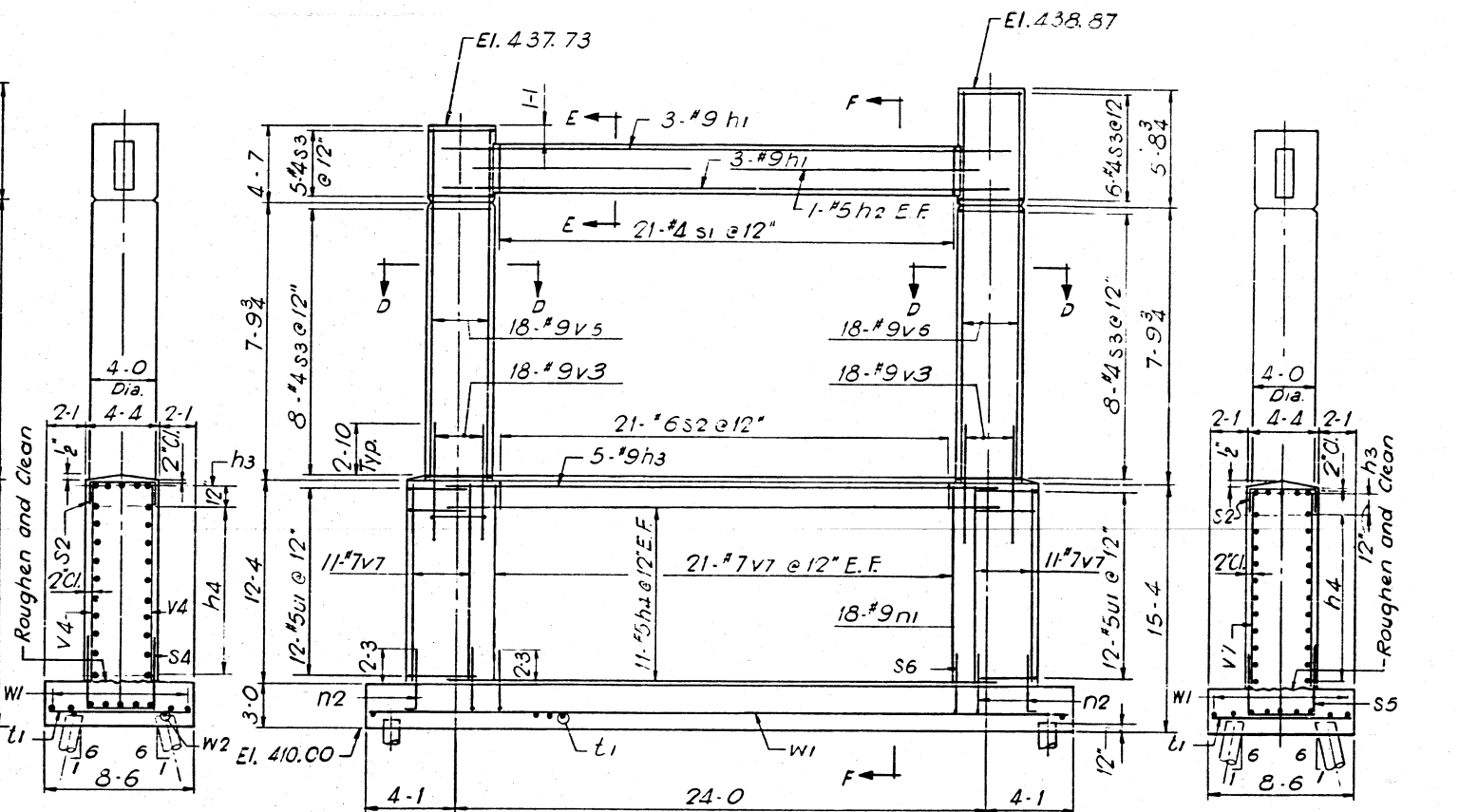
TOP PLAN PIER 07

BILL OF MATERIAL

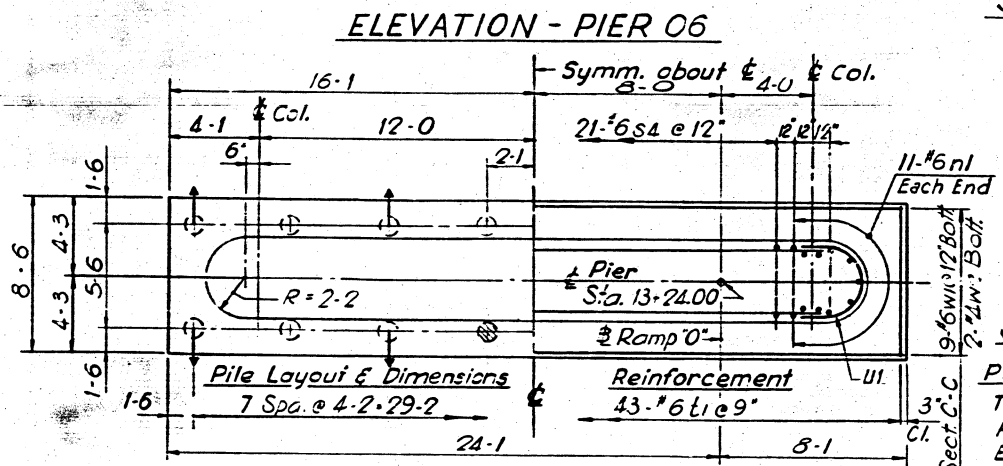
Mark	No. Req'd.	Size	Length	Shape
441h1	6	#9	26-4	
441h2	2	#5	22-6	
441h3	5	#9	25-0	
441h4	20	#5	25-0	
441n1	22	#6	4-11	
441n2	22	#7	5-6	
441t1	43	#6	6-2	
441s1	21	#4	8-0	
441s2	21	#6	6-0	
441s3	35	#4	12-9	
441s4	21	#5	11-10	
441s5	21	#7	12-6	
441v1	18	#9	16-0	
441v2	18	#9	16-7	
441v3	36	#9	6-8	
441v4	64	#6	11-2	
441v5	18	#9	12-2	
441v6	18	#9	13-4	
441v7	64	#7	12-2	
441w1	9	#6	31-10	
441w2	2	#4	31-10	
441u1	72	#5	9-5	



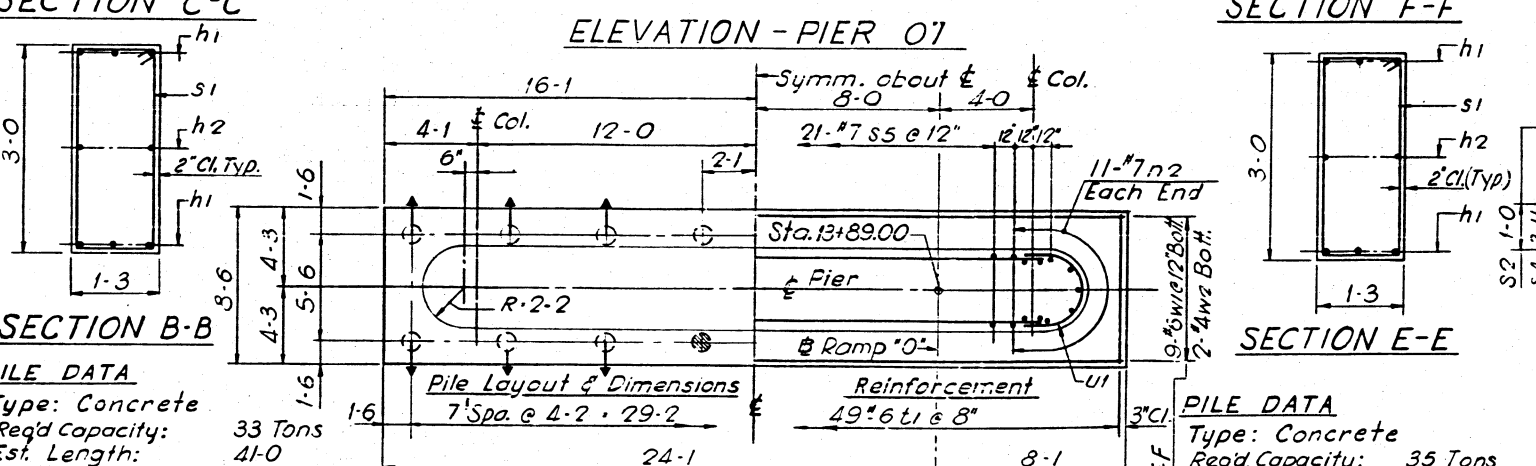
ELEVATION - PIER 06



ELEVATION - PIER 07



FOOTING PLAN - PIER 06

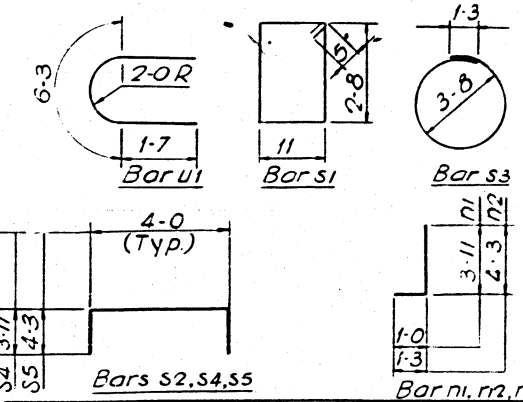


FOOTING PLAN - PIER 07

PILE DATA  
Type: Concrete  
Req'd Capacity: 33 Tons  
Est. Length: 41-0  
No. Req'd: 15 \*  
Test Pile: 1  
\*Does not include Test Pile.

PILE DATA  
Type: Concrete  
Req'd Capacity: 35 Tons  
Est. Length: 36-0  
No. Req'd: 15 \*  
Test Pile: 1  
\*Does not include Test Pile.

Item	Unit	Total
Class "X" Concrete	C.Y.	99.8 101.0
Reinforcement Bars	Lbs	7,770 8,180
Concrete Piles	L.F.	615 # 540 #
Test Piles (Concrete)	Ea.	1 1

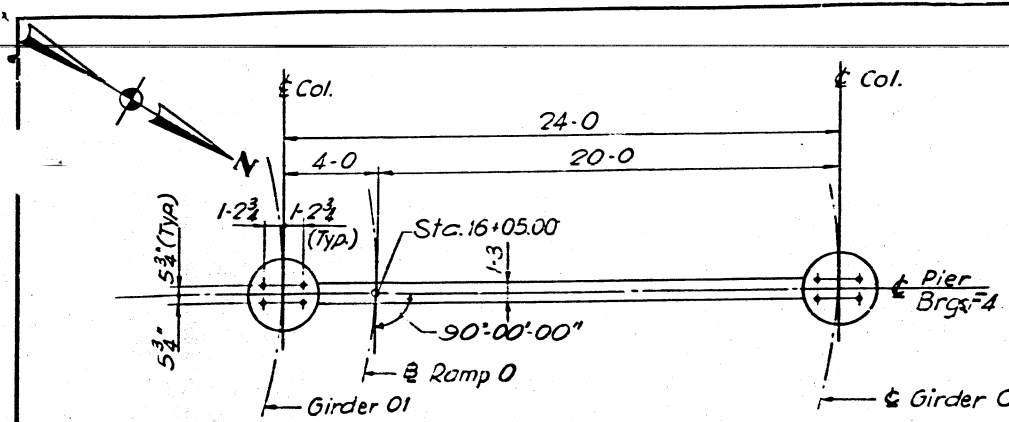


DESIGNED BY S.A.  
DRAWN BY K.R.  
CHECKED BY A.T.  
APPROVED BY K.A.

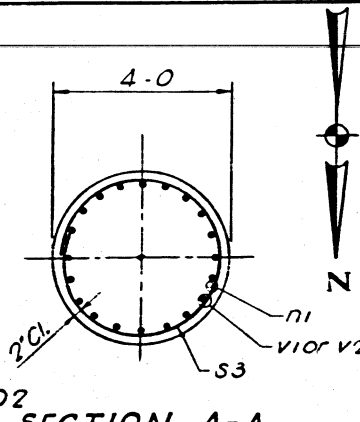
⊙ indicates Battered Pile  
⊙ indicates Test Pile

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVB-1	ST. CLAIR	207	120
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

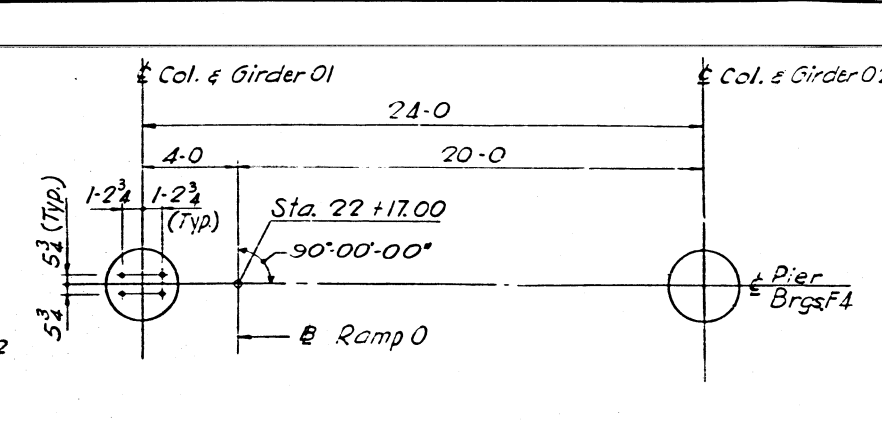
BILL OF MATERIAL				
Mark	No. Reqd.	Size	Length	Shape
442h1	6	#10	26.4	
442h2	2	#5	22.6	
442h3	12	#11	25.0	
442h4	6	#5	25.0	
442n1	20	#9	10.8	
442n2	14	#6	7.0	
442n3	40	#9	10.5	
442n4	14	#6	6.9	
442s1	21	#4	8.0	
442s2	21	#6	11.8	
442s3	38	#4	12.9	
442s4	21	#6	12.2	
442t1	55	#6	9.8	
442t2	44	#7	7.8	
442u1	10	#5	9.5	
442v1	20	#9	14.10	
442v2	20	#9	16.8	
442v3	20	#9	10.5	
442v4	20	#9	11.1	
442w1	11	#6	32.0	
442w2	3	#4	32.0	
442w3	9	#6	32.8	
442w4	2	#4	32.8	
* See Note 'X' Sh. No. 35				
Item	Unit	Total		
Class 'X' Concrete	C.Y.	Pier 09	Pier 012	
Reinforcement Bars	Lbs.	8,890	7,010	
Concrete Piles	L.F.	1040*	741*	
Test Piles (concrete)	Ea.	1	1	



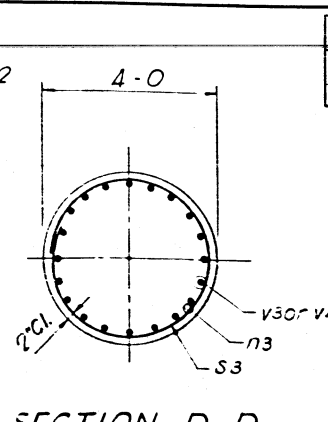
TOP PLAN - PIER 09



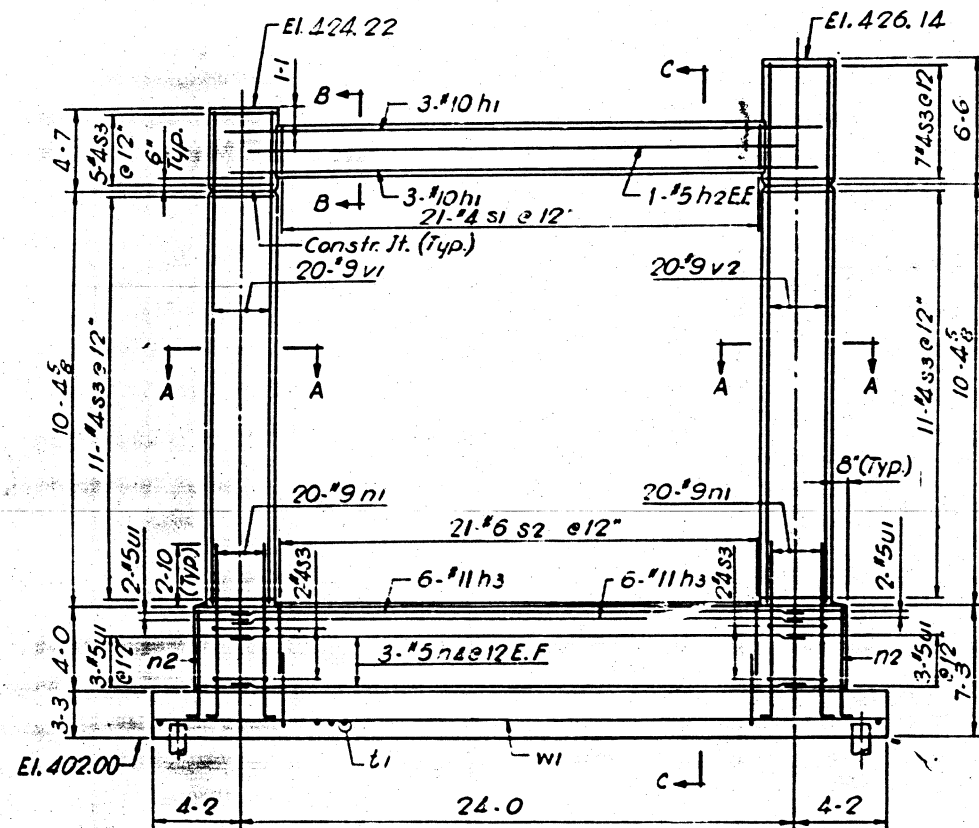
SECTION A-A



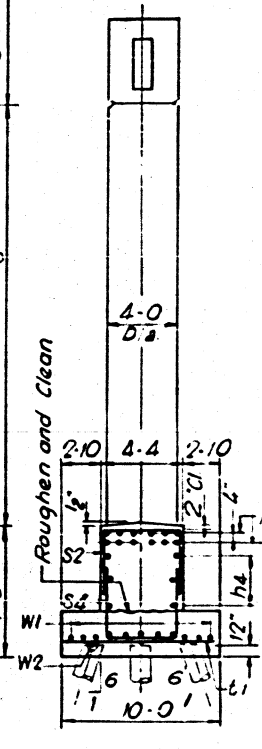
TOP PLAN - PIER 012



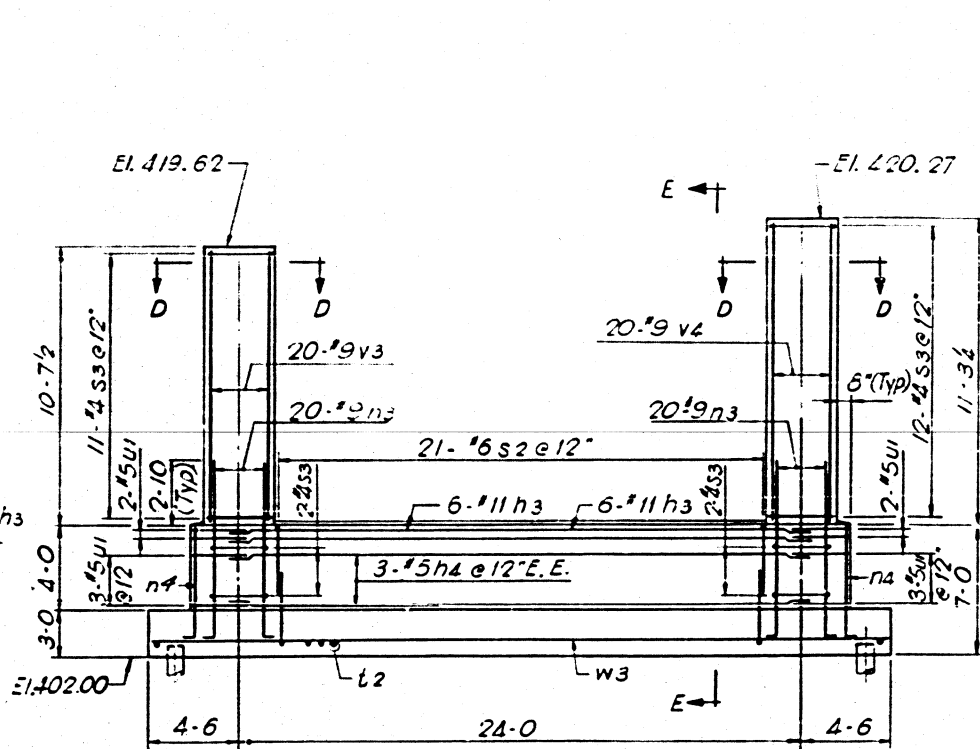
SECTION D-D



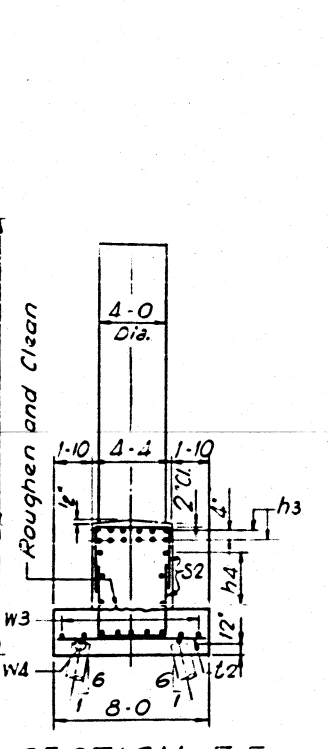
ELEVATION - PIER 09



SECTION C-C

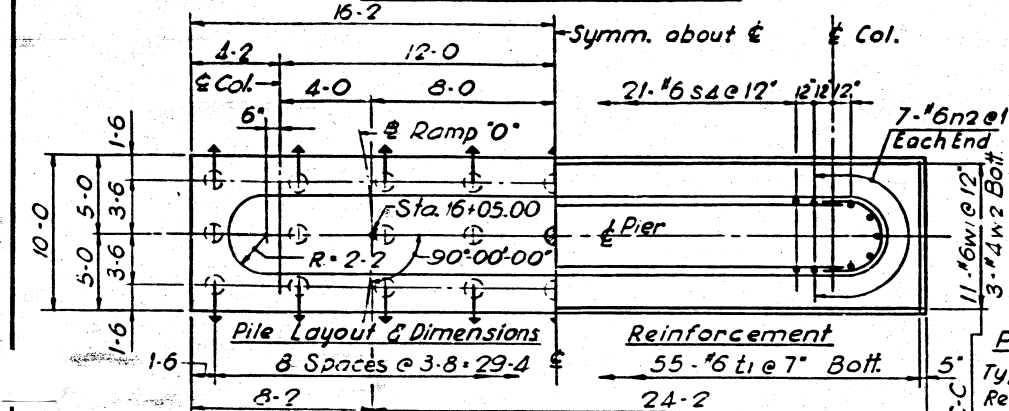


ELEVATION - PIER 012

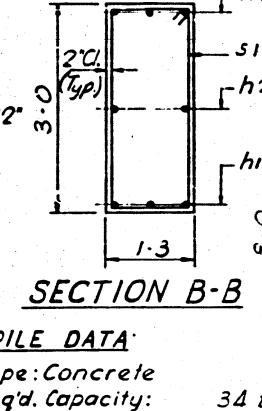


SECTION E-E

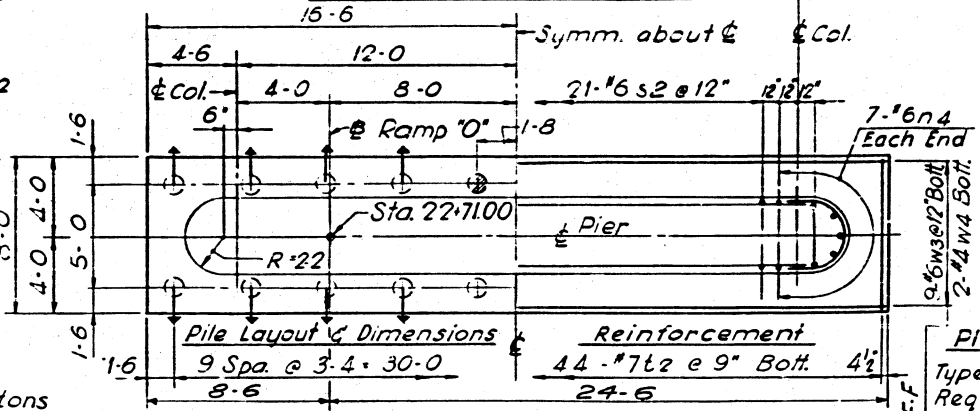
Indicates Battered Pile  
 Indicates Test Pile



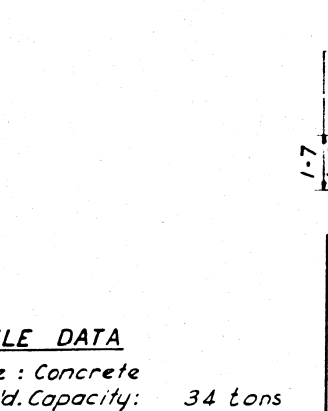
FOOTING PLAN - PIER 09



SECTION B-B



FOOTING PLAN - PIER 012

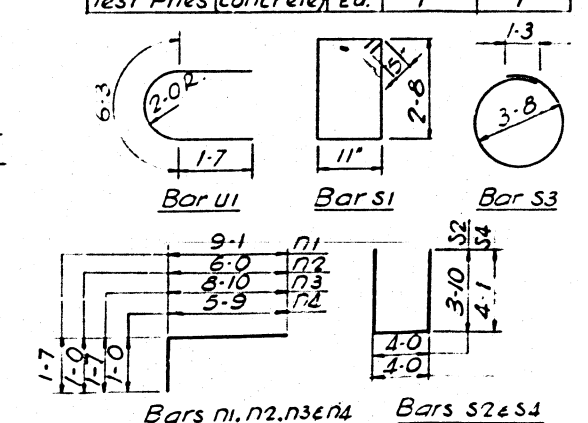


SECTION F-F

DESIGNED BY E.W.  
 DRAWN BY V.R.  
 CHECKED BY A.T.  
 APPROVED BY K.A.

**PILE DATA:**  
 Type: Concrete  
 Req'd. Capacity: 34 tons  
 Est. Length: 40-0  
 No. Req'd.: 26\*  
 Test Pile: 1  
 \* Does not include Test Pile

**PILE DATA:**  
 Type: Concrete  
 Req'd. Capacity: 34 tons  
 Est. Length: 39-0  
 No. Req'd.: 19\*  
 Test Pile: 1  
 \* Does not include Test Pile

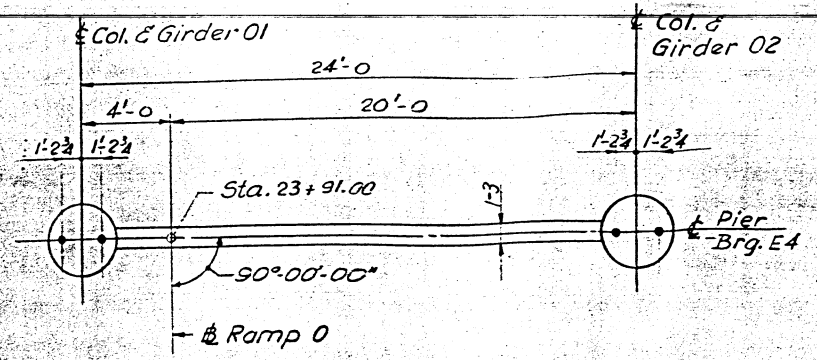


STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS

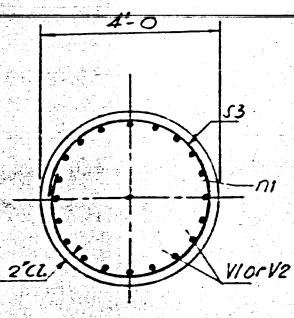
PIERS 09 AND 012  
 POPLAR STREET BRIDGE APPROACHES  
 RAMP "O"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1  
 H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS

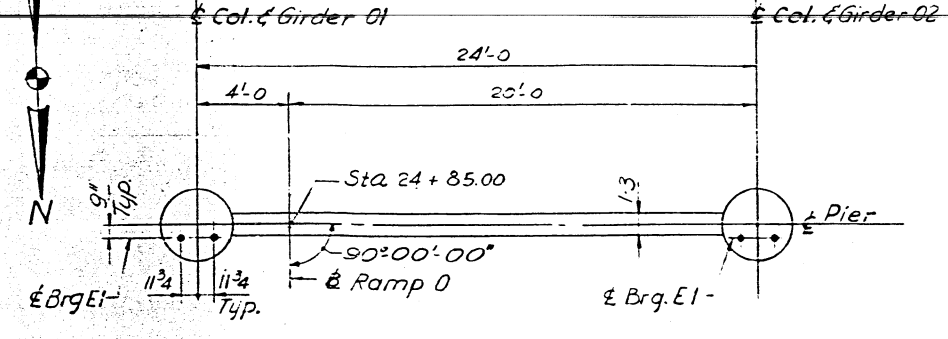
SHEET 42 of 526



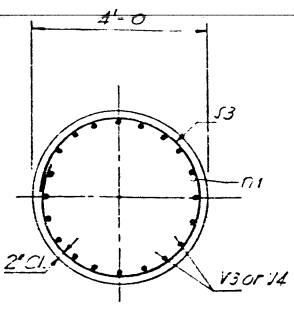
TOP PLAN - PIER 013



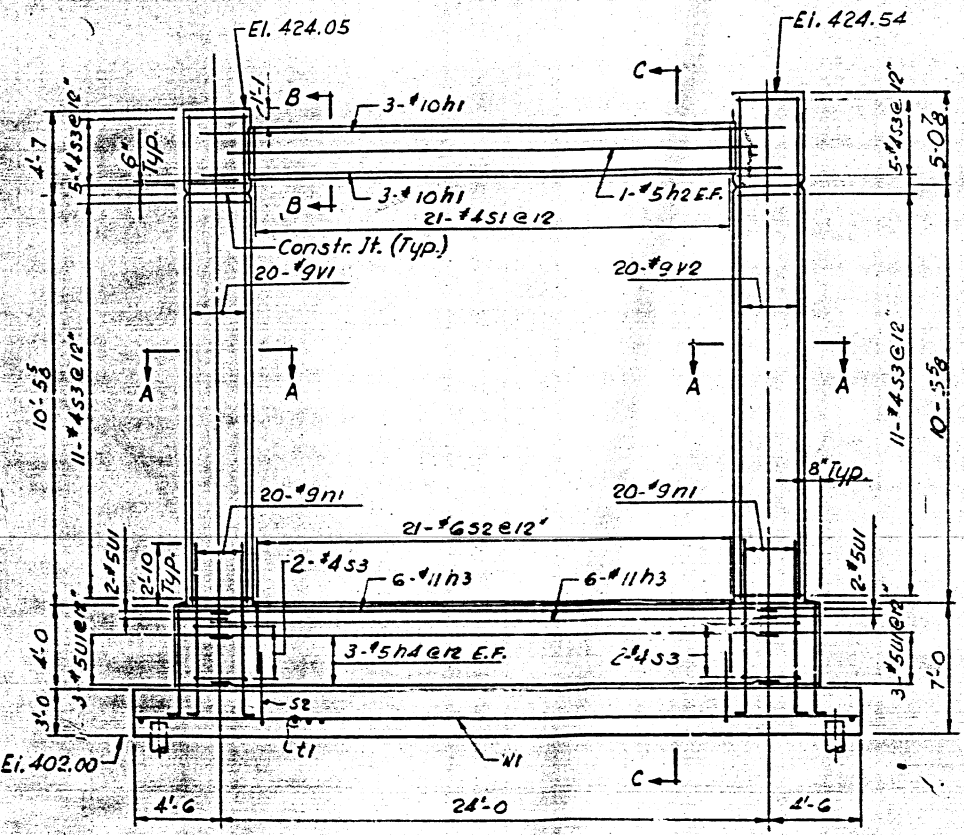
SECTION A-A



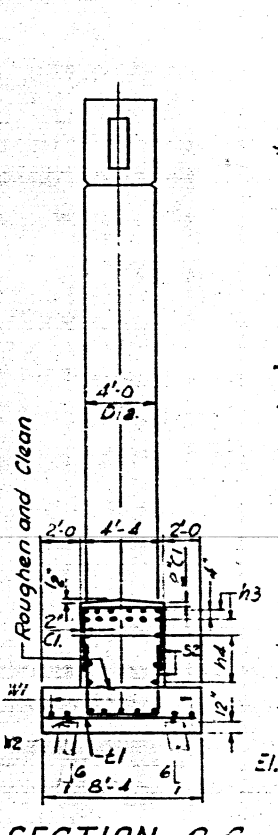
TOP PLAN - PIER 014



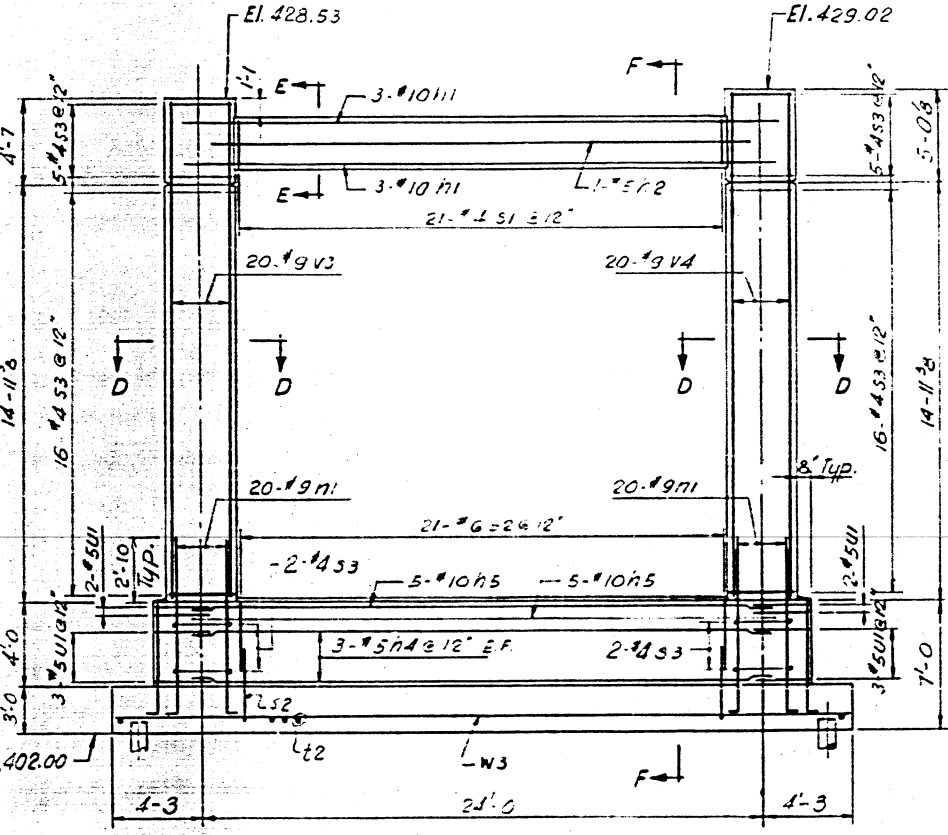
SECTION D-D



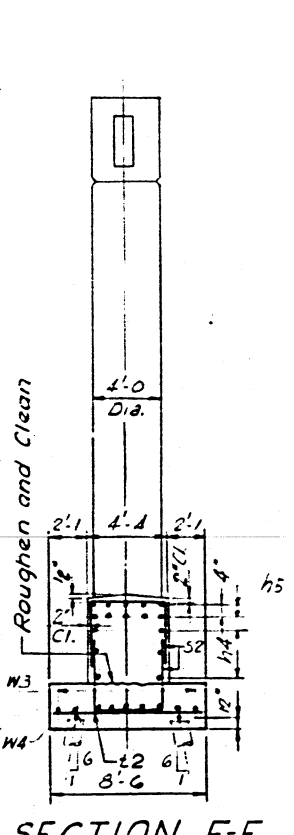
ELEVATION - PIER 013



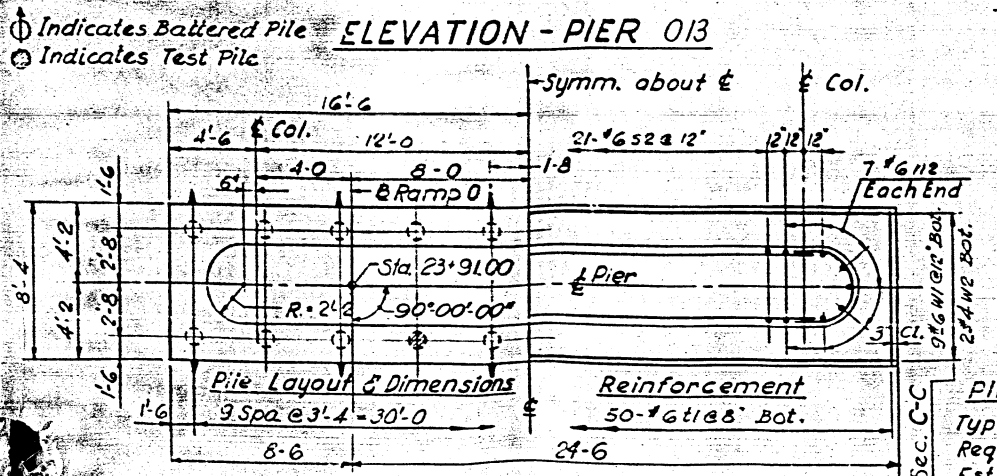
SECTION C-C



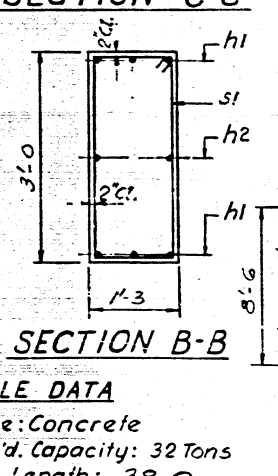
ELEVATION - PIER 014



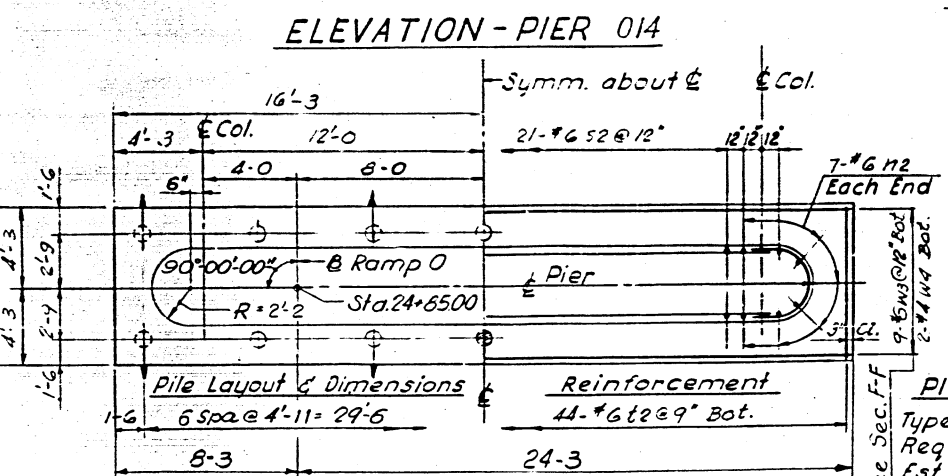
SECTION F-F



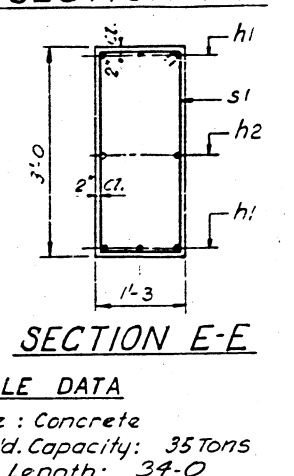
FOOTING PLAN - PIER 013



SECTION B-B



FOOTING PLAN - PIER 014



SECTION E-E

DESIGNED BY E.W.  
 DRAWN BY A.B.  
 CHECKED BY A.T.  
 APPROVED BY X.A.

**PILE DATA**  
 Type: Concrete  
 Req'd. Capacity: 32 Tons  
 Est. Length: 38-0  
 No. Req'd: 19\*  
 Test Pile: 1  
 \* Does not include Test Pile

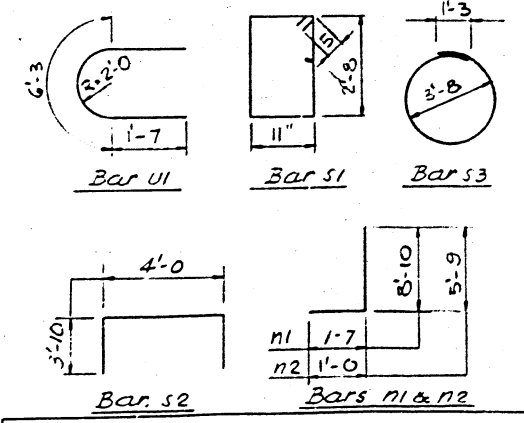
**PILE DATA**  
 Type: Concrete  
 Req'd. Capacity: 35 Tons  
 Est. Length: 34-0  
 No. Req'd: 13\*  
 Test Pile: 1  
 \* Does not include Test Pile

**BILL OF MATERIAL**

Mark	No. Req'd.	Size	Length	Shape
443 n1	6	#10	26'-4"	—
443 n2	2	#5	22'-6"	—
443 n3	12	#11	25'-0"	—
443 n4	6	#5	25'-0"	—
443 n5	10	#10	25'-0"	—
443 n1	40	#9	10'-5"	—
443 n2	14	#6	6'-9"	—
443 s1	21	#4	8'-0"	□
443 s2	42	#6	11'-8"	□
443 s3	36	#4	12'-9"	○
443 t1	50	#6	8'-0"	—
443 t2	44	#6	8'-2"	—
443 u1	10	#5	9'-5"	—
443 v1	20	#9	14'-10"	—
443 v2	10	#9	15'-4"	—
443 v3	20	#9	19'-4"	—
443 v4	20	#9	19'-10"	—
443 w1	9	#6	32'-8"	—
443 w2	2	#4	32'-8"	—
443 w3	9	#6	32'-2"	—
443 w4	2	#4	32'-2"	—

\* See Note 'X' Sh. No. 35

Item	Unit	Total
Class 'K' Concrete	C.Y.	65.3
Reinforcement Bars	Lbs.	8,430
Concrete Piles	L.F.	722*
Test Piles (Concrete)	Ea.	1



STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BLDGS.  
 DIVISION OF HIGHWAYS  
**PIERS 013 AND 014**  
 POPLAR STREET BRIDGE APPROACHES  
 RAMP "O"  
 F.A.I. RT.70 ST. CLAIR CO. SECTION 82-3HVB-1  
 H. W. LOCHNER, INC.  
 ENGINEERS  
 CHICAGO, ILLINOIS  
 SHEET  
 443 of 526